LELAP # 02034

METCO
ENVIRONMENTAL

SOURCE EMISSIONS SURVEY
OF
MARATHON PETROLEUM
U-45 THERMAL OXIDIZER NUMBER 3 STACK (EQT 174)
CAA SECTION 114 INFORMATION COLLECTION
REQUEST FOR PETROLEUM REFINERIES
GARYVILLE, LOUISIANA

JUNE AND JULY 2011

TESTING COMPANY: METCO ENVIRONMENTAL
P.O. BOX 598
ADDISON, TEXAS 75001
972-931-7127
FILE NUMBER 11-234

" I certify that I have personally checked and am familiar with the information submitted herein, and based on my inquiries of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete."

James R. Monfries
Senior Quality Assurance Manager

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SECTION 1.0
INTRODUCTION

METCO Environmental, 6655 Complex Drive, Baton Rouge, Louisiana , conducted a source emissions survey of Marathon Petroleum, located in Garyville, Louisiana, on June 20 through July 13, 2011. The purpose of these tests was to determine the concentrations of volatile organic HAPs, semi-volatile organic HAPs, methanol, aldehydes, total reduced sulfur compiunds, carbon monoxide, total hydrocarbons, methane and ethane being emitted to the atmosphere via the U-45 Thermal Oxidizer Number 3 Stack (EQT 174). The objectives of the tests were to fulfill the requirements of the Petroleum Refineries Information Collection Request (ICR).

The sampling was performed by the following METCO personnel: Ryan Jones – Project Supervisor, Robert Adams, John Cutaia, Daniel Moore, Will Starkey, Neil Pierce, Charlie Wahrmund, and Dustin Reid.

The sampling followed the procedures set forth in the Code of Federal Regulations, Title 40, Chapter I, Part 60, Appendix A, Methods 1, 2, 3A, 3B, 4, 10, 15, 18, and 25A; Part 63, Appendix A, Method 308; and in the "Test Methods for Evaluating Solid Waste, SW-846, Update III, December 1996," Methods 0010 and 0011.

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SUMMARY OF RESULTS

U-45 Thermal Oxidizer Number 3 Stack (EQT 174)

Analyte	Run Number 1	Run Number 2	Run Number 3	Average
Hydrogen Sulfide Emissions - ppmvd	<0.16	<0.17	<0.16	<0.16
Hydrogen Sulfide Emissions – lbs/hr	<1.36E-02	<1.59E-02	<1.31E-02	<1.42E-02
Carbonyl Sulfide Emissions – ppmvd	<0.41	<0.45	<0.40	<0.42
Carbonyl Sulfide Emissions – lbs/hr[2]	<6.16E-02	<7.40E-02	<5.77E-02	<6.44E-02
Carbon Disulfide Sulfide Emissions - ppmvd[2]	<0.03	<0.04	<0.03	<0.03
Carbon Disulfide Emissions – lbs/hr	<5.72E-03	<8.34E-03	<5.48E-03	<6.51E-03
TRS as Sulfur Emissions – ppmvd	<0.63	<0.70	<0.62	<0.65
Carbon Monoxide Emissions– ppmvd	15.00	5.60	22.97	14.52
Carbon Monoxide Emissions – lbs/hr	0.93	0.34	1.40	0.89
Total Hydrocarbons Emissions– ppmvd	<0.01	0.37	0.84	<0.41
Total Hydrocarbons Emissions– lbs/hr	<0.01	0.04	0.08	<0.04
Methane Emissions– ppmvd	1.265	0.332	0.418	0.672
Methane Emissions – lbs/hr	0.04	0.01	0.01	0.02
Ethane Emissions– ppmvd	<0.250	<0.250	<0.250	<0.250
Ethane Emissions – lbs/hr	<0.02	<0.02	<0.02	<0.02
Formaldehyde Emissions – ug/dscm[1]	7.95	8.28	10.50	8.91
Formaldehyde Emissions – lbs/hr	4.03E-04	4.36E-04	5.54E-04	4.65E-04
Acetaldehyde Emissions – ug/dscm[1]	<1.31	<1.66	<1.11	<1.36
Acetaldehyde Emissions – lbs/hr	<6.64E-05	<8.75E-05	<5.87E-05	<7.09E-05
Propionadehyde Emissions – ug/dscm[1]	<1.29	<1.64	<1.10	<1.35
Propionadehyde Emissions – lbs/hr	<6.54E-05	<8.65E-05	<5.81E-05	<7.00E-05
Methanol Emissions – ug/dscm[1]	<229	<233	<235	<232
Methanol Emissions – lbs/hr	<1.16E-02	<1.23E-02	<1.24E-02	<1.21E-02

[1] 29.92 "Hg, 68°F (760 mm Hg, 20°C)

[2] Carbon Disulfide collected and analyzed according to Method 15. Carbon Disulfide was also collected and analyzed as part of the Method 18 sampling for volatile organic HAPs.

SUMMARY OF RESULTS

U-45 Thermal Oxidizer Number 3 Stack (EQT 174)
Semi-Volatile HAPs Emissions Summary

Analyte	CAS Number	Run Number 1		Run Number 2		Run Number 3		Average	
		(µg/dscm[1])	(lbs/hr)	(µg/dscm[1])	(lbs/hr)	(µg/dscm[1])	(lbs/hr)	(µg/dscm[1])	(lbs/hr)
Acenaphthene	83-32-9	< 2.541	< 1.35E-04	< 1.292	< 6.77E-05	< 2.697	< 1.41E-04	< 2.177	< 1.15E-04
Acenaphthylene	208-96-8	< 2.541	< 1.35E-04	< 1.340	< 7.02E-05	< 2.697	< 1.41E-04	< 2.193	< 1.16E-04
Aniline	62-53-3	< 7.853	< 4.19E-04	< 4.069	< 2.13E-04	< 8.337	< 4.37E-04	< 6.753	< 3.56E-04
Anthracene	120-12-7	< 3.003	< 1.60E-04	< 1.532	< 8.02E-05	< 3.188	< 1.67E-04	< 2.574	< 1.36E-04
Benzidine	92-87-5	< 55.433	< 2.95E-03	< 28.721	< 1.50E-03	< 58.849	< 3.08E-03	< 47.668	< 2.51E-03
Benz(a)anthracene	56-55-3	< 2.772	< 1.48E-04	< 1.484	< 7.77E-05	< 2.942	< 1.54E-04	< 2.399	< 1.27E-04
Benzo(b)fluoranthene	205-99-2	< 3.696	< 1.97E-04	< 1.963	< 1.03E-04	< 3.923	< 2.05E-04	< 3.194	< 1.68E-04
Benzo(k)fluoranthene	207-08-9	< 4.619	< 2.46E-04	< 2.346	< 1.23E-04	< 4.904	< 2.57E-04	< 3.956	< 2.09E-04
Benzo(g,h,i)perylene	191-24-2	< 3.003	< 1.60E-04	< 1.532	< 8.02E-05	< 3.188	< 1.67E-04	< 2.574	< 1.36E-04
Benzo(a)pyrene	50-32-8	< 3.465	< 1.85E-04	< 1.819	< 9.53E-05	< 3.678	< 1.93E-04	< 2.987	< 1.58E-04
Benzo(e)pyrene	192-97-2	< 0.785	< 4.19E-05	< 0.407	< 2.13E-05	< 0.834	< 4.37E-05	< 0.675	< 3.56E-05
Biphenyl	92-52-4	< 0.924	< 4.92E-05	< 0.479	< 2.51E-05	< 0.981	< 5.14E-05	< 0.794	< 4.19E-05
Cresol	1319-77-3	< 7.391	< 3.94E-04	< 3.829	< 2.01E-04	< 7.847	< 4.11E-04	< 6.356	< 3.35E-04
Chrysene	218-01-9	< 2.772	< 1.48E-04	< 1.484	< 7.77E-05	< 2.942	< 1.54E-04	< 2.399	< 1.27E-04
Dibenz(a,h)anthracene	53-70-3	< 2.772	< 1.48E-04	< 1.436	< 7.52E-05	< 2.942	< 1.54E-04	< 2.383	< 1.26E-04
Dibenzofuran	132-64-9	< 2.541	< 1.35E-04	< 1.340	< 7.02E-05	< 2.697	< 1.41E-04	< 2.193	< 1.16E-04
Dibenzo(a,e)pyrene	192-65-4	< 0.624	< 3.32E-05	< 0.335	< 1.76E-05	< 0.662	< 3.47E-05	< 0.540	< 2.85E-05
3,3'-Dimehoxybenzidine	119-90-4	< 12.934	< 6.89E-04	< 6.702	< 3.51E-04	< 13.731	< 7.19E-04	< 11.122	< 5.87E-04
p-Dimethylaminozobenzene	60-11-7	< 2.217	< 1.18E-04	< 1.149	< 6.02E-05	< 2.354	< 1.23E-04	< 1.907	< 1.01E-04
7,12-Dimethylbenz(a)anthracene	57-97-6	< 3.234	< 1.72E-04	< 1.675	< 8.78E-05	< 3.433	< 1.80E-04	< 2.781	< 1.47E-04
3,3'-Dimethylbenzidine	119-93-7	< 16.630	< 8.86E-04	< 8.616	< 4.51E-04	< 17.655	< 9.25E-04	< 14.300	< 7.54E-04
α,α-Dimethylphenethylamine	122-09-8	< 7.622	< 4.06E-04	< 4.069	< 2.13E-04	< 8.092	< 4.24E-04	< 6.594	< 3.48E-04
2,4-Dimethylphenol	105-67-9	< 6.005	< 3.20E-04	< 3.111	< 1.63E-04	< 6.375	< 3.34E-04	< 5.164	< 2.72E-04
Fluoranthene	206-44-0	< 3.234	< 1.72E-04	< 1.723	< 9.03E-05	< 3.433	< 1.80E-04	< 2.797	< 1.47E-04
Fluorene	86-73-7	< 2.772	< 1.48E-04	< 1.436	< 7.52E-05	< 2.942	< 1.54E-04	< 2.383	< 1.26E-04
Indeno(1,2,3-cd)pyrene	193-39-5	< 2.772	< 1.48E-04	< 1.484	< 7.77E-05	< 2.942	< 1.54E-04	< 2.399	< 1.27E-04
Isophorone	78-59-1	< 2.541	< 1.35E-04	< 1.340	< 7.02E-05	< 2.697	< 1.41E-04	< 2.193	< 1.16E-04
3-Methylcholanthrene	56-49-5	< 3.465	< 1.85E-04	< 1.819	< 9.53E-05	< 3.678	< 1.93E-04	< 2.987	< 1.58E-04
2-Methylnaphthalene	91-57-6	< 2.772	< 1.48E-04	< 1.388	< 7.27E-05	< 2.942	< 1.54E-04	< 2.367	< 1.25E-04
Naphthalene	91-20-3	< 2.772	< 1.48E-04	< 1.484	< 7.77E-05	< 2.942	< 1.54E-04	< 2.399	< 1.27E-04
Nitrobenzene[2]	98-95-3	< 2.772	< 1.48E-04	< 1.388	< 7.27E-05	< 2.942	< 1.54E-04	< 2.367	< 1.25E-04
Perylene	198-55-0	< 0.716	< 3.82E-05	< 0.359	< 1.88E-05	< 0.760	< 3.98E-05	< 0.612	< 3.23E-05
Phenanthrene	85-01-8	< 2.772	< 1.48E-04	< 1.436	< 7.52E-05	< 2.942	< 1.54E-04	< 2.383	< 1.26E-04
Phenol	108-95-2	2.772	1.48E-04	1.484	7.77E-05	11.770	6.16E-04	5.342	2.81E-04
1,4-Phenylenediamine	106-50-3	< 23.097	< 1.23E-03	< 11.967	< 6.27E-04	< 24.520	< 1.28E-03	< 19.862	< 1.05E-03
Pyrene	129-00-0	< 3.234	< 1.72E-04	< 1.675	< 8.78E-05	< 3.433	< 1.80E-04	< 2.781	< 1.47E-04
o-Toluidine	95-53-4	< 2.541	< 1.35E-04	< 1.340	< 7.02E-05	< 2.697	< 1.41E-04	< 2.193	< 1.16E-04

[1] 29.92 "Hg, 68 Deg.F (760 mm Hg 20 Deg.C)

[2] Nitrobenzene also collected and analyzed as part of the Method 18 sampling for volatile organic HAPs.

SUMMARY OF RESULTS

U45 Thermal Oxidizer Stack (EQT 174)
Volatile HAPs (Integrated Bags) Emissions Summary

Analyte	CAS Number	Run Number 1		Run Number 2		Run Number 3		Average	
		(µg/dscm[1])	(lbs/hr)	(µg/dscm[1])	(lbs/hr)	(µg/dscm[1])	(lbs/hr)	(µg/dscm[1])	(lbs/hr)
1,3-Butadiene	106-99-0	< 749	< 3.79E-02	< 749	< 3.94E-02	< 749	< 3.95E-02	< 749	< 3.89E-02
Acrolein	107-02-8	< 753	< 3.81E-02	< 753	< 3.97E-02	< 753	< 3.97E-02	< 753	< 3.92E-02
Acetone	67-64-1	< 904	< 4.57E-02	< 904	< 4.76E-02	< 904	< 4.76E-02	< 904	< 4.70E-02
Pentane	109-66-0	< 771	< 3.90E-02	< 771	< 4.06E-02	< 771	< 4.07E-02	< 771	< 4.01E-02
Methylene Chloride	75-09-2	< 3,448	< 1.74E-01	< 3,448	< 1.82E-01	< 3,448	< 1.82E-01	< 3,448	< 1.79E-01
Hexane	110-54-3	< 807	< 4.08E-02	< 807	< 4.25E-02	< 807	< 4.25E-02	< 807	< 4.19E-02
Benzene	71-43-2	< 777	< 3.93E-02	< 777	< 4.09E-02	< 777	< 4.09E-02	< 777	< 4.04E-02
Trichloroethene	79-01-6	< 1,869	< 9.46E-02	< 1,869	< 9.84E-02	< 1,869	< 9.85E-02	< 1,869	< 9.72E-02
Toluene	108-88-3	< 901	< 4.56E-02	< 901	< 4.74E-02	< 901	< 4.75E-02	< 901	< 4.68E-02
1,2-Dibromoethane	106-93-4	< 2,008	< 1.02E-01	< 2,008	< 1.06E-01	< 2,008	< 1.06E-01	< 2,008	< 1.04E-01
Tetrachloroethene	127-18-4	< 2,007	< 1.02E-01	< 2,007	< 1.06E-01	< 2,007	< 1.06E-01	< 2,007	< 1.04E-01
Carbon Disulfide[2]	75-15-0	< 143	< 7.21E-03	627	3.30E-02	< 143	< 7.51E-03	< 304	< 1.59E-02

[1] 29.92 "Hg, 68 Deg.F (760 mm Hg 20 Deg.C)

[2] Carbon Disulfide aslo collected and analyzed as part of the Method 15 sampling for total reduced sulfur compounds.

SUMMARY OF RESULTS

U-45 Thermal Oxidizer Number 3 Stack (EQT 174)
U45 Thermal Oxidizer Stack (EQT 174)

Analyte	CAS Number	Run Number 1		Run Number 2		Run Number 3		Average	
		(µg/dscm[1])	(lbs/hr)	(µg/dscm[1])	(lbs/hr)	(µg/dscm[1])	(lbs/hr)	(µg/dscm[1])	(lbs/hr)
Acetonitrile	67-64-1	< 783	< 3.96E-02	< 788	< 4.15E-02	< 805	< 4.24E-02	< 792	< 4.12E-02
Acrylonitrile	75-05-8	< 789	< 3.99E-02	< 795	< 4.18E-02	< 805	< 4.24E-02	< 796	< 4.14E-02
Methyl t-butyl ether	107-02-8	< 69	< 3.48E-03	< 69	< 3.65E-03	< 70	< 3.70E-03	< 69	< 3.61E-03
2-Nitropropane	107-13-1	< 732	< 3.70E-02	< 737	< 3.88E-02	< 747	< 3.93E-02	< 739	< 3.84E-02
Isooctane	540-84-1	< 55	< 2.79E-03	< 55	< 2.92E-03	< 56	< 2.96E-03	< 56	< 2.89E-03
Methyl isobutyl ketone	106-99-0	< 66	< 3.35E-03	< 67	< 3.51E-03	< 68	< 3.56E-03	< 67	< 3.48E-03
Chlorobenzene	75-15-0	< 90	< 4.53E-03	< 90	< 4.75E-03	< 91	< 4.82E-03	< 90	< 4.70E-03
Ethylbenzene	108-90-7	< 68	< 3.45E-03	< 69	< 3.61E-03	< 70	< 3.66E-03	< 69	< 3.58E-03
p-Xylene	98-82-8	< 68	< 3.42E-03	< 68	< 3.58E-03	< 69	< 3.63E-03	< 68	< 3.54E-03
Styrene	106-93-4	< 73	< 3.67E-03	< 73	< 3.85E-03	< 74	< 3.90E-03	< 73	< 3.81E-03
o-Xylene	100-41-4	< 69	< 3.51E-03	< 70	< 3.68E-03	< 71	< 3.73E-03	< 70	< 3.64E-03
Cumene	110-54-3	< 67	< 3.39E-03	< 67	< 3.55E-03	< 68	< 3.60E-03	< 68	< 3.51E-03
Nitrobenzene[2]	98-95-3	90	4.57E-03	92	4.82E-03	87	4.58E-03	90	4.66E-03

[1] 29.92 "Hg, 68 Deg.F (760 mm Hg 20 Deg.C)

[2] Nitrobenzene also collected and analyzed as part of the SWA 846 Method 0010 sampling for semi-volatile organic HAPs.

SUMMARY OF RESULTS

U-45 Thermal Oxidizer Number 3 Stack (EQT 174)

EPA Method 1, 2, 3A, and 4 – Flow Rates

Run Number	1	2	3
Date	06/22/11	06/22/11	06/23/11
Time	0910-1210	1415-1805	0925-1230
Stack Flow Rate – ACFM	59,906	62,718	56,744
Stack Flow Rate – DSCFM[1]	16,061	17,570	15,404
% Water Vapor - % Volume	9.73	7.14	9.04
% Carbon Dioxide - % Volume	3.47	3.46	3.42
% Oxygen - % Volume	4.69	4.85	5.27
% Excess Air @ Sampling Point	23.9	25.3	28.1
Stack Temperature -°F	1,321	1,290	1,310
Stack Pressure - "Hg	29.85	29.81	29.83

[1] 29.92 "Hg, 68°F (760 mm Hg, 20°C)

SUMMARY OF RESULTS

U-45 Thermal Oxidizer Number 3 Stack (EQT 174)

EPA Method 15– Total Reduced Sulfur Compounds

Run Number	1	2	3
Date	06/22/11	06/22/11	06/23/11
Time	0910-1210	1421-1735	0925-1225
Stack Flow Rate – DSCFM[1]	16,061	17,570	15,404
Hydrogen Sulfide Emissions - ppmvd	<0.16	<0.17	<0.16
Hydrogen Sulfide Emissions – lbs/hr	<1.36E-02	<1.59E-02	<1.31E-02
Carbonyl Sulfide Emissions – ppmvd	<0.41	<0.45	<0.40
Carbonyl Sulfide Emissions – lbs/hr	<6.16E-02	<7.40E-02	<5.77E-02
Carbon Disulfide Sulfide Emissions – ppmvd[2]	<0.03	<0.04	<0.03
Carbon Disulfide Emissions – lbs/hr[2]	<5.72E-03	<8.34E-03	<5.48E-03
TRS as Sulfur Emissions – ppmvd	<0.63	<0.70	<0.62

[1] 29.92 "Hg, 68°F (760 mm Hg, 20°C)
[2] Carbon Disulfide also collected and analyzed as part of the Method 18 sampling for volatile organic HAPs.

SUMMARY OF RESULTS

U-45 Thermal Oxidizer Number 3 Stack (EQT 174)

SW-846 Method 0010 – Semi-Volatile HAPs

Run Number	2	3	4
Date	07/11/11	07/12/11	07/12/11
Time	1400-1810	0820-1235	1305-1713
Stack Flow Rate – ACFM	53,188	52,226	52,018
Stack Flow Rate – DSCFM[1]	14,229	13,981	13,980
% Water Vapor - % Volume	9.82	9.11	9.69
% Carbon Dioxide - % Volume	3.3	3.2	3.2
% Oxygen - % Volume	7.4	6.8	7.0
% Excess Air @ Sampling Point	45.4	39.9	41.7
Stack Temperature -°F	1,334	1,345	1,328
Stack Pressure - "Hg	30.06	30.03	30.04
Percent Isokinetic	105.2	103.3	100.8
Volume Dry Gas Sampled – DSCF[1]	152.896	147.548	144.021

[1] 29.92 "Hg, 68°F (760 mm Hg, 20°C)

SUMMARY OF RESULTS

U-45 Thermal Oxidizer Number 3 Stack (EQT 174)
Semi-Volatile HAPs Emissions Summary

Analyte	Run Number 2			Run Number 3			Run Number 4		
	(ug)	(ug/dscm[1])	(lbs/hr)	(ug)	(ug/dscm[1])	(lbs/hr)	(ug)	(ug/dscm[1])	(lbs/hr)
Acenaphthene	ND < 11	< 2.541	< 1.35E-04	ND < 5.4	< 1.292	< 6.77E-05	ND < 11	< 2.697	< 1.41E-04
Acenaphthylene	ND < 11	< 2.541	< 1.35E-04	ND < 5.6	< 1.340	< 7.02E-05	ND < 11	< 2.697	< 1.41E-04
Aniline	ND < 34	< 7.853	< 4.19E-04	ND < 17	< 4.069	< 2.13E-04	ND < 34	< 8.337	< 4.37E-04
Anthracene	ND < 13	< 3.003	< 1.60E-04	ND < 6.4	< 1.532	< 8.02E-05	ND < 13	< 3.188	< 1.67E-04
Benzidine	ND < 240	< 55.433	< 2.95E-03	ND < 120	< 28.721	< 1.50E-03	ND < 240	< 58.849	< 3.08E-03
Benz(a)anthracene	ND < 12	< 2.772	< 1.48E-04	ND < 6.2	< 1.484	< 7.77E-05	ND < 12	< 2.942	< 1.54E-04
Benzo(b)fluoranthene	ND < 16	< 3.696	< 1.97E-04	ND < 8.2	< 1.963	< 1.03E-04	ND < 16	< 3.923	< 2.05E-04
Benzo(k)fluoranthene	ND < 20	< 4.619	< 2.46E-04	ND < 9.8	< 2.346	< 1.23E-04	ND < 20	< 4.904	< 2.57E-04
Benzo(g,h,i)perylene	ND < 13	< 3.003	< 1.60E-04	ND < 6.4	< 1.532	< 8.02E-05	ND < 13	< 3.188	< 1.67E-04
Benzo(a)pyrene	ND < 15	< 3.465	< 1.85E-04	ND < 7.6	< 1.819	< 9.53E-05	ND < 15	< 3.678	< 1.93E-04
Benzo(e)pyrene	ND < 3.4	< 0.785	< 4.19E-05	ND < 1.7	< 0.407	< 2.13E-05	ND < 3.4	< 0.834	< 4.37E-05
Biphenyl	ND < 4.0	< 0.924	< 4.92E-05	ND < 2.0	< 0.479	< 2.51E-05	ND < 4.0	< 0.981	< 5.14E-05
Cresol	ND < 32	< 7.391	< 3.94E-04	ND < 16	< 3.829	< 2.01E-04	ND < 32	< 7.847	< 4.11E-04
Chrysene	ND < 12	< 2.772	< 1.48E-04	ND < 6.2	< 1.484	< 7.77E-05	ND < 12	< 2.942	< 1.54E-04
Dibenz(a,h)anthracene	ND < 12	< 2.772	< 1.48E-04	ND < 6	< 1.436	< 7.52E-05	ND < 12	< 2.942	< 1.54E-04
Dibenzofuran	ND < 11	< 2.541	< 1.35E-04	ND < 5.6	< 1.340	< 7.02E-05	ND < 11	< 2.697	< 1.41E-04
Dibenzo(a,e)pyrene	ND < 2.7	< 0.624	< 3.32E-05	ND < 1.4	< 0.335	< 1.76E-05	ND < 2.7	< 0.662	< 3.47E-05
3,3'-Dimehoxybenzidine	ND < 56	< 12.934	< 6.89E-04	ND < 28	< 6.702	< 3.51E-04	ND < 56	< 13.731	< 7.19E-04
p-Dimethylaminozobenzene	ND < 9.6	< 2.217	< 1.18E-04	ND < 4.8	< 1.149	< 6.02E-05	ND < 9.6	< 2.354	< 1.23E-04
7,12-Dimethylbenz(a)anthracene	ND < 14	< 3.234	< 1.72E-04	ND < 7.0	< 1.675	< 8.78E-05	ND < 14	< 3.433	< 1.80E-04
3,3'-Dimethylbenzidine	ND < 72	< 16.630	< 8.86E-04	ND < 36	< 8.616	< 4.51E-04	ND < 72	< 17.655	< 9.25E-04
ά,ά-Dimethylphenethylamine	ND < 33	< 7.622	< 4.06E-04	ND < 17	< 4.069	< 2.13E-04	ND < 33	< 8.092	< 4.24E-04
2,4-Dimethylphenol	ND < 26	< 6.005	< 3.20E-04	ND < 13	< 3.111	< 1.63E-04	ND < 26	< 6.375	< 3.34E-04
Fluoranthene	ND < 14	< 3.234	< 1.72E-04	ND < 7.2	< 1.723	< 9.03E-05	ND < 14	< 3.433	< 1.80E-04
Fluorene	ND < 12	< 2.772	< 1.48E-04	ND < 6.0	< 1.436	< 7.52E-05	ND < 12	< 2.942	< 1.54E-04
Indeno(1,2,3-cd)pyrene	ND < 12	< 2.772	< 1.48E-04	ND < 6.2	< 1.484	< 7.77E-05	ND < 12	< 2.942	< 1.54E-04
Isophorone	ND < 11	< 2.541	< 1.35E-04	ND < 5.6	< 1.340	< 7.02E-05	ND < 11	< 2.697	< 1.41E-04
3-Methylcholanthrene	ND < 15	< 3.465	< 1.85E-04	ND < 7.6	< 1.819	< 9.53E-05	ND < 15	< 3.678	< 1.93E-04
2-Methylnaphthalene	ND < 12	< 2.772	< 1.48E-04	ND < 5.8	< 1.388	< 7.27E-05	ND < 12	< 2.942	< 1.54E-04
Naphthalene	ND < 12	< 2.772	< 1.48E-04	ND < 6.2	< 1.484	< 7.77E-05	ND < 12	< 2.942	< 1.54E-04
Nitrobenzene[2]	ND < 12	2.772	1.48E-04	ND < 5.8	< 1.388	< 7.27E-05	ND < 12	< 2.942	< 1.54E-04
Perylene	ND < 3.1	< 0.716	< 3.82E-05	ND < 1.5	< 0.359	< 1.88E-05	ND < 3.1	< 0.760	< 3.98E-05
Phenanthrene	ND < 12	< 2.772	< 1.48E-04	ND < 6.0	< 1.436	< 7.52E-05	ND < 12	< 2.942	< 1.54E-04
Phenol	12	2.772	1.48E-04	6.2	1.484	7.77E-05	48	11.770	6.16E-04
1,4-Phenylenediamine	ND < 100	< 23.097	< 1.23E-03	ND < 50	< 11.967	< 6.27E-04	ND < 100	< 24.520	< 1.28E-03
Pyrene	ND < 14	< 3.234	< 1.72E-04	ND < 7.0	< 1.675	< 8.78E-05	ND < 14	< 3.433	< 1.80E-04
o-Toluidine	ND < 11	< 2.541	< 1.35E-04	ND < 5.6	< 1.340	< 7.02E-05	ND < 11	< 2.697	< 1.41E-04

[1] 29.92 "Hg, 68 Deg.F (760 mm Hg 20 Deg.C)
[2] Nitrobenzene also collected and analyzed as part of the Method 18 sampling for volatile organic HAPs.

SUMMARY OF RESULTS

U-45 Thermal Oxidizer Number 3 Stack (EQT 174)

EPA Methods 10, 18, and 25A – Carbon Monoxide, Total Hydrocarbons, Methane, and Ethane

Run Number	1	2	3
Date	07/11/11	07/12/11	07/12/11
Time	1400-1500	0820-0920	1305-1405
Stack Flow Rate – DSCFM[1]	14,229	13,981	13,980
% Water Vapor - % Volume	9.82	9.11	9.69
Carbon Monoxide Emissions– ppmvd	15.00	5.60	22.97
Carbon Monoxide Emissions – lbs/hr	0.93	0.34	1.40
Total Hydrocarbons Emissions– ppmvw	<0.01	0.34	0.76
Total Hydrocarbons Emissions– ppmvd	<0.01	0.37	0.84
Total Hydrocarbons Emissions– lbs/hr	<0.01	0.04	0.08
Methane Emissions– ppmvd	1.265	0.332	0.418
Methane Emissions – lbs/hr	0.04	0.01	0.01
Ethane Emissions– ppmvd	<0.250	<0.250	<0.250
Ethane Emissions – lbs/hr	<0.02	<0.02	<0.02

[1] 29.92 "Hg, 68°F (760 mm Hg, 20°C)

SUMMARY OF RESULTS

U-45 Thermal Oxidizer Number 3 Stack (EQT 174)

SW-846 Method 0011 – Aldehydes

Run Number	1	2	3
Date	07/13/11	07/13/11	07/13/11
Time	1035-1220	1242-1426	1448-1632
Stack Flow Rate – ACFM	50,250	52,548	52,499
Stack Flow Rate – DSCFM[1]	13,507	14,055	14,072
% Water Vapor - % Volume	9.31	9.45	9.44
% Carbon Dioxide - % Volume	3.4	3.4	3.3
% Oxygen - % Volume	6.6	6.6	6.9
% Excess Air @ Sampling Point	38.3	38.3	40.8
Stack Temperature -°F	1,331	1,337	1,333
Stack Pressure - "Hg	29.96	29.96	29.96
Percent Isokinetic	103.8	98.0	104.7
Volume Dry Gas Sampled – DSCF[1]	57.307	56.320	60.192
Formaldehyde - ug	12.9	13.2	17.9
Formaldehyde Emissions – ug/dscm[1]	7.95	8.28	10.50
Formaldehyde Emissions – lbs/hr	4.03E-04	4.36E-04	5.54E-04
Acetaldehyde - ug	<2.13	<2.65	<1.90
Acetaldehyde Emissions – ug/dscm[1]	<1.31	<1.66	<1.11
Acetaldehyde Emissions – lbs/hr	<6.64E-05	<8.75E-05	<5.87E-05
Propanal - ug	<2.10	<2.62	<1.88
Propanal Emissions – ug/dscm[1]	<1.29	<1.64	<1.10
Propanal Emissions – lbs/hr	<6.54E-05	<8.65E-05	<5.81E-05

[1] 29.92 "Hg, 68°F (760 mm Hg, 20°C)

SUMMARY OF RESULTS

U-45 Thermal Oxidizer Number 3 Stack (EQT 174)

EPA Method 308– Methanol

Run Number	1	2	3
Date	07/13/11	07/13/11	07/13/11
Time	1035-1135	1242-1342	1448-1548
Stack Flow Rate – DSCFM[1]	13,507	14,055	14,072
Volume Dry Gas Sampled – DSCL[1]	29.624	29.147	28.945
Methanol - ug	<6.79	<6.79	<6.79
Methanol Emissions – ug/dscm[1]	<229	<233	<235
Methanol Emissions – lbs/hr	<1.16E-02	<1.23E-02	<1.24E-02

[1] 29.92 "Hg, 68°F (760 mm Hg, 20°C)

SUMMARY OF RESULTS

U-45 Thermal Oxidizer Number 3 Stack (EQT 174)

EPA Method 18 –Volatile Organic HAP "Bag Sample"

Run Number	1	2	3
Date	07/13/11	07/13/11	07/13/11
Time	1035-1135	1242-1342	1448-1548
Stack Flow Rate – DSCFM[1]	13,507	14,055	14,072

[1] 29.92 "Hg, 68°F (760 mm Hg, 20°C)

SUMMARY OF RESULTS

U45 Thermal Oxidizer Stack (EQT 174)
Volatile HAPs (Integrated Bags) Emissions Summary

Analyte	Run Number 1			Run Number 2			Run Number 3		
	(ppm)	(ug/dscm[1])	(lbs/hr)	(ppm)	(ug/dscm[1])	(lbs/hr)	(ppm)	(ug/dscm[1])	(lbs/hr)
1,3-Butadiene	ND < 0.333	< 749	< 3.79E-02	ND < 0.333	< 749	< 3.94E-02	ND < 0.333	< 749	< 3.95E-02
Acrolein	ND < 0.323	< 753	< 3.81E-02	ND < 0.323	< 753	< 3.97E-02	ND < 0.323	< 753	< 3.97E-02
Acetone	ND < 0.374	< 904	< 4.57E-02	ND < 0.374	< 904	< 4.76E-02	ND < 0.374	< 904	< 4.76E-02
Pentane	ND < 0.257	< 771	< 3.90E-02	ND < 0.257	< 771	< 4.06E-02	ND < 0.257	< 771	< 4.07E-02
Methylene Chloride	ND < 0.976	< 3,448	< 1.74E-01	ND < 0.976	< 3,448	< 1.82E-01	ND < 0.976	< 3,448	< 1.82E-01
Hexane	ND < 0.225	< 807	< 4.08E-02	ND < 0.225	< 807	< 4.25E-02	ND < 0.225	< 807	< 4.25E-02
Benzene	ND < 0.239	< 777	< 3.93E-02	ND < 0.239	< 777	< 4.09E-02	ND < 0.239	< 777	< 4.09E-02
Trichloroethene	ND < 0.342	< 1,869	< 9.46E-02	ND < 0.342	< 1,869	< 9.84E-02	ND < 0.342	< 1,869	< 9.85E-02
Toluene	ND < 0.235	< 901	< 4.56E-02	ND < 0.235	< 901	< 4.74E-02	ND < 0.235	< 901	< 4.75E-02
1,2-Dibromoethane	ND < 0.257	< 2,008	< 1.02E-01	ND < 0.257	< 2,008	< 1.06E-01	ND < 0.257	< 2,008	< 1.06E-01
Tetrachloroethene	ND < 0.291	< 2,007	< 1.02E-01	ND < 0.291	< 2,007	< 1.06E-01	ND < 0.291	< 2,007	< 1.06E-01
Carbon Disulfide[2]	ND < 0.0450	< 143	< 7.21E-03	J 0.198	627	3.30E-02	ND < 0.0450	< 143	< 7.51E-03

[1] 29.92 "Hg, 68 Deg.F (760 mm Hg 20 Deg.C)

J - Estimated value.

[2] Carbon Disulfide aslo collected and analyzed as part of the Method 15 sampling for total reduced sulfur compounds.

SUMMARY OF RESULTS

U-45 Thermal Oxidizer Number 3 Stack (EQT 174)

EPA Method 18 –Volatile Organic HAP "Adsorbents"

Run Number	1	2	3
Date	07/13/11	07/13/11	07/13/11
Time	1035-1135	1242-1342	1448-1548
Stack Flow Rate – DSCFM[1]	13,507	14,055	14,072
Volume Dry Gas Sampled – DSCL[1]	15.845	15.731	15.525

[1] 29.92 "Hg, 68°F (760 mm Hg, 20°C)

SUMMARY OF RESULTS

U-45 Thermal Oxidizer Number 3 Stack (EQT 174)
Volatile HAPs (Tube Samples) Emissions Summary

Analyte	Run Number 1			Run Number 2			Run Number 3		
	(ug)	(ug/dscm[1])	(lbs/hr)	(ug)	(ug/dscm[1])	(lbs/hr)	(ug)	(ug/dscm[1])	(lbs/hr)
Acetonitrile	ND < 12.4	< 783	< 3.96E-02	ND < 12.4	< 788	< 4.15E-02	ND < 12.5	< 805	< 4.24E-02
Acrylonitrile	ND < 12.5	< 789	< 3.99E-02	ND < 12.5	< 795	< 4.18E-02	ND < 12.5	< 805	< 4.24E-02
Methyl t-butyl ether	ND < 1.09	< 69	< 3.48E-03	ND < 1.09	< 69	< 3.65E-03	ND < 1.09	< 70	< 3.70E-03
2-Nitropropane	ND < 11.6	< 732	< 3.70E-02	ND < 11.6	< 737	< 3.88E-02	ND < 11.6	< 747	< 3.93E-02
Isooctane	ND < 0.873	< 55	< 2.79E-03	ND < 0.873	< 55	< 2.92E-03	ND < 0.873	< 56	< 2.96E-03
Methyl isobutyl ketone	ND < 1.05	< 66	< 3.35E-03	ND < 1.05	< 67	< 3.51E-03	ND < 1.05	< 68	< 3.56E-03
Chlorobenzene	ND < 1.42	< 90	< 4.53E-03	ND < 1.42	< 90	< 4.75E-03	ND < 1.42	< 91	< 4.82E-03
Ethylbenzene	ND < 1.08	< 68	< 3.45E-03	ND < 1.08	< 69	< 3.61E-03	ND < 1.08	< 70	< 3.66E-03
p-Xylene	ND < 1.07	< 68	< 3.42E-03	ND < 1.07	< 68	< 3.58E-03	ND < 1.07	< 69	< 3.63E-03
Styrene	ND < 1.15	< 73	< 3.67E-03	ND < 1.15	< 73	< 3.85E-03	ND < 1.15	< 74	< 3.90E-03
o-Xylene	ND < 1.10	< 69	< 3.51E-03	ND < 1.10	< 70	< 3.68E-03	ND < 1.10	< 71	< 3.73E-03
Cumene	ND < 1.06	< 67	< 3.39E-03	ND < 1.06	< 67	< 3.55E-03	ND < 1.06	< 68	< 3.60E-03
Nitrobenzene[2]	J 1.43	90	4.57E-03	J 1.44	92	4.82E-03	J 1.35	87	4.58E-03

[1] 29.92 "Hg, 68 Deg.F (760 mm Hg 20 Deg.C)

[2] Nitrobenzene also collected and analyzed as part of the SWA 846 Method 0010 fsampling for semi-volatile organic HAPs.

SECTION 3.0
DISCUSSION OF RESULTS

Due to a reference method equipment problem, the Method 16A matrix spike test for total reduced sulfurs was unsuccessful. The total reduced sulfur compounds were determined using the Method 15 results.

Run Number 1 for Semi-Volatile Organic HAPs was aborted due to a reference method equipment failure.

Flow Rates

The three tests for flow rates in conjunction with the Method 15 testing appeared to be valid representations of the actual emissions during the tests. All leak checks performed on the sampling train and the pitot tubes showed no leaks before or after each test. The indicative parameters calculated from the field data were in close agreement. The moisture percentages for the three tests were within 17.3 percent of the mean value. The measured flow rates (Q_s) for the tests were within 7.5 percent of the mean value.

Total Reduced Sulfur Compounds

The three tests for total reduced sulfur compounds appeared to be valid representations of the actual emissions during the tests. All leak checks performed on the gas chromatograph sampling system showed no leaks before or after each test.

The concentration of hydrogen sulfide for the three tests was below the minimum detectable limit of the method.

The concentration of carbonyl sulfide for the three tests was below the minimum detectable limit of the method.

The concentration of carbon disulfide for the three tests was below the minimum detectable limit of the method.

Semi-Volatile Organic HAPs

The three tests for semi-volatile HAPs appeared to be valid representations of the actual emissions during the tests. All leak checks performed on the sampling train and the pitot tubes showed no leaks before or after each test. The indicative parameters calculated from the field data were in close agreement. The moisture percentages for the three tests were within 4.5 percent of the mean value. The measured flow rates (Q_s) for the tests were within 1.2 percent of the mean value. The rates of sampling for the three tests were within the specified limits (90 to 110 percent isokinetic). The greatest deviation from 100 percent isokinetic was 5.2 percent.

Reference Method Monitors

The three tests for carbon monoxide and total hydrocarbons appeared to be valid representations of the actual emissions during the tests. All leak checks performed on the reference method monitors sampling systems showed no leaks before or after each test. The zero and calibration drift tests of the reference method monitors were stable with no variations greater than 3.0 percent. The calibration error checks, sampling system bias check performed on the reference method monitors after testing were valid.

The calculated emissions (pounds per hour) of carbon monoxide for the three tests showed a range of -61.8 percent to +57.3 percent variation from the mean value.

The concentrations of total hydrocarbons for one of the three tests was below the minimum detectable limit of the method.

Aldehydes

The three tests for aldehydes appeared to be valid representations of the actual emissions during the tests. All leak checks performed on the sampling train and the pitot tubes showed no leaks before or after each test. The indicative parameters calculated from the field data were in close agreement. The moisture percentages for the three tests were within 1.0 percent of the mean value. The measured flow rates (Q_s) for the tests were within 2.7 percent of the mean value. The rates of sampling for the three tests were within the specified limits (90 to 110 percent isokinetic). The greatest deviation from 100 percent isokinetic was 4.7 percent.

The calculated emissions (pounds per hour) of formaldehyde for the three tests showed a range of -13.3 percent to +19.2 percent variation from the mean value.

The concentrations of acetaldehyde for the three tests were below the minimum detectable limit of the method.

The concentrations of propanol for the three tests were below the minimum detectable limit of the method.

Volatile Organic HAPs

The three tests for methanol appeared to be valid representations of the actual emissions during the tests. All leak checks performed on the sampling train showed no leaks before or after each test.

The concentrations methanol for the three tests were below the minimum detectable limit of the method.

The three tests for Volatile Organic HAPs (Bag Sampling) appeared to be valid representations of the actual emissions during the tests. All leak checks performed on

the sampling train showed no leaks before or after each test.

The three tests for Volatile Organic HAPs (Adsorbent Sampling) appeared to be valid representations of the actual emissions during the tests. All leak checks performed on the sampling train showed no leaks before or after each test.

SECTION 4.0

PROCESS DESCRIPTION AND SUPPLEMENTAL TEST PLAN

The Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174) receives gases from the amine and sour water unit and convert the gases to liquid sulfur by passing through catalyst converter beds.

UNIT 45 THERMAL OXIDIZER NUMBER 3 STACK
(Alternate Sampling Approach)

1. Issue – The U45 Thermal Oxidizer No. 3 has an inside diameter of 105 1/4" with an additional 13 1/2" of port and wall. Most stacks of this size have 4 ports located at 90° around the circumference to allow access from opposite side of the stack and thereby reducing the length of the sample probes required to reach all EPA Method 1 points. U45 only has 2 ports at 90° which means the probe/pitots would need to reach the full diameter of the stack. At this time Marathon cannot install additional ports. In an effort to meet the requirements of the method and reach all sample points, METCO purchased a specially fabricated probe of sufficient length (~13' total length; ~11' effective length). The flue gas temperature is between 1300-1400 °F. The probe is also fabricated to be a water-cooled probe sheath which would allow METCO to reduce the probe temperature to the desired method requirements (typically ~248 °F). The combination of increased length and weight resulted in the failure of the overhead support equipment on Thursday, June 23. METCO subsequently determined that these conditions and the current sampling approach could continue to pose additional safety concerns. Marathon, METCO, and Sage Environmental initiated evaluations of other options.

2. Options and Evaluations -
   a. Attempt to continue sampling on U45 Thermal Oxidizer No. 3 using the 13' water-cooled probe. METCO and Marathon mutually agreed that the risk of further problems was sufficient enough to discard this option.

2. Options and Evaluation - (continued)

   b. Sample the U45 TO using a shorter water-cooled probe (~7' total length; ~74" effective length). METCO already owns several probes of this length which is typically sufficient for reaching all required points when 4 ports are available. While the shorter water-cooled probe would reduce weight and therefore reduce the safety concerns, it would not be long enough to reach all of the EPA Method 1 sample points. Only half of the points would be sampled due to the limited number of ports.

   c. Evaluate other SRU's as possible alternative to U45. Four SRU's were reviewed. One has no means of supporting the sampling equipment (i.e. monorail brackets); one only had 2 ports at 180° which would not allow cross-sectional sampling; and one had sample ports of approximately 2" in diameter which would not allow sufficient room to insert the sampling probe/pitots/thermocouple. The fourth SRU was smaller in diameter (81 1/2"), had two 3" ports at 90°, and had the necessary overhead equipment support. The same problem exists with this SRU as the U45 in that the existing 7' water-cooled probes would not reach all of the EPA Method 1 sample points. Approximately 3/4 of the points would be reached. For the same reasons as noted earlier, METCO is reluctant to have another longer, heavier water-cooled probe fabricated. Safety is a priority.

3. Alternate Approach – Upon review of all conditions and options, Marathon, METCO, and Sage agreed upon the following approach as a path forward. The test program would continue on the U45 TO using the existing 7' water-cooled probes and reinforced support equipment. No changes would

be made to the sampling or analysis procedures with the exception that all of the points would not be sampled.

3. Alternate Approach (continued)

Marathon, METCO, and Sage agreed that this was the best option under the current conditions for the following reasons:

a. The pollutants being tested are gaseous and not particulate in nature.

b. There are no entrained water droplets present which can also act in a particulate matter.

c. Stratification of the stack gas is not expected. 10 years of relative accuracy test audits does not indicate stratification. Prior to official testing, METCO will use a bare quartz liner to perform a stratification test to verify acceptable conditions. Oxygen or carbon dioxide will be used to check for stratification.

d. By continuing the sampling on the U45 TO, Marathon will be able to use the TRS, H_2S, COS, and CS2 data that had already been collected using EPA Methods 15 and 16A on June 22 and 23. Marathon had already decided that this sampling would be repeated if the testing effort was moved to a different SRU.

e. Although the pollutant sampling on the U45 would only be performed at the reachable points, METCO proposes to use a hand-held 12' long set of pitot tubes to measure the remaining velocity and temperature readings at all EPA Method 1 points.

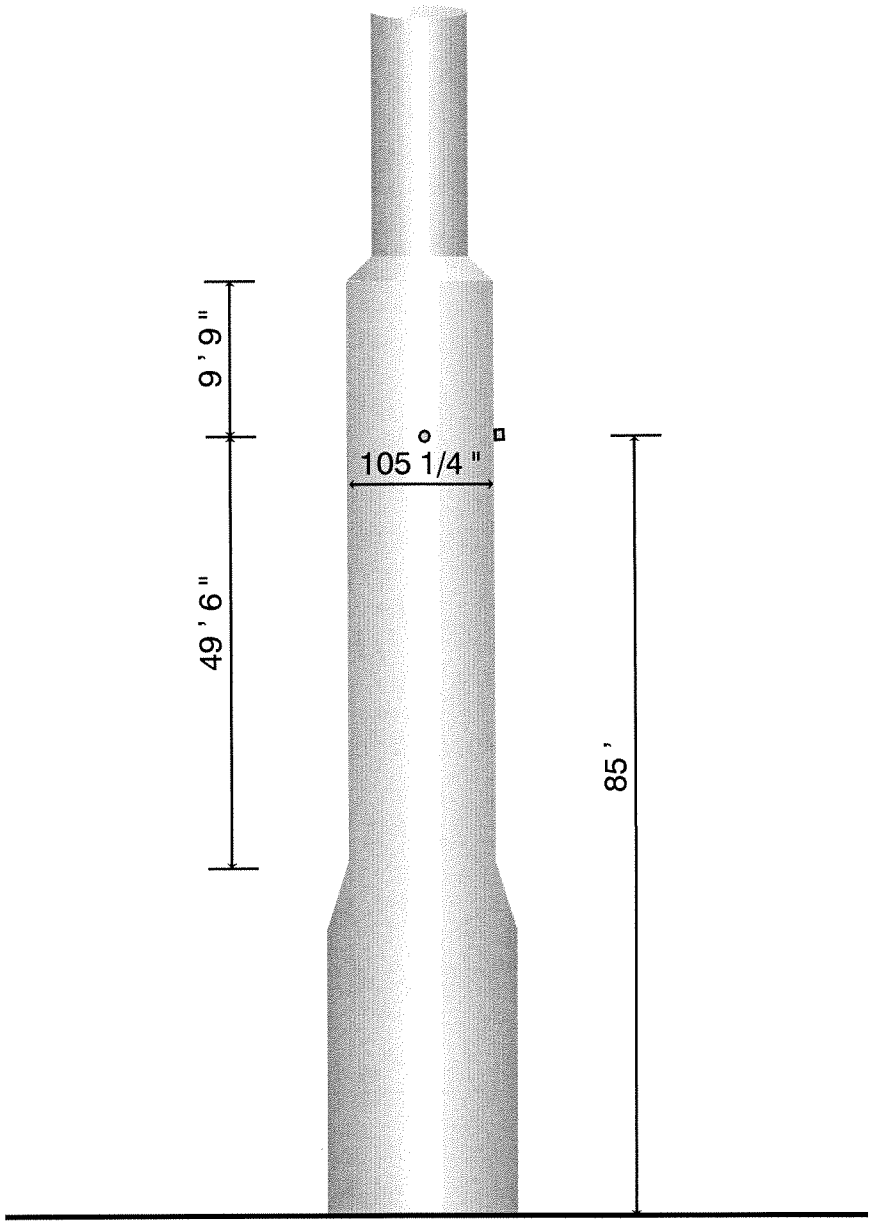
SECTION 5.0

DESCRIPTION OF SAMPLING LOCATION

The sampling location on the U-45 Thermal Oxidizer Number 3 Stack (EQT 174) is 85 feet above the ground. The sampling ports are located 49 feet 6 inches (5.64 stack diameters) downstream from a constriction of the stack and 9 feet 9 inches (1.11 stack diameters) upstream from a constriction of the stack.

SAMPLING LOCATION

U-45 Thermal Oxidizer Number 3 Stack (EQT 174)



Not to Scale

SECTION 6.0
SAMPLING AND ANALYTICAL PROCEDURES

The sampling followed the procedures set forth in the Code of Federal Regulations, Title 40, Chapter I, Part 60, Appendix A, Methods 1, 2, 3A, 3B, 4, 10, 15, 18, and 25A; Part 63, Appendix A, Method 308; and in the "Test Methods for Evaluating Solid Waste, SW-846, Update III, December 1996," Methods 0010 and 0011.

A preliminary velocity traverse was made at the two ports on the U-45 Thermal Oxidizer Number 3 Stack (EQT 174), in order to determine the uniformity and magnitude of the flow prior to testing. All traverse points were checked for cyclonic flow and the average angle of cyclonic flow was 0.4 degrees. Alternate procedures would be required if the angle of flow was greater than 20 degrees. Twelve traverse points were sampled from the two ports for a total of 24 points for velocity sampling. Six traverse points were sampled from the two ports for a total of 12 points for isokinetic sampling.

The sampling trains were leak-checked at the nozzle before each test, and again after each test at the highest vacuum reading recorded during the test. This was done to predetermine the possibility of a diluted sample.

The pitot tube lines were checked for leaks before and after each test under both a vacuum and a pressure. The lines were also checked for clearance and the manometer was zeroed before each test.

Flow Rates

Triplicate samples for flow rates were collected in conjunction with the Method 15 sampling. The samples were taken according to EPA Methods 1A, 2C, 3A, and 4. For each moisture run, a sample of 180 minute duration were taken at a constant rate from the midpoint of the stack. Data was recorded at five-minute intervals.

The " front-half " of the sampling train contained the following components:

Heated Glass Probe @ 250°F ± 25°F
Heated Glass Fiber Filter and Teflon Support @ 248°F ± 25°F

The " back-half " of the sampling train contained the following components:

Impinger Number	Contents	Amount	Parameter Collected
1	Deionized Water	100 ml	Moisture
2	Deionized Water	100 ml	Moisture
3	Empty	-----	Moisture
4	Silica Gel	200 g	Moisture

Total Reduced Sulfur Compounds

Triplicate samples for total reduced sulfur compounds were collected. The samples were taken according to EPA Method 15. Each run consisted of at least twenty gas injections to the gas chromatograph.

The " front-half " of the sampling system contained the following components:

Teflon Probe
Teflon Sample Line

The " back-half " of the sampling train contained the following components:

Impinger Number	Contents	Amount	Parameter Collected
1	Citrate Buffer	100 ml	Sulfur Dioxide
2	Citrate Buffer	100 ml	Sulfur Dioxide
3	Empty	----	Moisture and Sulfur Dioxide

The samples were analyzed by GC/FPD.

Semi-volatile Organic HAPs

Triplicate valid samples for semi-volatile organic HAPs were collected. The samples were taken according to EPA Methods 1, 2, 3B, 4; and Method 0010 of the "Test Methods for Evaluating Solid Waste, SW-846, Update III, December 1996." For each run, samples of twenty-minute duration were taken isokinetically at each of the twelve traverse points for a total sampling time of 240 minutes. Data was recorded at five-minute intervals. Reagent blanks were submitted.

The sampling train contained the following components:

Glass Nozzle
Heated Glass Probe @ 248°F ± 25°F
Heated Glass Fiber Filter and Teflon Support @ 248F° ± 25°F
Condenser Coil
XAD - Sorbent Trap
Condensate Trap
Impinger 1 - Greenburg-Smith Design, 100 ml Deionized Water
Impinger 2 – Modified Design, 100 ml Deionized Water
Impinger 3 - Modified Design, Empty
Impinger 4 - Modified Design, Silica Gel

All glassware was cleaned with a 1/1 solution of methanol and methylene chloride prior to use.

All glassware connections were sealed with Teflon tape.

At the conclusion of each test, the nozzle, probe, and connecting glassware prior to the filter were washed with a 1/1 solution of methanol and methylene chloride, which was recovered for analysis.

The semi volatile organic HAPs were analyzed by gas chromatography and mass spectrometry according to the guidelines of SW-846 Method 8270C.

Aldehydes

Triplicate samples for aldehydes were collected. The samples were taken according to EPA Methods 1A, 2C, 3A, 4; and Method 0011 of the "Test Methods for Evaluating Solid Waste, SW-846, Update III, December 1996." For each run, samples of eight-minute duration were taken isokinetically at each of the twelve traverse points for a total sampling time of 96 minutes. Data was recorded at four-minute intervals. Reagent blanks were submitted.

The " front-half " of the sampling train contained the following components:

Glass Nozzle
Heated Glass Probe @ 248°F ± 25°F

The " back-half " of the sampling train contained the following components:

Impinger Number	Contents	Amount	Parameter Collected
1	DNPH	100 ml	Aldehydes
2	DNPH	100 ml	Aldehydes
3	DNPH	100 ml	Aldehydes
4	Empty	----	Aldehydes
5	Silica Gel	200 g	Moisture

The aldehydes samples were analyzed by high performance liquid chromatography.

Methanol

Triplicate sets of samples for methanol were collected. The samples were taken according to EPA Method 308. For each run, samples of sixty-minute duration were taken from a single point. Data was recorded at five-minute intervals. Reagent blanks were submitted.

The sampling train contained the following components:

Teflon Probe
Teflon Sample Line
Impinger containing DI water
Silica Gel Sorbent Tube

The samples were analyzed by GC/FID.

Volatile Organic Compounds

Triplicate sets of samples for volatile organic compounds. Each set of sorbent cartridge samples consisted of "spiked" and "un-spiked" paired runs. The samples were taken according to EPA Method 18. For each run, samples of sixty-minute duration were taken from a single point. Data was recorded at five-minute intervals. Reagent blanks samples were submitted.

The sampling train contained the following components:

Teflon Probe
Teflon Sample Line
Impinger containing DI water
XAD-4 Sorbent Tube
XAD-4 Sorbent Tube
Charcoal Sorbent Tube

The samples were analyzed by GC/FID.

Triplicate sets of samples for volatile organic compounds were also collected using an integrated aluminized Tedlar bag. The samples were taken according to EPA Method 18. For each run, samples of sixty-minute duration were taken from a single point.

The sampling train contained the following components:

Teflon Probe
Teflon Sample Line
Aluminized Tedlar Sample Bag

The samples were analyzed by GC/FID.

Carbon Monoxide

The carbon monoxide sampling was performed according to EPA Method 10 using the continuous sampling procedure. A Thermo Environmental Model 48C Carbon Monoxide Analyzer (Serial Number 618717294) was used to monitor the concentrations of carbon monoxide during each run. The reference method analyzer was operated at a range of 0 to 100 parts per million, with a calibration span of 87.5 parts per million. A multi-point calibration was performed on the reference method analyzer prior to testing. An analyzer calibration error check and a sampling system bias check were also conducted prior to testing. After each run, the zero and calibration drift of the reference method monitor was checked. The calibration gases were as follows:

Zero Nitrogen
41.5 ppm CO in N_2 (ALM 66457)
87.5 ppm CO in N_2 (BLM 1864)

The reference method sampling system consisted of a heated probe, a chilled condenser, and a Teflon sample line. The calibration gases for the bias and drift checks were introduced upstream of the chilled condenser.

Calibration gas certifications are included in Appendix C.

Total Hydrocarbons

The total hydrocarbons and sampling was performed according to EPA Method 25A. A VIG Model 20 Total Hydrocarbon Monitor (Serial Number 4420710) was used to monitor the concentrations total hydrocarbons during each run. The reference method analyzer was operated at a range of 0 to 100 parts per million. A multi-point calibration was performed on the reference method analyzer prior to testing. An analyzer

calibration error check and a sampling system bias check were also conducted prior to testing. After each run, the zero and calibration drift of the reference method monitors were checked. The calibration gases were as follows:

Zero Nitrogen
14.2 ppm Propane in N_2 (BLM 2221)
27.2 ppm Propane in N_2 (BLM 1976)
42.8 ppm Propane in N_2 (BAL 5228)

The reference method sampling system consisted of a heated probe and a heated Teflon sample line. The calibration gases for the bias and drift checks were introduced upstream of the heated Teflon sample line.

Calibration gas certifications are included in Appendix C.

Oxygen

The oxygen sampling was performed according to EPA Method 3A. A Horiba Model VA-3000 Oxygen Analyzer (Serial Number G0400AL9) was used to monitor the concentrations of oxygen during each run. The reference method analyzer was operated at a range of 0 to 25 percent, with a calibration span of 20.10 percent. A multi-point calibration was performed on the reference method analyzer prior to testing. An analyzer calibration error check and a sampling system bias check were also conducted prior to testing. After each run, the zero and calibration drift of the reference method monitor was checked. The calibration gases were as follows:

Zero Nitrogen
11.10 percent O_2 in N_2 (CC 133782)
20.10 percent O_2 in N_2 (CC 149987)

The reference method sampling system consisted of a heated probe, a chilled condenser, and a Teflon sample line. The calibration gases for the bias and drift checks were introduced upstream of the chilled condenser.

Calibration gas certifications are included in Appendix C.

Carbon Dioxide

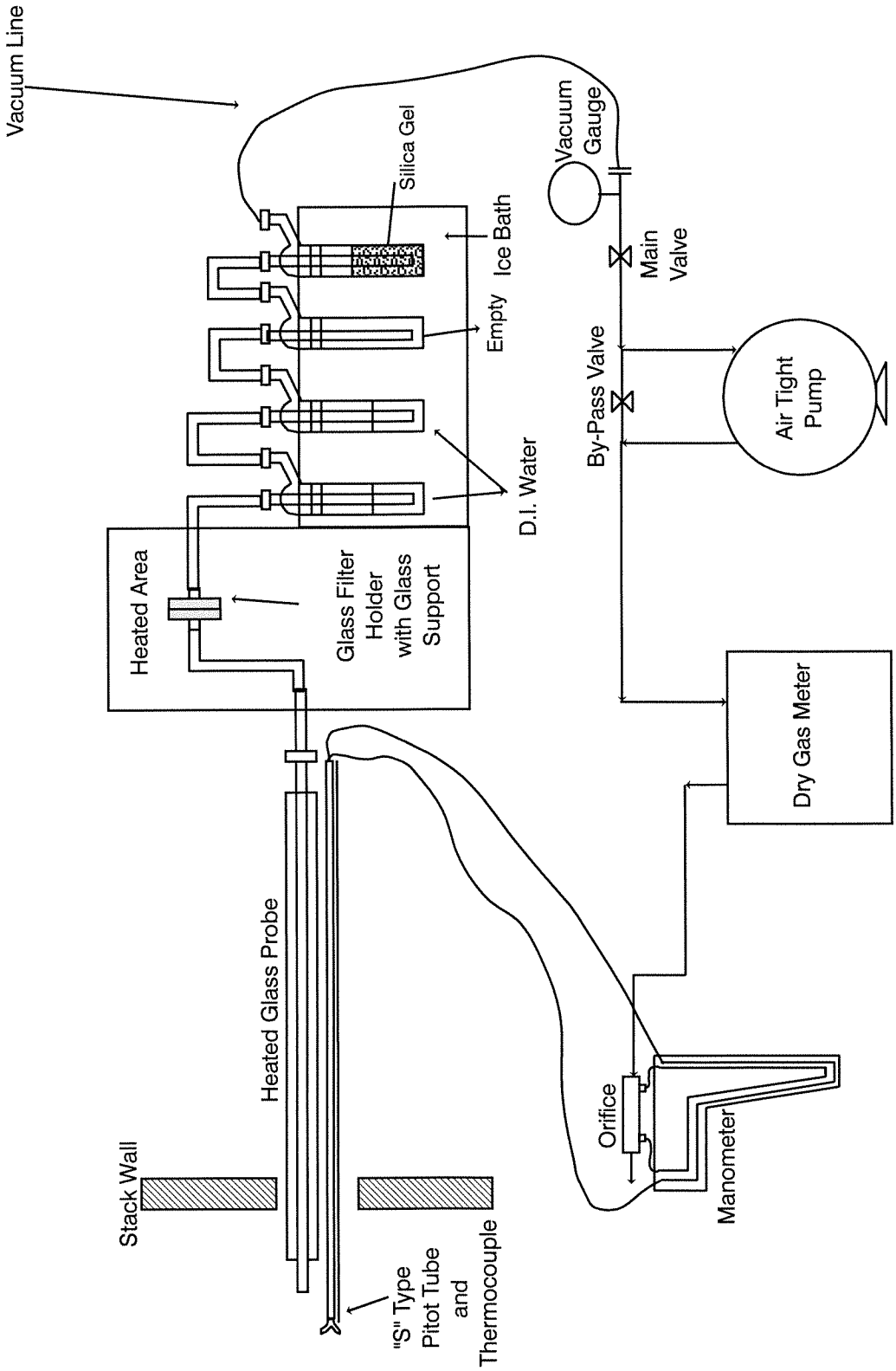
The carbon dioxide sampling was performed according to EPA Method 3A. A Horiba Model VA-3000 Carbon Dioxide Analyzer (Serial Number G0400AL9) was used to monitor the concentrations of carbon dioxide during each run. The reference method analyzer was operated at a range of 0 to 25 percent, with a calibration span of 20.10 percent. A multi-point calibration was performed on the reference method analyzer prior to testing. An analyzer calibration error check and a sampling system bias check were also conducted prior to testing. After each run, the zero and calibration drift of the reference method monitor was checked. The calibration gases were as follows:

Zero Nitrogen
11.00 percent CO_2 in N_2 (CC 133782)
20.10 percent CO_2 in N_2 (CC 149987)

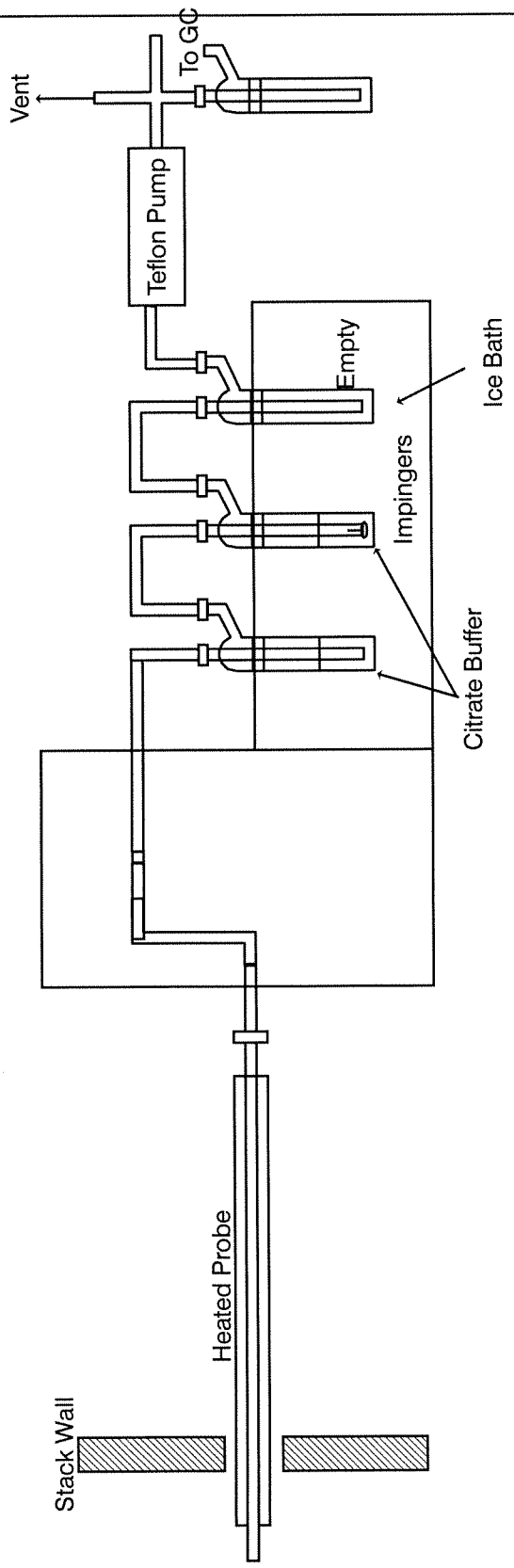
The reference method sampling system consisted of a heated probe, a chilled condenser, and a Teflon sample line. The calibration gases for the bias and drift checks were introduced upstream of the chilled condenser.

Calibration gas certifications are included in Appendix C.

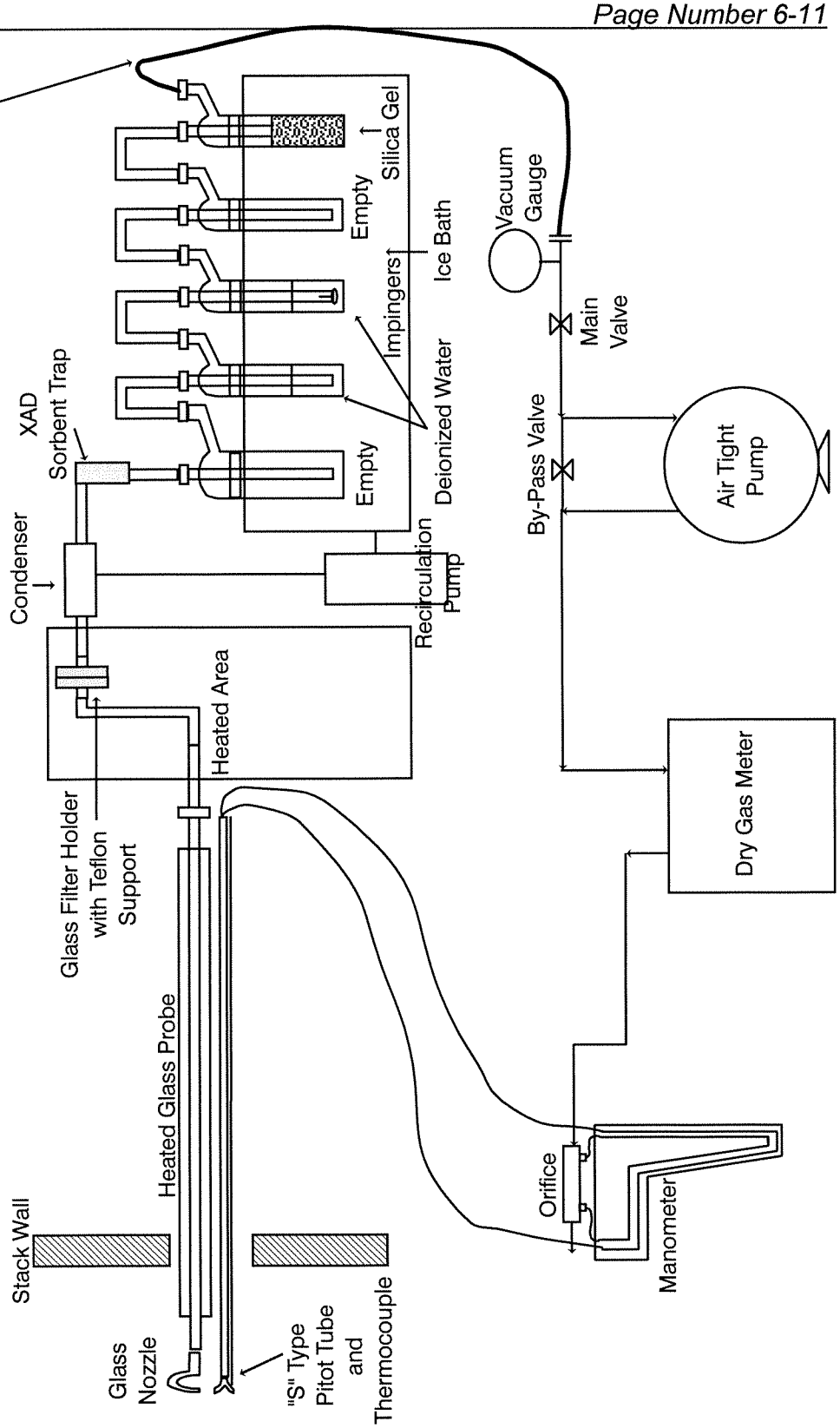
Schematic Diagram of the EPA Method 4
Sampling Train



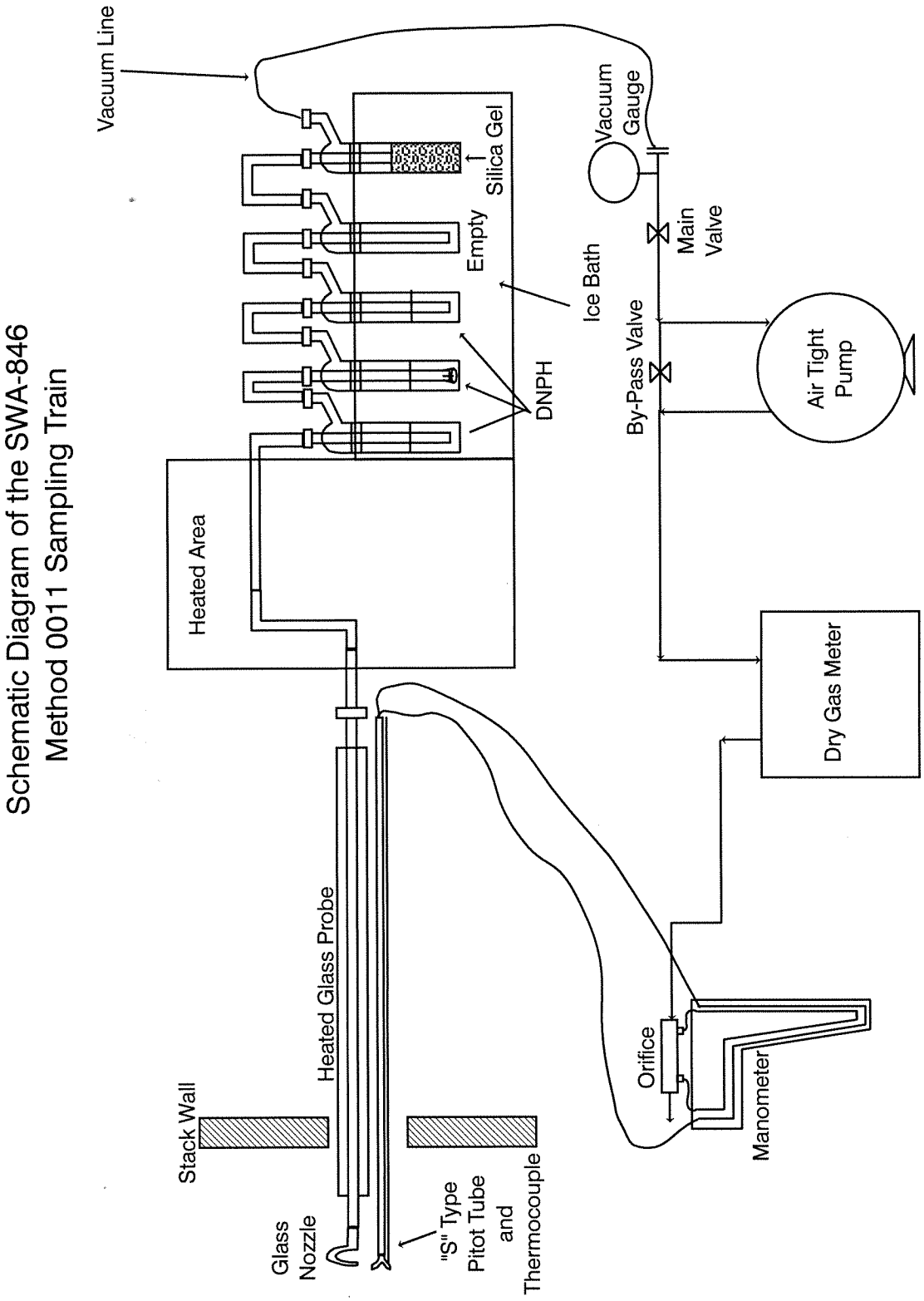
Schematic Diagram of the EPA Method 15 Sampling Train



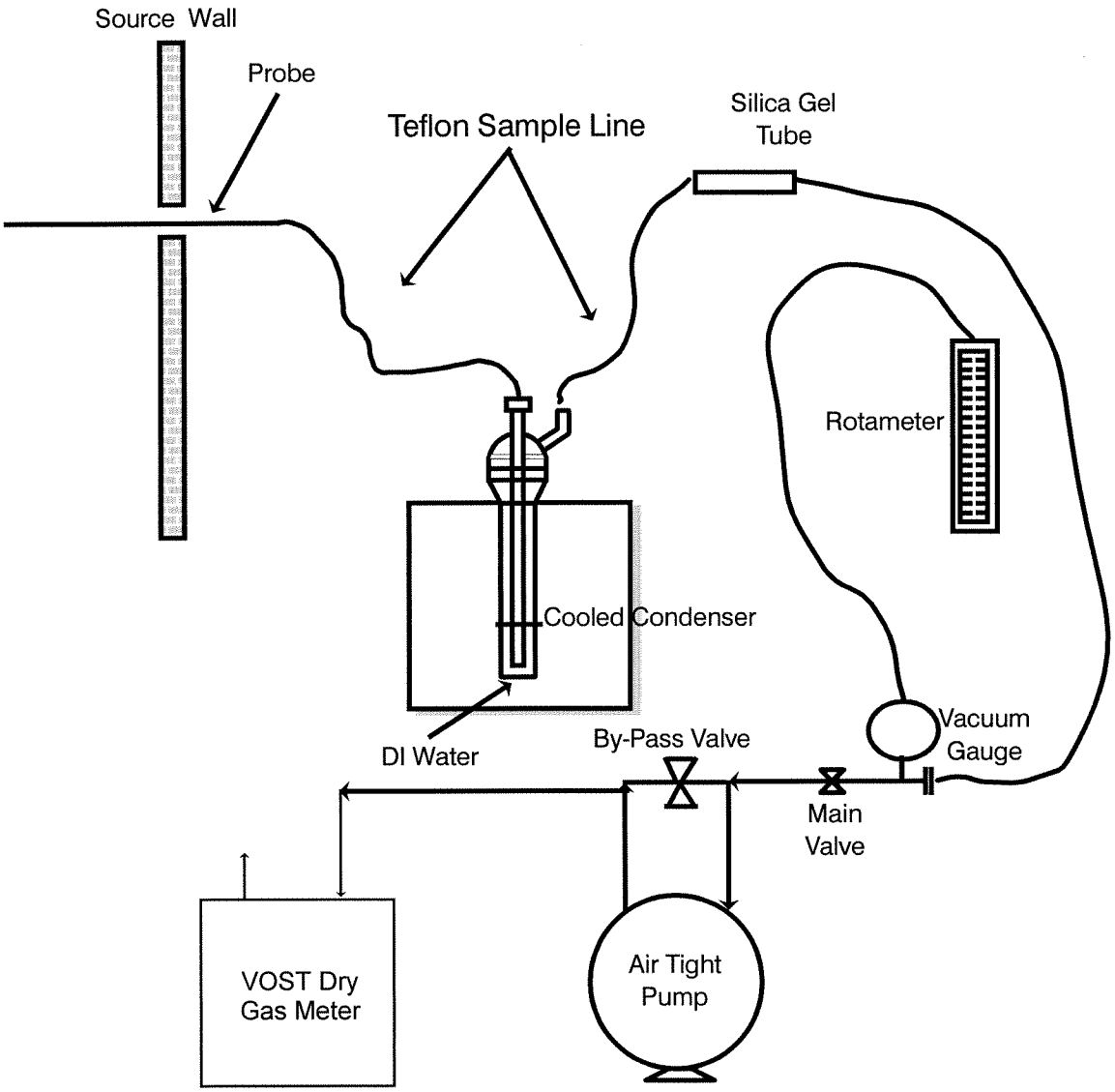
Schematic Diagram of the SW-846 Method 0010
Sampling Train



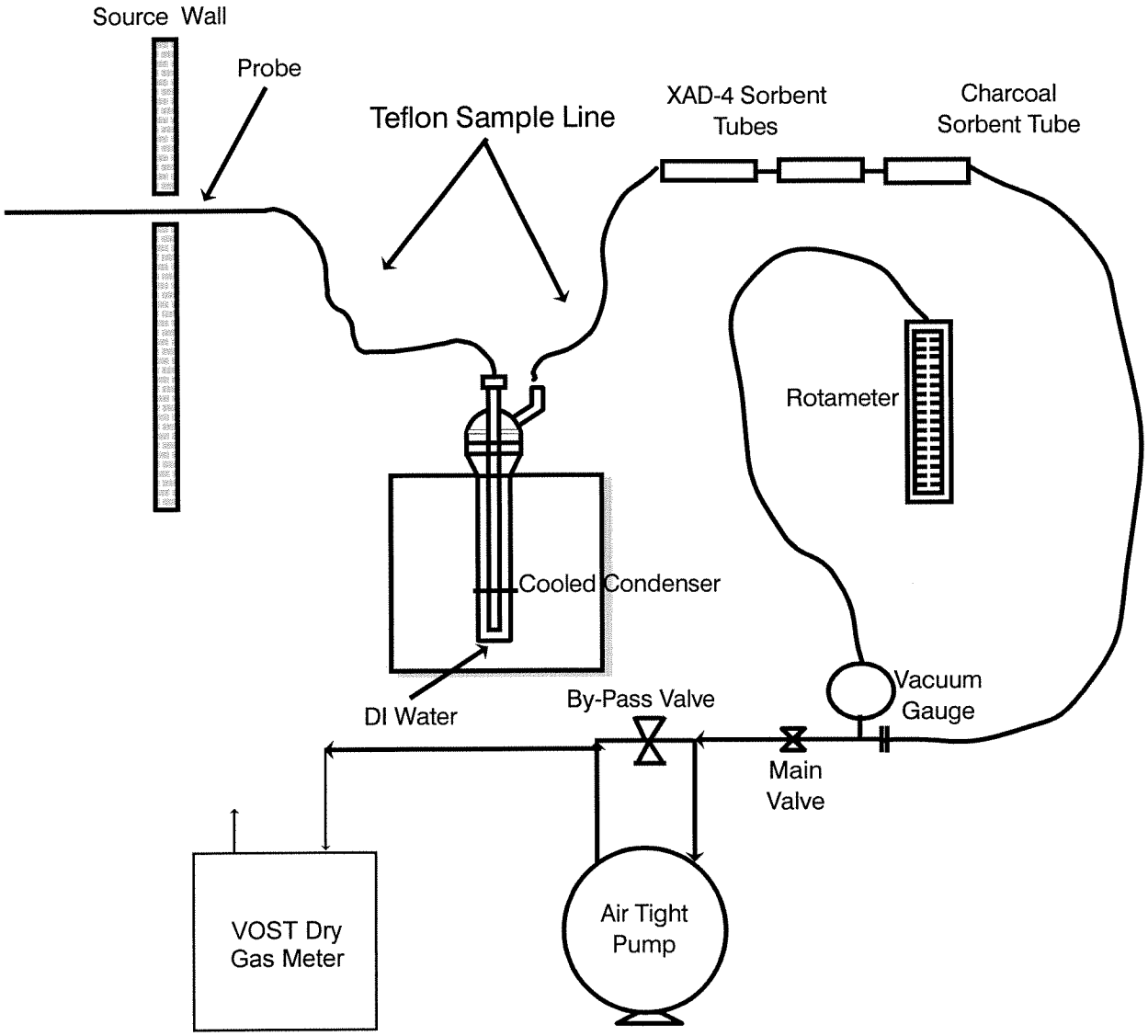
Schematic Diagram of the SWA-846
Method 0011 Sampling Train



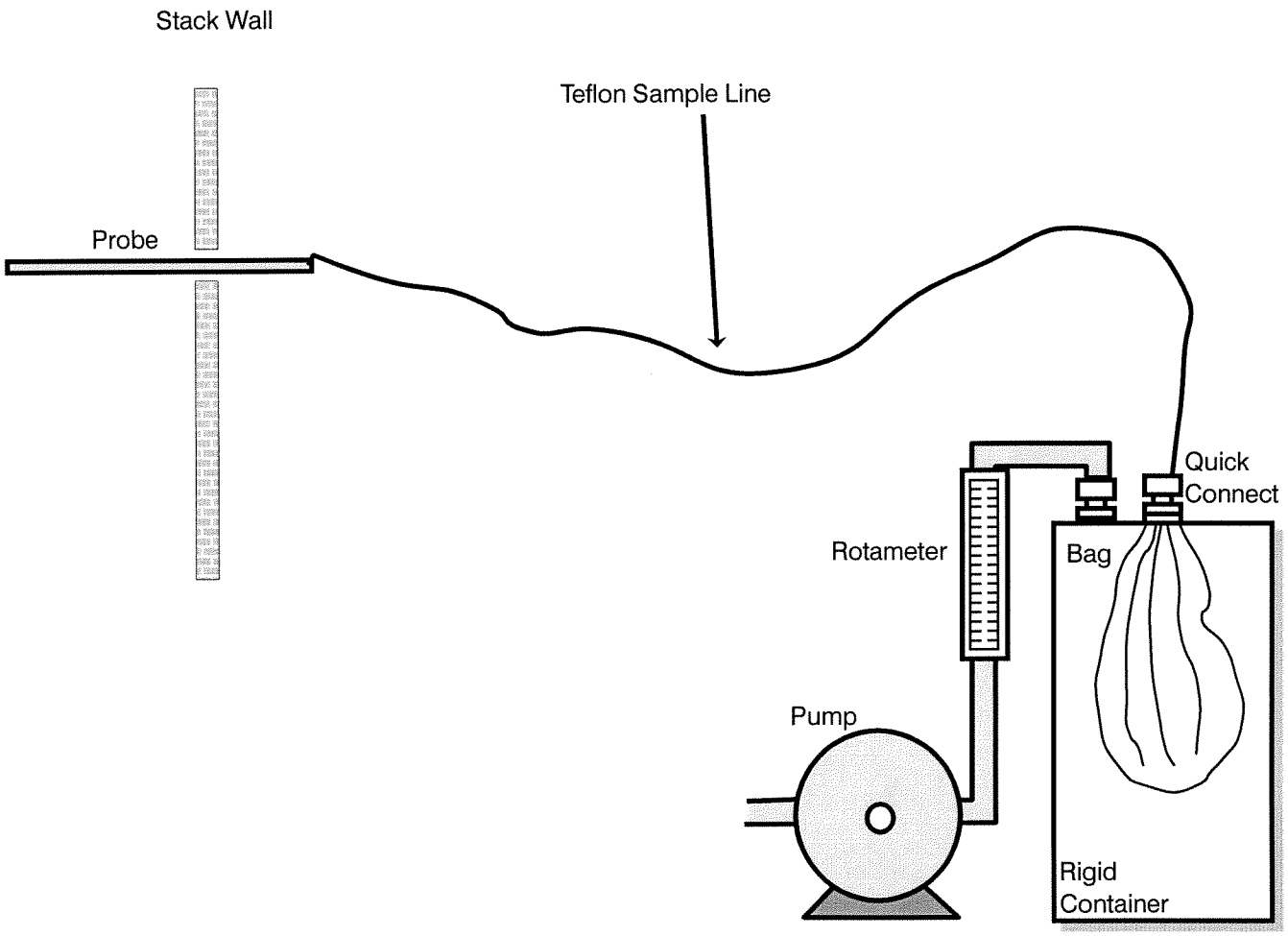
EPA Method 308 Sampling Train for Methanol



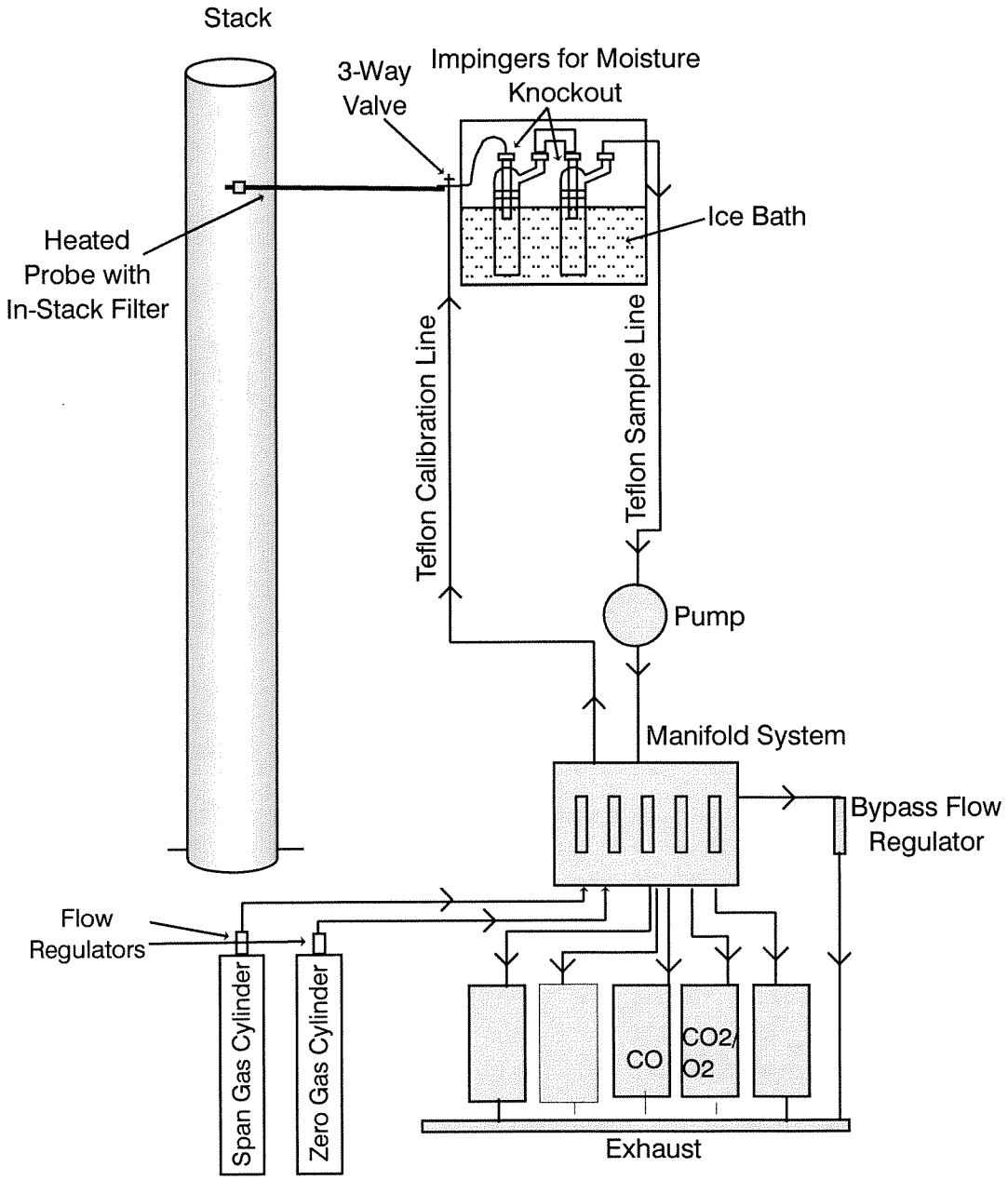
EPA Method 18 Sampling Train for Volatile HAPs



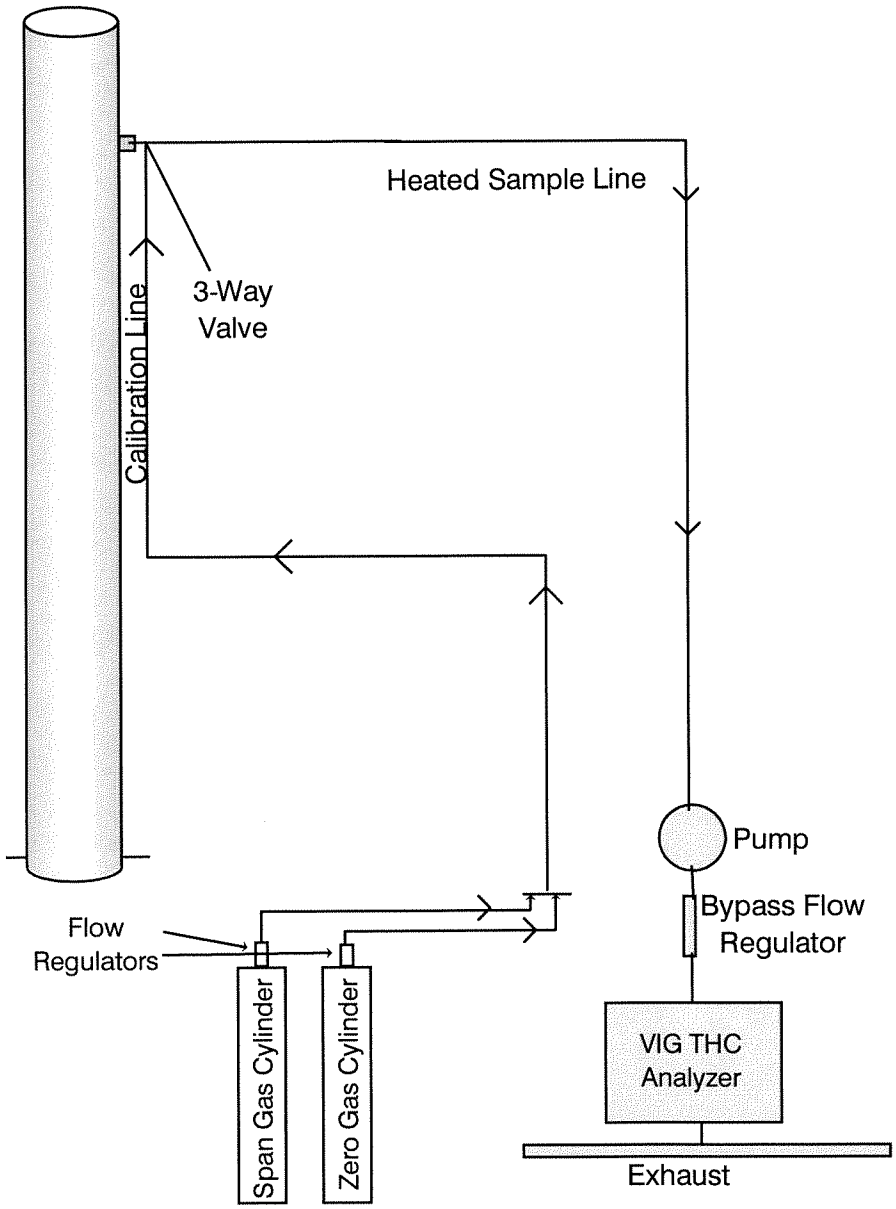
EPA Method 18 used for Volatile HAPs



Reference Method Monitors Sampling System (EPA Method 3A and 10)



Reference Method Monitor Sampling System (EPA Method 25A)



SECTION 7.0

DESCRIPTION OF TESTS

Personnel from METCO Environmental arrived at the plant at 2:30 p.m. on Monday, June 20, 2011. After meeting with plant personnel and attending a safety orientation, the equipment was staged for move on at the U-45 Thermal Oxidizer Number 3 Stack (EQT 174). The equipment was secured for the night and all work was completed at 6:00 p.m.

On Tuesday, June 21, work began at 6:00 a.m. The equipment was moved onto the U-45 Thermal Oxidizer Number 3 Stack (EQT 174). Testing was delayed due to reference method equipment problems. The equipment secured and all work was completed at 6:00 p.m.

On Wednesday, June 22, work began at 7:00 a.m. The reference method monitors were calibrated and the equipment was prepared for sampling. The first tests for total reduced sulfur compounds began at 9:10 a.m. Testing continued until completion of the second test at 5:35 p.m. The reference method monitors were calibrated and equipment was secured. All work was completed at 9:30 p.m.

On Thursday, June 23, work began at 7:30 a.m. The reference method monitors were calibrated and the equipment was prepared for sampling. The third tests for total reduced sulfur compounds began at 9:25 a.m. and was completed at 12:25 p.m. The first test for semi-volatile organic HAPs began at 3:05 p.m. Testing was aborted due to reference method equipment problems. The reference method monitors were calibrated and equipment was secured. All work was completed at 6:00 p.m.

On Friday, June 24, work began at 7:00 a.m. The equipment was moved off the Stack. The sample was transported to METCO Environmental's laboratory in Dallas, Texas, for

analysis and evaluation. All work was completed at 12:45 p.m.

On Monday, July 11, work began at 7:30 a.m. The equipment was moved onto the U-45 Thermal Oxidizer Number 3 Stack (EQT 174). The reference method monitors were calibrated and the equipment was prepared for sampling. The first sets of tests for carbon monoxide and total hydrocarbons began at 2:00 p.m. and were completed at 3:00 p.m. The second test for semi-volatile organic HAPs began at 2:00 p.m. and was completed at 6:10 p.m. The reference method monitors were calibrated and the samples were recovered. The equipment secured and all work was completed at 7:00 p.m.

On Tuesday, July 12, work began at 7:00 a.m. The reference method monitors were calibrated and the equipment was prepared for sampling. The second set of tests for carbon monoxide and total hydrocarbons; and the third test for semi-volatile organic HAPs began at 8:20 a.m. Testing continued until completion of the third set of tests for carbon monoxide and total hydrocarbons at 2:05 p.m.; and the fourth test for semi-volatile organic HAPs at 5:13 p.m. The reference method monitors were calibrated and the samples were recovered. The equipment secured and all work was completed at 6:00 p.m.

On Wednesday, July 13, work began at 7:00 a.m. The reference method monitors were calibrated and the equipment was prepared for sampling. The first test for aldehydes began at 10:35 a.m. Testing continued until completion of the third test at 4:32 p.m. The first set of tests for volatile organic HAPs and methanol began at 10:35 a.m. testing continued until completion of the third set of tests at 3:48 p.m. The fourth test (spike run) for aldehydes began at 4:46 p.m. and was completed at 6:26 p.m.

The equipment was moved off the stack. The reference method monitors were calibrated and the samples were recovered. The samples were transported to METCO Environmental's laboratory in Dallas, Texas, for analysis and evaluation.

Field operations at Marathon Petroleum, U-45 Thermal Oxidizer Number 3 Stack (EQT 174) located in Garyville, Louisiana, were completed at 7:30 p.m. on Wednesday, July 13, 2011.

SECTION 8.0

APPENDICES

A. Location of Sampling Points
B. Source Emissions Calculations
C. Calibration Data
D. Field Testing Data
E. Total Reduced Sulfur Analytical Data
F. Semivolatile Organic HAPs Analytical Data
G. Aldehydes Analytical Data
H. Volatile Organic HAPS Analytical Data
I. Reference Method Monitors Data
J. Chain of Custody
K. Resumes of Test Personnel

APPENDIX A

Location Velocity Sampling Points
U-45 Thermal Oxidizer Number 3 Stack (EQT 174)

The sampling ports are located 49 feet 6 inches (5.64 stack diameters) downstream from a constriction of the stack and 9 feet 9 inches (1.11 stack diameters) upstream from a constriction of the stack. The locations of the sampling points were calculated as follows:

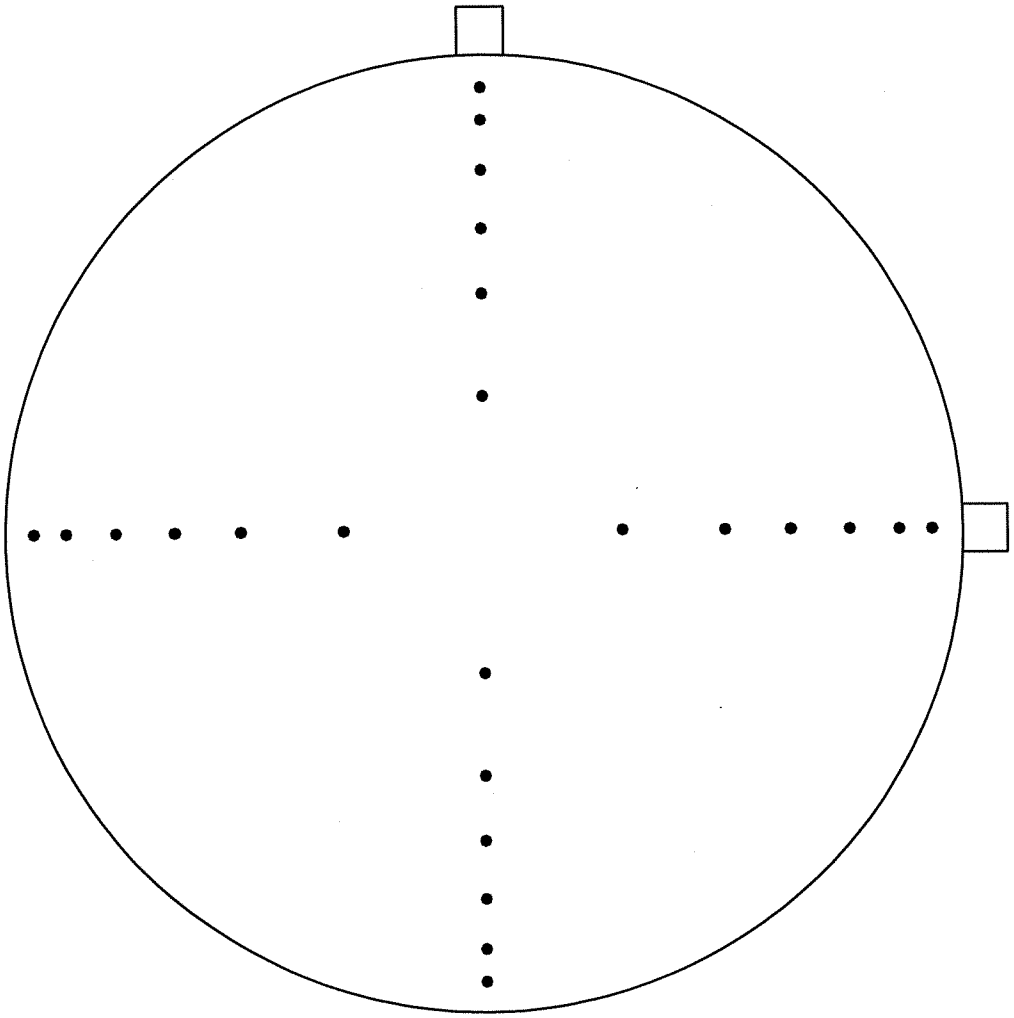
Port and Wall Thickness	=	13 1/2 inches
Inside Stack Diameter	=	105 1/4 inches

Point Number	Percent of Diameter From Wall	Distance From Wall
1	2.1	2 3/16 "
2	6.7	7 1/16 "
3	11.8	12 7/16 "
4	17.7	18 5/8 "
5	25.0	26 5/16 "
6	35.6	37 1/2 "
7	64.4	67 3/4 "
8	75.0	78 15/16 "
9	82.3	86 5/8 "
10	88.2	92 13/16 "
11	93.3	98 3/16 "
12	97.9	103 1/16 "

APPENDIX A

Location of Velocity Sampling Points

U-45 Thermal Oxidizer Number 3 Stack (EQT 174)



APPENDIX A

Location of Isokinetic Sampling Points
U-45 Thermal Oxidizer Number 3 Stack (EQT 174)

The sampling ports are located 49 feet 6 inches (5.64 stack diameters) downstream from a constriction of the stack and 9 feet 9 inches (1.11 stack diameters) upstream from a constriction of the stack. The locations of the sampling points were calculated as follows:

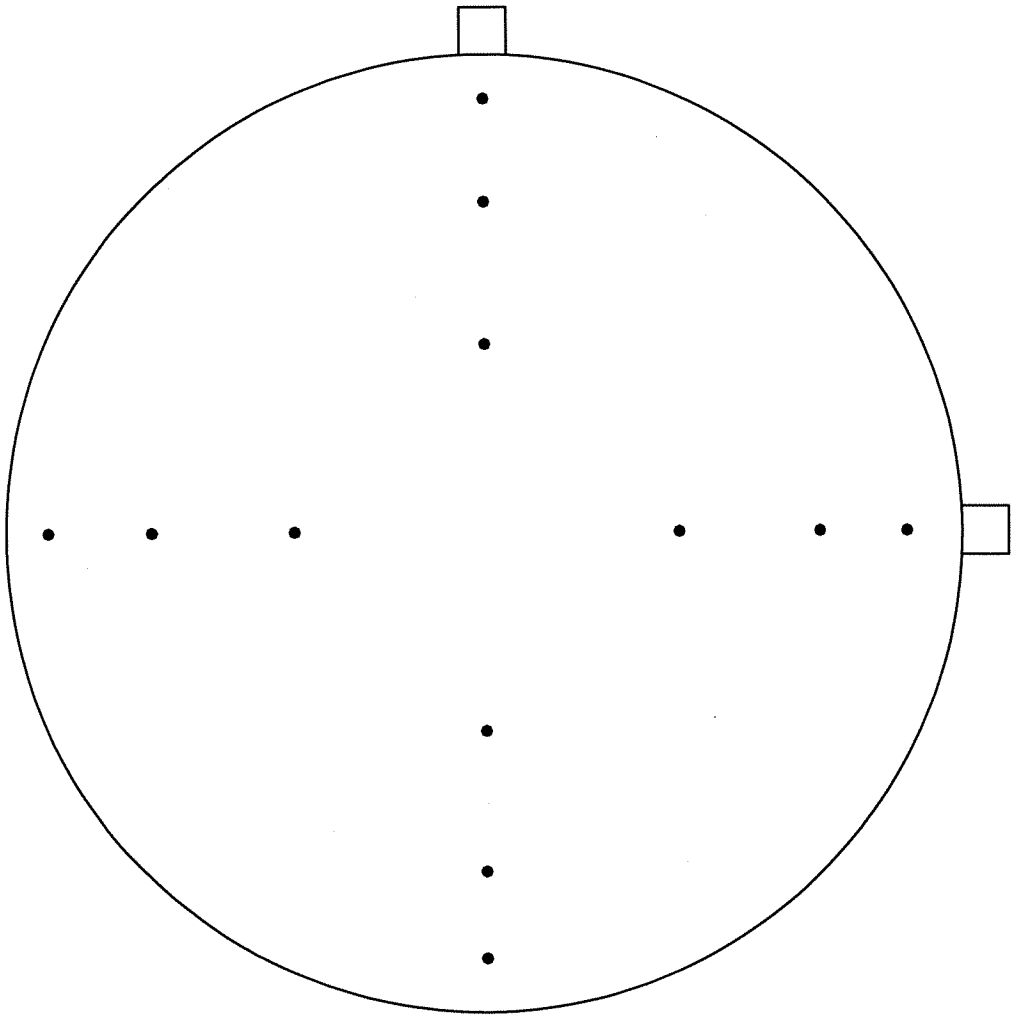
Port and Wall Thickness	=	13 1/2 inches
Inside Stack Diameter	=	105 1/4 inches

Point Number	Percent of Diameter From Wall	Distance From Wall
1	4.4	4 5/8 "
2	14.6	15 3/8 "
3	29.6	31 1/8 "
4	70.4	74 1/8 "
5	85.4	89 7/8 "
6	95.6	100 5/8 "

APPENDIX A

Location of Isokinetic Sampling Points

U-45 Thermal Oxidizer Number 3 Stack (EQT 174)



APPENDIX A

Location of Reference Method Monitor Sampling Points
U-45 Thermal Oxidizer Number 3 Stack (EQT 174)

The sampling ports are located 49 feet 6 inches (5.64 stack diameters) downstream from a constriction of the stack and 9 feet 9 inches (1.11 stack diameters) upstream from a constriction of the stack. The locations of the sampling points were calculated as follows:

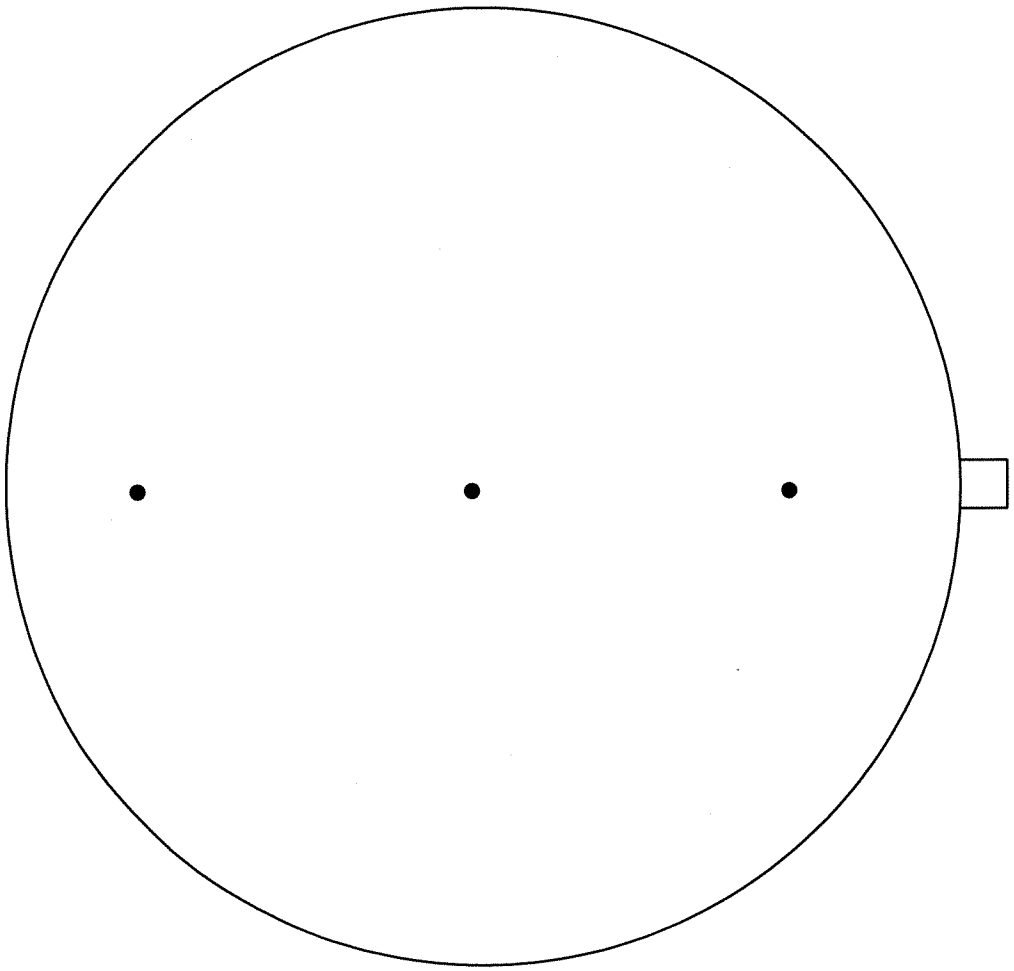
Port and Wall Thickness	=	13 1/2 inches
Inside Stack Diameter	=	105 1/4 inches

Point Number	Percent of Diameter From Wall	Distance From Wall
1	16.7	17 9/16 "
2	50.0	52 5/8 "
3	83.3	87 11/16 "

APPENDIX A

Location of Reference Method Monitor Sampling Points

U-45 Thermal Oxidizer Number 3 Stack (EQT 174)



APPENDIX B

Nomenclature and Equations
for
Calculation of Source Emissions

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NOMENCLATURE FOR PARTICULATE CALCULATIONS

Symbol	English Units	Metric Units	Description
A_s	$in.^2$	m^2	Stack Area
C_{an}	gr/dscf*	g/dscm*	Particulate - probe, cyclone, and filter
C_{ao}	gr/dscf*	g/dscm*	Particulate - total
C_{at}	gr/CF @ stack conditions	g/m^3	Particulate - probe, cyclone, and filter
C_{au}	gr/CF @ stack conditions	g/m^3	Particulate - total
C_{aw}	lbs/hr	kg/hr	Particulate - probe, cyclone, and filter
C_{ax}	lbs/hr	kg/hr	Particulate - total
C_p			Pitot Tube Calibration Factor
D_n	in.	m	Sampling Nozzle Diameter
%EA			Percent Excess Air at sampling point
g	32.174 ft/sec^2		Acceleration of Gravity
%I			Percent Isokinetic
%M			Percent Moisture in the stack gas by volume
M_d			Mole fraction of dry gas

* 29.92 " Hg, 68° F (760 mm Hg, 20° C)

Symbol	English Units	Metric Units	Description
m_f	mg	mg	Particulate - probe, cyclone, and filter
M_{water}	18 lb/lb-mole		Molecular Weight of water
m_t	mg	mg	Particulate - total
MW	lb/lb-mole	g/g-mole	Molecular Weight of stack gas
MW_{air}	28.96 lb/ lb-mole		Molecular Weight of air
MW_d	lb/lb-mole	g/g-mole	Molecular Weight of dry stack gas
P_b	"Hg Absolute	mm Hg	Barometric Pressure
P_m	"H_2O	mm H_2O	Orifice Pressure drop
P_s	"Hg Absolute	mm Hg	Stack Pressure
ΔP	"H_2O	mm H_2O	Velocity Head of stack gas
P_{std}	29.92 "Hg	760 mm Hg	Standard Barometric Pressure
Q_a	ACFM	m^3/hr	Stack Gas Volume at actual stack conditions
Q_s	DSCFM*	dscm/hr*	Stack Gas Volume at 29.92 "Hg, 528°R, dry
R	21.83 "Hg-ft^3/lb-mole°R		Universal Gas Constant
T_m	°F	°C	Average Gas Meter Temperature

* 29.92 " Hg, 68° F (760 mm Hg, 20° C)

Symbol	English Units	Metric Units	Description
T_t	min	min	Net time of test
T_s	°F	°C	Stack Temperature
T_{std}	528°R	293°K	Standard Temperature
V_m	ft^3	m^3	Volume of dry gas sampled @ meter conditions
Vm_{std}	dscf*	dscm*	Volume of dry gas sampled @ standard conditions
V_s	fpm	m/sec	Stack velocity @ stack conditions
V_w	ml	ml	Total water collected in impingers and silica gel
Vw_{gas}	scf*	scm*	Volume of water vapor collected @ standard conditions
ρ_{air}	0.0752 lbs/ft^3		Density of Air
ρ_{water}	1 g/ml		Density of Water
ρ_{man}	62.32 lbs/ft^3		Density of Manometer Oil

Standard Conditions: 29.92 "Hg, 68°F (760 mm Hg, 20°C)

* 29.92 " Hg, 68° F (760 mm Hg, 20° C)

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EXAMPLE CALCULATIONS

1. Volume of dry gas sampled at standard conditions. *

$$Vm_{std} = Vm \left(\frac{T_{std}}{T_m + 460} \right) \left[\frac{P_b + \frac{P_m}{13.6}}{P_{std}} \right]$$

$$Vm_{std} = 17.65\, Vm \left[\frac{P_b + \frac{P_m}{13.6}}{T_m + 460} \right] = dscf$$

$$Vm_{std} = dscf \times 0.028317 = dscm$$

2. Volume of water vapor collected at standard conditions. *

$$Vw_{gas} = \frac{(V_w - gms\ SO_2 - gms\ H_2S)\, \rho_{water}\, R\, T_{std}}{P_{std}\, M_{water}\, 453.6}$$

$$Vw_{gas} = 0.0472\, (V_w - gms\ SO_2 - gms\ H_2S) = scf$$

$$Vw_{gas} = scf \times 0.028317 = scm$$

3. Percent moisture in stack gas.

$$\%M = \frac{Vw_{gas}}{Vm_{std} + Vw_{gas}} \times 100 = \%$$

* 29.92 " Hg, 68° F (760 mm Hg, 20° C)

4. Mole fraction of dry gas.

$$M_d = \frac{100 - \%M}{100}$$

5. Average molecular weight of dry stack gas.

$$MW_d = \left[\%CO_2 \times \frac{44}{100}\right] + \left[\%O_2 \times \frac{32}{100}\right] + \left[\%N_2 \times \frac{28}{100}\right] + \left[\%CO \times \frac{28}{100}\right] = lb/lb\text{-}mole$$

$$= g/g\text{-}mole$$

6. Molecular weight of stack gas.

$$MW = MW_d \times M_d + 18\,(1 - M_d) = \frac{lb}{lb\text{-}mole} = g/g\text{-}mole$$

7. Percent excess air at sampling point.

$$\%EA = \frac{100\,[\%O_2 - (0.5\,\%CO)]}{0.265\,(\%N_2) - [\%O_2 - (0.5\,\%CO)]}$$

8. Stack Pressure.

$$P_s = P_b + \frac{Stack\ Pressure\ "H_2O}{13.6} = "Hg\ Absolute$$

$$P_s = "Hg\ Abs. \times 25.4 = mm\ Hg$$

9. Stack velocity at stack conditions.

$$V_s = C_p\, 60 \left[\frac{2g \times \rho_{man} \times P_{std} \times MW_{air} \times (T_s + 460)}{12 \times \rho_{air} \times P_s \times MW \times T_{std}} \right]^{1/2} \times \sqrt{\Delta P}\ average$$

$$V_s = 5{,}123.8\, C_p \left[\frac{(T_s + 460)}{P_s \times MW} \right]^{1/2} \sqrt{\Delta P}\ average = fpm$$

$$V_s = fpm \times 0.00508 = m/sec$$

10. Dry stack gas volume at standard conditions. *

$$Q_s = \frac{1}{144} V_s \times A_s \times M_d \times \frac{T_{std}}{T_s + 460} \times \frac{P_s}{P_{std}}$$

$$Q_s = \frac{0.123\, V_s \times A_s \times M_d \times P_s}{T_s + 460} = DSCFM$$

$$Q_s = DSCFM \times 1.6990 = dscm/hr$$

11. Actual stack gas volume at stack conditions.

$$Q_a = \frac{V_s \times A_s}{144} = ACFM$$

$$Q_a = ACFM \times 1.6990 = m^3/hr$$

* 29.92 " Hg, 68° F (760 mm Hg, 20° C)

12. Percent Isokinetic.

$$\%I = \frac{Vm_{std} \times (T_s + 460) \times P_{std} \times 100 \times 144\ in^2/ft^2}{M_d \times T_{std} \times P_s \times T_t \times V_s \left(\frac{\pi \times D_n^2}{4}\right)}$$

$$\%I = \frac{1039 \times Vm_{std} \times (T_s + 460)}{M_d \times P_s \times T_t \times V_s \times D_n^2}$$

EXAMPLE CALCULATIONS

$$\text{lbs/hr} = \frac{\text{ppm} \times \text{MW} \times 60 \times \text{DSCFM*}}{385.1 \times 10^6}$$

where : MW = molecular weight

ppm = ppm of compound

SCFM* = Stack Flow Rate

Compound	Molecular Weight
Hydrogen Sulfide	34.08
Carbonyl Sulfide	60.07
Carbon Disulfide	76.14

* 29.92 "Hg, 68°F (760 mm Hg, 20°C)

EXAMPLE CALCULATIONS

lbs/hr = ppm x CF x 60 min/hr x DSCFM*

CF = Conversion Factor for ppm to lbs/scf*

Compound	Conversion Factor
THC as propane	1.145×10^{-7}
CO	7.273×10^{-8}

* 29.92 "Hg, 68°F (760 mm Hg, 20°C)

* 29.92 " Hg, 68° F (760 mm Hg, 20° C)

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SOURCE EMISSION SURVEY

JOB NUMBER: 11-234
JOB NAME: MARATHON
LOCATION: GARYVILLE, LA
UNIT TESTED: U-45 THERMAL OXIDIZER NUMBER 3 STACK (EQT 174) - FLOW RATES

SOURCE EMISSION CALCULATIONS

			RUN NUMBER		
SYMBOL	DESCRIPTION	UNITS	1	2	3
DATE			06/22/11	06/22/11	06/23/11
BEGIN TIME			0910	1415	0925
END TIME			1210	1805	1230
P(b)	BAROMETRIC PRESSURE	"Hg Abs.	29.89	29.85	29.88
		(mm Hg)	(759.00)	(758.00)	(759.00)
P(m)	ORIFICE PRESSURE DROP	"H2O	0.500	0.500	0.500
		(mm H2O)	(12.700)	(12.700)	(12.700)
	DGM CALIBRATION FACTOR		1.010	1.010	1.010
V(m)	VOLUME DRY GAS SAMPLED	ft.^3	73.305	73.814	72.218
	@ METER CONDITIONS	(m^3)	(2.076)	(2.090)	(2.045)
	LEAK CHECK VOLUME	ft.^3	0.000	0.000	0.000
T(m)	AVERAGE GAS METER	DEG.F	69	69	65
	TEMPERATURE	(DEG.C)	(21)	(21)	(18)
V(m[std])*	VOLUME DRY GAS SAMPLED	DSCF	73.195	73.605	72.635
	@ STANDARD CONDITIONS*	(DSCM)	(2.073)	(2.084)	(2.057)
V(w)	TOTAL WATER COLLECTED,	ml	167.2	119.9	153.0
	IMPINGERS & SILICA GEL				
V(w[gas])	VOLUME WATER VAPOR	SCF	7.892	5.659	7.222
	COLLECTED @ STANDARD	(SCM)	(0.223)	(0.160)	(0.205)
	CONDITIONS*				
%M	MOISTURE IN STACK GAS	%	9.73	7.14	9.04
	BY VOLUME				
Md	MOL FRACTION OF DRY GAS		0.9027	0.9286	0.9096
Tt	NET TIME OF TEST	MINUTES	180	180	180

* 68 Deg.F, 29.92 "Hg (20 Deg.C, 760 mm Hg)

METCO ENVIRONMENTAL

SOURCE EMISSION CALCULATIONS

JOB NUMBER: 11-234
JOB NAME: MARATHON
LOCATION: GARYVILLE, LA
UNIT TESTED: U-45 THERMAL OXIDIZER NUMBER 3 STACK (EQT 174) - FLOW RATES

			RUN NUMBER		
SYMBOL	DESCRIPTION	UNITS	1	2	3
CO2		%	3.5	3.5	3.4
O2		%	4.7	4.9	5.3
CO		%	0.0	0.0	0.0
N2		%	91.8	91.6	91.3
%EA	EXCESS AIR @ SAMPLING POINT	%	23.9	25.3	28.1
MWd	MOLECULAR WEIGHT OF DRY STACK GAS	LB/LB-MOLE (g/g-MOLE)	28.75 (28.75)	28.76 (28.76)	28.76 (28.76)
MW	MOLECULAR WEIGHT OF STACK GAS	LB/LB-MOLE (g/g-MOLE)	27.70 (27.70)	27.99 (27.99)	27.78 (27.78)
Cp	PITOT TUBE CALIBRATION		0.804	0.804	0.804
DELTA P	VELOCITY HEAD OF STACK GAS	"H2O (mm H20)	0.027 (0.700)	0.031 (0.800)	0.025 (0.600)
DELTA P ^(1/2)		"H2O	0.164	0.174	0.156
Ts	STACK TEMPERATURE	DEG. F (DEG. C)	1,321 (716)	1,290 (699)	1,310 (710)
Ps	STACK PRESSURE	"Hg Abs. (mm Hg) "H20	29.85 (758.00) -0.60	29.81 (757.00) -0.60	29.83 (758.00) -0.70
Vs	STACK VELOCITY @ STACK CONDITIONS	FPM (m/SEC.)	992 (5)	1,038 (5)	939 (5)
As	STACK AREA	(SQ.INCHES) (SQ.METERS)	8,700 (6)	8,700 (6)	8,700 (6)
Qs	DRY STACK GAS VOLUME @ STANDARD CONDITIONS* WET STACK GAS VOLUME @ STANDARD CONDITIONS*	DSCFM (DSCM/HR) WSCFH	16,061 (27,288) 1,067,531	17,570 (29,851) 1,135,257	15,404 (26,171) 1,016,095
Qa	ACTUAL STACK GAS VOLUME @ STACK CONDITIONS	ACFM (m^3/HR)	59,906 (101,780)	62,718 (106,558)	56,744 (96,408)
Dn	SAMPLING NOZZLE DIAM.	IN. (m)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
%I	PERCENT ISOKINETIC	%	----	----	----

* 68 Deg.F, 29.92 "Hg (20 Deg.C, 760 mm Hg)

METCO ENVIRONMENTAL

SOURCE EMISSION SURVEY

JOB NUMBER: 11-234
JOB NAME: MARATHON
LOCATION: GARYVILLE, LA
UNIT TESTED: U-45 THERMAL OXIDIZER NUMBER 3 STACK (EQT 174) - METHOD 0010

SOURCE EMISSION CALCULATIONS

			RUN NUMBER		
SYMBOL	DESCRIPTION	UNITS	2	3	4
DATE			07/11/11	07/12/11	07/12/11
BEGIN TIME			1400	0820	1305
END TIME			1810	1235	1713
P(b)	BAROMETRIC PRESSURE	"Hg Abs.	30.10	30.07	30.08
		(mm Hg)	(765.00)	(764.00)	(764.00)
P(m)	ORIFICE PRESSURE DROP	"H2O	1.292	1.133	1.042
		(mm H2O)	(32.800)	(28.800)	(26.500)
	DGM CALIBRATION FACTOR		1.010	1.010	1.010
V(m)	VOLUME DRY GAS SAMPLED	ft.^3	156.069	148.877	146.926
	@ METER CONDITIONS	(m^3)	(4.419)	(4.216)	(4.161)
	LEAK CHECK VOLUME	ft.^3	0.279	1.362	0.460
T(m)	AVERAGE GAS METER	DEG.F	84	77	83
	TEMPERATURE	(DEG.C)	(29)	(25)	(28)
V(m[std])*	VOLUME DRY GAS SAMPLED	DSCF	152.896	147.548	144.021
	@ STANDARD CONDITIONS*	(DSCM)	(4.330)	(4.178)	(4.078)
V(w)	TOTAL WATER COLLECTED,	ml	352.7	313.4	327.4
	IMPINGERS & SILICA GEL				
V(w[gas])	VOLUME WATER VAPOR	SCF	16.647	14.792	15.453
	COLLECTED @ STANDARD	(SCM)	(0.471)	(0.419)	(0.438)
	CONDITIONS*				
%M	MOISTURE IN STACK GAS	%	9.82	9.11	9.69
	BY VOLUME				
Md	MOL FRACTION OF DRY GAS		0.9018	0.9089	0.9031
Tt	NET TIME OF TEST	MINUTES	240	240	240

* 68 Deg.F, 29.92 "Hg (20 Deg.C, 760 mm Hg)

SOURCE EMISSION CALCULATIONS

JOB NUMBER: 11-234
JOB NAME: MARATHON
LOCATION: GARYVILLE, LA
UNIT TESTED: U-45 THERMAL OXIDIZER NUMBER 3 STACK (EQT 174) - METHOD 0010

			RUN NUMBER		
SYMBOL	DESCRIPTION	UNITS	2	3	4
CO2		%	3.2	3.2	3.2
O2		%	7.4	6.8	7.0
CO		%	0.0	0.0	0.0
N2		%	89.4	90.0	89.8
%EA	EXCESS AIR @ SAMPLING POINT	%	45.4	39.9	41.7
MWd	MOLECULAR WEIGHT OF DRY STACK GAS	LB/LB-MOLE (g/g-MOLE)	28.81 (28.81)	28.78 (28.78)	28.79 (28.79)
MW	MOLECULAR WEIGHT OF STACK GAS	LB/LB-MOLE (g/g-MOLE)	27.75 (27.75)	27.80 (27.80)	27.75 (27.75)
Cp	PITOT TUBE CALIBRATION		0.808	0.808	0.808
DELTA P	VELOCITY HEAD OF STACK GAS	"H2O (mm H20)	0.022 (0.600)	0.021 (0.500)	0.021 (0.500)
DELTA P ^(1/2)		"H2O	0.145	0.142	0.142
Ts	STACK TEMPERATURE	DEG. F (DEG. C)	1,334 (723)	1,345 (729)	1,328 (720)
Ps	STACK PRESSURE	"Hg Abs. (mm Hg) "H20	30.06 (764.00) -0.60	30.03 (763.00) -0.60	30.04 (763.00) -0.60
Vs	STACK VELOCITY @ STACK CONDITIONS	FPM (m/SEC.)	880 (4)	864 (4)	861 (4)
As	STACK AREA	(SQ.INCHES) (SQ.METERS)	8,700 (6)	8,700 (6)	8,700 (6)
Qs	DRY STACK GAS VOLUME @ STANDARD CONDITIONS* WET STACK GAS VOLUME @ STANDARD CONDITIONS*	DSCFM (DSCM/HR) WSCFH	14,229 (24,175) 946,707	13,981 (23,754) 922,940	13,980 (23,752) 928,801
Qa	ACTUAL STACK GAS VOLUME @ STACK CONDITIONS	ACFM (m^3/HR)	53,188 (90,366)	52,226 (88,732)	52,018 (88,379)
Dn	SAMPLING NOZZLE DIAM.	IN. (m)	0.688 (0.017)	0.688 (0.017)	0.688 (0.017)
%I	PERCENT ISOKINETIC	%	105.2	103.3	100.8

* 68 Deg.F, 29.92 "Hg (20 Deg.C, 760 mm Hg)

METCO ENVIRONMENTAL

SOURCE EMISSION SURVEY

JOB NUMBER: 11-234
JOB NAME: MARATHON
LOCATION: GARYVILLE, LA
UNIT TESTED: U-45 THERMAL OXIDIZER NUMBER 3 STACK (EQT 174) - 0011

SOURCE EMISSION CALCULATIONS

			RUN NUMBER		
SYMBOL	DESCRIPTION	UNITS	1	2	3
DATE			07/13/11	07/13/11	07/13/11
BEGIN TIME			1035	1242	1448
END TIME			1220	1426	1632
P(b)	BAROMETRIC PRESSURE	"Hg Abs.	30.00	30.00	30.00
		(mm Hg)	(762.00)	(762.00)	(762.00)
P(m)	ORIFICE PRESSURE DROP	"H2O	0.958	1.042	1.042
		(mm H2O)	(24.300)	(26.500)	(26.500)
	DGM CALIBRATION FACTOR		1.010	1.010	1.010
V(m)	VOLUME DRY GAS SAMPLED	ft.^3	57.443	57.503	61.683
	@ METER CONDITIONS	(m^3)	(1.627)	(1.628)	(1.747)
	LEAK CHECK VOLUME	ft.^3	0.251	0.260	0.246
T(m)	AVERAGE GAS METER	DEG.F	72	82	84
	TEMPERATURE	(DEG.C)	(22)	(28)	(29)
V(m[std])*	VOLUME DRY GAS SAMPLED	DSCF	57.307	56.320	60.192
	@ STANDARD CONDITIONS*	(DSCM)	(1.623)	(1.595)	(1.704)
V(w)	TOTAL WATER COLLECTED,	ml	124.7	124.5	132.9
	IMPINGERS & SILICA GEL				
V(w[gas])	VOLUME WATER VAPOR	SCF	5.886	5.876	6.273
	COLLECTED @ STANDARD	(SCM)	(0.167)	(0.166)	(0.178)
	CONDITIONS*				
%M	MOISTURE IN STACK GAS	%	9.31	9.45	9.44
	BY VOLUME				
Md	MOL FRACTION OF DRY GAS		0.9069	0.9055	0.9056
Tt	NET TIME OF TEST	MINUTES	96	96	96

* 68 Deg.F, 29.92 "Hg (20 Deg.C, 760 mm Hg)

SOURCE EMISSION CALCULATIONS

JOB NUMBER: 11-234
JOB NAME: MARATHON
LOCATION: GARYVILLE, LA
UNIT TESTED: U-45 THERMAL OXIDIZER NUMBER 3 STACK (EQT 174) - 0011

			RUN NUMBER		
SYMBOL	DESCRIPTION	UNITS	1	2	3
CO2		%	3.4	3.4	3.3
O2		%	6.6	6.6	6.9
CO		%	0.0	0.0	0.0
N2		%	90.0	90.0	89.8
%EA	EXCESS AIR @ SAMPLING POINT	%	38.3	38.3	40.8
MWd	MOLECULAR WEIGHT OF DRY STACK GAS	LB/LB-MOLE (g/g-MOLE)	28.81 (28.81)	28.81 (28.81)	28.80 (28.80)
MW	MOLECULAR WEIGHT OF STACK GAS	LB/LB-MOLE (g/g-MOLE)	27.80 (27.80)	27.79 (27.79)	27.78 (27.78)
Cp	PITOT TUBE CALIBRATION		0.808	0.808	0.808
DELTA P	VELOCITY HEAD OF STACK GAS	"H2O (mm H20)	0.019 (0.500)	0.021 (0.500)	0.021 (0.500)
DELTA P ^(1/2)		"H2O	0.137	0.143	0.143
Ts	STACK TEMPERATURE	DEG. F (DEG. C)	1,331 (722)	1,337 (725)	1,333 (723)
Ps	STACK PRESSURE	"Hg Abs. (mm Hg) "H20	29.96 (761.00) -0.60	29.96 (761.00) -0.60	29.96 (761.00) -0.60
Vs	STACK VELOCITY @ STACK CONDITIONS	FPM (m/SEC.)	832 (4)	870 (4)	869 (4)
As	STACK AREA	(SQ.INCHES) (SQ.METERS)	8,700 (6)	8,700 (6)	8,700 (6)
Qs	DRY STACK GAS VOLUME @ STANDARD CONDITIONS* WET STACK GAS VOLUME @ STANDARD CONDITIONS*	DSCFM (DSCM/HR) WSCFH	13,507 (22,948) 893,616	14,055 (23,879) 931,309	14,072 (23,908) 932,332
Qa	ACTUAL STACK GAS VOLUME @ STACK CONDITIONS	ACFM (m^3/HR)	50,250 (85,375)	52,548 (89,279)	52,499 (89,196)
Dn	SAMPLING NOZZLE DIAM.	IN. (m)	0.688 (0.017)	0.688 (0.017)	0.688 (0.017)
%I	PERCENT ISOKINETIC	%	103.8	98.0	104.7

* 68 Deg.F, 29.92 "Hg (20 Deg.C, 760 mm Hg)

METCO ENVIRONMENTAL

SOURCE EMISSION SURVEY

JOB NUMBER: 11-234
JOB NAME: MARATHON
LOCATION: GARYVILLE, LA
UNIT TESTED: U-45 THERMAL OXIDIZER NUMBER 3 STACK (EQT 174)

SOURCE EMISSION CALCULATIONS

			RUN NUMBER		
SYMBOL	DESCRIPTION	UNITS	4		
DATE			07/13/11		
BEGIN TIME			1646		
END TIME			1826		
P(b)	BAROMETRIC PRESSURE	"Hg Abs. (mm Hg)	30.00 (762.00)		
P(m)	ORIFICE PRESSURE DROP	"H2O (mm H2O)	0.968 (24.600)		
	DGM CALIBRATION FACTOR		1.010		
V(m)	VOLUME DRY GAS SAMPLED @ METER CONDITIONS LEAK CHECK VOLUME	ft.^3 (m^3) ft.^3	58.497 (1.656) 0.210		
T(m)	AVERAGE GAS METER TEMPERATURE	DEG.F (DEG.C)	87 (31)		
V(m[std])*	VOLUME DRY GAS SAMPLED @ STANDARD CONDITIONS*	DSCF (DSCM)	56.760 (1.607)		
V(w)	TOTAL WATER COLLECTED, IMPINGERS & SILICA GEL	ml	124.2		
V(w[gas])	VOLUME WATER VAPOR COLLECTED @ STANDARD CONDITIONS*	SCF (SCM)	5.862 (0.166)		
%M	MOISTURE IN STACK GAS BY VOLUME	%	9.36		
Md	MOL FRACTION OF DRY GAS		0.9064		
Tt	NET TIME OF TEST	MINUTES	96		

* 68 Deg.F, 29.92 "Hg (20 Deg.C, 760 mm Hg)

SOURCE EMISSION CALCULATIONS

JOB NUMBER: 11-234
JOB NAME: MARATHON
LOCATION: GARYVILLE, LA
UNIT TESTED: U-45 THERMAL OXIDIZER NUMBER 3 STACK (EQT 174)

			RUN NUMBER		
SYMBOL	DESCRIPTION	UNITS	4		
CO2		%	3.2		
O2		%	7.2		
CO		%	0.0		
N2		%	89.6		
%EA	EXCESS AIR @ SAMPLING POINT	%	43.5		
MWd	MOLECULAR WEIGHT OF DRY STACK GAS	LB/LB-MOLE (g/g-MOLE)	28.80 (28.80)		
MW	MOLECULAR WEIGHT OF STACK GAS	LB/LB-MOLE (g/g-MOLE)	27.79 (27.79)		
Cp	PITOT TUBE CALIBRATION		0.808		
DELTA P	VELOCITY HEAD OF STACK GAS	"H2O (mm H20)	0.019 (0.500)		
DELTA P ^(1/2)		"H2O	0.137		
Ts	STACK TEMPERATURE	DEG. F (DEG. C)	1,327 (719)		
Ps	STACK PRESSURE	"Hg Abs. (mm Hg) "H20	29.96 (761.00) -0.60		
Vs	STACK VELOCITY @ STACK CONDITIONS	FPM (m/SEC.)	831 (4)		
As	STACK AREA	(SQ.INCHES) (SQ.METERS)	8,700 (6)		
Qs	DRY STACK GAS VOLUME @ STANDARD CONDITIONS* WET STACK GAS VOLUME @ STANDARD CONDITIONS*	DSCFM (DSCM/HR) WSCFH	13,513 (22,959) 894,506		
Qa	ACTUAL STACK GAS VOLUME @ STACK CONDITIONS	ACFM (m^3/HR)	50,203 (85,295)		
Dn	SAMPLING NOZZLE DIAM.	IN. (m)	0.688 (0.017)		
%I	PERCENT ISOKINETIC	%	102.8		

* 68 Deg.F, 29.92 "Hg (20 Deg.C, 760 mm Hg)

APPENDIX C

Calibration Data

Equipment	Calibration Factor	Calibration Date
Pitot Tube # 28-10-1	0.804	04/08/11
Pitot Tube # WJP-30	0.808	06/23/11
Probe Tip # 11-234-I	0.688	07/11/11
Dry Gas Meter #54-4	1.010	06/10/11
Stack Unit Orifice #54-4		06/10/11
Digital Temperature Indicator #54-4		06/10/11
VOST Dry Gas Meter#16	0.998	05/13/11
VOST Dry Gas Meter#20	0.997	06/21/11
VOST Dry Gas Meter#21	1.000	06/03/11
Barometer #30-3		04/04/11

METCO ENVIRONMENTAL

Pitot Tube Calibration

Date: 4-8-11 Time: 1330

Pitot No: 28-10-1 T_s: 73

Pitot Dimensions: 10 X 3/4" C_{pstd}: 0.990

Pitot Inspections

Pitot tips level and perpendicular (YES) / NO

Pitot tips free from obstruction (YES) / NO

Pitot tips damaged YES / (NO)

Motor Setting	fps mark	Calibration Standard Start	Calibration Standard End	√Standard Average	High	√High	Cal. Factor	Low	√Low	Cal. Factor
7	20	0.10	0.10	0.316	0.15	0.387	0.808	0.15	0.387	0.808
14	30	0.22	0.22	0.469	0.34	0.583	0.796	0.33	0.574	0.808
20	40	0.34	0.34	0.583	0.51	0.714	0.808	0.51	0.714	0.808
28	50	0.54	0.54	0.735	0.81	0.900	0.808	0.81	0.900	0.808
35	60	0.80	0.80	0.894	1.20	1.095	0.808	1.20	1.095	0.808
41	70	1.00	1.00	1.000	1.50	1.225	0.808	1.50	1.225	0.808
50	80	1.30	1.30	1.140	2.00	1.414	0.798	2.00	1.414	0.798
62	90	1.60	1.60	1.265	2.45	1.565	0.800	2.45	1.565	0.800
28*	**50***	0.54	0.54	0.735	0.81	0.900	0.808	0.81	0.900	0.808
28*	**50***	0.54	0.54	0.735	0.81	0.900	0.808	0.81	0.900	0.808
Average							0.804			0.806

***not included in average**

$$C_p = C_{pstd}\left(\frac{\sqrt{\Delta P_{std}}}{\sqrt{\Delta P}}\right)$$

Summary of Results:

Normal high side calibration factor 0.804

variation + 0.50 variation - 1.00

Normal low side calibration factor 0.806

variation + 0.25 variation - 0.99

Calibrator: D. Reid

Office: Baton Rouge

QA/QC Check

Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by:

Version 2
12 March 2008

New

Pitot Tube Calibration

Date: 6-23-11 Time: 530

Pitot No: WCP-30 T_s: 76

Pitot Dimensions: 12'x1/4" C_{pstd}: 0.990

Pitot Inspections

Pitot tips level and perpendicular	YES / NO
Pitot tips free from obstruction	YES / NO
Pitot tips damaged	YES / NO

Motor Setting	fps mark	Calibration Standard Start	Calibration Standard End	√Standard Average	High	√High	Cal. Factor	Low	√Low	Cal. Factor
7	20	0.10	0.10	0.316	0.15	0.387	0.808	0.15	0.387	0.808
14	30	0.22	0.22	0.469	0.33	0.574	0.808	0.33	0.574	0.808
20	40	0.34	0.34	0.583	0.52	0.721	0.801	0.52	0.721	0.801
28	50	0.54	0.54	0.735	0.82	0.906	0.803	0.82	0.906	0.803
35	60	0.80	0.80	0.894	1.20	1.095	0.808	1.20	1.095	0.808
41	70	1.00	1.00	1.000	1.50	1.225	0.808	1.50	1.225	0.808
50	80	1.30	1.30	1.140	1.90	1.378	0.819	1.90	1.378	0.819
62	90	1.60	1.60	1.265	2.40	1.549	0.808	2.40	1.549	0.808
28*	**50***	0.54	0.54	0.735	0.82	0.906	0.803	0.82	0.906	0.803
28*	**50***	0.54	0.54	0.735	0.82	0.906	0.803	0.82	0.906	0.803
Average							0.808			0.808

***not included in average**

$$C_p = C_{pstd}\left(\frac{\sqrt{\Delta P_{std}}}{\sqrt{\Delta P}}\right)$$

Summary of Results:

Normal high side calibration factor 0.808

variation + 1.36 variation - 0.86

Normal low side calibration factor 0.808

variation + 1.36 variation - 0.86

Calibrator: [signature]

Office: KR

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: JC

Version 2
12 March 2008

NOZZLE CALIBRATION

Nozzle Set No. 11-234

Date 7-11-11 Calibrator: R. Jones

	1	2	3	4	5	6
Reading 1	0.688					
Reading 2	0.688					
Reading 3	0.688					
Reading 4	0.688					
Reading 5	0.688					
Reading 6	0.688					
Reading 7	0.688					
Reading 8	0.688					
Reading 9	0.688					
Reading 10	0.688					
Average	0.688					

07/27/11

	7	8	9	10	11	12
Reading 1						
Reading 2						
Reading 3						
Reading 4						
Reading 5						
Reading 6						
Reading 7						
Reading 8						
Reading 9						
Reading 10						
Average						

METCO ENVIRONMENTAL

Dry Gas Meter Calibration

Dry Gas Meter Number 54-4

Date: 6-10-11

ΔH ("H_2O)	C_{dg}
0.50	1.014
1.00	1.011
1.50	1.010
2.00	1.009
3.00	1.006
4.00	1.010
Average	1.010

Variation: + 0.40 %

- 0.40 %

Adjustment Required: Yes_____ No X

Calibrator: [signature]

Office: BR

QA/QC Check
Completeness / Legibility / Accuracy / Specifications / Reasonableness /

Checked by: J LaCwik

Version 2
5 January 2009

METCO ENVIRONMENTAL

DRY GAS METER CALIBRATION

Meter Number: 54-4 Wet Test Meter No : 7

Date: 6-10-11 Calibrator: Jones

Wet Test Meter $VM_{std} = 17.65 \times V_m \frac{P_b + \frac{P_m}{13.6}}{T_m + 460} \times C_f =$ _____ scfm

Dry Test Meter $VM_{std} = 17.65 \times V_m \frac{P_b + \frac{P_m}{13.6}}{T_m + 460} =$ _____ scfm

Run No: 10@0.5 "H_2O P_b: 29.97 "Hg

Wet Test Meter C_f: 1.003 Control Module Vacuum: 5.0 "Hg

	Wet Test Meter				Dry Gas Meter			
	Time	Meter Reading	T_m	P_m	Mete Reading	T_m Inlet	T_m Outlet	P_m
End	1351	5.199	73 °F	-1.7 "H_2O	106.257	73 °F	72 °F	0.5 "H_2O
Start	1338	0.000	73 °F	-1.7 "H_2O	101.143	73 °F	72 °F	0.5 "H_2O
$cf^{\Delta} = V_m$	13	5.199 cf^{Δ}	73 $°F_{avg}$	-1.7 "H_2O_{avg}	5.114 cf^{Δ}		73 $°F_{avg}$	0.5 "H_2O_{avg}

Wet Test Meter $VM_{std} = 17.65 \times$ 5.199 $\frac{29.97 + \frac{-1.7}{13.6}}{73 + 460} \times$ 1.003 $C_f =$ 5.154 scfm

Dry Gas Meter $VM_{std} = 17.65 \times$ 5.114 $\frac{29.97 + \frac{0.5}{13.6}}{73 + 460} =$ 5.082 scfm

Calibration Factor (C_{dg}) = $\frac{\text{Wet Test Meter } VM_{std}}{\text{Dry Gas Meter } VM_{std}}$ $C_{dg} = \frac{5.154}{5.082} =$ 1.014

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: J. LaCroix

Version 1
5 January, 2009

METCO ENVIRONMENTAL

DRY GAS METER CALIBRATION

Meter Number: 54-4 Wet Test Meter No : 7

Date: 6-10-11 Calibrator: JohnS

$$\text{Wet Test Meter } VM_{std} = 17.65 \times V_m \frac{P_b + \frac{P_m}{13.6}}{T_m + 460} \times C_f = \_\_\_\_ \text{ scfm}$$

$$\text{Dry Test Meter } VM_{std} = 17.65 \times V_m \frac{P_b + \frac{P_m}{13.6}}{T_m + 460} = \_\_\_\_ \text{ scfm}$$

Run No: 1@1.0 "H_2O P_b: 29.97 "Hg

Wet Test Meter C_f: 1.003 Control Module Vacuum: 5.0 "Hg

	Wet Test Meter					Dry Gas Meter				
	Time	Meter Reading	T_m	P_m		Mete Reading	T_m Inlet	T_m Outlet	P_m	
End	1403	5.585	73 °F	-2.7	"H_2O	112.057	75 °F	73 °F	1.0	"H_2O
Start	1353	0.000	73 °F	-2.7	"H_2O	106.568	73 °F	72 °F	1.0	"H_2O
$cf^{\Delta} = V_m$	10	5.585	cf^{Δ}	73 °F_{avg}	-2.7 "H_2O_{avg}	5.489	cf^{Δ}	73	°F_{avg}	1.0 "H_2O_{avg}

$$\text{Wet Test Meter } VM_{std} = 17.65 \times 5.585 \frac{29.97 + \frac{-2.7}{13.6}}{73 + 460} \times 1.003 \, C_f = 5.523 \text{ scfm}$$

$$\text{Dry Gas Meter } VM_{std} = 17.65 \times 5.489 \frac{29.97 + \frac{1.0}{13.6}}{73 + 460} = 5.461 \text{ scfm}$$

$$\text{Calibration Factor } (C_{dg}) = \frac{\text{Wet Test Meter } VM_{std}}{\text{Dry Gas Meter } VM_{std}} \quad C_{dg} = \frac{5.523}{5.461} = 1.011$$

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: J. LaCroix

Version 1
5 January, 2009

METCO ENVIRONMENTAL

DRY GAS METER CALIBRATION

Meter Number: 54-4 Wet Test Meter No : 7

Date: 6-10-11 Calibrator: Johns

$$\text{Wet Test Meter } VM_{std} = 17.65 \times V_m \frac{P_b + \frac{P_m}{13.6}}{T_m + 460} \times C_f = \_\_\_\_ \text{ scfm}$$

$$\text{Dry Test Meter } VM_{std} = 17.65 \times V_m \frac{P_b + \frac{P_m}{13.6}}{T_m + 460} = \_\_\_\_ \text{ scfm}$$

Run No: 1 @ 1.5 "H_2O P_b: 29.97 "Hg

Wet Test Meter C_f: 1.003 Control Module Vacuum: 7 "Hg

Wet Test Meter

	Time	Meter Reading	T_m	P_m
End	1420	10.216	73 °F	-3.7 "H_2O
Start	1405	0.000	73 °F	-3.7 "H_2O
$cf^{\Delta} = V_m$	15	10.216 cf^{Δ}	73 °F$_{avg}$	-3.7 "H_2O_{avg}

Dry Gas Meter

	Mete Reading	T_m Inlet	T_m Outlet	P_m
End	122.547	76 °F	73 °F	1.5 "H_2O
Start	112.514	75 °F	73 °F	1.5 "H_2O
	10.033 cf^{Δ}	74 °F$_{avg}$		1.5 "H_2O_{avg}

$$\text{Wet Test Meter } VM_{std} = 17.65 \times \frac{10.216}{73 + 460} \frac{29.97 + \frac{-3.7}{13.6}}{} \times 1.003 \, C_f = 10.077 \text{ scfm}$$

$$\text{Dry Gas Meter } VM_{std} = 17.65 \times \frac{10.033}{74 + 460} \frac{29.97 + \frac{1.5}{13.6}}{} = 9.975 \text{ scfm}$$

$$\text{Calibration Factor } (C_{dg}) = \frac{\text{Wet Test Meter } VM_{std}}{\text{Dry Gas Meter } VM_{std}} \quad C_{dg} = \frac{10.077}{9.975} = 1.010$$

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: J. LaCroix

Version 1
5 January, 2009

METCO ENVIRONMENTAL

DRY GAS METER CALIBRATION

Meter Number: 54.4 Wet Test Meter No : 7

Date: 6-10-11 Calibrator: JaMes

$$\text{Wet Test Meter } VM_{std} = 17.65 \times V_m \frac{P_b + \frac{P_m}{13.6}}{T_m + 460} \times C_f = \_\_\_\_ \text{ scfm}$$

$$\text{Dry Test Meter } VM_{std} = 17.65 \times V_m \frac{P_b + \frac{P_m}{13.6}}{T_m + 460} = \_\_\_\_ \text{ scfm}$$

Run No: 1@ 2.0 "H_2O P_b: 29.97 "Hg

Wet Test Meter C_f: 1.003 Control Module Vacuum: 5.0 "Hg

Wet Test Meter

	Time	Meter Reading	T_m	P_m
End	1435	10.297	73 °F	-4.4 "H_2O
Start	1122	0.000	73 °F	-4.4 "H_2O
$cf^{\Delta} = V_m$	13	10.297 cf^{Δ}	73 °F_{avg}	-4.4 "H_2O_{avg}

Dry Gas Meter

	Mete Reading	T_m Inlet	T_m Outlet	P_m
End	133.123	78 °F	74 °F	2.0 "H_2O
Start	123.012	76 °F	73 °F	2.0 "H_2O
	10.111 cf^{Δ}	75 °F_{avg}		2.0 "H_2O_{avg}

$$\text{Wet Test Meter } VM_{std} = 17.65 \times \frac{10.297}{73} \frac{29.97 + \frac{-4.4}{13.6}}{+460} \times 1.003 \, C_f = 10.139 \text{ scfm}$$

$$\text{Dry Gas Meter } VM_{std} = 17.65 \times \frac{10.111}{75} \frac{29.97 + \frac{2.0}{13.6}}{+460} = 10.046 \text{ scfm}$$

$$\text{Calibration Factor } (C_{dg}) = \frac{\text{Wet Test Meter } VM_{std}}{\text{Dry Gas Meter } VM_{std}} \quad C_{dg} = \frac{10.139}{10.046} = 1.009$$

QA/QC Check
Completeness ___ Legibility ✓ Accuracy ___ Specifications ✓ Reasonableness ___

Checked by: J. LaCroix

Version 1
5 January, 2009

METCO ENVIRONMENTAL

DRY GAS METER CALIBRATION

Meter Number: 84-4 Wet Test Meter No : 7

Date: 6-10-11 Calibrator: Jones

$$\text{Wet Test Meter } VM_{std} = 17.65 \times V_m \frac{P_b + \frac{P_m}{13.6}}{T_m + 460} \times C_f = \_\_\_\_ \text{ scfm}$$

$$\text{Dry Test Meter } VM_{std} = 17.65 \times V_m \frac{P_b + \frac{P_m}{13.6}}{T_m + 460} = \_\_\_\_ \text{ scfm}$$

Run No: 1 @ 3.0 "H_2O P_b: 29.97 "Hg

Wet Test Meter C_f: 1.003 Control Module Vacuum: 5.0 "Hg

	Wet Test Meter				Dry Gas Meter			
	Time	Meter Reading	T_m	P_m	Mete Reading	T_m Inlet	T_m Outlet	P_m
End	1448	10.491	73 °F	-5.8 "H_2O	143.925	79 °F	74 °F	3.0 "H_2O
Start	1437	0.000	73 °F	-5.8 "H_2O	133.636	77 °F	74 °F	3.0 "H_2O
$cf^{\Delta} = V_m$	11	10.491 cf$^{\Delta}$	73 °F$_{avg}$	-5.8 "H_2O_{avg}	10.289 cf$^{\Delta}$	76	°F$_{avg}$	3.0 "H_2O_{avg}

$$\text{Wet Test Meter } VM_{std} = 17.65 \times \frac{10.491}{} \frac{29.97 + \frac{-5.8}{13.6}}{73 + 460} \times 1.003 \, C_f = 10.294 \text{ scfm}$$

$$\text{Dry Gas Meter } VM_{std} = 17.65 \times 10.289 \frac{29.97 + \frac{3.0}{13.6}}{76 + 460} = 10.229 \text{ scfm}$$

$$\text{Calibration Factor } (C_{dg}) = \frac{\text{Wet Test Meter } VM_{std}}{\text{Dry Gas Meter } VM_{std}} \quad C_{dg} = \frac{10.294}{10.229} = 1.006$$

QA/QC Check Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: J. LaCroix

Version 1
5 January, 2009

METCO ENVIRONMENTAL

DRY GAS METER CALIBRATION

Meter Number: 54-4 Wet Test Meter No : 7

Date: 6-10-11 Calibrator: JohnS

$$\text{Wet Test Meter } VM_{std} = 17.65 \times V_m \frac{P_b + \frac{P_m}{13.6}}{T_m + 460} \times C_f = \_\_\_\_ \text{ scfm}$$

$$\text{Dry Test Meter } VM_{std} = 17.65 \times V_m \frac{P_b + \frac{P_m}{13.6}}{T_m + 460} = \_\_\_\_ \text{ scfm}$$

Run No: 10 4.0 "H_2O P_b: 29.97 "Hg

Wet Test Meter C_f: 1.003 Control Module Vacuum: 5.0 "Hg

Wet Test Meter

	Time	Meter Reading	T_m	P_m
End	1500	11.018	73 °F	-7.2 "H_2O
Start	1450	0.000	73 °F	-7.2 "H_2O
$cf^{\Delta} = V_m$	10	11.018 cf$^{\Delta}$	73 °F_{avg}	-7.2 "H_2O_{avg}

Dry Gas Meter

	Mete Reading	T_m Inlet	T_m Outlet	P_m
End	155.313	80 °F	75 °F	4.0 "H_2O
Start	144.591	78 °F	74 °F	4.0 "H_2O
	10.722 cf$^{\Delta}$	77 °F_{avg}		4.0 "H_2O_{avg}

Wet Test Meter VM_{std} = 17.65 x 11.018 $\frac{29.97 + \frac{-7.2}{13.6}}{73 + 460}$ x 1.003 C_f = 10.774 scfm

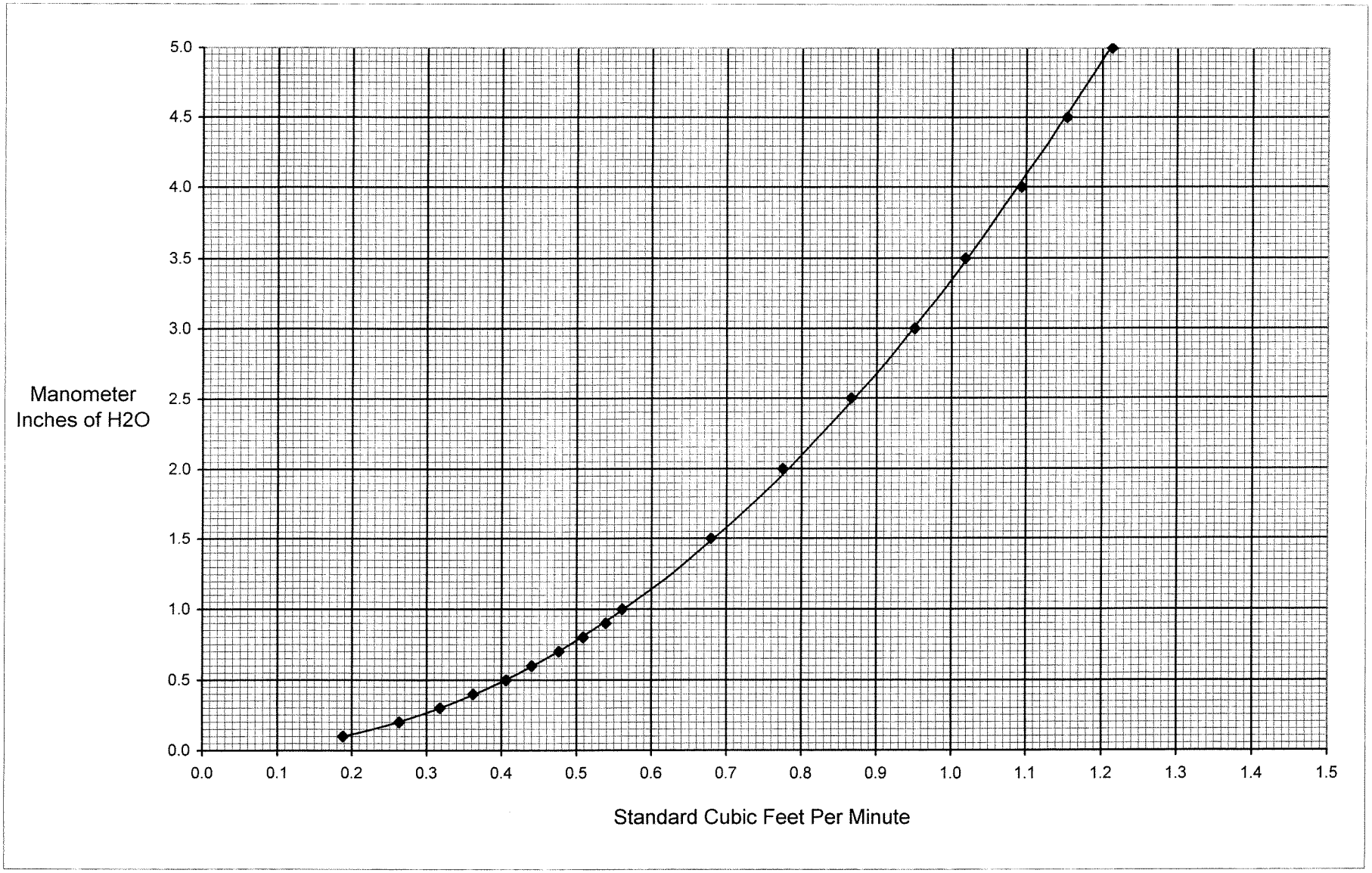
Dry Gas Meter VM_{std} = 17.65 x 10.722 $\frac{29.97 + \frac{4.0}{13.6}}{77 + 460}$ = 10.665 scfm

Calibration Factor (C_{dg}) = $\frac{\text{Wet Test Meter } VM_{std}}{\text{Dry Gas Meter } VM_{std}}$ $C_{dg} = \frac{10.774}{10.665} = 1.010$

QA/QC Check
Completeness ___ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: JLaChix

STACK UNIT ORIFICE NO: 54-4 DATE: 06/10/11 CALIBRATED BY: R. Jones CHECKED BY: J. LaCroix



New D.T.I.

Digital Temperature Indicator No. 54-4

Calibration Data

Date: 6/10/11

Reference Thermometer No. 105

Media	Time	Reference Thermometer (°F)	DTI (°F)
Ambient Air	0845	71	71
Ice Bath	0849	40	40
Boiling Water	0855	211	210
Oven	0907	250	250
Oven	0915	304	303
Oven	0925	351	350
Oven	0933	374	373

Meter Adjusted? YES ✓ NO ____

Calibrator J. LaCroix

Office: Baton Rouge, LA

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: [signature]

VOST Dry Gas Meter Calibration

Dry Gas Meter Number 16

Date: 5-13-11

Rate l/min	C_{dg}
0.30	0.988
0.50	1.019
1.00	0.994
1.50	0.997
Average	0.998

Variation: + 1.60 %

- 1.00 %

Adjustment: Yes ___ No ✓

Calibrator: M. Wellett

Office: BR

QA/QC Check

Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: _____

METCO ENVIRONMENTAL

VOST (LOW VOLUME) DRY GAS METER CALIBRATION

Meter Number: 16 Wet Test Meter No : 6

Date: 5-13-11 Calibrator: M. Lucket

$$\text{Wet Test Meter } VM_{std} = 17.65 \times \Delta WTM \left| \frac{P_b + \frac{WTMP_m}{13.6}}{WTM\ T_m + 460} \right| X\ WTMC_f = \_\_\_\_ \text{ sclm}$$

$$\text{Dry Test Meter } VM_{std} = 17.65 \times \Delta VOST \left| \frac{P_b + \frac{VOST\ P_m}{13.6}}{VOST\ T_m + 460} \right| = \_\_\_\_ \text{ sclm}$$

Run No: 1 @ 0.3 l/min P_b: 29.84 "Hg

Wet Test Meter C_f: 0.998 Control Module Vacuum: 5.0 "Hg

	Wet Test Meter				Dry Gas Meter			
	Time	Meter Reading	T_m	P_m	Mete Reading	T_m Inlet	T_m Outlet	P_m
End	1448	0.188	80 °F	0.00 "H_2O	5.432	86 °F	86 °F	0.300 "H_2O
Start	1430	0.000	80 °F	0.00 "H_2O	0.000	85 °F	86 °F	0.300 "H_2O
		5.324 *cf^{Δ}	80	°F_{avg} 0.00 "H_2O_{avg}		ΔVOST		°F_{avg} 0.300 "H_2O_{avg}

***multiply cf^{Δ} by 28.317/ cf^{Δ} = ΔWTM**

$$\text{Wet Test Meter } VM_{std} = 17.65 \times 5.324 \left(\frac{29.84 + \frac{0.000}{13.6}}{80 + 460} \right) X\ 0.998\ C_f = 5.182 \text{ sclm}$$

$$\text{Dry Gas Meter } VM_{std} = 17.65 \times 5.432 \left(\frac{29.84 + \frac{0.300}{13.6}}{86 + 460} \right) X\ 5.244 \text{ sclm}$$

$$\text{Calibration Factor } (C_{dg}) = \frac{\text{Wet Test Meter } VM_{std}}{\text{Dry Gas Meter } VM_{std}} \qquad C_{dg} = \frac{5.182}{5.244} = 0.988$$

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by

METCO ENVIRONMENTAL

VOST (LOW VOLUME) DRY GAS METER CALIBRATION

Meter Number: 16 Wet Test Meter No: 6

Date: 5-13-11 Calibrator: M. Burkett

$$\text{Wet Test Meter } VM_{std} = 17.65 \times \Delta WTM \left| \frac{P_b + \frac{WTMP_m}{13.6}}{WTM\ T_m + 460} \right| X\ WTMC_f = \_\_\_\_ \text{ sclm}$$

$$\text{Dry Test Meter } VM_{std} = 17.65 \times \Delta VOST \left| \frac{P_b + \frac{VOST\ P_m}{13.6}}{VOST\ T_m + 460} \right| = \_\_\_\_ \text{ sclm}$$

Run No: 1 @ 0.5 l/min P_b: 29.84 "Hg

Wet Test Meter C_f: 0.998 Control Module Vacuum: 5.0 "Hg

	Wet Test Meter				Dry Gas Meter			
	Time	Meter Reading	T_m	P_m	Mete Reading	T_m Inlet	T_m Outlet	P_m
End	1503	0.194	80 °F	0.000 "H_2O	5.473	87 °F	87 °F	0.400 "H_2O
Start	1451	12.000	80 °F	0.000 "H_2O	0.000	86 °F	87 °F	0.400 "H_2O
		5.493 *cf^{Δ}	80	°F_{avg} 0.000 "H_2O_{avg}		ΔVOST	87	°F_{avg} 0.400 "H_2O_{avg}

***multiply cf^{Δ} by 28.317/ cf^{Δ} = ΔWTM**

$$\text{Wet Test Meter } VM_{std} = 17.65 \times \underline{5.493} \left(\frac{29.84 + \frac{0.000}{13.6}}{80 + 460} \right) X\ \underline{0.998}\ C_f = \underline{5.347} \text{ sclm}$$

$$\text{Dry Gas Meter } VM_{std} = 17.65 \times \underline{5.473} \left(\frac{29.84 + \frac{0.400}{13.6}}{87 + 460} \right) X\ \underline{5.275} \text{ sclm}$$

$$\text{Calibration Factor } (C_{dg}) = \frac{\text{Wet Test Meter } VM_{std}}{\text{Dry Gas Meter } VM_{std}} \qquad C_{dg} = \frac{5.347}{5.275} = \underline{1.014}$$

QA/QC Check

Completeness ___ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by _____

METCO ENVIRONMENTAL

VOST (LOW VOLUME) DRY GAS METER CALIBRATION

Meter Number: 10 | Wet Test Meter No: 6

Date: 5-13-11 | Calibrator: M. Luckett

$$\text{Wet Test Meter } VM_{std} = 17.65 \times \Delta WTM \left| \frac{P_b + \frac{WTMP_m}{13.6}}{WTM\ T_m + 460} \right| X\ WTMC_f = \_\_\_\_ \text{ sclm}$$

$$\text{Dry Test Meter } VM_{std} = 17.65 \times \Delta VOST \left| \frac{P_b + \frac{VOST\ P_m}{13.6}}{VOST\ T_m + 460} \right| = \_\_\_\_ \text{ sclm}$$

Run No: 1 @ 1.0 l/min | P_b: 29.84 "Hg

Wet Test Meter C_f: 0.998 | Control Module Vacuum: ____"Hg

	Wet Test Meter				Dry Gas Meter				
	Time	Meter Reading	T_m	P_m	Mete Reading	T_m Inlet	T_m Outlet	P_m	
End	1518	0.383	80 °F	-0.100 "H_2O	10.992	87 °F	87 °F	1.200	"H_2O
Start	1504	0.000	80 °F	-0.100 "H_2O	0.000	86 °F	87 °F	1.200	"H_2O
		10.845 *cf^{Δ}	80	$^oF_{avg}$ -0.100 "H_2O_{avg}		ΔVOST 87		$^oF_{avg}$ 1.200	"H_2O_{avg}

***multiply cf^{Δ} by 28.317/ cf^{Δ} = ΔWTM**

$$\text{Wet Test Meter } VM_{std} = 17.65 \times 10.845 \left(\frac{29.84 + \frac{-0.100}{13.6}}{80 + 460} \right) X\ 0.998\ C_f = 10.554 \text{ sclm}$$

$$\text{Dry Gas Meter } VM_{std} = 17.65 \times 10.992 \left(\frac{29.84 + \frac{1.200}{13.6}}{87 + 460} \right) X\ 10.615 \text{ sclm}$$

$$\text{Calibration Factor } (C_{dg}) = \frac{\text{Wet Test Meter } VM_{std}}{\text{Dry Gas Meter } VM_{std}} \qquad C_{dg} = \frac{10.554}{10.615} = 0.994$$

QA/QC Check

Completeness ___ Legibility ___ Accuracy ___ Specifications ___ Reasonableness ___

Checked by _____

VOST (LOW VOLUME) DRY GAS METER CALIBRATION

Meter Number: 16 Wet Test Meter No : 6

Date: 5-13-11 Calibrator: M. Cochran

$$\text{Wet Test Meter } VM_{std} = 17.65 \times \Delta WTM \left| \frac{P_b + \frac{WTMP_m}{13.6}}{WTM\ T_m + 460} \right| X\ WTMC_f = \_\_\_\_ \text{ sclm}$$

$$\text{Dry Test Meter } VM_{std} = 17.65 \times \Delta VOST \left| \frac{P_b + \frac{VOST\ P_m}{13.6}}{VOST\ T_m + 460} \right| = \_\_\_\_ \text{ sclm}$$

Run No: 1 @ 1.50 l/min P_b: 29.84 "Hg

Wet Test Meter C_f: 0.998 Control Module Vacuum: 5.0 "Hg

	Wet Test Meter				Dry Gas Meter			
	Time	Meter Reading	T_m	P_m	Mete Reading	T_m Inlet	T_m Outlet	P_m
End	1531	0.585	80 °F	-0.200 "H_2O	10.946	87 °F	87 °F	1.500 "H_2O
Start	1523	0.000	80 °F	-0.200 "H_2O	0.000	87 °F	87 °F	1.500 "H_2O
		10.845 *cf^{Δ}	80	$°F_{avg}$ -0.200 "H_2O_{avg}		ΔVOST	87	$°F_{avg}$ 1.500 "H_2O_{avg}

***multiply cf^{Δ} by 28.317/ cf^{Δ} = ΔWTM**

$$\text{Wet Test Meter } VM_{std} = 17.65 \times 10.845 \left(\frac{29.84 + \frac{-0.200}{13.6}}{80 + 460} \right) X\ 0.998\ C_f = 10.551 \text{ sclm}$$

$$\text{Dry Gas Meter } VM_{std} = 17.65 \times 10.946 \left(\frac{29.84 + \frac{1.500}{13.6}}{87 + 460} \right) X\ 10.578 \text{ sclm}$$

$$\text{Calibration Factor } (C_{dg}) = \frac{\text{Wet Test Meter } VM_{std}}{\text{Dry Gas Meter } VM_{std}} \quad C_{dg} = \frac{10.551}{10.578} = 0.997$$

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by

METCO ENVIRONMENTAL

DIGITAL TEMPERATURE INDICATOR NO. 16

CALIBRATION DATA

DATE: 5-13-11

Media	Time	Mercury Temperature (°F)	DTI (°F)
Ambient Air	1415	79	80
Ice Bath	1430	46	48
Boiling Water	1420	212	212
Oven			
Oven			
Oven			
Oven			

Meter Adjusted? YES _____ No ✓

Reference Thermometer No. 105

Calibrator _____

Checked By: _____

VERSION 2
15 APRIL 2004

METCO ENVIRONMENTAL

VOST Dry Gas Meter Calibration

Dry Gas Meter Number 20

Date: 6/21/11

Rate l/min	C_{dg}
0.30	0.994
0.50	0.991
1.00	1.005
1.50	0.999
Average	0.997

Variation: ~~±0.75~~ 0.80 % ~~±0.65~~ ~~±0.13~~ % or ~~±0.65~~ ~~±0.18~~ % 0.60 %

Adjustment: Yes ___ No X

Calibrator: William V. Stuntz

Office: Baton Rouge

QA/QC Check
Completeness / Legibility / Accuracy / Specifications / Reasonableness /

Checked by: J. LaCroix

METCO ENVIRONMENTAL

VOST (LOW VOLUME) DRY GAS METER CALIBRATION

Meter Number: 20
Date: 6/21/11

Wet Test Meter No: 6
Calibrator: William W. Starkey

$$\text{Wet Test Meter } VM_{std} = 17.65 \times \Delta WTM \left| \frac{P_b + \frac{WTMP_m}{13.6}}{WTM\ T_m + 460} \right| X\ WTMC_f = \_\_\_\_ \text{ sclm}$$

$$\text{Dry Test Meter } VM_{std} = 17.65 \times \Delta VOST \left| \frac{P_b + \frac{VOST\ P_m}{13.6}}{VOST\ T_m + 460} \right| = \_\_\_\_ \text{ sclm}$$

Run No: 10 @ 0.30 l/min
P_b: 29.93 "Hg
Wet Test Meter C_f: 0.998
Control Module Vacuum: 5.0 "Hg

	Wet Test Meter				Dry Gas Meter			
	Time	Meter Reading	T_m	P_m	Mete Reading	T_m Inlet	T_m Outlet	P_m
End	1335	0.193	72 °F	-0.2 "H_2O	5.491	73 °F	73 °F	0.10 "H_2O
Start	1315	0.000	72 °F	-0.2 "H_2O	0.000	72 °F	73 °F	0.10 "H_2O
	20	0.193 *cf^{Δ}	72	°F_{avg} -0.2 "H_2O_{avg}	5.491	ΔVOST	73 °F_{avg}	0.10 "H_2O_{avg}

***multiply cf^{Δ} by 28.317/ cf^{Δ} = ΔWTM**

Wet Test Meter VM_{std} = 17.65 x 5.465 $\left(\frac{29.93 - \frac{0.2}{13.6}}{72 + 460} \right)$ X 0.998 C_f = ~~5.424~~ WS 5.413 sclm

Dry Gas Meter VM_{std} = 17.65 x 5.491 $\left(\frac{29.93 + \frac{0.10}{13.6}}{73 + 460} \right)$ X 5.444 sclm

$$\text{Calibration Factor } (C_{dg}) = \frac{\text{Wet Test Meter } VM_{std}}{\text{Dry Gas Meter } VM_{std}} \qquad C_{dg} = \frac{5.413}{5.444} = 0.994$$

QA/QC Check
Completeness / Legibility / Accuracy / Specifications / Reasonableness /

Checked by J. LaCivita

METCO ENVIRONMENTAL

VOST (LOW VOLUME) DRY GAS METER CALIBRATION

Meter Number: 20
Date: 6/21/11

Wet Test Meter No: 6
Calibrator: William V. Starkey

$$\text{Wet Test Meter } VM_{std} = 17.65 \times \Delta WTM \left| \frac{P_b + \frac{WTMP_m}{13.6}}{WTM\ T_m + 460} \right| X\ WTMC_f = \_\_\_\_ \text{ sclm}$$

$$\text{Dry Test Meter } VM_{std} = 17.65 \times \Delta VOST \left| \frac{P_b + \frac{VOST\ P_m}{13.6}}{VOST\ T_m + 460} \right| = \_\_\_\_ \text{ sclm}$$

Run No: 1@0.50 l/min
Wet Test Meter C_f: 0.998

P_b: 29.93 "Hg
Control Module Vacuum: 5 "Hg

	Wet Test Meter				Dry Gas Meter			
	Time	Meter Reading	T_m	P_m	Mete Reading	T_m Inlet	T_m Outlet	P_m
End	1404	0.196	72 °F	−0.30 H_2O	5.591	73 °F	73 °F	0.20 "H_2O
Start	1350	0.000	72 °F	−0.30 "H_2O	0.000	73 °F	73 °F	0.20 "H_2O
	14	0.196 *cf^{Δ}	72	°F_{avg} −0.30 "H_2O_{avg}	5.591	ΔVOST 73	°F_{avg}	0.20 "H_2O_{avg}

***multiply cf^{Δ} by 28.317/ cf^{Δ} = ΔWTM**

$$\text{Wet Test Meter } VM_{std} = 17.65 \times \frac{5.550}{} \left(\frac{29.93 + \frac{-0.30}{13.6}}{72 + 460} \right) X\ \frac{0.998}{} C_f = \frac{5.496}{} \text{ sclm}$$

$$\text{Dry Gas Meter } VM_{std} = 17.65 \times \frac{5.591}{} \left(\frac{29.93 + \frac{0.20}{13.6}}{73 + 460} \right) X\ \frac{5.544}{} \text{ sclm}$$

$$\text{Calibration Factor } (C_{dg}) = \frac{\text{Wet Test Meter } VM_{std}}{\text{Dry Gas Meter } VM_{std}} \qquad C_{dg} = \frac{5.496}{5.544} = 0.991$$

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by J. LaCroix

METCO ENVIRONMENTAL

VOST (LOW VOLUME) DRY GAS METER CALIBRATION

Meter Number: 20 | Wet Test Meter No: 6

Date: 6/21/11 | Calibrator: William W. Straley

$$\text{Wet Test Meter } VM_{std} = 17.65 \times \Delta WTM \left| \frac{P_b + \frac{WTMP_m}{13.6}}{WTM\ T_m + 460} \right| X\ WTMC_f = \_\_\_\_ \text{ sclm}$$

$$\text{Dry Test Meter } VM_{std} = 17.65 \times \Delta VOST \left| \frac{P_b + \frac{VOST\ P_m}{13.6}}{VOST\ T_m + 460} \right| = \_\_\_\_ \text{ sclm}$$

Run No: 10@1.00 l/min | P_b: 29.93 "Hg

Wet Test Meter C_f: 0.998 | Control Module Vacuum: 5 "Hg

	Wet Test Meter					Dry Gas Meter				
	Time	Meter Reading	T_m	P_m		Mete Reading	T_m Inlet	T_m Outlet	P_m	
End	1444	0.386	72	°F -0.40	H_2O	10.870	74 °F	74 °F	0.40	"H_2O
Start	1434	0.000	72	°F -0.40	"H_2O	0.000	73 °F	74 °F	0.40	"H_2O
	10	0.386	72	$°F_{avg}$ -0.40	"H_2O_{avg}	10.870	ΔVOST	74 $°F_{avg}$	0.40	"H_2O_{avg}

*cf$^{\Delta}$

***multiply cf$^{\Delta}$ by 28.317/ cf$^{\Delta}$ = ΔWTM**

$$\text{Wet Test Meter } VM_{std} = 17.65 \times \frac{10.930}{} \left(\frac{29.93 + \frac{-0.40}{13.6}}{72 + 460} \right) X\ \frac{0.998}{}\ C_f = \frac{10.821}{} \text{ sclm}$$

$$\text{Dry Gas Meter } VM_{std} = 17.65 \times \frac{10.870}{} \left(\frac{29.93 + \frac{0.40}{13.6}}{74 + 460} \right) X\ \frac{10.764}{} \text{ sclm}$$

$$\text{Calibration Factor } (C_{dg}) = \frac{\text{Wet Test Meter } VM_{std}}{\text{Dry Gas Meter } VM_{std}} \qquad C_{dg} = \frac{10.821}{10.764} = 1.005$$

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by S. LaCroix

METCO ENVIRONMENTAL

VOST (LOW VOLUME) DRY GAS METER CALIBRATION

Meter Number: 20
Date: 6/21/11

Wet Test Meter No: 6
Calibrator: William V. Slaten

$$\text{Wet Test Meter } VM_{std} = 17.65 \times \Delta WTM \left| \frac{P_b + \frac{WTMP_m}{13.6}}{WTM\ T_m + 460} \right| X\ WTMC_f = \_\_\_\_ \text{ sclm}$$

$$\text{Dry Test Meter } VM_{std} = 17.65 \times \Delta VOST \left| \frac{P_b + \frac{VOST\ P_m}{13.6}}{VOST\ T_m + 460} \right| = \_\_\_\_ \text{ sclm}$$

Run No: 1 @ 1.50 l/min
Wet Test Meter C_f: 0.998

P_b: 29.93 "Hg
Control Module Vacuum: 5.0 "Hg

	Wet Test Meter				Dry Gas Meter			
	Time	Meter Reading	T_m	P_m	Mete Reading	T_m Inlet	T_m Outlet	P_m
End	1513	0.388	72 °F	-0.60 "H_2O	10.999	76 °F	75 °F	0.90 "H_2O
Start	1506	0.000	72 °F	-0.60 "H_2O	0.000	73 °F	74 °F	0.90 "H_2O
	7	0.388 *cf^{Δ}	72	°F_{avg} -0.60 "H_2O_{avg}	10.999	ΔVOST	75	°F_{avg} 0.90 "H_2O_{avg}

***multiply cf^{Δ} by 28.317/ cf^{Δ} = ΔWTM**

$$\text{Wet Test Meter } VM_{std} = 17.65 \times 10.987 \left(\frac{29.93 + \frac{}{13.6}}{72 + 460} \right) X\ 0.998\ C_f = 10.872 \text{ sclm}$$

$$\text{Dry Gas Meter } VM_{std} = 17.65 \times 10.999 \left(\frac{29.93 + \frac{0.90}{13.6}}{75 + 460} \right) X\ 10.885 \text{ sclm}$$

$$\text{Calibration Factor } (C_{dg}) = \frac{\text{Wet Test Meter } VM_{std}}{\text{Dry Gas Meter } VM_{std}} \qquad C_{dg} = \frac{10.872}{10.885} = 0.999$$

QA/QC Check
Completeness 1 Legibility 1 Accuracy 1 Specifications 1 Reasonableness 1

Checked by J. LaCroix

METCO ENVIRONMENTAL

Digital Temperature Indicator No. Vost Meter 20

Calibration Data

Date: 6/21/11

Reference Thermometer No. Therm 105

Media	Time	Reference Thermometer (°F)	DTI (°F)
Ambient Air	1135	81	80
Ice Bath	1145	36	35
Boiling Water	1200	211	210
Oven			
Oven			
Oven			
Oven			

Meter Adjusted? YES _____ NO X

Calibrator William V. Sharky

Office: Baton Rouge

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: J. McCrix

Version 3
1 March 2008

METCO ENVIRONMENTAL

VOST Dry Gas Meter Calibration

Dry Gas Meter Number 021

Date: 6-3-11

Rate l/min	C_{dg}
0.30	1.009
0.50	0.989
1.00	0.999
1.50	1.002
Average	1.000

Variation: +0.90 %

-0.10 %

Adjustment: Yes___ No✓

Calibrator: M. Corbett

Office: BR

QA/QC Check
Completeness ___ Legibility ✓ Accuracy ✓ Specifications ___ Reasonableness ✓

Checked by: David Moore

VOST (LOW VOLUME) DRY GAS METER CALIBRATION

Meter Number: 21 Wet Test Meter No: 6

Date: 6-3-11 Calibrator: M. Lucken

$$\text{Wet Test Meter } VM_{std} = 17.65 \times \Delta WTM \left| \frac{P_b + \frac{WTMP_m}{13.6}}{WTM\ T_m + 460} \right| X\ WTMC_f = \_\_\_\_ \text{ sclm}$$

$$\text{Dry Test Meter } VM_{std} = 17.65 \times \Delta VOST \left| \frac{P_b + \frac{VOST\ P_m}{13.6}}{VOST\ T_m + 460} \right| = \_\_\_\_ \text{ sclm}$$

Run No: 1 @ 0.300 l/min P_b: 30.10 "Hg

Wet Test Meter C_f: 0.998 Control Module Vacuum: ____"Hg

	Wet Test Meter				Dry Gas Meter			
	Time	Meter Reading	T_m	P_m	Meter Reading	T_m Inlet	T_m Outlet	P_m
End	1625	0.185	78 °F	-0.10 "H_2O	5.323	96 °F	91 °F	0.200 "H_2O
Start	1605	0.000	78 °F	-0.10 "H_2O	0.000	96 °F	90 °F	0.200 "H_2O
		*cf^{Δ}	78	°F_{avg} -0.10 "H_2O_{avg}	5.323	ΔVOST	93	°F_{avg} 0.200 "H_2O_{avg}

***multiply cf^{Δ} by 28.317/ cf^{Δ} = ΔWTM**

$$\text{Wet Test Meter } VM_{std} = 17.65 \times 5.239 \left(\frac{30.10 + \frac{-0.100}{13.6}}{78 + 460} \right) X\ 0.998\ C_f = 5.162 \text{ sclm}$$

$$\text{Dry Gas Meter } VM_{std} = 17.65 \times 5.323 \left(\frac{30.10 + \frac{0.200}{13.6}}{93 + 460} \right) X\ 5.116 \text{ sclm}$$

$$\text{Calibration Factor } (C_{dg}) = \frac{\text{Wet Test Meter } VM_{std}}{\text{Dry Gas Meter } VM_{std}} \qquad C_{dg} = \frac{5.162}{5.116} = 1.009$$

QA/QC Check

Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by David Moon

VOST (LOW VOLUME) DRY GAS METER CALIBRATION

Meter Number: 21 | Wet Test Meter No: 6

Date: 6-3-11 | Calibrator: M. Lucken

$$\text{Wet Test Meter } VM_{std} = 17.65 \times \Delta WTM \left| \frac{P_b + \frac{WTMP_m}{13.6}}{WTM\ T_m + 460} \right| X\ WTMC_f = \_\_\_\_ \text{ sclm}$$

$$\text{Dry Test Meter } VM_{std} = 17.65 \times \Delta VOST \left| \frac{P_b + \frac{VOST\ P_m}{13.6}}{VOST\ T_m + 460} \right| = \_\_\_\_ \text{ sclm}$$

Run No: 1@0.50 l/min | P_b: 30.10 "Hg

Wet Test Meter C_f: 0.998 | Control Module Vacuum: 5.0 "Hg

	Wet Test Meter				Dry Gas Meter			
	Time	Meter Reading	T_m	P_m	Mete Reading	T_m Inlet	T_m Outlet	P_m
End	1643	0.200	98 °F	-0.10 "H_2O	5.668	96 °F	90 °F	0.200 "H_2O
Start	1632	0.000	98 °F	-0.10 "H_2O	0.000	96 °F	90 °F	0.200 "H_2O
		0.200 *cf^{Δ}	98	°F_{avg} -0.10 "H_2O_{avg}		ΔVOST 93		°F_{avg} 0.200 "H_2O_{avg}

***multiply cf^{Δ} by 28.317/ cf^{Δ} = ΔWTM**

$$\text{Wet Test Meter } VM_{std} = 17.65 \times \frac{5.663}{5.943\ nc} \left(\frac{30.10 + \frac{-0.100}{13.6}}{98 + 460} \right) X\ 0.998\ C_f = 5.580 \text{ sclm}$$

$$\text{Dry Gas Meter } VM_{std} = 17.65 \times 5.668 \left(\frac{30.10 + \frac{0.200}{13.6}}{93 + 460} \right) X\ 5.670 \text{ sclm}$$

$$\text{Calibration Factor } (C_{dg}) = \frac{\text{Wet Test Meter } VM_{std}}{\text{Dry Gas Meter } VM_{std}} \qquad C_{dg} = \frac{5.580}{5.670} = 0.984$$

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by David Moon

VOST (LOW VOLUME) DRY GAS METER CALIBRATION

Meter Number: 21 Wet Test Meter No: 6

Date: 6-3-11 Calibrator: M. Lucken

$$\text{Wet Test Meter } VM_{std} = 17.65 \times \Delta WTM \left| \frac{P_b + \frac{WTMP_m}{13.6}}{WTM\ T_m + 460} \right| X\ WTMC_f = \_\_\_\_ \text{ sclm}$$

$$\text{Dry Test Meter } VM_{std} = 17.65 \times \Delta VOST \left| \frac{P_b + \frac{VOST\ P_m}{13.6}}{VOST\ T_m + 460} \right| = \_\_\_\_ \text{ sclm}$$

Run No: 16 1.00 l/min P_b: 30.10 "Hg

Wet Test Meter C_f: 0.998 Control Module Vacuum: 5.0 "Hg

	Wet Test Meter				Dry Gas Meter				
	Time	Meter Reading	T_m	P_m	Mete Reading	T_m Inlet	T_m Outlet	P_m	
End	1700	0.388	78 °F	-0.10 "H_2O	11.268	96 °F	91 °F	0.500	"H_2O
Start	1630	0.000	78 °F	-0.10 "H_2O	0.000	96 °F	90 °F	0.500	"H_2O
		0.388 *cf^{Δ}	78	$^{\circ}F_{avg}$ -0.10 "H_2O_{avg}	11.268	ΔVOST	93	$^{\circ}F_{avg}$ 0.500	"H_2O_{avg}

***multiply cf^{Δ} by 28.317/ cf^{Δ} = ΔWTM**

$$\text{Wet Test Meter } VM_{std} = 17.65 \times 10.987 \left(\frac{30.10 + \frac{-0.100}{13.6}}{78 + 460} \right) X\ 0.998\ C_f = 10.825 \text{ sclm}$$

$$\text{Dry Gas Meter } VM_{std} = 17.65 \times 11.268 \left(\frac{30.10 + \frac{0.500}{13.6}}{93 + 460} \right) X\ 10.838 \text{ sclm}$$

$$\text{Calibration Factor } (C_{dg}) = \frac{\text{Wet Test Meter } VM_{std}}{\text{Dry Gas Meter } VM_{std}} \quad C_{dg} = \frac{10.825}{10.838} = 0.999$$

QA/QC Check

Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by David Moon

METCO ENVIRONMENTAL

VOST (LOW VOLUME) DRY GAS METER CALIBRATION

Meter Number: 21 Wet Test Meter No: 6

Date: 6-3-11 Calibrator: M. Lochen

$$\text{Wet Test Meter } VM_{std} = 17.65 \times \Delta WTM \left| \frac{P_b + \frac{WTMP_m}{13.6}}{WTM\ T_m + 460} \right| X\ WTMC_f = \_\_\_\_ \text{ sclm}$$

$$\text{Dry Test Meter } VM_{std} = 17.65 \times \Delta VOST \left| \frac{P_b + \frac{VOST\ P_m}{13.6}}{VOST\ T_m + 460} \right| = \_\_\_\_ \text{ sclm}$$

Run No: 10 1.500 l/min P_b: 30.10 "Hg

Wet Test Meter C_f: 0.998 Control Module Vacuum: ____"Hg

	Wet Test Meter				Dry Gas Meter				
	Time	Meter Reading	T_m	P_m	Mete Reading	T_m Inlet	T_m Outlet	P_m	
End	1107	0.376	78 °F	-0.20 H_2O		96 °F	90 °F	0.80	"H_2O
Start	1000	0.000	78 °F	-0.20 "H_2O	0.000	96 °F	91 °F	0.80	"H_2O
		0.376 *cf^{Δ}	78 °F_{avg}	-0.20 "H_2O_{avg}		ΔVOST	93 °F_{avg}	0.80	"H_2O_{avg}

***multiply cf^{Δ} by 28.317/ cf^{Δ} = ΔWTM**

$$\text{Wet Test Meter } VM_{std} = 17.65 \times \underline{10.644} \left(\frac{30.10 + \frac{-0.20}{13.6}}{78 + 460} \right) X\ \underline{0.998}\ C_f = \underline{10.485} \text{ sclm}$$

$$\text{Dry Gas Meter } VM_{std} = 17.65 \times \underline{10.866} \left(\frac{30.10 + \frac{0.80}{13.6}}{93 + 460} \right) X\ \underline{10.459} \text{ sclm}$$

$$\text{Calibration Factor } (C_{dg}) = \frac{\text{Wet Test Meter } VM_{std}}{\text{Dry Gas Meter } VM_{std}} \quad C_{dg} = \frac{10.485}{10.459} = 1.002$$

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by David Moore

METCO ENVIRONMENTAL

DIGITAL TEMPERATURE INDICATOR NO. 21

CALIBRATION DATA

DATE: 6-3-11

Media	Time	Mercury Temperature (°F)	DTI (°F)
Ambient Air	1100	74	75
Ice Bath	1110	39	41
Boiling Water	1130	212	211
Oven			
Oven			
Oven			
Oven			

Meter Adjusted? YES _____ No ✓

Reference Thermometer No. 105

Calibrator M. L

Checked By: David Moore

VERSION 2
15 APRIL 2004

METCO ENVIRONMENTAL

BAROMETER CALIBRATION

Baton Rouge Office Only

Barometer No. 30-3

Date: 4-4-11

Time: 1414

Barometric Pressure@ **Baton Rouge Airport**@ 70 ft.=		29.81
	-	0.070
Absolute Pressure @ **Baton Rouge Airport**	=	29.74
	+	0.044
Absolute Pressure @**METCO Baton Rouge**@ 26 ft	=	29.784
Barometer Reading	=	29.80
Variation	=	0.20

Barometer Adjusted? Yes X No ____

Calibrator _____

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: _____

AIR LIQUIDE Air Liquide America Specialty Gases LLC Scott

RATA CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 605269
Document # : 41049751-002

Customer

METCO TESTAMERICA

6655 COMPLEX DR
BATON ROUGE LA 70809
US

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: ALM066457 **Certification Date:** 25Mar2011 **Exp. Date:** 25Mar2014
Cylinder Pressure*:** 2015 PSIG **Batch No:** LAP0037181

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ACCURACY**	TRACEABILITY
CARBON MONOXIDE	41.5 PPM	+/- 1%	Direct NIST and VSL
NITROGEN	BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1678 5	01Nov2013	ALM039555	51.13 PPM	CARBON MONOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	03Mar2011	FTIR

ANALYZER READINGS

(Z = Zero Gas R = Reference Gas T = Test Gas r = Correlation Coefficient)

First Triad Analysis

CARBON MONOXIDE

Date: 18Mar2011 Response Unit: PPM

Z1 = -0.03030	R1 = 51.31033	T1 = 41.61256
R2 = 51.35665	Z2 = 0.00565	T2 = 41.68199
Z3 = 0.03821	T3 = 41.68261	R3 = 51.43152

Avg. Concentration: 41.47 PPM

Second Triad Analysis

Date: 25Mar2011 Response Unit: PPM

Z1 = -0.00320	R1 = 51.26445	T1 = 41.57933
R2 = 51.35039	Z2 = 0.03440	T2 = 41.61815
Z3 = 0.05418	T3 = 41.63523	R3 = 51.37021

Avg. Concentration: 41.44 PPM

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 9.99997E-1
Constants:

A = 0.00000E+0	
B = 9.78399E-1	C = 7.23000E-4
D = 1.00000E-6	E = 0.00000E+0

APPROVED BY: _____
Ramien JR

C-33

11-234

AIR LIQUIDE Air Liquide America Specialty Gases LLC Scott

RATA CLASS

Dual-Analyzed Calibration Standard

6141 EASTON ROAD, BLDG 1, PLUMSTEADVILLE, PA 18949-0310 Phone: 800-331-4953 Fax: 215-766-7226

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
6141 EASTON ROAD, BLDG 1
PLUMSTEADVILLE, PA 18949-0310

P.O. No.: 2336384
Project No.: 01-18078-004

Customer

TESTAMERICA AIR EMISSIONS

DBA METCO ENVIRONMENTAL
1936 OLNEY AVENUE
CHERRY HILL NJ 08003

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: BLM001864 **Certification Date:** 25Nov2009 **Exp. Date:** 24Nov2012
Cylinder Pressure*:** 1100 PSIG **Prev Certification Date:** 06Sep2006

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
CARBON MONOXIDE	87.5	PPM	+/- 1%	Direct NIST and VSL
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.

** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1679	02Oct2010	KAL003172	101.0 PPM	CARBON MONOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
SIEMENS/ULTRAMAT 6E/R8-236	18Nov2009	CO/CO2 ANALYZER

ANALYZER READINGS

(Z = Zero Gas R = Reference Gas T = Test Gas r = Correlation Coefficient)

First Triad Analysis

CARBON MONOXIDE

Date: 06Sep2006		
Z1 = 0.00000	R1 = 0.00000	T1 = 0.00000
R2 = 0.00000	Z2 = 0.00000	T2 = 0.00000
Z3 = 0.00000	T3 = 0.00000	R3 = 0.00000
Avg. Concentration:	86.90	PPM

Second Triad Analysis

Date: 25Nov2009	Response Unit: VOLTS	
Z1 = -0.01440	R1 = 2.48900	T1 = 2.14020
R2 = 2.48930	Z2 = -0.01460	T2 = 2.14010
Z3 = -0.01380	T3 = 2.13960	R3 = 2.48960
Avg. Concentration:	87.50	PPM

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4	
r = 0.999998738	1679
Constants:	A = 0.665506581
B = 42.45131659	C = -0.8702409
D =	E =

Special Notes: RECERTIFICATION CYL# BLM001864

APPROVED BY: David Ashnoff
DAVID ASHNOFF

C-34

11-234

AIR LIQUIDE Air Liquide America Specialty Gases LLC Scott

RATA CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 569781
Document # : 38847290-001

Customer

METCO TESTAMERICA

6655 COMPLEX DR
BATON ROUGE LA 70809
US

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: BLM002221
Cylinder Pressure*:** 1160 PSIG
Certification Date: 17Sep2010
Exp. Date: 16Sep2013
Batch No: LAP0024695

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ACCURACY**	TRACEABILITY
PROPANE	14.2 PPM	+/- 1%	Direct NIST and VSL
NITROGEN	BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1668	02Oct2012	ALM013540	98.80 PPM	PROPANE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
HP-Y/HP 6890/US00000974	17Sep2010	GAS CHROMATOGRAPHY

ANALYZER READINGS

(Z = Zero Gas R = Reference Gas T = Test Gas r = Correlation Coefficient)

First Triad Analysis

PROPANE

Date: 17Sep2010 Response Unit: PPM
Z1 = 0.00000 R1 = 35525.00 T1 = 5127.000
R2 = 35496.00 Z2 = 0.00000 T2 = 5114.000
Z3 = 0.00000 T3 = 5114.000 R3 = 35496.00
Avg. Concentration: 14.20 PPM

Second Triad Analysis

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 0.999998687
Constants: A = -0.03434405
B = 0.002682193 C =
D = E =

Special Notes: RECERT OF BLM002221 TO BE RETURNED ON BR INTERBRANCH. CUSTOMER WILL PICK UP IN BR.

APPROVED BY: ROGER NGUYEN

AIR LIQUIDE Air Liquide America Specialty Gases LLC Scott

RATA CLASS

Dual-Analyzed Calibration Standard

1290 COMBERMERE STREET, TROY, MI 48083 Phone: 248-589-2950 Fax: 248-589-2134

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
1290 COMBERMERE STREET
TROY, MI 48083

P.O. No.: 2351445
Project No.: 05-86119-008

Customer

TESTAMERICA AIR EMISSIONS DALLAS
PO# 2351445
3226 COMMANDER DR.
CARROLLTON TX 75006

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: BLM001976 **Certification Date:** 22Mar2010 **Exp. Date:** 21Mar2013
Cylinder Pressure*:** 2000 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
PROPANE	27.2	PPM	+/- 1%	Direct NIST and VSL
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.

** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1667	02Oct2012	ALM019225	49.80 PPM	PROPANE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
VARIAN/3400/7506	22Mar2010	TCD/FID

ANALYZER READINGS

(Z = Zero Gas R = Reference Gas T = Test Gas r = Correlation Coefficient)

First Triad Analysis

PROPANE

Date: 22Mar2010 Response Unit:AREA
Z1 = 0.00000 R1 = 1309593. T1 = 712451.0
R2 = 1310856. Z2 = 0.00000 T2 = 716328.0
Z3 = 0.00000 T3 = 712872.0 R3 = 1311660.
Avg. Concentration: 27.20 PPM

Second Triad Analysis

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 0.999997
Constants: A = -0.01098694
B = 3,79895E-05 C = 0
D = 0 E = 0

APPROVED BY: _____ C-36 11-234
ROBERT LESNIAK

AIR LIQUIDE Air Liquide America Specialty Gases LLC Scott

RATA CLASS

Dual-Analyzed Calibration Standard

6141 EASTON ROAD, BLDG 1, PLUMSTEADVILLE, PA 18949-0310 Phone: 800-331-4953 Fax: 215-766-7226

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
6141 EASTON ROAD, BLDG 1
PLUMSTEADVILLE, PA 18949-0310

P.O. No.: 2303100
Project No.: 01-00085-001

Customer

TESTAMERICA AIR EMISSIONS

DBA METCO ENVIRONMENTAL
1936 OLNEY AVENUE
CHERRY HILL NJ 08003

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: BAL5228 **Certification Date:** 04May2009 **Exp. Date:** 03May2012
Cylinder Pressure*:** 2200 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
PROPANE	42.8	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

*** Do not use when cylinder pressure is below 150 psig.

** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1667	02Oct2012	ALM022121	49.80 PPM	PROPANE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
VARIAN/3300/7945	01May2009	GC/FID

ANALYZER READINGS

(Z = Zero Gas R = Reference Gas T = Test Gas r = Correlation Coefficient)

First Triad Analysis

PROPANE

Date: 04May2009 Response Unit:AREA
Z1 = 0.00000 R1 = 249362.0 T1 = 213506.0
R2 = 249212.0 Z2 = 0.00000 T2 = 213851.0
Z3 = 0.00000 T3 = 213324.0 R3 = 248619.0
Avg. Concentration: 42.80 PPM

Second Triad Analysis

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = .9999941 1668
Constants: A = 0.030456626
B = 0.000200794 C =
D = E =

Special Notes: 40-45 PPM PROPANE FOLIO#923

APPROVED BY: JOHN C. FITZ

C-37

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AIR LIQUIDE Air Liquide America Specialty Gases LLC | Scott™

RATA CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE™ OF ACCURACY: Interference Free Multi-Component EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A32011

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 618048
Document # : 41894345-001

Customer
METCO TESTAMERICA

6655 COMPLEX DR
BATON ROUGE LA 70809
US

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: CC133782
Cylinder Pressure*:** 2000 PSIG
Certification Date: 01Jun2011
Exp. Date: 01Jun2014
Batch No: LAP0042371

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ACCURACY**	TRACEABILITY
CARBON DIOXIDE	11.0 %	+/- 1%	Direct NIST and VSL
OXYGEN	11.1 %	+/- 1%	
NITROGEN	BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1675	15Dec2011	K003359	13.94 %	CARBON DIOXIDE
NTRM 2659	02Oct2012	1D003416	20.85 %	OXYGEN

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//MG-09-149	26May2011	FTIR
SERVOMEX/MODEL 244A/701/716	25May2011	PARAMAGNETIC

ANALYZER READINGS

(Z = Zero Gas R = Reference Gas T = Test Gas r = Correlation Coefficient)

First Triad Analysis | **Second Triad Analysis** | **Calibration Curve**

CARBON DIOXIDE

Date: 01Jun2011 Response Unit: %
Z1 = 0.00220 R1 = 13.83328 T1 = 10.96223
R2 = 13.86120 Z2 = 0.00579 T2 = 10.97826
Z3 = 0.00601 T3 = 10.98102 R3 = 13.88306
Avg. Concentration: 11.04 %

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 9.99997E-1
Constants: A = 0.00000E+0
B = 6.35200E-1 C = 5.17300E-3
D = 0.00000E+0 E = 0.00000E+0

OXYGEN

Date: 02Jun2011 Response Unit: VOLTS
Z1 = 0.00000 R1 = 0.83500 T1 = 0.44400
R2 = 0.83500 Z2 = 0.00000 T2 = 0.44350
Z3 = 0.00000 T3 = 0.44350 R3 = 0.83500
Avg. Concentration: 11.08 %

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 0.9999983
Constants: A = -0.00252506
B = 24.97122659 C =
D = E =

Special Notes:
FOLIO# 0315 METCO'S PO# 618048
STENCIL: FOLIO# EXP. DATE CGA 590 ; DEW PT. -60 DEG. F.

APPROVED BY: _____
DAVID KELLY

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AIR LIQUIDE Air Liquide America Specialty Gases LLC | Scott

RATA CLASS

Dual-Analyzed Calibration Standard

11426 FAIRMONT PKWY, LA PORTE, TX 77571 Phone: 800-248-1427 Fax: 281-474-8419

CERTIFICATE™ OF ACCURACY: Interference Free Multi-Component EPA Protocol Gas

Assay Laboratory

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
11426 FAIRMONT PKWY
LA PORTE, TX 77571

P.O. No.: 581815
Document # : 39267766-004

Customer
METCO TESTAMERICA

6655 COMPLEX DR
BATON ROUGE LA 70809
US

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: CC149987
Cylinder Pressure*:** 1900 PSIG
Certification Date: 20Oct2010
Exp. Date: 20Oct2013
Batch No: LAP0026999

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ACCURACY**	TRACEABILITY
CARBON DIOXIDE	20.1 %	+/- 1%	Direct NIST and VSL
OXYGEN	20.1 %	+/- 1%	
NITROGEN	BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1800	01Mar2013	K017950	17.87 %	CARBON DIOXIDE
NTRM 2350	01May2013	K026427	23.50 %	OXYGEN

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000929060	24Sep2010	FTIR
SERVOMEX/MODEL 244A/701/716	18Oct2010	PARAMAGNETIC

ANALYZER READINGS

(Z = Zero Gas R = Reference Gas T = Test Gas r = Correlation Coefficient)

First Triad Analysis | **Second Triad Analysis** | **Calibration Curve**

CARBON DIOXIDE

Date: 20Oct2010 Response Unit: %
Z1 = 0.00102 R1 = 17.90903 T1 = 20.17226
R2 = 17.91292 Z2 = 0.00261 T2 = 20.17688
Z3 = 0.00355 T3 = 20.19168 R3 = 17.93451
Avg. Concentration: 20.13 %

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 9.99984E-1
Constants: A = 0.00000E+0
B = 9.10425E-1 C = 1.19550E-2
D = 0.00000E+0 E = 0.00000E+0

OXYGEN

Date: 21Oct2010 Response Unit: VOLTS
Z1 = 0.00000 R1 = 0.94200 T1 = 0.80530
R2 = 0.94250 Z2 = 0.00000 T2 = 0.80580
Z3 = 0.00000 T3 = 0.80600 R3 = 0.94300
Avg. Concentration: 20.07 %

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 0.9999953
Constants: A = -0.01359996
B = 24.95402813 C =
D = E =

APPROVED BY: DAVID KELLY

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11-234

APPENDIX D

Field Testing Data

METCO ENVIRONMENTAL

Job Number 11-234 — 1-4 Field Data — Ambient Temp. °F 92

Job Name Marathon — Assumed Moisture % 10

Run Number 1 — Read and record at the start of each test point. — Probe Length 5'

Unit U-45 Thermal Oxidizer #3 — C Factor — to reference.

Date 6-22-11 — Purge to: — — Initial Leak @ 15.0 "Hg = 0.002 cfm

Operator Reid/Wahrmund — Purge time: — — Final Leak @ 5.0 "Hg = 0.002 cfm

Sample box No. 53 — Meter Box No. 54-4 — Pitot Leak Check Initial ✓ Final ✓ — Pitot Tips Damaged During Test? Yes (No)

			ΔP_s		P_m		T_s				T_m		
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	Remarks
B12	0910	964.284	0.015	0.50	0.50	2.0	1329	245	250	81	62	61	Pb = 29.86
B11	0915	965.01	0.020	0.50	0.50	2.0	1330	245	251	68	62	61	P_s = ~~-0.6~~ -0.6
B10	0920	968.31	0.025	0.50	0.50	2.0	1331	241	250	67	62	61	Traverse time: 910 – 940
B9	0925	970.28	0.030	0.50	0.50	2.0	1333	241	250	67	63	62	
B8	0930	972.29	0.035	0.50	0.50	2.0	1348	242	251	67	64	63	
B7	0935	974.33	0.040	0.50	0.50	2.0	1306	243	250	67	66	64	
B6	0940	976.54	0.030	0.50	0.50	2.0	1403	244	251	67	67	64	
B5	0945	978.31	0.035	0.50	0.50	2.0	1246	242	250	67	67	65	
B4	0950	980.32	0.030	0.50	0.50	2.0	1325	243	250	67	67	65	
B3	0955	982.35	0.025	0.50	0.50	2.0	1423	241	251	67	69	65	
B2	1000	984.41	0.025	0.50	0.50	2.0	1329	241	250	67	68	66	
B1	1005	986.45	0.010	0.50	0.50	2.0	1331	241	250	67	69	67	
A12	1010	988.39	0.015	0.50	0.50	2.0	1183	240	251	67	70	67	
A11	1015	990.34	0.015	0.50	0.50	2.0	1303	242	250	65	70	68	
A10	1020	992.47	0.015	0.50	0.50	2.0	1327	242	250	65	71	68	
A9	1025	994.42	0.020	0.50	0.50	2.0	1340	241	251	66	71	68	
A8	1030	996.39	0.025	0.50	0.50	2.0	1352	241	251	65	71	69	
A7	1035	998.61	0.025	0.50	0.50	2.0	1354	241	250	67	71	69	

Pitot Tube Calibration Factor C_p 0.804 ✓ — Pitot Tube No. 28-10-1 ✓ — Barometer No. 30-3 ✓ — Probe Tip No. —

Volume Collected V_m 73.305 ft³ ✓ — Baro. Press. P_b 29.89 "Hg — Total Volume of Leak Checks After Start: — ft³

Water Collected V_w 167.2 ml ✓ — Probe Tip Dia. D_n — in. — V_m = Dry Gas Meter Calibration Factor 1.010 x 72.579

Time of Test T_t 180 min. ✓ — % CO_2 3.5 ✓ — % CO 0.0 — Area Stack A_s 8700 in²

Stack Pressure P_s -0.6 "H_2O ✓ — % O_2 4.7 ✓ — % N_2 91.8 ✓ — {Dry Gas Meter Reading — ft³ – (T_t — min. X Leak Rate — cfm)}

QA/QC Check

Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓ Checked by: MS

Version 2
1 February 2008

D-2

11-234

Impinger Box No. 53

			Water Weight Gain		
Impinger 1	Final Weight	865.2		Impinger 1	131.2
	Initial Weight	734.0			
	Increase			Impinger 2	16.0
Impinger 2	Final Weight	777.9		Impinger 3	6.1
	Initial Weight	761.9			
	Increase			Impinger 4	13.9
			V_w =		
Impinger 3	Final Weight	663.4	g SO_2 = -	Impinger 5	
	Initial Weight	657.3	V_w =		
	Increase			Impinger 6	
Impinger 4	Final Weight	1013.7		Impinger 7	
	Initial Weight	999.8			
	Increase			Total	167.2 = V_w

Impinger 5	Final Weight		P_b =	29.89 ✓	$\%CO_2$ =	3.5 ✓	
	Initial Weight		V_m =	73.305 ✓	$\%O_2$ =	4.7 ✓	
	Increase		V_w =	167.2 ✓	%CO =	0.0 ✓	
			P_m =	0.500 ✓	$\%N_2$ =	91.3 ✓	
Impinger 6	Final Weight		Avg ΔP =	0.027 ✓	A_n =	8700 ✓	
	Initial Weight				D_n =	—	
	Increase		Avg $\sqrt{\Delta P}$ =	0.164 ✓	T_1 =	190 ✓	
			C_p =	0.834 ✓			
Impinger 7	Final Weight		P_s =	-0.6 ✓ $"H_2O$		29.65 ✓	"Hg
	Initial Weight		T_m =	69 ✓ °F		529 ✓	°R
	Increase		T_s =	1321 ✓ °F		1781 ✓	°R

Moisture Content: %M = 9.73 ✓ M_d = 0.9027 ✓ MW_d = 28.748 ✓ MW = 27.70 ✓

$$Vm_{std} = 17.65\ Vm \left[\frac{P_b + \frac{P_m}{13.6}}{T_m + 460}\right] = 17.65 \times 73.305 \left[\frac{29.89 + \frac{0.500}{13.6}}{69 + 460}\right] = \frac{73.195}{0.407} \text{ sft}^3 \text{ scfm}$$

Vw_{gas} = 0.0472 x Vw = 0.0472 x 167.2 = 7.892 sft^3

% Moisture = $\frac{Vw_{gas}}{Vm_{std} + Vw_{gas}}$ x 100 = $\frac{7.892}{73.195 + 7.892}$ x 100 = 9.73 %

V_s = 5123.8 x 0.834 $\sqrt{\frac{1781}{29.65 \times 27.70}}$ x 0.164 = 50992 fpm

ACFM: 59906

SCFM: 16061

%I = $\frac{1{,}039 \times \quad \times}{\times \quad \times \quad \times \quad \times (\quad)^2}$ = — %

%EA: 23.95

Run Number 1 1-4 FIELD DATA

Unit U-45 Thermal Oxidizer #3

Date 6-22-11

			ΔP_s			P_m	T_s				T_m		
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	Remarks
A6	1040	1000.51	0.025	0.50	0.50	2.0	1359	242	250	67	72	69	
A5	1045	1002.41	0.030	0.50	0.50	2.0	1365	241	251	67	72	69	
A4	1050	1004.47	0.025	0.50	0.50	2.0	1351	242	251	67	72	68	
A3	1055	1006.51	0.025	0.50	0.50	2.0	1353	241	251	67	72	70	
A2	1100	1008.52	0.025	0.50	0.50	2.0	1335	240	250	64	72	70	
A1	1105	1010.55	0.020	0.50	0.50	2.0	1275	241	250	58	73	70	
	1110	1012.56	-	0.50	0.50	2.0	-	240	251	55	73	70	
	1115	1014.59	-	0.50	0.50	2.0	-	240	251	55	73	71	
	1120	1016.60	-	0.50	0.50	2.0	-	241	250	55	73	71	
	1125	1018.67	-	0.50	0.50	2.0	-	241	250	55	73	71	
	1130	1020.71	-	0.50	0.50	2.0	-	240	251	57	73	71	
	1135	1022.74	-	0.50	0.50	2.0	-	241	250	57	73	71	
	1140	1024.72	-	0.50	0.50	2.0	-	240	250	57	73	71	
	1145	1026.75	-	0.50	0.50	2.0	-	240	251	57	73	71	
	1150	1028.78	-	0.50	0.50	2.0	-	241	251	60	72	71	
	1155	1030.79	-	0.50	0.50	2.0	-	241	251	58	73	71	
	1200	1032.81	-	0.50	0.50	2.0	-	240	250	59	73	71	
	1205	1034.83	-	0.50	0.50	2.0	-	240	250	61	73	71	
	1210	1036.863	-	-	-	-	-	-	-	-	-	-	

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: _____

Version 2
1 February 2008

Run Number 1-A 1-4 FIELD DATA

Unit U-45 Thermal Oxidizer #3

Date 6-22-11

			ΔP_s		P_m		T_s				T_m		
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O"	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	Remarks
B12			0.010				1255						P_b = 29.88
B 11			0.015				1312						P_s = ~~-0.06~~ -0.6
B10			0.020				1336						Traverse Time: 1010-1040
B9			0.025				1342						
B8			0.030				1352						
B7 ~~B7~~			0.030				1361						
B6			0.035				1363						
B5			0.030				1358						
B4			0.025				1351						
B3			0.025				1178						
B2			0.025				1187						
B1			0.020				1175						
A12			0.020				1343						
A 11			0.020				1345						
A 10			0.025				1351						
A 9			0.030				1183						
A 8			0.035				1216						
A 7			0.035				1194						
A 6			0.030				1308						
A 5			0.035				1303						
A 4			0.035				1310						
A 3			0.035				1305						
A 2			0.035				1306						
A-1			0.030				1325						

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: _____

Version 2
1 February 2008

Run Number 1-B 1-4 FIELD DATA

Unit U-45 Thermal Oxidizer #3

Date 6-22-11

			ΔP_s		P_m		T_s				T_m		
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	Remarks
B1			0.025				1361						P_b = 29.92
B2			0.025				1358						P_s = ~~-0.06~~ -0.06
B3			0.025				1362						Traverse Time: 1110-1140
B4			0.030				1363						
B5			0.035				1362						
B6			0.035				1366						
B7			0.035				1363						
B8			0.035				1366						
B9			0.035				1357						
B10			0.035				1349						
B11			0.030				1344						
B12			0.025				1379						
A1			0.020				1380						
A2			0.020				1346						
A3			0.025				1345						
A4			0.030				1330						
A5			0.035				1244						
A6			0.035				1226						
A7			0.0356				1295						
A8			0.035				1301						
A9			0.035				1294						
A10			0.035				1315						
A11			0.030				1340						
A12			0.030				1445						

QA/QC Check

Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: _____

Version 2
1 February 2008

METCO ENVIRONMENTAL

Job Number 11-234 | 1-4 Field Data | Ambient Temp. °F 92

Job Name Marathon | Assumed Moisture % 10

Run Number 2 | Read and record at the start of each test point. | Probe Length 5'

Unit U-45 Thermal Oxidizer #3 | C Factor — to reference.

Date 6-22-11 | Purge to: — | Initial Leak @ 15.0 "Hg = 0.002 cfm

Operator Reid/Wahrmund/Jones | Purge time: — | Final Leak @ 6.0 "Hg = 0.001 cfm

Sample box No. 49-2 | Meter Box No. 54-4 | Pitot Leak Check Initial ✓ Final ✓ | Pitot Tips Damaged During Test? Yes / (No)

			ΔP_s		P_m		T_s				T_m		
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	Remarks
B12 ~~1415~~	1415	1039.757	0.010	0.50	0.50	1.~~0~~5	1183	240	250	67	67	68	P_b = 29.85
~~B11~~	B11 1420	1041.83	0.020	0.50	0.50	1.5	1265	241	251	63	67	68	P_s = -0.6
~~B10~~	B10 1425	1043.84	0.025	0.50	0.50	1.5	1317	241	251	61	67	68	Traverse time: 1415-1445
+	B9 1430	1045.86	0.030	0.50	0.50	1.5	1332	240	251	61	68	68	
D-7	B8 1435	1047.81	0.035	0.50	0.50	1.5	1276	241	250	64	68	68	
	B7 1440	1049.88	0.035	0.50	0.50	1.5	1244	241	250	64	68	68	
	B6 1445	1051.91	0.040	0.50	0.50	1.5	1235	240	250	65	68	68	
	B5 1450	1054.02	0.035	0.50	0.50	1.5	1253	241	250	67	68	68	
	B4 1455	1056.03	0.035	0.50	0.50	1.5	1296	240	251	67	69	68	
	B3 1500	1057.99	0.030	0.50	0.50	1.5	1305	240	251	64	70	68	
	B2 1505	1059.98	0.030	0.50	0.50	1.5	1307	240	251	64	70	68	
	B1 1510	1062.05	0.030	0.50	0.50	1.5	1157	240	250	64	70	69	
	A12 1515	1064.08	0.025	0.50	0.50	1.5	1191	241	250	64	70	69	
	A11 1520	1066.11	0.025	0.50	0.50	1.5	1210	241	250	64	71	69	
	A10 1525	1068.15	0.030	0.50	0.50	1.5	1310	241	250	65	71	69	
	A9 1530	1070.17	0.035	0.50	0.50	1.5	1325	240	251	67	71	69	
	A8 1535	1072.22	0.035	0.50	0.50	1.5	1321	240	250	67	71	69	
	A7 1540	1074.28	0.035	0.50	0.50	1.5	1245	240	250	67	72	69	

11-234

Pitot Tube Calibration Factor C_p 0.804 ✓ | Pitot Tube No. 28-10-1 — | Barometer No. 30-3 | Probe Tip No. —

Volume Collected V_m 73.814 ✓ ft^3 | Baro. Press. P_b 29.85 "Hg | Total Volume of Leak Checks After Start: — ft^3

Water Collected V_w 120.7 ml 119.7 + 1 add'l | Probe Tip Dia. D_n — in | V_m = Dry Gas Meter Calibration Factor 1.010 X 73.083

Time of Test T_t 180 min. | % CO_2 3.5 ✓ | % CO 0.0 | Area Stack A_s 8700 in^2

Stack Pressure P_s -0.6 "H_2O" | % O_2 4.9 ✓ | % N_2 91.6 | {Dry Gas Meter Reading — ft^3 – (T_t — min. X Leak Rate — cfm)}

QA/QC Check

Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓ Checked by: ✓

Version 2

1 February 2008

Impinger Box No. H9-2

			Water Weight Gain		
Impinger 1	Final Weight	833.0		Impinger 1	~~83.0~~ 827 7/20/11
	Initial Weight	750.3			
	Increase			Impinger 2	6.0
Impinger 2	Final Weight	774.0		Impinger 3	2.0
	Initial Weight	768.0			
	Increase			Impinger 4	29.2
Impinger 3	Final Weight	~~633.~~ 1661.1	V_w =	Impinger 5	
	Initial Weight	659.1	g SO_2 =		
	Increase		V_w =	Impinger 6	
Impinger 4	Final Weight	1015.6		Impinger 7	
	Initial Weight	986.4			119.9 7/20/11
	Increase			Total	~~120.2~~ = V_w

Impinger 5	Final Weight		P_b =	29.85	$\%CO_2$ =	3.5
	Initial Weight		V_m =	73.814	$\%O_2$ =	4.9
	Increase		V_w =	~~120.2~~ 119.9 7/20/11	%CO =	0.0
			P_m =	0.500	$\%N_2$ =	91.6
Impinger 6	Final Weight		Avg ΔP =	0.031	A_n =	8700
	Initial Weight				D_n =	-
	Increase		Avg $\sqrt{\Delta P}$ =	0.174	T_l =	180
			C_p =	0.804		
Impinger 7	Final Weight		P_s =	-0.6 "H_2O	29.81	"Hg
	Initial Weight		T_m =	69 °F	529	°R
	Increase		T_s =	1210 °F	1750	°R

Moisture Content: %M = 7.16 4 hrs 7/20/11 M_d = 0.9284 6 hrs MW_d = 28.756 MW = 27.99

$$Vm_{std} = 17.65\ Vm\left[\frac{P_b + \frac{P_m}{13.6}}{T_m + 460}\right] = 17.65 \times 73.814 \left[\frac{29.85 + \frac{0.500}{13.6}}{69 + 460}\right] = \frac{73.605}{0.409}\ \text{sft}^3\ \text{scfm}$$

Vw_{gas} = 0.0472 x Vw = 0.0472 x ~~120.2~~ 119.9 7/20/11 = ~~5.673~~ 5.659 sft^3

% Moisture = $\frac{Vw_{gas}}{Vm_{std} + Vw_{gas}}$ x 100 = $\frac{~~5.673~~\ 5.659}{73.605 + ~~5.673~~\ 5.659}$ x 100 = 7.16 4 7/20/11 %

V_s = 5123.8 x $\sqrt{\frac{0.804 \times 1750}{29.61 \times 27.99}}$ x 0.174 = 1039 fpm

ACFM: 62718 580 7/20/11

SCFM: 17566

%I = $\frac{1{,}039 \times \quad \times}{\times \quad \times \quad \times \quad \times (\quad)^2}$ = — %

%EA: 25.29

Run Number 2 1-4 FIELD DATA

Unit U-45 Thermal Oxidizer #3

Date 6-22-11

			ΔP_s		P_m		T_s				T_m		
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	Remarks
A6	1545	1076.31	0.040	0.50	0.50	1.5	1295	240	250	67	72	70	P_b = 29.85
A5	1550	1078.33	0.040	0.50	0.50	1.5	1289	242	251	67	72	70	
A4	1555	1080.37	0.035	0.50	0.50	1.5	1318	241	252	67	72	70	
A3	1600	1082.41	0.030	0.50	0.50	1.5	1218	241	252	67	72	70	
A2	1605	1084.44	0.020	0.50	0.50	1.5	1280	240	251	67	73	70	
A1	1610	1086.45	0.020	0.50	0.50	1.5	1285	240	251	67	73	71	Pump off 1610 weather
	1705	1088.45	~~0.020~~	0.50	0.50	1.5	–	240	250	67	67	68	Pump on 1700
	1710	1090.48	–	0.50	0.50	1.5	–	241	250	67	67	68	
	1715	1092.50	–	0.50	0.50	1.5	–	241	250	67	68	68	
	1720	1094.41	–	0.50	0.50	1.5	–	240	251	67	68	68	
	1725	1096.52	–	0.50	0.50	1.5	–	240	251	67	68	68	
	1730	1098.55	–	0.50	0.50	1.5	–	241	252	67	69	68	
	1735	1100.59	–	0.50	0.50	1.5	–	241	252	67	70	68	
	1740	1102.63	–	0.50	0.50	1.5	–	240	251	67	70	68	
	1745	1104.66	–	0.50	0.50	1.5	–	241	251	67	70	68	
	1750	1106.68	–	0.50	0.50	1.5	–	241	251	67	71	68	
	1755	1108.71	–	0.50	0.50	1.5	–	241	250	67	71	68	
	1800	1110.78	–	0.50	0.50	1.5	–	240	250	67	71	69	
	1805	1112.840	–	–	–	–	–	–	–	–	–	–	

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: _____

Run Number 2A 1-4 FIELD DATA

Unit 445 Thermal Oxidizer #3

Date 6-22-11

			ΔP_s			P_m	T_s				T_m		
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	Remarks
B1			0.020				1309						P_b = 29.85
B2			0.020				1308						P_s = -0.6
B3			0.025				1320						Traverse time 1515-1545
B4			0.035				1295						
B5			0.040				1015						
B6			0.035				1271						
B7			0.035				1372						
B8			0.035				1387						
B9			0.030				1430						
B10			0.030				1435						
B11			0.025				1230						
B12			0.020				1310						
A1			0.020				1371						
A2			0.035				1330						
A3			0.040				1341						
A4			0.040				1352						
A5			0.040				1354						
A6			0.040				1350						
A7			0.035				1261						
A8			0.035				1357						
A9			0.035				1348						
A10			0.030				1322						
A11			0.025				1150						
A12			0.025				1135						

QA/QC Check

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Version 2
1 February 2008

Run Number 2B 1-4 FIELD DATA

Unit U-45 Thermal oxidizer #3

Date 6-22-11

			ΔP_s		P_m		T_s				T_m		
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	Remarks
B1			0.020				1185						P_b = 29.85
B2			0.020				1251						P_s = -0.6
B3			0.025				1248						Traverse time 1615-1645
B4			0.025				1301						
B5			0.030				1274						
B6			0.035				1321						
B7			0.035				1317						
B8			0.040				1335						
B9			0.040				1357						
B10			0.035				1341						
B11			0.035				1248						
B12			0.030				1225						
A1			0.030				1227						
A2			0.020				1280						
A3			0.025				1313						
A4			0.030				1339						
A5			0.030				1352						
A6			0.035				1348						
A7			0.035				1359						
A8			0.040				1361						
A9			0.040				1343						
A10			0.035				1251						
A11			0.030				1228						
A12			0.030				1214						

QA/QC Check
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Version 2
1 February 2008

METCO ENVIRONMENTAL

Job Number 11-234 — 1-4 Field Data — Ambient Temp. °F 80

Job Name Marathon — Assumed Moisture % 10

Run Number 3 — Read and record at the start of each test point. — Probe Length 5'

Unit U-45 Thermal Oxidizer #3 — C Factor — to reference.

Date 6-23-11 — Purge to: — — Initial Leak @ 15.0 "Hg = 0.002 cfm

Operator Reid/Wahrmund/Jones — Purge time: — — Final Leak @ 5.5 "Hg = 0.001 cfm

Sample box No. 49-2 Meter Box No. 54-4 — Pitot Leak Check Initial ✓ Final ✓ — Pitot Tips Damaged During Test? Yes (No)

			ΔP_s		P_m		T_s				T_m		
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	Remarks
B1	0925	113.024	0.025	0.50	0.50	2.0	1318	240	250	67	60	61	P_b = 29.88
B2	0930	115.01	0.025	0.50	0.50	2.0	1332	241	251	64	60	61	P_s = -0.7
B3	0935	116.99	0.025	0.50	0.50	2.0	1336	241	252	64	60	60	Traverse time: 925-955
B4	0940	118.99	0.025	0.50	0.50	2.0	1341	240	252	63	60	61	
B5	0945	120.98	0.025	0.50	0.50	2.0	1347	240	252	64	61	61	
B6	0950	122.97	0.030	0.50	0.50	2.0	1348	241	251	66	62	61	
B7	0955	124.99	0.030	0.50	0.50	2.0	1354	240	251	67	63	61	
B8	1000	127.01	0.025	0.50	0.50	2.0	1355	240	251	67	63	61	
B9	1005	129.03	0.025	0.50	0.50	2.0	1358	241	250	65	64	62	
B10	1010	131.04	0.025	0.50	0.50	2.0	1343	241	250	66	64	62	
B11	1015	133.04	0.025	0.50	0.50	2.0	1303	241	251	66	65	63	
B12	1020	135.07	0.020	0.50	0.50	2.0	1241	240	252	67	65	63	
A1	1025	137.05	0.020	0.50	0.50	2.0	1288	242	252	60	65	63	
A2	1030	139.05	0.020	0.50	0.50	2.0	1279	241	251	61	66	63	
A3	1035	141.04	0.020	0.50	0.50	2.0	1303	240	251	61	66	63	
A4	1040	142.89	0.025	0.50	0.50	2.0	1325	240	250	67	65	64	Pump off 1042 (temp probe problem)
A5	1050	144.17	0.025	0.50	0.50	2.0	1330	241	250	67	65	64	Pump on 1043
A6	1055	146.18	0.025	0.50	0.50	2.0	1336	240	250	57	65	64	

Pitot Tube Calibration Factor C_p 0.804 ✓ — Pitot Tube No. 28-10-1 — Barometer No. 30-3 ✓ — Probe Tip No. —

Volume Collected V_m 72.218 ft^3 — Baro. Press. P_b 29.88 "Hg — Total Volume of Leak Checks After Start: — ft^3

Water Collected V_w 153.0 ml ✓ — Probe Tip Dia. D_n — in — V_m = Dry Gas Meter Calibration Factor 1.010 X 71.503

Time of Test T_t 180 min. ✓ — % CO_2 3.42 ✓ — % CO 0.0 — Area Stack A_s 8700 ✓ in^2

Stack Pressure P_s -0.7 "H_2O ✓ — % O_2 5.30 ✓ — % N_2 91.30 — {Dry Gas Meter Reading — ft^3 – (T_t — min. X Leak Rate — cfm)]

QA/QC Check

Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓ Checked by: AS

Version 2
1 February 2008

Impinger Box No. 4/9-2

			Water Weight Gain		
Impinger 1	Final Weight	860.6		Impinger 1	118.7
	Initial Weight	741.9			
	Increase			Impinger 2	12.8
Impinger 2	Final Weight	752.9		Impinger 3	2.4
	Initial Weight	740.1			
	Increase			Impinger 4	19.1
			V_w =		
Impinger 3	Final Weight	662.4	g SO_2 =	Impinger 5	
	Initial Weight	660.0	V_w =		
	Increase			Impinger 6	
Impinger 4	Final Weight	1020.7		Impinger 7	
	Initial Weight	1001.6			
	Increase			Total	153.0 = V_w

Impinger 5	Final Weight		P_b =	29.88 ✓	$\%CO_2$ =	3.4 ✓
	Initial Weight		V_m =	72.218 ✓	$\%O_2$ =	5.3 ✓
	Increase		V_w =	153.0 ✓	%CO =	0.0
			P_m =	0.500 ✓	$\%N_2$ =	91.3 ✓
Impinger 6	Final Weight		Avg ΔP =	0.0245 ✓	A_n =	8700 ✓
	Initial Weight			5/23/11	D_n =	—
	Increase		Avg $\sqrt{\Delta P}$ =	0.156 ✓	T_t =	180 ✓
			C_p =	0.804 ✓		
Impinger 7	Final Weight		P_s =	-0.7 ✓ "H_2O	29.83 ✓	"Hg
	Initial Weight		T_m =	65 ✓ °F	525 ✓	°R
	Increase		T_s =	1310 °F	1770	°R

Moisture Content: %M = 9.04 ✓ M_d = 0.9096 ✓ MW_d = 28.756 ✓ MW = 27.78

$$Vm_{std} = 17.65\ Vm \left[\frac{P_b + \frac{P_m}{13.6}}{T_m + 460}\right] = 17.65 \times 72.218 \left[\frac{29.88 + \frac{0.500}{13.6}}{65 + 460}\right] = \frac{72.635}{0.404}\ \text{sft}^3\ \text{scfm}$$

Vw_{gas} = 0.0472 x Vw = 0.0472 x 153.0 ✓ = 7.222 ✓ sft^3

% Moisture = $\frac{Vw_{gas}}{Vm_{std} + Vw_{gas}}$ x 100 = $\frac{7.222}{72.635 + 7.222}$ x 100 = 9.04 ✓ %

V_s = 5123.8 x 0.808 (4 MS) $\sqrt{\frac{1770}{29.83 \times 27.78}}$ x 0.156 = 938 (9 7/20/11) fpm

ACFM: 56674 ✓ (404 7/20/11)

SCFM: 15387

%I = $\frac{1{,}039 \times \quad \times}{\times \quad \times \quad \times \quad \times (\quad)^2}$ = — %

%EA: 29.05

Run Number 3 1-4 FIELD DATA

Unit U-45 Thermal Oxidizer #3

Date 6-23-11

			ΔP_s		P_m		T_s				T_m		
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	Remarks
A7	1100	148.22	0.030	0.50	0.50	2.0	1375	240	257	56	66	64	Pb = 29.88
A8	1105	150.24	0.030	0.50	0.50	2.0	1374	240	251	56	66	64	
A9	1110	152.25	0.030	0.50	0.50	2.0	1377	241	250	59	67	65	
A10	1115	154.25	0.030	0.50	0.50	2.0	1378	242	250	60	67	65	
A11	1120	156.27	0.030	0.50	0.50	2.0	1375	242	251	62	68	65	
A12	1125	158.29	0.030	0.50	0.50	2.0	1378	242	251	63	68	65	
	1130	160.30	-	0.50	0.50	2.0	-	242	250	64	68	66	
	1135	162.31	-	0.50	0.50	2.0	-	242	250	64	68	66	
	1140	164.32	-	0.50	0.50	2.0	-	241	251	64	68	66	
	1145	166.33	-	0.50	0.50	2.0	-	241	251	65	68	66	
	1150	168.34	-	0.50	0.50	2.0	-	240	251	63	68	66	
	1155	170.34	-	0.50	0.50	2.0	-	242	250	65	68	66	
	1200	172.38	-	0.50	0.50	2.0	-	242	252	67	68	66	
	1205	174.40	-	0.50	0.50	2.0	-	242	252	67	68	66	
	1210	176.42	-	0.50	0.50	2.0	-	240	252	67	68	66	
	1215	178.42	-	0.50	0.50	2.0	-	240	252	67	69	67	
	1220	180.44	-	0.50	0.50	2.0	-	241	250	67	69	67	
	1225	182.47	-	0.50	0.50	2.0	-	241	251	67	69	67	
	1230	184.527	-	-	-	-	-	-	-	-	-	-	

QA/QC Check

Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: _____

Run Number 3-A 1-4 FIELD DATA

Unit U-45 thermal Oxidizer #3

Date 6-23-11

			ΔP_s		P_m		T_s				T_m		
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	Remarks
B1		0.020					1279						Pb = 29.89
B2		0.025					1305						Ps = -0.7
B3		0.030					1285						Traverse time 1025-1055
B4		0.035					1364						
B5		0.035					1355						
B6		0.035					1361						
B7		0.030					1348						
B8		0.025					1357						
B9		0.025					1359						
B10		0.020					1335						
B11		0.020					1309						
B12		0.020					1294						
A1		0.015					1191						
A2		0.015					1205						
A3		0.020					1223						
A4		0.020					1268						
A5		0.020					1287						
A6		0.025					1315						
A7		0.025					1330						
A8		0.025					1331						
A9		0.025					1378						
A10		0.025					1336						
A11		0.020					1312						
A12		0.020					1288						

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

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Version 2
1 February 2008

Run Number 3-B 1-4 FIELD DATA

Unit U-45 Thermal Oxidizer #3

Date 6-23-11

			ΔP_s		P_m		T_s				T_m		
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	Remarks
B1			0.020				1186						$P_b = 29.89$
B2			0.020				1191						$P_s = -0.7$
B3			0.025				1267						Traverse time 1125-1155
B4			0.030				1309						
B5			0.030				1335						
B6			0.030				1247						
B7			0.030				1350						
B8			0.025				1378						
B9			0.025				1380						
B10			0.025				1299						
B11			0020				1307						
B12			0.020				1274						
A1			0.015				1183						
A2			0.015				1202						
A3			0.020				1236						
A4			0.020				1289						
A5			0.025				1304						
A6			0.030				1331						
A7			0.030				1338						
A8			0.025				1345						
A9			0.025				1341						
A10			0.020				1323						
A11			0.020				1296						
A12			0.020				1274						

QA/QC Check

Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: _____

Version 2
1 February 2008

METCO ENVIRONMENTAL

Job Number 11-234 — 0010 Field Data — Ambient Temp. °F 82°

Job Name Marathon — Assumed Moisture % 10%

Run Number 2.2 — Read and record at the start of each test point. — Probe Length 10'

Unit 11-45 Thermal Oxidizer #3 Stack — C Factor 0.95 → 0.60 to reference.

Date 7-11-11 — Purge to: — — Initial Leak @ 15.0 "Hg = 0.000 cfm

Operator Moore / Pinon / Jones — Purge time: — — Final Leak @ 15.0 "Hg = 0.002 cfm

Sample box No. XAS-2 Meter Box No. 54-4 — Pitot Leak Check Initial ✓ Final ✓ — Pitot Tips Damaged During Test? Yes (No)

Low Flow Manometer

			ΔP_s			P_m	T_s				T_m			
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	XAD	Remarks
6 1/2	1400	381.389	0.020	1.20	1.20	8.0	1338	256	255	64	74	75	64	P_b = 30.10
6 1/2	1405	384.63	0.020	1.20	1.20	8.0	1341	254	256	62	74	75	62	P_a = -0.60
6 X	1410	387.89	0.020	1.20	1.20	8.0	1336	255	257	62	75	75	62	
6 X	1415	390.96	0.020	1.20	1.20	8.0	1351	256	256	61	78	76	62	
5 1/2	1420	393.22	0.040	2.40	2.40	10.0	1351	254	257	61	78	76	61	
5 1/2	1425	398.08	0.040	2.40	2.40	10.0	1355	255	258	61	79	76	61	
5 X	1430	402.50	0.030	1.70	1.70	9.0	1342	256	259	62	82	78	61	
5 X	1435	406.41	0.030	1.70	1.70	9.0	1343	258	261	63	82	79	62	
4 X	1440	409.88	0.030	1.70	1.70	9.0	1346	260	262	63	82	79	62	
4 X	1445	414.20	0.030	1.70	1.70	9.0	1345	253	255	61	84	79	63	
4 X	1450	417.55	0.020	1.20	1.20	9.0	1346	254	256	62	85	80	63	
4 X	1455	420.95	0.020	1.20	1.20	9.0	1346	253	257	62	85	80	63	
3 X	1500	424.48	0.020	1.20	1.20	9.0	1344	254	258	61	86	81	62	
3 X	1505	428.02	0.020	1.20	1.20	9.0	1344	256	260	60	86	81	62	
3 X	1510	431.12	0.020	1.20	1.20	9.0	1334	257	261	59	87	81	61	
3 X	1515	434.21	0.020	1.20	1.20	9.0	1334	259	262	61	87	81	61	
2 X	1520	437.36	0.020	1.20	1.20	9.0	1336	259	261	61	88	80	60	
2 X	1525	440.37	0.020	1.20	1.20	9.0	1334	260	260	61	88	80	61	

Pitot Tube Calibration Factor C_p 0.808 ✓ — Pitot Tube No. WCP-30 — Barometer No. 30-3 ✓ — Probe Tip No. 11-234-1

Volume Collected V_m 156.069 ft^3 ✓ — Baro. Press. P_b 30.10 "Hg — Total Volume of Leak Checks After Start: 0.279 ft^3 ✓

Water Collected V_w 352.7 ml ✓ — Probe Tip Dia. D_n 0.688 in. — V_m = Dry Gas Meter Calibration Factor 1.010 X 154.524

Time of Test T_t 240 min. ✓ — % CO_2 3.2 ✓ — % CO 0 — Area Stack A_s 8700 in^2

Stack Pressure P_s -0.60 "H_2O ✓ — % O_2 7.4 ✓ — % N_2 89.4 — {Dry Gas Meter Reading — ft^3 – (T_t — min. X Leak Rate — cfm)]

QA/QC Check Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓ Checked by: [illegible]

Version 2
1 February 2008

Impinger Box No. XD-2

			Water Weight Gain		
Impinger 1	Final Weight	754.4		Impinger 1	0.5
	Initial Weight	753.9			
	Increase			Impinger 2	1.3
Impinger 2	Final Weight	770.1		Impinger 3	2.9
	Initial Weight	768.8			
	Increase			Impinger 4	48.2
			V_w =	XD	
Impinger 3	Final Weight	644.8	g SO_2 =	~~Impinger 5~~	279.4
	Initial Weight	641.9	V_w =	XAD	
	Increase			~~Impinger 6~~	20.4
Impinger 4	Final Weight	989.8		Impinger 7	
	Initial Weight	941.6			
	Increase			Total	352.7 = V_w
Impinger 5	Final Weight		P_b = 30.10	$\%CO_2$ =	3.2
	Initial Weight		V_m = 156.069	$\%O_2$ =	7.4
	Increase		V_w = 352.7	%CO =	0.0
			P_m = 1.292	$\%N_2$ =	89.4
~~Impinger 6~~ XD	Final Weight	910.2	Avg ΔP = ~~0.008~~ 0.022	A_n =	8700
	Initial Weight	630.8		D_n =	0.688
	Increase		Avg $\sqrt{\Delta P}$ = 0.145	T_t =	240
			C_p = 0.808		
~~Impinger 7~~ XAD	Final Weight	359.8	P_s = -0.60 "H_2O		30.06 "Hg
	Initial Weight	339.4	T_m = 84 °F		544 °R
	Increase		T_s = 1334 °F		1794 °R

Moisture Content: %M = 9.82 M_d = 0.9018 MW_d = 28.808 MW = 27.75

$$Vm_{std} = 17.65\ Vm\left[\frac{P_b + \frac{P_m}{13.6}}{T_m + 460}\right] = 17.65 \times 156.069\left[\frac{30.10 + \frac{1.292}{13.6}}{84 + 460}\right] = \frac{152.896}{0.637}\ \text{sft}^3\ \text{scfm}$$

Vw_{gas} = 0.0472 x Vw = 0.0472 x 352.7 = 16.647 sft^3

% Moisture = $\frac{Vw_{gas}}{Vm_{std} + Vw_{gas}}$ x 100 = $\frac{16.647}{152.896 + 16.647}$ x 100 = 9.82 %

V_s = 5123.8 x $0.808\sqrt{\frac{1794}{27.75 \times 30.06}}$ x 0.145 = 880 fpm ACFM: 53188

SCFM: 14229

%I = $\frac{1{,}039 \times 1794 \times 152.896}{880 \times 0.9018 \times 30.06 \times 240 \times (0.688)^2}$ = 105.1 % 2 7/2/14

%EA: 45.4

Run Number 22 0010 FIELD DATA

Unit U-45 Thermal Oxidizer #3 Stack

Date 9-11-11

			ΔP_s		P_m		T_s				T_m		
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	XAD Remarks
23	1530	443.53	0.030	1.70	1.70	10.0	1332	253	254	63	89	83	62
23	1535	447.26	0.030	1.70	1.70	10.0	1332	254	255	61	89	83	62
1X	1540	450.58	0.020	1.20	1.20	9.0	1321	255	256	60	89	84	63
1X	1545	454.11	0.020	1.20	1.20	9.0	1320	254	257	62	89	84	64
1	1550	456.43	0.010	0.80	0.80	8.0	1309	252	258	62	89	84	64 Lk rate 12in=0.002
1	1555	459.04	0.010	~~0.80~~ 0.80	0.80	8.0	1308	251	258	62	89	84	63 Lk rate 12in=0.002
END	1600	461.434	—	—	—	—	—	—	—	—	—	—	— V_m = 0.279
BLX2	1610	461.713	0.020	1.20	1.20	10.0	1319	251	257	64	83	83	63 P_b = 30.09
6X2	1615	464.81	0.020	1.20	1.20	10.0	1319	252	258	63	84	84	64 ΔH = 0.60
6X	1620	467.98	0.020	1.20	1.20	10.0	1343	251	260	62	85	83	64
6X	1625	471.01	0.020	1.20	1.20	10.0	1337	252	254	59	86	83	63
5X2	1630	474.91	0.020	1.20	1.20	10.0	1335	251	255	60	87	83	62
5X2	1635	477.13	0.020	1.20	1.20	10.0	1333	252	256	61	87	83	61
5X	1640	480.30	0.040	2.40	2.40	11.0	1336	251	259	60	88	84	61
5X	1645	483.17	0.040	2.40	2.40	11.0	1339	252	259	61	88	84	60
4X	1650	486.93	0.030	1.70	1.70	10.0	1345	251	260	60	89	84	61
4X	1655	490.86	0.030	1.70	1.70	10.0	1341	252	261	59	89	84	61
4X	1700	494.32	0.020	1.20	1.20	9.0	1342	251	260	60	89	85	60
4X	1705	498.26	0.020	1.20	1.20	9.0	1341	252	259	61	89	85	60
3X	1710	502.15	0.010	0.60	0.60	7.0	1344	251	260	59	89	85	61
3X	1715	505.32	0.010	0.60	0.60	7.0	1339	252	261	58	90	86	60
3X	1720	508.26	0.020	1.20	1.20	8.0	1334	251	262	59	90	86	61
3X	1725	512.01	0.020	1.20	1.20	8.0	1336	250	261	60	91	87	62
2X	1730	515.71	0.020	1.20	1.20	8.0	1339	252	262	61	91	87	62
2X	1735	518.93	0.020	1.20	1.20	8.0	1332	251	261	61	92	87	63

QA/QC Check

Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: _____

Version 2
1 February 2008

Run Number R2 0010 FIELD DATA

Unit U-95 Thermal Oxidizer #3 Stack

Date 7-11-11

			ΔP_s		P_m		T_s					T_m		
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	XAD Remarks
2	1740	522.28	0.020	1.20	1.20	9.0	1338	253	254	62	89	85	61
2	1745	526.31	0.020	1.20	1.20	9.0	1319	252	255	63	89	85	60
1	1750	528.62	0.010	0.60	0.60	8.0	1309	251	256	63	90	85	59
1	1755	531.79	0.010	0.60	0.60	8.0	1309	253	257	63	91	86	60
1	1800	533.33	0.010	0.60	0.60	8.0	1302	252	256	62	91	86	61
1	1805	535.01	0.010	0.60	0.60	8.0	1302	251	257	63	91	86	61
END	1810	536.192	-	-	-	-	-	-	-	-	-	-	-

QA/QC Check
Completeness / Legibility / Accuracy / Specifications / Reasonableness /

Checked by: _____

Version 2
1 February 2008

METCO ENVIRONMENTAL

Job Number 11-234 | 0010 Field Data | Ambient Temp. °F 84°

Job Name Marathon | Assumed Moisture % 9.00 %

Run Number R3 | Read and record at the start of each test point. | Probe Length 10'

Unit U-45 Thermal Oxidizer #3 Stack | C Factor 0.95 → 60 to reference.

Date 7-12-11 | Purge to: — | Initial Leak @ 15.0 "Hg = 0.000 cfm

Operator Mason / Reid / Jones | Purge time: — | Final Leak @ 15.0 "Hg = 0.002 cfm

Sample box No. XD-1 Meter Box No. 59-4 | Pitot Leak Check Initial ✓ Final ✓ | Pitot Tips Damaged During Test? Yes (No)

			ΔP_s		P_m		T_s				T_m			
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	XAD	Remarks
B 6X	0820	537.255	0.020	1.20	1.20	9.0	1328	257	256	63	61	62	63	P_b = 30.04
6X	0825	540.85	0.020	1.20	1.20	9.0	1354	256	257	62	62	62	63	P_g = -0.60
6X	0830	542.99	0.020	1.20	1.20	9.0	1350	257	256	61	63	62	62	
6X	0835	546.25	0.020	1.20	1.20	9.0	1356	258	257	60	64	63	61	
5 X	0840	549.19	0.020	1.20	1.20	9.0	1347	259	259	62	66	63	62	
5 X	0845	551.99	0.020	1.20	1.20	9.0	1356	260	260	61	68	64	62	
5 X	0850	555.03	0.030	1.70	1.70	9.0	1351	261	258	62	71	65	63	
5 X	0855	558.32	0.030	1.70	1.70	9.0	1345	261	260	61	71	65	61	
4 X	0900	561.74	0.030	1.70	1.70	9.0	1355	260	261	60	72	66	60	
4 X	0905	564.99	0.030	1.70	1.70	9.0	1347	258	262	61	72	66	59	
4 X	0910	568.51	0.020	1.20	1.20	9.0	1358	260	261	61	75	68	61	
4 X	0915	571.95	0.020	1.20	1.20	9.0	1350	261	261	60	75	68	62	
3 X	0920	575.64	0.020	1.20	1.20	9.0	1353	260	262	61	75	68	63	
3 X	0925	578.42	0.020	1.20	1.20	9.0	1353	259	261	61	76	69	63	
3 X	0930	581.67	0.030	1.70	1.70	9.0	1349	257	260	62	76	69	64	
3 X	0935	585.27	0.030	1.70	1.70	9.0	1353	259	258	62	76	70	65	
2 X	0940	588.94	0.020	1.20	1.20	9.0	1356	261	260	63	77	70	64	
2 X	0945	592.05	0.020	1.20	1.20	9.0	1351	262	261	63	77	70	62	

Pitot Tube Calibration Factor C_p 0.808 ✓

Volume Collected V_m 148.877 ft^3 ✓

Water Collected V_w 313.4 ml ✓

Time of Test T_t 240 min. ✓

Stack Pressure P_s -0.60 "H_2O ✓

Pitot Tube No. WCP-30 ✓

Baro. Press. P_b 30.07 "Hg

Probe Tip Dia. D_n 0.688 ✓ in.

% CO_2 3.2 ✓ % CO 0.0

% O_2 6.8 ✓ % N_2 90.0

Barometer No. 30-3 ✓ Probe Tip No. 11-234-1 ✓

Total Volume of Leak Checks After Start: 1.362 ft^3 ✓

V_m = Dry Gas Meter Calibration Factor 1.010 ✓ X 147.403

Area Stack A_s 8700 ✓ in^2

{Dry Gas Meter Reading — ft^3 – (T_t — min. X Leak Rate — cfm)]

QA/QC Check

Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓ Checked by: MS

Version 2

1 February 2008

Impinger Box No. XD-1

			Water Weight Gain		
Impinger 1	Final Weight	785.5		Impinger 1	-0.6
	Initial Weight	786.1			
	Increase			Impinger 2	0.3
Impinger 2	Final Weight	759.4		Impinger 3	2.6
	Initial Weight	759.1			
	Increase			Impinger 4	55.5
			V_w =		
Impinger 3	Final Weight	662.7	g SO_2 = -	Impinger 5	237.3
	Initial Weight	660.1	V_w =		
	Increase			Impinger 6	18.3
Impinger 4	Final Weight	1033.8		Impinger 7	
	Initial Weight	978.3			
	Increase			Total	313.4 = V_w

~~Impinger 5~~ XD	Final Weight	1022.8	P_b =	30.07	%CO_2 =	3.2	
	Initial Weight	785.5	V_m =	148.877	%O_2 =	6.8	
	Increase		V_w =	313.4	%CO =	0	
			P_m =	1.133	%N_2 =	90.0	
~~Impinger 6~~ XD	Final Weight	355.1	Avg ΔP =	0.0221	A_s =	8700	
	Initial Weight	336.8			D_n =	0.688	
	Increase		Avg$\sqrt{\Delta P}$ =	0.142	T_t =	240	
			C_p =	0.808			
Impinger 7	Final Weight		P_s =	-0.60 "H_2O		30.03	"Hg
	Initial Weight		T_m =	77 °F		537	°R
	Increase		T_s =	1345 °F		1805	°R

Moisture Content: %M = 9.11 M_d = 0.9089 MW_d = ~~28.512~~ 28.4 MW = ~~27.55~~ 27.5

$$Vm_{std} = 17.65\ Vm\left[\frac{P_b + \frac{P_m}{13.6}}{T_m + 460}\right] = 17.65 \times 148.877\left[\frac{30.07 + \frac{1.133}{13.6}}{77 + 460}\right] = \frac{147.548}{0.615}\ \text{sft}^3\ \text{scfm}$$

Vw_{gas} = 0.0472 x Vw = 0.0472 x 313.4 = 14.792 sft³

% Moisture = $\frac{Vw_{gas}}{Vm_{std} + Vw_{gas}}$ x 100 = $\frac{14.792}{147.548 + 14.792}$ x 100 = 9.11 %

V_s = 5123.8 x 0.808 $\sqrt{\frac{1805}{27.55 \times 30.03}}$ x 0.142 = 868 fpm

ACFM: ~~5246~~ 5226

SCFM: ~~4721~~ 4711

%I = $\frac{1{,}039 \times 1805 \times 147.548}{868 \times 0.9089 \times 30.03 \times 240 \times (0.688)^2}$ = ~~102.8~~ 103 %

%EA: 39.8

Run Number R3 0010 FIELD DATA

Unit U-45 Thermal Oxidizer #3 Stack

Date 7-12-11

			ΔP_s		P_m		T_s				T_m			
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	XAD	Remarks
23	0750	595.21	0.020	1.20	1.20	9.0	1347	252	252	62	81	74	62	
23	0755	598.44	0.020	1.20	1.20	9.0	1352	251	251	61	81	75	62	
1	1000	601.62	0.010	0.60	0.60	7.0	1344	252	253	62	81	75	61	
1	1005	603.95	0.010	0.60	0.60	7.0	1352	253	254	62	82	75	61	
1	1010	606.33	0.010	0.60	0.60	7.0	1351	252	256	62	82	76	61	Leak ✓ @ 15in = 0.001
1	1015	608.75	0.010	0.60	0.60	7.0	1351	251	256	63	82	76	61	Leak ✓ @ 15in = 0.002
END	1020	611.069	—	—	—	—	—	—	—	—	—	—	—	V_m = 1.362
1.6X	1035	612.431	0.020	1.~~20~~00	1.~~20~~00	8.0	1348	252	256	63	76	76	62	P_b = 30.09
6X	1040	615.41	0.020	1.~~20~~00	1.~~20~~00	8.0	1353	251	257	64	77	76	62	P_g = -0.60
6X	1045	618.41	0.020	1.00	1.00	8.0	1350	252	260	64	78	77	63	CF -.9 → 46
6X	1050	621.48	0.020	1.00	1.00	8.0	1351	255	261	62	78	77	62	
5X	1055	624.51	0.030	1.50	1.50	10.0	1338	256	262	61	78	77	61	
5X	1100	628.35	0.030	1.50	1.50	10.0	1349	257	261	61	79	78	62	
5X	1105	631.48	0.030	1.50	1.50	10.0	1342	258	262	60	79	78	61	
5X	1110	635.02	0.030	1.50	1.50	10.0	1344	261	260	60	79	78	61	
4X	1115	639.01	0.020	1.00	1.00	9.0	1348	262	261	61	83	78	60	
4X	1120	642.07	0.020	1.00	1.00	9.0	1346	261	262	62	83	79	61	
4X	1125	645.18	0.020	1.00	1.00	9.0	1350	262	261	62	83	80	61	
4X	1130	647.00	0.020	1.00	1.00	9.0	1340	261	260	61	84	80	62	
3X	1135	651.59	0.020	1.00	1.00	9.0	1343	262	261	62	84	80	61	
3X	1140	654.91	0.020	1.00	1.00	9.0	1349	263	261	63	84	80	62	
3X	1145	656.67	0.030	1.50	1.50	9.0	1343	263	260	64	85	81	62	
3X	1150	659.39	0.030	1.50	1.50	9.0	1346	259	261	64	85	81	63	
2X	1155	663.01	0.020	1.00	1.00	9.0	1334	262	261	63	86	81	63	
2X	1200	666.30	0.020	1.00	1.00	9.0	1333	261	262	62	86	81	63	

QA/QC Check

Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: _____

Version 2
1 February 2008

Run Number R3 0010 FIELD DATA

Unit U-45 Thermal Oxidizer #3 Stack

Date 7-12-11

			ΔP_s		P_m		T_s				T_m		
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	XAD Remarks
2 S	1205	670.71	0.020	1.00	1.00	10.0	1333	255	256	63	88	81	62
2 S	1210	674.65	0.020	1.00	1.00	10.0	1329	256	257	62	89	82	61
1 S	1215	678.32	0.010	0.50	0.50	6.0	1322	257	259	61	87	82	60
1 S	1220	679.90	0.010	0.50	0.50	6.0	1322	258	260	62	88	83	61
1	1225	682.31	0.010	0.50	0.50	6.0	1319	259	261	61	88	83	61
1	1230	684.29	0.010	0.50	0.50	6.0	1319	260	262	61	88	83	62
END	1235	686.020	—	—	—	—	—	—	—	—	—	—	—

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

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Version 2
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METCO ENVIRONMENTAL

Job Number 11-234 | 0010 Field Data | Ambient Temp. °F 96°

Job Name Marathon | Assumed Moisture % 10%

Run Number 4 | Read and record at the start of each test point. | Probe Length 10'

Unit U45 TCX 3 Stack | C Factor 0.95 → 60 to reference.

Date 7/12/11 | Purge to: — | Initial Leak @ 20.0 "Hg = 0.000 cfm

Operator Pierce ~~Stapley~~ / Reid / Jones | Purge time: — | Final Leak @ 12.0 "Hg = 0.000 cfm

Sample box No. HG 2 Meter Box No. 54-4 | Pitot Leak Check Initial ✓ Final ✓ | Pitot Tips Damaged During Test? Yes / No

			ΔP_s		P_m		T_s				T_m			
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	XAD	Remarks
1 12	1305	686.343	0.020	1.00	1.00	6.0	1318	251	252	64	78	79	63	P_b = 30.08
6 12	1310	689.30	0.020	1.00	1.00	6.0	1340	256	251	63	78	80	62	P_g = -0.60
6 11	1315	692.31	0.020	1.00	1.00	6.0	1343	254	254	61	79	79	57	
6 11	1320	695.59	0.020	1.00	1.00	6.0	1341	259	255	60	80	79	53	
5 10	1325	698.19	0.020	1.00	1.00	6.0	1338	252	253	54	82	79	55	
5 10	1330	701.46	0.020	1.00	1.00	6.0	1337	253	253	57	83	80	58	
5 9	1335	704.48	0.030	1.50	1.50	7.0	1333	254	252	59	84	80	60	
5 9	1340	707.57	0.030	1.50	1.50	7.0	1329	254	255	61	85	80	62	
4 8	1345	711.22	0.030	1.50	1.50	7.0	1337	252	254	63	85	80	63	
4 8	1350	714.84	0.030	1.50	1.50	7.0	1330	252	254	64	86	80	48	
4 7	1355	718.29	0.020	1.00	1.00	6.0	1324	254	253	55	86	81	49	
4 7	1400	721.45	0.020	1.00	1.00	6.0	1329	255	255	53	86	81	49	
3 6	1405	724.41	0.020	1.00	1.00	6.0	1323	253	253	51	86	81	51	
3 6	1410	727.34	0.020	1.00	1.00	6.0	1328	254	255	50	NP ~~82~~ 86	80	50	
3 5	1415	730.37	0.030	1.50	1.50	6.0	1327	253	256	51	87	82	50	
3 5	1420	733.91	0.030	1.50	1.50	7.0	1332	255	256	52	86	81	51	
2 4	1425	737.51	0.020	1.00	1.00	6.0	1331	254	254	54	86	81	52	
2 4	1430	740.42	0.020	1.00	1.00	6.0	1326	253	254	55	85	81	50	

Pitot Tube Calibration Factor C_p 0.808 ✓

Volume Collected V_m 146.926 ft^3 ✓

Water Collected V_w 327.4 ml ✓

Time of Test T_t 240 min. ✓

Stack Pressure P_s -0.6 "H_2O ✓

Pitot Tube No. WCP-30 ✓

Baro. Press. P_b 30.08 ✓ "Hg

Probe Tip Dia. D_n 0.688 ✓ in.

% CO_2 3.2 ✓ % CO 0.0

% O_2 7.0 ✓ % N_2 89.8 ✓

Barometer No. 30-3 ✓ Probe Tip No. 11-234-I

Total Volume of Leak Checks After Start: 0.460 ft^3

V_m = Dry Gas Meter Calibration Factor 1.010 ✓ X 145.471

Area Stack A_s 8700 ✓ in^2

{Dry Gas Meter Reading — ft^3 – (T_t — min. X Leak Rate — cfm)]

QA/QC Check

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Version 2

1 February 2008

Impinger Box No. HG 2

			Water Weight Gain		
Impinger 1	Final Weight	754.7		Impinger 1	1.3
	Initial Weight	753.4			
	Increase	1.3		Impinger 2	2.9
Impinger 2	Final Weight	771.9		Impinger 3	4.5
	Initial Weight	769.0			
	Increase	2.9		Impinger 4	40.1
			V_w =		
Impinger 3	Final Weight	648.5	g SO_2 =	Impinger 5	
	Initial Weight	644.0	V_w =		
	Increase	4.5		~~Impinger 6~~ KO	259.1
Impinger 4	Final Weight	955.1		~~Impinger 7~~ XAD	19.5
	Initial Weight	915.0			
	Increase	40.1		Total	327.4 = V_w
Impinger 5	Final Weight	4 NP	P_b = 30.08	$\%CO_2$ = 3.2	
	Initial Weight		V_m = 146.926	$\%O_2$ = 7.0	
	Increase		V_w = 327.4	%CO = 0.0	
			P_m = 1.042	$\%N_2$ = 89.8	
~~Impinger 6~~ KO	Final Weight	889.5	Avg ΔP = 0.021	A_n = 8700	
	Initial Weight	630.4		D_n = 0.688	
	Increase	259.1	Avg $\sqrt{\Delta P}$ = 0.142	T_t = 240	
			C_p = 0.808		
~~Impinger 7~~ XAD	Final Weight	355.3	P_s = -0.6 "H_2O	30.04 "Hg	
	Initial Weight	335.8	T_m = 873 °F 7/21/11 MS	5423 °R	
	Increase	19.5	T_s = 1328 °F	1788 °R	

Moisture Content: %M = 9.769 7/21/11 MS M_d = 0.9036 MW_d = 28.792 MW = 27.75

$$Vm_{std} = 17.65\ Vm\left[\frac{P_b + \frac{P_m}{13.6}}{T_m + 460}\right] = 17.65 \times 146.926\left[\frac{30.08 + \frac{1.042}{13.6}}{873 + 460}\right] = \frac{144.289}{0.6012}\ \text{sft}^3\ \text{scfm}$$ 021 7/21/11 MS 7/21/11 MS

Vw_{gas} = 0.0472 x Vw = 0.0472 x 327.4 = 15.453 7/21/11 sft^3

% Moisture = $\frac{Vw_{gas}}{Vm_{std} + Vw_{gas}} \times 100 = \frac{15.4533}{15.4533 + 144.289\ 021\ 7/21/11} \times 100 = 9.769$ %

$V_s = 5123.8 \times \frac{0.808}{\sqrt{30.04 \times 27.75}} \times 1788 \times 0.142 = 861$ fpm

ACFM: 52018 80 7/21/11 MS

SCFM: 13978

%EA: 32 417.0

$\%I = \frac{1{,}039 \times 144.289\ 021\ 7/21/11 \times 1788}{30.04 \times 861 \times 0.9036\ 31\ MS \times 240 \times (0.688)^2} = 101.0$ % 100 8 7/21/11

Run Number 4 0010 **FIELD DATA**

Unit U-45 Thermal Oxidizer #3 stack

Date 7/12/11

			ΔP_s		P_m		T_s				T_m		
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	XAD Remarks
A 2	1435	743.43	0.020	1.00	1.00	6.0	1327	252	255	55	86	82	53
2	1440	746.42	0.020	1.00	1.00	6.0	1326	253	252	57	86	82	55
1	1445	749.39	0.010	0.50	0.50	5.0	1323	252	255	59	86	82	55
1	1450	751.03	0.010	0.50	0.50	5.0	1326	252	255	62	85	82	57
1	1455	753.89	0.010	0.50	0.50	5.0	1335	253	255	63	85	82	57
1	1500	756.14	0.010	0.50	0.50	5.0	1331	254	254	66	85	81	59
end	1505	758.412	—	—	—	—	—	—	—	—	—	—	— Leak Vol 15.0" @ 0.000
B 6	1513	758.872	0.020	1.00	1.00	5.0	1332	253	258	67	83	81	Leak Vol 15.0" = 0.000 (58 XAD)
6	1518	761.83	0.020	1.00	1.00	6.0	1339	254	254	63	83	80	Leak ✓ Vol = 0.46 (55 XAD)
6	1523	764.79	0.020	1.00	1.00	6.0	1333	253	254	63	84	80	57 P_b = 30.08
6	1528	767.84	0.020	1.00	1.00	6.0	1336	252	254	62	84	50	58 P_s = -0.6
5	1533	770.92	0.020	1.00	1.00	6.0	1333	253	254	62	85	81	59
5	1538	773.80	0.030	1.50	1.50	6.0	1329	254	254	66	85	81	57
5	1543	777.91	0.030	1.50	1.50	6.0	1333	254	256	64	86	81	57
5	1548	781.26	0.030	1.50	1.50	7.0	1338	254	256	60	86	81	56
4	1553	784.44	0.030	1.50	1.50	7.0	1336	253	254	57	85	81	54
4	1558	787.67	0.020	1.00	1.00	6.0	1327	252	254	56	85	81	51
4	1603	790.62	0.020	1.00	1.00	6.0	1330	253	257	58	85	81	50
4	1608	794.02	0.020	1.00	1.00	6.0	1328	254	256	59	85	81	51
3	1613	797.17	0.020	1.00	1.00	6.0	1334	255	255	61	85	81	52
3	1618	800.26	0.020	1.00	1.00	6.0	1319	253	255	62	86	81	55
3	1623	803.37	0.030	1.50	1.50	7.0	1319	254	255	64	86	81	56
3	1628	806.98	0.030	1.50	1.50	7.0	1318	253	257	66	87	81	57
2	1633	810.34	0.020	1.00	1.00	6.0	1308	253	256	68	86	81	58
2	1638	813.43	0.020	1.00	1.00	6.0	1326	253	254	64	86	81	54

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

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Run Number R4 0010 **FIELD DATA**

Unit V-45 Thermal Oxidizer #3 Stack

Date 7/12/11

			ΔP_s		P_m		T_s				T_m			
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	XAD	Remarks
B2	1643	816.36	0.020	1.00	1.00	6.0	1315	253	255	65	86	81	58	
2	1648	819.44	0.020	1.00	1.00	6.0	1313	253	256	65	86	81	60	
1	1653	822.42	0.010	0.50	0.50	6.0	1315	253	257	64	86	81	61	$\Delta P = 0.010$
1	1658	825.29	0.010	0.50	0.50	6.0	1321	252	257	65	86	82	60	
1	1703	827.61	0.010	0.50	0.50	5.0	1322	252	257	63	85	81	60	
1	1708	829.89	0.010	0.50	0.50	5.0	1310	253	255	60	85	81	54	
end	1713	832.274	—	—	—	—	—	—	—	—	—	—	—	

QA/QC Check
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ORSAT ANALYSIS DATA FORM

Job Number: 11-234
Job Name: Marathon
Location: Gary Mill LA
Date: 7-11-11
Audit Cylinder # CC149987

Sample Location: U45 TOX 3 Stack
Analytical Method: 3B
Sample Type: Single point or Multi point; Grab or Integrated
Leak Check: Time: 7 (min. 4 minutes) Rate: 0.0
Operator: JohnS

Audit Gas Values	Analysis 1	Analysis 2	Analysis 3	Average - % Vol.
CO_2 - % Vol. 20.1	20.0	20.0	20.0	20.0
O_2 - % Vol. 20.1	20.2	20.2	20.2	20.2

Audit Cylinder # CC133782

Audit Gas Values	Analysis 1	Analysis 2	Analysis 3	Average - % Vol.
CO_2 - % Vol. 11.0	11.0	11.0	11.0	11.0
O_2 - % Vol. 12.1	11.2	11.2	11.2	11.2

Run Number 2 Run Time 1409-1810	Analysis 1	Analysis 2	Analysis 3	Average - % Vol.
CO_2 - % Vol.	3.2	3.2	3.2	3.2
O_2 - % Vol.	7.4	7.4	7.4	7.4
CO - % Vol.	—	—	—	—
N_2 - % Vol.	89.4	89.4	89.4	89.4

Run Number ~~3~~ 3 Run Time 820-1235	Analysis 1	Analysis 2	Analysis 3	Average - % Vol.
CO_2 - % Vol.	3.2	3.2	3.2	3.2
O_2 - % Vol.	6.8	6.8	6.8	6.8
CO - % Vol.	—	—	—	—
N_2 - % Vol.	90.0	90.0	90.0	90.0

Run Number 4 Run Time 1305-1713	Analysis 1	Analysis 2	Analysis 3	Average - % Vol.
CO_2 - % Vol.	3.2	3.2	3.2	3.2
O_2 - % Vol.	7.0	7.0	7.0	7.0
CO - % Vol.	—	—	—	—
N_2 - % Vol.	89.8	89.8	89.8	89.8

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: [signature]

METCO ENVIRONMENTAL

Job Number 11-234 | 0011 Field Data | Ambient Temp. °F 87°
Job Name Marathon | Assumed Moisture % 7.00%
Run Number 1 | Read and record at the start of each test point. | Probe Length 10
Unit 11-45 30X #3 Stack | C Factor 0.95 → 60 to reference.
Date 7-13-11 | Purge to: — | Initial Leak @ 10.0 "Hg = 0.000 cfm
Operator Moore / Jiminez / Jones | Purge time: — | Final Leak @ 10.0 "Hg = 0.000 cfm
Sample box No. 30-1 Meter Box No. 54-4 | Pitot Leak Check Initial ✓ Final ✓ | Pitot Tips Damaged During Test? Yes (No)

Point	Clock Time	Dry Gas Meter, CF	ΔPs "Pitot" "H2O	Orifice ΔH "H2O Desired	Orifice ΔH "H2O Actual	Pm Pump Vacuum "Hg Gauge	Ts Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Tm Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	Remarks
B 6	1035	832.834	0.020	1.00	1.00	5.0	1321	252	249	64	64	65	
6	1039	835.18	0.020	1.00	1.00	5.0	1340	254	251	63	65	65	
5	1043	837.43	0.020	1.00	1.00	5.0	1342	255	256	62	65	65	
5	1047	839.91	0.020	1.00	1.00	5.0	1335	257	255	61	67	66	
4	1051	842.14	0.020	1.00	1.00	5.0	1346	258	256	61	67	66	
4	1055	844.32	0.020	1.00	1.00	5.0	1340	259	257	62	68	66	
3	1059	846.75	0.020	1.00	1.00	5.0	1338	260	261	63	71	67	
3	1103	848.83	0.020	1.00	1.00	5.0	1329	261	262	63	72	67	
2	1107	851.11	0.010	0.50	0.50	5.0	1324	262	261	62	72	67	
2	1111	852.79	0.010	0.50	0.50	4.0	1322	261	260	61	73	68	
1	1115	854.43	0.010	0.50	0.50	4.0	1319	263	261	60	73	69	Leak ✓ @ 7in = 0.000
1	1119	855.99	0.010	0.50	0.50	4.0	1319	262	262	61	72	69	Leak ✓ @ 7in = 0.000
END	1123	857.648	—	—	—	—	—	—	—	—	—	—	Vm = 0.251
A 6	1132	857.899	0.020	1.00	1.00	5.0	1345	261	263	63	74	71	
6	1136	860.48	0.020	1.00	1.00	5.0	1351	260	262	62	74	71	
5	1140	862.89	0.020	1.00	1.00	5.0	1346	261	261	61	74	72	
5	11454	865.92	0.020	1.00	1.00	5.0	1342	262	259	60	75	72	
4	1148	867.93	0.020	1.00	1.00	5.0	1348	259	259	60	75	72	

Pitot Tube Calibration Factor C_p 0.808 ✓
Volume Collected V_m 57.443 ft^3 ✓
Water Collected V_w 124.7 ml ✓
Time of Test T_t 96 min. ✓
Stack Pressure P_s -0.60 "H_2O" ✓

Pitot Tube No. WCP-30 ✓
Baro. Press. P_b 30.00 ✓ "Hg
Probe Tip Dia. D_n 0.698 ✓ in.
% CO_2 3.4 ✓ % CO 0.0 ✓
% O_2 6.6 ✓ % N_2 90.0 ✓

Barometer No. 30-3 ✓ Probe Tip No. 11-234-I ✓
Total Volume of Leak Checks After Start: 0.251 ft^3 ✓
V_m = Dry Gas Meter Calibration Factor 1.010 ✓ X 56.874 ✓
Area Stack A_s 8700 in^2 ✓
{Dry Gas Meter Reading — ft^3 – (T_t — min. X Leak Rate — cfm)]

QA/QC Check
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Impinger Box No. 30-1

			Water Weight Gain		
Impinger 1	Final Weight	964.3		Impinger 1	86.5
	Initial Weight	877.8			
	Increase			Impinger 2	15.9
Impinger 2	Final Weight	788.7		Impinger 3	3.0
	Initial Weight	772.8			
	Increase			Impinger 4	1.5
			V_w =		
Impinger 3	Final Weight	760.5	g SO_2 =	Impinger 5	17.8
	Initial Weight	757.5	V_w =		
	Increase			Impinger 6	
Impinger 4	Final Weight	599.1		Impinger 7	
	Initial Weight	597.6			
	Increase			Total	124.7 = V_w

Impinger 5	Final Weight	947.8	P_b =	30.00	%CO_2 =	3.4	
	Initial Weight	930.0	V_m =	57.443	%O_2 =	6.6	
	Increase		V_w =	124.7	%CO =	0.0	
			P_m =	0.958	%N_2 =	90.0	
Impinger 6	Final Weight		Avg ΔP =	0.019	A_s =	8700	
	Initial Weight				D_n =	0.688	
	Increase		Avg$\sqrt{\Delta P}$ =	0.137	T_t =	96	
			C_p =	0.808			
Impinger 7	Final Weight		P_s =	-0.60 "H_2O		29.96	"Hg
	Initial Weight		T_m =	~~71~~ 72 °F 7/21/15		531 2	°R
	Increase		T_s =	1331 °F	1791 ~~1731~~ 7/21/15		°R

Moisture Content: %M = 9.30 1 7/21/15 M_d = 0.9070 69 MW_d = 28.808 MW = 27.80

$$Vm_{std} = 17.65\ Vm\left[\frac{P_b + \frac{P_m}{13.6}}{T_m + 460}\right] = 17.65 \times 57.443\left[\frac{30.00 + \frac{0.958}{13.6}}{\underset{72}{71} + 460}\right] = \underset{307\ 7/21/15}{57.415}\ sft^3 = 0.598\ scfm$$

Vw_{gas} = 0.0472 x Vw = 0.0472 x 124.7 = 5.886 sft^3

% Moisture = $\frac{Vw_{gas}}{Vm_{std} + Vw_{gas}}$ x 100 = $\frac{5.886}{52.307\ 57.415 + 5.886}$ x 100 = 9.30 1 7/21/15 %

V_s = 5123.8 x 0.808 $\sqrt{\frac{1731\ 1791\ NS}{27.80 \times 29.96}}$ x 0.137 = 818 832 7/21/15 fpm

ACFM: 49 401 50,250 7/21/15

SCFM: 13 741 13,507

%I = $\frac{1{,}039 \times 1731\ 1791\ NS \times 57.415\ 307\ 7/21/15}{818\ 832\ NS \times 0.9070\ 69\ NS \times 29.96 \times 96 \times (0.688)^2}$ = 102.2 103.8 7/21/15 %

%EA: 38.2 3

Run Number 1 0011 FIELD DATA

Unit U-45 30X #3 Stack

Date 7-13-11

			ΔP_s			P_m	T_s				T_m		
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	Remarks
4	1152	870.31	0.020	1.00	1.00	6.0	1337	256	258	64	80	74	
3	1156	872.92	0.030	1.50	1.50	6.0	1331	257	259	63	80	74	
3	1200	875.93	0.030	1.50	1.50	7.0	1326	259	260	63	81	74	
2	1204	879.28	0.020	1.00	1.00	6.0	1319	260	261	62	81	74	
2	1208	882.31	0.020	1.00	1.00	6.0	1315	257	259	62	81	75	
1	1212	885.47	0.020	1.00	1.00	6.0	1306	260	261	61	81	75	
1	1216	887.92	0.020	1.00	1.00	6.0	1309	261	262	60	81	75	
END	1220	889.959	—	—	—	—	—	—	—	—	—	—	

QA/QC Check

Completeness / Legibility / Accuracy / Specifications / Reasonableness /

Checked by: _____

Version 2
1 February 2008

METCO ENVIRONMENTAL

Job Number 11-234 | 0011 Field Data | Ambient Temp. °F 90°
Job Name Manthey | Assumed Moisture % 9.00 %
Run Number 2 | Read and record at the start of each test point. | Probe Length 10'
Unit U-45 JOX #3 Stack | C Factor 0.95 → 60 to reference.
Date 7-13-11 | Purge to: — | Initial Leak @ 20.0 "Hg = 0.000 cfm
Operator Moon / Pinner / Jones | Purge time: — | Final Leak @ 10.0 "Hg = 0.000 cfm
Sample box No. 30-2 Meter Box No. 54-4 | Pitot Leak Check Initial ✓ Final ✓ | Pitot Tips Damaged During Test? Yes (No)

			ΔP_s		P_m		T_s				T_m		
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	Remarks
A 6	1242	890.368	0.020	1.00	1.00	5.0	1349	252	257	63	77	78	
6	1246	893.16	0.020	1.00	1.00	5.0	1345	253	259	61	80	78	
5	1250	896.20	0.020	1.00	1.00	5.0	1348	256	261	60	80	78	
5	1254	899.08	0.020	1.00	1.00	5.0	1350	257	262	61	82	79	
4	1258	900.84	0.020	1.00	1.00	5.0	1321	256	259	61	82	79	
4	1302	903.05	0.020	1.00	1.00	5.0	1351	257	260	62	83	79	
3	1306	906.51	0.030	1.50	1.50	6.0	1349	259	261	63	84	79	
3	1310	908.75	0.030	1.50	1.50	6.0	1341	260	262	62	84	79	
2	1314	911.48	0.030	1.50	1.50	6.0	1338	261	261	61	85	79	
2	1318	914.37	0.030	1.50	1.50	6.0	1337	262	261	61	85	79	
1	1322	917.18	0.020	1.00	1.00	6.0	1332	261	260	60	85	79	Lnk ✓ @ 10in = 0.000
1	1326	919.38	0.020	1.00	1.00	6.0	1330	262	261	60	85	79	Lnk ✓ @ 10in = 0.000
END	1330	921.521	—	—	—	—	—	—	—	—	—	—	Vm = 0.260
B 6	1338	921.781	0.020	1.00	1.00	5.0	1323	261	262	63	79	80	
6	1342	924.27	0.020	1.00	1.00	5.0	1349	262	261	62	83	80	
5	1346	927.10	0.020	1.00	1.00	5.0	1345	261	262	62	83	80	
5	1350	929.31	0.020	1.00	1.00	5.0	1350	262	261	63	83	81	
4	1354	931.26	0.020	1.00	1.00	5.0	1352	261	260	63	84	81	

Pitot Tube Calibration Factor C_p 0.808 ✓ | Pitot Tube No. WCP-30 ✓ | Barometer No. 30-3 ✓ | Probe Tip No. 11-234-I
Volume Collected V_m 57.503 ft^3 ✓ | Baro. Press. P_b 30.00 "Hg | Total Volume of Leak Checks After Start: 0.260 ft^3
Water Collected V_w 124.5 ml | Probe Tip Dia. D_n 0.688 in. | V_m = Dry Gas Meter Calibration Factor 1.010 X 56.934
Time of Test T_t 96 min. ✓ | % CO_2 3.4 ✓ % CO 0.0 | Area Stack A_s 8700 ✓ in^2
Stack Pressure P_s -0.60 "H_2O ✓ | % O_2 6.6 ✓ % N_2 90.0 | {Dry Gas Meter Reading — ft^3 – (T_t — min. X Leak Rate — cfm)}

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓ Checked by: NS

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1 February 2008

Impinger Box No. 30-2

			Water Weight Gain		
Impinger 1	Final Weight	905.4		Impinger 1	81.9
	Initial Weight	823.5			
	Increase			Impinger 2	13.9
Impinger 2	Final Weight	782.8		Impinger 3	2.1
	Initial Weight	768.9			
	Increase			Impinger 4	0.4
			V_w =		
Impinger 3	Final Weight	759.2	g SO_2 = -	Impinger 5	26.2
	Initial Weight	757.1	V_w =		
	Increase			Impinger 6	
Impinger 4	Final Weight	656.0		Impinger 7	
	Initial Weight	655.6			
	Increase			Total	124.5 = V_w
Impinger 5	Final Weight	969.4	P_b = 30.00	$\%CO_2$ =	3.4
	Initial Weight	943.2	V_m = 57.503	$\%O_2$ =	6.6
	Increase		V_w = 124.5	%CO =	0.0
			P_m = 1.042	$\%N_2$ =	90.0
Impinger 6	Final Weight		Avg ΔP = 0.021	A_n =	8700
	Initial Weight			D_n =	0.688
	Increase		Avg $\sqrt{\Delta P}$ = 0.143	T_t =	96
			C_p = 0.808		
Impinger 7	Final Weight		P_s = -0.60 "H_2O		29.96 "Hg
	Initial Weight		T_m = 82 °F		542 °R
	Increase		T_s = 1337 °F		1797 °R

Moisture Content: %M = 9.45 M_d = 0.9055 MW_d = 28.808 MW = 27.79

$$Vm_{std} = 17.65\ Vm\left[\frac{P_b + \frac{P_m}{13.6}}{T_m + 460}\right] = 17.65 \times 57.503\left[\frac{30.00 + \frac{1.042}{13.6}}{82 + 460}\right] = \frac{56.320}{0.587}\ \text{sft}^3\ \text{scfm}$$

Vw_{gas} = 0.0472 x Vw = 0.0472 x 124.5 = 5.876 sft^3

% Moisture = $\frac{Vw_{gas}}{Vm_{std} + Vw_{gas}}$ x 100 = $\frac{5.876}{56.320 + 5.876}$ x 100 = 9.45 %

V_s = 5123.8 x 0.808 $\sqrt{\frac{1797}{27.79 \times 29.96}}$ x 0.143 = 870 fpm

ACFM: 52548

SCFM: 14055

%I = $\frac{1{,}039 \times 1797 \times 56.320}{870 \times 0.9055 \times 29.96 \times 96 \times (0.688)^2}$ = 98.0 %

%EA: 38.23 7/21/11

Run Number 2 0011 FIELD DATA

Unit U-45 JOX #3 Stack

Date 7-13-11

			ΔP_s		P_m		T_s			T_m			
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	Remarks
4	1358	933.26	0.020	1.00	1.00	5.0	1336	257	259	62	85	81	
3	1402	936.52	0.020	1.00	1.00	5.0	1345	258	260	61	85	81	
3	1406	939.48	0.020	1.00	1.00	5.0	1339	259	261	63	85	82	
2	1410	941.65	0.020	1.00	1.00	5.0	1319	261	258	60	86	82	
2	1414	943.67	0.020	1.00	1.00	5.0	1319	260	260	59	86	82	
1	1418	945.01	0.010	0.50	0.50	5.0	1309	259	261	61	86	82	
1	1422	946.83	0.010	0.50	0.50	5.0	1310	257	262	61	87	82	
END	1426	947.562	—	—	—	—	—	—	→	—	—	—	

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

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METCO ENVIRONMENTAL

Job Number 11-234 | 0011 Field Data | Ambient Temp. °F 89°

Job Name Marathon | Assumed Moisture % 9.00%

Run Number 3 | Read and record at the start of each test point. | Probe Length 10

Unit U-45 30X #3 Stack | C Factor 0.95 → 60 to reference.

Date 7-13-11 | Purge to: — | Initial Leak @ 20.0 "Hg = 0.000 cfm

Operator Moore / Pincus / Jones | Purge time: — | Final Leak @ 10.0 "Hg = 0.000 cfm

Sample box No. 30-1 Meter Box No. 54-4 | Pitot Leak Check Initial ✓ Final ✓ | Pitot Tips Damaged During Test? Yes (No)

			ΔP_s		P_m		T_s				T_m		
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	Remarks
B 6	1448	948.893	0.020	1.00	1.00	6.0	1346	257	252	64	79	80	
6	1452	952.31	0.020	1.00	1.00	6.0	1345	258	254	63	81	81	
5	1456	954.32	0.020	1.00	1.00	6.0	1363	259	255	63	81	81	
5	1500	957.93	0.020	1.00	1.00	6.0	1347	260	257	62	82	80	
4	1504	959.98	0.020	1.00	1.00	6.0	1359	261	259	61	82	81	
4	1508	962.04	0.020	1.00	1.00	6.0	1347	262	261	60	85	81	
3	1512	964.19	0.020	1.00	1.00	6.0	1350	261	260	61	85	81	
3	1516	966.93	0.020	1.00	1.00	6.0	1346	262	261	61	85	81	
2	1520	969.17	0.020	1.00	1.00	6.0	1349	261	262	62	85	81	
2	1524	971.82	0.020	1.00	1.00	6.0	1349	260	262	62	86	81	
1	1528	975.55	0.020	1.00	1.00	6.0	1334	261	261	62	86	81	Leak ✓ @ 10 in = 0.000
1	1532	976.97	0.020	1.00	1.00	6.0	1344	262	260	62	86	81	Leak ✓ @ 10 in = 0.000
END	1536	979.331	—	—	—	—	—	—	—	—	—	—	V_m = 0.246
A 6	1544	979.577	0.020	1.00	1.00	6.0	1325	259	261	63	87	80	
6	1548	982.32	0.020	1.00	1.00	6.0	1328	258	256	63	88	80	
5	1552	984.36	0.030	1.50	1.50	6.5	1330	259	255	62	88	81	
5	1556	988.10	0.030	1.50	1.50	6.5	1320	256	254	62	89	81	
4	1600	991.03	0.030	1.50	1.50	6.5	1319	255	252	61	89	81	

Pitot Tube Calibration Factor C_p 0.808 ✓

Volume Collected V_m 61.683 ft^3 ✓

Water Collected V_w 132.9 ml ✓

Time of Test T_t 96 min. ✓

Stack Pressure P_s -0.60 "H_2O ✓

Pitot Tube No. WCJ-30 ✓

Baro. Press. P_b 30.00 ✓ "Hg

Probe Tip Dia. D_n 0.688 ✓ in.

% CO_2 3.23 ✓ % CO 0.0 ✓

% O_2 6.9 ✓ % N_2 89.9 ✓

Barometer No. 30-3 ✓ Probe Tip No. 11-234-I ✓

Total Volume of Leak Checks After Start: 0.246 ft^3 ✓

V_m = Dry Gas Meter Calibration Factor 1.010 ✓ X 61.072 ✓

Area Stack A_s 8700 ✓ in^2

{Dry Gas Meter Reading — ft^3 – (T_t — min. X Leak Rate — cfm)]

QA/QC Check

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Impinger Box No. 30-1

Water Weight Gain

Impinger 1	Final Weight	973.6	Impinger 1	96.5
	Initial Weight	877.1		
	Increase		Impinger 2	15.2
Impinger 2	Final Weight	787.9	Impinger 3	1.2
	Initial Weight	772.7		
	Increase		Impinger 4	0.5
		V_w =		
Impinger 3	Final Weight	761.1	g SO_2 =	Impinger 5	19.5
	Initial Weight	759.9	V_w =	
	Increase		Impinger 6	
Impinger 4	Final Weight	599.6	Impinger 7	
	Initial Weight	599.1		
	Increase		Total	132.9 = V_w
Impinger 5	Final Weight	968.6	P_b = 30.00	%CO_2 = 3.2 (3 NS)
	Initial Weight	949.1	V_m = 61.683	%O_2 = 6.9
	Increase		V_w = 132.9	%CO = 0.0
			P_m = 1.042	%N_2 = 89.9
Impinger 6	Final Weight		Avg ΔP = 0.0221 (NS 7/21/13)	A_s = 8700
	Initial Weight			D_n = 0.688
	Increase		Avg$\sqrt{\Delta P}$ = 0.143	T_t = 96
			C_p = 0.808	
Impinger 7	Final Weight		P_s = -0.60 "H_2O	29.96 "Hg
	Initial Weight		T_m = 82 °F (7/21/13)	542 °R
	Increase		T_s = 1333 °F	1793 °R

Moisture Content: %M = 9.41 (4, 7/21/13) M_d = 0.9059 (6) MW_d = 28.788 (804 NS) MW = 27.77 (7/21/13, 8)

$$Vm_{std} = 17.65\ Vm\left[\frac{P_b + \frac{P_m}{13.6}}{T_m + 460}\right] = 17.65 \times 61.683\left[\frac{30.00 + \frac{1.042}{13.6}}{82 + 460}\right] = \underset{(192,\ 7/21/13)}{60.414}\ sft^3 = 0.629\ scfm$$

(4 NS)

Vw_{gas} = 0.0472 x Vw = 0.0472 x 132.9 = 6.273 sft^3 (7/21/13)

% Moisture = $\frac{Vw_{gas}}{Vm_{std} + Vw_{gas}} \times 100 = \frac{6.273}{60.192\ (60.414) + 6.273} \times 100 = 9.44$ % (144, 7/21/13)

V_s = 5123.8 x 0.808 x $\sqrt{\frac{1793}{27.77\ (78\ NS) \times 29.96}}$ x 0.143 = 869 fpm (7/21/13)

ACFM: 52508 (499, 7/21/13)

SCFM: 14076 (2 NS)

$$\%I = \frac{1{,}039 \times 1793 \times 60.414\ (192\ NS)}{0.9059\ (5\ NS) \times 869 \times 29.96 \times 96 \times (0.688)^2} = 105.0\ \%\ (104.7\ NS,\ 7/21/13)$$

%EA: 40.8

Run Number 3 0011 FIELD DATA

Unit U-45 SOX #3 Stack

Date 7-13-11

			ΔP_s		P_m		T_s				T_m		
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	Remarks
4	1604	993.82	0.030	1.50	1.50	6.5	1315	256	253	63	89	82	
3	1608	995.99	0.020	1.00	1.00	6.0	1322	257	252	64	89	82	
3	1612	998.62	0.020	1.00	1.00	6.0	1324	258	251	64	90	82	
2	1616	1001.32	0.020	1.00	1.00	6.0	1318	260	250	63	90	82	
2	1620	1004.20	0.020	1.00	1.00	6.0	1319	260	251	62	90	82	
1	1624	1006.78	0.010	0.50	0.50	4.5	1309	261	251	62	90	82	
1	1628	1009.43	0.010	0.50	0.50	4.5	1310	260	252	62	90	82	
END	1632	1010.211	—	—	—	—	—	—	—	—	—	—	

QA/QC Check

Completeness / Legibility / Accuracy / Specifications / Reasonableness /

Checked by: _____

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1 February 2008

METCO ENVIRONMENTAL

Job Number 11-234
Job Name Marathon
Run Number 4 Matrix Spike
Unit U-45 SOX #3 Stack
Date 7-13-11
Operator Moon / Prince / Jones
Sample box No. 30-2 Meter Box No. 54-4

0011 Field Data

Read and record at the start of each test point.

Purge to: —
Purge time: —
Pitot Leak Check Initial ✓ Final ✓

Ambient Temp. °F 85°
Assumed Moisture % 9.00%
Probe Length 10'
C Factor 0.95 → 60 to reference.
Initial Leak @ 20.0 "Hg = 0.002 cfm
Final Leak @ 10.0 "Hg = 0.000 cfm
Pitot Tips Damaged During Test? Yes (No)

Point	Clock Time	Dry Gas Meter, CF	ΔP_s "Pitot" "H_2O	Orifice ΔH "H_2O Desired	P_m Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	T_s Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	T_m Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	Remarks
A 6	1646	11.995	0.020	1.00	1.00	5.0	1322	250	249	64	82	83	
6	1650	14.82	0.020	1.00	1.00	5.0	1322	251	251	63	85	83	
5	1654	17.87	0.020	1.00	1.00	5.0	1329	252	250	62	85	83	
5	1658	19.68	0.020	1.00	1.00	5.0	1329	251	249	62	85	84	
4	1702	22.42	0.030	1.50	1.50	5.0	1333	250	249	61	85	84	
4	1706	25.06	0.030	1.50	1.50	5.0	1331	250	250	61	85	84	
3	1710	28.17	0.020	1.00	1.00	5.0	1327	251	252	60	90	84	
3	1714	31.40	0.020	1.00	1.00	5.0	1325	252	251	61	90	84	
2	1718	34.02	0.020	1.00	1.00	5.0	1326	251	252	62	91	84	
2	1722	36.55	0.020	1.00	1.00	5.0	1327	252	251	61	91	84	
1	1726	38.76	0.010	~~1.00~~ 0.56 DM	~~1.00~~ 0.56 DM	4.0	1331	251	252	60	91	85	Leak ✓ @ 10in = 0.000
1	1730	41.11	0.010	~~1.00~~ 0.56 DM	~~1.00~~ 0.56 DM	4.0	1327	250	251	59	91	85	Leak ✓ @ 10in = 0.000
END	1734	43.248	—	—	—	—	—	—	—	—	—	—	V_m = 0.210
B 6	1738	43.458	0.020	1.00	1.00	5.0	1321	251	252	64	89	85	
6	1742	45.21	0.020	1.00	1.00	5.0	1332	250	252	62	89	85	
5	1746	48.23	0.020	1.00	1.00	5.0	1333	251	251	61	90	86	
5	1750	50.98	0.020	1.00	1.00	5.0	1331	250	252	61	91	86	
4	1754	52.91	0.020	1.00	1.00	5.0	1330	250	251	60	91	86	

Pitot Tube Calibration Factor C_p 0.808
Volume Collected V_m 58.497 ft³
Water Collected V_w 124.2 ml
Time of Test T_t 96 min.
Stack Pressure P_s -0.60 "H_2O

Pitot Tube No. WCP-30
Baro. Press. P_b 30.00 "Hg
Probe Tip Dia. D_n 0.688 in.
% CO_2 3.32 % CO –
% O_2 7.2 % N_2 89.36

Barometer No. 30-3 Probe Tip No. 11-234-I
Total Volume of Leak Checks After Start: 0.210 ft³
V_m = Dry Gas Meter Calibration Factor 1.010 X 57.918
Area Stack A_s 8700 in²
{Dry Gas Meter Reading – ft³ – (T_t – min. X Leak Rate – cfm)}

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓ Checked by: [initials]

Version 2
1 February 2008

Impinger Box No. 30-2

			Water Weight Gain		
Impinger 1	Final Weight	912.2		Impinger 1	85.1
	Initial Weight	827.1			
	Increase			Impinger 2	13.4
Impinger 2	Final Weight	782.9		Impinger 3	1.4
	Initial Weight	769.5			
	Increase			Impinger 4	0.7
			V_w =		
Impinger 3	Final Weight	759.4	g SO_2 =	Impinger 5	23.6
	Initial Weight	758.0	V_w =		
	Increase			Impinger 6	
Impinger 4	Final Weight	656.7		Impinger 7	
	Initial Weight	656.0			
	Increase			Total	124.2 = V_w
Impinger 5	Final Weight	955.3	P_b = 30.00 ✓	$\%CO_2$ =	3.3 ✓
	Initial Weight	931.7	V_m = 58.497 ✓	$\%O_2$ =	7.2 ✓
	Increase		V_w = 124.2 ✓	%CO =	—
			P_m = 0.968 ✓	$\%N_2$ =	89.5 ✓
Impinger 6	Final Weight		Avg ΔP = ~~0.021~~ 0.019 NS 7/21/11	A_n =	8700 ✓
	Initial Weight			D_n =	0.688 ✓
	Increase		Avg $\sqrt{\Delta P}$ = 0.137 ✓	T_t =	96 ✓
			C_p = 0.808 ✓		
Impinger 7	Final Weight		P_s = -0.60 "H_2O	29.96 ✓	"Hg
	Initial Weight		T_m = ~~88~~ 87 °F 87 7/21/11	548 7	°R
	Increase		T_s = 1327 °F	1787 ✓	°R

Moisture Content: %M = 9.39 6NS M$_d$ = 0.906 0.90654 7/21/11 ✓ MW$_d$ = 28.816 ✓ MW = 27.80 ✓

$$Vm_{std} = 17.65\ Vm\left[\frac{P_b + \frac{P_m}{13.6}}{T_m + 460}\right] = 17.65 \times 58.497\left[\frac{30.00 + \frac{0.968}{13.6}}{\cancel{88}\ 87 + 460}\right] = \frac{\cancel{56.553}\ 760\ 7/21/11}{0.589}\ \text{sft}^3\ \text{scfm}$$

Vw_{gas} = 0.0472 x Vw = 0.0472 x 124.2 ✓ = 5.862 ✓ sft^3

$$\%\ \text{Moisture} = \frac{Vw_{gas}}{Vm_{std} + Vw_{gas}} \times 100 = \frac{5.862}{\cancel{56.553}\ 760.3\ 7/21/11 + 5.862} \times 100 = \frac{9.39\ 6\ 7/21/11}{}\ \%$$

$$V_s = 5123.8 \times \frac{0.808}{\sqrt{\frac{1787}{29.96 \times 27.80}}} \times 0.137 = 831\ \text{fpm}$$

ACFM: 50194 ✓

SCFM: ~~13509~~ 513 7/21/11

$$\%I = \frac{1{,}039 \times 1787 \times \cancel{54.553}\ 760\ 7/21/11}{831 \times 0.906\ 0.9064 \times 29.96 \times 96 \times (0.688)^2} = \frac{\cancel{102.4}\ 102.8\ 7/21/11}{}\ \%$$

%EA: 43.5

Run Number 4 Matrix Spike 0011 FIELD DATA

Unit U-45 50X #3 Stack

Date 7-13-11

			ΔP_s			P_m		T_s			T_m			
Point	Clock Time	Dry Gas Meter, CF	"Pitot" "H_2O	Orifice ΔH "H_2O Desired	Orifice ΔH "H_2O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	Remarks
4	1758	55.77	0.020	1.00	1.00	5.0	1324	251	249	61	90	86	
3	1802	58.35	0.020	1.00	1.00	5.0	1326	252	249	61	91	86	
3	1806	59.89	0.020	1.00	1.00	5.0	1327	251	250	61	91	87	
2	1810	62.28	0.020	1.00	1.00	5.0	1326	252	251	60	92	86	
2	1814	65.50	0.020	1.00	1.00	5.0	1321	251	252	60	92	86	
1	1818	67.31	0.010	0.56	0.56	5.0	1319	250	251	59	92	86	
1	1822	69.18	0.010	0.56	0.56	4.0	1319	251	250	60	93	87	
END	1826	70.123	—	—	—	—	—	—	—	—	—	—	

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: _____

Version 2
1 February 2008

MIDGET IMPINGER FIELD DATA

Job Number 11-234
Job Name Marathon
Run Number 1
Location U-45 TOX 3 Stack
Date 7-13-11

Method 308
Operator Reid
Pump Number Vost 16
Ambient Temp. °F 77
Barometer Number 30.3
Meter/Orifice Number Vost 16

Probe Length 3'
Sample Point Mid
Initial Leak @ 24.0 "Hg = 0.000 Δ"Hg
Final Leak @ 24.5 "Hg = 0.000 Δ"Hg
Baro. Pressure P_b 29.92 "Hg
Orifice Size —

CLOCK TIME	DRY GAS METER (LITERS)	VACUUM GAUGE ("Hg)	ROTOMETER READING	DRY GAS TEMPERATURE °F INLET	DRY GAS TEMPERATURE °F OUTLET	DRY GAS METER PRESSURE In H_2O	REMARKS
1035	0.000	1.0	0.5	99	99	0.5	
1040	2.23	1.0	0.5	101	100	0.5	
1045	4.67	1.0	0.5	102	102	0.5	
1050	7.32	1.0	0.5	104	104	0.5	
1055	10.12	1.0	0.5	104	104	0.5	
1100	12.88	1.0	0.5	106	105	0.5	
1105	15.72	1.0	0.5	106	107	0.5	
1110	18.50	1.0	0.5	105	105	0.5	
1115	21.28	1.0	0.5	106	106	0.5	
1120	24.07	1.0	0.5	108	108	0.5	
1125	27.21	1.0	0.5	106	106	0.5	
1130	29.65	1.0	0.5	106	106	0.5	
1135	31.663	—	—	—	—	7	

V_m = Orifice Rate x T_T = _____ x _____ = _____ or V_m = Dry Gas Meter Calibration Factor 0.998 x 31.663 = 31.600

$$V_{mstd} = 17.65\, V_m \frac{P_b + (P_m/13.6)}{T_m + 460} = 17.65 \times 31.600 \times \frac{29.92 + \frac{0.5}{13.6}}{104 + 460} = 29.624 \text{ standard liters}$$

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: NS

MIDGET IMPINGER FIELD DATA

Job Number 11-234 | Method 108 | Probe Length 3'
Job Name Marathon | Operator Reid | Sample Point Mid
Run Number Run 2 | Pump Number Vost 16 | Initial Leak @ 24.5 "Hg = 0.000 Δ"Hg
Location U-45 Tox 3 Stack | Ambient Temp. °F 97 | Final Leak @ 23.5 "Hg = 0.000 Δ"Hg
Date 7-13-11 | Barometer Number 30-3 | Baro. Pressure P_b 29.92 "Hg
Meter/Orifice Number Vost 16 | Orifice Size —

CLOCK TIME	DRY GAS METER (LITERS)	VACUUM GAUGE ("Hg)	ROTOMETER READING	DRY GAS TEMPERATURE °F INLET	DRY GAS TEMPERATURE °F OUTLET	DRY GAS METER PRESSURE In H_2O	REMARKS
1242	0.000	1.0	0.5	109	109	0.5	
1247	2.61	1.0	0.5	108	108	0.5	
1252	5.12	1.0	0.5	108	108	0.5	
1257	8.03	1.0	0.5	108	107	0.5	
1302	10.69	1.0	0.5	109	109	0.5	
1307	13.36	1.0	0.5	111	110	0.5	
1312	16.01	1.0	0.5	112	112	0.5	
1317	18.67	1.0	0.5	112	112	0.5	
1322	21.31	1.0	0.5	113	113	0.5	
1327	23.95	1.0	0.5	116	115	0.5	
1332	26.57	1.0	0.5	117	117	0.5	
1337	29.19	1.0	0.5	118	117	0.5	
1342	31.595	—	—	—	—	—	

V_m = Orifice Rate x T_T = _____ x _____ = _____ or V_m = Dry Gas Meter Calibration Factor 0.998 x 31.595 = 31.532

$$V_{mstd} = 17.65\ V_m \frac{P_b + (P_m/13.6)}{T_m + 460} = 17.65 \times 31.532 \times \frac{29.92 + \frac{0.5}{13.6}}{112 + 460} = 29.147 \text{ standard liters}$$

QA/QC Check Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: NJ

MIDGET IMPINGER FIELD DATA

Job Number 11-234
Job Name Marathon
Run Number 3
Location U-45 TOX 3 stack
Date 7-13-11

Method 308
Operator Reid
Pump Number VOST 16
Ambient Temp. °F 101
Barometer Number 30-3
Meter/Orifice Number VOST 16

Probe Length 3'
Sample Point Mid
Initial Leak @ 23.0 "Hg = 0.000 Δ"Hg
Final Leak @ 24.5 "Hg = 0.000 Δ"Hg
Baro. Pressure P_b 29.92 "Hg
Orifice Size —

CLOCK TIME	DRY GAS METER (LITERS)	VACUUM GAUGE ("Hg)	ROTOMETER READING	DRY GAS TEMPERATURE °F INLET	DRY GAS TEMPERATURE °F OUTLET	DRY GAS METER PRESSURE In H_2O	REMARKS
1448	0.000	1.0	0.5	121	122	0.5	
1453	2.59	1.0	0.5	122	121	0.5	
1458	5.26	1.0	0.5	123	123	0.5	
1503	7.98	1.0	0.5	122	122	0.5	
1508	10.73	1.0	0.5	120	119	0.5	
1513	13.46	1.0	0.5	117	116	0.5	
1518	16.18	1.0	0.5	117	115	0.5	
1523	18.98	1.0	0.5	116	115	0.5	
1528	21.80	1.0	0.5	115	114	0.5	
1533	24.62	1.0	0.5	114	113	0.5	
1538	26.89	1.0	0.5	112	110	0.5	
1543	28.97	1.0	0.5	112	109	0.5	
1548	31.650	~~1.0~~	—	—	—	—	

V_m = Orifice Rate x T_T = ____ x ____ = ____ or V_m = Dry Gas Meter Calibration Factor 0.998 x 31.650 = 31.587

$$V_{mstd} = 17.65\, V_m \frac{P_b + (P_m/13.6)}{T_m + 460} = 17.65 \times 31.587 \times \frac{29.92 + \frac{0.5}{13.6}}{117 + 460} = 28.945 \text{ standard liters}$$

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: ____

D-44

11-234

MIDGET IMPINGER FIELD DATA

Job Number 11-234 | method 18 Unspiked | Probe Length 3'
Job Name Marathon | Operator Starkey/Bones | Sample Point Mid
Run Number 1 | Pump Number 21 | Initial Leak @ 250 "Hg = 0.000 Δ"Hg
Location U45 TOX 3 Stack | Ambient Temp. °F 77 | Final Leak @ 250 "Hg = 0.000 Δ"Hg
Date 7/13/11 | Barometer Number 30-3 | Baro. Pressure P_b 29.92 "Hg
Meter/Orifice Number 21 | Orifice Size —

CLOCK TIME	DRY GAS METER (LITERS)	VACUUM GAUGE ("Hg)	ROTOMETER READING	DRY GAS TEMPERATURE °F INLET	DRY GAS TEMPERATURE °F OUTLET	DRY GAS METER PRESSURE In H_2O	REMARKS
1035	0.000	2.0	1.0	96	93	1.0	
1040	2.17	2.0	1.0	98	94	1.0	
1045	4.32	2.0	1.0	98	96	1.0	
1050	5.47	2.0	1.0	99	96	1.0	
1055	7.17	2.0	1.0	100	97	1.0	
1100	8.73	2.0	1.0	102	98	1.0	
1105	9.84	2.0	1.0	101	98	1.0	
1110	11.10	2.0	1.0	101	99	1.0	
1115	12.11	2.0	1.0	102	99	1.0	
1120	13.21	2.0	1.0	103	100	1.0	
1125	14.32	2.0	1.0	103	100	1.0	
1130	15.45	2.0		103	100	1.0	
1135	16.731	—	—	—	—	—	

V_m = Orifice Rate x T_T = ____ x ____ = ____ or V_m = Dry Gas Meter Calibration Factor 1.000 x 16.731 = 16.731

$$V_{mstd} = 17.65\, V_m \frac{P_b + (P_m/13.6)}{T_m + 460} = 17.65 \times 16.731 \times \frac{29.92 + \frac{1.000}{13.6}}{99 + 460} = 15.845 \text{ standard liters}$$

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: MS

D-45

11-234

Version 2
25 February 2008

MIDGET IMPINGER FIELD DATA

Job Number 11-234
Job Name Marathon
Run Number 1
Location U45 TOX3 Stack
Date 7/13/11

Method 18 Spiked
Operator Starkey / Banes
Pump Number 20
Ambient Temp. °F 77
Barometer Number 30-3
Meter/Orifice Number 20

Probe Length 3'
Sample Point Mid
Initial Leak @ 24.5 "Hg = 0.000 Δ"Hg
Final Leak @ 25.0 "Hg = 0.000 Δ"Hg
Baro. Pressure P_b 29.92 "Hg
Orifice Size —

CLOCK TIME	DRY GAS METER (LITERS)	VACUUM GAUGE ("Hg)	ROTOMETER READING	DRY GAS TEMPERATURE °F INLET	DRY GAS TEMPERATURE °F OUTLET	DRY GAS METER PRESSURE In H_2O	REMARKS
1035	0.000	1.0	1.0	91	91	1.0	
1040	3.17	1.0	1.0	93	93	1.0	
1045	4.21	1.0	1.0	94	94	1.0	
1050	5.37	1.0	1.0	96	96	1.0	
1055	6.18	1.0	1.0	97	97	1.0	
1100	7.29	1.0	1.0	98	98	1.0	
1105	8.54	1.0	1.0	96	98	1.0	
1110	10.11	1.0	1.0	97	98	1.0	
1115	12.01	1.0	1.0	97	98	1.0	
1120	13.14	1.0	1.0	97	98	1.0	
1125	14.37	1.0	1.0	97	98	1.0	
1130	15.48	1.0	1.0	97	98	1.0	
1135	16.571	—	—	—	—	—	

V_m = Orifice Rate x T_T = _____ x _____ = _____ or V_m = Dry Gas Meter Calibration Factor 0.997 x 16.571 = 16.521

$$V_{mstd} = 17.65\ V_m \frac{P_b + (P_m/13.6)}{T_m + 460} = 17.65 \times 16.521 \times \frac{29.92 + \frac{1.0}{13.6}}{96 + 460} = 15.730 \text{ standard liters}$$

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: NS

D-46

11-234

MIDGET IMPINGER FIELD DATA

Job Number 11-234
Job Name Marathon
Run Number 2
Location U45 TOX 3 Stack
Date 7/13/11

Method 18 UnSpiked
Operator Starkey/Sones
Pump Number 21
Ambient Temp. °F 97
Barometer Number 30-3
Meter/Orifice Number 21

Probe Length 3'
Sample Point Mid
Initial Leak @ 25.5 "Hg = 0.000 Δ"Hg
Final Leak @ 25.0 "Hg = 0.000 Δ"Hg
Baro. Pressure P_b 29.92 "Hg
Orifice Size —

CLOCK TIME	DRY GAS METER (LITERS)	VACUUM GAUGE ("Hg)	ROTOMETER READING	DRY GAS TEMPERATURE °F INLET	DRY GAS TEMPERATURE °F OUTLET	DRY GAS METER PRESSURE In H_2O	REMARKS
1242	0.000	2.0	1.0	106	100	1.0	
1247	3.25	2.0	1.0	106	101	1.0	
1252	4.97	2.0	1.0	106	101	1.0	
1257	6.03	2.0	1.0	106	102	1.0	
1302	7.14	2.0	1.0	106	102	1.0	
1307	8.32	2.0	1.0	107	102	1.0	
1312	9.14	2.0	1.0	109	104	1.0	
1317	11.07	2.0	1.0	110	105	1.0	
1322	12.19	2.0	1.0	111	105	1.0	
1327	13.41	2.0	1.0	111	107	1.0	
1332	14.37	2.0	1.0	111	108	1.0	
1337	15.45	2.0	1.0	112	108	1.0	
1342	16.819	—	—	—	—	—	

V_m = Orifice Rate x T_T = ____ x ____ = ____ or V_m = Dry Gas Meter Calibration Factor 1.000 x 16.819 = 16.819

$$V_{mstd} = 17.65\ V_m \frac{P_b + (P_m/13.6)}{T_m + 460} = 17.65 \times 16.819 \times \frac{29.92 + \frac{0}{13.6}}{106 + 460} = 15.731 \text{ standard liters}$$

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: MS

D-47

11-234

Version 2
25 February 2008

MIDGET IMPINGER FIELD DATA

Job Number 11-234
Job Name Marathon
Run Number 2
Location U45 TOX 3 Stack
Date 7/13/11

Method 18 Spiked
Operator Starkey/Jones
Pump Number 20
Ambient Temp. °F 97
Barometer Number 30-3
Meter/Orifice Number 20

Probe Length 3'
Sample Point Mid
Initial Leak @ 24.5 "Hg = 0.00 Δ"Hg
Final Leak @ 25.0 "Hg = 0.00 Δ"Hg
Baro. Pressure P_b 29.92 "Hg
Orifice Size —

CLOCK TIME	DRY GAS METER (LITERS)	VACUUM GAUGE ("Hg)	ROTOMETER READING	DRY GAS TEMPERATURE °F INLET	DRY GAS TEMPERATURE °F OUTLET	DRY GAS METER PRESSURE In H_2O	REMARKS
1242	0.000	1.0	1.0	98	99	1.0	
1247	2.51	1.0	1.0	98	99	1.0	
1252	3.47	1.0	1.0	99	99	1.0	
1257	4.97	1.0	1.0	99	100	1.0	
1302	5.64	1.0	1.0	100	100	1.0	
1307	7.01	1.0	1.0	101	102	1.0	
1312	8.52	1.0	1.0	102	103	1.0	
1317	10.98	1.0	1.0	102	104	1.0	
1322	11.19	1.0	1.0	104	104	1.0	
1327	12.21	1.0	1.0	104	104	1.0	
1332	14.37	1.0	1.0	104	104	1.0	
1337	15.49	1.0	1.0	105	106	1.0	
1342	16.662	—	—	—	—	—	

V_m = Orifice Rate x T_T = ____ x ____ = ____ or V_m = Dry Gas Meter Calibration Factor 0.997 x 16.662 = 16.612

$$V_{mstd} = 17.65\ V_m \frac{P_b + (P_m/13.6)}{T_m + 460} = 17.65 \times 16.612 \times \frac{29.92 + \frac{2.0}{13.6}}{102 + 460} = 15.648 \text{ standard liters}$$

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: NS

D-48

11-234

Version 2
25 February 2008

MIDGET IMPINGER FIELD DATA

Job Number 11-234
Job Name Marathon
Run Number 3
Location U45 TOX 35 stack
Date 7/13/11

Method 18 UnSpiked
Operator Starkey/Sones
Pump Number 21
Ambient Temp. °F 101
Barometer Number 30-3
Meter/Orifice Number 21

Probe Length 3'
Sample Point Mid
Initial Leak @ 24.5 "Hg = 0.006 Δ"Hg
Final Leak @ 25.0 "Hg = 0.000 Δ"Hg
Baro. Pressure P_b 29.92 "Hg
Orifice Size —

CLOCK TIME	DRY GAS METER (LITERS)	VACUUM GAUGE ("Hg)	ROTOMETER READING	DRY GAS TEMPERATURE °F INLET	DRY GAS TEMPERATURE °F OUTLET	DRY GAS METER PRESSURE In H_2O	REMARKS
1448	0.000	2.0	1.0	123	116	1.0	
1453	2.37	2.0	1.0	120	114	1.0	
1458	3.47	2.0	1.0	117	112	1.0	
1503	5.56	2.0	1.0	116	111	1.0	
1508	6.78	2.0	1.0	114	110	1.0	
1513	7.19	2.0	1.0	113	108	1.0	
1518	8.58	2.0	1.0	113	107	1.0	
1523	10.91	2.0	1.0	113	107	1.0	
1528	12.11	2.0	1.0	110	105	1.0	
1533	13.27	2.0	1.0	109	104	1.0	
1538	14.31	2.0	1.0	108	102	1.0	
1543	15.74	2.0	1.0	108	102	1.0	
1548	16.745	—	—	-	-	—	

V_m = Orifice Rate x T_T = _____ x _____ = _____ or V_m = Dry Gas Meter Calibration Factor 1.000 x 16.745 = 16.745

$$V_{mstd} = 17.65\, V_m \frac{P_b + (P_m/13.6)}{T_m + 460} = 17.65 \times 16.745 \times \frac{29.92 + \frac{1.0}{13.6}}{111 + 460} = 15.525 \text{ standard liters}$$

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked by: JS

MIDGET IMPINGER FIELD DATA

Job Number 11-234
Job Name Marathon
Run Number 3
Location U45 TOX3 Stack
Date 7/13/11

Method 18 Spiked
Operator Stucky / Jones
Pump Number 20
Ambient Temp. °F 101
Barometer Number 30-3
Meter/Orifice Number 20

Probe Length 3'
Sample Point Mid
Initial Leak @ 25.0 "Hg = 0.000 Δ"Hg
Final Leak @ 25.0 "Hg = 0.000 Δ"Hg
Baro. Pressure P_b 29.92 "Hg
Orifice Size —

CLOCK TIME	DRY GAS METER (LITERS)	VACUUM GAUGE ("Hg)	ROTOMETER READING	DRY GAS TEMPERATURE °F INLET	DRY GAS TEMPERATURE °F OUTLET	DRY GAS METER PRESSURE In H_2O	REMARKS
1448	0.000	1.0	1.0	116	116	1.0	
1453	2.00	1.0	1.0	112	112	1.0	
1458	3.27	1.0	1.0	111	111	1.0	
1503	5.39	1.0	1.0	107	107	1.0	
1508	7.45	1.0	1.0	105	105	1.0	
1513	9.01	1.0	1.0	102	102	1.0	
1518	10.17	1.0	1.0	106	101	1.0	
1523	11.55	1.0	1.0	105	100	1.0	
1528	12.67	1.0	1.0	104	99	1.0	
1533	13.11	1.0	1.0	104	99	1.0	
1538	14.31	1.0	1.0	103	98	1.0	
1543	15.15	1.0	1.0	103	98	1.0	
1548	16.941	—	—	—	—	—	

V_m = Orifice Rate x T_T = _____ x _____ = _____ or V_m = Dry Gas Meter Calibration Factor 0.997 x 16.941 = 16.890

$$V_{mstd} = 17.65\ V_m \frac{P_b + (P_m/13.6)}{T_m + 460} = 17.65 \times 16.890 \times \frac{29.92 + \frac{1.0}{13.6}}{105 + 460} = 15.825 \text{ standard liters}$$

QA/QC Check
Completeness____ Legibility ____ Accuracy ____ Specifications _____ Reasonableness _____

Checked by: _____

start V points

PRELIMINARY VELOCITY TRAVERSE DATA
AND
SAMPLING LOCATION DATA

Job Number 11-234

Job Name Marathon

Sampling Location U45 TOX 3 Stack

Date 7-11-11 Time 1045

Stack Height 145 ft.

Sampling Port Height Above Ground 85 ft.

	Port A	Port B	Port C	Port D	Average
Port & Inside Diameter (in.)	11 83/4	11 83/4			11 83/4
Port & Wall Thickness (in.)	13 1/2	13 1/2			13 1/2
Inside Stack Diameter (in.)	105 1/4	105 1/4			105 1/4

Sampling Ports are 49 ft. 6 in. (5.64 stack diameters) downstream from disturbance (inlet, constriction, bend, expansion)

Sampling Ports are 9 ft. 9 in. (2.11 stack diameters) upstream from disturbance (outlet, constriction, bend, expansion)

Point Number	Percent Diameter	Distance from Ref. Point (decimal in.)	Distance from Ref. Point (fractional in.)	Port A $\Delta P/T_s/\alpha$	Port B $\Delta P/T_s/\alpha$	Port C $\Delta P/T_s/\alpha$	Port D $\Delta P/T_s/\alpha$
1	4.4	4.631	4 5/8	/ /	/ /	/ /	/ /
2	14.6	15.367	15 3/8	/ /	/ /	/ /	/ /
3	29.6	31.154	31 1/8	/ /	/ /	/ /	/ /
4	70.4	74.096	74 1/8	/ /	/ /	/ /	/ /
5	85.4	89.884	89 7/8	/ /	/ /	/ /	/ /
6	95.6	100.619	100 5/8	/ /	/ /	/ /	/ /
7				/ /	/ /	/ /	/ /
8				/ /	/ /	/ /	/ /
9				/ /	/ /	/ /	/ /
10				/ /	/ /	/ /	/ /
11				/ /	/ /	/ /	/ /
12				/ /	/ /	/ /	/ /
13				/ /	/ /	/ /	/ /
14				/ /	/ /	/ /	/ /
15				/ /	/ /	/ /	/ /
16				/ /	/ /	/ /	/ /
17				/ /	/ /	/ /	/ /
18				/ /	/ /	/ /	/ /
19				/ /	/ /	/ /	/ /
20				/ /	/ /	/ /	/ /
21				/ /	/ /	/ /	/ /
22				/ /	/ /	/ /	/ /
23				/ /	/ /	/ /	/ /
24				/ /	/ /	/ /	/ /

Pitot Tube No. _____

C_p = _____

P_b = _____ "Hg

P_s = _____ "H_2O _____ "Hg

A_s = _____ in.^{2}

Average ΔP _____

Average $\Delta P^{1/2}$ _____

Average T_x _____ °F

Average α _____ degrees

PRELIMINARY VELOCITY TRAVERSE DATA
AND
SAMPLING LOCATION DATA

Job Number 11-234

Job Name Marathon

Sampling Location U45 TDU #3 Stack

Date 6-21-11 Time 1500

Stack Height 145 ft.

Sampling Port Height Above Ground 85 ft.

	Port A	Port B	Port C	Port D	Average
Port & Inside Diameter (in.)	118 3/4	118 3/4			118 3/4
Port & Wall Thickness (in.)	13 1/2	13 1/2			13 1/2
Inside Stack Diameter (in.)	105 1/4	105 1/4			105 1/4

Sampling Ports are 49 ft. 6 in. (5.64 stack diameters) downstream from disturbance (inlet, constriction, bend, expansion)

Sampling Ports are 9 ft. 9 in. (1.11 stack diameters) upstream from disturbance (outlet, constriction, bend, expansion)

Point Number	Percent Diameter	Distance from Ref. Point (decimal in.)	Distance from Ref. Point (fractional in.)	Port A $\Delta P/T_s/\alpha$	Port B $\Delta P/T_s/\alpha$	Port C $\Delta P/T_s/\alpha$	Port D $\Delta P/T_s/\alpha$
1	2.1	2.210	2 3/16	0.04 113651 0	0.011 10	/ /	/ /
2	6.7	7.052	7 1/16	0.04 113601 0	/ 10	/ /	/ /
3	11.8	12.420	12 7/16	0.05 113651 0	/ 10	/ /	/ /
4	17.7	18.629	18 5/8	0.04 113601 0	/ 10	/ /	/ /
5	25.0	26.313	26 5/16	0.04 113601 0	/ 10	/ /	/ /
6	35.6	37.469	37 1/2	0.04 113661 5	/ 10	/ /	/ /
7	64.4	67.781	67 3/4	0.04 113571 5	/ 10	/ /	/ /
8	75.0	78.938	78 15/16	0.03 113531 0	/ 10	/ /	/ /
9	82.3	86.621	86 5/8	0.03 113511 0	/ 10	/ /	/ /
10	88.2	92.831	92 13/16	0.02 113371 0	/ 10	/ /	/ /
11	93.3	98.198	98 3/16	0.02 113341 0	/ 10	/ /	/ /
12	97.9	103.040	103 1/16	0.01 113571 0	/ 10	/ /	/ /
13				/ /	/ /	/ /	/ /
14				/ /	/ /	/ /	/ /
15				/ /	/ /	/ /	/ /
16				/ /	/ /	/ /	/ /
17				/ /	/ /	/ /	/ /
18				/ /	/ /	/ /	/ /
19				/ /	/ /	/ /	/ /
20				/ /	/ /	/ /	/ /
21				/ /	/ /	/ /	/ /
22				/ /	/ /	/ /	/ /
23				/ /	/ /	/ /	/ /
24				/ /	/ /	/ /	/ /

Pitot Tube No. 28-10-1

C_p = 0.804

P_b = 29.82 "Hg

P_s = -0.6 "H_2O _____ "Hg

A_s = 8700 in.^{2}

Average ΔP _____

Average $\Delta P^{1/2}$ _____

Average T_x _____ °F

Average α 0.4 degrees

CO_2 3.5

O_2 4.8

APPENDIX E

Total Reduced Sulfur Analytical Data

METCO Environmental
3226 Commander Drive
Carrollton, Tx 75006

Marathon
Garyville, La
Thermal Oxidizer #3
(11-234)

Analytical Report

EPA Method 15
Hydrogen Sulfide, Carbonyl Sulfide, and Carbon Disulfide

Analyst Robert Adams

Robert Adams

Narrative

METCO Environmental Narrative
Marathon
Garyville, La
Thermal Oxidizer #3
(11-234)

Introduction

The procedure utilized for this analysis can be found in detail in EPA Method 15 (40 CFR, Part 60, Appendix A). In this analytical procedure sulfur containing compounds, hydrogen sulfide, carbonyl sulfide (COS), and carbon disulfide (CS_2) were examined by direct injection into a gas chromatograph/flame photometric detector (GC/FPD) system.

Procedure

Before samples were analyzed, a three-point calibration curve was performed using permeation tubes and a permeation dilution system. The permeation oven was maintained at 40°C. A new curve was determined at least every 24 hours.

Each sample was analyzed by pulling the gas from the stack through impingers containing citrate buffer. The gas was then pumped into a 1 mL sample loop and a sample mechanically injected into the gas chromatographic column for separation of its components and analysis utilizing a flame photometric detector. Eight samples were acquired for each run and three runs were obtained. The results are summarized in the results section and the chromatograms are presented in the data section.

The Certificates of Analysis for the permeation tube standards are presented in calibration section.

Results and Discussion

No sulfur compounds were detected.

Results

Total Reduced Sulfur
Source Data

Client: Marathon
Source: Thermal Oxidizer #3
Curve No.: 1

Proj. No.: 11-234
Date: 06/22/11
Oxygen Correction %: N/A

	Inj. Time	H2S Response		H2S Concn (ppm)	COS Response		COS Concn (ppm)		CS2 Response		CS2 Concn (ppm)		TRS Concn (ppm)		SO2 equivalent and TRS equiv (ppm)
1-1	9:10	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
1-2	9:18	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
1-3	9:26	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
1-4	9:34	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
1-5	9:42	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
1-6	9:51	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
1-7	10:00	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
1-8	10:09	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
1-9	10:18	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
1-10	10:27	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
1-11	10:40	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
1-12	10:49	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
1-13	10:58	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
1-14	11:07	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
1-15	11:16	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
1-16	11:25	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
1-17	11:36	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
1-18	11:49	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
1-19	12:00	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
1-20	12:10	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56

Run Summary

		H2S		COS		CS2		SO2 Eq
Run Number		1		1		1		1
Time		9:10		9:10		9:10		9:10
Mean Concentration (ppm)	<	0.14	<	0.36	<	0.03	<	0.56
System Correction Factor (%)		87.5		87.5		87.5		87.5
Corrected Concn (ppm)	<	0.16	<	0.41	<	0.03	<	0.63

2-1	14:15	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
2-2	14:24	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
2-3	14:33	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
2-4	14:42	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
2-5	14:52	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
2-6	15:01	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
2-7	15:10	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
2-8	15:19	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
2-9	15:28	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
2-10	15:38	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
2-11	15:47	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
2-12	15:56	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
2-13	16:05	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
2-14	16:15	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
2-15	16:26	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
2-16	16:35	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
2-17	16:45	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
2-18	16:55	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
2-19	17:05	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
2-20	17:15	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
2-21	17:25	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
2-22	17:35	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56

Run Summary

		H2S		COS		CS2		SO2 Eq
Run Number		2		2		2		2
Time		14:15		14:15		14:15		14:15
Mean Concentration (ppm)	<	0.14	<	0.36	<	0.03	<	0.56
System Correction Factor (%)		80.2		80.2		80.2		80.2
Corrected Concn (ppm)	<	0.17	<	0.45	<	0.04	<	0.7

Total Reduced Sulfur
Source Data

Client:	Marathon	Proj. No.:	11-234
Source:	Thermal Oxidizer #3	Date:	06/22/11
Curve No.:	2	Oxygen Correction %:	N/A

	Inj. Time	H2S Response		H2S Concn (ppm)	COS Response		COS Concn (ppm)		CS2 Response		CS2 Concn (ppm)		TRS Concn (ppm)		SO2 equivalent and TRS equiv (ppm)
3-1	9:25	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
3-2	9:34	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
3-3	9:43	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
3-4	9:52	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
3-5	10:01	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
3-6	10:10	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
3-7	10:19	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
3-8	10:28	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
3-9	10:37	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
3-10	10:46	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
3-11	10:55	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
3-12	11:04	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
3-13	11:13	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
3-14	11:23	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
3-15	11:34	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
3-16	11:45	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
3-17	11:55	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
3-18	12:05	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
3-19	12:15	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56
3-20	12:25	ND	<	0.14	ND	<	0.36		ND	<	0.03	<	0.53	<	0.56

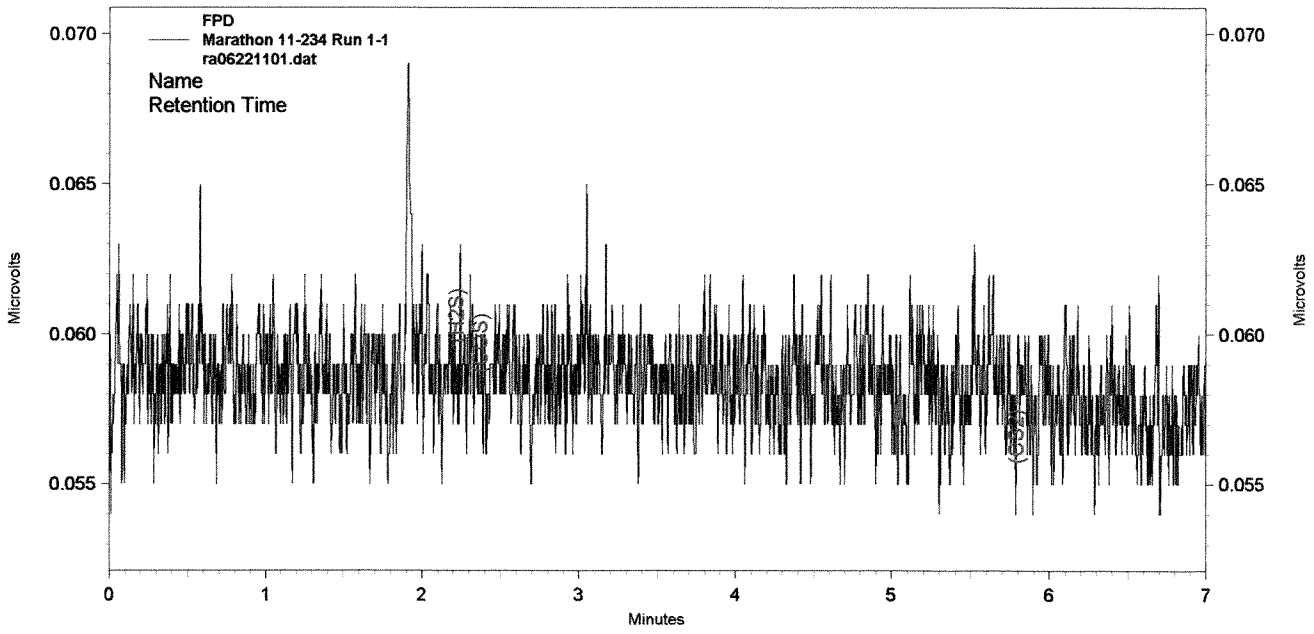
Run Summary

		H2S		COS		CS2		SO2 Eq
Run Number		3		3		3		3
Time		9:25		9:25		9:25		9:25
Mean Concentration (ppm)	<	0.14	<	0.36	<	0.03	<	0.56
System Correction Factor (%)		89.3		89.3		89.3		89.3
Corrected Concn (ppm)	<	0.16	<	0.40	<	0.03	<	0.62

Sample Chromatograms

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 9:17:18 AM
Acquired: 6/22/2011 9:10:03 AM
Printed: 1

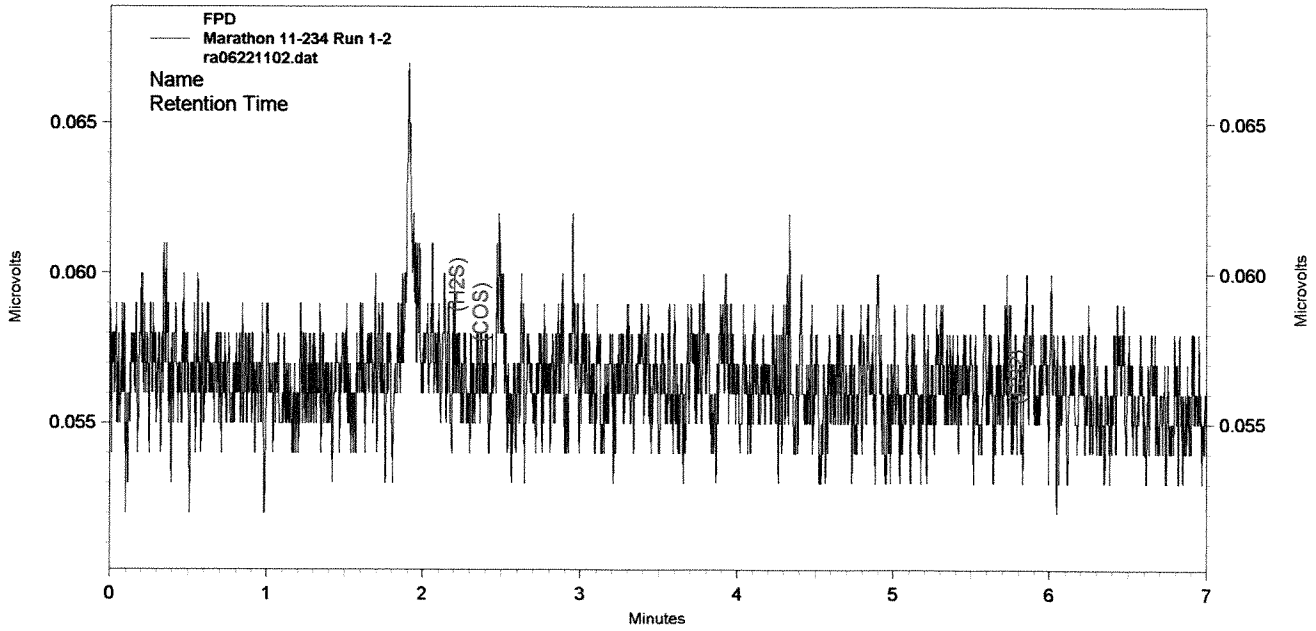


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 9:25:13 AM
Acquired: 6/22/2011 9:18:03 AM
Printed: 1

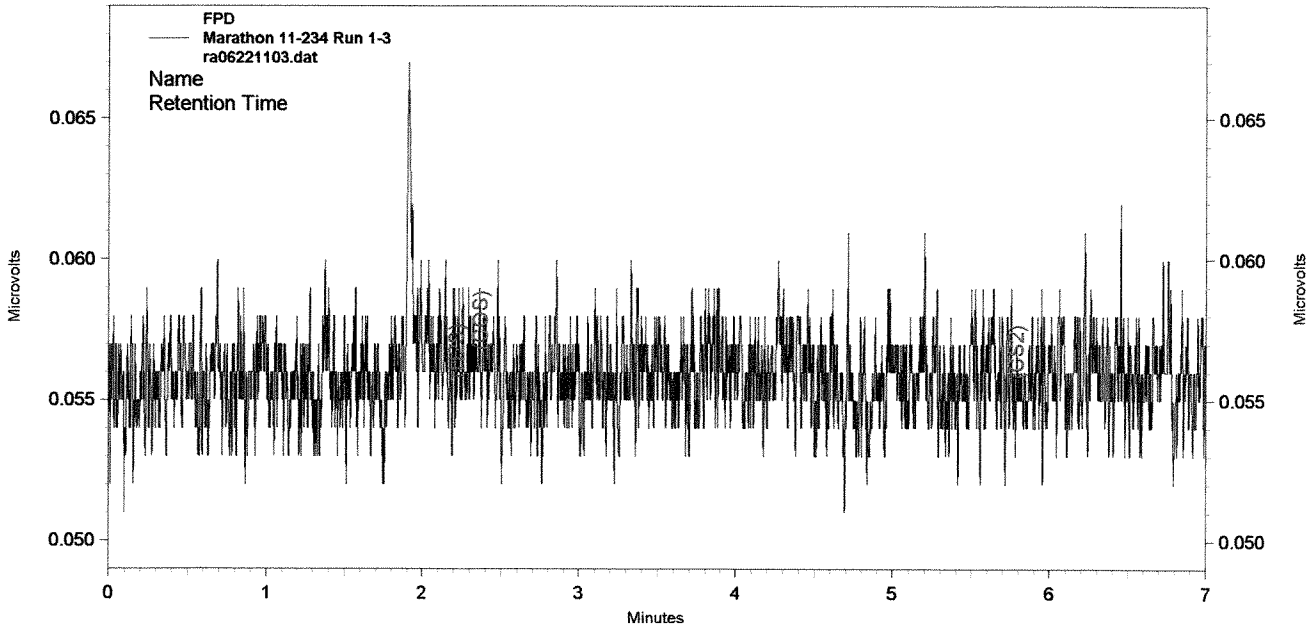


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 9:33:08 AM
Acquired: 6/22/2011 9:26:02 AM
Printed: 1

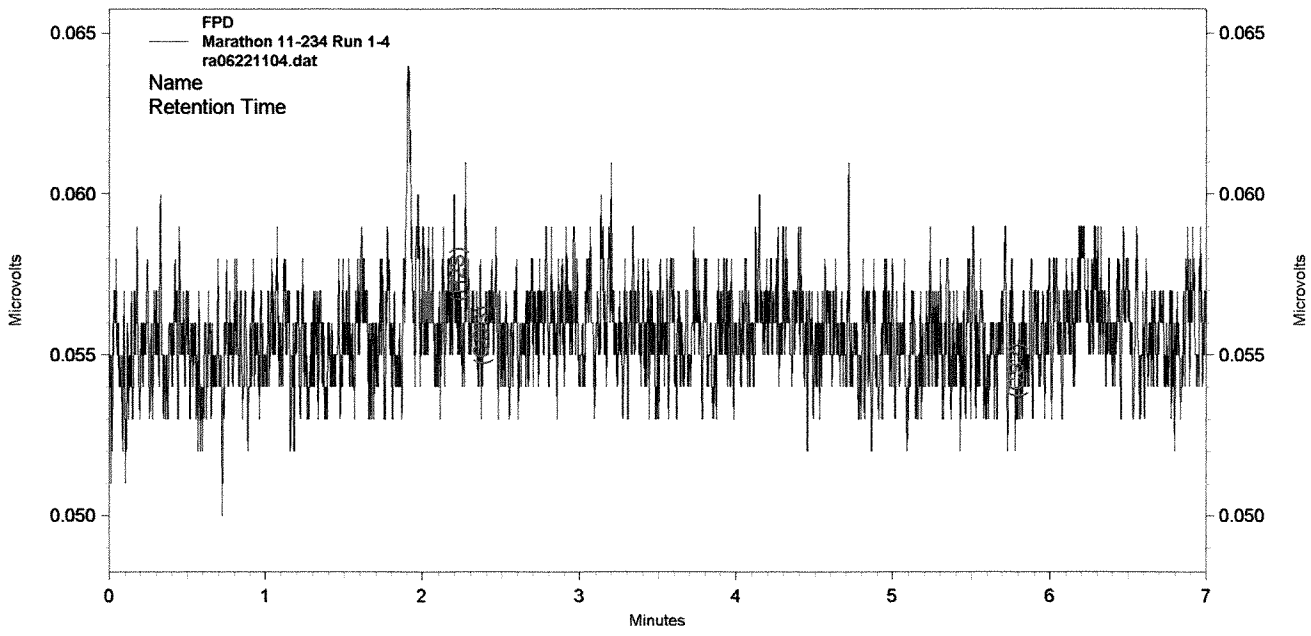


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 9:41:18 AM
Acquired: 6/22/2011 9:34:03 AM
Printed: 1

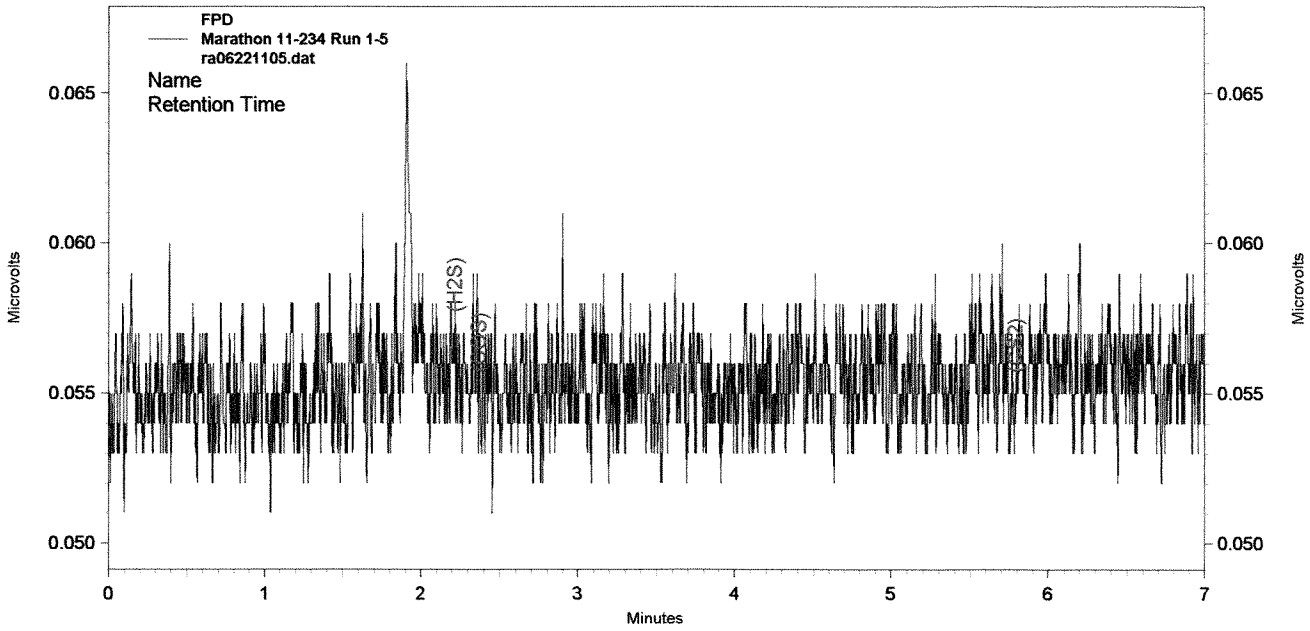


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 9:49:30 AM
Acquired: 6/22/2011 9:42:14 AM
Printed: 1

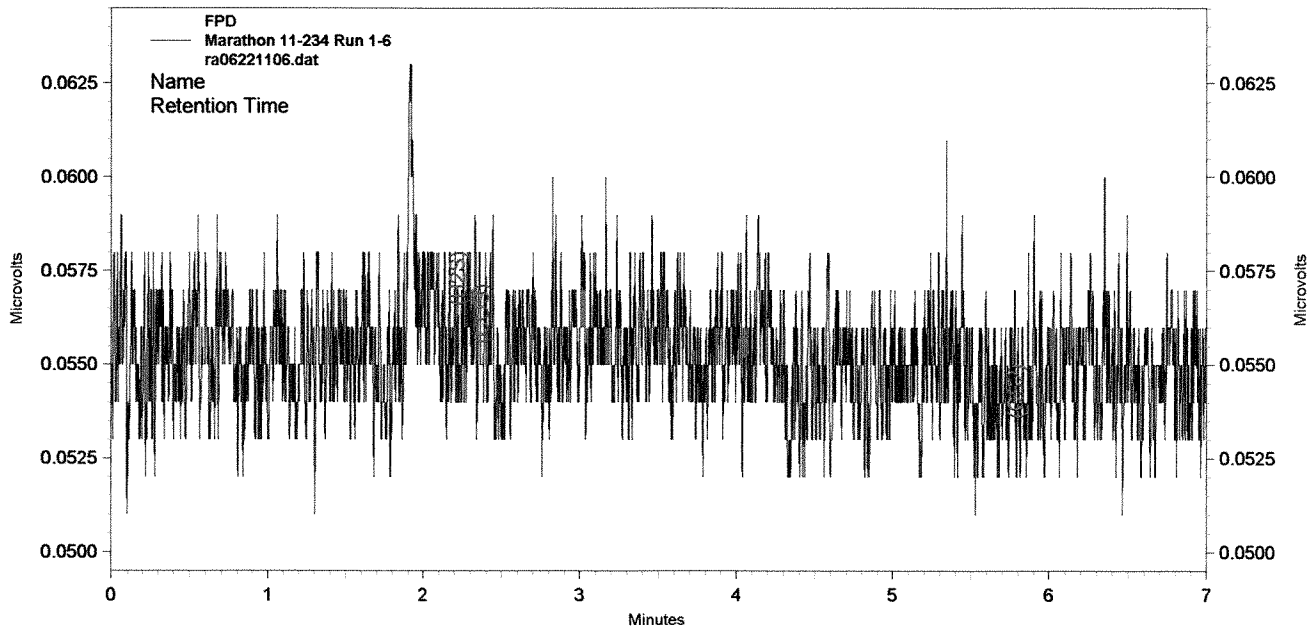


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 9:58:13 AM
Acquired: 6/22/2011 9:51:07 AM
Printed: 1

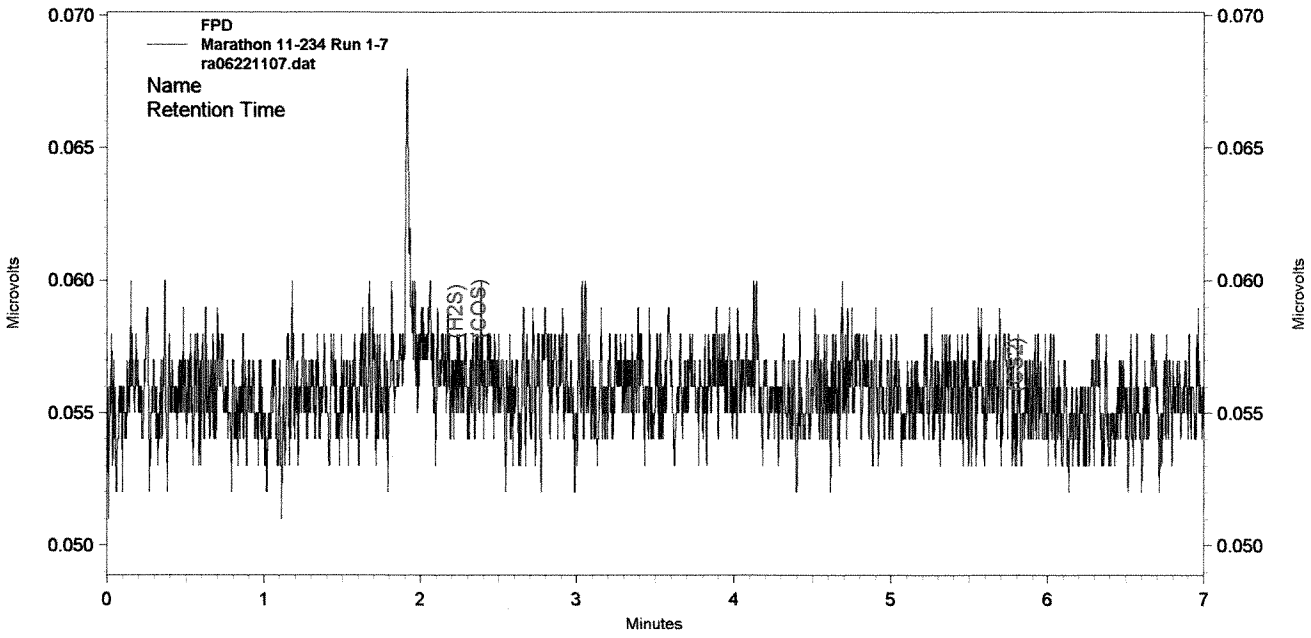


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 10:07:10 AM
Acquired: 6/22/2011 10:00:04 AM
Printed: 1

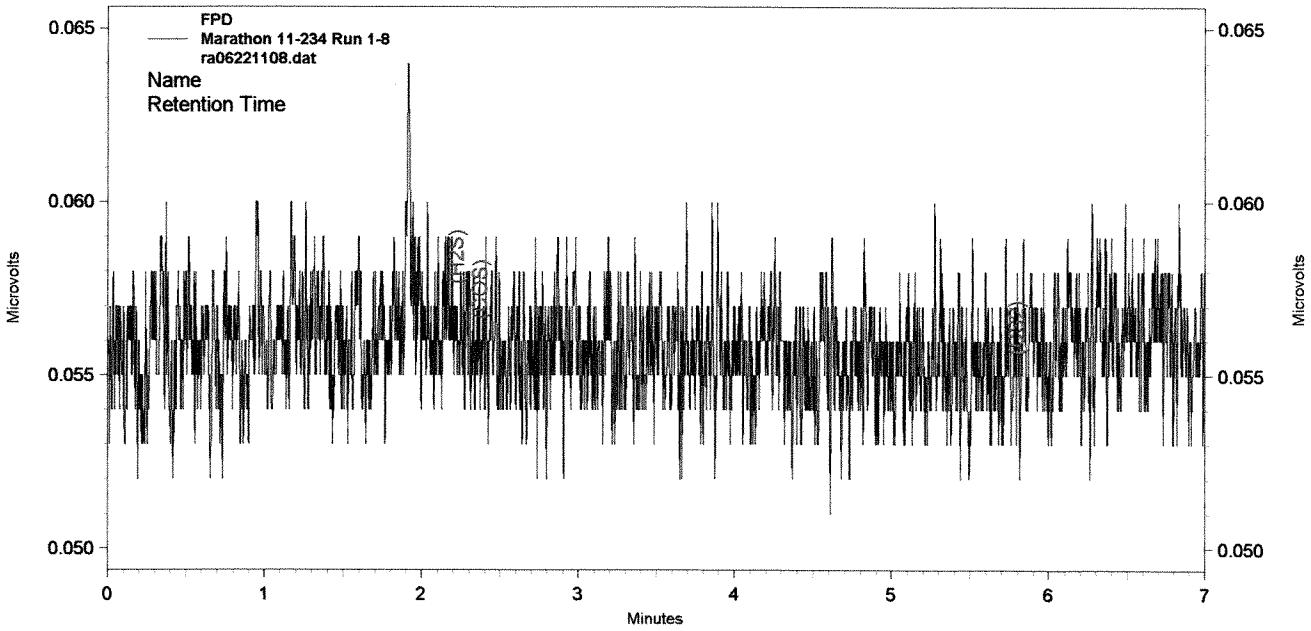


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 10:16:04 AM
Acquired: 6/22/2011 10:09:03 AM
Printed: 1

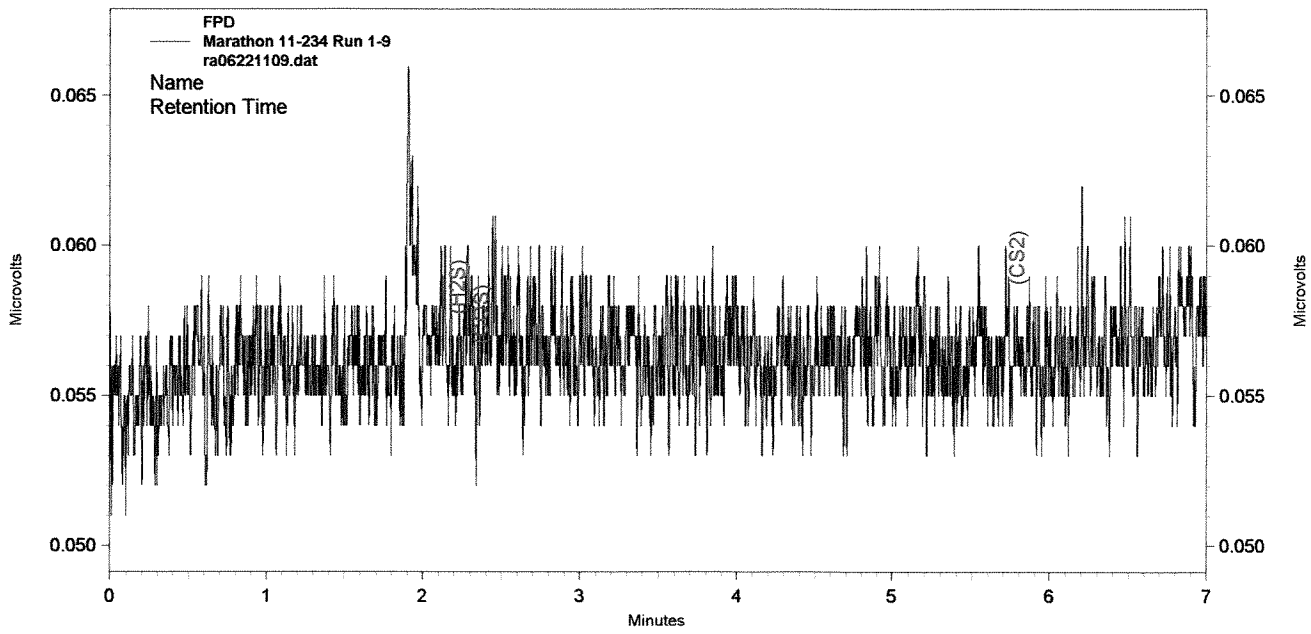


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 10:25:13 AM
Acquired: 6/22/2011 10:18:07 AM
Printed: 1

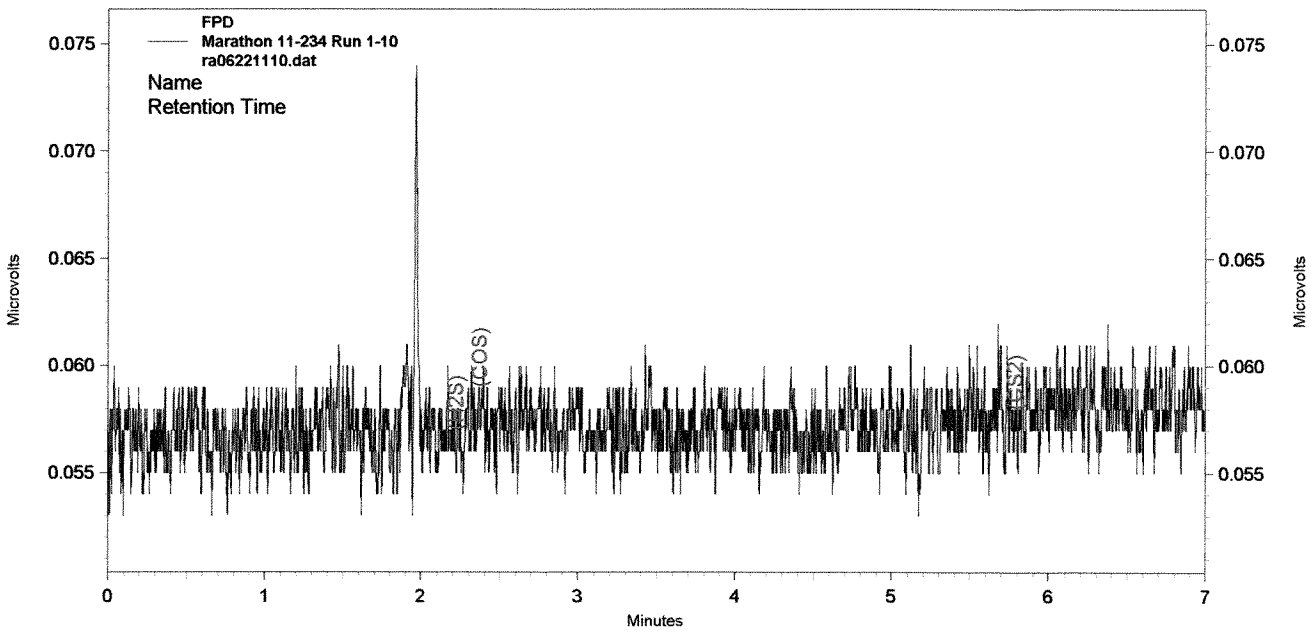


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 10:34:14 AM
Acquired: 6/22/2011 10:27:03 AM
Printed: 1

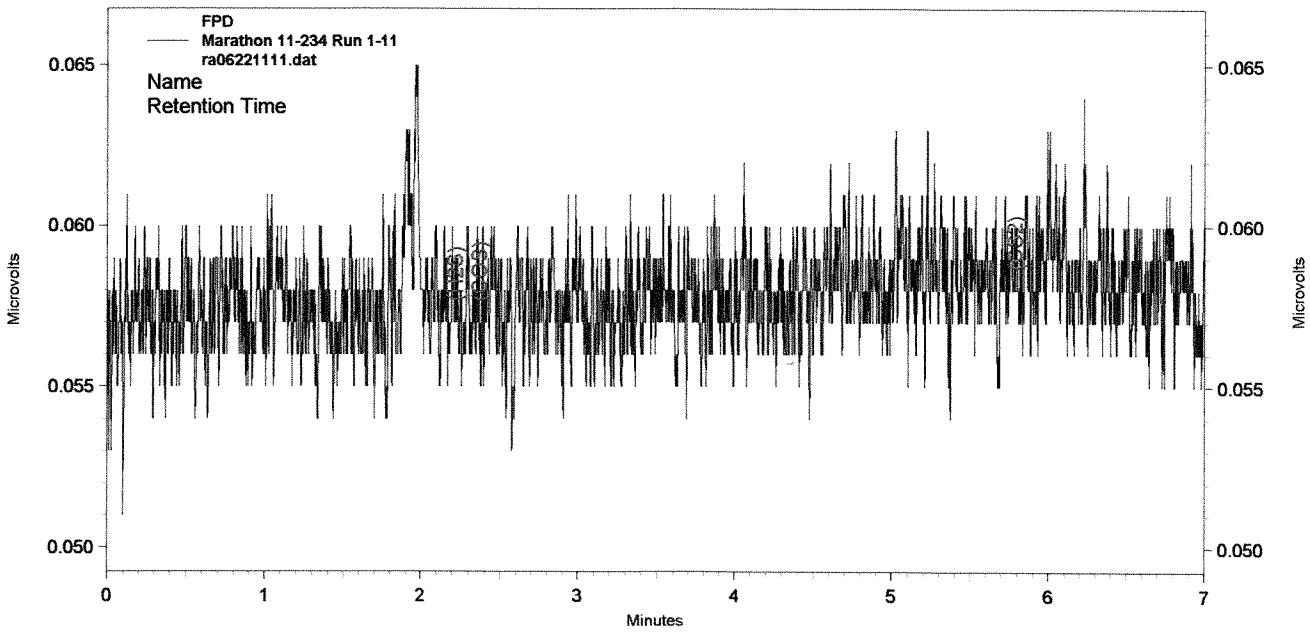


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 10:47:28 AM
Acquired: 6/22/2011 10:40:12 AM
Printed: 1

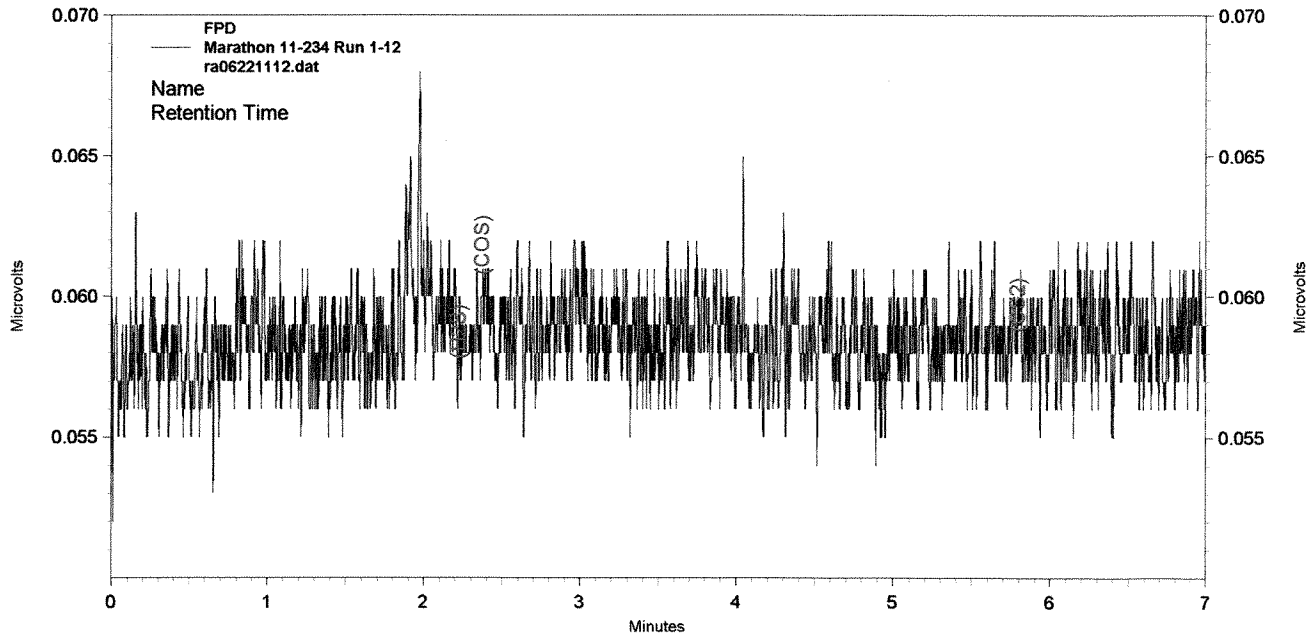


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 10:56:09 AM
Acquired: 6/22/2011 10:49:04 AM
Printed: 1

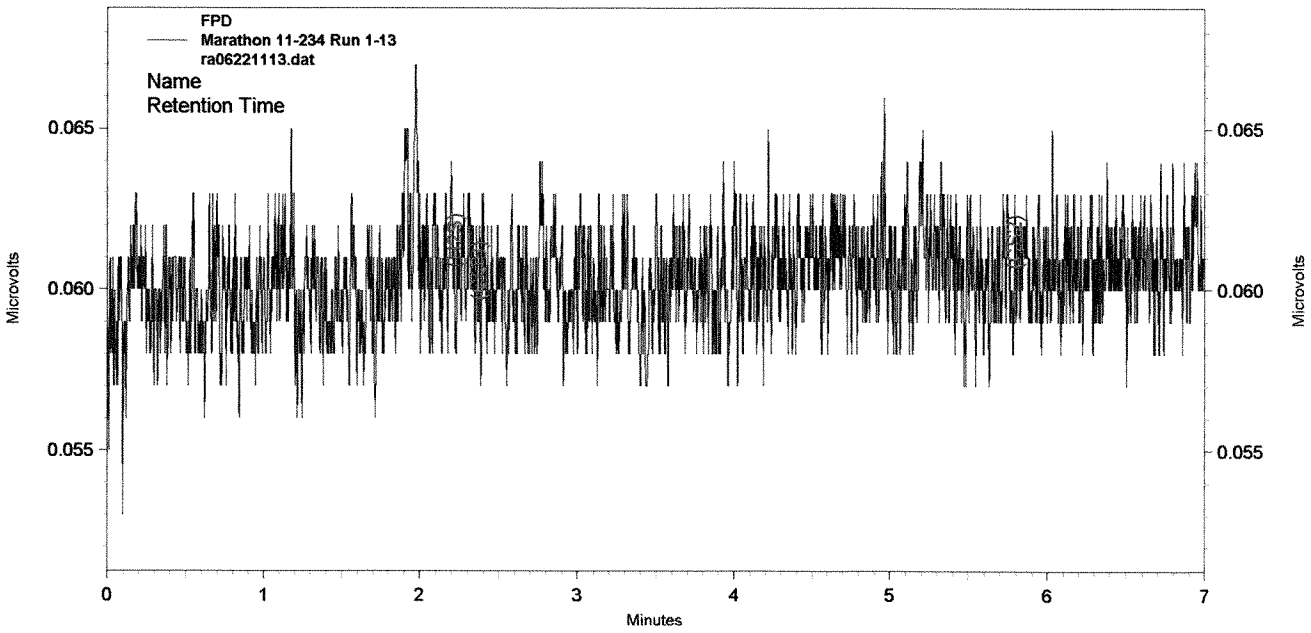


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 11:05:09 AM
Acquired: 6/22/2011 10:58:04 AM
Printed: 1

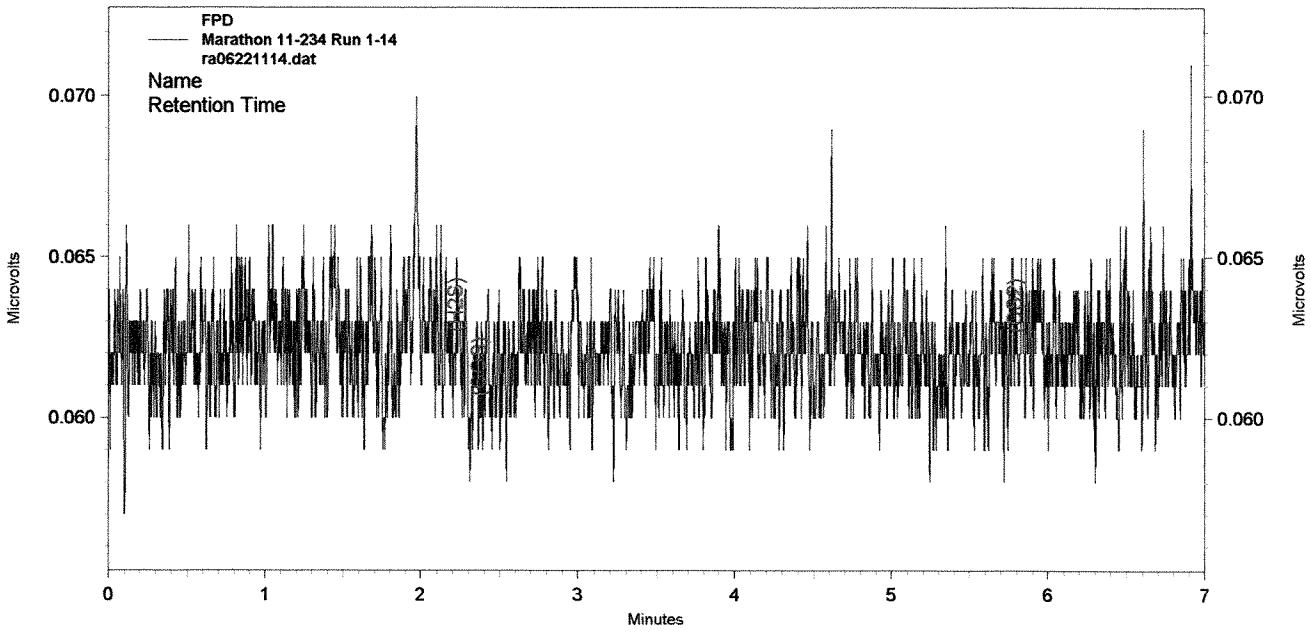


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 11:14:15 AM
Acquired: 6/22/2011 11:07:05 AM
Printed: 1

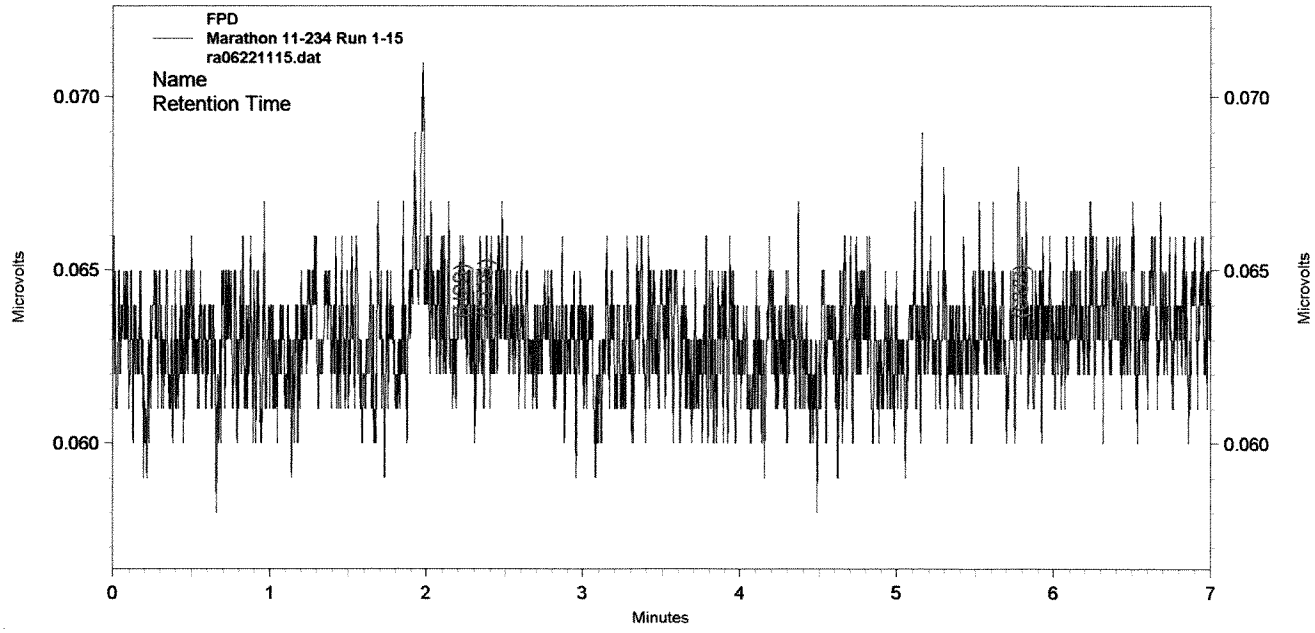


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 11:23:10 AM
Acquired: 6/22/2011 11:16:05 AM
Printed: 1

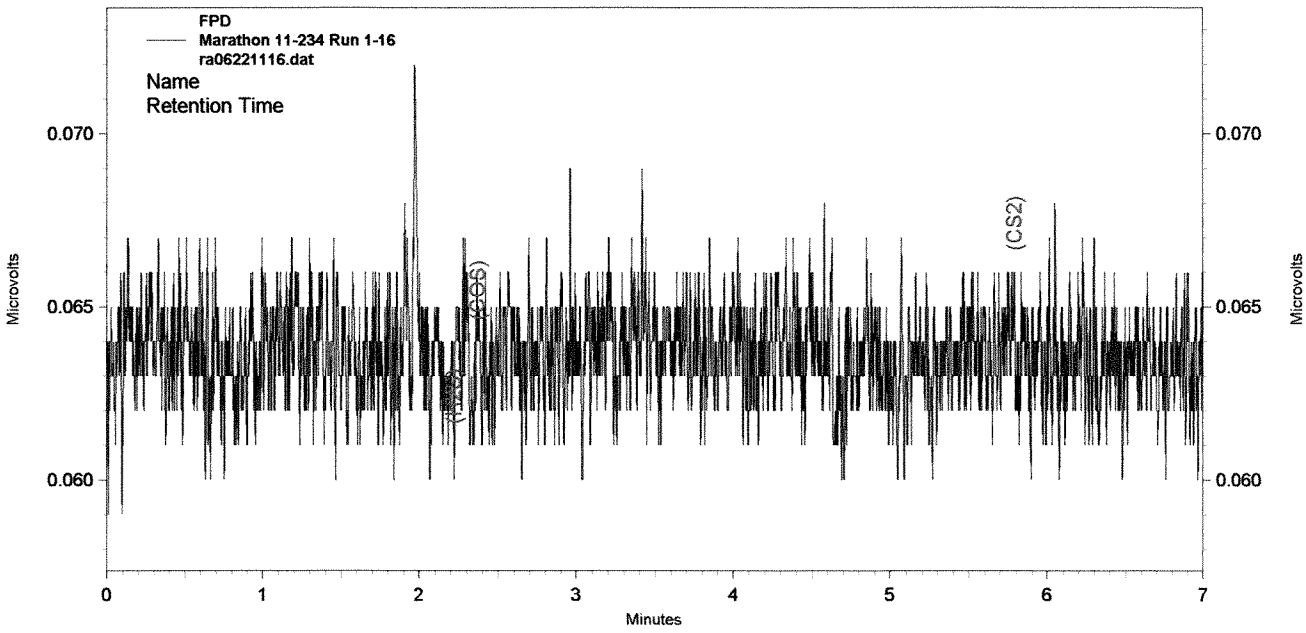


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 11:32:09 AM
Acquired: 6/22/2011 11:25:03 AM
Printed: 1

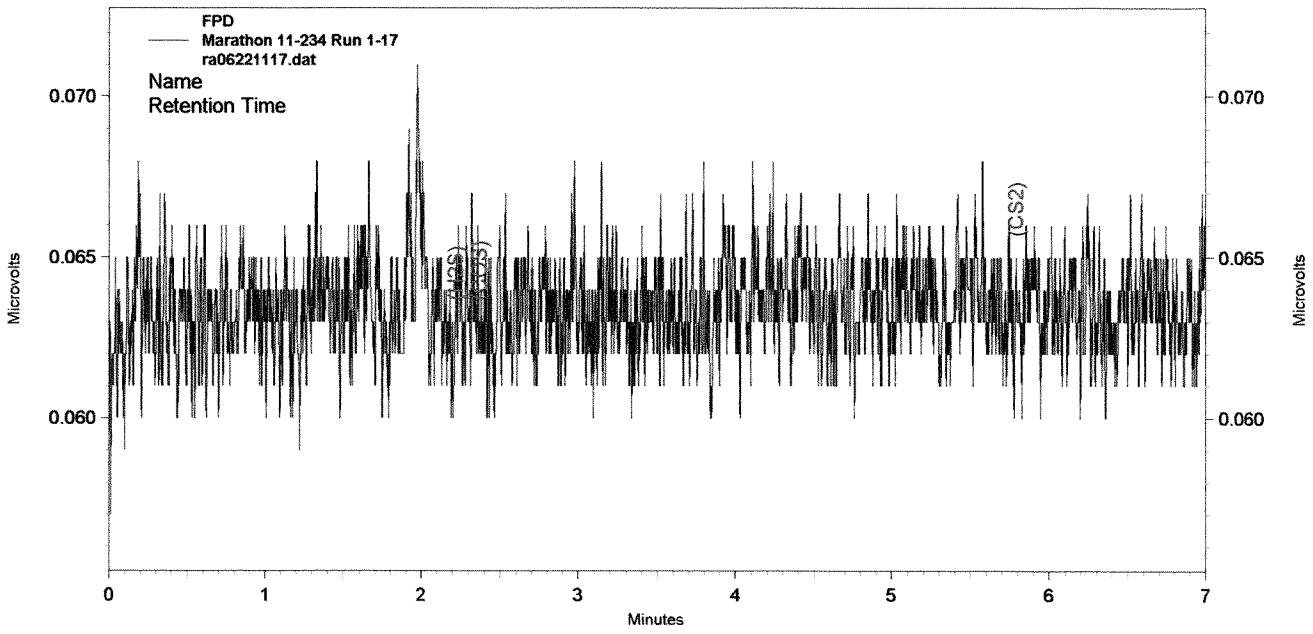


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 11:43:20 AM
Acquired: 6/22/2011 11:36:04 AM
Printed: 1

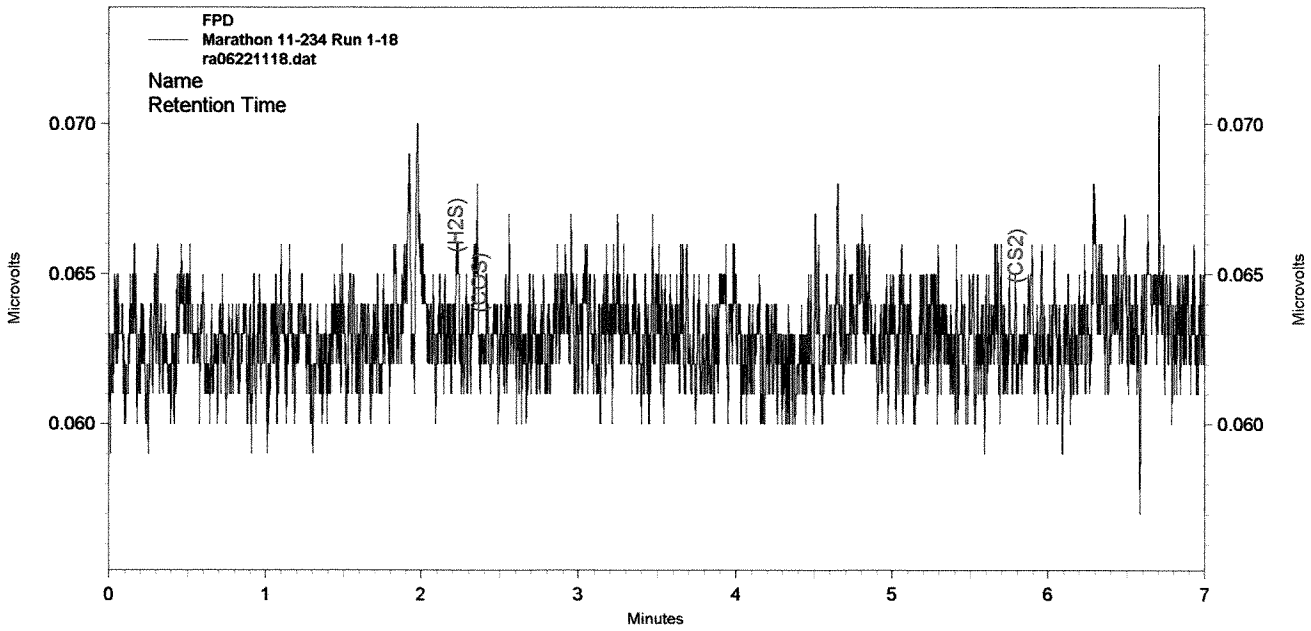


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 11:56:15 AM
Acquired: 6/22/2011 11:49:04 AM
Printed: 1

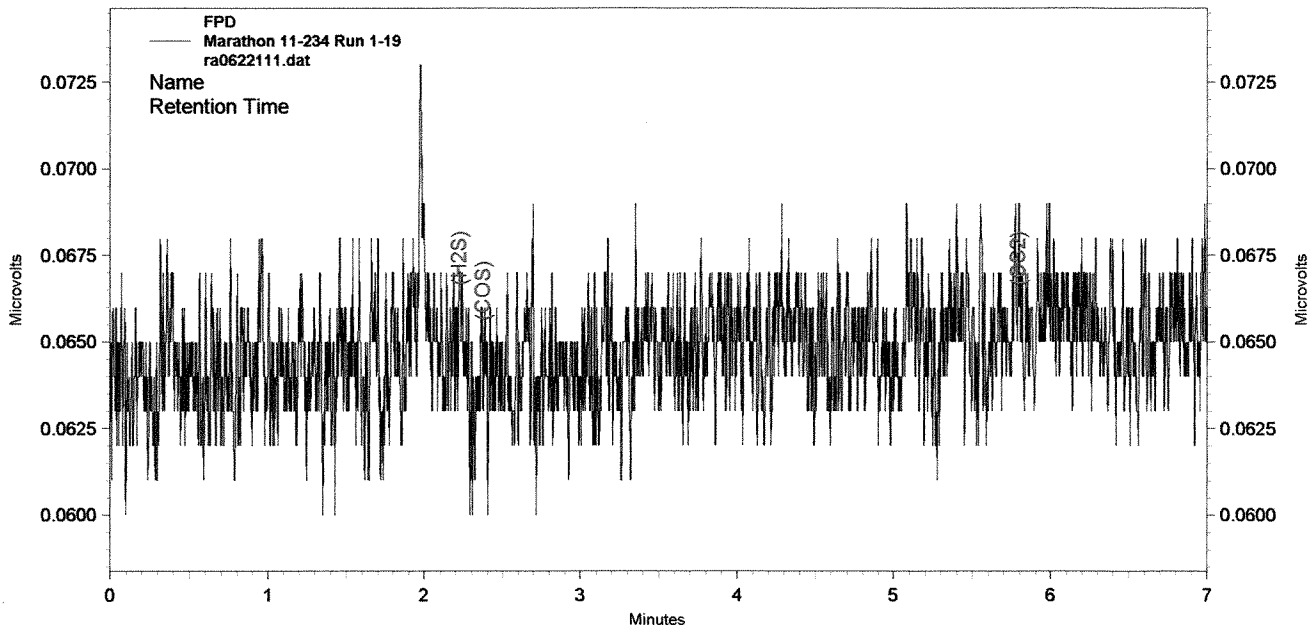


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 12:07:03 PM
Acquired: 6/22/2011 12:00:03 PM
Printed: 1

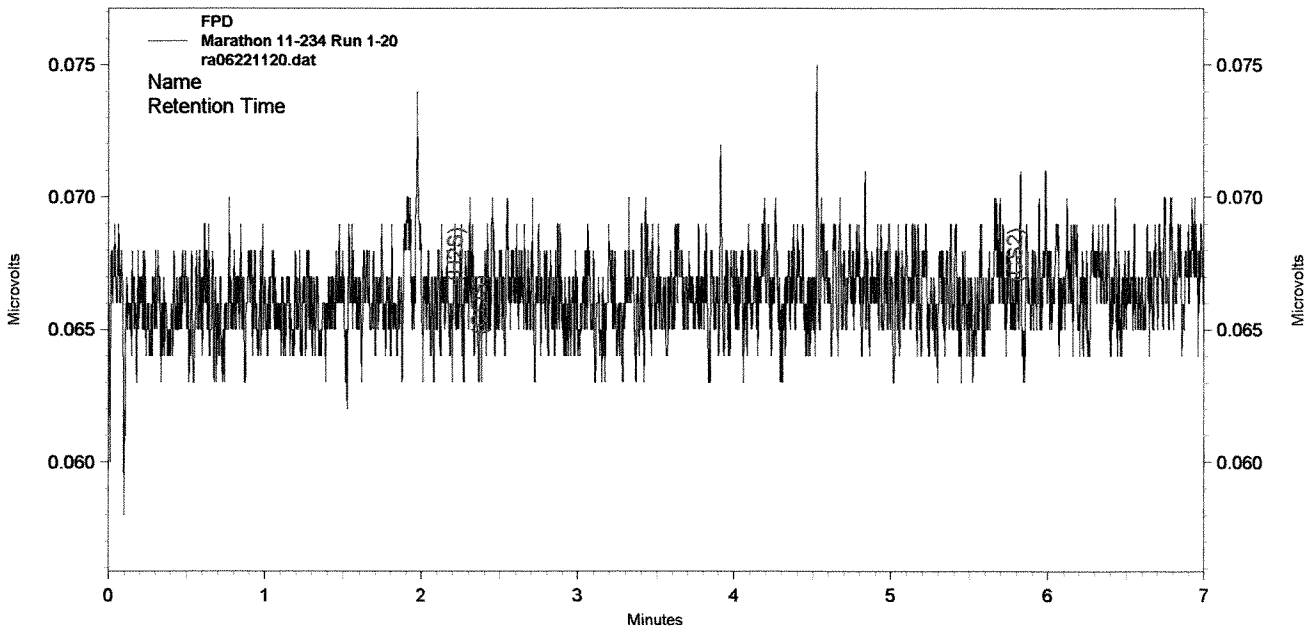


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 12:17:14 PM
Acquired: 6/22/2011 12:10:03 PM
Printed: 1

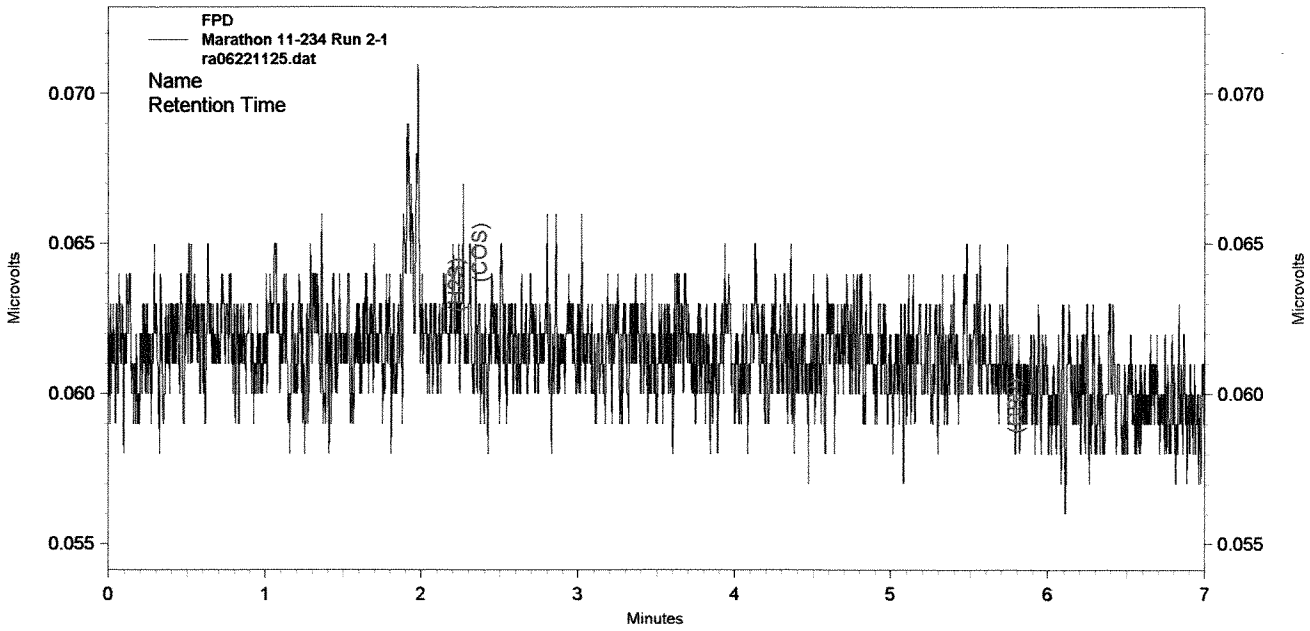


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 2:22:10 PM
Acquired: 6/22/2011 2:15:05 PM
Printed: 1

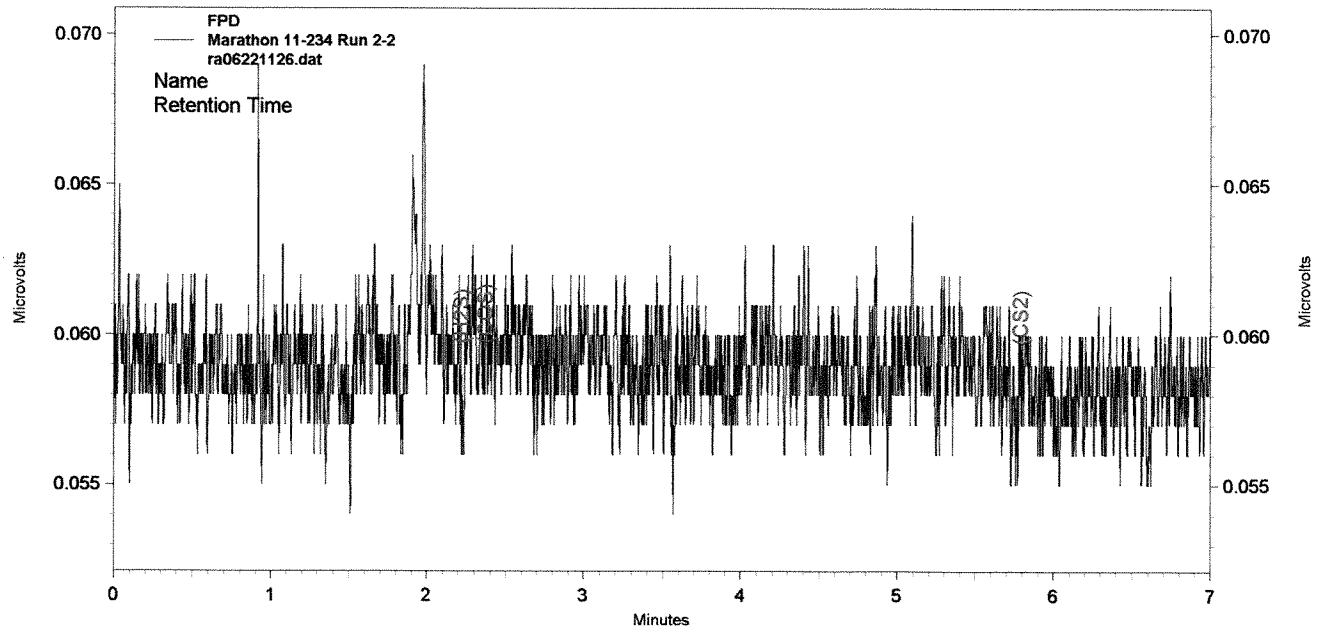


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 2:31:14 PM
Acquired: 6/22/2011 2:24:03 PM
Printed: 1

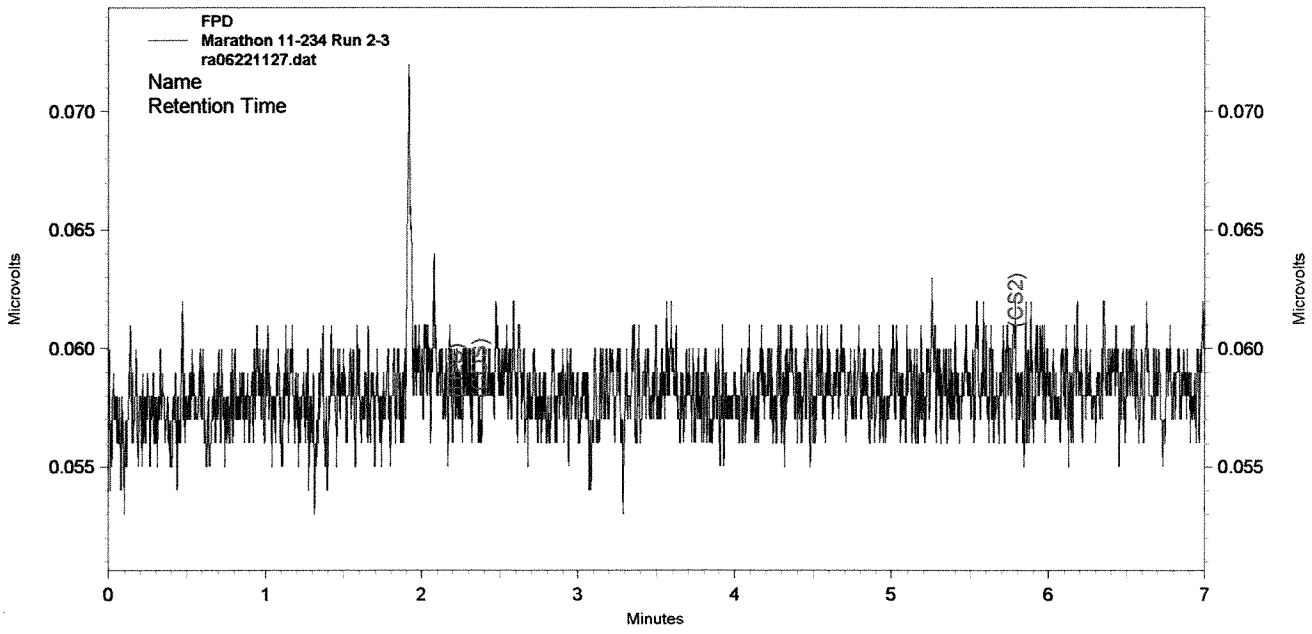


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 2:40:11 PM
Acquired: 6/22/2011 2:33:11 PM
Printed: 1

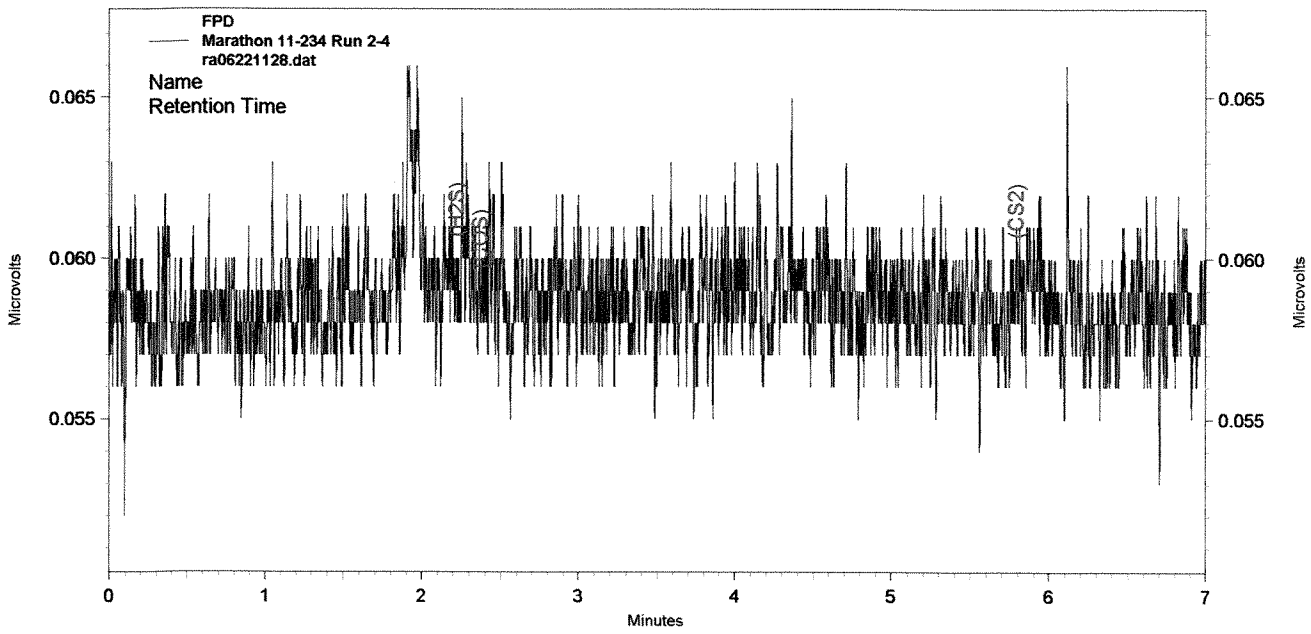


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 2:49:14 PM
Acquired: 6/22/2011 2:42:03 PM
Printed: 1

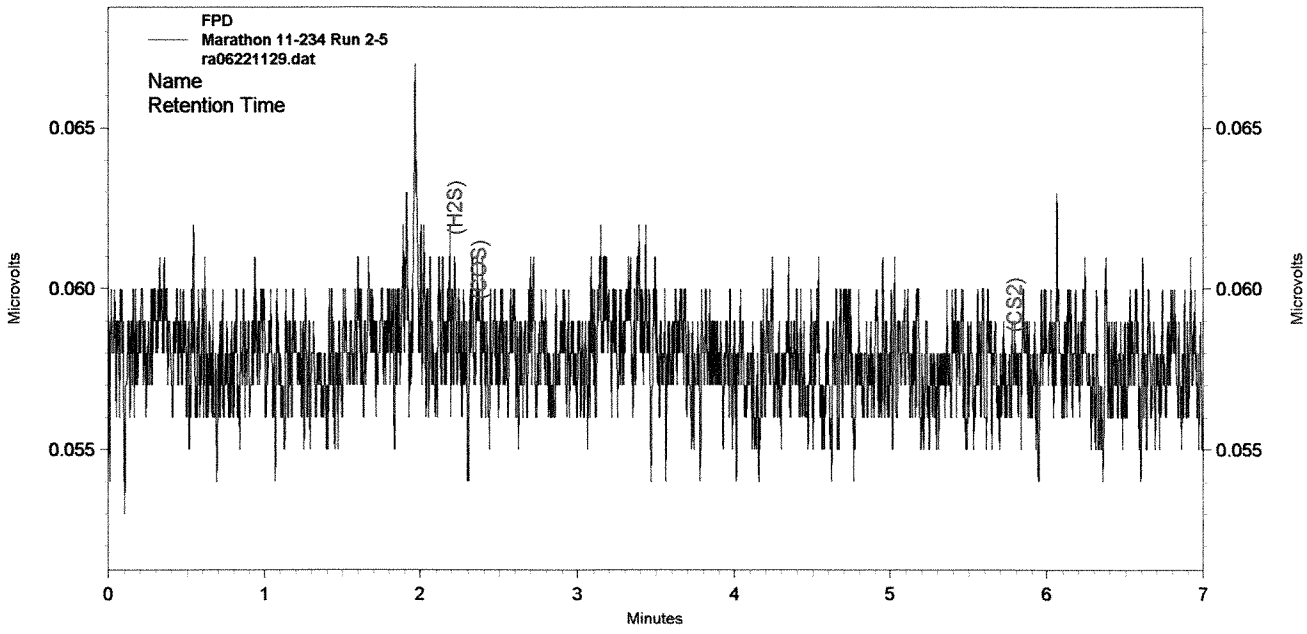


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 2:59:34 PM
Acquired: 6/22/2011 2:52:23 PM
Printed: 1

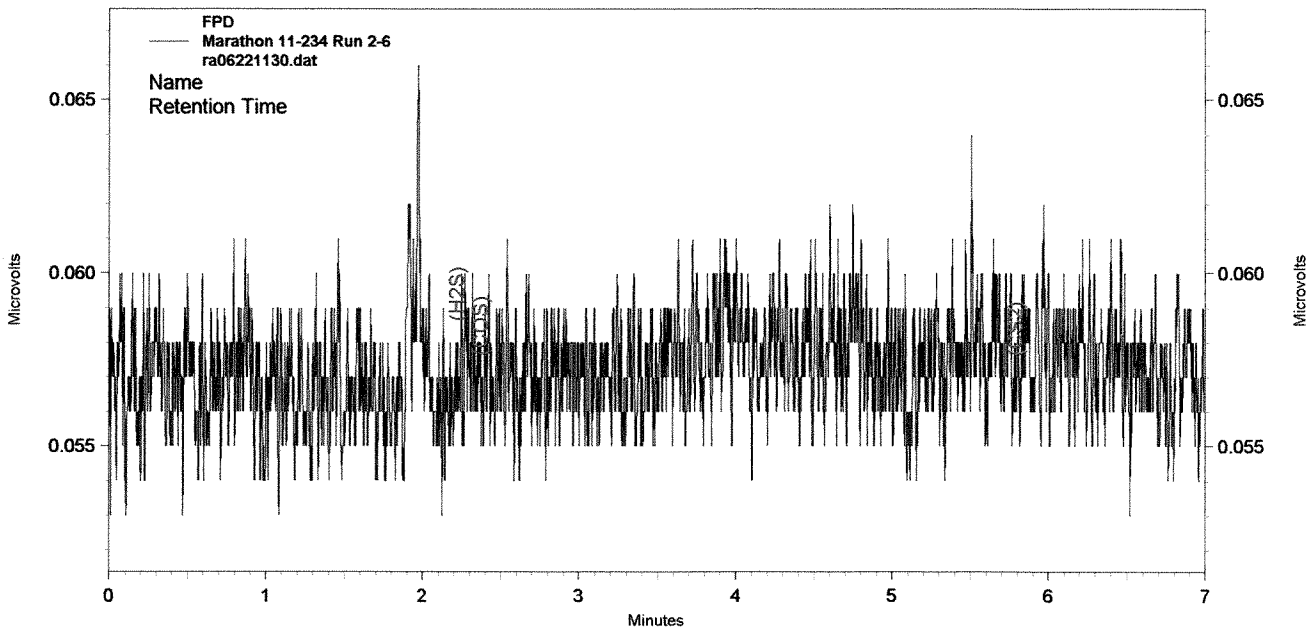


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 3:08:08 PM
Acquired: 6/22/2011 3:01:03 PM
Printed: 1

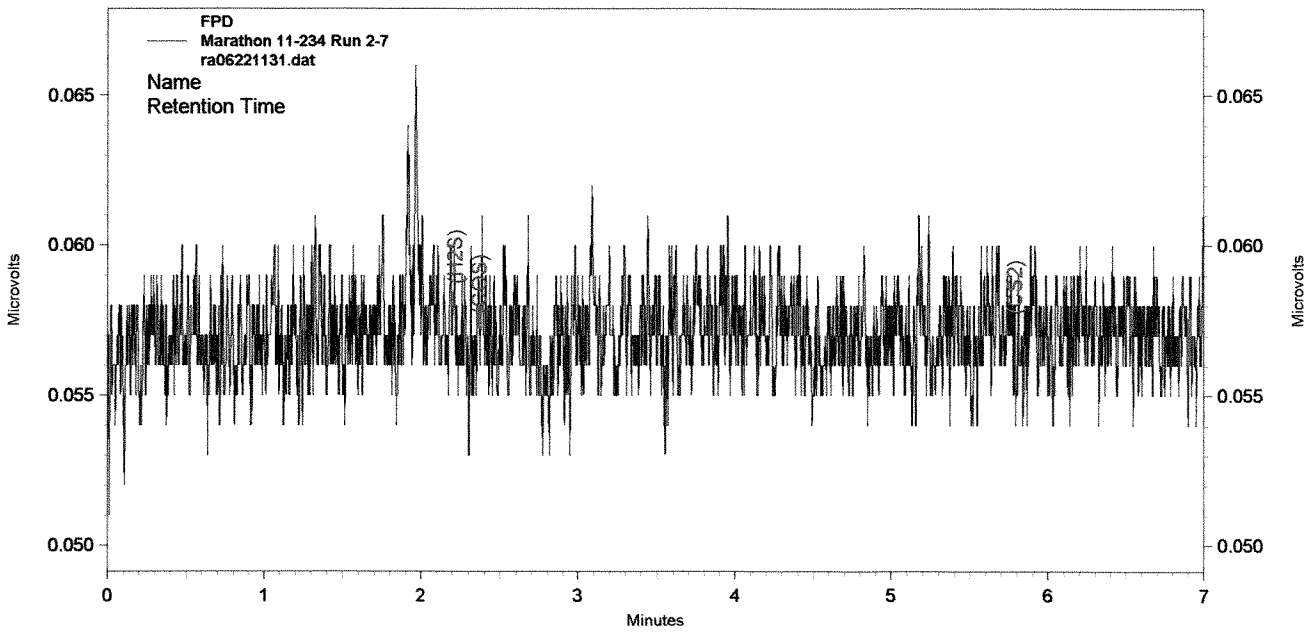


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 3:17:08 PM
Acquired: 6/22/2011 3:10:03 PM
Printed: 1

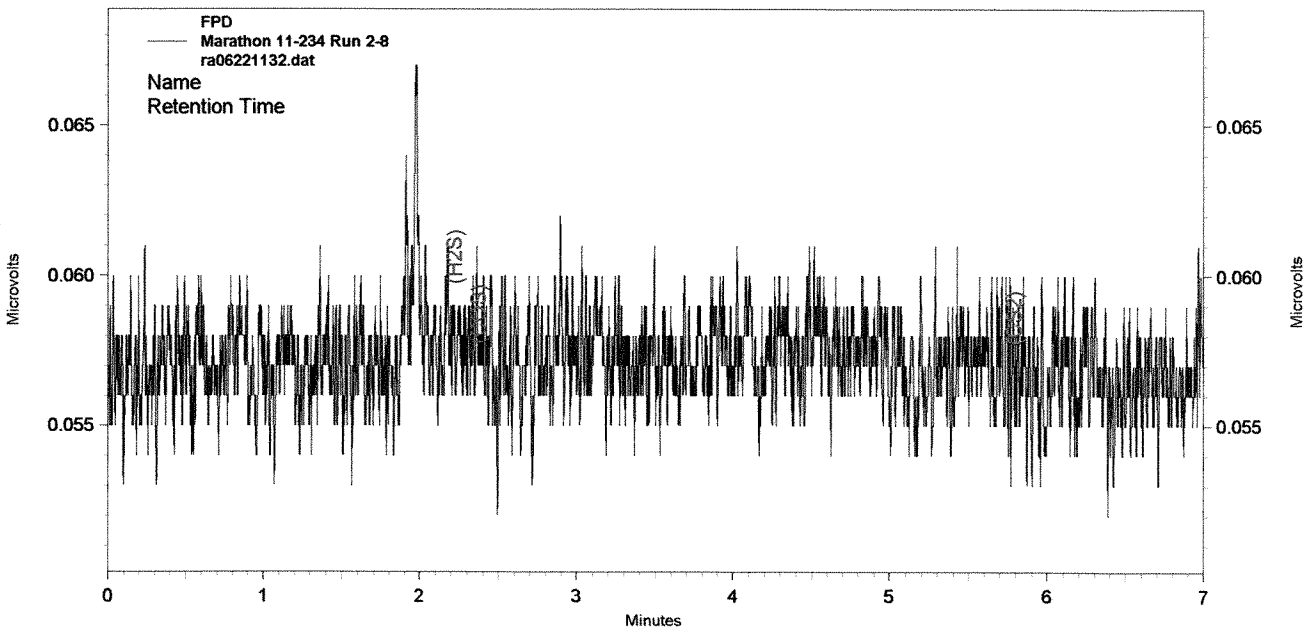


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 3:26:08 PM
Acquired: 6/22/2011 3:19:03 PM
Printed: 1

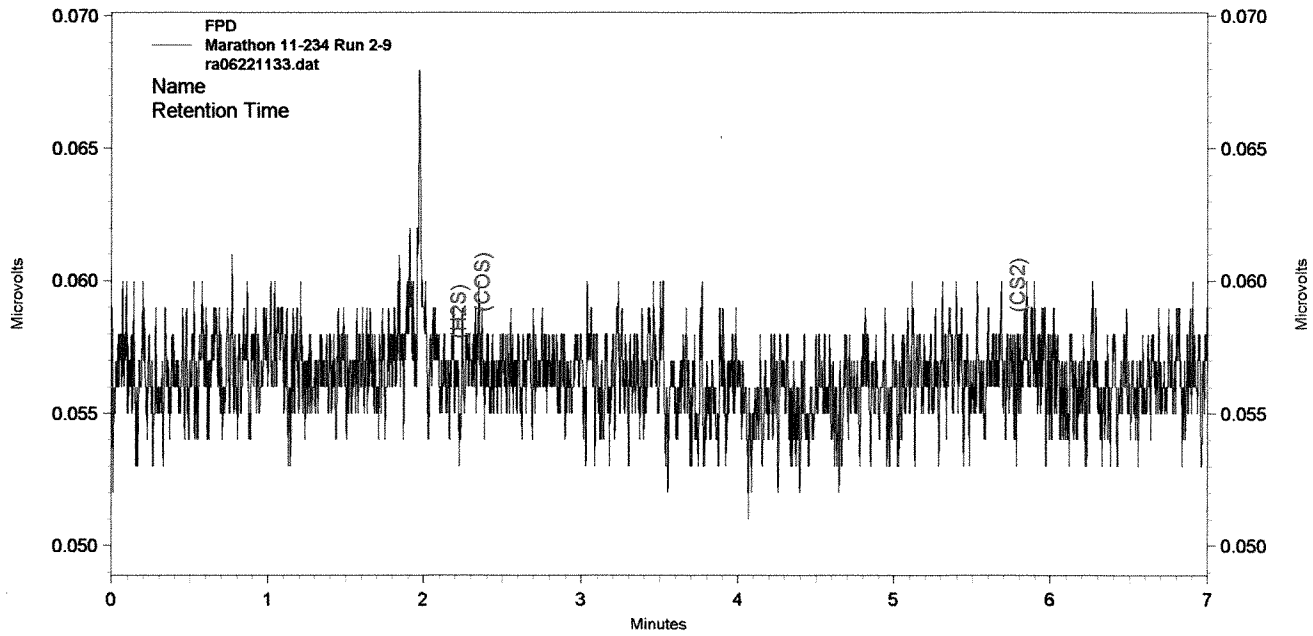


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 3:35:05 PM
Acquired: 6/22/2011 3:28:04 PM
Printed: 1



FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 3:45:04 PM
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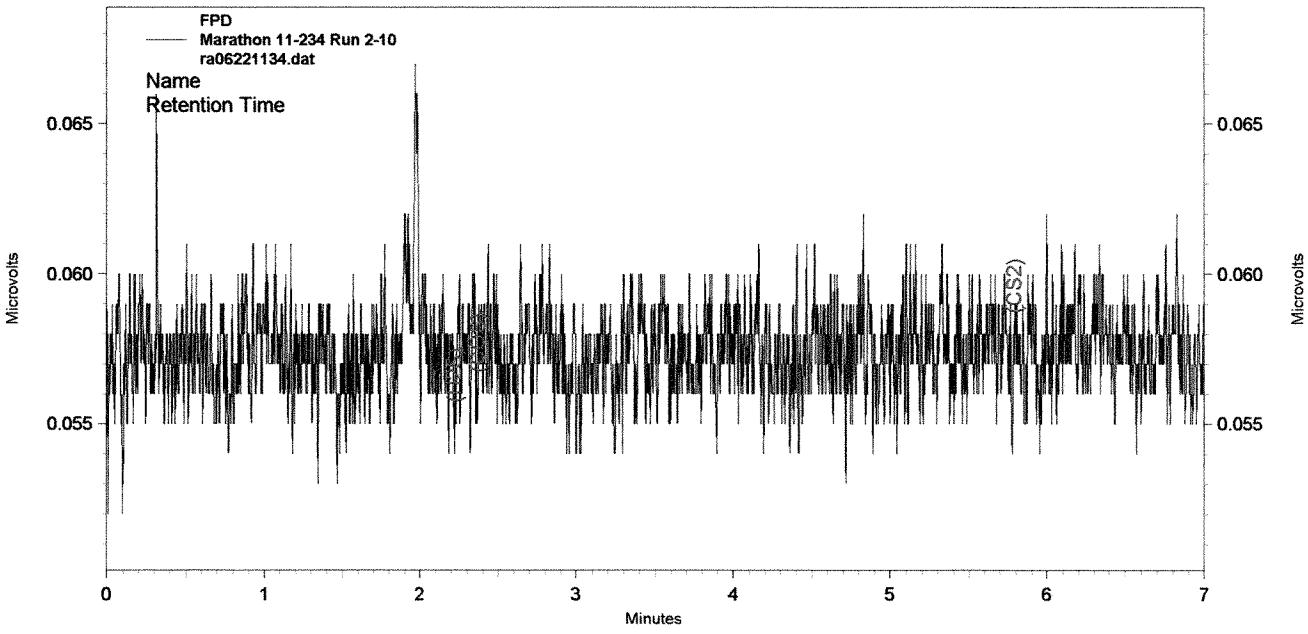
Printed: 1

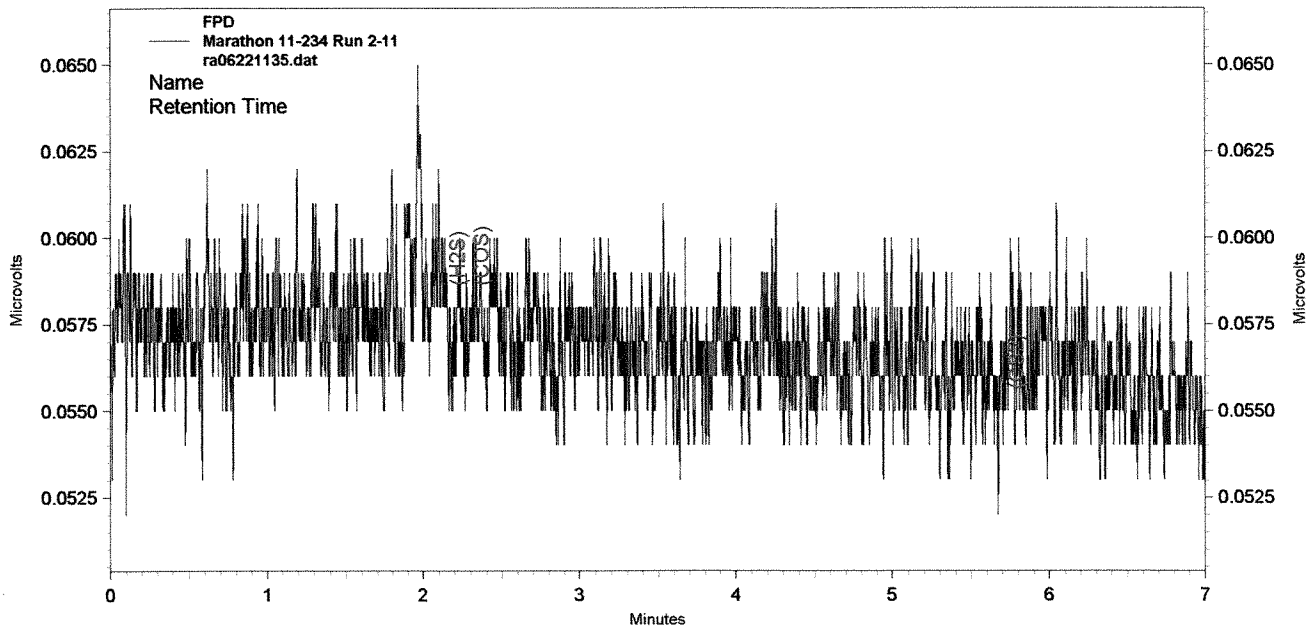


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 3:54:04 PM
Acquired: 6/22/2011 3:47:02 PM
Printed: 1

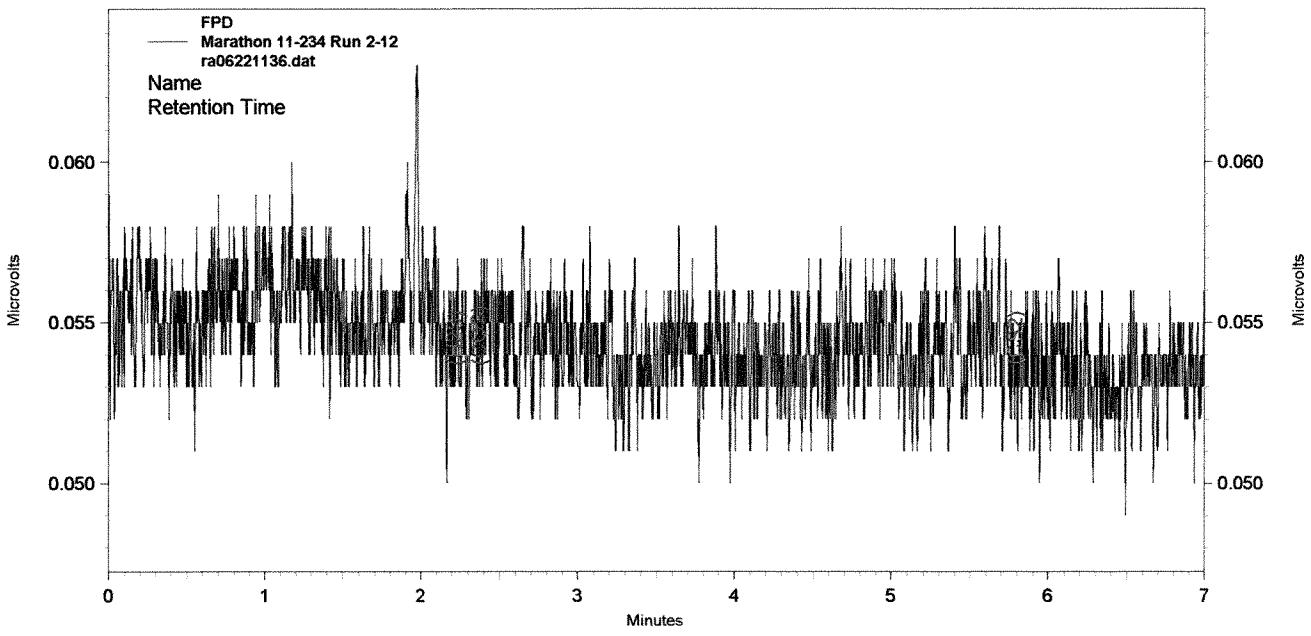


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 4:03:09 PM
Acquired: 6/22/2011 3:56:04 PM
Printed: 1

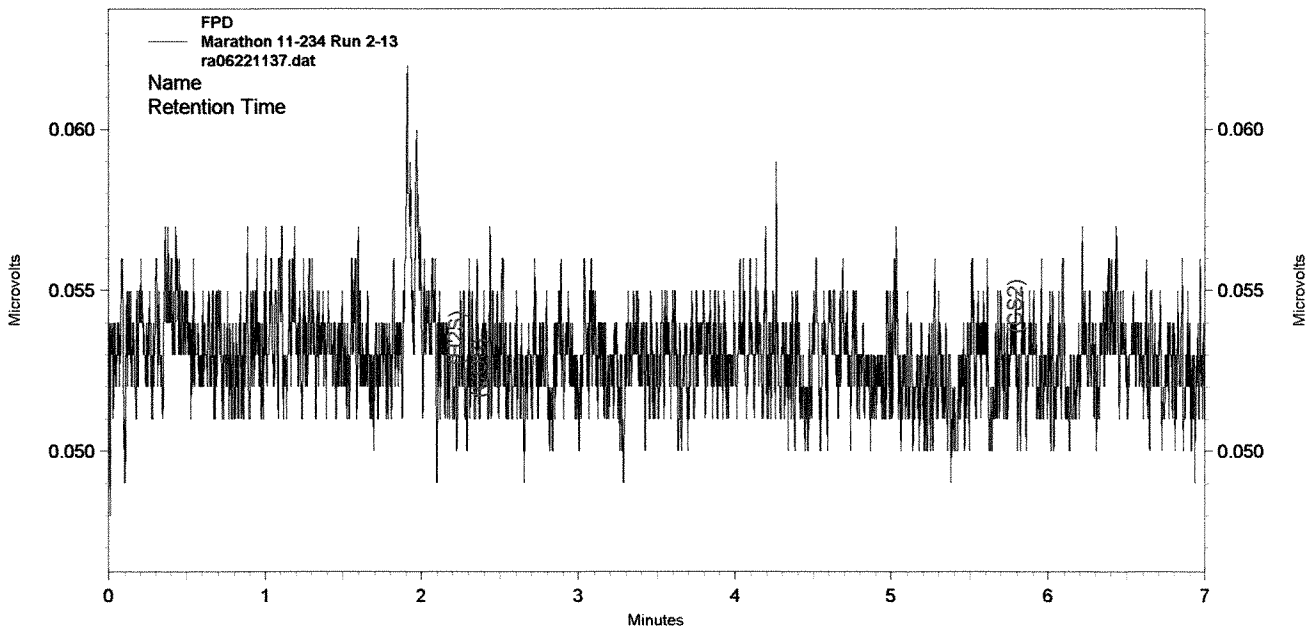


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 4:12:09 PM
Acquired: 6/22/2011 4:05:03 PM
Printed: 1

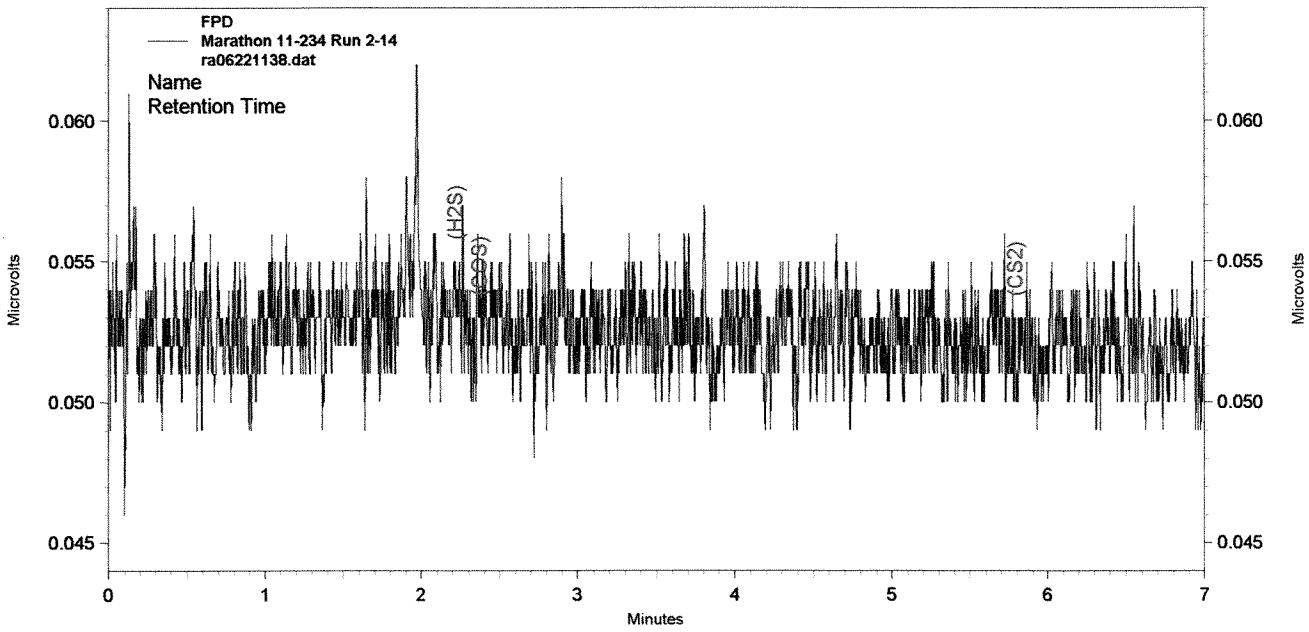


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 4:22:14 PM
Acquired: 6/22/2011 4:15:04 PM
Printed: 1



FPD Results

Name	Retention Time	Height	Area

METCO Environmental

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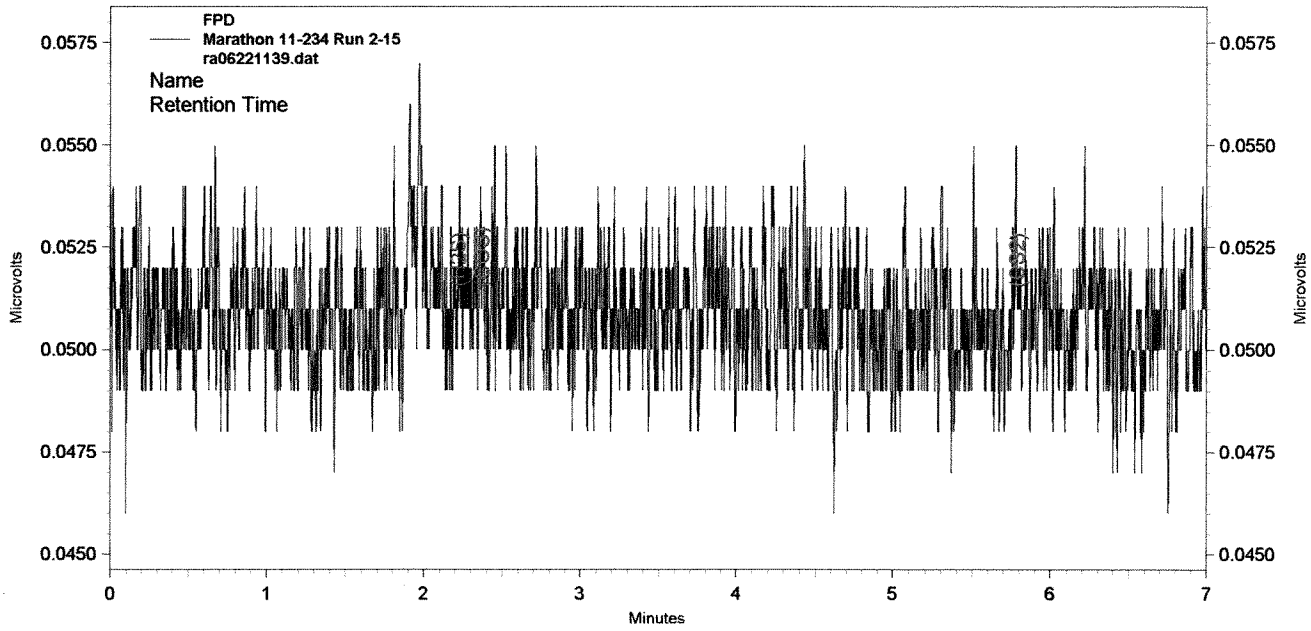
Method: 6/22/2011 4:33:22 PM
Acquired: 6/22/2011 4:26:16 PM
Printed: 1

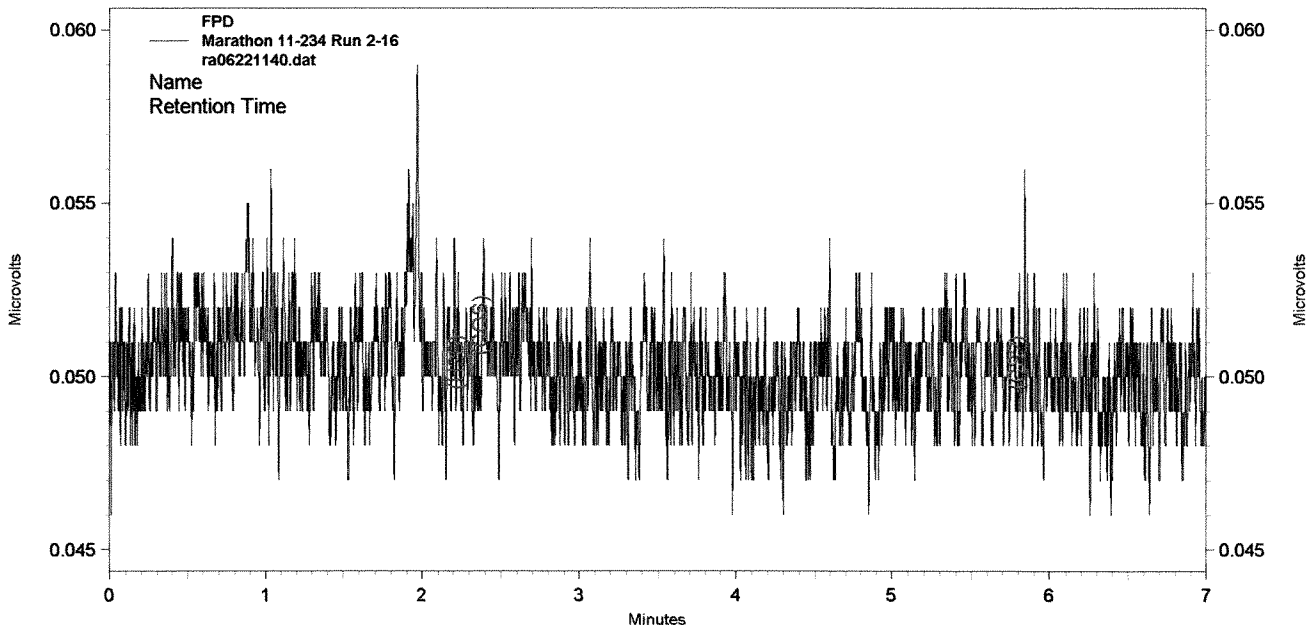


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 4:42:04 PM
Acquired: 6/22/2011 4:35:03 PM
Printed: 1

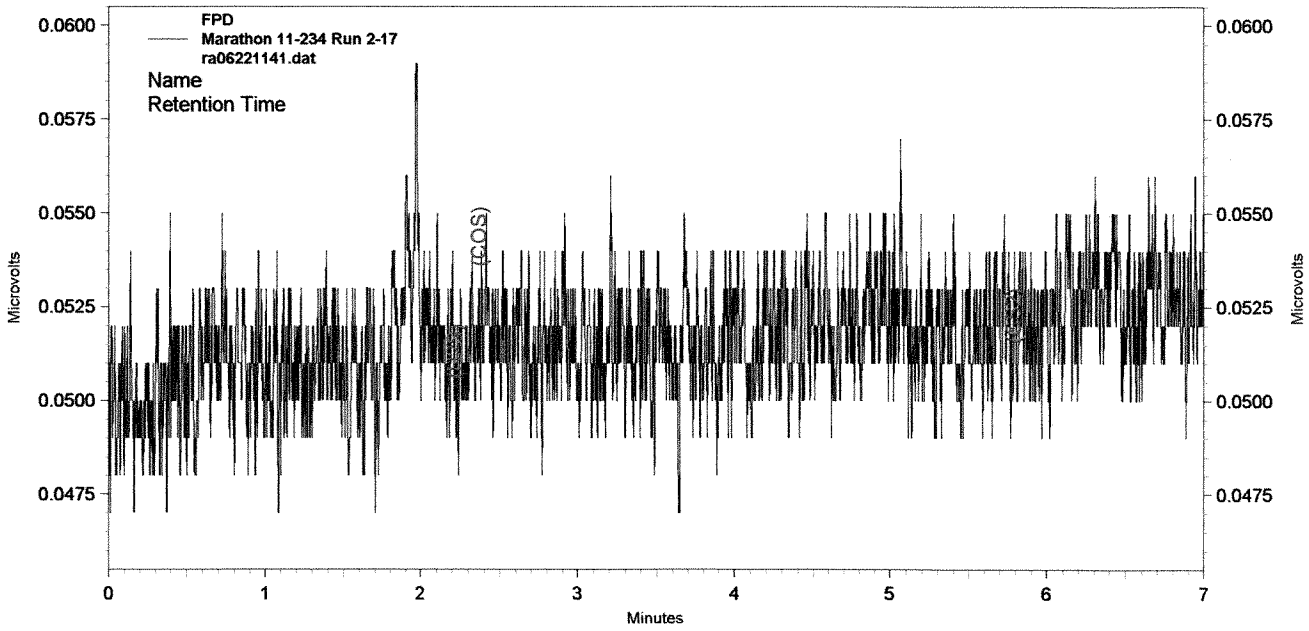


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 4:52:17 PM
Acquired: 6/22/2011 4:45:06 PM
Printed: 1

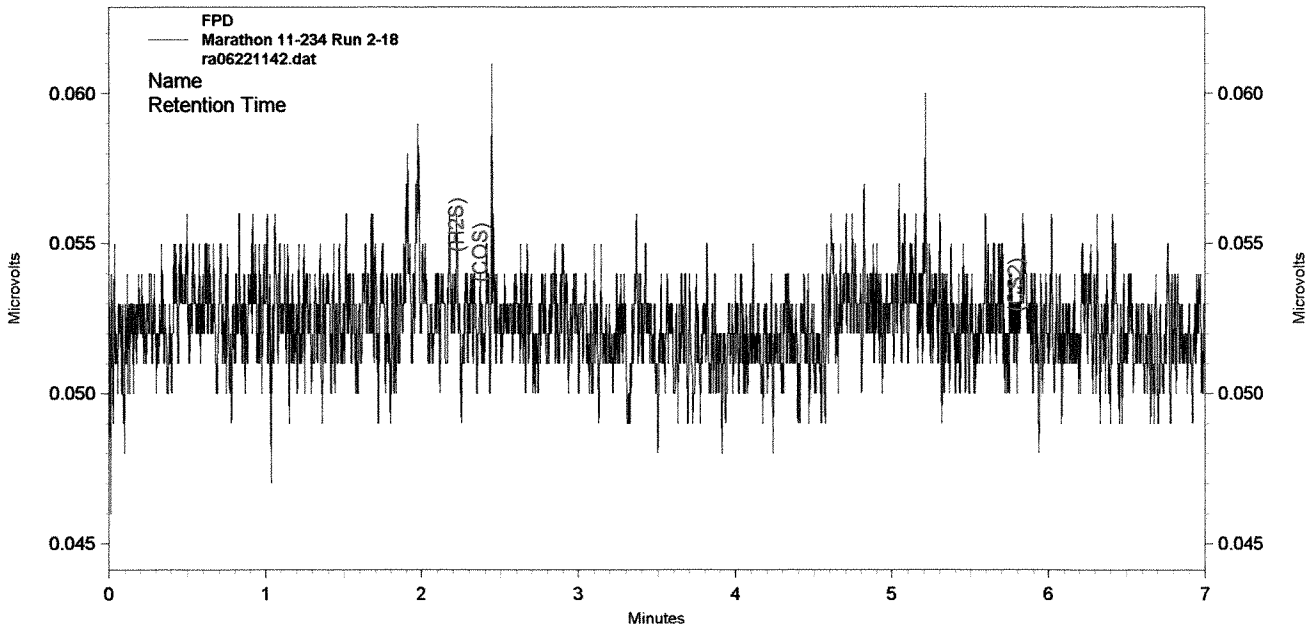


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 5:02:15 PM
Acquired: 6/22/2011 4:55:04 PM
Printed: 1

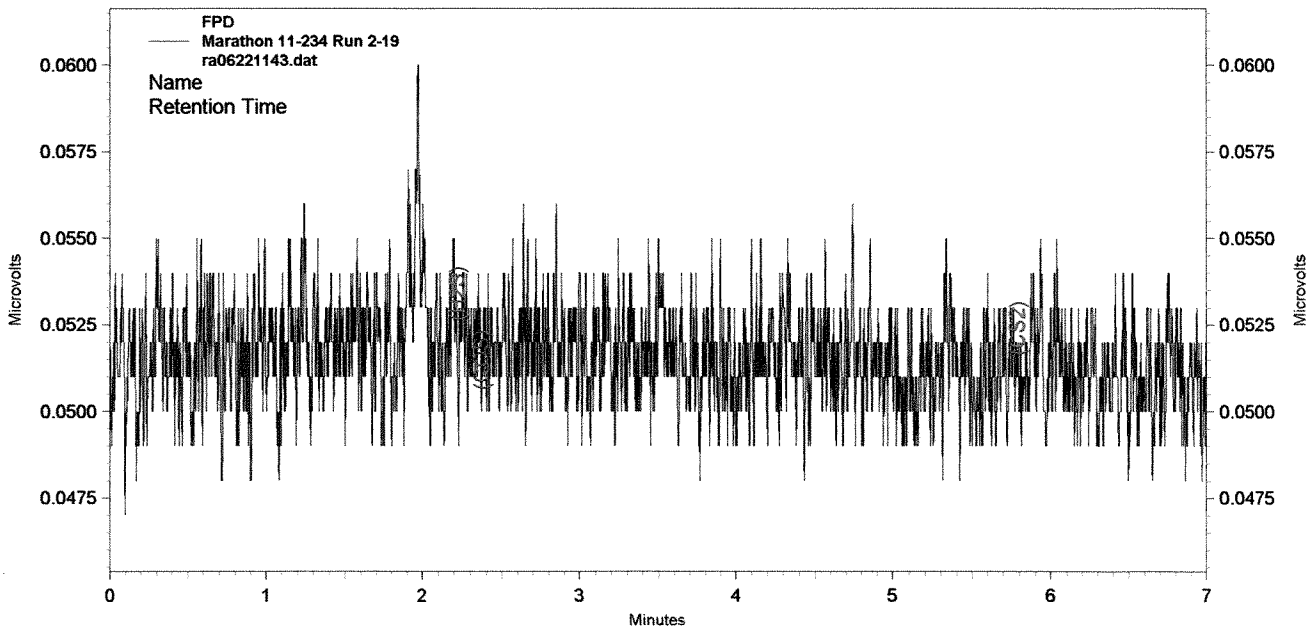


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 5:12:16 PM
Acquired: 6/22/2011 5:05:05 PM
Printed: 1

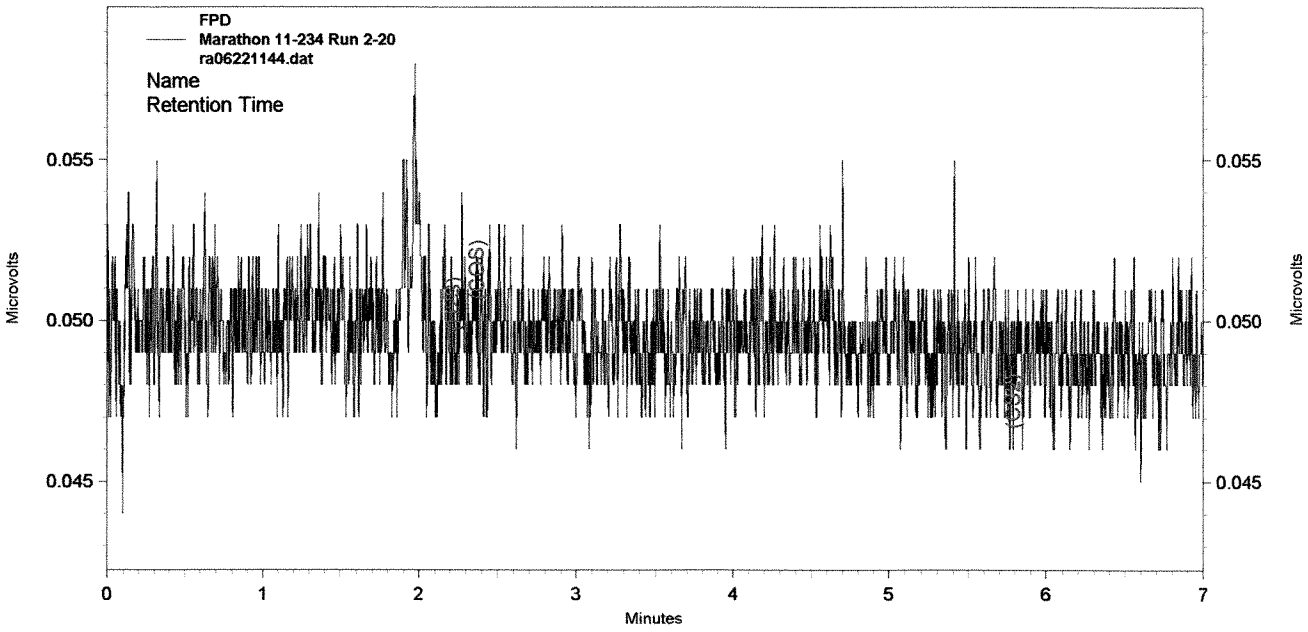


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 5:22:12 PM
Acquired: 6/22/2011 5:15:07 PM
Printed: 1

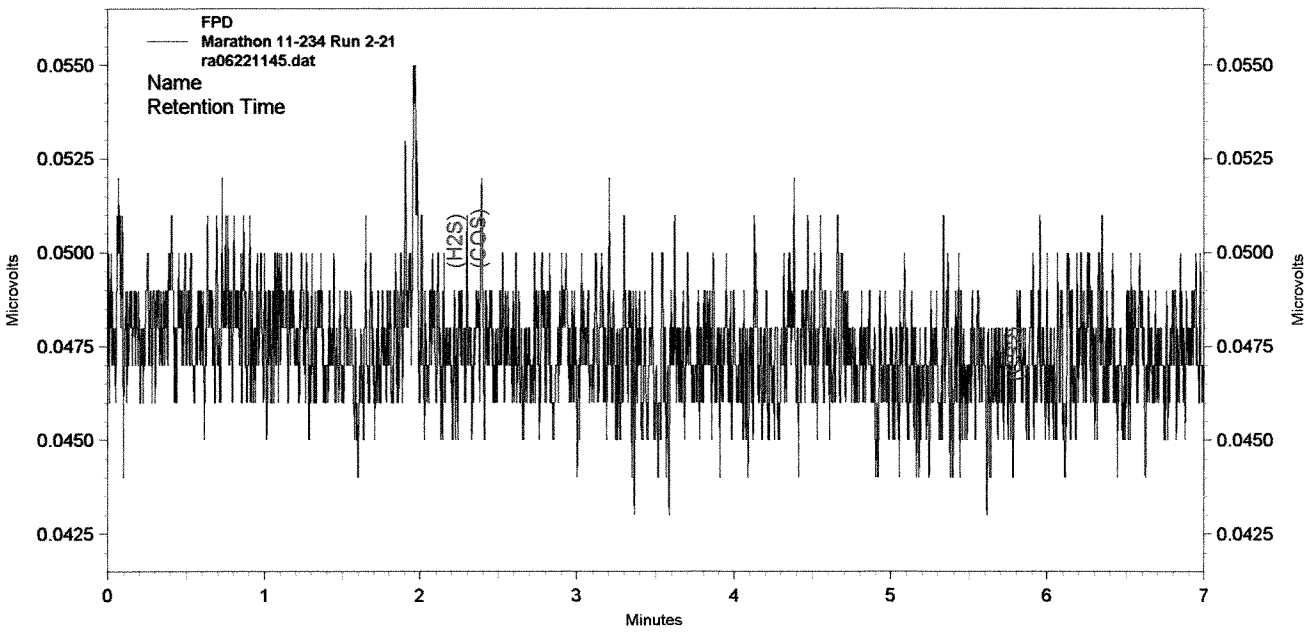


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 5:32:14 PM
Acquired: 6/22/2011 5:25:03 PM
Printed: 1

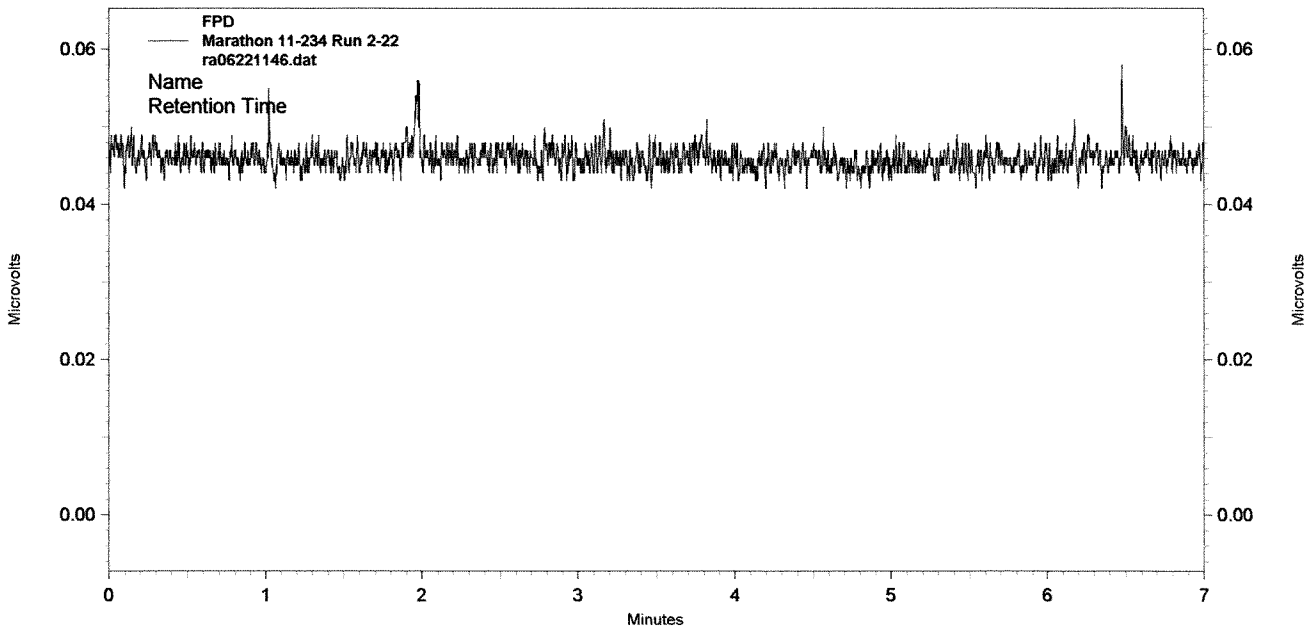


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 5:32:29 PM
Acquired: 6/22/2011 5:35:05 PM
Printed: 1

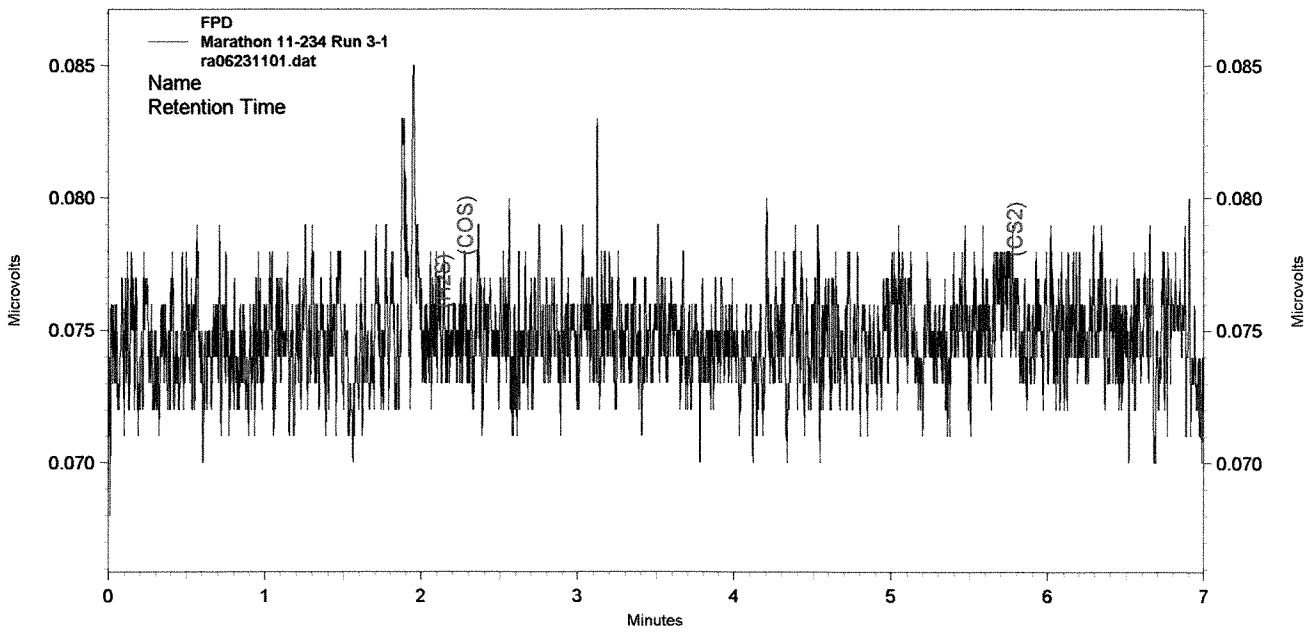


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 9:32:15 AM
Acquired: 6/23/2011 9:25:04 AM
Printed: 1



FPD Results

Name	Retention Time	Height	Area

METCO Environmental

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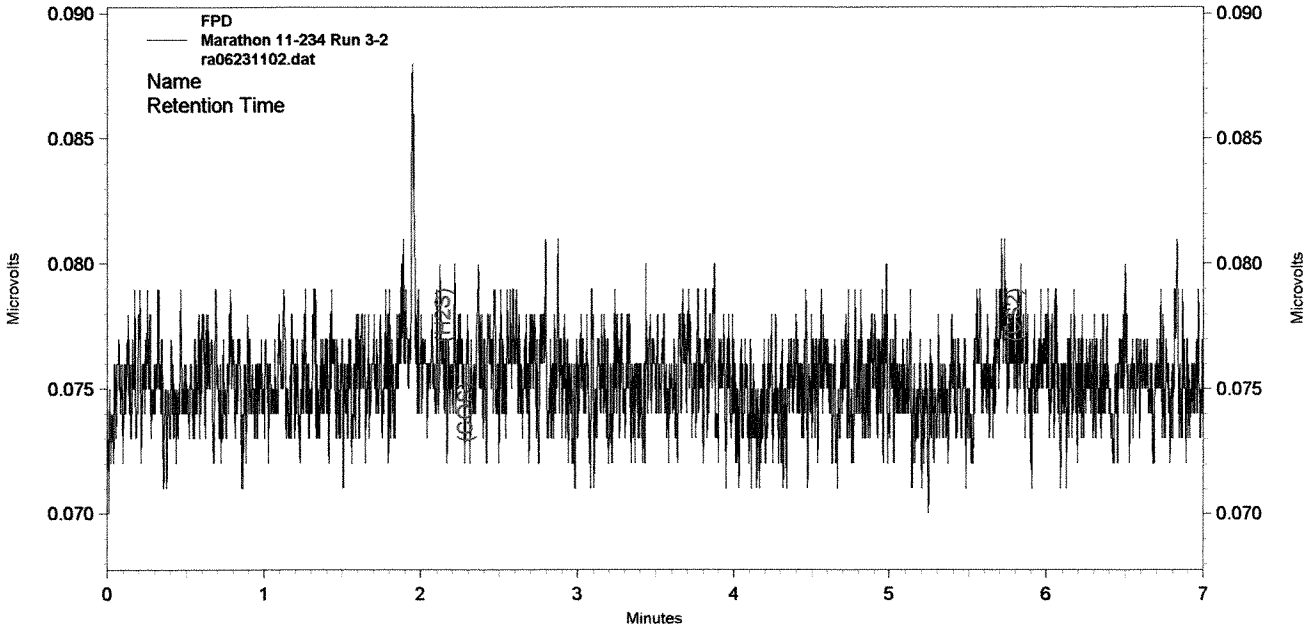
Method: 6/23/2011 9:41:20 AM
Acquired: 6/23/2011 9:34:04 AM
Printed: 1



FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 9:50:17 AM
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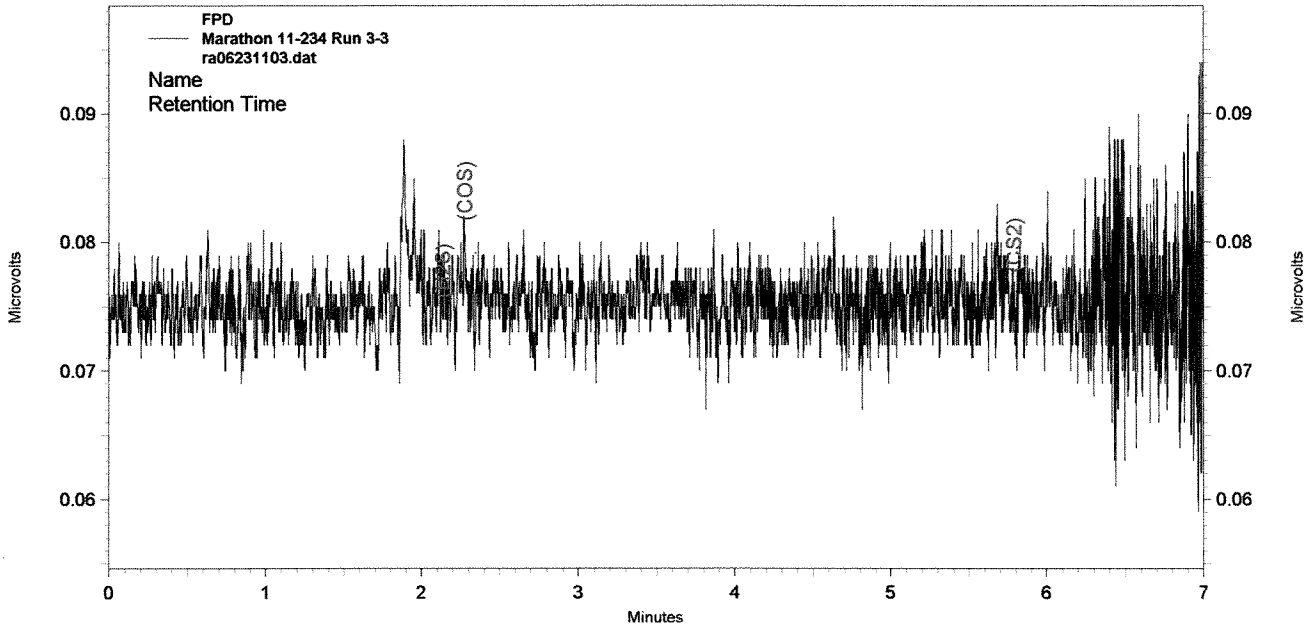
Printed: 1

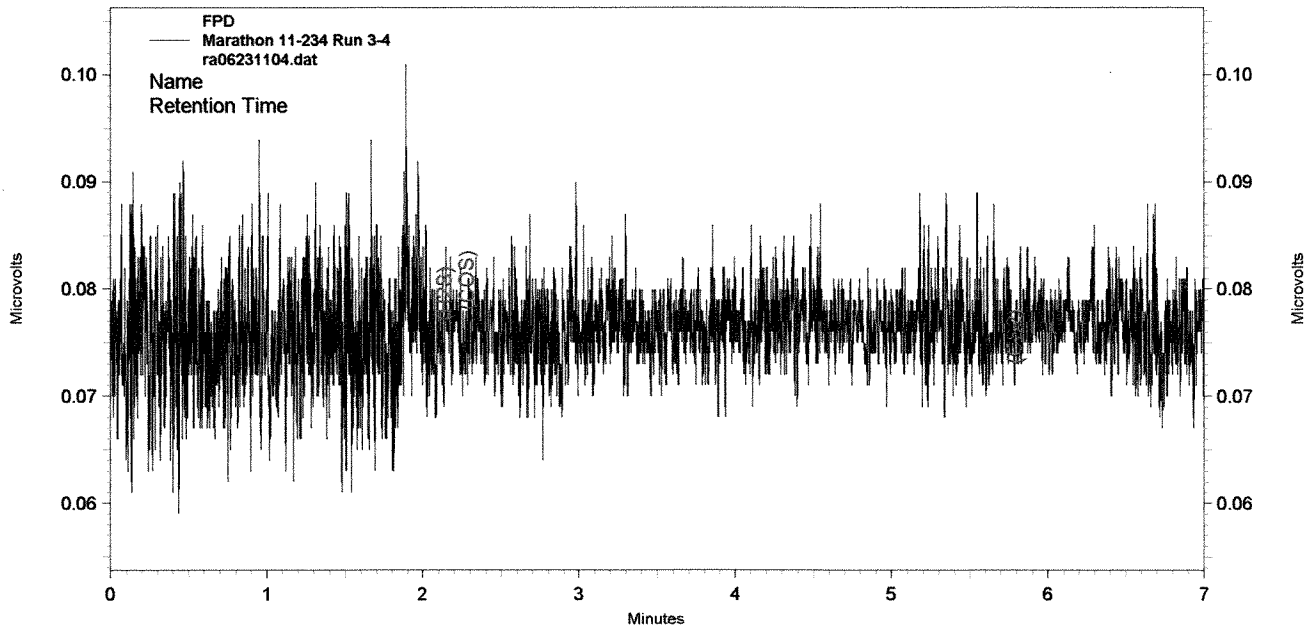


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 9:59:19 AM
Acquired: 6/23/2011 9:52:04 AM
Printed: 1

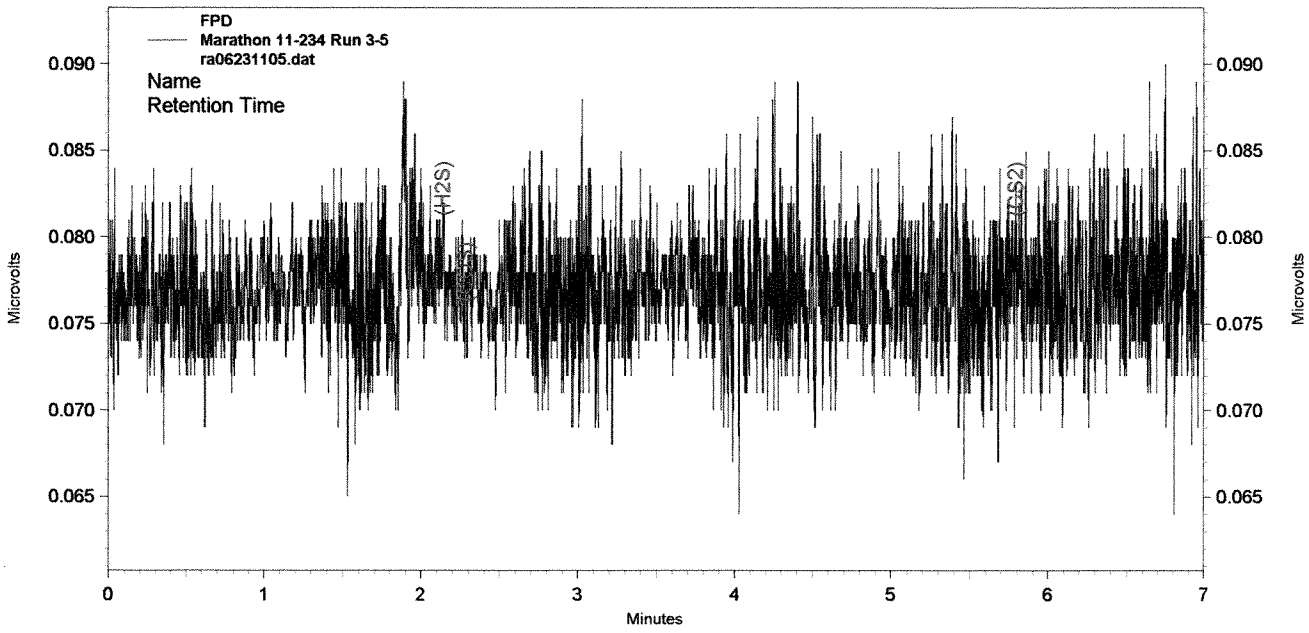


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 10:08:15 AM
Acquired: 6/23/2011 10:01:03 AM
Printed: 1

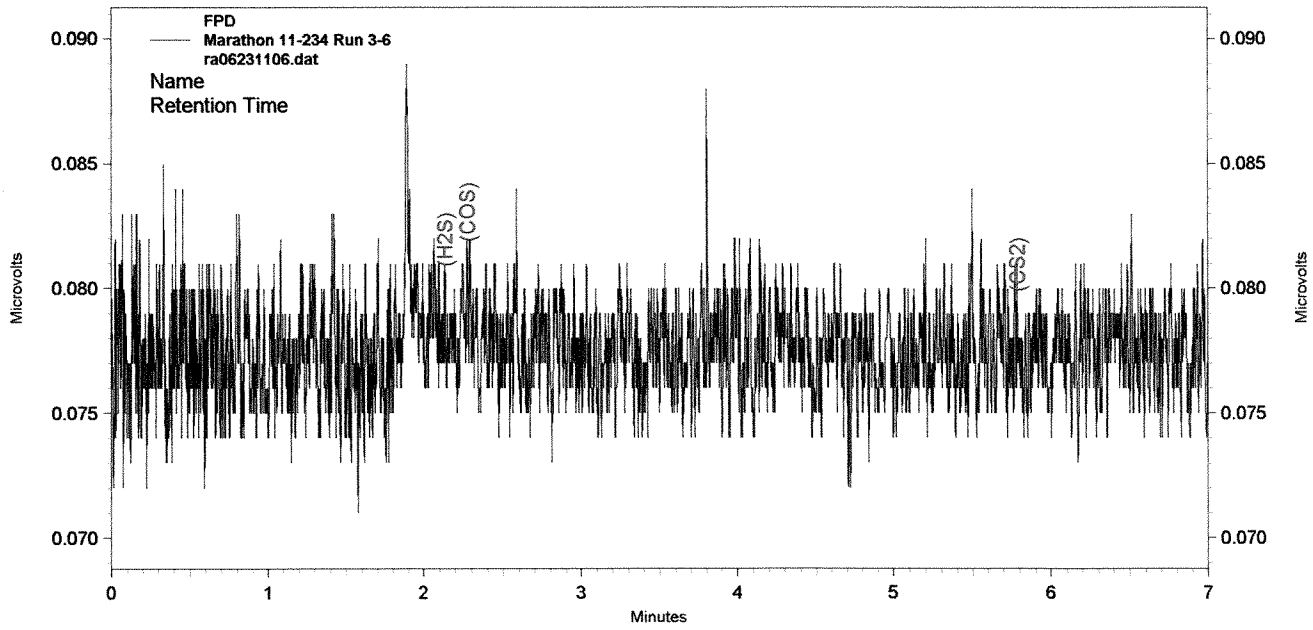


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 10:17:09 AM
Acquired: 6/23/2011 10:10:05 AM
Printed: 1

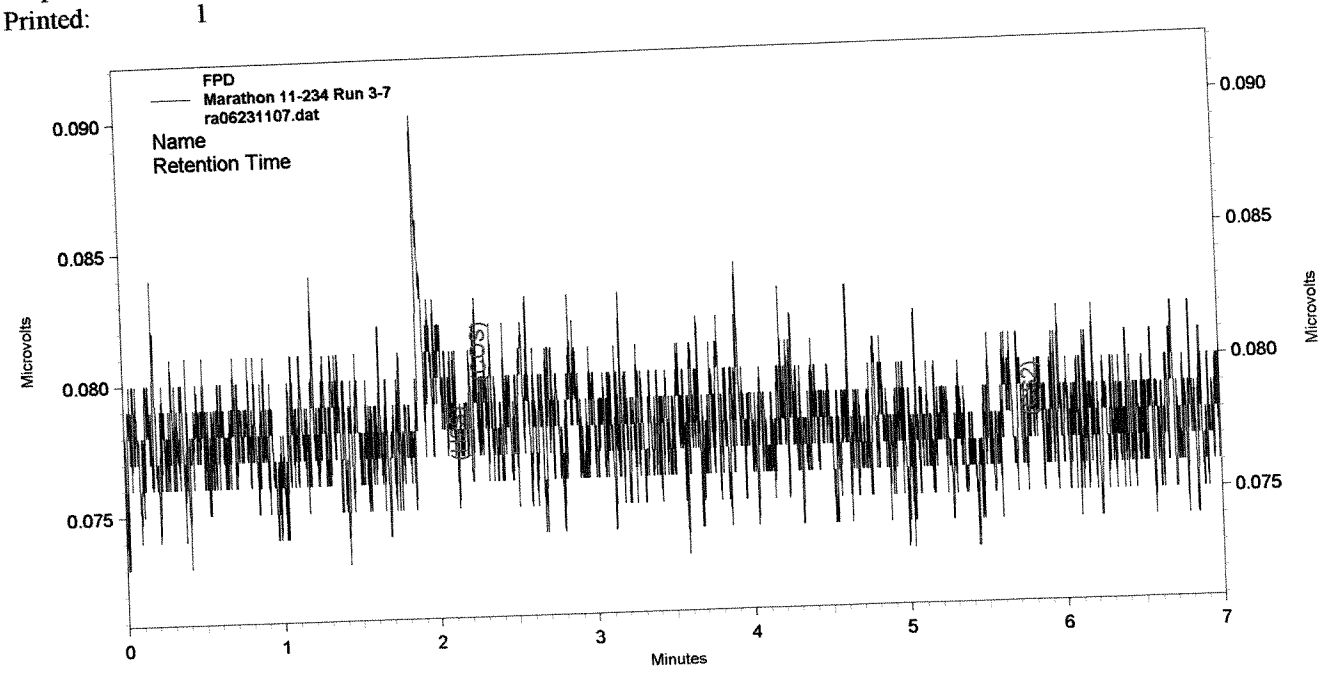


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 10:26:05 AM
Acquired: 6/23/2011 10:19:04 AM
Printed: 1

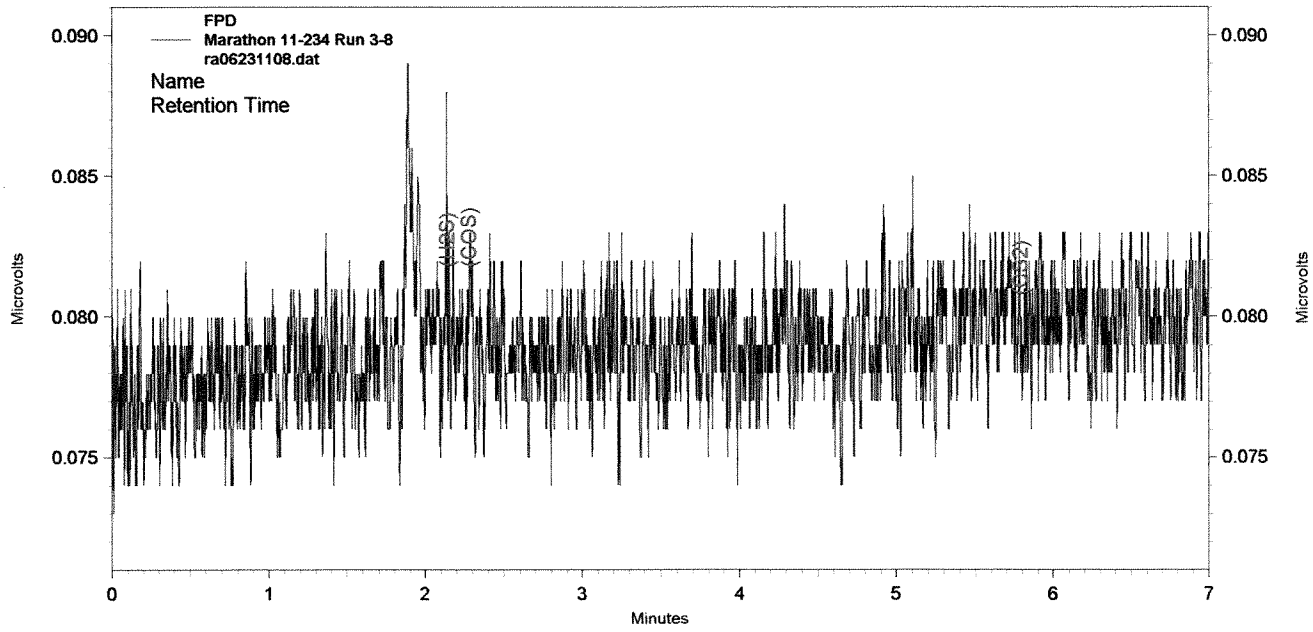


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 10:35:10 AM
Acquired: 6/23/2011 10:28:05 AM
Printed: 1

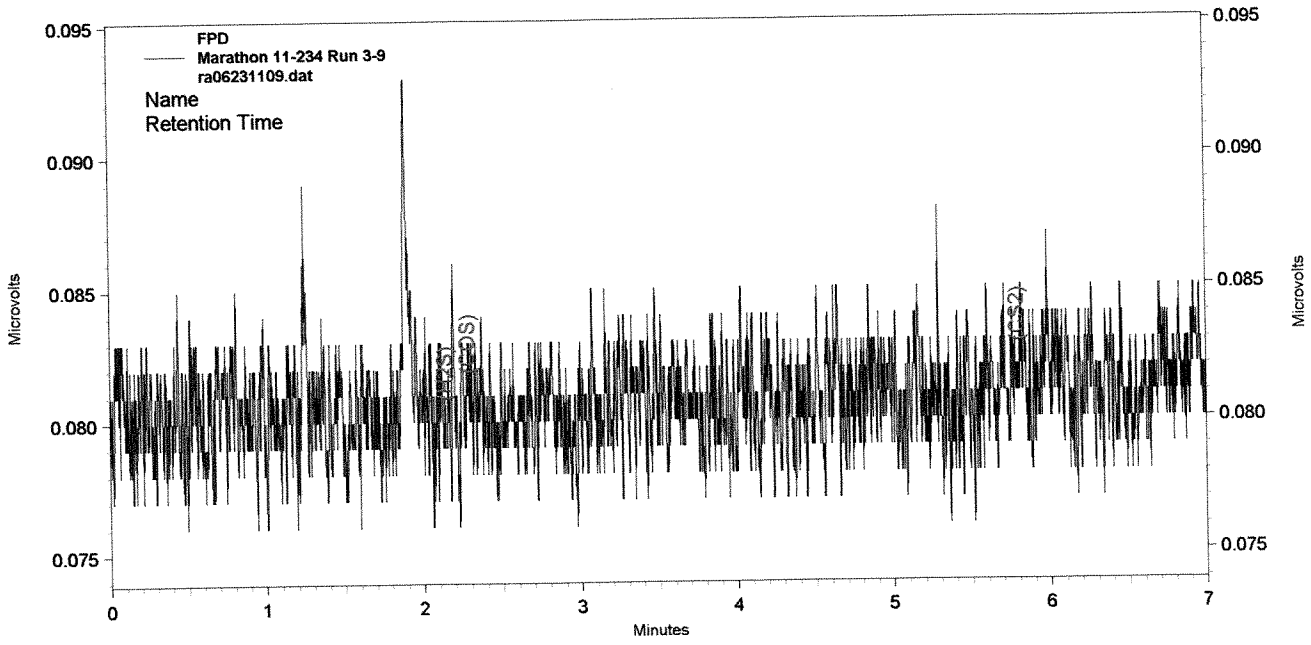


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 10:44:09 AM
Acquired: 6/23/2011 10:37:03 AM
Printed: 1

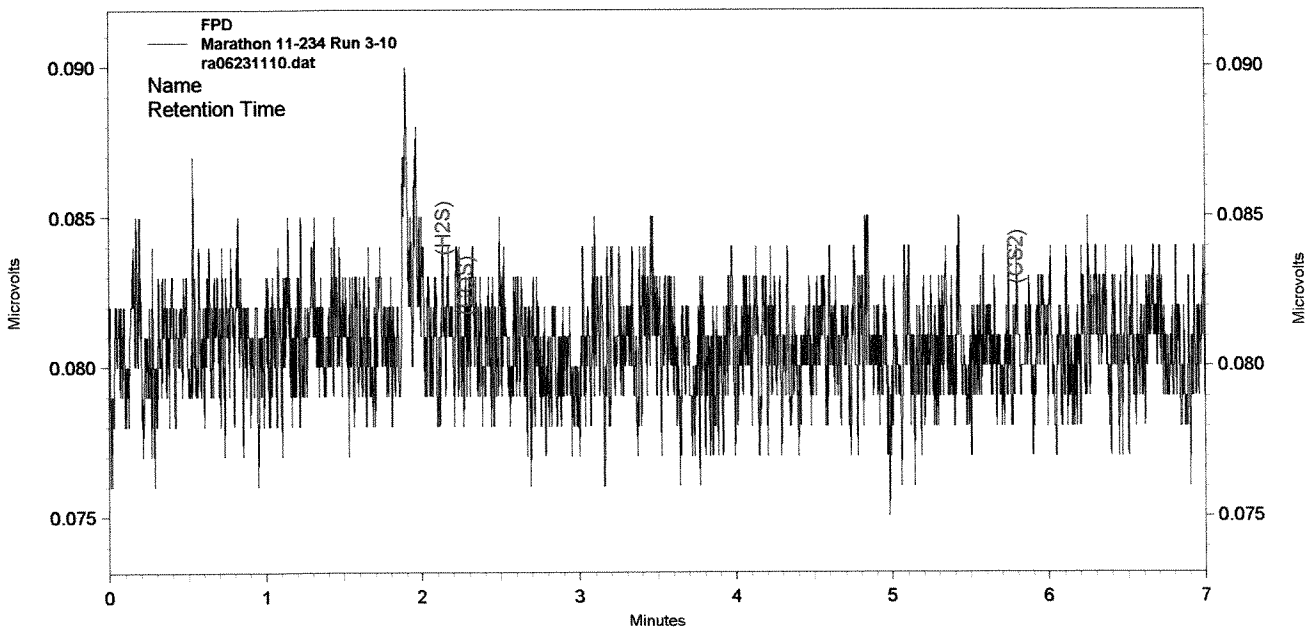


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 10:53:14 AM
Acquired: 6/23/2011 10:46:04 AM
Printed: 1

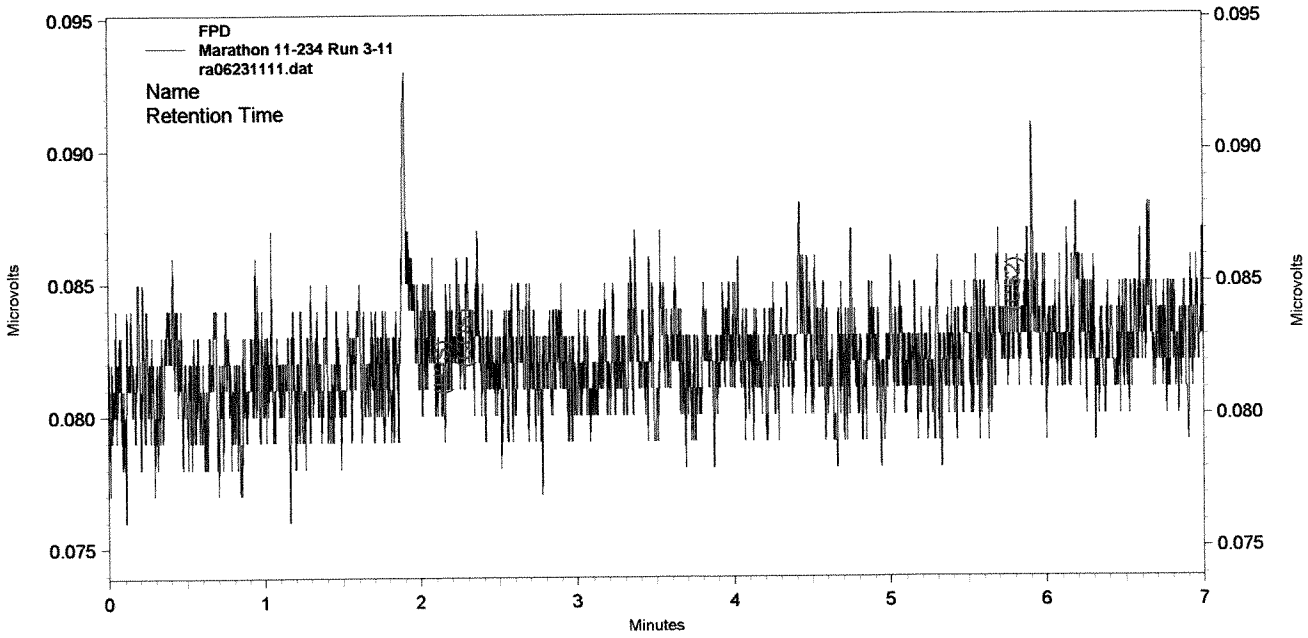


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 11:02:10 AM
Acquired: 6/23/2011 10:55:04 AM
Printed: 1

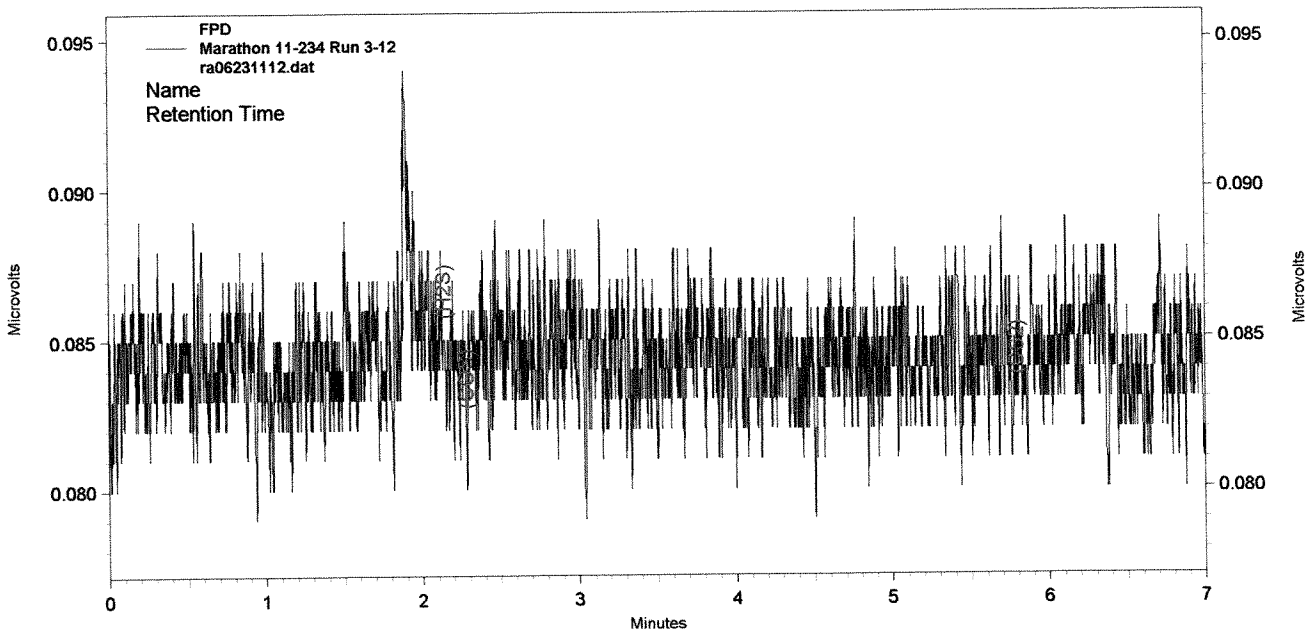


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 11:11:05 AM
Acquired: 6/23/2011 11:04:04 AM
Printed: 1

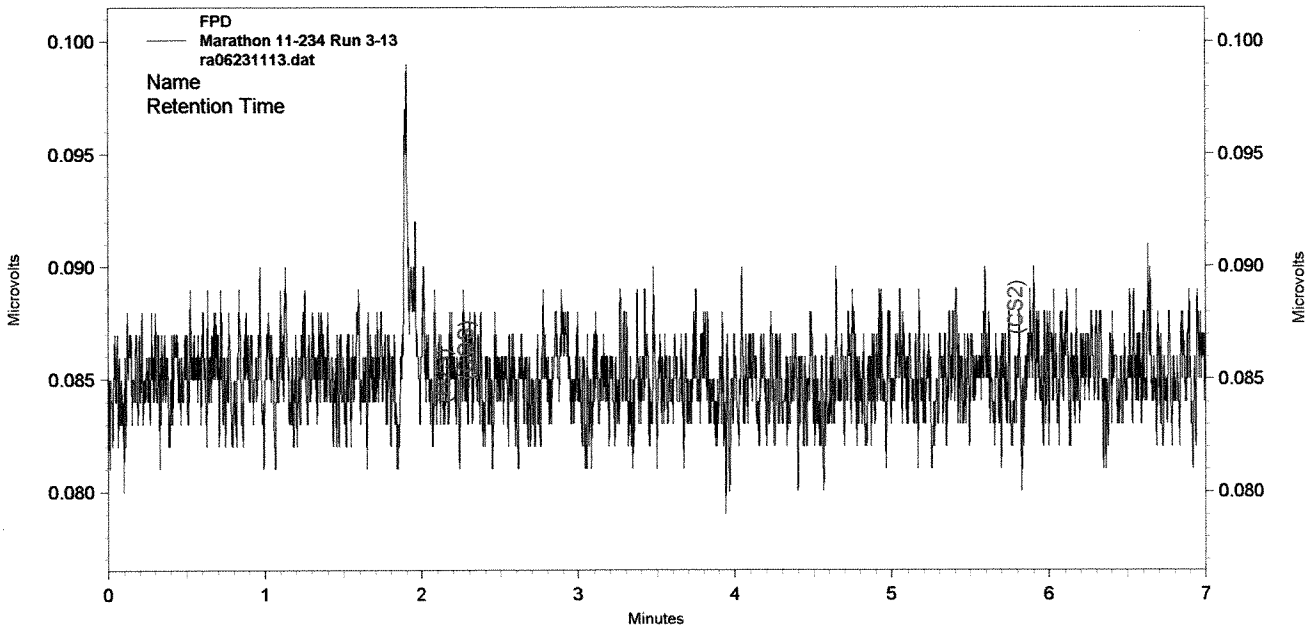


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 11:20:20 AM
Acquired: 6/23/2011 11:13:03 AM
Printed: 1

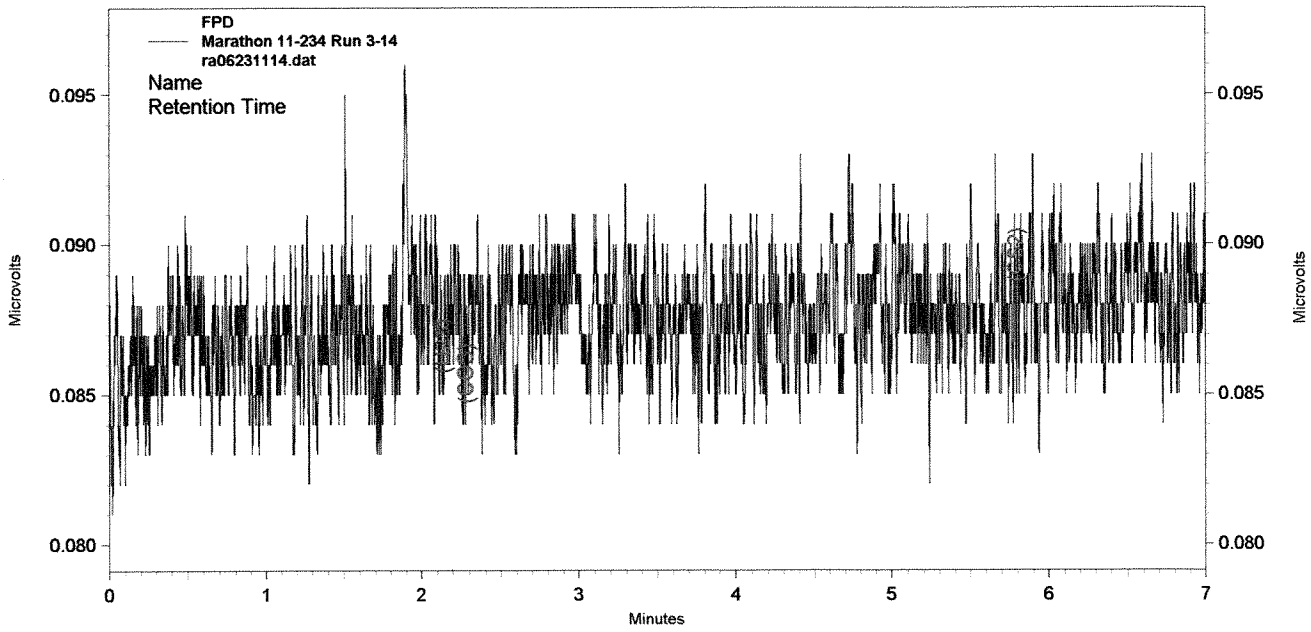


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 11:30:20 AM
Acquired: 6/23/2011 11:23:04 AM
Printed: 1

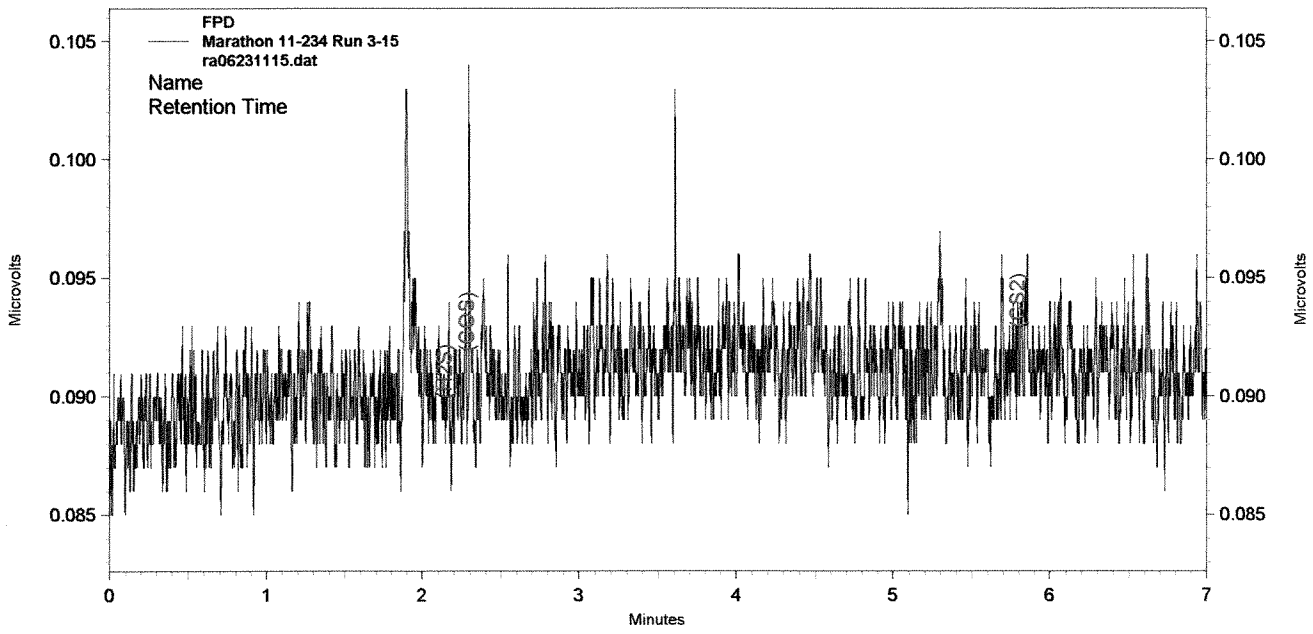


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 11:41:09 AM
Acquired: 6/23/2011 11:34:04 AM
Printed: 1

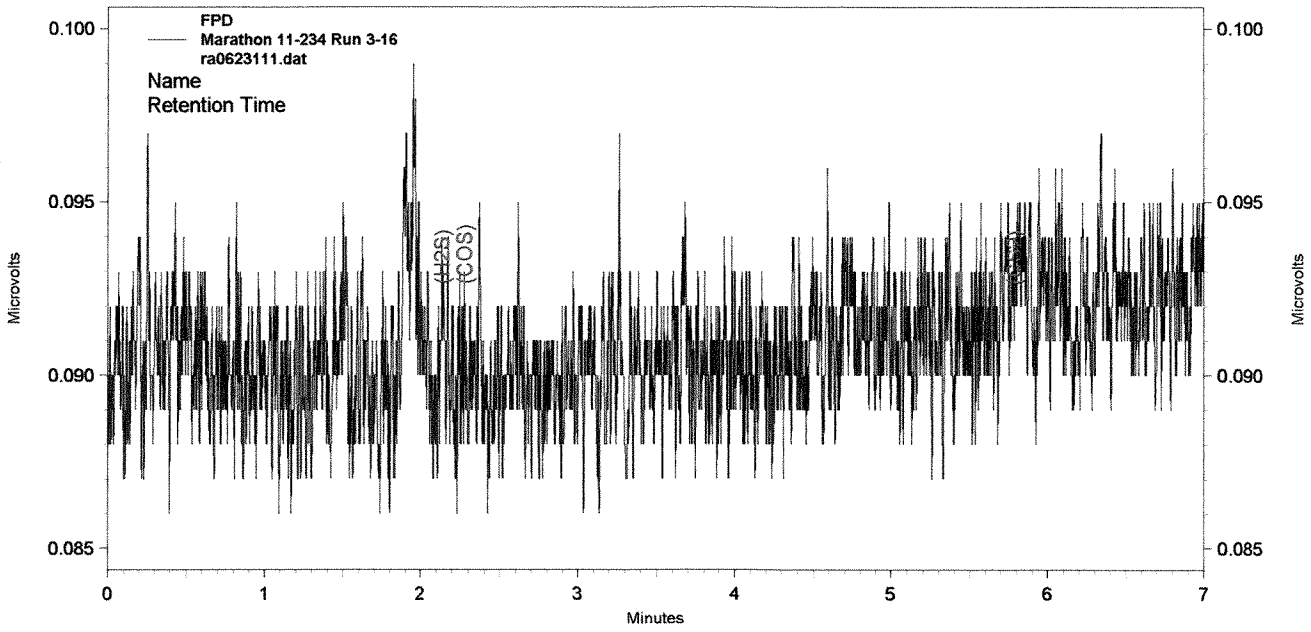


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 11:52:15 AM
Acquired: 6/23/2011 11:45:14 AM
Printed: 1

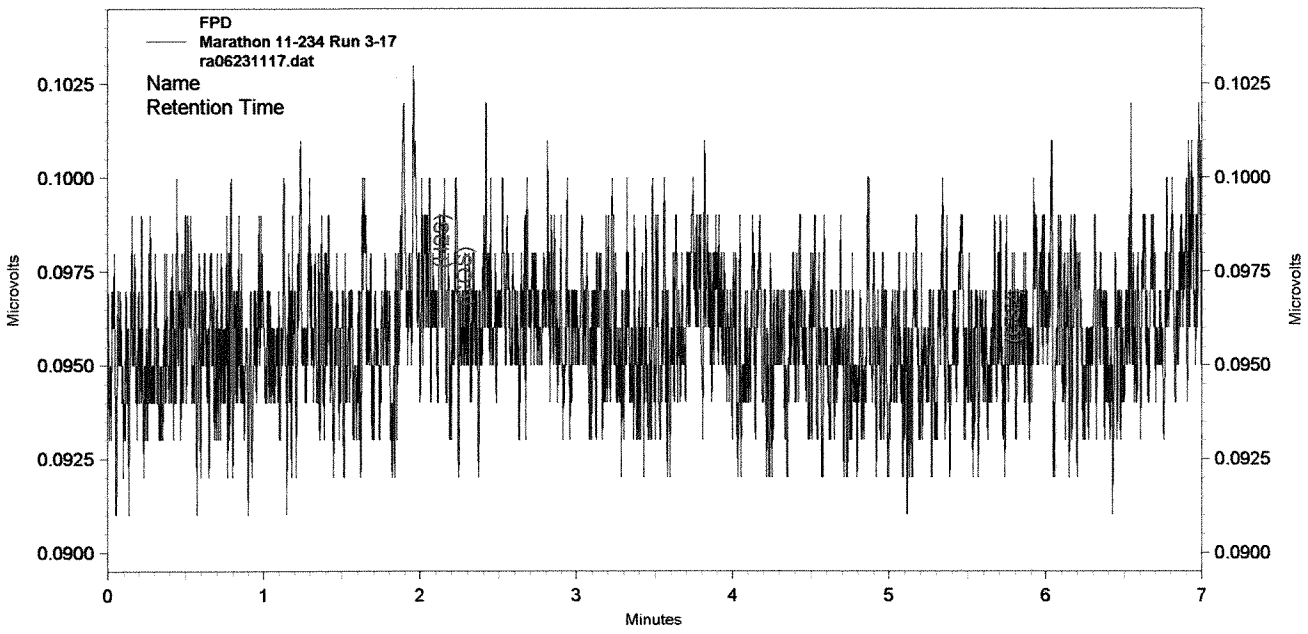


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 12:02:57 PM
Acquired: 6/23/2011 11:55:47 AM
Printed: 1

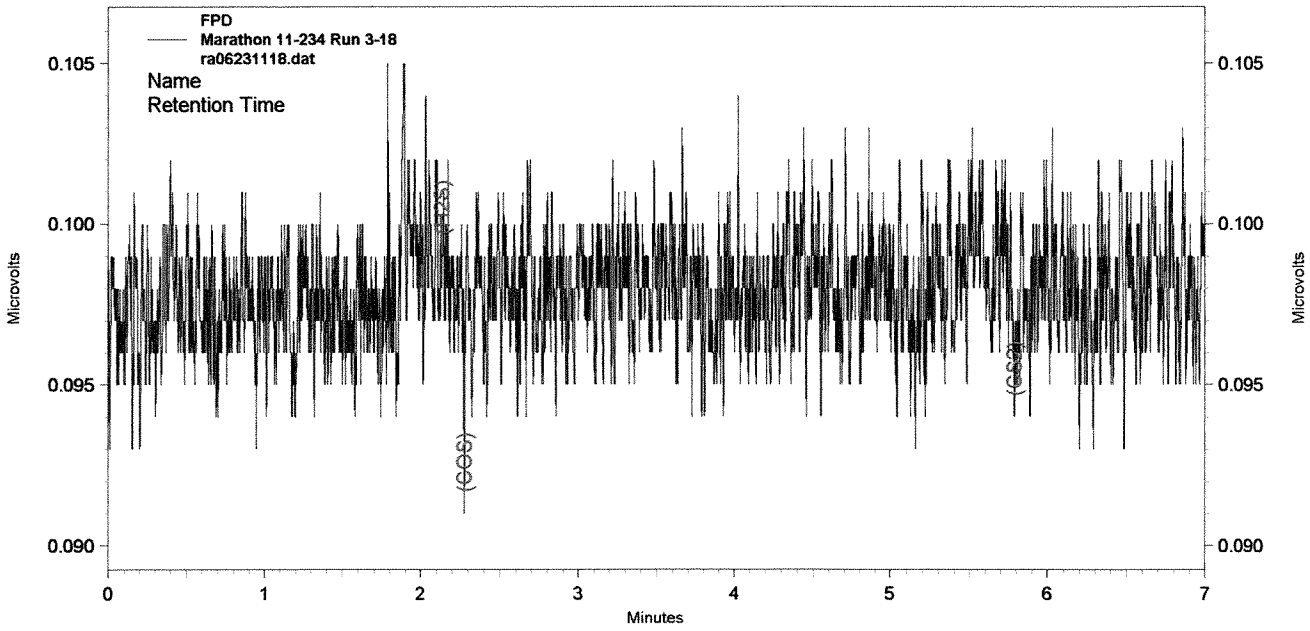


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 12:12:40 PM
Acquired: 6/23/2011 12:05:29 PM
Printed: 1

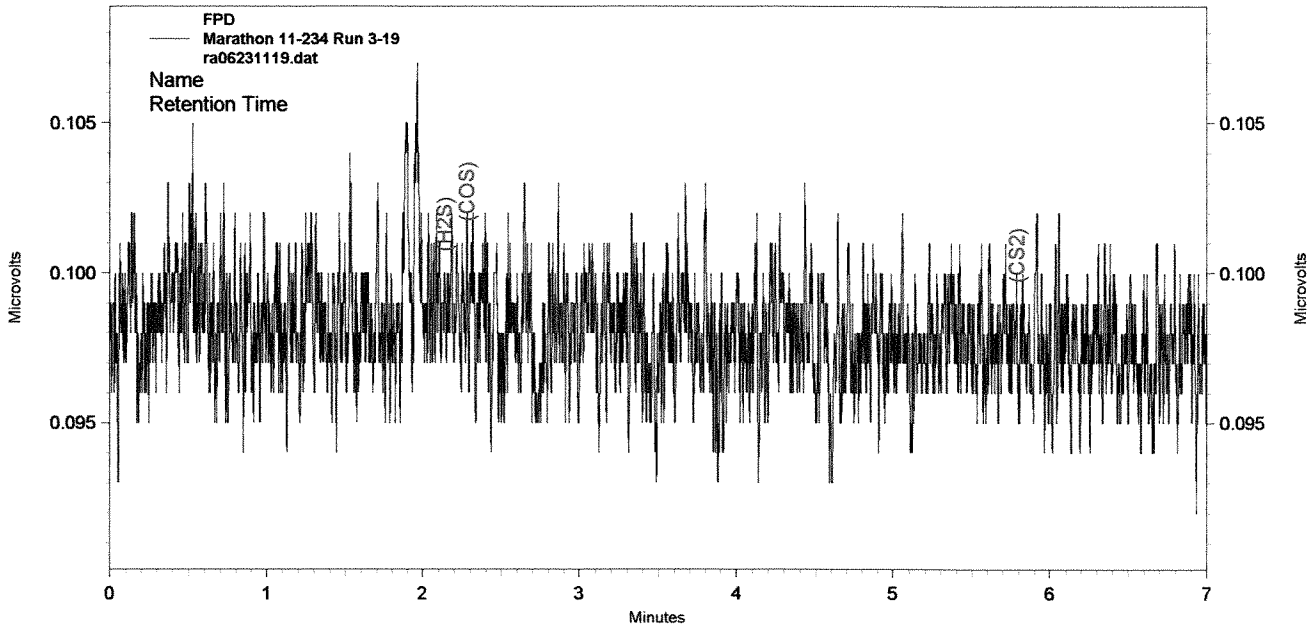


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 12:22:09 PM
Acquired: 6/23/2011 12:15:04 PM
Printed: 1

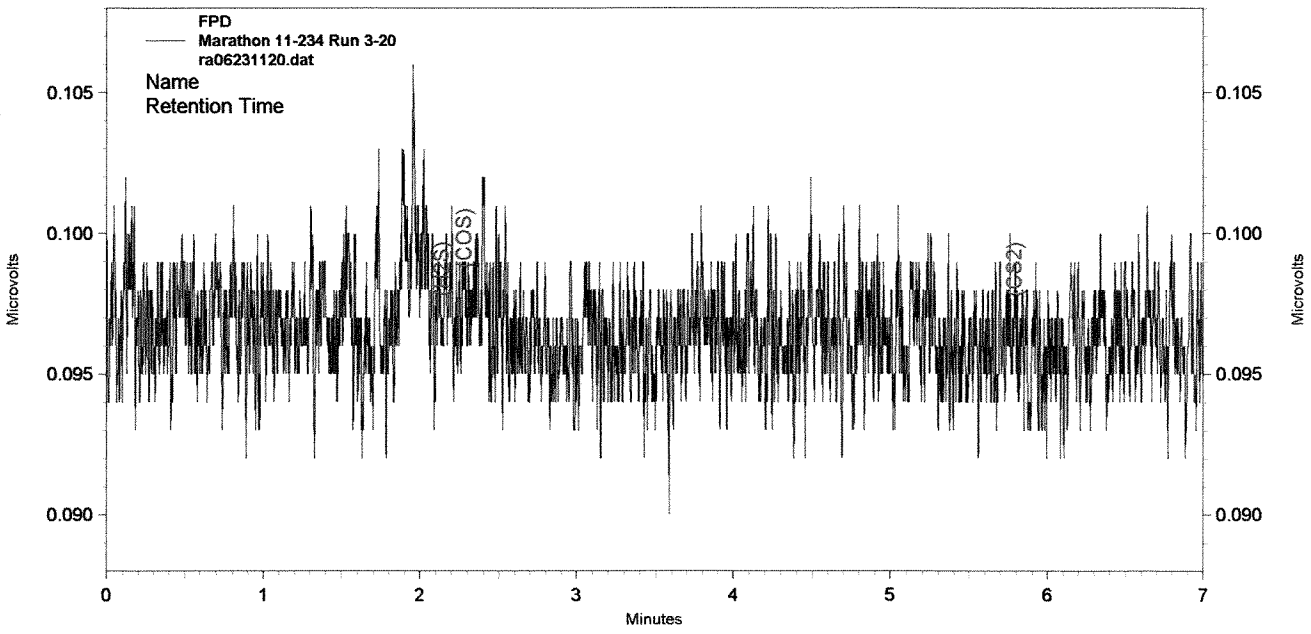


FPD Results

Name	Retention Time	Height	Area

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 12:32:09 PM
Acquired: 6/23/2011 12:25:04 PM
Printed: 1



FPD Results

Name	Retention Time	Height	Area

Standards

METCO Environmental

Total Reduced Sulfur (TRS)
Calibration Data

Client: Marathon
Source: Thermal Oxidizer #3
Curve 1

Proj. No.: 11-234
Date: 06/22/11

Compound	H2S	COS	CS2	Barometric Pres.
Permeation Tube Number	47131+47132	47148+47147	44528	29.89
Permeation Rate (ng/min)	12840	9375	7891	Temp (F)
Permeation Rate (nl/min)	9690.1	4013.8	2665.6	104

Time	Flow (ml/min)	Compound	Concn (ppm)	Response 1	2	3	Mean
17:16	662.0	H2S	14.64	1953	2106	2084	2048
		COS	6.06	11000	11132	10861	10998
		CS2	4.03	10057	10668	10466	10397
16:44	259.0	H2S	37.41	57164	55735	58127	57009
		COS	15.50	96717	93182	94443	94781
		CS2	10.29	89058	82883	84094	85345
16:05	71.0	H2S	136.48	806972	809767	868653	828464
		COS	56.53	748829	712562	739119	733503
		CS2	37.54	871807	823509	857383	850900

METCO Environmental

Total Reduced Sulfur (TRS)
Calibration Summary

Client: Marathon
Source: Thermal Oxidizer #3
Curve 1

Proj. #: 11-234
Date: 06/22/11

Compound	Correlation Coefficient (r)			Curve No.
H2S	Ln/Ln	0.9881		1

Time	Concn (ppm)	Ln Concn	Ln Resp	Response	Ln Cal Concn	Diff (%)
17:16	14.64	2.68	7.62	2048	13.03	-11.0
16:44	37.41	3.62	10.95	57009	45.71	22.2
16:05	136.48	4.92	13.63	828464	125.45	-8.1

Ln-Ln

Slope: 2.65
Y Intercept: 2

Compound	Correlation Coefficient (r)			Curve No.
COS	Ln/Ln	0.9944		1

Time	Concn (ppm)	Ln Concn	Ln Resp	Response	Cal Concn	Diff (%)
17:16	6.06	1.80	9.31	10998	5.60	-7.6
16:44	15.50	2.74	11.46	94781	17.79	14.8
16:05	56.53	4.03	13.51	733503	53.35	-5.6

Ln-Ln

Slope 1.86
Y Intercept 445

Compound	Correlation Coefficient (r)			Curve No.
CS2	Ln/Ln	0.9978		1

Time	Concn (ppm)	Ln Concn	Ln Resp	Response	Cal Concn	Diff (%)
17:16	4.03	1.39	9.25	10397	3.83	-5.0
16:44	10.29	2.33	11.35	85345	11.21	8.9
16:05	37.54	3.63	13.65	850900	36.21	-3.5

Ln-Ln

Slope 1.96
Y Intercept 745

METCO Environmental

Total Reduced Sulfur (TRS)
Calibration Data

Client: Marathon
Source: Thermal Oxidizer #3
Curve 2

Proj. No.: 11-234
Date: 06/22/11

Compound	H2S	COS	CS2	Barometric Pres.
Permeation Tube Number	47131+47132	47148+47147	44528	29.89
Permeation Rate (ng/min)	12840	9375	7891	Temp (F)
Permeation Rate (nl/min)	9690.1	4013.8	2665.6	104

Time	Flow (ml/min)	Compound	Concn (ppm)	Response 1	Response 2	Response 3	Mean
19:14	662.0	H2S	14.64	3135	3125	3091	3117
		COS	6.06	13584	13345	13996	13642
		CS2	4.03	13018	12791	12927	12912
18:40	259.0	H2S	37.41	70723	71141	77574	73146
		COS	15.50	109217	104793	107659	107223
		CS2	10.29	104319	96089	98575	99661
18:07	71.0	H2S	136.48	1065048	1129078	1112613	1102246
		COS	56.53	878211	892253	857556	876007
		CS2	37.54	1050398	1068455	1028845	1049233

METCO Environmental

Total Reduced Sulfur (TRS)
Calibration Summary

Client: Marathon
Source: Thermal Oxidizer #3
Curve 2

Proj. #: 11-234
Date: 06/22/11

Compound	Correlation Coefficient (r)			Curve No.		
H2S	Ln/Ln	0.9909		1		
Time	Concn (ppm)	Ln Concn	Ln Resp	Response	Ln Cal Concn	Diff (%)
19:14	14.64	2.68	8.04	3117	13.22	-9.7
18:40	37.41	3.62	11.20	73146	44.59	19.2
18:07	136.48	4.92	13.91	1102246	126.77	-7.1
					Ln-Ln	
	Slope:				2.60	
	Y Intercept:				4	

Compound	Correlation Coefficient (r)			Curve No.		
COS	Ln/Ln	0.9963		1		
Time	Concn (ppm)	Ln Concn	Ln Resp	Response	Cal Concn	Diff (%)
19:14	6.06	1.80	9.52	13642	5.68	-6.3
18:40	15.50	2.74	11.58	107223	17.32	11.7
18:07	56.53	4.03	13.68	876007	53.95	-4.6
					Ln-Ln	
	Slope				1.85	
	Y Intercept				549	

Compound	Correlation Coefficient (r)			Curve No.		
CS2	Ln/Ln	0.9987		1		
Time	Concn (ppm)	Ln Concn	Ln Resp	Response	Cal Concn	Diff (%)
19:14	4.03	1.39	9.47	12912	3.88	-3.7
18:40	10.29	2.33	11.51	99661	10.99	6.8
18:07	37.54	3.63	13.86	1049233	36.51	-2.7
					Ln-Ln	
	Slope				1.96	
	Y Intercept				905	

METCO Environmental

Total Reduced Sulfur (TRS)
Calibration Data

Client: Marathon
Source: Thermal Oxidizer #3
Curve 3

Proj. No.: 11-234
Date: 06/23/11

Compound	H2S	COS	CS2	Barometric Pres.
Permeation Tube Number	47131+47132	47148+47147	44528	29.83
Permeation Rate (ng/min)	12840	9375	7891	Temp (F)
Permeation Rate (nl/min)	9709.5	4021.9	2670.9	104

Time	Flow (ml/min)	Compound	Concn (ppm)	Response 1	2	3	Mean
19:14	662.0	H2S	14.67	4994	5007	4644	4882
		COS	6.08	16107	15736	15435	15759
		CS2	4.03	15311	14496	14343	14717
18:40	259.0	H2S	37.49	70611	71710	76884	73068
		COS	15.53	117291	113090	112923	114435
		CS2	10.31	104887	102663	102038	103196
18:07	71.0	H2S	136.75	1092340	1125250	1208543	1142044
		COS	56.65	863387	858360	904458	875402
		CS2	37.62	1023257	1018262	1068858	1036792

METCO Environmental

Total Reduced Sulfur (TRS)
Calibration Summary

Client: Marathon
Source: Thermal Oxidizer #3
Curve 3

Proj. #: 11-234
Date: 06/23/11

Compound	Correlation Coefficient (r)			Curve No.
H2S	Ln/Ln	0.9962		1

Time	Concn (ppm)	Ln Concn	Ln Resp	Response	Ln Cal Concn	Diff (%)
19:14	14.67	2.69	8.49	4882	13.74	-6.3
18:40	37.49	3.62	11.20	73068	41.96	11.9
18:07	136.75	4.92	13.95	1142044	130.43	-4.6

	Ln-Ln
Slope:	2.42
Y Intercept:	9

Compound	Correlation Coefficient (r)			Curve No.
COS	Ln/Ln	0.9964		1

Time	Concn (ppm)	Ln Concn	Ln Resp	Response	Cal Concn	Diff (%)
19:14	6.08	1.81	9.67	15759	5.71	-6.1
18:40	15.53	2.74	11.65	114435	17.32	11.5
18:07	56.65	4.04	13.68	875402	54.11	-4.5

	Ln-Ln
Slope	1.79
Y Intercept	702

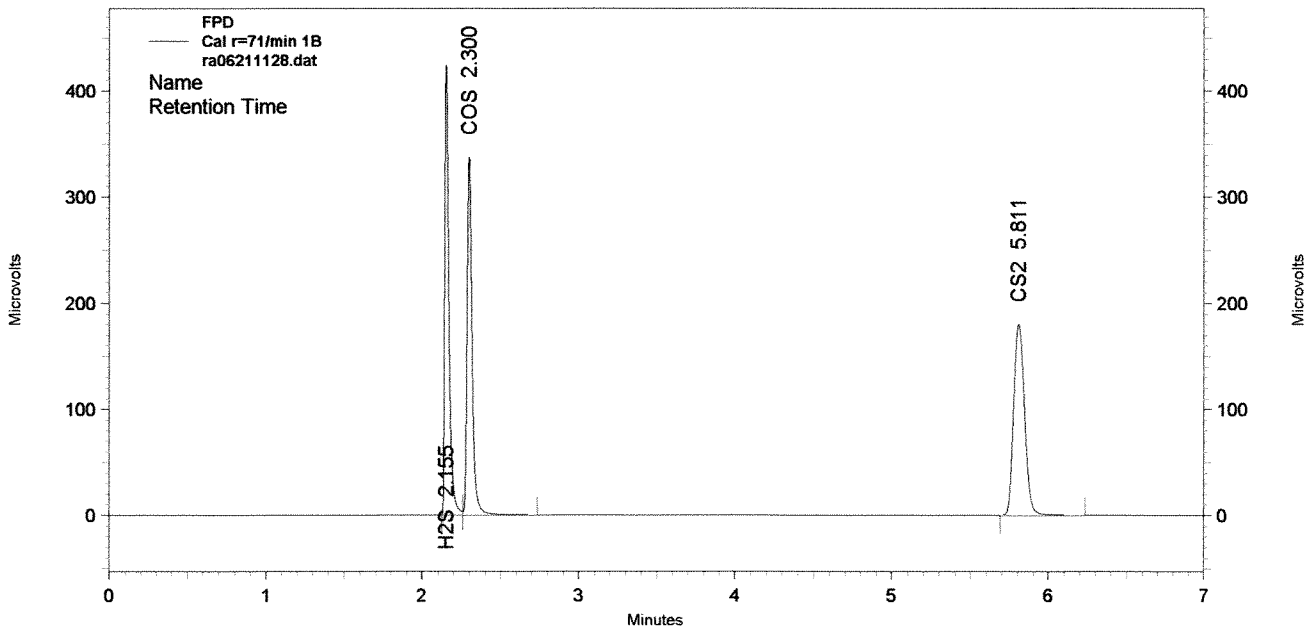
Compound	Correlation Coefficient (r)			Curve No.
CS2	Ln/Ln	0.9991		1

Time	Concn (ppm)	Ln Concn	Ln Resp	Response	Cal Concn	Diff (%)
19:14	4.03	1.39	9.60	14717	3.90	-3.2
18:40	10.31	2.33	11.54	103196	10.89	5.6
18:07	37.62	3.63	13.85	1036792	36.76	-2.3

	Ln-Ln
Slope	1.90
Y Intercept	1111

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/21/2011 4:12:57 PM
Acquired: 6/21/2011 4:05:46 PM
Printed: 1

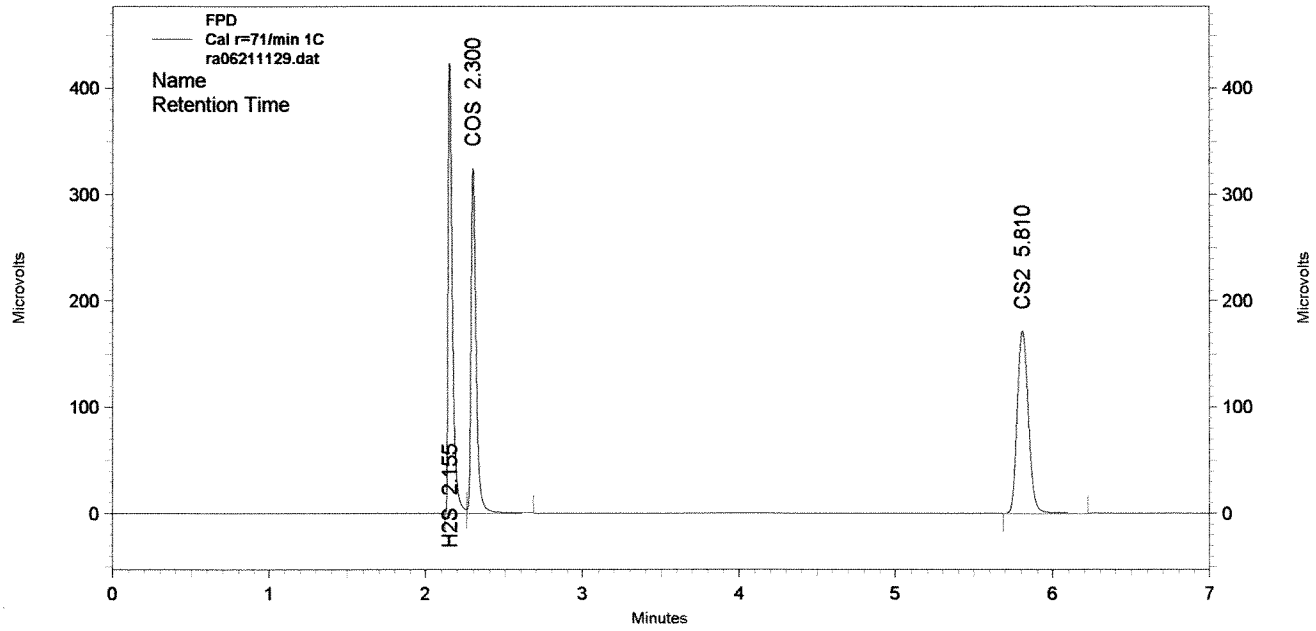


FPD Results

Name	Retention Time	Height	Area
H2S	2.155	424452	806972
COS	2.300	337659	748829
CS2	5.811	180385	871807
Totals		942496	2427608

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/21/2011 4:20:47 PM
Acquired: 6/21/2011 4:13:46 PM
Printed: 1

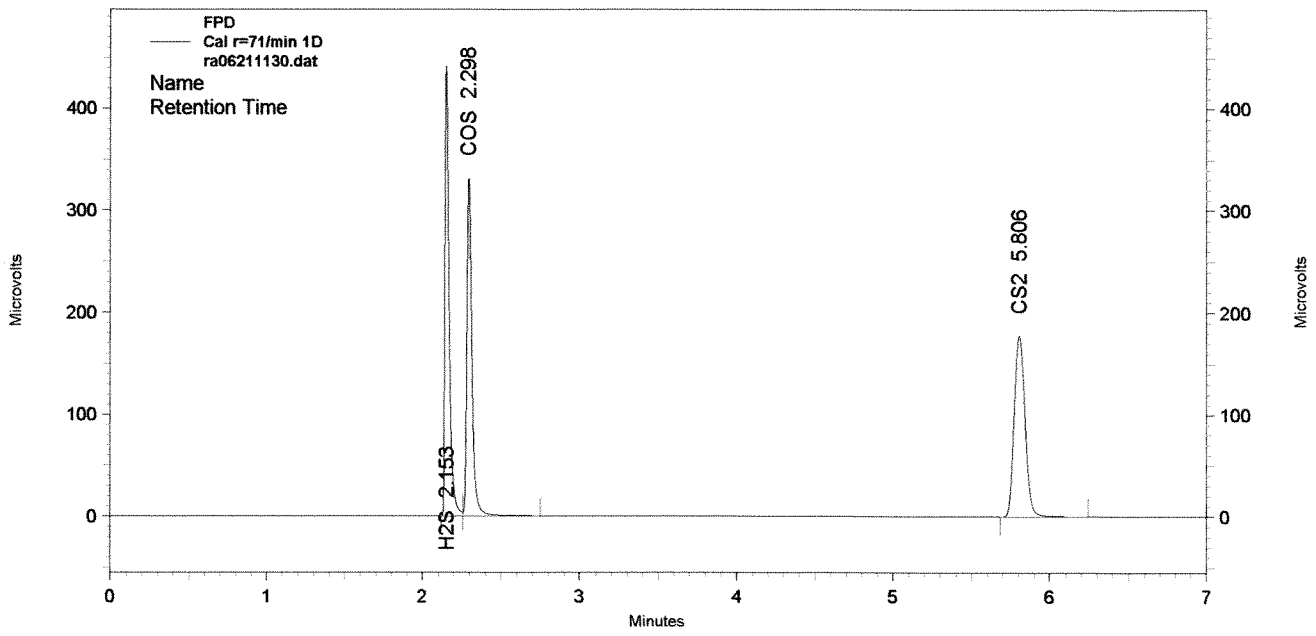


FPD Results

Name	Retention Time	Height	Area
H2S	2.155	423653	809767
COS	2.300	324135	712562
CS2	5.810	171310	823509
Totals		919098	2345838

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/21/2011 4:28:42 PM
Acquired: 6/21/2011 4:21:32 PM
Printed: 1

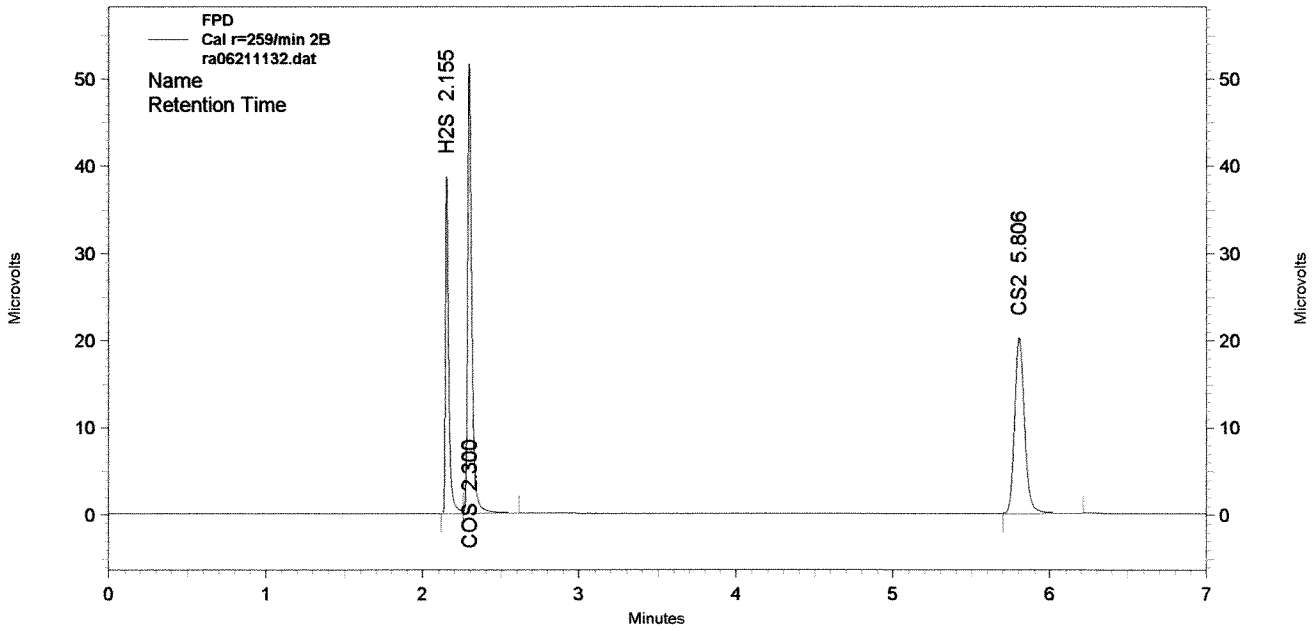


FPD Results

Name	Retention Time	Height	Area
H2S	2.153	441598	868653
COS	2.298	331577	739119
CS2	5.806	177537	857383
Totals		950712	2465155

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/21/2011 4:52:04 PM
Acquired: 6/21/2011 4:44:52 PM
Printed: 1



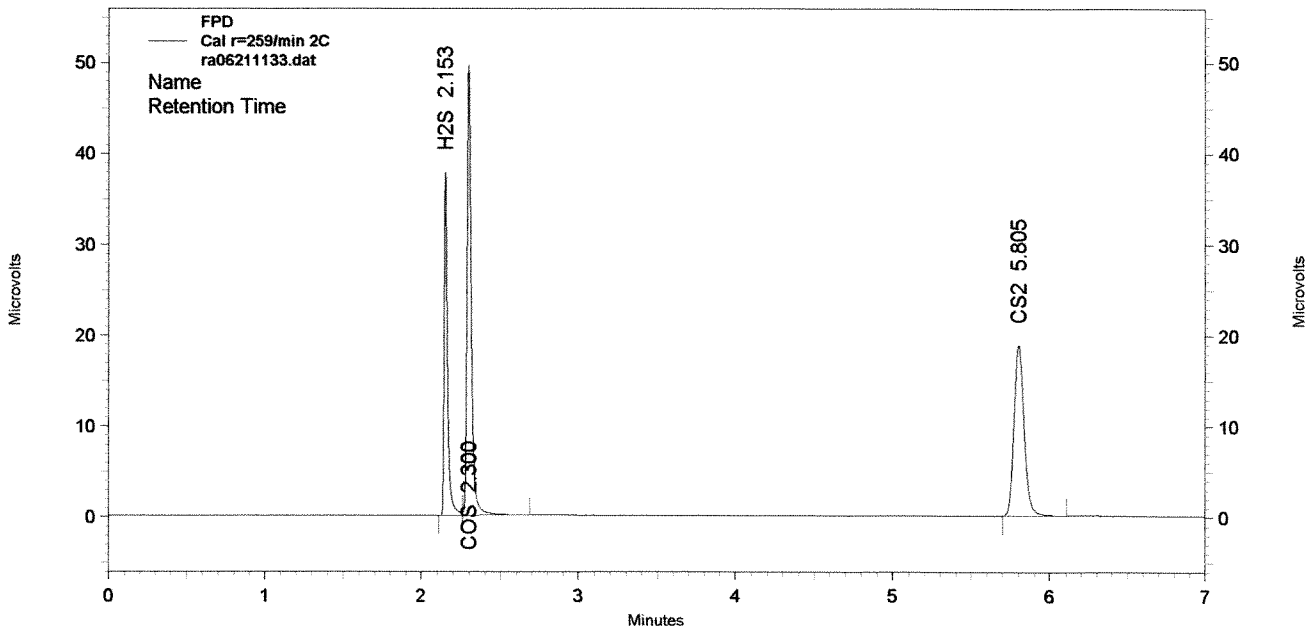
FPD Results

Name	Retention Time	Height	Area
H2S	2.155	38701	57164
COS	2.300	51621	96717
CS2	5.806	20168	89058

Totals			
		110490	242939

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/21/2011 4:59:56 PM
Acquired: 6/21/2011 4:52:45 PM
Printed: 1



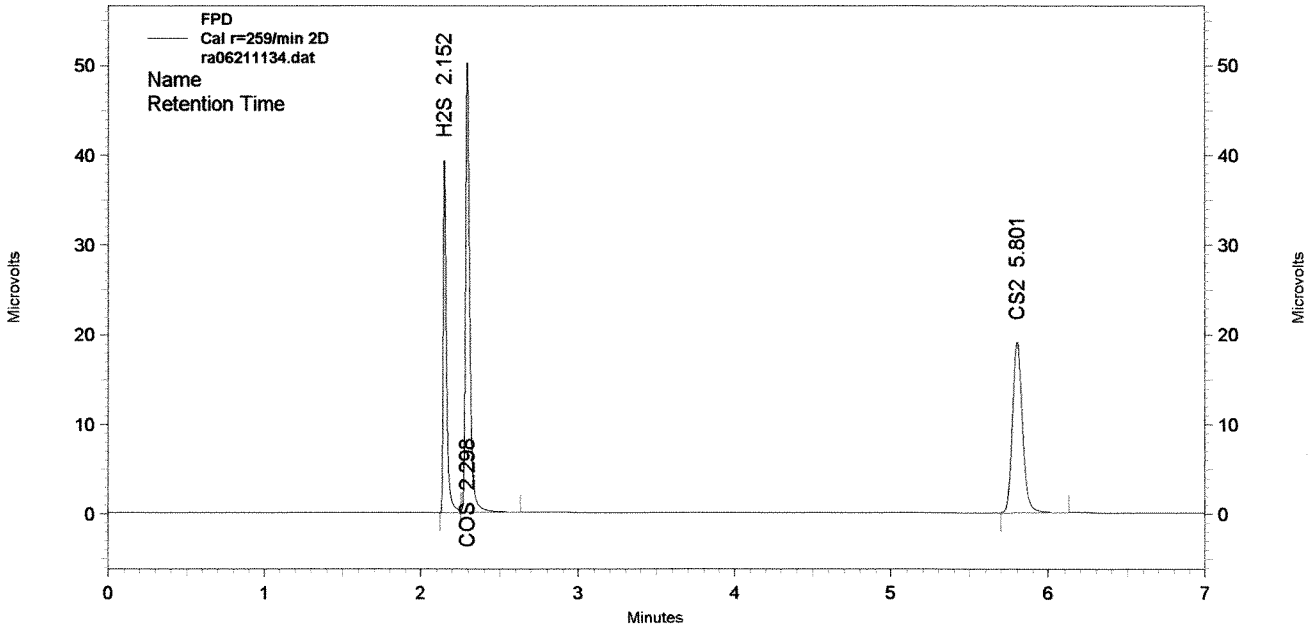
FPD Results

Name	Retention Time	Height	Area
H2S	2.153	37742	55735
COS	2.300	49569	93182
CS2	5.805	18806	82883

Totals		106117	231800

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/21/2011 5:07:56 PM
Acquired: 6/21/2011 5:00:46 PM
Printed: 1



FPD Results

Name	Retention Time	Height	Area
H2S	2.152	39359	58127
COS	2.298	50203	94443
CS2	5.801	19028	84094
Totals		108590	236664

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
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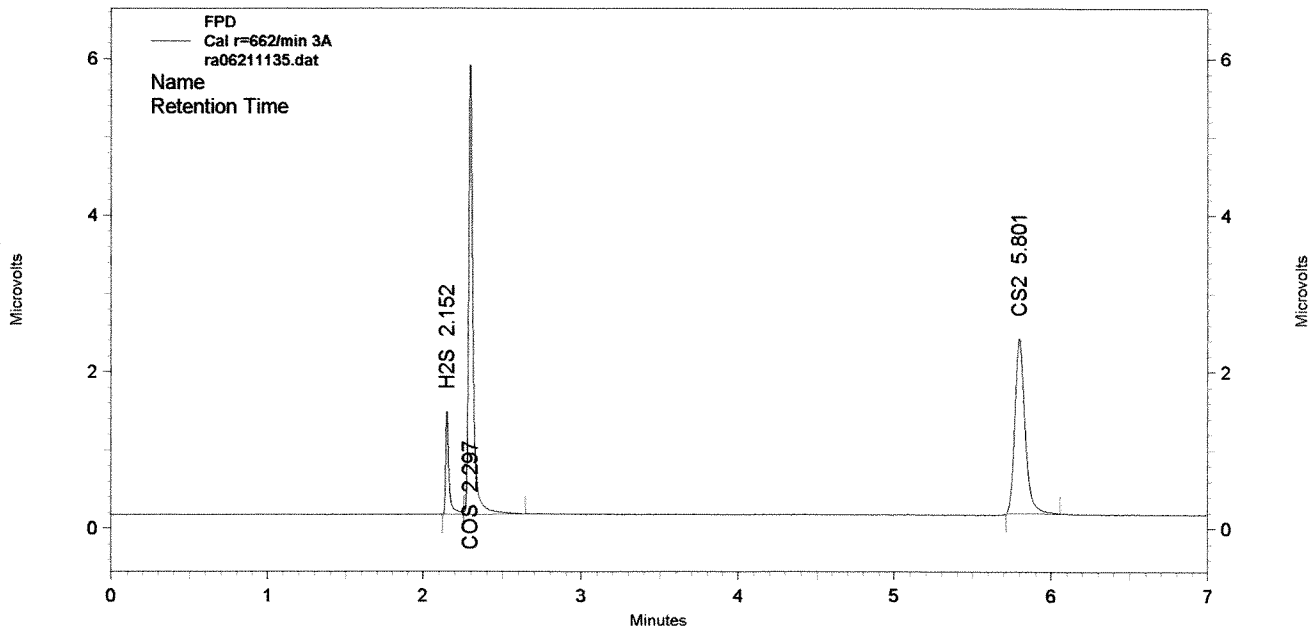
Acquired: 6/21/2011 5:16:47 PM
Printed: 1

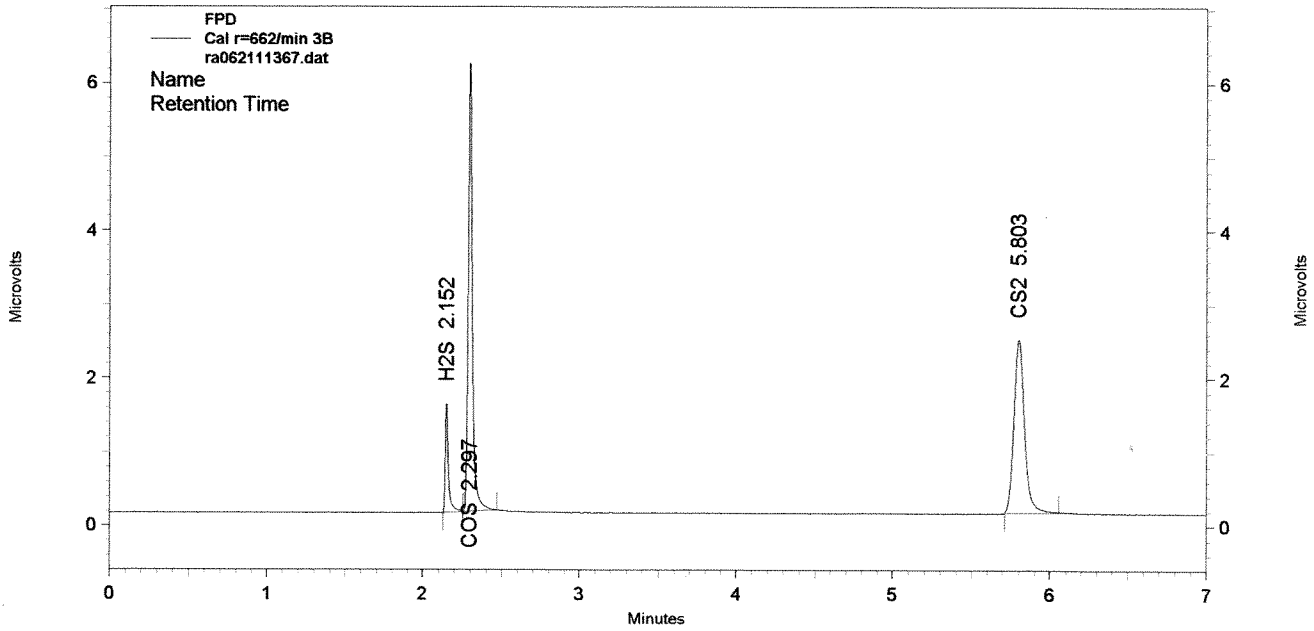


FPD Results

Name	Retention Time	Height	Area
H2S	2.152	1323	1953
COS	2.297	5748	11000
CS2	5.801	2233	10057
Totals		9304	23010

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 7:03:47 AM
Acquired: 6/21/2011 5:33:07 PM
Printed: 1

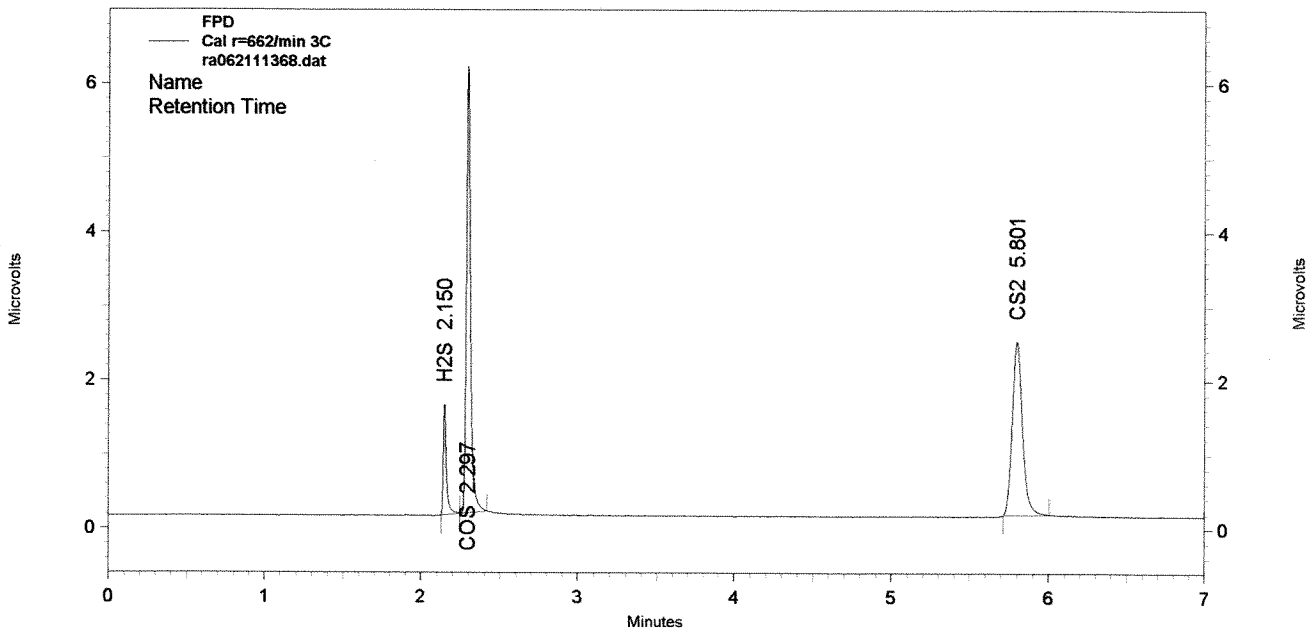


FPD Results

Name	Retention Time	Height	Area
H2S	2.152	1472	2106
COS	2.297	6080	11132
CS2	5.803	2340	10668
Totals		9892	23906

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/21/2011 5:48:10 PM
Acquired: 6/21/2011 5:40:59 PM
Printed: 1

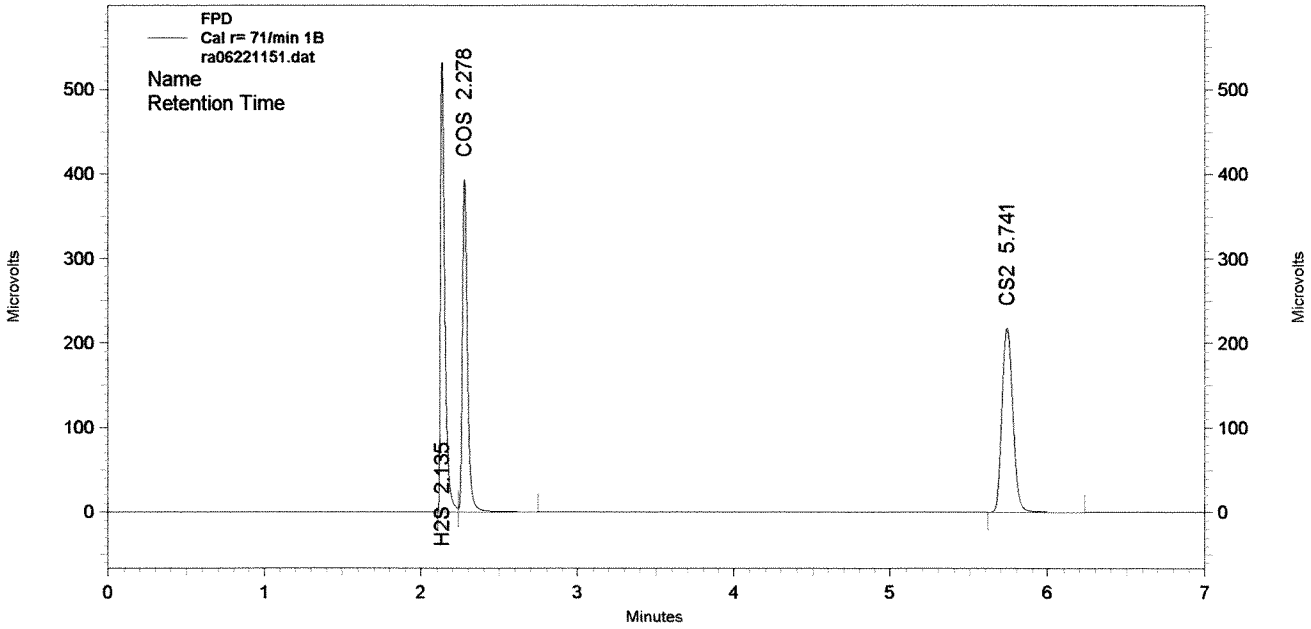


FPD Results

Name	Retention Time	Height	Area
H2S	2.150	1493	2084
COS	2.297	6029	10861
CS2	5.801	2342	10466
Totals		9864	23411

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 6:15:01 PM
Acquired: 6/22/2011 6:07:56 PM
Printed: 1



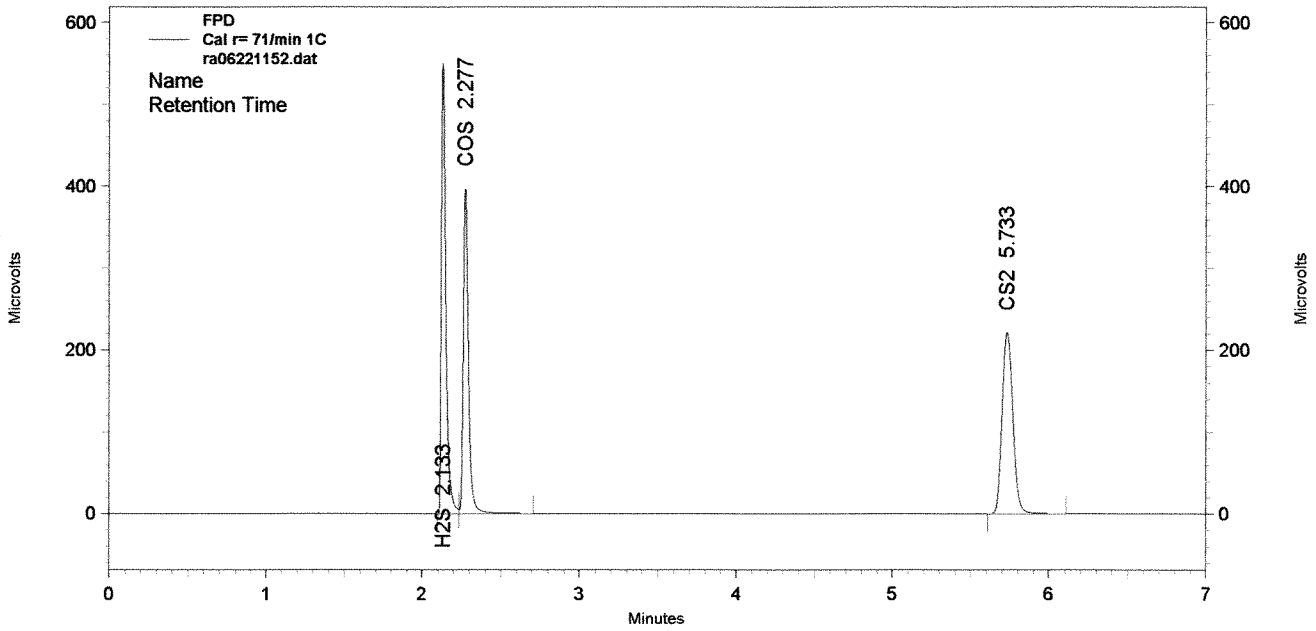
FPD Results

Name	Retention Time	Height	Area
H2S	2.135	532816	1065048
COS	2.278	394114	878211
CS2	5.741	217920	1050398

Totals		1144850	2993657

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 6:23:06 PM
Acquired: 6/22/2011 6:16:01 PM
Printed: 1

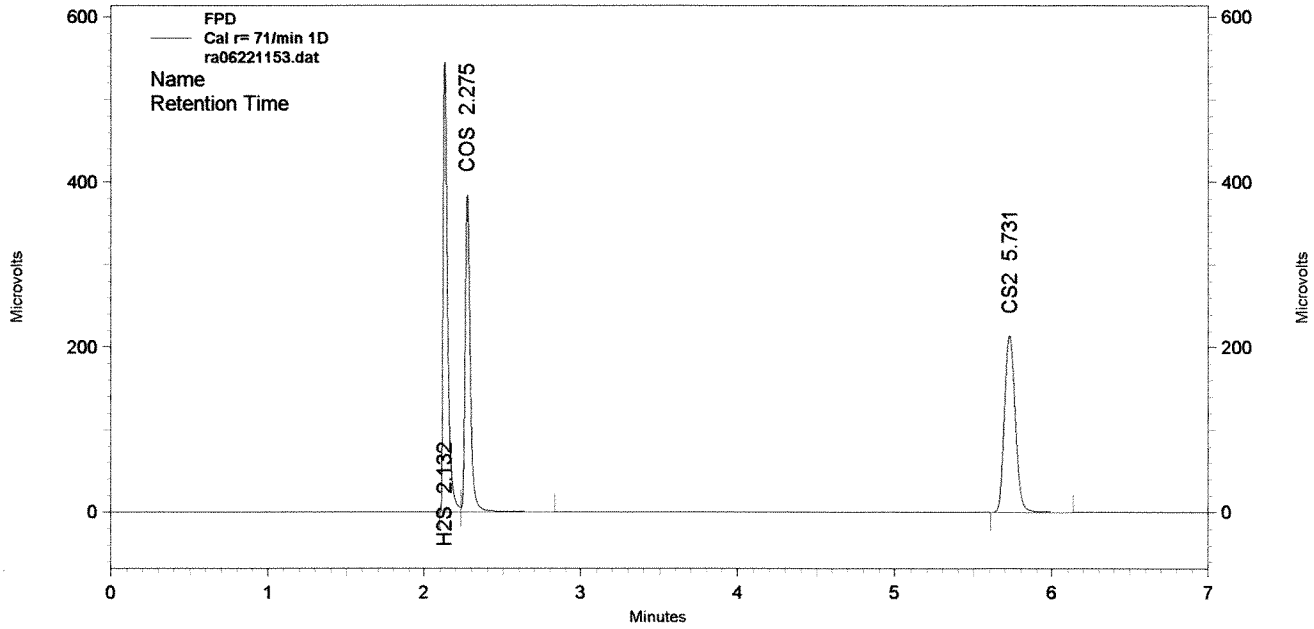


FPD Results

Name	Retention Time	Height	Area
H2S	2.133	549942	1129078
COS	2.277	397730	892253
CS2	5.733	221426	1068455
Totals		1169098	3089786

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 6:30:59 PM
Acquired: 6/22/2011 6:23:48 PM
Printed: 1



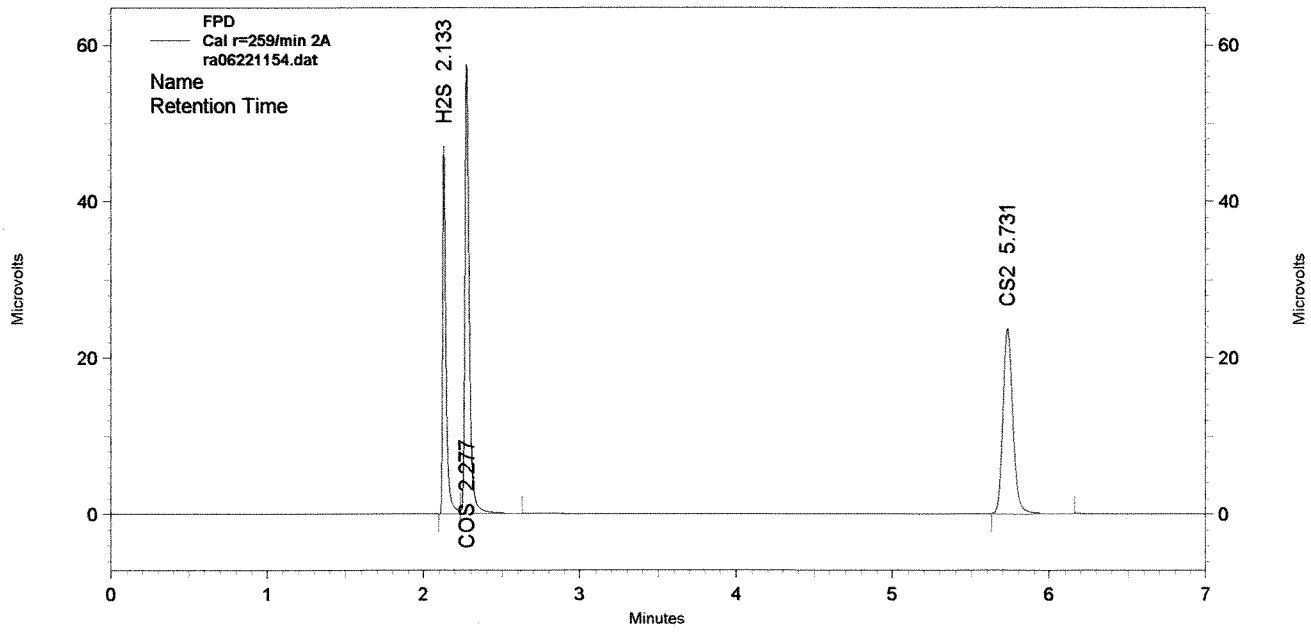
FPD Results

Name	Retention Time	Height	Area
H2S	2.132	545488	1112613
COS	2.275	384966	857556
CS2	5.731	213943	1028845

Totals		1144397	2999014

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 6:48:08 PM
Acquired: 6/22/2011 6:40:52 PM
Printed: 1



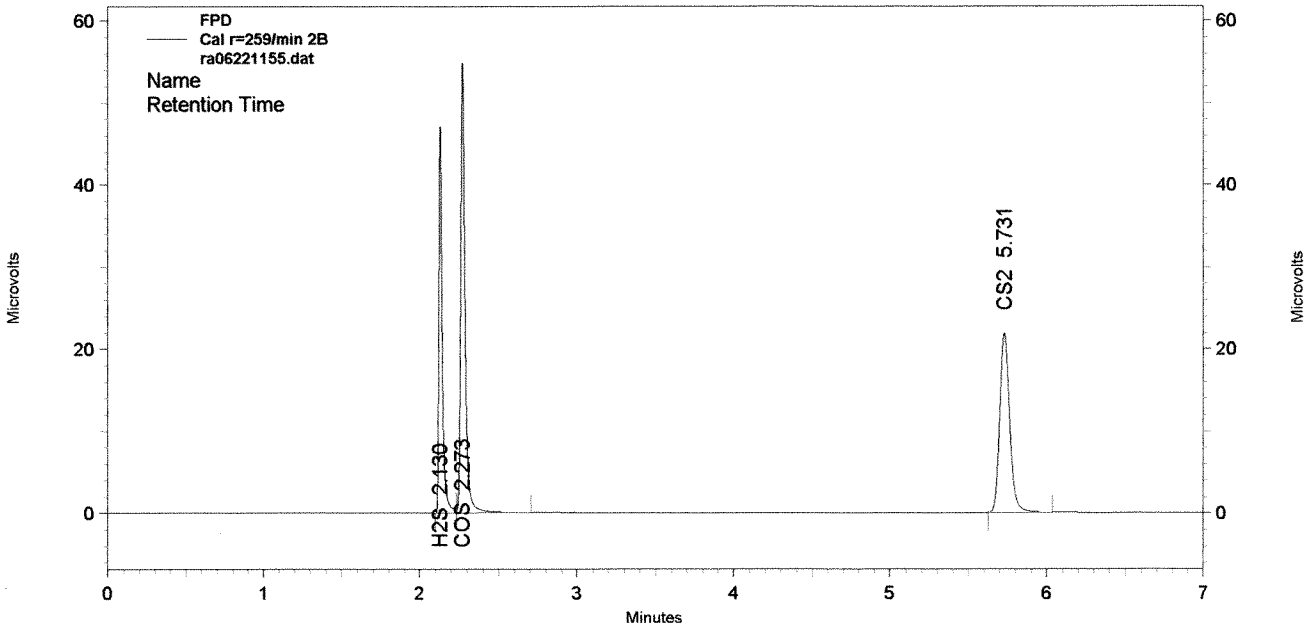
FPD Results

Name	Retention Time	Height	Area
H2S	2.133	47082	70723
COS	2.277	57527	109217
CS2	5.731	23670	104319

Totals		128279	284259

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 6:56:01 PM
Acquired: 6/22/2011 6:48:51 PM
Printed: 1



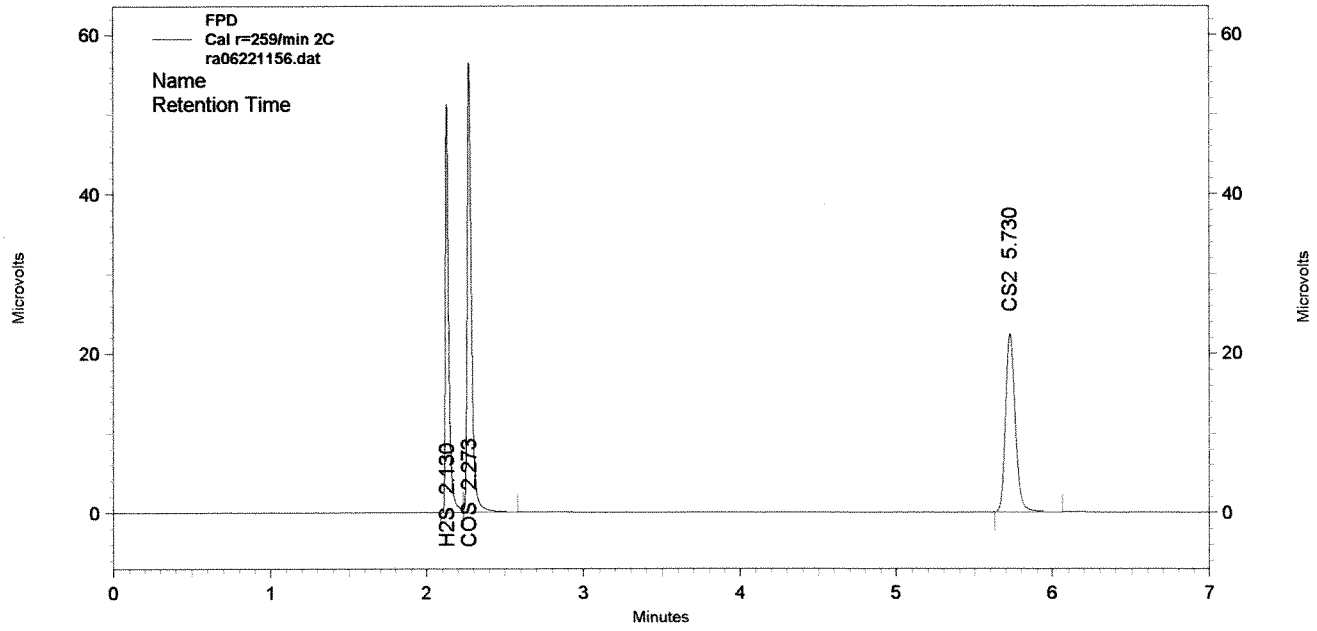
FPD Results

Name	Retention Time	Height	Area
H2S	2.130	47199	71142
COS	2.273	54831	104793
CS2	5.731	21937	96089

Totals			
		123967	272024

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 7:03:50 PM
Acquired: 6/22/2011 6:56:39 PM
Printed: 1



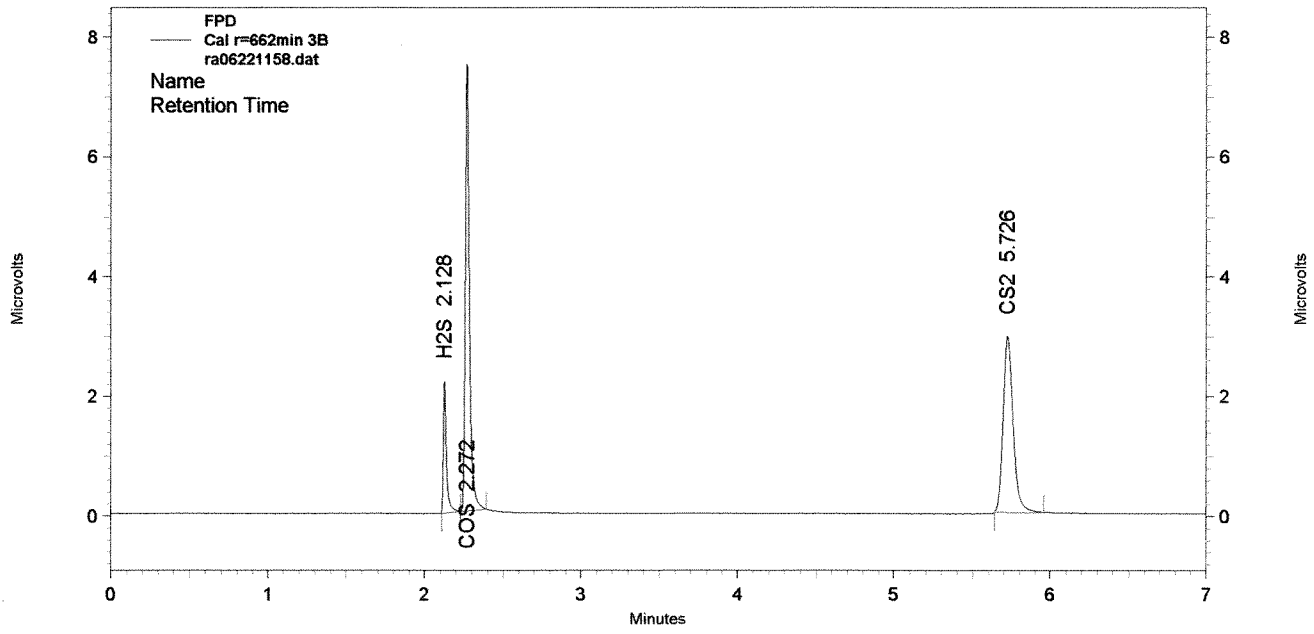
FPD Results

Name	Retention Time	Height	Area
H2S	2.130	51332	77574
COS	2.273	56454	107659
CS2	5.730	22391	98575

Totals		130177	283808

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 7:29:50 PM
Acquired: 6/22/2011 7:22:44 PM
Printed: 1



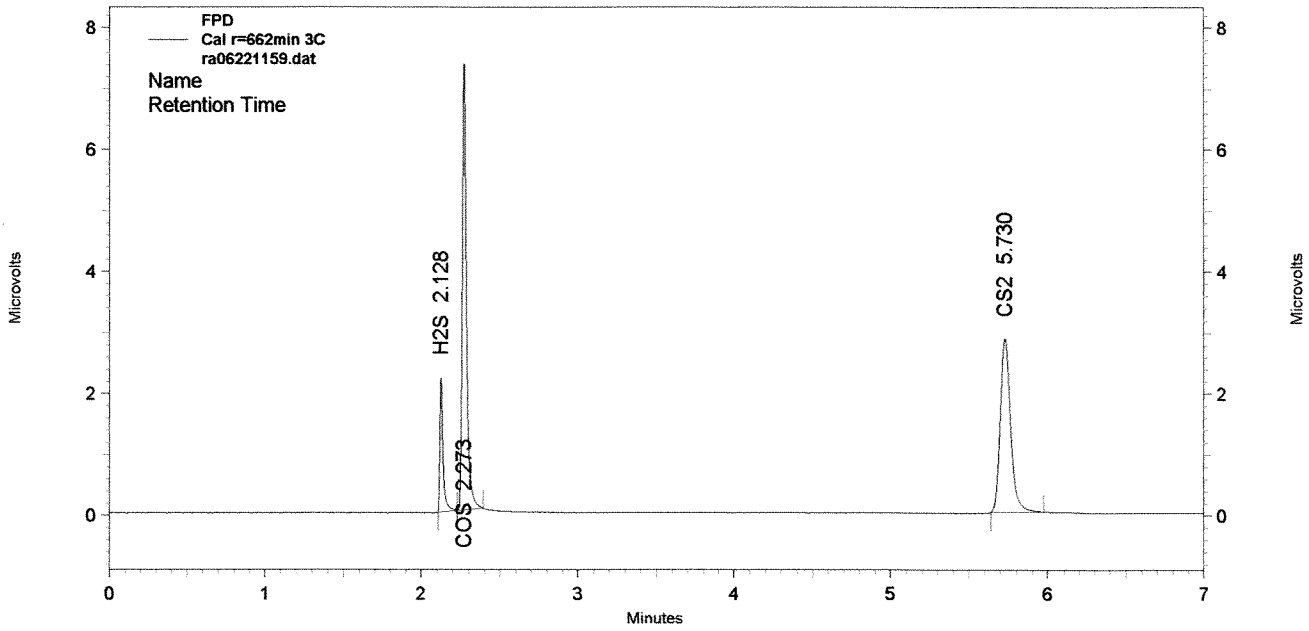
FPD Results

Name	Retention Time	Height	Area
H2S	2.128	2207	3135
COS	2.272	7467	13584
CS2	5.726	2939	13018

Totals		12613	29737

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 7:37:49 PM
Acquired: 6/22/2011 7:30:38 PM
Printed: 1



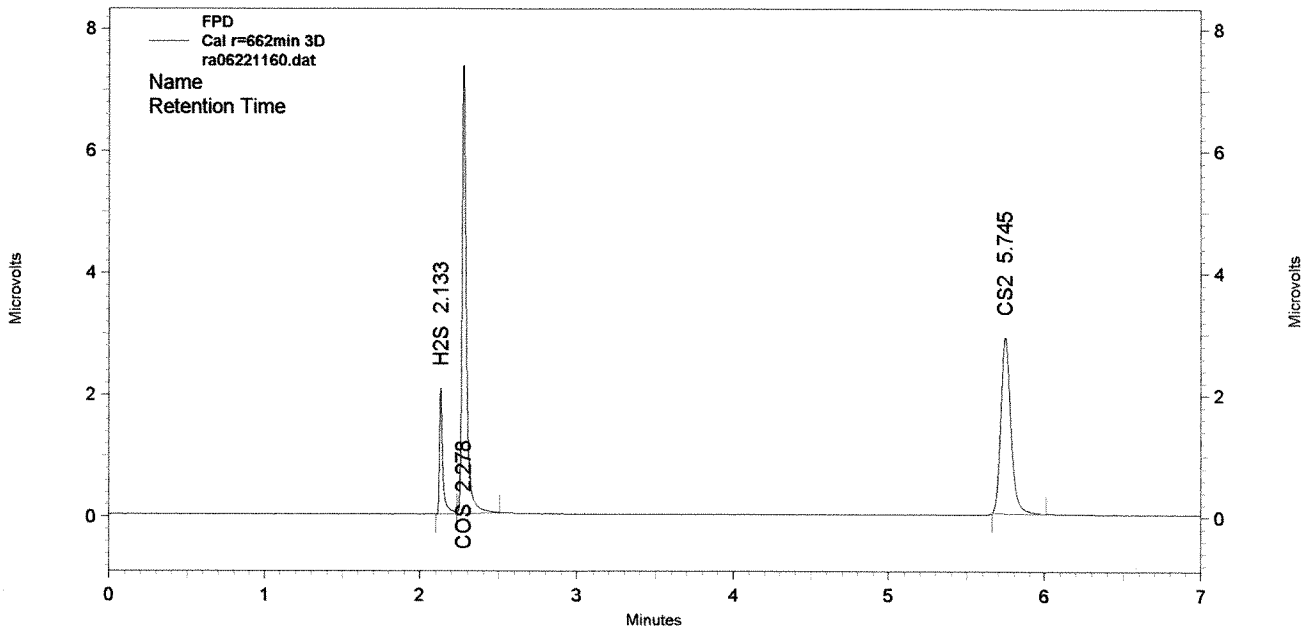
FPD Results

Name	Retention Time	Height	Area
H2S	2.128	2212	3125
COS	2.273	7327	13345
CS2	5.730	2847	12791

Totals		12386	29261

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 7:46:44 PM
Acquired: 6/22/2011 7:39:34 PM
Printed: 1

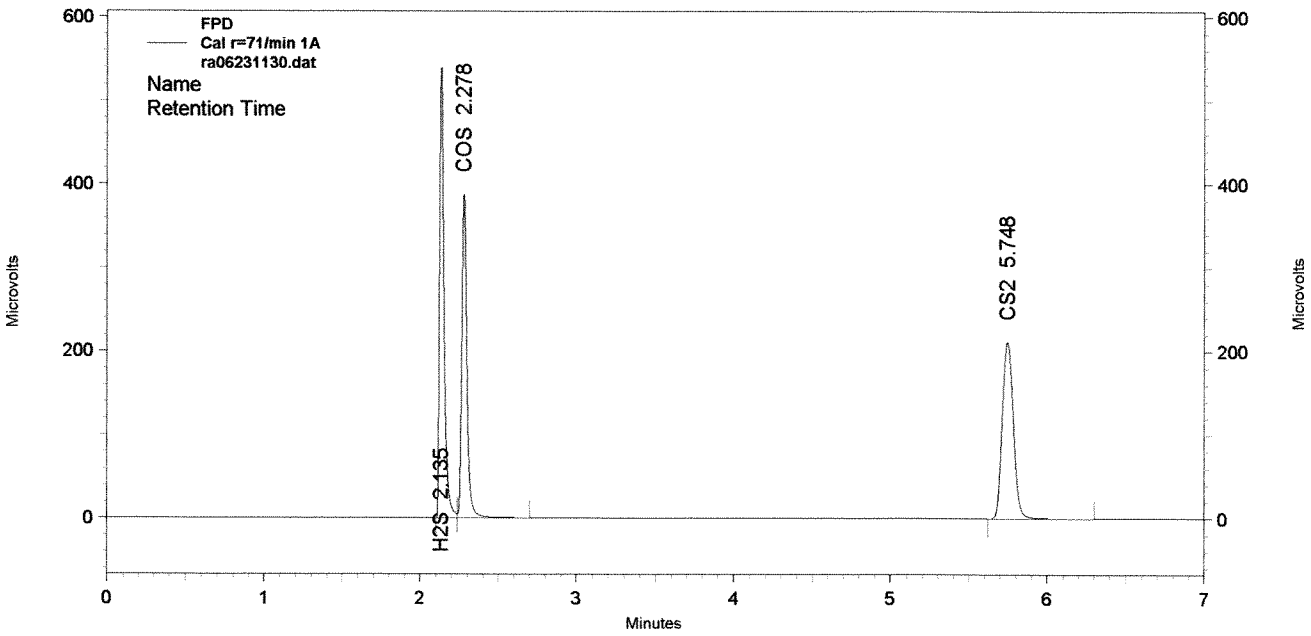


FPD Results

Name	Retention Time	Height	Area
H2S	2.133	2077	3091
COS	2.278	7360	13996
CS2	5.745	2893	12927
Totals		12330	30014

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 1:52:16 PM
Acquired: 6/23/2011 1:45:15 PM
Printed: 1



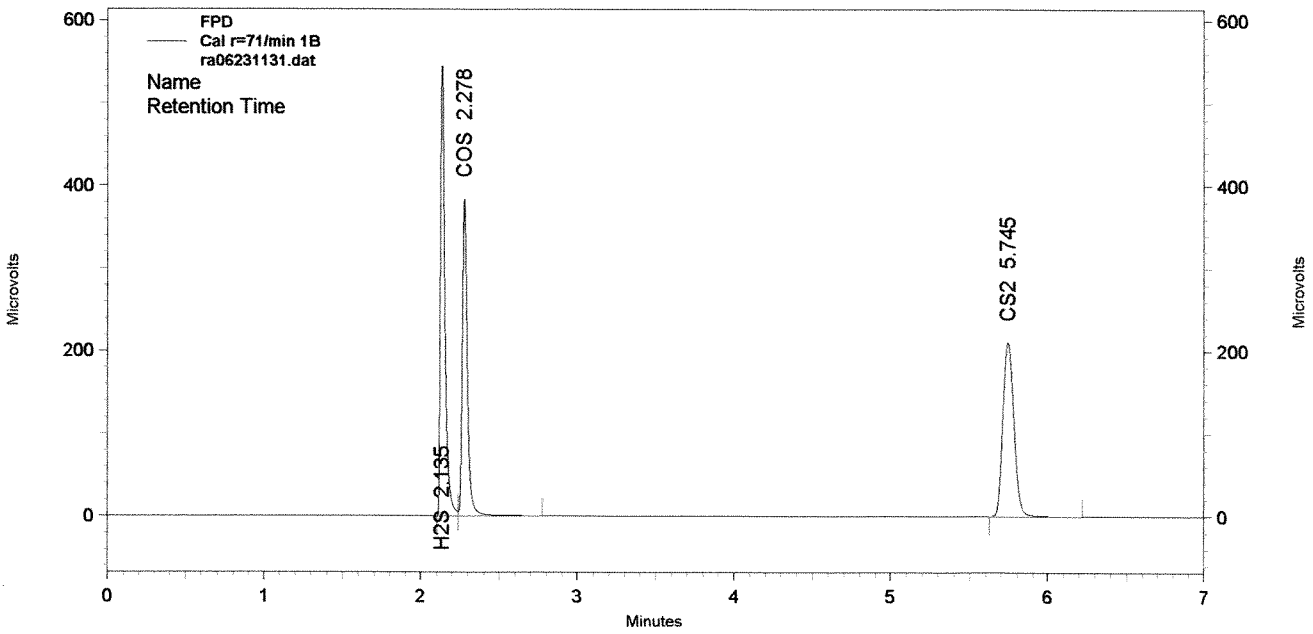
FPD Results

Name	Retention Time	Height	Area
H2S	2.135	539417	1092340
COS	2.278	388024	863387
CS2	5.748	211445	1023257

Totals			
		1138886	2978984

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 2:00:03 PM
Acquired: 6/23/2011 1:52:57 PM
Printed: 1

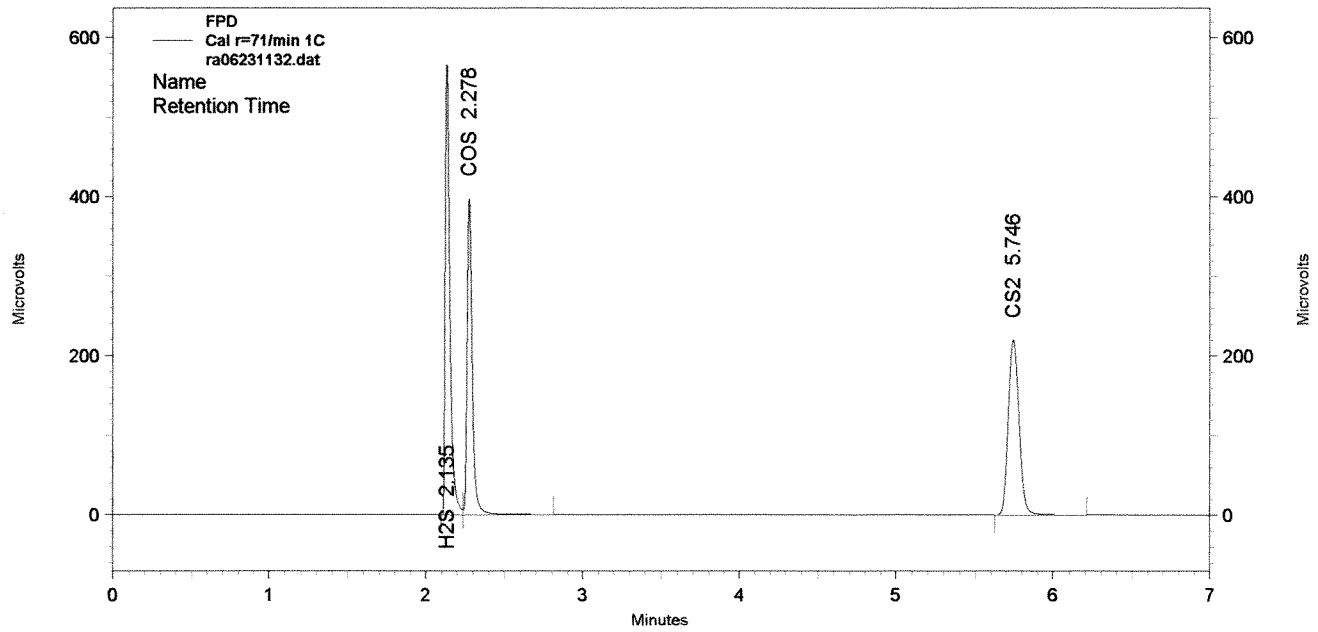


FPD Results

Name	Retention Time	Height	Area
H2S	2.135	545394	1125250
COS	2.278	383511	858360
CS2	5.745	210456	1018262
Totals		1139361	3001872

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 2:07:55 PM
Acquired: 6/23/2011 2:00:44 PM
Printed: 1

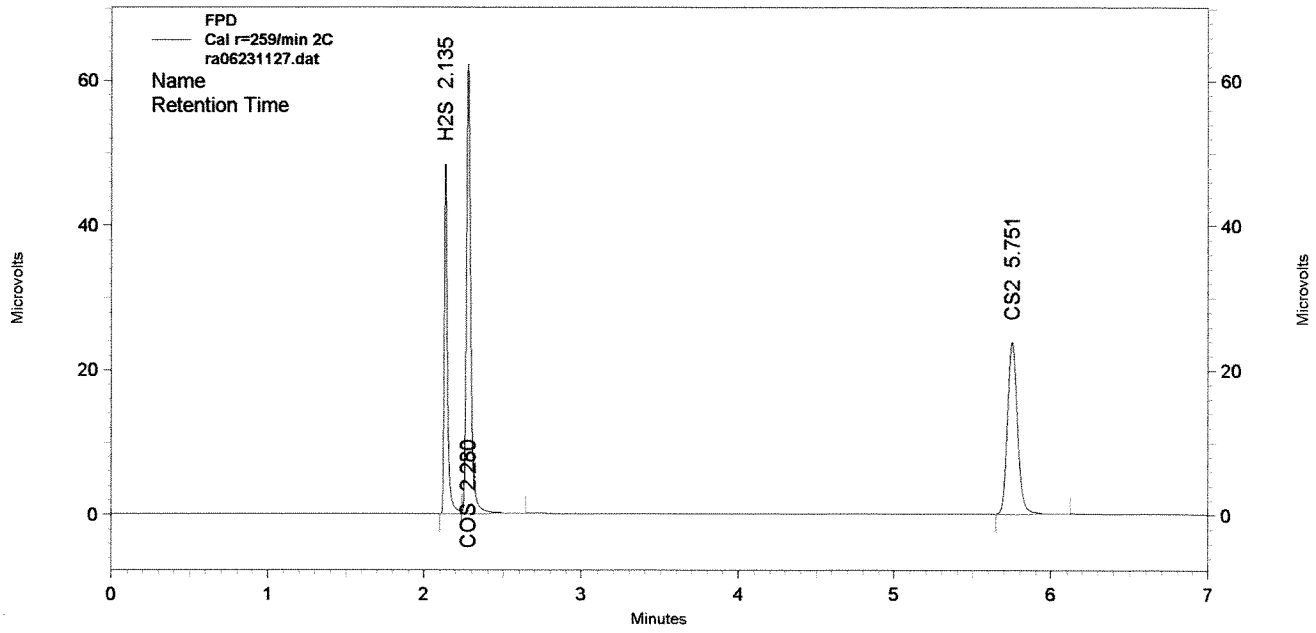


FPD Results

Name	Retention Time	Height	Area
H2S	2.135	566135	1208543
COS	2.278	398017	904458
CS2	5.746	219702	1068858
Totals		1183854	3181859

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 1:23:22 PM
Acquired: 6/23/2011 1:16:11 PM
Printed: 1

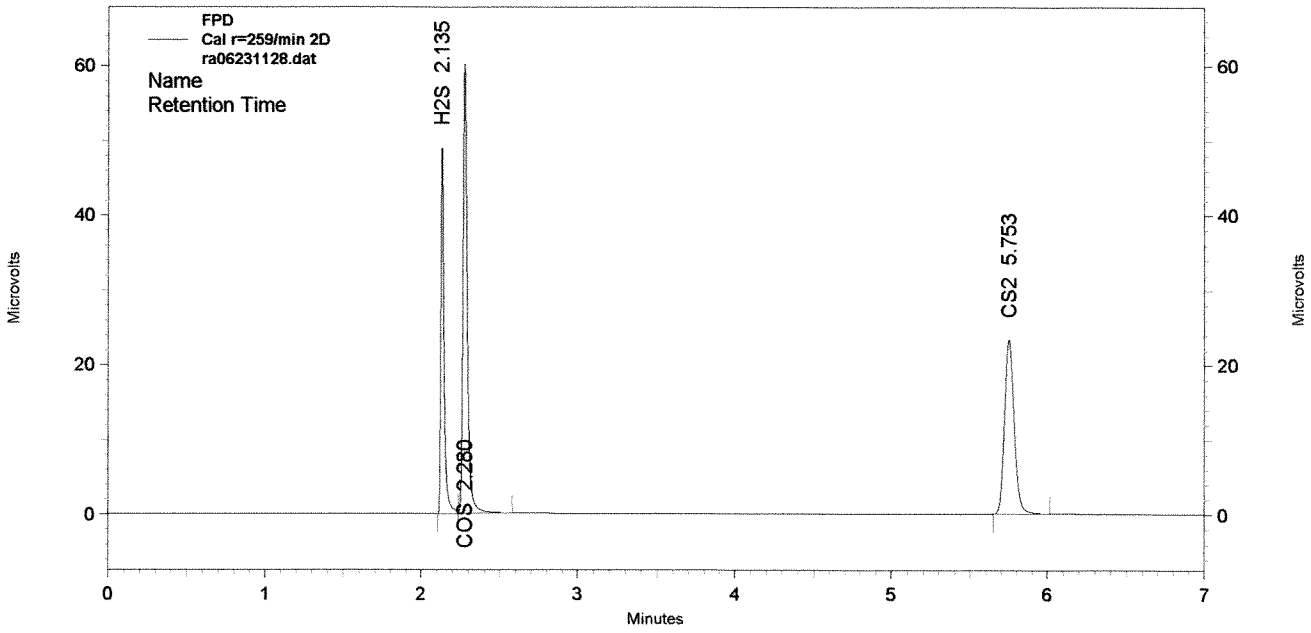


FPD Results

Name	Retention Time	Height	Area
H2S	2.135	48456	70611
COS	2.280	62246	117291
CS2	5.751	23761	104887
Totals		134463	292789

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 1:32:01 PM
Acquired: 6/23/2011 1:25:00 PM
Printed: 1



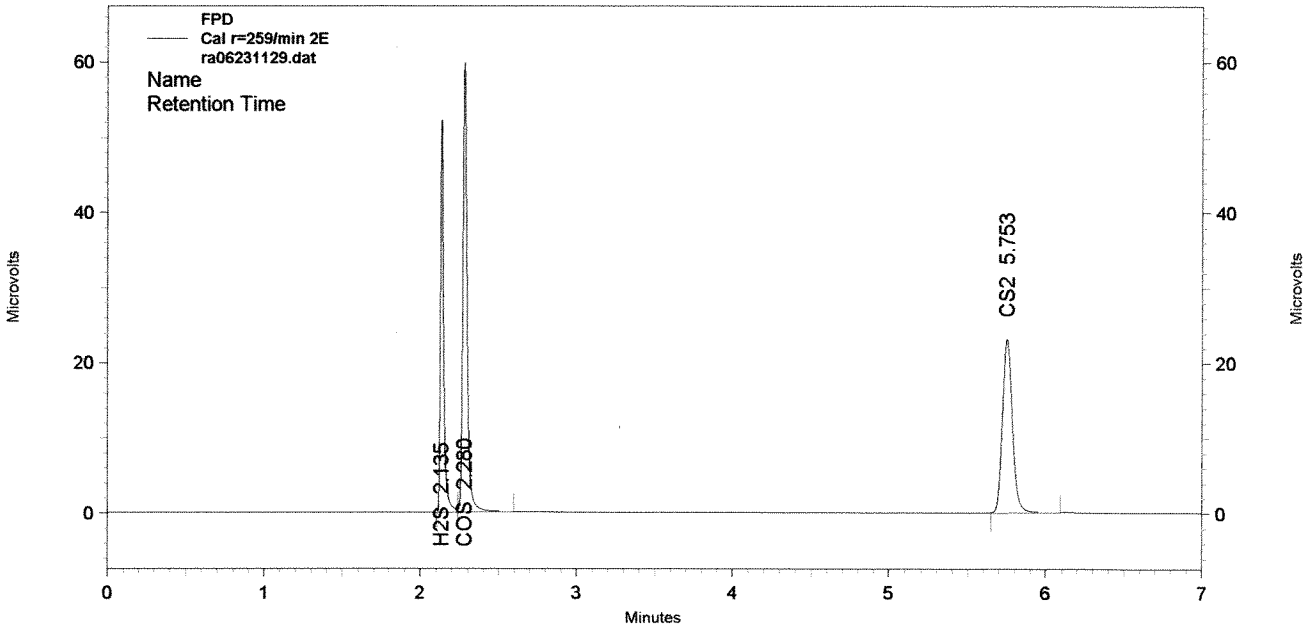
FPD Results

Name	Retention Time	Height	Area
H2S	2.135	49036	71710
COS	2.280	60208	113090
CS2	5.753	23332	102663

Totals		132576	287463

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 1:39:50 PM
Acquired: 6/23/2011 1:32:39 PM
Printed: 1

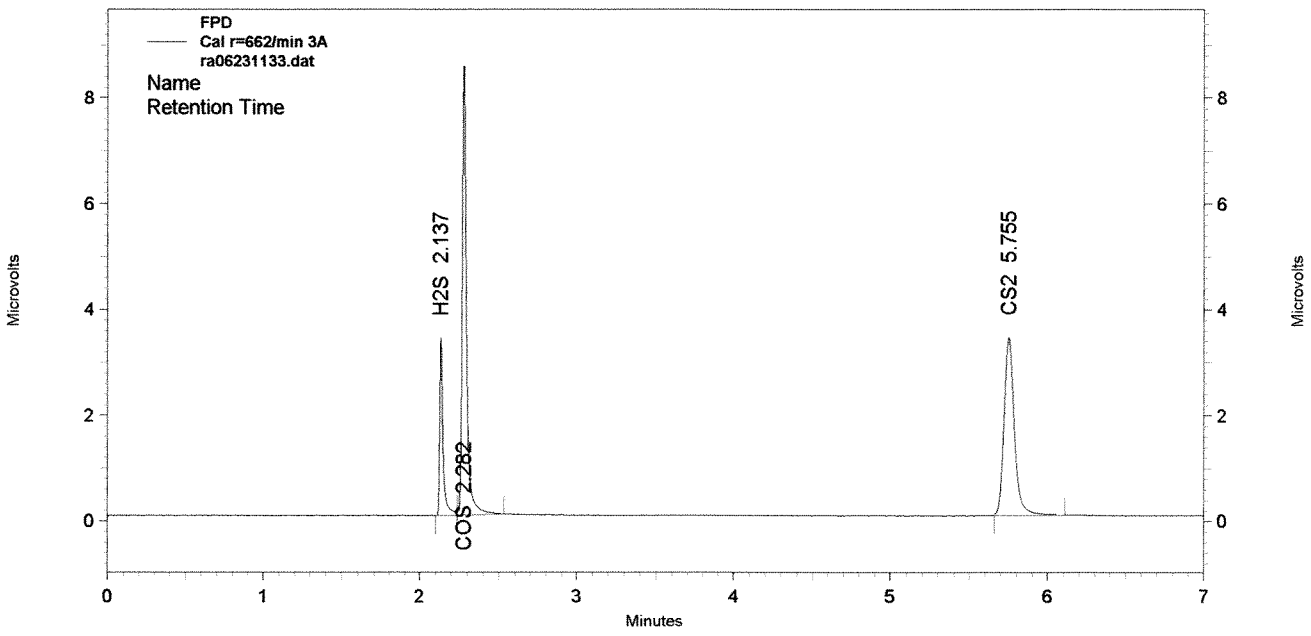


FPD Results

Name	Retention Time	Height	Area
H2S	2.135	52244	76884
COS	2.280	59866	112923
CS2	5.753	23135	102038
Totals		135245	291845

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 2:23:19 PM
Acquired: 6/23/2011 2:16:14 PM
Printed: 1

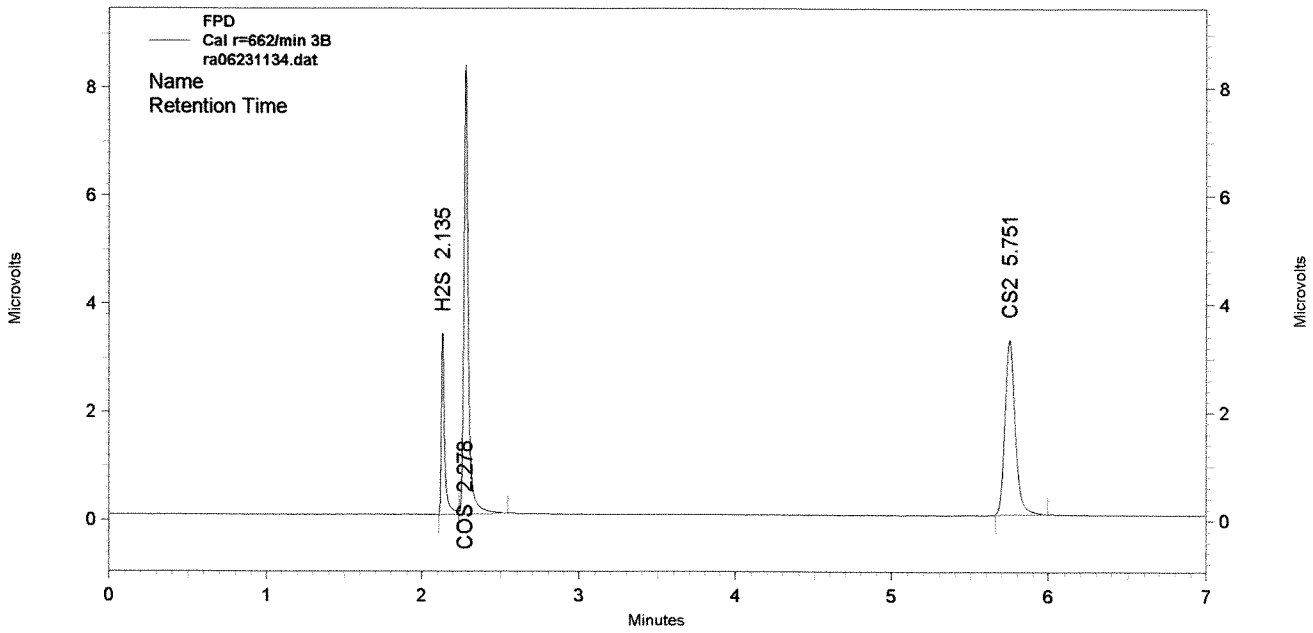


FPD Results

Name	Retention Time	Height	Area
H2S	2.137	3360	4994
COS	2.282	8496	16107
CS2	5.755	3363	15311
Totals		15219	36412

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 2:31:13 PM
Acquired: 6/23/2011 2:24:08 PM
Printed: 1



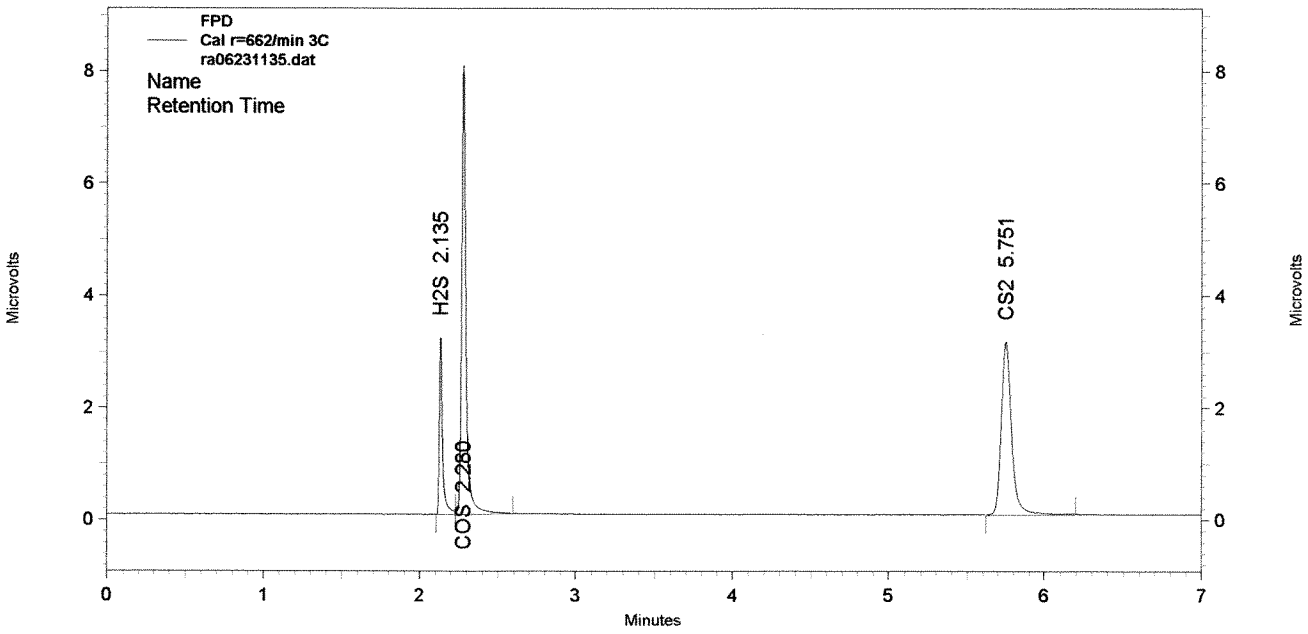
FPD Results

Name	Retention Time	Height	Area
H2S	2.135	3354	5007
COS	2.278	8320	15736
CS2	5.751	3225	14496

Totals		14899	35239

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 2:39:40 PM
Acquired: 6/23/2011 2:32:07 PM
Printed: 1



FPD Results

Name	Retention Time	Height	Area
H2S	2.135	3159	4644
COS	2.280	8021	15435
CS2	5.751	3087	14343

Totals		14267	34422

METCO Environmental

Total Reduced Sulfur
Recovery Data Summary

Client: Marathon
Source: Thermal Oxidizer #3
Curve 1

Proj. No.: 11-234
Date: 06/22/11

Recovery No.	Time	Response	Response (mean)	Curve No.	Dilution Factor	Concn (ppm)	Recovery Gas (path)	Recovery (%)
1	12:25	4470	4470	1	1	17.50	Through System	
	12:29	6351	6351	1	1	19.98	Direct to GC	87.6
2	17:47	3942	3942	1	1	16.69	Through System	
	17:51	7071	7071	1	1	20.80	Direct to GC	80.2

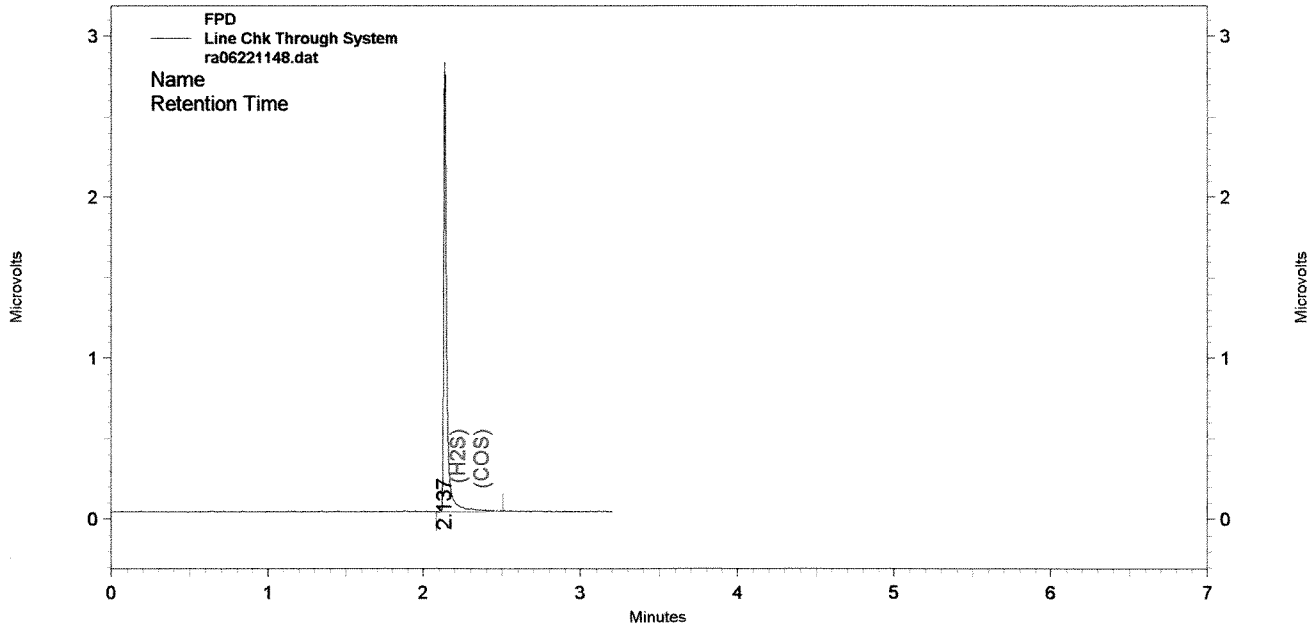
Client: Marathon
Source: Thermal Oxidizer #3
Curve 2

Proj. No.: 11-234
Date: 06/22/11

Recovery No.	Time	Response	Response (mean)	Curve No.	Dilution Factor	Concn (ppm)	Recovery Gas (path)	Recovery (%)
3	12:46	10942	10942	2	1	21.45	Through System	
	12:41	14692	14692	2	1	24.03	Direct to GC	89.3

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 5:56:07 PM
Acquired: 6/22/2011 5:47:18 PM
Printed: 1



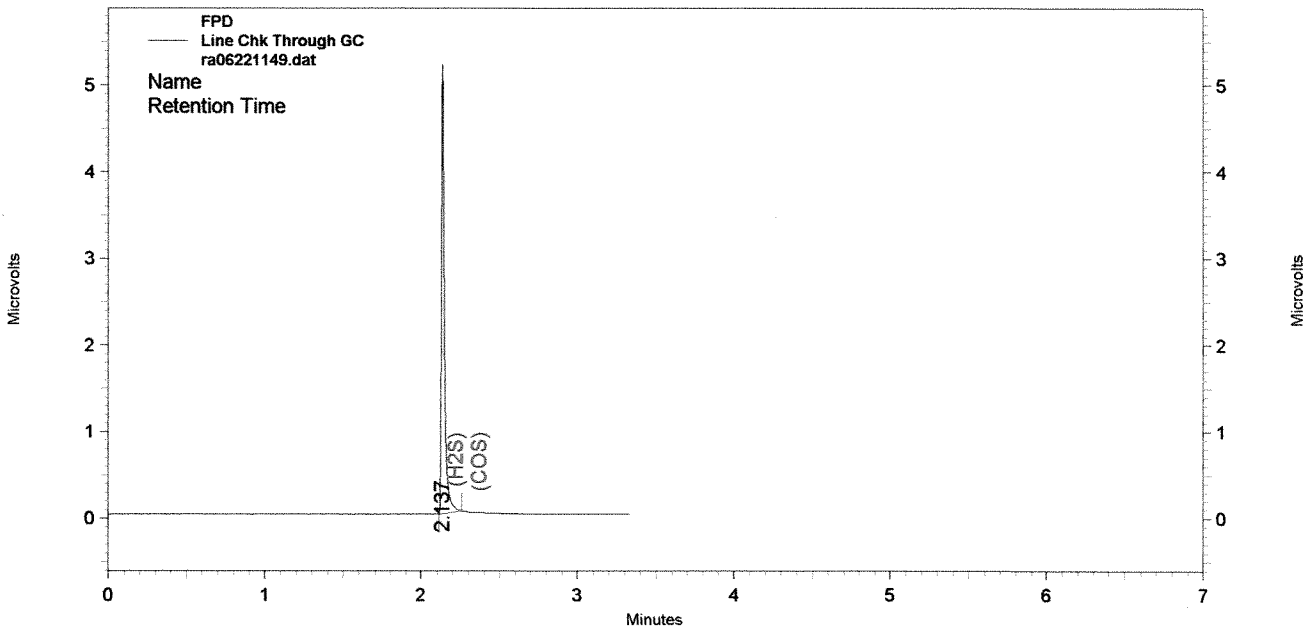
FPD Results

Name	Retention Time	Height	Area
	2.137	2795	3942

Totals		2795	3942

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 5:55:06 PM
Acquired: 6/22/2011 5:51:35 PM
Printed: 1



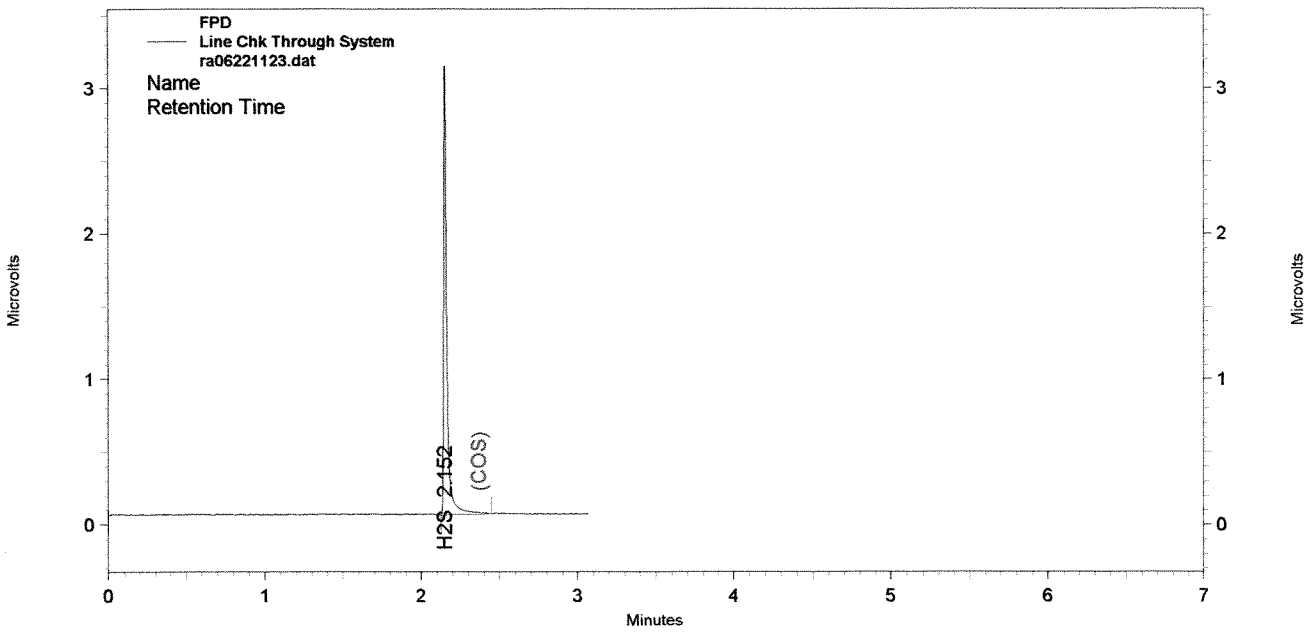
FPD Results

Name	Retention Time	Height	Area
	2.137	5186	7071

Totals		5186	7071

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 12:33:23 PM
Acquired: 6/22/2011 12:25:25 PM
Printed: 1



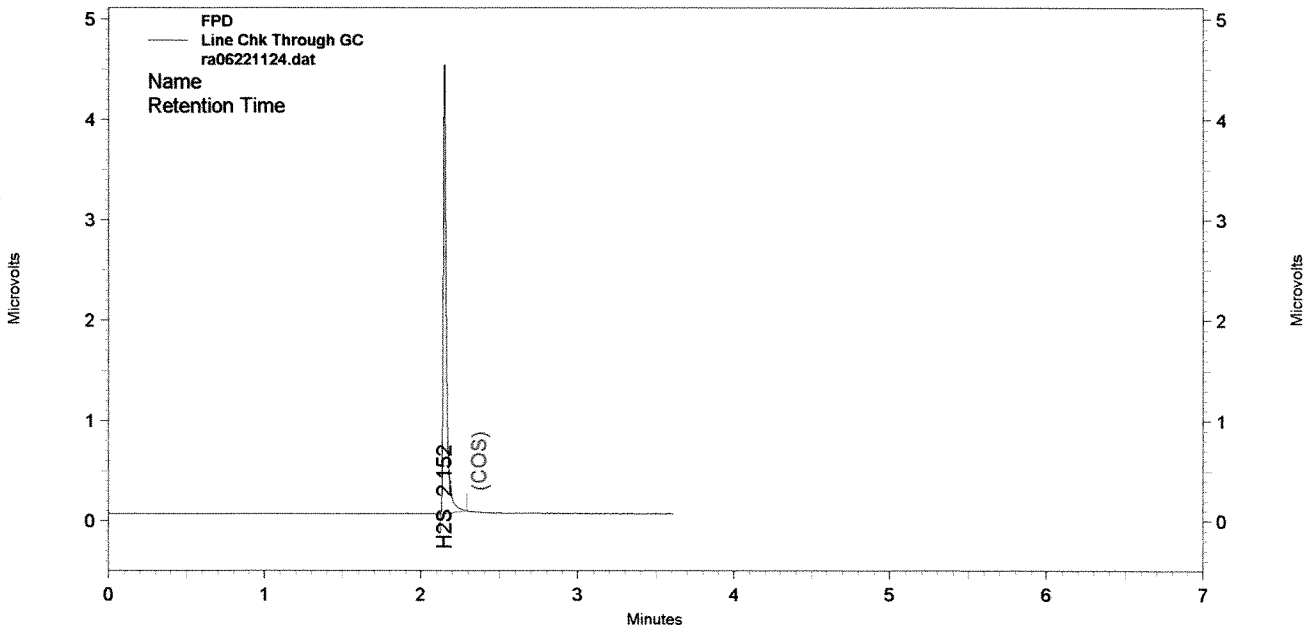
FPD Results

Name	Retention Time	Height	Area
H2S	2.152	3090	4470

Totals		3090	4470

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/22/2011 12:32:53 PM
Acquired: 6/22/2011 12:29:04 PM
Printed: 1



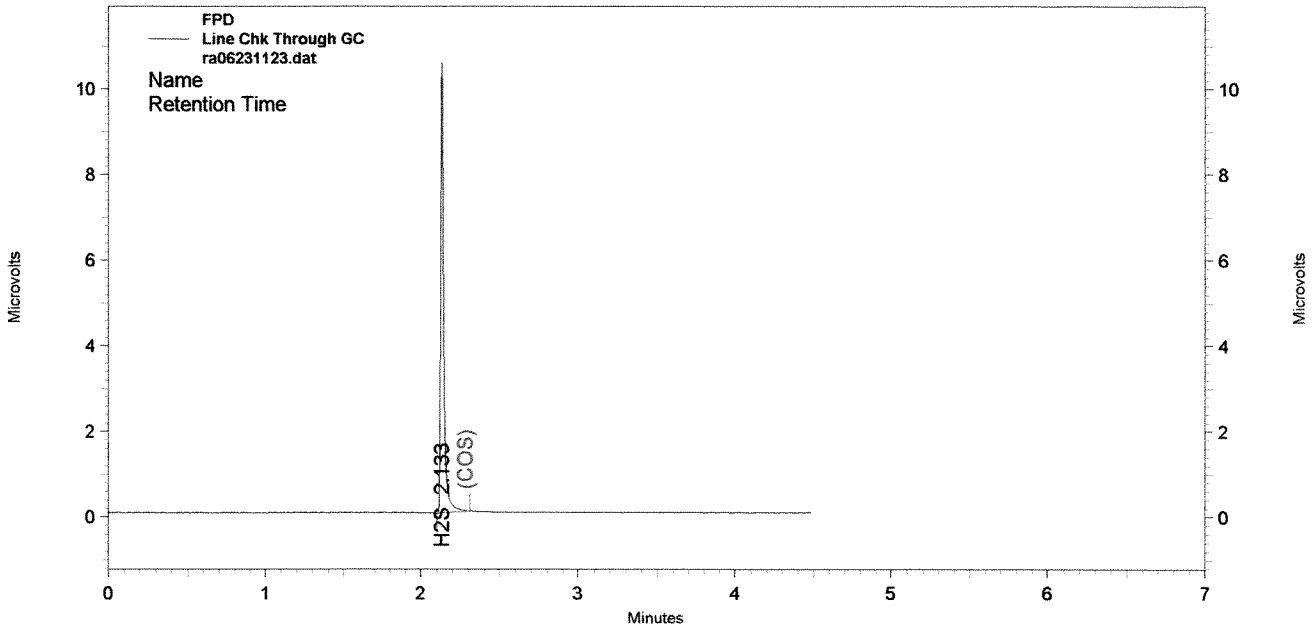
FPD Results

Name	Retention Time	Height	Area
H2S	2.152	4478	6351

Totals		4478	6351

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 12:56:43 PM
Acquired: 6/23/2011 12:41:13 PM
Printed: 1



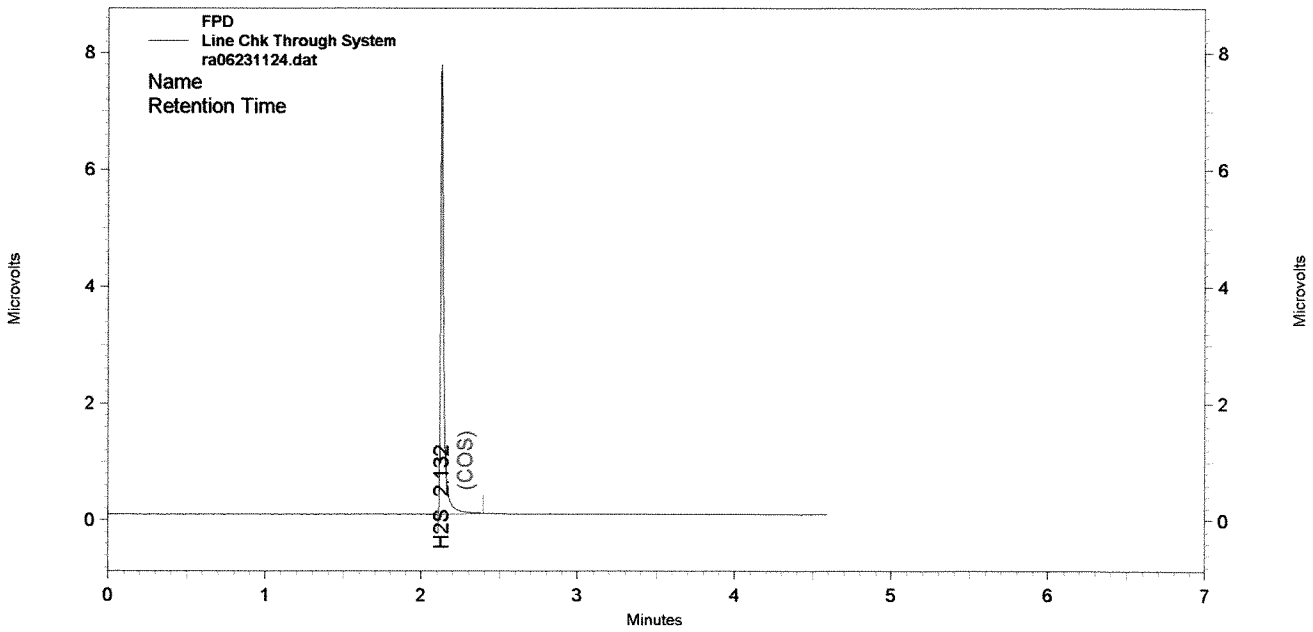
FPD Results

Name	Retention Time	Height	Area
H2S	2.133	10510	14692

Totals		10510	14692

METCO Environmental

Data File: C:\EZStart\Projects\Default\Method\m15051308.met
Method: 6/23/2011 12:51:25 PM
Acquired: 6/23/2011 12:46:34 PM
Printed: 1



FPD Results

Name	Retention Time	Height	Area
H2S	2.132	7701	10942

Totals		7701	10942

Trace Source™ Permeation Tube
Certificate of Calibration

This tube was individually calibrated by gravimetric determination of weight loss at the temperature listed. The tube was held at constant temperature (+/- 0.05°C traceable to N.I.S.T.), under an inert purge for an extended period of time and its weight loss per unit time recorded.

Customer: Metco

Customer P.O. No: 611377

KIN-TEK Order No.: 1563

Calibration Date: 5/10/2011

Certification Expires: 5/18/12

NIST Weight Set No: 822/254480

Other: Per procedure P940127 rev.1.

Date: 5/18/2011

Type: ELSRT2W

Serial No.: 47147

KIN-TEK Part No.:ELSRT2W-125.100-1003 /40

Permeating Fluid: Carbonyl sulfide

K_o: 0.373 MW: 60.08

Emission Rate ng / min	Temperature °C
2.614	40

Calibrated by: Diane Sandel

Lab Supervisor

KIN -TEK

The Calibration Specialists

504 Laurel
La Marque, Texas 77568
Phone: (409) 938-3627
Fax: (409) 938-3710

E-113

11-234

Trace Source™ Permeation Tube
Certificate of Calibration

This tube was individually calibrated by gravimetric determination of weight loss at the temperature listed. The tube was held at constant temperature (+/- 0.05°C traceable to N.I.S.T.), under an inert purge for an extended period of time and its weight loss per unit time recorded.

Customer: Metco

Customer P.O. No: 611377

KIN-TEK Order No.: 1563

Calibration Date: 5/10/2011

Certification Expires: 5/18/12

NIST Weight Set No: 822/254480

Other: Per procedure P940127 rev.1.

Date: 5/18/2011

Type: ELSRT2W

Serial No.: 47148

KIN-TEK Part No.:ELSRT2W-125.100-1003 /40

Permeating Fluid: Carbonyl sulfide

K_o: 0.373 MW: 60.08

Emission Rate ng / min	Temperature °C
6.761	40

Calibrated by: Diane Sandel

Lab Supervisor

KIN -TEK

The Calibration Specialists

504 Laurel
La Marque, Texas 77568
Phone: (409) 938-3627
Fax: (409) 938-3710

E-114

11-234

Trace Source™ Permeation Tube Certificate of Calibration

This tube was individually calibrated by gravimetric determination of weight loss at the temperature listed. The tube was held at constant temperature (+/- 0.05°C traceable to N.I.S.T.), under an inert purge for an extended period of time and its weight loss per unit time recorded.

Customer: Metco

Customer P.O. No: 611377

KIN-TEK Order No.: 1563

Calibration Date: 4/28/2011

Certification Expires: 5/18/12

NIST Weight Set No: 822/254480

Other: Per procedure P940127 rev.1.

Date: 5/18/2011

Type: SRT-2

Serial No.: 47132

KIN-TEK Part No.: SRT-2- 010.00 - 1002 /40

Permeating Fluid: Hydrogen Sulfide

K_o: 0.657 MW: 34.08

Emission Rate ng / min	Temperature °C
6.256	40

Calibrated by: Drew Sandel

Lab Supervisor

KIN -TEK

The Calibration Specialists

504 Laurel
La Marque, Texas 77568
Phone: (409) 938-3627
Fax: (409) 938-3710

E-115

11-234

Litho in U.S.A.

Trace Source™ Permeation Tube Certificate of Calibration

This tube was individually calibrated by gravimetric determination of weight loss at the temperature listed. The tube was held at constant temperature (+/- 0.05°C traceable to N.I.S.T.), under an inert purge for an extended period of time and its weight loss per unit time recorded.

Customer: Metco

Customer P.O. No: 611377

KIN-TEK Order No.: 1563

Calibration Date: 4/28/2011

Certification Expires: 5/18/12

NIST Weight Set No: 822/254480

Other: Per procedure P940127 rev.1.

Date: 5/18/2011

Type: SRT-2

Serial No.: 47131

KIN-TEK Part No.: SRT-2- 010.00 - 1002 /40

Permeating Fluid: Hydrogen Sulfide

K_o: 0.657 MW: 34.08

Emission Rate ng / min	Temperature °C
6,584	40

Calibrated by: Diane Sandel

Lab Supervisor

KIN -TEK

The Calibration Specialists

504 Laurel
La Marque, Texas 77568
Phone: (409) 938-3627
Fax: (409) 938-3710

E-116

11-234

Litho in U.S.A.

Trace Source™ Permeation Tube Certificate of Calibration

This tube was individually calibrated by gravimetric determination of weight loss at the temperature listed. The tube was held at constant temperature (+/- 0.05°C traceable to N.I.S.T.), under an inert purge for an extended period of time and its weight loss per unit time recorded.

Customer: Metco

Customer P.O. No: 611377

KIN-TEK Order No.: 1563

Calibration Date: 4/15/2011

Certification Expires: 5/18/12

NIST Weight Set No: 822/254480

Other: Per procedure P940127 rev.1.

Date: 5/18/2011

Type: HRT

Serial No.: 44528

KIN-TEK Part No.: HRT - 010.00 - 1005 /40

Permeating Fluid: Carbon disulfide

K_o: 0.294 MW: 76.1

Emission Rate ng / min	Temperature °C
7.891	40

Calibrated by: Diane Sandel

Lab Supervisor

KIN -TEK

The Calibration Specialists

504 Laurel
La Marque, Texas 77568
Phone: (409) 938-3627
Fax: (409) 938-3710

E-117

11-234

AIR LIQUIDE | Air Liquide America Specialty Gases LLC | Scott

COMPLIANCE CLASS

Dual-Analyzed Calibration Standard

1290 COMBERMERE STREET, TROY, MI 48083 Phone: 248-589-2950 Fax: 248-589-2134

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
1290 COMBERMERE STREET
TROY, MI 48083

P.O. No.: 588426
Document # : 40116699-002

Customer
METCO ENVIRONMENTAL

3226 COMMANDER DR
CARROLLTON TX 75006
US

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: ALM049539 **Certification Date:** 29Dec2010 **Exp. Date:** 29Dec2011
Cylinder Pressure*:** 1350 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ACCURACY**	TRACEABILITY
HYDROGEN SULFIDE	24.2 PPM	+/- 2%	NIST and VSL
NITROGEN	BALANCE		

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol procedures , September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2731A	23Apr2013	KAL002687	20.38 PPM	HYDROGEN SULFIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
INTERSCAN/RM17/716080	13Dec2010	ELECTROCHEMICAL

Special Notes: **********DO NOT MAKE********** RECERT OF ALM049539

APPROVED BY: _____
HILARY THATCHER

APPENDIX F

Semivolatile Organic HAPs Analytical Data

(Included on enclosed CD)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 11-234

ICR - Marathon - M0010

Lot #: H1G200446

Mike Hutcherson

TestAmerica Air Emissions
3226 Commander Drive
Carrollton, TX 75006

TESTAMERICA LABORATORIES, INC.

Kevin S. Woodcock
Project Manager

August 15, 2011

ANALYTICAL METHODS SUMMARY

H1G200446

PARAMETER	ANALYTICAL METHOD
PAHs & Selected SVOCs by HRGC/LRMS	KNOX ID-0016
Semivolatile Organic Compounds by GC/MS	SW846 8270C

References:

KNOX TestAmerica Laboratories Inc., Knoxville Laboratory Standard Operating Procedure

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

H1G200446

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MK2HW	001	11-234 M0010 RUN 2 COMBINED	07/11/11	18:43
MK2H0	002	11-234 M0010 RUN 3 COMBINED	07/12/11	14:09
MK2H1	003	11-234 M0010 RUN 4 COMBINED	07/12/11	17:49
MK2H2	004	11-234 M0010 RUN BT COMBINED	07/11/11	16:49
MK2H6	008	A-6455,A-6456 MEDIA CHECK	07/11/11	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H1G200446

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

The temperature of the cooler was outside of temperature specifications at 21.4 °C.

Custody seals were not present.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

Semivolatiles

The semivolatile organic sampling train components were extracted and analyzed using TestAmerica Knoxville standard operating procedures KNOX-OP-0009 and KNOX-MS-0016, based on the following methods:

- SW-846 3542, "Extraction of Semivolatile Analytes Collected Using Method 0010 (Modified Method 5 Sampling Train)"
- SW-846 8270C, "Semivolatile Organic Compounds by Gas Chromatography/ Mass Spectrometry (GC/MS)".

The sampling trains are prepared as one analytical fraction: The particulate filter and front half of the filter holder, nozzle and probe solvent rinses, XAD-2 resin trap and back half of the filter holder, coil condenser and connecting glassware solvent rinses are combined as a single sample.

The combined sample components are spiked with the method 8270C surrogates and Soxhlet extracted with methylene chloride. The extracts are concentrated to 1 mL and analyzed by GCMS.

Sample results were calculated using the following equation:

PROJECT NARRATIVE
H1G200446

$$\text{Result, ug} = (\text{On column concentration, ng/uL}) \times \left(\frac{\text{Volume final extract, uL}}{\text{1 Sample}}\right) \times \left(\frac{\text{1ug}}{\text{1000 ng}}\right) \times \text{DF} \times \text{SF}$$

Where: DF = Bench Dilution Factor
SF = Extraction Split Factor

The dilution factor reported on the sample result form represents a combination of factors (such as dilution, sample weight/volume adjustment, split ratio, etc.) used to adjust the reporting limits and method detection limits.

SIM PAH

General Comments:

The labeled internal standards added prior to extraction serve both as a measure of extraction efficiency and as a measure of cleanup recovery.

Method 0010 Sampling Train Preparation and Analysis

The method 0010 sampling train components were extracted and analyzed for polyaromatic hydrocarbons (PAHs) using TestAmerica Knoxville standard operating procedures KNOX-OP-0009 and KNOX-ID-0016, based on the following methods:

- SW-846 3542, "Extraction of Semivolatile Analytes Collected Using Method 0010 (Modified Method 5 Sampling Train)"
- Method 429 - Determination of Polycyclic Aromatic Hydrocarbon (PAH) emissions from Stationary Sources, California Environmental Protection Agency Air Resources Board, Adopted: September 12, 1989, Amended: July 28, 1997.

The sampling trains are prepared as two analytical fractions and the extracts from these fractions are combined into a single sample for analysis. The first fraction consists of the particulate filter and the XAD-2 resin trap. The second fraction includes the condensate, impinger contents and their related glassware solvent rinses, as well as the front half and back half solvent rinses.

The filters and XAD components are spiked with SIM PAH internal standards and the components are Soxhlet extracted with methylene chloride. The condensates are spiked with the internal standards and extracted using a continuous liquid-liquid extractor. The extracts are concentrated to 0.5 mL and analyzed by by SIM-HRGC/LRMS.

Sample results were calculated using the following equation:

$$\text{Result, ng} = (\text{On column conc, ug/mL}) \times \left(\frac{\text{Nominal Vol final extract, (500 uL)}}{\text{1 Sample}}\right) \times \left(\frac{\text{1 mL}}{\text{1000 uL}}\right) \times \left(\frac{\text{1000 ng}}{\text{1 ug}}\right) \times \text{SF}$$

Where: SF = Extraction Split Factor

PROJECT NARRATIVE
H1G200446

*If the entire sample is not extracted, the fractional amount of sample used is entered into the above equation.

Sampling surrogates fluorene-d_{10}, $13C_6$-fluorene & terphenyl-d_{14} are added to the XAD by the laboratory prior to sampling. Their results appear with the "Internal Standard" percent recovery results.

The dilution factor reported on the sample result form represents a combination of factors (such as dilution, sample weight/volume adjustment, split ratio, etc.) used to adjust the reporting limits and method detection limits.

All QC criteria were met with the following exceptions:

All extracts in the batch had internal standard recovery for benzo(a)anthracene-d12 that exceeded QC limits (including the blank, LCS and LCSD). As indicted by the referenced method, isotope dilution techniques produce results that are independent of internal standard recovery. The affected internal standards are flagged on the final result forms.

Sample 11-234 M0010 RUN BT COMBINED was reported with elevated reporting limits for all analytes due to the difficult sample matrix. In addition, due to matrix interferences and/or internal standard recoveries outside QC limits, several analytes could not be reported and are reported as "NA". A further dilution was performed on the extract to reduce the matrix effect on these compounds, and the compounds reported as "NA" on the first analysis are reported on the more dilute analysis.

QC DATA ASSOCIATION SUMMARY

H1G200446

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	AIR	SW846 8270C		1201076	
	AIR	KNOX ID-0016		1201079	
002	AIR	SW846 8270C		1201076	
	AIR	KNOX ID-0016		1201079	
003	AIR	SW846 8270C		1201076	
	AIR	KNOX ID-0016		1201079	
004	AIR	SW846 8270C		1201076	
	AIR	KNOX ID-0016		1201079	
008	AIR	SW846 8270C		1201076	
	AIR	KNOX ID-0016		1201079	

Sample Data Summary

TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN 2 COMBINED

GC/MS Semivolatiles

Lot-Sample #...: H1G200446-001	**Work Order #...:** MK2HW1AA	**Matrix.....:** AIR	
Date Sampled...: 07/11/11	**Date Received..:** 07/20/11		
Prep Date.....: 07/20/11	**Analysis Date..:** 07/28/11		
Prep Batch #...: 1201076			
Dilution Factor: 4	**Method.....:** SW846 8270C		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	40	ug	11
Acenaphthylene	ND	40	ug	11
Aniline	ND	40	ug	34
Anthracene	ND	40	ug	13
Benz(a)anthracene	ND	40	ug	12
Benzidine	ND	400	ug	240
Benzo(b)fluoranthene	ND	40	ug	16
Benzo(k)fluoranthene	ND	40	ug	20
Benzo(ghi)perylene	ND	40	ug	13
Benzo(a)pyrene	ND	40	ug	15
Benzo(e)pyrene	ND	40	ug	3.4
Biphenyl	ND	40	ug	4.0
Chrysene	ND	40	ug	12
Cresols (total)	ND	40	ug	32
Dibenz(a,h)anthracene	ND	40	ug	12
Dibenzofuran	ND	40	ug	11
Dibenzo(a,e)pyrene	ND	40	ug	2.7
3,3'-Dimethoxybenzidine	ND	400	ug	56
p-Dimethylaminoazobenzene	ND	40	ug	9.6
7,12-Dimethylbenz(a)-anthracene	ND	40	ug	14
3,3'-Dimethylbenzidine	ND	400	ug	72
alpha,alpha-Dimethylphenethylamine	ND	100	ug	33
2,4-Dimethylphenol	ND	40	ug	26
Fluoranthene	ND	40	ug	14
Fluorene	ND	40	ug	12
Indeno(1,2,3-cd)pyrene	ND	40	ug	12
Isophorone	ND	40	ug	11
3-Methylcholanthrene	ND	40	ug	15
2-Methylnaphthalene	ND	40	ug	12
Naphthalene	ND	40	ug	12
Nitrobenzene	ND	40	ug	12
Perylene	ND	40	ug	3.1
Phenanthrene	ND	40	ug	12
Phenol	**51**	**40**	**ug**	**12**
1,4-Phenylenediamine	ND	400	ug	100
Pyrene	ND	40	ug	14
o-Toluidine	ND	40	ug	11

(Continued on next page)

TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN 2 COMBINED

GC/MS Semivolatiles

Lot-Sample #...: H1G200446-001 Work Order #...: MK2HW1AA Matrix.....: AIR

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	80	(22 - 105)
Phenol-d5	100	(48 - 118)
Nitrobenzene-d5	90	(43 - 110)
2-Fluorobiphenyl	90	(48 - 111)
2,4,6-Tribromophenol	97	(34 - 125)

TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN 3 COMBINED

GC/MS Semivolatiles

Lot-Sample #...: H1G200446-002 Work Order #...: MK2H01AA Matrix.....: AIR
Date Sampled...: 07/12/11 Date Received..: 07/20/11
Prep Date.....: 07/20/11 Analysis Date..: 07/28/11
Prep Batch #...: 1201076
Dilution Factor: 2 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ug	5.4
Acenaphthylene	ND	20	ug	5.6
Aniline	ND	20	ug	17
Anthracene	ND	20	ug	6.4
Benz(a)anthracene	ND	20	ug	6.2
Benzidine	ND	200	ug	120
Benzo(b)fluoranthene	ND	20	ug	8.2
Benzo(k)fluoranthene	ND	20	ug	9.8
Benzo(ghi)perylene	ND	20	ug	6.4
Benzo(a)pyrene	ND	20	ug	7.6
Benzo(e)pyrene	ND	20	ug	1.7
Biphenyl	ND	20	ug	2.0
Chrysene	ND	20	ug	6.2
Cresols (total)	ND	20	ug	16
Dibenz(a,h)anthracene	ND	20	ug	6.0
Dibenzofuran	ND	20	ug	5.6
Dibenzo(a,e)pyrene	ND	20	ug	1.4
3,3'-Dimethoxybenzidine	ND	200	ug	28
p-Dimethylaminoazobenzene	ND	20	ug	4.8
7,12-Dimethylbenz(a)-anthracene	ND	20	ug	7.0
3,3'-Dimethylbenzidine	ND	200	ug	36
alpha,alpha-Dimethylphenethylamine	ND	50	ug	17
2,4-Dimethylphenol	ND	20	ug	13
Fluoranthene	ND	20	ug	7.2
Fluorene	ND	20	ug	6.0
Indeno(1,2,3-cd)pyrene	ND	20	ug	6.2
Isophorone	ND	20	ug	5.6
3-Methylcholanthrene	ND	20	ug	7.6
2-Methylnaphthalene	ND	20	ug	5.8
Naphthalene	ND	20	ug	6.2
Nitrobenzene	ND	20	ug	5.8
Perylene	ND	20	ug	1.5
Phenanthrene	ND	20	ug	6.0
Phenol	**21**	**20**	**ug**	**6.2**
1,4-Phenylenediamine	ND	200	ug	50
Pyrene	ND	20	ug	7.0
o-Toluidine	ND	20	ug	5.6

(Continued on next page)

TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN 3 COMBINED

GC/MS Semivolatiles

Lot-Sample #...: H1G200446-002 Work Order #...: MK2H01AA Matrix.....: AIR

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	69	(22 - 105)
Phenol-d5	89	(48 - 118)
Nitrobenzene-d5	84	(43 - 110)
2-Fluorobiphenyl	84	(48 - 111)
2,4,6-Tribromophenol	81	(34 - 125)

TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN 4 COMBINED

GC/MS Semivolatiles

Lot-Sample #...: H1G200446-003 Work Order #...: MK2H11AA Matrix.....: AIR
Date Sampled...: 07/12/11 Date Received..: 07/20/11
Prep Date.....: 07/20/11 Analysis Date..: 07/28/11
Prep Batch #...: 1201076
Dilution Factor: 4 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	40	ug	11
Acenaphthylene	ND	40	ug	11
Aniline	ND	40	ug	34
Anthracene	ND	40	ug	13
Benz(a)anthracene	ND	40	ug	12
Benzidine	ND	400	ug	240
Benzo(b)fluoranthene	ND	40	ug	16
Benzo(k)fluoranthene	ND	40	ug	20
Benzo(ghi)perylene	ND	40	ug	13
Benzo(a)pyrene	ND	40	ug	15
Benzo(e)pyrene	ND	40	ug	3.4
Biphenyl	ND	40	ug	4.0
Chrysene	ND	40	ug	12
Cresols (total)	ND	40	ug	32
Dibenz(a,h)anthracene	ND	40	ug	12
Dibenzofuran	ND	40	ug	11
Dibenzo(a,e)pyrene	ND	40	ug	2.7
3,3'-Dimethoxybenzidine	ND	400	ug	56
p-Dimethylaminoazobenzene	ND	40	ug	9.6
7,12-Dimethylbenz(a)-anthracene	ND	40	ug	14
3,3'-Dimethylbenzidine	ND	400	ug	72
alpha,alpha-Dimethylphenethylamine	ND	100	ug	33
2,4-Dimethylphenol	ND	40	ug	26
Fluoranthene	ND	40	ug	14
Fluorene	ND	40	ug	12
Indeno(1,2,3-cd)pyrene	ND	40	ug	12
Isophorone	ND	40	ug	11
3-Methylcholanthrene	ND	40	ug	15
2-Methylnaphthalene	ND	40	ug	12
Naphthalene	ND	40	ug	12
Nitrobenzene	ND	40	ug	12
Perylene	ND	40	ug	3.1
Phenanthrene	ND	40	ug	12
Phenol	**48**	**40**	**ug**	**12**
1,4-Phenylenediamine	ND	400	ug	100
Pyrene	ND	40	ug	14
o-Toluidine	ND	40	ug	11

(Continued on next page)

TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN 4 COMBINED

GC/MS Semivolatiles

Lot-Sample #...: H1G200446-003 Work Order #...: MK2H11AA Matrix.....: AIR

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	93	(22 - 105)
Phenol-d5	102	(48 - 118)
Nitrobenzene-d5	89	(43 - 110)
2-Fluorobiphenyl	92	(48 - 111)
2,4,6-Tribromophenol	105	(34 - 125)

TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN BT COMBINED

GC/MS Semivolatiles

Lot-Sample #...: H1G200446-004 Work Order #...: MK2H21AA Matrix.....: AIR
Date Sampled...: 07/11/11 Date Received..: 07/20/11
Prep Date.....: 07/20/11 Analysis Date..: 07/28/11
Prep Batch #...: 1201076
Dilution Factor: 20 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	200	ug	54
Acenaphthylene	ND	200	ug	56
Aniline	ND	200	ug	170
Anthracene	ND	200	ug	64
Benz(a)anthracene	ND	200	ug	62
Benzidine	ND	2000	ug	1200
Benzo(b)fluoranthene	ND	200	ug	82
Benzo(k)fluoranthene	ND	200	ug	98
Benzo(ghi)perylene	ND	200	ug	64
Benzo(a)pyrene	ND	200	ug	76
Benzo(e)pyrene	ND	200	ug	17
Biphenyl	ND	200	ug	20
Chrysene	ND	200	ug	62
Cresols (total)	ND	200	ug	160
Dibenz(a,h)anthracene	ND	200	ug	60
Dibenzofuran	ND	200	ug	56
Dibenzo(a,e)pyrene	ND	200	ug	14
3,3'-Dimethoxybenzidine	ND	2000	ug	280
p-Dimethylaminoazobenzene	ND	200	ug	48
7,12-Dimethylbenz(a)-anthracene	ND	200	ug	70
3,3'-Dimethylbenzidine	ND	2000	ug	360
alpha,alpha-Dimethylphenethylamine	ND	500	ug	170
2,4-Dimethylphenol	ND	200	ug	130
Fluoranthene	ND	200	ug	72
Fluorene	ND	200	ug	60
Indeno(1,2,3-cd)pyrene	ND	200	ug	62
Isophorone	ND	200	ug	56
3-Methylcholanthrene	ND	200	ug	76
2-Methylnaphthalene	ND	200	ug	58
Naphthalene	ND	200	ug	62
Nitrobenzene	ND	200	ug	58
Perylene	ND	200	ug	15
Phenanthrene	ND	200	ug	60
Phenol	ND	200	ug	62
1,4-Phenylenediamine	ND	2000	ug	500
Pyrene	ND	200	ug	70
o-Toluidine	ND	200	ug	56

(Continued on next page)

TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN BT COMBINED

GC/MS Semivolatiles

Lot-Sample #...: H1G200446-004 Work Order #...: MK2H21AA Matrix.....: AIR

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	NC,DIL	(22 - 105)
Phenol-d5	NC,DIL	(48 - 118)
Nitrobenzene-d5	NC,DIL	(43 - 110)
2-Fluorobiphenyl	NC,DIL	(48 - 111)
2,4,6-Tribromophenol	NC,DIL	(34 - 125)

NOTE(S):

NC The recovery and/or RPD were not calculated.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

TestAmerica Air Emissions Dallas

Client Sample ID: A-6455,A-6456 MEDIA CHECK

GC/MS Semivolatiles

Lot-Sample #...: H1G200446-008	**Work Order #...:** MK2H61AA	**Matrix.....:** AIR	
Date Sampled...: 07/11/11	**Date Received..:** 07/20/11		
Prep Date.....: 07/20/11	**Analysis Date..:** 07/28/11		
Prep Batch #...: 1201076			
Dilution Factor: 2	**Method.....:** SW846 8270C		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ug	5.4
Acenaphthylene	ND	20	ug	5.6
Aniline	ND	20	ug	17
Anthracene	ND	20	ug	6.4
Benz(a)anthracene	ND	20	ug	6.2
Benzidine	ND	200	ug	120
Benzo(b)fluoranthene	ND	20	ug	8.2
Benzo(k)fluoranthene	ND	20	ug	9.8
Benzo(ghi)perylene	ND	20	ug	6.4
Benzo(a)pyrene	ND	20	ug	7.6
Benzo(e)pyrene	ND	20	ug	1.7
Biphenyl	ND	20	ug	2.0
Chrysene	ND	20	ug	6.2
Cresols (total)	ND	20	ug	16
Dibenz(a,h)anthracene	ND	20	ug	6.0
Dibenzofuran	ND	20	ug	5.6
Dibenzo(a,e)pyrene	ND	20	ug	1.4
3,3'-Dimethoxybenzidine	ND	200	ug	28
p-Dimethylaminoazobenzene	ND	20	ug	4.8
7,12-Dimethylbenz(a)-anthracene	ND	20	ug	7.0
3,3'-Dimethylbenzidine	ND	200	ug	36
alpha,alpha-Dimethylphenethylamine	ND	50	ug	17
2,4-Dimethylphenol	ND	20	ug	13
Fluoranthene	ND	20	ug	7.2
Fluorene	ND	20	ug	6.0
Indeno(1,2,3-cd)pyrene	ND	20	ug	6.2
Isophorone	ND	20	ug	5.6
3-Methylcholanthrene	ND	20	ug	7.6
2-Methylnaphthalene	ND	20	ug	5.8
Naphthalene	ND	20	ug	6.2
Nitrobenzene	ND	20	ug	5.8
Perylene	ND	20	ug	1.5
Phenanthrene	ND	20	ug	6.0
Phenol	ND	20	ug	6.2
1,4-Phenylenediamine	ND	200	ug	50
Pyrene	ND	20	ug	7.0
o-Toluidine	ND	20	ug	5.6

(Continued on next page)

TestAmerica Air Emissions Dallas

Client Sample ID: A-6455,A-6456 MEDIA CHECK

GC/MS Semivolatiles

Lot-Sample #...: H1G200446-008 **Work Order #...:** MK2H61AA **Matrix.....:** AIR

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	83	(22 - 105)
Phenol-d5	90	(48 - 118)
Nitrobenzene-d5	78	(43 - 110)
2-Fluorobiphenyl	82	(48 - 111)
2,4,6-Tribromophenol	87	(34 - 125)

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: H1G200446 Work Order #...: MK2DQ1AA Matrix.....: AIR
MB Lot-Sample #: H1G200000-076

Prep Date.....: 07/20/11
Analysis Date..: 07/27/11 Prep Batch #...: 1201076
Dilution Factor: 2

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acenaphthene	ND	20	ug	SW846 8270C
Acenaphthylene	ND	20	ug	SW846 8270C
Aniline	ND	20	ug	SW846 8270C
Anthracene	ND	20	ug	SW846 8270C
Benz(a)anthracene	ND	20	ug	SW846 8270C
Benzidine	ND	200	ug	SW846 8270C
Benzo(b)fluoranthene	ND	20	ug	SW846 8270C
Benzo(k)fluoranthene	ND	20	ug	SW846 8270C
Benzo(ghi)perylene	ND	20	ug	SW846 8270C
Benzo(a)pyrene	ND	20	ug	SW846 8270C
Benzo(e)pyrene	ND	20	ug	SW846 8270C
Biphenyl	ND	20	ug	SW846 8270C
Chrysene	ND	20	ug	SW846 8270C
Cresols (total)	ND	20	ug	SW846 8270C
Dibenz(a,h)anthracene	ND	20	ug	SW846 8270C
Dibenzofuran	ND	20	ug	SW846 8270C
Dibenzo(a,e)pyrene	ND	20	ug	SW846 8270C
3,3'-Dimethoxybenzidine	ND	200	ug	SW846 8270C
p-Dimethylaminoazobenzene	ND	20	ug	SW846 8270C
7,12-Dimethylbenz(a)-anthracene	ND	20	ug	SW846 8270C
3,3'-Dimethylbenzidine	ND	200	ug	SW846 8270C
alpha,alpha-Dimethylphene	ND	50	ug	SW846 8270C
2,4-Dimethylphenol	ND	20	ug	SW846 8270C
Fluoranthene	ND	20	ug	SW846 8270C
Fluorene	ND	20	ug	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	20	ug	SW846 8270C
Isophorone	ND	20	ug	SW846 8270C
3-Methylcholanthrene	ND	20	ug	SW846 8270C
2-Methylnaphthalene	ND	20	ug	SW846 8270C
Naphthalene	ND	20	ug	SW846 8270C
Nitrobenzene	ND	20	ug	SW846 8270C
Perylene	ND	20	ug	SW846 8270C
Phenanthrene	ND	20	ug	SW846 8270C
Phenol	ND	20	ug	SW846 8270C
1,4-Phenylenediamine	ND	200	ug	SW846 8270C
Pyrene	ND	20	ug	SW846 8270C
o-Toluidine	ND	20	ug	SW846 8270C

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: H1G200446 Work Order #...: MK2DQ1AA Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	63	(22 - 105)
Phenol-d5	85	(48 - 118)
Nitrobenzene-d5	85	(43 - 110)
2-Fluorobiphenyl	86	(48 - 111)
2,4,6-Tribromophenol	67	(34 - 125)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H1G200446 Work Order #...: MK2DQ1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H1G200000-076 MK2DQ1AD-LCSD
Prep Date.....: 07/20/11 Analysis Date..: 07/27/11
Prep Batch #...: 1201076
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Acenaphthene	91	(63 - 107)			SW846 8270C
	94	(63 - 107)	2.9	(0-36)	SW846 8270C
Acenaphthylene	94	(64 - 112)			SW846 8270C
	96	(64 - 112)	1.9	(0-36)	SW846 8270C
Aniline	93	(48 - 109)			SW846 8270C
	96	(48 - 109)	2.8	(0-50)	SW846 8270C
Anthracene	94	(59 - 114)			SW846 8270C
	96	(59 - 114)	1.9	(0-36)	SW846 8270C
Benz(a)anthracene	98	(50 - 130)			SW846 8270C
	102	(50 - 130)	4.0	(0-50)	SW846 8270C
Benzidine	86	(10 - 150)			SW846 8270C
	91	(10 - 150)	6.2	(0-50)	SW846 8270C
Benzo(b)fluoranthene	109	(63 - 122)			SW846 8270C
	110	(63 - 122)	0.91	(0-50)	SW846 8270C
Benzo(k)fluoranthene	92	(69 - 118)			SW846 8270C
	90	(69 - 118)	2.1	(0-50)	SW846 8270C
Benzo(ghi)perylene	99	(71 - 122)			SW846 8270C
	97	(71 - 122)	1.5	(0-50)	SW846 8270C
Benzo(a)pyrene	93	(67 - 122)			SW846 8270C
	92	(67 - 122)	0.54	(0-50)	SW846 8270C
Benzo(e)pyrene	102	(50 - 130)			SW846 8270C
	102	(50 - 130)	0.0	(0-50)	SW846 8270C
Biphenyl	85	(50 - 130)			SW846 8270C
	87	(50 - 130)	2.2	(0-50)	SW846 8270C
Chrysene	93	(67 - 114)			SW846 8270C
	97	(67 - 114)	4.1	(0-41)	SW846 8270C
Cresols (total)	97	(50 - 130)			SW846 8270C
	100	(50 - 130)	3.0	(0-50)	SW846 8270C
Dibenz(a,h)anthracene	97	(67 - 122)			SW846 8270C
	98	(67 - 122)	0.92	(0-50)	SW846 8270C
Dibenzofuran	95	(60 - 108)			SW846 8270C
	96	(60 - 108)	1.2	(0-37)	SW846 8270C
Dibenzo(a,e)pyrene	93	(50 - 130)			SW846 8270C
	95	(50 - 130)	1.4	(0-50)	SW846 8270C
3,3'-Dimethoxybenzidine	104	(30 - 130)			SW846 8270C
	112	(30 - 130)	7.4	(0-50)	SW846 8270C
p-Dimethylaminoazobenzene	103	(50 - 130)			SW846 8270C
	107	(50 - 130)	3.8	(0-50)	SW846 8270C
7,12-Dimethylbenz(a)-anthracene	68	(50 - 130)			SW846 8270C
	70	(50 - 130)	4.2	(0-50)	SW846 8270C

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H1G200446 Work Order #...: MK2DQ1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H1G200000-076 MK2DQ1AD-LCSD

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
3,3'-Dimethylbenzidine	107	(30 - 130)			SW846 8270C
	116	(30 - 130)	8.1	(0-50)	SW846 8270C
alpha,alpha-Dimethylphenet	69	(30 - 130)			SW846 8270C
	71	(30 - 130)	3.6	(0-50)	SW846 8270C
2,4-Dimethylphenol	92	(10 - 125)			SW846 8270C
	94	(10 - 125)	2.4	(0-41)	SW846 8270C
Fluoranthene	104	(55 - 120)			SW846 8270C
	106	(55 - 120)	1.9	(0-34)	SW846 8270C
Fluorene	95	(64 - 114)			SW846 8270C
	98	(64 - 114)	2.3	(0-36)	SW846 8270C
Indeno(1,2,3-cd)pyrene	102	(72 - 126)			SW846 8270C
	102	(72 - 126)	0.0	(0-50)	SW846 8270C
Isophorone	94	(56 - 111)			SW846 8270C
	94	(56 - 111)	0.42	(0-37)	SW846 8270C
3-Methylcholanthrene	89	(50 - 130)			SW846 8270C
	90	(50 - 130)	0.44	(0-30)	SW846 8270C
2-Methylnaphthalene	96	(56 - 111)			SW846 8270C
	96	(56 - 111)	0.62	(0-38)	SW846 8270C
Naphthalene	88	(59 - 104)			SW846 8270C
	88	(59 - 104)	0.56	(0-38)	SW846 8270C
Nitrobenzene	88	(58 - 109)			SW846 8270C
	89	(58 - 109)	1.2	(0-38)	SW846 8270C
Perylene	100	(50 - 130)			SW846 8270C
	99	(50 - 130)	1.3	(0-50)	SW846 8270C
Phenanthrene	92	(58 - 109)			SW846 8270C
	94	(58 - 109)	1.6	(0-35)	SW846 8270C
Phenol	94	(54 - 114)			SW846 8270C
	93	(54 - 114)	0.64	(0-39)	SW846 8270C
1,4-Phenylenediamine	22	(5.0- 130)			SW846 8270C
	26	(5.0- 130)	17	(0-50)	SW846 8270C
Pyrene	96	(76 - 118)			SW846 8270C
	101	(76 - 118)	5.4	(0-41)	SW846 8270C
o-Toluidine	96	(30 - 130)			SW846 8270C
	99	(30 - 130)	3.4	(0-50)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	67	(22 - 105)
	63	(22 - 105)
Phenol-d5	89	(48 - 118)
	90	(48 - 118)
Nitrobenzene-d5	85	(43 - 110)
	89	(43 - 110)
2-Fluorobiphenyl	86	(48 - 111)

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H1G200446 Work Order #...: MK2DQ1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H1G200000-076 MK2DQ1AD-LCSD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
	88	(48 - 111)
2,4,6-Tribromophenol	83	(34 - 125)
	85	(34 - 125)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: H1G200446 Work Order #...: MK2DQ1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H1G200000-076 MK2DQ1AD-LCSD
Prep Date.....: 07/20/11 Analysis Date..: 07/27/11
Prep Batch #...: 1201076
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Acenaphthene	100	90.8	ug	91		SW846 8270C
	100	93.5	ug	94	2.9	SW846 8270C
Acenaphthylene	100	94.1	ug	94		SW846 8270C
	100	95.9	ug	96	1.9	SW846 8270C
Aniline	100	93.0	ug	93		SW846 8270C
	100	95.6	ug	96	2.8	SW846 8270C
Anthracene	100	94.3	ug	94		SW846 8270C
	100	96.1	ug	96	1.9	SW846 8270C
Benz(a)anthracene	100	98.0	ug	98		SW846 8270C
	100	102	ug	102	4.0	SW846 8270C
Benzidine	200	171	ug	86		SW846 8270C
	200	182	ug	91	6.2	SW846 8270C
Benzo(b)fluoranthene	100	109	ug	109		SW846 8270C
	100	110	ug	110	0.91	SW846 8270C
Benzo(k)fluoranthene	100	91.8	ug	92		SW846 8270C
	100	89.9	ug	90	2.1	SW846 8270C
Benzo(ghi)perylene	100	98.8	ug	99		SW846 8270C
	100	97.3	ug	97	1.5	SW846 8270C
Benzo(a)pyrene	100	92.7	ug	93		SW846 8270C
	100	92.2	ug	92	0.54	SW846 8270C
Benzo(e)pyrene	100	102	ug	102		SW846 8270C
	100	102	ug	102	0.0	SW846 8270C
Biphenyl	100	84.8	ug	85		SW846 8270C
	100	86.7	ug	87	2.2	SW846 8270C
Chrysene	100	93.4	ug	93		SW846 8270C
	100	97.3	ug	97	4.1	SW846 8270C
Cresols (total)	200	194	ug	97		SW846 8270C
	200	200	ug	100	3.0	SW846 8270C
Dibenz(a,h)anthracene	100	96.6	ug	97		SW846 8270C
	100	97.5	ug	98	0.92	SW846 8270C
Dibenzofuran	100	94.7	ug	95		SW846 8270C
	100	95.9	ug	96	1.2	SW846 8270C
Dibenzo(a,e)pyrene	100	93.3	ug	93		SW846 8270C
	100	94.6	ug	95	1.4	SW846 8270C
3,3'-Dimethoxybenzidine	100	104	ug	104		SW846 8270C
	100	112	ug	112	7.4	SW846 8270C
p-Dimethylaminoazobenzene	100	103	ug	103		SW846 8270C
	100	107	ug	107	3.8	SW846 8270C
7,12-Dimethylbenz(a)-anthracene	100	67.6	ug	68		SW846 8270C
	100	70.5	ug	70	4.2	SW846 8270C

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LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: H1G200446 Work Order #...: MK2DQ1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H1G200000-076 MK2DQ1AD-LCSD

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
3,3'-Dimethylbenzidine	100	107	ug	107		SW846 8270C
	100	116	ug	116	8.1	SW846 8270C
alpha,alpha-Dimethylphenet	100	68.7	ug	69		SW846 8270C
	100	71.2	ug	71	3.6	SW846 8270C
2,4-Dimethylphenol	100	92.2	ug	92		SW846 8270C
	100	94.4	ug	94	2.4	SW846 8270C
Fluoranthene	100	104	ug	104		SW846 8270C
	100	106	ug	106	1.9	SW846 8270C
Fluorene	100	95.4	ug	95		SW846 8270C
	100	97.6	ug	98	2.3	SW846 8270C
Indeno(1,2,3-cd)pyrene	100	102	ug	102		SW846 8270C
	100	102	ug	102	0.0	SW846 8270C
Isophorone	100	93.5	ug	94		SW846 8270C
	100	93.9	ug	94	0.42	SW846 8270C
3-Methylcholanthrene	100	89.4	ug	89		SW846 8270C
	100	89.8	ug	90	0.44	SW846 8270C
2-Methylnaphthalene	100	95.9	ug	96		SW846 8270C
	100	96.5	ug	96	0.62	SW846 8270C
Naphthalene	100	88.2	ug	88		SW846 8270C
	100	87.7	ug	88	0.56	SW846 8270C
Nitrobenzene	100	88.2	ug	88		SW846 8270C
	100	89.3	ug	89	1.2	SW846 8270C
Perylene	100	100	ug	100		SW846 8270C
	100	98.7	ug	99	1.3	SW846 8270C
Phenanthrene	100	92.2	ug	92		SW846 8270C
	100	93.7	ug	94	1.6	SW846 8270C
Phenol	100	93.9	ug	94		SW846 8270C
	100	93.3	ug	93	0.64	SW846 8270C
1,4-Phenylenediamine	100	22.3	ug	22		SW846 8270C
	100	26.4	ug	26	17	SW846 8270C
Pyrene	100	95.7	ug	96		SW846 8270C
	100	101	ug	101	5.4	SW846 8270C
o-Toluidine	100	95.7	ug	96		SW846 8270C
	100	99.0	ug	99	3.4	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	67	(22 - 105)
	63	(22 - 105)
Phenol-d5	89	(48 - 118)
	90	(48 - 118)
Nitrobenzene-d5	85	(43 - 110)
	89	(43 - 110)
2-Fluorobiphenyl	86	(48 - 111)

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LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: H1G200446 **Work Order #...:** MK2DQ1AC-LCS **Matrix.....:** AIR
LCS Lot-Sample#: H1G200000-076 MK2DQ1AD-LCSD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
	88	(48 - 111)
2,4,6-Tribromophenol	83	(34 - 125)
	85	(34 - 125)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Sample Data Summary

TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN 2 COMBINED

GC/MS Semivolatiles

Lot-Sample #...:	H1G200446-001	Work Order #...:	MK2HW1AC	Matrix.....:	AIR
Date Sampled...:	07/11/11	Date Received..:	07/20/2011		
Prep Date.....:	07/20/11	Analysis Date..:	07/29/2011		
Prep Batch #...:	1201079				
Dilution Factor:	2	Method.....:	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	**12 J**	**40**	ng/sample	9.8
Acenaphthylene	ND	40	ng/sample	4.8
Anthracene	ND	20	ng/sample	7.6
Benzo(a)anthracene	ND	20	ng/sample	7.6
Benzo(b)fluoranthene	ND	200	ng/sample	60
Benzo(k)fluoranthene	ND	200	ng/sample	86
Benzo(ghi)perylene	**30**	**20**	ng/sample	10
Benzo(a)pyrene	ND	20	ng/sample	5.8
Benzo(e)pyrene	ND	20	ng/sample	11
Chrysene	**17 J**	**20**	ng/sample	5.0
Dibenz(a,h)anthracene	ND	20	ng/sample	7.8
Fluoranthene	**48**	**20**	ng/sample	13
Fluorene	**43**	**20**	ng/sample	8.2
Indeno(1,2,3-cd)pyrene	**6.4 J**	**20**	ng/sample	5.2
2-Methylnaphthalene	**92 J**	**100**	ng/sample	42
Naphthalene	**660 J**	**800**	ng/sample	500
Perylene	ND	20	ng/sample	6.2
Phenanthrene	**150**	**60**	ng/sample	48
Pyrene	ND	120	ng/sample	72

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	97	(50 - 150)
Terphenyl-d14	105	(50 - 150)
13C6-Fluorene	78	(50 - 150)
Anthracene-d10	106	(30 - 120)
Naphthalene-d8	80	(30 - 120)
2-Methylnaphthalene-d10	92	(30 - 120)
Acenaphthylene-d8	117	(30 - 120)
Phenanthrene-d10	89	(30 - 120)
Fluoranthene-d10	104	(30 - 120)
Benzo(a)anthracene-d12	156 *	(30 - 120)
Chrysene-d12	81	(30 - 120)
Benzo(b)fluoranthene-d12	115	(30 - 120)
Benzo(k)fluoranthene-d12	82	(30 - 120)
Benzo(a)pyrene-d12	109	(30 - 120)
Perylene-d12	94	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	107	(30 - 120)
Dibenz(ah)anthracene-d14	104	(30 - 120)
Benzo(ghi)perylene-d12	98	(30 - 120)

NOTE(S):

1 13C6-Anthracene = 88 %

* Surrogate recovery is outside stated control limits.

J Estimated result. Result is less than RL.

TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN 3 COMBINED

GC/MS Semivolatiles

Lot-Sample #...:	H1G200446-002	Work Order #...:	MK2H01AC	Matrix.....:	AIR
Date Sampled...:	07/12/11	Date Received..:	07/20/2011		
Prep Date.....:	07/20/11	Analysis Date..:	07/29/2011		
Prep Batch #...:	1201079				
Dilution Factor:	2	Method.....:	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	24 J	40	ng/sample	9.8
Acenaphthylene	9.1 J	40	ng/sample	4.8
Anthracene	54	20	ng/sample	7.6
Benzo(a)anthracene	17 J	20	ng/sample	7.6
Benzo(b)fluoranthene	ND	200	ng/sample	60
Benzo(k)fluoranthene	ND	200	ng/sample	86
Benzo(ghi)perylene	36	20	ng/sample	10
Benzo(a)pyrene	29	20	ng/sample	5.8
Benzo(e)pyrene	26	20	ng/sample	11
Chrysene	85	20	ng/sample	5.0
Dibenz(a,h)anthracene	ND	20	ng/sample	7.8
Fluoranthene	230	20	ng/sample	13
Fluorene	110	20	ng/sample	8.2
Indeno(1,2,3-cd)pyrene	28	20	ng/sample	5.2
2-Methylnaphthalene	170	100	ng/sample	42
Naphthalene	640 J	800	ng/sample	500
Perylene	8.0 J	20	ng/sample	6.2
Phenanthrene	680	60	ng/sample	48
Pyrene	150	120	ng/sample	72

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	101	(50 - 150)
Terphenyl-d14	111	(50 - 150)
13C6-Fluorene	85	(50 - 150)
Anthracene-d10	100	(30 - 120)
Naphthalene-d8	79	(30 - 120)
2-Methylnaphthalene-d10	89	(30 - 120)
Acenaphthylene-d8	119	(30 - 120)
Phenanthrene-d10	85	(30 - 120)
Fluoranthene-d10	102	(30 - 120)
Benzo(a)anthracene-d12	154 *	(30 - 120)
Chrysene-d12	66	(30 - 120)
Benzo(b)fluoranthene-d12	117	(30 - 120)
Benzo(k)fluoranthene-d12	87	(30 - 120)
Benzo(a)pyrene-d12	112	(30 - 120)
Perylene-d12	98	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	110	(30 - 120)
Dibenz(ah)anthracene-d14	109	(30 - 120)
Benzo(ghi)perylene-d12	99	(30 - 120)

NOTE(S):

1 13C6-Athracene = 83%

* Surrogate recovery is outside stated control limits.

J Estimated result. Result is less than RL.

TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN 4 COMBINED

GC/MS Semivolatiles

Lot-Sample #...:	H1G200446-003	**Work Order #...:**	MK2H11AC	**Matrix.....:**	AIR
Date Sampled...:	07/12/11	**Date Received..:**	07/20/2011		
Prep Date.....:	07/20/11	**Analysis Date..:**	07/29/2011		
Prep Batch #...:	1201079				
Dilution Factor:	2	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	40	ng/sample	9.8
Acenaphthylene	ND	40	ng/sample	4.8
Anthracene	ND	20	ng/sample	7.6
Benzo(a)anthracene	ND	20	ng/sample	7.6
Benzo(b)fluoranthene	ND	200	ng/sample	60
Benzo(k)fluoranthene	ND	200	ng/sample	86
Benzo(ghi)perylene	**30**	**20**	ng/sample	10
Benzo(a)pyrene	ND	20	ng/sample	5.8
Benzo(e)pyrene	ND	20	ng/sample	11
Chrysene	**11 J**	**20**	ng/sample	5.0
Dibenz(a,h)anthracene	ND	20	ng/sample	7.8
Fluoranthene	**32**	**20**	ng/sample	13
Fluorene	**11 J**	**20**	ng/sample	8.2
Indeno(1,2,3-cd)pyrene	ND	20	ng/sample	5.2
2-Methylnaphthalene	ND	100	ng/sample	42
Naphthalene	**570 J**	**800**	ng/sample	500
Perylene	ND	20	ng/sample	6.2
Phenanthrene	**58 J**	**60**	ng/sample	48
Pyrene	ND	120	ng/sample	72

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	98	(50 - 150)
Terphenyl-d14	111	(50 - 150)
13C6-Fluorene	78	(50 - 150)
Anthracene-d10	100	(30 - 120)
Naphthalene-d8	80	(30 - 120)
2-Methylnaphthalene-d10	92	(30 - 120)
Acenaphthylene-d8	119	(30 - 120)
Phenanthrene-d10	84	(30 - 120)
Fluoranthene-d10	101	(30 - 120)
Benzo(a)anthracene-d12	154 *	(30 - 120)
Chrysene-d12	80	(30 - 120)
Benzo(b)fluoranthene-d12	115	(30 - 120)
Benzo(k)fluoranthene-d12	88	(30 - 120)
Benzo(a)pyrene-d12	114	(30 - 120)
Perylene-d12	97	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	109	(30 - 120)
Dibenz(ah)anthracene-d14	106	(30 - 120)
Benzo(ghi)perylene-d12	100	(30 - 120)

NOTE(S):

1 13C6-Anthracene = 86%

* Surrogate recovery is outside stated control limits.

J Estimated result. Result is less than RL.

TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN BT COMBINED

GC/MS Semivolatiles

Lot-Sample #...:	H1G200446-004	**Work Order #...:**	MK2H21AC	**Matrix.....:**	AIR
Date Sampled...:	07/11/11	**Date Received..:**	07/20/2011		
Prep Date.....:	07/20/11	**Analysis Date..:**	07/29/2011		
Prep Batch #...:	1201079				
Dilution Factor:	6	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	NR	120	ng/sample	29
Acenaphthylene	NR	120	ng/sample	14
Anthracene	**27 J**	**60**	ng/sample	23
Benzo(a)anthracene	NR	60	ng/sample	23
Benzo(b)fluoranthene	NR	600	ng/sample	180
Benzo(k)fluoranthene	ND	600	ng/sample	260
Benzo(ghi)perylene	NR	60	ng/sample	31
Benzo(a)pyrene	ND	60	ng/sample	17
Benzo(e)pyrene	ND	60	ng/sample	34
Chrysene	**19 J**	**60**	ng/sample	15
Dibenz(a,h)anthracene	NR	60	ng/sample	23
Fluoranthene	**73**	**60**	ng/sample	38
Fluorene	NR	60	ng/sample	25
Indeno(1,2,3-cd)pyrene	NR	60	ng/sample	16
2-Methylnaphthalene	NR	300	ng/sample	130
Naphthalene	NR	2400	ng/sample	1500
Perylene	ND	60	ng/sample	19
Phenanthrene	**450**	**180**	ng/sample	140
Pyrene	ND	360	ng/sample	220

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Terphenyl-d14	112	(50 - 150)
Anthracene-d10	81	(30 - 120)
Phenanthrene-d10	67	(30 - 120)
Fluoranthene-d10	109	(30 - 120)
Chrysene-d12	111	(30 - 120)
Benzo(k)fluoranthene-d12	83	(30 - 120)
Benzo(a)pyrene-d12	113	(30 - 120)
Perylene-d12	101	(30 - 120)

NOTE(S):

1 13C6-Anthracene = 68%

J Estimated result. Result is less than RL.

NR Not reportable, see Case Narrative.

TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN BT COMBINED

GC/MS Semivolatiles

Lot-Sample #...:	H1G200446-004	**Work Order #...:**	MK2H22AC	**Matrix.....:**	AIR
Date Sampled...:	07/11/11	**Date Received..:**	07/20/2011		
Prep Date.....:	07/20/11	**Analysis Date..:**	08/03/2011		
Prep Batch #...:	1201079				
Dilution Factor:	30	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	600	ng/sample	150
Acenaphthylene	ND	600	ng/sample	72
Benzo(a)anthracene	ND	300	ng/sample	110
Benzo(b)fluoranthene	ND	3000	ng/sample	900
Benzo(ghi)perylene	ND	300	ng/sample	150
Dibenz(a,h)anthracene	ND	300	ng/sample	120
Fluorene	**190 J**	**300**	ng/sample	120
Indeno(1,2,3-cd)pyrene	ND	300	ng/sample	78
2-Methylnaphthalene	ND	1500	ng/sample	630
Naphthalene	ND	12000	ng/sample	7500

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	121	(50 - 150)
13C6-Fluorene	105	(50 - 150)
Naphthalene-d8	78	(30 - 120)
2-Methylnaphthalene-d10	74	(30 - 120)
Acenaphthylene-d8	100	(30 - 120)
Phenanthrene-d10	82	(30 - 120)
Benzo(a)anthracene-d12	158 *	(30 - 120)
Benzo(b)fluoranthene-d12	115	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	120	(30 - 120)
Dibenz(ah)anthracene-d14	118	(30 - 120)
Benzo(ghi)perylene-d12	113	(30 - 120)

NOTE(S):

1 13C6-Anthracene = 98%

* Surrogate recovery is outside stated control limits.

J Estimated result. Result is less than RL.

TestAmerica Air Emissions Dallas

Client Sample ID: A-6455,A-6456 MEDIA CHECK

GC/MS Semivolatiles

Lot-Sample #...:	H1G200446-008	**Work Order #...:**	MK2H61AC	**Matrix.....:**	AIR
Date Sampled...:	07/11/11	**Date Received..:**	07/20/2011		
Prep Date.....:	07/20/11	**Analysis Date..:**	07/29/2011		
Prep Batch #...:	1201079				
Dilution Factor:	2	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	40	ng/sample	9.8
Acenaphthylene	ND	40	ng/sample	4.8
Anthracene	ND	20	ng/sample	7.6
Benzo(a)anthracene	ND	20	ng/sample	7.6
Benzo(b)fluoranthene	ND	200	ng/sample	60
Benzo(k)fluoranthene	ND	200	ng/sample	86
Benzo(ghi)perylene	ND	20	ng/sample	10
Benzo(a)pyrene	ND	20	ng/sample	5.8
Benzo(e)pyrene	ND	20	ng/sample	11
Chrysene	ND	20	ng/sample	5.0
Dibenz(a,h)anthracene	ND	20	ng/sample	7.8
Fluoranthene	ND	20	ng/sample	13
Fluorene	ND	20	ng/sample	8.2
Indeno(1,2,3-cd)pyrene	ND	20	ng/sample	5.2
2-Methylnaphthalene	ND	100	ng/sample	42
Naphthalene	ND	800	ng/sample	500
Perylene	ND	20	ng/sample	6.2
Phenanthrene	ND	60	ng/sample	48
Pyrene	ND	120	ng/sample	72

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Anthracene-d10	100	(30 - 120)
Naphthalene-d8	91	(30 - 120)
2-Methylnaphthalene-d10	97	(30 - 120)
Acenaphthylene-d8	114	(30 - 120)
Phenanthrene-d10	84	(30 - 120)
Fluoranthene-d10	101	(30 - 120)
Benzo(a)anthracene-d12	145 *	(30 - 120)
Chrysene-d12	87	(30 - 120)
Benzo(b)fluoranthene-d12	113	(30 - 120)
Benzo(k)fluoranthene-d12	79	(30 - 120)
Benzo(a)pyrene-d12	111	(30 - 120)
Perylene-d12	102	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	102	(30 - 120)
Dibenz(ah)anthracene-d14	97	(30 - 120)
Benzo(ghi)perylene-d12	95	(30 - 120)

NOTE(S):

* Surrogate recovery is outside stated control limits.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: H1G200446
MB Lot-Sample #: H1G200000-079 **Work Order #...:** MK2D01AA **Matrix.....:** AIR

Prep Date.....: 07/20/11 **Analysis Date..:** 07/29/2011
Prep Batch #...: 1201079
Dilution Factor: 2 **Method.....:** KNOX ID-0016

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	40	ng/sample	9.8
Acenaphthylene	ND	40	ng/sample	4.8
Anthracene	ND	20	ng/sample	7.6
Benzo(a)anthracene	ND	20	ng/sample	7.6
Benzo(b)fluoranthene	ND	200	ng/sample	60
Benzo(k)fluoranthene	ND	200	ng/sample	86
Benzo(ghi)perylene	ND	20	ng/sample	10
Benzo(a)pyrene	ND	20	ng/sample	5.8
Benzo(e)pyrene	ND	20	ng/sample	11
Chrysene	ND	20	ng/sample	5.0
Dibenz(a,h)anthracene	ND	20	ng/sample	7.8
Fluoranthene	ND	20	ng/sample	13
Fluorene	ND	20	ng/sample	8.2
Indeno(1,2,3-cd)pyrene	ND	20	ng/sample	5.2
2-Methylnaphthalene	ND	100	ng/sample	42
Naphthalene	ND	800	ng/sample	500
Perylene	ND	20	ng/sample	6.2
Phenanthrene	ND	60	ng/sample	48
Pyrene	ND	120	ng/sample	72

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Anthracene-d10	93	(30 - 120)
Naphthalene-d8	89	(30 - 120)
2-Methylnaphthalene-d10	94	(30 - 120)
Acenaphthylene-d8	104	(30 - 120)
Phenanthrene-d10	82	(30 - 120)
Fluoranthene-d10	100	(30 - 120)
Benzo(a)anthracene-d12	144 *	(30 - 120)
Chrysene-d12	90	(30 - 120)
Benzo(b)fluoranthene-d12	116	(30 - 120)
Benzo(k)fluoranthene-d12	90	(30 - 120)
Benzo(a)pyrene-d12	110	(30 - 120)
Perylene-d12	102	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	104	(30 - 120)
Dibenz(ah)anthracene-d14	101	(30 - 120)
Benzo(ghi)perylene-d12	96	(30 - 120)

NOTE(S):

1 13C6-Anthracene = 80 %

* Surrogate recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...:	H1G200446	Work Order #...:	MK2D01AC-LCS	Matrix.....:	AIR
LCS Lot-Sample#:	H1G200000-079		MK2D01AD-LCSD		
Prep Date .....:	07/20/11	Analysis Date..:	07/29/11		
Prep Batch #...:	1201079				
Dilution Factor:	1			Method.....:	KNOX ID-0016

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS
Acenaphthene	250	226	ng/sample	90	(60 - 140)		
	250	221	ng/sample	88	(60 - 140)	2.2	(0-25)
Acenaphthylene	250	227	ng/sample	91	(60 - 140)		
	250	227	ng/sample	91	(60 - 140)	0.0	(0-25)
Anthracene	250	215	ng/sample	86	(60 - 140)		
	250	211	ng/sample	84	(60 - 140)	1.9	(0-25)
Benzo(a)anthracene	250	187	ng/sample	75	(60 - 140)		
	250	187	ng/sample	75	(60 - 140)	0.0	(0-25)
Benzo(b)fluoranthene	250	198	ng/sample	79	(60 - 140)		
	250	197	ng/sample	79	(60 - 140)	0.50	(0-25)
Benzo(k)fluoranthene	250	265	ng/sample	106	(60 - 140)		
	250	264	ng/sample	106	(60 - 140)	0.37	(0-25)
Benzo(ghi)perylene	250	239	ng/sample	96	(60 - 140)		
	250	239	ng/sample	96	(60 - 140)	0.0	(0-25)
Benzo(a)pyrene	250	234	ng/sample	94	(60 - 140)		
	250	234	ng/sample	94	(60 - 140)	0.0	(0-25)
Benzo(e)pyrene	250	202	ng/sample	81	(60 - 140)		
	250	202	ng/sample	81	(60 - 140)	0.0	(0-25)
Chrysene	250	261	ng/sample	104	(60 - 140)		
	250	263	ng/sample	105	(60 - 140)	0.76	(0-25)
Dibenz(a,h)anthracene	250	246	ng/sample	98	(60 - 140)		
	250	240	ng/sample	96	(60 - 140)	2.5	(0-25)
Fluoranthene	250	232	ng/sample	93	(60 - 140)		
	250	232	ng/sample	93	(60 - 140)	0.0	(0-25)
Fluorene	250	247	ng/sample	99	(60 - 140)		
	250	248	ng/sample	99	(60 - 140)	0.40	(0-25)
Indeno(1,2,3-cd)pyrene	250	228	ng/sample	91	(60 - 140)		
	250	227	ng/sample	91	(60 - 140)	0.44	(0-25)
2-Methylnaphthalene	250	261	ng/sample	104	(60 - 140)		
	250	258	ng/sample	103	(60 - 140)	1.2	(0-25)
Naphthalene	2000	2180	ng/sample	109	(60 - 140)		
	2000	2180	ng/sample	109	(60 - 140)	0.0	(0-25)
Perylene	250	226	ng/sample	90	(60 - 140)		
	250	227	ng/sample	91	(60 - 140)	0.44	(0-25)
Phenanthrene	250	262	ng/sample	105	(60 - 140)		
	250	258	ng/sample	103	(60 - 140)	1.5	(0-25)
Pyrene	250	226	ng/sample	90	(60 - 140)		
	250	225	ng/sample	90	(60 - 140)	0.44	(0-25)

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
Anthracene-d10	96	(60 - 140)
	100	(60 - 140)
Naphthalene-d8	91	(60 - 140)
	92	(60 - 140)
2-Methylnaphthalene-d10	96	(60 - 140)
	97	(60 - 140)
Acenaphthylene-d8	111	(60 - 140)

(Continued on next Page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H1G200446 **Work Order #...:** MK2D01AC-LCS **Matrix.....:** AIR
LCS Lot-Sample#: H1G200000-079 MK2D01AD-LCSD

INTERNAL STANDARD	PERCENT RECOVERY		RECOVERY LIMITS
	114		(60 - 140)
Phenanthrene-d10	82		(60 - 140)
	84		(60 - 140)
Fluoranthene-d10	101		(60 - 140)
	102		(60 - 140)
Benzo(a)anthracene-d12	147	*	(60 - 140)
	150	*	(60 - 140)
Chrysene-d12	88		(60 - 140)
	90		(60 - 140)
Benzo(b)fluoranthene-d12	117		(60 - 140)
	120		(60 - 140)
Benzo(k)fluoranthene-d12	86		(60 - 140)
	88		(60 - 140)
Benzo(a)pyrene-d12	111		(60 - 140)
	114		(60 - 140)
Perylene-d12	101		(60 - 140)
	103		(60 - 140)
Indeno(1,2,3-cd)pyrene-d12	105		(60 - 140)
	109		(60 - 140)
Dibenz(ah)anthracene-d14	100		(60 - 140)
	107		(60 - 140)
Benzo(ghi)perylene-d12	97		(60 - 140)
	101		(60 - 140)

Note(s):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

* Surrogate recovery is outside stated control limits.

Sample Receipt Documentation

1716200496

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CHAIN OF CUSTODY RECORD

Page of

Job No.: 11-234
Job Name: Marathon
Location: Garyville LA
Unit: U45 TDX3 Stack

Project Manager: Hutchinson
Project Supervisor: Jones

Method: 0010

SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED: PART	HCL	CL2	SO2	SO3	Semi Volatiles	Recovered by	REMARKS (Specific Compounds/Methods)
Run 2 Filter	7-11-11	1643	1								✓	Will Starkey	Refinery ICR
Run 2 XAD			1								✓		
Run 2 FH A/MeCl2			1								✓	Will Starkey	
Run 2 BH A/MeCl2			1								✓	Will Starkey	
Blank Acetone		1552	1		200ml						✓	Will Starkey	
Blank MeCl2			1								✓	Will Starkey	
Blank Filter BT Filter		1552 1649	1 1								✓		

Samples Received for Transport/Shipment by:	J. LaCroix	Date:	7/18/11	Time: 1000
Samples Received for Transport/Shipment by:		Date:		Time:
Samples Received for Transport/Shipment by:		Date:		Time:
Samples Shipped Via:	FedEx	Date:	7/18/11	Time: 1700
Samples Received at Laboratory by:		Date:	7/20/11	Time: 1000
Samples Analyzed by:		Date:		Time:
Samples Analyzed by:		Date:		Time:
Data Checked by:		Date:		Time:

1 cooler Rec'd @ 21.4°C
with out custody seal 7/20/11
1 cooler Fed X # 8757 9921 3860

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1-224

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H16200446

CHAIN OF CUSTODY RECORD

Page of

Job No.: 11-234
Job Name: Marathon
Location: Garyville LA
Unit: 445 TOX3 Start

Project Manager: Hutchinson
Project Supervisor: Jones

Method: 0010

SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED: PART	HCL	CL2	SO2	SO3	semi volatiles		Recovered by	REMARKS (Specific Compounds/Methods)
Run 3 Filter	7-12-11	1409	1								✓			Refinery IGR
Run3 XAD	↓	↓	1								✓			
Run3 FH A/MeCl2			1								✓			
Run3 BH A/MeCl2			1								✓		↓	
BT XAD	7-11-11	1649	1								✓			
BT FH A/MeCl2	↓	↓	1								✓		Will Starky	
BT BH A/MeCl2	↓	↓	1								✓		Will Starky	

		Date		Time	
Samples Received for Transport/Shipment by:	J. LaCroix	Date:	7/18/11	Time:	1000
Samples Received for Transport/Shipment by:		Date:		Time:	
Samples Received for Transport/Shipment by:		Date:		Time:	
Samples Shipped Via:	Fed-Ex	Date:	7/18/11	Time:	1700
Samples Received at Laboratory by:	George P Hammond	Date:	7/20/11	Time:	1000
Samples Analyzed by:		Date:		Time:	
Samples Analyzed by:		Date:		Time:	
Data Checked by:		Date:		Time:	

11-234

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H16200446

CHAIN OF CUSTODY RECORD

Page of

Job No.: 11-234
Job Name: Marathon
Location: Garyville LA
Unit: 1245 TOX 3 Stack

Project Manager: Hutchinson
Project Supervisor: John Ed

Method: 0010

SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED: PART	HCL	CL2	SO2	SO3	Semi Volatiles		Recovered by	REMARKS (Specific Compounds/Methods)
Run 4 Filter	7-12-11	1149	1								✓			Return ICR
Run 4 XAD			1								✓			
Run 4 FH A/MeCl2			1								✓			
Run 4 BH A/MeCl2			1								✓			
Run 4 Condensate			1								✓			
Run 2 Condensate	7-11-11	1843	1								✓			
Run 3 Condensate	7-12-11	1409	1								✓			

Samples Received for Transport/Shipment by:	J. LeCroix	Date:	7/18/11	Time:	1040
Samples Received for Transport/Shipment by:		Date:		Time:	
Samples Received for Transport/Shipment by:		Date:		Time:	
Samples Shipped Via:	Fed-Ex	Date:	7/18/11	Time:	1700
Samples Received at Laboratory by:	George P Hancock	Date:	7/20/11	Time:	1000
Samples Analyzed by:		Date:		Time:	
Samples Analyzed by:		Date:		Time:	
Data Checked by:		Date:		Time:	

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TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: #16200146

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:	2B 4A
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C)		✓		☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = 21.4C ☐ **2c** Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** Sample preservative =	
4. Were custody seals present/intact on cooler and/or containers?		✓		☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:	
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken	
7. Were VOA samples received without headspace?			✓	☐ **7a** Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container	
9. Did you check for residual chlorine, if necessary?			✓	☐ **9a** Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired	
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information	
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information	
19. Was the sampler identified on the COC?		✓			

Quote #: 84197 PM Instructions: NA

Sample Receiving Associate: [signature] Date: 7/20/11

QA026R22.doc, 012811

Semivolatiles

Raw Sample Data

TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN 2 COMBINED

GC/MS Semivolatiles

Lot-Sample #...: H1G200446-001 **Work Order #...:** MK2HW1AA **Matrix.....:** AIR
Date Sampled...: 07/11/11 **Date Received..:** 07/20/11
Prep Date.....: 07/20/11 **Analysis Date..:** 07/28/11
Prep Batch #...: 1201076
Dilution Factor: 4 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	40	ug	11
Acenaphthylene	ND	40	ug	11
Aniline	ND	40	ug	34
Anthracene	ND	40	ug	13
Benz(a)anthracene	ND	40	ug	12
Benzidine	ND	400	ug	240
Benzo(b)fluoranthene	ND	40	ug	16
Benzo(k)fluoranthene	ND	40	ug	20
Benzo(ghi)perylene	ND	40	ug	13
Benzo(a)pyrene	ND	40	ug	15
Benzo(e)pyrene	ND	40	ug	3.4
Biphenyl	ND	40	ug	4.0
Chrysene	ND	40	ug	12
Cresols (total)	ND	40	ug	32
Dibenz(a,h)anthracene	ND	40	ug	12
Dibenzofuran	ND	40	ug	11
Dibenzo(a,e)pyrene	ND	40	ug	2.7
3,3'-Dimethoxybenzidine	ND	400	ug	56
p-Dimethylaminoazobenzene	ND	40	ug	9.6
7,12-Dimethylbenz(a)-anthracene	ND	40	ug	14
3,3'-Dimethylbenzidine	ND	400	ug	72
alpha,alpha-Dimethylphenethylamine	ND	100	ug	33
2,4-Dimethylphenol	ND	40	ug	26
Fluoranthene	ND	40	ug	14
Fluorene	ND	40	ug	12
Indeno(1,2,3-cd)pyrene	ND	40	ug	12
Isophorone	ND	40	ug	11
3-Methylcholanthrene	ND	40	ug	15
2-Methylnaphthalene	ND	40	ug	12
Naphthalene	ND	40	ug	12
Nitrobenzene	ND	40	ug	12
Perylene	ND	40	ug	3.1
Phenanthrene	ND	40	ug	12
Phenol	**51**	**40**	**ug**	**12**
1,4-Phenylenediamine	ND	400	ug	100
Pyrene	ND	40	ug	14
o-Toluidine	ND	40	ug	11

(Continued on next page)

TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN 2 COMBINED

GC/MS Semivolatiles

Lot-Sample #...: H1G200446-001 **Work Order #...:** MK2HW1AA **Matrix.....:** AIR

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	80	(22 - 105)
Phenol-d5	100	(48 - 118)
Nitrobenzene-d5	90	(43 - 110)
2-Fluorobiphenyl	90	(48 - 111)
2,4,6-Tribromophenol	97	(34 - 125)

Data File: /var/chem/gcms/md.i/D072711.b/mk2hw1aa.d
Report Date: 28-Jul-2011 13:29

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072711.b/mk2hw1aa.d
Lab Smp Id: MK2HW1AA Client Smp ID: 11-234 M0010 RUN 2
Inj Date : 28-JUL-2011 00:01
Operator : 60841 Inst ID: md.i
Smp Info : MK2HW1AA,,0,,,
Misc Info : D072711,8270a9,ICR.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /chem/gcms/md.i/D072711.b/8270a9.m
Meth Date : 27-Jul-2011 17:16 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 17:42 Cal File: a9dg267.d
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICR.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * (Vt*Sf)/(Vo*Uf) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	2000.00000	Volume of final extract (uL)
Sf	2.00000	Prep split factor
Vo	1.00000	Volume of sample extracted (1=total samp
Uf	1000.00000	unit correction factor

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	FINAL (ug)
* 1 1,4-Dichlorobenzene-d4	152	4.331	4.301	(1.000)	60928	20.0000	20.0
* 2 Naphthalene-d8	136	5.911	5.887	(1.000)	238096	20.0000	20.0
* 3 Acenaphthene-d10	164	8.485	8.484	(1.000)	140053	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	266978	20.0000	20.0
* 5 Chrysene-d12	240	11.922	11.928	(1.000)	264419	20.0000	20.0
* 6 Perylene-d12	264	13.849	13.855	(1.000)	239345	20.0000	20.0
$ 7 2-Fluorophenol	112	3.385	3.126	(0.782)	101325	30.1224	120
$ 8 Phenol-d5	99	4.043	3.931	(0.934)	151177	37.4829	150
$ 9 Nitrobenzene-d5	82	4.977	4.930	(0.842)	84865	22.3674	89.5
$ 11 2,4,6-Tribromophenol	330	9.307	9.307	(0.941)	39091	36.5737	146
$ 10 2-Fluorobiphenyl	172	7.591	7.591	(0.895)	196343	22.4107	89.6
$ 179 13C6-naphthalene	134	5.911	5.917	(1.000)	22218	1.71719	~~6.87 (R)~~ NA
15 Phenol (ccc)	94	4.054	3.949	(0.936)	52852	12.7417	51.0

KRM 7/28/11

Data File: /var/chem/gcms/md.i/D072711.b/mk2hw1aa.d
Report Date: 28-Jul-2011 13:29

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	FINAL (ug)
29 Nitrobenzene	77	5.041	4.953	(0.853)	11978	3.22254	~~12.9~~
30 Isophorone	82	4.977	5.271	(0.842)	84865	13.8829	~~55.5~~
32 2,4-Dimethyphenol	107	5.641	5.447	(0.954)	321528	80.4918	~~322~~
199 Phentermine	58	5.688	5.658	(0.962)	777	5.96871	~~23.9~~
196 Perylene	252	13.849	13.908	(1.000)	511	0.04231	~~0.169~~

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

KRM 7/28/11

Data File: /var/chem/gcms/md.i/D072711.b/mk2hw1aa.d
Report Date: 28-Jul-2011 13:29

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: md.i
Lab File ID: mk2hw1aa.d
Lab Smp Id: MK2HW1AA
Analysis Type: SV
Quant Type: ISTD
Operator: 60841
Calibration Date: 27-JUL-2011
Calibration Time: 16:02
Client Smp ID: 11-234 M0010 RUN 2
Level: LOW
Sample Type: AIR
Method File: /chem/gcms/md.i/D072711.b/8270a9.m
Misc Info: D072711,8270a9,ICR.sub

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	44395	22198	88790	60928	37.24
2 Naphthalene-d8	182374	91187	364748	238096	30.55
3 Acenaphthene-d10	111075	55538	222150	140053	26.09
4 Phenanthrene-d10	217977	108988	435954	266978	22.48
5 Chrysene-d12	247793	123896	495586	264419	6.71
6 Perylene-d12	221015	110508	442030	239345	8.29

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	4.30	3.80	4.80	4.33	0.69
2 Naphthalene-d8	5.89	5.39	6.39	5.91	0.40
3 Acenaphthene-d10	8.48	7.98	8.98	8.48	0.00
4 Phenanthrene-d10	9.89	9.39	10.39	9.89	0.00
5 Chrysene-d12	11.93	11.43	12.43	11.92	-0.05
6 Perylene-d12	13.85	13.35	14.35	13.85	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

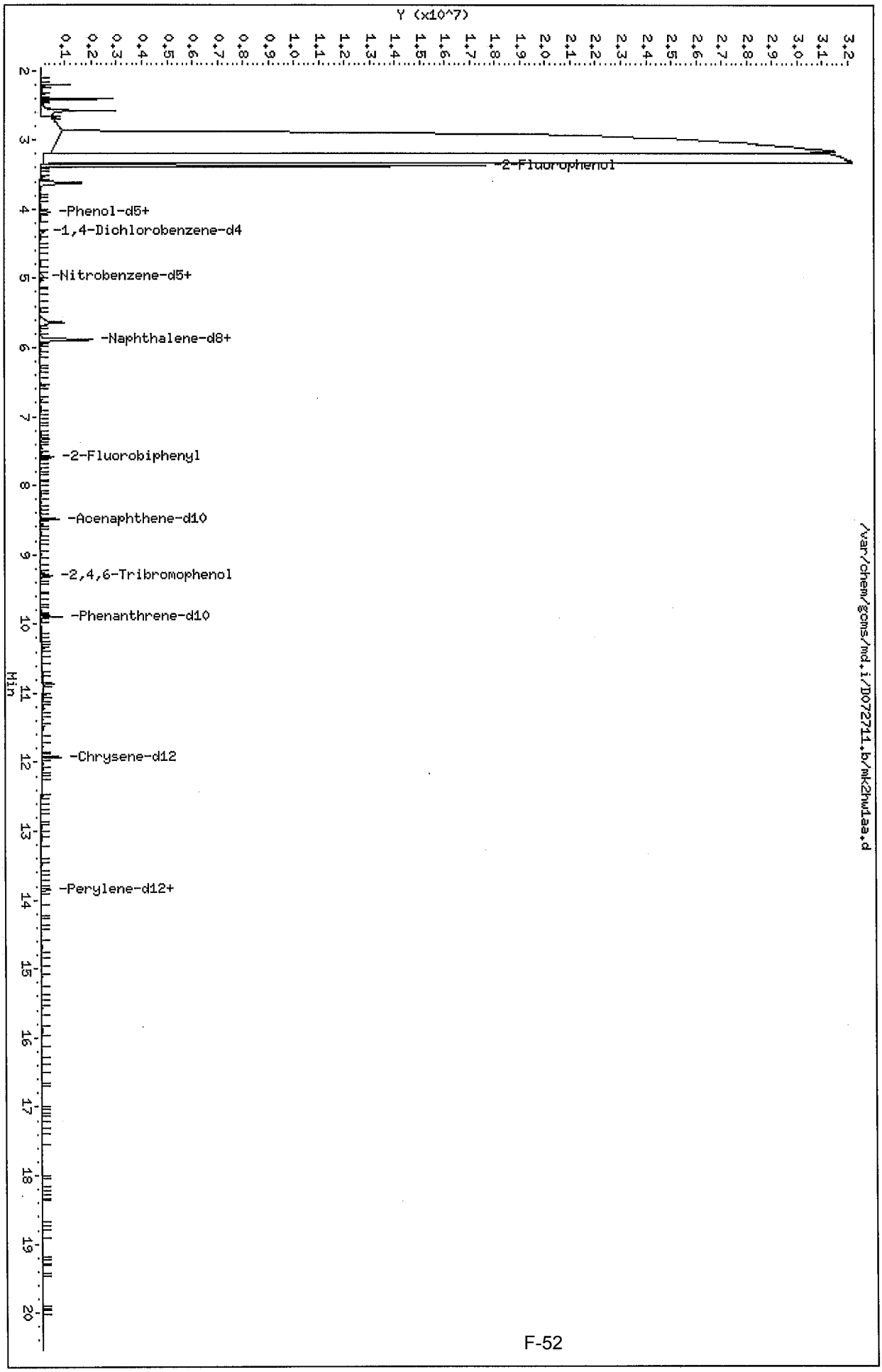
Data File: /var/chem/gcms/md.i/D072711.b/mk2hw1aa.d
Report Date: 28-Jul-2011 13:29

TestAmerica Knoxville

RECOVERY REPORT

Client Name: TestAmerica Air Emis20-JUL-2011 00:00 Client SDG: H1G200446
Sample Matrix: GAS Fraction: SV
Lab Smp Id: MK2HW1AA Client Smp ID: 11-234 M0010 RUN 2
Level: LOW Operator: 60841
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: ICR.sub
Method File: /chem/gcms/md.i/D072711.b/8270a9.m
Misc Info: D072711,8270a9,ICR.sub

SURROGATE COMPOUND	CONC ADDED ug	CONC RECOVERED ug	% RECOVERED	LIMITS
$ 7 2-Fluorophenol	150	120	80.33	19-100
$ 8 Phenol-d5	150	150	99.95	15-124
$ 9 Nitrobenzene-d5	100	89.5	89.47	42-104
$ 11 2,4,6-Tribromophen	150	146	97.53	33-130
$ 10 2-Fluorobiphenyl	100	89.6	89.64	51-103
$ 12 Terphenyl-d14	100	0.00	*	58-122
$ 179 13C6-naphthalene	200	6.87	3.43*	50-150


Data File: /var/chem/gcms/md.i/ID072711.b/mk2hw1aa.d
Date : 28-JUL-2011 00:01
Client ID: 11-234 H0010 RUN 2
Sample Info: MK2HW1AA,,0,,,
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
/var/chem/gcms/md.i/ID072711.b/mk2hw1aa.d
Y (x10^7)
Min
-2-Fluorophenol
-Phenol-d5+
-1,4-Dichlorobenzene-d4
-Nitrobenzene-d5+
-Naphthalene-d8+
-2-Fluorobiphenyl
-Acenaphthene-d10
-2,4,6-Tribromophenol
-Phenanthrene-d10
-Chrysene-d12
-Perylene-d12+

Data File: /var/chem/gcms/md.i/D072711.b/mk2hw1aa.d

Date : 28-JUL-2011 00:01

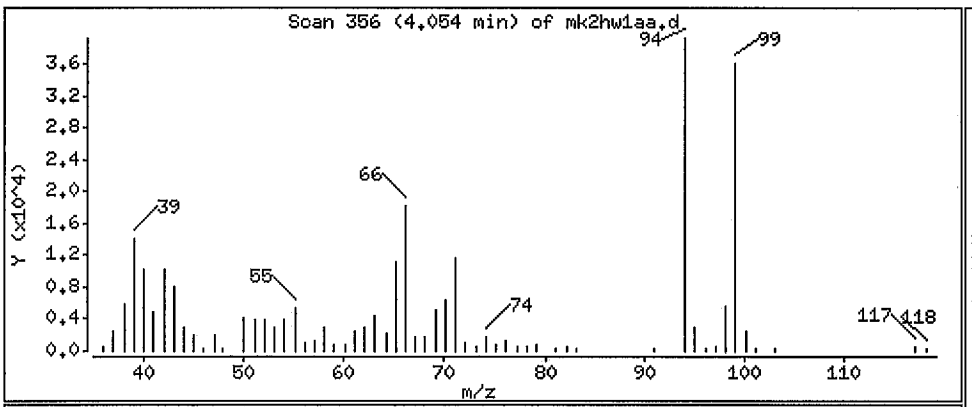
Client ID: 11-234 M0010 RUN 2 Instrument: md.i

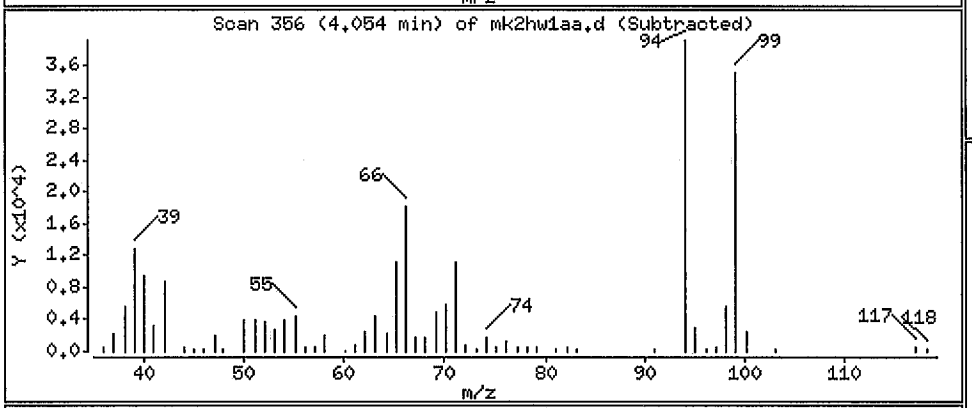
Sample Info: MK2HW1AA,,0,,,

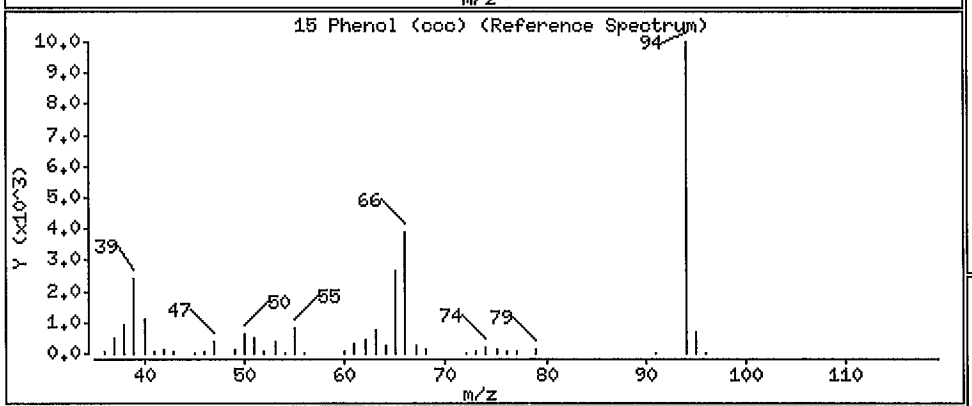
Volume Injected (uL): 1.0 Operator: 60841

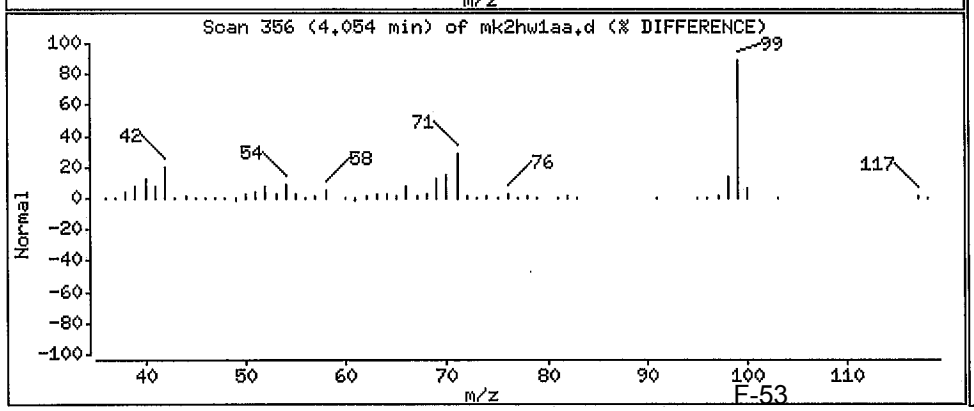
Column phase: Rxi-5 Sil MS Column diameter: 0.25

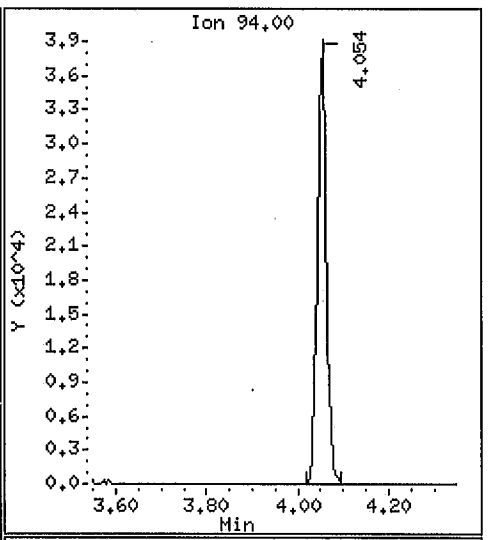
15 Phenol (ccc) Concentration: 51.0 ug

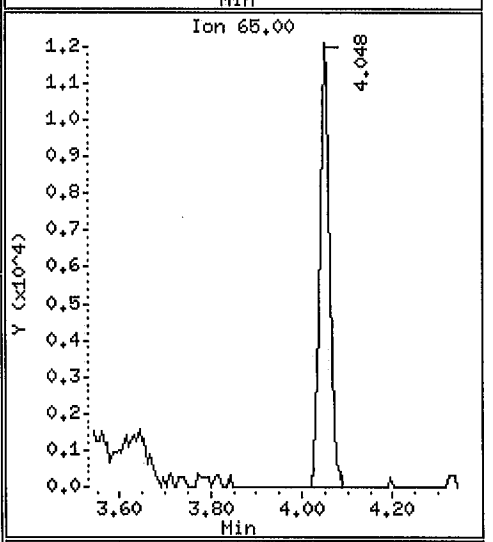


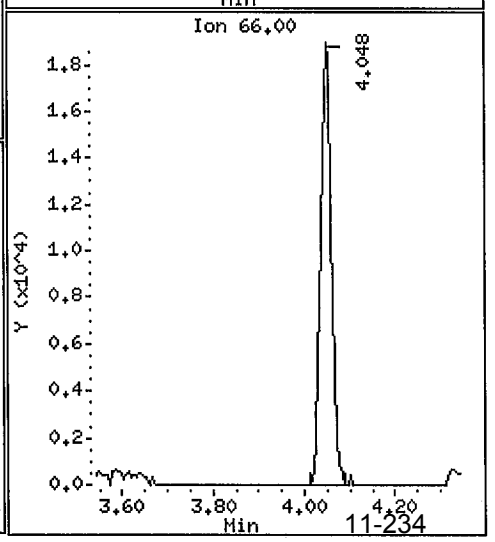












Data File: /var/chem/gcms/md.i/D072711.b/mk2hw1aa.d

Date : 28-JUL-2011 00:01

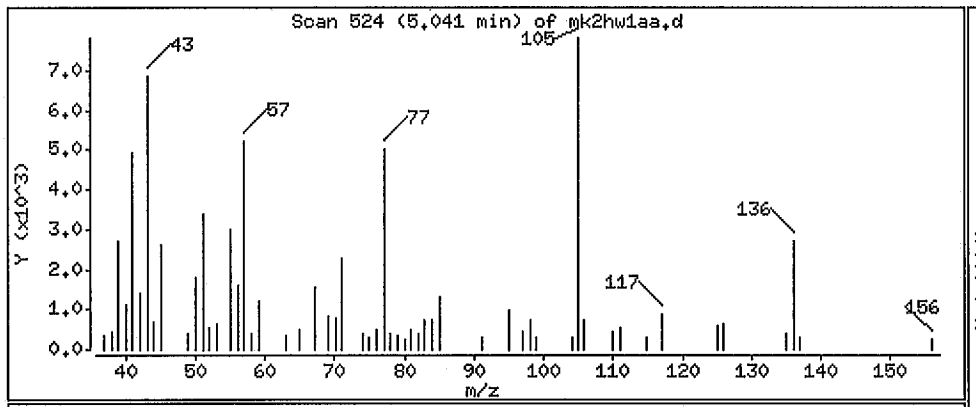
Client ID: 11-234 M0010 RUN 2 Instrument: md.i

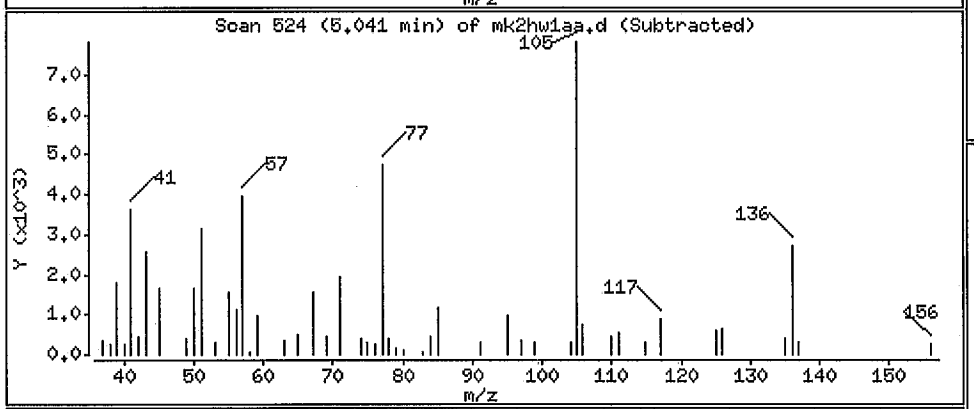
Sample Info: MK2HW1AA,,0,,,

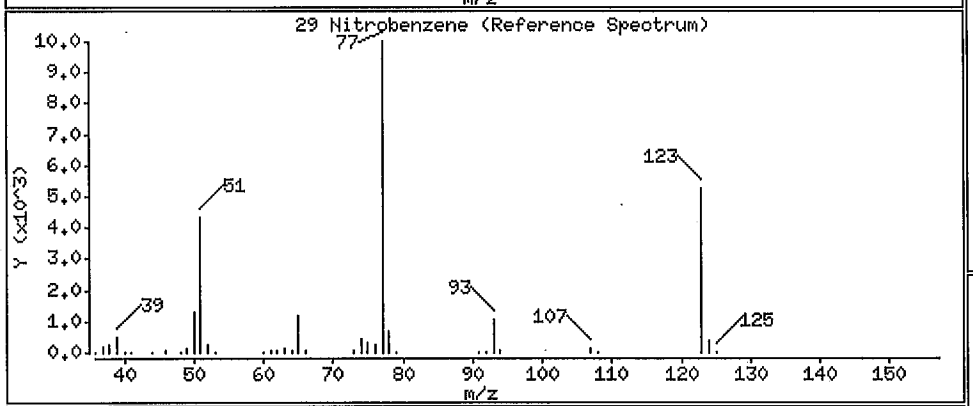
Volume Injected (uL): 1.0 Operator: 60841

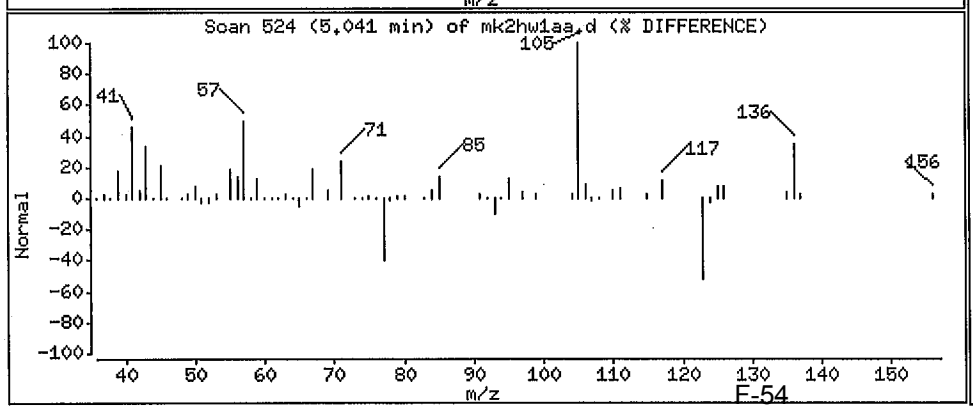
Column phase: Rxi-5 Sil MS Column diameter: 0.25

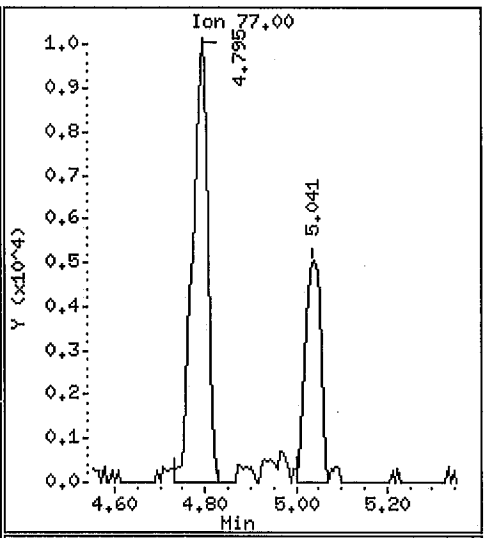
29 Nitrobenzene Concentration: 12.9 ug

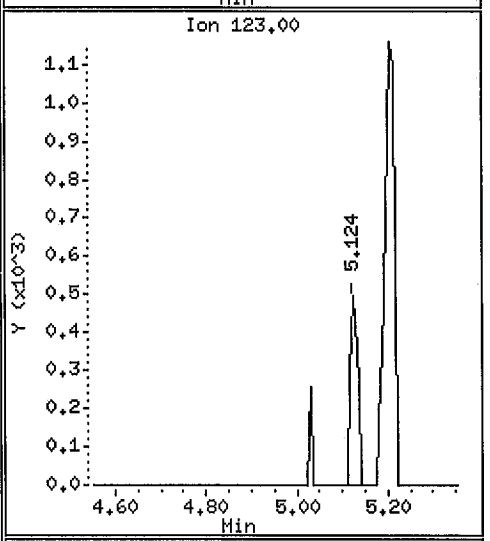


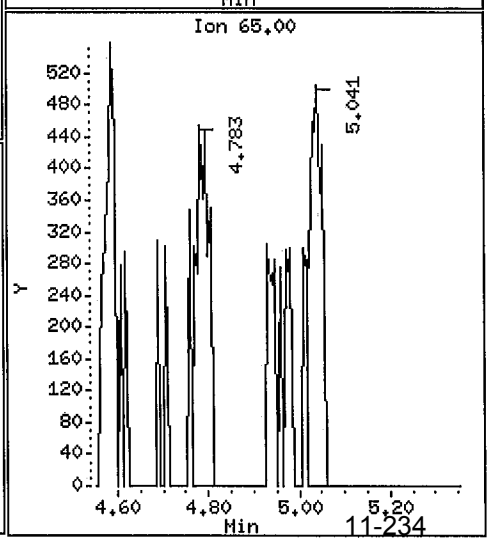












Data File: /var/chem/gcms/md.i/D072711.b/mk2hw1aa.d

Date : 28-JUL-2011 00:01

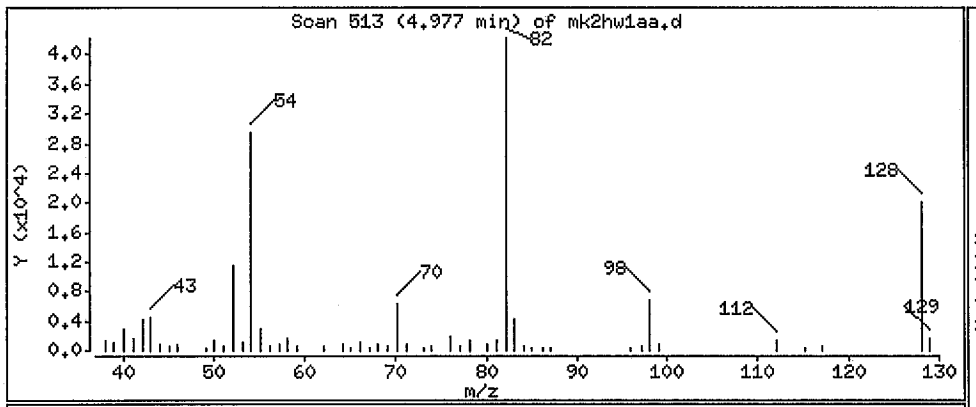
Client ID: 11-234 M0010 RUN 2 Instrument: md.i

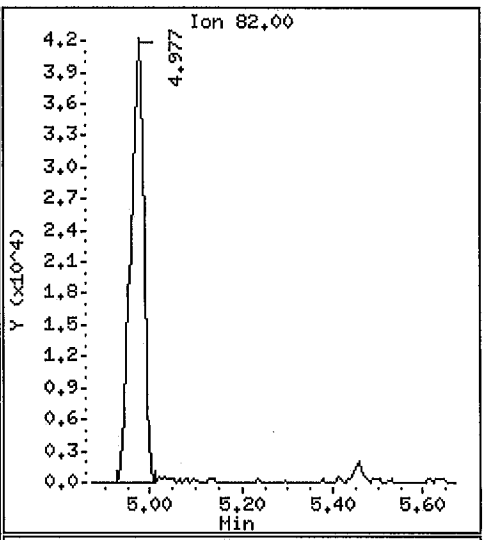
Sample Info: MK2HW1AA,,0,,,

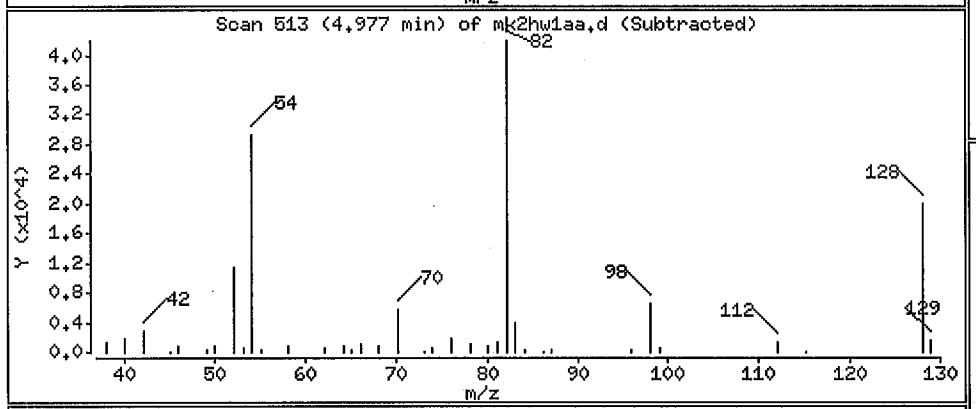
Volume Injected (uL): 1.0 Operator: 60841

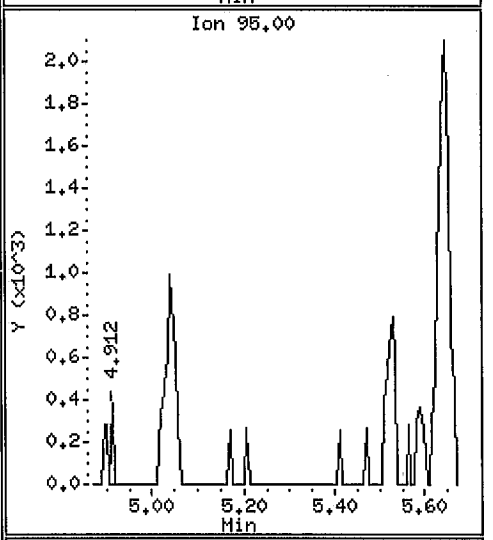
Column phase: Rxi-5 Sil MS Column diameter: 0.25

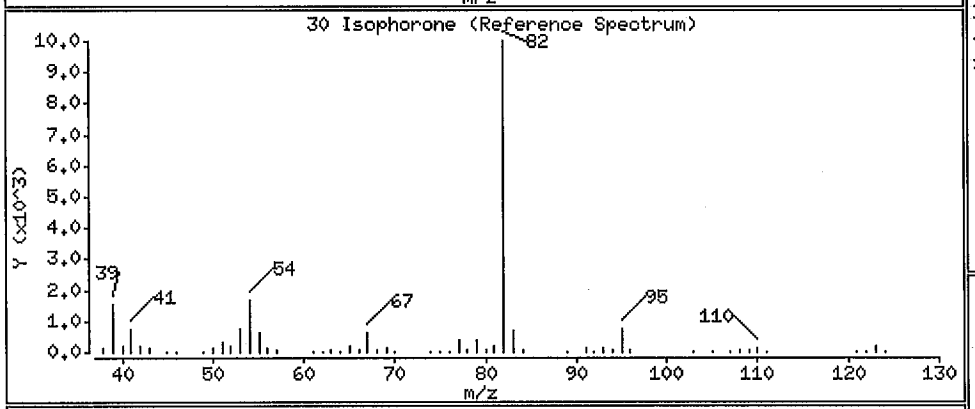
30 Isophorone Concentration: 55.5 ug

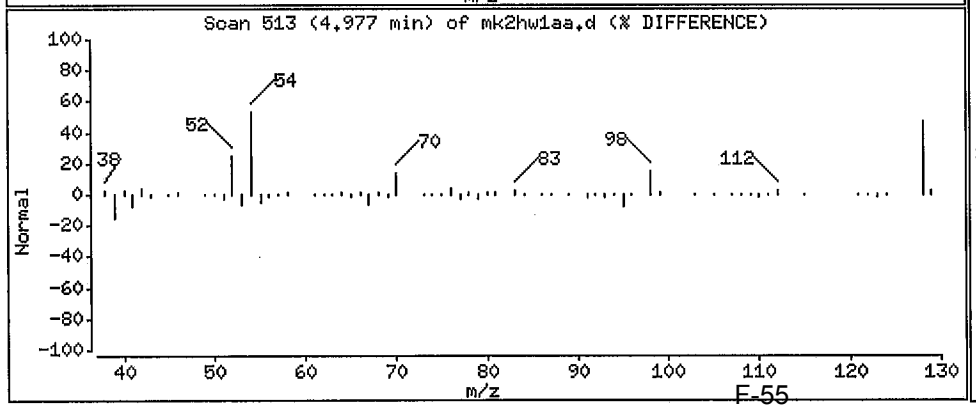


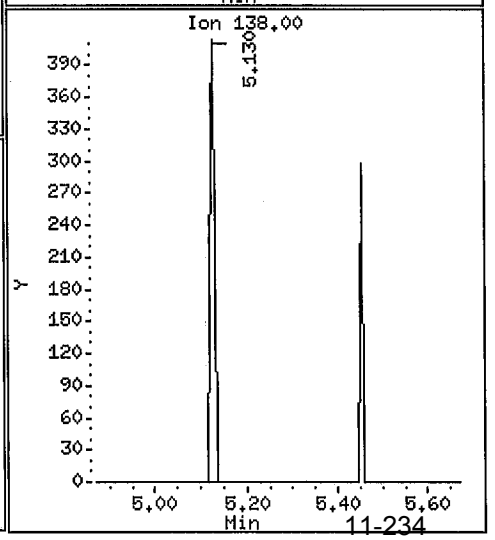












Data File: /var/chem/gcms/md.i/D072711.b/mk2hw1aa.d

Date : 28-JUL-2011 00:01

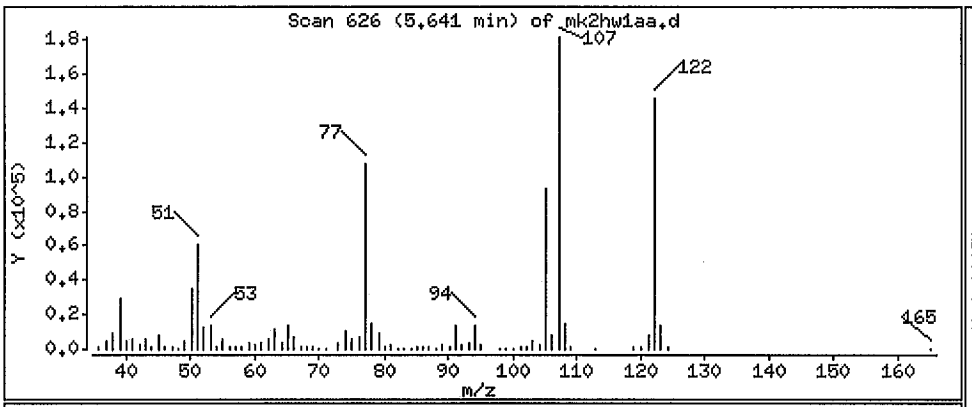
Client ID: 11-234 M0010 RUN 2 Instrument: md.i

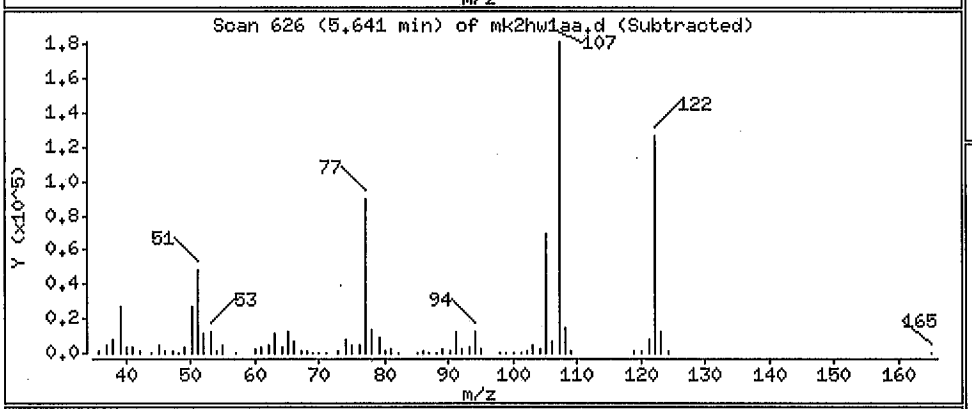
Sample Info: MK2HW1AA,,0,,,

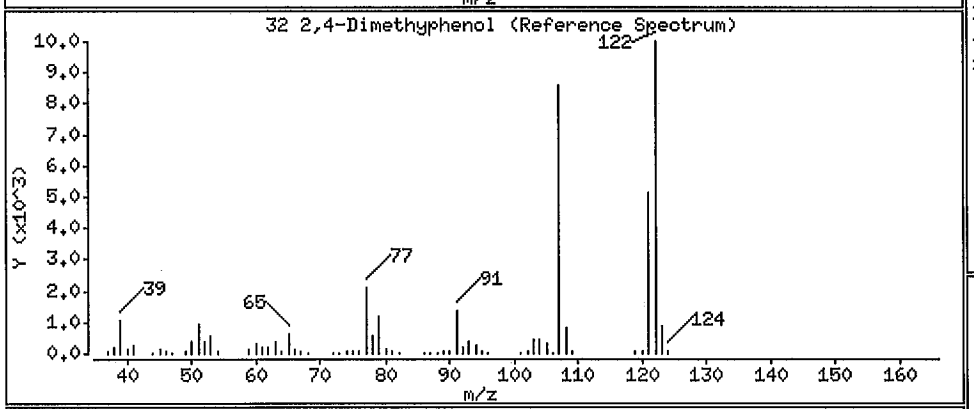
Volume Injected (uL): 1.0 Operator: 60841

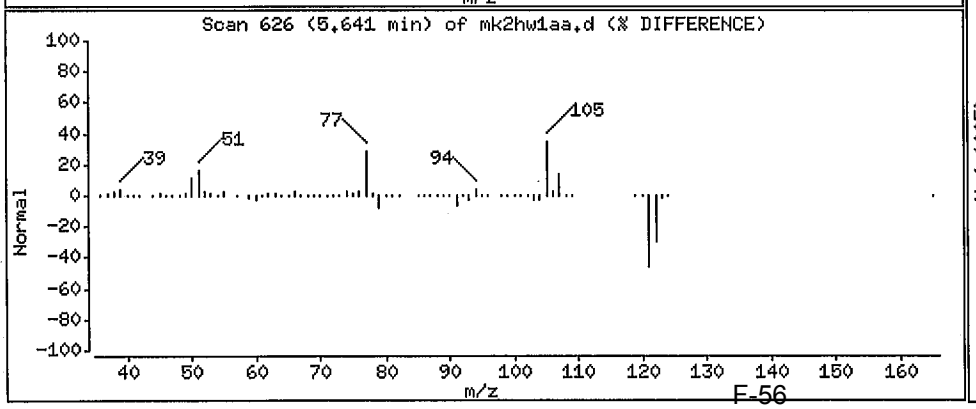
Column phase: Rxi-5 Sil MS Column diameter: 0.25

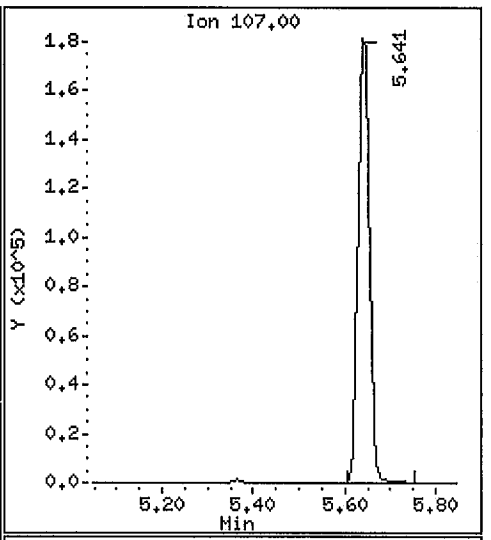
32 2,4-Dimethyphenol Concentration: 322 ug

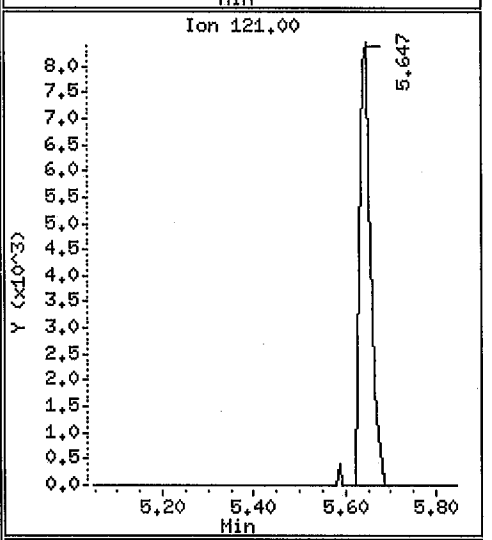


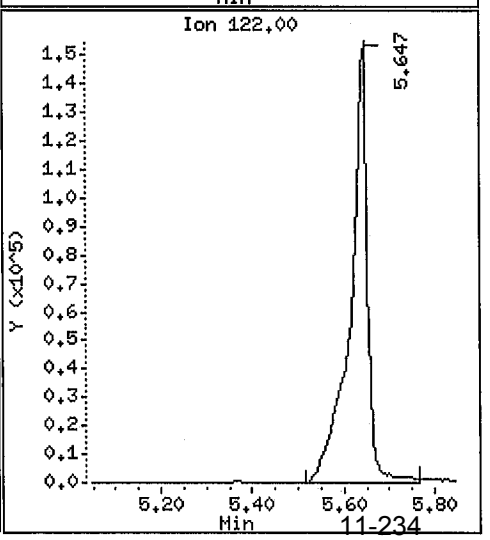












Data File: /var/chem/gcms/md.i/D072711.b/mk2hw1aa.d

Date : 28-JUL-2011 00:01

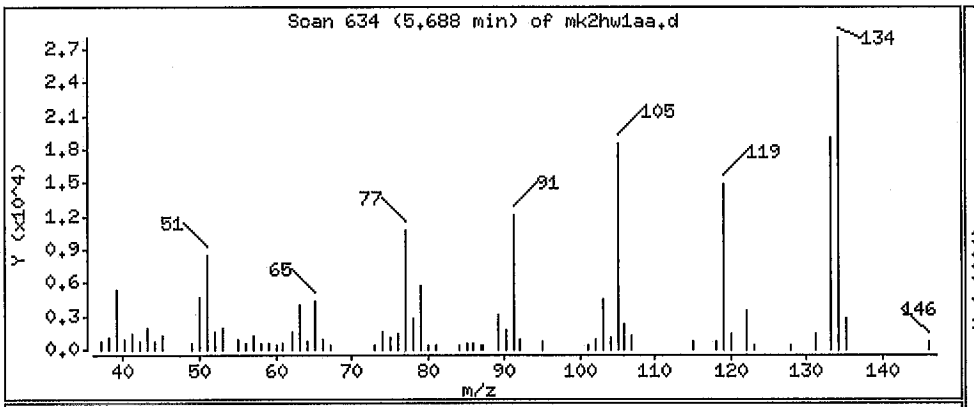
Client ID: 11-234 M0010 RUN 2 Instrument: md.i

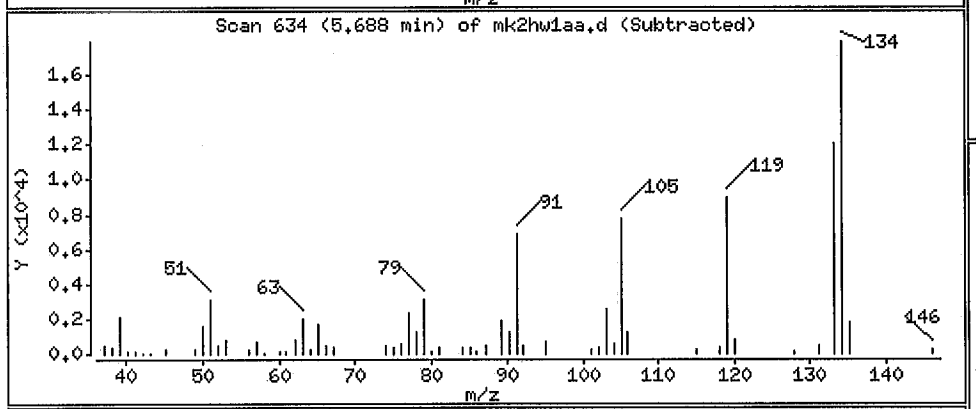
Sample Info: MK2HW1AA,,0,,,

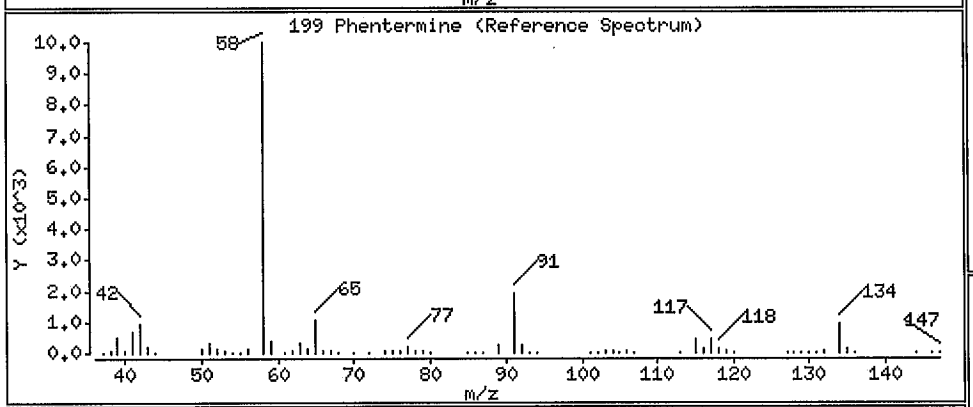
Volume Injected (uL): 1.0 Operator: 60841

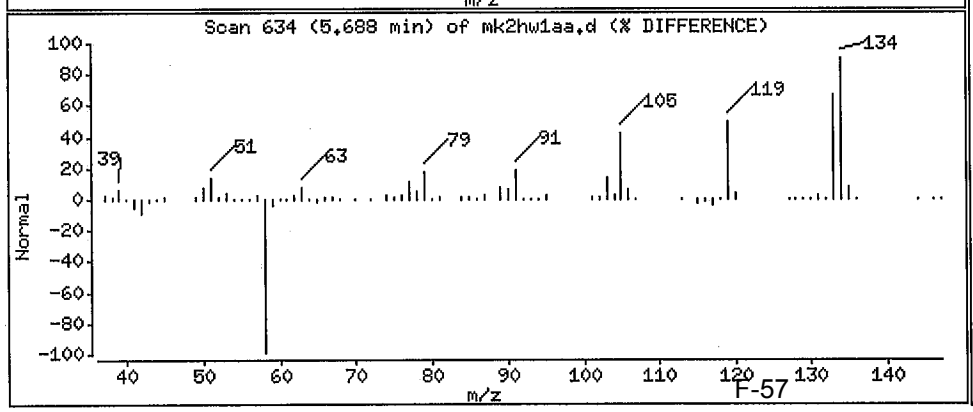
Column phase: Rxi-5 Sil MS Column diameter: 0.25

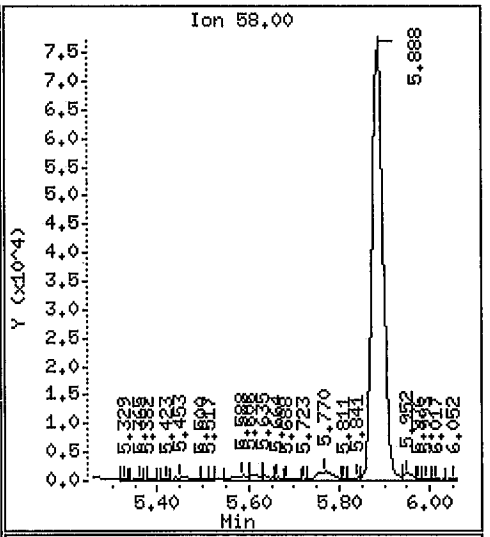
199 Phentermine Concentration: 23.9 ug

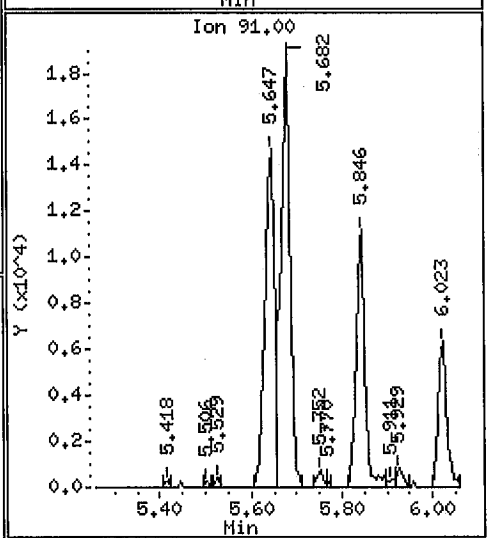


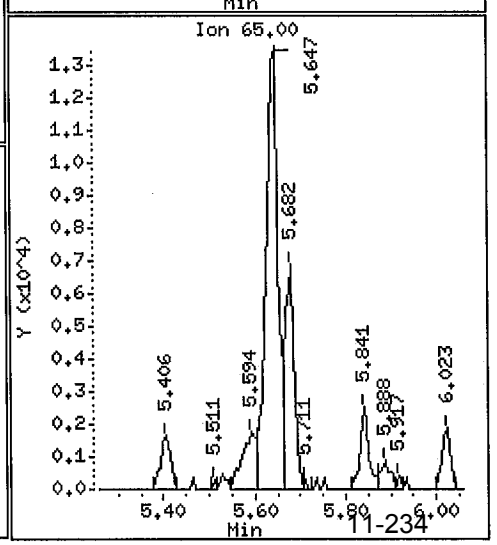












Data File: /var/chem/gcms/md.i/D072711.b/mk2hw1aa.d

Date : 28-JUL-2011 00:01

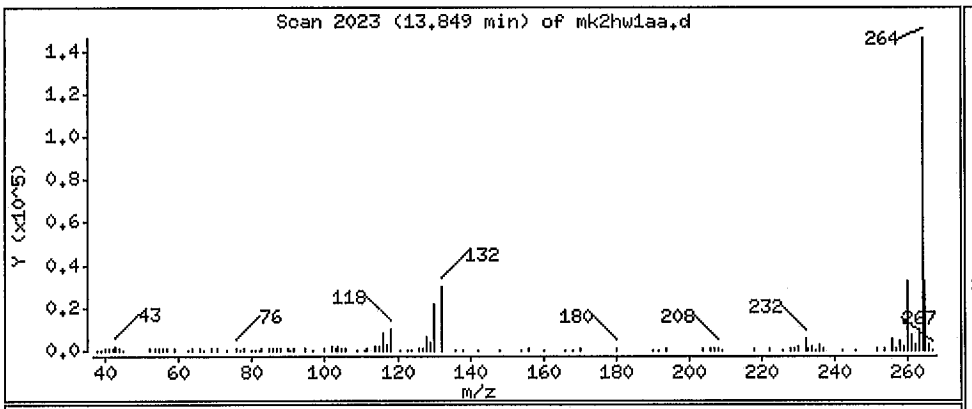
Client ID: 11-234 M0010 RUN 2 Instrument: md.i

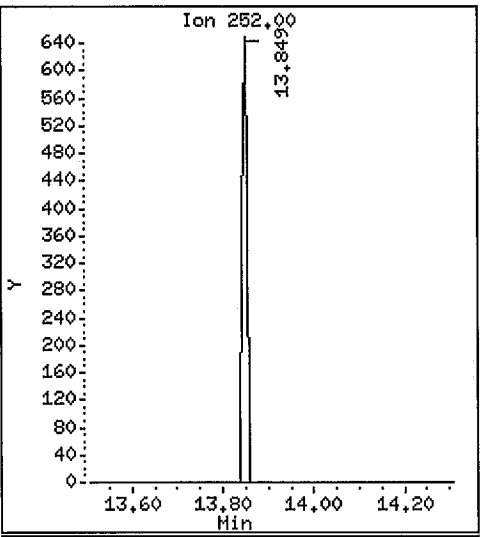
Sample Info: MK2HW1AA,,0,,,

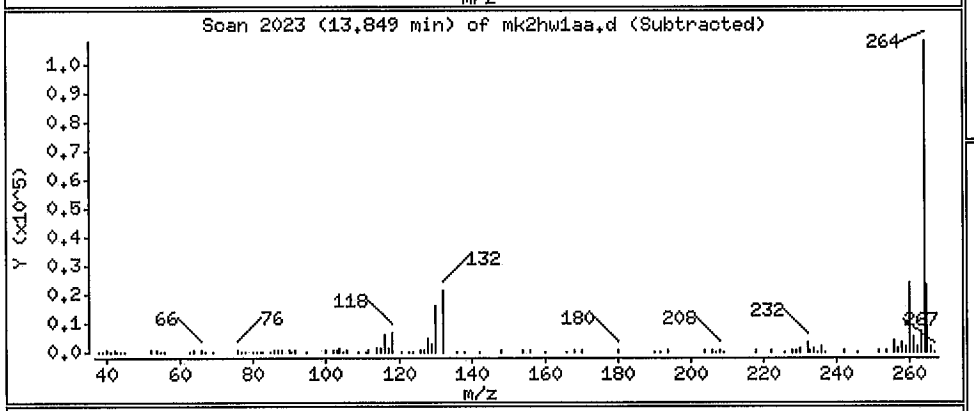
Volume Injected (uL): 1.0 Operator: 60841

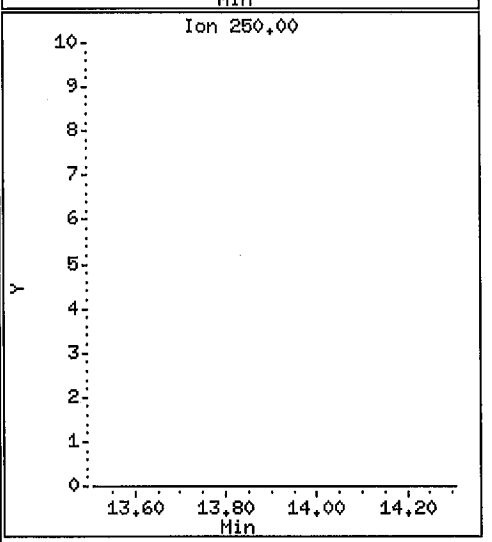
Column phase: Rxi-5 Sil MS Column diameter: 0.25

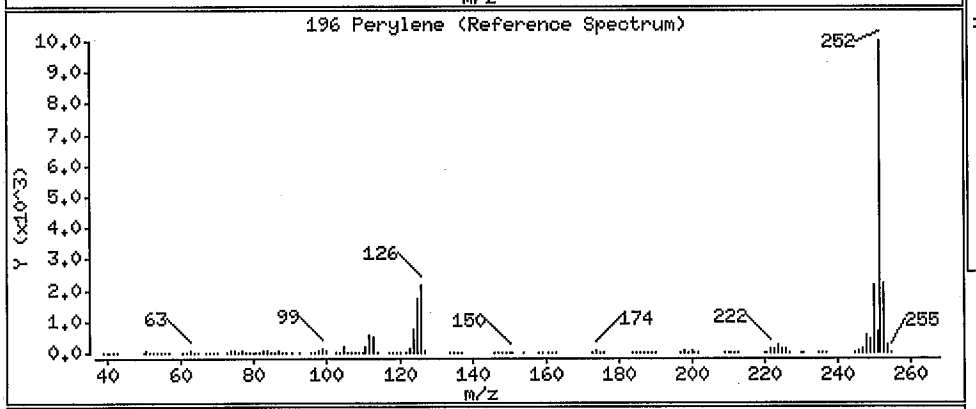
196 Perylene Concentration: 0.169 ug

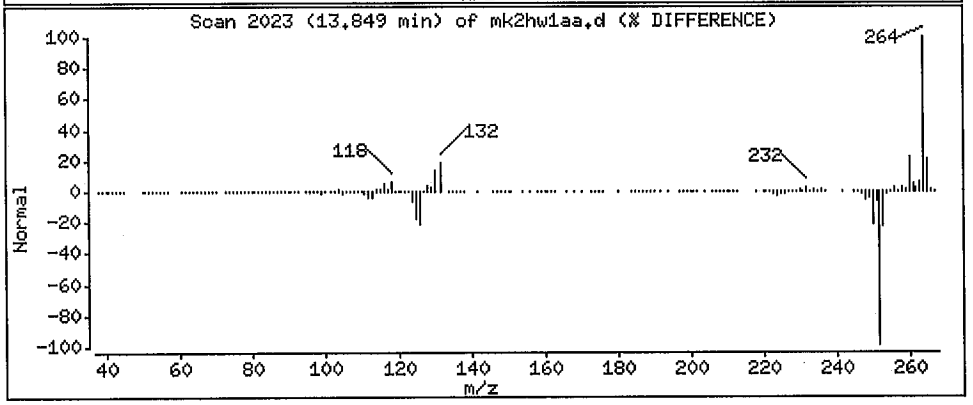












TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN 3 COMBINED

GC/MS Semivolatiles

Lot-Sample #...: H1G200446-002 **Work Order #...:** MK2H01AA **Matrix.....:** AIR
Date Sampled...: 07/12/11 **Date Received..:** 07/20/11
Prep Date.....: 07/20/11 **Analysis Date..:** 07/28/11
Prep Batch #...: 1201076
Dilution Factor: 2 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ug	5.4
Acenaphthylene	ND	20	ug	5.6
Aniline	ND	20	ug	17
Anthracene	ND	20	ug	6.4
Benz(a)anthracene	ND	20	ug	6.2
Benzidine	ND	200	ug	120
Benzo(b)fluoranthene	ND	20	ug	8.2
Benzo(k)fluoranthene	ND	20	ug	9.8
Benzo(ghi)perylene	ND	20	ug	6.4
Benzo(a)pyrene	ND	20	ug	7.6
Benzo(e)pyrene	ND	20	ug	1.7
Biphenyl	ND	20	ug	2.0
Chrysene	ND	20	ug	6.2
Cresols (total)	ND	20	ug	16
Dibenz(a,h)anthracene	ND	20	ug	6.0
Dibenzofuran	ND	20	ug	5.6
Dibenzo(a,e)pyrene	ND	20	ug	1.4
3,3'-Dimethoxybenzidine	ND	200	ug	28
p-Dimethylaminoazobenzene	ND	20	ug	4.8
7,12-Dimethylbenz(a)-anthracene	ND	20	ug	7.0
3,3'-Dimethylbenzidine	ND	200	ug	36
alpha,alpha-Dimethylphenethylamine	ND	50	ug	17
2,4-Dimethylphenol	ND	20	ug	13
Fluoranthene	ND	20	ug	7.2
Fluorene	ND	20	ug	6.0
Indeno(1,2,3-cd)pyrene	ND	20	ug	6.2
Isophorone	ND	20	ug	5.6
3-Methylcholanthrene	ND	20	ug	7.6
2-Methylnaphthalene	ND	20	ug	5.8
Naphthalene	ND	20	ug	6.2
Nitrobenzene	ND	20	ug	5.8
Perylene	ND	20	ug	1.5
Phenanthrene	ND	20	ug	6.0
Phenol	**21**	**20**	**ug**	**6.2**
1,4-Phenylenediamine	ND	200	ug	50
Pyrene	ND	20	ug	7.0
o-Toluidine	ND	20	ug	5.6

(Continued on next page)

TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN 3 COMBINED

GC/MS Semivolatiles

Lot-Sample #...: H1G200446-002 **Work Order #...:** MK2H01AA **Matrix.....:** AIR

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	69	(22 - 105)
Phenol-d5	89	(48 - 118)
Nitrobenzene-d5	84	(43 - 110)
2-Fluorobiphenyl	84	(48 - 111)
2,4,6-Tribromophenol	81	(34 - 125)

Data File: /var/chem/gcms/md.i/D072711.b/mk2h01aa.d
Report Date: 28-Jul-2011 13:48

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072711.b/mk2h01aa.d
Lab Smp Id: MK2H01AA Client Smp ID: 11-234 M0010 RUN 3
Inj Date : 28-JUL-2011 00:30
Operator : 60841 Inst ID: md.i
Smp Info : MK2H01AA,,0,,,
Misc Info : D072711,8270a9,ICR.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /chem/gcms/md.i/D072711.b/8270a9.m
Meth Date : 27-Jul-2011 17:16 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 17:42 Cal File: a9dg267.d
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICR.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * (Vt*Sf)/(Vo*Uf) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)
Sf	2.00000	Prep split factor
Vo	1.00000	Volume of sample extracted (1=total samp
Uf	1000.00000	unit correction factor

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	FINAL (ug)
* 1 1,4-Dichlorobenzene-d4	152	4.324	4.301	(1.000)	59638	20.0000	20.0
* 2 Naphthalene-d8	136	5.911	5.887	(1.000)	233074	20.0000	20.0
* 3 Acenaphthene-d10	164	8.484	8.484	(1.000)	138758	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	262778	20.0000	20.0
* 5 Chrysene-d12	240	11.922	11.928	(1.000)	273241	20.0000	20.0
* 6 Perylene-d12	264	13.849	13.855	(1.000)	253050	20.0000	20.0
$ 7 2-Fluorophenol	112	3.361	3.126	(0.777)	172143	52.2829	104
$ 8 Phenol-d5	99	4.025	3.931	(0.931)	265584	67.2737	134
$ 9 Nitrobenzene-d5	82	4.977	4.930	(0.842)	156323	42.0887	84.2(H)
$ 11 2,4,6-Tribromophenol	330	9.307	9.307	(0.941)	63738	60.5859	121
$ 10 2-Fluorobiphenyl	172	7.591	7.591	(0.895)	362676	41.7824	83.6
15 Phenol (ccc)	94	4.037	3.949	(0.933)	42349	10.4305	20.9
23 2-Methylphenol	108	4.618	4.565	(1.068)	5110	1.59277	3.18

Data File: /var/chem/gcms/md.i/D072711.b/mk2h01aa.d
Report Date: 28-Jul-2011 13:48

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	FINAL (ug)
26 3&4 Methylphenol	108	4.795	4.753	(1.109)	5600	1.69283	3.38
M 204 total cresols (methylphenols)	108				10710	3.28560	6.57
188 1,1'-Biphenyl	154	7.738	7.732	(0.912)	947	0.08613	0.172

QC Flag Legend

H - Operator selected an alternate compound hit.

Data File: /var/chem/gcms/md.i/D072711.b/mk2h01aa.d
Report Date: 28-Jul-2011 13:43

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072711.b/mk2h01aa.d
Lab Smp Id: MK2H01AA Client Smp ID: 11-234 M0010 RUN 3
Inj Date : 28-JUL-2011 00:30
Operator : 60841 Inst ID: md.i
Smp Info : MK2H01AA,,0,,,
Misc Info : D072711,8270a9,ICR.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /chem/gcms/md.i/D072711.b/8270a9.m
Meth Date : 27-Jul-2011 17:16 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 17:42 Cal File: a9dg267.d
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICR.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * (Vt*Sf)/(Vo*Uf) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)
Sf	2.00000	Prep split factor
Vo	1.00000	Volume of sample extracted (1=total samp
Uf	1000.00000	unit correction factor

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	FINAL (ug)
* 1 1,4-Dichlorobenzene-d4	152	4.324	4.301	(1.000)	59638	20.0000	20.0
* 2 Naphthalene-d8	136	5.911	5.887	(1.000)	233074	20.0000	20.0
* 3 Acenaphthene-d10	164	8.484	8.484	(1.000)	138758	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	262778	20.0000	20.0
* 5 Chrysene-d12	240	11.922	11.928	(1.000)	273241	20.0000	20.0
* 6 Perylene-d12	264	13.849	13.855	(1.000)	253050	20.0000	20.0
$ 7 2-Fluorophenol	112	3.361	3.126	(0.777)	172143	52.2823	104
$ 8 Phenol-d5	99	4.025	3.931	(0.931)	265584	67.2729	134
$ 9 Nitrobenzene-d5	82	4.947	4.930	(0.837)	2960	0.79716	1.59(R) (5)
$ 11 2,4,6-Tribromophenol	330	9.307	9.307	(0.941)	63738	60.5861	121
$ 10 2-Fluorobiphenyl	172	7.591	7.591	(0.895)	362676	41.7824	83.6
$ 179 13C6-naphthalene	134	5.911	5.917	(1.000)	21470	1.69511	~~3.39(R)~~ NA
15 Phenol (ccc)	94	4.037	3.949	(0.933)	42349	10.4304	20.9

KRM 7/28/11

Data File: /var/chem/gcms/md.i/D072711.b/mk2h01aa.d
Report Date: 28-Jul-2011 13:43

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	FINAL (ug)
23 2-Methylphenol	108	4.618	4.565	(1.068)	5110	1.59298	3.18
26 3&4 Methylphenol	108	4.795	4.753	(1.109)	5600	1.69291	3.38
M 204 total cresols (methylphenols)	108				10711	3.28589	6.57
95 o-toluidine	106	4.795	4.783	(1.109)	2875	0.52400	~~1.05~~
29 Nitrobenzene	77	4.865	4.953	(0.823)	2102	0.57782	~~1.16~~
30 Isophorone	82	4.977	5.271	(0.842)	156323	26.1233	~~52.2~~
32 2,4-Dimethyphenol	107	5.641	5.447	(0.954)	266168	68.0685	~~136~~
199 Phentermine	58	5.693	5.658	(0.963)	274	5.92308	~~11.8~~
202 1,4-Phenylenediamine	108	6.446	6.499	(1.090)	371	6.29291	~~12.6~~
188 1,1'-Biphenyl	154	7.738	7.732	(0.912)	947	0.08617	0.172
47 Acenaphthylene	152	8.561	8.308	(1.009)	6289	0.53138	~~1.06~~
116 p-(dimethylamino)azobenzene	120	11.405	11.146	(1.153)	2202	0.55125	~~1.10~~
80 Benzo(a)pyrene (ccc)	252	13.843	13.761	(1.000)	883	2.80338	~~5.61~~
196 Perylene	252	13.843	13.908	(1.000)	883	0.06911	~~0.138~~

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

KAM 7/28/11

Data File: /var/chem/gcms/md.i/D072711.b/mk2h01aa.d
Report Date: 28-Jul-2011 13:43

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: md.i
Lab File ID: mk2h01aa.d
Lab Smp Id: MK2H01AA
Analysis Type: SV
Quant Type: ISTD
Operator: 60841
Method File: /chem/gcms/md.i/D072711.b/8270a9.m
Misc Info: D072711,8270a9,ICR.sub

Calibration Date: 27-JUL-2011
Calibration Time: 16:02
Client Smp ID: 11-234 M0010 RUN 3
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	44395	22198	88790	59638	34.33
2 Naphthalene-d8	182374	91187	364748	233074	27.80
3 Acenaphthene-d10	111075	55538	222150	138758	24.92
4 Phenanthrene-d10	217977	108988	435954	262778	20.55
5 Chrysene-d12	247793	123896	495586	273241	10.27
6 Perylene-d12	221015	110508	442030	253050	14.49

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	4.30	3.80	4.80	4.32	0.54
2 Naphthalene-d8	5.89	5.39	6.39	5.91	0.40
3 Acenaphthene-d10	8.48	7.98	8.98	8.48	0.00
4 Phenanthrene-d10	9.89	9.39	10.39	9.89	0.00
5 Chrysene-d12	11.93	11.43	12.43	11.92	-0.05
6 Perylene-d12	13.85	13.35	14.35	13.85	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /var/chem/gcms/md.i/D072711.b/mk2h01aa.d
Report Date: 28-Jul-2011 13:48

TestAmerica Knoxville

RECOVERY REPORT

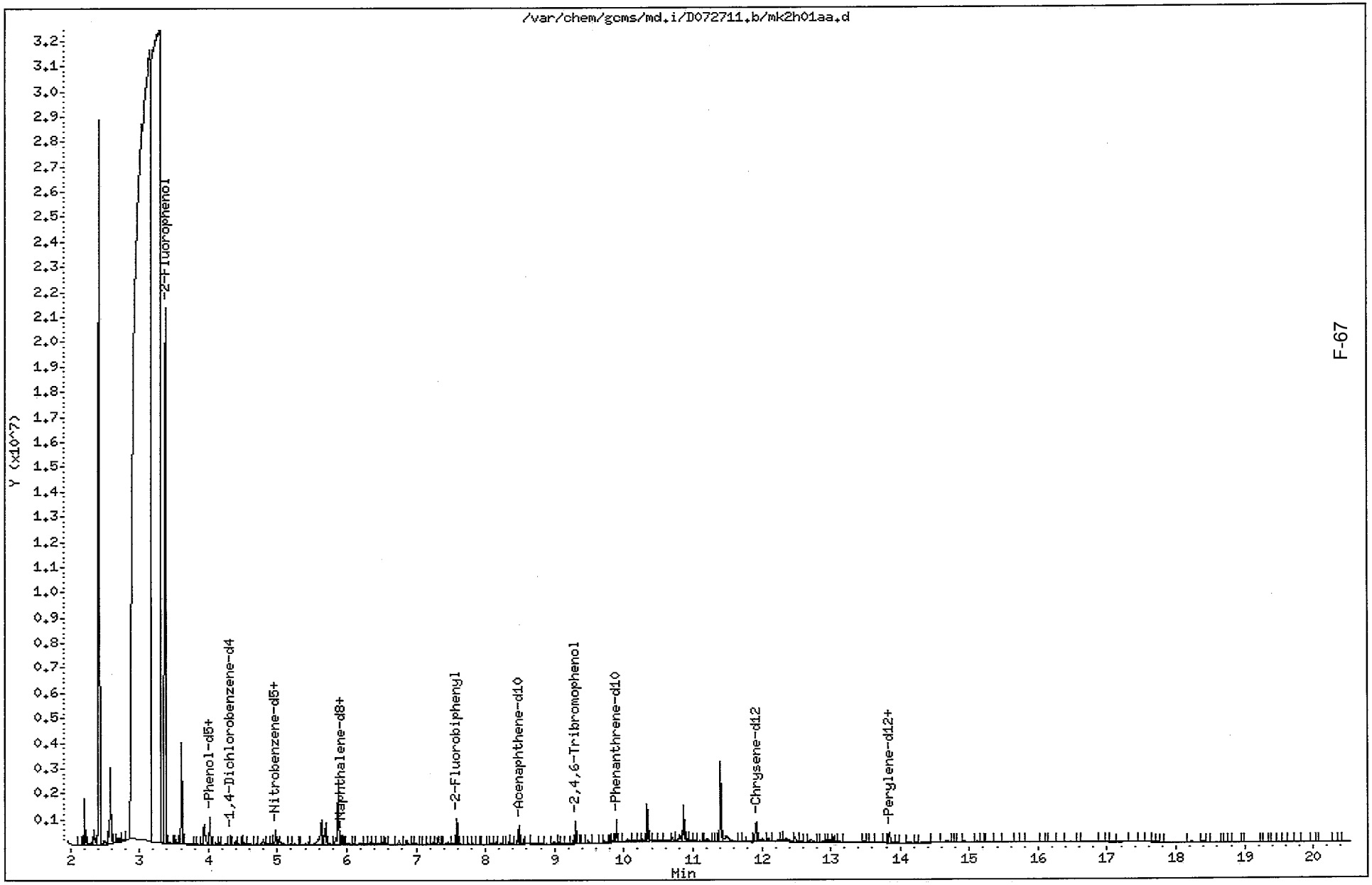
Client Name: TestAmerica Air Emis20-JUL-2011 00:00 Client SDG: H1G200446
Sample Matrix: GAS Fraction: SV
Lab Smp Id: MK2H01AA Client Smp ID: 11-234 M0010 RUN 3
Level: LOW Operator: 60841
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: ICR.sub
Method File: /chem/gcms/md.i/D072711.b/8270a9.m
Misc Info: D072711,8270a9,ICR.sub

SURROGATE COMPOUND	CONC ADDED ug	CONC RECOVERED ug	% RECOVERED	LIMITS
$ 7 2-Fluorophenol	150	104	69.71	19-100
$ 8 Phenol-d5	150	134	89.70	15-124
$ 9 Nitrobenzene-d5	100	84.2	84.18	42-104
$ 11 2,4,6-Tribromophen	150	121	80.78	33-130
$ 10 2-Fluorobiphenyl	100	83.6	83.56	51-103
$ 12 Terphenyl-d14	100	0.00	*	58-122
$ 179 13C6-naphthalene	200	0.00	*	50-150

Data File: /var/chem/gcms/md.i/D072711.b/mk2h01aa.d
Date : 28-JUL-2011 00:30
Client ID: 11-234 M0010 RUN 3
Sample Info: MK2H01AA,,0,,,
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS

Instrument: md.i
Operator: 60841
Column diameter: 0.25

11-234



F-67

Data File: /var/chem/gcms/md.i/D072711.b/mk2h01aa.d

Date : 28-JUL-2011 00:30

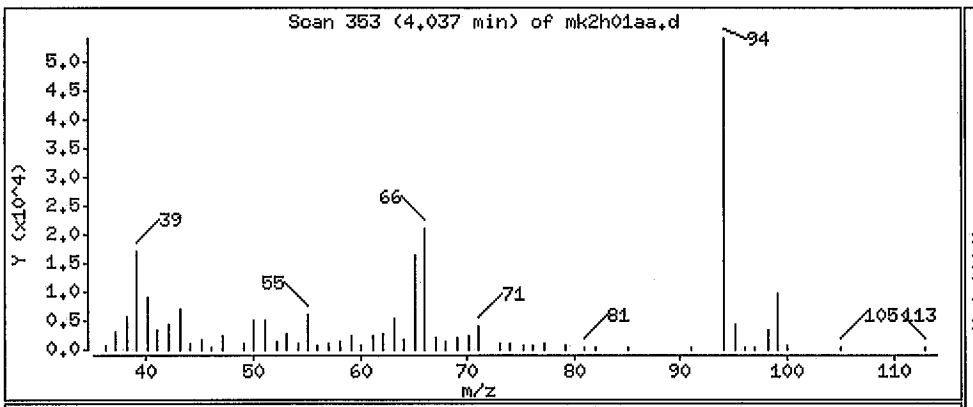
Client ID: 11-234 M0010 RUN 3 Instrument: md.i

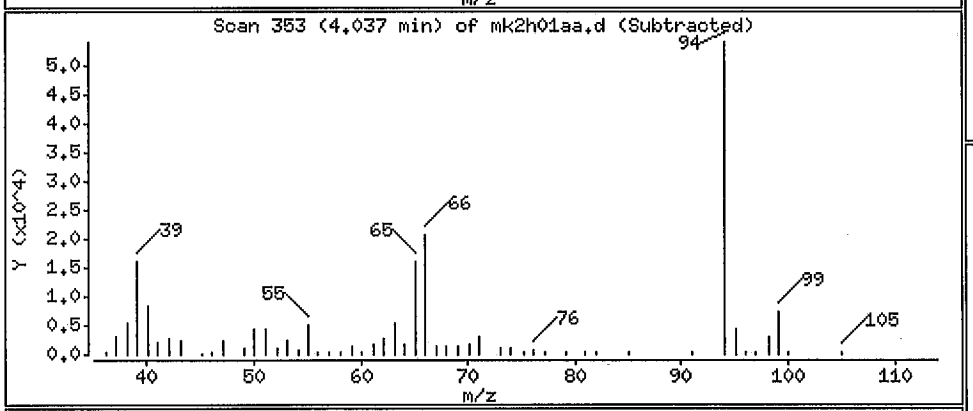
Sample Info: MK2H01AA,,0,,,

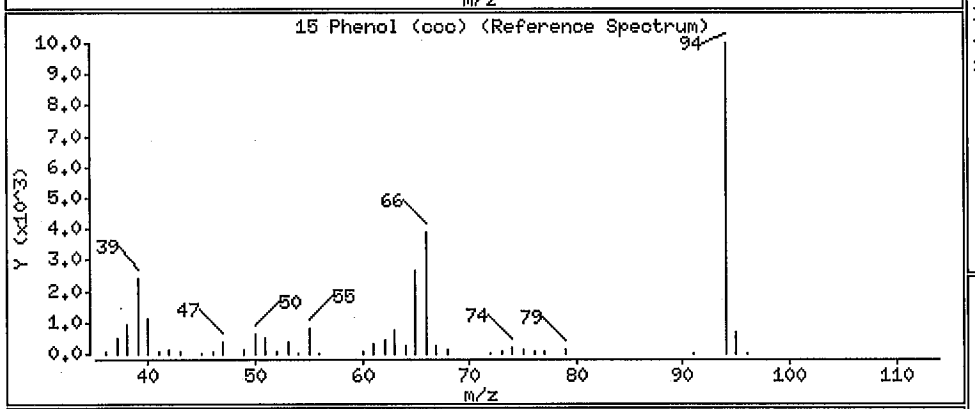
Volume Injected (uL): 1.0 Operator: 60841

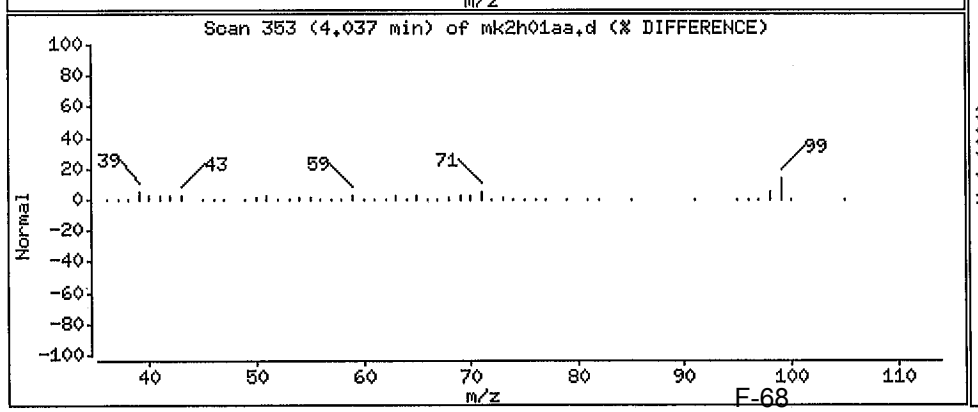
Column phase: Rxi-5 Sil MS Column diameter: 0.25

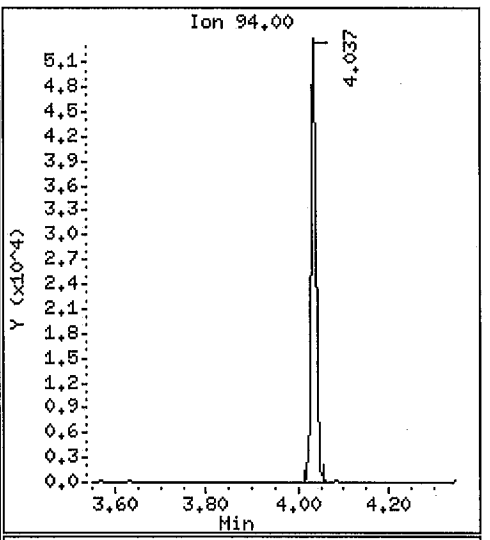
15 Phenol (coc) Concentration: 20.9 ug

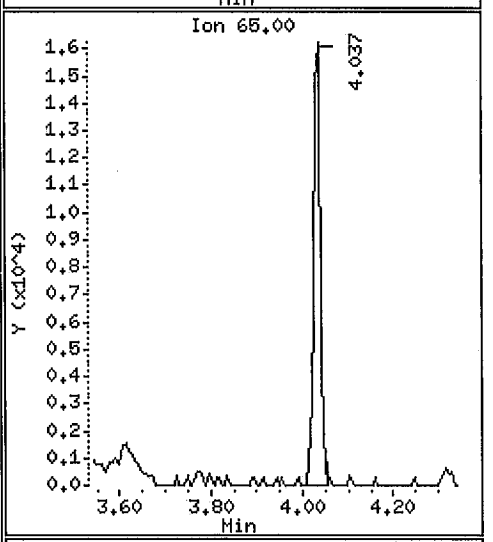


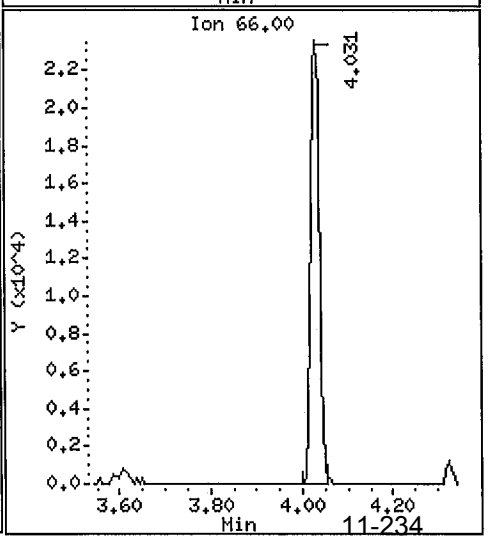












Data File: /var/chem/gcms/md.i/D072711.b/mk2h01aa.d

Date : 28-JUL-2011 00:30

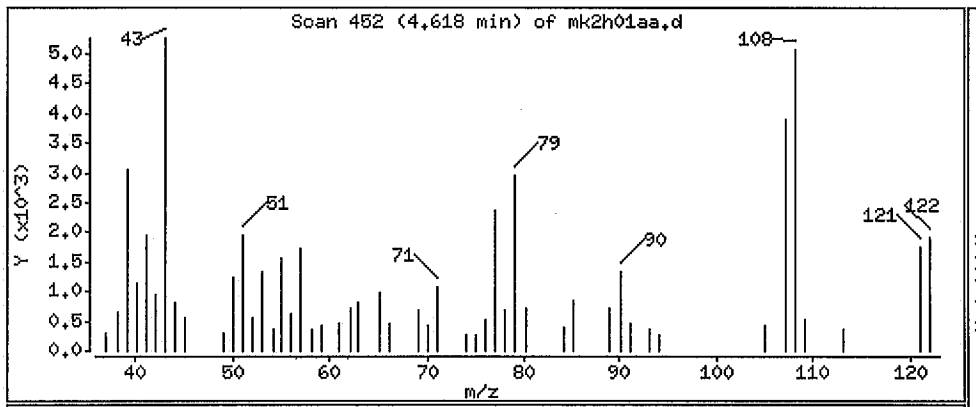
Client ID: 11-234 M0010 RUN 3 Instrument: md.i

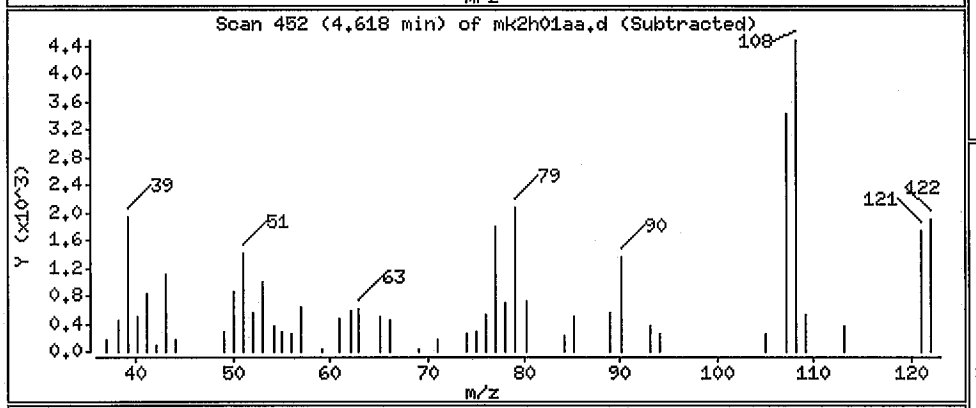
Sample Info: MK2H01AA,,0,,,

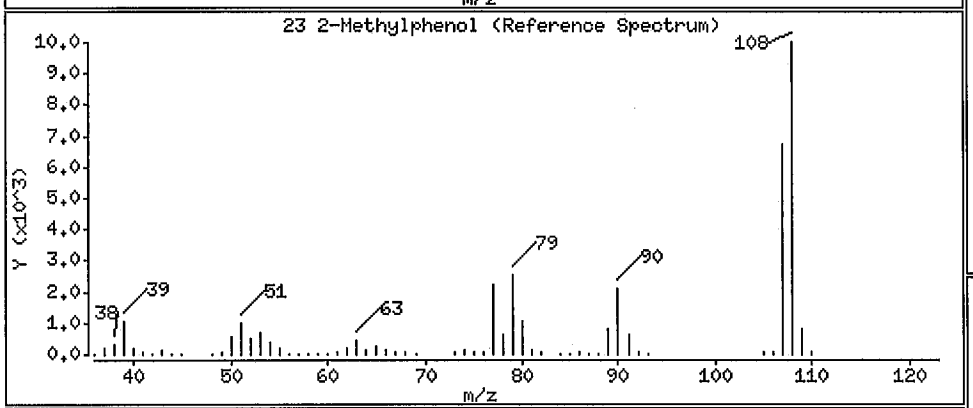
Volume Injected (uL): 1.0 Operator: 60841

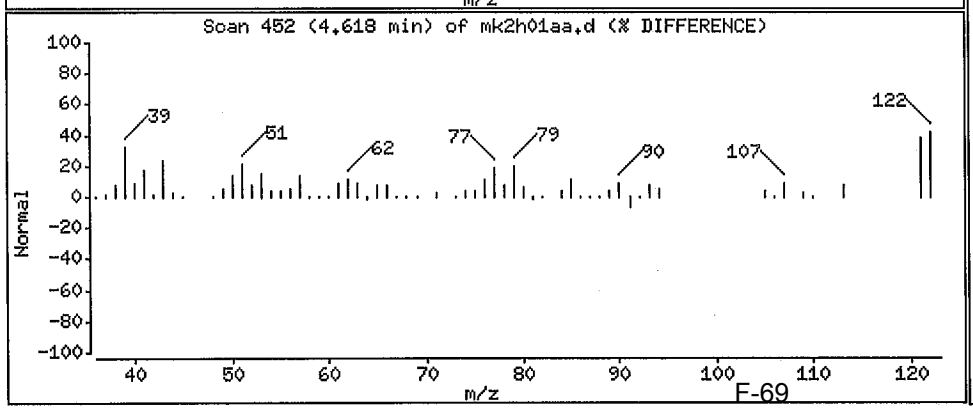
Column phase: Rxi-5 Sil MS Column diameter: 0.25

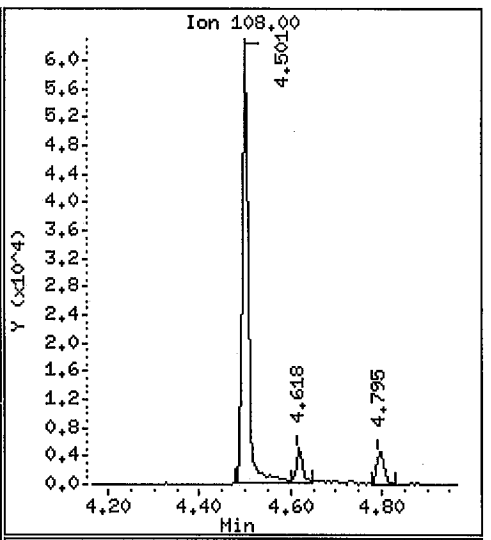
23 2-Methylphenol Concentration: 3.18 ug

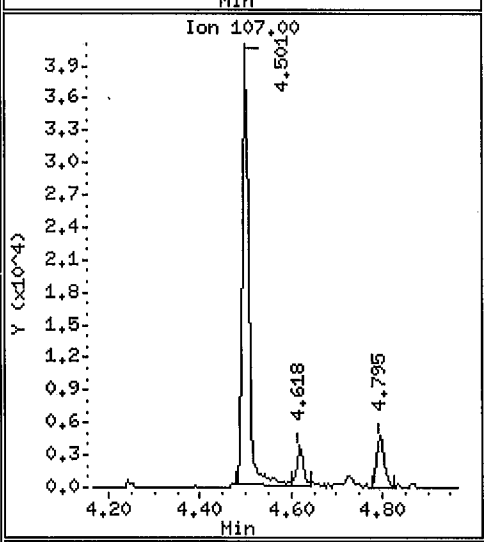


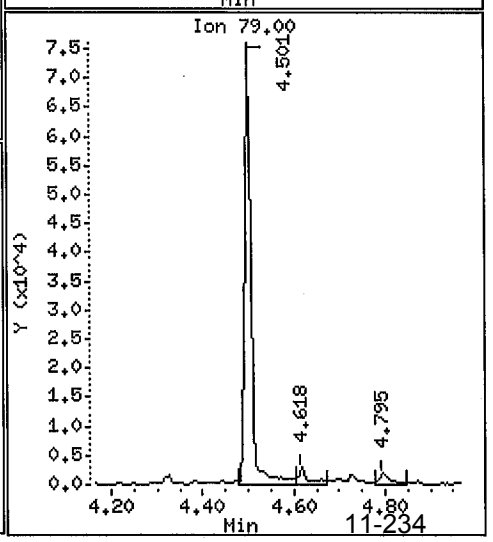












Data File: /var/chem/gcms/md.i/D072711.b/mk2h01aa.d

Date : 28-JUL-2011 00:30

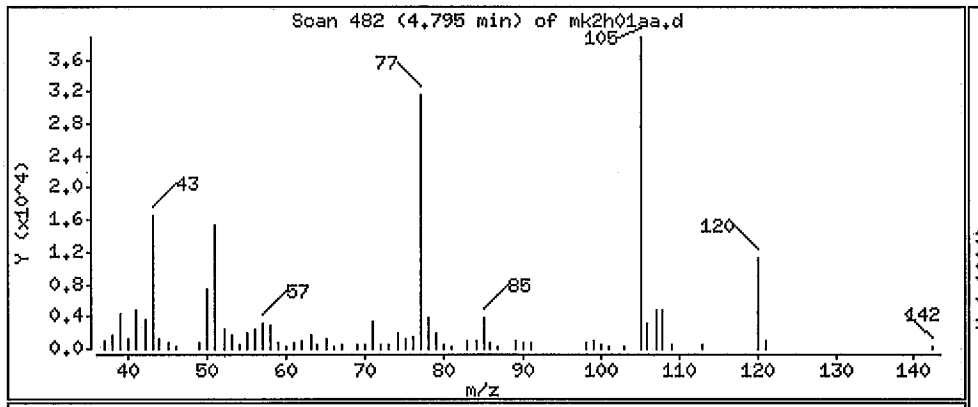
Client ID: 11-234 M0010 RUN 3 Instrument: md.i

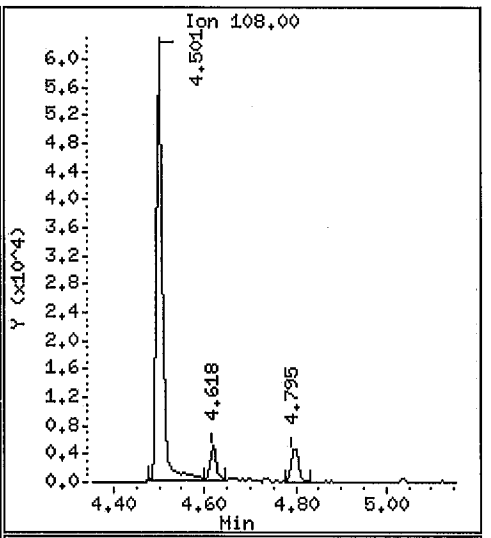
Sample Info: MK2H01AA,,0,,,

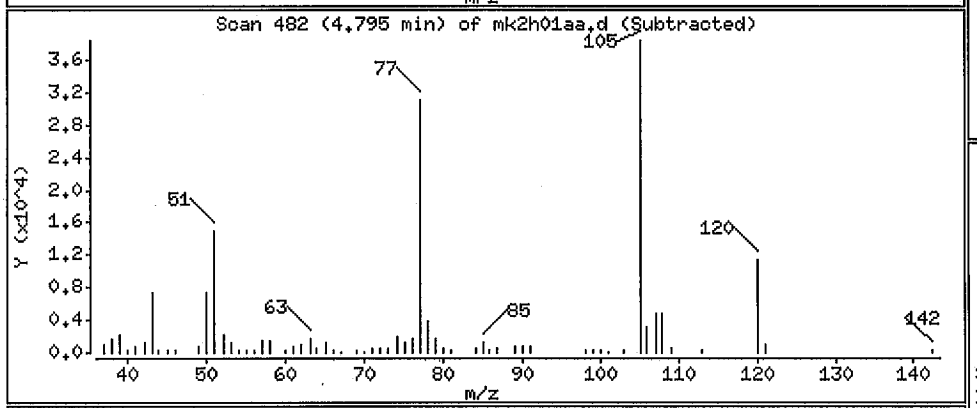
Volume Injected (uL): 1.0 Operator: 60841

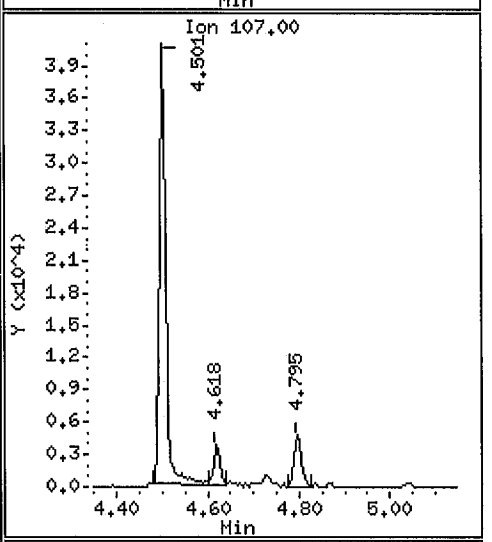
Column phase: Rxi-5 Sil MS Column diameter: 0.25

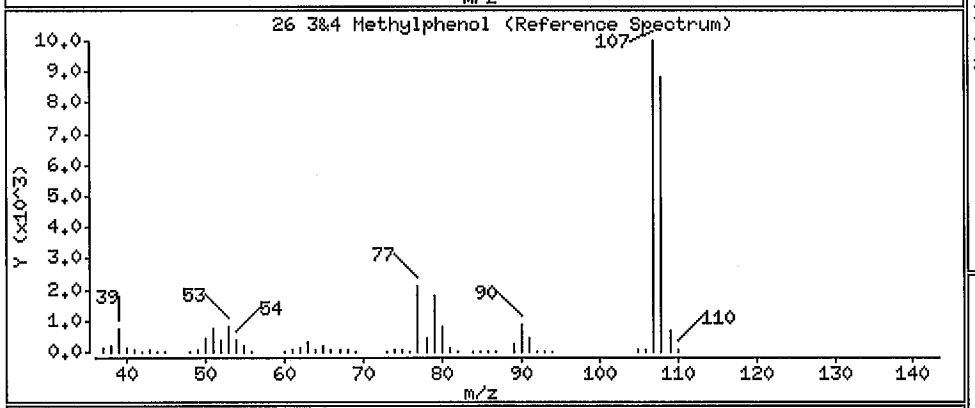
26 3&4 Methylphenol Concentration: 3.38 ug

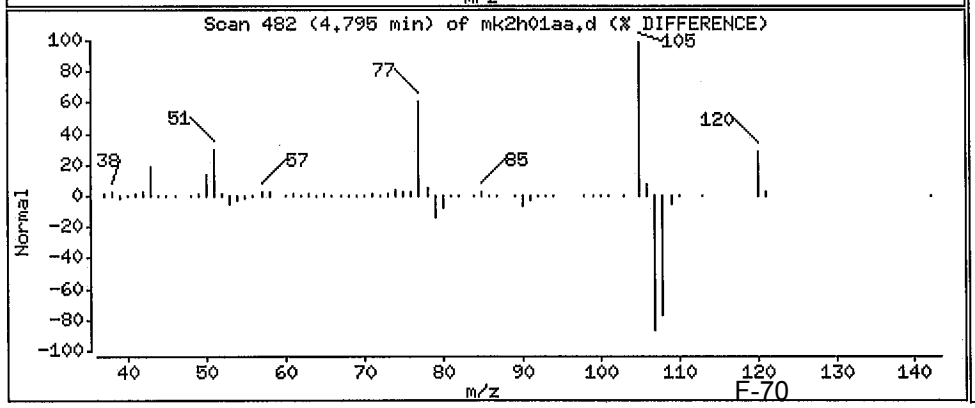


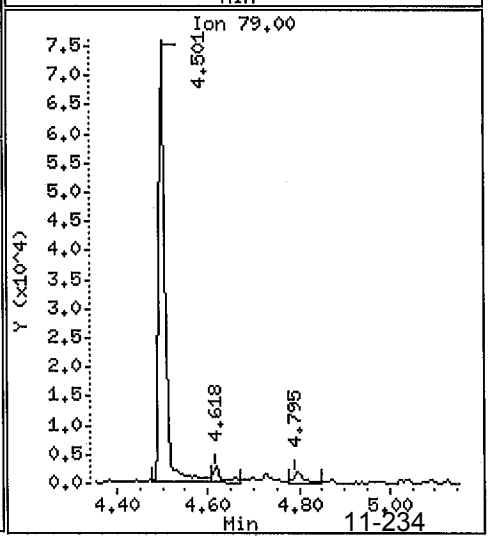












Data File: /var/chem/gcms/md.i/D072711.b/mk2h01aa.d

Date : 28-JUL-2011 00:30

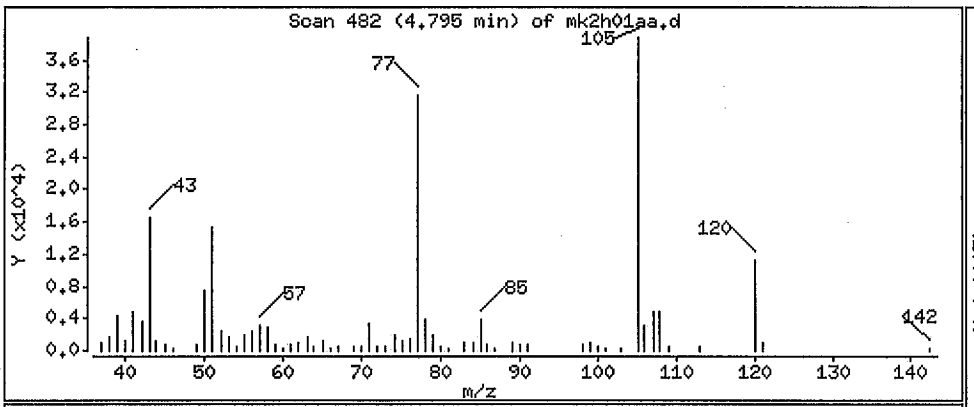
Client ID: 11-234 M0010 RUN 3 Instrument: md.i

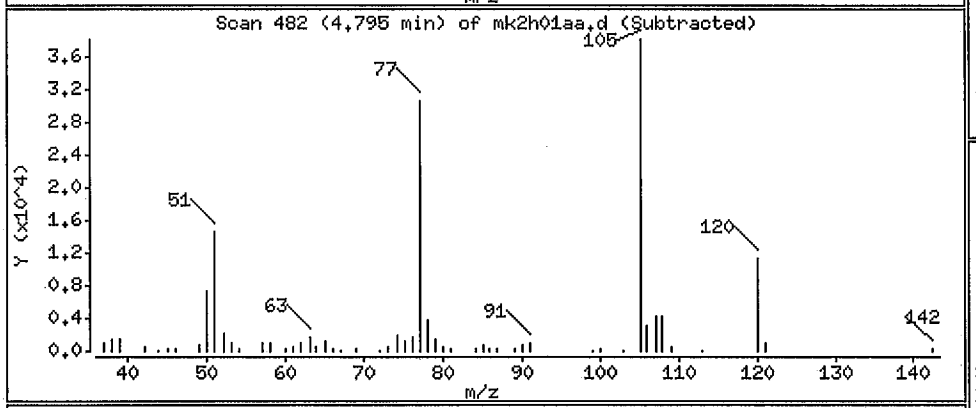
Sample Info: MK2H01AA,,0,,,

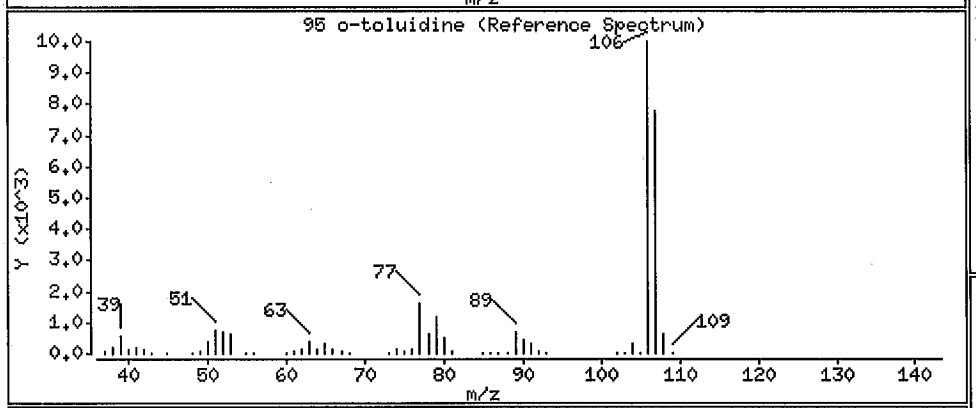
Volume Injected (uL): 1.0 Operator: 60841

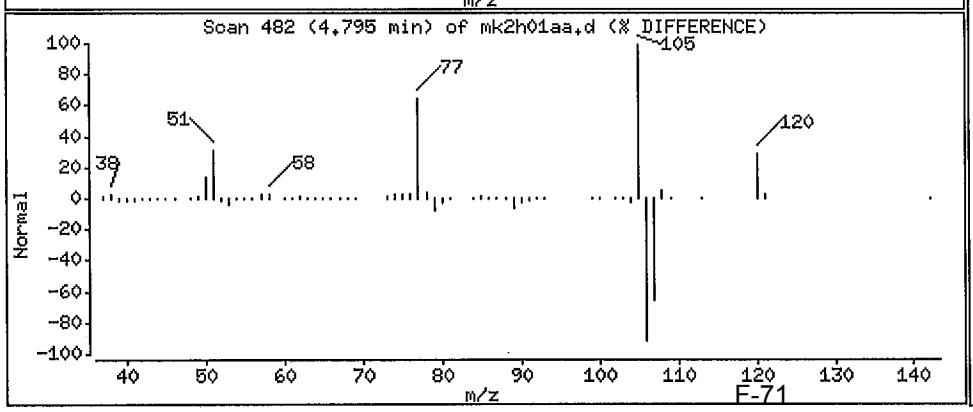
Column phase: Rxi-5 Sil MS Column diameter: 0.25

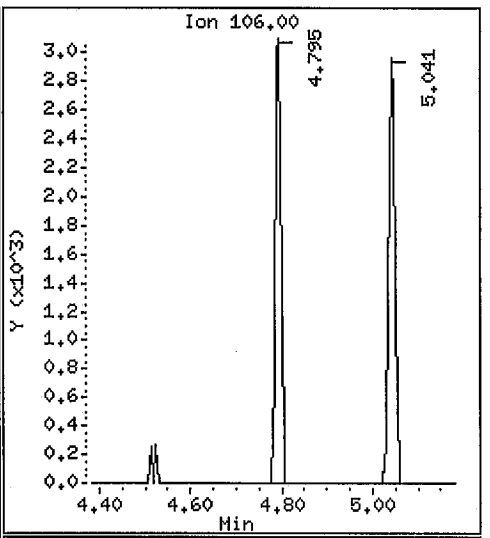
95 o-toluidine Concentration: 1.05 ug

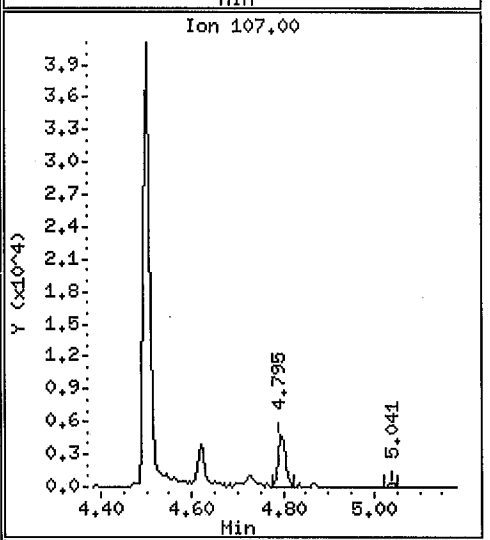


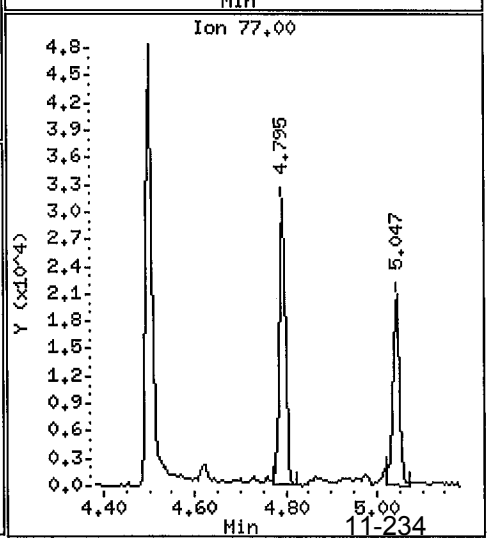












Data File: /var/chem/gcms/md.i/D072711.b/mk2h01aa.d

Date : 28-JUL-2011 00:30

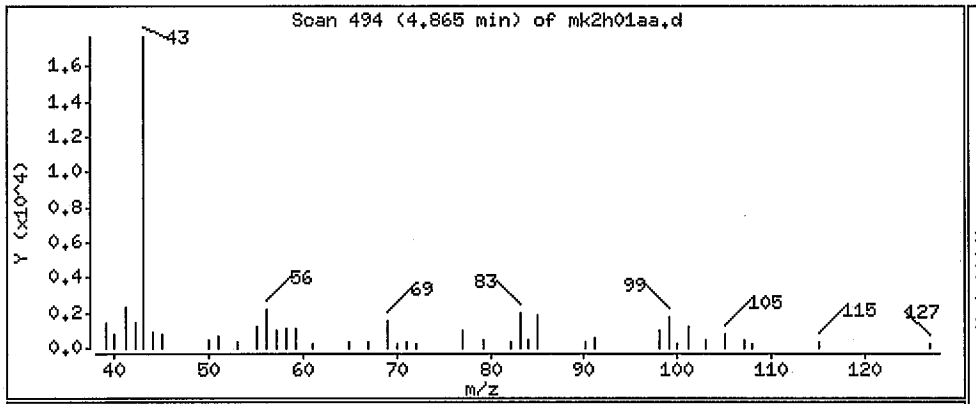
Client ID: 11-234 M0010 RUN 3 Instrument: md.i

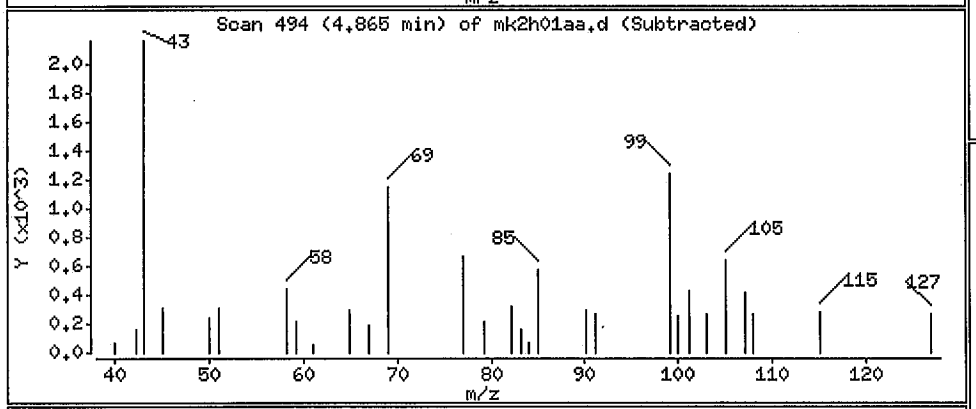
Sample Info: MK2H01AA,,0,,,

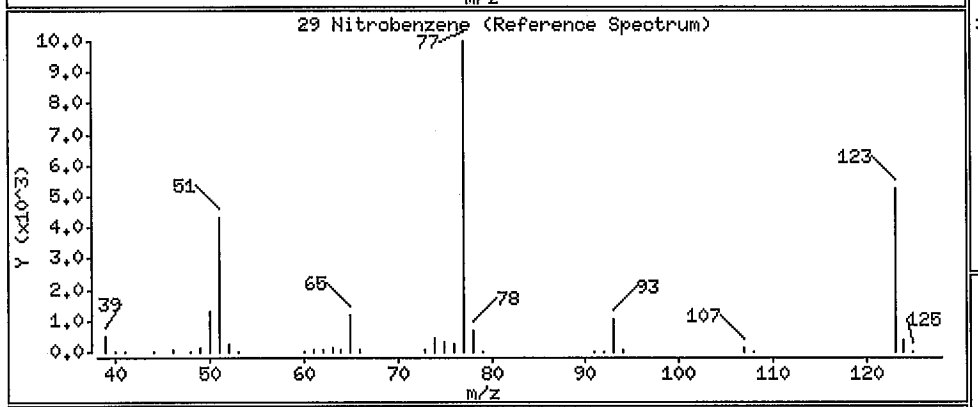
Volume Injected (uL): 1.0 Operator: 60841

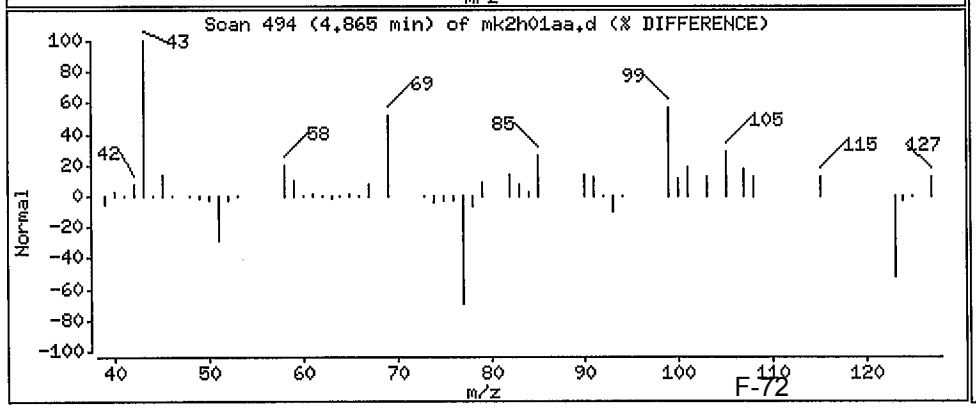
Column phase: Rxi-5 Sil MS Column diameter: 0.25

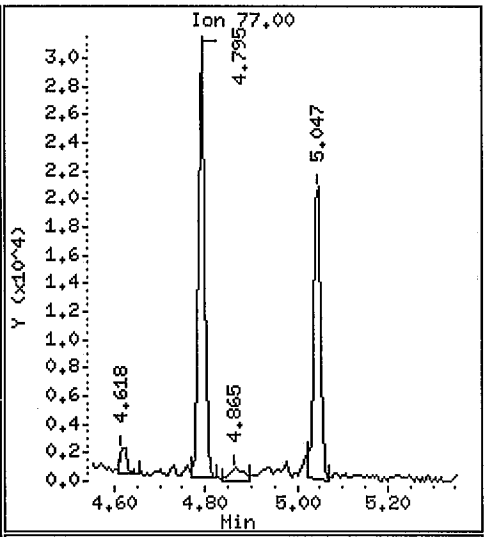
29 Nitrobenzene Concentration: 1.16 ug

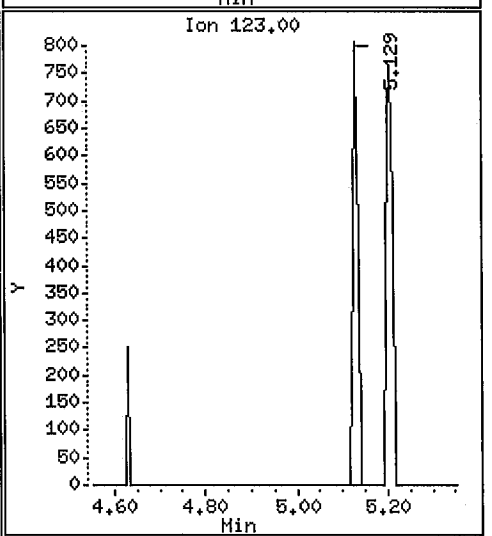


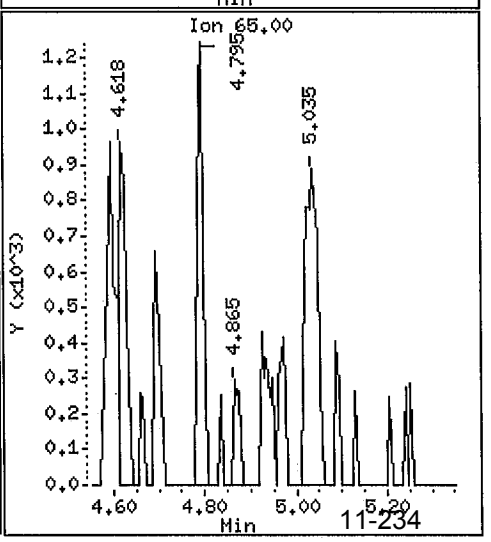












Data File: /var/chem/goms/md.i/D072711.b/mk2h01aa.d

Date : 28-JUL-2011 00:30

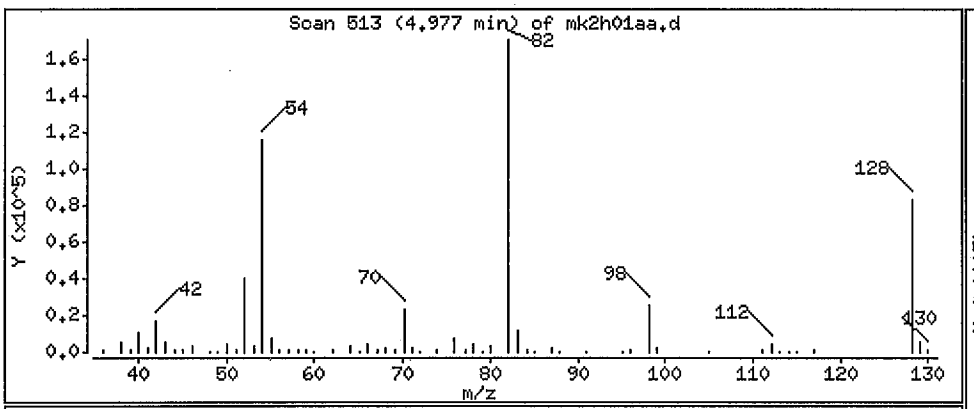
Client ID: 11-234 M0010 RUN 3 Instrument: md.i

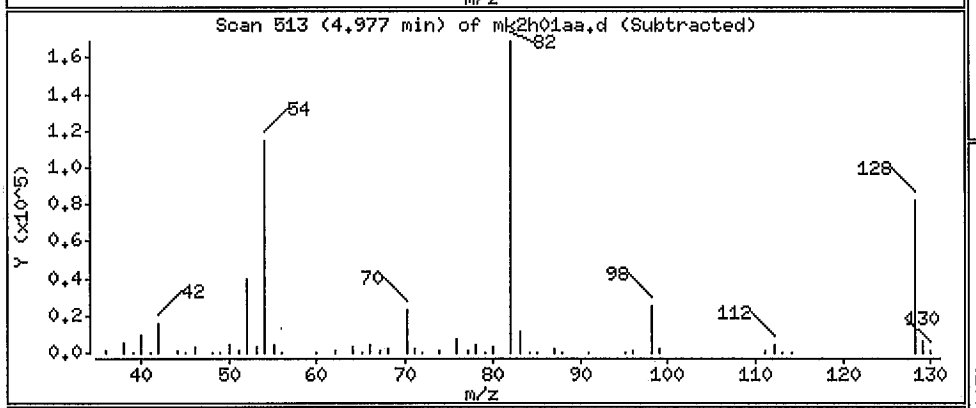
Sample Info: MK2H01AA,,0,,,

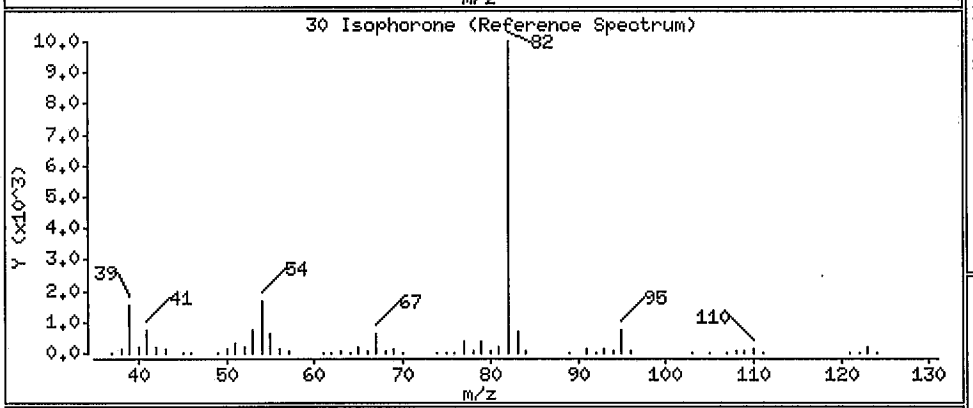
Volume Injected (uL): 1.0 Operator: 60841

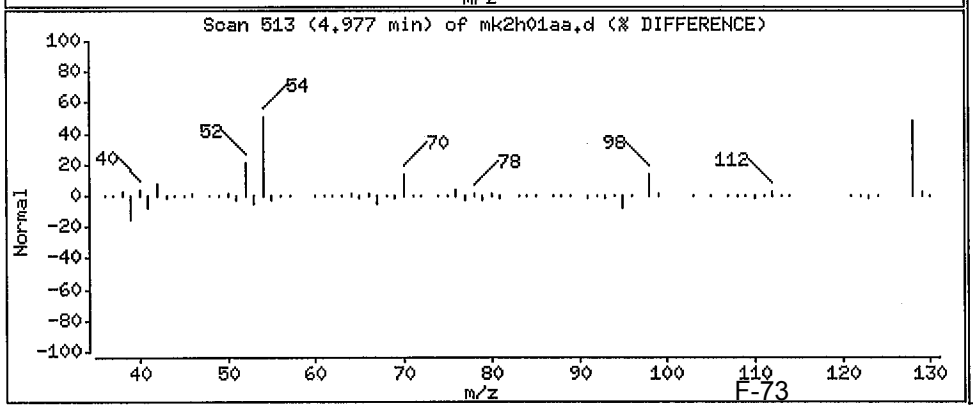
Column phase: Rxi-5 Sil MS Column diameter: 0.25

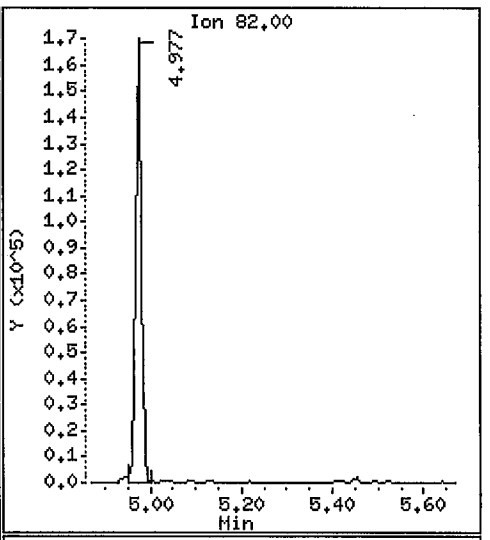
30 Isophorone Concentration: 52.2 ug

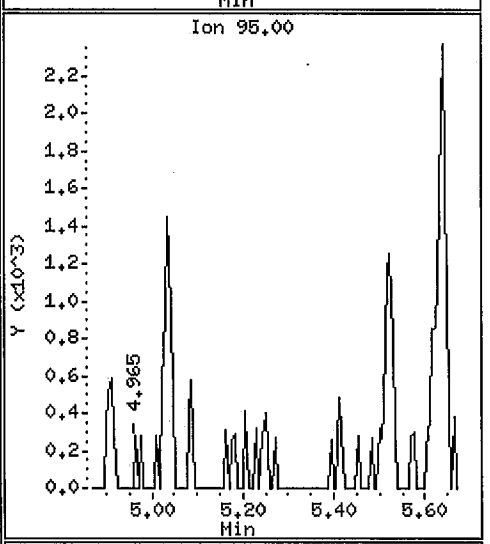


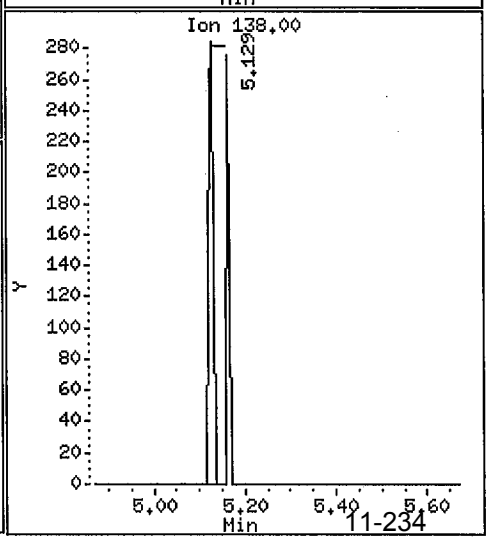












Data File: /var/chem/gcms/md.i/D072711.b/mk2h01aa.d

Date : 28-JUL-2011 00:30

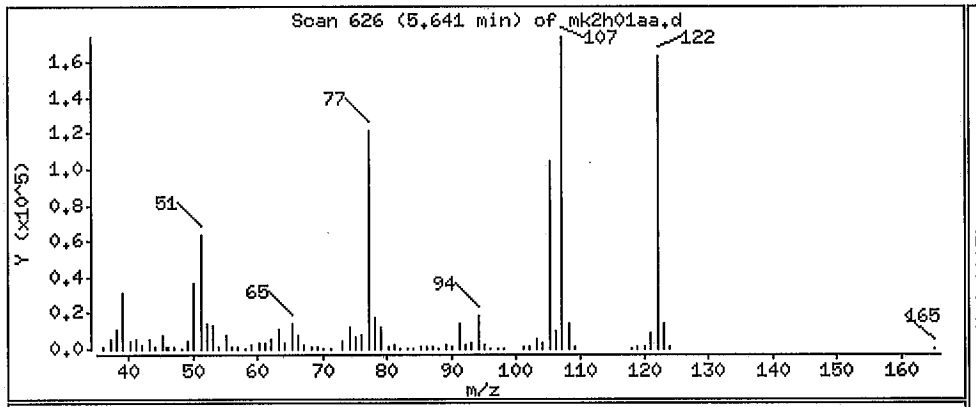
Client ID: 11-234 M0010 RUN 3 Instrument: md.i

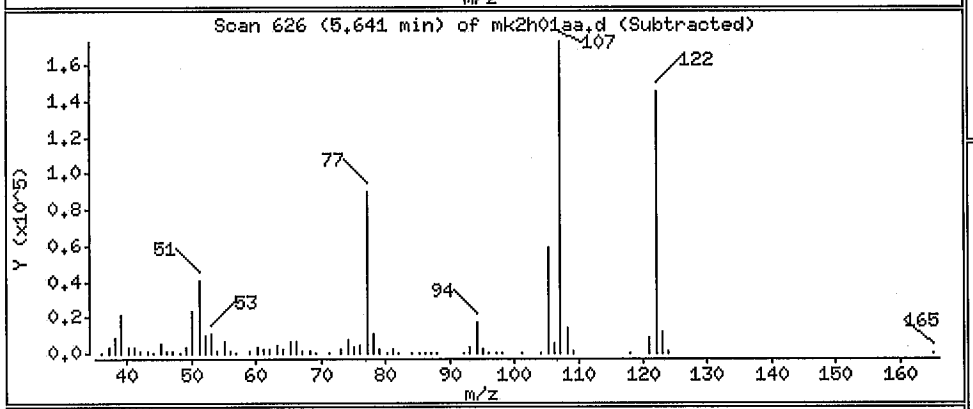
Sample Info: MK2H01AA,,0,,,

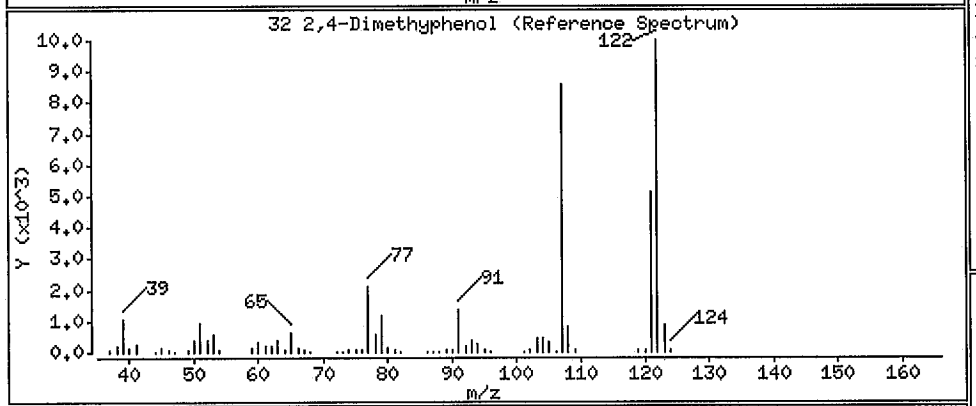
Volume Injected (uL): 1.0 Operator: 60841

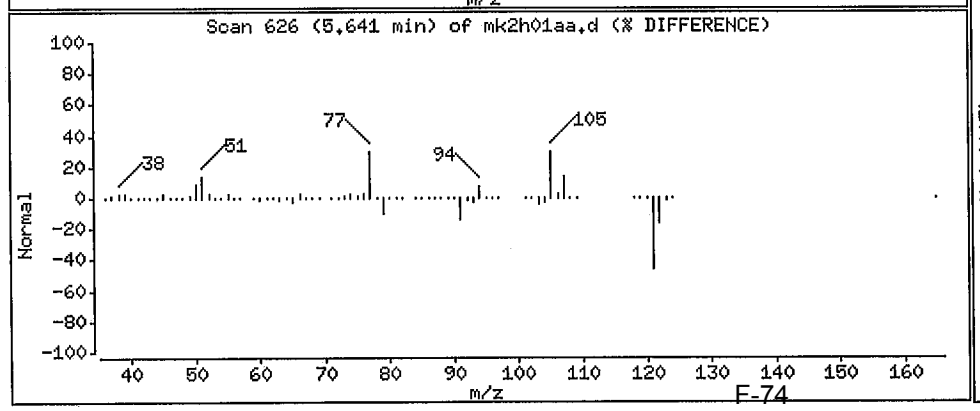
Column phase: Rxi-5 Sil MS Column diameter: 0.25

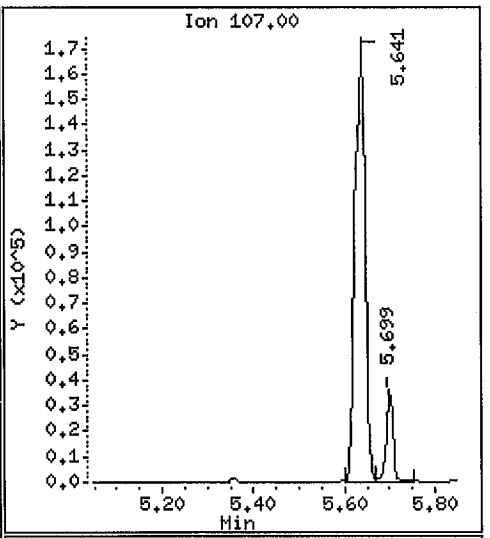
32 2,4-Dimethyphenol Concentration: 136 ug

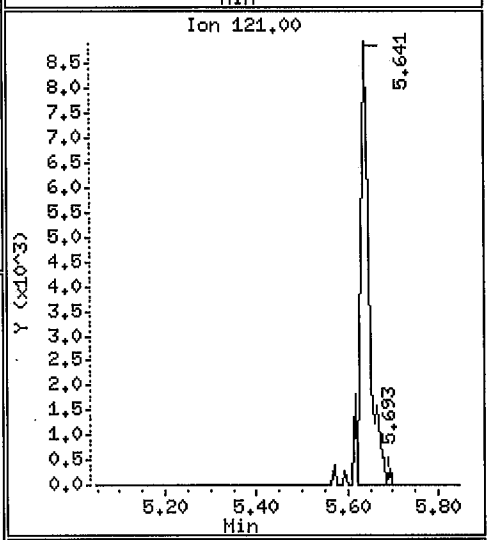


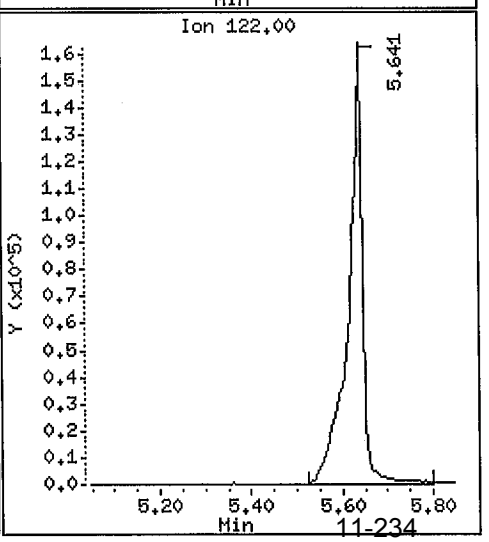












Data File: /var/chem/gcms/md.i/D072711.b/mk2h01aa.d

Date : 28-JUL-2011 00:30

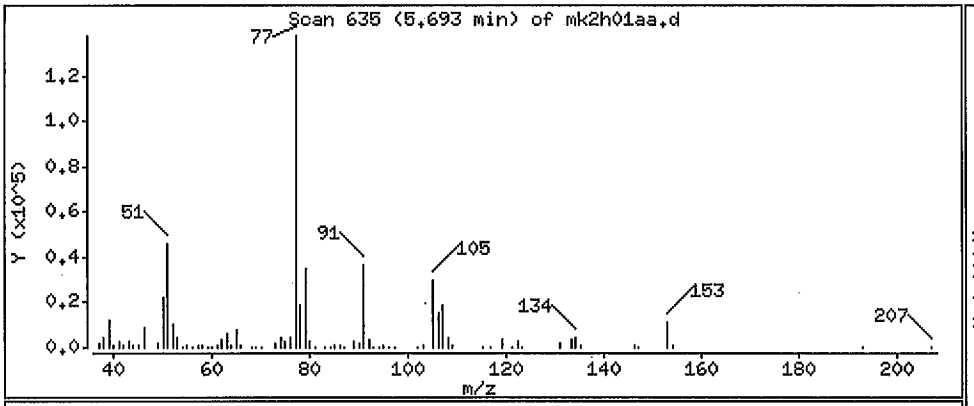
Client ID: 11-234 M0010 RUN 3 Instrument: md.i

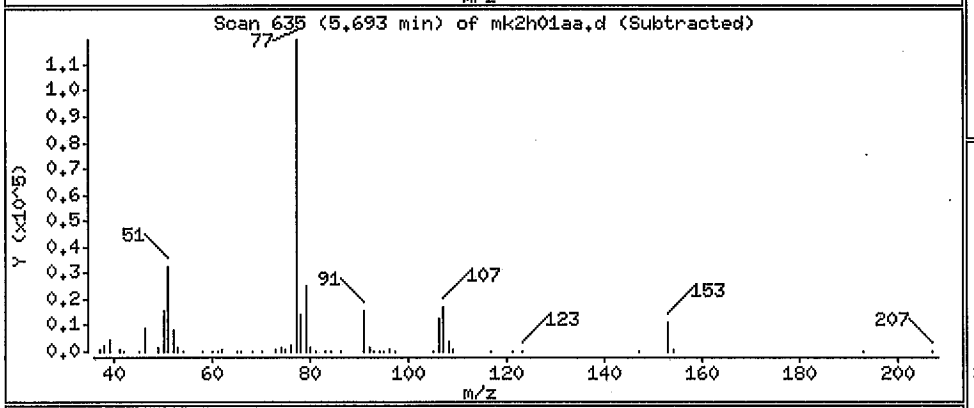
Sample Info: MK2H01AA,,0,,,

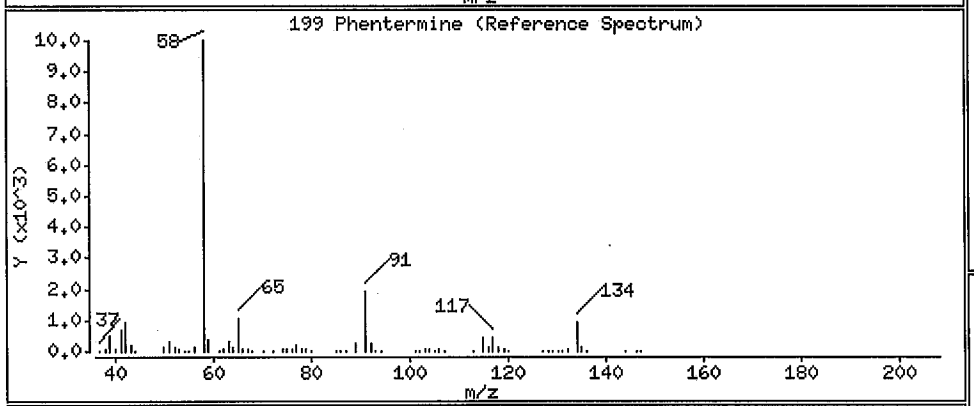
Volume Injected (uL): 1.0 Operator: 60841

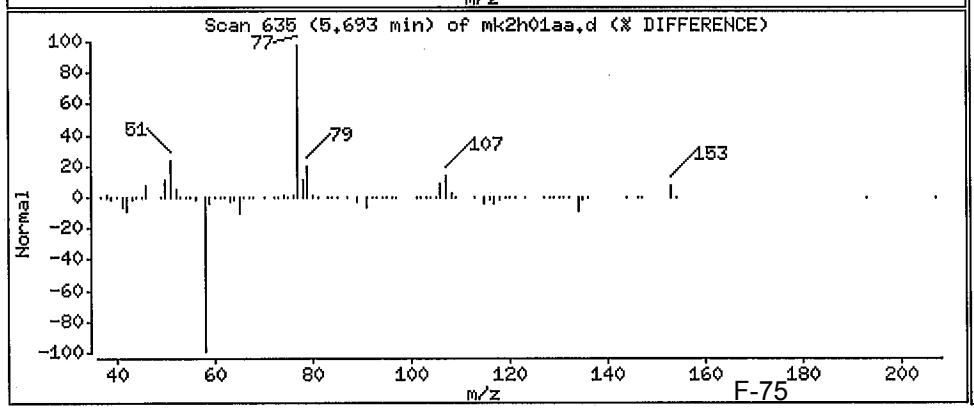
Column phase: Rxi-5 Sil MS Column diameter: 0.25

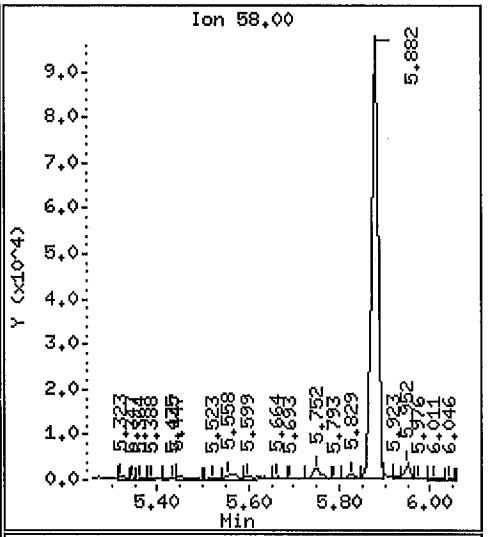
199 Phentermine Concentration: 11.8 ug

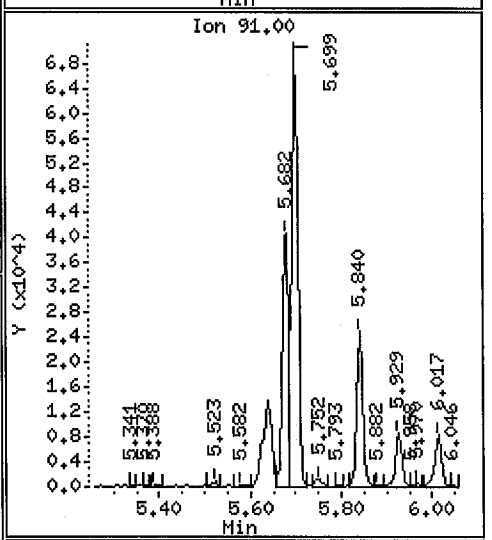


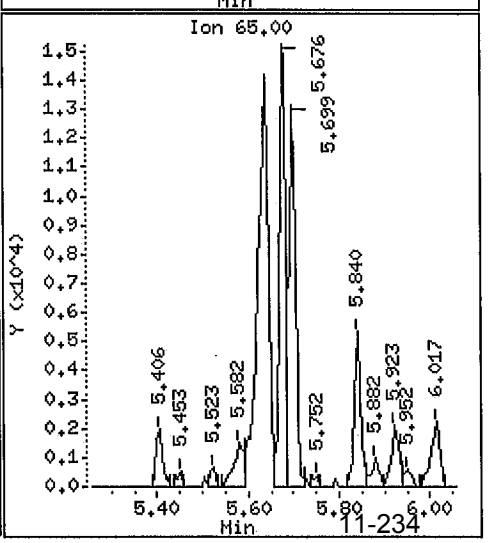












Data File: /var/chem/gcms/md.i/D072711.b/mk2h01aa.d

Date : 28-JUL-2011 00:30

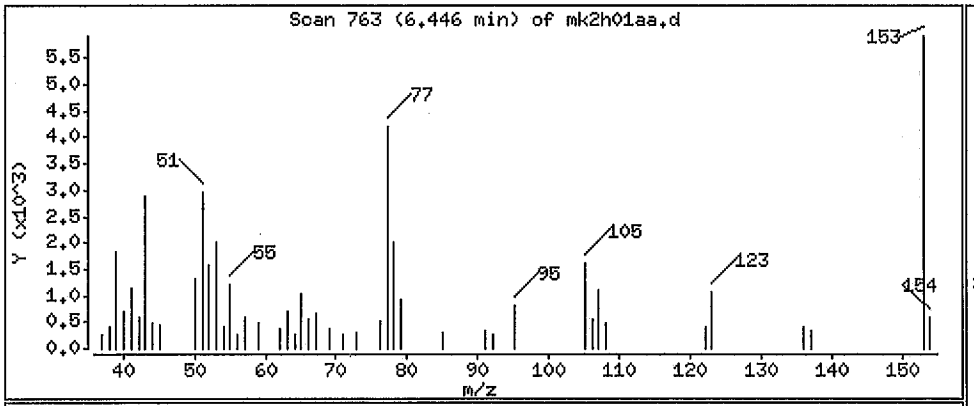
Client ID: 11-234 M0010 RUN 3 Instrument: md.i

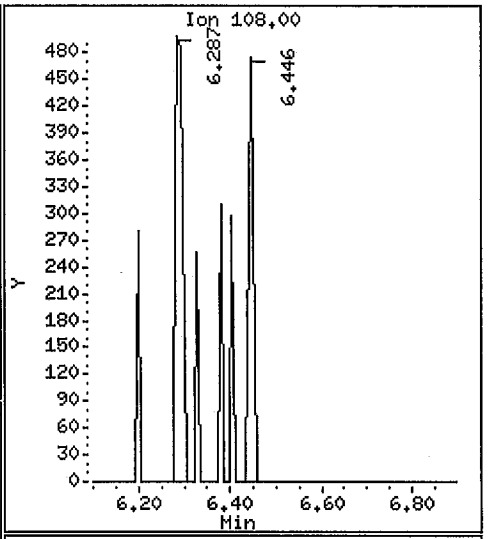
Sample Info: MK2H01AA,,0,,,

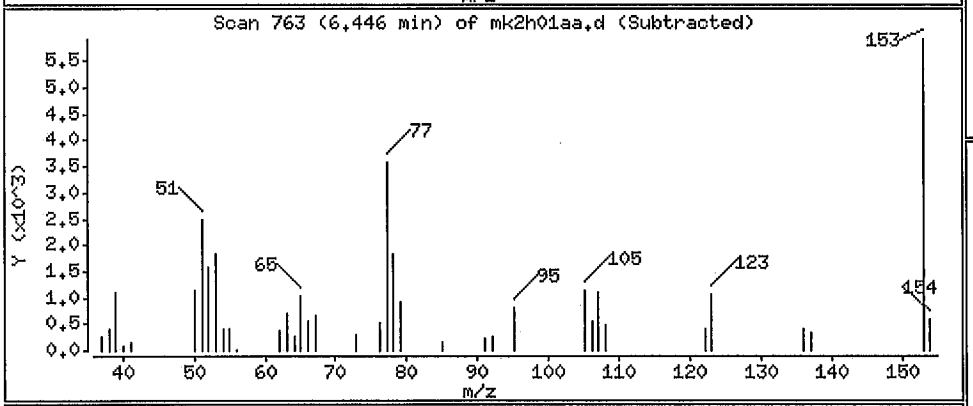
Volume Injected (uL): 1.0 Operator: 60841

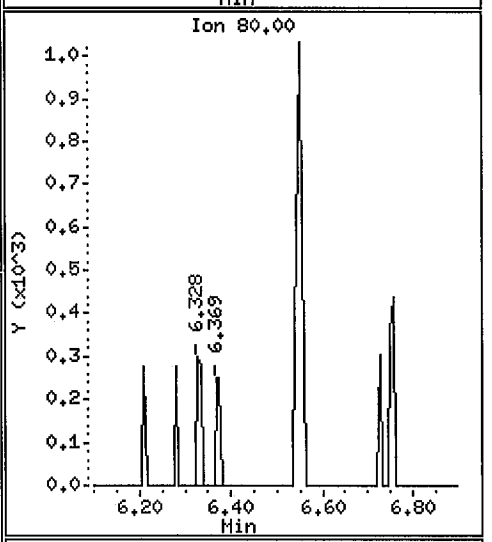
Column phase: Rxi-5 Sil MS Column diameter: 0.25

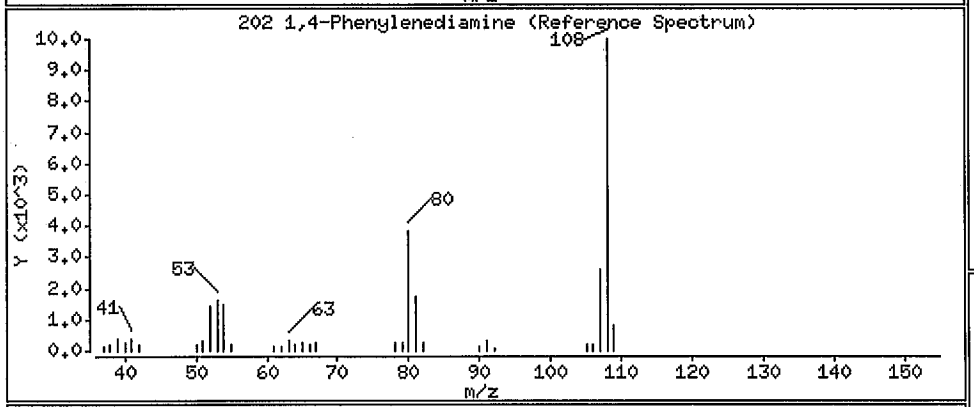
202 1,4-Phenylenediamine Concentration: 12.6 ug

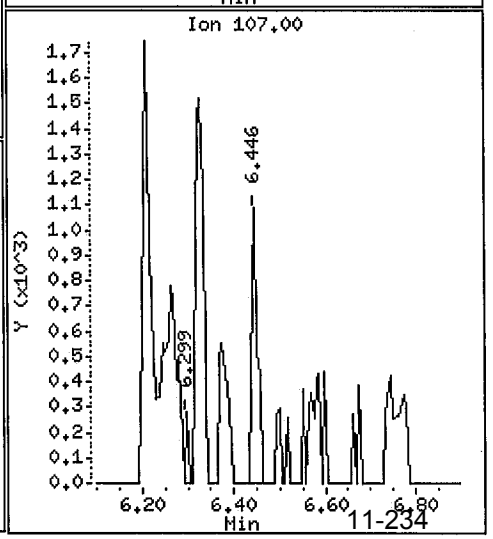


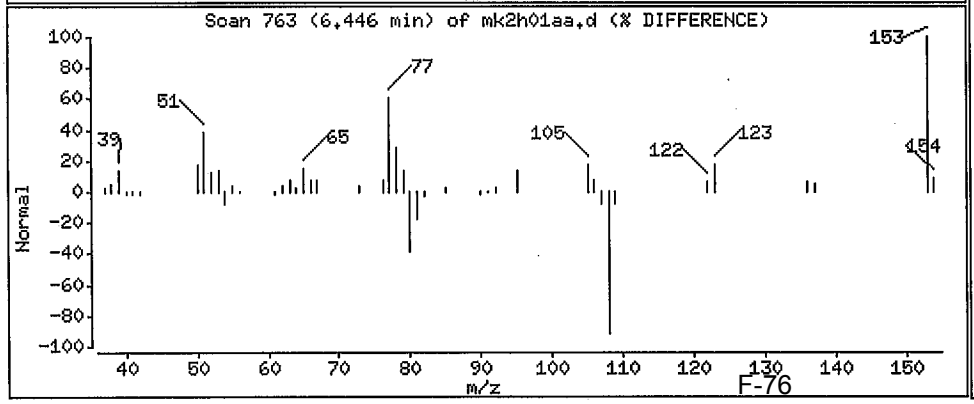












Data File: /var/chem/goms/md.i/D072711.b/mk2h01aa.d

Date : 28-JUL-2011 00:30

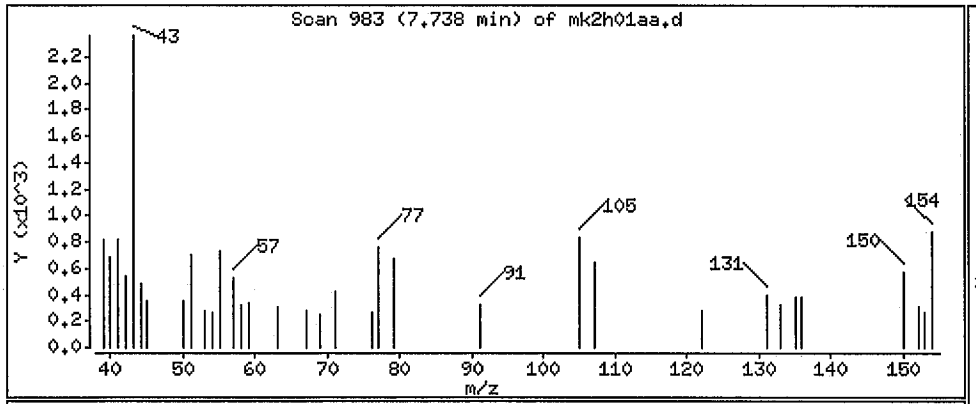
Client ID: 11-234 M0010 RUN 3 Instrument: md.i

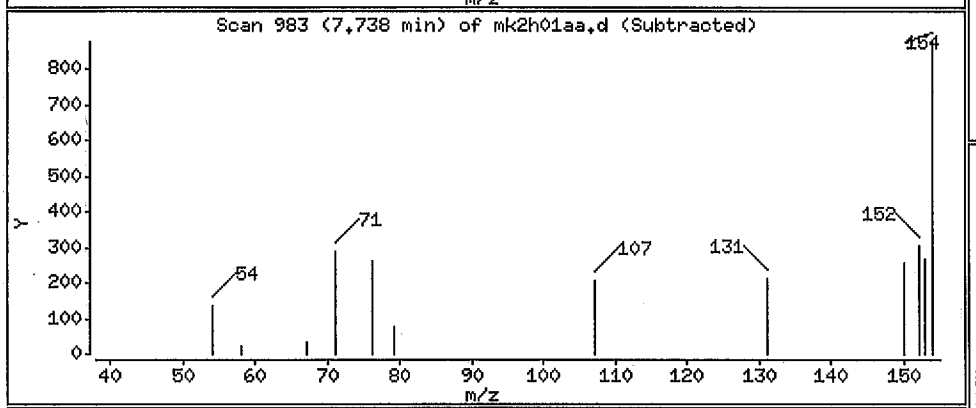
Sample Info: MK2H01AA,,0,,,

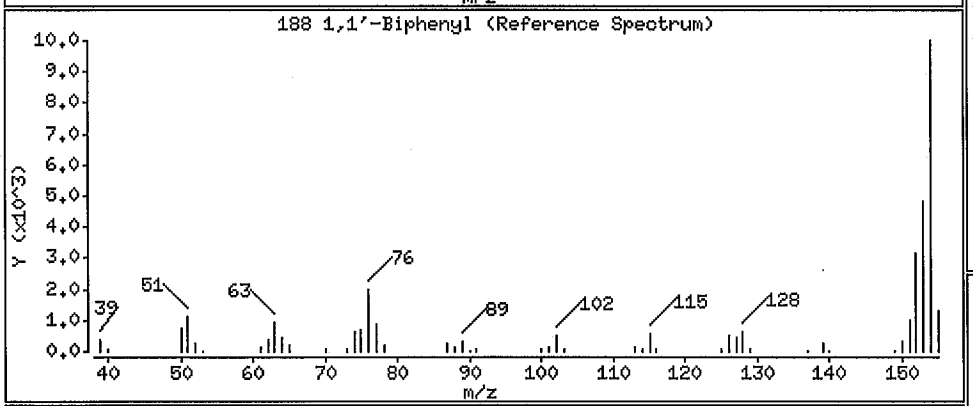
Volume Injected (uL): 1.0 Operator: 60841

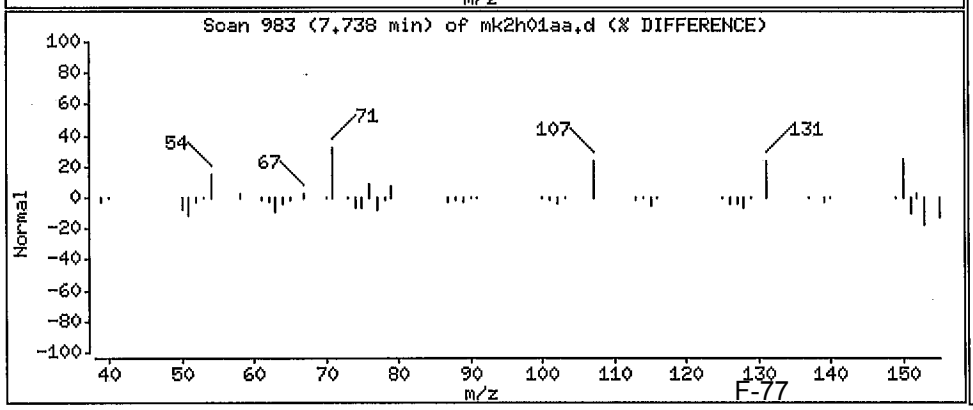
Column phase: Rxi-5 Sil MS Column diameter: 0.25

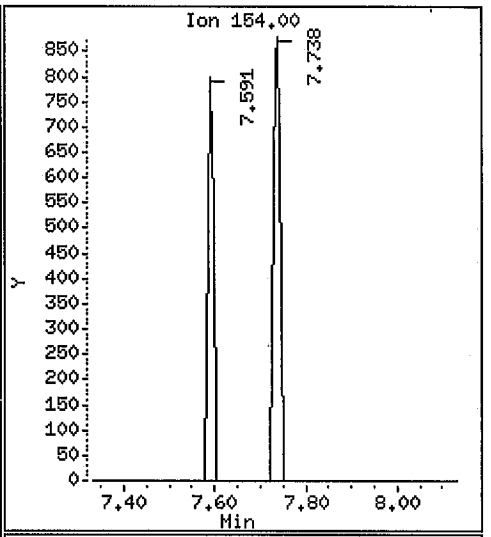
188 1,1'-Biphenyl Concentration: 0.172 ug

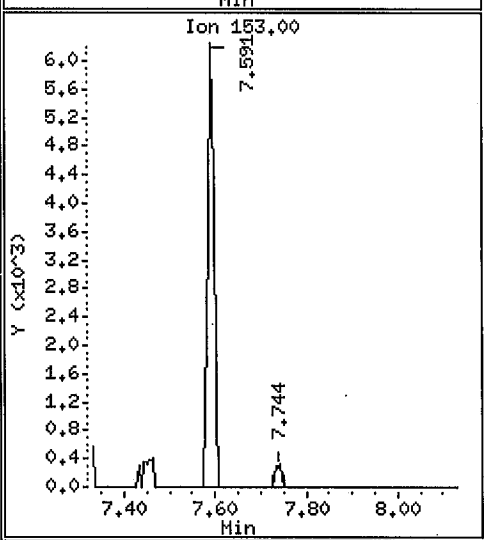


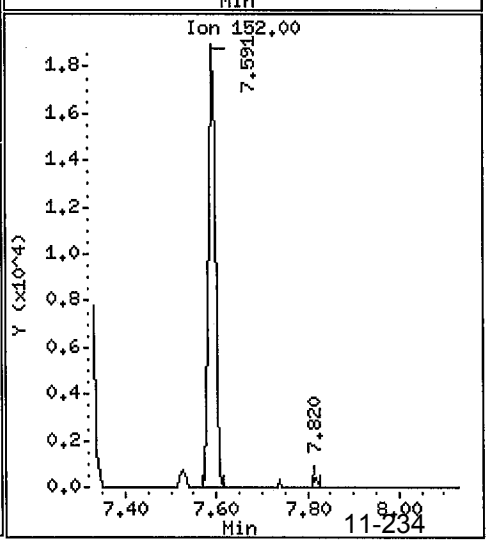












Data File: /var/chem/gcms/md.i/D072711.b/mk2h01aa.d

Date : 28-JUL-2011 00:30

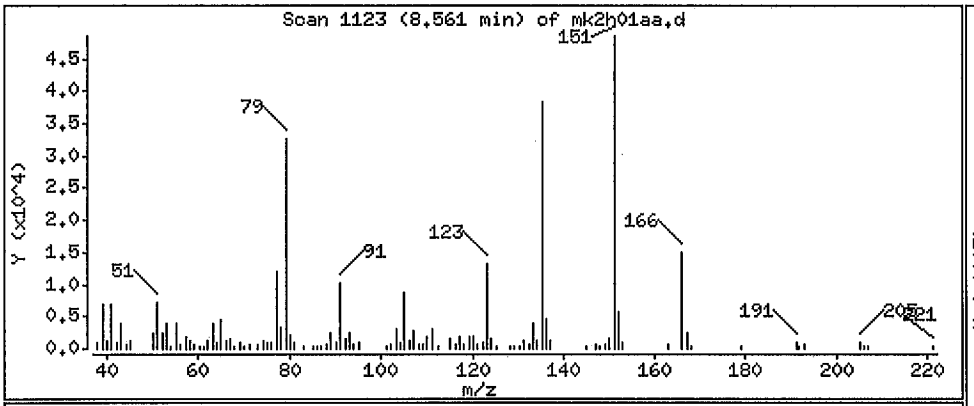
Client ID: 11-234 M0010 RUN 3 Instrument: md.i

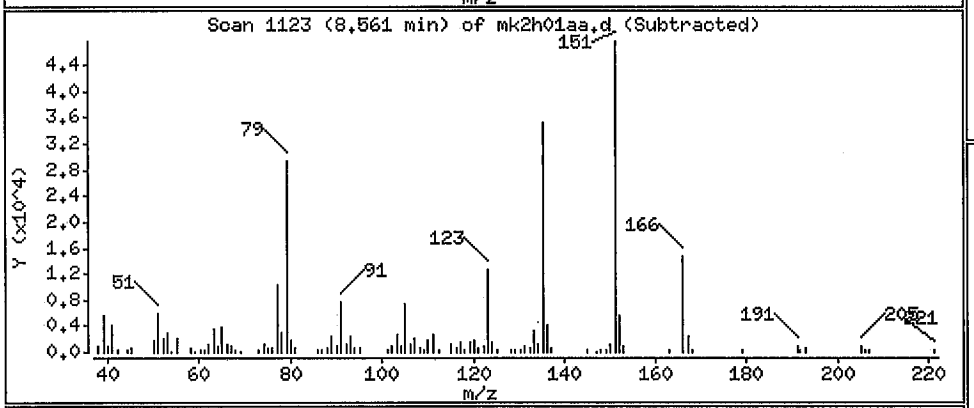
Sample Info: MK2H01AA,,0,,,

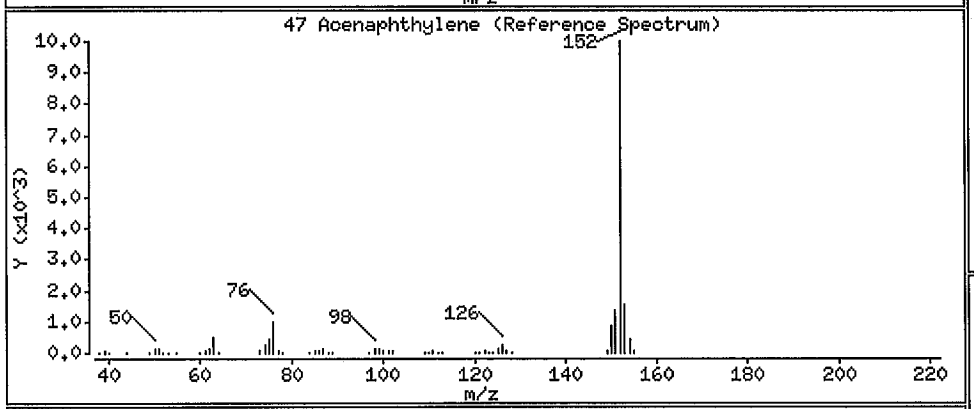
Volume Injected (uL): 1.0 Operator: 60841

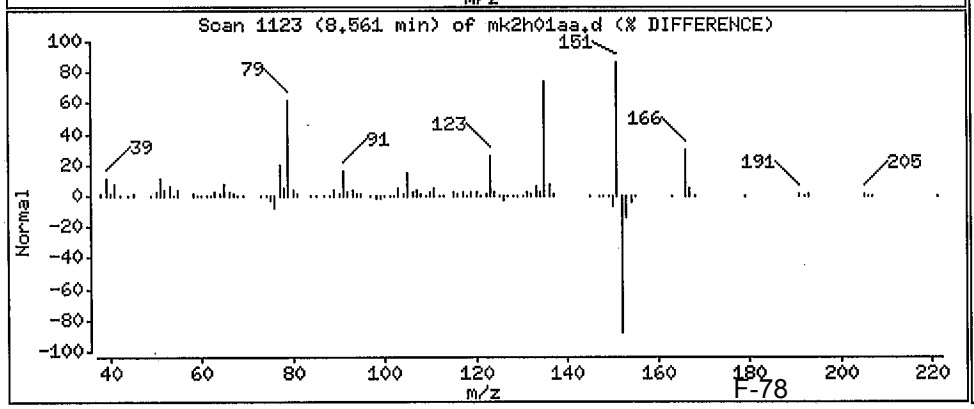
Column phase: Rxi-5 Sil MS Column diameter: 0.25

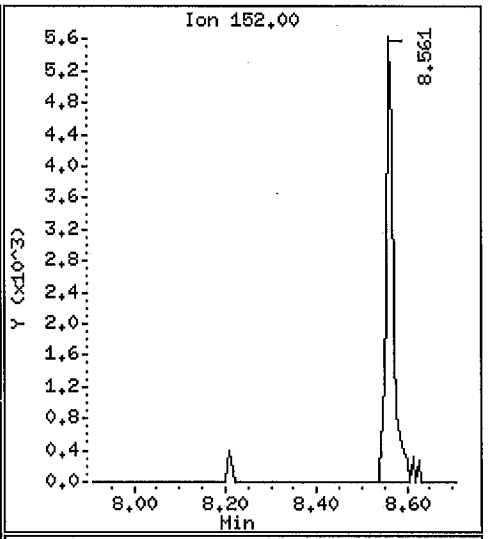
47 Acenaphthylene Concentration: 1.06 ug

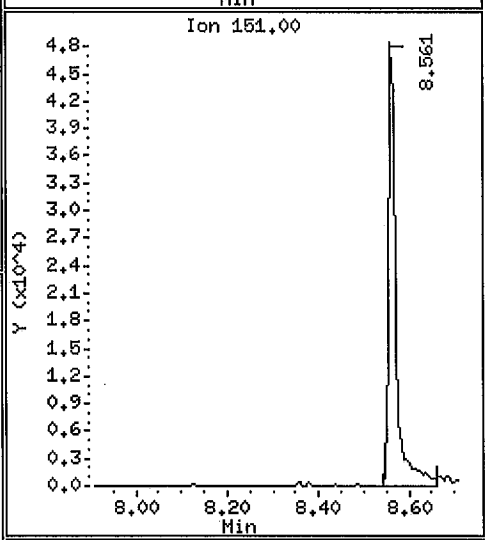


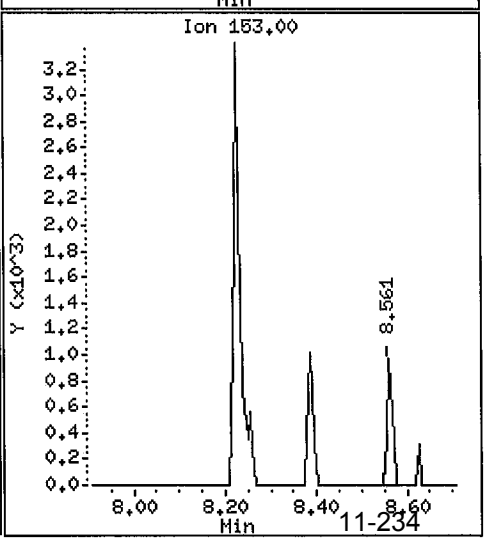












Data File: /var/chem/gcms/md.i/D072711.b/mk2h01aa.d

Date : 28-JUL-2011 00:30

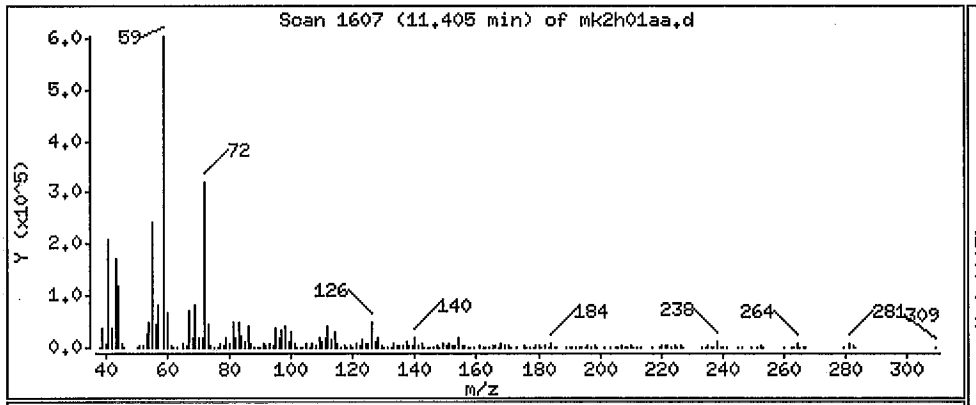
Client ID: 11-234 M0010 RUN 3 Instrument: md.i

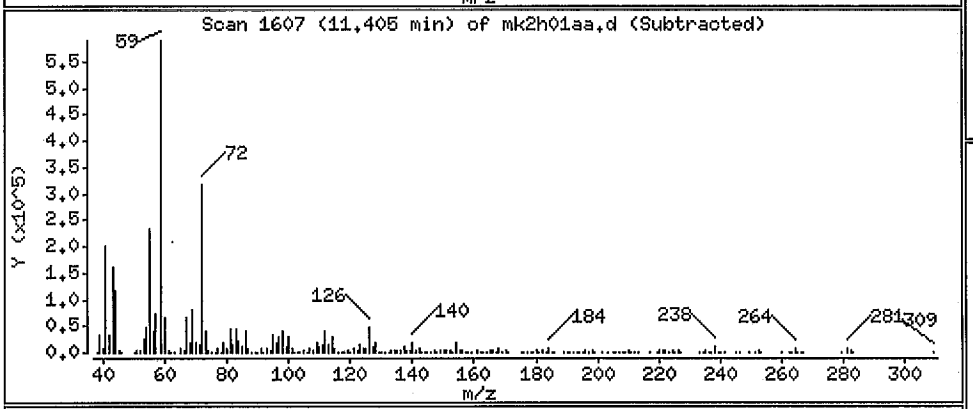
Sample Info: MK2H01AA,,0,,,

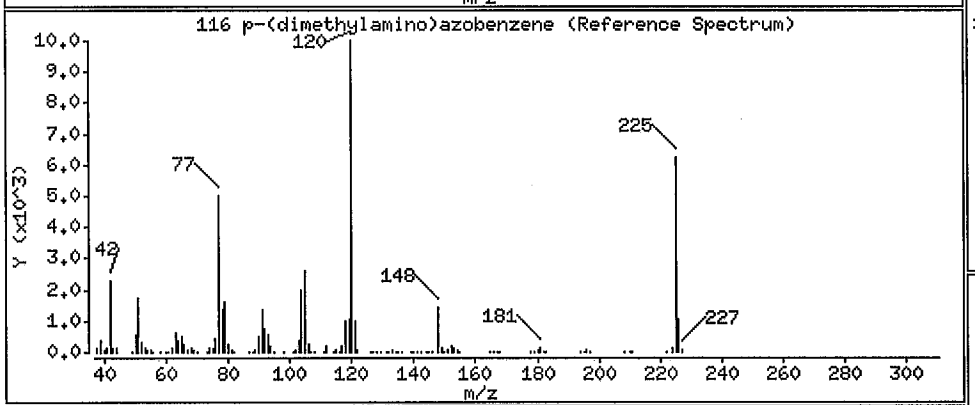
Volume Injected (uL): 1.0 Operator: 60841

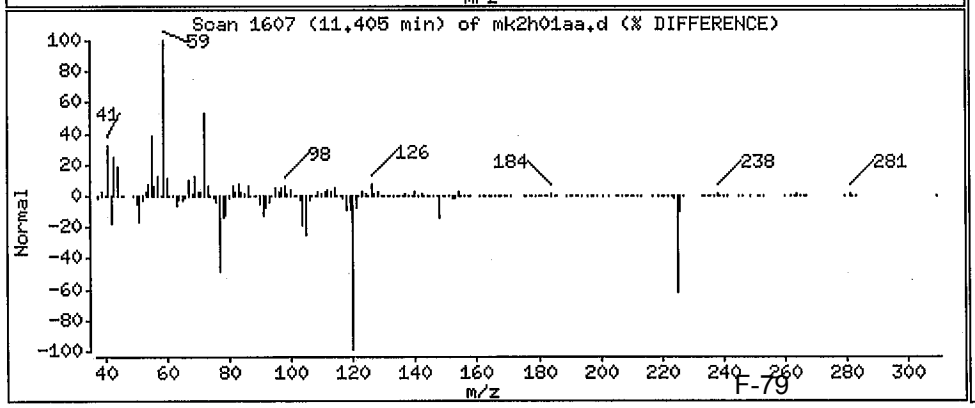
Column phase: Rxi-5 Sil MS Column diameter: 0.25

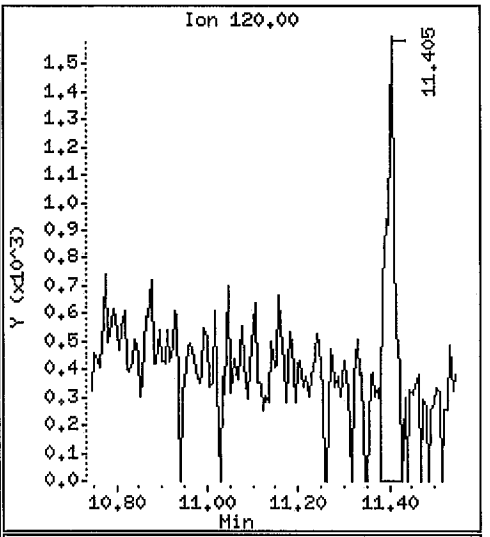
116 p-(dimethylamino)azobenzene Concentration: 1.10 ug

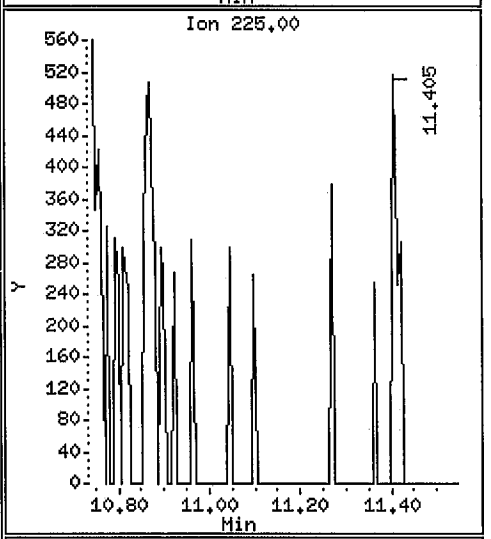


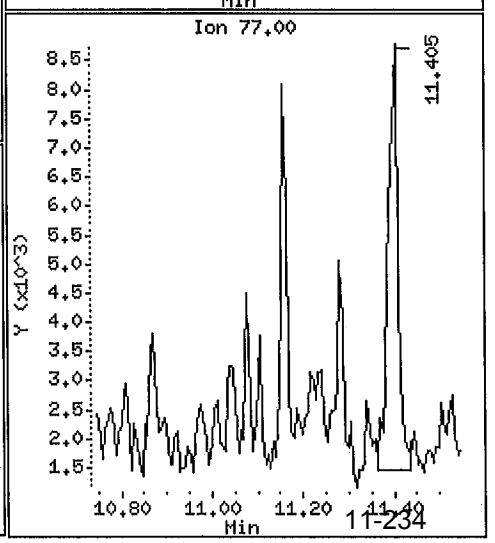












Data File: /var/chem/gcms/md.i/D072711.b/mk2h01aa.d

Date : 28-JUL-2011 00:30

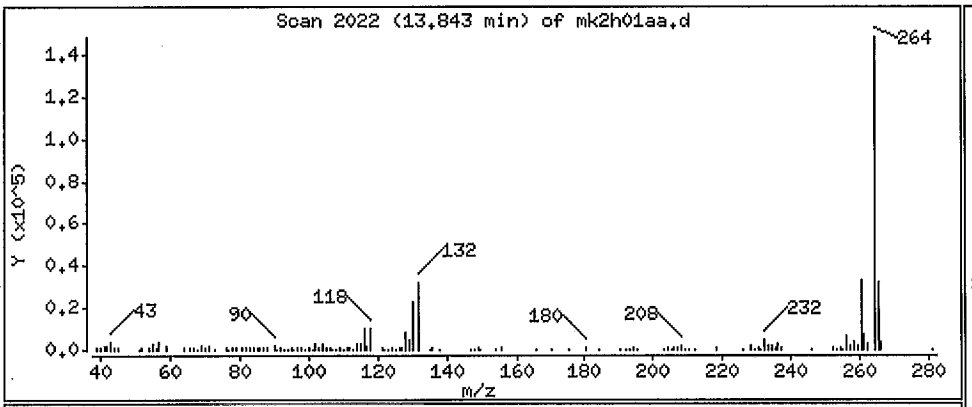
Client ID: 11-234 M0010 RUN 3 Instrument: md.i

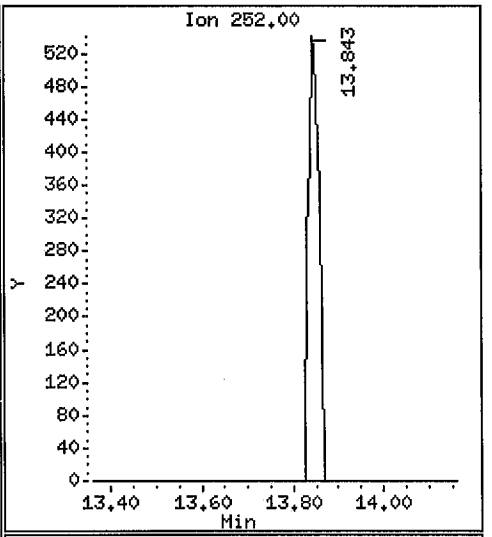
Sample Info: MK2H01AA,,0,,,

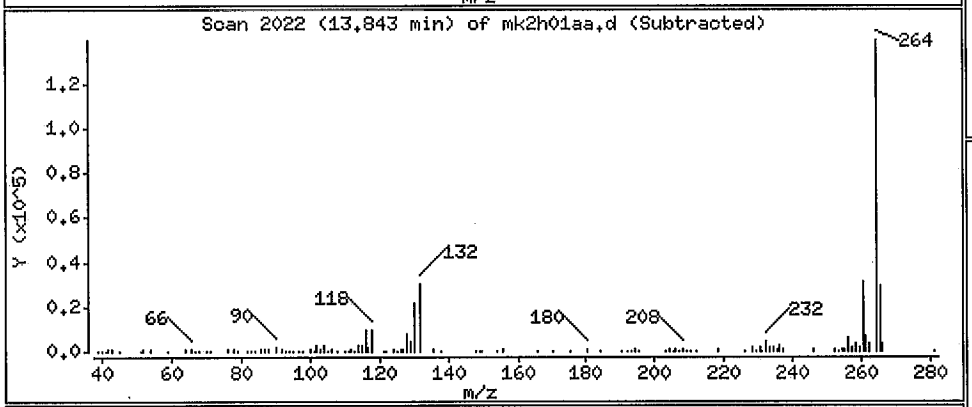
Volume Injected (uL): 1.0 Operator: 60841

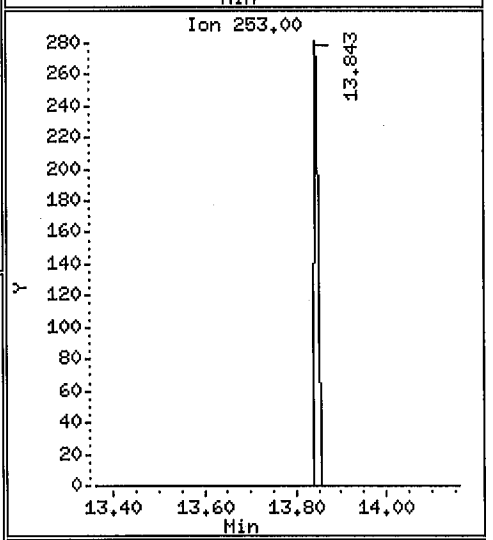
Column phase: Rxi-5 Sil MS Column diameter: 0.25

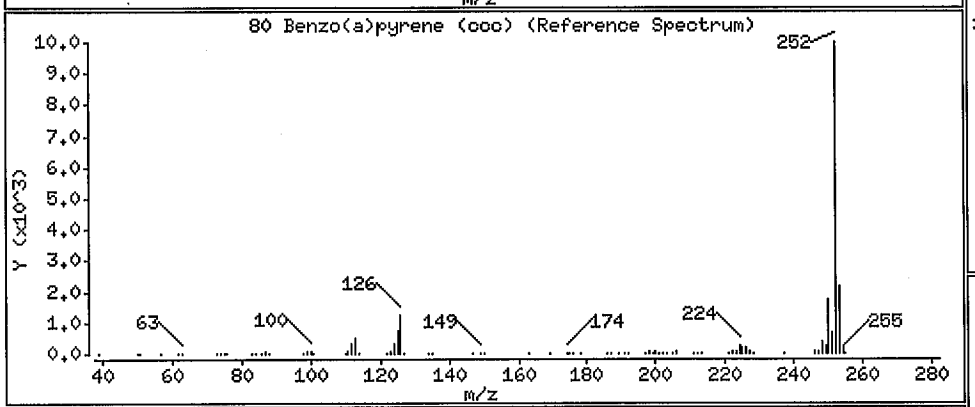
80 Benzo(a)pyrene (ccc) Concentration: 5.61 ug

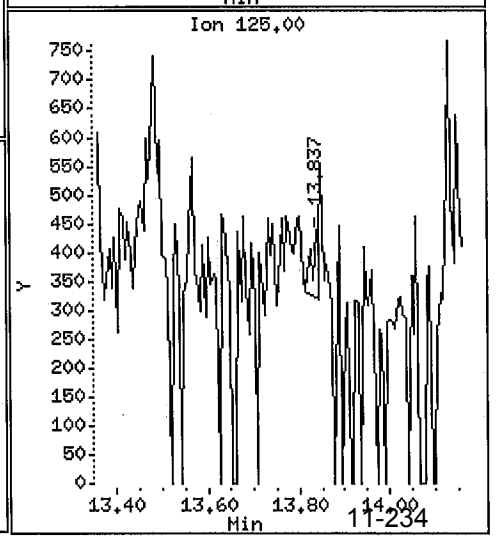


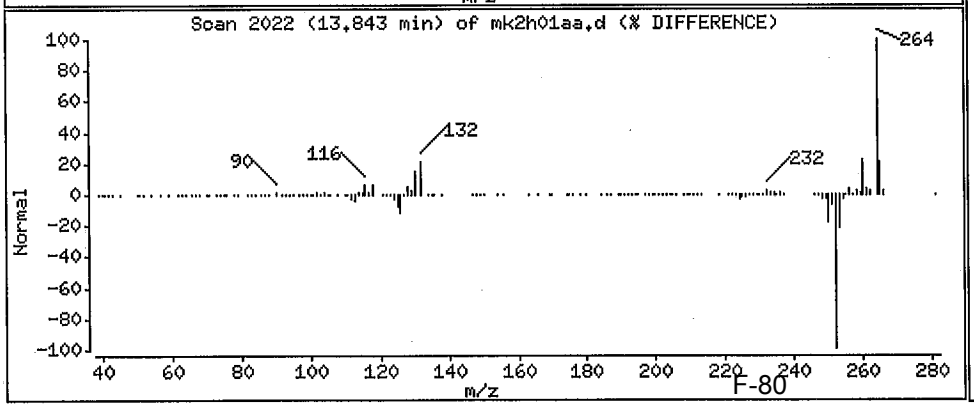












Data File: /var/chem/gcms/md.i/D072711.b/mk2h01aa.d

Date : 28-JUL-2011 00:30

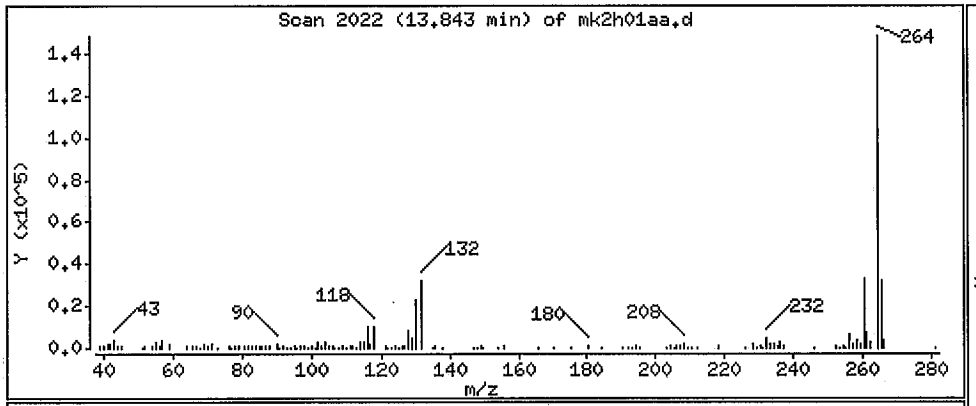
Client ID: 11-234 M0010 RUN 3 Instrument: md.i

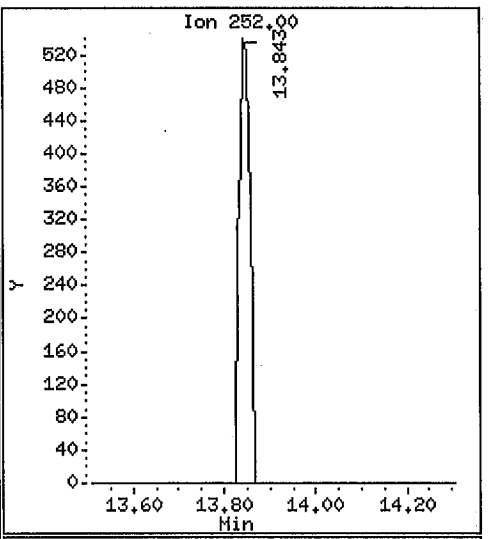
Sample Info: MK2H01AA,,0,,,

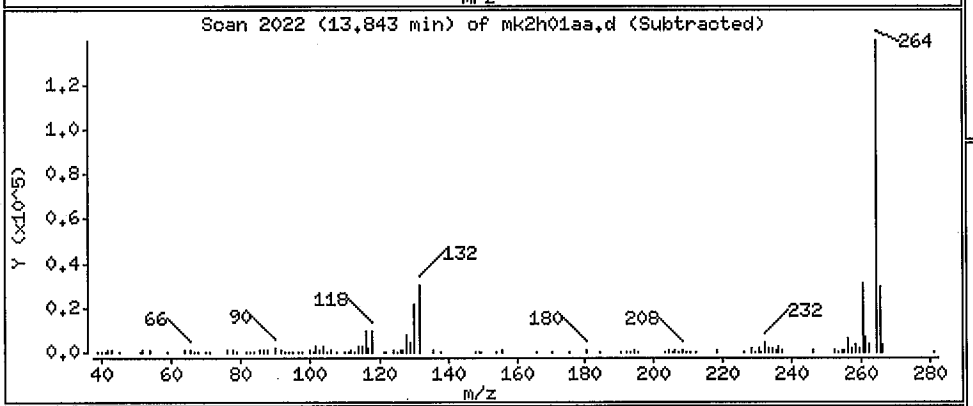
Volume Injected (uL): 1.0 Operator: 60841

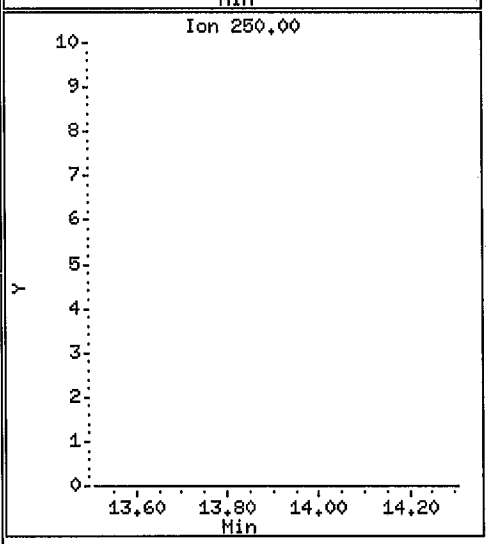
Column phase: Rxi-5 Sil MS Column diameter: 0.25

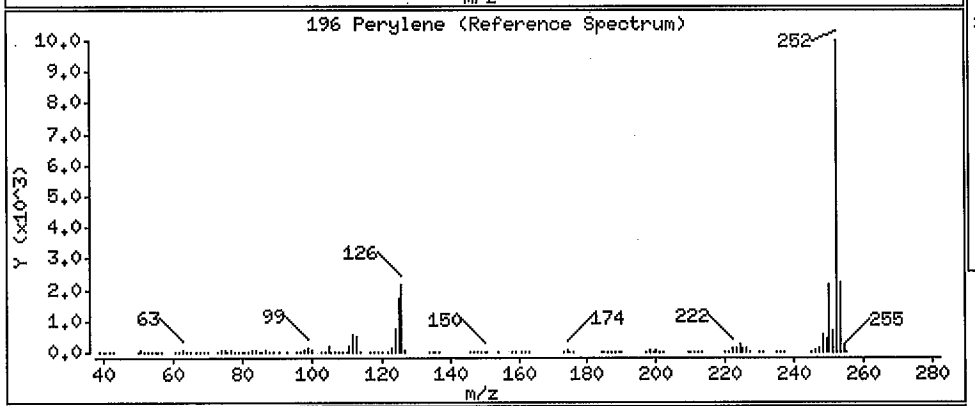
196 Perylene Concentration: 0.138 ug

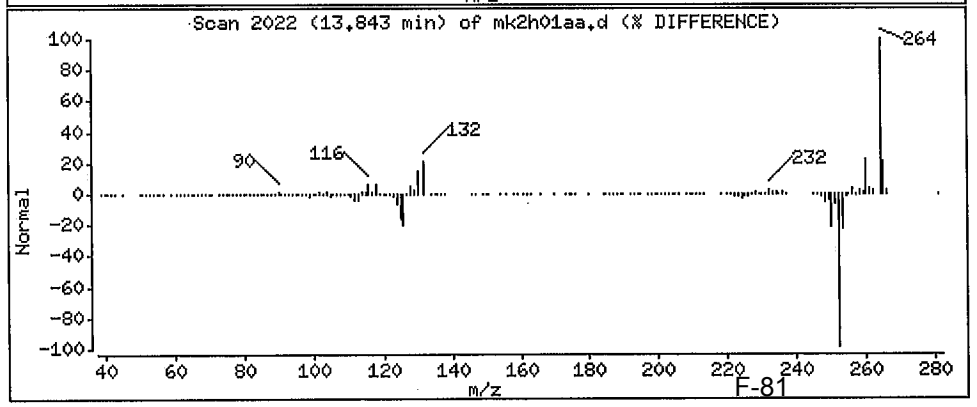












TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN 4 COMBINED

GC/MS Semivolatiles

Lot-Sample #...: H1G200446-003 **Work Order #...:** MK2H11AA **Matrix.....:** AIR
Date Sampled...: 07/12/11 **Date Received..:** 07/20/11
Prep Date.....: 07/20/11 **Analysis Date..:** 07/28/11
Prep Batch #...: 1201076
Dilution Factor: 4 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	40	ug	11
Acenaphthylene	ND	40	ug	11
Aniline	ND	40	ug	34
Anthracene	ND	40	ug	13
Benz(a)anthracene	ND	40	ug	12
Benzidine	ND	400	ug	240
Benzo(b)fluoranthene	ND	40	ug	16
Benzo(k)fluoranthene	ND	40	ug	20
Benzo(ghi)perylene	ND	40	ug	13
Benzo(a)pyrene	ND	40	ug	15
Benzo(e)pyrene	ND	40	ug	3.4
Biphenyl	ND	40	ug	4.0
Chrysene	ND	40	ug	12
Cresols (total)	ND	40	ug	32
Dibenz(a,h)anthracene	ND	40	ug	12
Dibenzofuran	ND	40	ug	11
Dibenzo(a,e)pyrene	ND	40	ug	2.7
3,3'-Dimethoxybenzidine	ND	400	ug	56
p-Dimethylaminoazobenzene	ND	40	ug	9.6
7,12-Dimethylbenz(a)-anthracene	ND	40	ug	14
3,3'-Dimethylbenzidine	ND	400	ug	72
alpha,alpha-Dimethylphenethylamine	ND	100	ug	33
2,4-Dimethylphenol	ND	40	ug	26
Fluoranthene	ND	40	ug	14
Fluorene	ND	40	ug	12
Indeno(1,2,3-cd)pyrene	ND	40	ug	12
Isophorone	ND	40	ug	11
3-Methylcholanthrene	ND	40	ug	15
2-Methylnaphthalene	ND	40	ug	12
Naphthalene	ND	40	ug	12
Nitrobenzene	ND	40	ug	12
Perylene	ND	40	ug	3.1
Phenanthrene	ND	40	ug	12
Phenol	**48**	**40**	**ug**	**12**
1,4-Phenylenediamine	ND	400	ug	100
Pyrene	ND	40	ug	14
o-Toluidine	ND	40	ug	11

(Continued on next page)

TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN 4 COMBINED

GC/MS Semivolatiles

Lot-Sample #...: H1G200446-003 **Work Order #...:** MK2H11AA **Matrix.....:** AIR

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	93	(22 - 105)
Phenol-d5	102	(48 - 118)
Nitrobenzene-d5	89	(43 - 110)
2-Fluorobiphenyl	92	(48 - 111)
2,4,6-Tribromophenol	105	(34 - 125)

Data File: /var/chem/gcms/md.i/D072711.b/mk2h11aa.d
Report Date: 28-Jul-2011 13:49

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072711.b/mk2h11aa.d
Lab Smp Id: MK2H11AA Client Smp ID: 11-234 M0010 RUN 4
Inj Date : 28-JUL-2011 00:58
Operator : 60841 Inst ID: md.i
Smp Info : MK2H11AA,,0,,,
Misc Info : D072711,8270a9,ICR.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /chem/gcms/md.i/D072711.b/8270a9.m
Meth Date : 27-Jul-2011 17:16 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 17:42 Cal File: a9dg267.d
Als bottle: 22
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICR.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * (Vt*Sf)/(Vo*Uf) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	2000.00000	Volume of final extract (uL)
Sf	2.00000	Prep split factor
Vo	1.00000	Volume of sample extracted (1=total samp
Uf	1000.00000	unit correction factor

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	CONCENTRATIONS FINAL (ug)
* 1 1,4-Dichlorobenzene-d4	152	4.319	4.301	(1.000)	57264	20.0000	20.0
* 2 Naphthalene-d8	136	5.911	5.887	(1.000)	226896	20.0000	20.0
* 3 Acenaphthene-d10	164	8.484	8.484	(1.000)	134989	20.0000	20.0
* 4 Phenanthrene-d10	188	9.894	9.895	(1.000)	260256	20.0000	20.0
* 5 Chrysene-d12	240	11.916	11.928	(1.000)	263618	20.0000	20.0
* 6 Perylene-d12	264	13.843	13.855	(1.000)	248471	20.0000	20.0
$ 7 2-Fluorophenol	112	3.349	3.126	(0.776)	109599	34.6672	139
$ 8 Phenol-d5	99	4.013	3.931	(0.929)	145029	38.2597	153
$ 9 Nitrobenzene-d5	82	4.971	4.930	(0.841)	80382	22.2315	88.9
$ 11 2,4,6-Tribromophenol	330	9.307	9.307	(0.941)	40926	39.2792	157
$ 10 2-Fluorobiphenyl	172	7.591	7.591	(0.895)	193512	22.9161	91.7
$ 179 13C6-naphthalene	134	5.911	5.917	(1.000)	20974	1.70105	~~6.80~~ NA
15 Phenol (ccc)	94	4.025	3.949	(0.932)	46715	11.9830	47.9

KRM 7/28/11

Data File: /var/chem/gcms/md.i/D072711.b/mk2h11aa.d
Report Date: 28-Jul-2011 13:49

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	FINAL (ug)
29 Nitrobenzene	77	5.041	4.953	(0.853)	11993	3.38576	~~13.5~~
30 Isophorone	82	4.971	5.271	(0.841)	80382	13.7985	~~55.2~~
32 2,4-Dimethyphenol	107	5.635	5.447	(0.953)	289111	75.9489	~~304~~
199 Phentermine	58	5.688	5.658	(0.962)	234	5.91992	~~23.7~~
196 Perylene	252	13.849	13.908	(1.000)	739	0.05890	~~0.236~~

QC Flag Legend

KRM 7/28/11

R - Spike/Surrogate failed recovery limits.

Data File: /var/chem/gcms/md.i/D072711.b/mk2h11aa.d
Report Date: 28-Jul-2011 13:49

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: md.i
Lab File ID: mk2h11aa.d
Lab Smp Id: MK2H11AA
Analysis Type: SV
Quant Type: ISTD
Operator: 60841
Method File: /chem/gcms/md.i/D072711.b/8270a9.m
Misc Info: D072711,8270a9,ICR.sub

Calibration Date: 27-JUL-2011
Calibration Time: 16:02
Client Smp ID: 11-234 M0010 RUN 4
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	44395	22198	88790	57264	28.99
2 Naphthalene-d8	182374	91187	364748	226896	24.41
3 Acenaphthene-d10	111075	55538	222150	134989	21.53
4 Phenanthrene-d10	217977	108988	435954	260256	19.40
5 Chrysene-d12	247793	123896	495586	263618	6.39
6 Perylene-d12	221015	110508	442030	248471	12.42

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	4.30	3.80	4.80	4.32	0.41
2 Naphthalene-d8	5.89	5.39	6.39	5.91	0.40
3 Acenaphthene-d10	8.48	7.98	8.98	8.48	0.00
4 Phenanthrene-d10	9.89	9.39	10.39	9.89	0.00
5 Chrysene-d12	11.93	11.43	12.43	11.92	-0.10
6 Perylene-d12	13.85	13.35	14.35	13.84	-0.09

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

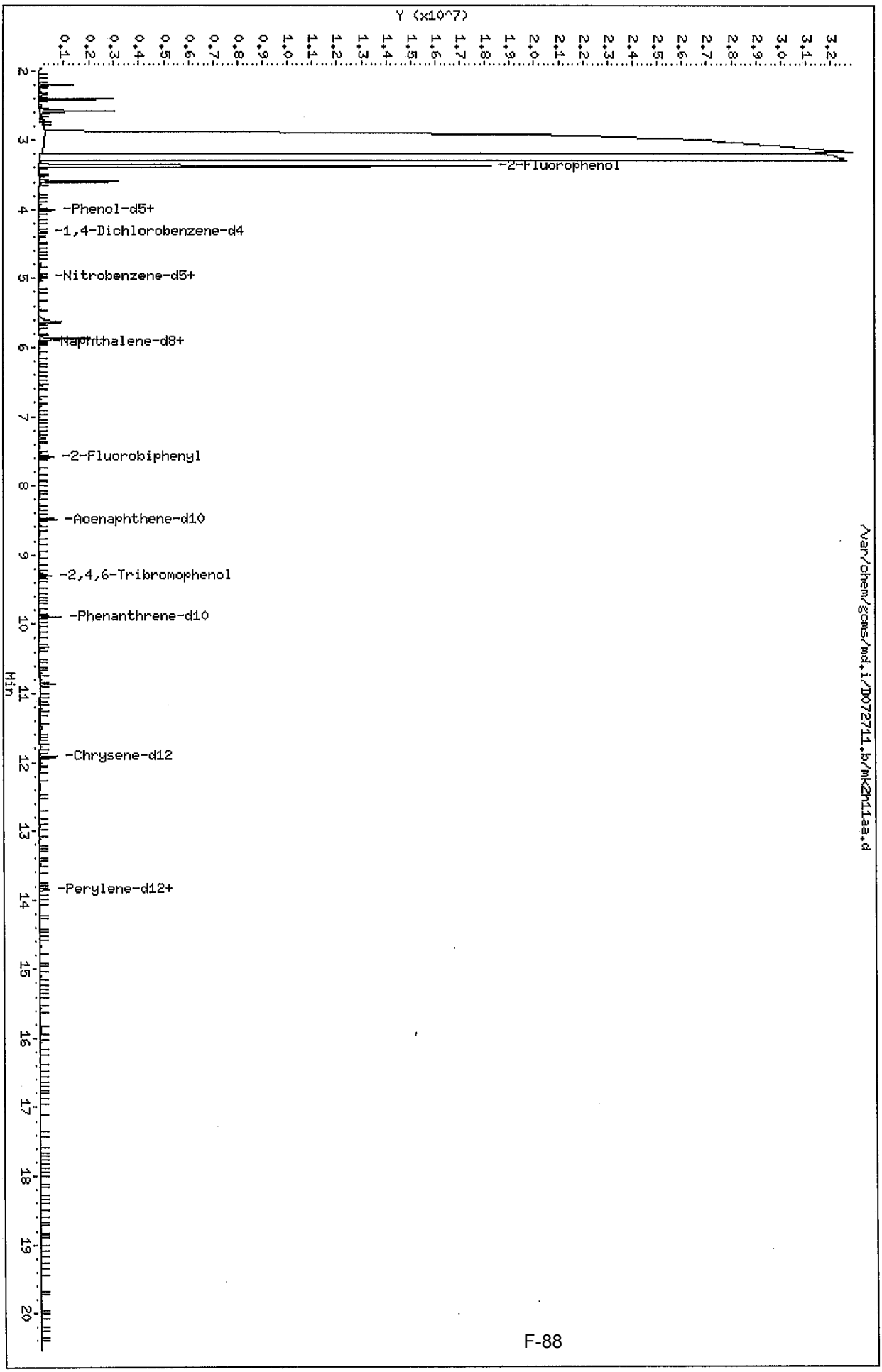
Data File: /var/chem/gcms/md.i/D072711.b/mk2h11aa.d
Report Date: 28-Jul-2011 13:49

TestAmerica Knoxville

RECOVERY REPORT

Client Name: TestAmerica Air Emis20-JUL-2011 00:00 Client SDG: H1G200446
Sample Matrix: GAS Fraction: SV
Lab Smp Id: MK2H11AA Client Smp ID: 11-234 M0010 RUN 4
Level: LOW Operator: 60841
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: ICR.sub
Method File: /chem/gcms/md.i/D072711.b/8270a9.m
Misc Info: D072711,8270a9,ICR.sub

SURROGATE COMPOUND	CONC ADDED ug	CONC RECOVERED ug	% RECOVERED	LIMITS
$ 7 2-Fluorophenol	150	139	92.45	19-100
$ 8 Phenol-d5	150	153	102.03	15-124
$ 9 Nitrobenzene-d5	100	88.9	88.93	42-104
$ 11 2,4,6-Tribromophen	150	157	104.74	33-130
$ 10 2-Fluorobiphenyl	100	91.7	91.66	51-103
$ 12 Terphenyl-d14	100	0.00	*	58-122
$ 179 13C6-naphthalene	200	6.80	3.40*	50-150


Data File: /var/chem/gcms/md.i/D072711.b/mk2h11aa.d
Date : 28-JUL-2011 00:58
Client ID: 11-234 M0010 RUN 4
Instrument: md.i
Sample Info: MK2H11AA,,0,,,
Operator: 60841
Volume Injected (uL): 1.0
Column diameter: 0.25
Column phase: Rxi-5 Sil MS
/var/chem/gcms/md.i/D072711.b/mk2h11aa.d
Y (x10^7)
Min
-2-Fluorophenol
-Phenol-d5+
-1,4-Dichlorobenzene-d4
-Nitrobenzene-d5+
-Naphthalene-d8+
-2-Fluorobiphenyl
-Acenaphthene-d10
-2,4,6-Tribromophenol
-Phenanthrene-d10
-Chrysene-d12
-Perylene-d12+

Data File: /var/chem/goms/md.i/D072711.b/mk2h11aa.d

Date : 28-JUL-2011 00:58

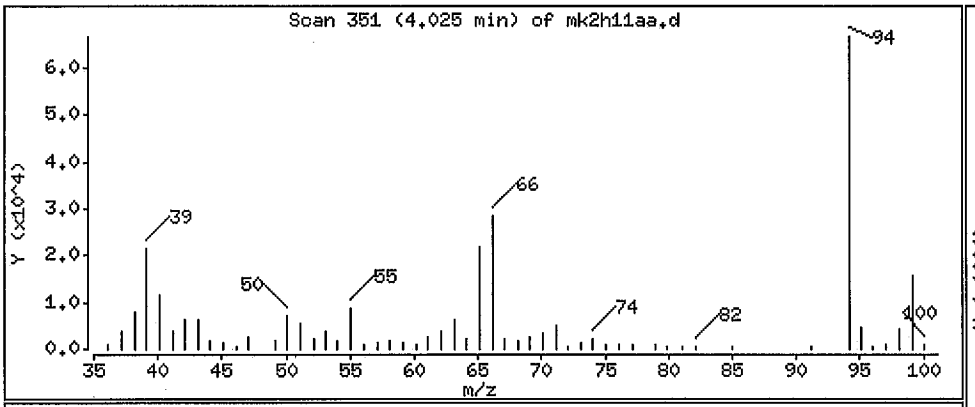
Client ID: 11-234 M0010 RUN 4 Instrument: md.i

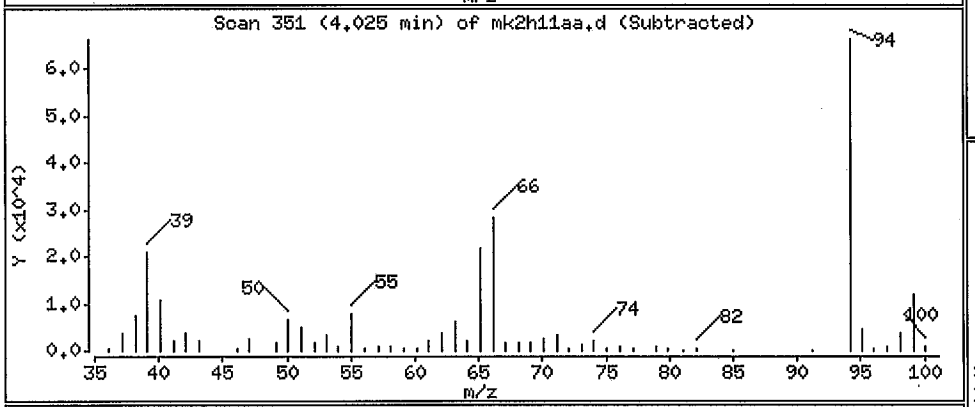
Sample Info: MK2H11AA,,0,,,

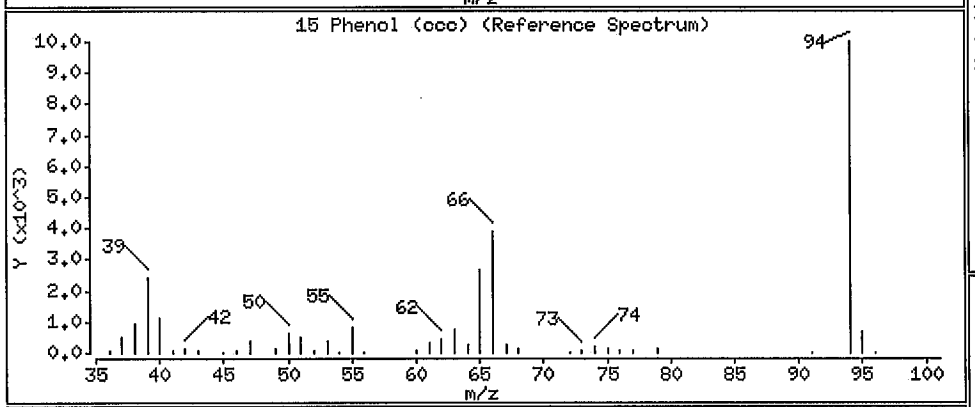
Volume Injected (uL): 1.0 Operator: 60841

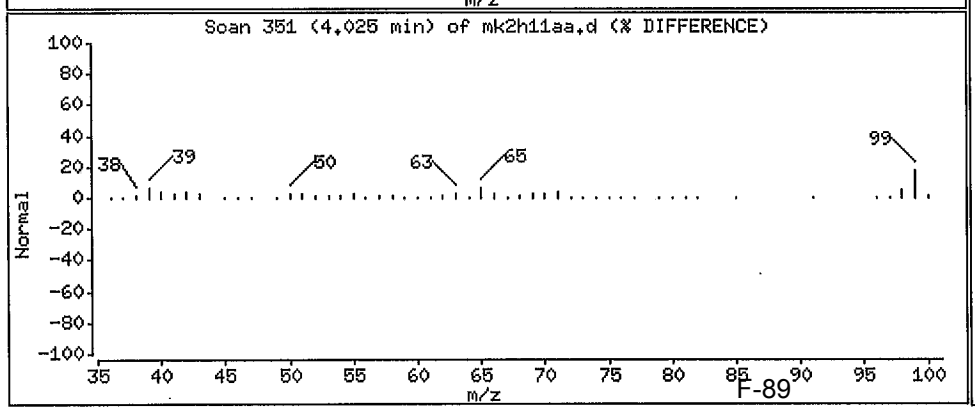
Column phase: Rxi-5 Sil MS Column diameter: 0.25

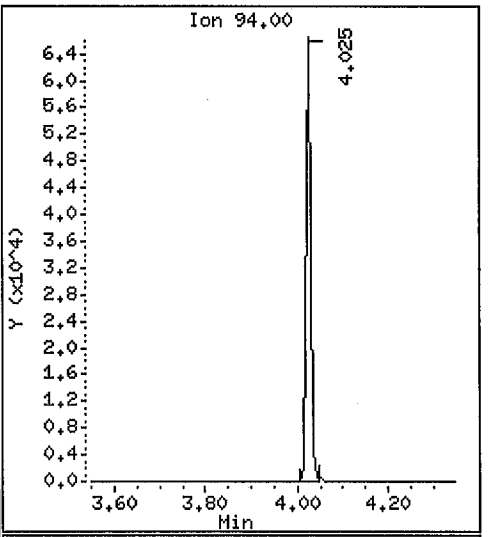
15 Phenol (ccc) Concentration: 47.9 ug

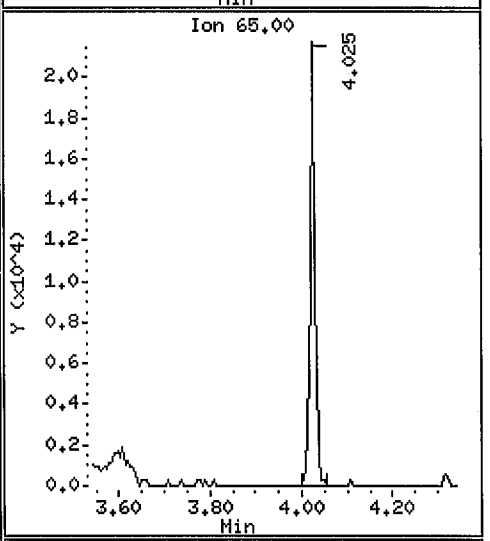


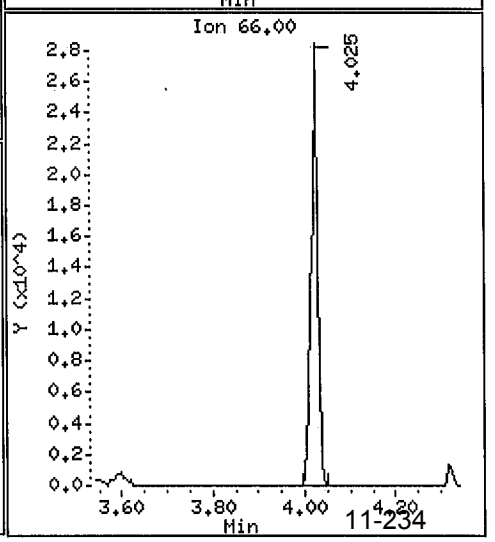












Data File: /var/chem/gcms/md.i/D072711.b/mk2h11aa.d

Date : 28-JUL-2011 00:58

Client ID: 11-234 M0010 RUN 4

Instrument: md.i

Sample Info: MK2H11AA,,0,,,

Volume Injected (uL): 1.0

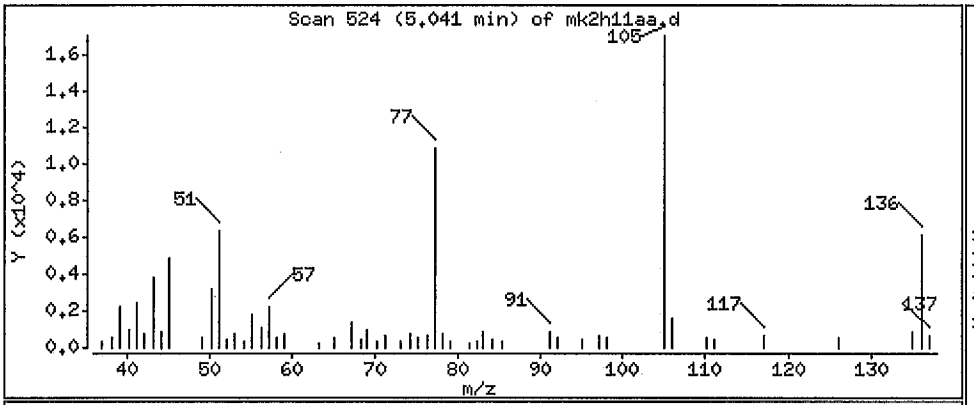
Operator: 60841

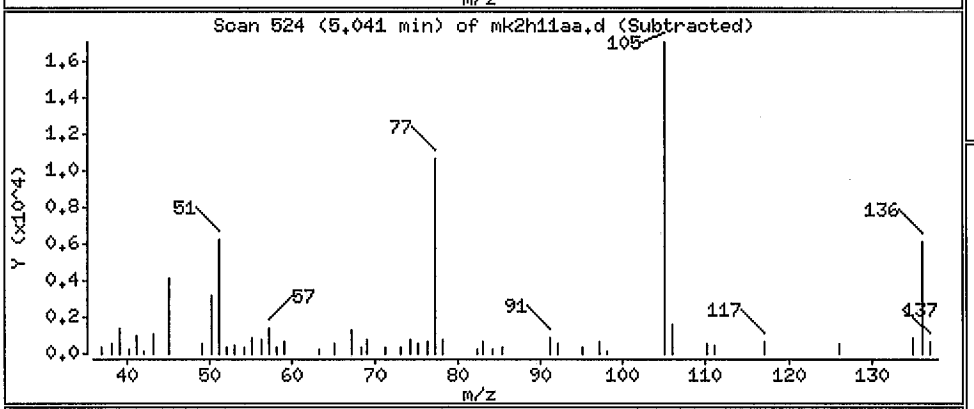
Column phase: Rxi-5 Sil MS

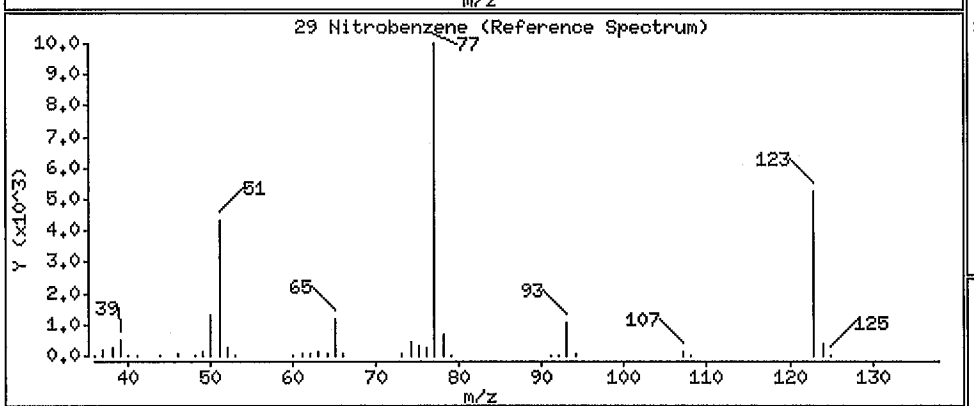
Column diameter: 0.25

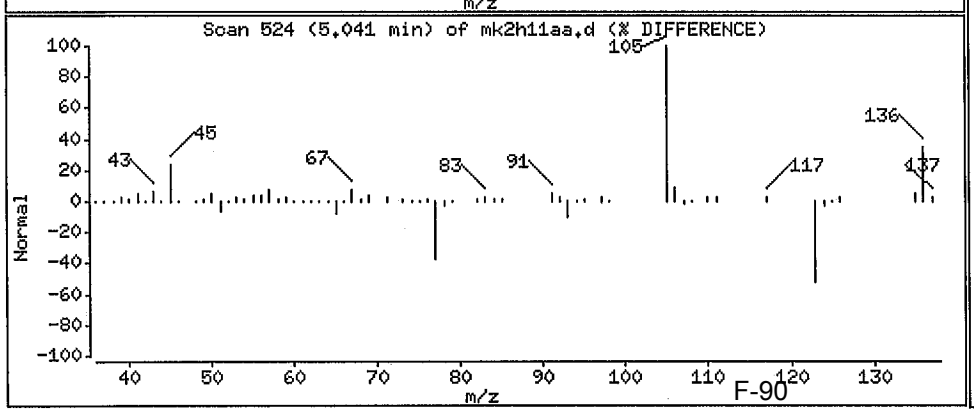
29 Nitrobenzene

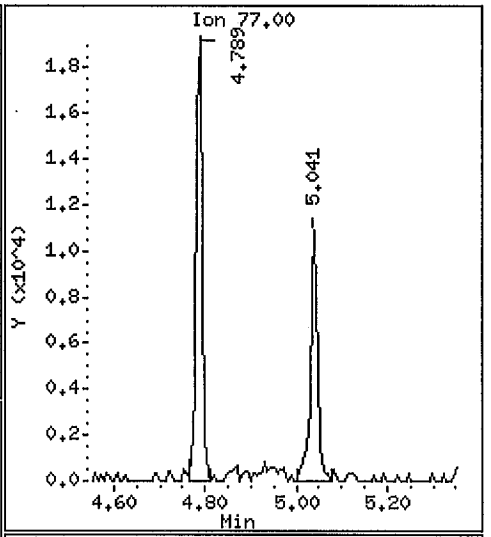
Concentration: 13.5 ug

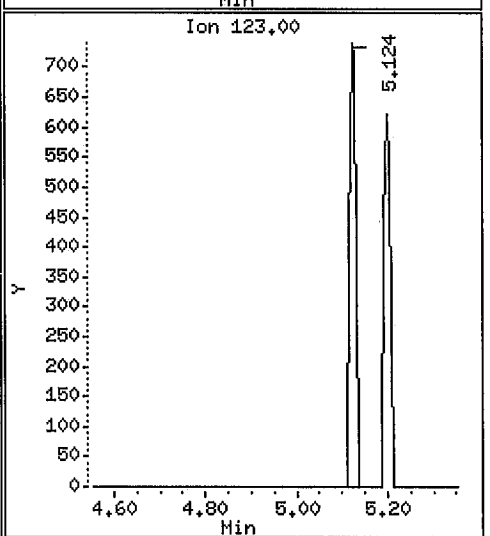


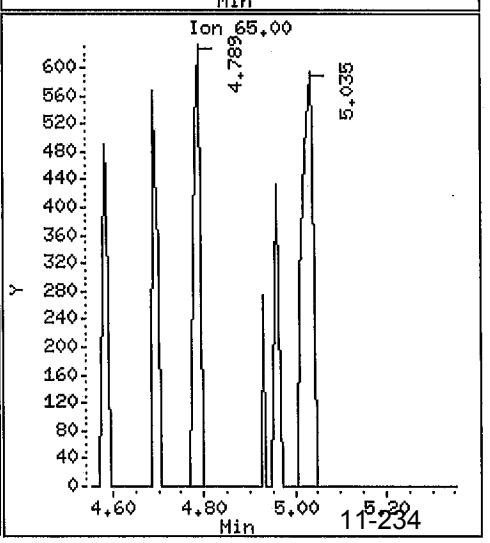












Data File: /var/chem/gcms/md.i/D072711.b/mk2h11aa.d

Date : 28-JUL-2011 00:58

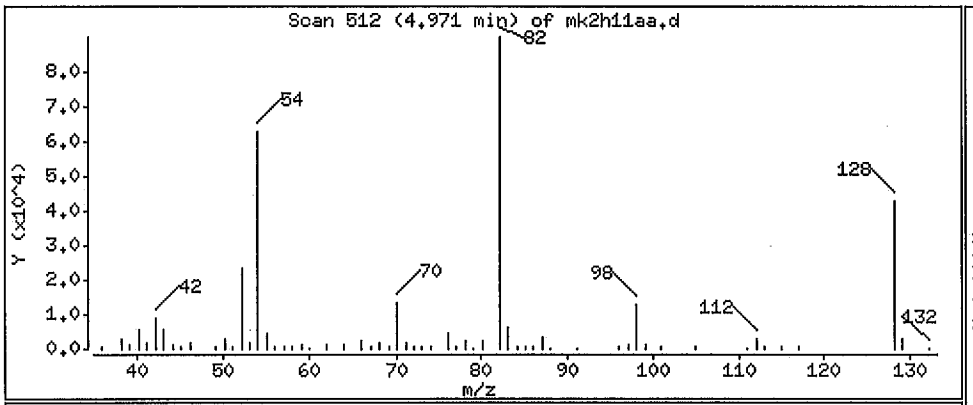
Client ID: 11-234 M0010 RUN 4 Instrument: md.i

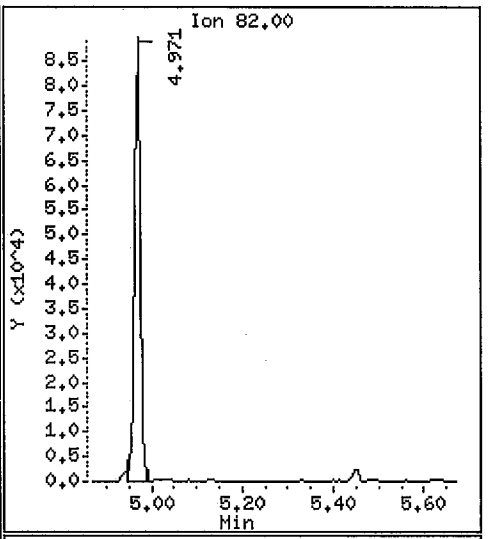
Sample Info: MK2H11AA,,0,,,

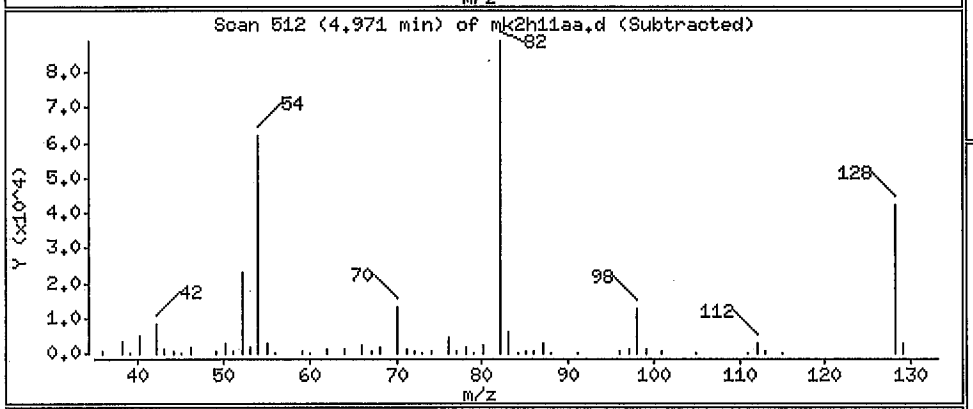
Volume Injected (uL): 1.0 Operator: 60841

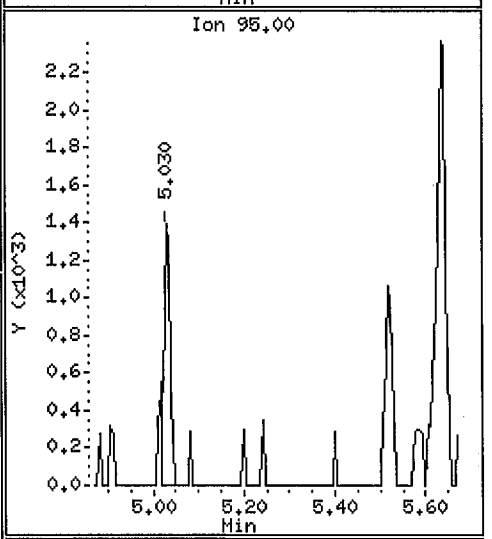
Column phase: Rxi-5 Sil MS Column diameter: 0.25

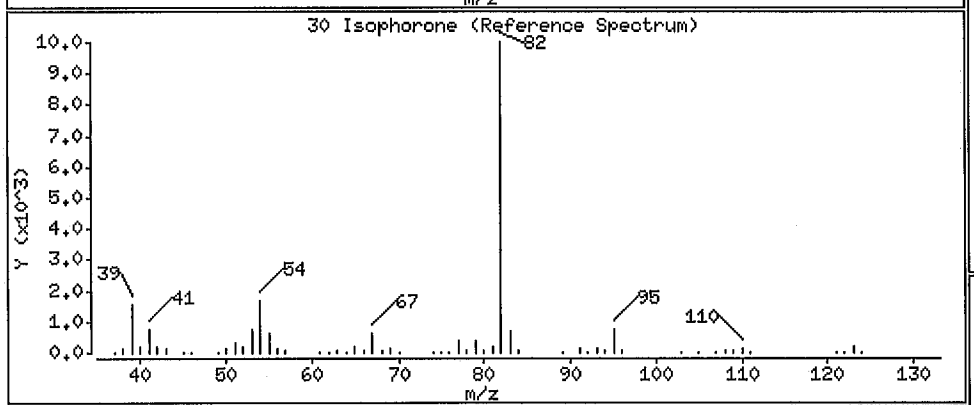
30 Isophorone Concentration: 55.2 ug

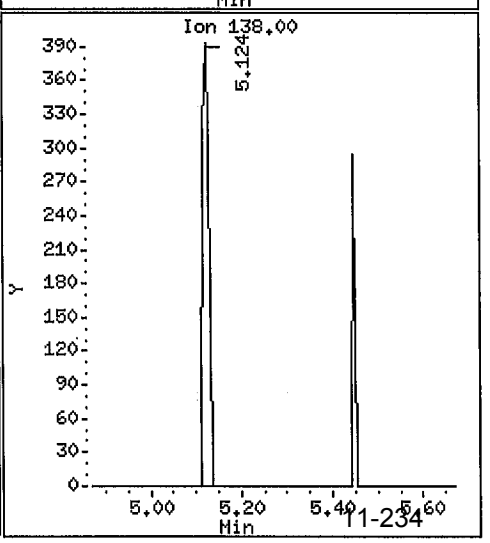


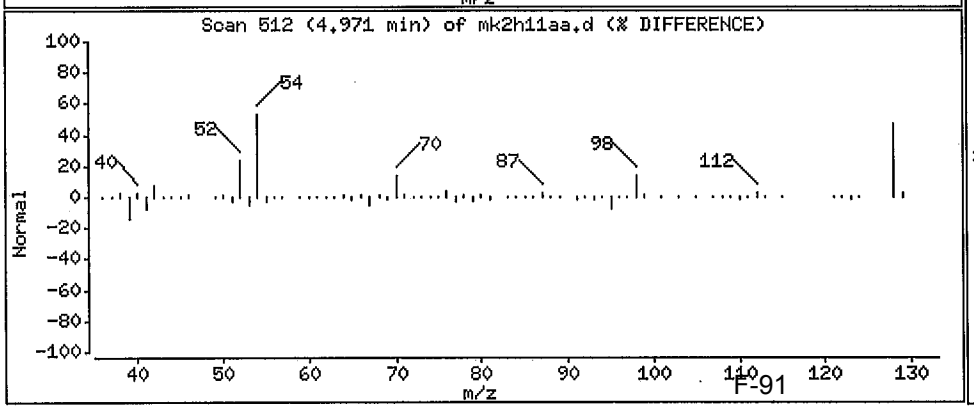












Data File: /var/chem/gcms/md.i/D072711.b/mk2h11aa.d

Date : 28-JUL-2011 00:58

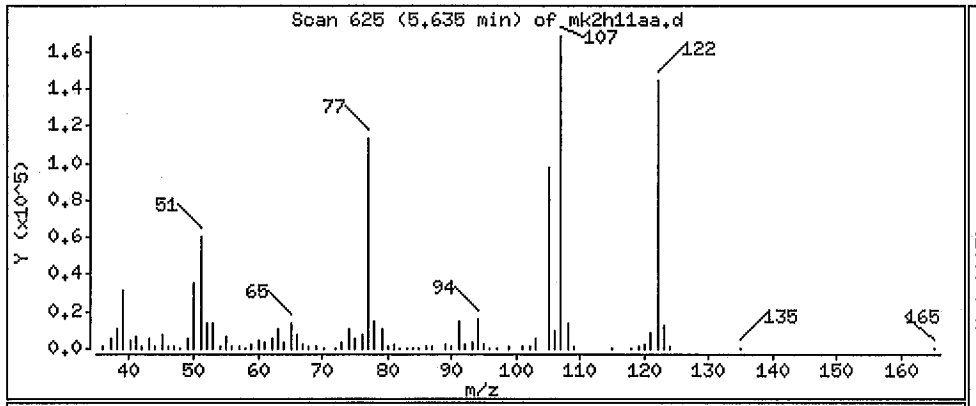
Client ID: 11-234 M0010 RUN 4 Instrument: md.i

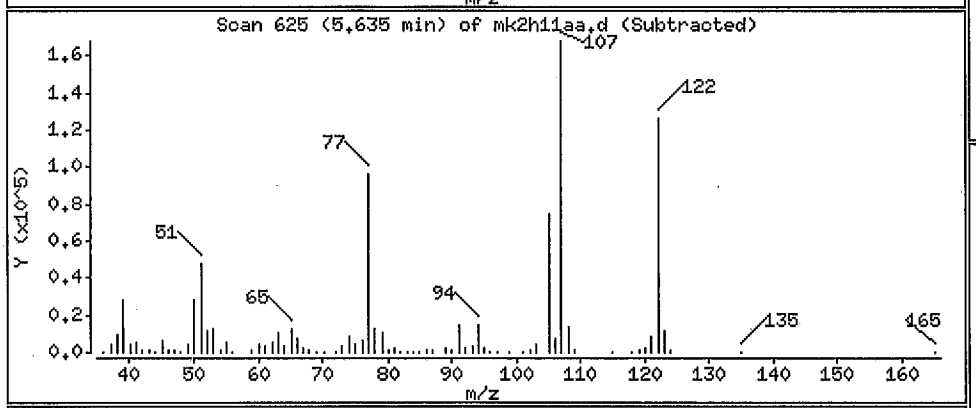
Sample Info: MK2H11AA,,0,,,

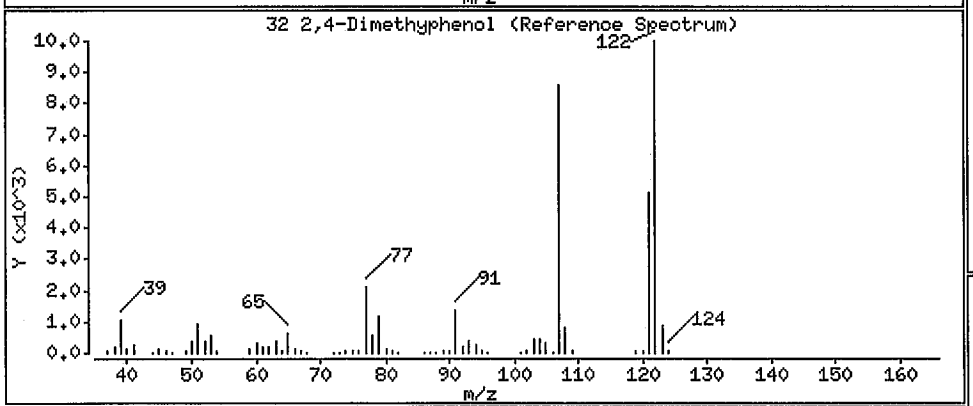
Volume Injected (uL): 1.0 Operator: 60841

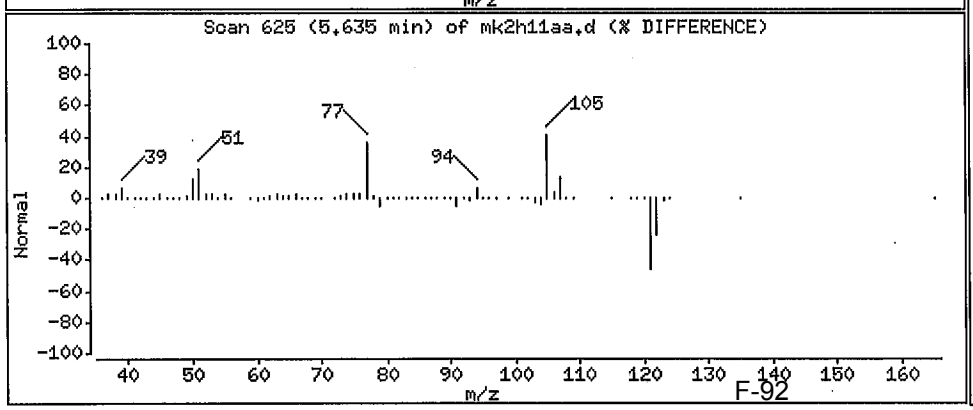
Column phase: Rxi-5 Sil MS Column diameter: 0.25

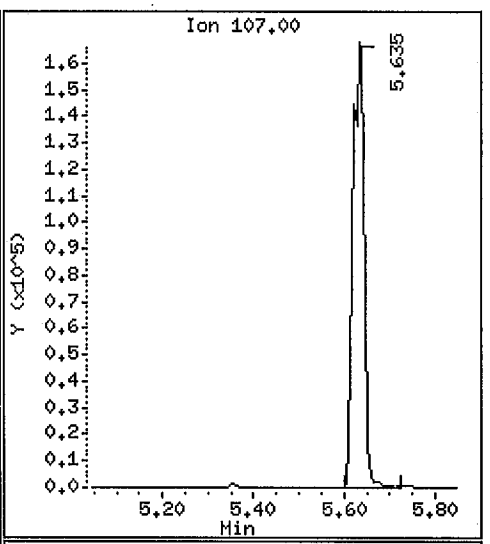
32 2,4-Dimethyphenol Concentration: 304 ug

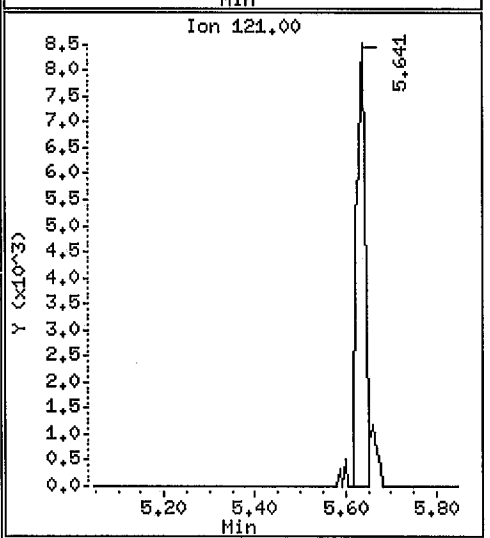


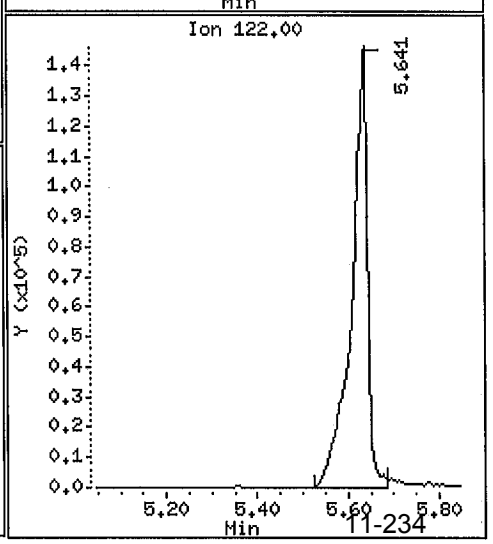












Data File: /var/chem/goms/md.i/D072711.b/mk2h11aa.d

Date : 28-JUL-2011 00:58

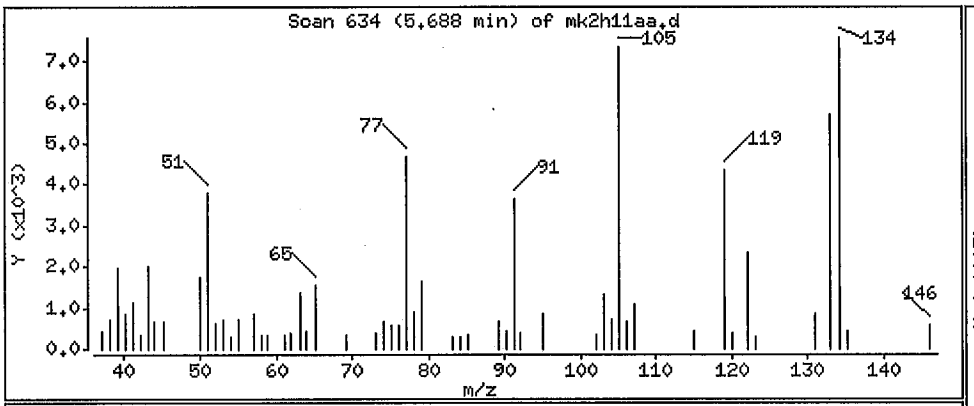
Client ID: 11-234 M0010 RUN 4 Instrument: md.i

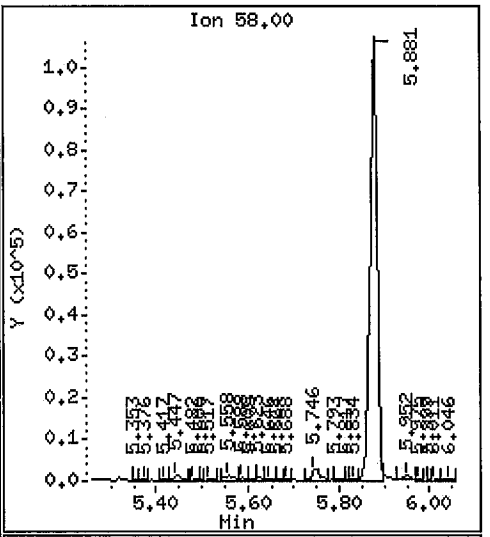
Sample Info: MK2H11AA,,0,,,

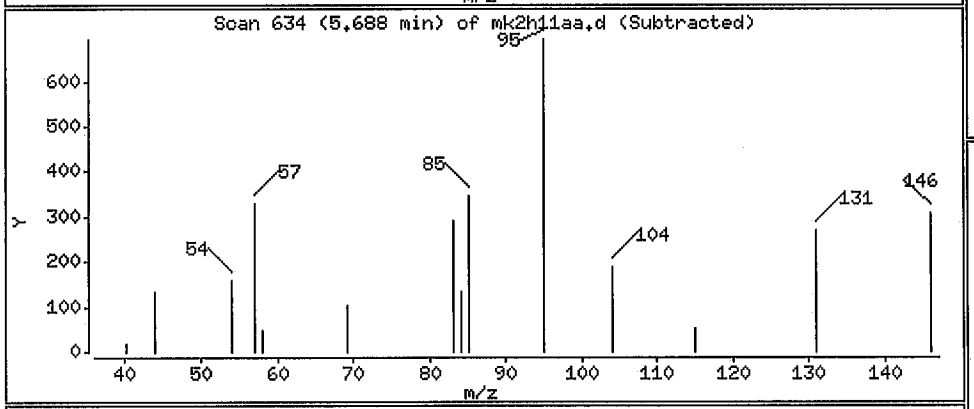
Volume Injected (uL): 1.0 Operator: 60841

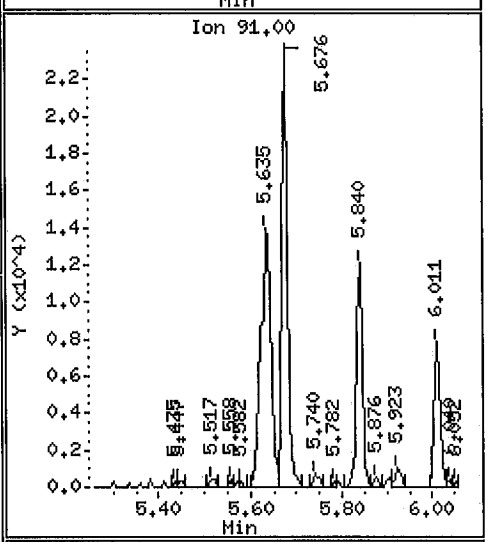
Column phase: Rxi-5 Sil MS Column diameter: 0.25

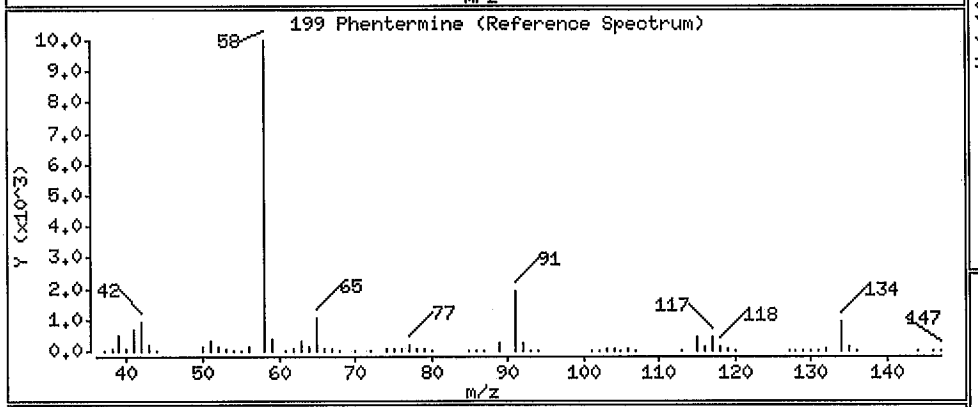
199 Phentermine Concentration: 23.7 ug

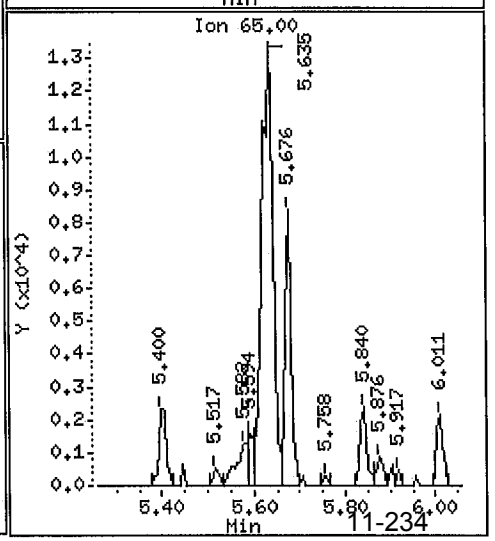


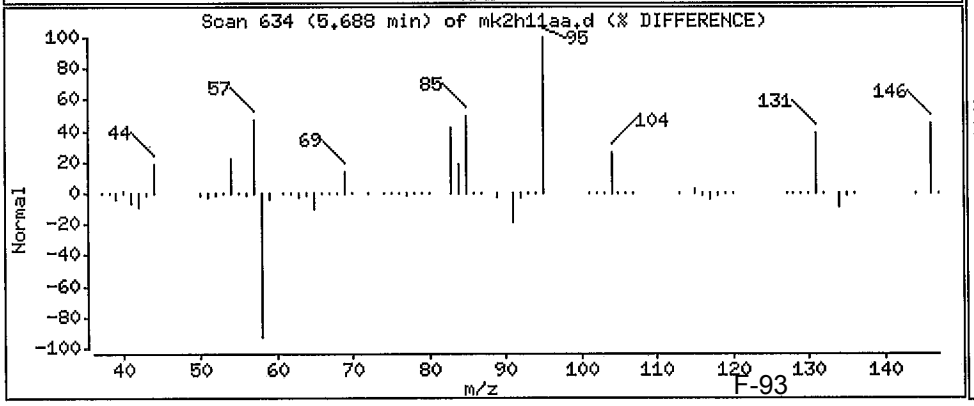












Data File: /var/chem/gcms/md.i/D072711.b/mk2h11aa.d

Date : 28-JUL-2011 00:58

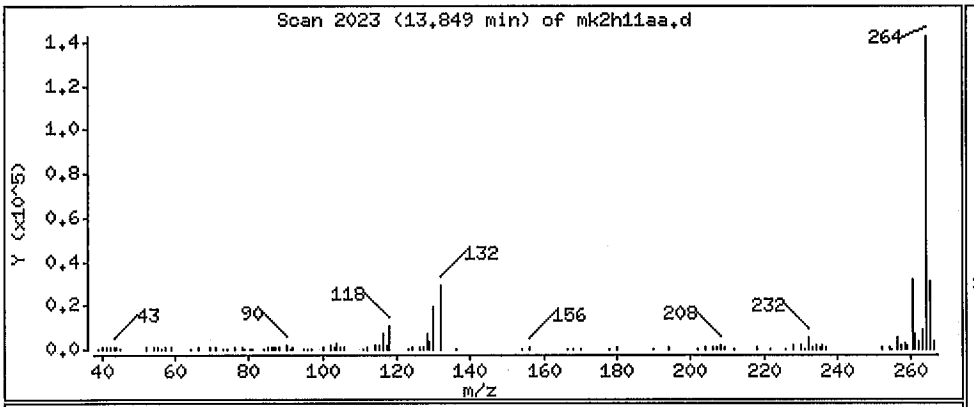
Client ID: 11-234 M0010 RUN 4 Instrument: md.i

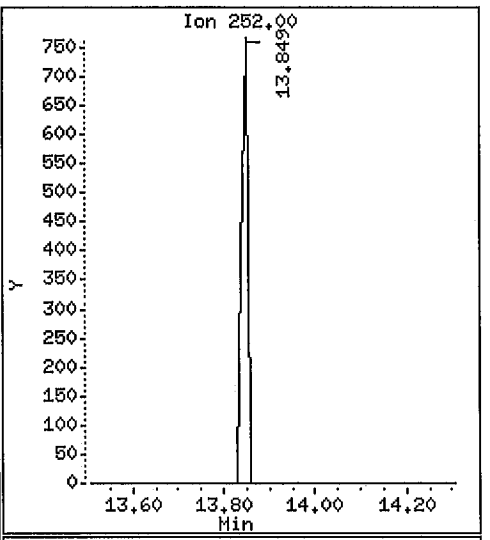
Sample Info: MK2H11AA,,0,,,

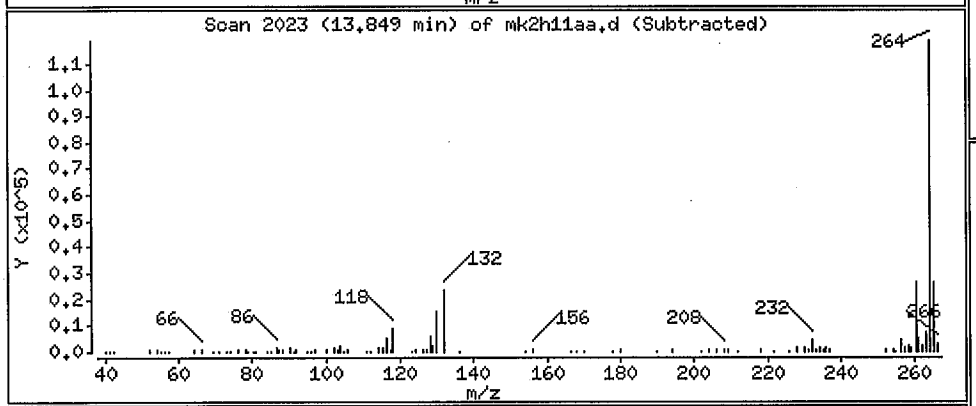
Volume Injected (uL): 1.0 Operator: 60841

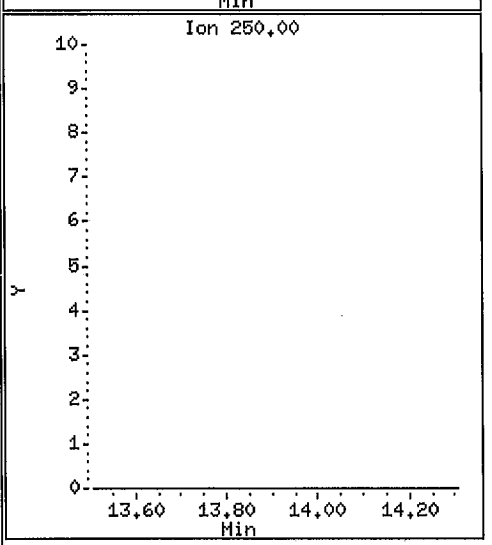
Column phase: Rxi-5 Sil MS Column diameter: 0.25

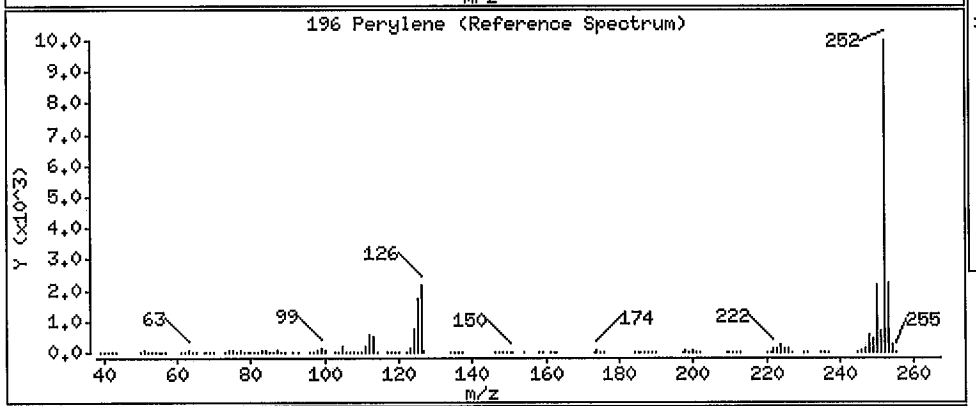
196 Perylene Concentration: 0.236 ug

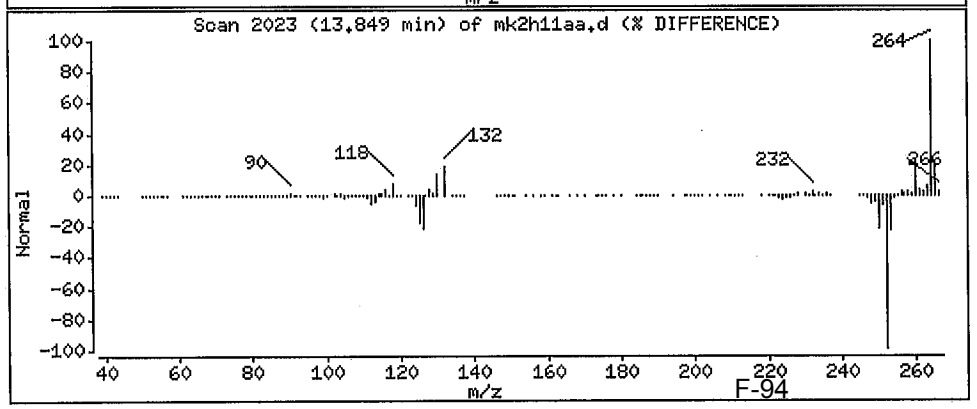












TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN BT COMBINED

GC/MS Semivolatiles

Lot-Sample #...: H1G200446-004 **Work Order #...:** MK2H21AA **Matrix.....:** AIR
Date Sampled...: 07/11/11 **Date Received..:** 07/20/11
Prep Date.....: 07/20/11 **Analysis Date..:** 07/28/11
Prep Batch #...: 1201076
Dilution Factor: 20 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	200	ug	54
Acenaphthylene	ND	200	ug	56
Aniline	ND	200	ug	170
Anthracene	ND	200	ug	64
Benz(a)anthracene	ND	200	ug	62
Benzidine	ND	2000	ug	1200
Benzo(b)fluoranthene	ND	200	ug	82
Benzo(k)fluoranthene	ND	200	ug	98
Benzo(ghi)perylene	ND	200	ug	64
Benzo(a)pyrene	ND	200	ug	76
Benzo(e)pyrene	ND	200	ug	17
Biphenyl	ND	200	ug	20
Chrysene	ND	200	ug	62
Cresols (total)	ND	200	ug	160
Dibenz(a,h)anthracene	ND	200	ug	60
Dibenzofuran	ND	200	ug	56
Dibenzo(a,e)pyrene	ND	200	ug	14
3,3'-Dimethoxybenzidine	ND	2000	ug	280
p-Dimethylaminoazobenzene	ND	200	ug	48
7,12-Dimethylbenz(a)-anthracene	ND	200	ug	70
3,3'-Dimethylbenzidine	ND	2000	ug	360
alpha,alpha-Dimethylphenethylamine	ND	500	ug	170
2,4-Dimethylphenol	ND	200	ug	130
Fluoranthene	ND	200	ug	72
Fluorene	ND	200	ug	60
Indeno(1,2,3-cd)pyrene	ND	200	ug	62
Isophorone	ND	200	ug	56
3-Methylcholanthrene	ND	200	ug	76
2-Methylnaphthalene	ND	200	ug	58
Naphthalene	ND	200	ug	62
Nitrobenzene	ND	200	ug	58
Perylene	ND	200	ug	15
Phenanthrene	ND	200	ug	60
Phenol	ND	200	ug	62
1,4-Phenylenediamine	ND	2000	ug	500
Pyrene	ND	200	ug	70
o-Toluidine	ND	200	ug	56

(Continued on next page)

TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN BT COMBINED

GC/MS Semivolatiles

Lot-Sample #...: H1G200446-004 **Work Order #...:** MK2H21AA **Matrix.....:** AIR

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	NC,DIL	(22 - 105)
Phenol-d5	NC,DIL	(48 - 118)
Nitrobenzene-d5	NC,DIL	(43 - 110)
2-Fluorobiphenyl	NC,DIL	(48 - 111)
2,4,6-Tribromophenol	NC,DIL	(34 - 125)

NOTE(S):

NC The recovery and/or RPD were not calculated.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Data File: /var/chem/gcms/md.i/D072711.b/mk2h21aa.d
Report Date: 28-Jul-2011 13:52

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072711.b/mk2h21aa.d
Lab Smp Id: MK2H21AA Client Smp ID: 11-234 M0010 RUN BT
Inj Date : 28-JUL-2011 01:27
Operator : 60841 Inst ID: md.i
Smp Info : MK2H21AA,,0,,,
Misc Info : D072711,8270a9,ICR.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /chem/gcms/md.i/D072711.b/8270a9.m
Meth Date : 27-Jul-2011 17:16 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 17:42 Cal File: a9dg267.d
Als bottle: 23
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICR.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * (Vt*Sf)/(Vo*Uf) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	10000.00000	Volume of final extract (uL)
Sf	2.00000	Prep split factor
Vo	1.00000	Volume of sample extracted (1=total samp
Uf	1000.00000	unit correction factor

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	CONCENTRATIONS FINAL (ug)
* 1 1,4-Dichlorobenzene-d4	152	4.319	4.301	(1.000)	59323	20.0000	20.0
* 2 Naphthalene-d8	136	5.905	5.887	(1.000)	235398	20.0000	20.0
* 3 Acenaphthene-d10	164	8.484	8.484	(1.000)	139040	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	269920	20.0000	20.0
* 5 Chrysene-d12	240	11.922	11.928	(1.000)	278801	20.0000	20.0
* 6 Perylene-d12	264	13.849	13.855	(1.000)	250935	20.0000	20.0
$ 7 2-Fluorophenol	112	3.290	3.126	(0.762)	21310	6.50662	130
$ 8 Phenol-d5	99	3.990	3.931	(0.924)	28073	7.14871	143
$ 9 Nitrobenzene-d5	82	4.959	4.930	(0.840)	14558	3.88118	77.6
$ 11 2,4,6-Tribromophenol	330	9.307	9.307	(0.941)	5552	5.13800	103
$ 10 2-Fluorobiphenyl	172	7.591	7.591	(0.895)	38513	4.42798	88.6
$ 179 13C6-naphthalene	134	5.905	5.917	(1.000)	22162	1.73252	~~34.6(R)~~ NA
199 Phentermine	58	5.740	5.658	(0.972)	849	5.97628	~~120~~

KRM 7/28/11

Data File: /var/chem/gcms/md.i/D072711.b/mk2h21aa.d
Report Date: 28-Jul-2011 13:52

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	FINAL (ug)
196 Perylene	252	13.843	13.908	(1.000)	669	0.05278	~~1.06~~

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

KRH 7/28/11

Data File: /var/chem/gcms/md.i/D072711.b/mk2h21aa.d
Report Date: 28-Jul-2011 13:52

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: md.i
Lab File ID: mk2h21aa.d
Lab Smp Id: MK2H21AA
Analysis Type: SV
Quant Type: ISTD
Operator: 60841
Method File: /chem/gcms/md.i/D072711.b/8270a9.m
Misc Info: D072711,8270a9,ICR.sub

Calibration Date: 27-JUL-2011
Calibration Time: 16:02
Client Smp ID: 11-234 M0010 RUN BT
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	44395	22198	88790	59323	33.63
2 Naphthalene-d8	182374	91187	364748	235398	29.07
3 Acenaphthene-d10	111075	55538	222150	139040	25.18
4 Phenanthrene-d10	217977	108988	435954	269920	23.83
5 Chrysene-d12	247793	123896	495586	278801	12.51
6 Perylene-d12	221015	110508	442030	250935	13.54

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	4.30	3.80	4.80	4.32	0.41
2 Naphthalene-d8	5.89	5.39	6.39	5.91	0.30
3 Acenaphthene-d10	8.48	7.98	8.98	8.48	0.00
4 Phenanthrene-d10	9.89	9.39	10.39	9.89	0.00
5 Chrysene-d12	11.93	11.43	12.43	11.92	-0.05
6 Perylene-d12	13.85	13.35	14.35	13.85	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

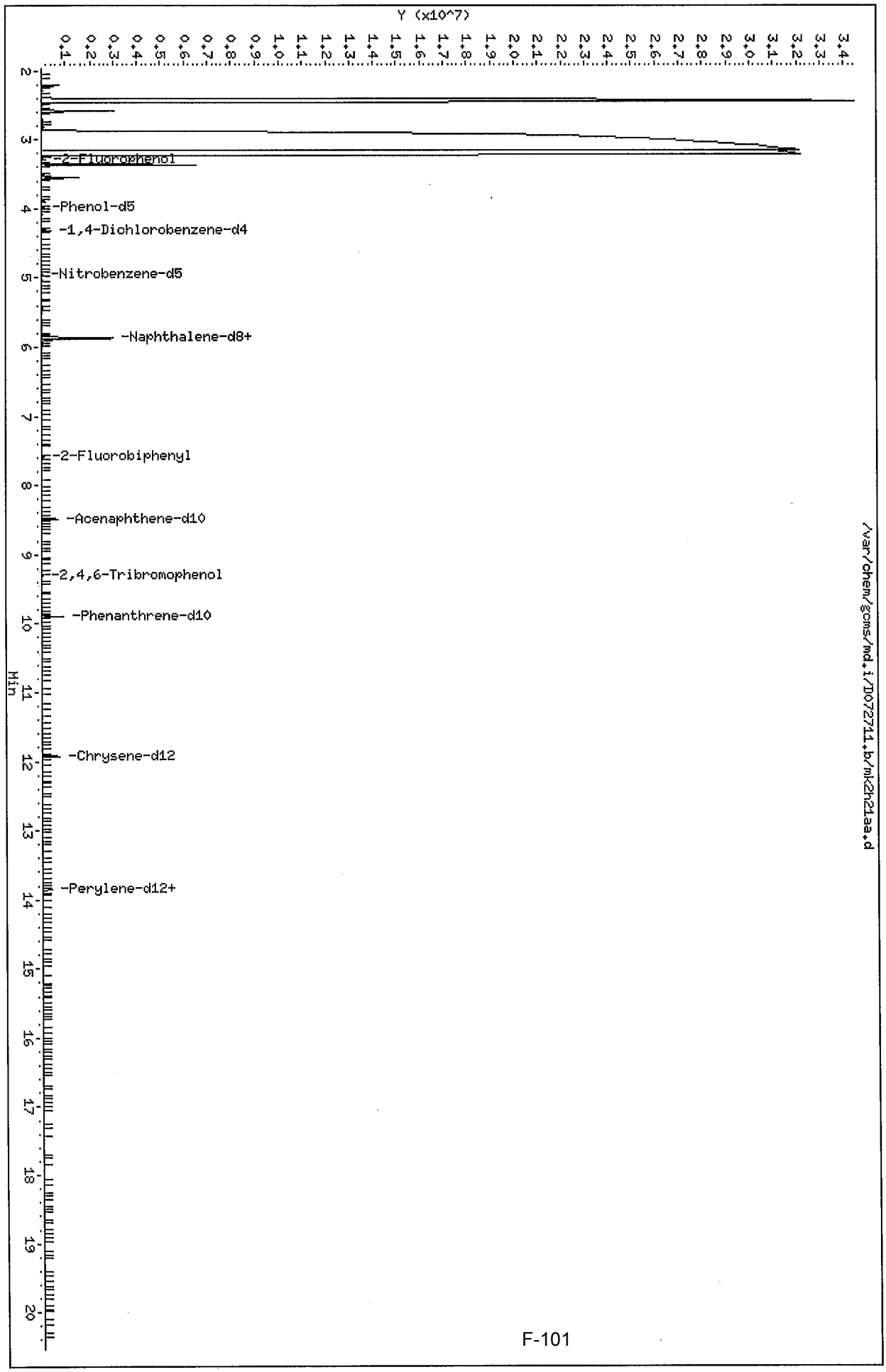
Data File: /var/chem/gcms/md.i/D072711.b/mk2h21aa.d
Report Date: 28-Jul-2011 13:52

TestAmerica Knoxville

RECOVERY REPORT

Client Name: TestAmerica Air Emis20-JUL-2011 00:00 Client SDG: H1G200446
Sample Matrix: GAS Fraction: SV
Lab Smp Id: MK2H21AA Client Smp ID: 11-234 M0010 RUN BT
Level: LOW Operator: 60841
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: ICR.sub
Method File: /chem/gcms/md.i/D072711.b/8270a9.m
Misc Info: D072711,8270a9,ICR.sub

SURROGATE COMPOUND	CONC ADDED ug	CONC RECOVERED ug	% RECOVERED	LIMITS
$ 7 2-Fluorophenol	150	130	86.75	19-100
$ 8 Phenol-d5	150	143	95.32	15-124
$ 9 Nitrobenzene-d5	100	77.6	77.62	42-104
$ 11 2,4,6-Tribromophen	150	103	68.51	33-130
$ 10 2-Fluorobiphenyl	100	88.6	88.56	51-103
$ 12 Terphenyl-d14	100	0.00	*	58-122
$ 179 13C6-naphthalene	200	34.6	17.33*	50-150


Data File: /var/chem/gcms/md.i/D072711.b/mk2h21aa.d
Date : 28-JUL-2011 01:27
Client ID: 11-234 M0010 RUN BT
Sample Info: MK2H21AA,,0,,,
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
/var/chem/gcms/md.i/D072711.b/mk2h21aa.d
Y (x10^7)
Min
-2-Fluorophenol
-Phenol-d5
-1,4-Dichlorobenzene-d4
-Nitrobenzene-d5
-Naphthalene-d8+
-2-Fluorobiphenyl
-Acenaphthene-d10
-2,4,6-Tribromophenol
-Phenanthrene-d10
-Chrysene-d12
-Perylene-d12+

Data File: /var/chem/gcms/md.i/D072711.b/mk2h21aa.d

Date : 28-JUL-2011 01:27

Client ID: 11-234 M0010 RUN BT

Instrument: md.i

Sample Info: MK2H21AA,,0,,,

Volume Injected (uL): 1.0

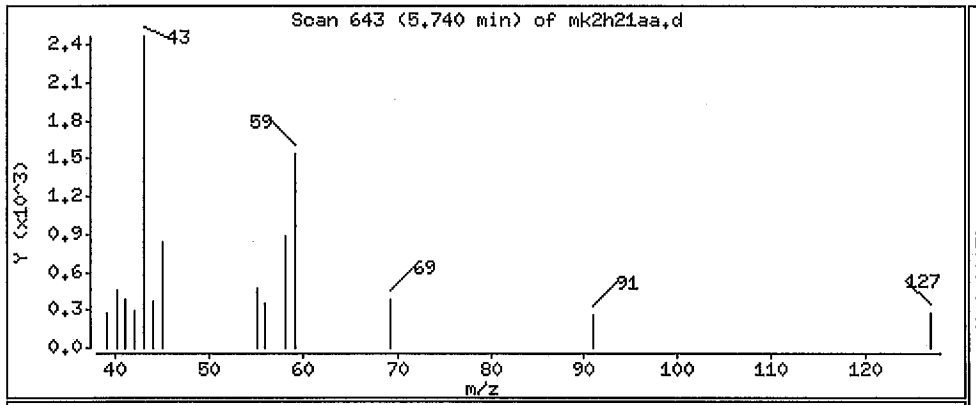
Operator: 60841

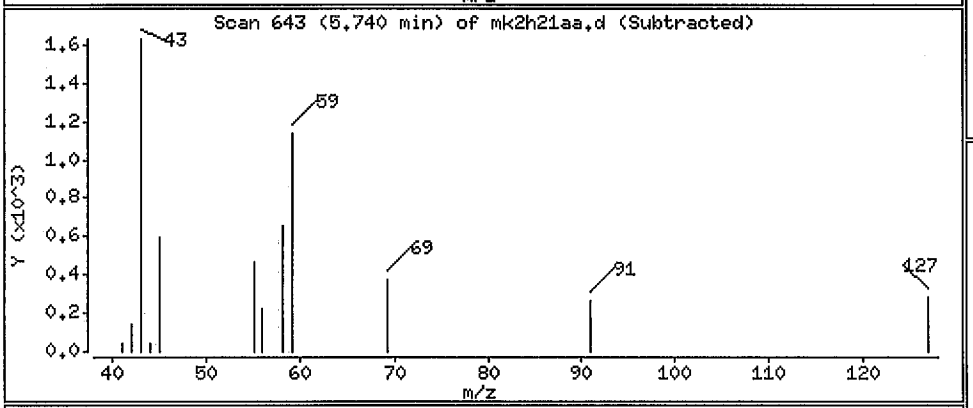
Column phase: Rxi-5 Sil MS

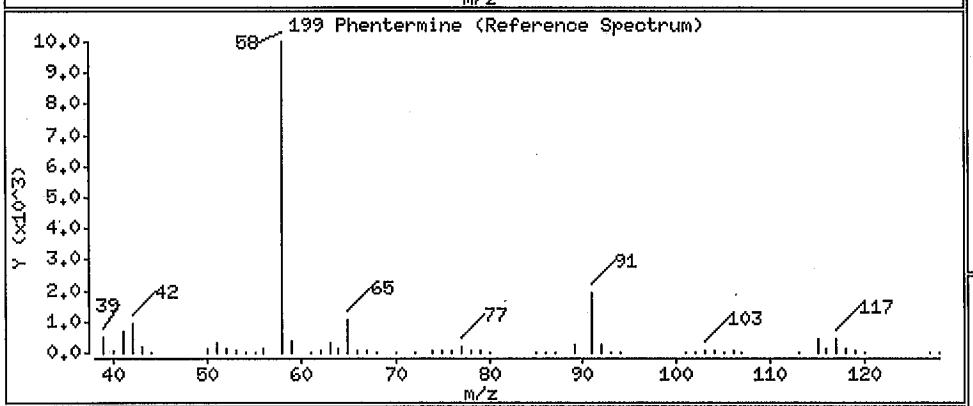
Column diameter: 0.25

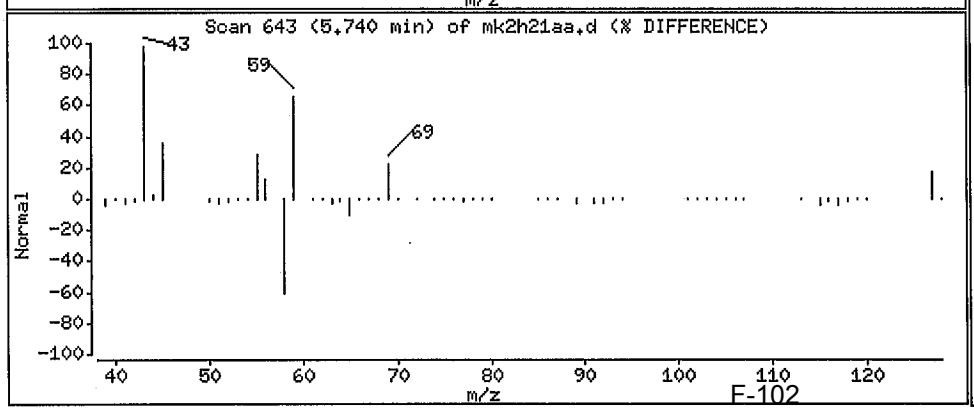
199 Phentermine

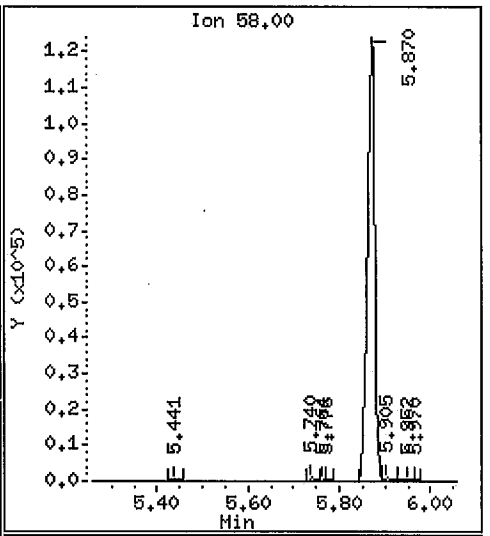
Concentration: 120 ug

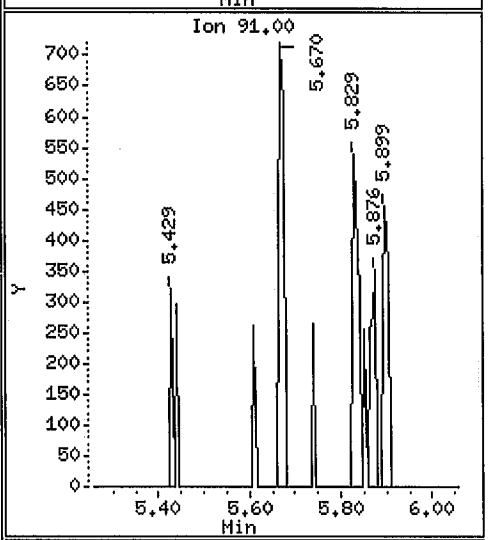


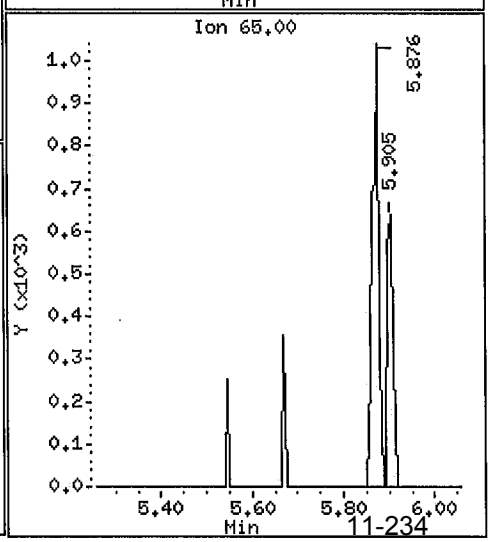












Data File: /var/chem/gcms/md.i/D072711.b/mk2h21aa.d

Date : 28-JUL-2011 01:27

Client ID: 11-234 M0010 RUN BT

Instrument: md.i

Sample Info: MK2H21AA,,0,,,

Volume Injected (uL): 1.0

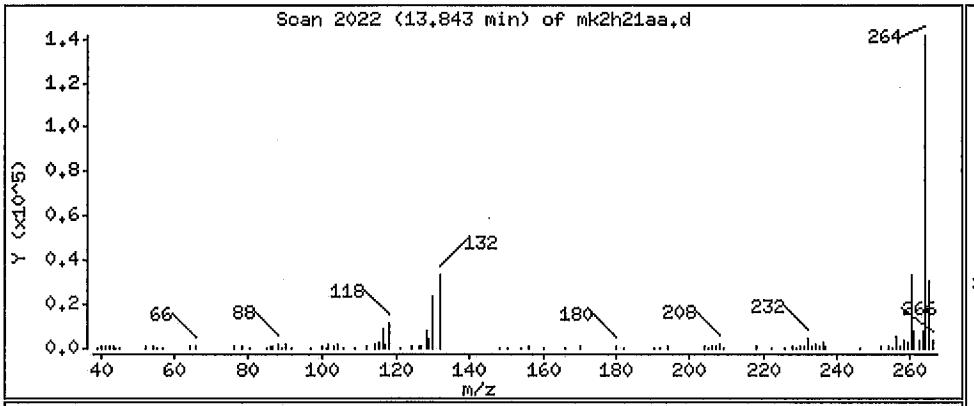
Operator: 60841

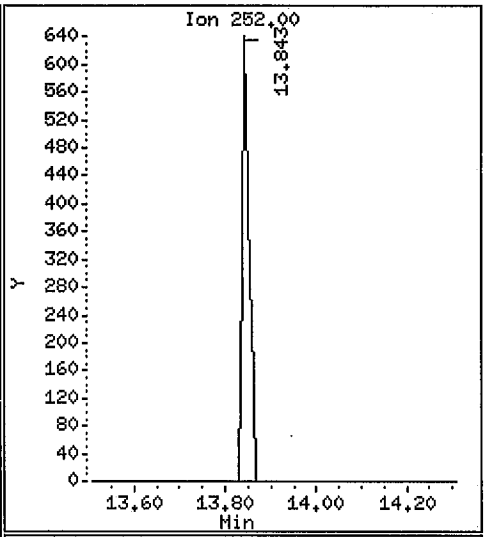
Column phase: Rxi-5 Sil MS

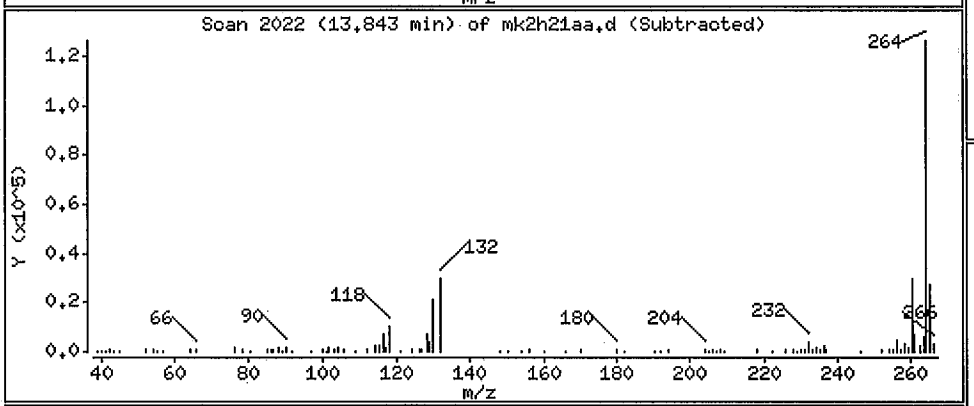
Column diameter: 0.25

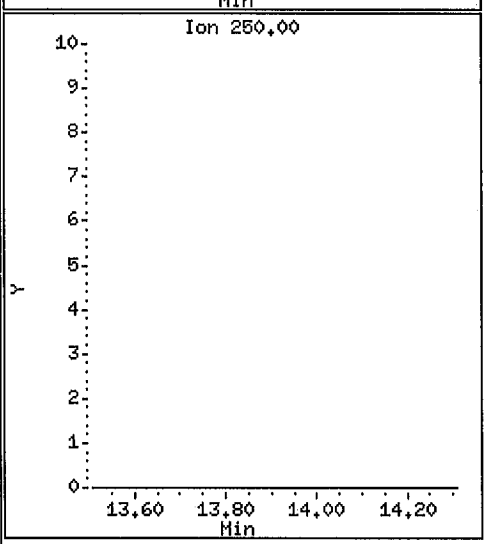
196 Perylene

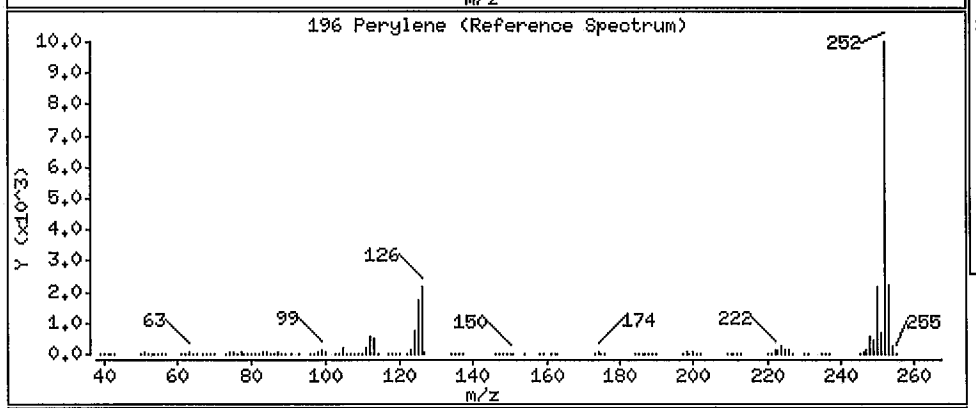
Concentration: 1.06 ug

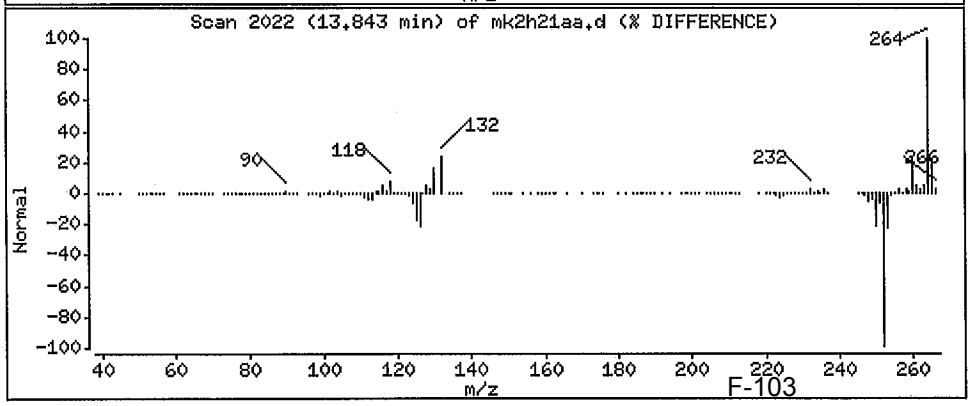












TestAmerica Air Emissions Dallas

Client Sample ID: A-6455,A-6456 MEDIA CHECK

GC/MS Semivolatiles

Lot-Sample #...: H1G200446-008 **Work Order #...:** MK2H61AA **Matrix.....:** AIR
Date Sampled...: 07/11/11 **Date Received..:** 07/20/11
Prep Date.....: 07/20/11 **Analysis Date..:** 07/28/11
Prep Batch #...: 1201076
Dilution Factor: 2 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ug	5.4
Acenaphthylene	ND	20	ug	5.6
Aniline	ND	20	ug	17
Anthracene	ND	20	ug	6.4
Benz(a)anthracene	ND	20	ug	6.2
Benzidine	ND	200	ug	120
Benzo(b)fluoranthene	ND	20	ug	8.2
Benzo(k)fluoranthene	ND	20	ug	9.8
Benzo(ghi)perylene	ND	20	ug	6.4
Benzo(a)pyrene	ND	20	ug	7.6
Benzo(e)pyrene	ND	20	ug	1.7
Biphenyl	ND	20	ug	2.0
Chrysene	ND	20	ug	6.2
Cresols (total)	ND	20	ug	16
Dibenz(a,h)anthracene	ND	20	ug	6.0
Dibenzofuran	ND	20	ug	5.6
Dibenzo(a,e)pyrene	ND	20	ug	1.4
3,3'-Dimethoxybenzidine	ND	200	ug	28
p-Dimethylaminoazobenzene	ND	20	ug	4.8
7,12-Dimethylbenz(a)-anthracene	ND	20	ug	7.0
3,3'-Dimethylbenzidine	ND	200	ug	36
alpha,alpha-Dimethylphenethylamine	ND	50	ug	17
2,4-Dimethylphenol	ND	20	ug	13
Fluoranthene	ND	20	ug	7.2
Fluorene	ND	20	ug	6.0
Indeno(1,2,3-cd)pyrene	ND	20	ug	6.2
Isophorone	ND	20	ug	5.6
3-Methylcholanthrene	ND	20	ug	7.6
2-Methylnaphthalene	ND	20	ug	5.8
Naphthalene	ND	20	ug	6.2
Nitrobenzene	ND	20	ug	5.8
Perylene	ND	20	ug	1.5
Phenanthrene	ND	20	ug	6.0
Phenol	ND	20	ug	6.2
1,4-Phenylenediamine	ND	200	ug	50
Pyrene	ND	20	ug	7.0
o-Toluidine	ND	20	ug	5.6

(Continued on next page)

TestAmerica Air Emissions Dallas

Client Sample ID: A-6455,A-6456 MEDIA CHECK

GC/MS Semivolatiles

Lot-Sample #...: H1G200446-008 **Work Order #...:** MK2H61AA **Matrix.....:** AIR

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	83	(22 - 105)
Phenol-d5	90	(48 - 118)
Nitrobenzene-d5	78	(43 - 110)
2-Fluorobiphenyl	82	(48 - 111)
2,4,6-Tribromophenol	87	(34 - 125)

Data File: /var/chem/gcms/md.i/D072711.b/mk2h61aa.d
Report Date: 28-Jul-2011 13:54

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072711.b/mk2h61aa.d
Lab Smp Id: MK2H61AA Client Smp ID: A-6455,A-6456 MEDIA
Inj Date : 28-JUL-2011 01:56
Operator : 60841 Inst ID: md.i
Smp Info : MK2H61AA,,0,,,
Misc Info : D072711,8270a9,ICR.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /chem/gcms/md.i/D072711.b/8270a9.m
Meth Date : 27-Jul-2011 17:16 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 17:42 Cal File: a9dg267.d
Als bottle: 24
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICR.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * (Vt*Sf)/(Vo*Uf) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)
Sf	2.00000	Prep split factor
Vo	1.00000	Volume of sample extracted (1=total samp
Uf	1000.00000	unit correction factor

Cpnd Variable Local Compound Variable

08/4/11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	CONCENTRATIONS FINAL (ug)
* 1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	51914	20.0000	20.0
* 2 Naphthalene-d8	136	5.887	5.887	(1.000)	206020	20.0000	20.0
* 3 Acenaphthene-d10	164	8.484	8.484	(1.000)	122767	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	246995	20.0000	20.0
* 5 Chrysene-d12	240	11.922	11.928	(1.000)	277337	20.0000	20.0
* 6 Perylene-d12	264	13.849	13.855	(1.000)	263012	20.0000	20.0
$ 7 2-Fluorophenol	112	3.132	3.126	(0.728)	177045	61.7717	124
$ 8 Phenol-d5	99	3.931	3.931	(0.914)	232503	67.6564	135
$ 9 Nitrobenzene-d5	82	4.924	4.930	(0.836)	128609	39.1741	78.3
$ 11 2,4,6-Tribromophenol	330	9.307	9.307	(0.941)	64936	65.6696	131
$ 10 2-Fluorobiphenyl	172	7.591	7.591	(0.895)	315533	41.0861	82.2
$ 179 13C6-naphthalene	134	5.887	5.917	(1.000)	18769	1.67646	~~3.35~~ (R) NA
199 Phentermine	58	5.887	5.658	(1.000)	218	5.92050	~~11.8~~

11-234
KRM 7/28/11

Data File: /var/chem/gcms/md.i/D072711.b/mk2h61aa.d
Report Date: 28-Jul-2011 13:54

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	FINAL (ug)
56 Fluorene	166	9.307	9.078	(1.097)	4177	0.52254	~~1.04~~
196 Perylene	252	13.843	13.908	(1.000)	1022	0.07693	~~0.154~~

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

KRM 7/28/11

Data File: /var/chem/gcms/md.i/D072711.b/mk2h61aa.d
Report Date: 28-Jul-2011 13:54

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: md.i
Lab File ID: mk2h61aa.d
Lab Smp Id: MK2H61AA
Analysis Type: SV
Quant Type: ISTD
Operator: 60841
Method File: /chem/gcms/md.i/D072711.b/8270a9.m
Misc Info: D072711,8270a9,ICR.sub

Calibration Date: 27-JUL-2011
Calibration Time: 16:02
Client Smp ID: A-6455,A-6456 MEDIA
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	44395	22198	88790	51914	16.94
2 Naphthalene-d8	182374	91187	364748	206020	12.97
3 Acenaphthene-d10	111075	55538	222150	122767	10.53
4 Phenanthrene-d10	217977	108988	435954	246995	13.31
5 Chrysene-d12	247793	123896	495586	277337	11.92
6 Perylene-d12	221015	110508	442030	263012	19.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	4.30	3.80	4.80	4.30	0.00
2 Naphthalene-d8	5.89	5.39	6.39	5.89	0.00
3 Acenaphthene-d10	8.48	7.98	8.98	8.48	0.00
4 Phenanthrene-d10	9.89	9.39	10.39	9.89	0.00
5 Chrysene-d12	11.93	11.43	12.43	11.92	-0.05
6 Perylene-d12	13.85	13.35	14.35	13.85	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

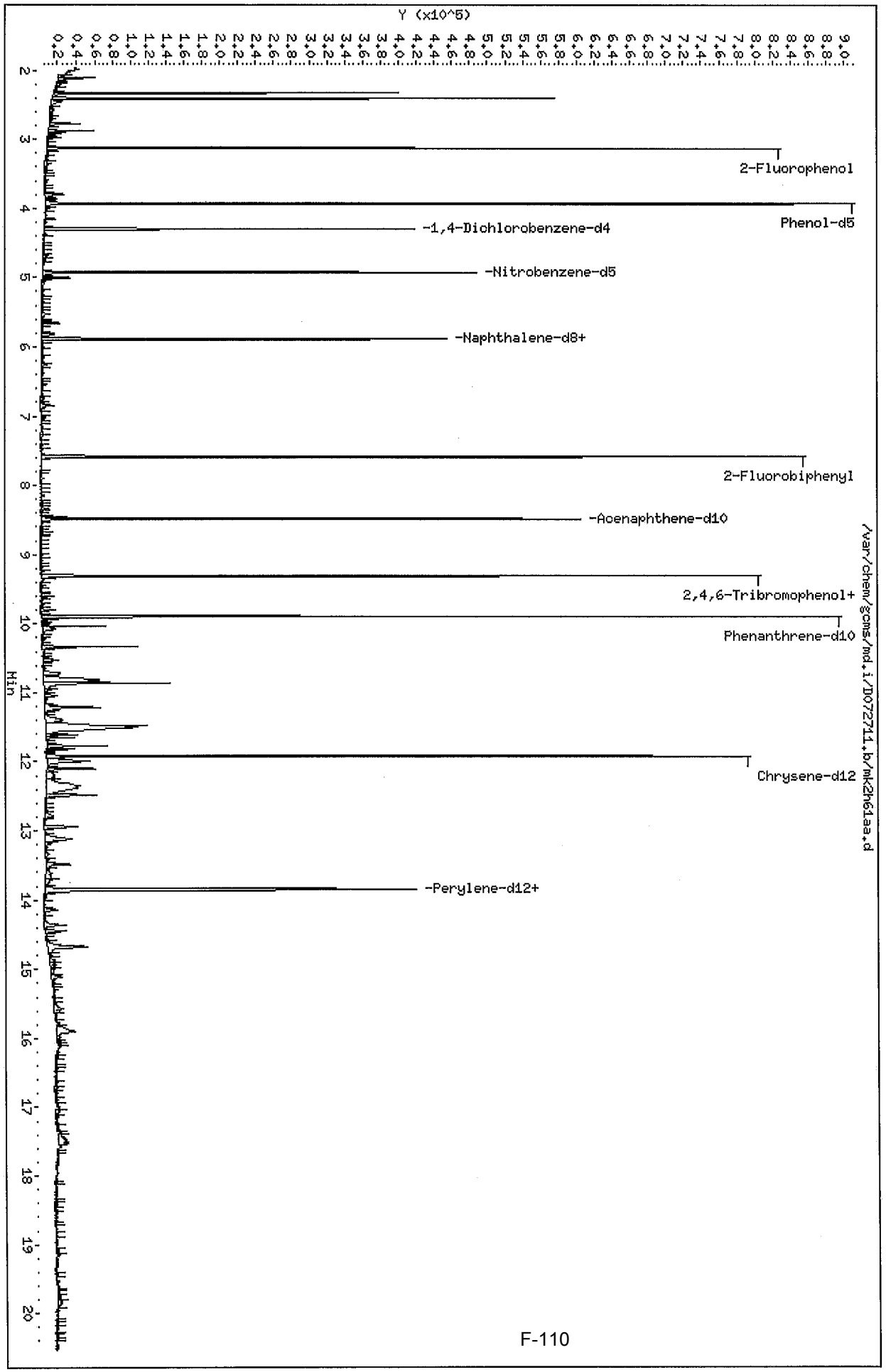
Data File: /var/chem/gcms/md.i/D072711.b/mk2h61aa.d
Report Date: 28-Jul-2011 13:54

TestAmerica Knoxville

RECOVERY REPORT

Client Name: TestAmerica Air Emis20-JUL-2011 00:00 Client SDG: H1G200446
Sample Matrix: GAS Fraction: SV
Lab Smp Id: MK2H61AA Client Smp ID: A-6455,A-6456 MEDIA
Level: LOW Operator: 60841
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: allspike.spk Quant Type: ISTD
Sublist File: ICR.sub
Method File: /chem/gcms/md.i/D072711.b/8270a9.m
Misc Info: D072711,8270a9,ICR.sub

SURROGATE COMPOUND	CONC ADDED ug	CONC RECOVERED ug	% RECOVERED	LIMITS
$ 7 2-Fluorophenol	150	124	82.36	19-100
$ 8 Phenol-d5	150	135	90.21	15-124
$ 9 Nitrobenzene-d5	100	78.3	78.35	42-104
$ 11 2,4,6-Tribromophen	150	131	87.56	33-130
$ 10 2-Fluorobiphenyl	100	82.2	82.17	51-103
$ 12 Terphenyl-d14	100	0.00	*	58-122
$ 179 13C6-naphthalene	200	3.35	1.68*	50-150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Date : 28-JUL-2011 01:56
Client ID: A-6455,A-6456 MEDIA
Sample Info: MK2H61AA,0,,,
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^5)
2-Fluorophenol
Phenol-d5
-1,4-Dichlorobenzene-d4
-Nitrobenzene-d5
-Naphthalene-d8+
2-Fluorobiphenyl
-Acenaphthene-d10
2,4,6-Tribromophenol+
Phenanthrene-d10
Chrysene-d12
-Perylene-d12+
/var/chem/gcms/md.i/D072711.b/mk2h61aa.d
Min

Data File: /var/chem/gcms/md.i/D072711.b/mk2h61aa.d

Date : 28-JUL-2011 01:56

Client ID: A-6455,A-6456 MEDIA

Instrument: md.i

Sample Info: MK2H61AA,,0,,,

Volume Injected (uL): 1.0

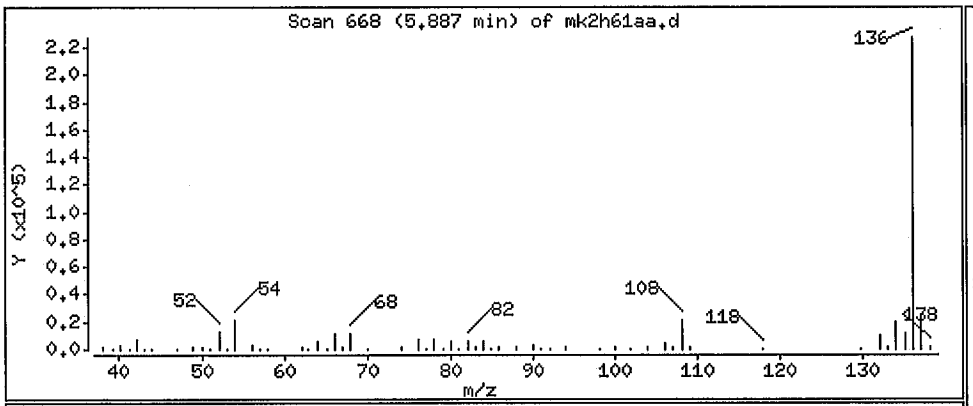
Operator: 60841

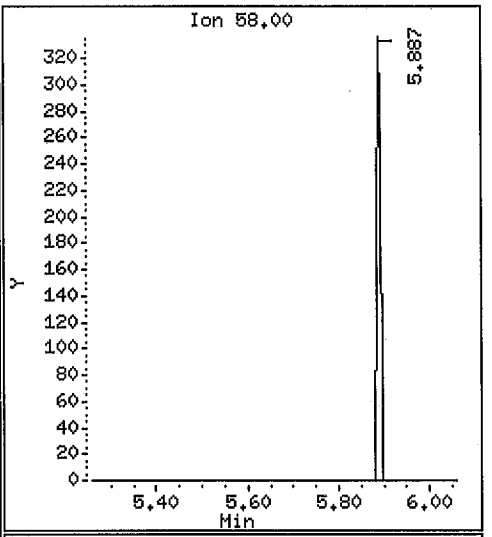
Column phase: Rxi-5 Sil MS

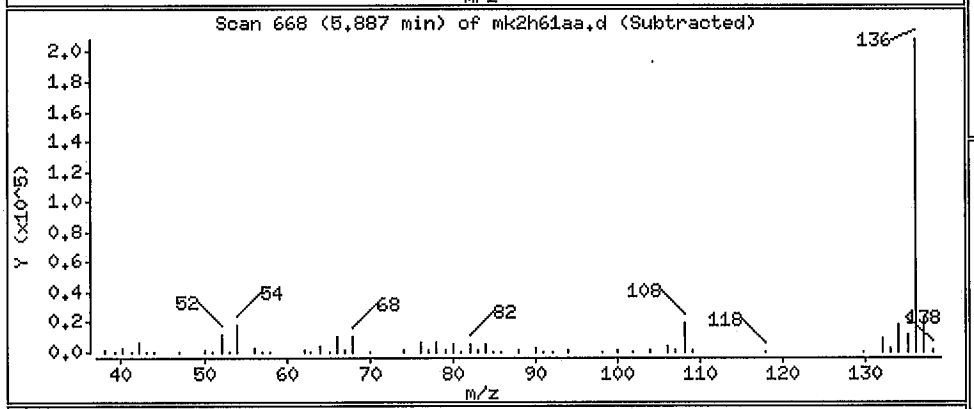
Column diameter: 0.25

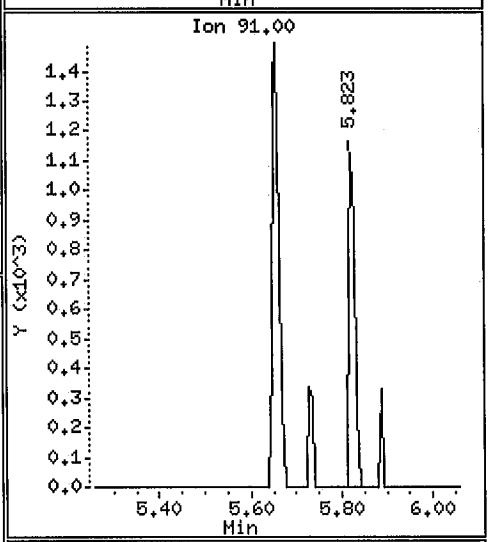
199 Phentermine

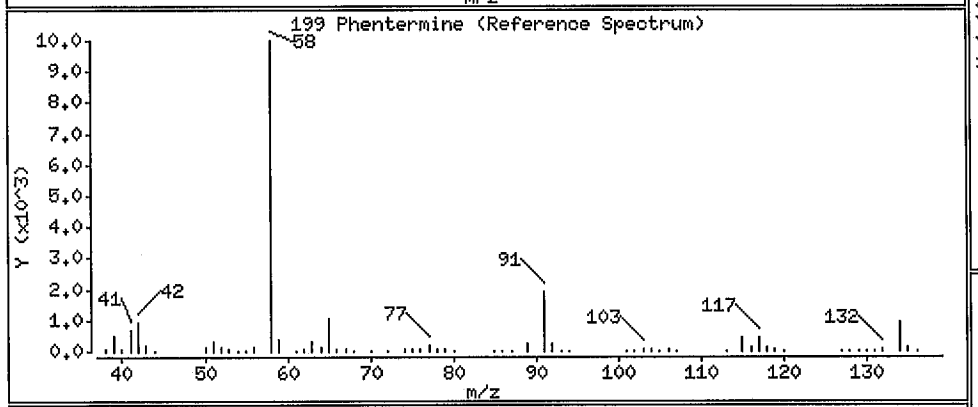
Concentration: 11.8 ug

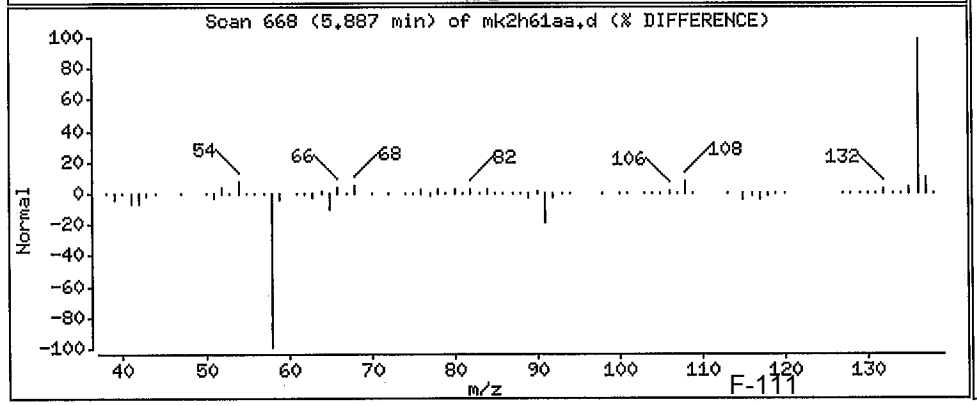


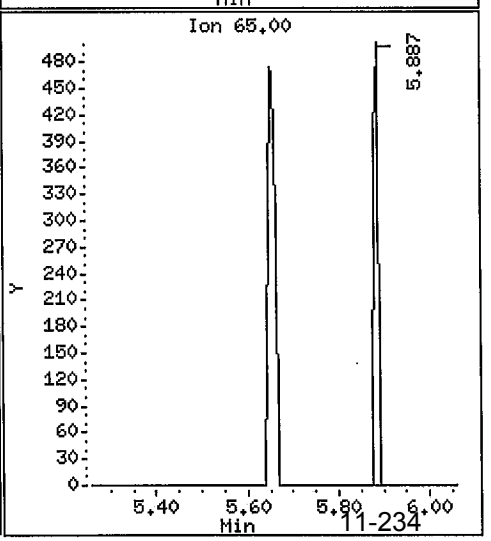












Data File: /var/chem/gcms/md.i/D072711.b/mk2h61aa.d

Date : 28-JUL-2011 01:56

Client ID: A-6455,A-6456 MEDIA

Instrument: md.i

Sample Info: MK2H61AA,,0,,,

Volume Injected (uL): 1.0

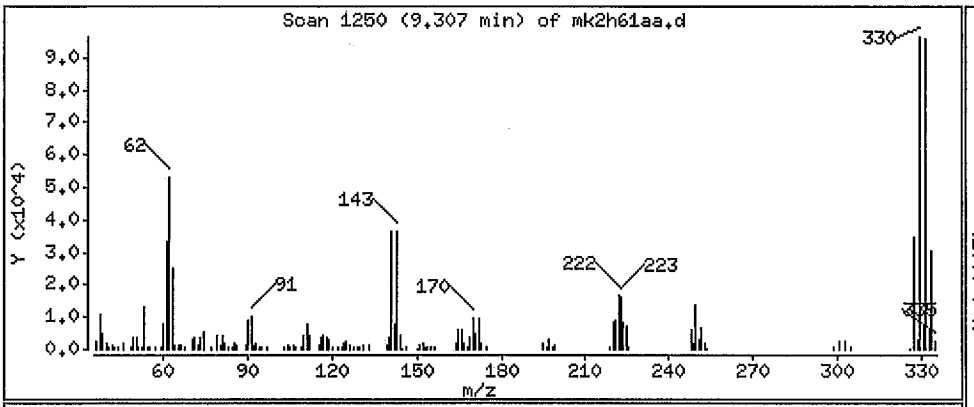
Operator: 60841

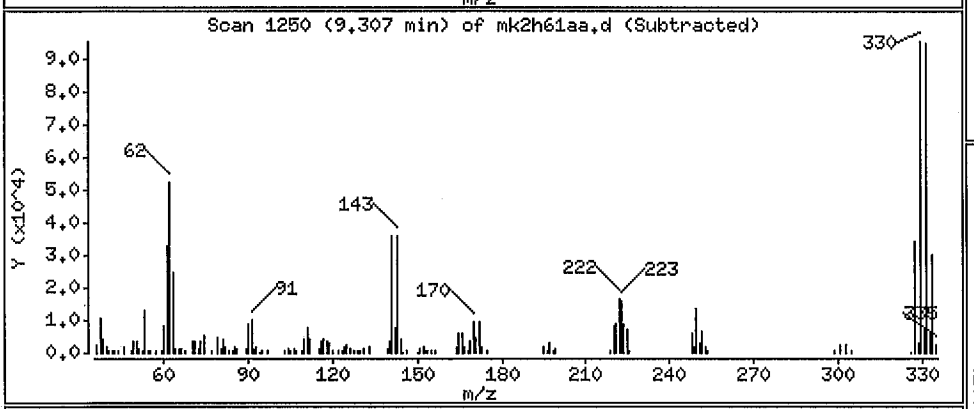
Column phase: Rxi-5 Sil MS

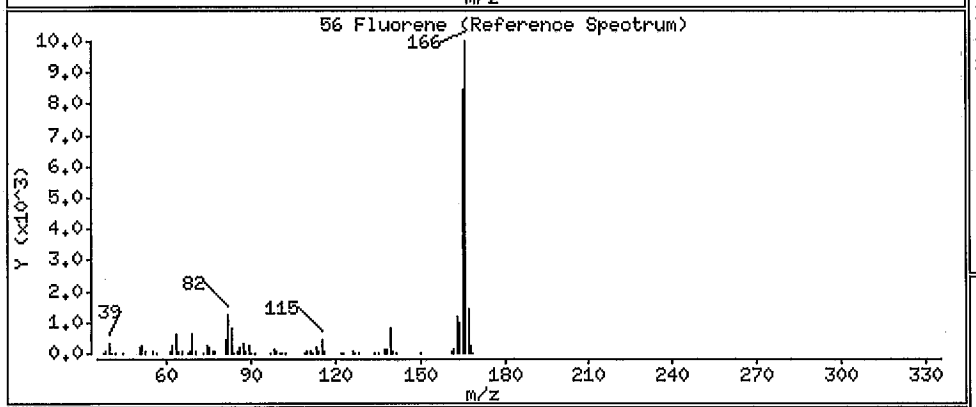
Column diameter: 0.25

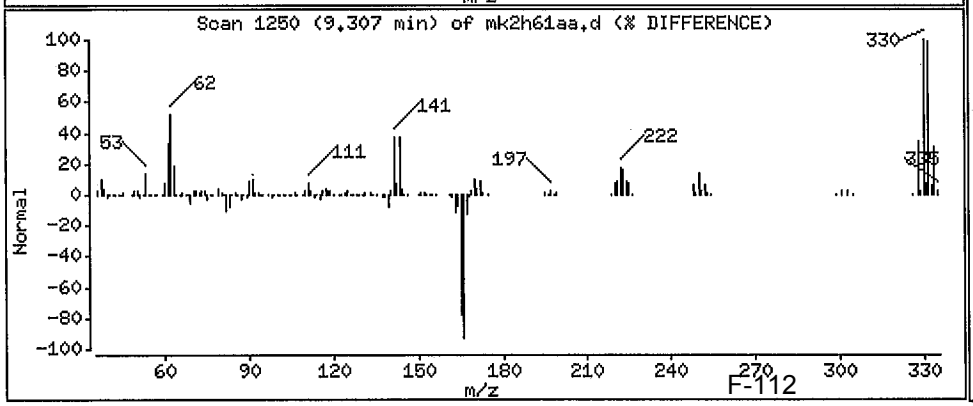
56 Fluorene

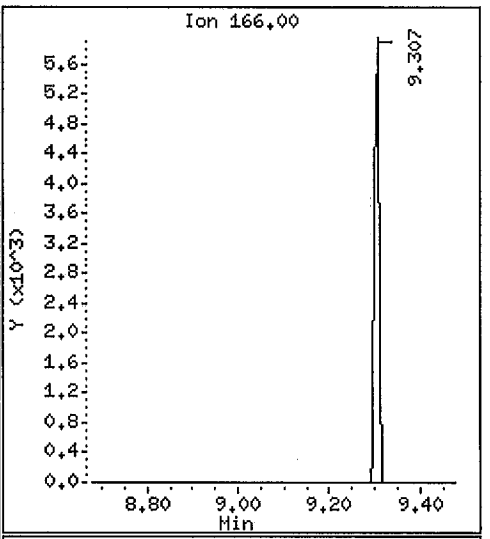
Concentration: 1.04 ug

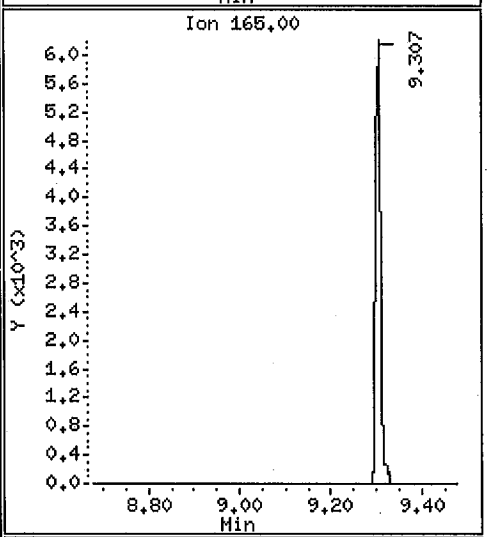


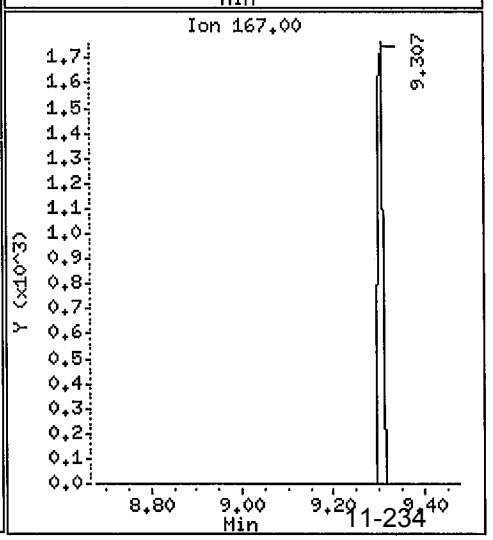












Data File: /var/chem/gcms/md.i/D072711.b/mk2h61aa.d

Date : 28-JUL-2011 01:56

Client ID: A-6455,A-6456 MEDIA

Instrument: md.i

Sample Info: MK2H61AA,,0,,,

Volume Injected (uL): 1.0

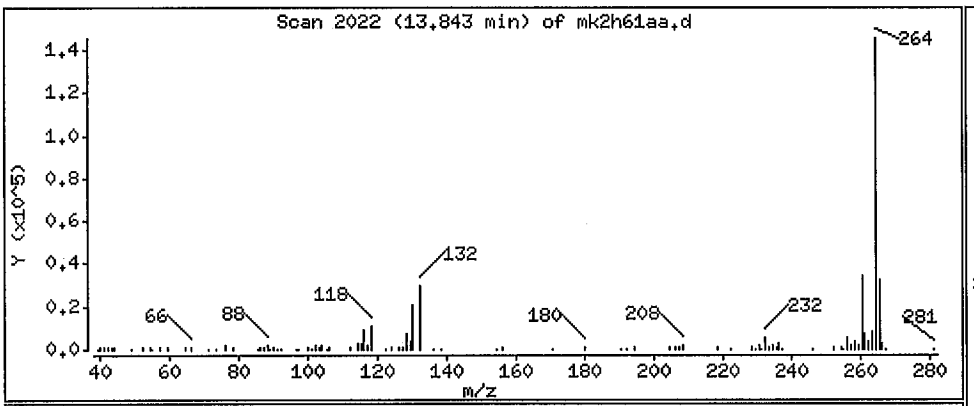
Operator: 60841

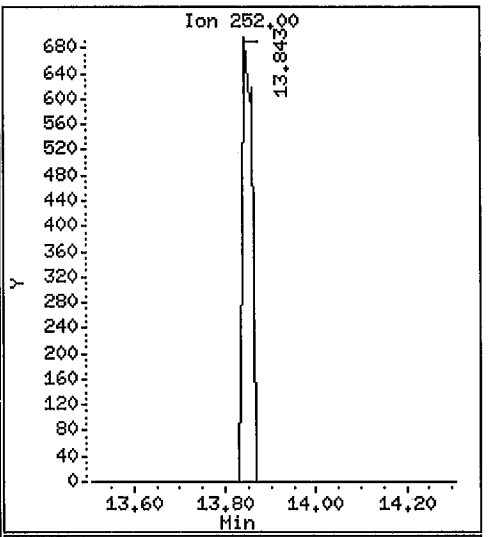
Column phase: Rxi-5 Sil MS

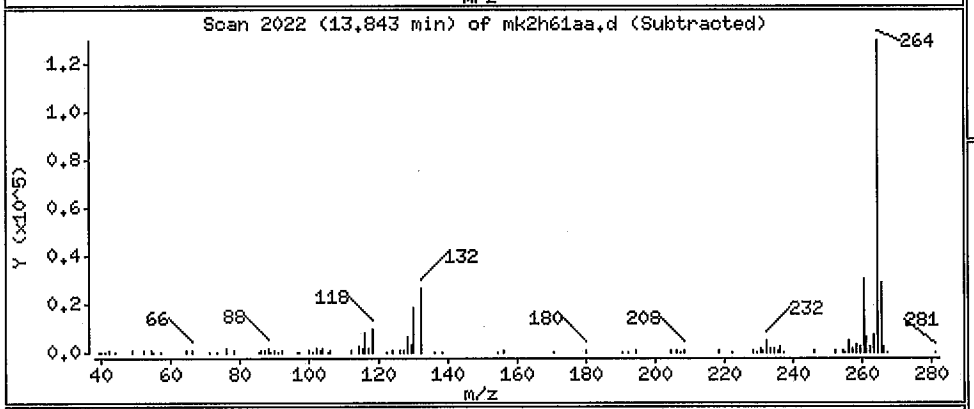
Column diameter: 0.25

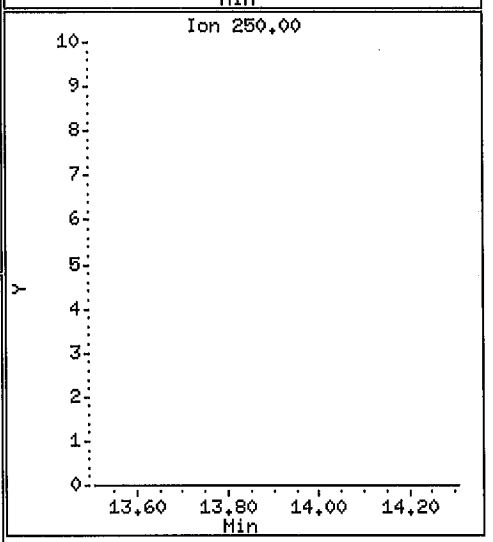
196 Perylene

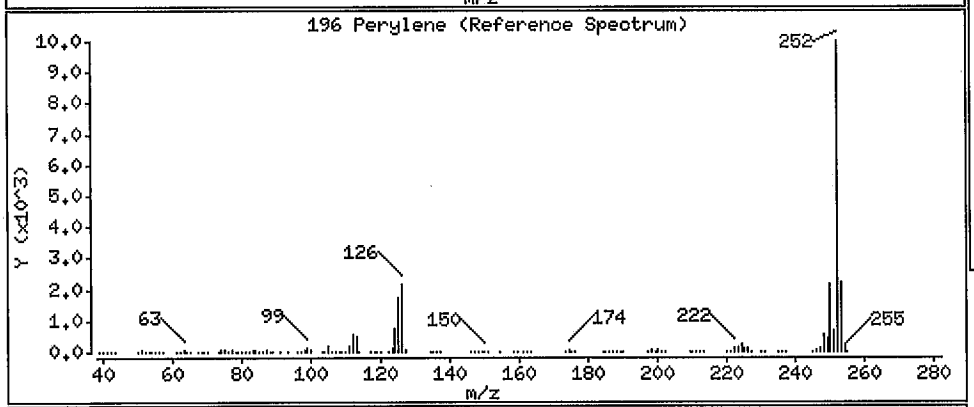
Concentration: 0.154 ug

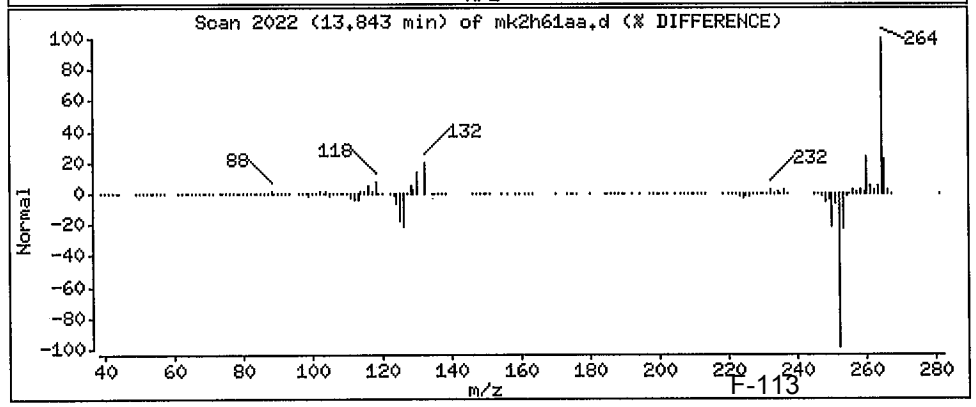












Standards Data

TestAmerica Knoxville Semivolatile GC/MS Initial Calibration Data Review / Narrative Checklist
Method 8270C - KNOX-MS-0016, Rev 10 and Method TO-13A Mod – KNOX-MS-0017, Rev 4

Analysis Date:	7/25-26/11	Instrument:	MD	ICAL Batch/Scan Name:	D072611I	Scanned □

Review Items	*N/A*	*Yes*	*No*	*If No, why is data reportable?*	2nd □
1. Did DFTPP meet tune criteria?		✓			✓
2. Was DDT breakdown ≤20% & benzidine tailing ≤3 and PCP tailing ≤5?		✓			✓
3. Were all standards injected within 12 hr of DFTPP?		✓			✓
4. Was date/time of analysis verified between analysis header and logbook as correct?		✓			✓
5. Was the high point std. checked for saturation		✓			
6. Were ≥ 5 levels of each compound/surrogate analyzed?		✓			✓
7. Was low level standard at or below RL?		✓			✓
8. Are the average RFs for SPCCs ≥ 0.050? (8270C)		✓			✓
9. Do the RRFs meet minimum criteria? (TO-13A Mod)		✓			✓
10. Are %RSD ≤30% for CCCs? (8270C)		✓			✓
11. Are %RSD≤ 30% for all target analytes? (TO-13A Mod)		✓			✓
12. Was a linear fit or quadratic fit used for analytes >15% RSD?		✓			✓
13. If curves were used, is correlation coefficient ≥0.990?		✓			✓
14. At least 6 consecutive points used for quadratic curves?		✓			✓
15. For quadratic: is a tangent's slope to the curve entirely positive or negative and continuous.		✓			✓
16. Is the "Y" intercept less than ½ the RL for each curve?		✓			✓
17. RT for each IS ±20 sec avg. RT? (TO-13A)		✓			✓
18. Each analyte ±0.06 RRT of avg. RRT? (TO-13A)		✓			✓
19. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
20. Were all peaks identified automatically? *If not, list analytes:* _____		✓			✓
21. Are ICAL start and end dates/times correct on ICAL summary?		✓			✓
22. Elution order checked on isomeric pairs?					
• 1,4-dichlorobenzene-d4 / 1,2-dichlorobenzene-d4		✓			✓
• aniline / bis(2-chloroethyl)ether		✓			✓
• 1,3- , 1,4- , 1,2-dichlorobenzene		✓			✓
• benzyl alcohol / 2-methylphenol / 4-methylphenol		✓			✓
• 2,4,6- and 2,4,5-trichlorophenol		✓			✓
• phenanthrene / anthracene		✓			✓
• fluoranthene / pyrene		✓			✓
• benzo(a)anthracene / chrysene		✓			✓
• bis(2-ethylhexyl)/di-n-octyl phthalate		✓			✓
• benzo(b)fluoranthene / benzo(k)fluoranthene		✓			✓
• indeno(1,2,3-cd)pyrene / benzo(g,h,i)perylene		✓			✓
• safrole/1-chloronaphthalene/2- chloronaphthalene		✓			✓
• 1-/2-naphthylamine		✓			✓
23. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓			NCM #: _____	NA
24. Does the ICAL folder contain **complete** data in the following order? Data review checklist, tune pass/fail page, m/z list, tune chromatogram, ICAL summary, curves, followed by Quant reports, chromatograms and manual integrations, in order from low to high standard.		✓			✓
25. Was the 2nd source calibration verification standard within ± 30% recovery and are results in ICAL folder?(~~20%DOD~~)		✓		1,3,5-TNB 4 45%.	✓

Analyst: KRM	Date: 7/26/11	2nd Level Reviewer: [illegible]	Date: 7/27/11
Comments: 1,3,5-Trinitrobenzene 45%		Comments:	

TestAmerica Knoxville
Instrument MD Run/Maintenance Log

Preventive Maintenance Performed ☑ **Daily** INJ, GOLD SEAL, SEPTA **Date/Time Verified** ☑

Target Batch	D072511I			Date	7/25/11 KRM 7/26/11
ICAL Batch	↓			Analyst	KRM
IS #1	(8270) 50077	(8270x) 48030		Internal Std ID*	See Log

* was added to all sample extracts at 3 ul per 300 ul unless noted. Instrument injection volume is 1 ul unless otherwise noted.

Lot	Filename	Time	Dil.	Matrix	Batch	Comments
Inst Blk	INST BLK	1149	—	—	—	
Tune	DFDG25	1209	—	EM3057A	—	
8270 ICAL	ICDG258	1221	—	EM3056A	—	200 8270.sub
↓	ICDG255	1246	—	EM3056B	—	120 8270dxnC13.sub
	ICDG254	1311	—	EM3056C	—	60 ↓
	ICDG253	1337	—	EM3056D	—	40
	ICDG252	1402	—	EM3056E	—	25
	ICDG251	1428	—	EM3056F	—	10
	ICDG256	1453	—	EM3056G	—	5 ↓
↓	ICDG257	1519	—	EM3056H	—	2 low.sub
2nd Source	ICVDG25	1544	—	EM3077	—	60 8270dxnC13.sub
8270x ICAL	XCDG258	1609	—	EM3029A	—	200 8270x.sub
↓	XCDG255	1634	—	EM3029B	—	120 ↓
	XCDG254	1659	—	EM3029C	—	60
	XCDG253	1724	—	EM3029D	—	40
	XCDG252	1749	—	EM3029E	—	25
	XCDG251	1814	—	EM3029F	—	10
↓	XCDG256	1839	—	EM3029G	—	5
2nd Source	XCVDG25	1904	—	EM3006	—	60 ↓

KRM 7/26/11

Comments: _____

TestAmerica Knoxville
Instrument MD Run/Maintenance Log

Preventive Maintenance Performed ☑ **Daily** INJ **Date/Time Verified** ☑

Target Batch	D072611I			Date	7/26/11
ICAL Batch	↓			Analyst	KRM
IS #1	(PAH Extra) 45320	(A9) 44644		Internal Std ID*	See Log

* was added to all sample extracts at 3 ul per 300 ul unless noted. Instrument injection volume is 1 ul unless otherwise noted.

Lot	Filename	Time	Dil.	Matrix	Batch	Comments
Inst Blk	INST BLK	949	—	—	—	
Tune	DFDG26	1012	—	EM3057A	—	
PAH Extra ICAL	XPDG268	1024	—	EM3039A	—	200 allextra.sub
	XPDG265	1052	—	EM3039B	—	120
	XPDG264	1121	—	EM3039C	—	60
	XPDG263	1150	—	EM3039D	—	40
	XPDG262	1219	—	EM3039E	—	25
	XPDG261	1248	—	EM3039P	—	10
	XPDG266	1316	—	EM3039G	—	5
	XPDG267	1345	—	EM3039H	—	2
2nd Source	XPVDG26	1414	—	EM3040	—	60
A9 ICAL	A9DG268 KRM 7/26/11	1443	—	EM3078A	—	200 appdx9.sub
	A9DG258265	1509	—	EM3078B	—	120
	A9DG264	1534	—	EM3033C	—	60
	A9DG263	1600	—	EM3033D	—	40
	A9DG262	1625	—	EM3033E	—	25
	A9DG261	1651	—	EM3033P	—	10
	A9DG266	1717	—	EM3033G	—	5
	A9DG267	1742	—	EM3033H	—	2
2nd Source	A9VDG26	1807	—	EM3009	—	60
Spike Check	EM3086	1832	—	—	—	

KRM 7/27/11

Comments: _____

Data File: /chem/gcms/md.i/D072511I.b/dfdg25.d

Date : 25-JUL-2011 12:09

Client ID: Tune

Instrument: md.i

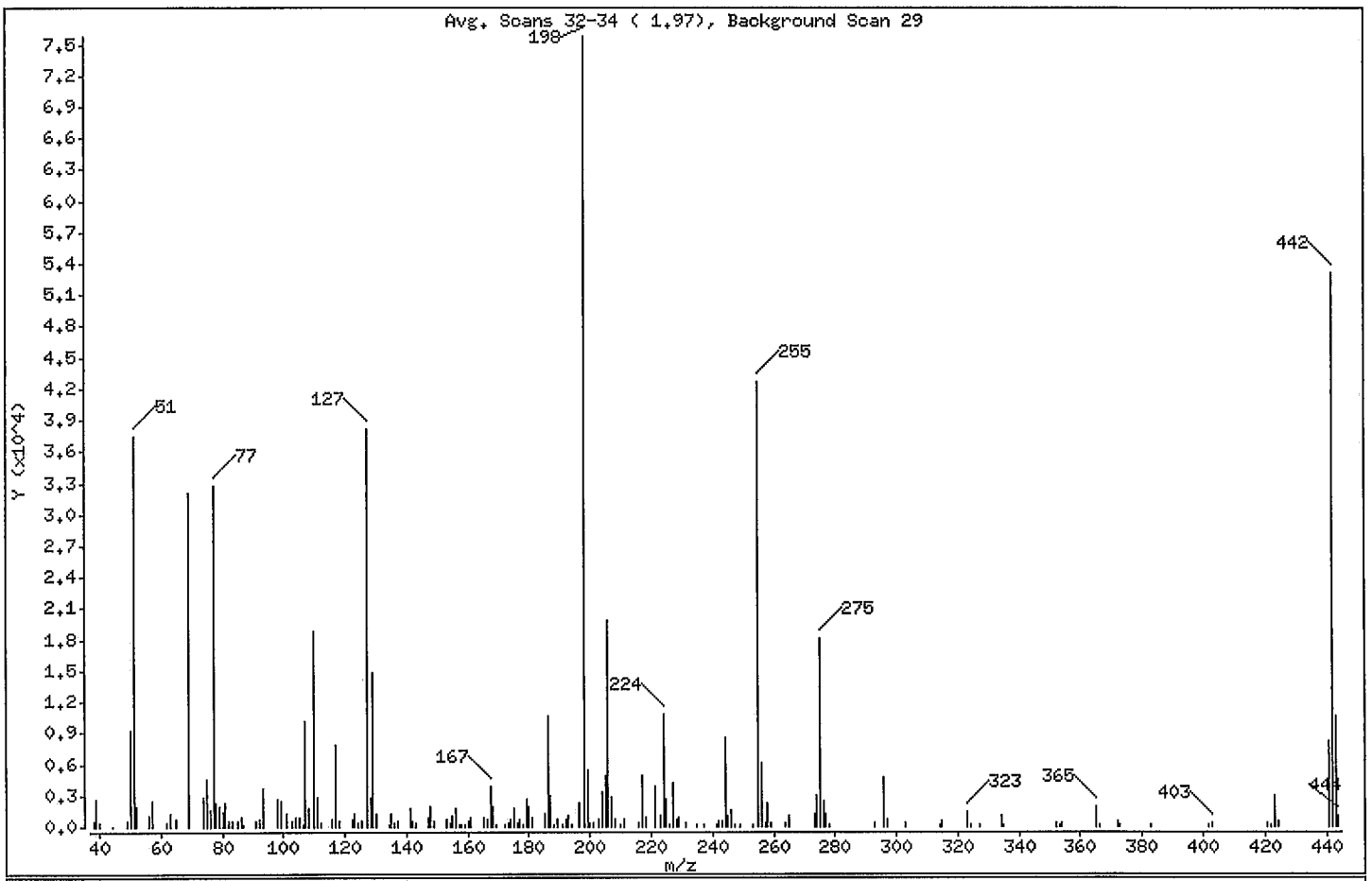
Sample Info: DFDG25,,3,,DFTPP,

Operator: 60841

Column phase: Rxi-5 Sil MS

Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	49.42
68	Less than 1.99% of mass 69	0.00 (0.00)
69	Present, but less than mass 198	42.28
70	Less than 1.99% of mass 69	0.00 (0.00)
127	40.00 - 60.00% of mass 198	50.32
197	Less than 0.99% of mass 198	0.00
199	5.00 - 9.00% of mass 198	7.06
275	10.00 - 30.00% of mass 198	23.90
365	1.01 - 100.00% of mass 198	2.51
441	Present, but less than mass 443	10.74
442	50.01 - 110.00% of mass 198	70.18
443	17.00 - 23.00% of mass 442	14.06 (20.03)

Data File: /chem/gcms/md.i/D072511I.b/dfdg25.d

Date : 25-JUL-2011 12:09

Client ID: Tune

Instrument: md.i

Sample Info: DFDG25,,3,,DFTPP,

Operator: 60841

Column phase: Rxi-5 Sil MS

Column diameter: 0.25

Data File: dfdg25.d
Spectrum: Avg. Scans 32-34 (1.97), Background Scan 29
Location of Maximum: 198.00
Number of points: 174

m/z	Y	m/z	Y	m/z	Y	m/z	Y
38.00	519	118.00	544	186.00	10632	255.00	42744
39.00	2551	122.00	710	187.00	2937	256.00	6109
40.00	354	123.00	1183	188.00	235	257.00	330
44.00	81	124.00	432	189.00	621	258.00	2216
49.00	599	125.00	457	191.00	183	259.00	291
50.00	9262	127.00	38128	192.00	713	264.00	379
51.00	37456	128.00	2736	193.00	1027	265.00	996
52.00	1896	129.00	14893	194.00	181	273.00	1182
56.00	1035	130.00	1251	196.00	2345	274.00	2998
57.00	2432	134.00	210	198.00	75784	275.00	18112
62.00	282	135.00	1136	199.00	5347	276.00	2482
63.00	1255	136.00	429	200.00	303	277.00	1222
65.00	666	137.00	598	201.00	317	278.00	208
69.00	32040	141.00	1776	203.00	620	293.00	275
74.00	2812	142.00	510	204.00	3293	296.00	4702
75.00	4516	143.00	400	205.00	4889	297.00	648
76.00	1570	147.00	936	206.00	19792	303.00	379
77.00	32728	148.00	1933	207.00	2766	314.00	201
78.00	2289	149.00	609	208.00	767	315.00	562
79.00	1900	153.00	645	210.00	259	323.00	1356
80.00	1472	154.00	396	211.00	764	324.00	199
81.00	2235	155.00	959	216.00	265	327.00	227
82.00	578	156.00	1656	217.00	4866	334.00	1018
83.00	548	157.00	219	218.00	825	335.00	203
85.00	488	158.00	196	221.00	3844	352.00	385
86.00	818	159.00	180	223.00	1116	353.00	235
87.00	194	160.00	568	224.00	10856	354.00	357
91.00	541	161.00	826	225.00	2583	365.00	1905
92.00	619	165.00	853	226.00	250	366.00	255
93.00	3704	166.00	692	227.00	4109	372.00	604
98.00	2650	167.00	3805	228.00	616	373.00	197
99.00	2366	168.00	1877	229.00	876	383.00	228
101.00	1215	169.00	259	231.00	370	402.00	201
103.00	461	172.00	168	235.00	201	403.00	308
104.00	844	173.00	430	237.00	196	421.00	264

Data File: /chem/gcms/md.i/D072511I.b/dfdg25.d

Date : 25-JUL-2011 12:09

Client ID: Tune

Instrument: md.i

Sample Info: DFDG25,,3,,DFTPP,

Operator: 60841

Column phase: Rxi-5 Sil MS

Column diameter: 0.25

Data File: dfdg25.d
Spectrum: Avg. Scans 32-34 (1.97), Background Scan 29
Location of Maximum: 198.00
Number of points: 174

m/z	Y	m/z	Y	m/z	Y	m/z	Y
105.00	897	174.00	736	241.00	168	422.00	244
106.00	190	175.00	1673	242.00	497	423.00	2956
107.00	10084	176.00	327	243.00	562	424.00	527
108.00	1786	177.00	637	244.00	8468	441.00	8142
110.00	18888	178.00	227	245.00	1114	442.00	53184
111.00	2730	179.00	2696	246.00	1503	443.00	10654
112.00	388	180.00	1891	247.00	180	444.00	1021
116.00	657	181.00	798	249.00	184		
117.00	7758	185.00	1234	253.00	192		

Data File: /chem/gcms/md.i/D072511I.b/dfdg25.d

Date : 25-JUL-2011 12:09

Client ID: Tune

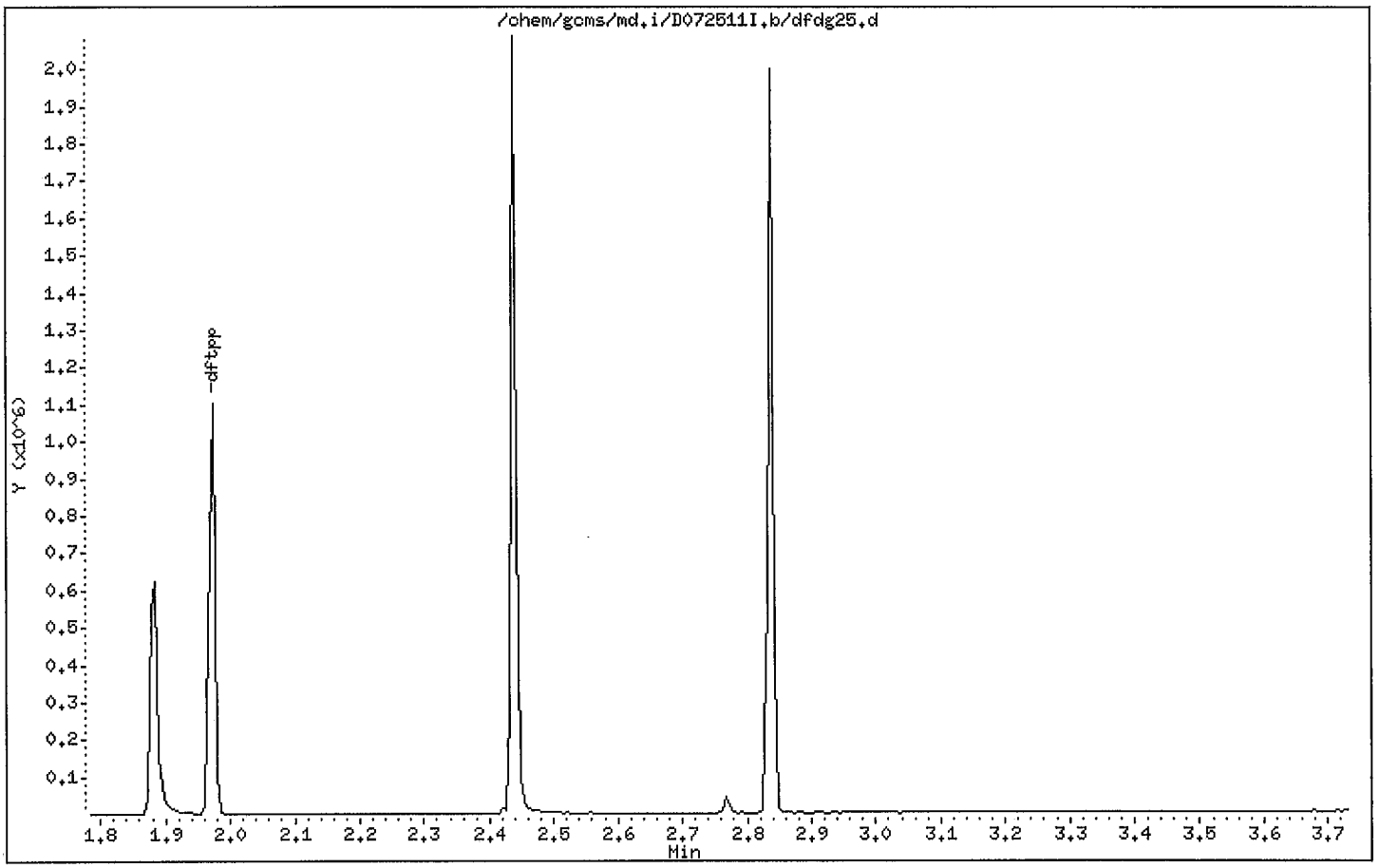
Instrument: md.i

Sample Info: DFDG25,,3,,DFTPP,

Operator: 60841

Column phase: Rxi-5 Sil MS

Column diameter: 0.25



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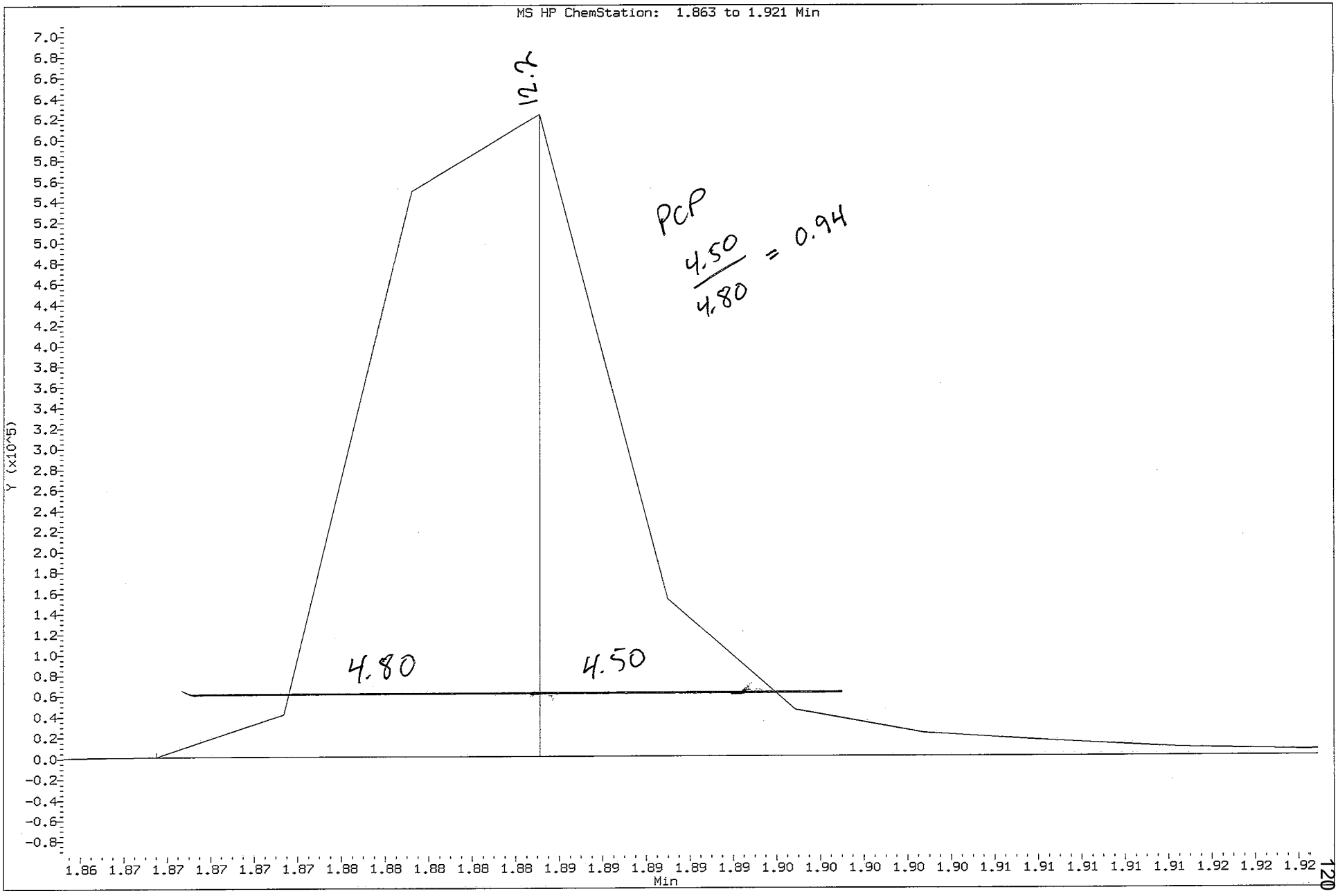
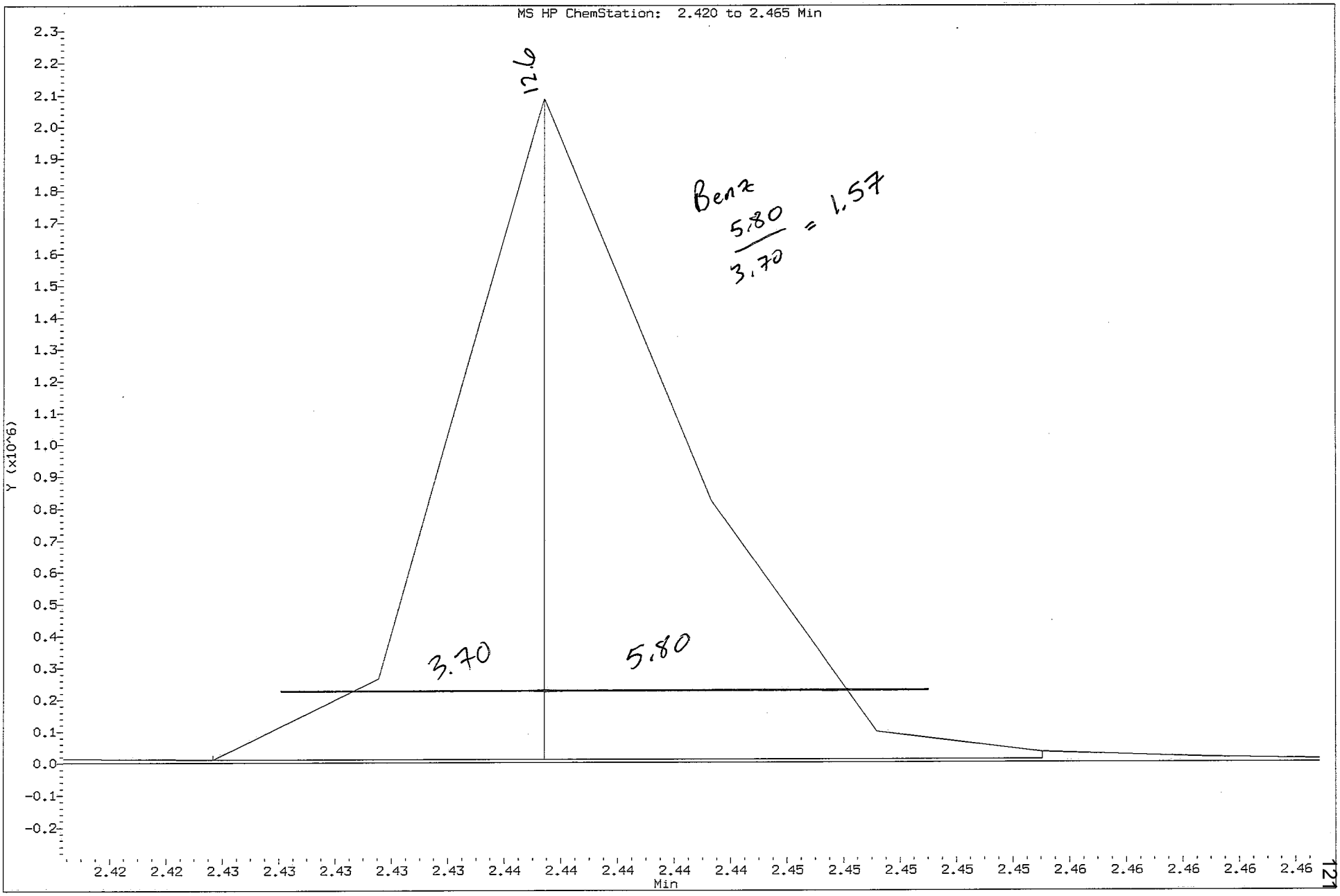
Injection Date: 25-JUL-2011 12:09
Instrument: md.i
Client Sample ID: Tune



Data File: /var/chem/gcms/md.i/D072511I.b/dfdg25.d
Injection Date: 25-JUL-2011 12:09
Instrument: md.i
Client Sample ID: Tune



Data File: /chem/gcms/md.i/D072611I.b/dfdg26.d

Date : 26-JUL-2011 10:12

Client ID: Tune

Instrument: md.i

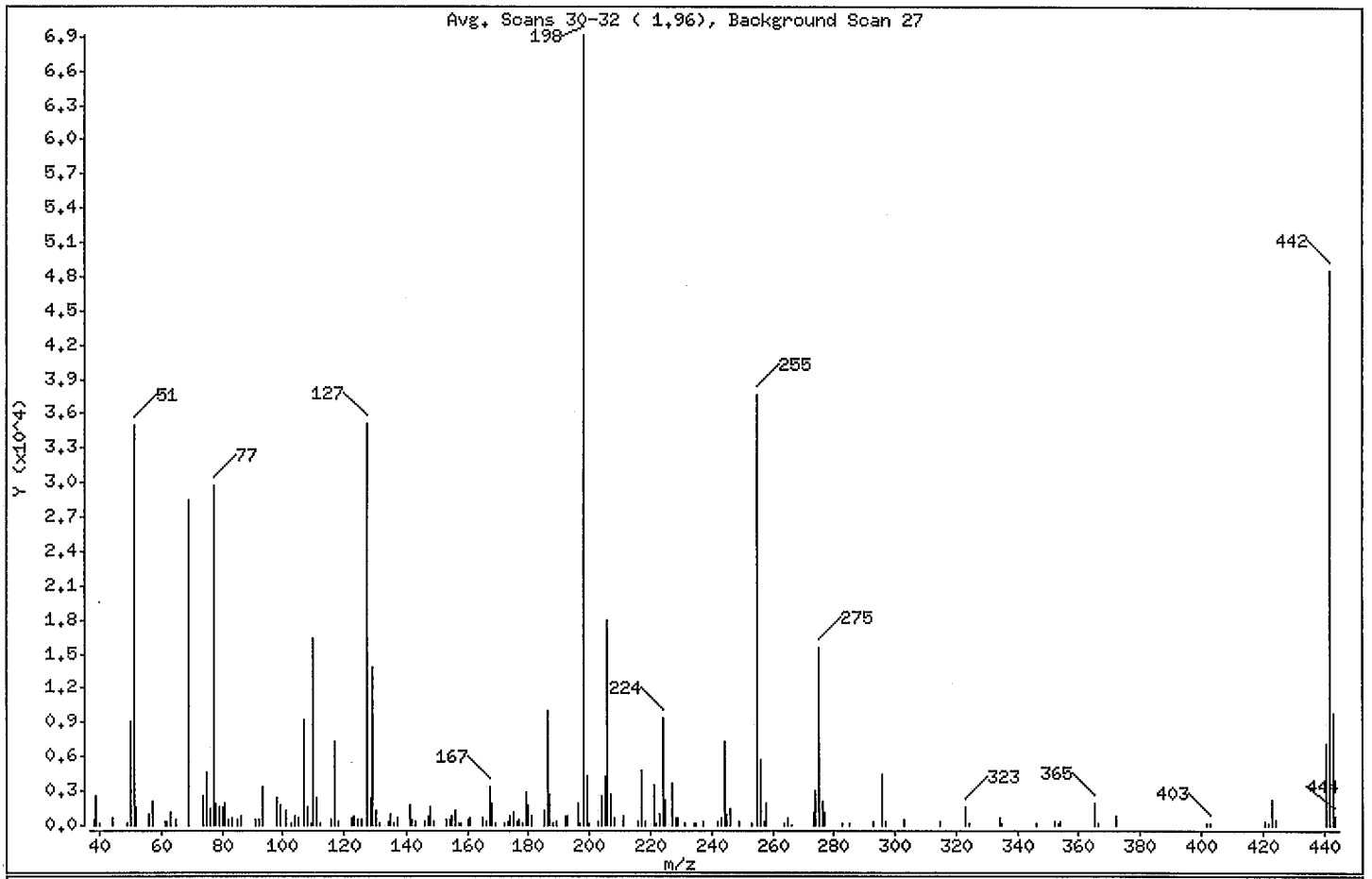
Sample Info: DFDG26,,3,,DFTPP,

Operator: 60841

Column phase: Rxi-5 Sil MS

Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	50.58
68	Less than 1.99% of mass 69	0.00 (0.00)
69	Present, but less than mass 198	41.05
70	Less than 1.99% of mass 69	0.00 (0.00)
127	40.00 - 60.00% of mass 198	50.76
197	Less than 0.99% of mass 198	0.34
199	5.00 - 9.00% of mass 198	6.30
275	10.00 - 30.00% of mass 198	22.60
365	1.01 - 100.00% of mass 198	2.69
441	Present, but less than mass 443	10.38
442	50.01 - 110.00% of mass 198	70.38
443	17.00 - 23.00% of mass 442	14.18 (20.15)

Data File: /chem/gcms/md.i/D072611I.b/dfdg26.d

Date : 26-JUL-2011 10:12

Client ID: Tune

Instrument: md.i

Sample Info: DFDG26,,3,,DFTPP,

Operator: 60841

Column phase: Rxi-5 Sil MS

Column diameter: 0.25

Data File: dfdg26.d
Spectrum: Avg. Scans 30-32 (1.96), Background Scan 27
Location of Maximum: 198.00
Number of points: 169

m/z	Y	m/z	Y	m/z	Y	m/z	Y
38.00	411	117.00	7274	180.00	1804	255.00	37704
39.00	2467	118.00	364	181.00	838	256.00	5771
40.00	184	122.00	600	185.00	1208	257.00	360
44.00	638	123.00	826	186.00	9941	258.00	1931
49.00	215	124.00	431	187.00	2755	264.00	179
50.00	9057	125.00	511	188.00	181	265.00	679
51.00	34968	127.00	35088	189.00	320	266.00	14
52.00	1668	128.00	2452	192.00	781	273.00	1167
56.00	1015	129.00	13862	193.00	817	274.00	2993
57.00	2003	130.00	1205	196.00	1832	275.00	15621
61.00	272	131.00	219	197.00	232	276.00	2068
62.00	354	134.00	244	198.00	69128	277.00	1074
63.00	1165	135.00	978	199.00	4355	283.00	174
65.00	549	136.00	213	200.00	189	285.00	190
69.00	28376	137.00	640	203.00	361	293.00	291
74.00	2477	141.00	1690	204.00	2529	296.00	4372
75.00	4536	142.00	509	205.00	4215	297.00	304
76.00	1437	143.00	330	206.00	18000	303.00	461
77.00	29696	146.00	258	207.00	2670	315.00	315
78.00	1925	147.00	749	208.00	647	323.00	1554
79.00	1590	148.00	1637	211.00	748	324.00	173
80.00	1558	149.00	275	216.00	298	334.00	588
81.00	1943	153.00	543	217.00	4724	335.00	189
82.00	484	154.00	489	218.00	370	346.00	202
83.00	618	155.00	858	221.00	3429	352.00	283
85.00	449	156.00	1286	222.00	211	353.00	196
86.00	842	157.00	166	223.00	947	354.00	243
91.00	491	158.00	189	224.00	9405	365.00	1863
92.00	495	160.00	461	225.00	2302	366.00	199
93.00	3412	161.00	701	227.00	3671	372.00	730
98.00	2389	165.00	714	228.00	626	402.00	171
99.00	1714	166.00	327	229.00	713	403.00	230
101.00	1251	167.00	3361	231.00	208	421.00	292
103.00	234	168.00	1917	234.00	192	422.00	173
104.00	723	169.00	237	235.00	179	423.00	2157

Data File: /chem/gcms/md.i/D072611I.b/dfdg26.d

Date : 26-JUL-2011 10:12

Client ID: Tune

Instrument: md.i

Sample Info: DFDG26,,3,,DFTPP,

Operator: 60841

Column phase: Rxi-5 Sil MS

Column diameter: 0.25

Data File: dfdg26.d
Spectrum: Avg. Scans 30-32 (1.96), Background Scan 27
Location of Maximum: 198.00
Number of points: 169

m/z	Y	m/z	Y	m/z	Y	m/z	Y
105.00	702	172.00	176	237.00	239	424.00	462
107.00	9293	173.00	259	242.00	379	441.00	7177
108.00	1529	174.00	724	243.00	601	442.00	48648
109.00	232	175.00	1154	244.00	7374	443.00	9806
110.00	16400	176.00	267	245.00	898	444.00	843
111.00	2355	177.00	439	246.00	1410		
112.00	170	178.00	202	249.00	249		
116.00	504	179.00	2859	253.00	181		

Data File: /chem/gcms/md.i/D072611I.b/dfdg26.d

Date : 26-JUL-2011 10:12

Client ID: Tune

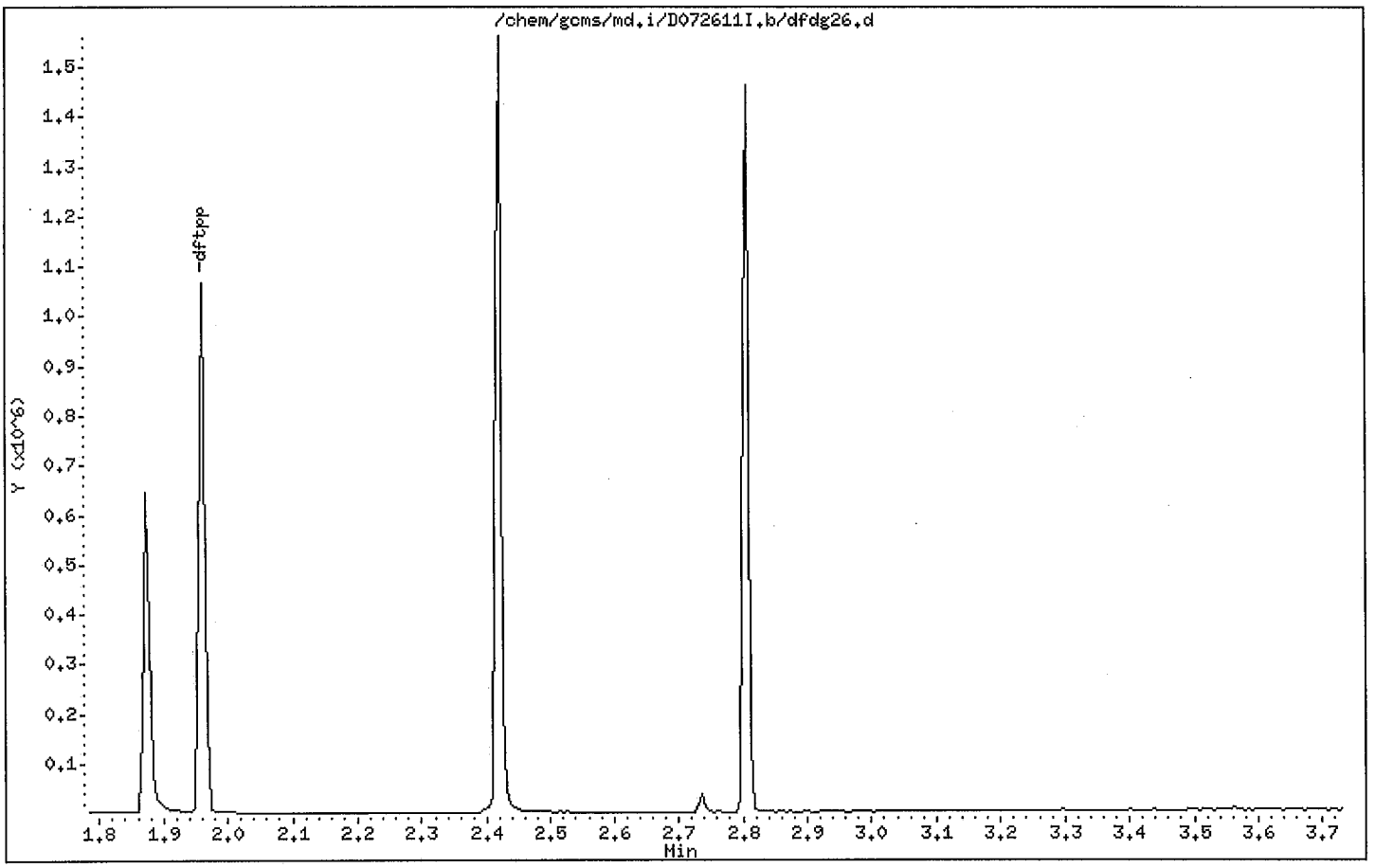
Instrument: md.i

Sample Info: DFDG26,,3,,DFTPP,

Operator: 60841

Column phase: Rxi-5 Sil MS

Column diameter: 0.25



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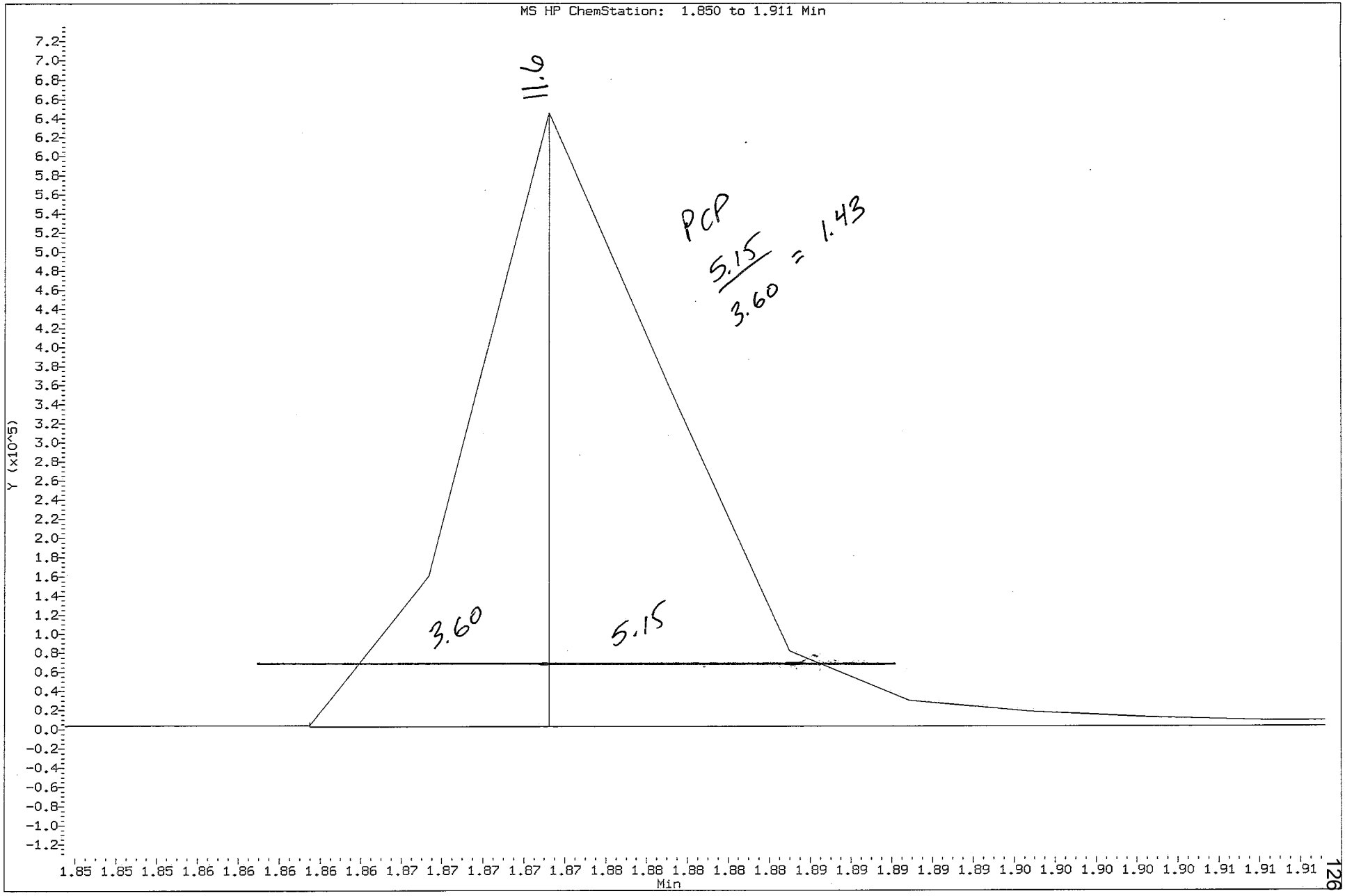
Injection Date: 26-JUL-2011 10:12
Instrument: md.i
Client Sample ID: Tune



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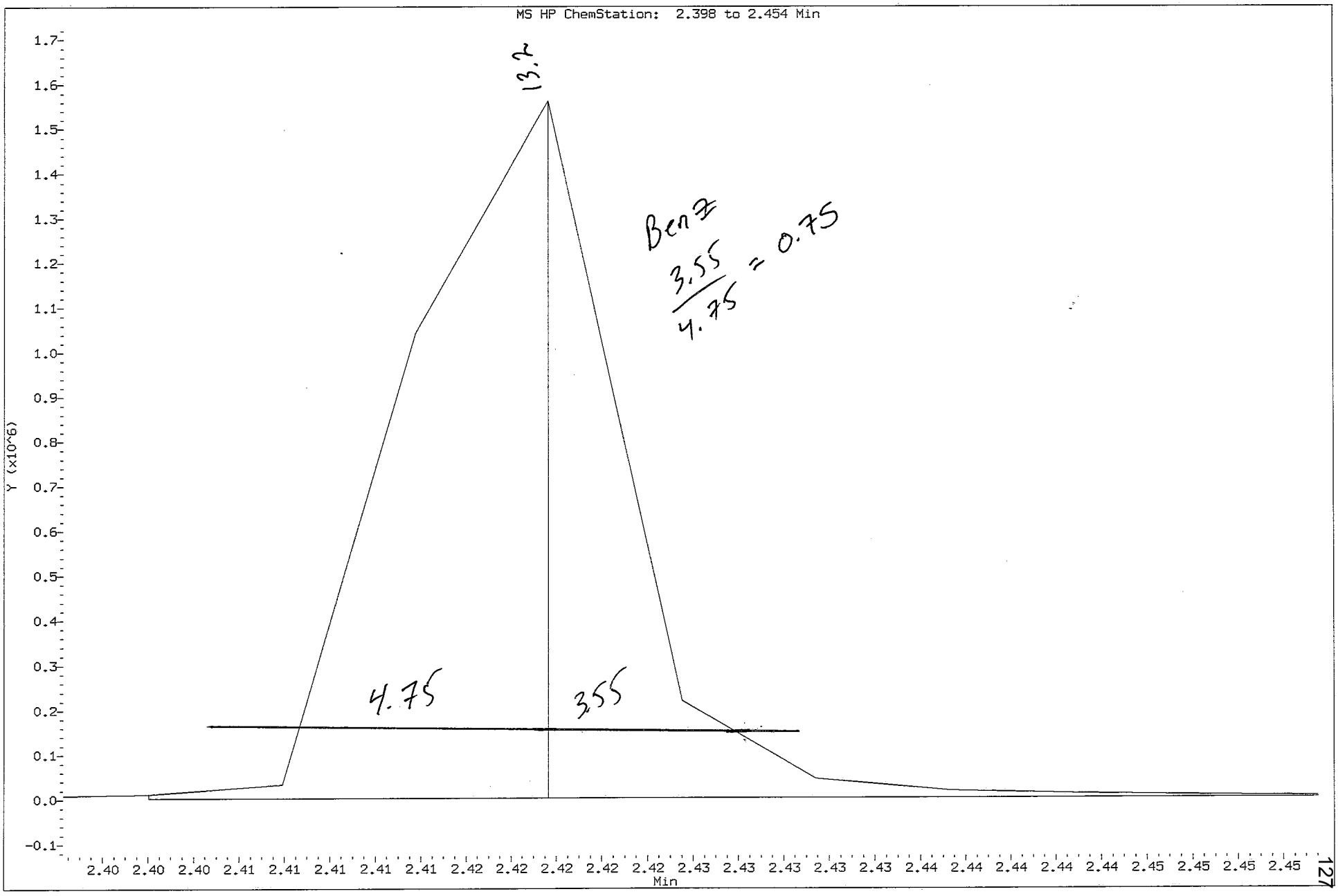
Injection Date: 26-JUL-2011 10:12
Instrument: md.i
Client Sample ID: Tune



Report Date: 27-Jul-2011 08:40

Calibration History

Method : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Start Cal Date: 25-JUL-2011 12:21
End Cal Date : 26-JUL-2011 17:42

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 10.00000		
26-JUL-2011 16:51	appdx9	/chem/gcms/md.i/D072611I.b/a9dg261.d
26-JUL-2011 12:48	allextra	/var/chem/gcms/md.i/D072611I.b/xpdg261.d
25-JUL-2011 18:14	8270x	/chem/gcms/md.i/D072511I.b/xcdg251.d
25-JUL-2011 14:28	8270dxnC13	/chem/gcms/md.i/D072511I.b/icdg251.d
Cal Level: 2 , Cal Amount: 25.00000		
26-JUL-2011 16:25	appdx9	/chem/gcms/md.i/D072611I.b/a9dg262.d
26-JUL-2011 12:19	allextra	/var/chem/gcms/md.i/D072611I.b/xpdg262.d
25-JUL-2011 17:49	8270x	/chem/gcms/md.i/D072511I.b/xcdg252.d
25-JUL-2011 14:02	8270dxnC13	/var/chem/gcms/md.i/D072511I.b/icdg252.d
Cal Level: 3 , Cal Amount: 40.00000		
26-JUL-2011 16:00	appdx9	/chem/gcms/md.i/D072611I.b/a9dg263.d
26-JUL-2011 11:50	allextra	/var/chem/gcms/md.i/D072611I.b/xpdg263.d
25-JUL-2011 17:24	8270x	/chem/gcms/md.i/D072511I.b/xcdg253.d
25-JUL-2011 13:37	8270dxnC13	/var/chem/gcms/md.i/D072511I.b/icdg253.d
Cal Level: 4 , Cal Amount: 60.00000		
26-JUL-2011 15:34	appdx9	/chem/gcms/md.i/D072611I.b/a9dg264.d
26-JUL-2011 11:21	allextra	/var/chem/gcms/md.i/D072611I.b/xpdg264.d
25-JUL-2011 16:59	8270x	/chem/gcms/md.i/D072511I.b/xcdg254.d
25-JUL-2011 13:11	8270dxnC13	/var/chem/gcms/md.i/D072511I.b/icdg254.d
Cal Level: 5 , Cal Amount: 120.00000		
26-JUL-2011 15:09	appdx9	/var/chem/gcms/md.i/D072611I.b/a9dg265.d
26-JUL-2011 10:52	allextra	/var/chem/gcms/md.i/D072611I.b/xpdg265.d
25-JUL-2011 16:34	8270x	/var/chem/gcms/md.i/D072511I.b/xcdg255.d
25-JUL-2011 12:46	8270dxnC13	/var/chem/gcms/md.i/D072511I.b/icdg255.d
Cal Level: 6 , Cal Amount: 5.00000		

26-JUL-2011 17:17	appdx9	/chem/gcms/md.i/D072611I.b/a9dg266.d
26-JUL-2011 13:16	allextra	/var/chem/gcms/md.i/D072611I.b/xpdg266.d
26-JUL-2011 13:16	pahextra	/var/chem/gcms/md.i/D072611I.b/xpdg266.d
25-JUL-2011 18:39	8270x	/chem/gcms/md.i/D072511I.b/xcdg256.d
25-JUL-2011 14:53	8270dxnC13	/chem/gcms/md.i/D072511I.b/icdg256.d

Cal Level: 7 , Cal Amount: 2.00000		
26-JUL-2011 17:42	appdx9	/chem/gcms/md.i/D072611I.b/a9dg267.d
26-JUL-2011 13:45	allextra	/var/chem/gcms/md.i/D072611I.b/xpdg267.d
26-JUL-2011 13:45	pahextra	/chem/gcms/md.i/D072611I.b/xpdg267.d
25-JUL-2011 15:19	low	/var/chem/gcms/md.i/D072511I.b/icdg257.d

Cal Level: 8 , Cal Amount: 200.00000		
26-JUL-2011 14:43	appdx9	/var/chem/gcms/md.i/D072611I.b/a9dg268.d
26-JUL-2011 10:24	allextra	/var/chem/gcms/md.i/D072611I.b/xpdg268.d
25-JUL-2011 16:09	8270x	/var/chem/gcms/md.i/D072511I.b/xcdg258.d
25-JUL-2011 12:21	8270	/var/chem/gcms/md.i/D072511I.b/icdg258.d

Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 4

Ccal Level: 4 , Ccal Amount: 60.0		
26-JUL-2011 15:34	appdx9	/chem/gcms/md.i/D072611I.b/a9dg264.d

Ccal Level: 4 , Ccal Amount: 60.0		
26-JUL-2011 11:21	allextra	/var/chem/gcms/md.i/D072611I.b/xpdg264.d

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Start Cal Date : 25-JUL-2011 12:21
End Cal Date : 26-JUL-2011 17:42
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Cal Date : 27-Jul-2011 12:34 wilesd

Calibration File Names:
Level 1: /chem/gcms/md.i/D072611I.b/a9dg261.d
Level 2: /chem/gcms/md.i/D072611I.b/a9dg262.d
Level 3: /chem/gcms/md.i/D072611I.b/a9dg263.d
Level 4: /chem/gcms/md.i/D072611I.b/a9dg264.d
Level 5: /var/chem/gcms/md.i/D072611I.b/a9dg265.d
Level 6: /chem/gcms/md.i/D072611I.b/a9dg266.d
Level 7: /chem/gcms/md.i/D072611I.b/a9dg267.d
Level 8: /var/chem/gcms/md.i/D072611I.b/a9dg268.d

Compound	10 Level 1	25 Level 2	40 Level 3	60 Level 4	120 Level 5	5 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	2 Level 7	200 Level 8									
175 1,4-Dioxane	0.43539	0.41837	0.43508	0.42988	+++++	0.41893					
	0.43952	+++++					AVRG		0.42953		2.08747
13 N-Nitrosodimethylamine	0.63902	0.55781	0.62631	0.68142	0.61521	0.59701					
	+++++	0.65252					AVRG		0.62419		6.38393
14 Pyridine	1.09226	0.97046	1.06705	1.18238	1.06924	1.09067					
	+++++	1.14975					AVRG		1.08883		6.20046

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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Cal Date : 27-Jul-2011 12:34 wilesd

Compound	10 Level 1	25 Level 2	40 Level 3	60 Level 4	120 Level 5	5 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	2 Level 7	200 Level 8									
15 Phenol (ccc)	1.35208	1.20846	1.35584	1.49055	1.33967	1.32174					
	+++++	1.46281					AVRG		1.36159		6.87115
16 Aniline	1.69633	1.51743	1.68341	1.84290	1.65846	1.60933					
	+++++	1.80436					AVRG		1.68746		6.57128
17 Bis(2-chloroethyl)ether	1.01243	0.93147	1.00577	1.09713	0.99560	1.04737					
	+++++	1.06543					AVRG		1.02217		5.27177
18 2-Chlorophenol	1.18846	1.12249	1.23939	1.33545	1.22018	1.17092					
	+++++	1.29873					AVRG		1.22509		6.01976
19 1,3-Dichlorobenzene	1.41839	1.26410	1.35981	1.49743	1.34907	1.41232					
	+++++	1.43019					AVRG		1.39019		5.32650
20 1,4-Dichlorobenzene (ccc)	1.45934	1.28628	1.39224	1.52614	1.35933	1.45788					
	+++++	1.46021					AVRG		1.42020		5.61807
21 Benzyl alcohol	0.76491	0.72684	0.79780	0.88343	0.82559	0.74982					
	+++++	0.88036					AVRG		0.80411		7.71005

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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Cal Date : 27-Jul-2011 12:34 wilesd

Compound	10 Level 1	25 Level 2	40 Level 3	60 Level 4	120 Level 5	5 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	2 Level 7	200 Level 8										
22 1,2-Dichlorobenzene	1.43721	1.23348	1.32910	1.47309	1.29975	1.39964						
	+++++	1.39665					AVRG		1.36699		6.11438	
23 2-Methylphenol	1.04077	0.98465	1.08923	1.18495	1.06497	1.00190						
	+++++	1.16486					AVRG		1.07590		7.11289	
24 2,2'-Oxybis(1-Chloropropane)	2.03667	1.81508	1.91230	2.08589	1.85465	1.99964						
	+++++	1.94916					AVRG		1.95048		5.00397	
25 4-Methylphenol	1.08491	1.01058	1.11563	1.23280	1.09441	1.02192						
	+++++	1.20545					AVRG		1.10939		7.60743	
26 3&4 Methylphenol	1.08491	1.01058	1.11563	1.23280	1.09441	1.02192						
	+++++	1.20545					AVRG		1.10939		7.60743	
M 204 total cresols (methylphenols)	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++					AVRG		0.000e+00		0.000e+00	<-
27 N-Nitroso-di-n-propylamine###	0.80109	0.75534	0.81010	0.89669	0.81817	0.76549						
	+++++	0.86728					AVRG		0.81631		6.25305	

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Cal Date : 27-Jul-2011 12:34 wilesd

Compound	10 Level 1	25 Level 2	40 Level 3	60 Level 4	120 Level 5	5 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	2 Level 7	200 Level 8									
28 Hexachloroethane	0.53613	0.48704	0.52437	0.56900	0.51567	0.53886					
	+++++	0.56064					AVRG		0.53310		5.18938
29 Nitrobenzene	0.30953	0.28669	0.30705	0.34300	0.31293	0.30163					
	+++++	0.32484					AVRG		0.31224		5.70683
30 Isophorone	0.49590	0.46821	0.51520	0.56941	0.52956	0.46676					
	+++++	0.54937					AVRG		0.51349		7.63377
31 2-Nitrophenol (ccc)	0.14248	0.14196	0.16451	0.18477	0.17326	0.12394					
	+++++	0.18003					AVRG		0.15871		14.39590
32 2,4-Dimethyphenol	0.32672	0.30653	0.33985	0.36758	0.34929	0.29788					
	+++++	0.36093					AVRG		0.33554		7.90010
33 Bis(2-chloroethoxy)methane	0.33127	0.31389	0.33477	0.36106	0.33463	0.32921					
	+++++	0.35258					AVRG		0.33677		4.63067
34 Benzoic acid	9056	28903	56722	94445	180086	+++++					
	+++++	359874					QUAD	0.21747	6.55650	-0.66163	0.99861

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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Cal Date : 27-Jul-2011 12:34 wilesd

Compound	10 Level 1	25 Level 2	40 Level 3	60 Level 4	120 Level 5	5 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	2 Level 7	200 Level 8									
35 2,4-Dichlorophenol (ccc)	0.26139	0.24861	0.28046	0.30280	0.28135	0.24053					
	+++++	0.29391					AVRG		0.27272		8.51309
36 1,2,4-Trichlorobenzene	0.30888	0.28891	0.30663	0.33555	0.31083	0.31990					
	+++++	0.32159					AVRG		0.31318		4.64946
37 Naphthalene	0.97385	0.86520	0.93983	1.01657	0.95087	0.97063					
	0.97001	0.97987					AVRG		0.95835		4.57502
38 4-Chloroaniline	0.39068	0.36692	0.39553	0.43711	0.40715	0.36790					
	+++++	0.42236					AVRG		0.39823		6.59487
39 Hexachlorobutadiene (ccc)	0.19182	0.18267	0.18838	0.21186	0.19398	0.20745					
	+++++	0.20207					AVRG		0.19689		5.37231
40 4-Chloro-3-methylphenol (ccc)	0.24431	0.23915	0.26759	0.29588	0.27884	0.21513					
	+++++	0.29075					AVRG		0.26166		11.37949
41 2-Methylnaphthalene	0.65081	0.59291	0.64049	0.69437	0.65197	0.66221					
	0.60796	0.68511					AVRG		0.64823		5.35880

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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Cal Date : 27-Jul-2011 12:34 wilesd

Compound	10 Level 1	25 Level 2	40 Level 3	60 Level 4	120 Level 5	5 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	2 Level 7	200 Level 8									
42 Hexachlorocyclopentadiene####	0.27469	0.27206	0.30914	0.35829	0.33696	0.25875					
	+++++	0.36808					AVRG		0.31114		14.21487
43 2,4,6-Trichlorophenol (ccc)	0.28854	0.29546	0.32611	0.35822	0.34619	0.26541					
	+++++	0.36154					AVRG		0.32021		11.74150
44 2,4,5-Trichlorphenol	0.33211	0.33186	0.36550	0.40415	0.38064	0.30758					
	+++++	0.40058					AVRG		0.36035		10.36390
45 2-Chloronaphthalene	1.03811	0.96790	1.05849	1.14933	1.06999	1.08247					
	+++++	1.10948					AVRG		1.06797		5.34534
46 2-Nitroaniline	15482	41828	72041	120210	219117	5445					
	+++++	394988					LINR	0.15297	0.33700		0.99901
47 Acenaphthylene	1.71102	1.55850	1.72013	1.86456	1.73038	1.68741					
	1.56472	1.81112					AVRG		1.70598		6.23009
48 Dimethyl phthalate	1.37976	1.17069	1.27102	1.37956	1.25034	1.49522					
	+++++	1.29718					AVRG		1.32054		8.05494

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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Cal Date : 27-Jul-2011 12:34 wilesd

Compound	10 Level 1	25 Level 2	40 Level 3	60 Level 4	120 Level 5	5 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	2 Level 7	200 Level 8									
49 2,6-Dinitrotoluene	0.25761	0.25379	0.28476	0.31074	0.29395	0.23528					
	+++++	0.30429					AVRG		0.27720		10.29336
50 3-Nitroaniline	0.28984	0.28362	0.31843	0.35280	0.33168	+++++					
	+++++	0.34139					AVRG		0.31963		8.74331
51 Acenaphthene (ccc)	1.12104	1.02386	1.10340	1.19822	1.11787	1.14873					
	1.15285	1.16446					AVRG		1.12880		4.60356
52 2,4-Dinitrophenol ##spcc##	4727	16981	34091	65034	127762	+++++					
	+++++	247756					QUAD	0.40503	5.29150	-0.33451	0.99848
53 Dibenzofuran	1.58321	1.42357	1.55037	1.66858	1.53652	1.64295					
	+++++	1.60687					AVRG		1.57316		5.15445
54 4-Nitrophenol ##spcc##	0.13632	0.14644	0.16831	0.19631	0.18909	+++++					
	+++++	0.19827					AVRG		0.17245		15.36743
55 2,4-Dinitrotoluene	0.34244	0.33066	0.36731	0.41363	0.39125	0.28706					
	+++++	0.40713					AVRG		0.36278		12.61294

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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Cal Date : 27-Jul-2011 12:34 wilesd

Compound	10 Level 1	25 Level 2	40 Level 3	60 Level 4	120 Level 5	5 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	2 Level 7	200 Level 8									
56 Fluorene	1.29136	1.16522	1.27538	1.41604	1.30763	1.29611					
	1.30054	1.36748					AVRG		1.30247		5.57365
57 4-Chlorophenyl phenyl ether	0.64847	0.57193	0.61231	0.67014	0.62415	0.63893					
	+++++	0.64117					AVRG		0.62959		4.96994
58 Diethyl phthalate	102902	210858	330085	526305	894596	55462					
	+++++	1598317					LINR	-0.12290	1.32551		0.99843
59 4-Nitroaniline	0.31526	0.29054	0.32710	0.36796	0.34987	+++++					
	+++++	0.35111					AVRG		0.33364		8.46150
60 4,6-Dinitro-2-methylphenol	8068	27872	48383	91603	168139	+++++					
	+++++	320097					LINR	0.37245	0.14267		0.99780
61 N-Ndpa / diphenylamine (ccc)	0.55201	0.54562	0.56647	0.61761	0.58059	0.57872					
	+++++	0.59105					AVRG		0.57601		4.23831
62 1,2-Diphenylhydrazine/azobnz	0.58125	0.56011	0.59210	0.64561	0.58805	0.60006					
	+++++	0.60219					AVRG		0.59563		4.38791

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Cal Date : 27-Jul-2011 12:34 wilesd

Compound	10 Level 1	25 Level 2	40 Level 3	60 Level 4	120 Level 5	5 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	2 Level 7	200 Level 8									
63 4-Bromophenyl phenyl ether	0.18253	0.16806	0.18445	0.20045	0.18750	0.18515					
	+++++	0.19303					AVRG		0.18588		5.36698
64 Hexachlorobenzene	0.19389	0.18395	0.19237	0.21317	0.19532	0.20859					
	+++++	0.20124					AVRG		0.19836		5.06227
65 Pentachlorophenol (ccc)	11281	34447	63402	108418	193359	+++++					
	+++++	361464					LINR	0.22976	0.15927		0.99814
66 Phenanthrene	1.05786	0.97476	1.03880	1.11882	1.03903	1.14123					
	1.13991	1.06107					AVRG		1.07144		5.41446
67 Anthracene	1.01945	0.97145	1.04642	1.14793	1.07710	1.02649					
	0.92552	1.10165					AVRG		1.03950		6.82904
68 Carbazole	0.93260	0.87598	0.94773	1.04535	0.95432	0.91124					
	+++++	0.97368					AVRG		0.94870		5.60234
69 Di-n-butyl phthalate	0.92401	0.98103	1.08093	1.20616	1.11747	0.85900					
	+++++	1.13310					AVRG		1.04310		11.97250

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Cal Date : 27-Jul-2011 12:34 wilesd

Compound	10 Level 1 / 2 Level 7	25 Level 2 / 200 Level 8	40 Level 3	60 Level 4	120 Level 5	5 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2
70 Fluoranthene (ccc)	1.07833	1.04363	1.14311	1.25462	1.17278	1.04862					
	0.89804	1.19453					AVRG		1.10421		10.09227
71 Pyrene	1.12418	1.05897	1.12996	1.23135	1.13625	1.16325					
	1.01128	1.20581					AVRG		1.13263		6.35652
72 Butyl benzyl phthalate	48034	129480	227133	388334	718821	16243					
	+++++	1262908					LINR	0.16086	0.52629		0.99910
73 Benzo(a)Anthracene	0.97991	0.94766	1.02173	1.10424	1.02344	0.94855					
	0.84651	1.06157					AVRG		0.99170		8.03774
74 3,3'-Dichlorobenzidine	0.28213	0.33176	0.36645	0.42385	0.39568	+++++					
	+++++	0.41682					AVRG		0.36945		14.79836
75 Chrysene	1.05641	0.97251	1.01129	1.11197	1.02309	1.09930					
	1.14801	1.04042					AVRG		1.05787		5.50521
76 Bis(2-ethylhexyl) phthalate	64113	179215	309158	529074	973995	21700					
	+++++	1685389					LINR	0.13316	0.70325		0.99914

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INITIAL CALIBRATION DATA

Start Cal Date : 25-JUL-2011 12:21
End Cal Date : 26-JUL-2011 17:42
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Cal Date : 27-Jul-2011 12:34 wilesd

Compound	10 Level 1	25 Level 2	40 Level 3	60 Level 4	120 Level 5	5 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	2 Level 7	200 Level 8									
77 Di-n-octyl phthalate (ccc)	71984	243024	454474	837163	1593687	+++++					
	+++++	2878736					QUAD	0.000e+00	0.89382	-0.00934	0.99790
78 Benzo(b)fluoranthene	0.90931	0.93173	1.01664	1.15118	1.09614	0.81625					
	+++++	1.10299					AVRG		1.00346		12.17439
79 Benzo(k)fluoranthene	1.25189	1.12238	1.22701	1.29989	1.17475	1.15259					
	+++++	1.23608					AVRG		1.20923		5.12208
80 Benzo(a)pyrene (ccc)	95297	262635	453830	768797	1429137	32669					
	+++++	2513989					LINR	0.13710	1.13883		0.99938
85 Benzo(e)pyrene	0.89209	0.98939	1.01669	1.10569	1.11659	0.78940					
	+++++	1.12034					AVRG		1.00431		12.56234
81 Indeno(1,2,3-cd)pyrene	1.00424	1.02520	1.14175	1.27382	1.17055	0.83745					
	+++++	1.22088					AVRG		1.09627		13.69017
82 Dibenz(a,h)anthracene	0.84729	0.85090	0.92926	1.03351	0.90895	0.70945					
	+++++	0.99854					AVRG		0.89684		12.03500

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Compound	10 Level 1	25 Level 2	40 Level 3	60 Level 4	120 Level 5	5 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	2 Level 7	200 Level 8									
183 Benzo(g,h,i)perylene	0.94743	0.90654	0.97798	1.08412	0.98987	0.82522					
	+++++	1.03905					AVRG		0.96717		8.82301
176 2-Picoline	1.11879	1.09789	1.10800	1.19012	1.18851	1.24339					
	+++++	1.18573					AVRG		1.16178		4.65831
86 N-nitrosomethylethylamine	0.84826	0.82108	0.80877	0.91146	0.89310	0.87558					
	+++++	0.88531					AVRG		0.86337		4.44203
181 Furfural	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+00		0.000e+00
87 Methyl methanosulfonate	0.69793	0.70709	0.67227	0.73507	0.74015	0.72131					
	+++++	0.73702					AVRG		0.71583		3.48543
88 N-nitrosodiethylamine	0.52831	0.52098	0.52996	0.58298	0.58927	0.53025					
	+++++	0.57837					AVRG		0.55145		5.50239
89 Ethyl methanosulfonate	0.83236	0.80957	0.80856	0.88850	0.89409	0.88445					
	+++++	0.87229					AVRG		0.85569		4.41057

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	2 Level 7	200 Level 8									
90 Pentachloroethane	0.48979	0.51462	0.49193	0.53137	0.52429	0.52955					
	+++++	0.51847					AVRG		0.51429		3.31387
91 acetophenone	1.64012	1.66268	1.60625	1.76846	1.77077	1.72851					
	+++++	1.75307					AVRG		1.70427		3.93360
92 m-cresol	1.07495	1.08584	1.09742	1.20839	1.24210	0.98007					
	+++++	1.24440					AVRG		1.13331		8.84172
93 n-nitrosopyrrolidine	0.55639	0.58347	0.58568	0.65727	0.66036	0.51242					
	+++++	0.65473					AVRG		0.60147		9.58772
94 n-nitrosomorpholine	0.96855	0.91339	0.89746	0.98691	0.98501	0.94697					
	+++++	0.97598					AVRG		0.95347		3.74079
95 o-toluidine	1.85367	1.83091	1.74036	1.84680	1.96840	1.87558					
	+++++	1.76446					AVRG		1.84002		4.07324
96 n-nitrosopiperidine	0.26725	0.26919	0.27834	0.29914	0.29193	0.26269					
	+++++	0.29156					AVRG		0.28001		5.10080

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Compound	10 Level 1	25 Level 2	40 Level 3	60 Level 4	120 Level 5	5 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	2 Level 7	200 Level 8									
97 2,6-dichlorophenol	0.23250	0.26015	0.27036	0.28968	0.29598	0.22043					
	+++++	0.29036					AVRG		0.26564		11.19292
98 hexachloropropene	0.18380	0.20158	0.20677	0.22306	0.22173	+++++					
	+++++	0.22263					AVRG		0.20993		7.48714
99 N-nitro-di-n-butylamine	0.17386	0.17671	0.18573	0.20117	0.20361	0.15064					
	+++++	0.19960					AVRG		0.18447		10.36371
100 Isosafrole	0.23086	0.24454	0.24453	0.25741	0.25924	0.21778					
	+++++	0.26166					AVRG		0.24515		6.60998
101 1,2,4,5-tetrachlorobenzene	0.33037	0.32186	0.31702	0.34215	0.33206	0.34215					
	+++++	0.33162					AVRG		0.33103		2.83784
102 safrole	0.38675	0.39276	0.39645	0.43857	0.44255	0.31587					
	+++++	0.44204					AVRG		0.40214		11.28265
103 1-chloronaphthalene	1.05671	1.05216	1.00148	1.09381	1.02629	1.09672					
	+++++	1.06824					AVRG		1.05649		3.25757

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Compound	10 Level 1	25 Level 2	40 Level 3	60 Level 4	120 Level 5	5 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	2 Level 7	200 Level 8									
104 m-dinitrobenzene	4574	16021	30691	50246	113041	+++++					
	+++++	164156					LINR	0.30536	0.18022		0.99886
105 pentachlorobenzene	0.49384	0.49149	0.47363	0.50068	0.49428	0.49699					
	+++++	0.49676					AVRG		0.49253		1.79132
106 1-naphthylamine	1.03172	1.10264	1.12813	1.12811	1.20402	0.94313					
	+++++	1.12249					AVRG		1.09432		7.64168
182 2-Chlorobenzalmalononitrile	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+00		0.000e+00
107 2-naphthylamine	1.17234	1.19446	1.12106	1.10556	1.20643	1.04335					
	+++++	0.97654					AVRG		1.11711		7.52171
108 2,3,4,6-tetrachlorophenol	8301	29231	55231	83863	193044	+++++					
	+++++	297593					LINR	0.36656	0.32356		0.99958
109 5-nitro-o-toluidine	0.24241	0.31623	0.32645	0.35527	0.38360	+++++					
	+++++	0.37331					AVRG		0.33288		15.44211

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Compound	10 Level 1	25 Level 2	40 Level 3	60 Level 4	120 Level 5	5 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	2 Level 7	200 Level 8									
110 diphenylamine	0.55004	0.56783	0.56560	0.62821	0.61480	0.55309					
	+++++	0.62929					AVRG		0.58698		6.06378
111 1,3,5-trinitrobenzene	11560	44389	91896	149470	358646	+++++					
	+++++	540041					LINR	0.48137	0.30622		0.99911
112 phenacetin	21494	70266	123029	191497	417279	+++++					
	+++++	626612					LINR	0.24952	0.34639		0.99973
113 4-aminobiphenyl	0.66995	0.73103	0.73727	0.78201	0.72955	0.60468					
	+++++	0.79843					AVRG		0.72184		9.16962
114 pentachloronitrobenzene	0.07440	0.08057	0.07838	0.08857	0.08751	+++++					
	+++++	0.08768					AVRG		0.08285		7.12543
115 Dinoseb	4899	19963	42189	69480	173429	+++++					
	+++++	263707					QUAD	0.51371	6.93000	-0.19601	0.99879
178 N-Nitroquinoline-n-oxide	+++++	+++++	+++++	+++++	+++++	0.02531					
	+++++	+++++					AVRG		0.02531		0.000e+00

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	2 Level 7	200 Level 8									
77 Methapyrilene HCL	+++++	+++++	+++++	+++++	+++++	0.18611					
	+++++	+++++					AVRG		0.18611		0.000e+00
84 Benzidine	+++++	0.64208	0.67578	0.70479	0.78620	+++++					
	+++++	0.69261					AVRG		0.70029		7.63962
116 p-(dimethylamino)azobenzene	0.22990	0.28869	0.29849	0.33111	0.33370	+++++					
	+++++	0.34259					AVRG		0.30408		13.84467
118 2-acetylaminofluorene	21105	89339	173445	275193	647590	+++++					
	+++++	1004618					LINR	0.40642	0.52332		0.99943
117 o-tolidine	+++++	0.58782	0.63508	0.67149	0.78445	+++++					
	+++++	0.70158					AVRG		0.67608		10.94068
119 7,12-dimethylbenz(a)anthracen	35187	110374	197177	303799	669726	+++++					
	+++++	1049627					LINR	0.25771	0.53615		0.99978
120 3-methylcholanthrene	30831	100928	189476	306092	691483	+++++					
	+++++	1104775					LINR	0.33332	0.64849		0.99956

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Compound	10 Level 1	25 Level 2	40 Level 3	60 Level 4	120 Level 5	5 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	2 Level 7	200 Level 8										
183 2-chloroacetophenone	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++					AVRG		0.000e+00		0.000e+00	<-
184 Benzaldehyde	0.97253	0.90520	0.92350	0.97480	0.92812	0.99159						
	+++++	0.92464					AVRG		0.94577		3.49553	
185 Benzonitrile	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++					AVRG		0.000e+00		0.000e+00	<-
187 Atrazine	13935	46040	78411	135138	260362	5965						
	+++++	452729					LINR	0.10539	0.20283		0.99971	
188 1,1'-Biphenyl	1.65013	1.54182	1.54714	1.58558	1.51355	1.72932						
	+++++	1.52584					AVRG		1.58477		4.95347	
189 Caprolactam	9107	31827	54789	98982	194813	3639						
	+++++	344255					LINR	0.24602	0.18829		0.99935	
M 186 PAH, Summed Target List	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++					AVRG		0.000e+00		0.000e+00	<-

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	2 Level 7	200 Level 8										
190 Tributylphosphate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++					AVRG		0.000e+00		0.000e+00	<-
191 Lindane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++					AVRG		0.000e+00		0.000e+00	<-
192 2,6-Dimethylnaphthalene	0.89698	0.98847	1.00368	1.03599	1.09087	0.89373						
	0.74035	1.05262					AVRG		0.96284		11.82520	
193 2,3,5-Trimethylnaphthalene	0.41832	0.45571	0.46218	0.49514	0.51382	0.41883						
	0.34066	0.50025					AVRG		0.45061		12.64980	
194 Dibenzothiopene	0.82866	0.86491	0.87219	0.91807	0.92711	0.85768						
	0.73230	0.91225					AVRG		0.86415		7.31058	
195 1-Methylphenanthrene	0.63174	0.67341	0.69443	0.73384	0.75929	0.61479						
	0.48768	0.73753					AVRG		0.66659		13.28266	
196 Perylene	0.97605	1.01021	1.02518	1.09390	1.10520	0.93922						
	0.84243	1.09448					AVRG		1.01083		8.98207	

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Compound	10 Level 1 / 2 Level 7	25 Level 2 / 200 Level 8	40 Level 3	60 Level 4	120 Level 5	5 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
97 1-methylnaphthalene	0.58085	0.59490	0.60414	0.64492	0.65285	0.59532					
	0.51622	0.64961					AVRG		0.60485		7.53391
199 Phentermine	50058	142951	255847	413565	913462	+++++					
	+++++	1516211					QUAD	0.29487	1.09311	0.00417	0.99951
200 3,3'-Dimethoxybenzidine	6756	31828	72723	138099	367482	+++++					
	+++++	665596					QUAD	0.61222	3.52767	-0.18665	0.99819
201 Dibenzo(a,e)pyrene	37049	129784	263967	434937	995427	9754					
	+++++	1689543					WLINR	0.21016	0.86635		0.99448
202 1,4-Phenylenediamine	23562	69603	130636	210453	460273	+++++					
	+++++	787955					LINR	0.31117	0.45947		0.99973
$ 7 2-Fluorophenol	1.06988	0.98730	1.11994	1.21589	1.10180	1.01703					
	+++++	1.21736					AVRG		1.10417		8.09840
$ 8 Phenol-d5	1.29389	1.18326	1.33759	1.46459	1.32159	1.23958					
	+++++	1.42697					AVRG		1.32392		7.45195

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	2 Level 7	200 Level 8										
$ 9 Nitrobenzene-d5	0.31228	0.28890	0.32251	0.34853	0.32814	0.28990						
	+++++	0.34071					AVRG		0.31871		7.28767	
$ 10 2-Fluorobiphenyl	1.23665	1.14054	1.21783	1.32209	1.23356	1.31311						
	+++++	1.29403					AVRG		1.25112		5.11528	
$ 11 2,4,6-Tribromophenol	0.06759	0.07466	0.08246	0.09125	0.08496	0.07041						
	+++++	0.08918					AVRG		0.08007		11.58104	
$ 12 Terphenyl-d14	0.74263	0.70344	0.74852	0.82475	0.75575	0.74566						
	+++++	0.79796					AVRG		0.75982		5.23401	
$ 179 13C6-naphthalene	1.12903	1.07092	1.09342	1.10067	1.05693	1.07016						
	+++++	+++++					AVRG		1.08685		2.41366	
$ 173 Pyridine-d5	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++					AVRG		0.000e+00		0.000e+00	<-
$ 180 Pentachlorophenol C13	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++					AVRG		0.000e+00		0.000e+00	<-

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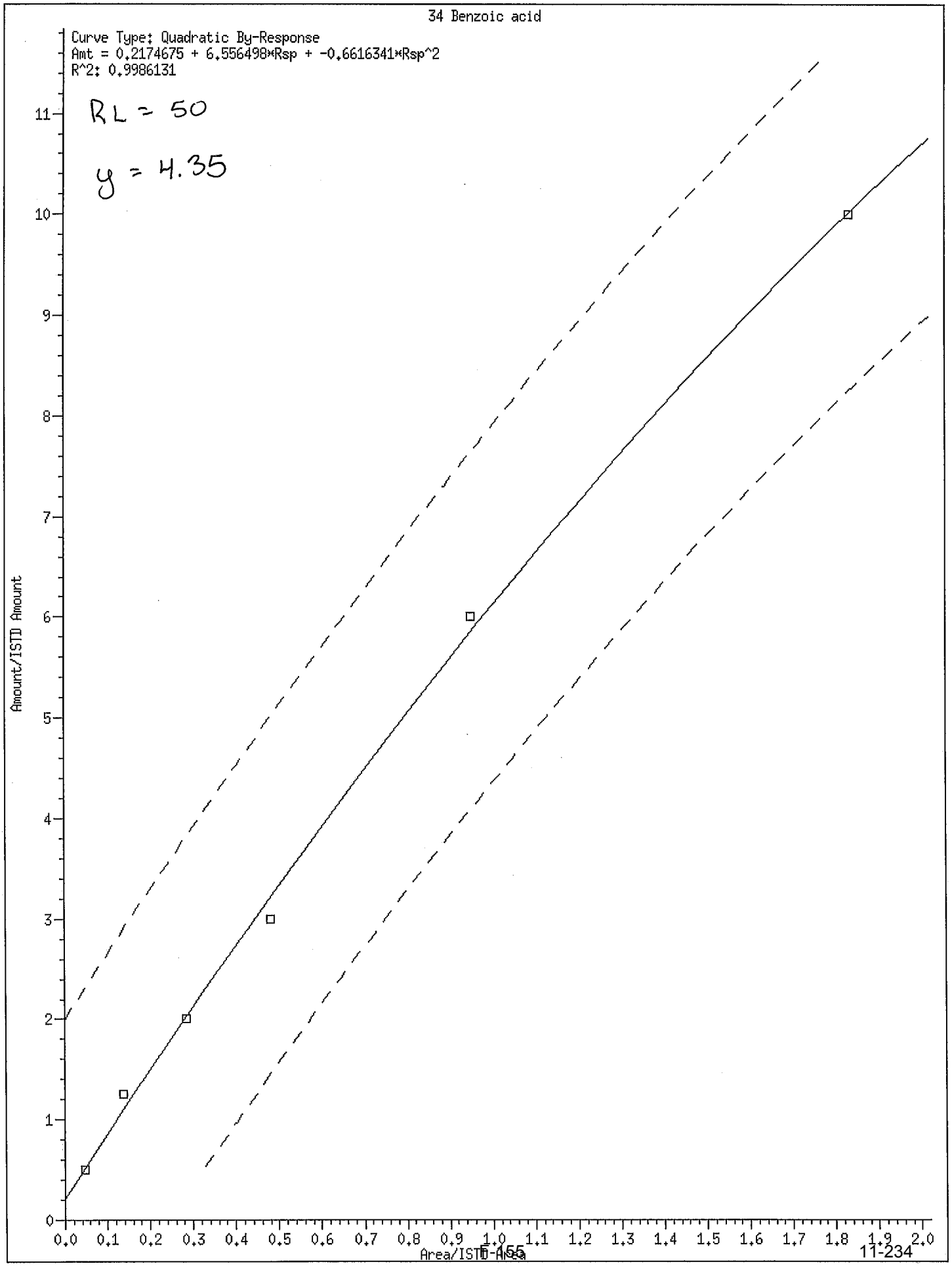
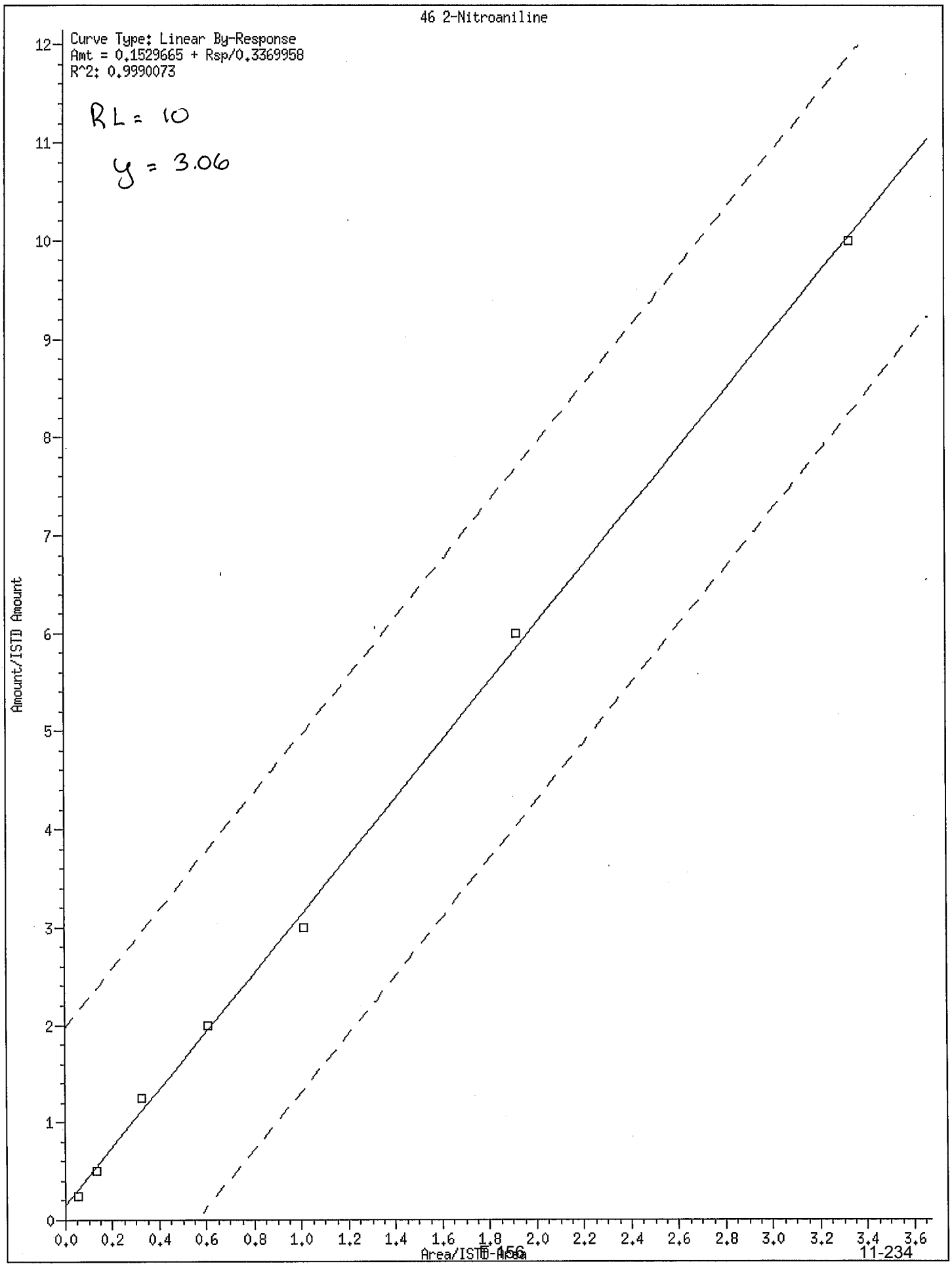
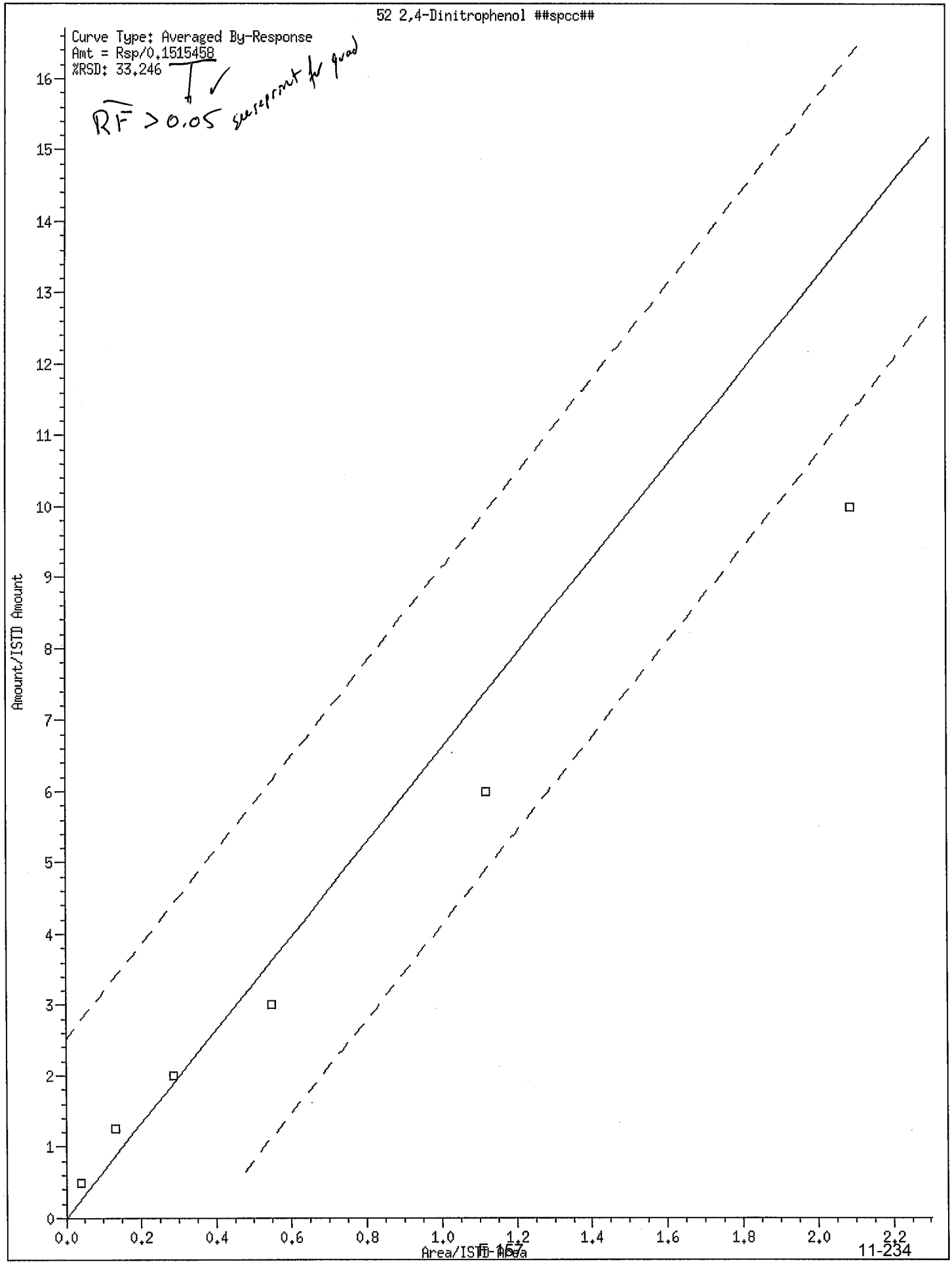
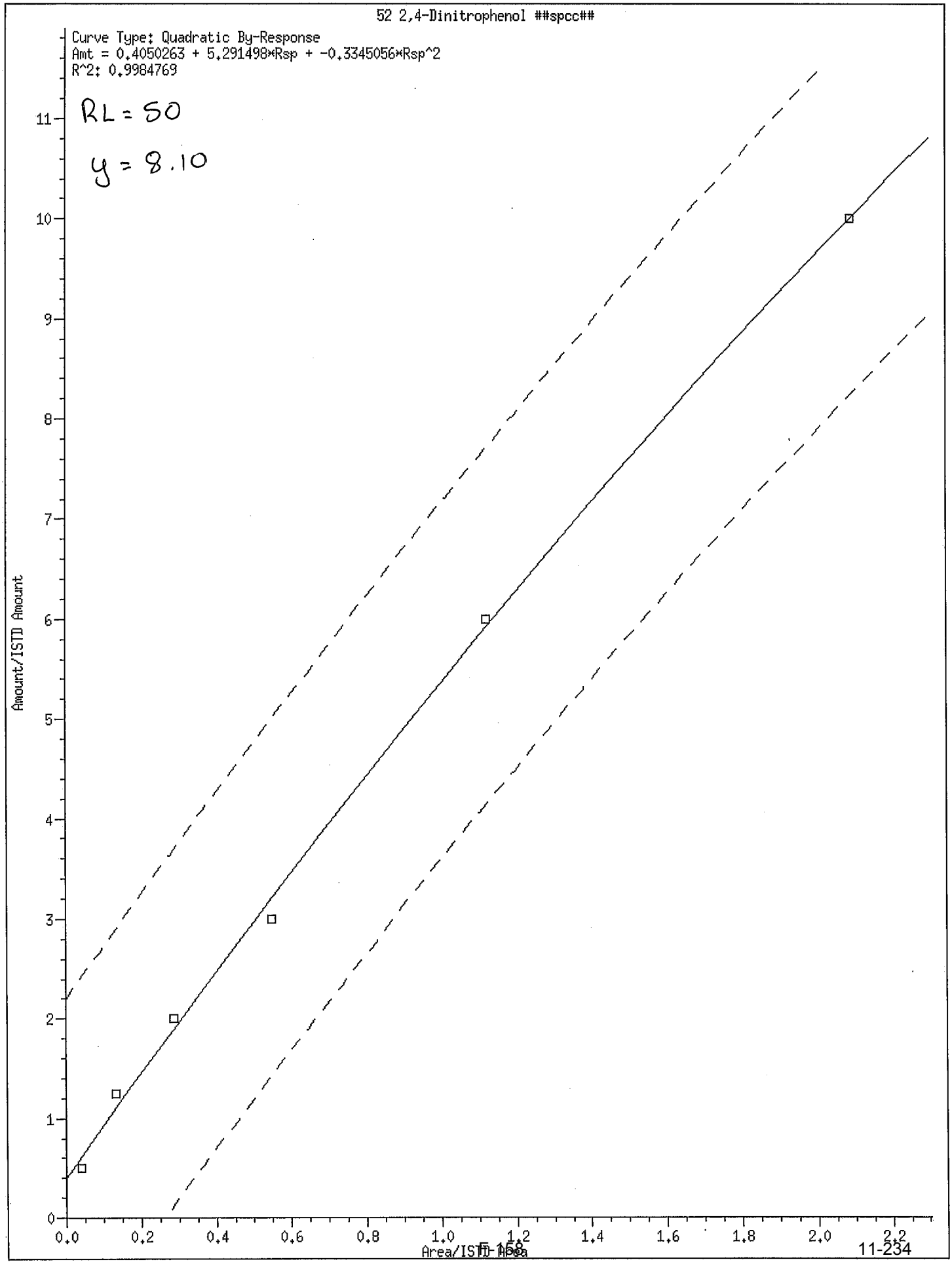
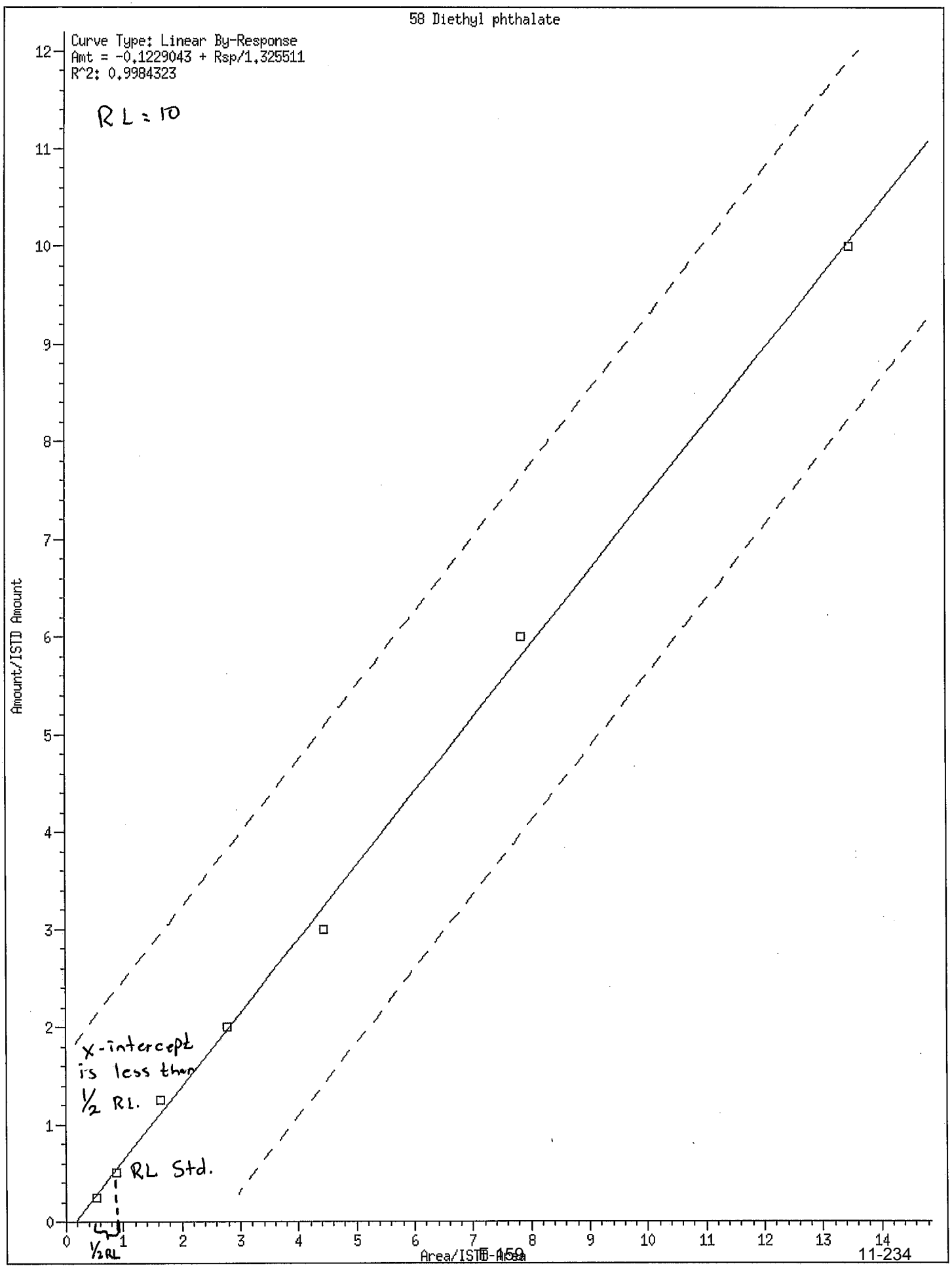
Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Linear	Amt = b + Rsp/m1	Response
Wt Linear	Amt = b + Rsp/m1	Response
Quad	Amt = b + m1*Rsp + m2*Rsp^2	Response

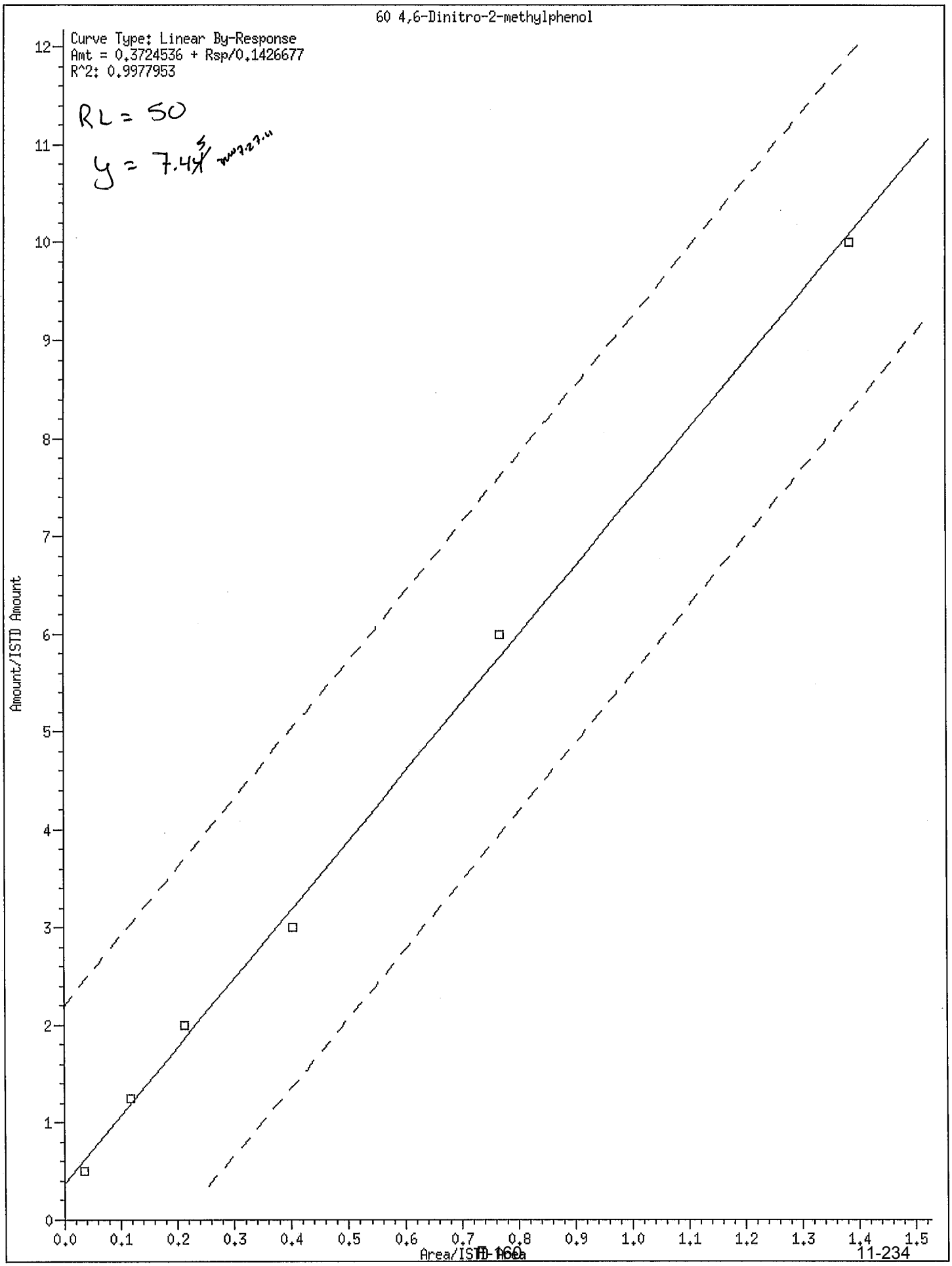

34 Benzoic acid
Curve Type: Quadratic By-Response
Amt = 0.2174675 + 6.556498*Rsp + -0.6616341*Rsp^2
R^2: 0.9986131
RL = 50
y = 4.35
Amount/ISTD Amount
Area/ISTD Area
0
1
2
3
4
5
6
7
8
9
10
11
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
2.0

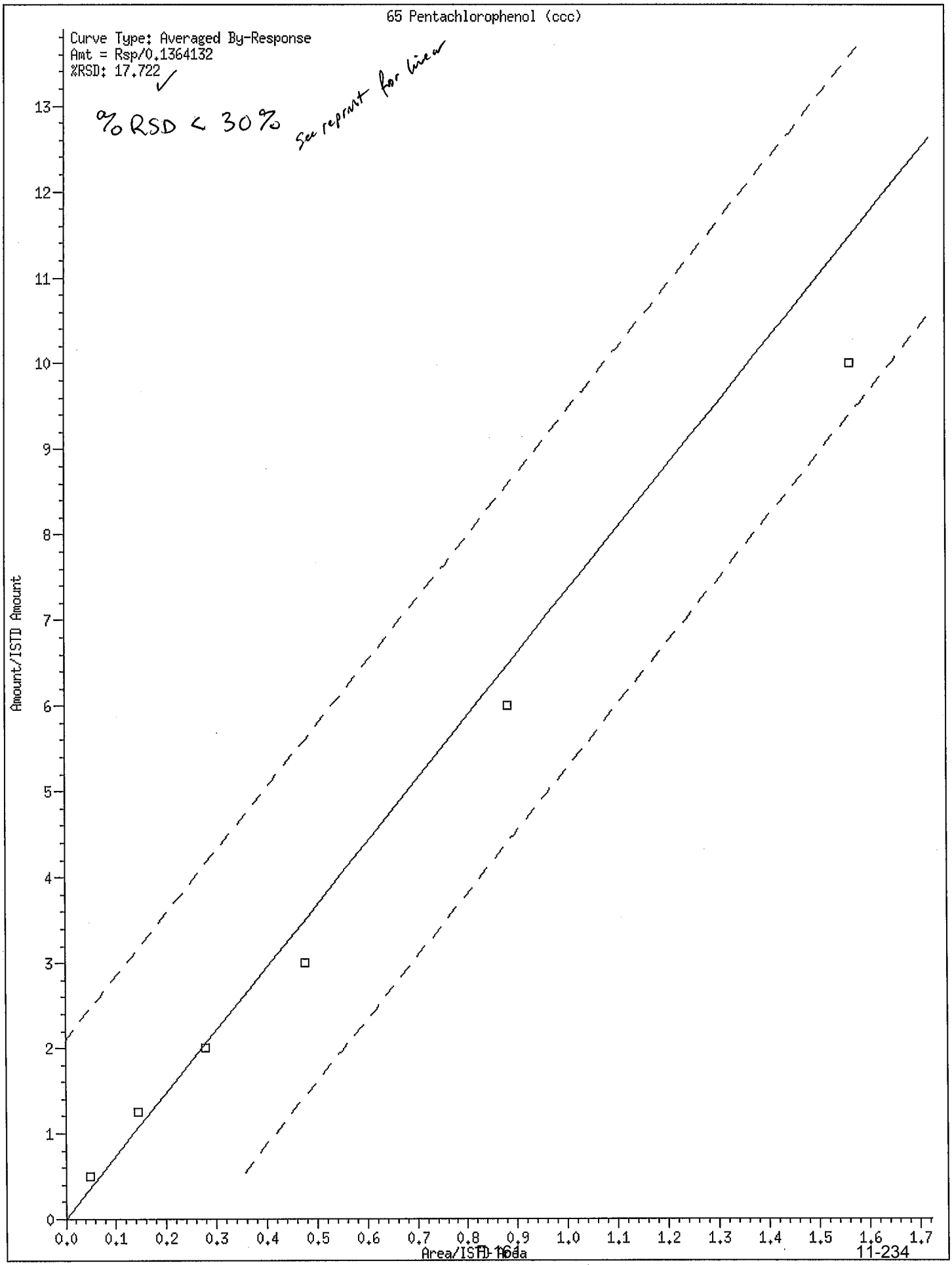

46 2-Nitroaniline
Curve Type: Linear By-Response
Amt = 0.1529665 + Rsp/0.3369958
R^2: 0.9990073
RL = 10
y = 3.06
Amount/ISTD Amount
Area/ISTD Area
0
1
2
3
4
5
6
7
8
9
10
11
12
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
2.2
2.4
2.6
2.8
3.0
3.2
3.4
3.6

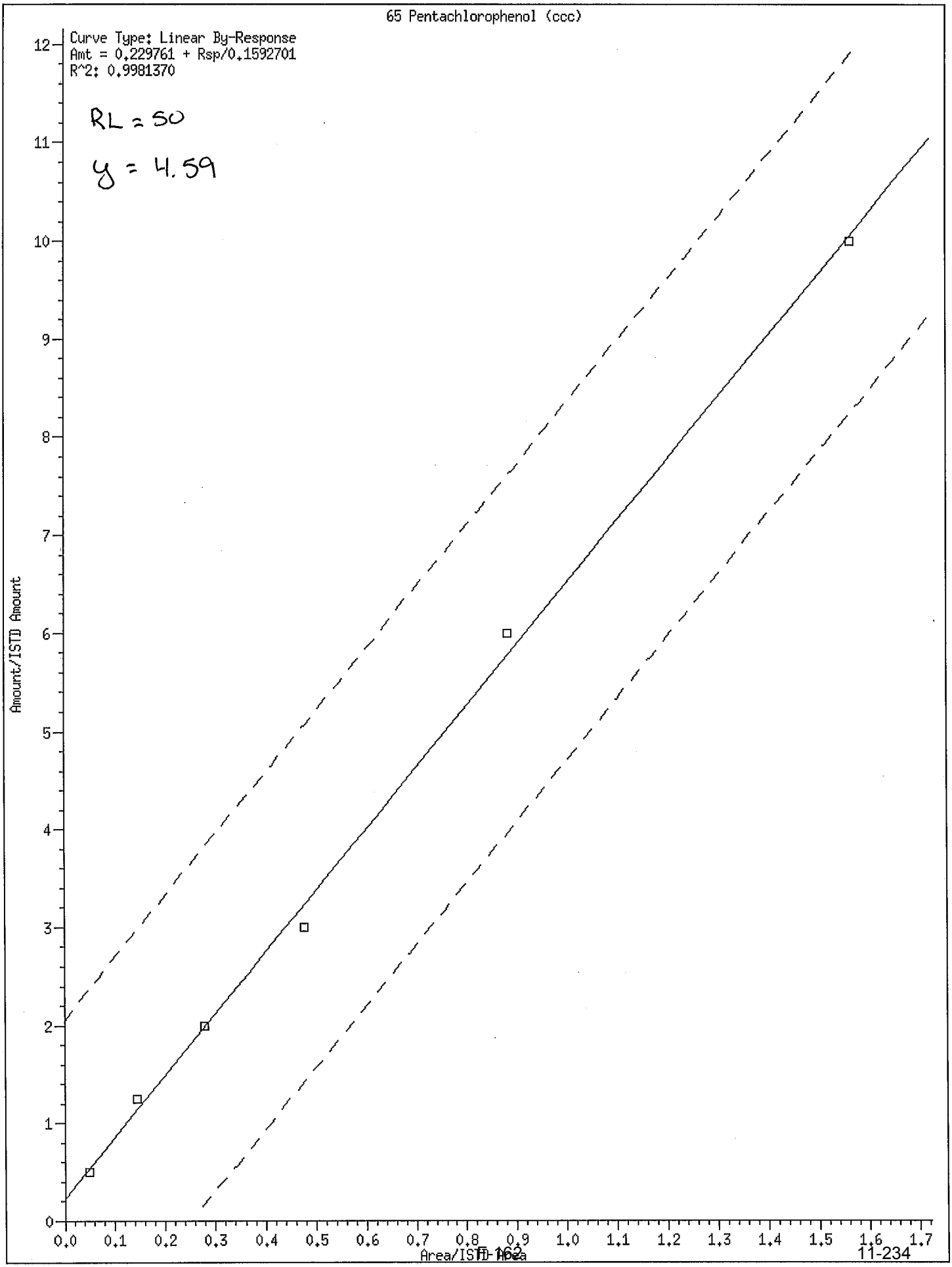

52 2,4-Dinitrophenol ##spcc##
Curve Type: Averaged By-Response
Amt = Rsp/0.1515458
%RSD: 33.246
RF > 0.05 acceptable for quad
Amount/ISTD Amount
Area/ISTD Area
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
2.2

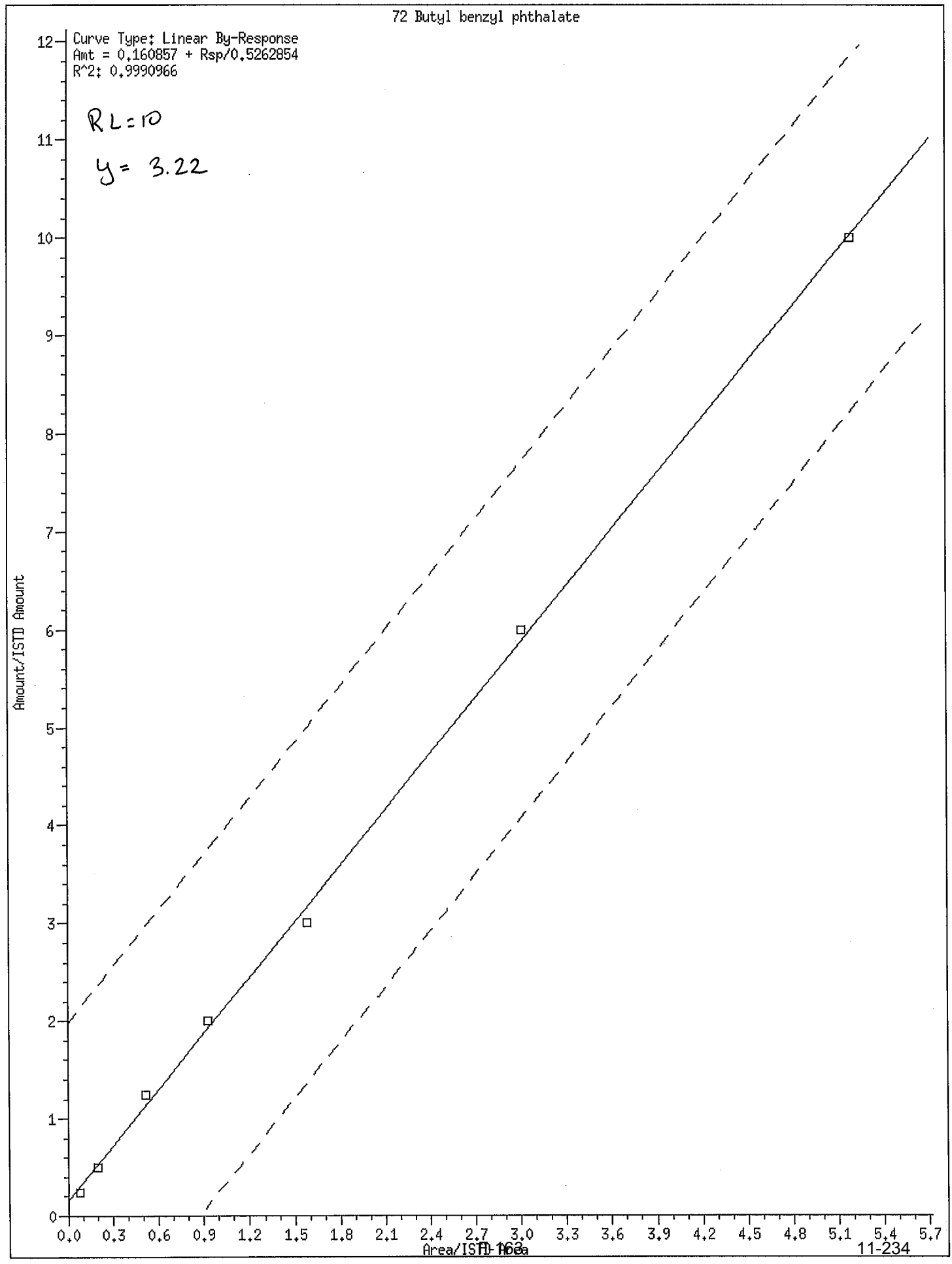

52 2,4-Dinitrophenol ##spcc##
Curve Type: Quadratic By-Response
Amt = 0.4050263 + 5.291498*Rsp + -0.3345056*Rsp^2
R^2: 0.9984769
RL = 50
y = 8.10
Amount/ISTD Amount
Area/ISTD Area
0
1
2
3
4
5
6
7
8
9
10
11
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
2.2

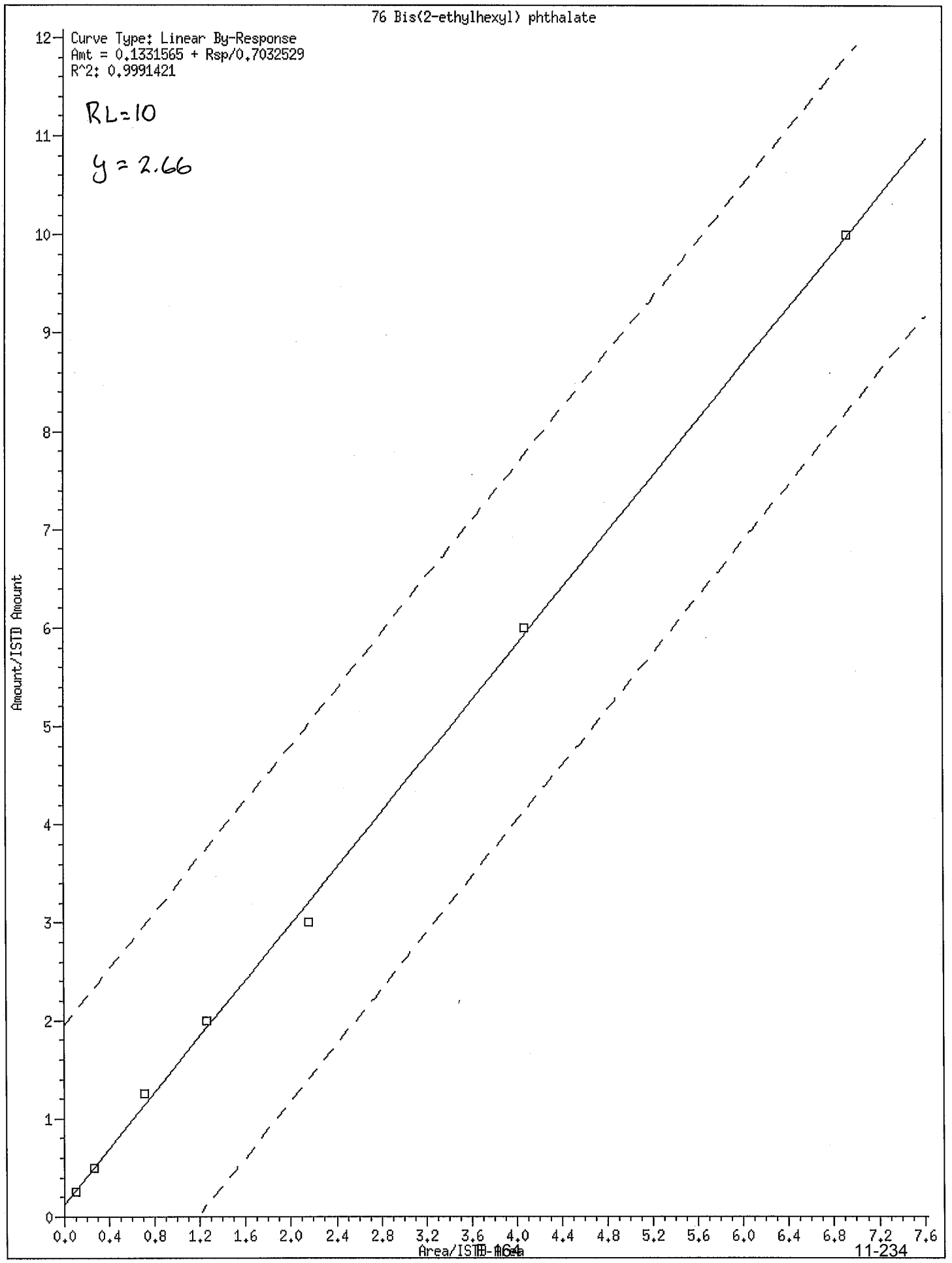

58 Diethyl phthalate
Curve Type: Linear By-Response
Amt = -0.1229043 + Rsp/1.325511
R^2: 0.9984323
RL = 10
Amount/ISTD Amount
Area/ISTD Area
½RL
RL Std.
x-intercept is less than ½ RL.
11-234

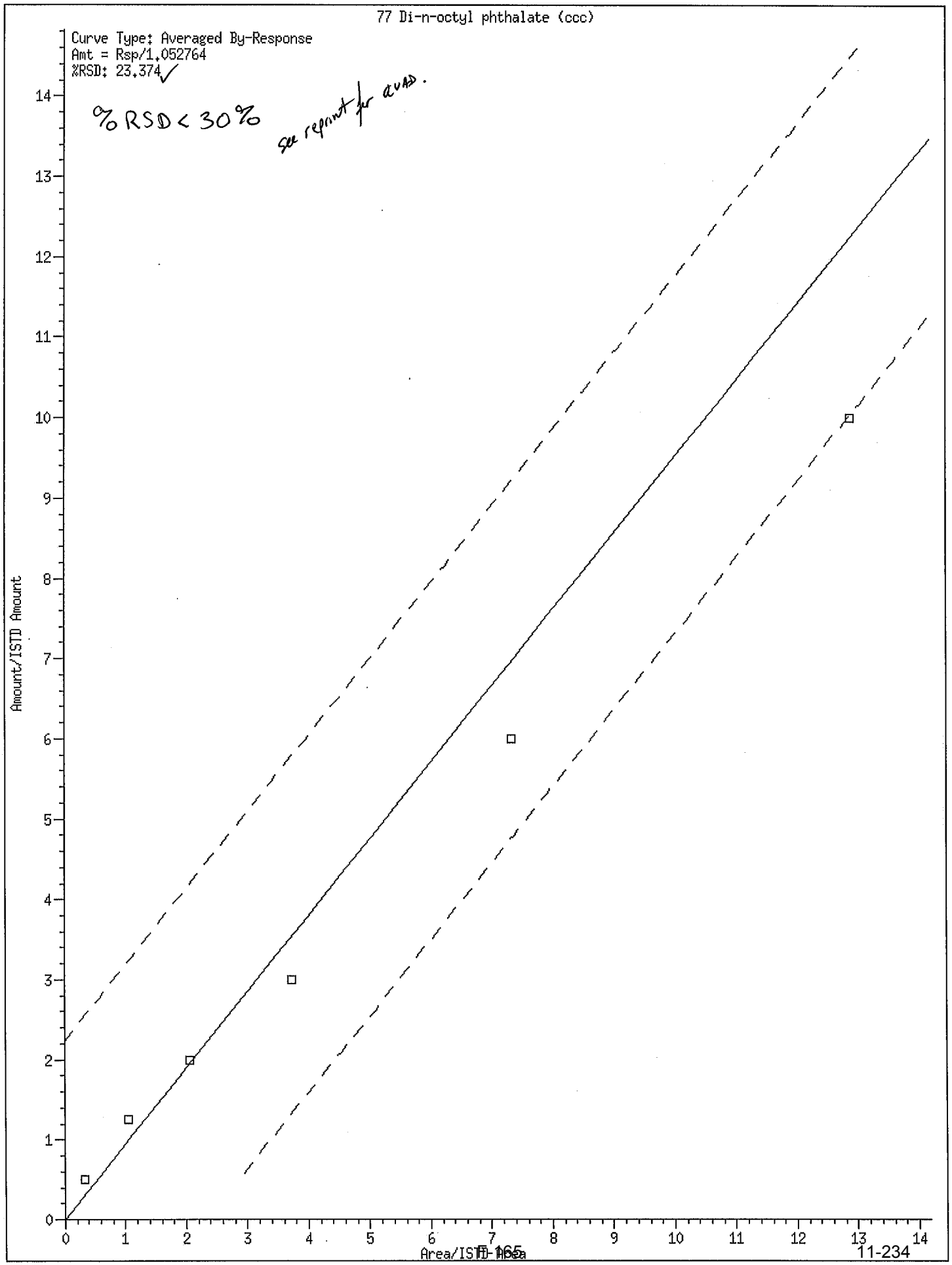

60 4,6-Dinitro-2-methylphenol
Curve Type: Linear By-Response
Amt = 0.3724536 + Rsp/0.1426677
R^2: 0.9977953
RL = 50
y = 7.4x
Amount/ISTD Amount
Area/ISTD Area
11-234

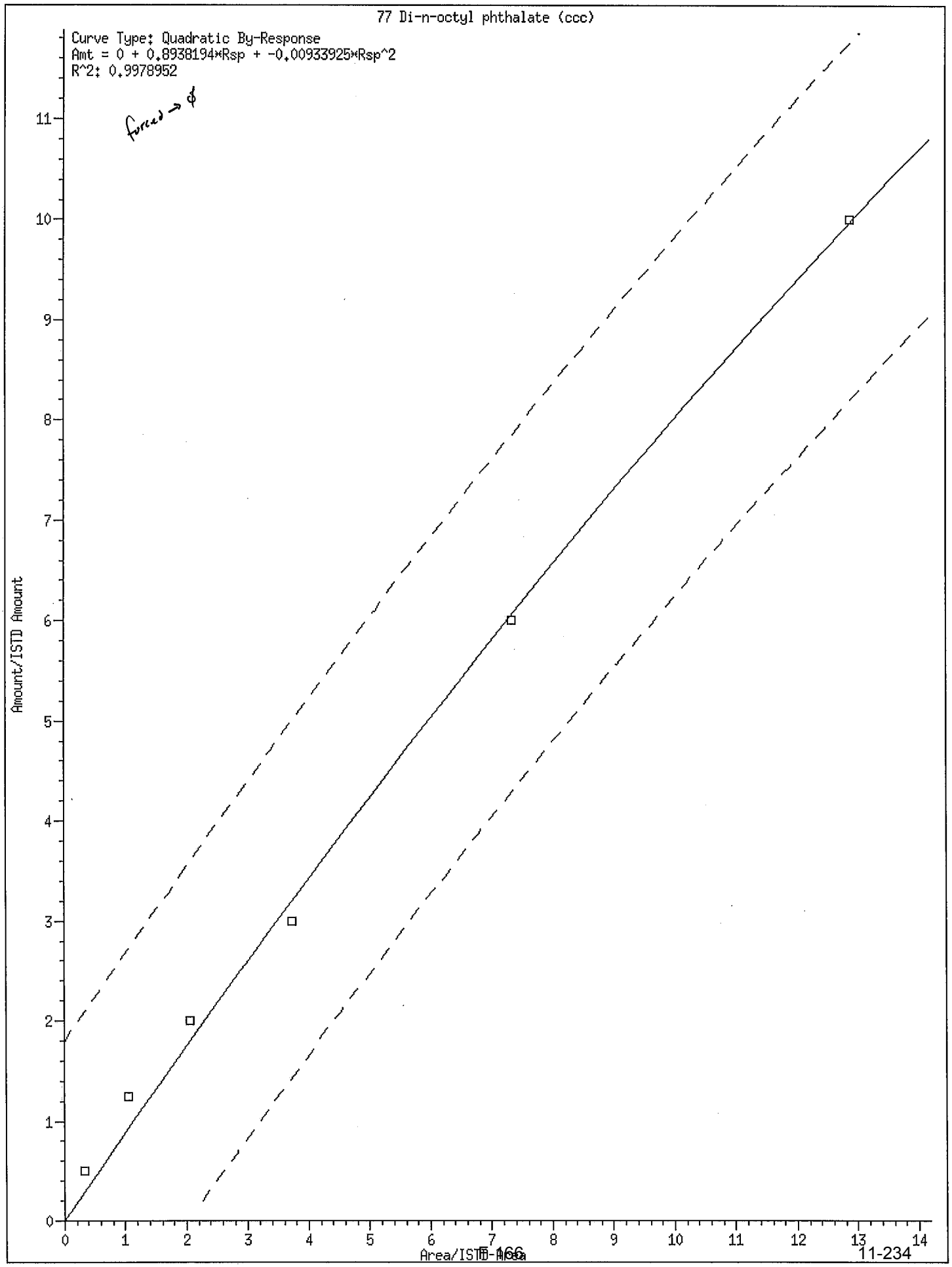

65 Pentachlorophenol (ccc)
Curve Type: Averaged By-Response
Amt = Rsp/0.1364132
%RSD: 17.722
%RSD < 30%
See reprint for linear
Amount/ISTD Amount
Area/ISTD Area
11-234

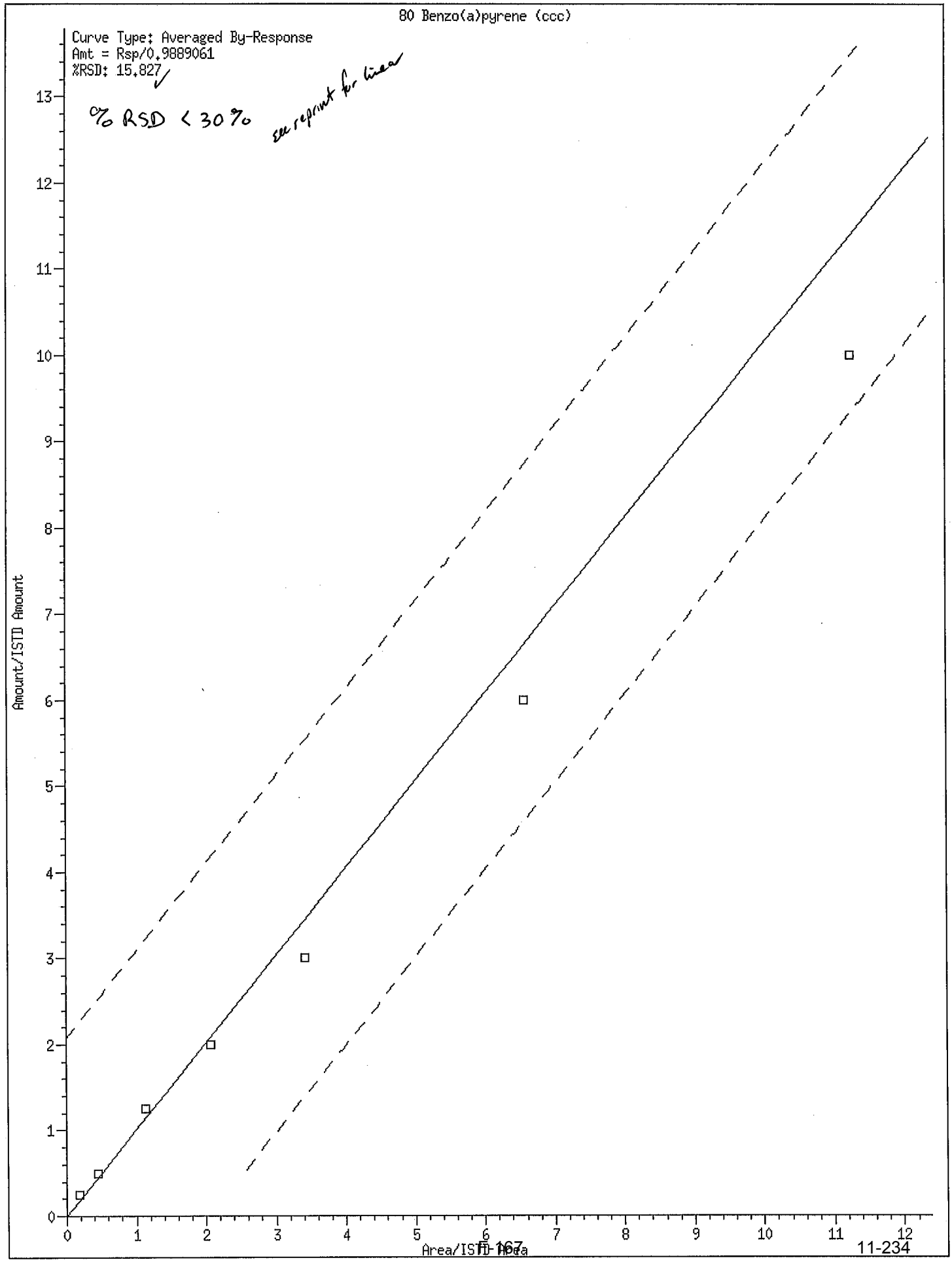

65 Pentachlorophenol (ccc)
Curve Type: Linear By-Response
Amt = 0.229761 + Rsp/0.1592701
R^2: 0.9981370
RL = 50
y = 4.59
Amount/ISTD Amount
Area/ISTD Area
0
1
2
3
4
5
6
7
8
9
10
11
12
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
1.4
1.5
1.6
1.7

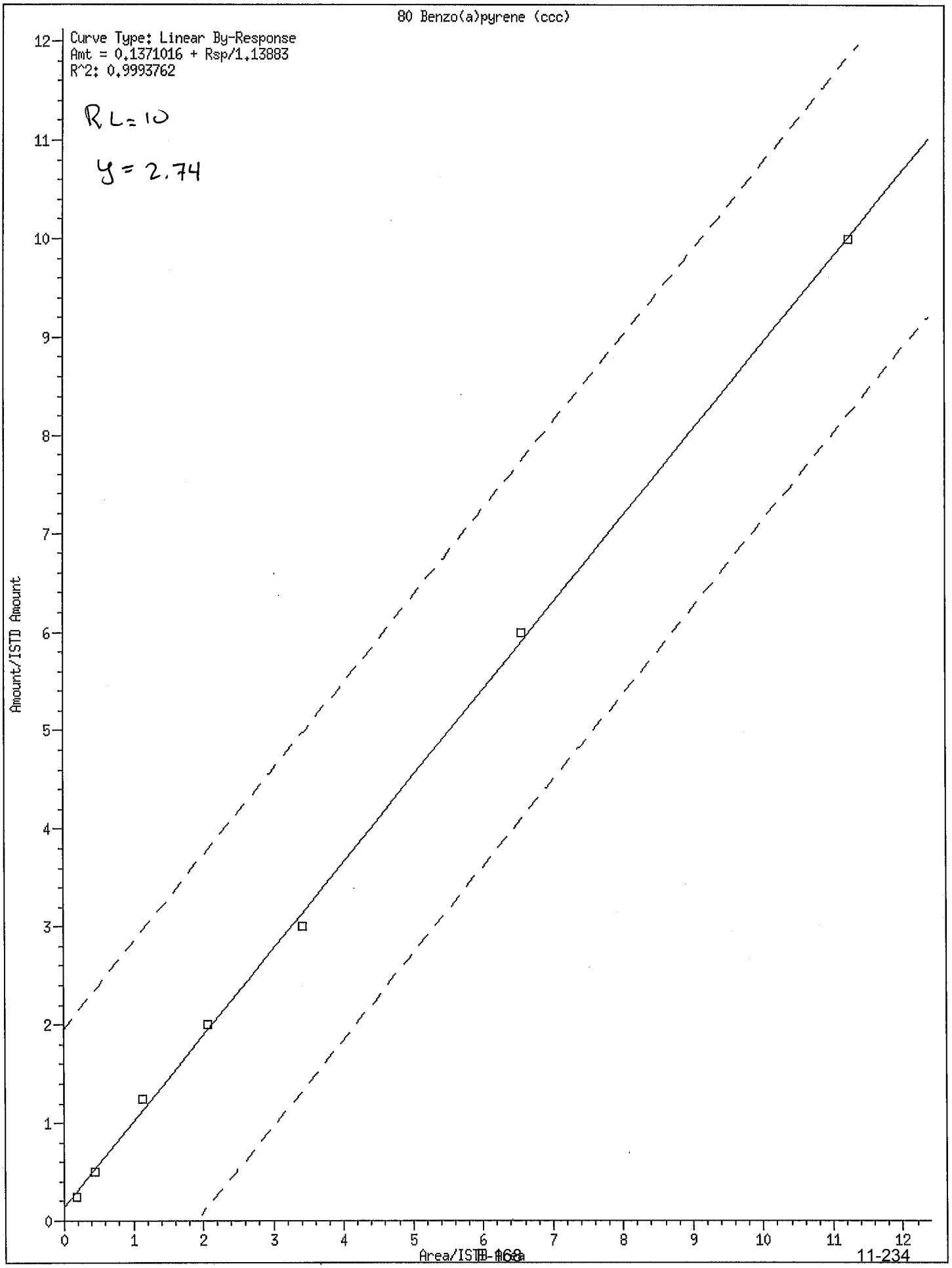

72 Butyl benzyl phthalate
Curve Type: Linear By-Response
Amt = 0.160857 + Rsp/0.5262854
R^2: 0.9990966
RL=10
y= 3.22
Amount/ISTD Amount
Area/ISTD Area
0
1
2
3
4
5
6
7
8
9
10
11
12
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
3.0
3.3
3.6
3.9
4.2
4.5
4.8
5.1
5.4
5.7

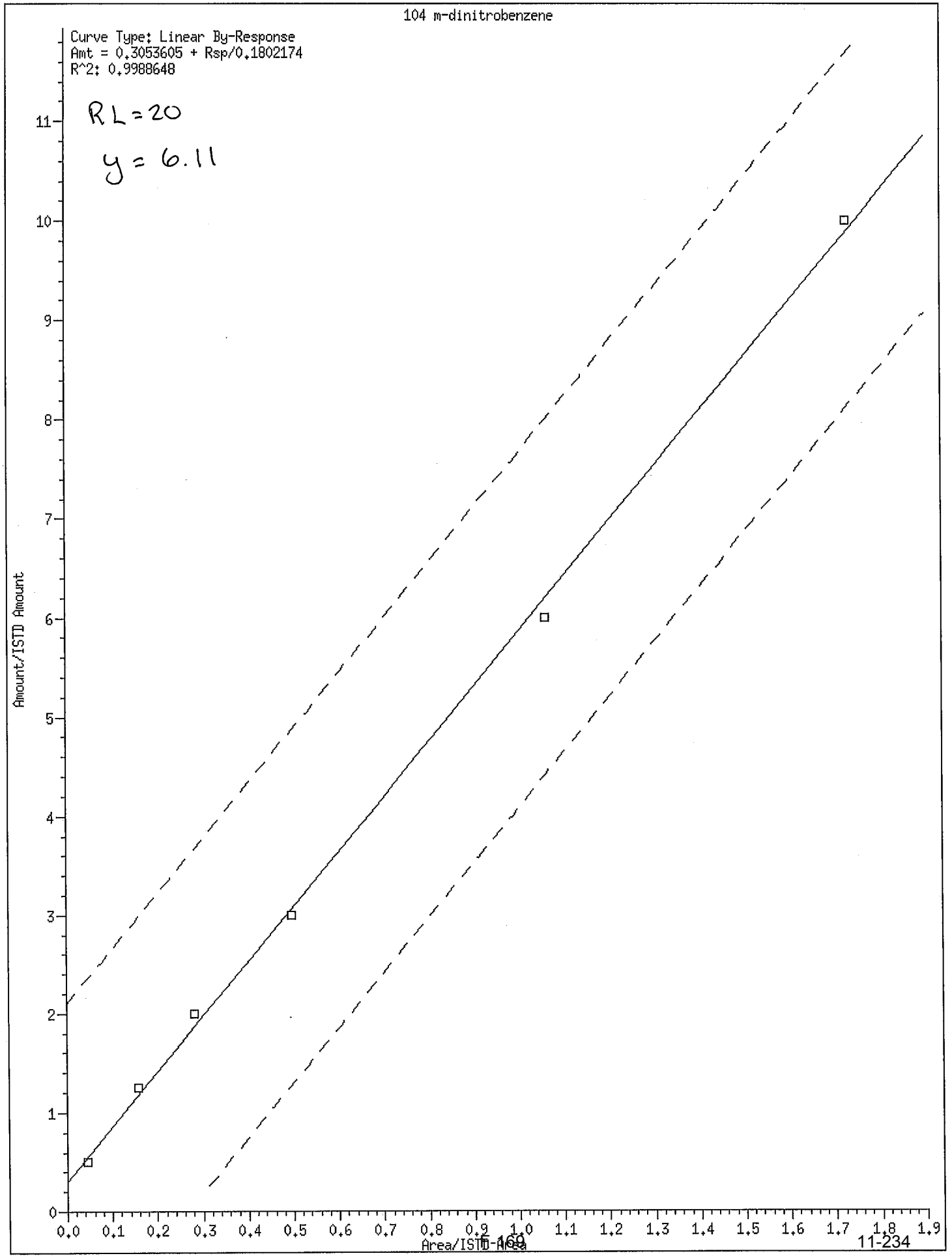

76 Bis(2-ethylhexyl) phthalate
Curve Type: Linear By-Response
Amt = 0.1331565 + Rsp/0.7032529
R^2: 0.9991421
RL=10
y = 2.66
Amount/ISTD Amount
Area/ISTD
11-234

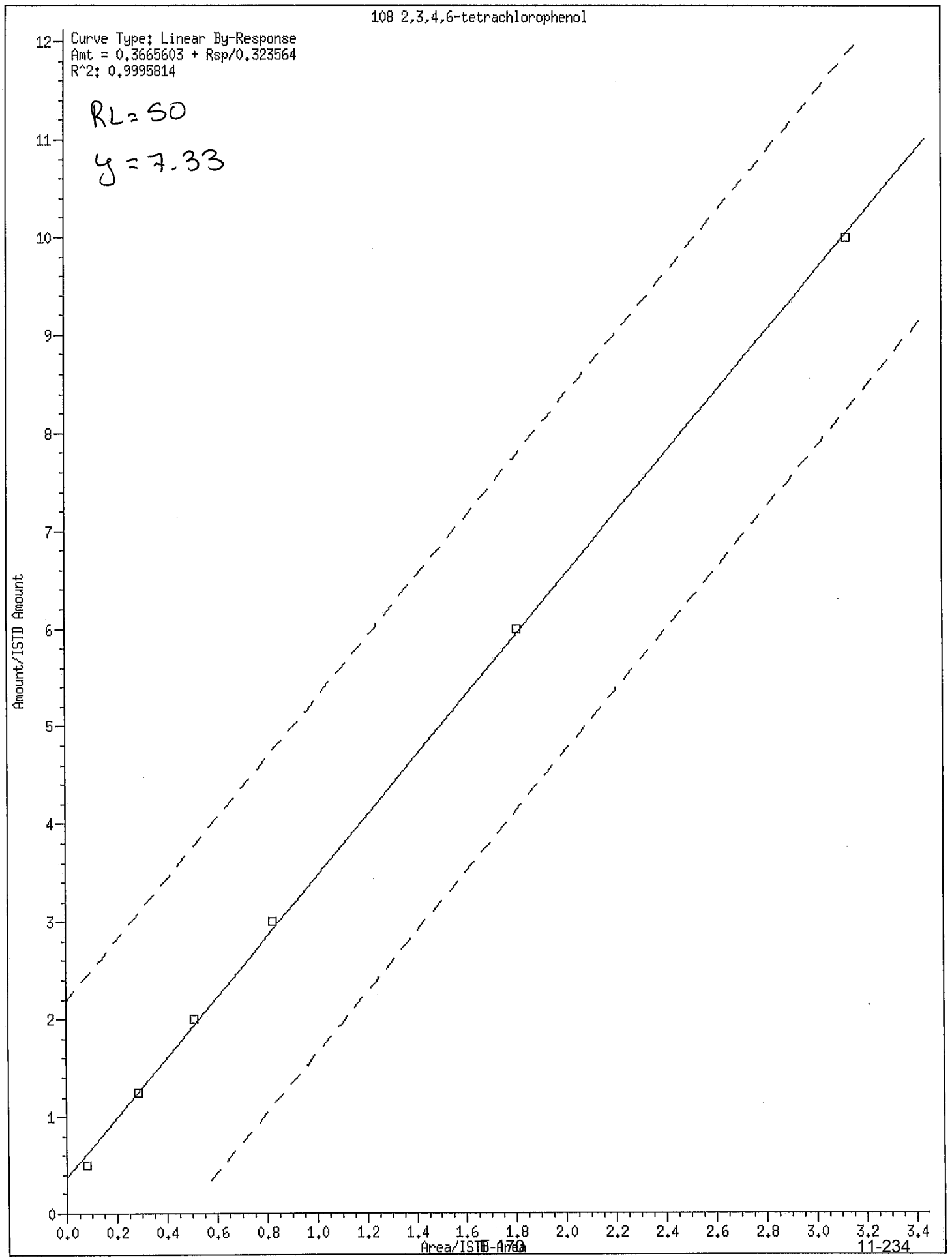

77 Di-n-octyl phthalate (ccc)
Curve Type: Averaged By-Response
Amt = Rsp/1.052764
%RSD: 23.374
%RSD < 30%
see reprint for avg.
Amount/ISTD Amount
Area/ISTD Area
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14

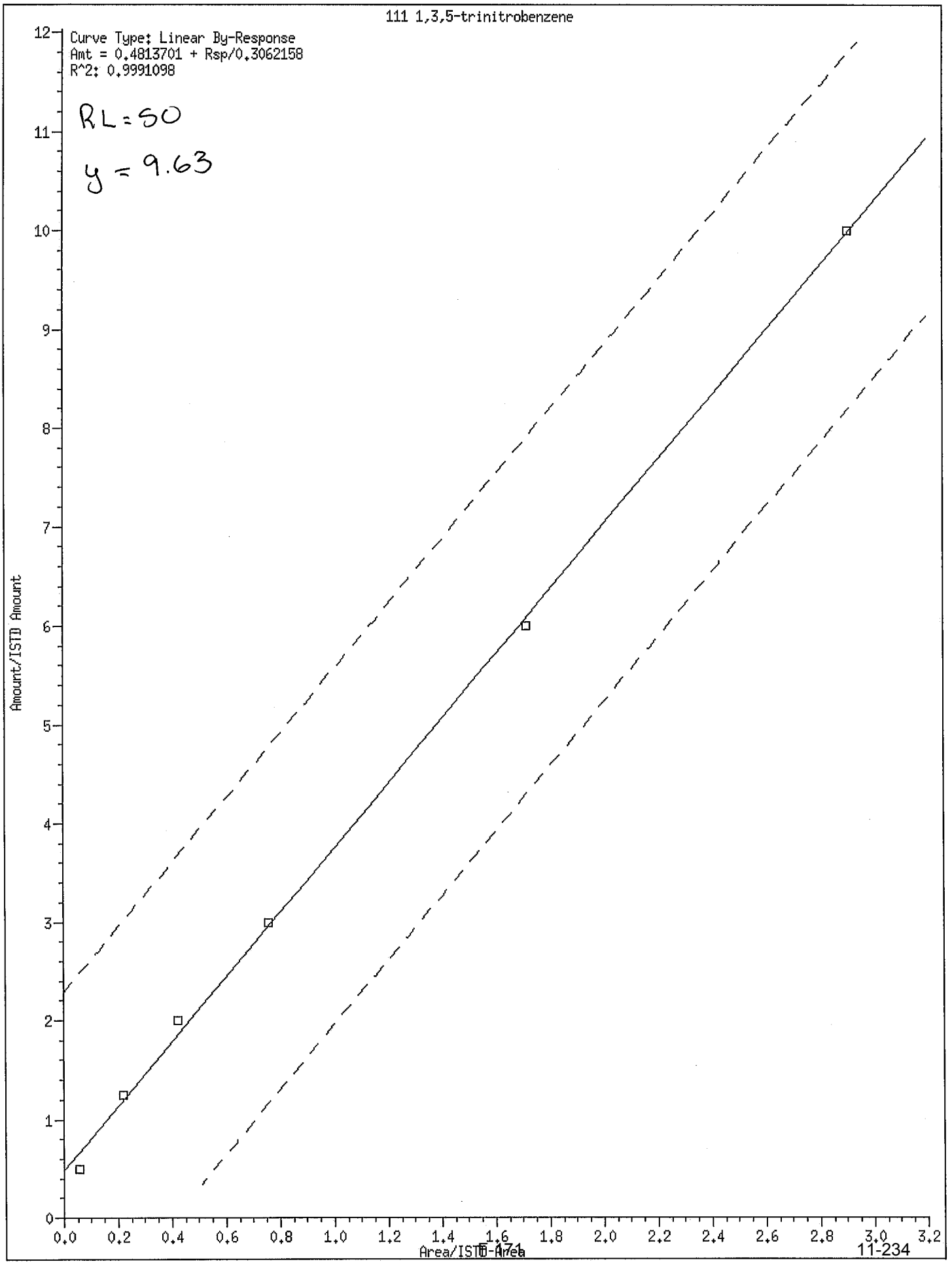

77 Di-n-octyl phthalate (ccc)
Curve Type: Quadratic By-Response
Amt = 0 + 0.8938194*Rsp + -0.00933925*Rsp^2
R^2: 0.9978952
forced → 0
Amount/ISTD Amount
Area/ISTD Area
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14


80 Benzo(a)pyrene (ccc)
Curve Type: Averaged By-Response
Amt = Rsp/0.9889061
%RSD: 15.827
% RSD < 30 %
see reprint for linear
Amount/ISTD Amount
Area/ISTD Area
0
1
2
3
4
5
6
7
8
9
10
11
12
13

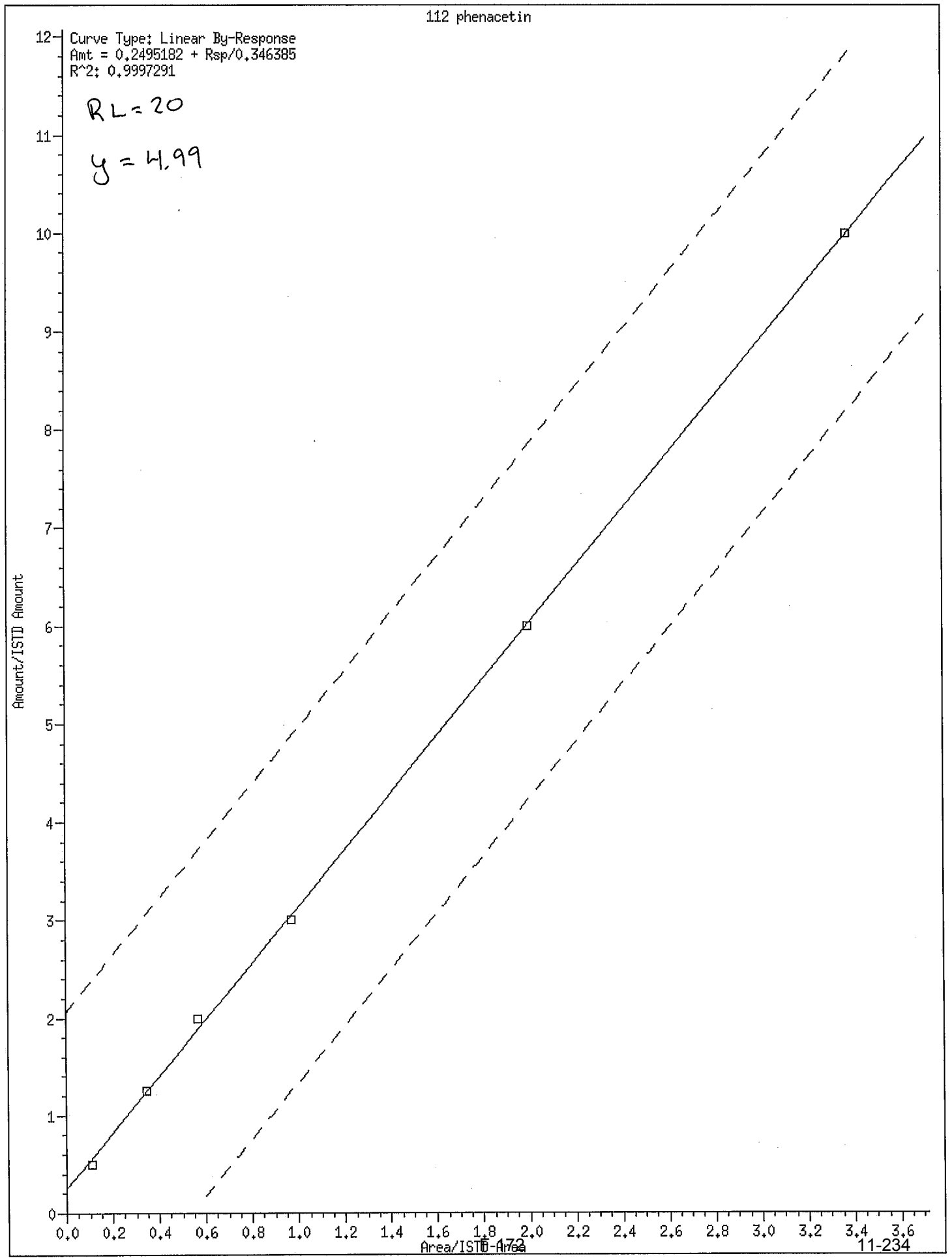

80 Benzo(a)pyrene (ccc)
Curve Type: Linear By-Response
Amt = 0.1371016 + Rsp/1.13883
R^2: 0.9993762
RL=10
y = 2.74
Amount/ISTD Amount
Area/ISTD
11-234

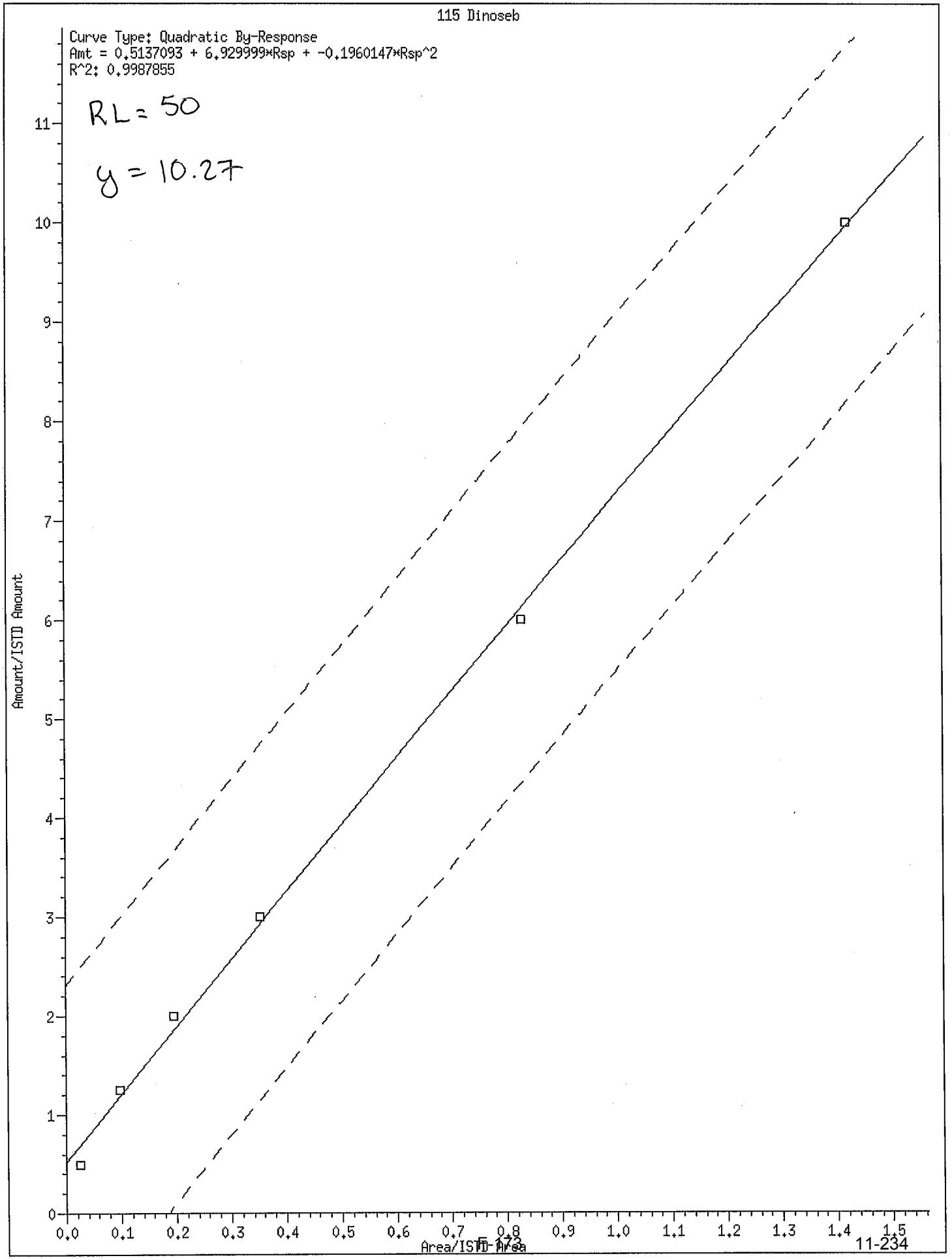

104 m-dinitrobenzene
Curve Type: Linear By-Response
Amt = 0.3053605 + Rsp/0.1802174
R^2: 0.9988648
RL=20
y = 6.11
Amount/ISTD Amount
Area/ISTD Area
0
1
2
3
4
5
6
7
8
9
10
11
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9

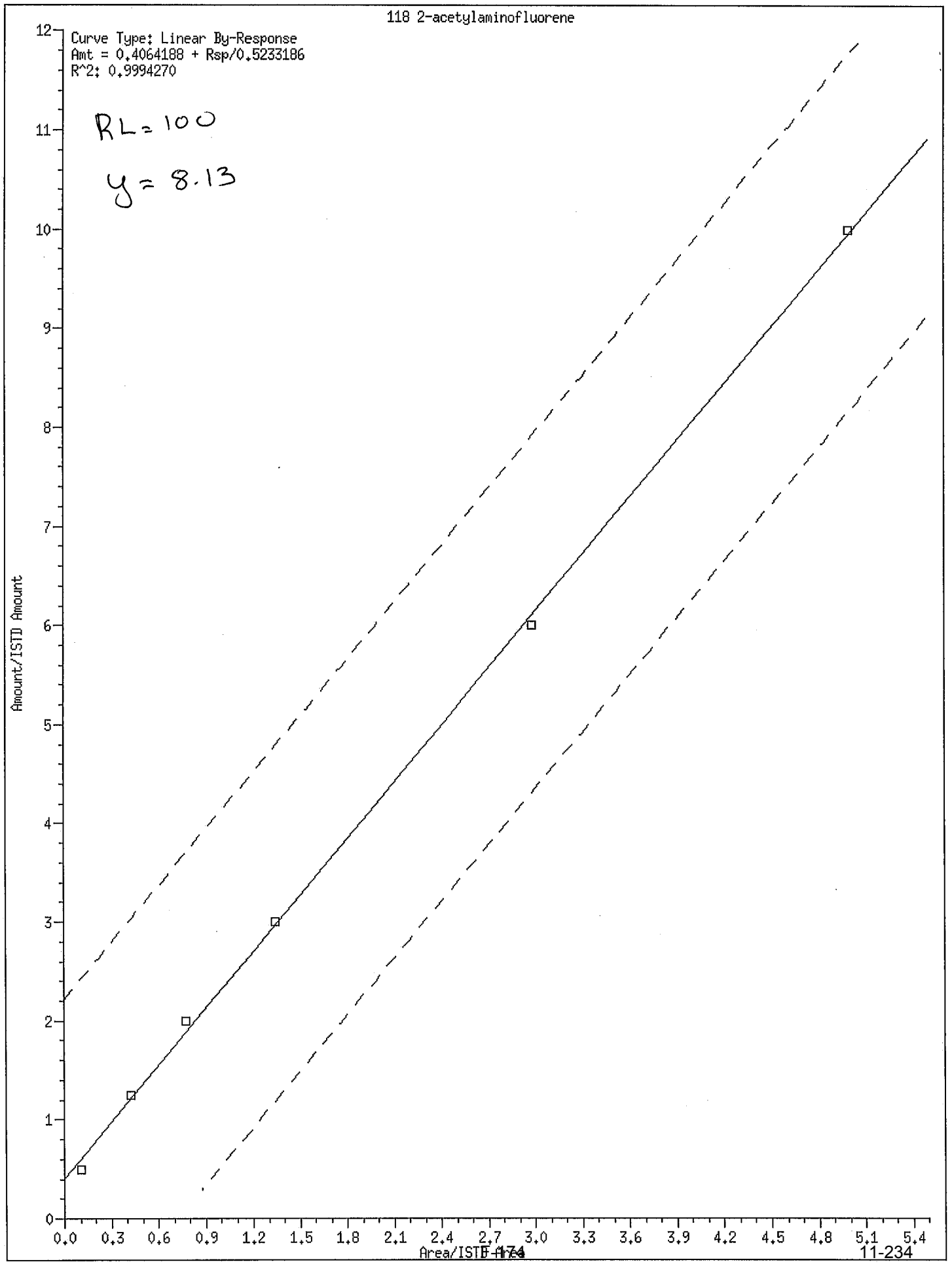

108 2,3,4,6-tetrachlorophenol
Curve Type: Linear By-Response
Amt = 0.3665603 + Rsp/0.323564
R^2: 0.9995814
RL=50
y=7.33
Amount/ISTD Amount
Area/ISTD Area
11-234

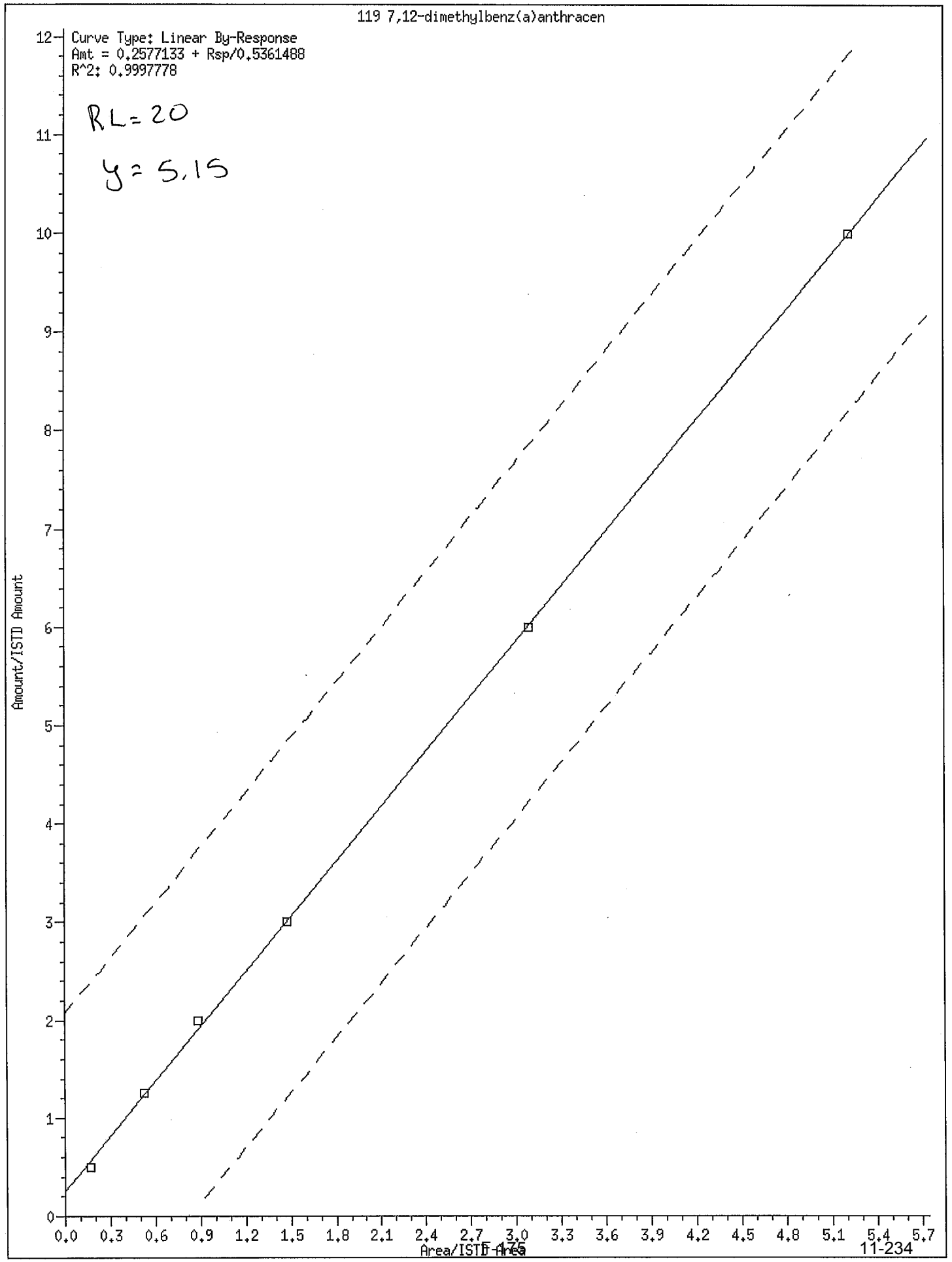

111 1,3,5-trinitrobenzene
Curve Type: Linear By-Response
Amt = 0.4813701 + Rsp/0.3062158
R^2: 0.9991098
RL=50
y=9.63
Amount/ISTD Amount
Area/ISTD Area
0
1
2
3
4
5
6
7
8
9
10
11
12
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
2.2
2.4
2.6
2.8
3.0
3.2

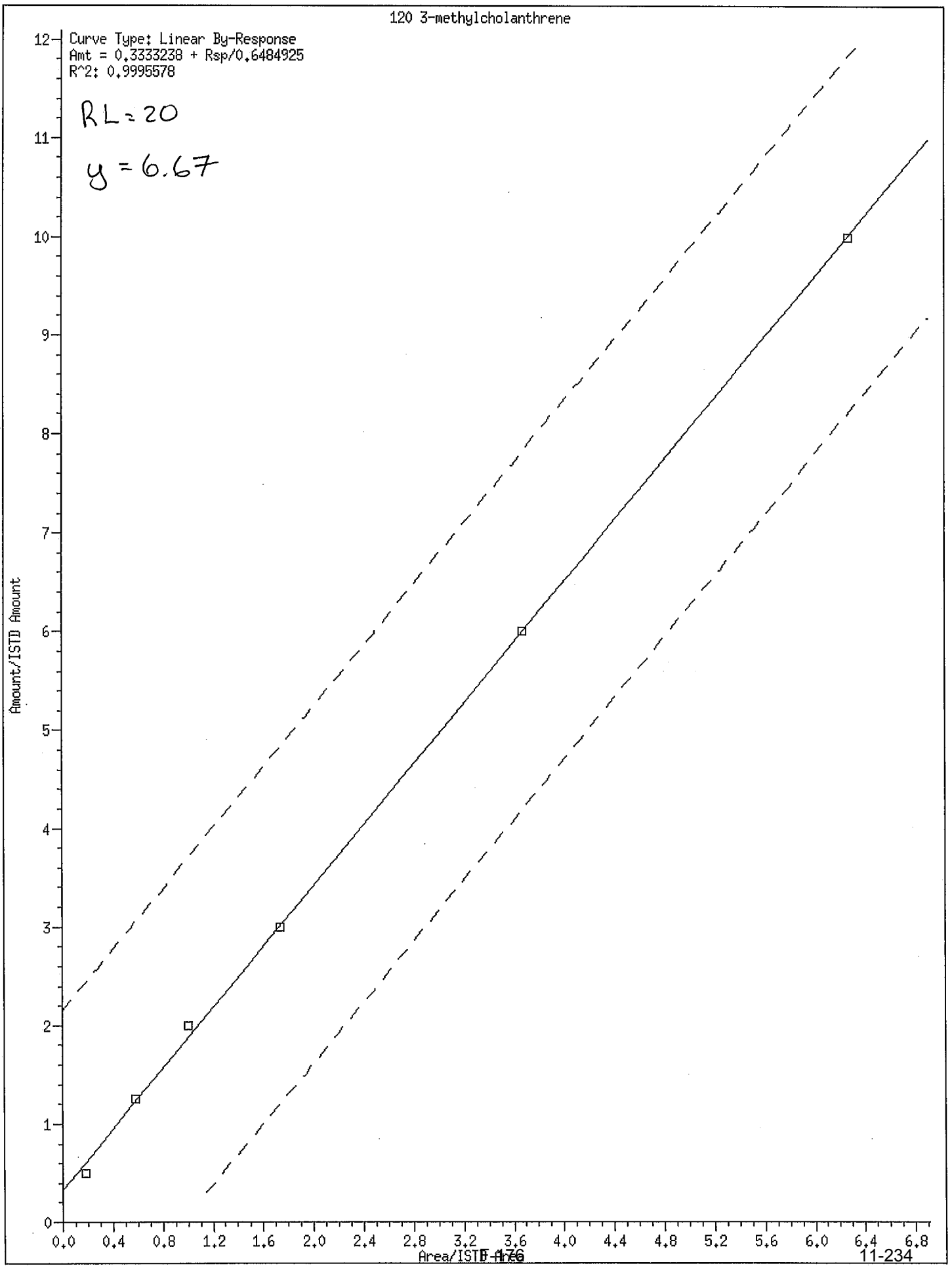
11-234

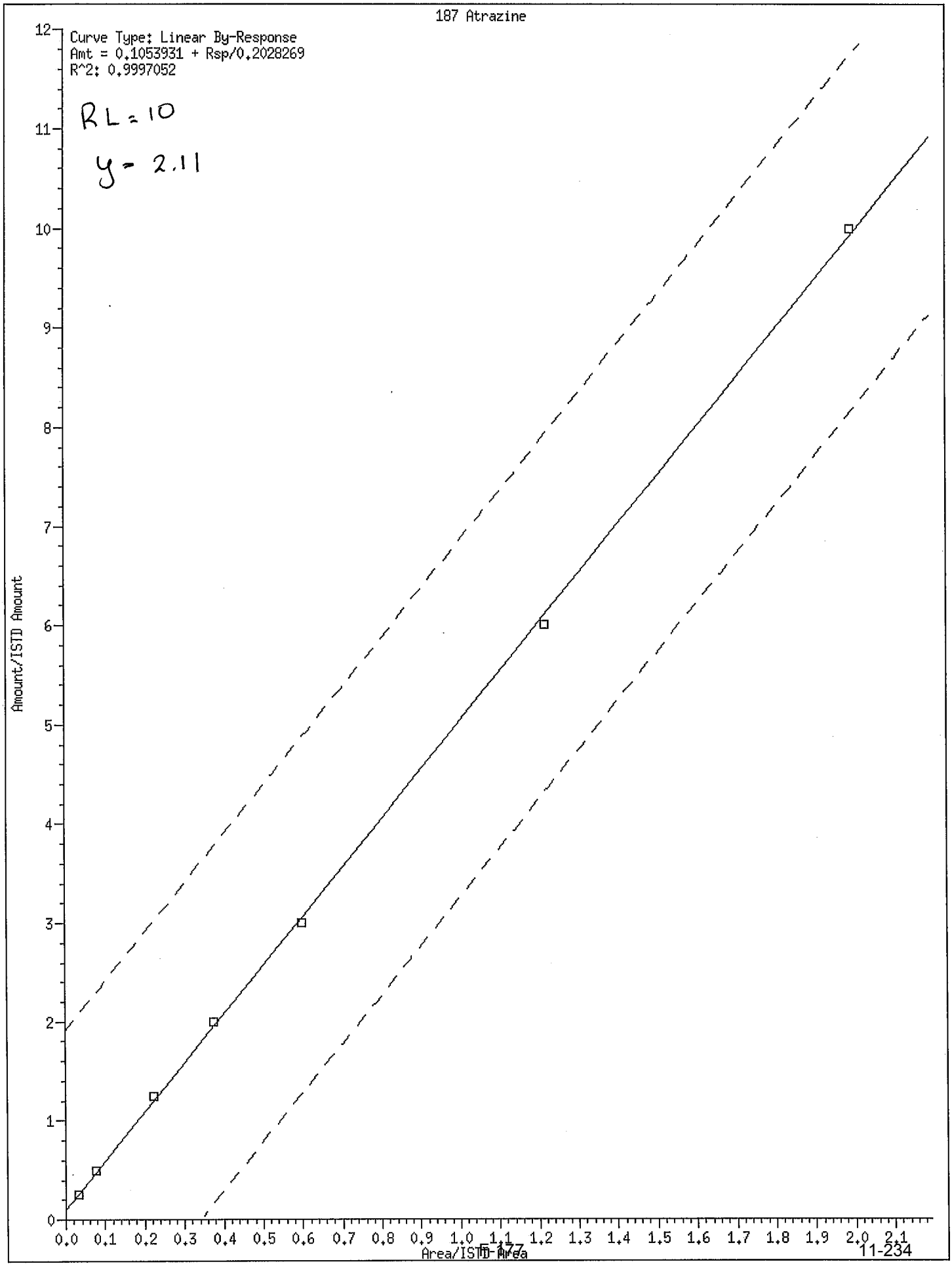

112 phenacetin
Curve Type: Linear By-Response
Amt = 0.2495182 + Rsp/0.346385
R^2: 0.9997291
RL = 20
y = 4.99
Amount/ISTD Amount
Area/ISTD Area
0
1
2
3
4
5
6
7
8
9
10
11
12
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
2.2
2.4
2.6
2.8
3.0
3.2
3.4
3.6

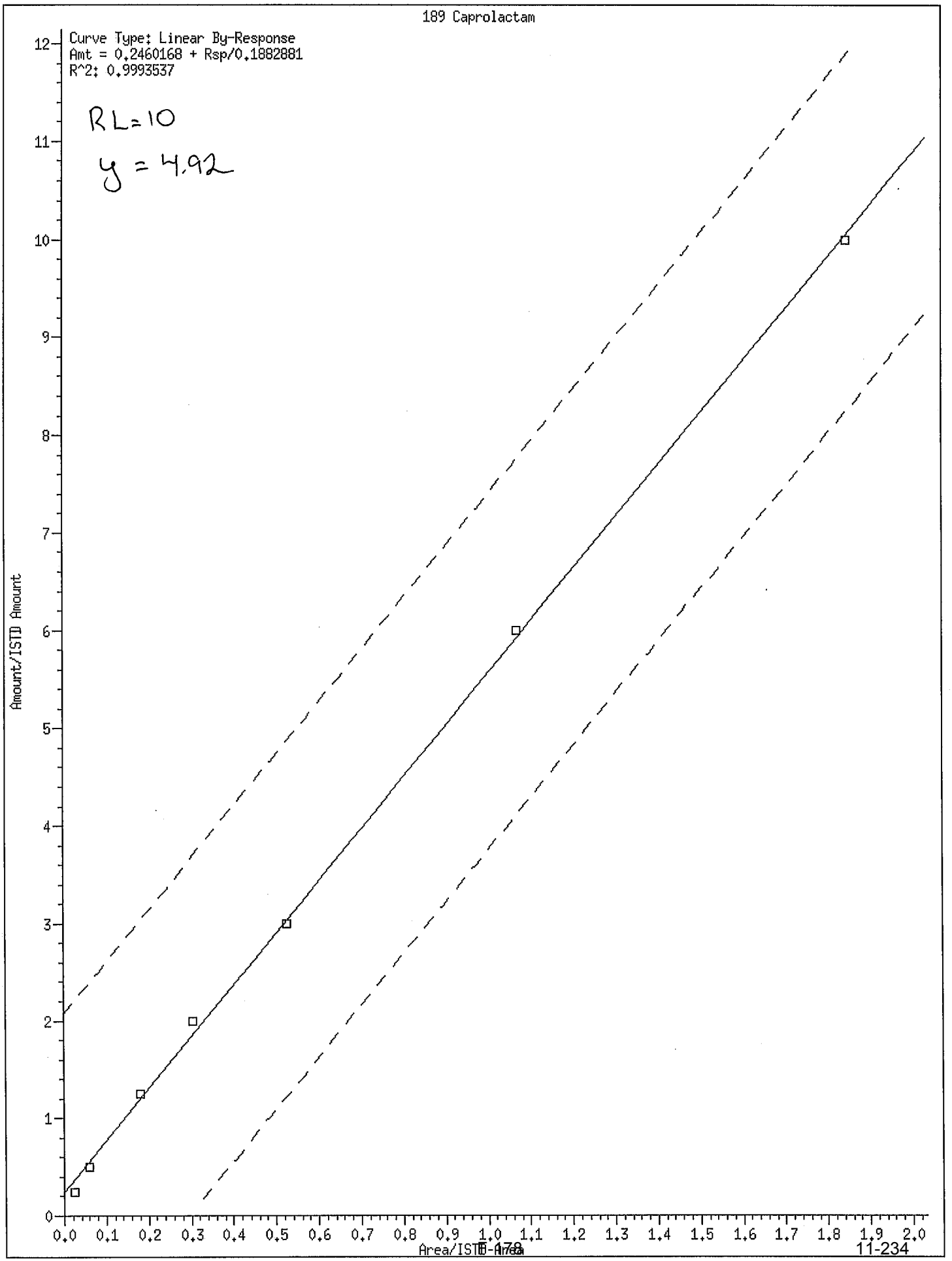

115 Dinoseb
Curve Type: Quadratic By-Response
Amt = 0.5137093 + 6.929999*Rsp + -0.1960147*Rsp^2
R^2: 0.9987855
RL = 50
y = 10.27
Amount/ISTD Amount
Area/ISTD Area
0
1
2
3
4
5
6
7
8
9
10
11
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
1.4
1.5

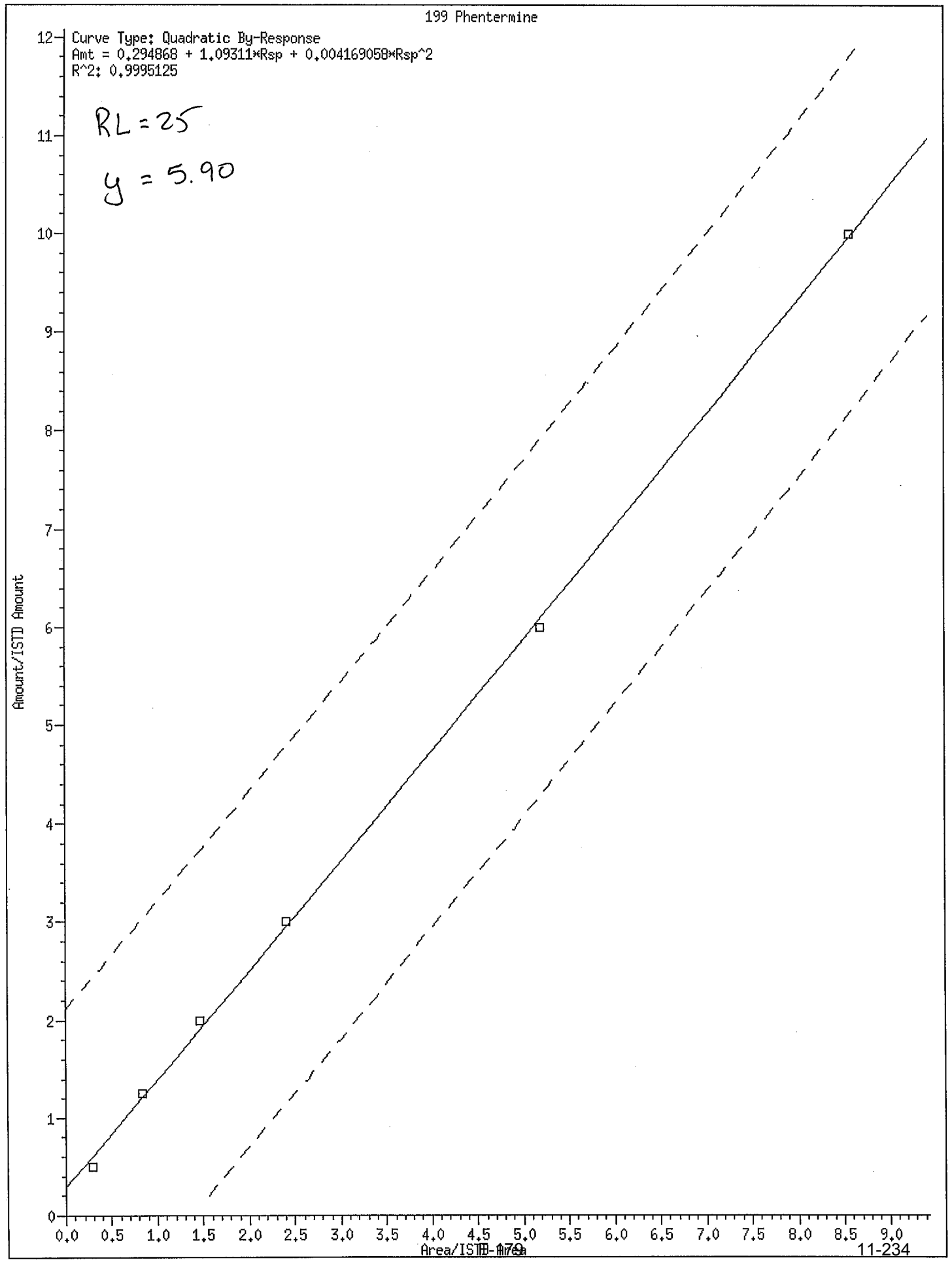

118 2-acetylaminofluorene
Curve Type: Linear By-Response
Amt = 0.4064188 + Rsp/0.5233186
R^2: 0.9994270
RL=100
y=8.13
Amount/ISTD Amount
Area/ISTD
11-234

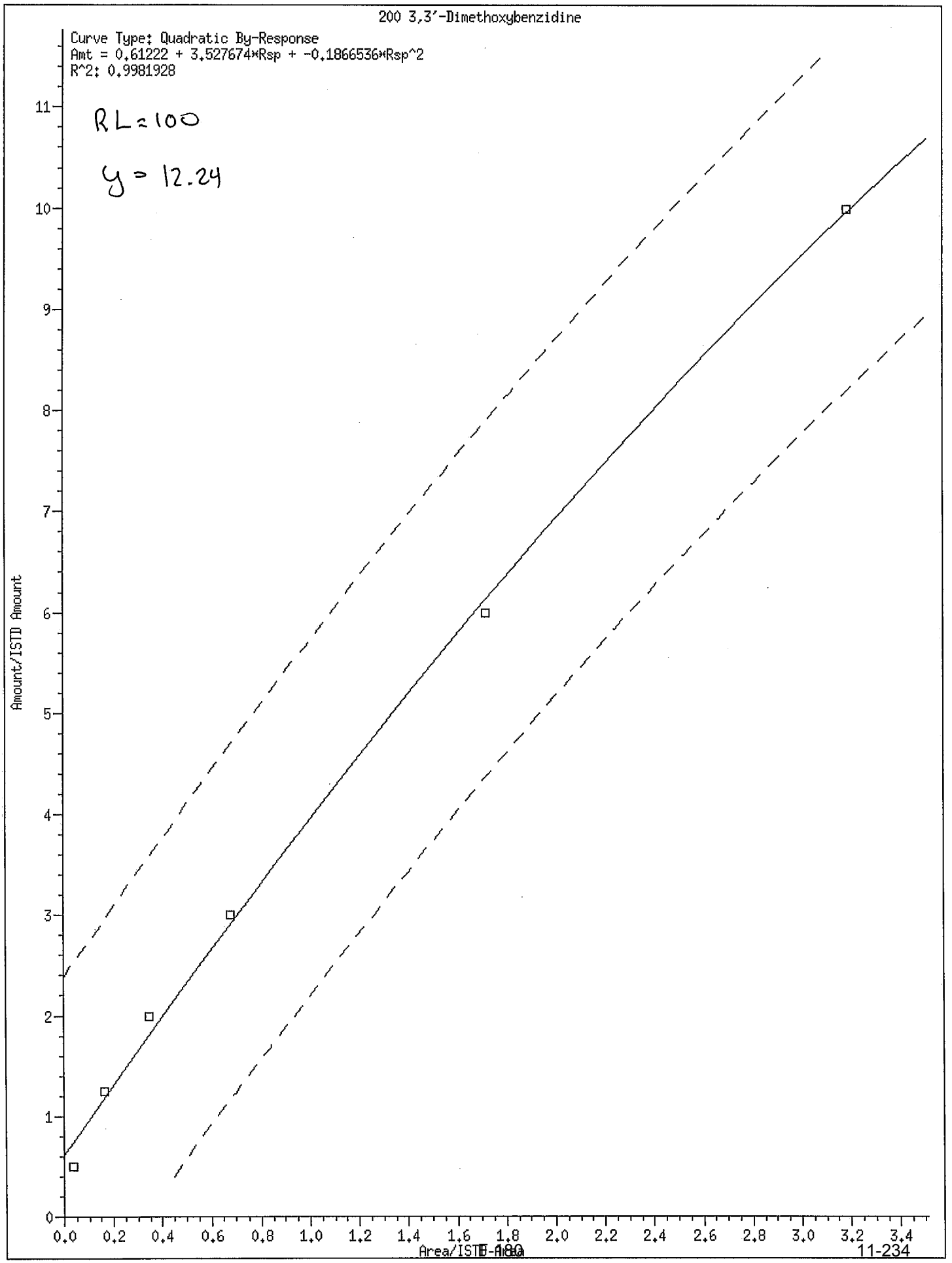

119 7,12-dimethylbenz(a)anthracen
Curve Type: Linear By-Response
Amt = 0.2577133 + Rsp/0.5361488
R^2: 0.9997778
RL=20
y=5.15
Amount/ISTD Amount
Area/ISTD Area
0 1 2 3 4 5 6 7 8 9 10 11 12
0.0 0.3 0.6 0.9 1.2 1.5 1.8 2.1 2.4 2.7 3.0 3.3 3.6 3.9 4.2 4.5 4.8 5.1 5.4 5.7
11-234

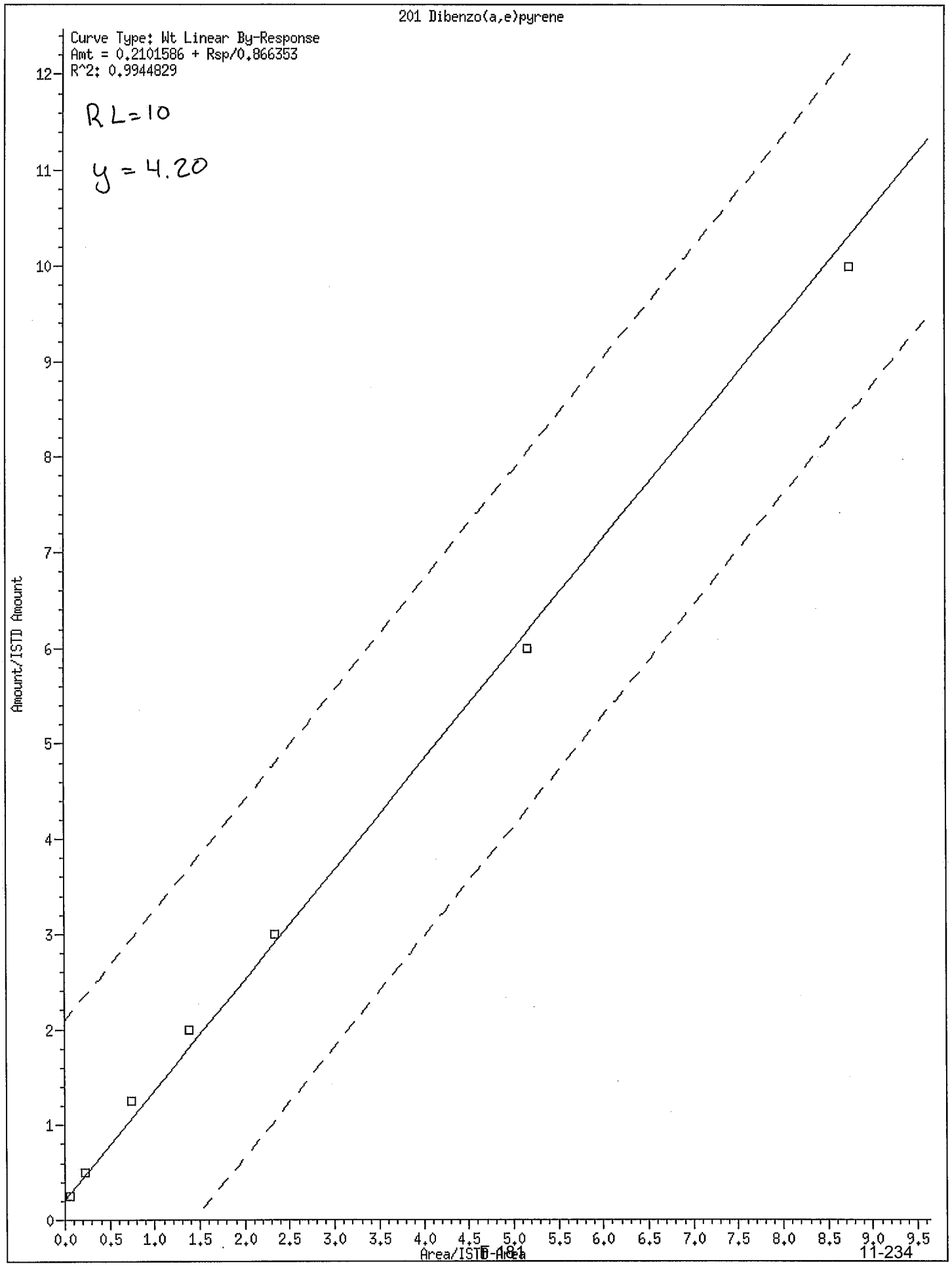

120 3-methylcholanthrene
Curve Type: Linear By-Response
Amt = 0.3333238 + Rsp/0.6484925
R^2: 0.9995578
RL = 20
y = 6.67
Amount/ISTD Amount
Area/ISTD Area
0
1
2
3
4
5
6
7
8
9
10
11
12
0.0
0.4
0.8
1.2
1.6
2.0
2.4
2.8
3.2
3.6
4.0
4.4
4.8
5.2
5.6
6.0
6.4
6.8

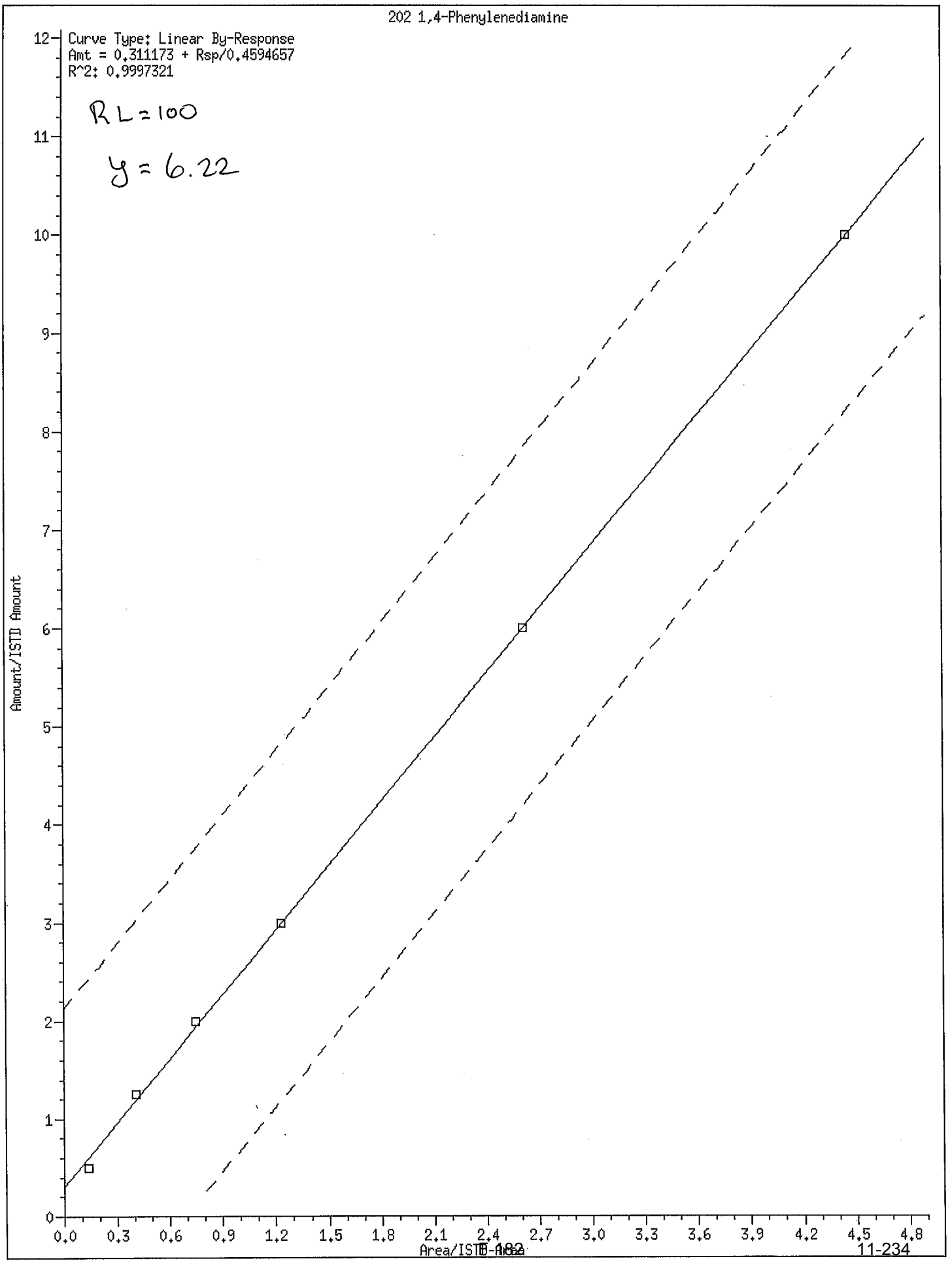

187 Atrazine
Curve Type: Linear By-Response
Amt = 0.1053931 + Rsp/0.2028269
R^2: 0.9997052
RL = 10
y = 2.11
Amount/ISTD Amount
Area/ISTD Area
0 1 2 3 4 5 6 7 8 9 10 11 12
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0 2.1


189 Caprolactam
Curve Type: Linear By-Response
Amt = 0.2460168 + Rsp/0.1882881
R^2: 0.9993537
RL=10
y = 4.92
Amount/ISTD Amount
Area/ISTD Area
0
1
2
3
4
5
6
7
8
9
10
11
12
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
2.0


199 Phentermine
Curve Type: Quadratic By-Response
Amt = 0.294868 + 1.09311*Rsp + 0.004169058*Rsp^2
R^2: 0.9995125
RL = 25
y = 5.90
Amount/ISTD Amount
Area/ISTD
11-234


200 3,3'-Dimethoxybenzidine
Curve Type: Quadratic By-Response
Amt = 0.61222 + 3.527674*Rsp + -0.1866536*Rsp^2
R^2: 0.9981928
RL=100
y = 12.24
Amount/ISTD Amount
Area/ISTD Area
11-234


201 Dibenzo(a,e)pyrene
Curve Type: Wt Linear By-Response
Amt = 0.2101586 + Rsp/0.866353
R^2: 0.9944829
RL=10
y = 4.20
Amount/ISTD Amount
Area/ISTD Area
0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0 7.5 8.0 8.5 9.0 9.5
0 1 2 3 4 5 6 7 8 9 10 11 12


202 1,4-Phenylenediamine
Curve Type: Linear By-Response
Amt = 0.311173 + Rsp/0.4594657
R^2: 0.9997321
RL=100
y = 6.22
Amount/ISTD Amount
Area/ISTD Area
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Report Date:07/27/2011 Page 1

INITIAL CALIBRATION RT and RRT REPORT

for TO 13

STD 1 = /var/chem/gcms/md.i/D072511I.b/icdg258.d
STD 2 = /var/chem/gcms/md.i/D072511I.b/icdg255.d
STD 3 = /var/chem/gcms/md.i/D072511I.b/icdg254.d
STD 4 = /var/chem/gcms/md.i/D072511I.b/icdg253.d
STD 5 = /var/chem/gcms/md.i/D072511I.b/icdg252.d
STD 6 = /var/chem/gcms/md.i/D072511I.b/icdg251.d
STD 7 = /var/chem/gcms/md.i/D072511I.b/icdg256.d
STD 8 = /var/chem/gcms/md.i/D072511I.b/icdg257.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	MEAN
1,4-Dichlorobenzene-d4	4.307	4.307	4.301	4.301	4.301	4.301	4.301	4.301	4.302
Acenaphthene-d10	8.490	8.484	8.484	8.484	8.484	8.484	8.484	8.484	8.485
Phenanthrene-d10	9.900	9.900	9.894	9.894	9.895	9.895	9.895	9.895	9.896
Chrysene-d12	11.939	11.933	11.933	11.927	11.928	11.928	11.928	11.928	11.930
Naphthalene-d8	5.893	5.893	5.893	5.893	5.888	5.888	5.888	5.888	5.890
Perylene-d12	13.866	13.860	13.861	13.860	13.855	13.855	13.861	13.861	13.860
2-Fluorophenol	0.727	0.727	0.728	0.728	0.728	0.728	0.728	NA	0.728
Phenol-d5	0.915	0.914	0.915	0.914	0.914	0.914	0.914	NA	0.914
2,4,6-Tribromophenol	0.941	0.941	0.941	0.941	0.941	0.941	0.941	NA	0.941
Terphenyl-d14	0.926	0.926	0.926	0.926	0.926	0.926	0.926	NA	0.926
2-Fluorobiphenyl	0.895	0.895	0.895	0.895	0.895	0.895	0.895	NA	0.895
Nitrobenzene-d5	0.837	0.836	0.836	0.836	0.837	0.837	0.837	NA	0.836
Aniline	0.925	0.924	0.925	0.923	0.924	0.924	0.924	NA	0.924
Phenol (ccc)	0.920	0.918	0.918	0.918	0.917	0.917	0.917	NA	0.918
Bis(2-chloroethyl)ether	0.939	0.937	0.937	0.937	0.937	0.937	0.937	NA	0.937
2-Chlorophenol	0.954	0.952	0.954	0.952	0.952	0.952	0.952	NA	0.952
1,3-Dichlorobenzene	0.988	0.988	0.989	0.988	0.988	0.988	0.988	NA	0.988
1,4-Dichlorobenzene (ccc)	1.004	1.004	1.004	1.004	1.004	1.004	1.004	NA	1.004
N-Nitrosodimethylamine	0.514	0.513	0.514	0.514	0.514	0.514	0.514	NA	0.514
Benzyl alcohol	1.034	1.031	1.033	1.031	1.031	1.031	1.031	NA	1.032
1,2-Dichlorobenzene	1.042	1.041	1.042	1.042	1.042	1.042	1.042	NA	1.042
2-Methylphenol	1.063	1.061	1.061	1.061	1.061	1.061	1.061	NA	1.061
2,2'-Oxybis(1-Chloropropane)	1.068	1.068	1.070	1.068	1.068	1.068	1.068	NA	1.068
N-Nitroso-di-n-propylamine##	1.106	1.104	1.104	1.104	1.104	1.104	1.104	NA	1.104
4-Methylphenol	1.106	1.105	1.105	1.105	1.105	1.104	1.105	NA	1.105
Hexachloroethane	1.135	1.134	1.135	1.135	1.135	1.135	1.137	NA	1.135
Nitrobenzene	0.842	0.841	0.840	0.840	0.841	0.841	0.841	NA	0.841
Isophorone	0.897	0.895	0.894	0.894	0.894	0.894	0.895	NA	0.895
2-Nitrophenol (ccc)	0.913	0.912	0.912	0.912	0.913	0.912	0.913	NA	0.912
2,4-Dimethyphenol	0.926	0.925	0.925	0.925	0.925	0.925	0.925	NA	0.925
Bis(2-chloroethoxy)methane	0.947	0.946	0.946	0.945	0.946	0.946	0.946	NA	0.946
Benzoic acid	0.960	0.953	0.948	0.945	0.943	0.939	NA	NA	0.948
2,4-Dichlorophenol (ccc)	0.969	0.969	0.968	0.968	0.969	0.969	0.969	NA	0.969
1,2,4-Trichlorobenzene	0.989	0.988	0.988	0.988	0.989	0.989	0.989	NA	0.988
4-Chloroaniline	1.020	1.019	1.019	1.019	1.019	1.020	1.020	NA	1.019
Hexachlorobutadiene (ccc)	1.041	1.041	1.041	1.041	1.041	1.041	1.042	NA	1.041
4-Chloro-3-methylphenol (ccc	1.144	1.144	1.142	1.142	1.144	1.144	1.145	NA	1.144
2-Methylnaphthalene	1.177	1.177	1.176	1.176	1.178	1.178	1.178	1.178	1.177

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
Target compound RRT within 0.06 RRT of the RRT mean
Note: IS data is RT, SS and Target Compound Data is RRT.

INITIAL CALIBRATION RT and RRT REPORT

STD 1 = /var/chem/gcms/md.i/D072511I.b/icdg258.d
STD 2 = /var/chem/gcms/md.i/D072511I.b/icdg255.d
STD 3 = /var/chem/gcms/md.i/D072511I.b/icdg254.d
STD 4 = /var/chem/gcms/md.i/D072511I.b/icdg253.d
STD 5 = /var/chem/gcms/md.i/D072511I.b/icdg252.d
STD 6 = /var/chem/gcms/md.i/D072511I.b/icdg251.d
STD 7 = /var/chem/gcms/md.i/D072511I.b/icdg256.d
STD 8 = /var/chem/gcms/md.i/D072511I.b/icdg257.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	MEAN
Hexachlorocyclopentadiene###	0.853	0.853	0.853	0.853	0.853	0.853	0.853	NA	0.853
2,4,6-Trichlorophenol (ccc)	0.878	0.878	0.877	0.877	0.877	0.877	0.877	NA	0.877
2,4,5-Trichlorphenol	0.884	0.884	0.884	0.884	0.884	0.884	0.884	NA	0.884
2-Chloronaphthalene	0.913	0.913	0.913	0.913	0.913	0.913	0.913	NA	0.913
2-Nitroaniline	0.933	0.933	0.932	0.932	0.932	0.932	0.932	NA	0.932
2,6-Dinitrotoluene	0.974	0.974	0.973	0.972	0.972	0.972	0.972	NA	0.973
3-Nitroaniline	0.997	0.996	0.996	0.996	0.996	0.996	NA	NA	0.996
2,4-Dinitrophenol ##spcc##	1.011	1.011	1.010	1.010	1.010	1.010	NA	NA	1.010
Dibenzofuran	1.028	1.028	1.028	1.028	1.028	1.028	1.028	NA	1.028
4-Nitrophenol ##spcc##	1.025	1.025	1.024	1.024	1.024	1.024	NA	NA	1.024
2,4-Dinitrotoluene	1.029	1.029	1.028	1.028	1.028	1.028	1.028	NA	1.028
Dimethyl phthalate	0.968	0.967	0.967	0.967	0.967	0.966	0.966	NA	0.967
Diethyl phthalate	1.062	1.062	1.062	1.062	1.062	1.062	1.062	NA	1.062
4-Chlorophenyl phenyl ether	1.072	1.072	1.072	1.072	1.072	1.072	1.072	NA	1.072
4-Nitroaniline	1.075	1.075	1.073	1.073	1.073	1.073	NA	NA	1.074
4,6-Dinitro-2-methylphenol	0.925	0.924	0.924	0.924	0.924	0.924	NA	NA	0.924
N-Ndpa / diphenylamine (ccc)	0.931	0.930	0.931	0.931	0.930	0.930	0.930	NA	0.930
1,2-Diphenylhydrazine/azobnz	0.934	0.934	0.934	0.934	0.934	0.934	0.934	NA	0.934
4-Bromophenyl phenyl ether	0.964	0.964	0.964	0.964	0.964	0.964	0.964	NA	0.964
Hexachlorobenzene	0.970	0.969	0.970	0.969	0.969	0.969	0.969	NA	0.969
Pentachlorophenol (ccc)	0.986	0.986	0.986	0.986	0.986	0.986	NA	NA	0.986
Di-n-butyl phthalate	1.046	1.046	1.046	1.046	1.046	1.046	1.046	NA	1.046
Butyl benzyl phthalate	0.956	0.956	0.956	0.956	0.956	0.956	0.956	NA	0.956
3,3'-Dichlorobenzidine	0.996	0.996	0.996	0.996	0.996	0.996	NA	NA	0.996
Acenaphthene (ccc)	1.005	1.005	1.005	1.005	1.004	1.004	1.004	1.004	1.004
Benzo(a)Anthracene	0.999	0.999	0.999	0.999	0.999	0.999	0.999	0.999	0.999
Benzo(b)fluoranthene	0.956	0.956	0.955	0.955	0.955	0.955	0.955	NA	0.955
Chrysene	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002
Fluorene	1.070	1.071	1.070	1.070	1.070	1.070	1.070	1.070	1.070
Naphthalene	1.006	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005
Benzo(g,h,i)perylene	1.131	1.131	1.130	1.130	1.130	1.129	1.129	NA	1.130
Acenaphthylene	0.979	0.979	0.979	0.979	0.979	0.979	0.978	0.979	0.979
Phenanthrene	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002
Dibenz(a,h)anthracene	1.109	1.108	1.108	1.108	1.108	1.108	1.107	NA	1.108
Anthracene	1.006	1.006	1.006	1.006	1.006	1.006	1.006	1.006	1.006
Indeno(1,2,3-cd)pyrene	1.107	1.107	1.106	1.106	1.106	1.106	1.106	NA	1.106
Benzo(a)pyrene (ccc)	0.994	0.994	0.993	0.993	0.993	0.993	0.993	NA	0.993
Fluoranthene (ccc)	1.090	1.090	1.090	1.090	1.090	1.090	1.090	1.090	1.090

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
Target compound RRT within 0.06 RRT of the RRT mean
Note: IS data is RT, SS and Target Compound Data is RRT.

INITIAL CALIBRATION RT and RRT REPORT

STD 1 = /var/chem/gcms/md.i/D072511I.b/icdg258.d
STD 2 = /var/chem/gcms/md.i/D072511I.b/icdg255.d
STD 3 = /var/chem/gcms/md.i/D072511I.b/icdg254.d
STD 4 = /var/chem/gcms/md.i/D072511I.b/icdg253.d
STD 5 = /var/chem/gcms/md.i/D072511I.b/icdg252.d
STD 6 = /var/chem/gcms/md.i/D072511I.b/icdg251.d
STD 7 = /var/chem/gcms/md.i/D072511I.b/icdg256.d
STD 8 = /var/chem/gcms/md.i/D072511I.b/icdg257.d

COMPOUND	STD 1	STD 2	STD 3	STD 4	STD 5	STD 6	STD 7	STD 8	MEAN
Pyrene	0.917	0.917	0.917	0.918	0.917	0.917	0.917	0.917	0.917
Benzo(k)fluoranthene	0.959	0.959	0.958	0.958	0.958	0.958	0.958	NA	0.958
Bis(2-ethylhexyl) phthalate	0.998	0.998	0.998	0.999	0.998	0.998	0.999	NA	0.998
Di-n-octyl phthalate (ccc)	0.914	0.914	0.914	0.913	0.913	0.913	NA	NA	0.914
Pyridine	0.521	0.521	0.522	0.522	0.522	0.522	0.523	NA	0.522
Carbazole	1.019	1.019	1.019	1.019	1.019	1.019	1.019	NA	1.019
3&4 Methylphenol	1.106	1.105	1.105	1.105	1.105	1.104	1.105	NA	1.105
1,4-Dioxane	NA	NA	0.477	0.477	0.477	0.477	0.477	0.477	0.477

Evaluation Criteria
Internal Standard RT shift within 20 seconds of mean RT
Target compound RRT within 0.06 RRT of the RRT mean
Note: IS data is RT, SS and Target Compound Data is RRT.

Data File: /var/chem/gcms/md.i/D072511I.b/icdg257.d
Report Date: 25-Jul-2011 15:42

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072511I.b/icdg257.d
Lab Smp Id: ICDG257 Client Smp ID: STD002
Inj Date : 25-JUL-2011 15:19
Operator : 60841 Inst ID: md.i
Smp Info : ICDG257,,1,7,,STD002
Misc Info : D072511I,8270a9,low.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072511I.b/8270a9.m
Meth Date : 25-Jul-2011 15:37 chemist Quant Type: ISTD
Cal Date : 25-JUL-2011 15:19 Cal File: icdg257.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: low.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL) (1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

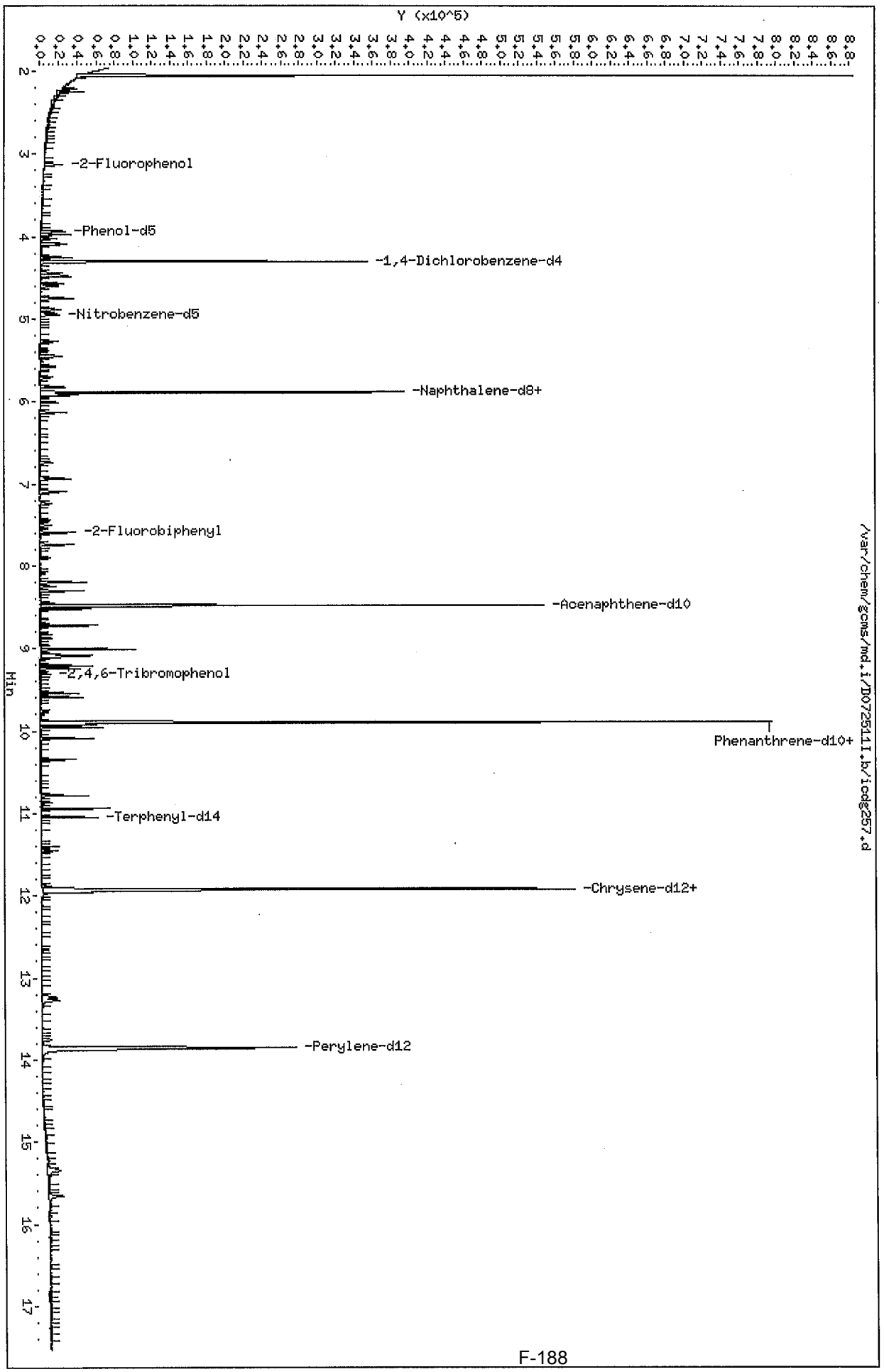
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
* 1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	46032	20.0000	20.0
* 2 Naphthalene-d8	136	5.888	5.888	(1.000)	179782	20.0000	20.0
* 3 Acenaphthene-d10	164	8.485	8.485	(1.000)	107048	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	209288	20.0000	20.0
* 5 Chrysene-d12	240	11.928	11.928	(1.000)	221888	20.0000	20.0
* 6 Perylene-d12	264	13.861	13.861	(1.000)	192894	20.0000	20.0
$ 7 2-Fluorophenol	112	3.132	3.132	(0.728)	4899	2.00000	1.93
$ 8 Phenol-d5	99	3.931	3.931	(0.914)	5569	2.00000	1.83
$ 9 Nitrobenzene-d5	82	4.930	4.930	(0.837)	5127	2.00000	1.79
$ 10 2-Fluorobiphenyl	172	7.591	7.591	(0.895)	13815	2.00000	2.06
$ 11 2,4,6-Tribromophenol	330	9.307	9.307	(0.941)	1120	2.00000	1.34
$ 12 Terphenyl-d14	244	11.046	11.046	(0.926)	16162	2.00000	1.92
175 1,4-Dioxane	88	2.051	2.051	(0.477)	161856	160.000	164(A)
37 Naphthalene	128	5.917	5.917	(1.005)	17439	2.00000	2.02

Data File: /var/chem/gcms/md.i/D072511I.b/icdg257.d
Report Date: 25-Jul-2011 15:42

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
41 2-Methylnaphthalene	142	6.933	6.933	(1.178)	10930	2.00000	1.88
47 Acenaphthylene	152	8.308	8.308	(0.979)	16750	2.00000	1.83
51 Acenaphthene (ccc)	153	8.520	8.520	(1.004)	12341	2.00000	2.04
56 Fluorene	166	9.078	9.078	(1.070)	13922	2.00000	2.00
66 Phenanthrene	178	9.912	9.912	(1.002)	23857	2.00000	2.13
67 Anthracene	178	9.953	9.953	(1.006)	19370	2.00000	1.78
70 Fluoranthene (ccc)	202	10.788	10.788	(1.090)	18795	2.00000	1.63
71 Pyrene	202	10.941	10.941	(0.917)	22439	2.00000	1.78
72 Butyl benzyl phthalate	149	11.405	11.405	(0.956)	5025	2.00000	1.02
73 Benzo(a)Anthracene	228	11.916	11.916	(0.999)	18783	2.00000	1.71
75 Chrysene	228	11.951	11.951	(1.002)	25473	2.00000	2.17
76 Bis(2-ethylhexyl) phthalate	149	11.910	11.910	(0.999)	6026	2.00000	0.900
78 Benzo(b)fluoranthene	252	13.232	13.232	(0.955)	11546	2.00000	1.19
79 Benzo(k)fluoranthene	252	13.267	13.267	(0.957)	19219	2.00000	1.65
80 Benzo(a)pyrene (ccc)	252	13.755	13.755	(0.992)	10018	2.00000	1.05
82 Dibenz(a,h)anthracene	278	15.353	15.353	(1.108)	10397	2.00000	1.20
81 Indeno(1,2,3-cd)pyrene	276	15.318	15.318	(1.105)	11876	2.00000	1.12
83 Benzo(g,h,i)perylene	276	15.653	15.653	(1.129)	13036	2.00000	1.40

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.


Data File: /var/chem/gcms/md.i/D072511I.b/icdg257.d
Date : 25-JUL-2011 15:19
Client ID: STD002
Sample Info: ICDG257,1.7,STD002
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^5)
-2-Fluorophenol
-Phenol-d5
-1,4-Dichlorobenzene-d4
-Nitrobenzene-d5
-Naphthalene-d8+
-2-Fluorobiphenyl
-Acenaphthene-d10
-2,4,6-Tribromophenol
Phenanthrene-d10+
-Terphenyl-d14
-Chrysene-d12+
-Perylene-d12
Min
/var/chem/gcms/md.i/D072511I.b/icdg257.d

Data File: /chem/gcms/md.i/D072511I.b/icdg256.d
Report Date: 25-Jul-2011 15:11

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /chem/gcms/md.i/D072511I.b/icdg256.d
Lab Smp Id: ICDG256 Client Smp ID: STD005
Inj Date : 25-JUL-2011 14:53
Operator : 60841 Inst ID: md.i
Smp Info : ICDG256,,1,6,,STD005
Misc Info : D072511I,8270a9,8270dxnC13.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072511I.b/8270a9.m
Meth Date : 25-Jul-2011 15:11 chemist Quant Type: ISTD
Cal Date : 25-JUL-2011 14:53 Cal File: icdg256.d
Als bottle: 1 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8270dxnC13.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)(1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

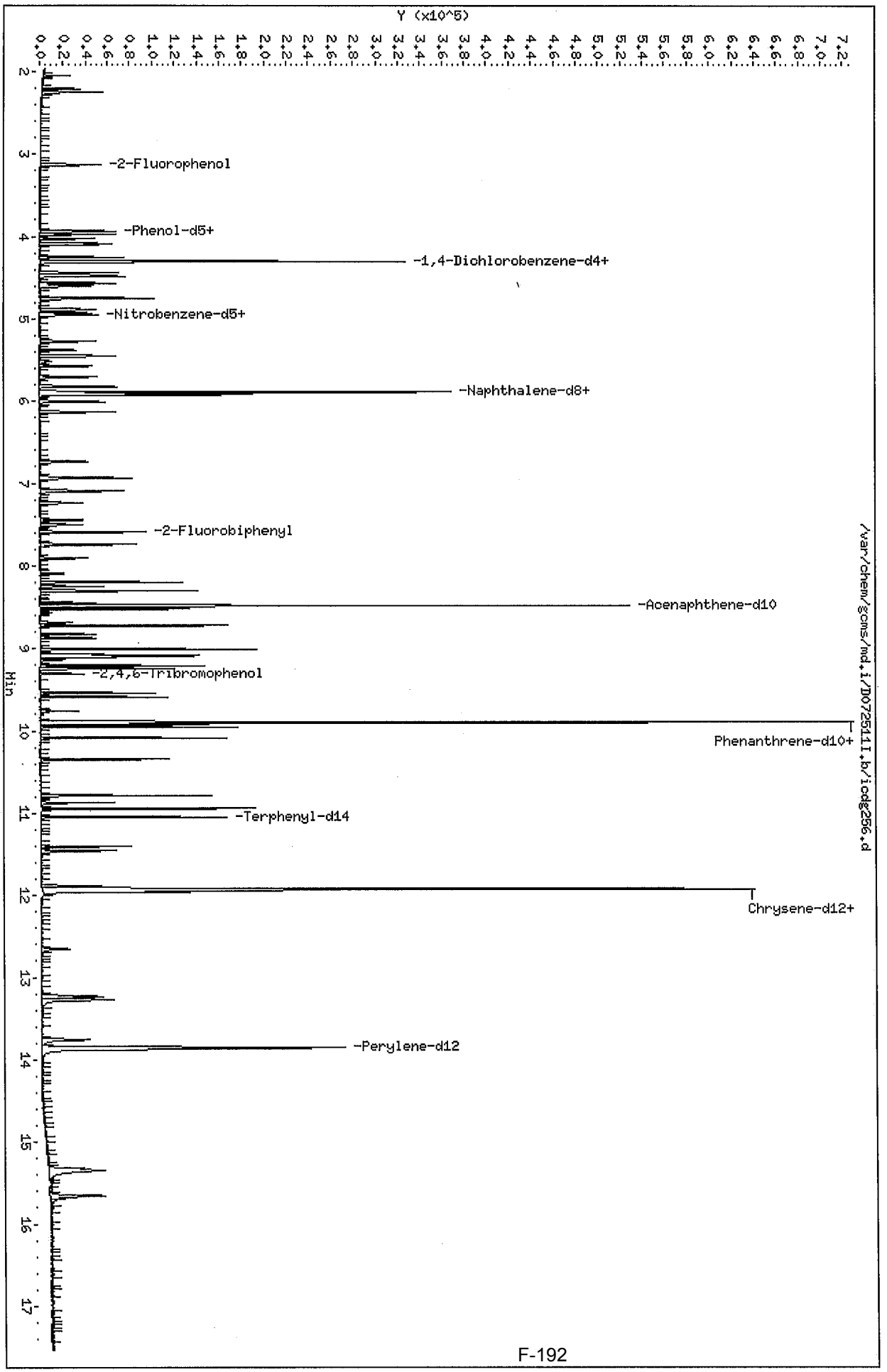
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
* 1	1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	44160	20.0000	20.0
* 2	Naphthalene-d8	136	5.888	5.888	(1.000)	172766	20.0000	20.0
* 3	Acenaphthene-d10	164	8.485	8.485	(1.000)	103297	20.0000	20.0
* 4	Phenanthrene-d10	188	9.895	9.895	(1.000)	196861	20.0000	20.0
* 5	Chrysene-d12	240	11.928	11.928	(1.000)	214162	20.0000	20.0
* 6	Perylene-d12	264	13.861	13.861	(1.000)	184125	20.0000	20.0
$ 7	2-Fluorophenol	112	3.132	3.132	(0.728)	11228	5.00000	4.60
$ 8	Phenol-d5	99	3.931	3.931	(0.914)	13685	5.00000	4.68
$ 9	Nitrobenzene-d5	82	4.930	4.930	(0.837)	12521	5.00000	4.55
$ 10	2-Fluorobiphenyl	172	7.591	7.591	(0.895)	33910	5.00000	5.25
$ 11	2,4,6-Tribromophenol	330	9.307	9.307	(0.941)	3465	5.00000	4.40
$ 12	Terphenyl-d14	244	11.046	11.046	(0.926)	39923	5.00000	4.91
$ 179	13C6-naphthalene	134	5.917	5.917	(1.005)	46222	5.00000	4.92
175	1,4-Dioxane	88	2.051	2.051	(0.477)	4625	5.00000	4.90

Data File: /chem/gcms/md.i/D072511I.b/icdg256.d
Report Date: 25-Jul-2011 15:11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
13 N-Nitrosodimethylamine	74	2.209	2.209	(0.514)	6591	5.00000	4.78
14 Pyridine	79	2.251	2.251	(0.523)	12041	5.00000	5.01
15 Phenol (ccc)	94	3.943	3.943	(0.917)	14592	5.00000	4.85
16 Aniline	93	3.972	3.972	(0.924)	17767	5.00000	4.77
17 Bis(2-chloroethyl)ether	93	4.031	4.031	(0.937)	11563	5.00000	5.12
18 2-Chlorophenol	128	4.095	4.095	(0.952)	12927	5.00000	4.78
19 1,3-Dichlorobenzene	146	4.248	4.248	(0.988)	15592	5.00000	5.08
20 1,4-Dichlorobenzene (ccc)	146	4.319	4.319	(1.004)	16095	5.00000	5.13
21 Benzyl alcohol	108	4.436	4.436	(1.031)	8278	5.00000	4.66
22 1,2-Dichlorobenzene	146	4.483	4.483	(1.042)	15452	5.00000	5.12
23 2-Methylphenol	108	4.566	4.566	(1.061)	11061	5.00000	4.66
24 2,2'-Oxybis(1-Chloropropane)	45	4.595	4.595	(1.068)	22076	5.00000	5.13
25 4-Methylphenol	108	4.754	4.754	(1.105)	11282	5.00000	4.60
26 3&4 Methylphenol	108	4.754	4.754	(1.105)	11282	5.00000	4.60
27 N-Nitroso-di-n-propylamine###	70	4.748	4.748	(1.104)	8451	5.00000	4.69
28 Hexachloroethane	117	4.889	4.889	(1.137)	5949	5.00000	5.05
29 Nitrobenzene	77	4.953	4.953	(0.841)	13028	5.00000	4.83
30 Isophorone	82	5.271	5.271	(0.895)	20160	5.00000	4.54
31 2-Nitrophenol (ccc)	139	5.376	5.376	(0.913)	5353	5.00000	3.90
32 2,4-Dimethyphenol	107	5.447	5.447	(0.925)	12866	5.00000	4.44
33 Bis(2-chloroethoxy)methane	93	5.570	5.570	(0.946)	14219	5.00000	4.89
34 Benzoic acid	122	5.517	5.517	(0.937)	2735	5.00000	2.10
35 2,4-Dichlorophenol (ccc)	162	5.705	5.705	(0.969)	10389	5.00000	4.41
36 1,2,4-Trichlorobenzene	180	5.823	5.823	(0.989)	13817	5.00000	5.11
37 Naphthalene	128	5.917	5.917	(1.005)	41923	5.00000	5.07
38 4-Chloroaniline	127	6.005	6.005	(1.020)	15890	5.00000	4.62
39 Hexachlorobutadiene (ccc)	225	6.134	6.134	(1.042)	8960	5.00000	5.27
40 4-Chloro-3-methylphenol (ccc)	107	6.739	6.739	(1.145)	9292	5.00000	4.11
41 2-Methylnaphthalene	142	6.933	6.933	(1.178)	28602	5.00000	5.06
42 Hexachlorocyclopentadiene####	237	7.239	7.239	(0.853)	6682	5.00000	4.16
43 2,4,6-Trichlorophenol (ccc)	196	7.445	7.445	(0.877)	6854	5.00000	4.14
44 2,4,5-Trichlorphenol	196	7.503	7.503	(0.884)	7943	5.00000	4.27
45 2-Chloronaphthalene	162	7.744	7.744	(0.913)	27954	5.00000	5.07
46 2-Nitroaniline	65	7.909	7.909	(0.932)	5445	5.00000	3.63
47 Acenaphthylene	152	8.302	8.302	(0.979)	43576	5.00000	4.89
48 Dimethyl phthalate	163	8.197	8.197	(0.966)	38613	5.00000	5.66
49 2,6-Dinitrotoluene	165	8.249	8.249	(0.972)	6076	5.00000	4.24
50 3-Nitroaniline	138	8.449	8.449	(0.996)	6762	5.00000	4.10
51 Acenaphthene (ccc)	153	8.520	8.520	(1.004)	29665	5.00000	5.10
52 2,4-Dinitrophenol ##spcc##	184	8.573	8.573	(1.010)	1317	5.00000	1.54
53 Dibenzofuran	168	8.720	8.720	(1.028)	42428	5.00000	5.22
54 4-Nitrophenol ##spcc##	109	8.684	8.684	(1.024)	2734	5.00000	3.07
55 2,4-Dinitrotoluene	165	8.725	8.725	(1.028)	7413	5.00000	3.96
56 Fluorene	166	9.078	9.078	(1.070)	33471	5.00000	4.97
57 4-Chlorophenyl phenyl ether	204	9.096	9.096	(1.072)	16500	5.00000	5.07
58 Diethyl phthalate	149	9.007	9.007	(1.062)	55462	5.00000	6.99
59 4-Nitroaniline	138	9.101	9.101	(1.073)	7271	5.00000	4.22

Data File: /chem/gcms/md.i/D072511I.b/icdg256.d
Report Date: 25-Jul-2011 15:11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
60 4,6-Dinitro-2-methylphenol	198	9.143	9.143	(0.924)	2585	5.00000	2.34
61 N-Ndpa / diphenylamine (ccc)	169	9.207	9.207	(0.931)	28482	5.00000	5.02
62 1,2-Diphenylhydrazine/azobnz	77	9.242	9.242	(0.934)	29532	5.00000	5.04
63 4-Bromophenyl phenyl ether	248	9.536	9.536	(0.964)	9112	5.00000	4.98
64 Hexachlorobenzene	284	9.589	9.589	(0.969)	10266	5.00000	5.26
65 Pentachlorophenol (ccc)	266	9.760	9.760	(0.986)	3621	5.00000	2.70
66 Phenanthrene	178	9.912	9.912	(1.002)	56166	5.00000	5.37
67 Anthracene	178	9.953	9.953	(1.006)	50519	5.00000	4.86
68 Carbazole	167	10.083	10.083	(1.019)	44847	5.00000	4.80
69 Di-n-butyl phthalate	149	10.347	10.347	(1.046)	42276	5.00000	4.12
70 Fluoranthene (ccc)	202	10.788	10.788	(1.090)	51608	5.00000	4.62
71 Pyrene	202	10.941	10.941	(0.917)	62281	5.00000	5.06
72 Butyl benzyl phthalate	149	11.405	11.405	(0.956)	16243	5.00000	3.40
73 Benzo(a)Anthracene	228	11.916	11.916	(0.999)	50786	5.00000	4.68
74 3,3'-Dichlorobenzidine	252	11.881	11.881	(0.996)	12427	5.00000	3.14
75 Chrysene	228	11.951	11.951	(1.002)	58857	5.00000	5.26
76 Bis(2-ethylhexyl) phthalate	149	11.916	11.916	(0.999)	21700	5.00000	3.36
77 Di-n-octyl phthalate (ccc)	149	12.656	12.656	(0.913)	19483	5.00000	2.01
78 Benzo(b)fluoranthene	252	13.232	13.232	(0.955)	37573	5.00000	4.07
79 Benzo(k)fluoranthene	252	13.273	13.273	(0.958)	53055	5.00000	4.76
80 Benzo(a)pyrene (ccc)	252	13.761	13.761	(0.993)	32669	5.00000	3.59
81 Indeno(1,2,3-cd)pyrene	276	15.324	15.324	(1.106)	38549	5.00000	3.82
82 Dibenz(a,h)anthracene	278	15.347	15.347	(1.107)	32657	5.00000	3.96
83 Benzo(g,h,i)perylene	276	15.653	15.653	(1.129)	37986	5.00000	4.27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Date : 25-JUL-2011 14:53
Client ID: STD005
Sample Info: ICDG256,1,6,,STD005
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^5)
Min
-2-Fluorophenol
-Phenol-d5+
-1,4-Dichlorobenzene-d4+
-Nitrobenzene-d5+
-Naphthalene-d8+
-2-Fluorobiphenyl
-Acenaphthene-d10
-2,4,6-Tribromophenol
Phenanthrene-d10+
-Terphenyl-d14
Chrysene-d12+
-Perylene-d12
/var/chem/gcms/md.i/D072511I.b/icdg256.d

Data File: /chem/gcms/md.i/D072511I.b/icdg251.d
Report Date: 25-Jul-2011 14:46

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /chem/gcms/md.i/D072511I.b/icdg251.d
Lab Smp Id: ICDG251 Client Smp ID: STD010
Inj Date : 25-JUL-2011 14:28
Operator : 60841 Inst ID: md.i
Smp Info : ICDG251,,1,1,,STD010
Misc Info : D072511I,8270a9,8270dxnC13.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072511I.b/8270a9.m
Meth Date : 25-Jul-2011 14:46 chemist Quant Type: ISTD
Cal Date : 25-JUL-2011 14:28 Cal File: icdg251.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8270dxnC13.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL) (1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

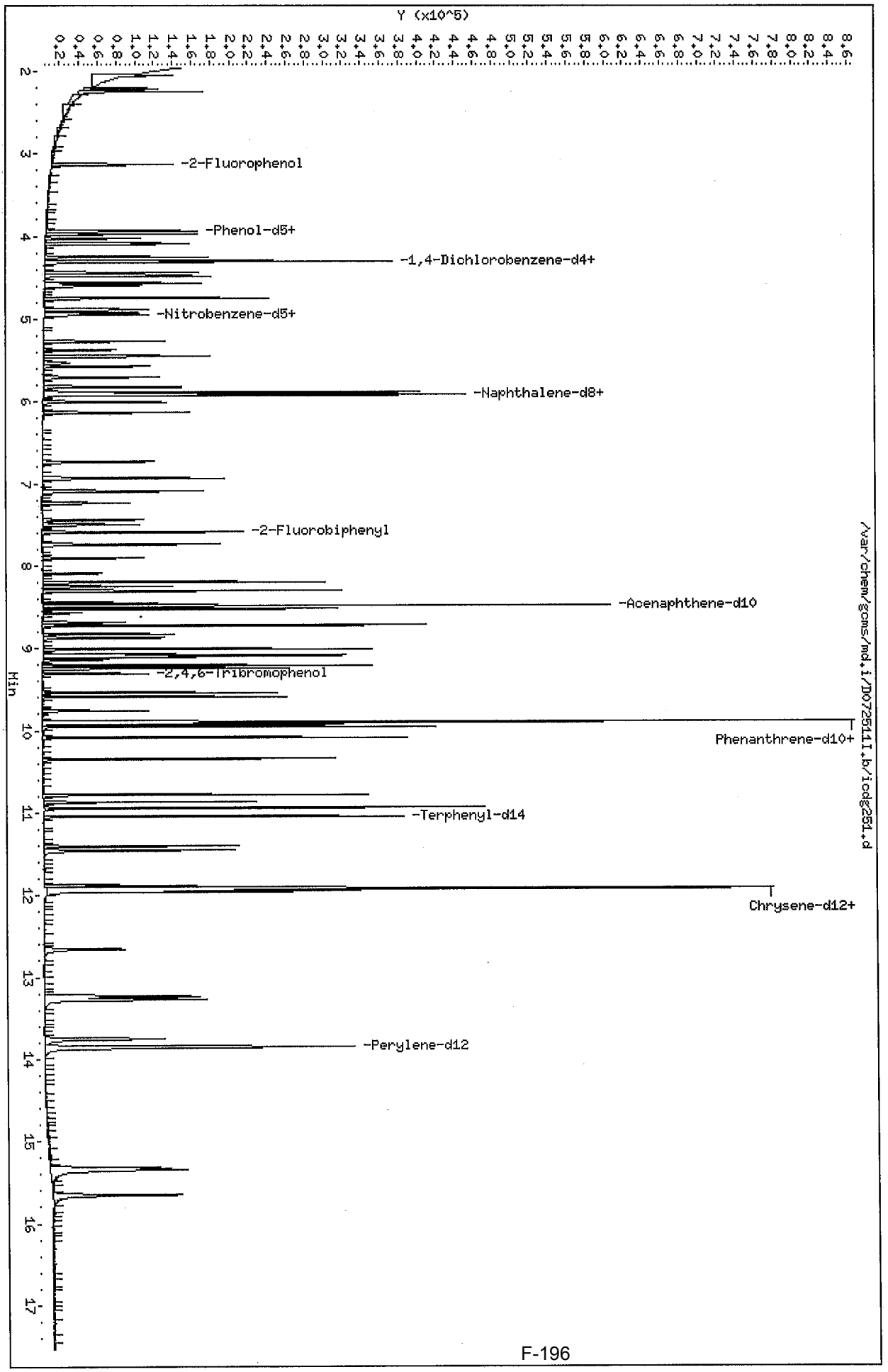
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
* 1	1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	48981	20.0000	20.0
* 2	Naphthalene-d8	136	5.888	5.888	(1.000)	191701	20.0000	20.0
* 3	Acenaphthene-d10	164	8.485	8.485	(1.000)	116990	20.0000	20.0
* 4	Phenanthrene-d10	188	9.895	9.895	(1.000)	229569	20.0000	20.0
* 5	Chrysene-d12	240	11.928	11.928	(1.000)	245479	20.0000	20.0
* 6	Perylene-d12	264	13.855	13.855	(1.000)	211613	20.0000	20.0
$ 7	2-Fluorophenol	112	3.132	3.132	(0.728)	26202	10.0000	9.56
$ 8	Phenol-d5	99	3.931	3.931	(0.914)	31688	10.0000	9.67
$ 9	Nitrobenzene-d5	82	4.930	4.930	(0.837)	29932	10.0000	9.65
$ 10	2-Fluorobiphenyl	172	7.591	7.591	(0.895)	72338	10.0000	9.97
$ 11	2,4,6-Tribromophenol	330	9.307	9.307	(0.941)	7758	10.0000	8.28
$ 12	Terphenyl-d14	244	11.046	11.046	(0.926)	91150	10.0000	9.74
$ 179	13C6-naphthalene	134	5.917	5.917	(1.005)	108218	10.0000	10.4
175	1,4-Dioxane	88	2.051	2.051	(0.477)	10663	10.0000	10.1

Data File: /chem/gcms/md.i/D072511I.b/icdg251.d
Report Date: 25-Jul-2011 14:46

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
13 N-Nitrosodimethylamine	74	2.209	2.209	(0.514)	15650	10.0000	10.2
14 Pyridine	79	2.245	2.245	(0.522)	26750	10.0000	10.0
15 Phenol (ccc)	94	3.943	3.943	(0.917)	33113	10.0000	9.88
16 Aniline	93	3.972	3.972	(0.924)	41544	10.0000	9.98
17 Bis(2-chloroethyl)ether	93	4.031	4.031	(0.937)	24795	10.0000	9.94
18 2-Chlorophenol	128	4.095	4.095	(0.952)	29106	10.0000	9.63
19 1,3-Dichlorobenzene	146	4.248	4.248	(0.988)	34737	10.0000	10.2
20 1,4-Dichlorobenzene (ccc)	146	4.319	4.319	(1.004)	35740	10.0000	10.3
21 Benzyl alcohol	108	4.436	4.436	(1.031)	18733	10.0000	9.41
22 1,2-Dichlorobenzene	146	4.483	4.483	(1.042)	35198	10.0000	10.6
23 2-Methylphenol	108	4.566	4.566	(1.061)	25489	10.0000	9.56
24 2,2'-Oxybis(1-Chloropropane)	45	4.595	4.595	(1.068)	49879	10.0000	10.5
25 4-Methylphenol	108	4.748	4.748	(1.104)	26570	10.0000	9.65
26 3&4 Methylphenol	108	4.748	4.748	(1.104)	26570	10.0000	9.65
27 N-Nitroso-di-n-propylamine###	70	4.748	4.748	(1.104)	19619	10.0000	9.71
28 Hexachloroethane	117	4.883	4.883	(1.135)	13130	10.0000	10.1
29 Nitrobenzene	77	4.953	4.953	(0.841)	29669	10.0000	9.86
30 Isophorone	82	5.265	5.265	(0.894)	47532	10.0000	9.51
31 2-Nitrophenol (ccc)	139	5.370	5.370	(0.912)	13657	10.0000	8.66
32 2,4-Dimethyphenol	107	5.447	5.447	(0.925)	31316	10.0000	9.56
33 Bis(2-chloroethoxy)methane	93	5.570	5.570	(0.946)	31752	10.0000	9.80
34 Benzoic acid	122	5.529	5.529	(0.939)	9056	10.0000	6.27
35 2,4-Dichlorophenol (ccc)	162	5.705	5.705	(0.969)	25054	10.0000	9.40
36 1,2,4-Trichlorobenzene	180	5.823	5.823	(0.989)	29606	10.0000	9.90
37 Naphthalene	128	5.917	5.917	(1.005)	93344	10.0000	10.2
38 4-Chloroaniline	127	6.005	6.005	(1.020)	37447	10.0000	9.69
39 Hexachlorobutadiene (ccc)	225	6.128	6.128	(1.041)	18386	10.0000	9.83
40 4-Chloro-3-methylphenol (ccc)	107	6.734	6.734	(1.144)	23417	10.0000	9.07
41 2-Methylnaphthalene	142	6.933	6.933	(1.178)	62380	10.0000	9.97
42 Hexachlorocyclopentadiene####	237	7.239	7.239	(0.853)	16068	10.0000	8.59
43 2,4,6-Trichlorophenol (ccc)	196	7.445	7.445	(0.877)	16878	10.0000	8.76
44 2,4,5-Trichlorphenol	196	7.503	7.503	(0.884)	19427	10.0000	9.00
45 2-Chloronaphthalene	162	7.744	7.744	(0.913)	60724	10.0000	9.74
46 2-Nitroaniline	65	7.909	7.909	(0.932)	15482	10.0000	8.72
47 Acenaphthylene	152	8.308	8.308	(0.979)	100086	10.0000	9.88
48 Dimethyl phthalate	163	8.197	8.197	(0.966)	80709	10.0000	10.7
49 2,6-Dinitrotoluene	165	8.250	8.250	(0.972)	15069	10.0000	9.06
50 3-Nitroaniline	138	8.449	8.449	(0.996)	16954	10.0000	9.07
51 Acenaphthene (ccc)	153	8.520	8.520	(1.004)	65575	10.0000	10.0
52 2,4-Dinitrophenol ##spcc##	184	8.573	8.573	(1.010)	4727	10.0000	4.88
53 Dibenzofuran	168	8.720	8.720	(1.028)	92610	10.0000	10.1
54 4-Nitrophenol ##spcc##	109	8.684	8.684	(1.024)	7974	10.0000	7.90
55 2,4-Dinitrotoluene	165	8.725	8.725	(1.028)	20031	10.0000	9.12
56 Fluorene	166	9.078	9.078	(1.070)	75538	10.0000	9.90
57 4-Chlorophenyl phenyl ether	204	9.096	9.096	(1.072)	37932	10.0000	10.3
58 Diethyl phthalate	149	9.007	9.007	(1.062)	102902	10.0000	12.3
59 4-Nitroaniline	138	9.101	9.101	(1.073)	18441	10.0000	9.45

Data File: /chem/gcms/md.i/D072511I.b/icdg251.d
Report Date: 25-Jul-2011 14:46

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
60 4,6-Dinitro-2-methylphenol	198	9.143	9.143	(0.924)	8068	10.0000	6.26
61 N-Ndpa / diphenylamine (ccc)	169	9.207	9.207	(0.931)	63362	10.0000	9.59
62 1,2-Diphenylhydrazine/azobnz	77	9.242	9.242	(0.934)	66719	10.0000	9.77
63 4-Bromophenyl phenyl ether	248	9.536	9.536	(0.964)	20952	10.0000	9.81
64 Hexachlorobenzene	284	9.589	9.589	(0.969)	22256	10.0000	9.86
65 Pentachlorophenol (ccc)	266	9.760	9.760	(0.986)	11281	10.0000	7.20
66 Phenanthrene	178	9.912	9.912	(1.002)	121426	10.0000	10.1
67 Anthracene	178	9.953	9.953	(1.006)	117017	10.0000	9.61
68 Carbazole	167	10.083	10.083	(1.019)	107048	10.0000	9.77
69 Di-n-butyl phthalate	149	10.347	10.347	(1.046)	106062	10.0000	8.60
70 Fluoranthene (ccc)	202	10.788	10.788	(1.090)	123775	10.0000	9.39
71 Pyrene	202	10.941	10.941	(0.917)	137981	10.0000	9.79
72 Butyl benzyl phthalate	149	11.405	11.405	(0.956)	48034	10.0000	8.33
73 Benzo(a)Anthracene	228	11.916	11.916	(0.999)	120274	10.0000	9.58
74 3,3'-Dichlorobenzidine	252	11.881	11.881	(0.996)	34629	10.0000	7.64
75 Chrysene	228	11.951	11.951	(1.002)	129663	10.0000	10.2
76 Bis(2-ethylhexyl) phthalate	149	11.910	11.910	(0.999)	64113	10.0000	8.21
77 Di-n-octyl phthalate (ccc)	149	12.656	12.656	(0.913)	71984	10.0000	6.46
78 Benzo(b)fluoranthene	252	13.232	13.232	(0.955)	96211	10.0000	8.79
79 Benzo(k)fluoranthene	252	13.273	13.273	(0.958)	132458	10.0000	10.3
80 Benzo(a)pyrene (ccc)	252	13.755	13.755	(0.993)	95297	10.0000	8.70
81 Indeno(1,2,3-cd)pyrene	276	15.318	15.318	(1.106)	106255	10.0000	8.81
82 Dibenz(a,h)anthracene	278	15.347	15.347	(1.108)	89649	10.0000	9.13
83 Benzo(g,h,i)perylene	276	15.647	15.647	(1.129)	100244	10.0000	9.56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Min
-2-Fluorophenol
-Phenol-d5+
-1,4-Dichlorobenzene-d4+
-Nitrobenzene-d5+
-Naphthalene-d8+
-2-Fluorobiphenyl
-Acenaphthene-d10
-2,4,6-Tribromophenol
Phenanthrene-d10+
-Terphenyl-d14
Chrysene-d12+
-Perylene-d12
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Data File: /var/chem/gcms/md_i/D072511I_b/icdg251.d
Date : 25-JUL-2011 14:28
Client ID: STD010
Sample Info: ICDG251,,1.1,,STD010
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md_i
Operator: 60841
Column diameter: 0.25

Data File: /var/chem/gcms/md.i/D072511I.b/icdg252.d
Report Date: 25-Jul-2011 14:24

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072511I.b/icdg252.d
Lab Smp Id: ICDG252 Client Smp ID: STD025
Inj Date : 25-JUL-2011 14:02
Operator : 60841 Inst ID: md.i
Smp Info : ICDG252,,1,2,,STD025
Misc Info : D072511I,8270a9,8270dxnC13.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072511I.b/8270a9.m
Meth Date : 25-Jul-2011 14:24 mcgeek Quant Type: ISTD
Cal Date : 25-JUL-2011 14:02 Cal File: icdg252.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8270dxnC13.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL) (1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
* 1	1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	54061	20.0000	20.0
* 2	Naphthalene-d8	136	5.888	5.888	(1.000)	211682	20.0000	20.0
* 3	Acenaphthene-d10	164	8.485	8.485	(1.000)	128067	20.0000	20.0
* 4	Phenanthrene-d10	188	9.895	9.895	(1.000)	236358	20.0000	20.0
* 5	Chrysene-d12	240	11.928	11.928	(1.000)	253168	20.0000	20.0
* 6	Perylene-d12	264	13.855	13.855	(1.000)	229844	20.0000	20.0
$ 7	2-Fluorophenol	112	3.132	3.132	(0.728)	66718	25.0000	21.9
$ 8	Phenol-d5	99	3.931	3.931	(0.914)	79960	25.0000	22.0
$ 9	Nitrobenzene-d5	82	4.930	4.930	(0.837)	76444	25.0000	22.2
$ 10	2-Fluorobiphenyl	172	7.591	7.591	(0.895)	182582	25.0000	23.0
$ 11	2,4,6-Tribromophenol	330	9.307	9.307	(0.941)	22058	25.0000	22.1
$ 12	Terphenyl-d14	244	11.046	11.046	(0.926)	222612	25.0000	23.0
$ 179	13C6-naphthalene	134	5.917	5.917	(1.005)	283367	25.0000	24.8
175	1,4-Dioxane	88	2.051	2.051	(0.477)	28272	25.0000	24.4

Data File: /var/chem/gcms/md.i/D072511I.b/icdg252.d
Report Date: 25-Jul-2011 14:24

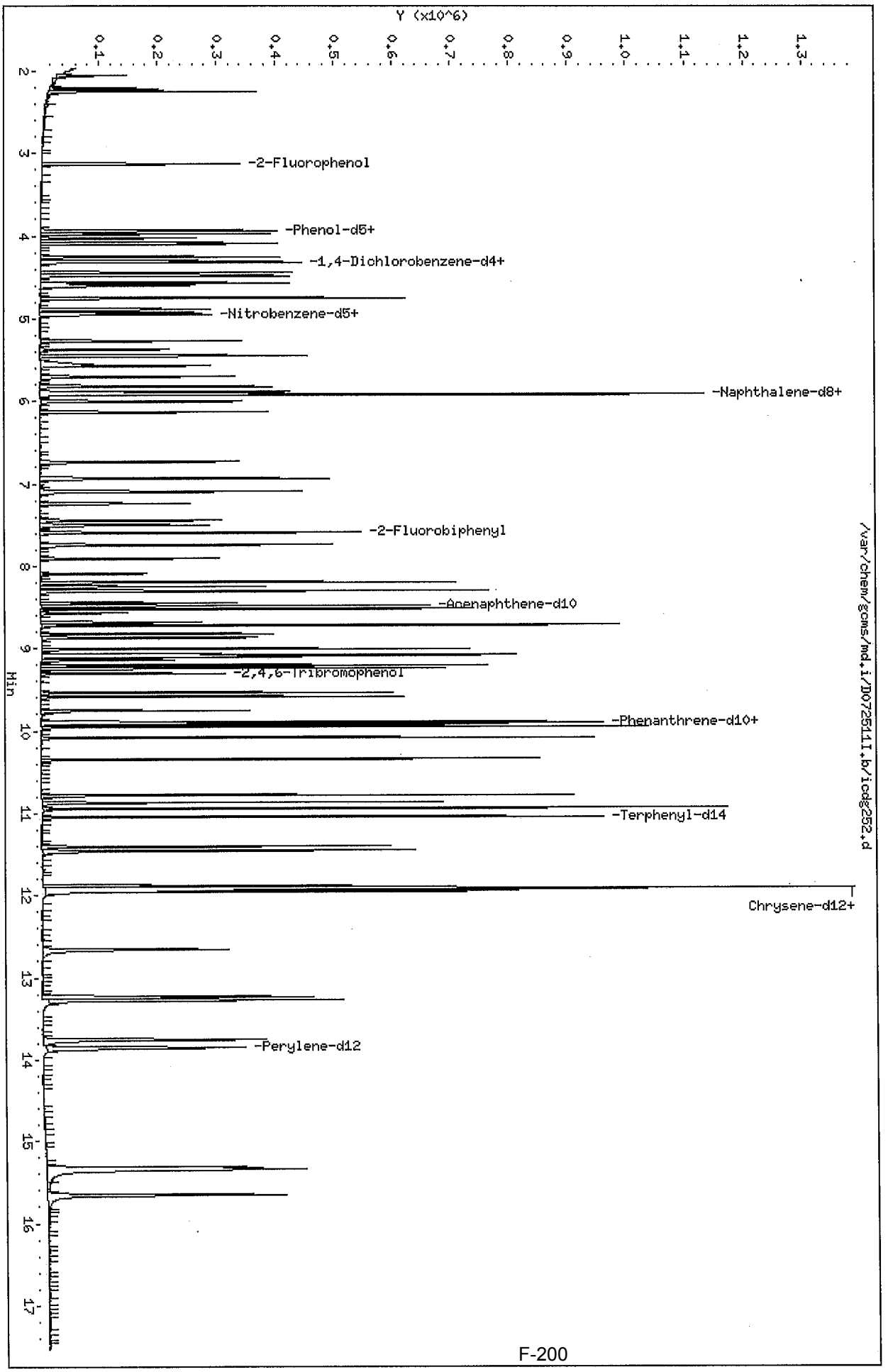
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
13 N-Nitrosodimethylamine	74	2.209	2.209	(0.514)	37695	25.0000	22.2
14 Pyridine	79	2.245	2.245	(0.522)	65580	25.0000	22.3
15 Phenol (ccc)	94	3.943	3.943	(0.917)	81663	25.0000	22.0
16 Aniline	93	3.972	3.972	(0.924)	102542	25.0000	22.3
17 Bis(2-chloroethyl)ether	93	4.031	4.031	(0.937)	62945	25.0000	22.8
18 2-Chlorophenol	128	4.095	4.095	(0.952)	75854	25.0000	22.6
19 1,3-Dichlorobenzene	146	4.248	4.248	(0.988)	85423	25.0000	22.9
20 1,4-Dichlorobenzene (ccc)	146	4.319	4.319	(1.004)	86922	25.0000	22.9
21 Benzyl alcohol	108	4.436	4.436	(1.031)	49117	25.0000	22.1
22 1,2-Dichlorobenzene	146	4.483	4.483	(1.042)	83354	25.0000	22.9
23 2-Methylphenol	108	4.566	4.566	(1.061)	66539	25.0000	22.4
24 2,2'-Oxybis(1-Chloropropane)	45	4.595	4.595	(1.068)	122656	25.0000	23.6
25 4-Methylphenol	108	4.754	4.754	(1.105)	68291	25.0000	22.3
26 3&4 Methylphenol	108	4.754	4.754	(1.105)	68291	25.0000	22.3
27 N-Nitroso-di-n-propylamine###	70	4.748	4.748	(1.104)	51043	25.0000	22.8
28 Hexachloroethane	117	4.883	4.883	(1.135)	32912	25.0000	22.9
29 Nitrobenzene	77	4.953	4.953	(0.841)	75858	25.0000	22.8
30 Isophorone	82	5.265	5.265	(0.894)	123889	25.0000	22.2
31 2-Nitrophenol (ccc)	139	5.376	5.376	(0.913)	37563	25.0000	21.0
32 2,4-Dimethyphenol	107	5.447	5.447	(0.925)	81109	25.0000	22.2
33 Bis(2-chloroethoxy)methane	93	5.570	5.570	(0.946)	83057	25.0000	23.1
34 Benzoic acid	122	5.553	5.553	(0.943)	28903	25.0000	18.1(H)
35 2,4-Dichlorophenol (ccc)	162	5.705	5.705	(0.969)	65782	25.0000	22.1
36 1,2,4-Trichlorobenzene	180	5.823	5.823	(0.989)	76446	25.0000	23.1
37 Naphthalene	128	5.917	5.917	(1.005)	228933	25.0000	22.8
38 4-Chloroaniline	127	5.999	5.999	(1.019)	97087	25.0000	22.6
39 Hexachlorobutadiene (ccc)	225	6.128	6.128	(1.041)	48335	25.0000	23.3
40 4-Chloro-3-methylphenol (ccc)	107	6.734	6.734	(1.144)	63280	25.0000	21.8
41 2-Methylnaphthalene	142	6.933	6.933	(1.178)	156886	25.0000	22.7
42 Hexachlorocyclopentadiene####	237	7.239	7.239	(0.853)	43552	25.0000	20.7
43 2,4,6-Trichlorophenol (ccc)	196	7.445	7.445	(0.877)	47298	25.0000	21.9
44 2,4,5-Trichlorphenol	196	7.503	7.503	(0.884)	53126	25.0000	22.0
45 2-Chloronaphthalene	162	7.744	7.744	(0.913)	154945	25.0000	22.6
46 2-Nitroaniline	65	7.909	7.909	(0.932)	41828	25.0000	21.0
47 Acenaphthylene	152	8.308	8.308	(0.979)	249490	25.0000	22.4
48 Dimethyl phthalate	163	8.203	8.203	(0.967)	187408	25.0000	23.0
49 2,6-Dinitrotoluene	165	8.249	8.249	(0.972)	40628	25.0000	21.9
50 3-Nitroaniline	138	8.449	8.449	(0.996)	45403	25.0000	21.8
51 Acenaphthene (ccc)	153	8.520	8.520	(1.004)	163904	25.0000	22.8
52 2,4-Dinitrophenol ##spcc##	184	8.573	8.573	(1.010)	16981	25.0000	16.0
53 Dibenzofuran	168	8.720	8.720	(1.028)	227891	25.0000	22.8
54 4-Nitrophenol ##spcc##	109	8.684	8.684	(1.024)	23442	25.0000	20.4
55 2,4-Dinitrotoluene	165	8.725	8.725	(1.028)	52934	25.0000	21.6
56 Fluorene	166	9.078	9.078	(1.070)	186532	25.0000	22.3
57 4-Chlorophenyl phenyl ether	204	9.096	9.096	(1.072)	91557	25.0000	22.9
58 Diethyl phthalate	149	9.007	9.007	(1.062)	210858	25.0000	24.0
59 4-Nitroaniline	138	9.107	9.107	(1.073)	46510	25.0000	21.5

Data File: /var/chem/gcms/md.i/D072511I.b/icdg252.d
Report Date: 25-Jul-2011 14:24

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
60 4,6-Dinitro-2-methylphenol	198	9.143	9.143	(0.924)	27872	25.0000	19.6
61 N-Ndpa / diphenylamine (ccc)	169	9.207	9.207	(0.931)	161201	25.0000	23.5
62 1,2-Diphenylhydrazine/azobnz	77	9.242	9.242	(0.934)	165484	25.0000	23.4
63 4-Bromophenyl phenyl ether	248	9.536	9.536	(0.964)	49654	25.0000	22.5
64 Hexachlorobenzene	284	9.589	9.589	(0.969)	54349	25.0000	23.3
65 Pentachlorophenol (ccc)	266	9.760	9.760	(0.986)	34447	25.0000	20.2
66 Phenanthrene	178	9.912	9.912	(1.002)	287991	25.0000	23.3
67 Anthracene	178	9.953	9.953	(1.006)	287011	25.0000	22.7
68 Carbazole	167	10.083	10.083	(1.019)	258805	25.0000	22.8
69 Di-n-butyl phthalate	149	10.347	10.347	(1.046)	289844	25.0000	22.2
70 Fluoranthene (ccc)	202	10.788	10.788	(1.090)	308337	25.0000	22.4
71 Pyrene	202	10.941	10.941	(0.917)	335121	25.0000	23.0
72 Butyl benzyl phthalate	149	11.405	11.405	(0.956)	129480	25.0000	21.1
73 Benzo(a)Anthracene	228	11.916	11.916	(0.999)	299896	25.0000	23.0
74 3,3'-Dichlorobenzidine	252	11.881	11.881	(0.996)	104988	25.0000	21.4
75 Chrysene	228	11.951	11.951	(1.002)	307759	25.0000	23.6
76 Bis(2-ethylhexyl) phthalate	149	11.910	11.910	(0.999)	179215	25.0000	21.5
77 Di-n-octyl phthalate (ccc)	149	12.656	12.656	(0.913)	243024	25.0000	18.8
78 Benzo(b)fluoranthene	252	13.232	13.232	(0.955)	267692	25.0000	22.0
79 Benzo(k)fluoranthene	252	13.273	13.273	(0.958)	322464	25.0000	23.2
80 Benzo(a)pyrene (ccc)	252	13.761	13.761	(0.993)	262635	25.0000	21.5
81 Indeno(1,2,3-cd)pyrene	276	15.324	15.324	(1.106)	294545	25.0000	22.0
82 Dibenz(a,h)anthracene	278	15.347	15.347	(1.108)	244467	25.0000	22.5
83 Benzo(g,h,i)perylene	276	15.653	15.653	(1.130)	260454	25.0000	22.7

QC Flag Legend

H - Operator selected an alternate compound hit.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Min
-2-Fluorophenol
-Phenol-d5+
-1,4-Dichlorobenzene-d4+
-Nitrobenzene-d5+
-Naphthalene-d8+
-2-Fluorobiphenyl
-Acenaphthene-d10
-2,4,6-Tribromophenol
-Phenanthrene-d10+
-Terphenyl-d14
Chrysene-d12+
-Perylene-d12
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Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25

Data File: /var/chem/gcms/md.i/D072511I.b/icdg253.d
Report Date: 25-Jul-2011 14:22

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072511I.b/icdg253.d
Lab Smp Id: ICDG253 Client Smp ID: STD040
Inj Date : 25-JUL-2011 13:37
Operator : 60841 Inst ID: md.i
Smp Info : ICDG253,,1,3,,STD040
Misc Info : D072511I,8270a9,8270dxnC13.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072511I.b/8270a9.m
Meth Date : 25-Jul-2011 14:22 mcgeek Quant Type: ISTD
Cal Date : 25-JUL-2011 13:37 Cal File: icdg253.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8270dxnC13.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL) (1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
* 1	1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	50909	20.0000	20.0
* 2	Naphthalene-d8	136	5.893	5.893	(1.000)	199442	20.0000	20.0
* 3	Acenaphthene-d10	164	8.484	8.484	(1.000)	118840	20.0000	20.0
* 4	Phenanthrene-d10	188	9.894	9.894	(1.000)	226196	20.0000	20.0
* 5	Chrysene-d12	240	11.927	11.927	(1.000)	243832	20.0000	20.0
* 6	Perylene-d12	264	13.860	13.860	(1.000)	219402	20.0000	20.0
$ 7	2-Fluorophenol	112	3.132	3.132	(0.728)	114030	40.0000	39.7
$ 8	Phenol-d5	99	3.931	3.931	(0.914)	136191	40.0000	39.7
$ 9	Nitrobenzene-d5	82	4.930	4.930	(0.836)	128643	40.0000	39.6
$ 10	2-Fluorobiphenyl	172	7.591	7.591	(0.895)	289454	40.0000	39.2
$ 11	2,4,6-Tribromophenol	330	9.307	9.307	(0.941)	37302	40.0000	39.0
$ 12	Terphenyl-d14	244	11.046	11.046	(0.926)	365028	40.0000	39.1
$ 179	13C6-naphthalene	134	5.917	5.917	(1.004)	436148	40.0000	40.5
175	1,4-Dioxane	88	2.051	2.051	(0.477)	110748	100.000	102

Data File: /var/chem/gcms/md.i/D072511I.b/icdg253.d
Report Date: 25-Jul-2011 14:22

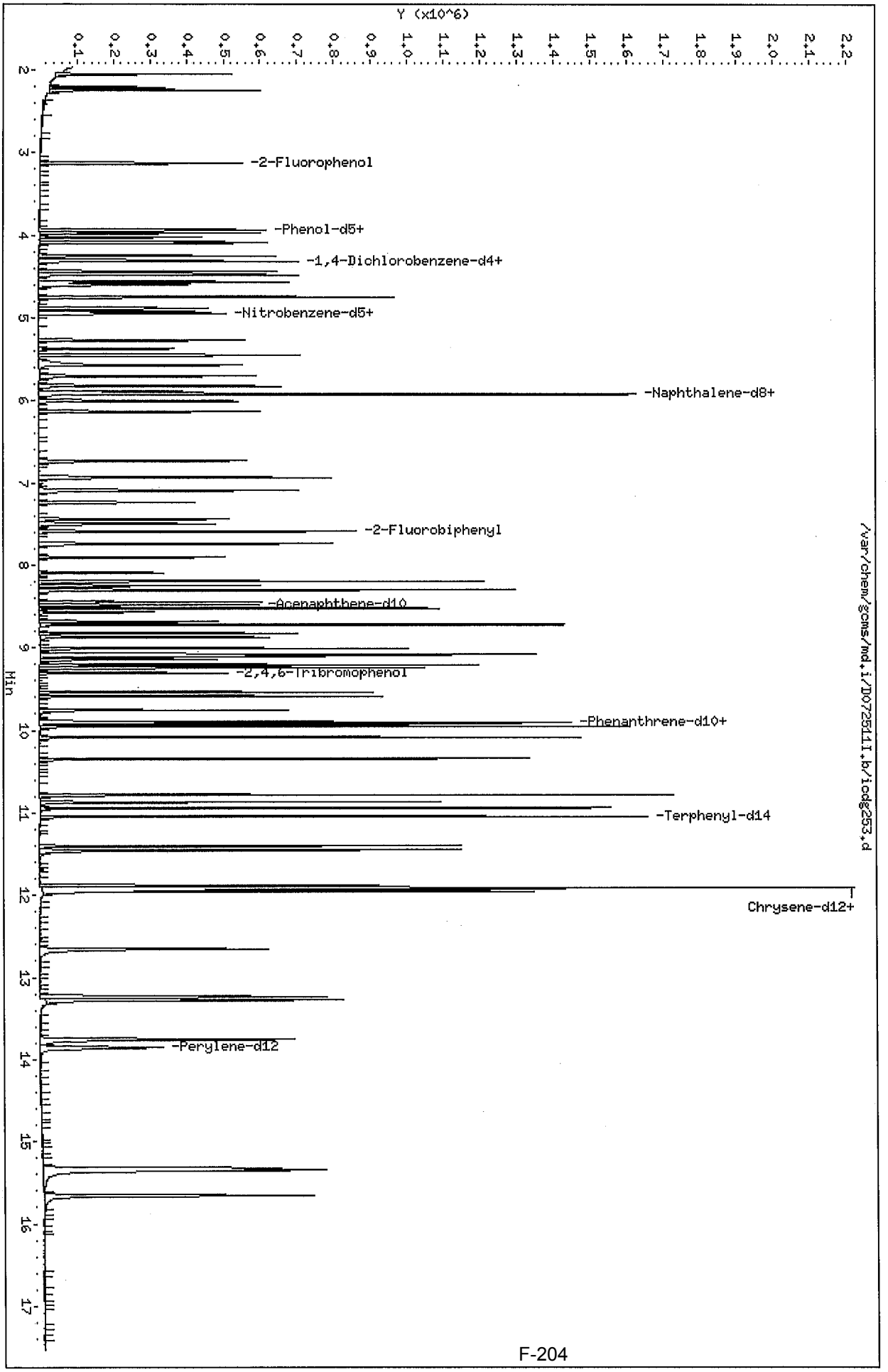
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
13 N-Nitrosodimethylamine	74	2.209	2.209	(0.514)	63770	40.0000	40.0
14 Pyridine	79	2.244	2.244	(0.522)	108645	40.0000	39.2
15 Phenol (ccc)	94	3.948	3.948	(0.918)	138049	40.0000	39.5
16 Aniline	93	3.972	3.972	(0.923)	171401	40.0000	39.6
17 Bis(2-chloroethyl)ether	93	4.031	4.031	(0.937)	102405	40.0000	39.5
18 2-Chlorophenol	128	4.095	4.095	(0.952)	126192	40.0000	39.9
19 1,3-Dichlorobenzene	146	4.248	4.248	(0.988)	138453	40.0000	39.4
20 1,4-Dichlorobenzene (ccc)	146	4.319	4.319	(1.004)	141755	40.0000	39.6
21 Benzyl alcohol	108	4.436	4.436	(1.031)	81230	40.0000	38.8
22 1,2-Dichlorobenzene	146	4.483	4.483	(1.042)	135326	40.0000	39.5
23 2-Methylphenol	108	4.565	4.565	(1.061)	110903	40.0000	39.7
24 2,2'-Oxybis(1-Chloropropane)	45	4.595	4.595	(1.068)	194707	40.0000	39.8
25 4-Methylphenol	108	4.753	4.753	(1.105)	113591	40.0000	39.4
26 3&4 Methylphenol	108	4.753	4.753	(1.105)	113591	40.0000	39.4
27 N-Nitroso-di-n-propylamine###	70	4.747	4.747	(1.104)	82483	40.0000	39.1
28 Hexachloroethane	117	4.883	4.883	(1.135)	53390	40.0000	39.5
29 Nitrobenzene	77	4.953	4.953	(0.840)	122476	40.0000	39.0
30 Isophorone	82	5.270	5.270	(0.894)	205507	40.0000	39.2
31 2-Nitrophenol (ccc)	139	5.376	5.376	(0.912)	65620	40.0000	39.0
32 2,4-Dimethyphenol	107	5.453	5.453	(0.925)	135562	40.0000	39.4
33 Bis(2-chloroethoxy)methane	93	5.570	5.570	(0.945)	133536	40.0000	39.4
34 Benzoic acid	122	5.570	5.570	(0.945)	56722	40.0000	44.0(H)
35 2,4-Dichlorophenol (ccc)	162	5.705	5.705	(0.968)	111873	40.0000	39.9
36 1,2,4-Trichlorobenzene	180	5.823	5.823	(0.988)	122309	40.0000	39.2
37 Naphthalene	128	5.923	5.923	(1.005)	374884	40.0000	39.6
38 4-Chloroaniline	127	6.005	6.005	(1.019)	157769	40.0000	39.0
39 Hexachlorobutadiene (ccc)	225	6.134	6.134	(1.041)	75141	40.0000	38.5
40 4-Chloro-3-methylphenol (ccc)	107	6.733	6.733	(1.143)	106738	40.0000	39.0
41 2-Methylnaphthalene	142	6.933	6.933	(1.176)	255483	40.0000	39.2
42 Hexachlorocyclopentadiene####	237	7.239	7.239	(0.853)	73476	40.0000	37.6
43 2,4,6-Trichlorophenol (ccc)	196	7.444	7.444	(0.877)	77511	40.0000	38.6
44 2,4,5-Trichlorphenol	196	7.497	7.497	(0.884)	86871	40.0000	38.8
45 2-Chloronaphthalene	162	7.744	7.744	(0.913)	251581	40.0000	39.5
46 2-Nitroaniline	65	7.909	7.909	(0.932)	72041	40.0000	38.9
47 Acenaphthylene	152	8.308	8.308	(0.979)	408840	40.0000	39.6
48 Dimethyl phthalate	163	8.202	8.202	(0.967)	302095	40.0000	39.9(H)
49 2,6-Dinitrotoluene	165	8.249	8.249	(0.972)	67681	40.0000	39.3
50 3-Nitroaniline	138	8.449	8.449	(0.996)	75684	40.0000	39.1
51 Acenaphthene (ccc)	153	8.525	8.525	(1.005)	262256	40.0000	39.4
52 2,4-Dinitrophenol ##spcc##	184	8.572	8.572	(1.010)	34091	40.0000	34.6
53 Dibenzofuran	168	8.719	8.719	(1.028)	368493	40.0000	39.8
54 4-Nitrophenol ##spcc##	109	8.684	8.684	(1.024)	40004	40.0000	37.5
55 2,4-Dinitrotoluene	165	8.725	8.725	(1.028)	87303	40.0000	38.5
56 Fluorene	166	9.078	9.078	(1.070)	303132	40.0000	39.0
57 4-Chlorophenyl phenyl ether	204	9.095	9.095	(1.072)	145534	40.0000	39.2
58 Diethyl phthalate	149	9.007	9.007	(1.062)	330085	40.0000	40.6
59 4-Nitroaniline	138	9.107	9.107	(1.073)	77744	40.0000	38.8

Data File: /var/chem/gcms/md.i/D072511I.b/icdg253.d
Report Date: 25-Jul-2011 14:22

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
60 4,6-Dinitro-2-methylphenol	198	9.142	9.142	(0.924)	48383	40.0000	35.5
61 N-Ndpa / diphenylamine (ccc)	169	9.213	9.213	(0.931)	256268	40.0000	39.0
62 1,2-Diphenylhydrazine/azobnz	77	9.242	9.242	(0.934)	267862	40.0000	39.6
63 4-Bromophenyl phenyl ether	248	9.542	9.542	(0.964)	83444	40.0000	39.5
64 Hexachlorobenzene	284	9.589	9.589	(0.969)	87028	40.0000	39.0
65 Pentachlorophenol (ccc)	266	9.759	9.759	(0.986)	63402	40.0000	38.9
66 Phenanthrene	178	9.912	9.912	(1.002)	469947	40.0000	39.7
67 Anthracene	178	9.953	9.953	(1.006)	473393	40.0000	39.2
68 Carbazole	167	10.082	10.082	(1.019)	428746	40.0000	39.5
69 Di-n-butyl phthalate	149	10.347	10.347	(1.046)	489002	40.0000	39.2
70 Fluoranthene (ccc)	202	10.788	10.788	(1.090)	517134	40.0000	39.4
71 Pyrene	202	10.946	10.946	(0.918)	551039	40.0000	39.2
72 Butyl benzyl phthalate	149	11.405	11.405	(0.956)	227133	40.0000	38.4
73 Benzo(a)Anthracene	228	11.916	11.916	(0.999)	498260	40.0000	39.6
74 3,3'-Dichlorobenzidine	252	11.880	11.880	(0.996)	178706	40.0000	37.9
75 Chrysene	228	11.957	11.957	(1.002)	493171	40.0000	39.2
76 Bis(2-ethylhexyl) phthalate	149	11.916	11.916	(0.999)	309158	40.0000	38.5
77 Di-n-octyl phthalate (ccc)	149	12.656	12.656	(0.913)	454474	40.0000	36.8
78 Benzo(b)fluoranthene	252	13.238	13.238	(0.955)	446105	40.0000	38.4
79 Benzo(k)fluoranthene	252	13.279	13.279	(0.958)	538417	40.0000	40.5
80 Benzo(a)pyrene (ccc)	252	13.761	13.761	(0.993)	453830	40.0000	38.9
81 Indeno(1,2,3-cd)pyrene	276	15.329	15.329	(1.106)	501005	40.0000	39.2
82 Dibenz(a,h)anthracene	278	15.353	15.353	(1.108)	407765	40.0000	39.4
83 Benzo(g,h,i)perylene	276	15.658	15.658	(1.130)	429141	40.0000	39.1

QC Flag Legend

H - Operator selected an alternate compound hit.



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Column phase: Rxi-5 Sil MS

Instrument: md.i
Operator: 60841
Column diameter: 0.25

Data File: /var/chem/gcms/md.i/D072511I.b/icdg254.d
Report Date: 25-Jul-2011 13:33

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072511I.b/icdg254.d
Lab Smp Id: ICDG254 Client Smp ID: STD060
Inj Date : 25-JUL-2011 13:11
Operator : 60841 Inst ID: md.i
Smp Info : ICDG254,,1,4,,STD060
Misc Info : D072511I,8270a9,8270dxnC13.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072511I.b/8270a9.m
Meth Date : 25-Jul-2011 13:33 mcgeek Quant Type: ISTD
Cal Date : 25-JUL-2011 13:11 Cal File: icdg254.d
Als bottle: 5 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8270dxnC13.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)(1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
* 1	1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	50077	20.0000	20.0
* 2	Naphthalene-d8	136	5.893	5.893	(1.000)	196721	20.0000	20.0
* 3	Acenaphthene-d10	164	8.484	8.484	(1.000)	118482	20.0000	20.0
* 4	Phenanthrene-d10	188	9.895	9.895	(1.000)	226546	20.0000	20.0
* 5	Chrysene-d12	240	11.933	11.933	(1.000)	244525	20.0000	20.0
* 6	Perylene-d12	264	13.861	13.861	(1.000)	224450	20.0000	20.0
$ 7	2-Fluorophenol	112	3.132	3.132	(0.728)	182665	60.0000	61.9
$ 8	Phenol-d5	99	3.937	3.937	(0.915)	220027	60.0000	62.6
$ 9	Nitrobenzene-d5	82	4.930	4.930	(0.836)	205689	60.0000	61.7
$ 10	2-Fluorobiphenyl	172	7.591	7.591	(0.895)	469932	60.0000	61.8
$ 11	2,4,6-Tribromophenol	330	9.307	9.307	(0.941)	62015	60.0000	61.9
$ 12	Terphenyl-d14	244	11.046	11.046	(0.926)	605018	60.0000	62.4
$ 179	13C6-naphthalene	134	5.923	5.923	(1.005)	649572	60.0000	61.2
175	1,4-Dioxane	88	2.051	2.051	(0.477)	64581	60.0000	60.0

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Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
13 N-Nitrosodimethylamine	74	2.209	2.209	(0.514)	102370	60.0000	62.9
14 Pyridine	79	2.245	2.245	(0.522)	177630	60.0000	62.6
15 Phenol (ccc)	94	3.949	3.949	(0.918)	223927	60.0000	62.5
16 Aniline	93	3.978	3.978	(0.925)	276860	60.0000	62.5
17 Bis(2-chloroethyl)ether	93	4.031	4.031	(0.937)	164823	60.0000	62.5
18 2-Chlorophenol	128	4.101	4.101	(0.954)	200626	60.0000	62.4
19 1,3-Dichlorobenzene	146	4.254	4.254	(0.989)	224961	60.0000	63.0
20 1,4-Dichlorobenzene (ccc)	146	4.319	4.319	(1.004)	229273	60.0000	63.2
21 Benzyl alcohol	108	4.442	4.442	(1.033)	132718	60.0000	61.4
22 1,2-Dichlorobenzene	146	4.483	4.483	(1.042)	221304	60.0000	63.6
23 2-Methylphenol	108	4.565	4.565	(1.061)	178016	60.0000	62.5
24 2,2'-Oxybis(1-Chloropropane)	45	4.601	4.601	(1.070)	313365	60.0000	63.7
25 4-Methylphenol	108	4.753	4.753	(1.105)	185205	60.0000	62.8
26 3&4 Methylphenol	108	4.753	4.753	(1.105)	185205	60.0000	62.8
27 N-Nitroso-di-n-propylamine###	70	4.748	4.748	(1.104)	134711	60.0000	62.5
28 Hexachloroethane	117	4.883	4.883	(1.135)	85482	60.0000	62.2
29 Nitrobenzene	77	4.953	4.953	(0.840)	202425	60.0000	63.0
30 Isophorone	82	5.271	5.271	(0.894)	336043	60.0000	62.2
31 2-Nitrophenol (ccc)	139	5.376	5.376	(0.912)	109042	60.0000	61.8
32 2,4-Dimethyphenol	107	5.453	5.453	(0.925)	216931	60.0000	61.4
33 Bis(2-chloroethoxy)methane	93	5.576	5.576	(0.946)	213083	60.0000	62.0
34 Benzoic acid	122	5.588	5.588	(0.948)	94445	60.0000	57.4
35 2,4-Dichlorophenol (ccc)	162	5.705	5.705	(0.968)	178701	60.0000	62.1
36 1,2,4-Trichlorobenzene	180	5.823	5.823	(0.988)	198027	60.0000	62.4
37 Naphthalene	128	5.923	5.923	(1.005)	599944	60.0000	62.1
38 4-Chloroaniline	127	6.005	6.005	(1.019)	257968	60.0000	62.1
39 Hexachlorobutadiene (ccc)	225	6.134	6.134	(1.041)	125034	60.0000	62.7
40 4-Chloro-3-methylphenol (ccc)	107	6.734	6.734	(1.143)	174616	60.0000	61.5
41 2-Methylnaphthalene	142	6.933	6.933	(1.176)	409793	60.0000	61.5
42 Hexachlorocyclopentadiene####	237	7.239	7.239	(0.853)	127352	60.0000	60.6
43 2,4,6-Trichlorophenol (ccc)	196	7.444	7.444	(0.877)	127328	60.0000	60.5
44 2,4,5-Trichlorphenol	196	7.497	7.497	(0.884)	143654	60.0000	61.4
45 2-Chloronaphthalene	162	7.744	7.744	(0.913)	408525	60.0000	62.1
46 2-Nitroaniline	65	7.909	7.909	(0.932)	120210	60.0000	61.4
47 Acenaphthylene	152	8.308	8.308	(0.979)	662750	60.0000	62.1
48 Dimethyl phthalate	163	8.202	8.202	(0.967)	490358	60.0000	63.2
49 2,6-Dinitrotoluene	165	8.255	8.255	(0.973)	110450	60.0000	61.5
50 3-Nitroaniline	138	8.455	8.455	(0.997)	125402	60.0000	61.9
51 Acenaphthene (ccc)	153	8.526	8.526	(1.005)	425902	60.0000	62.0
52 2,4-Dinitrophenol ##spcc##	184	8.573	8.573	(1.010)	65034	60.0000	56.9
53 Dibenzofuran	168	8.725	8.725	(1.028)	593090	60.0000	62.4
54 4-Nitrophenol ##spcc##	109	8.690	8.690	(1.024)	69776	60.0000	60.5
55 2,4-Dinitrotoluene	165	8.725	8.725	(1.028)	147023	60.0000	61.4
56 Fluorene	166	9.078	9.078	(1.070)	503324	60.0000	62.3
57 4-Chlorophenyl phenyl ether	204	9.096	9.096	(1.072)	238198	60.0000	62.3
58 Diethyl phthalate	149	9.013	9.013	(1.062)	526305	60.0000	64.4
59 4-Nitroaniline	138	9.107	9.107	(1.073)	130789	60.0000	62.0

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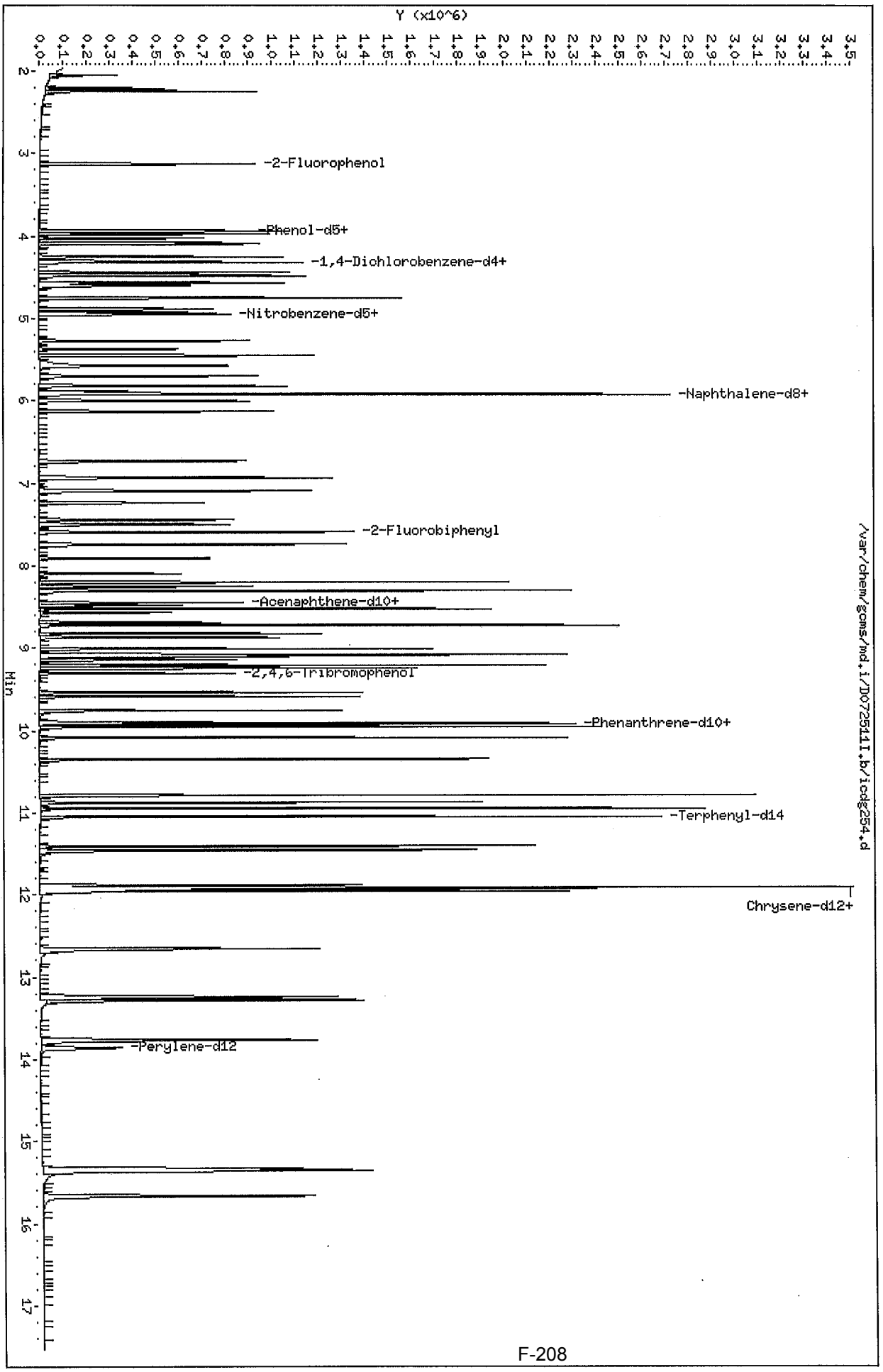
Report Date: 25-Jul-2011 13:33

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
60 4,6-Dinitro-2-methylphenol	198	9.143	9.143	(0.924)	91603	60.0000	60.4
61 N-Ndpa / diphenylamine (ccc)	169	9.213	9.213	(0.931)	419753	60.0000	62.1
62 1,2-Diphenylhydrazine/azobnz	77	9.242	9.242	(0.934)	438779	60.0000	63.3
63 4-Bromophenyl phenyl ether	248	9.542	9.542	(0.964)	136231	60.0000	62.1
64 Hexachlorobenzene	284	9.595	9.595	(0.970)	144881	60.0000	62.9
65 Pentachlorophenol (ccc)	266	9.759	9.759	(0.986)	108418	60.0000	62.0
66 Phenanthrene	178	9.918	9.918	(1.002)	760392	60.0000	62.6
67 Anthracene	178	9.953	9.953	(1.006)	780176	60.0000	62.1
68 Carbazole	167	10.083	10.083	(1.019)	710460	60.0000	63.3
69 Di-n-butyl phthalate	149	10.347	10.347	(1.046)	819753	60.0000	62.8
70 Fluoranthene (ccc)	202	10.788	10.788	(1.090)	852688	60.0000	62.4
71 Pyrene	202	10.946	10.946	(0.917)	903289	60.0000	62.0
72 Butyl benzyl phthalate	149	11.405	11.405	(0.956)	388334	60.0000	61.4
73 Benzo(a)Anthracene	228	11.922	11.922	(0.999)	810041	60.0000	62.3
74 3,3'-Dichlorobenzidine	252	11.886	11.886	(0.996)	310929	60.0000	61.7
75 Chrysene	228	11.957	11.957	(1.002)	815715	60.0000	63.0
76 Bis(2-ethylhexyl) phthalate	149	11.916	11.916	(0.999)	529074	60.0000	62.0
77 Di-n-octyl phthalate (ccc)	149	12.662	12.662	(0.914)	837163	60.0000	59.8
78 Benzo(b)fluoranthene	252	13.244	13.244	(0.955)	775148	60.0000	62.0
79 Benzo(k)fluoranthene	252	13.285	13.285	(0.958)	875284	60.0000	63.2
80 Benzo(a)pyrene (ccc)	252	13.767	13.767	(0.993)	768797	60.0000	61.2
81 Indeno(1,2,3-cd)pyrene	276	15.335	15.335	(1.106)	857727	60.0000	62.7
82 Dibenz(a,h)anthracene	278	15.359	15.359	(1.108)	695917	60.0000	63.7
83 Benzo(g,h,i)perylene	276	15.664	15.664	(1.130)	729993	60.0000	62.9


Data File: /var/chem/gcms/md_i/D072511I_b/icdg254.d
Date : 25-JUL-2011 13:11
Client ID: STD060
Sample Info: ICDG254,,1,4,,STD060
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md_i
Operator: 60841
Column diameter: 0.25
/var/chem/gcms/md_i/D072511I_b/icdg254.d
Y (x10^6)
Min
-2-Fluorophenol
-Phenol-d5+
-1,4-Dichlorobenzene-d4+
-Nitrobenzene-d5+
-Naphthalene-d8+
-2-Fluorobiphenyl
-Acenaphthene-d10+
-2,4,6-Tribromophenol
-Phenanthrene-d10+
-Terphenyl-d14
Chrysene-d12+
-Perylene-d12

Data File: /var/chem/gcms/md.i/D072511I.b/icdg255.d
Report Date: 25-Jul-2011 13:34

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072511I.b/icdg255.d
Lab Smp Id: ICDG255 Client Smp ID: STD120
Inj Date : 25-JUL-2011 12:46
Operator : 60841 Inst ID: md.i
Smp Info : ICDG255,,1,5,,STD120
Misc Info : D072511I,8270a9,8270dxnC13.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072511I.b/8270a9.m
Meth Date : 25-Jul-2011 13:34 mcgeek Quant Type: ISTD
Cal Date : 25-JUL-2011 12:46 Cal File: icdg255.d
Als bottle: 4 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8270dxnC13.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL) (1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	ON-COL (ng/uL)
* 1	1,4-Dichlorobenzene-d4	152	4.307	4.307	(1.000)	49472	20.0000	20.0
* 2	Naphthalene-d8	136	5.893	5.893	(1.000)	189185	20.0000	20.0
* 3	Acenaphthene-d10	164	8.484	8.484	(1.000)	114027	20.0000	20.0
* 4	Phenanthrene-d10	188	9.900	9.900	(1.000)	218755	20.0000	20.0
* 5	Chrysene-d12	240	11.933	11.933	(1.000)	238477	20.0000	20.0
* 6	Perylene-d12	264	13.861	13.861	(1.000)	217409	20.0000	20.0
$ 7	2-Fluorophenol	112	3.132	3.132	(0.727)	327049	120.000	112
$ 8	Phenol-d5	99	3.937	3.937	(0.914)	392291	120.000	113
$ 9	Nitrobenzene-d5	82	4.930	4.930	(0.836)	372473	120.000	116
$ 10	2-Fluorobiphenyl	172	7.597	7.597	(0.895)	843953	120.000	115
$ 11	2,4,6-Tribromophenol	330	9.313	9.313	(0.941)	111508	120.000	115
$ 12	Terphenyl-d14	244	11.046	11.046	(0.926)	1081367	120.000	114
$ 179	13C6-naphthalene	134	5.923	5.923	(1.005)	1199728	120.000	118
175	1,4-Dioxane	88	2.056	2.056	(0.477)	3092	2.00000	2.91

Data File: /var/chem/gcms/md.i/D072511I.b/icdg255.d
Report Date: 25-Jul-2011 13:34

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
13	N-Nitrosodimethylamine	74	2.209	2.209	(0.513)	182613	120.000	114
14	Pyridine	79	2.244	2.244	(0.521)	317384	120.000	113
15	Phenol (ccc)	94	3.954	3.954	(0.918)	397657	120.000	112
16	Aniline	93	3.978	3.978	(0.924)	492285	120.000	112
17	Bis(2-chloroethyl)ether	93	4.037	4.037	(0.937)	295525	120.000	113
18	2-Chlorophenol	128	4.101	4.101	(0.952)	362188	120.000	114
19	1,3-Dichlorobenzene	146	4.254	4.254	(0.988)	400448	120.000	114
20	1,4-Dichlorobenzene (ccc)	146	4.324	4.324	(1.004)	403493	120.000	113
21	Benzyl alcohol	108	4.442	4.442	(1.031)	245062	120.000	115
22	1,2-Dichlorobenzene	146	4.483	4.483	(1.041)	385806	120.000	112
23	2-Methylphenol	108	4.571	4.571	(1.061)	316117	120.000	112
24	2,2'-Oxybis(1-Chloropropane)	45	4.601	4.601	(1.068)	550520	120.000	113
25	4-Methylphenol	108	4.759	4.759	(1.105)	324855	120.000	112
26	3&4 Methylphenol	108	4.759	4.759	(1.105)	324855	120.000	112
27	N-Nitroso-di-n-propylamine###	70	4.753	4.753	(1.104)	242860	120.000	114
28	Hexachloroethane	117	4.883	4.883	(1.134)	153068	120.000	113
29	Nitrobenzene	77	4.959	4.959	(0.841)	355210	120.000	115
30	Isophorone	82	5.276	5.276	(0.895)	601114	120.000	116
31	2-Nitrophenol (ccc)	139	5.376	5.376	(0.912)	196668	120.000	116
32	2,4-Dimethyphenol	107	5.453	5.453	(0.925)	396488	120.000	117
33	Bis(2-chloroethoxy)methane	93	5.576	5.576	(0.946)	379841	120.000	115
34	Benzoic acid	122	5.617	5.617	(0.953)	180086	120.000	114
35	2,4-Dichlorophenol (ccc)	162	5.711	5.711	(0.969)	319363	120.000	115
36	1,2,4-Trichlorobenzene	180	5.823	5.823	(0.988)	352828	120.000	116
37	Naphthalene	128	5.923	5.923	(1.005)	1079347	120.000	116
38	4-Chloroaniline	127	6.005	6.005	(1.019)	462160	120.000	116
39	Hexachlorobutadiene (ccc)	225	6.134	6.134	(1.041)	220189	120.000	115
40	4-Chloro-3-methylphenol (ccc)	107	6.739	6.739	(1.144)	316514	120.000	116
41	2-Methylnaphthalene	142	6.939	6.939	(1.177)	740055	120.000	116
42	Hexachlorocyclopentadiene####	237	7.239	7.239	(0.853)	230538	120.000	114
43	2,4,6-Trichlorophenol (ccc)	196	7.450	7.450	(0.878)	236849	120.000	117
44	2,4,5-Trichlorphenol	196	7.503	7.503	(0.884)	260419	120.000	116
45	2-Chloronaphthalene	162	7.750	7.750	(0.913)	732046	120.000	116
46	2-Nitroaniline	65	7.914	7.914	(0.933)	219117	120.000	116
47	Acenaphthylene	152	8.308	8.308	(0.979)	1183863	120.000	115
48	Dimethyl phthalate	163	8.208	8.208	(0.967)	855438	120.000	115
49	2,6-Dinitrotoluene	165	8.261	8.261	(0.974)	201106	120.000	116
50	3-Nitroaniline	138	8.455	8.455	(0.997)	226923	120.000	116
51	Acenaphthene (ccc)	153	8.525	8.525	(1.005)	764807	120.000	116
52	2,4-Dinitrophenol ##spcc##	184	8.578	8.578	(1.011)	127762	120.000	116
53	Dibenzofuran	168	8.725	8.725	(1.028)	1051230	120.000	115
54	4-Nitrophenol ##spcc##	109	8.696	8.696	(1.025)	129368	120.000	117
55	2,4-Dinitrotoluene	165	8.731	8.731	(1.029)	267675	120.000	116
56	Fluorene	166	9.084	9.084	(1.071)	894632	120.000	115
57	4-Chlorophenyl phenyl ether	204	9.095	9.095	(1.072)	427021	120.000	116
58	Diethyl phthalate	149	9.013	9.013	(1.062)	894596	120.000	114
59	4-Nitroaniline	138	9.119	9.119	(1.075)	239367	120.000	118

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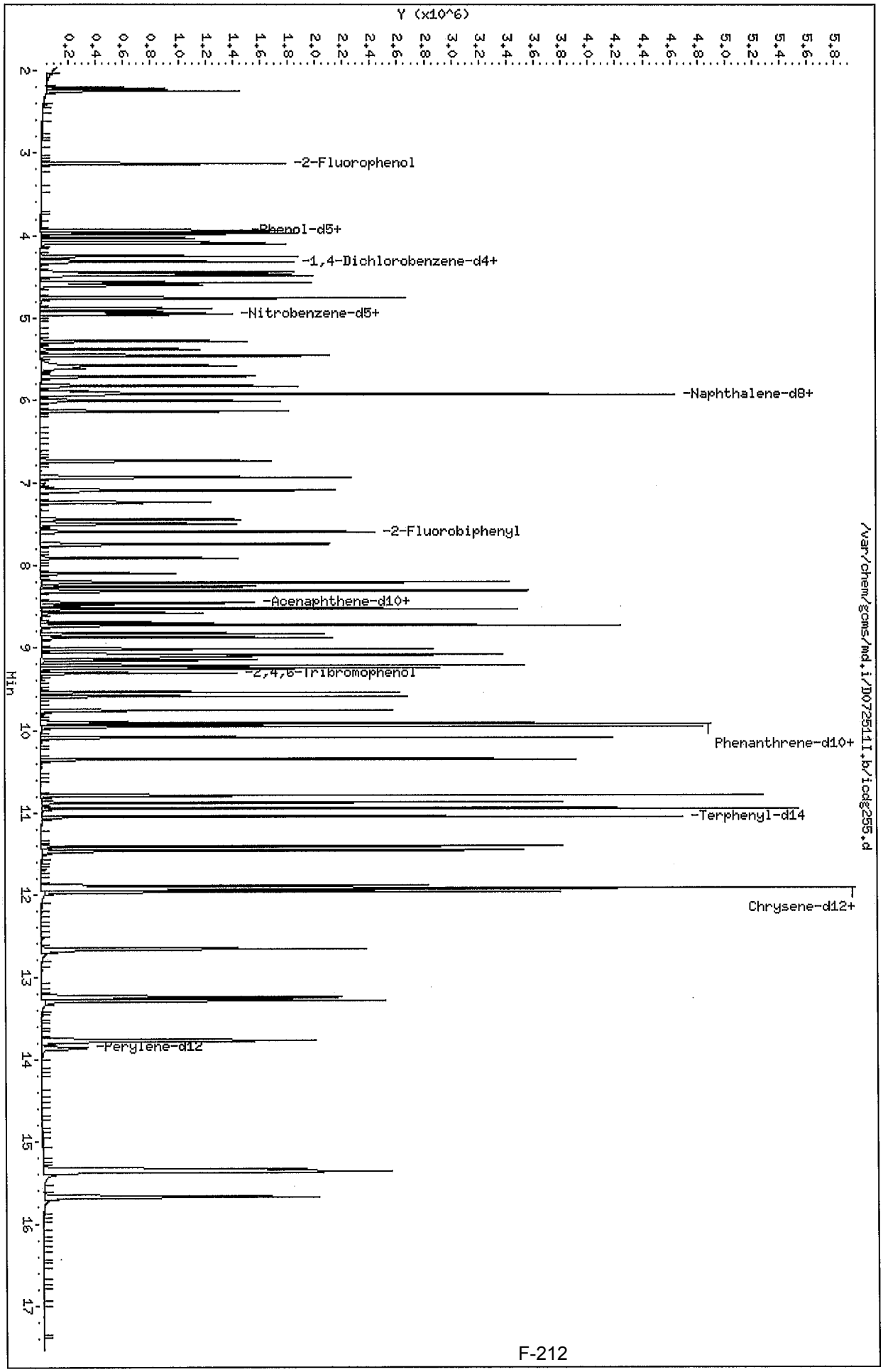
Report Date: 25-Jul-2011 13:34

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
60 4,6-Dinitro-2-methylphenol	198	9.148	9.148	(0.924)	168139	120.000	115
61 N-Ndpa / diphenylamine (ccc)	169	9.213	9.213	(0.931)	762038	120.000	117
62 1,2-Diphenylhydrazine/azobnz	77	9.248	9.248	(0.934)	771833	120.000	115
63 4-Bromophenyl phenyl ether	248	9.542	9.542	(0.964)	246096	120.000	116
64 Hexachlorobenzene	284	9.595	9.595	(0.969)	256365	120.000	115
65 Pentachlorophenol (ccc)	266	9.759	9.759	(0.986)	193359	120.000	114
66 Phenanthrene	178	9.918	9.918	(1.002)	1363760	120.000	116
67 Anthracene	178	9.959	9.959	(1.006)	1413724	120.000	116
68 Carbazole	167	10.088	10.088	(1.019)	1252574	120.000	116
69 Di-n-butyl phthalate	149	10.353	10.353	(1.046)	1466717	120.000	116
70 Fluoranthene (ccc)	202	10.788	10.788	(1.090)	1539312	120.000	116
71 Pyrene	202	10.946	10.946	(0.917)	1625817	120.000	114
72 Butyl benzyl phthalate	149	11.405	11.405	(0.956)	718821	120.000	116
73 Benzo(a)Anthracene	228	11.922	11.922	(0.999)	1464396	120.000	116
74 3,3'-Dichlorobenzidine	252	11.886	11.886	(0.996)	566168	120.000	115
75 Chrysene	228	11.963	11.963	(1.002)	1463901	120.000	116
76 Bis(2-ethylhexyl) phthalate	149	11.916	11.916	(0.999)	973995	120.000	117
77 Di-n-octyl phthalate (ccc)	149	12.662	12.662	(0.914)	1593687	120.000	117
78 Benzo(b)fluoranthene	252	13.249	13.249	(0.956)	1429861	120.000	118
79 Benzo(k)fluoranthene	252	13.291	13.291	(0.959)	1532412	120.000	114
80 Benzo(a)pyrene (ccc)	252	13.778	13.778	(0.994)	1429137	120.000	118
81 Indeno(1,2,3-cd)pyrene	276	15.341	15.341	(1.107)	1526935	120.000	115
82 Dibenz(a,h)anthracene	278	15.365	15.365	(1.109)	1185679	120.000	114
83 Benzo(g,h,i)perylene	276	15.676	15.676	(1.131)	1291237	120.000	115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Date : 25-JUL-2011 12:46
Client ID: STD120
Sample Info: ICDG255,1,5,STD120
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^6)
Min
/var/chem/gcms/md.i/D0725111.b/iodg255.d
-2-Fluorophenol
-Phenol-d5+
-1,4-Dichlorobenzene-d4+
-Nitrobenzene-d5+
-Naphthalene-d8+
-2-Fluorobiphenyl
-Acenaphthene-d10+
-2,4,6-Tribromophenol
-Phenanthrene-d10+
-Terphenyl-d14
-Chrysene-d12+
-Perylene-d12

Data File: /var/chem/gcms/md.i/D072511I.b/icdg258.d
Report Date: 25-Jul-2011 13:34

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072511I.b/icdg258.d
Lab Smp Id: ICDG258 Client Smp ID: STD200
Inj Date : 25-JUL-2011 12:21
Operator : 60841 Inst ID: md.i
Smp Info : ICDG258,,1,8,,STD200
Misc Info : D072511I,8270a9,8270.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072511I.b/8270a9.m
Meth Date : 25-Jul-2011 13:34 mcgeek Quant Type: ISTD
Cal Date : 25-JUL-2011 12:21 Cal File: icdg258.d
Als bottle: 3 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8270.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL) (1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
* 1	1,4-Dichlorobenzene-d4	152	4.307	4.307	(1.000)	49747	20.0000	20.0
* 2	Naphthalene-d8	136	5.893	5.893	(1.000)	196047	20.0000	20.0
* 3	Acenaphthene-d10	164	8.490	8.490	(1.000)	118402	20.0000	20.0
* 4	Phenanthrene-d10	188	9.900	9.900	(1.000)	230794	20.0000	20.0
* 5	Chrysene-d12	240	11.939	11.939	(1.000)	243093	20.0000	20.0
* 6	Perylene-d12	264	13.866	13.866	(1.000)	223218	20.0000	20.0
$ 7	2-Fluorophenol	112	3.132	3.132	(0.727)	605599	200.000	207(A)
$ 8	Phenol-d5	99	3.943	3.943	(0.915)	709874	200.000	203(A)
$ 9	Nitrobenzene-d5	82	4.936	4.936	(0.837)	667955	200.000	201(A)
$ 10	2-Fluorobiphenyl	172	7.597	7.597	(0.895)	1532160	200.000	202(A)
$ 11	2,4,6-Tribromophenol	330	9.319	9.319	(0.941)	205814	200.000	202(A)
$ 12	Terphenyl-d14	244	11.052	11.052	(0.926)	1939785	200.000	201(A)
175	1,4-Dioxane	88	2.045	2.045	(0.475)	657	200.000	0.615
13	N-Nitrosodimethylamine	74	2.215	2.215	(0.514)	324607	200.000	201(A)

Data File: /var/chem/gcms/md.i/D072511I.b/icdg258.d
Report Date: 25-Jul-2011 13:34

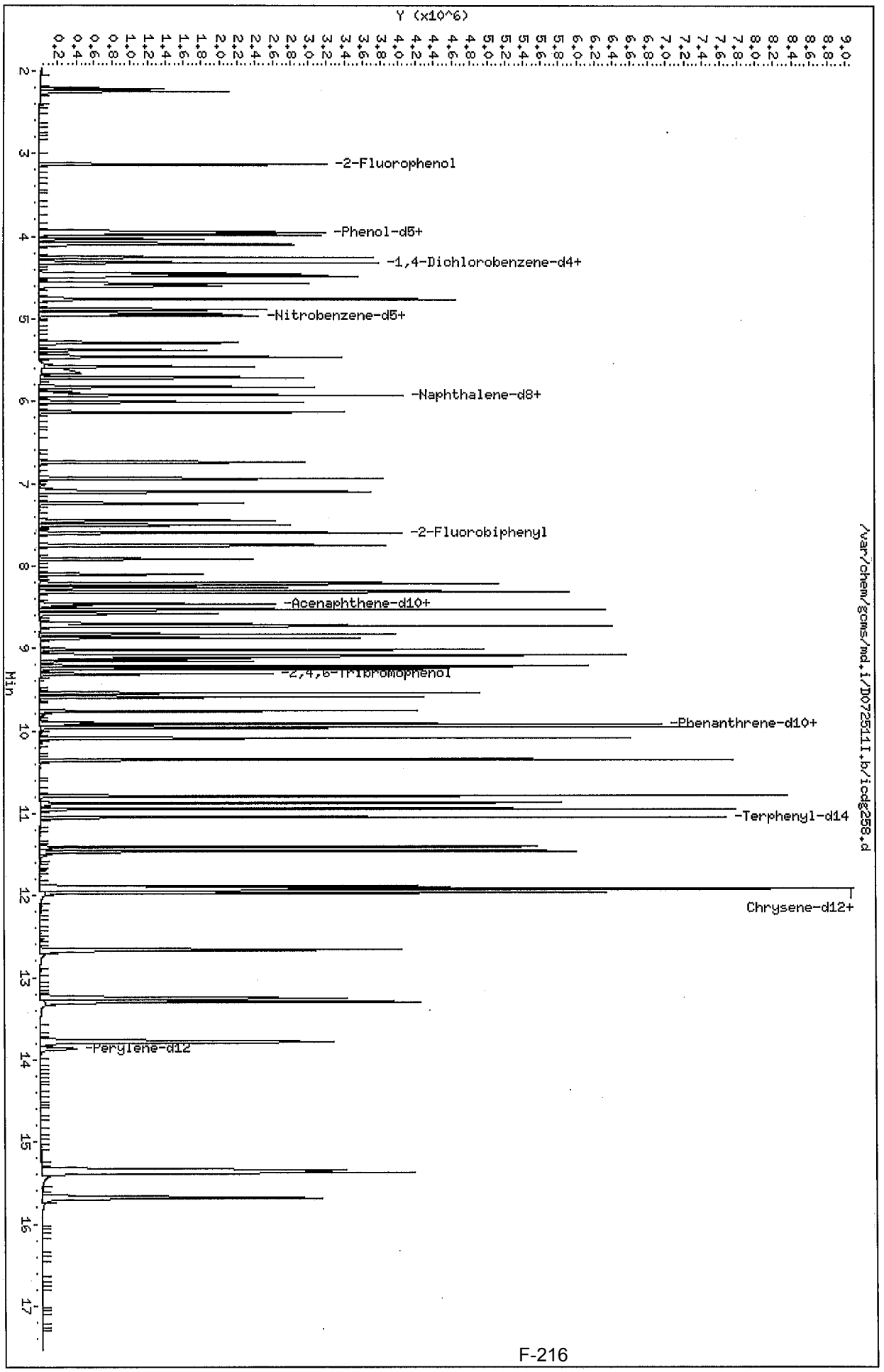
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
14 Pyridine	79	2.245	2.245	(0.521)	571966	200.000	203(A)
15 Phenol (ccc)	94	3.960	3.960	(0.920)	727702	200.000	204(A)
16 Aniline	93	3.984	3.984	(0.925)	897613	200.000	204(A)
17 Bis(2-chloroethyl)ether	93	4.043	4.043	(0.939)	530017	200.000	202(A)
18 2-Chlorophenol	128	4.107	4.107	(0.954)	646079	200.000	202(A)
19 1,3-Dichlorobenzene	146	4.254	4.254	(0.988)	711477	200.000	201(A)
20 1,4-Dichlorobenzene (ccc)	146	4.325	4.325	(1.004)	726412	200.000	202(A)
21 Benzyl alcohol	108	4.454	4.454	(1.034)	437953	200.000	204(A)
22 1,2-Dichlorobenzene	146	4.489	4.489	(1.042)	694792	200.000	201(A)
23 2-Methylphenol	108	4.577	4.577	(1.063)	579484	200.000	205(A)
24 2,2'-Oxybis(1-Chloropropane)	45	4.601	4.601	(1.068)	969649	200.000	198(A)
25 4-Methylphenol	108	4.765	4.765	(1.106)	599676	200.000	205(A)
26 3&4 Methylphenol	108	4.765	4.765	(1.106)	599676	200.000	205(A)
27 N-Nitroso-di-n-propylamine###	70	4.765	4.765	(1.106)	431445	200.000	202(A)
28 Hexachloroethane	117	4.889	4.889	(1.135)	278903	200.000	204(A)
29 Nitrobenzene	77	4.965	4.965	(0.842)	636839	200.000	199(A)
30 Isophorone	82	5.288	5.288	(0.897)	1077020	200.000	200(A)
31 2-Nitrophenol (ccc)	139	5.382	5.382	(0.913)	352949	200.000	201(A)
32 2,4-Dimethyphenol	107	5.458	5.458	(0.926)	707583	200.000	201(A)
33 Bis(2-chloroethoxy)methane	93	5.582	5.582	(0.947)	691220	200.000	202(A)
34 Benzoic acid	122	5.658	5.658	(0.960)	359874	200.000	219(A)
35 2,4-Dichlorophenol (ccc)	162	5.711	5.711	(0.969)	576205	200.000	201(A)
36 1,2,4-Trichlorobenzene	180	5.829	5.829	(0.989)	630467	200.000	199(A)
37 Naphthalene	128	5.929	5.929	(1.006)	1921010	200.000	199(A)
38 4-Chloroaniline	127	6.011	6.011	(1.020)	828016	200.000	200(A)
39 Hexachlorobutadiene (ccc)	225	6.134	6.134	(1.041)	396144	200.000	199(A)
40 4-Chloro-3-methylphenol (ccc)	107	6.745	6.745	(1.145)	570005	200.000	202(A)
41 2-Methylnaphthalene	142	6.939	6.939	(1.177)	1343128	200.000	202(A)
42 Hexachlorocyclopentadiene####	237	7.245	7.245	(0.853)	435812	200.000	208(A)
43 2,4,6-Trichlorophenol (ccc)	196	7.450	7.450	(0.878)	428067	200.000	204(A)
44 2,4,5-Trichlorphenol	196	7.503	7.503	(0.884)	474289	200.000	203(A)
45 2-Chloronaphthalene	162	7.750	7.750	(0.913)	1313651	200.000	200(A)
46 2-Nitroaniline	65	7.920	7.920	(0.933)	394988	200.000	202(A)
47 Acenaphthylene	152	8.314	8.314	(0.979)	2144404	200.000	201(A)
48 Dimethyl phthalate	163	8.220	8.220	(0.968)	1535885	200.000	198(A)
49 2,6-Dinitrotoluene	165	8.267	8.267	(0.974)	360290	200.000	201(A)
50 3-Nitroaniline	138	8.467	8.467	(0.997)	404213	200.000	200(A)
51 Acenaphthene (ccc)	153	8.531	8.531	(1.005)	1378749	200.000	201(A)
52 2,4-Dinitrophenol ##spcc##	184	8.584	8.584	(1.011)	247756	200.000	217(A)
53 Dibenzofuran	168	8.731	8.731	(1.028)	1902569	200.000	200(A)
54 4-Nitrophenol ##spcc##	109	8.702	8.702	(1.025)	234751	200.000	204(A)
55 2,4-Dinitrotoluene	165	8.737	8.737	(1.029)	482047	200.000	202(A)
56 Fluorene	166	9.084	9.084	(1.070)	1619121	200.000	200(A)
57 4-Chlorophenyl phenyl ether	204	9.101	9.101	(1.072)	759153	200.000	199(A)
58 Diethyl phthalate	149	9.019	9.019	(1.062)	1598317	200.000	196(A)
59 4-Nitroaniline	138	9.131	9.131	(1.075)	415716	200.000	197(A)
60 4,6-Dinitro-2-methylphenol	198	9.160	9.160	(0.925)	320097	200.000	207(A)

Data File: /var/chem/gcms/md.i/D072511I.b/icdg258.d
Report Date: 25-Jul-2011 13:34

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
61 N-Ndpa / diphenylamine (ccc)	169	9.219	9.219	(0.931)	1364100	200.000	198(A)
62 1,2-Diphenylhydrazine/azobnz	77	9.248	9.248	(0.934)	1389825	200.000	197(A)
63 4-Bromophenyl phenyl ether	248	9.542	9.542	(0.964)	445506	200.000	199(A)
64 Hexachlorobenzene	284	9.601	9.601	(0.970)	464455	200.000	198(A)
65 Pentachlorophenol (ccc)	266	9.765	9.765	(0.986)	361464	200.000	203(A)
66 Phenanthrene	178	9.924	9.924	(1.002)	2448878	200.000	198(A)
67 Anthracene	178	9.959	9.959	(1.006)	2542533	200.000	199(A)
68 Carbazole	167	10.088	10.088	(1.019)	2247206	200.000	196(A)
69 Di-n-butyl phthalate	149	10.353	10.353	(1.046)	2615129	200.000	197(A)
70 Fluoranthene (ccc)	202	10.794	10.794	(1.090)	2756905	200.000	198(A)
71 Pyrene	202	10.952	10.952	(0.917)	2931244	200.000	202(A)
72 Butyl benzyl phthalate	149	11.410	11.410	(0.956)	1262908	200.000	201(A)
73 Benzo(a)Anthracene	228	11.928	11.928	(0.999)	2580600	200.000	200(A)
74 3,3'-Dichlorobenzidine	252	11.892	11.892	(0.996)	1013253	200.000	202(A)
75 Chrysene	228	11.969	11.969	(1.002)	2529185	200.000	196(A)
76 Bis(2-ethylhexyl) phthalate	149	11.916	11.916	(0.998)	1685389	200.000	198(A)
77 Di-n-octyl phthalate (ccc)	149	12.668	12.668	(0.914)	2878736	200.000	206(A)
78 Benzo(b)fluoranthene	252	13.255	13.255	(0.956)	2462067	200.000	198(A)
79 Benzo(k)fluoranthene	252	13.302	13.302	(0.959)	2759143	200.000	200(A)
80 Benzo(a)pyrene (ccc)	252	13.790	13.790	(0.994)	2513989	200.000	201(A)
81 Indeno(1,2,3-cd)pyrene	276	15.353	15.353	(1.107)	2725233	200.000	200(A)
82 Dibenz(a,h)anthracene	278	15.376	15.376	(1.109)	2228916	200.000	204(A)
83 Benzo(g,h,i)perylene	276	15.688	15.688	(1.131)	2319346	200.000	200(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.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Date : 25-JUL-2011 12:21
Client ID: STD200
Sample Info: ICDG258,,1,8,,STD200
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^6)
Min
-2-Fluorophenol
-Phenol-d5+
-1,4-Dichlorobenzene-d4+
-Nitrobenzene-d5+
-Naphthalene-d8+
-2-Fluorobiphenyl
-Acenaphthene-d10+
-2,4,6-Tribromophenol
-Phenanthrene-d10+
-Terphenyl-d14
Chrysene-d12+
-Perylene-d12
/var/chem/gcms/md.i/D072511I.b/icdg258.d

Data File: /var/chem/gcms/md.i/D072511I.b/icvdg25.d
Report Date: 25-Jul-2011 17:08

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072511I.b/icvdg25.d
Lab Smp Id: ICVDG25 Client Smp ID: 2ND SOURCE
Inj Date : 25-JUL-2011 15:44
Operator : 60841 Inst ID: md.i
Smp Info : ICVDG25,,3,,,2ND SOURCE
Misc Info : D072511I,8270a9,8270dxnC13.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072511I.b/8270a9.m
Meth Date : 25-Jul-2011 16:52 chemist Quant Type: ISTD
Cal Date : 25-JUL-2011 15:19 Cal File: icdg257.d
Als bottle: 11 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8270dxnC13.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL) (1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	CONCENTRATIONS FINAL (ug/Kg)
* 1	1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	51393	20.0000	20.0
* 2	Naphthalene-d8	136	5.888	5.887	(1.000)	202378	20.0000	20.0
* 3	Acenaphthene-d10	164	8.485	8.484	(1.000)	122969	20.0000	20.0
* 4	Phenanthrene-d10	188	9.895	9.895	(1.000)	234541	20.0000	20.0
* 5	Chrysene-d12	240	11.928	11.928	(1.000)	257596	20.0000	20.0
* 6	Perylene-d12	264	13.861	13.861	(1.000)	228771	20.0000	20.0
175	1,4-Dioxane	88	2.051	2.051	(0.477)	66317	60.0839	2000
13	N-Nitrosodimethylamine	74	2.209	2.209	(0.514)	104707	65.2811	2180
14	Pyridine	79	2.245	2.251	(0.522)	190032	67.9192	2260
15	Phenol (ccc)	94	3.943	3.943	(0.917)	221556	63.3232	2110
16	Aniline	93	3.972	3.972	(0.924)	276336	63.7280	2120
17	Bis(2-chloroethyl)ether	93	4.031	4.031	(0.937)	165199	62.8942	2100
18	2-Chlorophenol	128	4.096	4.095	(0.952)	203715	64.7115	2160
19	1,3-Dichlorobenzene	146	4.248	4.248	(0.988)	225472	63.1169	2100

Data File: /var/chem/gcms/md.i/D072511I.b/icvdg25.d
Report Date: 25-Jul-2011 17:08

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	CONCENTRATIONS FINAL (ug/Kg)
20 1,4-Dichlorobenzene (ccc)	146	4.319	4.319	(1.004)	231309	63.3823	2110
21 Benzyl alcohol	108	4.436	4.436	(1.031)	123128	59.5895	1990
22 1,2-Dichlorobenzene	146	4.483	4.483	(1.042)	221561	63.0746	2100
23 2-Methylphenol	108	4.566	4.566	(1.061)	179345	64.8697	2160
24 2,2'-Oxybis(1-Chloropropane)	45	4.595	4.595	(1.068)	305842	61.0212	2030
25 4-Methylphenol	108	4.754	4.754	(1.105)	190035	66.6618	2220
26 3&4 Methylphenol	108	4.754	4.754	(1.105)	190035	66.6618	2220
27 N-Nitroso-di-n-propylamine###	70	4.748	4.748	(1.104)	137393	65.4992	2180
28 Hexachloroethane	117	4.883	4.889	(1.135)	88979	64.9537	2160
29 Nitrobenzene	77	4.953	4.953	(0.841)	194678	61.6165	2050
30 Isophorone	82	5.271	5.271	(0.895)	345333	66.4623	2220
31 2-Nitrophenol (ccc)	139	5.371	5.376	(0.912)	105592	65.7511	2190
32 2,4-Dimethyphenol	107	5.453	5.447	(0.926)	208415	61.3834	2050
33 Bis(2-chloroethoxy)methane	93	5.570	5.570	(0.946)	210245	61.6958	2060
34 Benzoic acid	122	5.588	5.517	(0.949)	90972	60.6204	2020(H)
35 2,4-Dichlorophenol (ccc)	162	5.705	5.705	(0.969)	178944	64.8431	2160
36 1,2,4-Trichlorobenzene	180	5.823	5.823	(0.989)	211426	66.7155	2220
37 Naphthalene	128	5.917	5.917	(1.005)	601999	62.0778	2070
38 4-Chloroaniline	127	6.005	6.005	(1.020)	258689	64.1957	2140
39 Hexachlorobutadiene (ccc)	225	6.128	6.134	(1.041)	111352	55.8911	1860
40 4-Chloro-3-methylphenol (ccc)	107	6.734	6.739	(1.144)	176723	66.7444	2220
41 2-Methylnaphthalene	142	6.933	6.933	(1.178)	422295	64.3805	2150
42 Hexachlorocyclopentadiene####	237	7.239	7.239	(0.853)	122667	64.1223	2140
43 2,4,6-Trichlorophenol (ccc)	196	7.445	7.445	(0.877)	127756	64.8906	2160
44 2,4,5-Trichlorphenol	196	7.497	7.503	(0.884)	140932	63.6099	2120
45 2-Chloronaphthalene	162	7.744	7.744	(0.913)	399885	60.8992	2030
46 2-Nitroaniline	65	7.909	7.909	(0.932)	115671	58.8851	1960
47 Acenaphthylene	152	8.308	8.308	(0.979)	643031	61.3045	2040
48 Dimethyl phthalate	163	8.203	8.197	(0.967)	474273	58.4133	1950
49 2,6-Dinitrotoluene	165	8.255	8.249	(0.973)	106604	62.5476	2080
50 3-Nitroaniline	138	8.449	8.449	(0.996)	122922	62.5492	2080
51 Acenaphthene (ccc)	153	8.526	8.520	(1.005)	424729	61.1967	2040
52 2,4-Dinitrophenol ##spcc##	184	8.573	8.573	(1.010)	47185	47.7240	1590
53 Dibenzofuran	168	8.720	8.720	(1.028)	584964	60.4772	2020
54 4-Nitrophenol ##spcc##	109	8.690	8.684	(1.024)	67577	63.7322	2120
55 2,4-Dinitrotoluene	165	8.725	8.725	(1.028)	147637	66.1887	2210
56 Fluorene	166	9.078	9.078	(1.070)	505685	63.1462	2100
57 4-Chlorophenyl phenyl ether	204	9.096	9.096	(1.072)	239932	61.9823	2070
58 Diethyl phthalate	149	9.013	9.007	(1.062)	488643	57.4993	1920
59 4-Nitroaniline	138	9.107	9.101	(1.073)	126656	61.7428	2060
60 4,6-Dinitro-2-methylphenol	198	9.143	9.143	(0.924)	77194	53.5882	1790
61 N-Ndpa / diphenylamine (ccc)	169	9.213	9.207	(0.931)	419299	62.0734	2070
62 1,2-Diphenylhydrazine/azobnz	77	9.243	9.242	(0.934)	440318	63.0383	2100
63 4-Bromophenyl phenyl ether	248	9.542	9.536	(0.964)	134056	61.4981	2050
64 Hexachlorobenzene	284	9.595	9.589	(0.970)	142866	61.4152	2050
65 Pentachlorophenol (ccc)	266	9.760	9.760	(0.986)	94215	55.0378	1830
66 Phenanthrene	178	9.918	9.912	(1.002)	755708	60.1449	2000

Data File: /var/chem/gcms/md.i/D072511I.b/icvdg25.d
Report Date: 25-Jul-2011 17:08

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	CONCENTRATIONS FINAL (ug/Kg)
67 Anthracene	178	9.953	9.953	(1.006)	760968	62.4242	2080
68 Carbazole	167	10.083	10.083	(1.019)	712799	64.0692	2140
69 Di-n-butyl phthalate	149	10.347	10.347	(1.046)	796941	65.1495	2170
70 Fluoranthene (ccc)	202	10.788	10.788	(1.090)	856681	66.1576	2200
71 Pyrene	202	10.946	10.941	(0.918)	889764	60.9927	2030
72 Butyl benzyl phthalate	149	11.405	11.405	(0.956)	362253	56.6590	1890
73 Benzo(a)Anthracene	228	11.916	11.916	(0.999)	817057	63.9680	2130
74 3,3'-Dichlorobenzidine	252	11.881	11.881	(0.996)	307973	64.7214	2160
75 Chrysene	228	11.957	11.951	(1.002)	821443	60.2884	2010
76 Bis(2-ethylhexyl) phthalate	149	11.916	11.910	(0.999)	522761	60.3773	2010
77 Di-n-octyl phthalate (ccc)	149	12.656	12.656	(0.913)	802641	60.4199	2010
78 Benzo(b)fluoranthene	252	13.238	13.232	(0.955)	778179	67.7965	2260
79 Benzo(k)fluoranthene	252	13.279	13.267	(0.958)	859331	62.1272	2070
80 Benzo(a)pyrene (ccc)	252	13.767	13.755	(0.993)	761853	61.2266	2040
81 Indeno(1,2,3-cd)pyrene	276	15.330	15.318	(1.106)	820369	65.4214	2180
82 Dibenz(a,h)anthracene	278	15.359	15.353	(1.108)	667413	65.0589	2170
83 Benzo(g,h,i)perylene	276	15.665	15.653	(1.130)	695755	62.8900	2100

QC Flag Legend

H - Operator selected an alternate compound hit.

Data File: /var/chem/gcms/md.i/D072511I.b/icvdg25.d
Report Date: 25-Jul-2011 17:08

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: md.i
Lab File ID: icvdg25.d
Lab Smp Id: ICVDG25
Analysis Type: SV
Quant Type: ISTD
Operator: 60841
Method File: /var/chem/gcms/md.i/D072511I.b/8270a9.m
Misc Info: D072511I,8270a9,8270dxnC13.sub

Calibration Date: 25-JUL-2011
Calibration Time: 13:11
Client Smp ID: 2ND SOURCE
Level: LOW
Sample Type: SOIL

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	50077	25038	100154	51393	2.63
2 Naphthalene-d8	196721	98360	393442	202378	2.88
3 Acenaphthene-d10	118482	59241	236964	122969	3.79
4 Phenanthrene-d10	226546	113273	453092	234541	3.53
5 Chrysene-d12	244525	122262	489050	257596	5.35
6 Perylene-d12	224450	112225	448900	228771	1.93

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	4.30	3.80	4.80	4.30	0.00
2 Naphthalene-d8	5.89	5.39	6.39	5.89	-0.10
3 Acenaphthene-d10	8.48	7.98	8.98	8.48	0.00
4 Phenanthrene-d10	9.89	9.39	10.39	9.89	0.00
5 Chrysene-d12	11.93	11.43	12.43	11.93	-0.05
6 Perylene-d12	13.86	13.36	14.36	13.86	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /var/chem/gcms/md.i/D072511I.b/icvdg25.d
Report Date: 25-Jul-2011 17:08

TestAmerica Knoxville

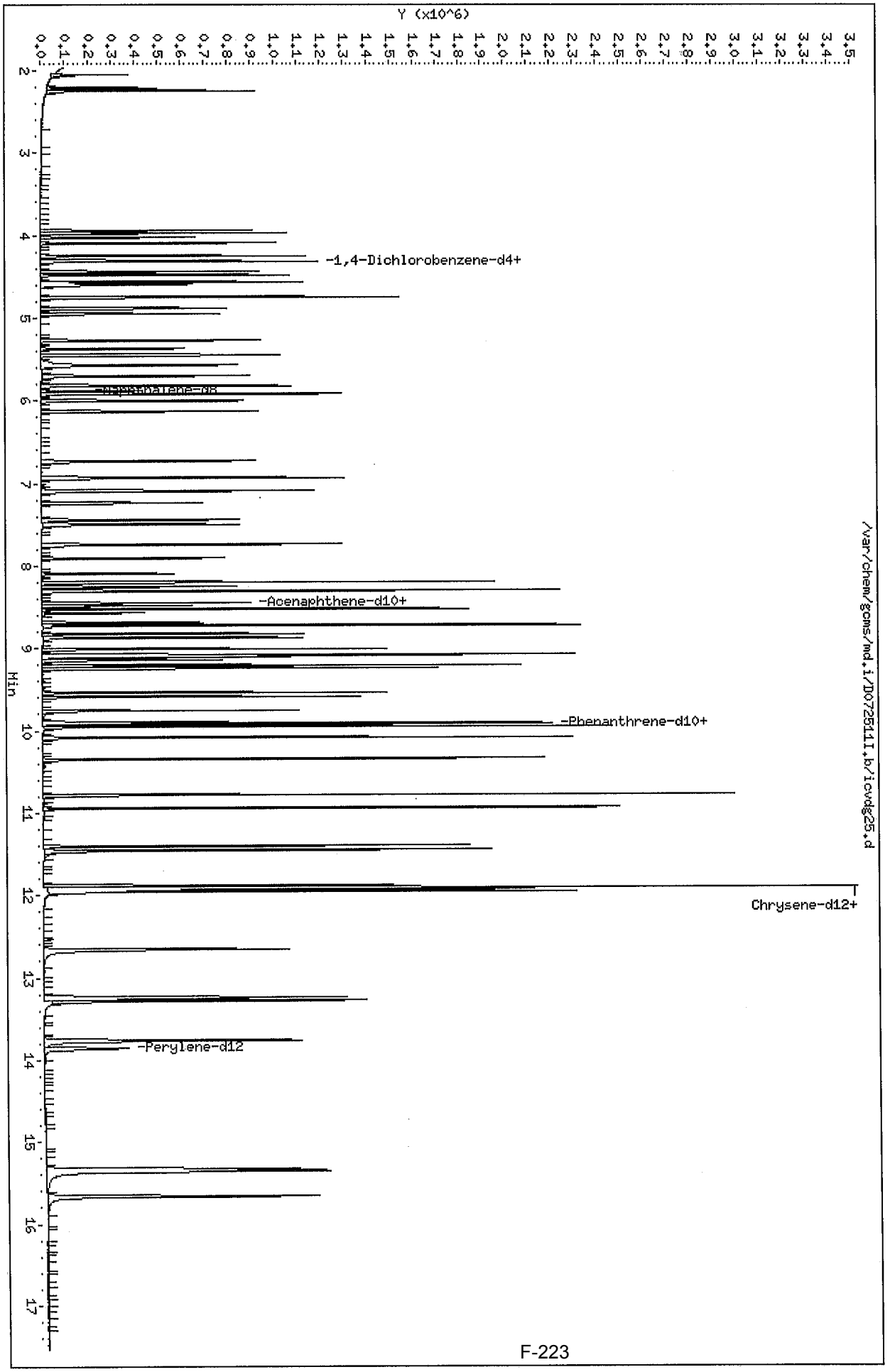
RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Lab Smp Id: ICVDG25
Level: LOW
Data Type: MS DATA
SpikeList File: 8270ss.spk
Sublist File: 8270dxnC13.sub
Client SDG: D072511I
Fraction: SV
Client Smp ID: 2ND SOURCE
Operator: 60841
SampleType: BLANK
Quant Type: ISTD
Method File: /var/chem/gcms/md.i/D072511I.b/8270a9.m
Misc Info: D072511I,8270a9,8270dxnC13.sub

	SPIKE	COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
$	7	2-Fluorophenol	2000	0.00	*	70-130
$	8	Phenol-d5	2000	0.00	*	70-130
$	9	Nitrobenzene-d5	2000	0.00	*	70-130
$	10	2-Fluorobiphenyl	2000	0.00	*	70-130
$	11	2,4,6-Tribromophe	2000	0.00	*	70-130
$	12	Terphenyl-d14	2000	0.00	*	70-130
	175	1,4-Dioxane	2000	2000	100.14	70-130
	13	N-Nitrosodimethyla	2000	2180	108.80	70-130
	14	Pyridine	2000	2260	113.20	70-130
	15	Phenol (ccc)	2000	2110	105.54	70-130
	16	Aniline	2000	2120	106.21	70-130
	17	Bis(2-chloroethyl)	2000	2100	104.82	70-130
	18	2-Chlorophenol	2000	2160	107.85	70-130
	19	1,3-Dichlorobenzen	2000	2100	105.19	70-130
	20	1,4-Dichlorobenzen	2000	2110	105.64	70-130
	21	Benzyl alcohol	2000	1990	99.32	70-130
	22	1,2-Dichlorobenzen	2000	2100	105.12	70-130
	23	2-Methylphenol	2000	2160	108.12	70-130
	24	2,2'-Oxybis(1-Chlo	2000	2030	101.70	70-130
	25	4-Methylphenol	2000	2220	111.10	70-130
	26	3&4 Methylphenol	2000	2220	111.10	70-130
	27	N-Nitroso-di-n-pro	2000	2180	109.17	70-130
	28	Hexachloroethane	2000	2160	108.26	70-130
	29	Nitrobenzene	2000	2050	102.69	70-130
	30	Isophorone	2000	2220	110.77	70-130
	31	2-Nitrophenol (ccc	2000	2190	109.59	70-130
	32	2,4-Dimethyphenol	2000	2050	102.31	70-130
	33	Bis(2-chloroethoxy	2000	2060	102.83	70-130
	34	Benzoic acid	2000	2020	101.03	70-130
	35	2,4-Dichlorophenol	2000	2160	108.07	70-130
	36	1,2,4-Trichloroben	2000	2220	111.19	70-130
	37	Naphthalene	2000	2070	103.46	70-130
	38	4-Chloroaniline	2000	2140	106.99	70-130

Data File: /var/chem/gcms/md.i/D072511I.b/icvdg25.d
Report Date: 25-Jul-2011 17:08

SPIKE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
39 Hexachlorobutadien	2000	1860	93.15	70-130
40 4-Chloro-3-methylp	2000	2220	111.24	70-130
41 2-Methylnaphthalen	2000	2150	107.30	70-130
42 Hexachlorocyclopen	2000	2140	106.87	70-130
43 2,4,6-Trichlorophe	2000	2160	108.15	70-130
44 2,4,5-Trichlorphen	2000	2120	106.02	70-130
45 2-Chloronaphthalen	2000	2030	101.50	70-130
46 2-Nitroaniline	2000	1960	98.14	70-130
47 Acenaphthylene	2000	2040	102.17	70-130
48 Dimethyl phthalate	2000	1950	97.36	70-130
49 2,6-Dinitrotoluene	2000	2080	104.25	70-130
50 3-Nitroaniline	2000	2080	104.25	70-130
51 Acenaphthene (ccc)	2000	2040	101.99	70-130
52 2,4-Dinitrophenol	2000	1590	79.54	70-130
53 Dibenzofuran	2000	2020	100.80	70-130
54 4-Nitrophenol ##sp	2000	2120	106.22	70-130
55 2,4-Dinitrotoluene	2000	2210	110.31	70-130
56 Fluorene	2000	2100	105.24	70-130
57 4-Chlorophenyl phe	2000	2070	103.30	70-130
58 Diethyl phthalate	2000	1920	95.83	70-130
59 4-Nitroaniline	2000	2060	102.90	70-130
60 4,6-Dinitro-2-meth	2000	1790	89.31	70-130
61 N-Ndpa / diphenyla	2000	2070	103.46	70-130
62 1,2-Diphenylhydraz	2000	2100	105.06	70-130
63 4-Bromophenyl phen	2000	2050	102.50	70-130
64 Hexachlorobenzene	2000	2050	102.36	70-130
65 Pentachlorophenol	2000	1830	91.73	70-130
66 Phenanthrene	2000	2000	100.24	70-130
67 Anthracene	2000	2080	104.04	70-130
68 Carbazole	2000	2140	106.78	70-130
69 Di-n-butyl phthala	2000	2170	108.58	70-130
70 Fluoranthene (ccc)	2000	2200	110.26	70-130
71 Pyrene	2000	2030	101.65	70-130
72 Butyl benzyl phtha	2000	1890	94.43	70-130
73 Benzo(a)Anthracene	2000	2130	106.61	70-130
74 3,3'-Dichlorobenzi	2000	2160	107.87	70-130
75 Chrysene	2000	2010	100.48	70-130
76 Bis(2-ethylhexyl)	2000	2010	100.63	70-130
77 Di-n-octyl phthala	2000	2010	100.70	70-130
78 Benzo(b)fluoranthe	2000	2260	112.99	70-130
79 Benzo(k)fluoranthe	2000	2070	103.55	70-130
80 Benzo(a)pyrene (cc	2000	2040	102.04	70-130
85 Benzo(e)pyrene	~~2000~~ N/A	0.00	*	70-130
81 Indeno(1,2,3-cd)py	2000	2180	109.04	70-130
82 Dibenz(a,h)anthrac	2000	2170	108.43	70-130
83 Benzo(g,h,i)peryle	2000	2100	104.82	70-130


Data File: /var/chem/gcms/md.i/D072511I.b/icvdg25.d
Date : 25-JUL-2011 15:44
Client ID: 2ND SOURCE
Sample Info: ICVDG25,,3,,,2ND SOURCE
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^6)
-1,4-Dichlorobenzene-d4+
-Naphthalene-d8
-Acenaphthene-d10+
-Phenanthrene-d10+
Chrysene-d12+
-Perylene-d12
Min
/var/chem/gcms/md.i/D072511I.b/icvdg25.d

Data File: /chem/gcms/md.i/D072511I.b/xcdg256.d
Report Date: 25-Jul-2011 18:58

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

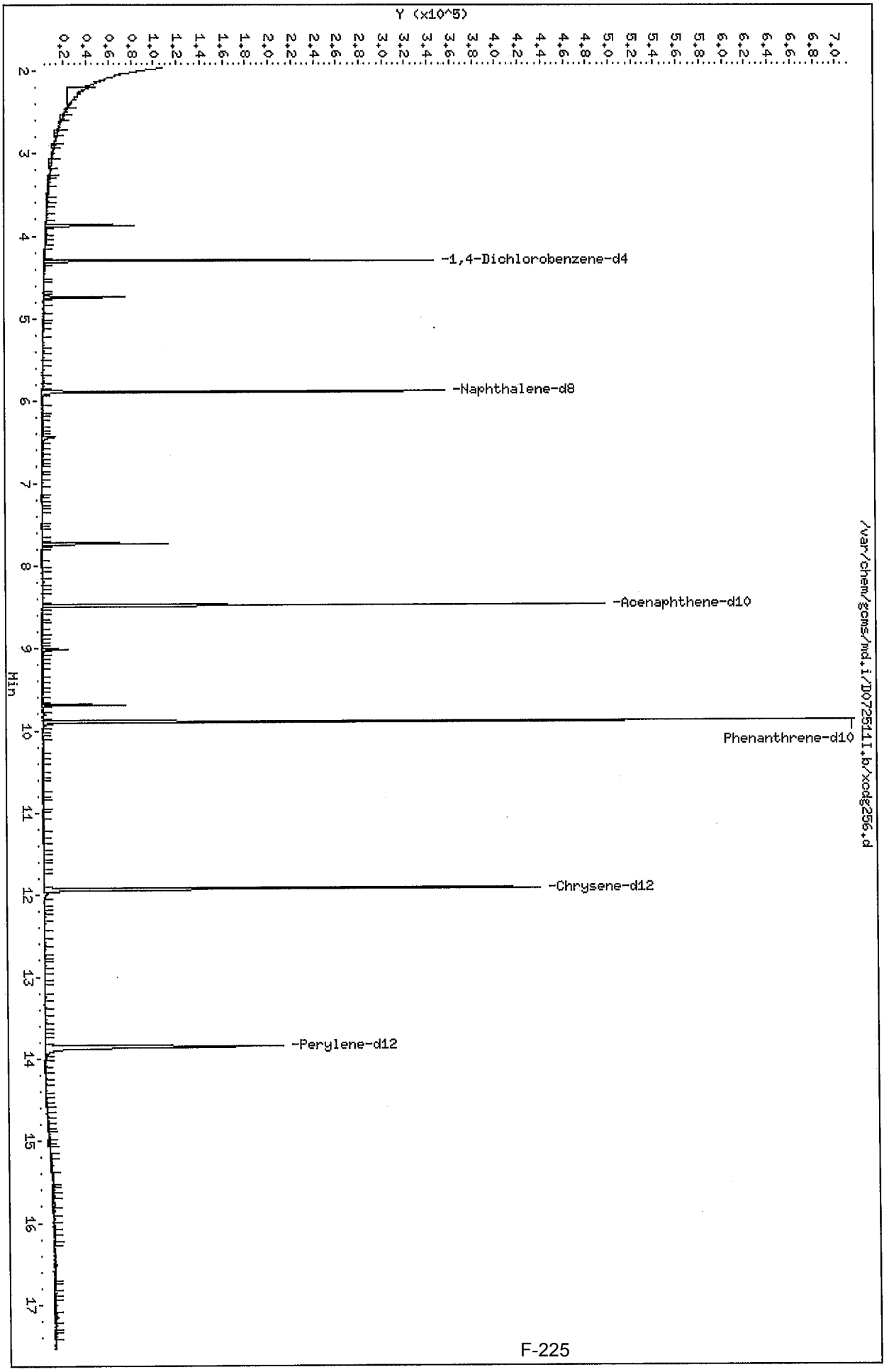
Data file : /chem/gcms/md.i/D072511I.b/xcdg256.d
Lab Smp Id: XCDG256 Client Smp ID: STD005
Inj Date : 25-JUL-2011 18:39
Operator : 60841 Inst ID: md.i
Smp Info : XCDG256,,1,6,,STD005
Misc Info : D072511I,8270a9,8270x.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072511I.b/8270a9.m
Meth Date : 25-Jul-2011 18:58 chemist Quant Type: ISTD
Cal Date : 25-JUL-2011 18:39 Cal File: xcdg256.d
Als bottle: 1 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8270x.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)(1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
* 1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	42663	20.0000	20.0
* 2 Naphthalene-d8	136	5.887	5.887	(1.000)	162657	20.0000	20.0
* 3 Acenaphthene-d10	164	8.485	8.485	(1.000)	94090	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	192814	20.0000	20.0
* 5 Chrysene-d12	240	11.928	11.928	(1.000)	179918	20.0000	20.0
* 6 Perylene-d12	264	13.861	13.861	(1.000)	143582	20.0000	20.0
184 Benzaldehyde	105	3.872	3.872	(0.900)	10576	5.00000	5.24
189 Caprolactam	55	6.434	6.434	(1.093)	3639	5.00000	3.01
188 1,1'-Biphenyl	154	7.738	7.738	(0.912)	40678	5.00000	5.46
187 Atrazine	200	9.689	9.689	(0.979)	5965	5.00000	3.48


Data File: /var/chem/gcms/md.i/D072511I.b/xcdg256.d
Date : 25-JUL-2011 18:39
Client ID: STD005
Sample Info: XCDG256,1,6,,STD005
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^5)
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
Phenanthrene-d10
-Chrysene-d12
-Perylene-d12
/var/chem/gcms/md.i/D072511I.b/xcdg256.d
Min

Data File: /chem/gcms/md.i/D072511I.b/xcdg251.d
Report Date: 25-Jul-2011 18:32

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

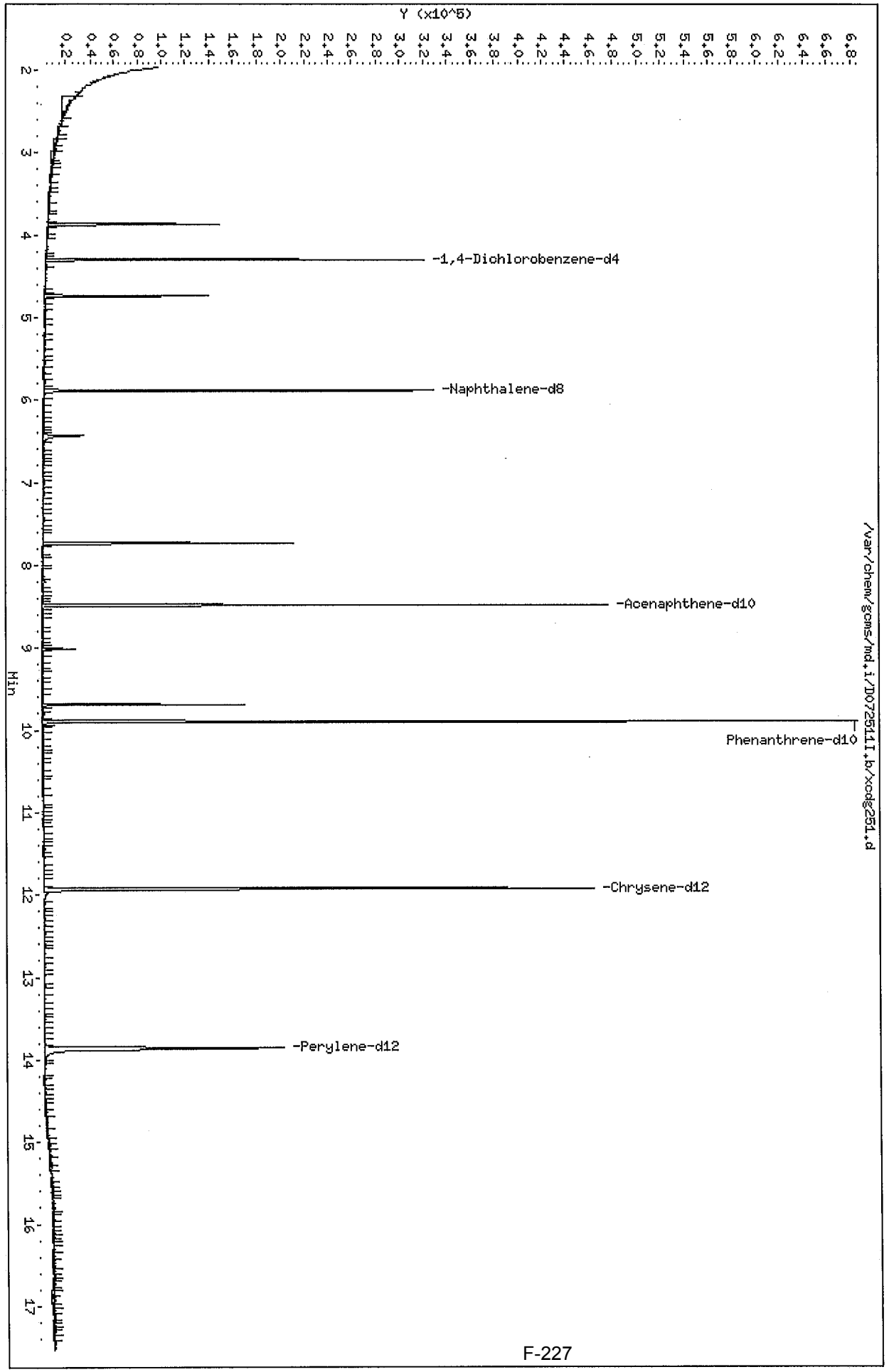
Data file : /chem/gcms/md.i/D072511I.b/xcdg251.d
Lab Smp Id: XCDG251 Client Smp ID: STD010
Inj Date : 25-JUL-2011 18:14
Operator : 60841 Inst ID: md.i
Smp Info : XCDG251,,1,1,,STD010
Misc Info : D072511I,8270a9,8270x.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072511I.b/8270a9.m
Meth Date : 25-Jul-2011 18:32 chemist Quant Type: ISTD
Cal Date : 25-JUL-2011 18:14 Cal File: xcdg251.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8270x.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)(1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
* 1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	41607	20.0000	20.0
* 2 Naphthalene-d8	136	5.888	5.888	(1.000)	156953	20.0000	20.0
* 3 Acenaphthene-d10	164	8.485	8.485	(1.000)	90440	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	184649	20.0000	20.0
* 5 Chrysene-d12	240	11.928	11.928	(1.000)	179557	20.0000	20.0
* 6 Perylene-d12	264	13.861	13.861	(1.000)	142534	20.0000	20.0
184 Benzaldehyde	105	3.872	3.872	(0.900)	20232	10.0000	10.4
189 Caprolactam	55	6.434	6.434	(1.093)	9107	10.0000	7.33
188 1,1'-Biphenyl	154	7.738	7.738	(0.912)	74619	10.0000	10.6
187 Atrazine	200	9.689	9.689	(0.979)	13935	10.0000	8.09



Data File: /var/chem/gcms/md.i/D072511I.b/xcdg251.d
Date : 25-JUL-2011 18:14
Client ID: STD010
Sample Info: XCDG251,,1,1,,STD010
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS

Instrument: md.i
Operator: 60841
Column diameter: 0.25

Data File: /chem/gcms/md.i/D072511I.b/xcdg252.d
Report Date: 25-Jul-2011 18:07

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

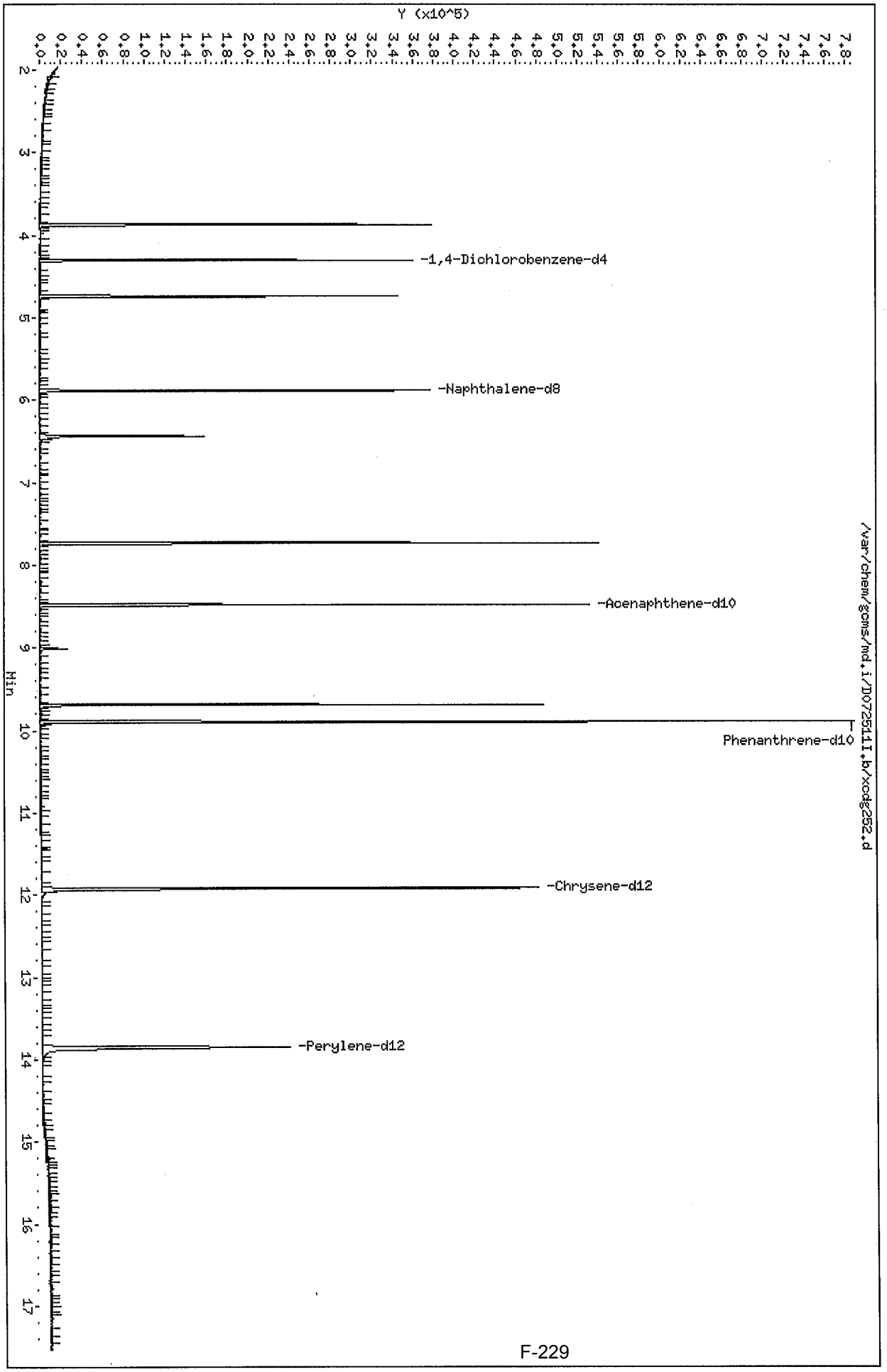
Data file : /chem/gcms/md.i/D072511I.b/xcdg252.d
Lab Smp Id: XCDG252 Client Smp ID: STD025
Inj Date : 25-JUL-2011 17:49
Operator : 60841 Inst ID: md.i
Smp Info : XCDG252,,1,2,,STD025
Misc Info : D072511I,8270a9,8270x.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072511I.b/8270a9.m
Meth Date : 25-Jul-2011 18:07 chemist Quant Type: ISTD
Cal Date : 25-JUL-2011 17:49 Cal File: xcdg252.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8270x.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL) (1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
* 1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	46456	20.0000	20.0
* 2 Naphthalene-d8	136	5.887	5.887	(1.000)	177465	20.0000	20.0
* 3 Acenaphthene-d10	164	8.485	8.485	(1.000)	102228	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	205857	20.0000	20.0
* 5 Chrysene-d12	240	11.928	11.928	(1.000)	198337	20.0000	20.0
* 6 Perylene-d12	264	13.855	13.855	(1.000)	161867	20.0000	20.0
184 Benzaldehyde	105	3.872	3.872	(0.900)	52565	25.0000	24.3
189 Caprolactam	55	6.440	6.440	(1.094)	31827	25.0000	21.5
188 1,1'-Biphenyl	154	7.738	7.738	(0.912)	197021	25.0000	25.0
187 Atrazine	200	9.695	9.695	(0.980)	46040	25.0000	23.1


Data File: /var/chem/gcms/md.i/D072511I.b/xcdg252.d
Date : 25-JUL-2011 17:49
Client ID: STD025
Sample Info: XCDG252,,1,2,,STD025
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^5)
/var/chem/gcms/md.i/D072511I.b/xcdg252.d
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
Phenanthrene-d10
-Chrysene-d12
-Perylene-d12
Min

Data File: /chem/gcms/md.i/D072511I.b/xcdg253.d
Report Date: 25-Jul-2011 17:42

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

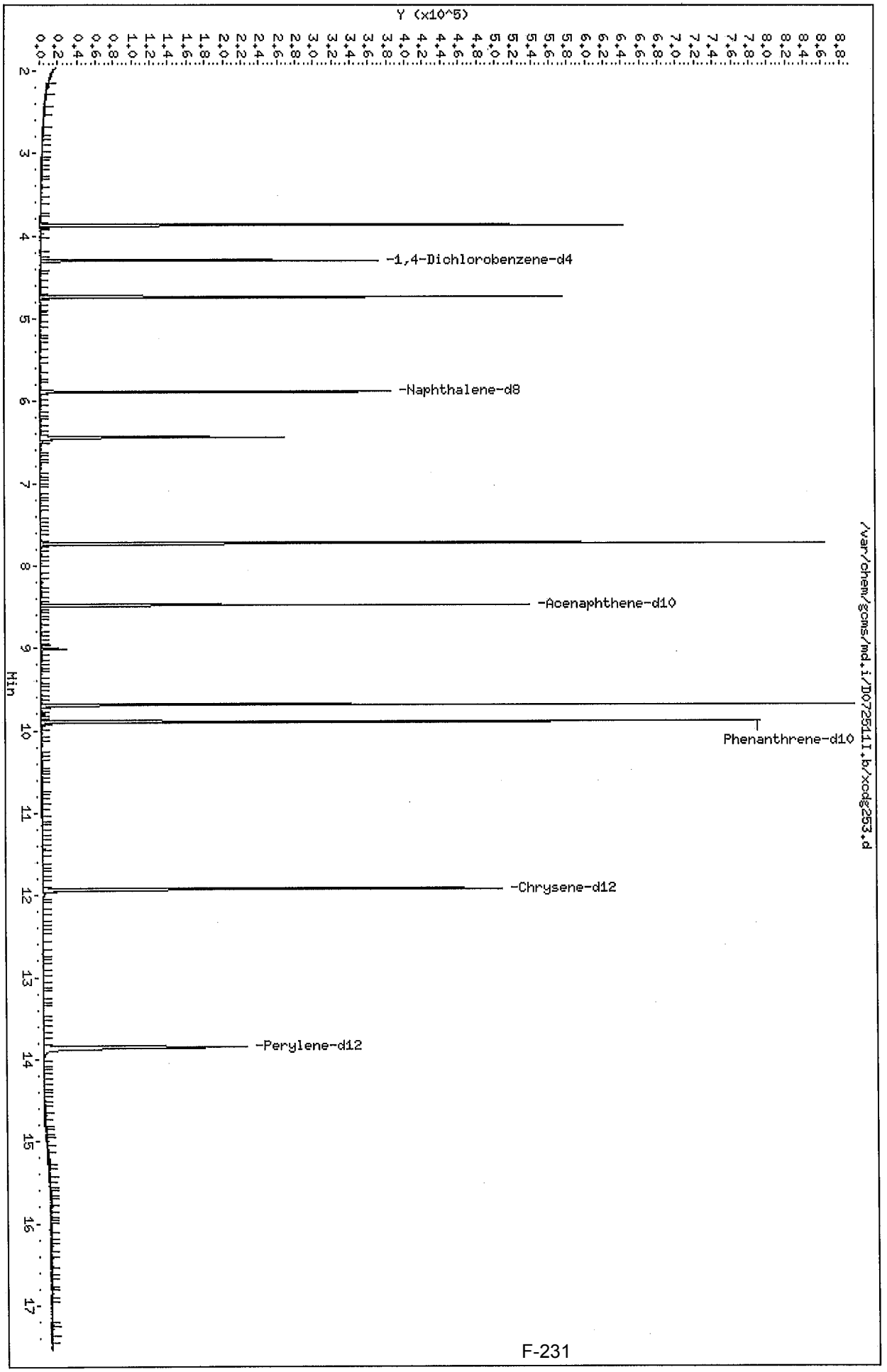
Data file : /chem/gcms/md.i/D072511I.b/xcdg253.d
Lab Smp Id: XCDG253 Client Smp ID: STD040
Inj Date : 25-JUL-2011 17:24
Operator : 60841 Inst ID: md.i
Smp Info : XCDG253,,1,3,,STD040
Misc Info : D072511I,8270a9,8270x.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072511I.b/8270a9.m
Meth Date : 25-Jul-2011 17:42 chemist Quant Type: ISTD
Cal Date : 25-JUL-2011 17:24 Cal File: xcdg253.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8270x.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL) (1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
*	1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	47015	20.0000	20.0
*	2 Naphthalene-d8	136	5.888	5.888	(1.000)	179924	20.0000	20.0
*	3 Acenaphthene-d10	164	8.485	8.485	(1.000)	102771	20.0000	20.0
*	4 Phenanthrene-d10	188	9.895	9.895	(1.000)	207702	20.0000	20.0
*	5 Chrysene-d12	240	11.928	11.928	(1.000)	198588	20.0000	20.0
*	6 Perylene-d12	264	13.855	13.855	(1.000)	159970	20.0000	20.0
	184 Benzaldehyde	105	3.872	3.872	(0.900)	86837	40.0000	39.4
	189 Caprolactam	55	6.446	6.446	(1.095)	54789	40.0000	35.3
	188 1,1'-Biphenyl	154	7.738	7.738	(0.912)	318002	40.0000	40.1
	187 Atrazine	200	9.695	9.695	(0.980)	78411	40.0000	38.2


Data File: /var/chem/gcms/md.i/D072511I.b/xcdg253.d
Date : 25-JUL-2011 17:24
Client ID: STD040
Sample Info: XCDC253,1,3,STD040
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^5)
/var/chem/gcms/md.i/D072511I.b/xcdg253.d
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
Phenanthrene-d10
-Chrysene-d12
-Perylene-d12
Min

Data File: /chem/gcms/md.i/D072511I.b/xcdg254.d
Report Date: 25-Jul-2011 17:17

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

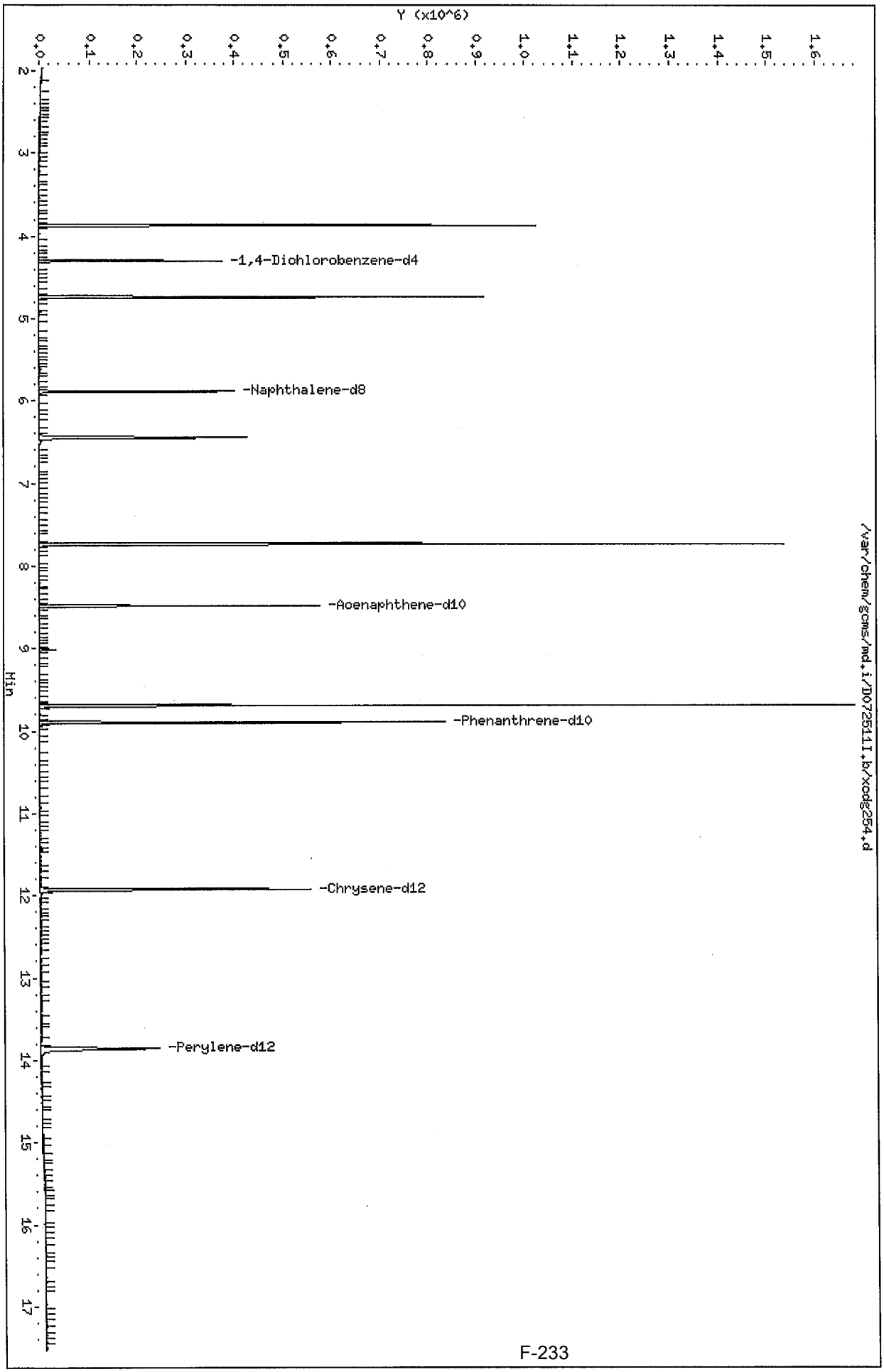
Data file : /chem/gcms/md.i/D072511I.b/xcdg254.d
Lab Smp Id: XCDG254 Client Smp ID: STD060
Inj Date : 25-JUL-2011 16:59
Operator : 60841 Inst ID: md.i
Smp Info : XCDG254,,1,4,,STD060
Misc Info : D072511I,8270a9,8270x.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072511I.b/8270a9.m
Meth Date : 25-Jul-2011 17:17 chemist Quant Type: ISTD
Cal Date : 25-JUL-2011 16:59 Cal File: xcdg254.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8270x.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL) (1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
* 1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	48030	20.0000	20.0
* 2 Naphthalene-d8	136	5.887	5.887	(1.000)	188212	20.0000	20.0
* 3 Acenaphthene-d10	164	8.484	8.484	(1.000)	110590	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	226068	20.0000	20.0
* 5 Chrysene-d12	240	11.928	11.928	(1.000)	213772	20.0000	20.0
* 6 Perylene-d12	264	13.861	13.861	(1.000)	168516	20.0000	20.0
184 Benzaldehyde	105	3.872	3.872	(0.900)	140459	60.0000	62.0
189 Caprolactam	55	6.451	6.451	(1.096)	98982	60.0000	58.6
188 1,1'-Biphenyl	154	7.738	7.738	(0.912)	526047	60.0000	61.7
187 Atrazine	200	9.695	9.695	(0.980)	135138	60.0000	59.6


Data File: /var/chem/gcms/md.i/D072511I.b/xcdg254.d
Date : 25-JUL-2011 16:59
Client ID: STD060
Sample Info: XCDC254,,1,4,,STD060
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^6)
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
-Phenanthrene-d10
-Chrysene-d12
-Perylene-d12
/var/chem/gcms/md.i/D072511I.b/xcdg254.d
Min

Data File: /var/chem/gcms/md.i/D072511I.b/xcdg255.d
Report Date: 25-Jul-2011 17:25

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

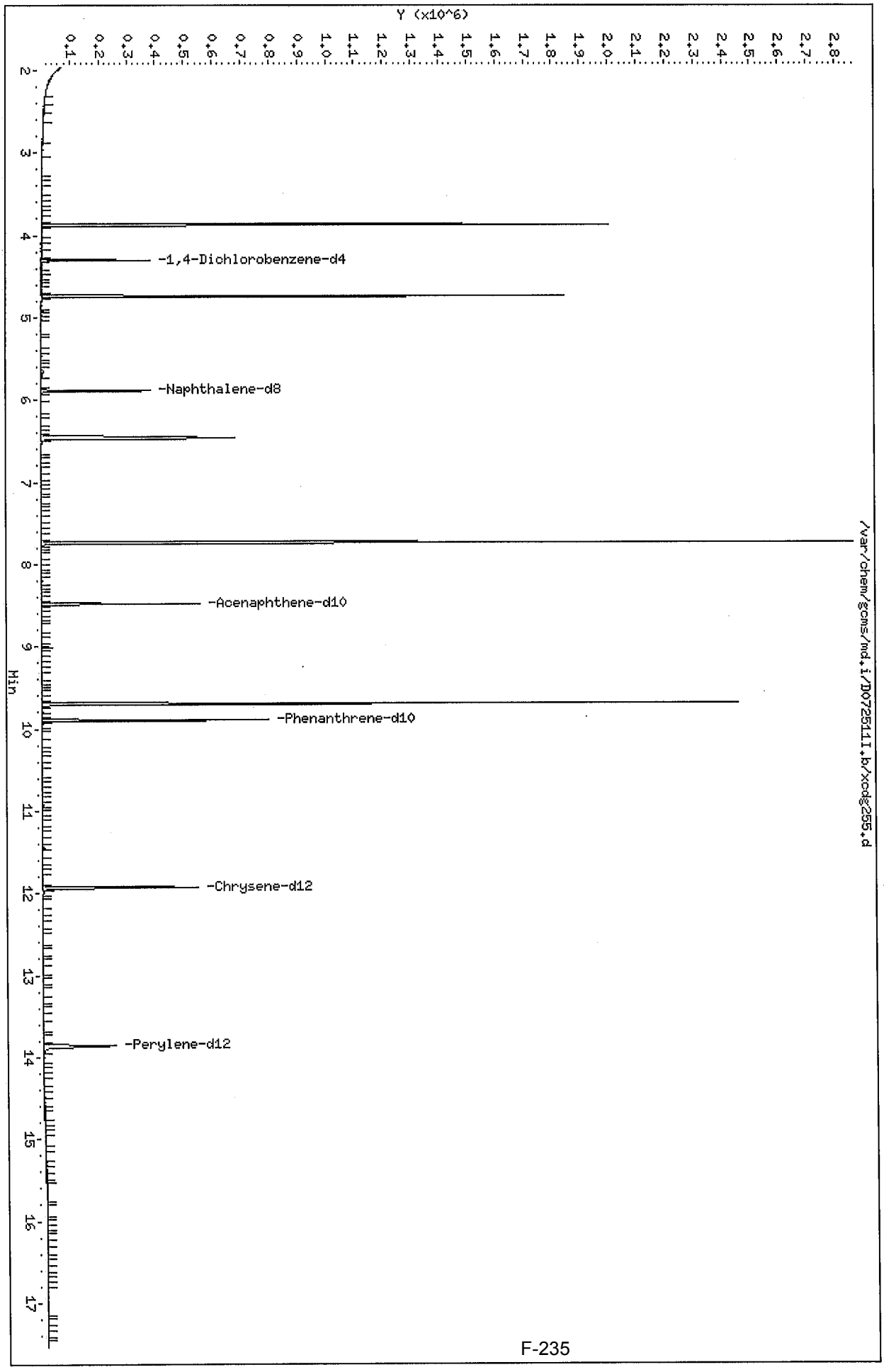
Data file : /var/chem/gcms/md.i/D072511I.b/xcdg255.d
Lab Smp Id: XCDG255 Client Smp ID: STD120
Inj Date : 25-JUL-2011 16:34
Operator : 60841 Inst ID: md.i
Smp Info : XCDG255,,1,5,,STD120
Misc Info : D072511I,8270a9,8270x.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072511I.b/8270a9.m
Meth Date : 25-Jul-2011 17:24 mcgeek Quant Type: ISTD
Cal Date : 25-JUL-2011 16:34 Cal File: xcdg255.d
Als bottle: 13 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8270x.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)(1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
* 1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	48536	20.0000	20.0
* 2 Naphthalene-d8	136	5.887	5.887	(1.000)	182312	20.0000	20.0
* 3 Acenaphthene-d10	164	8.484	8.484	(1.000)	108232	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	213920	20.0000	20.0
* 5 Chrysene-d12	240	11.928	11.928	(1.000)	204979	20.0000	20.0
* 6 Perylene-d12	264	13.861	13.861	(1.000)	167539	20.0000	20.0
184 Benzaldehyde	105	3.872	3.872	(0.900)	270282	120.000	118
189 Caprolactam	55	6.463	6.463	(1.098)	194813	120.000	119
188 1,1'-Biphenyl	154	7.738	7.738	(0.912)	982887	120.000	118
187 Atrazine	200	9.701	9.701	(0.980)	260362	120.000	121


Data File: /var/chem/gcms/md.i/D0725111.b/xcdg255.d
Date : 25-JUL-2011 16:34
Client ID: STD120
Sample Info: XCDG255,.1,5,,STD120
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^6)
/var/chem/gcms/md.i/D0725111.b/xcdg255.d
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
-Phenanthrene-d10
-Chrysene-d12
-Perylene-d12
Min

Data File: /var/chem/gcms/md.i/D072511I.b/xcdg258.d
Report Date: 25-Jul-2011 17:25

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Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072511I.b/xcdg258.d
Lab Smp Id: XCDG258 Client Smp ID: STD200
Inj Date : 25-JUL-2011 16:09
Operator : 60841 Inst ID: md.i
Smp Info : XCDG258,,1,8,,STD200
Misc Info : D072511I,8270a9,8270x.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072511I.b/8270a9.m
Meth Date : 25-Jul-2011 17:25 mcgeek Quant Type: ISTD
Cal Date : 25-JUL-2011 16:09 Cal File: xcdg258.d
Als bottle: 12 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8270x.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL) (1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

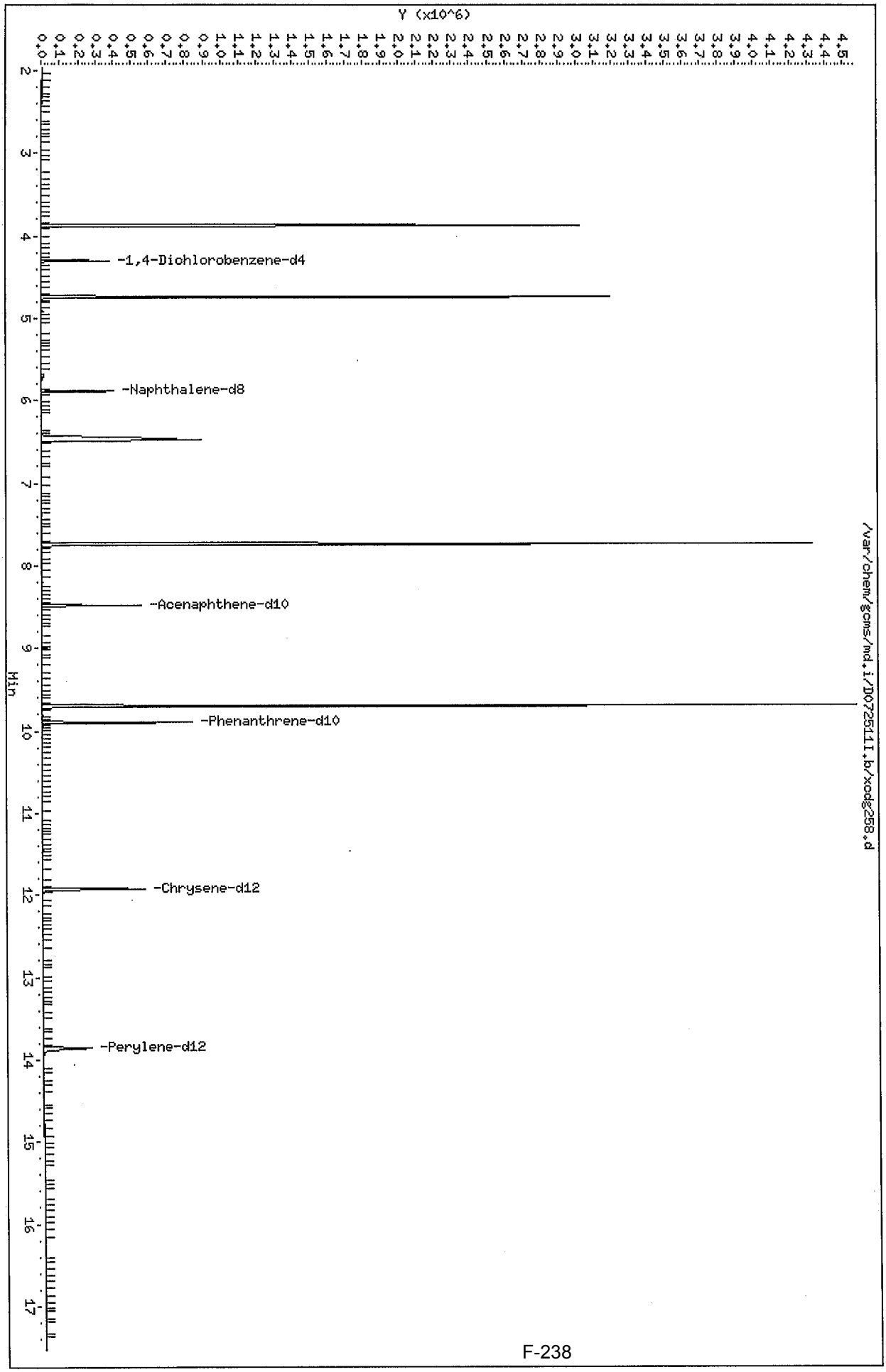
Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
*	1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	49238	20.0000	20.0
*	2 Naphthalene-d8	136	5.888	5.888	(1.000)	186321	20.0000	20.0
*	3 Acenaphthene-d10	164	8.485	8.485	(1.000)	109756	20.0000	20.0
*	4 Phenanthrene-d10	188	9.895	9.895	(1.000)	227167	20.0000	20.0
*	5 Chrysene-d12	240	11.928	11.928	(1.000)	214896	20.0000	20.0
*	6 Perylene-d12	264	13.861	13.861	(1.000)	177211	20.0000	20.0
	184 Benzaldehyde	105	3.872	3.872	(0.900)	455275	200.000	196
	189 Caprolactam	55	6.475	6.475	(1.100)	344255	200.000	206(A)
	188 1,1'-Biphenyl	154	7.744	7.744	(0.913)	1674703	200.000	198
	187 Atrazine	200	9.701	9.701	(0.980)	452729	200.000	199

Data File: /var/chem/gcms/md.i/D072511I.b/xcdg258.d
Report Date: 25-Jul-2011 17:25

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.


Data File: /var/chem/gcms/md.i/D072511I.b/xcdg258.d
Date : 25-JUL-2011 16:09
Client ID: STD200
Sample Info: XCDG258,1,8,,STD200
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^6)
Min
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
-Phenanthrene-d10
-Chrysene-d12
-Perylene-d12
/var/chem/gcms/md.i/D072511I.b/xcdg258.d

Data File: /var/chem/gcms/md.i/D072511I.b/xcvdg25.d
Report Date: 26-Jul-2011 08:34

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Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072511I.b/xcvdg25.d
Lab Smp Id: XCVDG25 Client Smp ID: 2ND SOURCE
Inj Date : 25-JUL-2011 19:04
Operator : 60841 Inst ID: md.i
Smp Info : XCVDG25,,3,,,2ND SOURCE
Misc Info : D072511I,8270a9,8270x.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072511I.b/8270a9.m
Meth Date : 25-Jul-2011 19:00 mcgeek Quant Type: ISTD
Cal Date : 25-JUL-2011 18:39 Cal File: xcdg256.d
Als bottle: 19 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8270x.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL) (1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	CONCENTRATIONS FINAL (ug/Kg)
* 1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	49540	20.0000	20.0
* 2 Naphthalene-d8	136	5.888	5.887	(1.000)	188164	20.0000	20.0
* 3 Acenaphthene-d10	164	8.485	8.485	(1.000)	113195	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	229207	20.0000	20.0
* 5 Chrysene-d12	240	11.928	11.928	(1.000)	222090	20.0000	20.0
* 6 Perylene-d12	264	13.861	13.861	(1.000)	186566	20.0000	20.0
184 Benzaldehyde	105	3.872	3.872	(0.900)	135615	57.8894	1930
189 Caprolactam	55	6.446	6.434	(1.095)	89091	55.2130	1840
188 1,1'-Biphenyl	154	7.738	7.738	(0.912)	488491	54.4619	1820
187 Atrazine	200	9.695	9.689	(0.980)	134973	60.1743	2000

Data File: /var/chem/gcms/md.i/D072511I.b/xcvdg25.d
Report Date: 26-Jul-2011 08:34

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: md.i
Lab File ID: xcvdg25.d
Lab Smp Id: XCVDG25
Analysis Type: SV
Quant Type: ISTD
Operator: 60841
Method File: /var/chem/gcms/md.i/D072511I.b/8270a9.m
Misc Info: D072511I,8270a9,8270x.sub

Calibration Date: 25-JUL-2011
Calibration Time: 16:59
Client Smp ID: 2ND SOURCE
Level: LOW
Sample Type: SOIL

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	48030	24015	96060	49540	3.14
2 Naphthalene-d8	188212	94106	376424	188164	-0.03
3 Acenaphthene-d10	110590	55295	221180	113195	2.36
4 Phenanthrene-d10	226068	113034	452136	229207	1.39
5 Chrysene-d12	213772	106886	427544	222090	3.89
6 Perylene-d12	168516	84258	337032	186566	10.71

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	4.30	3.80	4.80	4.30	0.00
2 Naphthalene-d8	5.89	5.39	6.39	5.89	0.00
3 Acenaphthene-d10	8.48	7.98	8.98	8.48	0.00
4 Phenanthrene-d10	9.89	9.39	10.39	9.89	0.00
5 Chrysene-d12	11.93	11.43	12.43	11.93	0.00
6 Perylene-d12	13.86	13.36	14.36	13.86	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

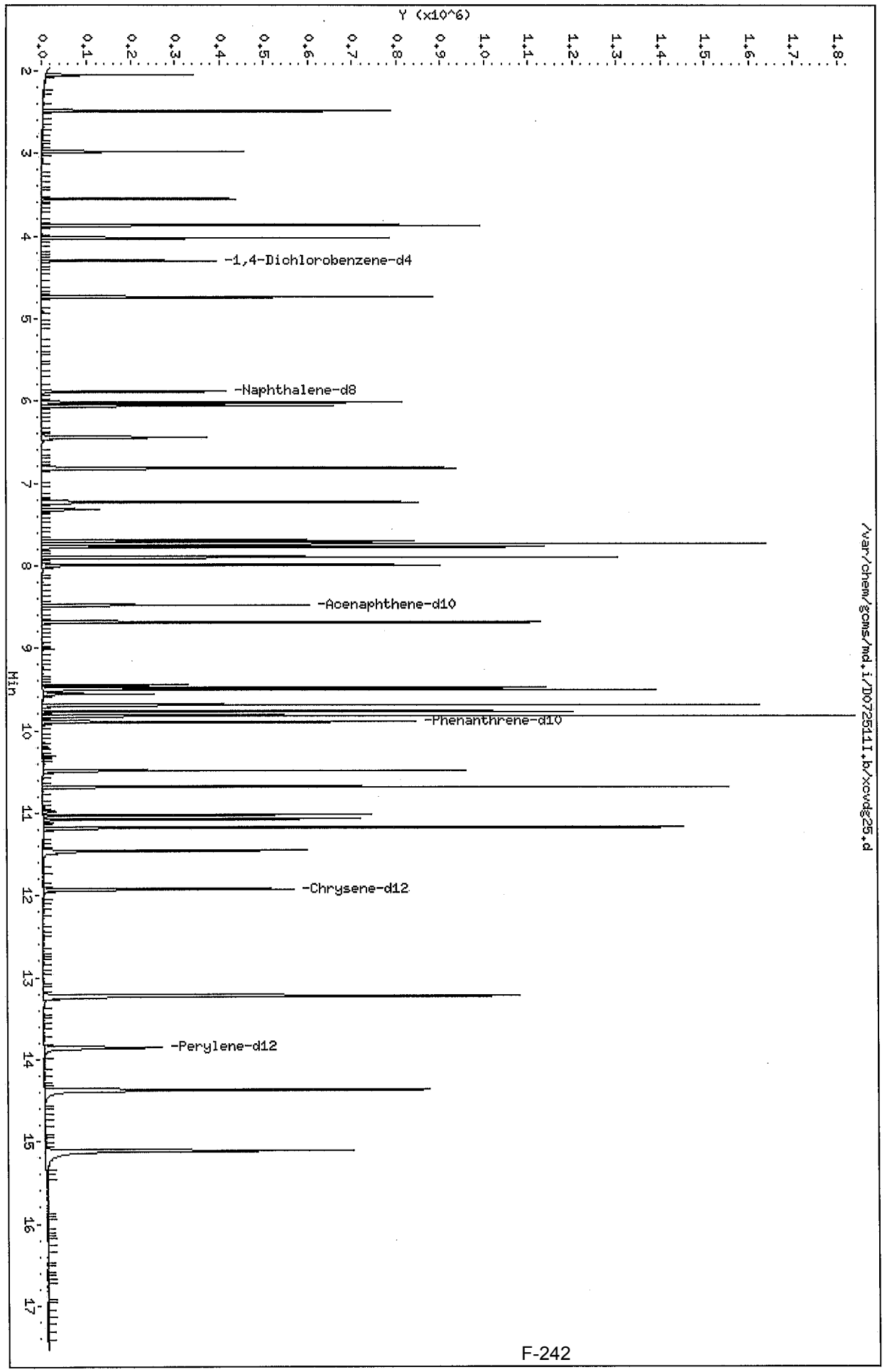
Data File: /var/chem/gcms/md.i/D072511I.b/xcvdg25.d
Report Date: 26-Jul-2011 08:34

TestAmerica Knoxville

RECOVERY REPORT

Client Name:
Client SDG: D072511I
Sample Matrix: SOLID
Fraction: SV
Lab Smp Id: XCVDG25
Client Smp ID: 2ND SOURCE
Level: LOW
Operator: 60841
Data Type: MS DATA
SampleType: BLANK
SpikeList File: 8270xlcs.spk
Quant Type: ISTD
Sublist File: 8270x.sub
Method File: /var/chem/gcms/md.i/D072511I.b/8270a9.m
Misc Info: D072511I,8270a9,8270x.sub

SPIKE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
184 Benzaldehyde	2000	1930	96.48	70-130
189 Caprolactam	2000	1840	92.02	70-130
188 1,1'-Biphenyl	2000	1820	90.77	70-130
187 Atrazine	2000	2000	100.29	70-130


Data File: /var/chem/gcms/md.i/D072511I.b/xcvdg25.d
Date : 25-JUL-2011 19:04
Client ID: 2ND SOURCE
Sample Info: XCVDG25,,3,,,2ND SOURCE
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^6)
Min
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
-Phenanthrene-d10
-Chrysene-d12
-Perylene-d12
/var/chem/gcms/md.i/D072511I.b/xcvdg25.d

Data File: /var/chem/gcms/md.i/D072611I.b/xpdg267.d
Report Date: 26-Jul-2011 14:38

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

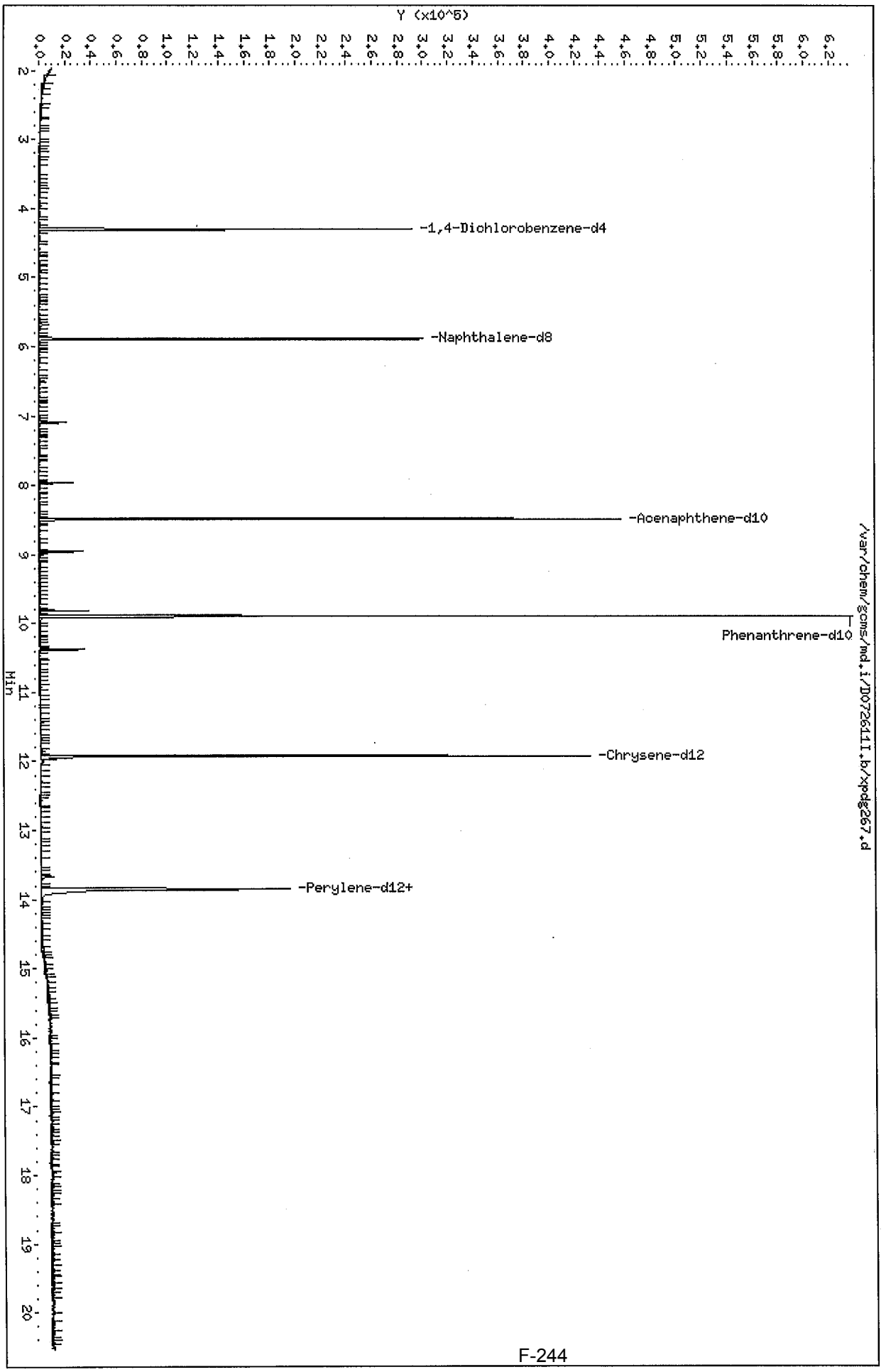
Data file : /var/chem/gcms/md.i/D072611I.b/xpdg267.d
Lab Smp Id: XPDG267 Client Smp ID: STD002
Inj Date : 26-JUL-2011 13:45
Operator : 60841 Inst ID: md.i
Smp Info : XPDG267,,1,7,,STD002
Misc Info : D072611I,8270a9,pahextra.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Meth Date : 26-Jul-2011 14:38 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 13:45 Cal File: xpdg267.d
Als bottle: 10 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: allextra.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL) (1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
* 1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	41591	20.0000	20.0
* 2 Naphthalene-d8	136	5.893	5.893	(1.000)	151215	20.0000	20.0
* 3 Acenaphthene-d10	164	8.484	8.484	(1.000)	88958	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	173782	20.0000	20.0
* 5 Chrysene-d12	240	11.922	11.922	(1.000)	164289	20.0000	20.0
* 6 Perylene-d12	264	13.849	13.849	(1.000)	136723	20.0000	20.0
197 1-methylnaphthalene	142	7.098	7.098	(1.204)	7806	2.00000	1.71
192 2,6-Dimethylnaphthalene	156	7.962	7.962	(0.938)	6586	2.00000	1.54
193 2,3,5-Trimethylnaphthalene	170	8.955	8.955	(0.905)	5920	2.00000	1.51
194 Dibenzothiopene	184	9.812	9.812	(0.992)	12726	2.00000	1.69
195 1-Methylphenanthrene	192	10.376	10.376	(1.049)	8475	2.00000	1.46
85 Benzo(e)pyrene	252	13.661	13.661	(0.986)	7905	2.00000	1.15
196 Perylene	252	13.896	13.896	(1.003)	11518	2.00000	1.67


Data File: /var/chem/gcms/md.i/D072611I.b/xpdg267.d
Date : 26-JUL-2011 13:45
Client ID: STD002
Sample Info: XPDG267,,1.7,,STD002
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^5)
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
Phenanthrene-d10
-Chrysene-d12
-Perylene-d12+
/var/chem/gcms/md.i/D072611I.b/xpdg267.d
Min

Data File: /var/chem/gcms/md.i/D072611I.b/xpdg266.d
Report Date: 26-Jul-2011 14:36

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072611I.b/xpdg266.d
Lab Smp Id: XPDG266 Client Smp ID: STD005
Inj Date : 26-JUL-2011 13:16
Operator : 60841 Inst ID: md.i
Smp Info : XPDG266,,1,6,,STD005
Misc Info : D072611I,8270a9,pahextra.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Meth Date : 26-Jul-2011 14:36 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 13:16 Cal File: xpdg266.d
Als bottle: 9 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: allextra.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

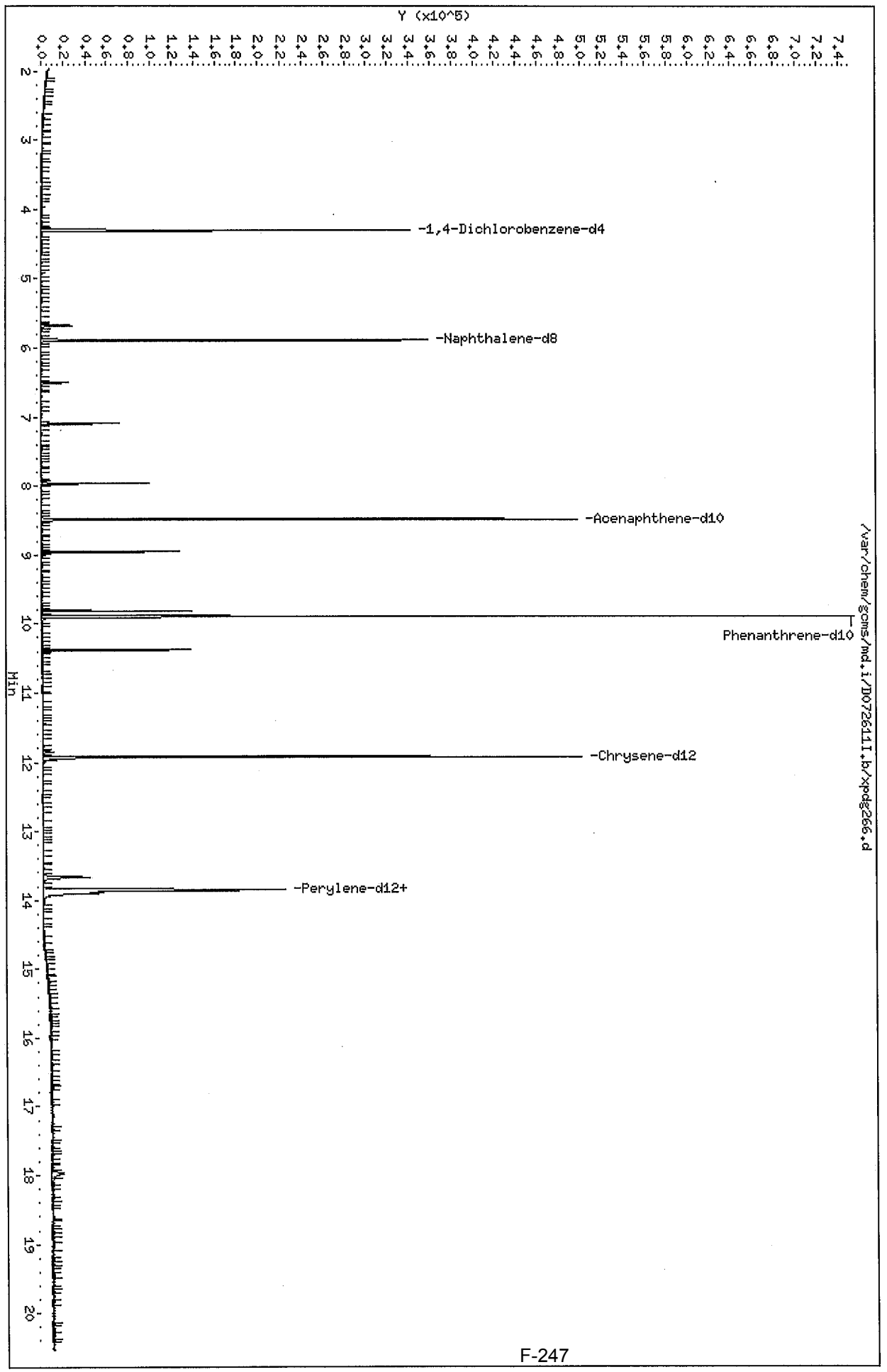
Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL) (1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
* 1	1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	46595	20.0000	20.0
* 2	Naphthalene-d8	136	5.887	5.887	(1.000)	170462	20.0000	20.0
* 3	Acenaphthene-d10	164	8.484	8.484	(1.000)	98030	20.0000	20.0
* 4	Phenanthrene-d10	188	9.895	9.895	(1.000)	195957	20.0000	20.0
* 5	Chrysene-d12	240	11.922	11.922	(1.000)	190918	20.0000	20.0
* 6	Perylene-d12	264	13.849	13.849	(1.000)	162701	20.0000	20.0
199	Phentermine	58	5.676	5.676	(0.964)	21491	5.00000	3.52
202	1,4-Phenylenediamine	108	6.504	6.504	(1.105)	9466	5.00000	3.13
197	1-methylnaphthalene	142	7.098	7.098	(1.206)	25370	5.00000	4.92
192	2,6-Dimethylnaphthalene	156	7.961	7.961	(0.938)	21903	5.00000	4.64
193	2,3,5-Trimethylnaphthalene	170	8.954	8.954	(0.905)	20518	5.00000	4.65
194	Dibenzothiopene	184	9.812	9.812	(0.992)	42017	5.00000	4.96
195	1-Methylphenanthrene	192	10.376	10.376	(1.049)	30118	5.00000	4.61
200	3,3'-Dimethoxybenzidine	244	11.845	11.845	(0.994)	2579	5.00000	1.50

Data File: /var/chem/gcms/md.i/D072611I.b/xpdg266.d
Report Date: 26-Jul-2011 14:36

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
85 Benzo(e)pyrene	252	13.661	13.661	(0.986)	32109	5.00000	3.93
196 Perylene	252	13.896	13.896	(1.003)	38203	5.00000	4.65
201 Dibenzo(a,e)pyrene	302	17.968	17.968	(1.297)	9754	5.00000	1.87


Data File: /var/chem/gcms/md.i/D072611I.b/xpdg266.d
Date : 26-JUL-2011 13:16
Client ID: STD005
Sample Info: XPDG266,,1,6,,STD005
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^5)
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
Phenanthrene-d10
-Chrysene-d12
-Perylene-d12+
/var/chem/gcms/md.i/D072611I.b/xpdg266.d
Min

Data File: /var/chem/gcms/md.i/D072611I.b/xpdg261.d
Report Date: 26-Jul-2011 14:35

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Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072611I.b/xpdg261.d
Lab Smp Id: XPDG261 Client Smp ID: STD010
Inj Date : 26-JUL-2011 12:48
Operator : 60841 Inst ID: md.i
Smp Info : XPDG261,,1,1,,STD010
Misc Info : D072611I,8270a9,pahextra.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Meth Date : 26-Jul-2011 14:35 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 12:48 Cal File: xpdg261.d
Als bottle: 8 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: allextra.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

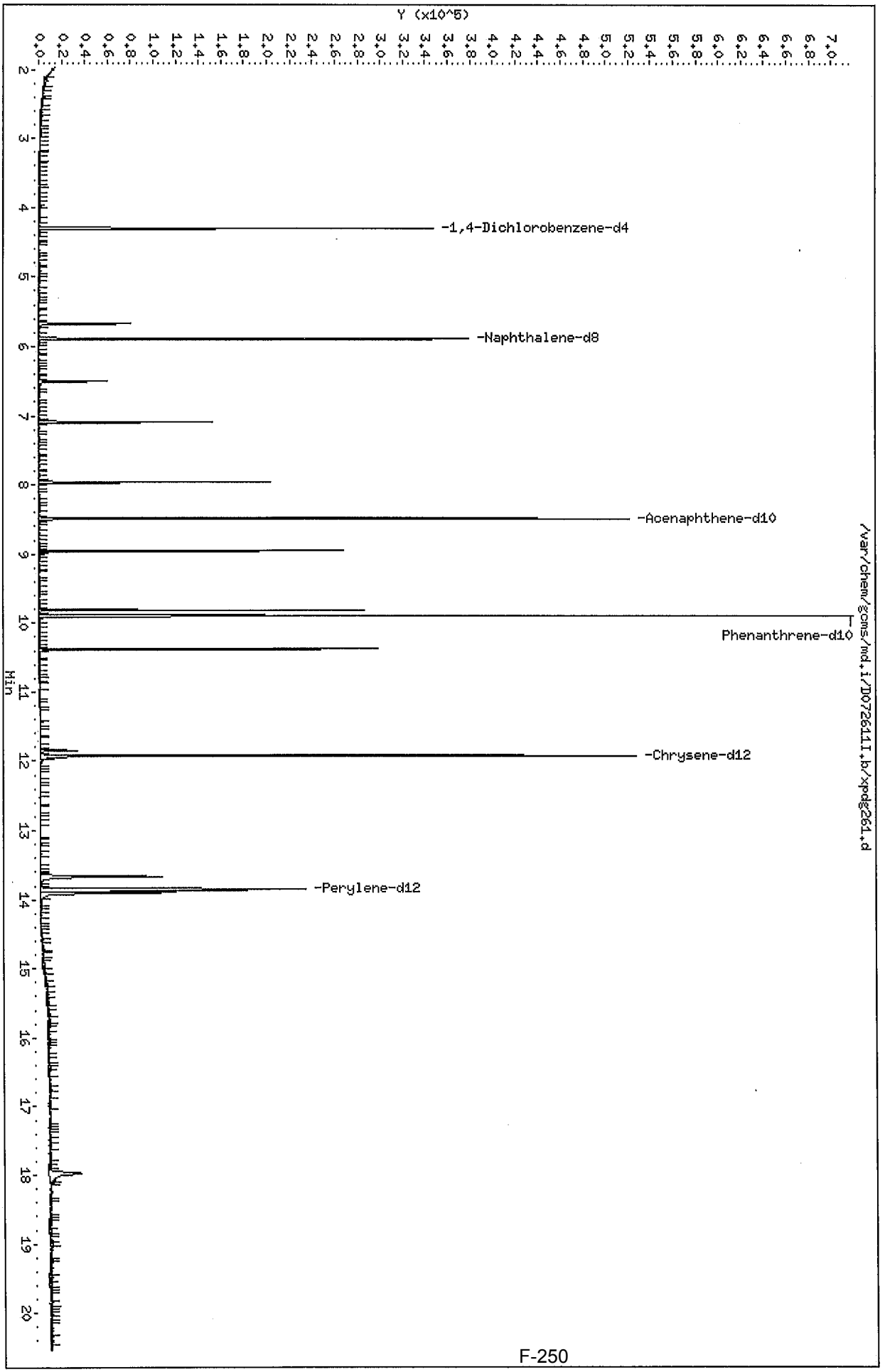
Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)(1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
* 1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	45912	20.0000	20.0
* 2 Naphthalene-d8	136	5.888	5.888	(1.000)	175398	20.0000	20.0
* 3 Acenaphthene-d10	164	8.485	8.485	(1.000)	102303	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	200033	20.0000	20.0
* 5 Chrysene-d12	240	11.922	11.922	(1.000)	197882	20.0000	20.0
* 6 Perylene-d12	264	13.849	13.849	(1.000)	169282	20.0000	20.0
199 Phentermine	58	5.670	5.670	(0.963)	50058	10.0000	7.98
202 1,4-Phenylenediamine	108	6.504	6.504	(1.105)	23562	10.0000	7.57
197 1-methylnaphthalene	142	7.092	7.092	(1.205)	50940	10.0000	9.60
192 2,6-Dimethylnaphthalene	156	7.962	7.962	(0.938)	45882	10.0000	9.32
193 2,3,5-Trimethylnaphthalene	170	8.955	8.955	(0.905)	41839	10.0000	9.28
194 Dibenzothiopene	184	9.812	9.812	(0.992)	82880	10.0000	9.59
195 1-Methylphenanthrene	192	10.376	10.376	(1.049)	63184	10.0000	9.48
200 3,3'-Dimethoxybenzidine	244	11.845	11.845	(0.994)	6756	10.0000	3.80

Data File: /var/chem/gcms/md.i/D072611I.b/xpdg261.d
Report Date: 26-Jul-2011 14:35

						AMOUNTS	
	QUANT SIG					CAL-AMT	ON-COL
Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ng/uL)	(ng/uL)
85 Benzo(e)pyrene	252	13.661	13.661	(0.986)	75507	10.0000	9.98
196 Perylene	252	13.896	13.896	(1.003)	82614	10.0000	9.66
201 Dibenzo(a,e)pyrene	302	17.974	17.974	(1.298)	37049	10.0000	7.10


Data File: /var/chem/gcms/md.i/D072611I.b/xpdg264.d
Date : 26-JUL-2011 12:48
Client ID: STD010
Sample Info: XPDG264,,1,1,,STD010
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^5)
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
Phenanthrene-d10
-Chrysene-d12
-Perylene-d12
/var/chem/gcms/md.i/D072611I.b/xpdg264.d
Min

Data File: /var/chem/gcms/md.i/D072611I.b/xpdg262.d
Report Date: 26-Jul-2011 14:34

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Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072611I.b/xpdg262.d
Lab Smp Id: XPDG262 Client Smp ID: STD025
Inj Date : 26-JUL-2011 12:19
Operator : 60841 Inst ID: md.i
Smp Info : XPDG262,,1,2,,STD025
Misc Info : D072611I,8270a9,pahextra.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Meth Date : 26-Jul-2011 14:34 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 12:19 Cal File: xpdg262.d
Als bottle: 7 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: allextra.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL) (1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

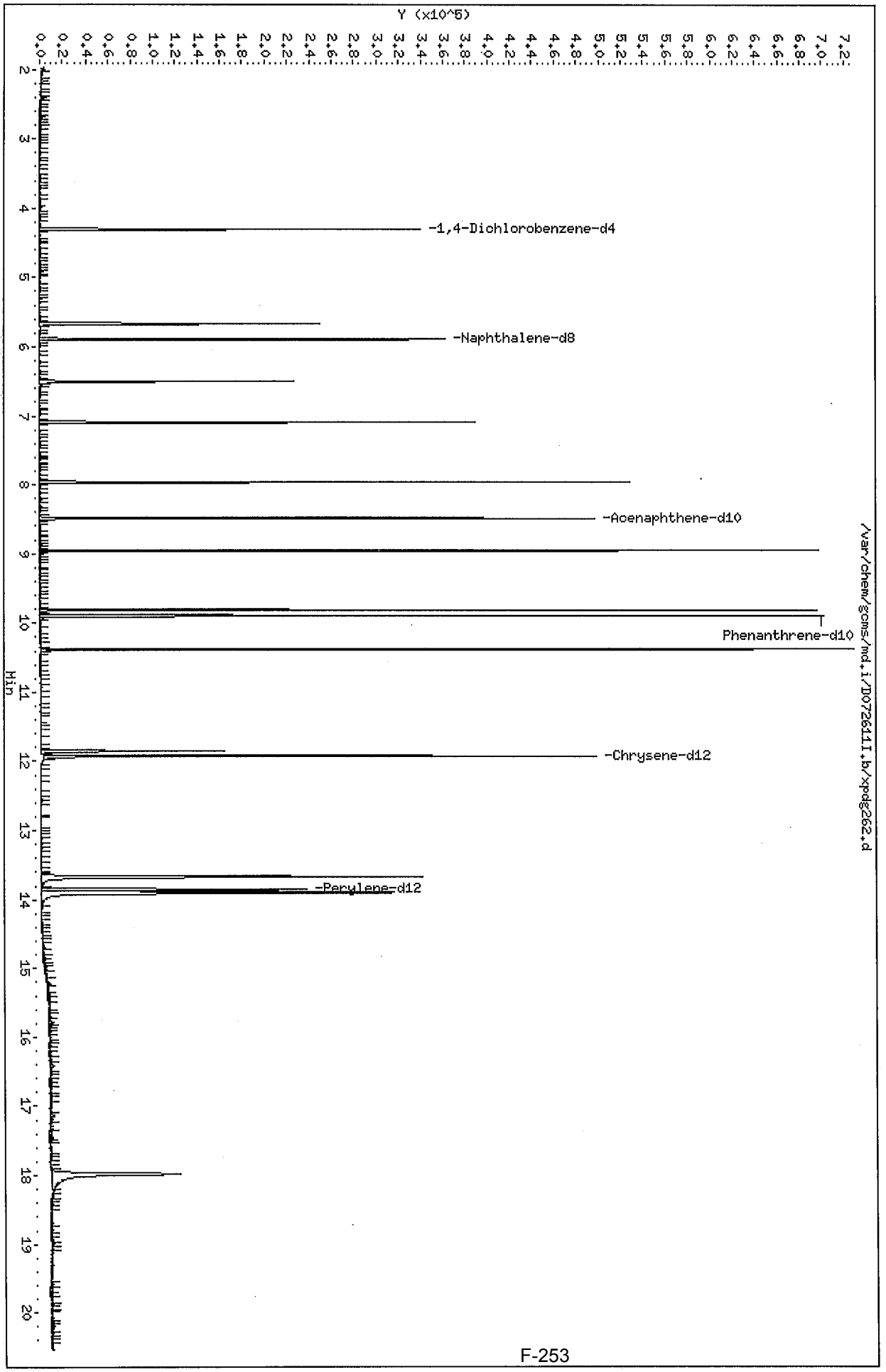
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
*	1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	45742	20.0000	20.0
*	2 Naphthalene-d8	136	5.887	5.887	(1.000)	170422	20.0000	20.0
*	3 Acenaphthene-d10	164	8.484	8.484	(1.000)	95785	20.0000	20.0
*	4 Phenanthrene-d10	188	9.895	9.895	(1.000)	190814	20.0000	20.0
*	5 Chrysene-d12	240	11.922	11.922	(1.000)	194053	20.0000	20.0
*	6 Perylene-d12	264	13.855	13.855	(1.000)	175418	20.0000	20.0
	199 Phentermine	58	5.664	5.664	(0.962)	142951	25.0000	23.4
	202 1,4-Phenylenediamine	108	6.498	6.498	(1.104)	69603	25.0000	23.0
	197 1-methylnaphthalene	142	7.092	7.092	(1.205)	126731	25.0000	24.6
	192 2,6-Dimethylnaphthalene	156	7.962	7.962	(0.938)	118351	25.0000	25.7
	193 2,3,5-Trimethylnaphthalene	170	8.954	8.954	(0.905)	108694	25.0000	25.3
	194 Dibenzothiopene	184	9.812	9.812	(0.992)	206295	25.0000	25.0
	195 1-Methylphenanthrene	192	10.376	10.376	(1.049)	160621	25.0000	25.2
	200 3,3'-Dimethoxybenzidine	244	11.851	11.851	(0.994)	31828	25.0000	18.2

Data File: /var/chem/gcms/md.i/D072611I.b/xpdg262.d
Report Date: 26-Jul-2011 14:34

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
85 Benzo(e)pyrene	252	13.667	13.667	(0.986)	216945	25.0000	27.3
196 Perylene	252	13.902	13.902	(1.003)	221511	25.0000	25.0
201 Dibenzo(a,e)pyrene	302	17.979	17.979	(1.298)	129784	25.0000	24.0

Data File: /var/chem/gcms/md.i/D072611I.b/xpdg262.d
Date : 26-JUL-2011 12:19
Client ID: STD025
Sample Info: XPDG262,1.2,,STD025
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS

Instrument: md.i
Operator: 60841
Column diameter: 0.25



Data File: /var/chem/gcms/md.i/D072611I.b/xpdg263.d
Report Date: 26-Jul-2011 14:34

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Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072611I.b/xpdg263.d
Lab Smp Id: XPDG263 Client Smp ID: STD040
Inj Date : 26-JUL-2011 11:50
Operator : 60841 Inst ID: md.i
Smp Info : XPDG263,,1,3,,STD040
Misc Info : D072611I,8270a9,pahextra.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Meth Date : 26-Jul-2011 14:34 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 11:50 Cal File: xpdg263.d
Als bottle: 6 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: allextra.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

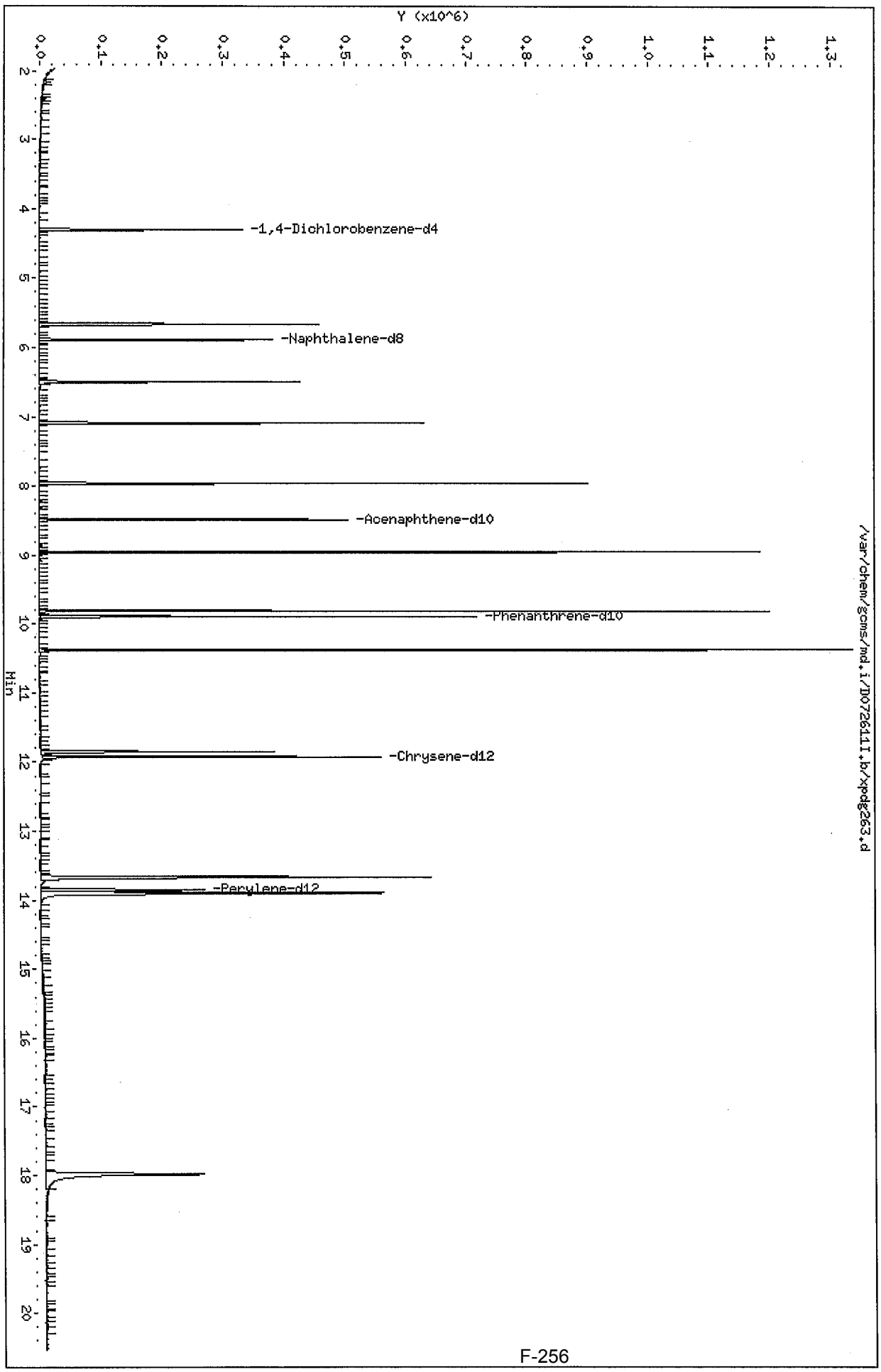
Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)(1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	ON-COL (ng/uL)
* 1	1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	45135	20.0000	20.0
* 2	Naphthalene-d8	136	5.888	5.888	(1.000)	174735	20.0000	20.0
* 3	Acenaphthene-d10	164	8.485	8.485	(1.000)	102671	20.0000	20.0
* 4	Phenanthrene-d10	188	9.895	9.895	(1.000)	200284	20.0000	20.0
* 5	Chrysene-d12	240	11.922	11.922	(1.000)	209733	20.0000	20.0
* 6	Perylene-d12	264	13.855	13.855	(1.000)	191281	20.0000	20.0
199	Phentermine	58	5.664	5.664	(0.962)	255847	40.0000	40.9
202	1,4-Phenylenediamine	108	6.499	6.499	(1.104)	130636	40.0000	42.1
197	1-methylnaphthalene	142	7.092	7.092	(1.205)	211129	40.0000	40.0
192	2,6-Dimethylnaphthalene	156	7.962	7.962	(0.938)	206098	40.0000	41.7
193	2,3,5-Trimethylnaphthalene	170	8.955	8.955	(0.905)	185134	40.0000	41.0
194	Dibenzothiopene	184	9.812	9.812	(0.992)	349372	40.0000	40.4
195	1-Methylphenanthrene	192	10.376	10.376	(1.049)	278168	40.0000	41.7
200	3,3'-Dimethoxybenzidine	244	11.851	11.851	(0.994)	72723	40.0000	38.6

Data File: /var/chem/gcms/md.i/D072611I.b/xpdg263.d
Report Date: 26-Jul-2011 14:34

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
85 Benzo(e)pyrene	252	13.667	13.667	(0.986)	388947	40.0000	44.7
196 Perylene	252	13.902	13.902	(1.003)	392194	40.0000	40.6
201 Dibenzo(a,e)pyrene	302	17.985	17.985	(1.298)	263967	40.0000	44.7


Data File: /var/chem/gcms/md.i/D072611I.b/xpdg263.d
Date : 26-JUL-2011 11:50
Client ID: STD040
Sample Info: XPDG263,r,1.3,,STD040
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^6)
1.3
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
Min
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
-Phenanthrene-d10
-Chrysene-d12
-Perylene-d12
/var/chem/gcms/md.i/D072611I.b/xpdg263.d

Data File: /var/chem/gcms/md.i/D072611I.b/xpdg264.d
Report Date: 26-Jul-2011 14:33

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Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072611I.b/xpdg264.d
Lab Smp Id: XPDG264 Client Smp ID: STD060
Inj Date : 26-JUL-2011 11:21
Operator : 60841 Inst ID: md.i
Smp Info : XPDG264,,1,4,,STD060
Misc Info : D072611I,8270a9,pahextra.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Meth Date : 26-Jul-2011 14:33 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 11:21 Cal File: xpdg264.d
Als bottle: 5 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: allextra.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

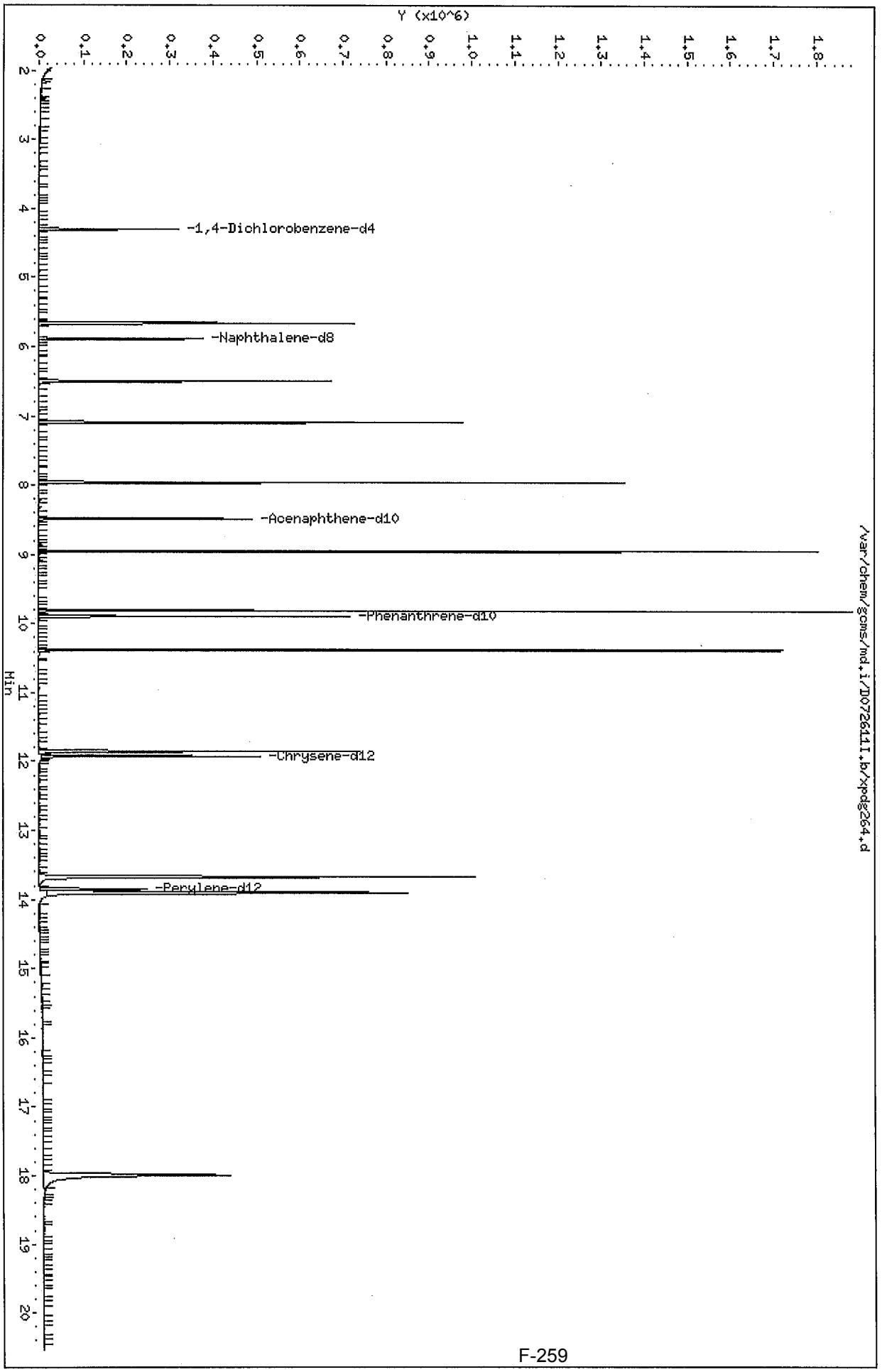
Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)(1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
* 1 1,4-Dichlorobenzene-d4	152	4.307	4.307	(1.000)	45320	20.0000	20.0
* 2 Naphthalene-d8	136	5.888	5.888	(1.000)	171005	20.0000	20.0
* 3 Acenaphthene-d10	164	8.485	8.485	(1.000)	99776	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	194354	20.0000	20.0
* 5 Chrysene-d12	240	11.922	11.922	(1.000)	203342	20.0000	20.0
* 6 Perylene-d12	264	13.855	13.855	(1.000)	185554	20.0000	20.0
199 Phentermine	58	5.664	5.664	(0.962)	413565	60.0000	67.6
202 1,4-Phenylenediamine	108	6.499	6.499	(1.104)	210453	60.0000	69.4
197 1-methylnaphthalene	142	7.092	7.092	(1.205)	330856	60.0000	64.0
192 2,6-Dimethylnaphthalene	156	7.962	7.962	(0.938)	310100	60.0000	64.6
193 2,3,5-Trimethylnaphthalene	170	8.955	8.955	(0.905)	288695	60.0000	65.9
194 Dibenzothiopene	184	9.812	9.812	(0.992)	535291	60.0000	63.7
195 1-Methylphenanthrene	192	10.382	10.382	(1.049)	427873	60.0000	66.0
200 3,3'-Dimethoxybenzidine	244	11.851	11.851	(0.994)	138099	60.0000	75.5

Data File: /var/chem/gcms/md.i/D072611I.b/xpdg264.d
Report Date: 26-Jul-2011 14:33

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	ON-COL (ng/uL)
85 Benzo(e)pyrene	252	13.673	13.673	(0.987)	615497	60.0000	88.4
196 Perylene	252	13.908	13.908	(1.004)	608935	60.0000	64.9
201 Dibenzo(a,e)pyrene	302	17.991	17.991	(1.299)	434937	60.0000	76.0


Data File: /var/chem/gcms/md.i/D072611I.b/xpdg264.d
Date : 26-JUL-2011 11:21
Client ID: STD060
Sample Info: XPDG264,1,4,STD060
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^6)
Min
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
-Phenanthrene-d10
-Chrysene-d12
-Perylene-d12
/var/chem/gcms/md.i/D072611I.b/xpdg264.d

Data File: /var/chem/gcms/md.i/D072611I.b/xpdg265.d
Report Date: 26-Jul-2011 14:33

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Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072611I.b/xpdg265.d
Lab Smp Id: XPDG265 Client Smp ID: STD120
Inj Date : 26-JUL-2011 10:52
Operator : 60841 Inst ID: md.i
Smp Info : XPDG265,,1,5,,STD120
Misc Info : D072611I,8270a9,pahextra.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Meth Date : 26-Jul-2011 14:33 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 10:52 Cal File: xpdg265.d
Als bottle: 4 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: allextra.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

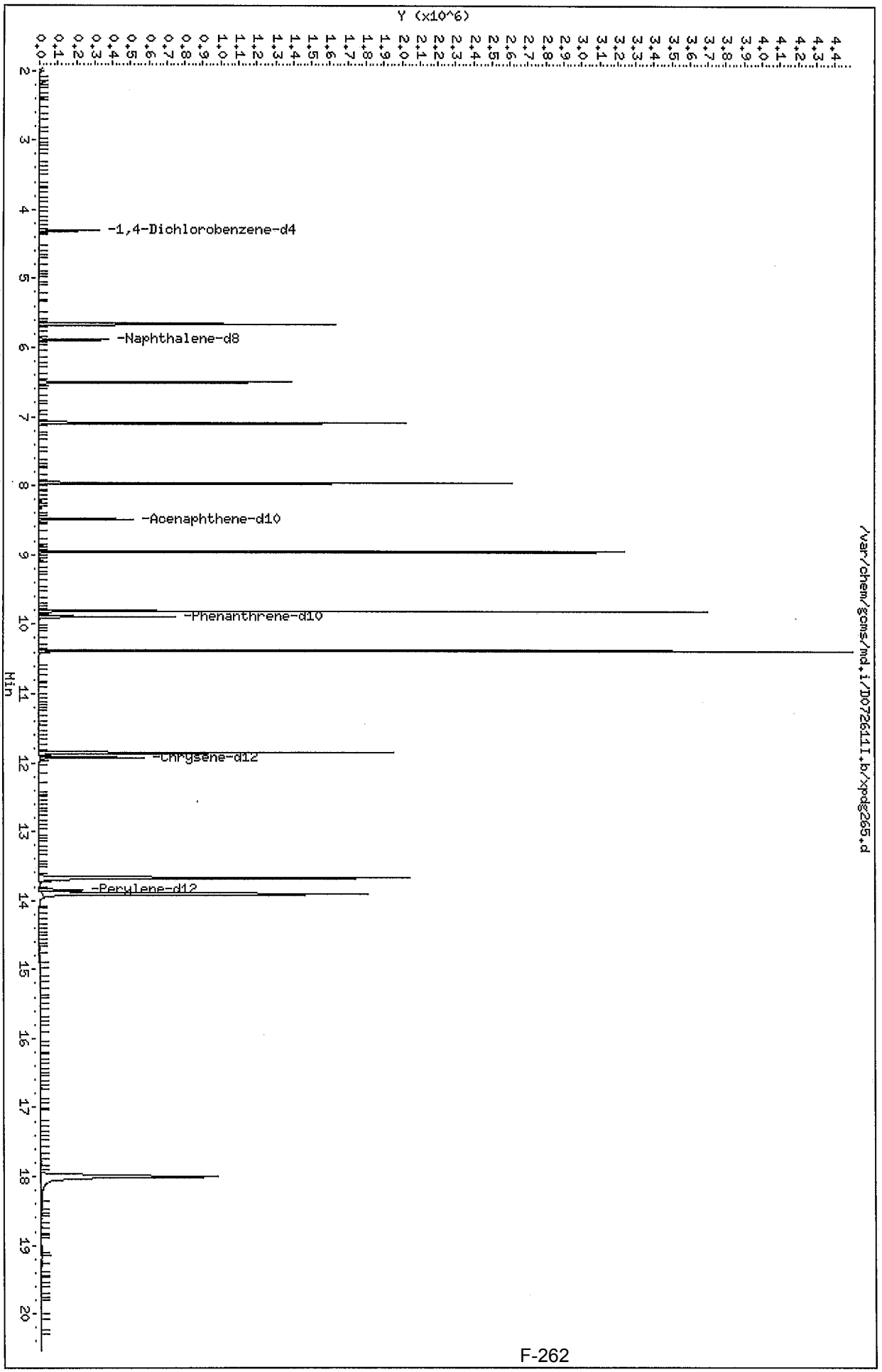
Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL) (1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
* 1 1,4-Dichlorobenzene-d4	152	4.307	4.307	(1.000)	47066	20.0000	20.0
* 2 Naphthalene-d8	136	5.887	5.887	(1.000)	175813	20.0000	20.0
* 3 Acenaphthene-d10	164	8.484	8.484	(1.000)	101908	20.0000	20.0
* 4 Phenanthrene-d10	188	9.894	9.894	(1.000)	199774	20.0000	20.0
* 5 Chrysene-d12	240	11.922	11.922	(1.000)	213626	20.0000	20.0
* 6 Perylene-d12	264	13.855	13.855	(1.000)	192639	20.0000	20.0
199 Phentermine	58	5.664	5.664	(0.962)	913462	120.000	145
202 1,4-Phenylenediamine	108	6.504	6.504	(1.105)	460273	120.000	148
197 1-methylnaphthalene	142	7.098	7.098	(1.206)	688681	120.000	130
192 2,6-Dimethylnaphthalene	156	7.967	7.967	(0.939)	667012	120.000	136
193 2,3,5-Trimethylnaphthalene	170	8.954	8.954	(0.905)	615885	120.000	137
194 Dibenzothiopene	184	9.812	9.812	(0.992)	1111274	120.000	129
195 1-Methylphenanthrene	192	10.382	10.382	(1.049)	910114	120.000	137
200 3,3'-Dimethoxybenzidine	244	11.851	11.851	(0.994)	367482	120.000	191

Data File: /var/chem/gcms/md.i/D072611I.b/xpdg265.d
Report Date: 26-Jul-2011 14:33

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	ON-COL (ng/uL)
85 Benzo(e)pyrene	252	13.678	13.678	(0.987)	1290598	120.000	147
196 Perylene	252	13.908	13.908	(1.004)	1277425	120.000	131
201 Dibenzo(a,e)pyrene	302	18.009	18.009	(1.300)	995427	120.000	168


Data File: /var/chem/gcms/md.i/D0726111.b/xpdg265.d
Date : 26-JUL-2011 10:52
Client ID: STD120
Sample Info: XPDG265,1,5,,STD120
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^6)
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
-Phenanthrene-d10
-Chrysene-d12
-Perylene-d12
/var/chem/gcms/md.i/D0726111.b/xpdg265.d
Min

Data File: /var/chem/gcms/md.i/D072611I.b/xpdg268.d
Report Date: 26-Jul-2011 14:33

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072611I.b/xpdg268.d
Lab Smp Id: XPDG268 Client Smp ID: STD200
Inj Date : 26-JUL-2011 10:24
Operator : 60841 Inst ID: md.i
Smp Info : XPDG268,,1,8,,STD200
Misc Info : D072611I,8270a9,pahextra.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Meth Date : 26-Jul-2011 14:33 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 10:24 Cal File: xpdg268.d
Als bottle: 3 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: allextra.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)(1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

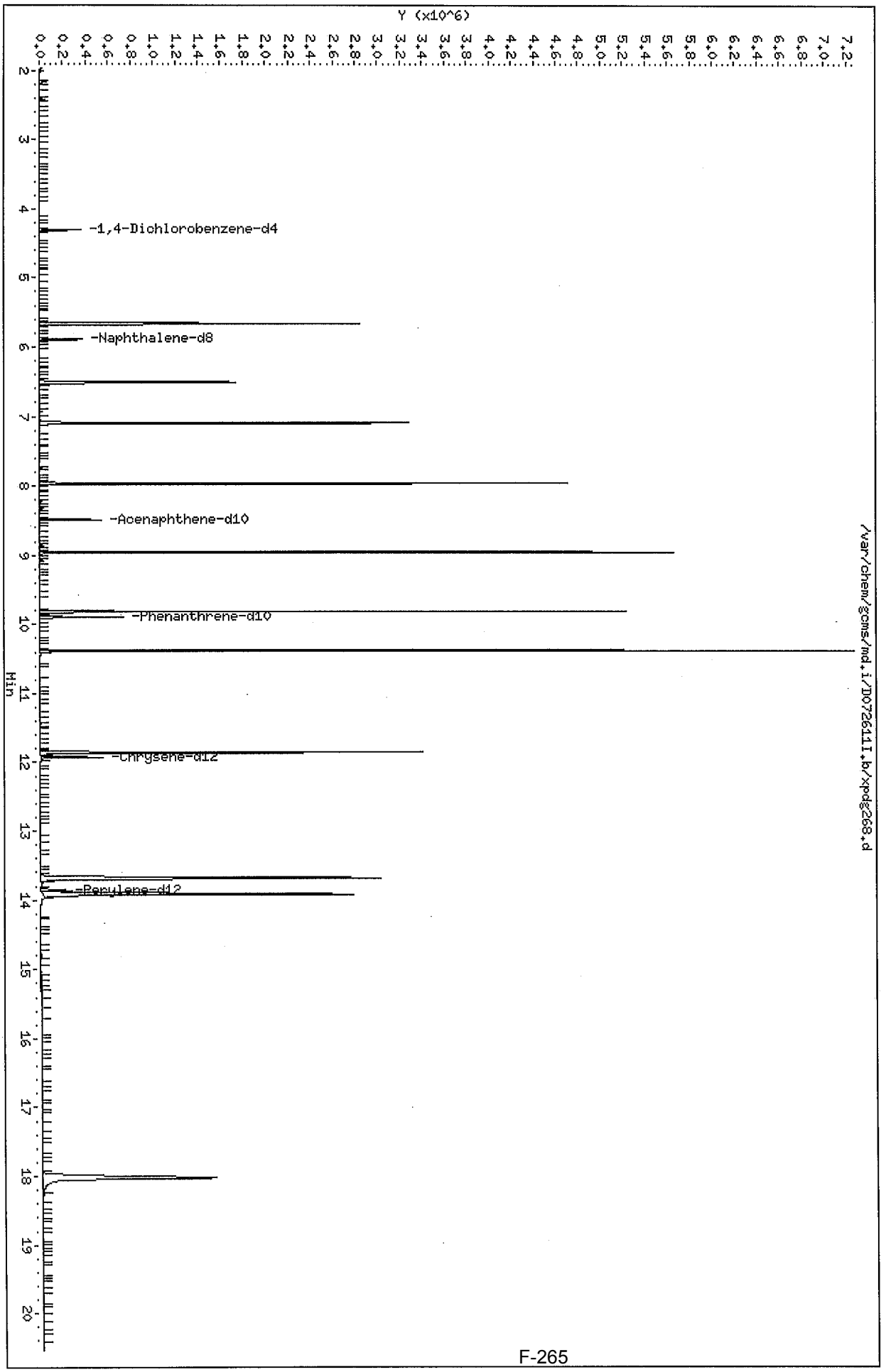
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	ON-COL (ng/uL)
* 1	1,4-Dichlorobenzene-d4	152	4.307	4.307	(1.000)	47611	20.0000	20.0
* 2	Naphthalene-d8	136	5.887	5.887	(1.000)	176831	20.0000	20.0
* 3	Acenaphthene-d10	164	8.485	8.485	(1.000)	105135	20.0000	20.0
* 4	Phenanthrene-d10	188	9.895	9.895	(1.000)	203778	20.0000	20.0
* 5	Chrysene-d12	240	11.922	11.922	(1.000)	208580	20.0000	20.0
* 6	Perylene-d12	264	13.861	13.861	(1.000)	192837	20.0000	20.0
199	Phentermine	58	5.664	5.664	(0.962)	1516211	200.000	240(A)
202	1,4-Phenylenediamine	108	6.510	6.510	(1.106)	787955	200.000	251(A)
197	1-methylnaphthalene	142	7.098	7.098	(1.206)	1148719	200.000	215(A)
192	2,6-Dimethylnaphthalene	156	7.967	7.967	(0.939)	1106673	200.000	219(A)
193	2,3,5-Trimethylnaphthalene	170	8.960	8.960	(0.906)	1019397	200.000	222(A)
194	Dibenzothiopene	184	9.818	9.818	(0.992)	1858971	200.000	211(A)
195	1-Methylphenanthrene	192	10.382	10.382	(1.049)	1502921	200.000	221(A)
200	3,3'-Dimethoxybenzidine	244	11.857	11.857	(0.995)	665596	200.000	355(A)

Data File: /var/chem/gcms/md.i/D072611I.b/xpdg268.d
Report Date: 26-Jul-2011 14:33

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	ON-COL (ng/uL)
85 Benzo(e)pyrene	252	13.690	13.690	(0.988)	2160425	200.000	246(A)
196 Perylene	252	13.919	13.919	(1.004)	2110555	200.000	217(A)
201 Dibenzo(a,e)pyrene	302	18.026	18.026	(1.301)	1689543	200.000	284(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.


Data File: /var/chem/gcms/md.i/D072611I.b/xpdg268.d
Date : 26-JUL-2011 10:24
Client ID: STD200
Sample Info: XPDG268,1.8,,STD200
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^6)
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
-Phenanthrene-d10
-Chrysene-d12
-Perylene-d12
/var/chem/gcms/md.i/D072611I.b/xpdg268.d
Min

Data File: /var/chem/gcms/md.i/D072611I.b/xpvdg26.d
Report Date: 26-Jul-2011 14:50

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Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072611I.b/xpvdg26.d
Lab Smp Id: XPVDG26 Client Smp ID: 2ND SOURCE
Inj Date : 26-JUL-2011 14:14
Operator : 60841 Inst ID: md.i
Smp Info : XPVDG26,,3,,,2ND SOURCE
Misc Info : D072611I,8270a9,pahextra.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Meth Date : 26-Jul-2011 14:45 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 13:45 Cal File: xpdg267.d
Als bottle: 11 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pahextra.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)(1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	FINAL (ug/Kg)
* 1	1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	46663	20.0000	20.0
* 2	Naphthalene-d8	136	5.887	5.893	(1.000)	180294	20.0000	20.0
* 3	Acenaphthene-d10	164	8.484	8.484	(1.000)	106683	20.0000	20.0
* 4	Phenanthrene-d10	188	9.895	9.895	(1.000)	210642	20.0000	20.0
* 5	Chrysene-d12	240	11.922	11.922	(1.000)	225651	20.0000	20.0
* 6	Perylene-d12	264	13.855	13.849	(1.000)	208690	20.0000	20.0
199	Phentermine	58	5.664	5.682	(0.962)	407919	55.7879	1860
197	1-methylnaphthalene	142	7.092	7.098	(1.205)	363847	66.7293	2220
192	2,6-Dimethylnaphthalene	156	7.961	7.962	(0.938)	344779	67.1309	2240
193	2,3,5-Trimethylnaphthalene	170	8.954	8.955	(0.905)	327242	68.9528	2300
194	Dibenzothiopene	184	9.812	9.812	(0.992)	602921	66.2458	2210
195	1-Methylphenanthrene	192	10.382	10.376	(1.049)	488400	69.5671	2320
200	3,3'-Dimethoxybenzidine	244	11.851	11.845	(0.994)	124498	50.0344	1670
85	Benzo(e)pyrene	252	13.672	13.661	(0.987)	652160	62.2318	2070

Data File: /var/chem/gcms/md.i/D072611I.b/xpvdg26.d
Report Date: 26-Jul-2011 14:50

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	FINAL (ug/Kg)
196 Perylene	252	13.902	13.896	(1.003)	675484	64.0417	2130
201 Dibenzo(a,e)pyrene	302	17.997	17.962	(1.299)	497332	59.2179	1970

Data File: /var/chem/gcms/md.i/D072611I.b/xpvdg26.d
Report Date: 26-Jul-2011 14:50

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INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: md.i
Lab File ID: xpvdg26.d
Lab Smp Id: XPVDG26
Analysis Type: SV
Quant Type: ISTD
Operator: 60841
Method File: /var/chem/gcms/md.i/D072611I.b/8270a9.m
Misc Info: D072611I,8270a9,pahextra.sub

Calibration Date: 26-JUL-2011
Calibration Time: 11:21
Client Smp ID: 2ND SOURCE
Level: LOW
Sample Type: SOIL

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	45320	22660	90640	46663	2.96
2 Naphthalene-d8	171005	85502	342010	180294	5.43
3 Acenaphthene-d10	99776	49888	199552	106683	6.92
4 Phenanthrene-d10	194354	97177	388708	210642	8.38
5 Chrysene-d12	203342	101671	406684	225651	10.97
6 Perylene-d12	185554	92777	371108	208690	12.47

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	4.31	3.81	4.81	4.30	-0.14
2 Naphthalene-d8	5.89	5.39	6.39	5.89	0.00
3 Acenaphthene-d10	8.48	7.98	8.98	8.48	0.00
4 Phenanthrene-d10	9.89	9.39	10.39	9.89	0.00
5 Chrysene-d12	11.92	11.42	12.42	11.92	0.00
6 Perylene-d12	13.85	13.35	14.35	13.85	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

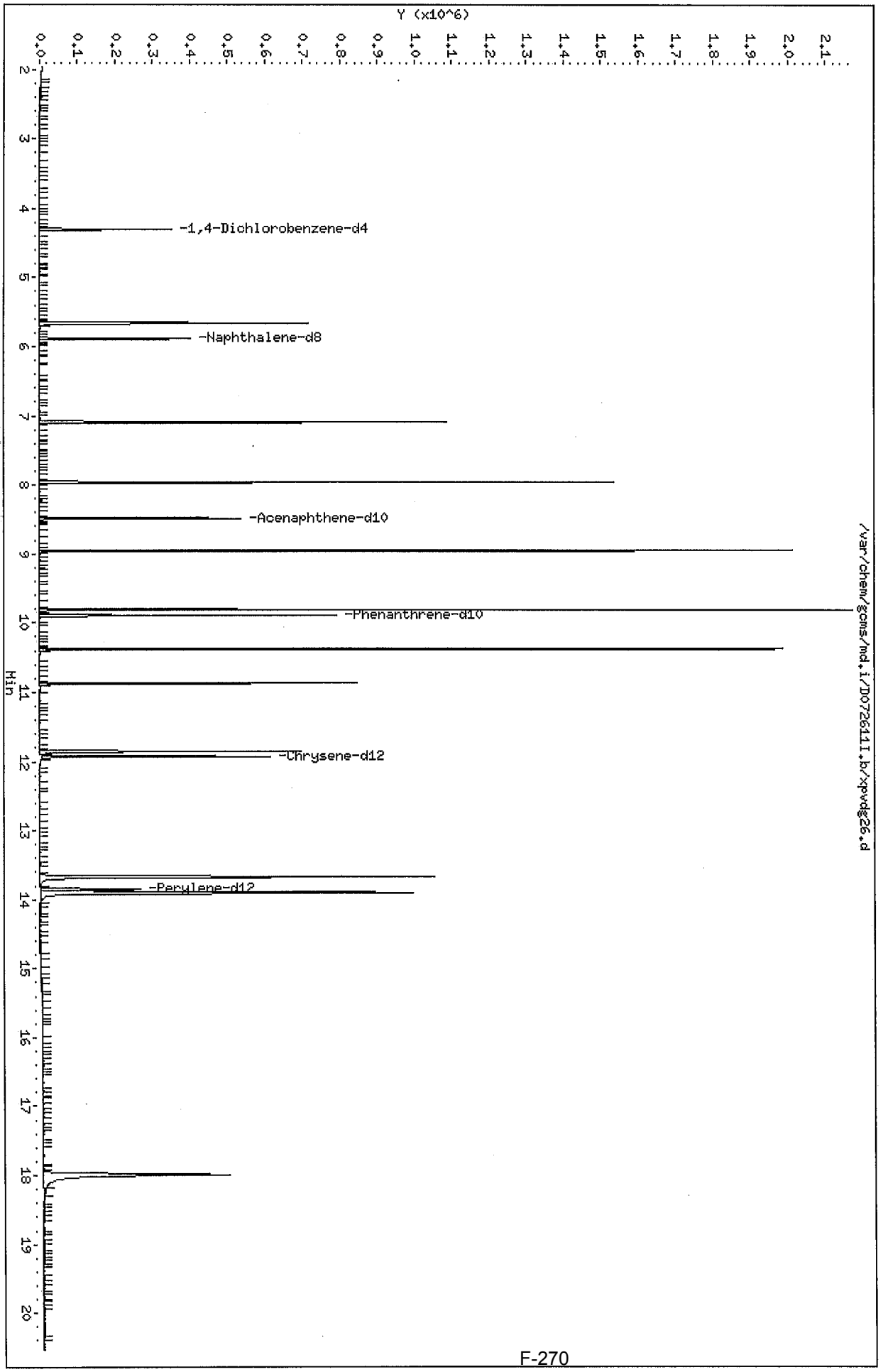
Data File: /var/chem/gcms/md.i/D072611I.b/xpvdg26.d
Report Date: 26-Jul-2011 14:50

TestAmerica Knoxville

RECOVERY REPORT

Client Name:
Client SDG: D072611I
Sample Matrix: SOLID
Fraction: SV
Lab Smp Id: XPVDG26
Client Smp ID: 2ND SOURCE
Level: LOW
Operator: 60841
Data Type: MS DATA
SampleType: BLANK
SpikeList File: pahextra.spk
Quant Type: ISTD
Sublist File: pahextra.sub
Method File: /var/chem/gcms/md.i/D072611I.b/8270a9.m
Misc Info: D072611I,8270a9,pahextra.sub

SPIKE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
197 1-methylnaphthalen	2000	2220	111.22	70-130
192 2,6-Dimethylnaphth	2000	2240	111.88	70-130
193 2,3,5-Trimethylnap	2000	2300	114.92	70-130
194 Dibenzothiopene	2000	2210	110.41	70-130
195 1-Methylphenanthre	2000	2320	115.95	70-130
85 Benzo(e)pyrene	2000	2070	103.72	70-130
196 Perylene	2000	2130	106.74	70-130
199 Phentermine	2000	1860	92.98	70-130
202 1,4-Phenylenediam	~~2000~~ NR	0.00	*	70-130
200 3,3'-Dimethoxybenz	2000	1670	83.39	70-130
201 Dibenzo(a,e)pyrene	2000	1970	98.70	70-130


Data File: /var/chem/gcms/md.i/D072611I.b/xpvdg26.d
Date : 26-JUL-2011 14:14
Client ID: 2ND SOURCE
Sample Info: XPVDG26,,3,,,2ND SOURCE
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^6)
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
-Phenanthrene-d10
-Chrysene-d12
-Perylene-d12
/var/chem/gcms/md.i/D072611I.b/xpvdg26.d
Min

Data File: /var/chem/gcms/md.i/D072611I.b/a9vdg26.d
Report Date: 27-Jul-2011 08:49

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072611I.b/a9vdg26.d
Lab Smp Id: A9VDG26 Client Smp ID: 2ND SOURCE
Inj Date : 26-JUL-2011 18:07
Operator : 60841 Inst ID: md.i
Smp Info : A9VDG26,,3,,,2ND SOURCE
Misc Info : D072611I,8270a9,appdx9.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Meth Date : 27-Jul-2011 08:43 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 17:42 Cal File: a9dg267.d
Als bottle: 20 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pahextra.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)(1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	FINAL (ug/Kg)
* 1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	56568	20.0000	20.0
* 2 Naphthalene-d8	136	5.887	5.888	(1.000)	221010	20.0000	20.0
* 3 Acenaphthene-d10	164	8.484	8.485	(1.000)	126694	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	251289	20.0000	20.0
* 5 Chrysene-d12	240	11.928	11.922	(1.000)	260162	20.0000	20.0
* 6 Perylene-d12	264	13.855	13.855	(1.000)	228234	20.0000	20.0
202 1,4-Phenylenediamine	108	6.504	6.504	(1.105)	245175	54.5117	1820

Data File: /var/chem/gcms/md.i/D072611I.b/a9vdg26.d
Report Date: 27-Jul-2011 08:49

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: md.i
Lab File ID: a9vdg26.d
Lab Smp Id: A9VDG26
Analysis Type: SV
Quant Type: ISTD
Operator: 60841
Method File: /var/chem/gcms/md.i/D072611I.b/8270a9.m
Misc Info: D072611I,8270a9,appdx9.sub

Calibration Date: 26-JUL-2011
Calibration Time: 15:34
Client Smp ID: 2ND SOURCE
Level: LOW
Sample Type: SOIL

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	44644	22322	89288	56568	26.71
2 Naphthalene-d8	172857	86428	345714	221010	27.86
3 Acenaphthene-d10	101300	50650	202600	126694	25.07
4 Phenanthrene-d10	197263	98632	394526	251289	27.39
5 Chrysene-d12	205125	102562	410250	260162	26.83
6 Perylene-d12	176143	88072	352286	228234	29.57

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	4.30	3.80	4.80	4.30	0.00
2 Naphthalene-d8	5.89	5.39	6.39	5.89	0.00
3 Acenaphthene-d10	8.48	7.98	8.98	8.48	0.00
4 Phenanthrene-d10	9.89	9.39	10.39	9.89	0.00
5 Chrysene-d12	11.92	11.42	12.42	11.93	0.05
6 Perylene-d12	13.85	13.35	14.35	13.85	0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

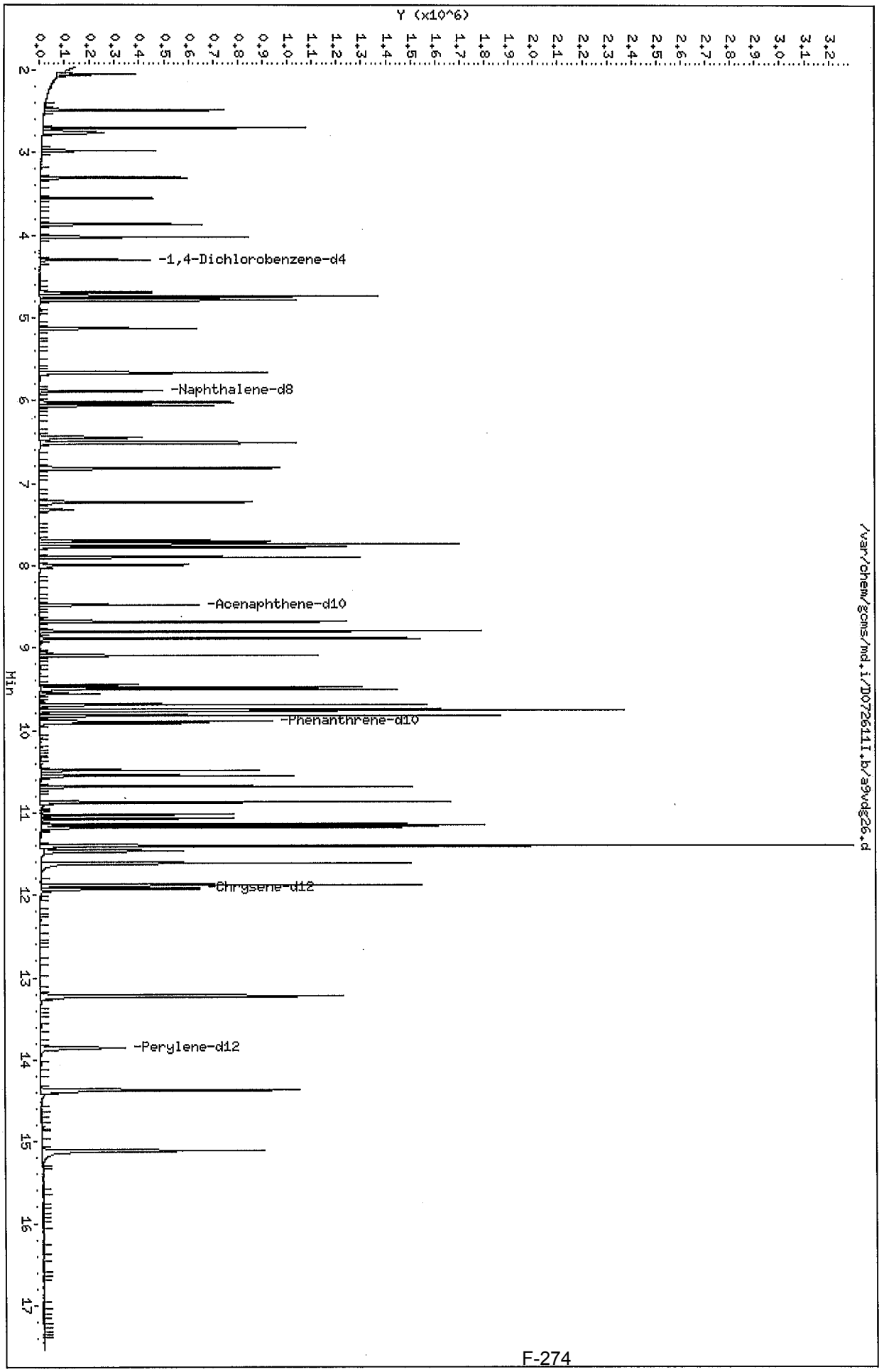
Data File: /var/chem/gcms/md.i/D072611I.b/a9vdg26.d
Report Date: 27-Jul-2011 08:49

TestAmerica Knoxville

RECOVERY REPORT

Client Name:
Client SDG: D072611I
Sample Matrix: SOLID
Fraction: SV
Lab Smp Id: A9VDG26
Client Smp ID: 2ND SOURCE
Level: LOW
Operator: 60841
Data Type: MS DATA
SampleType: BLANK
SpikeList File: pahextra.spk
Quant Type: ISTD
Sublist File: pahextra.sub
Method File: /var/chem/gcms/md.i/D072611I.b/8270a9.m
Misc Info: D072611I,8270a9,appdx9.sub

SPIKE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
197 1-methylnaphthale	2000	0.00	*	70-130
192 2,6-Dimethylnapht	2000	0.00	*	70-130
193 2,3,5-Trimethylna	2000	0.00	*	70-130
194 Dibenzothiopene	2000	0.00	*	70-130
195 1-Methylphenanthr	2000	0.00	*	70-130
85 Benzo(e)pyrene	2000	0.00	*	70-130
196 Perylene	2000	0.00	*	70-130
199 Phentermine	2000	0.00	*	70-130
202 1,4-Phenylenediami	2000	1820	90.85	70-130
200 3,3'-Dimethoxyben	2000	0.00	*	70-130
201 Dibenzo(a,e)pyrene	2000	0.00	*	70-130


Data File: /var/chem/gcms/md.i/D072611I.b/a9vdg26.d
Date : 26-JUL-2011 18:07
Client ID: 2ND SOURCE
Sample Info: A9VDG26,3,,,2ND SOURCE
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^6)
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
-Phenanthrene-d10
-Chrysene-d12
-Perylene-d12
Min
/var/chem/gcms/md.i/D072611I.b/a9vdg26.d

Data File: /chem/gcms/md.i/D072611I.b/a9dg267.d
Report Date: 26-Jul-2011 18:00

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /chem/gcms/md.i/D072611I.b/a9dg267.d
Lab Smp Id: A9DG267 Client Smp ID: STD002
Inj Date : 26-JUL-2011 17:42
Operator : 60841 Inst ID: md.i
Smp Info : A9DG267,,1,7,,STD002
Misc Info : D072611I,8270a9,appdx9.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Meth Date : 26-Jul-2011 18:00 chemist Quant Type: ISTD
Cal Date : 26-JUL-2011 17:42 Cal File: a9dg267.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: appdx9.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

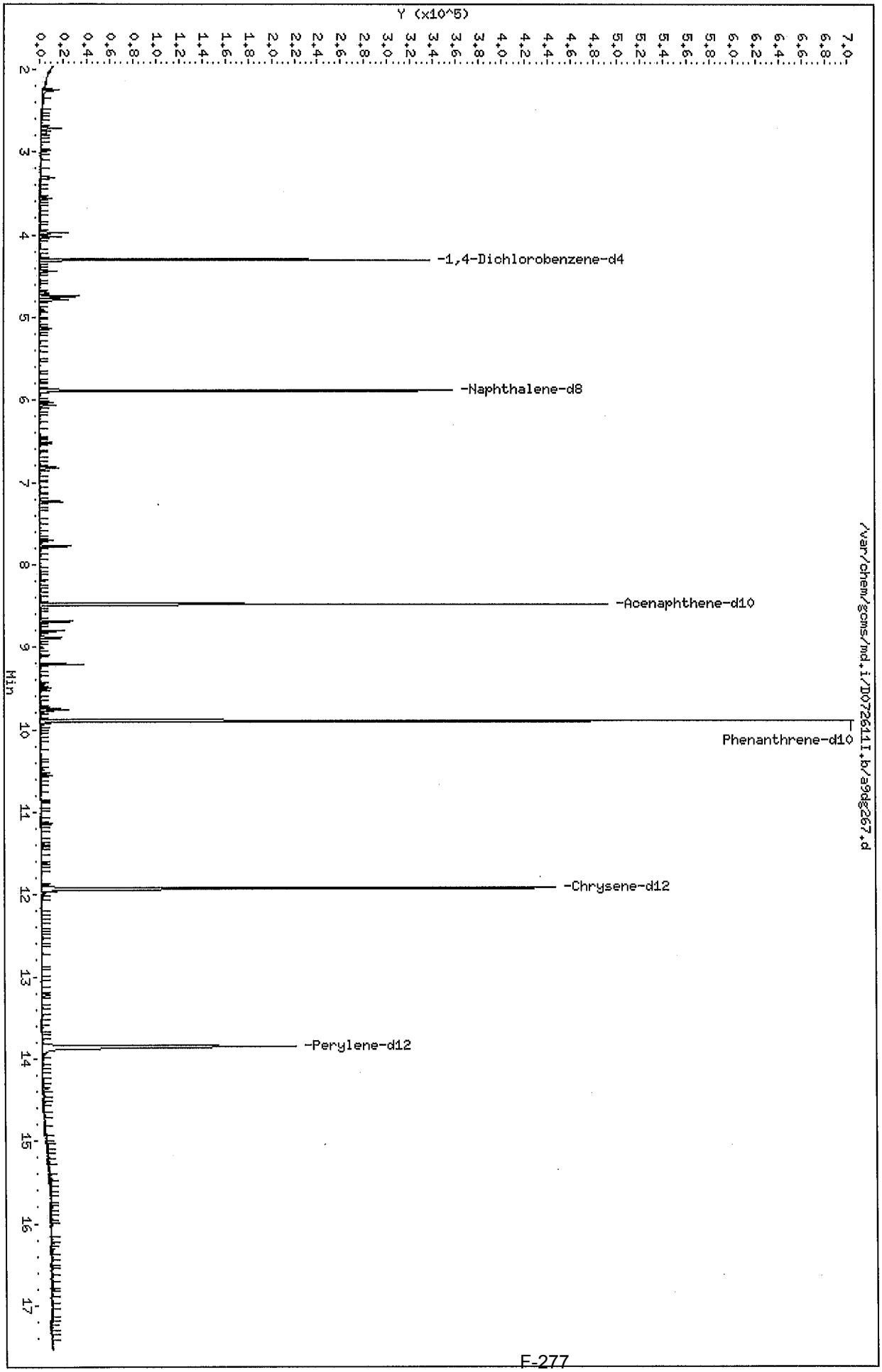
Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL) (1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	ON-COL (ng/uL)
* 1	1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	43350	20.0000	20.0
* 2	Naphthalene-d8	136	5.888	5.888	(1.000)	168416	20.0000	20.0
* 3	Acenaphthene-d10	164	8.485	8.485	(1.000)	94140	20.0000	20.0
* 4	Phenanthrene-d10	188	9.895	9.895	(1.000)	192408	20.0000	20.0
* 5	Chrysene-d12	240	11.922	11.922	(1.000)	184616	20.0000	20.0
* 6	Perylene-d12	264	13.855	13.855	(1.000)	150444	20.0000	20.0
176	2-Picoline	93	2.715	2.715	(0.631)	4256	2.00000	1.69
86	N-nitrosomethylethylamine	42	2.768	2.768	(0.643)	3456	2.00000	1.85
87	Methyl methanosulfonate	80	2.979	2.979	(0.693)	2960	2.00000	1.91
88	N-nitrosodiethylamine	102	3.308	3.308	(0.769)	1790	2.00000	1.50
89	Ethyl methanosulfonate	79	3.555	3.555	(0.826)	3232	2.00000	1.74
90	Pentachloroethane	167	4.031	4.031	(0.937)	1874	2.00000	1.68
91	acetophenone	105	4.742	4.742	(1.102)	6146	2.00000	1.66
92	m-cresol	108	4.754	4.754	(1.105)	2858	2.00000	1.16

Data File: /chem/gcms/md.i/D072611I.b/a9dg267.d
Report Date: 26-Jul-2011 18:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
93	n-nitrosopyrrolidine	100	4.707	4.707	(1.094)	1556	2.00000	1.19
94	n-nitrosomorpholine	56	4.748	4.748	(1.104)	3597	2.00000	1.74
95	o-toluidine	106	4.783	4.783	(1.112)	6959	2.00000	1.74
96	n-nitrosopiperidine	42	5.141	5.141	(0.873)	3332	2.00000	1.41
97	2,6-dichlorophenol	162	6.023	6.023	(1.023)	2377	2.00000	1.06
98	hexachloropropene	213	6.064	6.064	(1.030)	2692	2.00000	1.52
99	N-nitro-di-n-butylamine	84	6.522	6.522	(1.108)	1936	2.00000	1.25
100	Isosafrole	162	6.822	6.822	(1.159)	2845	2.00000	1.38
101	1,2,4,5-tetrachlorobenzene	216	7.233	7.233	(1.229)	5134	2.00000	1.84
102	safrole	162	7.697	7.697	(0.907)	2456	2.00000	1.30
103	1-chloronaphthalene	162	7.774	7.774	(0.916)	9184	2.00000	1.85
104	m-dinitrobenzene	168	8.203	8.203	(0.967)	390	2.00000	0.570
105	pentachlorobenzene	250	8.690	8.690	(1.024)	4641	2.00000	2.00
106	1-naphthylamine	143	8.802	8.802	(1.037)	6386	2.00000	1.24
107	2-naphthylamine	143	8.890	8.890	(1.048)	7113	2.00000	1.32
109	5-nitro-o-toluidine	152	9.096	9.096	(1.072)	883	2.00000	0.564
110	diphenylamine	169	9.207	9.207	(0.931)	7808	2.00000	1.38
111	1,3,5-trinitrobenzene	75	9.448	9.448	(0.955)	1085	2.00000	0.509
112	phenacetin	108	9.501	9.501	(0.960)	1706	2.00000	0.602
113	4-aminobiphenyl	169	9.754	9.754	(0.986)	7283	2.00000	1.05
177	Methapyrilene HCL	97	10.553	10.553	(1.066)	1890	2.00000	1.06
84	Benzidine	184	10.870	10.870	(1.099)	3189	2.00000	0.473
116	p-(dimethylamino)azobenzene	120	11.146	11.146	(1.126)	1996	2.00000	0.682
117	o-tolidine	212	11.399	11.399	(1.152)	2864	2.00000	0.440
119	7,12-dimethylbenz(a)anthracen	256	13.220	13.220	(1.109)	2606	2.00000	0.621
118	2-acetylaminofluorene	181	11.604	11.604	(0.973)	1368	2.00000	0.375
120	3-methylcholanthrene	268	14.360	14.360	(1.036)	2029	2.00000	0.514


Data File: /var/chem/gcms/md.i/D072611I.b/a98g267.d
Date : 26-JUL-2011 17:42
Client ID: STD002
Sample Info: A98G267,,1,7,,STD002
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^5)
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
Phenanthrene-d10
-Chrysene-d12
-Perylene-d12
/var/chem/gcms/md.i/D072611I.b/a98g267.d
Min

Data File: /chem/gcms/md.i/D072611I.b/a9dg266.d
Report Date: 26-Jul-2011 17:35

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Semivolatile Organic Compounds by GC/MS

Data file : /chem/gcms/md.i/D072611I.b/a9dg266.d
Lab Smp Id: A9DG266 Client Smp ID: STD005
Inj Date : 26-JUL-2011 17:17
Operator : 60841 Inst ID: md.i
Smp Info : A9DG266,,1,6,,STD005
Misc Info : D072611I,8270a9,appdx9.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Meth Date : 26-Jul-2011 17:35 chemist Quant Type: ISTD
Cal Date : 26-JUL-2011 17:17 Cal File: a9dg266.d
Als bottle: 1 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: appdx9.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

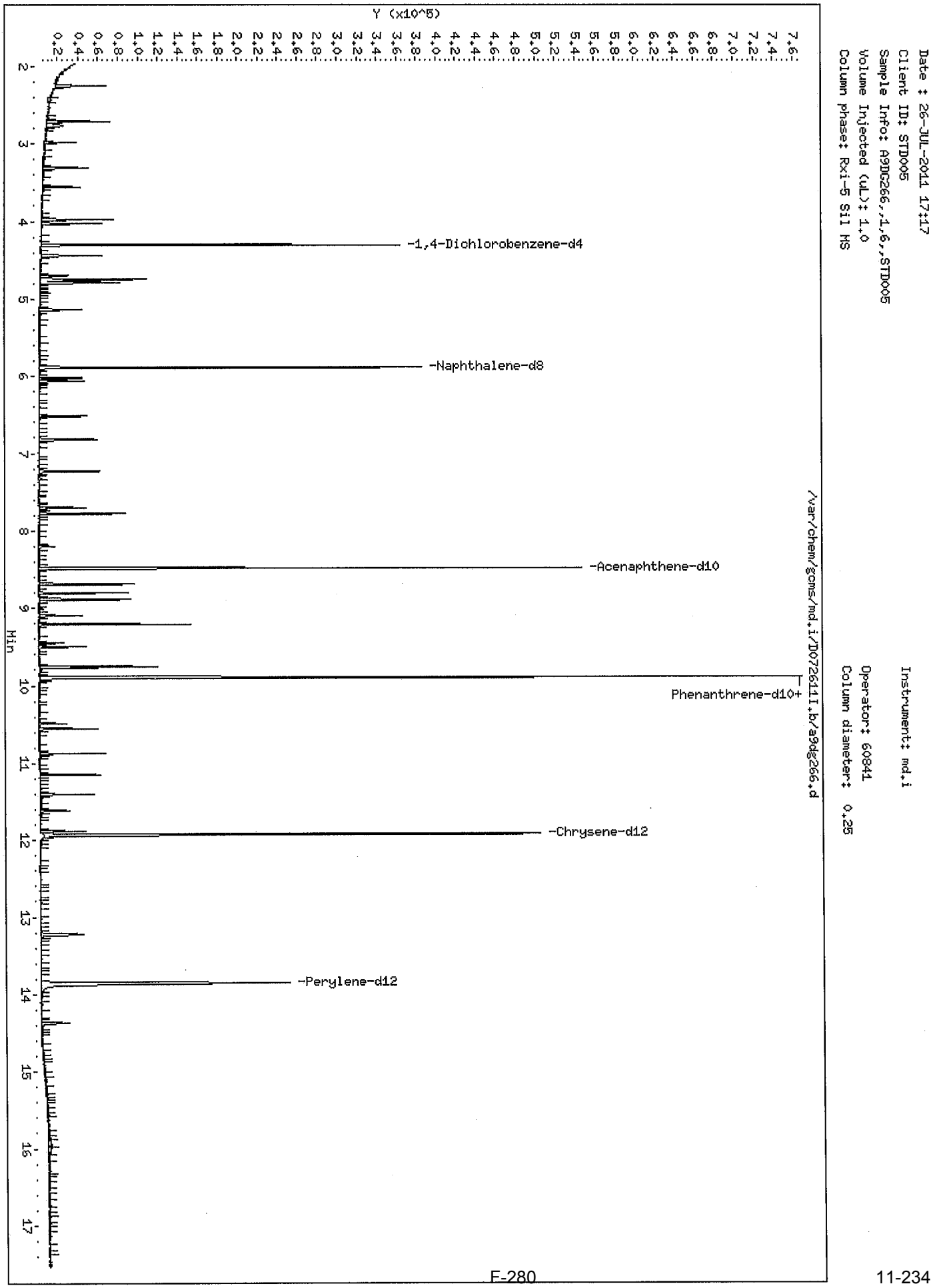
Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL) (1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
* 1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	45556	20.0000	20.0
* 2 Naphthalene-d8	136	5.888	5.888	(1.000)	176636	20.0000	20.0
* 3 Acenaphthene-d10	164	8.485	8.485	(1.000)	102980	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	203533	20.0000	20.0
* 5 Chrysene-d12	240	11.928	11.928	(1.000)	207612	20.0000	20.0
* 6 Perylene-d12	264	13.855	13.855	(1.000)	168967	20.0000	20.0
176 2-Picoline	93	2.709	2.709	(0.630)	14161	5.00000	5.35
86 N-nitrosomethylethylamine	42	2.768	2.768	(0.643)	9972	5.00000	5.07
87 Methyl methanosulfonate	80	2.979	2.979	(0.693)	8215	5.00000	5.04
88 N-nitrosodiethylamine	102	3.308	3.308	(0.769)	6039	5.00000	4.81
89 Ethyl methanosulfonate	79	3.555	3.555	(0.826)	10073	5.00000	5.17
90 Pentachloroethane	167	4.025	4.025	(0.936)	6031	5.00000	5.15
91 acetophenone	105	4.742	4.742	(1.102)	19686	5.00000	5.07
92 m-cresol	108	4.754	4.754	(1.105)	11162	5.00000	4.32

Data File: /chem/gcms/md.i/D072611I.b/a9dg266.d
Report Date: 26-Jul-2011 17:35

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
93	n-nitrosopyrrolidine	100	4.701	4.701	(1.093)	5836	5.00000	4.26
94	n-nitrosomorpholine	56	4.742	4.742	(1.102)	10785	5.00000	4.96
95	o-toluidine	106	4.783	4.783	(1.112)	21361	5.00000	5.10
96	n-nitrosopiperidine	42	5.135	5.135	(0.872)	11600	5.00000	4.69
97	2,6-dichlorophenol	162	6.023	6.023	(1.023)	9734	5.00000	4.15
98	hexachloropropene	213	6.064	6.064	(1.030)	7843	5.00000	4.23
99	N-nitro-di-n-butylamine	84	6.516	6.516	(1.107)	6652	5.00000	4.08
100	Isosafrole	162	6.822	6.822	(1.159)	9617	5.00000	4.44
101	1,2,4,5-tetrachlorobenzene	216	7.227	7.227	(1.228)	15109	5.00000	5.17
102	safrole	162	7.697	7.697	(0.907)	8132	5.00000	3.93
103	1-chloronaphthalene	162	7.774	7.774	(0.916)	28235	5.00000	5.19
104	m-dinitrobenzene	168	8.203	8.203	(0.967)	1693	5.00000	2.26
105	pentachlorobenzene	250	8.684	8.684	(1.024)	12795	5.00000	5.04
106	1-naphthylamine	143	8.802	8.802	(1.037)	24281	5.00000	4.31
107	2-naphthylamine	143	8.884	8.884	(1.047)	26861	5.00000	4.57
108	2,3,4,6-tetrachlorophenol	232	8.872	8.872	(1.046)	3259	5.00000	2.47
109	5-nitro-o-toluidine	152	9.096	9.096	(1.072)	4923	5.00000	2.87
110	diphenylamine	169	9.207	9.207	(0.931)	28143	5.00000	4.71
111	1,3,5-trinitrobenzene	75	9.448	9.448	(0.955)	4518	5.00000	2.00
112	phenacetin	108	9.501	9.501	(0.960)	8105	5.00000	2.71
113	4-aminobiphenyl	169	9.754	9.754	(0.986)	30768	5.00000	4.19
114	pentachloronitrobenzene	237	9.765	9.765	(0.987)	3280	5.00000	3.89
115	Dinoseb	211	9.912	9.912	(1.002)	1566	5.00000	1.48
178	N-Nitroquinoline-n-oxide	174	10.488	10.488	(1.060)	1288	5.00000	5.00
177	Methapyrilene HCL	97	10.547	10.547	(1.066)	9470	5.00000	5.00
84	Benzidine	184	10.870	10.870	(1.099)	19466	5.00000	2.73
116	p-(dimethylamino)azobenzene	120	11.146	11.146	(1.126)	8739	5.00000	2.82
117	o-tolidine	212	11.399	11.399	(1.152)	17435	5.00000	2.53
119	7,12-dimethylbenz(a)anthracen	256	13.220	13.220	(1.108)	14317	5.00000	3.03
118	2-acetylaminofluorene	181	11.610	11.610	(0.973)	7585	5.00000	1.85
120	3-methylcholanthrene	268	14.366	14.366	(1.037)	11225	5.00000	2.53


Data File: /var/chem/gcms/md.i/D0726111.b/a9dg266.d
Date : 26-JUL-2011 17:17
Client ID: STD005
Sample Info: A9DG266,,1,6,,STD005
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^5)
Min
/var/chem/gcms/md.i/D0726111.b/a9dg266.d
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
Phenanthrene-d10+
-Chrysene-d12
-Perylene-d12

Data File: /chem/gcms/md.i/D072611I.b/a9dg261.d
Report Date: 26-Jul-2011 17:09

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Semivolatile Organic Compounds by GC/MS

Data file : /chem/gcms/md.i/D072611I.b/a9dg261.d
Lab Smp Id: A9DG261 Client Smp ID: STD010
Inj Date : 26-JUL-2011 16:51
Operator : 60841 Inst ID: md.i
Smp Info : A9DG261,,1,1,,STD010
Misc Info : D072611I,8270a9,appdx9.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Meth Date : 26-Jul-2011 17:09 chemist Quant Type: ISTD
Cal Date : 26-JUL-2011 16:51 Cal File: a9dg261.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: appdx9.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

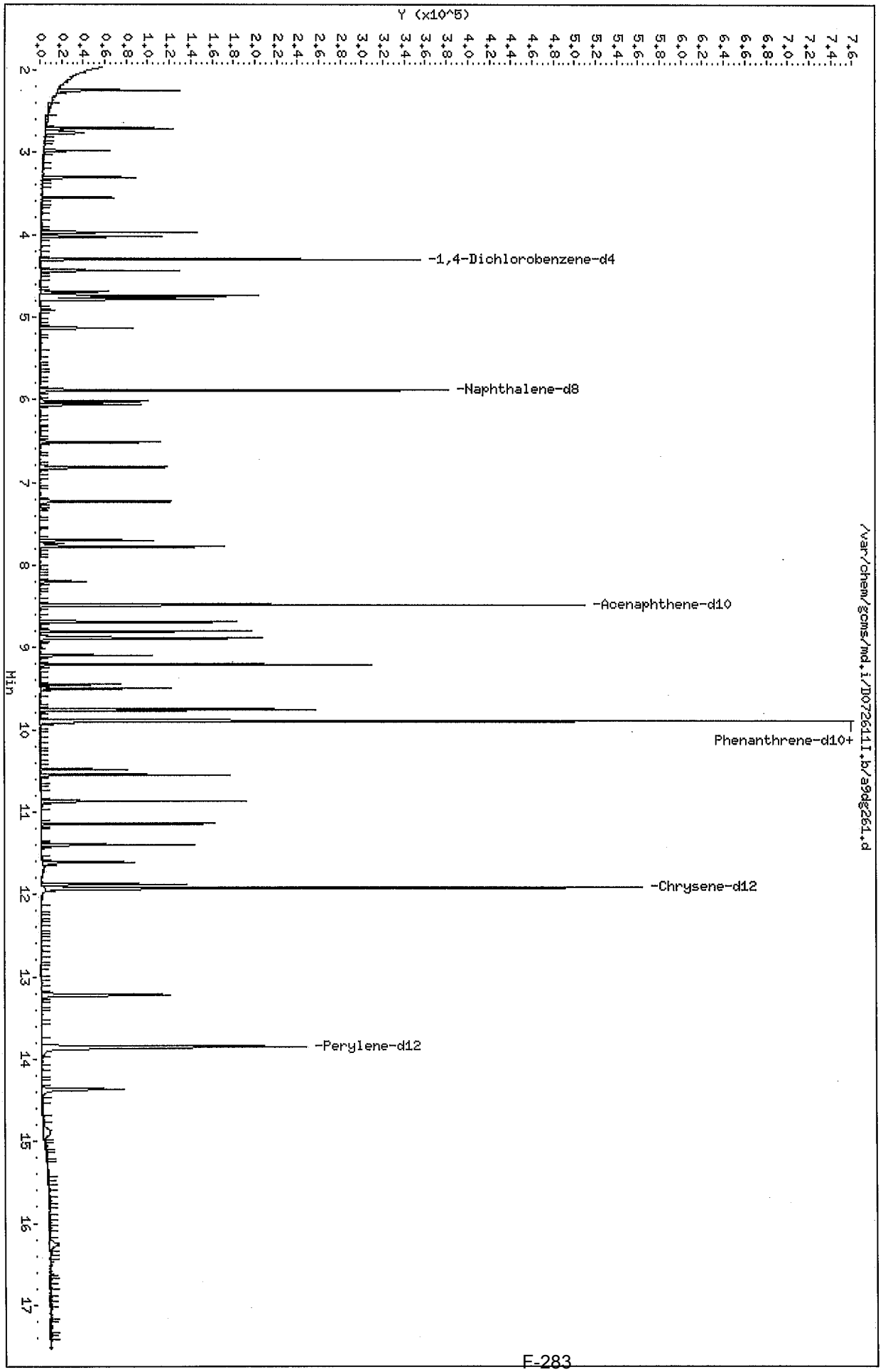
Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL) (1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
* 1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	45526	20.0000	20.0
* 2 Naphthalene-d8	136	5.888	5.888	(1.000)	175908	20.0000	20.0
* 3 Acenaphthene-d10	164	8.485	8.485	(1.000)	101704	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	202389	20.0000	20.0
* 5 Chrysene-d12	240	11.922	11.922	(1.000)	210332	20.0000	20.0
* 6 Perylene-d12	264	13.855	13.855	(1.000)	170274	20.0000	20.0
176 2-Picoline	93	2.709	2.709	(0.630)	25467	10.0000	9.74
86 N-nitrosomethylethylamine	42	2.768	2.768	(0.643)	19309	10.0000	9.85
87 Methyl methanosulfonate	80	2.979	2.979	(0.693)	15887	10.0000	9.76
88 N-nitrosodiethylamine	102	3.308	3.308	(0.769)	12026	10.0000	9.52
89 Ethyl methanosulfonate	79	3.555	3.555	(0.826)	18947	10.0000	9.78
90 Pentachloroethane	167	4.031	4.031	(0.937)	11149	10.0000	9.57
91 acetophenone	105	4.742	4.742	(1.102)	37334	10.0000	9.65
92 m-cresol	108	4.754	4.754	(1.105)	24469	10.0000	9.28

Data File: /chem/gcms/md.i/D072611I.b/a9dg261.d
Report Date: 26-Jul-2011 17:09

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
93	n-nitrosopyrrolidine	100	4.695	4.695	(1.092)	12665	10.0000	9.03
94	n-nitrosomorpholine	56	4.742	4.742	(1.102)	22047	10.0000	10.1
95	o-toluidine	106	4.783	4.783	(1.112)	42195	10.0000	10.1
96	n-nitrosopiperidine	42	5.135	5.135	(0.872)	23506	10.0000	9.45
97	2,6-dichlorophenol	162	6.017	6.017	(1.022)	20449	10.0000	8.51
98	hexachloropropene	213	6.064	6.064	(1.030)	16166	10.0000	8.76
99	N-nitro-di-n-butylamine	84	6.516	6.516	(1.107)	15292	10.0000	9.14
100	Isosafrole	162	6.822	6.822	(1.159)	20305	10.0000	9.24
101	1,2,4,5-tetrachlorobenzene	216	7.233	7.233	(1.229)	29057	10.0000	10.0
102	safrole	162	7.697	7.697	(0.907)	19667	10.0000	9.28
103	1-chloronaphthalene	162	7.774	7.774	(0.916)	53736	10.0000	10.1
104	m-dinitrobenzene	168	8.203	8.203	(0.967)	4574	10.0000	6.19
105	pentachlorobenzene	250	8.684	8.684	(1.024)	25113	10.0000	10.0
106	1-naphthylamine	143	8.802	8.802	(1.037)	52465	10.0000	9.22
107	2-naphthylamine	143	8.884	8.884	(1.047)	59616	10.0000	10.1
108	2,3,4,6-tetrachlorophenol	232	8.872	8.872	(1.046)	8301	10.0000	6.36
109	5-nitro-o-toluidine	152	9.096	9.096	(1.072)	12327	10.0000	7.28
110	diphenylamine	169	9.207	9.207	(0.931)	55661	10.0000	9.28
111	1,3,5-trinitrobenzene	75	9.448	9.448	(0.955)	11560	10.0000	5.15
112	phenacetin	108	9.501	9.501	(0.960)	21494	10.0000	7.22
113	4-aminobiphenyl	169	9.754	9.754	(0.986)	67795	10.0000	9.04
114	pentachloronitrobenzene	237	9.765	9.765	(0.987)	7529	10.0000	8.98
115	Dinoseb	211	9.912	9.912	(1.002)	4899	10.0000	4.67
84	Benzidine	184	10.870	10.870	(1.099)	52657	10.0000	7.43
116	p-(dimethylamino)azobenzene	120	11.140	11.140	(1.126)	23265	10.0000	7.56
117	o-tolidine	212	11.399	11.399	(1.152)	45578	10.0000	6.66
119	7,12-dimethylbenz(a)anthracen	256	13.220	13.220	(1.109)	35187	10.0000	7.36
118	2-acetylaminofluorene	181	11.610	11.610	(0.974)	21105	10.0000	5.07
120	3-methylcholanthrene	268	14.366	14.366	(1.037)	30831	10.0000	6.90


Data File: /var/chem/gcms/md.i/D0726111.b/a9dg261.d
Date : 26-JUL-2011 16:51
Client ID: STD010
Sample Info: A9DG261,,1,1,,STD010
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^5)
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
Phenanthrene-d10+
-Chrysene-d12
-Perylene-d12
/var/chem/gcms/md.i/D0726111.b/a9dg261.d
Min

Data File: /chem/gcms/md.i/D072611I.b/a9dg262.d
Report Date: 26-Jul-2011 16:44

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /chem/gcms/md.i/D072611I.b/a9dg262.d
Lab Smp Id: A9DG262 Client Smp ID: STD025
Inj Date : 26-JUL-2011 16:25
Operator : 60841 Inst ID: md.i
Smp Info : A9DG262,,1,2,,STD025
Misc Info : D072611I,8270a9,appdx9.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Meth Date : 26-Jul-2011 16:44 chemist Quant Type: ISTD
Cal Date : 26-JUL-2011 16:25 Cal File: a9dg262.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: appdx9.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

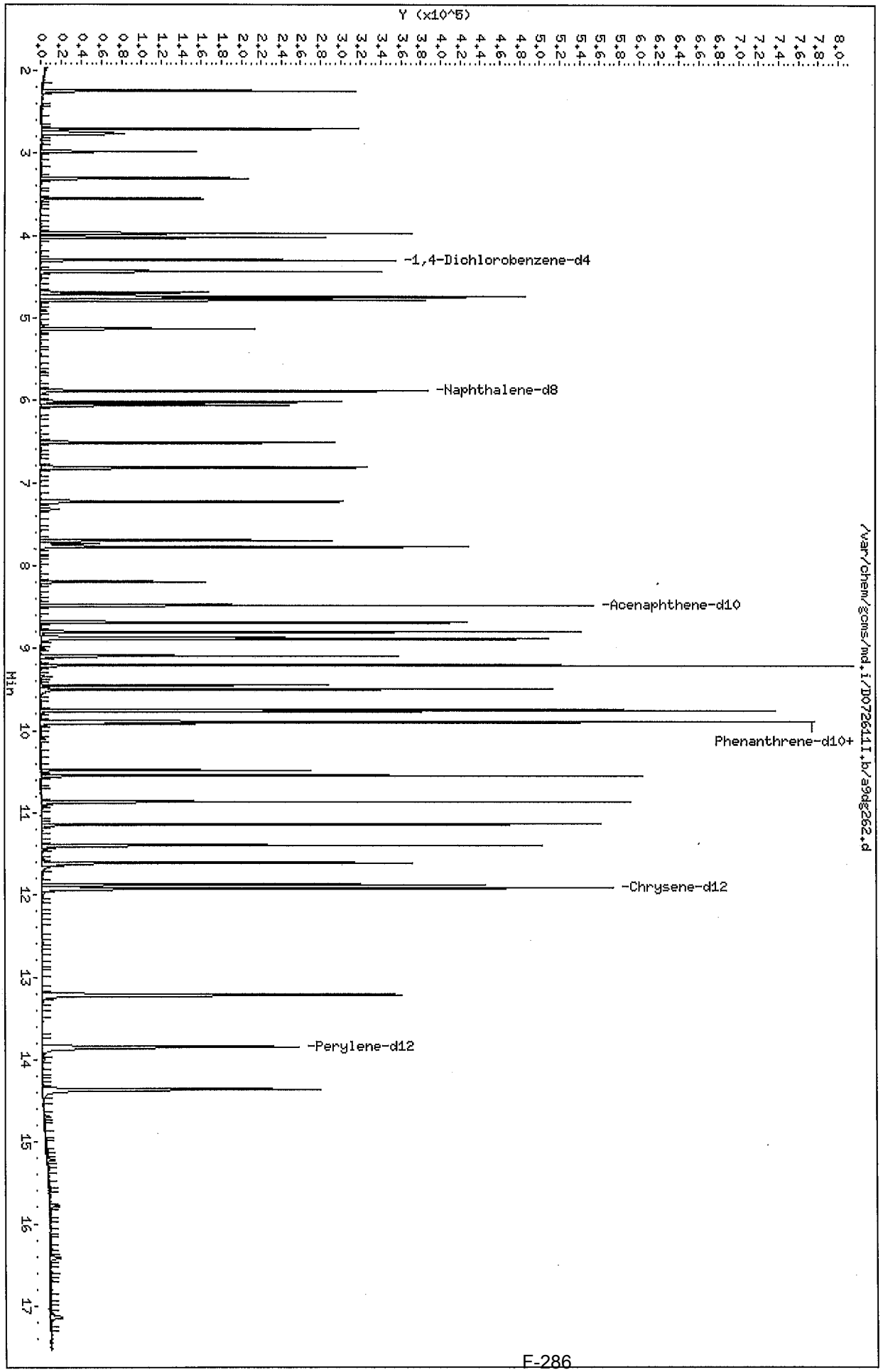
Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)(1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	ON-COL (ng/uL)
* 1	1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	45732	20.0000	20.0
* 2	Naphthalene-d8	136	5.887	5.887	(1.000)	176426	20.0000	20.0
* 3	Acenaphthene-d10	164	8.484	8.484	(1.000)	101609	20.0000	20.0
* 4	Phenanthrene-d10	188	9.895	9.895	(1.000)	204225	20.0000	20.0
* 5	Chrysene-d12	240	11.922	11.922	(1.000)	210084	20.0000	20.0
* 6	Perylene-d12	264	13.849	13.849	(1.000)	172372	20.0000	20.0
176	2-Picoline	93	2.703	2.703	(0.628)	62761	25.0000	23.8
86	N-nitrosomethylethylamine	42	2.762	2.762	(0.642)	46937	25.0000	23.8
87	Methyl methanosulfonate	80	2.979	2.979	(0.693)	40421	25.0000	24.6
88	N-nitrosodiethylamine	102	3.308	3.308	(0.769)	29782	25.0000	23.2
89	Ethyl methanosulfonate	79	3.555	3.555	(0.826)	46279	25.0000	23.7
90	Pentachloroethane	167	4.031	4.031	(0.937)	29418	25.0000	24.9
91	acetophenone	105	4.736	4.736	(1.101)	95047	25.0000	24.3
92	m-cresol	108	4.753	4.753	(1.105)	62072	25.0000	23.1

Data File: /chem/gcms/md.i/D072611I.b/a9dg262.d
Report Date: 26-Jul-2011 16:44

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
93	n-nitrosopyrrolidine	100	4.695	4.695	(1.092)	33354	25.0000	23.2
94	n-nitrosomorpholine	56	4.742	4.742	(1.102)	52214	25.0000	24.0
95	o-toluidine	106	4.783	4.783	(1.112)	104664	25.0000	25.0
96	n-nitrosopiperidine	42	5.135	5.135	(0.872)	59365	25.0000	23.5
97	2,6-dichlorophenol	162	6.017	6.017	(1.022)	57372	25.0000	23.1
98	hexachloropropene	213	6.064	6.064	(1.030)	44455	25.0000	23.4
99	N-nitro-di-n-butylamine	84	6.516	6.516	(1.107)	38970	25.0000	22.8
100	Isosafrole	162	6.822	6.822	(1.159)	53930	25.0000	24.1
101	1,2,4,5-tetrachlorobenzene	216	7.233	7.233	(1.229)	70980	25.0000	24.5
102	safrole	162	7.697	7.697	(0.907)	49885	25.0000	23.2
103	1-chloronaphthalene	162	7.773	7.773	(0.916)	133636	25.0000	25.1
104	m-dinitrobenzene	168	8.197	8.197	(0.966)	16021	25.0000	20.2
105	pentachlorobenzene	250	8.690	8.690	(1.024)	62425	25.0000	25.0
106	1-naphthylamine	143	8.802	8.802	(1.037)	140048	25.0000	24.2
107	2-naphthylamine	143	8.884	8.884	(1.047)	151710	25.0000	25.8
108	2,3,4,6-tetrachlorophenol	232	8.872	8.872	(1.046)	29231	25.0000	20.9
109	5-nitro-o-toluidine	152	9.095	9.095	(1.072)	40165	25.0000	22.5
110	diphenylamine	169	9.207	9.207	(0.931)	144956	25.0000	23.6
111	1,3,5-trinitrobenzene	75	9.448	9.448	(0.955)	44389	25.0000	17.9
112	phenacetin	108	9.501	9.501	(0.960)	70266	25.0000	22.1
113	4-aminobiphenyl	169	9.754	9.754	(0.986)	186618	25.0000	24.2
114	pentachloronitrobenzene	237	9.765	9.765	(0.987)	20569	25.0000	23.8
115	Dinoseb	211	9.912	9.912	(1.002)	19963	25.0000	17.0
84	Benzidine	184	10.870	10.870	(1.099)	163910	25.0000	22.9
116	p-(dimethylamino)azobenzene	120	11.140	11.140	(1.126)	73696	25.0000	22.6
117	o-tolidine	212	11.399	11.399	(1.152)	150060	25.0000	21.7
119	7,12-dimethylbenz(a)anthracen	256	13.220	13.220	(1.109)	110374	25.0000	22.0
118	2-acetylaminofluorene	181	11.610	11.610	(0.974)	89339	25.0000	19.6
120	3-methylcholanthrene	268	14.366	14.366	(1.037)	100928	25.0000	21.0


Data File: /var/chem/gcms/md.i/D072611I.b/a9dg262.d
Date : 26-JUL-2011 16:25
Client ID: STD025
Sample Info: A9DG262,,1,2,,STD025
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^5)
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
Phenanthrene-d10+
-Chrysene-d12
-Perylene-d12
/var/chem/gcms/md.i/D072611I.b/a9dg262.d
Min

Data File: /chem/gcms/md.i/D072611I.b/a9dg263.d
Report Date: 26-Jul-2011 16:18

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /chem/gcms/md.i/D072611I.b/a9dg263.d
Lab Smp Id: A9DG263 Client Smp ID: STD040
Inj Date : 26-JUL-2011 16:00
Operator : 60841 Inst ID: md.i
Smp Info : A9DG263,,1,3,,STD040
Misc Info : D072611I,8270a9,appdx9.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Meth Date : 26-Jul-2011 16:18 chemist Quant Type: ISTD
Cal Date : 26-JUL-2011 16:00 Cal File: a9dg263.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: appdx9.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)(1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

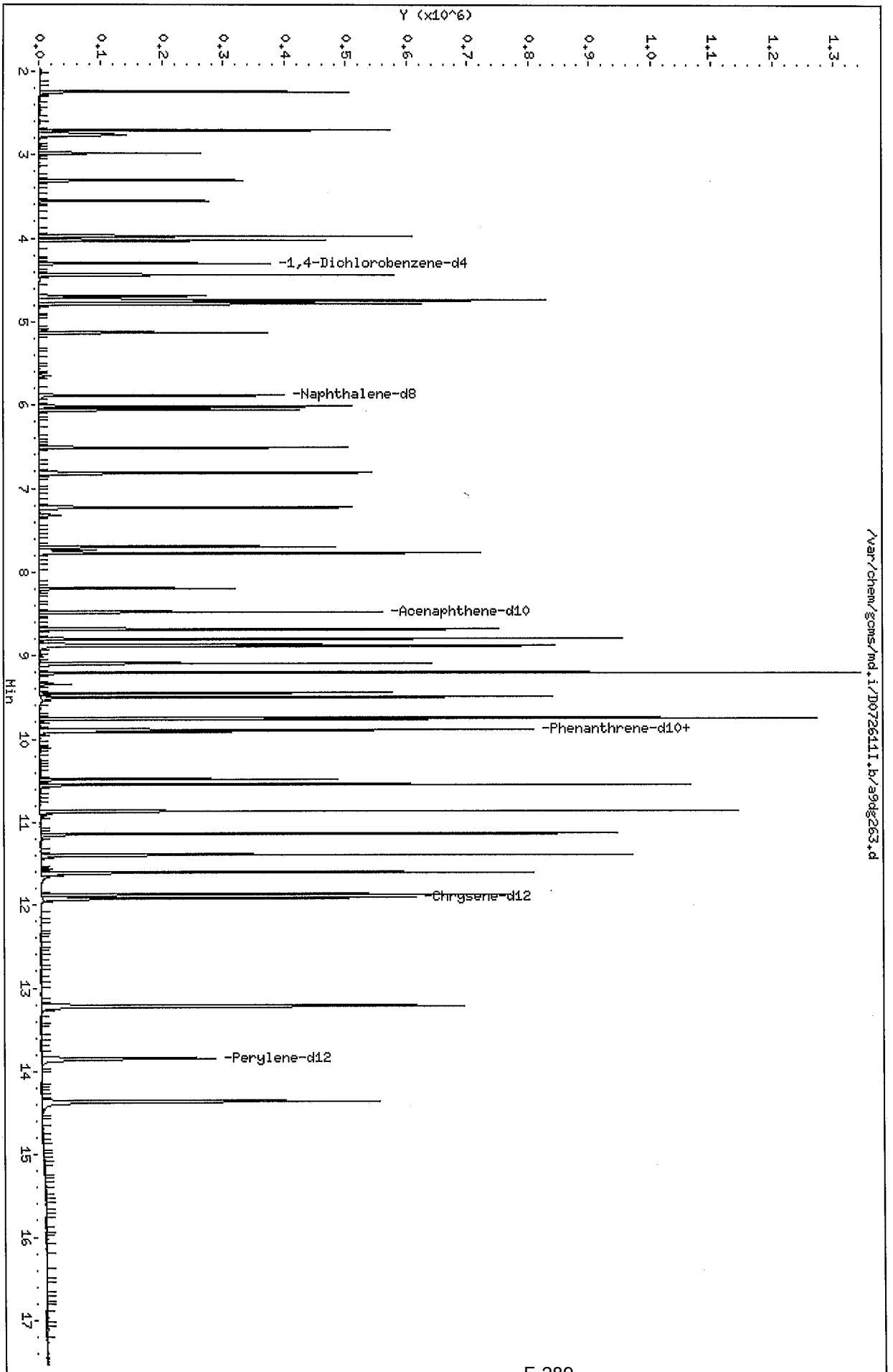
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	ON-COL (ng/uL)
* 1	1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	48503	20.0000	20.0
* 2	Naphthalene-d8	136	5.887	5.887	(1.000)	181092	20.0000	20.0
* 3	Acenaphthene-d10	164	8.484	8.484	(1.000)	108439	20.0000	20.0
* 4	Phenanthrene-d10	188	9.895	9.895	(1.000)	216123	20.0000	20.0
* 5	Chrysene-d12	240	11.922	11.922	(1.000)	222998	20.0000	20.0
* 6	Perylene-d12	264	13.849	13.849	(1.000)	189292	20.0000	20.0
176	2-Picoline	93	2.703	2.703	(0.628)	107483	40.0000	37.9
86	N-nitrosomethylethylamine	42	2.762	2.762	(0.642)	78456	40.0000	37.0
87	Methyl methanosulfonate	80	2.979	2.979	(0.693)	65214	40.0000	37.3
88	N-nitrosodiethylamine	102	3.308	3.308	(0.769)	51409	40.0000	37.2
89	Ethyl methanosulfonate	79	3.555	3.555	(0.826)	78435	40.0000	37.4
90	Pentachloroethane	167	4.025	4.025	(0.936)	47720	40.0000	38.1
91	acetophenone	105	4.736	4.736	(1.101)	155816	40.0000	37.2
92	m-cresol	108	4.753	4.753	(1.105)	106456	40.0000	36.6

Data File: /chem/gcms/md.i/D072611I.b/a9dg263.d
Report Date: 26-Jul-2011 16:18

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
93	n-nitrosopyrrolidine	100	4.695	4.695	(1.092)	56814	40.0000	36.6
94	n-nitrosomorpholine	56	4.742	4.742	(1.102)	87059	40.0000	37.3
95	o-toluidine	106	4.783	4.783	(1.112)	168825	40.0000	38.0
96	n-nitrosopiperidine	42	5.135	5.135	(0.872)	100810	40.0000	38.4
97	2,6-dichlorophenol	162	6.017	6.017	(1.022)	97921	40.0000	37.7
98	hexachloropropene	213	6.064	6.064	(1.030)	74888	40.0000	37.8
99	N-nitro-di-n-butylamine	84	6.516	6.516	(1.107)	67268	40.0000	37.6
100	Isosafrole	162	6.816	6.816	(1.158)	88565	40.0000	38.2
101	1,2,4,5-tetrachlorobenzene	216	7.227	7.227	(1.228)	114820	40.0000	38.3
102	safrole	162	7.697	7.697	(0.907)	85981	40.0000	36.9
103	1-chloronaphthalene	162	7.773	7.773	(0.916)	217198	40.0000	38.2
104	m-dinitrobenzene	168	8.197	8.197	(0.966)	30691	40.0000	34.5
105	pentachlorobenzene	250	8.684	8.684	(1.024)	102721	40.0000	38.6
106	1-naphthylamine	143	8.802	8.802	(1.037)	244667	40.0000	39.4
107	2-naphthylamine	143	8.884	8.884	(1.047)	243133	40.0000	39.2
108	2,3,4,6-tetrachlorophenol	232	8.872	8.872	(1.046)	55231	40.0000	35.6
109	5-nitro-o-toluidine	152	9.095	9.095	(1.072)	70800	40.0000	36.3
110	diphenylamine	169	9.207	9.207	(0.931)	244478	40.0000	37.1
111	1,3,5-trinitrobenzene	75	9.448	9.448	(0.955)	91896	40.0000	32.6
112	phenacetin	108	9.501	9.501	(0.960)	123029	40.0000	35.6
113	4-aminobiphenyl	169	9.754	9.754	(0.986)	318680	40.0000	38.7
114	pentachloronitrobenzene	237	9.771	9.771	(0.988)	33878	40.0000	36.6
115	Dinoseb	211	9.912	9.912	(1.002)	42189	40.0000	31.5
84	Benzidine	184	10.870	10.870	(1.099)	292102	40.0000	37.8
116	p-(dimethylamino)azobenzene	120	11.140	11.140	(1.126)	129023	40.0000	36.6
117	o-tolidine	212	11.399	11.399	(1.152)	274510	40.0000	36.4
119	7,12-dimethylbenz(a)anthracen	256	13.220	13.220	(1.109)	197177	40.0000	35.8
118	2-acetylaminofluorene	181	11.610	11.610	(0.974)	173445	40.0000	33.9
120	3-methylcholanthrene	268	14.366	14.366	(1.037)	189476	40.0000	34.5

Data File: /var/chem/gcms/md.i/D072611I.b/a9dg263.d
Date : 26-JUL-2011 16:00
Client ID: STD040
Sample Info: A9DG263,1.3,,STD040
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS

Instrument: md.i
Operator: 60841
Column diameter: 0.25



Data File: /chem/gcms/md.i/D072611I.b/a9dg264.d
Report Date: 26-Jul-2011 15:52

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Semivolatile Organic Compounds by GC/MS

Data file : /chem/gcms/md.i/D072611I.b/a9dg264.d
Lab Smp Id: A9DG264 Client Smp ID: STD060
Inj Date : 26-JUL-2011 15:34
Operator : 60841 Inst ID: md.i
Smp Info : A9DG264,,1,4,,STD060
Misc Info : D072611I,8270a9,appdx9.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Meth Date : 26-Jul-2011 15:52 chemist Quant Type: ISTD
Cal Date : 26-JUL-2011 15:34 Cal File: a9dg264.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: appdx9.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

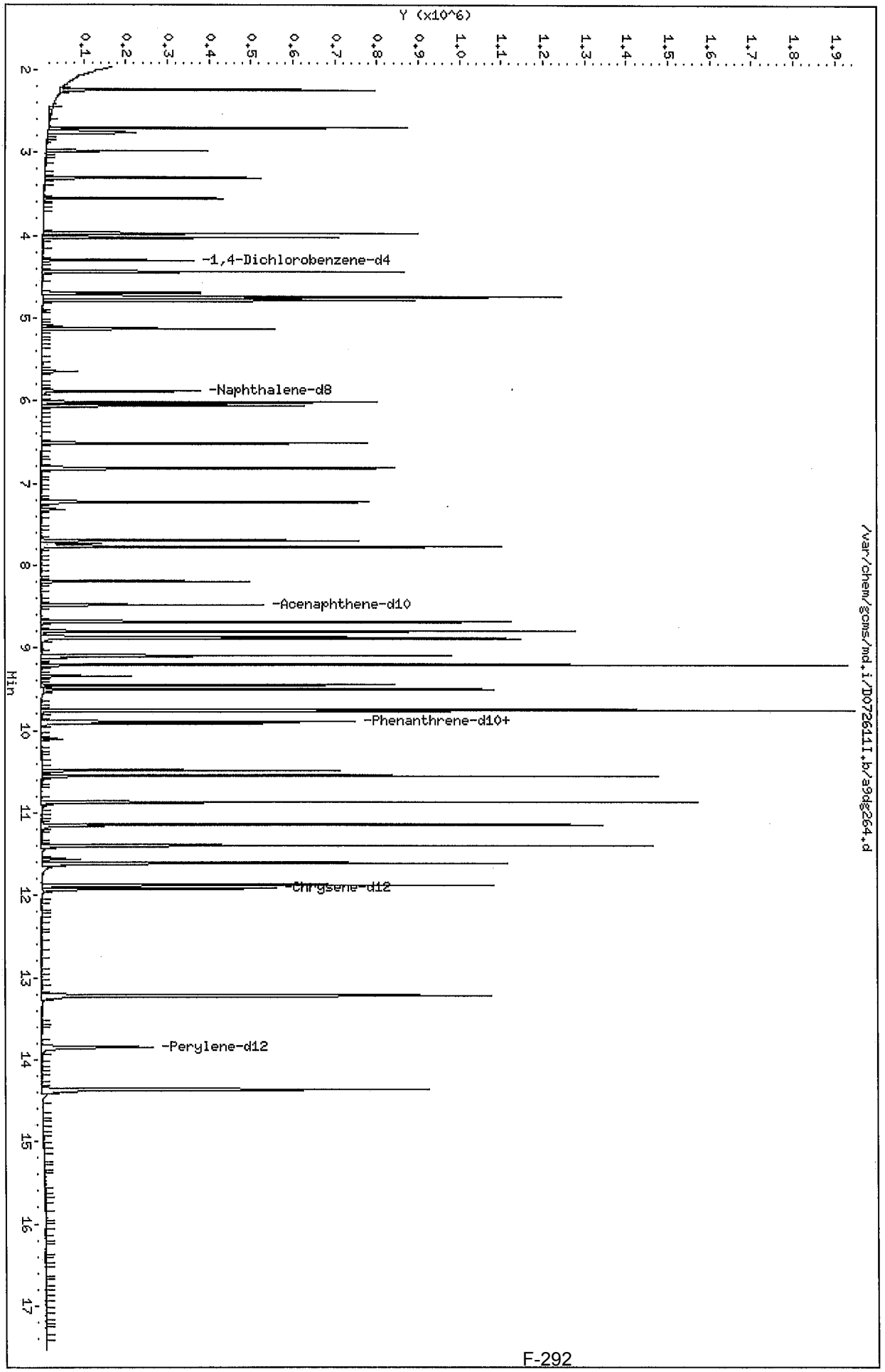
Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)(1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
* 1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	44644	20.0000	20.0
* 2 Naphthalene-d8	136	5.887	5.887	(1.000)	172857	20.0000	20.0
* 3 Acenaphthene-d10	164	8.485	8.485	(1.000)	101300	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	197263	20.0000	20.0
* 5 Chrysene-d12	240	11.922	11.922	(1.000)	205125	20.0000	20.0
* 6 Perylene-d12	264	13.849	13.849	(1.000)	176143	20.0000	20.0
176 2-Picoline	93	2.703	2.703	(0.628)	159395	60.0000	60.1
86 N-nitrosomethylethylamine	42	2.762	2.762	(0.642)	122074	60.0000	61.0
87 Methyl methanosulfonate	80	2.979	2.979	(0.693)	98449	60.0000	59.8
88 N-nitrosodiethylamine	102	3.308	3.308	(0.769)	78080	60.0000	59.9
89 Ethyl methanosulfonate	79	3.555	3.555	(0.826)	118998	60.0000	60.2
90 Pentachloroethane	167	4.025	4.025	(0.936)	71168	60.0000	60.8
91 acetophenone	105	4.742	4.742	(1.102)	236854	60.0000	60.1
92 m-cresol	108	4.753	4.753	(1.105)	161842	60.0000	58.9

Data File: /chem/gcms/md.i/D072611I.b/a9dg264.d
Report Date: 26-Jul-2011 15:52

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
93	n-nitrosopyrrolidine	100	4.701	4.701	(1.093)	88030	60.0000	60.0
94	n-nitrosomorpholine	56	4.742	4.742	(1.102)	132179	60.0000	60.3
95	o-toluidine	106	4.783	4.783	(1.112)	247346	60.0000	59.6
96	n-nitrosopiperidine	42	5.135	5.135	(0.872)	155123	60.0000	61.0
97	2,6-dichlorophenol	162	6.017	6.017	(1.022)	150218	60.0000	59.5
98	hexachloropropene	213	6.064	6.064	(1.030)	115672	60.0000	60.2
99	N-nitro-di-n-butylamine	84	6.516	6.516	(1.107)	104321	60.0000	59.9
100	Isosafrole	162	6.822	6.822	(1.159)	133484	60.0000	59.5
101	1,2,4,5-tetrachlorobenzene	216	7.227	7.227	(1.228)	177428	60.0000	61.2
102	safrole	162	7.697	7.697	(0.907)	133280	60.0000	59.7
103	1-chloronaphthalene	162	7.774	7.774	(0.916)	332410	60.0000	61.8
104	m-dinitrobenzene	168	8.197	8.197	(0.966)	50246	60.0000	57.8
105	pentachlorobenzene	250	8.684	8.684	(1.024)	152156	60.0000	60.4
106	1-naphthylamine	143	8.802	8.802	(1.037)	342834	60.0000	58.8
107	2-naphthylamine	143	8.890	8.890	(1.048)	335981	60.0000	57.4
108	2,3,4,6-tetrachlorophenol	232	8.872	8.872	(1.046)	83863	60.0000	55.8
109	5-nitro-o-toluidine	152	9.096	9.096	(1.072)	107968	60.0000	57.5
110	diphenylamine	169	9.207	9.207	(0.931)	371769	60.0000	60.4
111	1,3,5-trinitrobenzene	75	9.448	9.448	(0.955)	149470	60.0000	54.8
112	phenacetin	108	9.507	9.507	(0.961)	191497	60.0000	58.6
113	4-aminobiphenyl	169	9.754	9.754	(0.986)	462783	60.0000	60.9
114	pentachloronitrobenzene	237	9.771	9.771	(0.988)	52412	60.0000	60.4
115	Dinoseb	211	9.918	9.918	(1.002)	69480	60.0000	53.1
84	Benzidine	184	10.870	10.870	(1.099)	417089	60.0000	58.1
116	p-(dimethylamino)azobenzene	120	11.146	11.146	(1.126)	195949	60.0000	59.2
117	o-tolidine	212	11.399	11.399	(1.152)	397383	60.0000	56.0
119	7,12-dimethylbenz(a)anthracen	256	13.220	13.220	(1.109)	303799	60.0000	58.0
118	2-acetylaminofluorene	181	11.610	11.610	(0.974)	275193	60.0000	55.7
120	3-methylcholanthrene	268	14.366	14.366	(1.037)	306092	60.0000	56.9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Date : 26-JUL-2011 15:34
Client ID: STD060
Sample Info: A9DG264,,1,4,,STD060
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^6)
Min
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
-Phenanthrene-d10+
-Chrysene-d12
-Perylene-d12
/var/chem/gcms/md.i/D072611I.b/a9dg264.d

Data File: /var/chem/gcms/md.i/D072611I.b/a9dg265.d
Report Date: 26-Jul-2011 15:58

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Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072611I.b/a9dg265.d
Lab Smp Id: A9DG265 Client Smp ID: STD120
Inj Date : 26-JUL-2011 15:09
Operator : 60841 Inst ID: md.i
Smp Info : A9DG265,,1,5,,STD120
Misc Info : D072611I,8270a9,appdx9.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Meth Date : 26-Jul-2011 15:58 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 15:09 Cal File: a9dg265.d
Als bottle: 13 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: appdx9.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

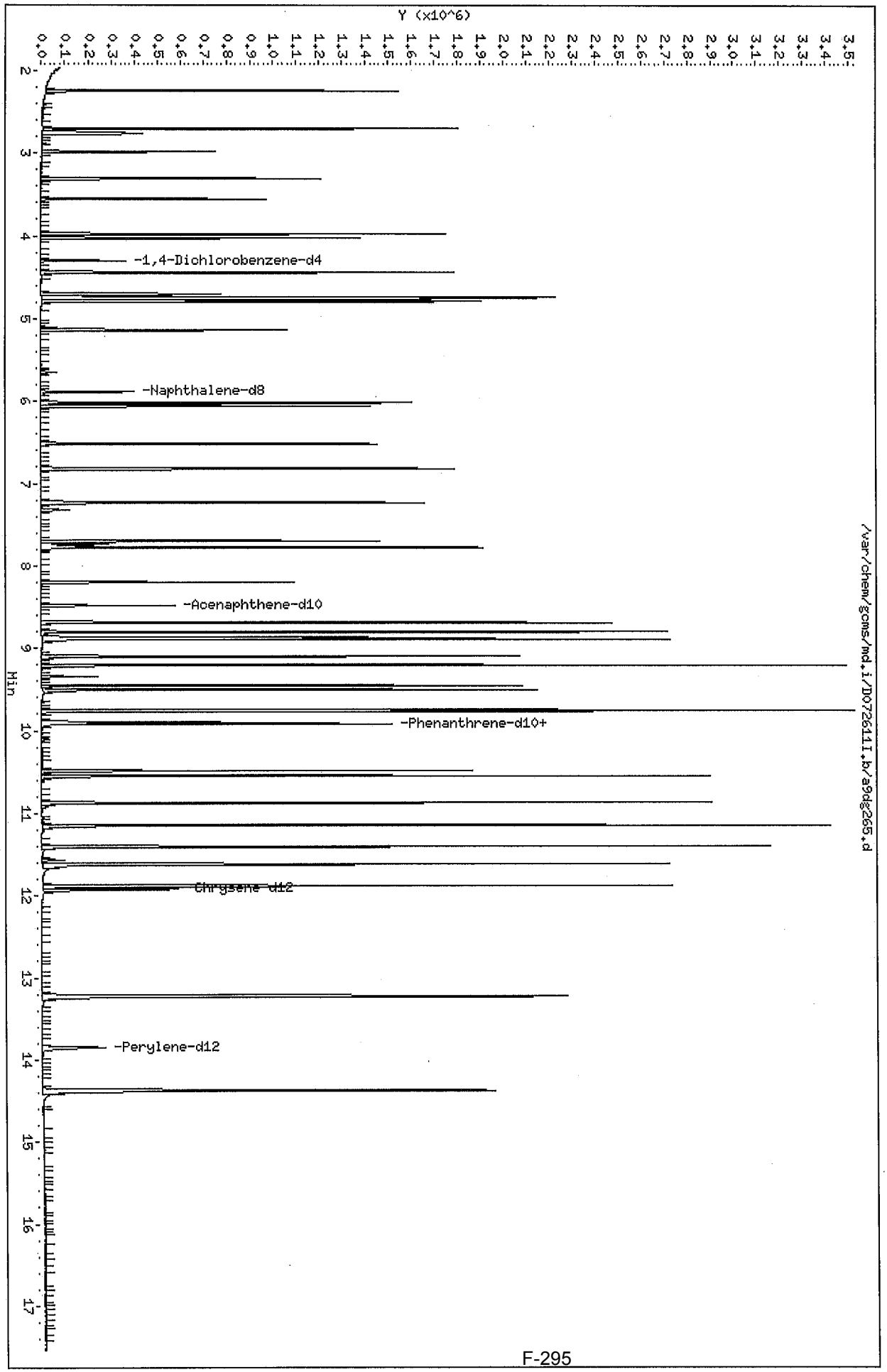
Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)(1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	ON-COL (ng/uL)
* 1	1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	45685	20.0000	20.0
* 2	Naphthalene-d8	136	5.888	5.888	(1.000)	181133	20.0000	20.0
* 3	Acenaphthene-d10	164	8.485	8.485	(1.000)	106629	20.0000	20.0
* 4	Phenanthrene-d10	188	9.895	9.895	(1.000)	209134	20.0000	20.0
* 5	Chrysene-d12	240	11.922	11.922	(1.000)	216927	20.0000	20.0
* 6	Perylene-d12	264	13.855	13.855	(1.000)	188384	20.0000	20.0
176	2-Picoline	93	2.703	2.703	(0.628)	325782	120.000	120
86	N-nitrosomethylethylamine	42	2.768	2.768	(0.643)	244809	120.000	120
87	Methyl methanosulfonate	80	2.985	2.985	(0.694)	202882	120.000	120
88	N-nitrosodiethylamine	102	3.308	3.308	(0.769)	161524	120.000	121
89	Ethyl methanosulfonate	79	3.555	3.555	(0.826)	245078	120.000	121
90	Pentachloroethane	167	4.031	4.031	(0.937)	143714	120.000	120
91	acetophenone	105	4.742	4.742	(1.102)	485386	120.000	120
92	m-cresol	108	4.759	4.759	(1.107)	340473	120.000	121

Data File: /var/chem/gcms/md.i/D072611I.b/a9dg265.d
Report Date: 26-Jul-2011 15:58

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
93	n-nitrosopyrrolidine	100	4.707	4.707	(1.094)	181010	120.000	120
94	n-nitrosomorpholine	56	4.748	4.748	(1.104)	270002	120.000	120
95	o-toluidine	106	4.789	4.789	(1.113)	539558	120.000	127
96	n-nitrosopiperidine	42	5.141	5.141	(0.873)	317267	120.000	119
97	2,6-dichlorophenol	162	6.017	6.017	(1.022)	321670	120.000	122
98	hexachloropropene	213	6.064	6.064	(1.030)	240974	120.000	120
99	N-nitro-di-n-butylamine	84	6.522	6.522	(1.108)	221285	120.000	121
100	Isosafrole	162	6.822	6.822	(1.159)	281745	120.000	120
101	1,2,4,5-tetrachlorobenzene	216	7.233	7.233	(1.229)	360886	120.000	119
102	safrole	162	7.703	7.703	(0.908)	283130	120.000	120
103	1-chloronaphthalene	162	7.779	7.779	(0.917)	656595	120.000	116
104	m-dinitrobenzene	168	8.202	8.202	(0.967)	113041	120.000	124
105	pentachlorobenzene	250	8.690	8.690	(1.024)	316230	120.000	119
106	1-naphthylamine	143	8.802	8.802	(1.037)	770301	120.000	125
107	2-naphthylamine	143	8.890	8.890	(1.048)	771842	120.000	125
108	2,3,4,6-tetrachlorophenol	232	8.872	8.872	(1.046)	193044	120.000	122
109	5-nitro-o-toluidine	152	9.101	9.101	(1.073)	245415	120.000	124
110	diphenylamine	169	9.213	9.213	(0.931)	771459	120.000	118
111	1,3,5-trinitrobenzene	75	9.454	9.454	(0.955)	358646	120.000	124
112	phenacetin	108	9.513	9.513	(0.961)	417279	120.000	120
113	4-aminobiphenyl	169	9.754	9.754	(0.986)	915445	120.000	114
114	pentachloronitrobenzene	237	9.771	9.771	(0.988)	109807	120.000	119
115	Dinoseb	211	9.918	9.918	(1.002)	173429	120.000	125
84	Benzidine	184	10.876	10.876	(1.099)	986522	120.000	130
116	p-(dimethylamino)azobenzene	120	11.146	11.146	(1.126)	418730	120.000	119
117	o-tolidine	212	11.399	11.399	(1.152)	984326	120.000	131
119	7,12-dimethylbenz(a)anthracen	256	13.226	13.226	(1.109)	669726	120.000	121
118	2-acetylaminofluorene	181	11.616	11.616	(0.974)	647590	120.000	124
120	3-methylcholanthrene	268	14.378	14.378	(1.038)	691483	120.000	120


Data File: /var/chem/gcms/md.i/D072611I.b/a9dg265.d
Date : 26-JUL-2011 15:09
Client ID: STD120
Sample Info: A9DG265,,1.5,,STD120
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^6)
/var/chem/gcms/md.i/D072611I.b/a9dg265.d
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
-Phenanthrene-d10+
Chrysene-d12
-Perylene-d12
Min

Data File: /var/chem/gcms/md.i/D072611I.b/a9dg268.d
Report Date: 26-Jul-2011 15:58

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072611I.b/a9dg268.d
Lab Smp Id: A9DG268 Client Smp ID: STD200
Inj Date : 26-JUL-2011 14:43
Operator : 60841 Inst ID: md.i
Smp Info : A9DG268,,1,8,,STD200
Misc Info : D072611I,8270a9,appdx9.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Meth Date : 26-Jul-2011 15:58 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 14:43 Cal File: a9dg268.d
Als bottle: 12 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: appdx9.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)(1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

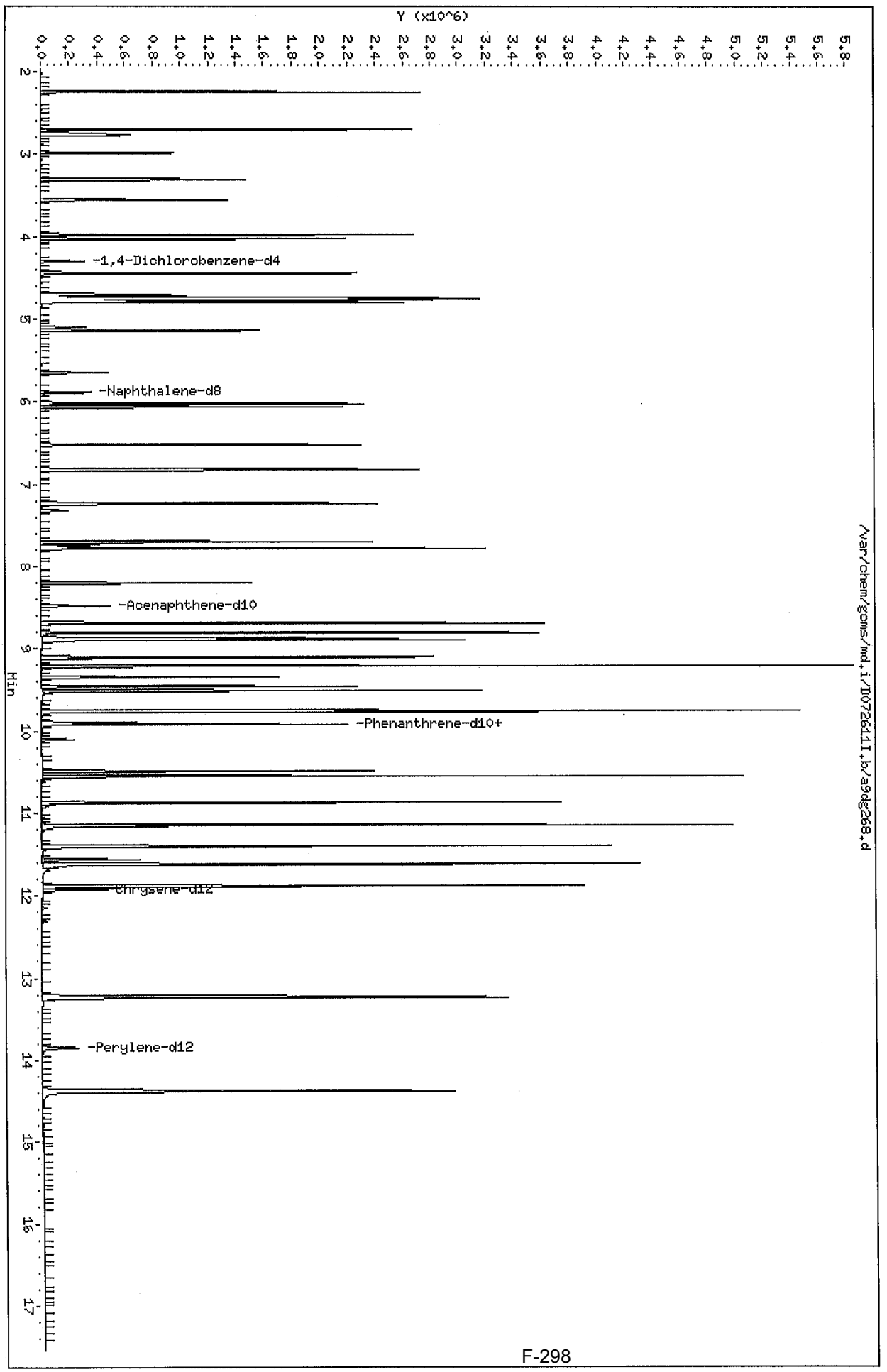
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	ON-COL (ng/uL)
* 1	1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	41423	20.0000	20.0
* 2	Naphthalene-d8	136	5.887	5.887	(1.000)	164402	20.0000	20.0
* 3	Acenaphthene-d10	164	8.484	8.484	(1.000)	95001	20.0000	20.0
* 4	Phenanthrene-d10	188	9.895	9.895	(1.000)	185601	20.0000	20.0
* 5	Chrysene-d12	240	11.922	11.922	(1.000)	200959	20.0000	20.0
* 6	Perylene-d12	264	13.849	13.849	(1.000)	175910	20.0000	20.0
176	2-Picoline	93	2.703	2.703	(0.628)	491163	200.000	200(A)
86	N-nitrosomethylethylamine	42	2.767	2.767	(0.643)	366721	200.000	197(A)
87	Methyl methanosulfonate	80	2.991	2.991	(0.695)	305297	200.000	200(A)
88	N-nitrosodiethylamine	102	3.314	3.314	(0.770)	239578	200.000	198(A)
89	Ethyl methanosulfonate	79	3.561	3.561	(0.828)	361330	200.000	197(A)
90	Pentachloroethane	167	4.031	4.031	(0.937)	214766	200.000	198(A)
91	acetophenone	105	4.748	4.748	(1.104)	726174	200.000	199(A)
92	m-cresol	108	4.765	4.765	(1.108)	515468	200.000	202(A)

Data File: /var/chem/gcms/md.i/D072611I.b/a9dg268.d
Report Date: 26-Jul-2011 15:58

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
93	n-nitrosopyrrolidine	100	4.712	4.712	(1.096)	271208	200.000	199(A)
94	n-nitrosomorpholine	56	4.753	4.753	(1.105)	404279	200.000	199(A)
95	o-toluidine	106	4.795	4.795	(1.115)	730891	200.000	190(A)
96	n-nitrosopiperidine	42	5.141	5.141	(0.873)	479337	200.000	198(A)
97	2,6-dichlorophenol	162	6.023	6.023	(1.023)	477358	200.000	199(A)
98	hexachloropropene	213	6.064	6.064	(1.030)	366000	200.000	200(A)
99	N-nitro-di-n-butylamine	84	6.522	6.522	(1.108)	328140	200.000	198(A)
100	Isosafrole	162	6.822	6.822	(1.159)	430173	200.000	202(A)
101	1,2,4,5-tetrachlorobenzene	216	7.233	7.233	(1.229)	545188	200.000	198(A)
102	safrole	162	7.703	7.703	(0.908)	419942	200.000	200(A)
103	1-chloronaphthalene	162	7.779	7.779	(0.917)	1014838	200.000	201(A)
104	m-dinitrobenzene	168	8.202	8.202	(0.967)	164156	200.000	201(A)
105	pentachlorobenzene	250	8.690	8.690	(1.024)	471923	200.000	200(A)
106	1-naphthylamine	143	8.808	8.808	(1.038)	1066381	200.000	195(A)
107	2-naphthylamine	143	8.896	8.896	(1.048)	927722	200.000	169(A)
108	2,3,4,6-tetrachlorophenol	232	8.872	8.872	(1.046)	297593	200.000	211(A)
109	5-nitro-o-toluidine	152	9.101	9.101	(1.073)	354647	200.000	201(A)
110	diphenylamine	169	9.213	9.213	(0.931)	1167964	200.000	202(A)
111	1,3,5-trinitrobenzene	75	9.454	9.454	(0.955)	540041	200.000	210(A)
112	phenacetin	108	9.513	9.513	(0.961)	626612	200.000	204(A)
113	4-aminobiphenyl	169	9.759	9.759	(0.986)	1481886	200.000	207(A)
114	pentachloronitrobenzene	237	9.771	9.771	(0.988)	162731	200.000	199(A)
115	Dinoseb	211	9.918	9.918	(1.002)	263707	200.000	214(A)
84	Benzidine	184	10.876	10.876	(1.099)	1285495	200.000	190(A)
116	p-(dimethylamino)azobenzene	120	11.146	11.146	(1.126)	635854	200.000	204(A)
117	o-tolidine	212	11.399	11.399	(1.152)	1302145	200.000	195(A)
119	7,12-dimethylbenz(a)anthracen	256	13.232	13.232	(1.110)	1049627	200.000	205(A)
118	2-acetylaminofluorene	181	11.622	11.622	(0.975)	1004618	200.000	208(A)
120	3-methylcholanthrene	268	14.378	14.378	(1.038)	1104775	200.000	207(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.


Data File: /var/chem/gcms/md.i/D072611I.b/a9dg268.d
Date : 26-JUL-2011 14:43
Client ID: STD200
Sample Info: A9DG268,,1.8,,STD200
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^6)
Min
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
-Phenanthrene-d10+
-Chrysene-d12
-Perylene-d12
/var/chem/gcms/md.i/D072611I.b/a9dg268.d

Data File: /var/chem/gcms/md.i/D072611I.b/a9vdg26.d
Report Date: 27-Jul-2011 13:06

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072611I.b/a9vdg26.d
Lab Smp Id: A9VDG26 Client Smp ID: 2ND SOURCE
Inj Date : 26-JUL-2011 18:07
Operator : 60841 Inst ID: md.i
Smp Info : A9VDG26,,3,,,2ND SOURCE
Misc Info : D072611I,8270a9,appdx9.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Meth Date : 27-Jul-2011 13:05 wilesd Quant Type: ISTD
Cal Date : 26-JUL-2011 17:42 Cal File: a9dg267.d
Als bottle: 20 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: appdx9.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL) (1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	CONCENTRATIONS FINAL (ug/Kg)
*	1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	56568	20.0000	20.0
*	2 Naphthalene-d8	136	5.887	5.888	(1.000)	221010	20.0000	20.0
*	3 Acenaphthene-d10	164	8.484	8.485	(1.000)	126694	20.0000	20.0
*	4 Phenanthrene-d10	188	9.895	9.895	(1.000)	251289	20.0000	20.0
*	5 Chrysene-d12	240	11.928	11.922	(1.000)	260162	20.0000	20.0
*	6 Perylene-d12	264	13.855	13.855	(1.000)	228234	20.0000	20.0
	176 2-Picoline	93	2.703	2.715	(0.628)	193344	58.8393	1960
	86 N-nitrosomethylethylamine	42	2.762	2.768	(0.642)	139427	57.0966	1900
	87 Methyl methanosulfonate	80	2.979	2.979	(0.693)	116641	57.6100	1920
	88 N-nitrosodiethylamine	102	3.308	3.308	(0.769)	89494	57.3786	1910
	89 Ethyl methanosulfonate	79	3.555	3.555	(0.826)	133038	54.9692	1830
	90 Pentachloroethane	167	4.025	4.031	(0.936)	78410	53.9044	1800
	91 acetophenone	105	4.742	4.742	(1.102)	264821	54.9382	1830
	93 n-nitrosopyrrolidine	100	4.701	4.707	(1.093)	99733	58.6249	1950

Data File: /var/chem/gcms/md.i/D072611I.b/a9vdg26.d
Report Date: 27-Jul-2011 13:06

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	CONCENTRATIONS FINAL (ug/Kg)
94	n-nitrosomorpholine	56	4.742	4.748	(1.102)	154105	57.1440	1900
95	o-toluidine	106	4.783	4.783	(1.112)	307322	59.0513	1970
96	n-nitrosopiperidine	42	5.135	5.141	(0.872)	177315	57.3039	1910
97	2,6-dichlorophenol	162	6.023	6.023	(1.023)	163191	55.5937	1850
98	hexachloropropene	213	6.064	6.064	(1.030)	120719	52.0386	1730
99	N-nitro-di-n-butylamine	84	6.516	6.522	(1.107)	126572	62.0899	2070
100	Isosafrole	162	6.822	6.822	(1.159)	161644	59.6695	1990
101	1,2,4,5-tetrachlorobenzene	216	7.227	7.233	(1.228)	193285	52.8380	1760
102	safrole	162	7.697	7.697	(0.907)	165821	65.0933	2170
103	1-chloronaphthalene	162	7.773	7.774	(0.916)	384185	57.4050	1910
105	pentachlorobenzene	250	8.684	8.690	(1.024)	170262	54.5711	1820
106	1-naphthylamine	143	8.802	8.802	(1.037)	448006	64.6268	2150
107	2-naphthylamine	143	8.890	8.890	(1.048)	479808	67.8027	2260
109	5-nitro-o-toluidine	152	9.095	9.096	(1.072)	124889	59.2260	1970
111	1,3,5-trinitrobenzene	75	9.448	9.448	(0.955)	66293	26.8579	895(R)
112	phenacetin	108	9.507	9.501	(0.961)	207995	52.7818	1760
113	4-aminobiphenyl	169	9.754	9.754	(0.986)	554520	61.1407	2040
114	pentachloronitrobenzene	237	9.771	9.765	(0.988)	58676	56.3665	1880
115	Dinoseb	211	9.918	9.912	(1.002)	71839	49.5770	1650
84	Benzidine	184	10.870	10.870	(1.099)	553431	62.8987	2100
116	p-(dimethylamino)azobenzene	120	11.146	11.146	(1.126)	234192	61.2969	2040
117	o-tolidine	212	11.405	11.399	(1.153)	1083705	127.575	4250(R)
119	7,12-dimethylbenz(a)anthracen	256	13.226	13.220	(1.109)	356064	56.2082	1870
118	2-acetylaminofluorene	181	11.616	11.604	(0.974)	338715	57.8854	1930
120	3-methylcholanthrene	268	14.372	14.360	(1.037)	354145	54.5213	1820

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: /var/chem/gcms/md.i/D072611I.b/a9vdg26.d
Report Date: 27-Jul-2011 09:21

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: md.i
Lab File ID: a9vdg26.d
Lab Smp Id: A9VDG26
Analysis Type: SV
Quant Type: ISTD
Operator: 60841
Method File: /var/chem/gcms/md.i/D072611I.b/8270a9.m
Misc Info: D072611I,8270a9,appdx9.sub

Calibration Date: 26-JUL-2011
Calibration Time: 15:34
Client Smp ID: 2ND SOURCE
Level: LOW
Sample Type: SOIL

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	44644	22322	89288	56568	26.71
2 Naphthalene-d8	172857	86428	345714	221010	27.86
3 Acenaphthene-d10	101300	50650	202600	126694	25.07
4 Phenanthrene-d10	197263	98632	394526	251289	27.39
5 Chrysene-d12	205125	102562	410250	260162	26.83
6 Perylene-d12	176143	88072	352286	228234	29.57

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	4.30	3.80	4.80	4.30	0.00
2 Naphthalene-d8	5.89	5.39	6.39	5.89	0.00
3 Acenaphthene-d10	8.48	7.98	8.98	8.48	0.00
4 Phenanthrene-d10	9.89	9.39	10.39	9.89	0.00
5 Chrysene-d12	11.92	11.42	12.42	11.93	0.05
6 Perylene-d12	13.85	13.35	14.35	13.85	0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /var/chem/gcms/md.i/D072611I.b/a9vdg26.d
Report Date: 27-Jul-2011 13:06

TestAmerica Knoxville

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Lab Smp Id: A9VDG26
Level: LOW
Data Type: MS DATA
SpikeList File: a9lcs.spk
Sublist File: appdx9.sub
Method File: /var/chem/gcms/md.i/D072611I.b/8270a9.m
Misc Info: D072611I,8270a9,appdx9.sub

Client SDG: D072611I
Fraction: SV
Client Smp ID: 2ND SOURCE
Operator: 60841
SampleType: BLANK
Quant Type: ISTD

	SPIKE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
86	N-nitrosomethyleth	2000	1900	95.16	70-130
87	Methyl methanosulf	2000	1920	96.02	70-130
88	N-nitrosodiethylam	2000	1910	95.63	70-130
89	Ethyl methanosulfo	2000	1830	91.62	70-130
90	Pentachloroethane	2000	1800	89.84	70-130
91	acetophenone	2000	1830	91.56	70-130
92	m-cresol	2000	0.00	*	70-130
93	n-nitrosopyrrolidi	2000	1950	97.71	70-130
94	n-nitrosomorpholin	2000	1900	95.24	70-130
95	o-toluidine	2000	1970	98.42	70-130
96	n-nitrosopiperidin	2000	1910	95.51	70-130
97	2,6-dichlorophenol	2000	1850	92.66	70-130
98	hexachloropropene	2000	1730	86.73	70-130
99	N-nitro-di-n-butyl	2000	2070	103.48	70-130
100	Isosafrole	2000	1990	99.45	70-130
101	1,2,4,5-tetrachlor	2000	1760	88.06	70-130
102	safrole	2000	2170	108.49	70-130
103	1-chloronaphthalen	2000	1910	95.68	70-130
104	m-dinitrobenzene	2000	0.00	*	70-130
105	pentachlorobenzene	2000	1820	90.95	70-130
106	1-naphthylamine	2000	2150	107.71	70-130
107	2-naphthylamine	2000	2260	113.00	70-130
108	2,3,4,6-tetrachlo	2000	0.00	*	70-130
109	5-nitro-o-toluidin	2000	1970	98.71	70-130
110	diphenylamine	2000	0.00	*	70-130
111	1,3,5-trinitrobenz	2000	895	44.76*	70-130
112	phenacetin	2000	1760	87.97	70-130
113	4-aminobiphenyl	2000	2040	101.90	70-130
114	pentachloronitrobe	2000	1880	93.94	70-130
115	Dinoseb	2000	1650	82.63	70-130
84	Benzidine	2000	2100	104.83	70-130
116	p-(dimethylamino)a	2000	2040	102.16	70-130
118	2-acetylaminofluor	2000	1930	96.48	70-130

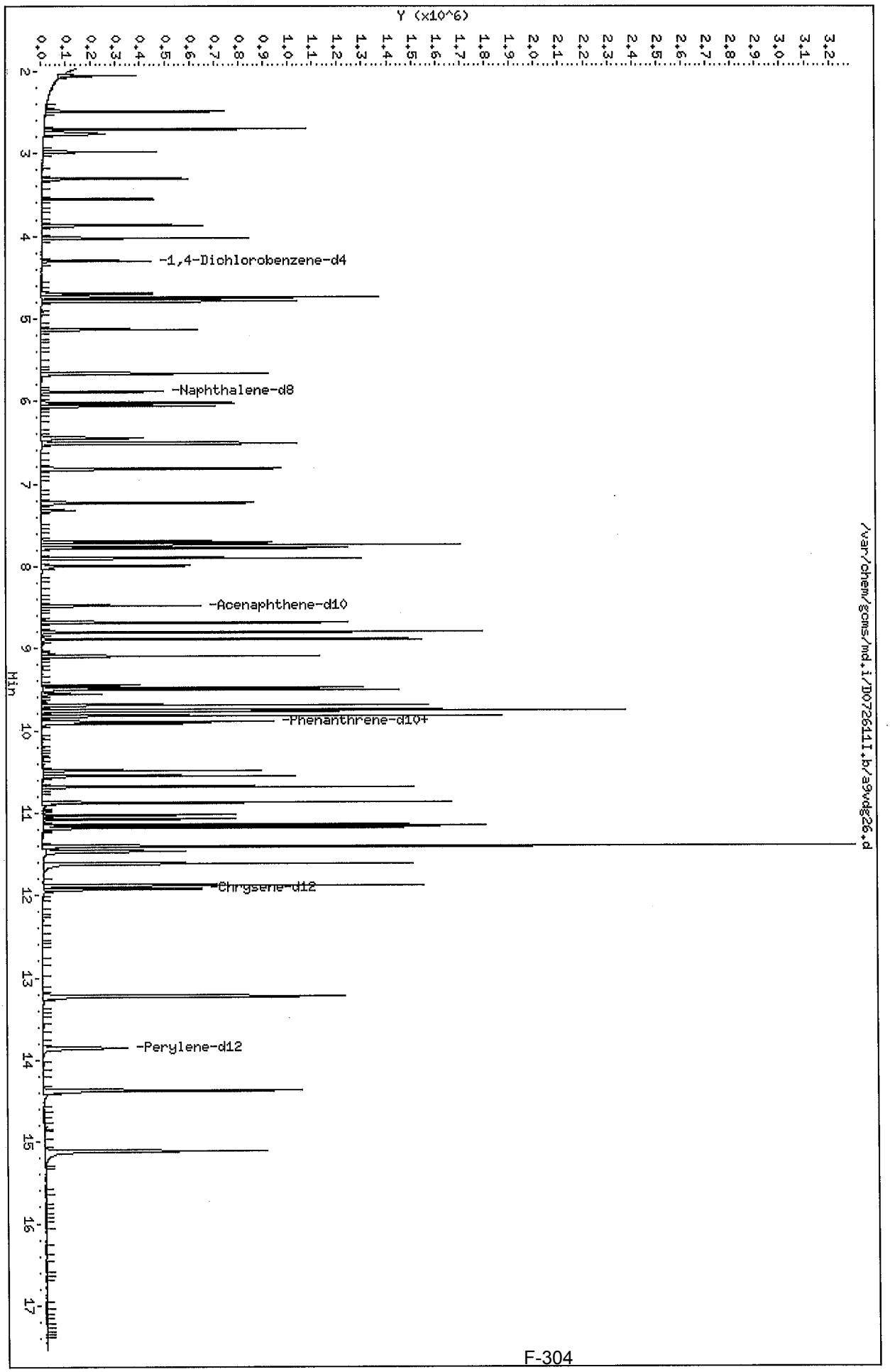
JW 7.27.11

(*) low (NA)

Data File: /var/chem/gcms/md.i/D072611I.b/a9vdg26.d
Report Date: 27-Jul-2011 13:06

SPIKE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
117 o-tolidine	4000 ~~2000~~	4250	106% ~~212.63*~~	70-130
119 7,12-dimethylbenz(	2000	1870	93.68	70-130
120 3-methylcholanthre	2000	1820	90.87	70-130
176 2-Picoline	2000	1960	98.07	70-130
177 Methapyrilene HCL	~~2000~~	0.00	*	70-130
178 N-Nitroquinoline-	~~2000~~	0.00	*	70-130

JW 7.27.11


Data File: /var/chem/gcms/md.i/D0726111.b/a9vdg26.d
Date : 26-JUL-2011 18:07
Client ID: 2ND SOURCE
Sample Info: A9VDG26,,3,,,2ND SOURCE
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^6)
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
-Phenanthrene-d10+
-Chrysene-d12
-Perylene-d12
Min
/var/chem/gcms/md.i/D0726111.b/a9vdg26.d

Data File: /var/chem/gcms/md.i/D072611I.b/icvdg25.d
Report Date: 27-Jul-2011 09:26

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072611I.b/icvdg25.d
Lab Smp Id: ICVDG25 Client Smp ID: 2ND SOURCE
Inj Date : 25-JUL-2011 15:44
Operator : 60841 Inst ID: md.i
Smp Info : ICVDG25,,3,,,2ND SOURCE
Misc Info : D072511I,8270a9,8270dxnC13.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /var/chem/gcms/md.i/D072611I.b/8270a9.m
Meth Date : 27-Jul-2011 08:43 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 17:42 Cal File: a9dg267.d
Als bottle: 11 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: appdx9.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)(1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	CONCENTRATIONS FINAL (ug/Kg)
* 1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	51393	20.0000	20.0
* 2 Naphthalene-d8	136	5.888	5.888	(1.000)	202378	20.0000	20.0
* 3 Acenaphthene-d10	164	8.485	8.485	(1.000)	122969	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	234541	20.0000	20.0
* 5 Chrysene-d12	240	11.928	11.922	(1.000)	257596	20.0000	20.0
* 6 Perylene-d12	264	13.861	13.855	(1.000)	230089	20.0000	20.0
92 m-cresol	108	4.754	4.754	(1.105)	190035	65.2546	2180
104 m-dinitrobenzene	168	8.203	8.203	(0.967)	79823	78.1459	2600(R)
108 2,3,4,6-tetrachlorophenol	232	8.872	8.872	(1.046)	112992	64.1277	2140
110 diphenylamine	169	9.213	9.207	(0.931)	419299	60.9132	2030

Data File: /var/chem/gcms/md.i/D072611I.b/icvdg25.d
Report Date: 27-Jul-2011 09:26

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: md.i
Lab File ID: icvdg25.d
Lab Smp Id: ICVDG25
Analysis Type: SV
Quant Type: ISTD
Operator: 60841
Calibration Date: 26-JUL-2011
Calibration Time: 15:34
Client Smp ID: 2ND SOURCE
Level: LOW
Sample Type: SOIL
Method File: /var/chem/gcms/md.i/D072611I.b/8270a9.m
Misc Info: D072511I,8270a9,8270dxnC13.sub

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	44644	22322	89288	51393	15.12
2 Naphthalene-d8	172857	86428	345714	202378	17.08
3 Acenaphthene-d10	101300	50650	202600	122969	21.39
4 Phenanthrene-d10	197263	98632	394526	234541	18.90
5 Chrysene-d12	205125	102562	410250	257596	25.58
6 Perylene-d12	176143	88072	352286	230089	30.63

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	4.30	3.80	4.80	4.30	0.00
2 Naphthalene-d8	5.89	5.39	6.39	5.89	0.00
3 Acenaphthene-d10	8.48	7.98	8.98	8.48	0.00
4 Phenanthrene-d10	9.89	9.39	10.39	9.89	0.00
5 Chrysene-d12	11.92	11.42	12.42	11.93	0.05
6 Perylene-d12	13.85	13.35	14.35	13.86	0.09

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

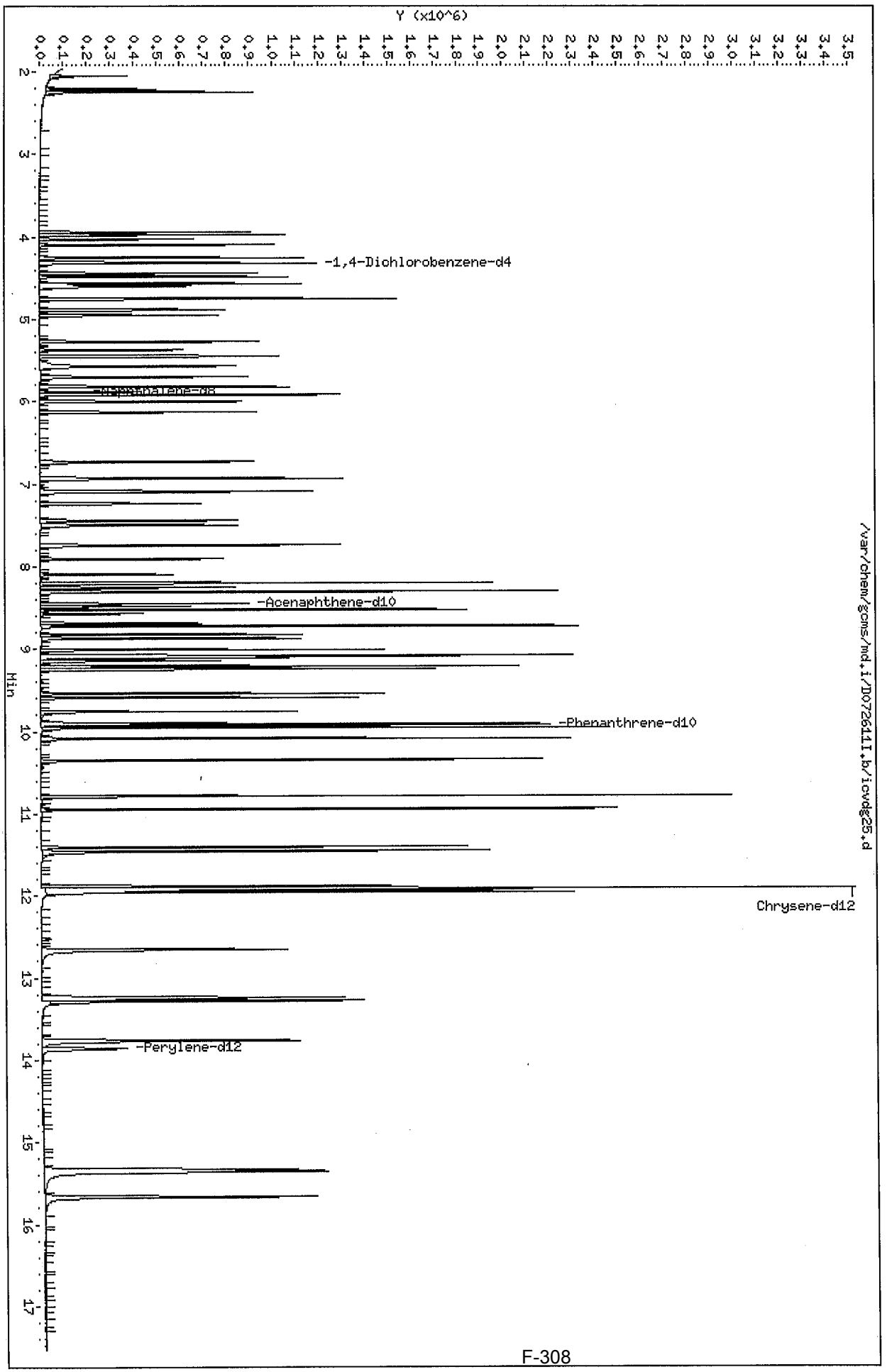
Data File: /var/chem/gcms/md.i/D072611I.b/icvdg25.d
Report Date: 27-Jul-2011 09:26

TestAmerica Knoxville

RECOVERY REPORT

Client Name:
Client SDG: D072511I
Sample Matrix: SOLID
Fraction: SV
Lab Smp Id: ICVDG25
Client Smp ID: 2ND SOURCE
Level: LOW
Operator: 60841
Data Type: MS DATA
SampleType: BLANK
SpikeList File: a9lcs.spk
Quant Type: ISTD
Sublist File: appdx9.sub
Method File: /var/chem/gcms/md.i/D072611I.b/8270a9.m
Misc Info: D072511I,8270a9,8270dxnC13.sub

SPIKE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
86 N-nitrosomethylet	2000	0.00	*	70-130
87 Methyl methanosul	2000	0.00	*	70-130
88 N-nitrosodiethyla	2000	0.00	*	70-130
89 Ethyl methanosulf	2000	0.00	*	70-130
90 Pentachloroethane	2000	0.00	*	70-130
91 acetophenone	2000	0.00	*	70-130
92 m-cresol	2000	2180	108.76	70-130
93 n-nitrosopyrrolid	2000	0.00	*	70-130
94 n-nitrosomorpholi	2000	0.00	*	70-130
95 o-toluidine	2000	0.00	*	70-130
96 n-nitrosopiperidi	2000	0.00	*	70-130
97 2,6-dichlorophenol	2000	0.00	*	70-130
98 hexachloropropene	2000	0.00	*	70-130
99 N-nitro-di-n-buty	2000	0.00	*	70-130
100 Isosafrole	2000	0.00	*	70-130
101 1,2,4,5-tetrachlo	2000	0.00	*	70-130
102 safrole	2000	0.00	*	70-130
103 1-chloronaphthale	2000	0.00	*	70-130
104 m-dinitrobenzene	2000	2600	130.24*	70-130 ok.
105 pentachlorobenzene	2000	0.00	*	70-130
106 1-naphthylamine	2000	0.00	*	70-130
107 2-naphthylamine	2000	0.00	*	70-130
108 2,3,4,6-tetrachlor	2000	2140	106.88	70-130
109 5-nitro-o-toluidi	2000	0.00	*	70-130
110 diphenylamine	2000	2030	101.52	70-130
111 1,3,5-trinitroben	2000	0.00	*	70-130
112 phenacetin	2000	0.00	*	70-130
113 4-aminobiphenyl	2000	0.00	*	70-130
114 pentachloronitrob	2000	0.00	*	70-130
115 Dinoseb	2000	0.00	*	70-130
84 Benzidine	2000	0.00	*	70-130
116 p-(dimethylamino)	2000	0.00	*	70-130
118 2-acetylaminofluo	2000	0.00	*	70-130


Data File: /var/chem/gcms/md.i/D072611I.b/icvdg25.d
Date : 25-JUL-2011 15:44
Client ID: 2ND SOURCE
Sample Info: ICVDG25,3,,,2ND SOURCE
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^6)
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
-Phenanthrene-d10
Chrysene-d12
-Perylene-d12
/var/chem/gcms/md.i/D072611I.b/icvdg25.d
Min

TestAmerica Knoxville Semivolatile GC/MS Continuing Calibration Review / Narrative Checklist
Method 8270C - KNOX-MS-0016, Rev 10 and Method TO-13A Mod – KNOX-MS-0017, Rev 4

Analysis Date:	7/27/11	CCAL Batch/ Scan Name:	D072711	Instrument:	MD	ICAL Batch/ Scan Name:	D072611I	Scanned □

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd □
1. Did DFTPP meet tune criteria?		✓			✓
2. Was DDT breakdown ≤20% & benzidine tailing ≤3 and PCP tailing ≤5?		✓			✓
3. Were all standards injected within 12 hr of DFTPP?		✓			✓
4. Was date/time of analysis verified between analysis header and logbook as correct?		✓			✓
5. Are the RFs for SPCCs ≥0.050? (8270C)		✓			✓
6. Do the RFs meet minimum criteria? (TO-13 A mod)		✓			✓
7. Is the %D or drift ≤20% for all CCCs? (8270C)		✓			✓
8. Is the %D or drift ≤30% for all target analytes? (TO-13A Mod)		✓			✓
9. Is the %D or drift ≤ 30% for all other compounds? [Up to 3 TCLs may have %D or drift ≤ 40%; any more and the calibration is INVALID; 3 add'l allowed for App IX and CLP 4.2].		✓		□ %D or drift > 30% for the following TCLs: _____	✓
10. Are the internal standard responses within limits? (50-200% of the mid-level ICAL standard)		✓			✓
11. Are the internal standard retention times within limits? (30 seconds of the mid-level ICAL standard)		✓			✓
12. Were all peaks identified automatically? *If not, list analytes:* _____		✓			✓
13. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
14. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?	✓				NA
15. Was the correct ICAL used for quantitation? (Verify date & time of ICAL is documented correctly on CCAL.)		✓			✓
16. Is the first IS documented correctly on the log?		✓			✓
17. Elution order checked on isomeric pairs/coeluters?					
• 1,4-dichlorobenzene-d4 / 1,2-dichlorobenzene-d4		✓			✓
• aniline / bis(2-chloroethyl)ether		✓			✓
• 1,3- , 1,4- , 1,2-dichlorobenzene		✓			✓
• benzyl alcohol / 2-methylphenol / 4-methylphenol		✓			✓
• 2,4,6- and 2,4,5-trichlorophenol		✓			✓
• phenanthrene / anthracene		✓			✓
• fluoranthene / pyrene		✓			✓
• benzo(a)anthracene / chrysene		✓			✓
• bis(2-ethylhexyl)/di-n-octyl phthalate		✓			✓
• benzo(b)fluoranthene / benzo(k)fluoranthene		✓			✓
• indeno(1,2,3-cd)pyrene / benzo(g,h,i)perylene		✓			✓
• safrole/1-chloronaphthalene/2- chloronaphthalene		✓			✓
• 1-/2-naphthylamine		✓			✓
18. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓			NCM #: _____	NA
19. Does the CCAL folder contain **complete** data in the following order? Data review checklist, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quant report, chromatogram and manual integrations.		✓			✓

Analyst: KRM	Date: 7/27/11	2nd Level Reviewer: [signature]	Date: 7/29/11
Comments:		Comments:	

TestAmerica Knoxville
Instrument MD Run/Maintenance Log

Preventive Maintenance Performed ☑ **Daily** INJ **Date/Time Verified** ☑

Target Batch	D072711			Date	7/27/11
ICAL Batch	D072611I			Analyst	KRM
IS #1	(8270) 44395			Internal Std ID*	EM3035

* was added to all sample extracts at 3 ul per 300 ul unless noted. Instrument injection volume is 1 ul unless otherwise noted.

Lot	Filename	Time	Dil.	Matrix	Batch	Comments
Inst Blk	INST BLK	1530	—	—	—	
Tune	DFDG27	1550	—	EM3057A	—	
8270 ccv	CCDG274	1602	—	EM3076	—	
A9 ccv	A9DG274	1627	—	EM3081	—	
Extra ccv	XCDG274	1653	—	EM3082	—	
BLK	MK3QE1AA	1721	—	Air	1202165	ICR.506
LCS	MK3QE1AC	1750	—	↓	↓	↓
DUP	MK3QE1AD	1818	—	↓	↓	↓
HIG140461	MKW931AA	1847	—	↓	↓	↓
↓	MKW971AA	1915	—	↓	↓	↓
↓	MKXAQ1AA	1944	—	↓	↓	↓
BLK	MK2DQ1AA	2012	—	Air	1201076	↓
LCS	MK2DQ1AC	2041	—	↓	↓	↓
DUP	MK2DQ1AD	2109	—	↓	↓	↓
HIG190403	MK09P1AA	2138	—	↓	↓	↓
↓	MK09Q1AA	2206	—	↓	↓	↓
↓	MK09R1AA	2235	—	↓	↓	↓
↓	MK09T1AA	2304	—	↓	↓	↓
↓	MK09V1AA	2332	—	↓	↓	↓
HIG200446	MK2HW1AA	0001	—	↓	↓	↓
↓	MK2H01AA	0030	—	↓	↓	↓
↓	MK2H11AA	0058	—	↓	↓	↓
↓	MK2H21AA	0127	—	↓	↓	↓
↓	MK2H61AA	0156	—	↓	↓	↓

KRM 7/28/11

Comments: _____

Data File: /chem/goms/md.i/D072711.b/dfdg27.d

Date : 27-JUL-2011 15:50

Client ID: Tune

Instrument: md.i

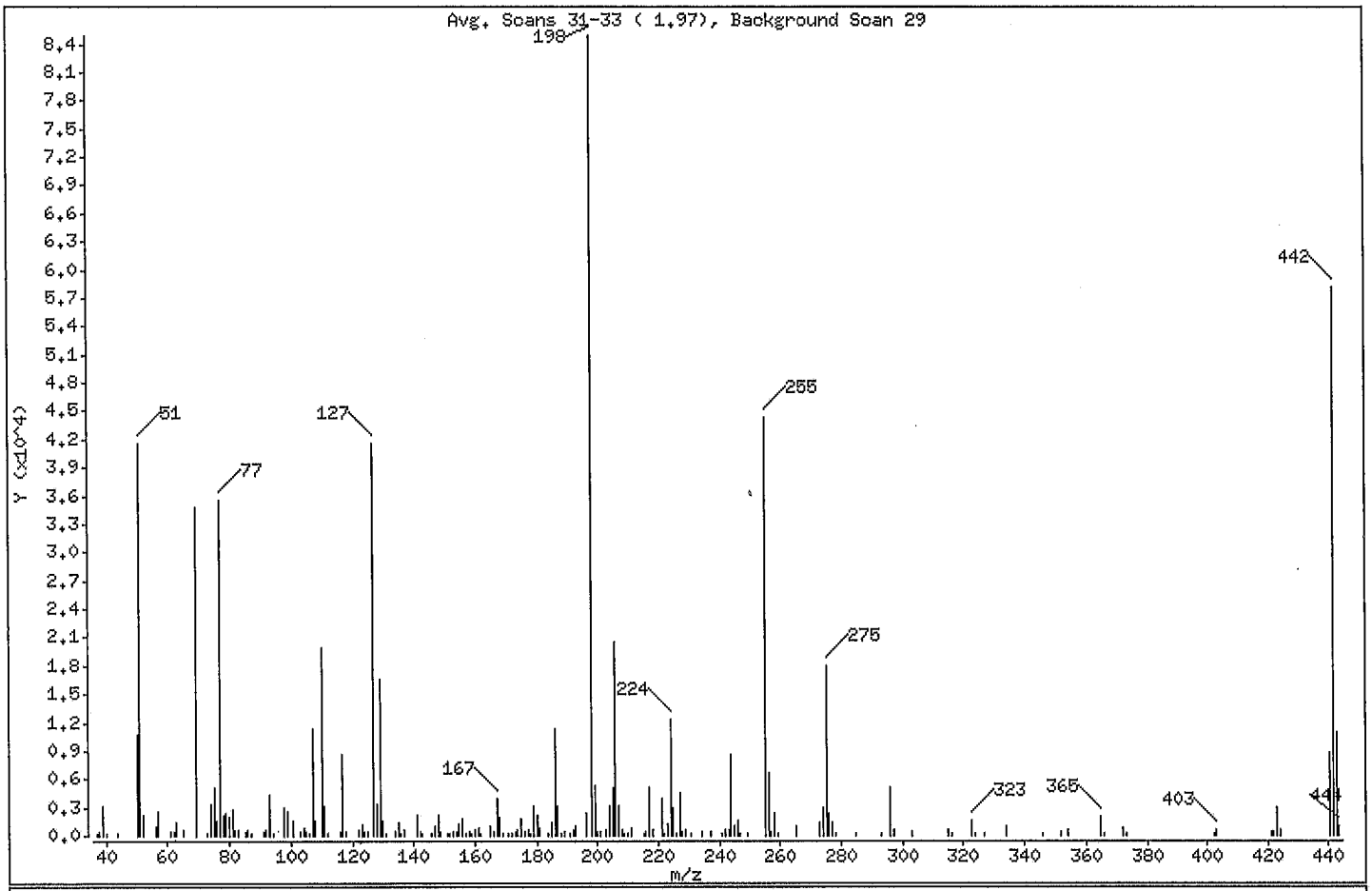
Sample Info: DFDG27,,3,,DFTPP,

Operator: 60841

Column phase: Rxi-5 Sil MS

Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	48.98
68	Less than 1.99% of mass 69	0.00 (0.00)
69	Present, but less than mass 198	40.91
70	Less than 1.99% of mass 69	0.00 (0.00)
127	40.00 - 60.00% of mass 198	48.87
197	Less than 0.99% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.21
275	10.00 - 30.00% of mass 198	21.23
365	1.01 - 100.00% of mass 198	2.41
441	Present, but less than mass 443	10.44
442	50.01 - 110.00% of mass 198	68.49
443	17.00 - 23.00% of mass 442	12.91 (18.84)

Data File: /chem/gcms/md.i/D072711.b/dfdg27.d

Date : 27-JUL-2011 15:50

Client ID: Tune

Instrument: md.i

Sample Info: DFDG27,,3,,DFTPP,

Operator: 60841

Column phase: Rxi-5 Sil MS

Column diameter: 0.25

Data File: dfdg27.d

Spectrum: Avg. Scans 31-33 (1.97), Background Scan 29

Location of Maximum: 198.00

Number of points: 183

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	188	117.00	8575	178.00	199	244.00	8612
38.00	350	118.00	446	179.00	3091	245.00	1014
39.00	3140	122.00	506	180.00	2175	246.00	1573
40.00	223	123.00	1130	181.00	816	247.00	262
44.00	202	124.00	344	184.00	173	249.00	167
50.00	10759	125.00	441	185.00	1402	255.00	44368
51.00	41576	127.00	41488	186.00	11376	256.00	6564
52.00	2131	128.00	3395	187.00	3078	257.00	350
56.00	1061	129.00	16672	188.00	167	258.00	2346
57.00	2523	130.00	1608	189.00	450	259.00	227
61.00	346	131.00	224	191.00	220	265.00	986
62.00	309	134.00	328	192.00	653	273.00	1283
63.00	1308	135.00	1409	193.00	1017	274.00	2880
65.00	659	136.00	291	196.00	2255	275.00	18024
69.00	34736	137.00	532	198.00	84904	276.00	2292
73.00	211	141.00	2051	199.00	5272	277.00	1359
74.00	3326	142.00	475	200.00	399	278.00	188
75.00	5058	143.00	290	201.00	353	285.00	237
76.00	1542	146.00	269	203.00	524	293.00	209
77.00	35472	147.00	959	204.00	3086	296.00	5121
78.00	2155	148.00	2050	205.00	5113	297.00	606
79.00	2319	149.00	349	206.00	20536	303.00	400
80.00	1899	151.00	222	207.00	3178	315.00	543
81.00	2641	152.00	171	208.00	543	316.00	183
82.00	502	153.00	450	209.00	172	323.00	1588
83.00	526	154.00	395	210.00	257	324.00	189
85.00	353	155.00	1090	211.00	835	327.00	170
86.00	606	156.00	1777	215.00	232	334.00	1061
87.00	231	157.00	239	216.00	466	346.00	244
91.00	425	158.00	307	217.00	5016	352.00	317
92.00	492	159.00	206	218.00	526	354.00	561
93.00	4376	160.00	582	221.00	3853	365.00	2044
94.00	212	161.00	828	222.00	226	366.00	182
98.00	2974	162.00	182	223.00	1112	372.00	740
99.00	2585	165.00	1037	224.00	12383	373.00	167

Data File: /chem/goms/md.i/D072711.b/dfdg27.d

Date : 27-JUL-2011 15:50

Client ID: Tune

Instrument: md.i

Sample Info: DFDG27,,3,,DFTPP,

Operator: 60841

Column phase: Rxi-5 Sil MS

Column diameter: 0.25

Data File: dfdg27.d

Speotrum: Avg. Soans 31-33 (1.97), Background Soan 29

Looation of Maximum: 198.00

Number of points: 183

m/z	Y	m/z	Y	m/z	Y	m/z	Y
101.00	1599	166.00	312	225.00	2878	402.00	179
103.00	383	167.00	3992	226.00	260	403.00	556
104.00	689	168.00	1986	227.00	4394	421.00	436
105.00	487	169.00	274	228.00	448	422.00	454
106.00	234	171.00	179	229.00	678	423.00	2854
107.00	11359	172.00	188	231.00	274	424.00	670
108.00	1654	173.00	318	234.00	295	441.00	8863
110.00	19840	174.00	588	237.00	335	442.00	58152
111.00	3049	175.00	1845	241.00	224	443.00	10958
112.00	286	176.00	344	242.00	552	444.00	991
116.00	482	177.00	532	243.00	567		

Data File: /chem/goms/md.i/D072711.b/dfdg27.d

Date : 27-JUL-2011 15:50

Client ID: Tune

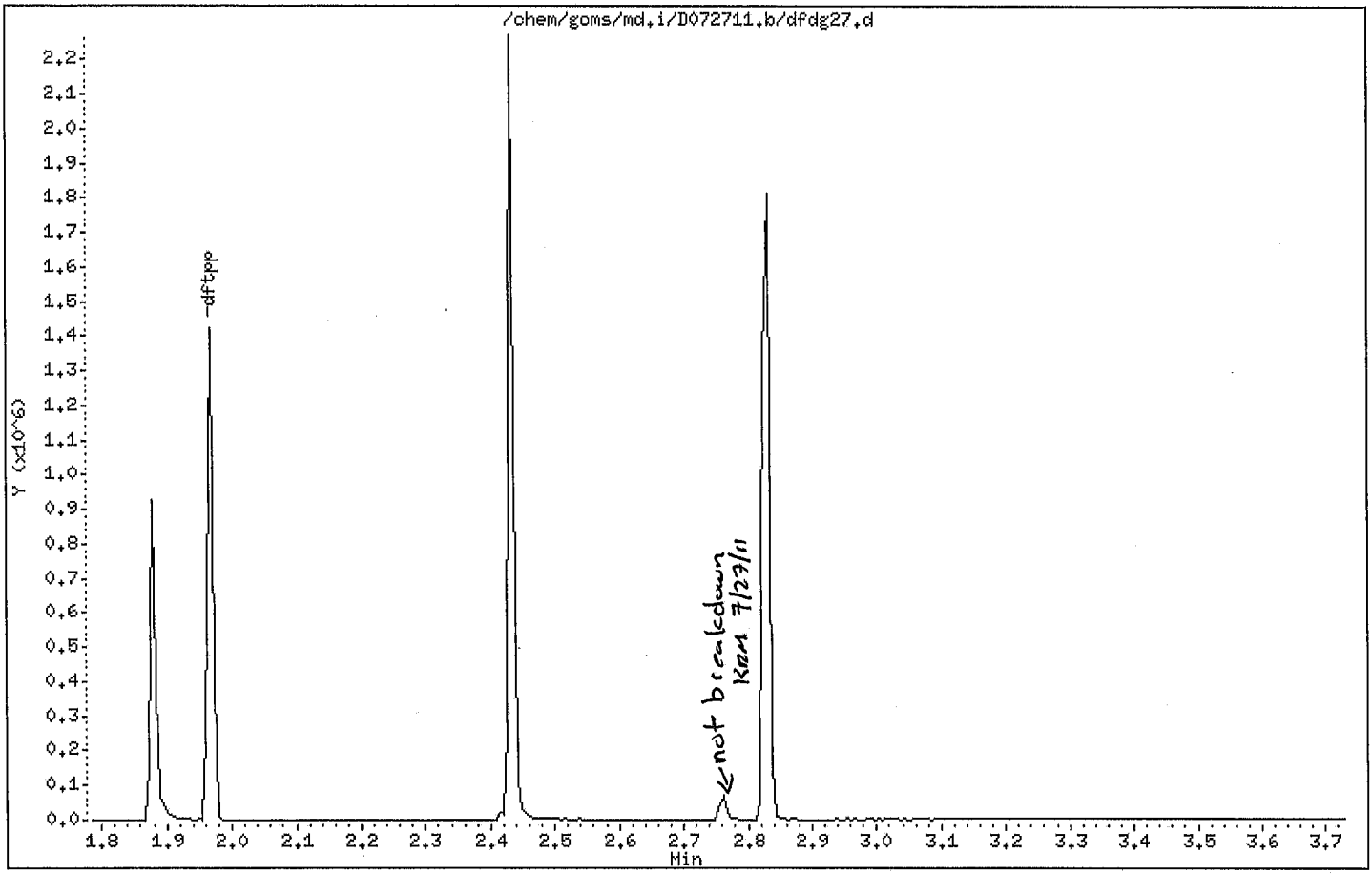
Instrument: md.i

Sample Info: DFDG27,,3,,DFTPP,

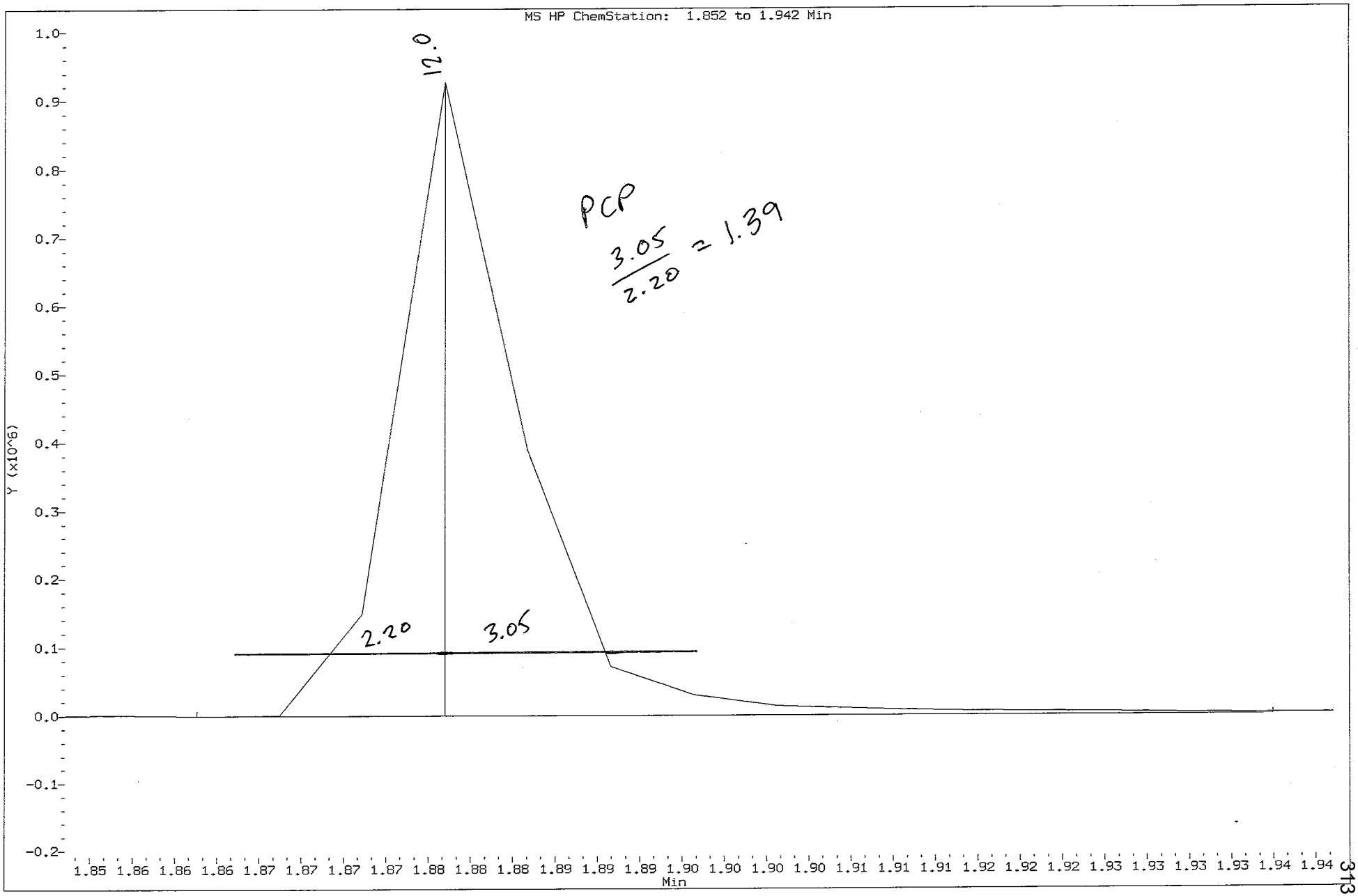
Operator: 60841

Column phase: Rxi-5 Sil MS

Column diameter: 0.25



Data File: /var/chem/gcms/md.i/D072711.b/dfdg27.d
Injection Date: 27-JUL-2011 15:50
Instrument: md.i
Client Sample ID: Tune



PCP

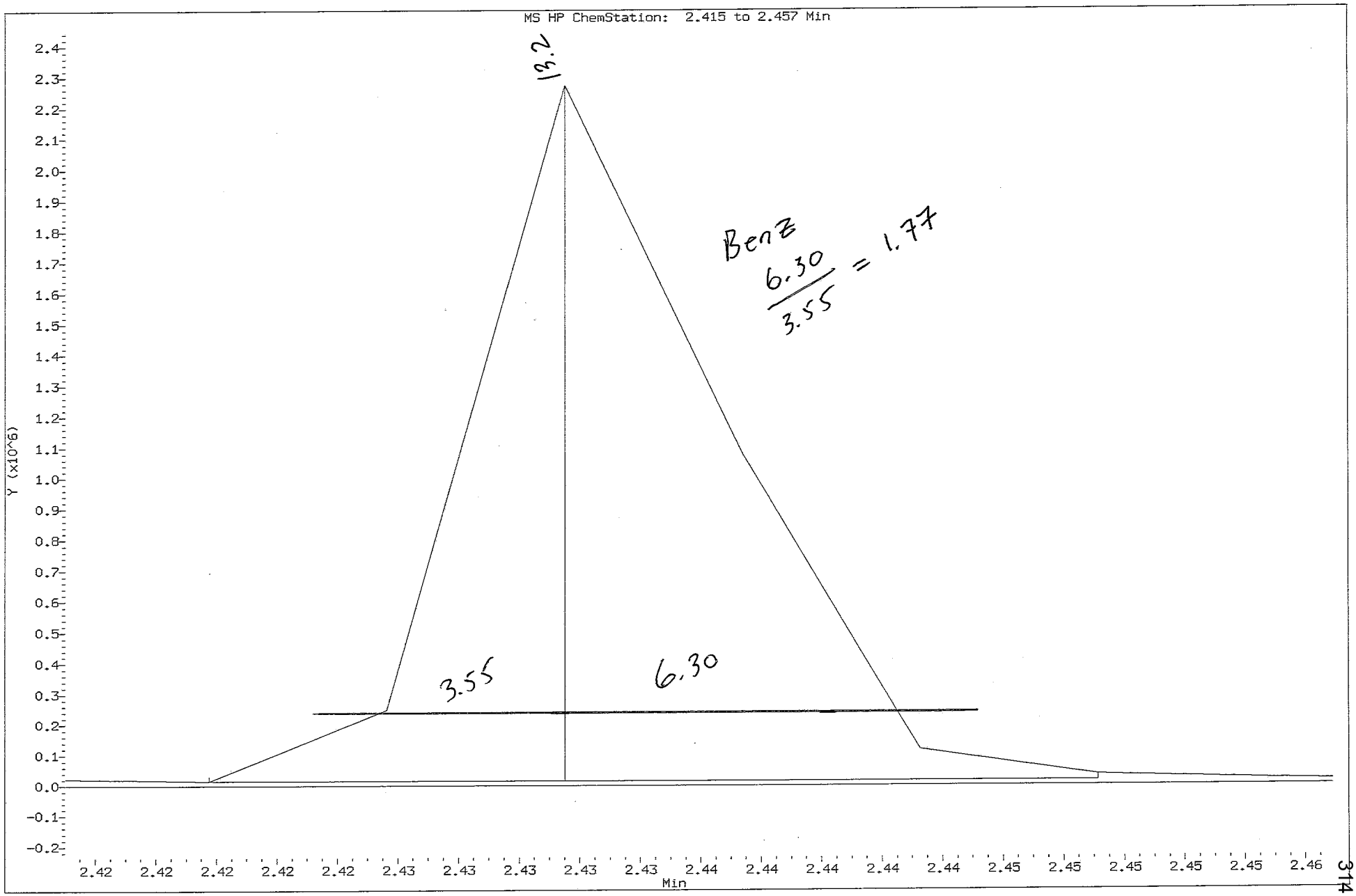
$\frac{3.05}{2.20} = 1.39$

F-315

11-234

313

Data File: /var/chem/gcms/md.i/D072711.b/dfdg27.d
Injection Date: 27-JUL-2011 15:50
Instrument: md.i
Client Sample ID: Tune



Data File: /chem/gcms/md.i/D072711.b/ccdg274.d
Report Date: 27-Jul-2011 16:20

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: md.i
Lab File ID: ccdg274.d
Analysis Type: SOIL
Lab Sample ID: CCDG274
Method: /chem/gcms/md.i/D072711.b/8270a9.m

Injection Date: 27-JUL-2011 16:02
Init. Cal. Date(s): 25-JUL-2011 26-JUL-2011
Init. Cal. Times: 12:21 17:42
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF60	CCAL RRF60	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 7 2-Fluorophenol	1.10417	1.21266	1.21266	0.000	-9.82561	30.00000	Averaged
$ 8 Phenol-d5	1.32392	1.45448	1.45448	0.000	-9.86113	30.00000	Averaged
$ 9 Nitrobenzene-d5	0.31871	0.32930	0.32930	0.000	-3.32403	30.00000	Averaged
$ 10 2-Fluorobiphenyl	1.25112	1.26743	1.26743	0.000	-1.30429	30.00000	Averaged
$ 11 2,4,6-Tribromophenol	0.08007	0.08427	0.08427	0.000	-5.24498	30.00000	Averaged
$ 12 Terphenyl-d14	0.75982	0.76182	0.76182	0.000	-0.26344	30.00000	Averaged
$ 179 13C6-naphthalene	1.08685	1.04210	1.04210	0.000	4.11748	30.00000	Averaged
175 1,4-Dioxane	0.42953	0.43039	0.43039	0.000	-0.19946	30.00000	Averaged
13 N-Nitrosodimethylamine	0.62419	0.68481	0.68481	0.000	-9.71278	30.00000	Averaged
14 Pyridine	1.08883	1.21660	1.21660	0.000	-11.73453	30.00000	Averaged
15 Phenol (ccc)	1.36159	1.48807	1.48807	0.800	-9.28901	20.00000	Averaged
16 Aniline	1.68746	1.81744	1.81744	0.000	-7.70308	30.00000	Averaged
17 Bis(2-chloroethyl)ether	1.02217	1.09703	1.09703	0.700	-7.32355	30.00000	Averaged
18 2-Chlorophenol	1.22509	1.34785	1.34785	0.800	-10.02042	30.00000	Averaged
19 1,3-Dichlorobenzene	1.39019	1.48269	1.48269	0.000	-6.65420	30.00000	Averaged
20 1,4-Dichlorobenzene (ccc)	1.42020	1.48122	1.48122	0.000	-4.29643	20.00000	Averaged
21 Benzyl alcohol	0.80411	0.87655	0.87655	0.000	-9.00924	30.00000	Averaged
22 1,2-Dichlorobenzene	1.36699	1.42450	1.42450	0.000	-4.20715	30.00000	Averaged
23 2-Methylphenol	1.07590	1.18030	1.18030	0.700	-9.70310	30.00000	Averaged
24 2,2'-Oxybis(1-Chloropropane	1.95048	2.11372	2.11372	0.010	-8.36892	30.00000	Averaged
25 4-Methylphenol	1.10939	1.23294	1.23294	0.600	-11.13752	30.00000	Averaged
26 3&4 Methylphenol	1.10939	1.23294	1.23294	0.600	-11.13752	30.00000	Averaged
27 N-Nitroso-di-n-propylamine#	0.81631	0.88889	0.88889	0.500	-8.89085	30.00000	Averaged
28 Hexachloroethane	0.53310	0.56045	0.56045	0.300	-5.13018	30.00000	Averaged
29 Nitrobenzene	0.31224	0.32229	0.32229	0.200	-3.22067	30.00000	Averaged
30 Isophorone	0.51349	0.54714	0.54714	0.400	-6.55359	30.00000	Averaged
31 2-Nitrophenol (ccc)	0.15871	0.17421	0.17421	0.100	-9.77143	20.00000	Averaged
32 2,4-Dimethyphenol	0.33554	0.35239	0.35239	0.200	-5.02182	30.00000	Averaged
33 Bis(2-chloroethoxy)methane	0.33677	0.35185	0.35185	0.300	-4.47614	30.00000	Averaged
34 Benzoic acid	61.35015	60.00000	0.15188	0.000	-2.25024	30.00000	Quadratic
35 2,4-Dichlorophenol (ccc)	0.27272	0.28827	0.28827	0.200	-5.70252	20.00000	Averaged
36 1,2,4-Trichlorobenzene	0.31318	0.31827	0.31827	0.000	-1.62552	30.00000	Averaged
37 Naphthalene	0.95835	0.97678	0.97678	0.700	-1.92281	30.00000	Averaged
38 4-Chloroaniline	0.39823	0.41934	0.41934	0.010	-5.29978	30.00000	Averaged
39 Hexachlorobutadiene (ccc)	0.19689	0.19467	0.19467	0.010	1.12471	20.00000	Averaged

Data File: /chem/gcms/md.i/D072711.b/ccdg274.d
Report Date: 27-Jul-2011 16:20

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: md.i
Lab File ID: ccdg274.d
Analysis Type: SOIL
Lab Sample ID: CCDG274
Method: /chem/gcms/md.i/D072711.b/8270a9.m

Injection Date: 27-JUL-2011 16:02
Init. Cal. Date(s): 25-JUL-2011 26-JUL-2011
Init. Cal. Times: 12:21 17:42
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF60	CCAL RRF60	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
40 4-Chloro-3-methylphenol (cc	0.26166	0.28208	0.28208	0.200	-7.80181	20.00000	Averaged
41 2-Methylnaphthalene	0.64823	0.67264	0.67264	0.400	-3.76588	30.00000	Averaged
42 Hexachlorocyclopentadiene##	0.31114	0.32145	0.32145	0.050	-3.31515	30.00000	Averaged
43 2,4,6-Trichlorophenol (ccc)	0.32021	0.34353	0.34353	0.200	-7.28388	20.00000	Averaged
44 2,4,5-Trichlorphenol	0.36035	0.38451	0.38451	0.200	-6.70674	30.00000	Averaged
45 2-Chloronaphthalene	1.06797	1.09274	1.09274	0.800	-2.32004	20.00000	Averaged
46 2-Nitroaniline	61.91357	60.00000	0.33056	0.010	-3.18928	30.00000	Linear
47 Acenaphthylene	1.70598	1.79010	1.79010	1.300	-4.93081	30.00000	Averaged
48 Dimethyl phthalate	1.32054	1.30790	1.30790	0.010	0.95700	30.00000	Averaged
49 2,6-Dinitrotoluene	0.27720	0.30349	0.30349	0.200	-9.48294	30.00000	Averaged
50 3-Nitroaniline	0.31963	0.34694	0.34694	0.010	-8.54449	30.00000	Averaged
51 Acenaphthene (ccc)	1.12880	1.15755	1.15755	0.900	-2.54641	20.00000	Averaged
52 2,4-Dinitrophenol ##spcc##	56.29163	60.00000	0.15643	0.050	6.18062	30.00000	Quadratic
53 Dibenzofuran	1.57316	1.59161	1.59161	0.800	-1.17295	30.00000	Averaged
54 4-Nitrophenol ##spcc##	0.17245	0.18283	0.18283	0.050	-6.01512	30.00000	Averaged
55 2,4-Dinitrotoluene	0.36278	0.40266	0.40266	0.200	-10.99220	30.00000	Averaged
56 Fluorene	1.30247	1.33977	1.33977	0.900	-2.86363	30.00000	Averaged
57 4-Chlorophenyl phenyl ether	0.62959	0.64423	0.64423	0.400	-2.32626	30.00000	Averaged
58 Diethyl phthalate	56.92199	60.00000	1.31182	0.010	5.13001	30.00000	Linear
59 4-Nitroaniline	0.33364	0.36184	0.36184	0.010	-8.45458	30.00000	Averaged
60 4,6-Dinitro-2-methylphenol	55.51025	60.00000	0.11428	0.010	7.48292	30.00000	Linear
61 N-Ndpa / diphenylamine (ccc	0.57601	0.59323	0.59323	0.010	-2.98886	20.00000	Averaged
62 1,2-Diphenylhydrazine/azobn	0.59563	0.60606	0.60606	0.000	-1.75202	30.00000	Averaged
63 4-Bromophenyl phenyl ether	0.18588	0.19070	0.19070	0.010	-2.59079	30.00000	Averaged
64 Hexachlorobenzene	0.19836	0.20073	0.20073	0.100	-1.19289	30.00000	Averaged
65 Pentachlorophenol (ccc)	59.21909	60.00000	0.14500	0.050	1.30151	20.00000	Linear
66 Phenanthrene	1.07144	1.06565	1.06565	0.700	0.53978	30.00000	Averaged
67 Anthracene	1.03950	1.09118	1.09118	0.700	-4.97177	30.00000	Averaged
68 Carbazole	0.94870	0.99078	0.99078	0.010	-4.43571	30.00000	Averaged
69 Di-n-butyl phthalate	1.04310	1.15444	1.15444	0.010	-10.67424	20.00000	Averaged
70 Fluoranthene (ccc)	1.10421	1.22158	1.22158	0.600	-10.62950	20.00000	Averaged
71 Pyrene	1.13263	1.17312	1.17312	0.600	-3.57474	30.00000	Averaged
72 Butyl benzyl phthalate	59.28894	60.00000	0.49183	0.010	1.18511	30.00000	Linear
73 Benzo(a)Anthracene	0.99170	1.05662	1.05662	0.800	-6.54600	30.00000	Averaged
74 3,3'-Dichlorobenzidine	0.36945	0.39431	0.39431	0.010	-6.72776	30.00000	Averaged

Data File: /chem/gcms/md.i/D072711.b/ccdg274.d
Report Date: 27-Jul-2011 16:20

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: md.i
Lab File ID: ccdg274.d
Analysis Type: SOIL
Lab Sample ID: CCDG274
Method: /chem/gcms/md.i/D072711.b/8270a9.m

Injection Date: 27-JUL-2011 16:02
Init. Cal. Date(s): 25-JUL-2011 26-JUL-2011
Init. Cal. Times: 12:21 17:42
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF60	CCAL RRF60	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
75 Chrysene	1.05787	1.05341	1.05341	0.700	0.42193	30.00000	Averaged
76 Bis(2-ethylhexyl) phthalate	60.04059	60.00000	0.67251	0.010	-0.06765	30.00000	Linear
77 Di-n-octyl phthalate (ccc)	62.06116	60.00000	1.20256	0.010	-3.43527	20.00000	Quadratic
78 Benzo(b)fluoranthene	1.00346	1.10473	1.10473	0.700	-10.09217	30.00000	Averaged
79 Benzo(k)fluoranthene	1.20923	1.28396	1.28396	0.700	-6.18038	30.00000	Averaged
80 Benzo(a)pyrene (ccc)	61.04077	60.00000	1.10654	0.700	-1.73461	20.00000	Linear
81 Indeno(1,2,3-cd)pyrene	1.09627	1.19435	1.19435	0.500	-8.94677	30.00000	Averaged
82 Dibenz(a,h)anthracene	0.89684	0.97607	0.97607	0.400	-8.83372	30.00000	Averaged
83 Benzo(g,h,i)perylene	0.96717	1.03351	1.03351	0.500	-6.85916	30.00000	Averaged

Data File: /chem/gcms/md.i/D072711.b/ccdg274.d
Report Date: 27-Jul-2011 16:20

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /chem/gcms/md.i/D072711.b/ccdg274.d
Lab Smp Id: CCDG274 Client Smp ID: STD060
Inj Date : 27-JUL-2011 16:02
Operator : 60841 Inst ID: md.i
Smp Info : CCDG274,,2,4,,STD060,
Misc Info : D072711,8270a9,8270dxnC13.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /chem/gcms/md.i/D072711.b/8270a9.m
Meth Date : 27-Jul-2011 16:20 chemist Quant Type: ISTD
Cal Date : 26-JUL-2011 17:42 Cal File: a9dg267.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8270dxnC13.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL) (1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
* 1	1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	44395	20.0000	20.0
* 2	Naphthalene-d8	136	5.887	5.887	(1.000)	182374	20.0000	20.0
* 3	Acenaphthene-d10	164	8.484	8.484	(1.000)	111075	20.0000	20.0
* 4	Phenanthrene-d10	188	9.895	9.895	(1.000)	217977	20.0000	20.0
* 5	Chrysene-d12	240	11.928	11.928	(1.000)	247793	20.0000	20.0
* 6	Perylene-d12	264	13.855	13.855	(1.000)	221015	20.0000	20.0
$ 7	2-Fluorophenol	112	3.126	3.126	(0.727)	161508	60.0000	65.9
$ 8	Phenol-d5	99	3.931	3.931	(0.914)	193715	60.0000	65.9
$ 9	Nitrobenzene-d5	82	4.930	4.930	(0.837)	180168	60.0000	62.0
$ 10	2-Fluorobiphenyl	172	7.591	7.591	(0.895)	422341	60.0000	60.8
$ 11	2,4,6-Tribromophenol	330	9.307	9.307	(0.941)	55106	60.0000	63.1
$ 12	Terphenyl-d14	244	11.046	11.046	(0.926)	566320	60.0000	60.2
$ 179	13C6-naphthalene	134	5.917	5.917	(1.005)	570157	60.0000	57.5
175	1,4-Dioxane	88	2.051	2.051	(0.477)	57321	60.0000	60.1

Data File: /chem/gcms/md.i/D072711.b/ccdg274.d
Report Date: 27-Jul-2011 16:20

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
13 N-Nitrosodimethylamine	74	2.203	2.203	(0.512)	91206	60.0000	65.8
14 Pyridine	79	2.245	2.245	(0.522)	162032	60.0000	67.0
15 Phenol (ccc)	94	3.949	3.949	(0.918)	198188	60.0000	65.6
16 Aniline	93	3.972	3.972	(0.923)	242056	60.0000	64.6
17 Bis(2-chloroethyl)ether	93	4.031	4.031	(0.937)	146108	60.0000	64.4
18 2-Chlorophenol	128	4.095	4.095	(0.952)	179513	60.0000	66.0
19 1,3-Dichlorobenzene	146	4.248	4.248	(0.988)	197472	60.0000	64.0
20 1,4-Dichlorobenzene (ccc)	146	4.319	4.319	(1.004)	197276	60.0000	62.6
21 Benzyl alcohol	108	4.436	4.436	(1.031)	116743	60.0000	65.4
22 1,2-Dichlorobenzene	146	4.483	4.483	(1.042)	189722	60.0000	62.5
23 2-Methylphenol	108	4.565	4.565	(1.061)	157198	60.0000	65.8
24 2,2'-Oxybis(1-Chloropropane)	45	4.595	4.595	(1.068)	281516	60.0000	65.0
25 4-Methylphenol	108	4.753	4.753	(1.105)	164209	60.0000	66.7
26 3&4 Methylphenol	108	4.753	4.753	(1.105)	164209	60.0000	66.7
27 N-Nitroso-di-n-propylamine###	70	4.748	4.748	(1.104)	118386	60.0000	65.3
28 Hexachloroethane	117	4.883	4.883	(1.135)	74643	60.0000	63.1
29 Nitrobenzene	77	4.953	4.953	(0.841)	176334	60.0000	61.9
30 Isophorone	82	5.271	5.271	(0.895)	299352	60.0000	63.9
31 2-Nitrophenol (ccc)	139	5.370	5.370	(0.912)	95316	60.0000	65.9
32 2,4-Dimethyphenol	107	5.447	5.447	(0.925)	192800	60.0000	63.0
33 Bis(2-chloroethoxy)methane	93	5.570	5.570	(0.946)	192503	60.0000	62.7
34 Benzoic acid	122	5.582	5.582	(0.948)	83096	60.0000	61.4
35 2,4-Dichlorophenol (ccc)	162	5.705	5.705	(0.969)	157721	60.0000	63.4
36 1,2,4-Trichlorobenzene	180	5.823	5.823	(0.989)	174134	60.0000	61.0
37 Naphthalene	128	5.923	5.923	(1.006)	534419	60.0000	61.2
38 4-Chloroaniline	127	5.999	5.999	(1.019)	229430	60.0000	63.2
39 Hexachlorobutadiene (ccc)	225	6.128	6.128	(1.041)	106511	60.0000	59.3
40 4-Chloro-3-methylphenol (ccc)	107	6.734	6.734	(1.144)	154331	60.0000	64.7
41 2-Methylnaphthalene	142	6.933	6.933	(1.178)	368016	60.0000	62.2
42 Hexachlorocyclopentadiene####	237	7.239	7.239	(0.853)	107116	60.0000	62.0
43 2,4,6-Trichlorophenol (ccc)	196	7.444	7.444	(0.877)	114474	60.0000	64.4
44 2,4,5-Trichlorphenol	196	7.497	7.497	(0.884)	128129	60.0000	64.0
45 2-Chloronaphthalene	162	7.744	7.744	(0.913)	364130	60.0000	61.4
46 2-Nitroaniline	65	7.909	7.909	(0.932)	110151	60.0000	61.9
47 Acenaphthylene	152	8.308	8.308	(0.979)	596506	60.0000	63.0
48 Dimethyl phthalate	163	8.202	8.202	(0.967)	435825	60.0000	59.4
49 2,6-Dinitrotoluene	165	8.249	8.249	(0.972)	101130	60.0000	65.7
50 3-Nitroaniline	138	8.449	8.449	(0.996)	115608	60.0000	65.1
51 Acenaphthene (ccc)	153	8.520	8.520	(1.004)	385724	60.0000	61.5
52 2,4-Dinitrophenol ##spcc##	184	8.573	8.573	(1.010)	52125	60.0000	56.3
53 Dibenzofuran	168	8.719	8.719	(1.028)	530364	60.0000	60.7
54 4-Nitrophenol ##spcc##	109	8.684	8.684	(1.024)	60922	60.0000	63.6
55 2,4-Dinitrotoluene	165	8.725	8.725	(1.028)	134176	60.0000	66.6
56 Fluorene	166	9.078	9.078	(1.070)	446444	60.0000	61.7
57 4-Chlorophenyl phenyl ether	204	9.096	9.096	(1.072)	214674	60.0000	61.4
58 Diethyl phthalate	149	9.007	9.007	(1.062)	437130	60.0000	56.9
59 4-Nitroaniline	138	9.107	9.107	(1.073)	120575	60.0000	65.1

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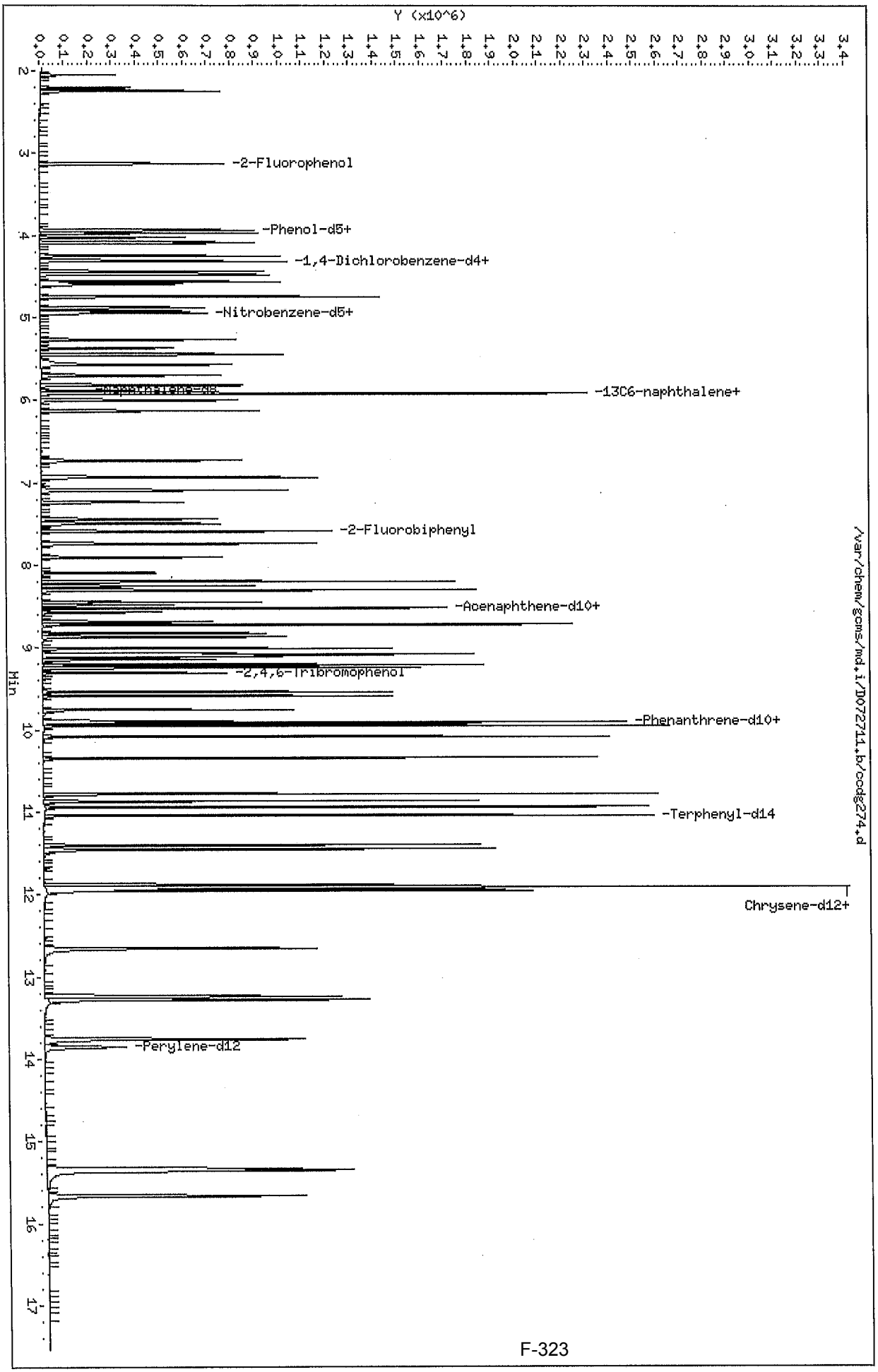
Report Date: 27-Jul-2011 16:20

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
60 4,6-Dinitro-2-methylphenol	198	9.143	9.143	(0.924)	74731	60.0000	55.5
61 N-Ndpa / diphenylamine (ccc)	169	9.207	9.207	(0.931)	387929	60.0000	61.8
62 1,2-Diphenylhydrazine/azobnz	77	9.242	9.242	(0.934)	396322	60.0000	61.0
63 4-Bromophenyl phenyl ether	248	9.536	9.536	(0.964)	124702	60.0000	61.6
64 Hexachlorobenzene	284	9.589	9.589	(0.969)	131264	60.0000	60.7
65 Pentachlorophenol (ccc)	266	9.759	9.759	(0.986)	94819	60.0000	59.2
66 Phenanthrene	178	9.912	9.912	(1.002)	696863	60.0000	59.7
67 Anthracene	178	9.953	9.953	(1.006)	713557	60.0000	63.0
68 Carbazole	167	10.083	10.083	(1.019)	647903	60.0000	62.7
69 Di-n-butyl phthalate	149	10.347	10.347	(1.046)	754927	60.0000	66.4
70 Fluoranthene (ccc)	202	10.788	10.788	(1.090)	798829	60.0000	66.4
71 Pyrene	202	10.940	10.940	(0.917)	872073	60.0000	62.1
72 Butyl benzyl phthalate	149	11.405	11.405	(0.956)	365616	60.0000	59.3
73 Benzo(a)Anthracene	228	11.916	11.916	(0.999)	785468	60.0000	63.9
74 3,3'-Dichlorobenzidine	252	11.881	11.881	(0.996)	293119	60.0000	64.0
75 Chrysene	228	11.957	11.957	(1.002)	783085	60.0000	59.7
76 Bis(2-ethylhexyl) phthalate	149	11.910	11.910	(0.999)	499933	60.0000	60.0
77 Di-n-octyl phthalate (ccc)	149	12.656	12.656	(0.913)	797351	60.0000	62.1
78 Benzo(b)fluoranthene	252	13.238	13.238	(0.955)	732488	60.0000	66.0
79 Benzo(k)fluoranthene	252	13.279	13.279	(0.958)	851324	60.0000	63.7
80 Benzo(a)pyrene (ccc)	252	13.761	13.761	(0.993)	733685	60.0000	61.0
81 Indeno(1,2,3-cd)pyrene	276	15.330	15.330	(1.106)	791910	60.0000	65.4
82 Dibenz(a,h)anthracene	278	15.353	15.353	(1.108)	647177	60.0000	65.3
83 Benzo(g,h,i)perylene	276	15.664	15.664	(1.131)	685265	60.0000	64.1


Data File: /var/chem/gcms/md.i/D072711.b/ccdg274.d
Date : 27-JUL-2011 16:02
Client ID: STD060
Sample Info: CCDG274,2.4,STD060,
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^6)
Min
/var/chem/gcms/md.i/D072711.b/ccdg274.d
-2-Fluorophenol
-Phenol-d5+
-1,4-Dichlorobenzene-d4+
-Nitrobenzene-d5+
-13C6-naphthalene+
-2-Fluorobiphenyl
-Acenaphthene-d10+
-2,4,6-Tribromophenol
-Phenanthrene-d10+
-Terphenyl-d14
Chrysene-d12+
-Perylene-d12

Data File: /chem/gcms/md.i/D072711.b/a9dg274.d
Report Date: 27-Jul-2011 16:46

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: md.i
Lab File ID: a9dg274.d
Analysis Type: SOIL
Lab Sample ID: A9DG274
Method: /chem/gcms/md.i/D072711.b/8270a9.m

Injection Date: 27-JUL-2011 16:27
Init. Cal. Date(s): 25-JUL-2011 26-JUL-2011
Init. Cal. Times: 12:21 17:42
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF60	CCAL RRF60	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
176 2-Picoline	1.16178	1.22200	1.22200	0.000	-5.18347	30.00000	Averaged	
86 N-nitrosomethylethylamine	0.86337	0.87575	0.87575	0.000	-1.43402	30.00000	Averaged	
87 Methyl methanosulfonate	0.71583	0.72879	0.72879	0.000	-1.80972	30.00000	Averaged	
88 N-nitrosodiethylamine	0.55145	0.56140	0.56140	0.000	-1.80558	30.00000	Averaged	
89 Ethyl methanosulfonate	0.85569	0.88237	0.88237	0.000	-3.11769	30.00000	Averaged	
90 Pentachloroethane	0.51429	0.51385	0.51385	0.000	0.08569	30.00000	Averaged	
91 acetophenone	1.70427	1.76371	1.76371	0.010	-3.48805	30.00000	Averaged	
92 m-cresol	1.13331	1.22384	1.22384	0.000	-7.98810	30.00000	Averaged	
93 n-nitrosopyrrolidine	0.60147	0.65069	0.65069	0.000	-8.18210	30.00000	Averaged	
94 n-nitrosomorpholine	0.95347	0.99762	0.99762	0.000	-4.63082	30.00000	Averaged	
95 o-toluidine	1.84002	1.95849	1.95849	0.000	-6.43846	30.00000	Averaged	
96 n-nitrosopiperidine	0.28001	0.29405	0.29405	0.000	-5.01137	30.00000	Averaged	
97 2,6-dichlorophenol	0.26564	0.28912	0.28912	0.000	-8.83969	30.00000	Averaged	
98 hexachloropropene	0.20993	0.20954	0.20954	0.000	0.18526	30.00000	Averaged	
99 N-nitro-di-n-butylamine	0.18447	0.19833	0.19833	0.000	-7.50883	30.00000	Averaged	
100 Isosafrole	0.24515	0.25791	0.25791	0.000	-5.20575	30.00000	Averaged	
101 1,2,4,5-tetrachlorobenzene	0.33103	0.32912	0.32912	0.010	0.57868	30.00000	Averaged	
102 safrole	0.40214	0.42868	0.42868	0.000	-6.60004	30.00000	Averaged	
103 1-chloronaphthalene	1.05649	1.06487	1.06487	0.000	-0.79362	30.00000	Averaged	
104 m-dinitrobenzene	63.84975	60.00000	0.17344	0.000	-6.41626	30.00000	Linear	
105 pentachlorobenzene	0.49253	0.49084	0.49084	0.000	0.34247	30.00000	Averaged	
106 1-naphthylamine	1.09432	1.27220	1.27220	0.000	-16.25465	30.00000	Averaged	
107 2-naphthylamine	1.11711	1.27540	1.27540	0.000	-14.17021	30.00000	Averaged	
108 2,3,4,6-tetrachlorophenol	63.38822	60.00000	0.30230	0.010	-5.64703	30.00000	Linear	
109 5-nitro-o-toluidine	0.33288	0.39433	0.39433	0.000	-18.46024	30.00000	Averaged	
110 diphenylamine	0.58698	0.60462	0.60462	0.000	-3.00528	30.00000	Averaged	
111 1,3,5-trinitrobenzene	61.15004	60.00000	0.26295	0.000	-1.91673	30.00000	Linear	
112 phenacetin	62.21201	60.00000	0.33035	0.000	-3.68668	30.00000	Linear	
113 4-aminobiphenyl	0.72184	0.68331	0.68331	0.000	5.33768	30.00000	Averaged	
114 pentachloronitrobenzene	0.08285	0.08515	0.08515	0.000	-2.77617	30.00000	Averaged	
115 Dinoseb	61.39260	60.00000	0.12425	0.000	-2.32101	30.00000	Quadratic	
178 N-Nitroquinoline-n-oxide	0.02531	0.04185	0.04185	0.000	-65.32230	30.00000	Averaged	<- JMA
177 Methapyrilene HCL	0.18611	0.36022	0.36022	0.000	-93.55106	30.00000	Averaged	<-
84 Benzidine	0.70029	0.83585	0.83585	0.000	-19.35786	30.00000	Averaged	
116 p-(dimethylamino)azobenzene	0.30408	0.34169	0.34169	0.000	-12.36875	30.00000	Averaged	

Data File: /chem/gcms/md.i/D072711.b/a9dg274.d
Report Date: 27-Jul-2011 16:46

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: md.i
Lab File ID: a9dg274.d
Analysis Type: SOIL
Lab Sample ID: A9DG274
Method: /chem/gcms/md.i/D072711.b/8270a9.m

Injection Date: 27-JUL-2011 16:27
Init. Cal. Date(s): 25-JUL-2011 26-JUL-2011
Init. Cal. Times: 12:21 17:42
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF60	CCAL RRF60	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
117 o-tolidine	0.67608	0.84006	0.84006	0.000	-24.25381	30.00000	Averaged
119 7,12-dimethylbenz(a)anthrac	59.94869	60.00000	0.48963	0.000	0.08552	30.00000	Linear
118 2-acetylaminofluorene	60.06934	60.00000	0.45303	0.000	-0.11556	30.00000	Linear
120 3-methylcholanthrene	59.10939	60.00000	0.56681	0.000	1.48435	30.00000	Linear

Data File: /chem/gcms/md.i/D072711.b/a9dg274.d
Report Date: 27-Jul-2011 16:46

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /chem/gcms/md.i/D072711.b/a9dg274.d
Lab Smp Id: A9DG274 Client Smp ID: STD060
Inj Date : 27-JUL-2011 16:27
Operator : 60841 Inst ID: md.i
Smp Info : A9DG274,,2,4,,STD060,
Misc Info : D072711,8270a9,appdx9.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /chem/gcms/md.i/D072711.b/8270a9.m
Meth Date : 27-Jul-2011 16:46 chemist Quant Type: ISTD
Cal Date : 26-JUL-2011 17:42 Cal File: a9dg267.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: appdx9.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

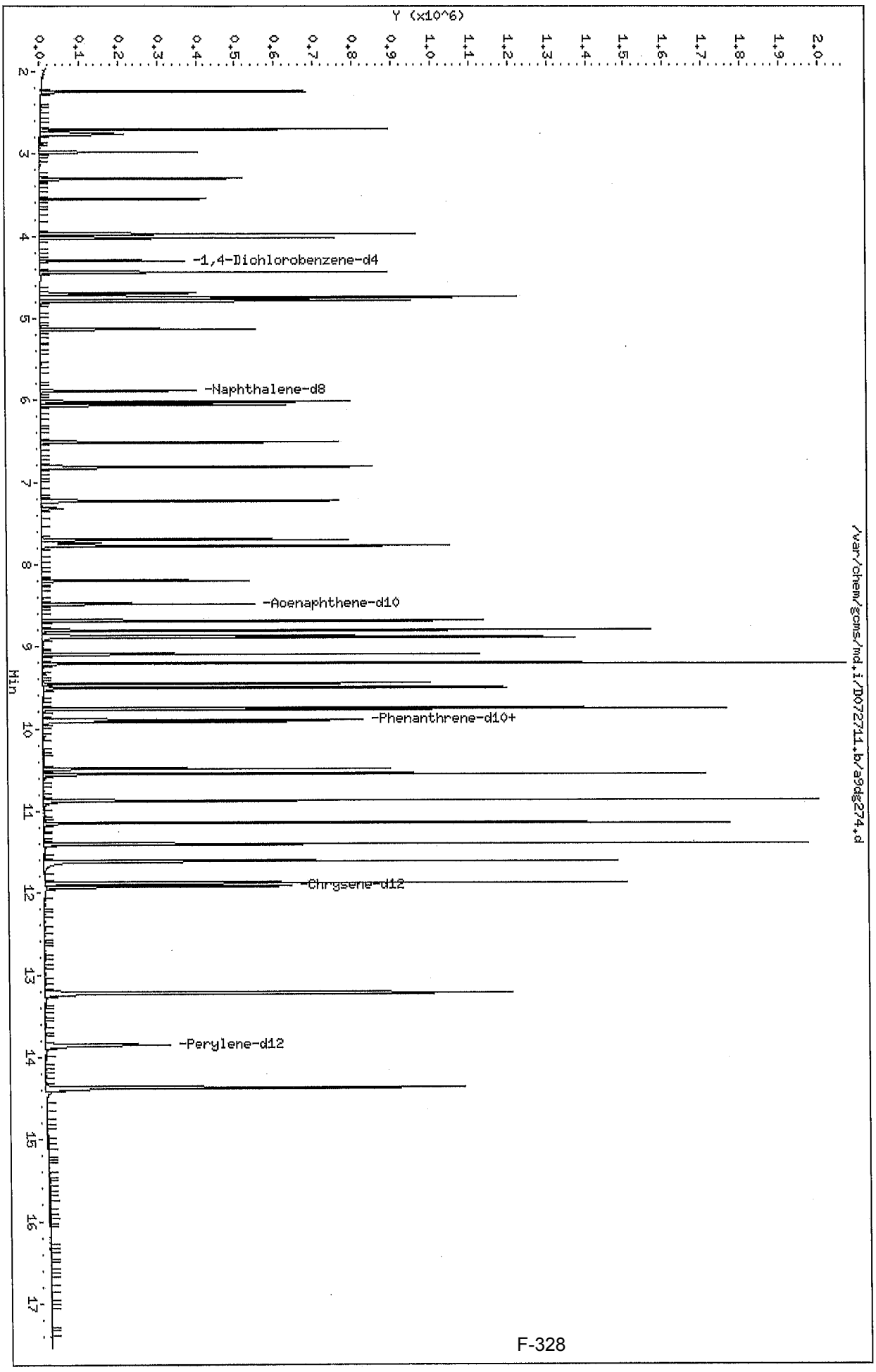
Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL) (1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	ON-COL (ng/uL)
* 1	1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	44716	20.0000	20.0
* 2	Naphthalene-d8	136	5.887	5.887	(1.000)	175672	20.0000	20.0
* 3	Acenaphthene-d10	164	8.484	8.484	(1.000)	104573	20.0000	20.0
* 4	Phenanthrene-d10	188	9.895	9.895	(1.000)	213730	20.0000	20.0
* 5	Chrysene-d12	240	11.922	11.922	(1.000)	236531	20.0000	20.0
* 6	Perylene-d12	264	13.855	13.855	(1.000)	207527	20.0000	20.0
176	2-Picoline	93	2.703	2.703	(0.628)	163930	60.0000	63.1
86	N-nitrosomethylethylamine	42	2.762	2.762	(0.642)	117481	60.0000	60.9
87	Methyl methanosulfonate	80	2.979	2.979	(0.693)	97766	60.0000	61.1
88	N-nitrosodiethylamine	102	3.302	3.302	(0.768)	75311	60.0000	61.1
89	Ethyl methanosulfonate	79	3.549	3.549	(0.825)	118368	60.0000	61.9
90	Pentachloroethane	167	4.025	4.025	(0.936)	68932	60.0000	59.9
91	acetophenone	105	4.736	4.736	(1.101)	236600	60.0000	62.1
92	m-cresol	108	4.753	4.753	(1.105)	164177	60.0000	64.8

Data File: /chem/gcms/md.i/D072711.b/a9dg274.d
Report Date: 27-Jul-2011 16:46

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
93	n-nitrosopyrrolidine	100	4.695	4.695	(1.092)	87289	60.0000	64.9
94	n-nitrosomorpholine	56	4.742	4.742	(1.102)	133830	60.0000	62.8
95	o-toluidine	106	4.783	4.783	(1.112)	262730	60.0000	63.9
96	n-nitrosopiperidine	42	5.135	5.135	(0.872)	154967	60.0000	63.0
97	2,6-dichlorophenol	162	6.017	6.017	(1.022)	152370	60.0000	65.3
98	hexachloropropene	213	6.064	6.064	(1.030)	110429	60.0000	59.9
99	N-nitro-di-n-butylamine	84	6.516	6.516	(1.107)	104520	60.0000	64.5
100	Isosafrole	162	6.816	6.816	(1.158)	135921	60.0000	63.1
101	1,2,4,5-tetrachlorobenzene	216	7.233	7.233	(1.229)	173449	60.0000	59.6
102	safrole	162	7.697	7.697	(0.907)	134485	60.0000	64.0
103	1-chloronaphthalene	162	7.773	7.773	(0.916)	334071	60.0000	60.5
104	m-dinitrobenzene	168	8.196	8.196	(0.966)	54410	60.0000	63.8
105	pentachlorobenzene	250	8.684	8.684	(1.024)	153985	60.0000	59.8
106	1-naphthylamine	143	8.802	8.802	(1.037)	399114	60.0000	69.8
107	2-naphthylamine	143	8.890	8.890	(1.048)	400119	60.0000	68.5
108	2,3,4,6-tetrachlorophenol	232	8.872	8.872	(1.046)	94837	60.0000	63.4
109	5-nitro-o-toluidine	152	9.095	9.095	(1.072)	123708	60.0000	71.1
110	diphenylamine	169	9.207	9.207	(0.931)	387678	60.0000	61.8
111	1,3,5-trinitrobenzene	75	9.448	9.448	(0.955)	168602	60.0000	61.2
112	phenacetin	108	9.507	9.507	(0.961)	211815	60.0000	62.2
113	4-aminobiphenyl	169	9.754	9.754	(0.986)	438135	60.0000	56.8
114	pentachloronitrobenzene	237	9.771	9.771	(0.988)	54598	60.0000	61.7
115	Dinoseb	211	9.912	9.912	(1.002)	79668	60.0000	61.4
178	N-Nitroquinoline-n-oxide	174	10.488	10.488	(1.060)	26832	60.0000	99.2
177	Methapyrilene HCL	97	10.547	10.547	(1.066)	230972	60.0000	116
84	Benzidine	184	10.870	10.870	(1.099)	535942	60.0000	71.6
116	p-(dimethylamino)azobenzene	120	11.146	11.146	(1.126)	219090	60.0000	67.4
117	o-tolidine	212	11.399	11.399	(1.152)	538641	60.0000	74.6
119	7,12-dimethylbenz(a)anthracen	256	13.226	13.226	(1.109)	347440	60.0000	59.9
118	2-acetylaminofluorene	181	11.616	11.616	(0.974)	321465	60.0000	60.1
120	3-methylcholanthrene	268	14.372	14.372	(1.037)	352887	60.0000	59.1


Data File: /var/chem/gcms/md.i/D072711.b/a9dg274.d
Date : 27-JUL-2011 16:27
Client ID: STD060
Sample Info: A9DG274,2,4,STD060,
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^6)
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
-Phenanthrene-d10+
-Chrysene-d12
-Perylene-d12
/var/chem/gcms/md.i/D072711.b/a9dg274.d
Min

Data File: /chem/gcms/md.i/D072711.b/xcdg274.d
Report Date: 27-Jul-2011 17:14

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: md.i
Lab File ID: xcdg274.d
Analysis Type: SOIL
Lab Sample ID: XCDG274
Method: /chem/gcms/md.i/D072711.b/8270a9.m

Injection Date: 27-JUL-2011 16:53
Init. Cal. Date(s): 25-JUL-2011 26-JUL-2011
Init. Cal. Times: 12:21 17:42
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF60	CCAL RRF60	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
184 Benzaldehyde	0.94577	0.99085	0.99085	0.000	-4.76621	30.00000	Averaged
187 Atrazine	58.46877	60.00000	0.19053	0.000	2.55204	30.00000	Linear
188 1,1'-Biphenyl	1.58477	1.48875	1.48875	0.000	6.05894	30.00000	Averaged
189 Caprolactam	60.06633	60.00000	0.17306	0.000	-0.11055	30.00000	Linear
199 Phentermine	64.18207	60.00000	0.87981	0.000	-6.97011	30.00000	Quadratic
202 1,4-Phenylenediamine	63.14529	60.00000	0.43589	0.000	-5.24215	30.00000	Linear
197 1-methylnaphthalene	0.60485	0.62226	0.62226	0.000	-2.87765	30.00000	Averaged
192 2,6-Dimethylnaphthalene	0.96284	1.01734	1.01734	0.000	-5.66047	30.00000	Averaged
193 2,3,5-Trimethylnaphthalene	0.45061	0.46726	0.46726	0.000	-3.69391	30.00000	Averaged
194 Dibenzothiopene	0.86415	0.88634	0.88634	0.000	-2.56881	30.00000	Averaged
195 1-Methylphenanthrene	0.66659	0.72175	0.72175	0.000	-8.27557	30.00000	Averaged
200 3,3'-Dimethoxybenzidine	62.47922	60.00000	0.24702	0.000	-4.13203	30.00000	Quadratic
85 Benzo(e)pyrene	1.00431	1.05084	1.05084	0.700	-4.63271	30.00000	Averaged
196 Perylene	1.01083	1.08729	1.08729	0.000	-7.56375	30.00000	Averaged
201 Dibenzo(a,e)pyrene	54.35789	60.00000	0.72419	0.000	9.40351	30.00000	Wt Linear

Data File: /chem/gcms/md.i/D072711.b/xcdg274.d
Report Date: 27-Jul-2011 17:14

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /chem/gcms/md.i/D072711.b/xcdg274.d
Lab Smp Id: XCDG274 Client Smp ID: STD060
Inj Date : 27-JUL-2011 16:53
Operator : 60841 Inst ID: md.i
Smp Info : XCDG274,,2,4,,STD060,
Misc Info : D072711,8270a9,allextra.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /chem/gcms/md.i/D072711.b/8270a9.m
Meth Date : 27-Jul-2011 17:14 chemist Quant Type: ISTD
Cal Date : 26-JUL-2011 17:42 Cal File: a9dg267.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: allextra.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Vt*Sf/Ws * CpndVariable

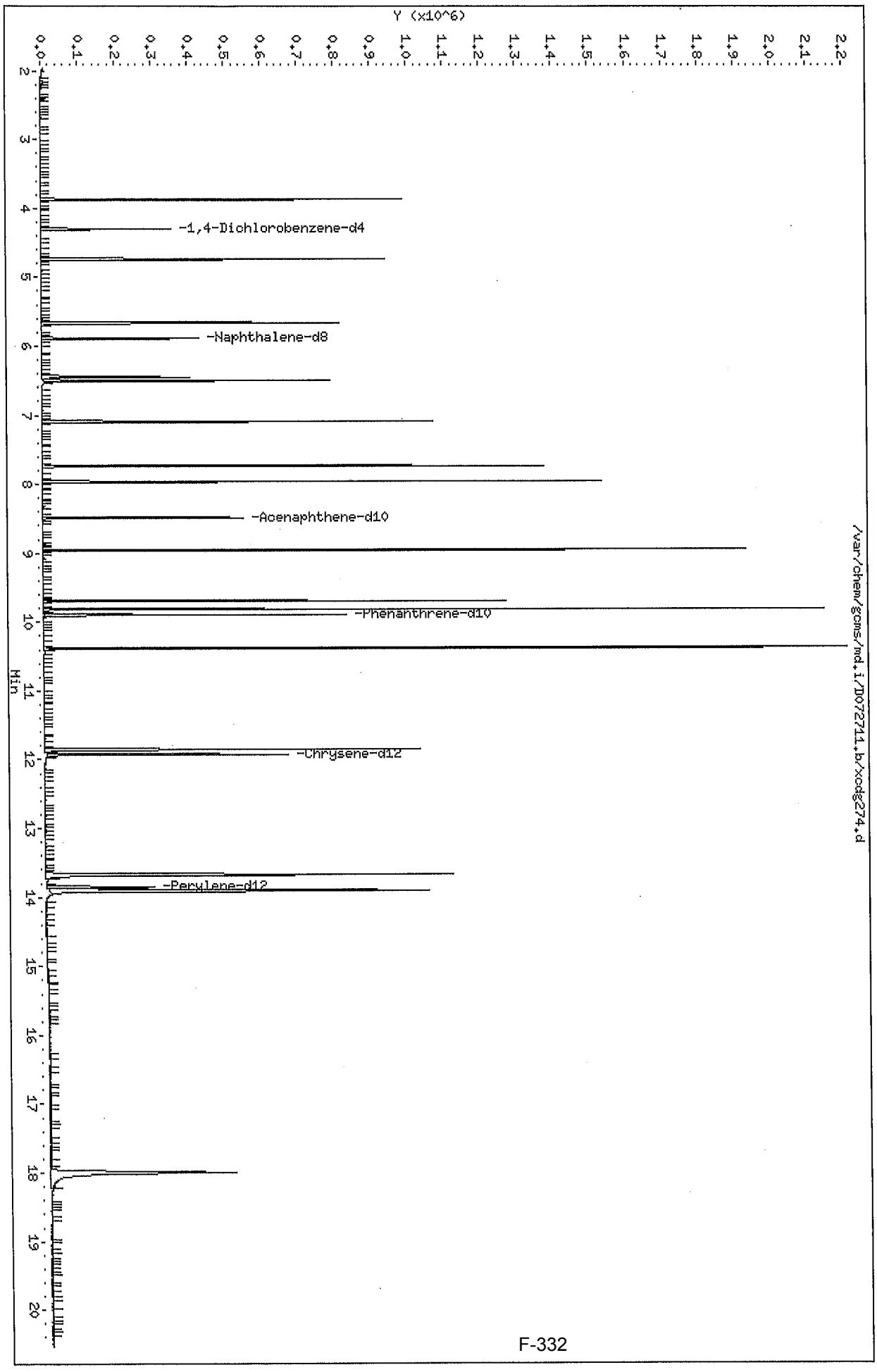
Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)(1000 low, 2
Sf	1.00000	Prep Split Factor
Ws	30.00000	Weight of sample extracted (g)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
* 1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	45457	20.0000	20.0
* 2 Naphthalene-d8	136	5.888	5.888	(1.000)	189375	20.0000	20.0
* 3 Acenaphthene-d10	164	8.485	8.485	(1.000)	112475	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	228544	20.0000	20.0
* 5 Chrysene-d12	240	11.922	11.922	(1.000)	243447	20.0000	20.0
* 6 Perylene-d12	264	13.855	13.855	(1.000)	218653	20.0000	20.0
184 Benzaldehyde	105	3.872	3.872	(0.900)	135122	60.0000	62.8
187 Atrazine	200	9.695	9.695	(0.980)	130630	60.0000	58.5
188 1,1'-Biphenyl	154	7.732	7.732	(0.911)	502341	60.0000	56.4
189 Caprolactam	55	6.452	6.452	(1.096)	98317	60.0000	60.1
199 Phentermine	58	5.658	5.658	(0.961)	499844	60.0000	64.2
202 1,4-Phenylenediamine	108	6.499	6.499	(1.104)	247643	60.0000	63.1
197 1-methylnaphthalene	142	7.092	7.092	(1.205)	353522	60.0000	61.7
192 2,6-Dimethylnaphthalene	156	7.962	7.962	(0.938)	343275	60.0000	63.4

Data File: /chem/gcms/md.i/D072711.b/xcdg274.d
Report Date: 27-Jul-2011 17:14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng/uL)	AMOUNTS ON-COL (ng/uL)
193	2,3,5-Trimethylnaphthalene	170	8.955	8.955	(0.905)	320366	60.0000	62.2
194	Dibenzothiopene	184	9.812	9.812	(0.992)	607706	60.0000	61.5
195	1-Methylphenanthrene	192	10.376	10.376	(1.049)	494856	60.0000	65.0
200	3,3'-Dimethoxybenzidine	244	11.851	11.851	(0.994)	180411	60.0000	62.5
85	Benzo(e)pyrene	252	13.673	13.673	(0.987)	689308	60.0000	62.8
196	Perylene	252	13.908	13.908	(1.004)	713218	60.0000	64.5
201	Dibenzo(a,e)pyrene	302	17.997	17.997	(1.299)	475042	60.0000	54.4


Data File: /var/chem/gcms/md.i/D072711.b/xcdg274.d
Date : 27-JUL-2011 16:53
Client ID: STD060
Sample Info: XCDG274,2,4,STD060,
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^6)
-1,4-Dichlorobenzene-d4
-Naphthalene-d8
-Acenaphthene-d10
-Phenanthrene-d10
-Chrysene-d12
-Perylene-d12
/var/chem/gcms/md.i/D072711.b/xcdg274.d
Min

Raw QC Data

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: H1G200446 **Work Order #...:** MK2DQ1AA **Matrix.....:** AIR
MB Lot-Sample #: H1G200000-076

Prep Date.....: 07/20/11
Analysis Date..: 07/27/11 **Prep Batch #...:** 1201076
Dilution Factor: 2

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acenaphthene	ND	20	ug	SW846 8270C
Acenaphthylene	ND	20	ug	SW846 8270C
Aniline	ND	20	ug	SW846 8270C
Anthracene	ND	20	ug	SW846 8270C
Benz(a)anthracene	ND	20	ug	SW846 8270C
Benzidine	ND	200	ug	SW846 8270C
Benzo(b)fluoranthene	ND	20	ug	SW846 8270C
Benzo(k)fluoranthene	ND	20	ug	SW846 8270C
Benzo(ghi)perylene	ND	20	ug	SW846 8270C
Benzo(a)pyrene	ND	20	ug	SW846 8270C
Benzo(e)pyrene	ND	20	ug	SW846 8270C
Biphenyl	ND	20	ug	SW846 8270C
Chrysene	ND	20	ug	SW846 8270C
Cresols (total)	ND	20	ug	SW846 8270C
Dibenz(a,h)anthracene	ND	20	ug	SW846 8270C
Dibenzofuran	ND	20	ug	SW846 8270C
Dibenzo(a,e)pyrene	ND	20	ug	SW846 8270C
3,3'-Dimethoxybenzidine	ND	200	ug	SW846 8270C
p-Dimethylaminoazobenzene	ND	20	ug	SW846 8270C
7,12-Dimethylbenz(a)-anthracene	ND	20	ug	SW846 8270C
3,3'-Dimethylbenzidine	ND	200	ug	SW846 8270C
alpha,alpha-Dimethylphene	ND	50	ug	SW846 8270C
2,4-Dimethylphenol	ND	20	ug	SW846 8270C
Fluoranthene	ND	20	ug	SW846 8270C
Fluorene	ND	20	ug	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	20	ug	SW846 8270C
Isophorone	ND	20	ug	SW846 8270C
3-Methylcholanthrene	ND	20	ug	SW846 8270C
2-Methylnaphthalene	ND	20	ug	SW846 8270C
Naphthalene	ND	20	ug	SW846 8270C
Nitrobenzene	ND	20	ug	SW846 8270C
Perylene	ND	20	ug	SW846 8270C
Phenanthrene	ND	20	ug	SW846 8270C
Phenol	ND	20	ug	SW846 8270C
1,4-Phenylenediamine	ND	200	ug	SW846 8270C
Pyrene	ND	20	ug	SW846 8270C
o-Toluidine	ND	20	ug	SW846 8270C

(Continued on next page)

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: H1G200446 **Work Order #...:** MK2DQ1AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	63	(22 - 105)
Phenol-d5	85	(48 - 118)
Nitrobenzene-d5	85	(43 - 110)
2-Fluorobiphenyl	86	(48 - 111)
2,4,6-Tribromophenol	67	(34 - 125)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Data File: /var/chem/gcms/md.i/D072711.b/mk2dq1aa.d
Report Date: 28-Jul-2011 10:47

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072711.b/mk2dq1aa.d
Lab Smp Id: MK2DQ1AA Client Smp ID: INTRA-LAB BLANK
Inj Date : 27-JUL-2011 20:12
Operator : 60841 Inst ID: md.i
Smp Info : MK2DQ1AA,,3,,BLK,
Misc Info : D072711,8270a9,ICR.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /chem/gcms/md.i/D072711.b/8270a9.m
Meth Date : 27-Jul-2011 17:16 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 17:42 Cal File: a9dg267.d
Als bottle: 12 QC Sample: METHOD BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICR.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * (Vt*Sf)/(Vo*Uf) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)
Sf	2.00000	Prep split factor
Vo	1.00000	Volume of sample extracted (1=total samp
Uf	1000.00000	unit correction factor

Cpnd Variable Local Compound Variable

08/04/11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	CONCENTRATIONS FINAL (ug)
* 1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	49639	20.0000	20.0
* 2 Naphthalene-d8	136	5.887	5.887	(1.000)	192104	20.0000	20.0
* 3 Acenaphthene-d10	164	8.484	8.484	(1.000)	113506	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	228933	20.0000	20.0
* 5 Chrysene-d12	240	11.922	11.928	(1.000)	254672	20.0000	20.0
* 6 Perylene-d12	264	13.849	13.855	(1.000)	243033	20.0000	20.0
$ 7 2-Fluorophenol	112	3.126	3.126	(0.727)	129754	47.3464	94.7
$ 8 Phenol-d5	99	3.931	3.931	(0.914)	209421	63.7322	127
$ 9 Nitrobenzene-d5	82	4.924	4.930	(0.836)	130799	42.7272	85.4
$ 11 2,4,6-Tribromophenol	330	9.307	9.307	(0.941)	46221	50.4313	101
$ 10 2-Fluorobiphenyl	172	7.586	7.591	(0.894)	307253	43.2722	86.5
$ 179 13C6-naphthalene	134	5.887	5.917	(1.000)	17739	1.69932	3.40(R)
199 Phentermine	58	5.805	5.658	(0.986)	329	5.93489	~~11.9~~

KRM 7/28/11 11-234

Data File: /var/chem/gcms/md.i/D072711.b/mk2dq1aa.d
Report Date: 28-Jul-2011 10:47

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	FINAL (ug)
188 1,1'-Biphenyl	154	7.732	7.732	(0.911)	466	0.05189	~~0.104~~
196 Perylene	252	13.849	13.908	(1.000)	715	0.05828	~~0.116~~

KRM 7/28/11

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: /var/chem/gcms/md.i/D072711.b/mk2dq1aa.d
Report Date: 28-Jul-2011 10:47

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: md.i
Lab File ID: mk2dq1aa.d
Lab Smp Id: MK2DQ1AA
Analysis Type: SV
Quant Type: ISTD
Operator: 60841
Calibration Date: 27-JUL-2011
Calibration Time: 16:02
Client Smp ID: INTRA-LAB BLANK
Level: LOW
Sample Type: AIR
Method File: /chem/gcms/md.i/D072711.b/8270a9.m
Misc Info: D072711,8270a9,ICR.sub

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	44395	22198	88790	49639	11.81
2 Naphthalene-d8	182374	91187	364748	192104	5.34
3 Acenaphthene-d10	111075	55538	222150	113506	2.19
4 Phenanthrene-d10	217977	108988	435954	228933	5.03
5 Chrysene-d12	247793	123896	495586	254672	2.78
6 Perylene-d12	221015	110508	442030	243033	9.96

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	4.30	3.80	4.80	4.30	0.00
2 Naphthalene-d8	5.89	5.39	6.39	5.89	0.00
3 Acenaphthene-d10	8.48	7.98	8.98	8.48	0.00
4 Phenanthrene-d10	9.89	9.39	10.39	9.89	0.00
5 Chrysene-d12	11.93	11.43	12.43	11.92	-0.05
6 Perylene-d12	13.85	13.35	14.35	13.85	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

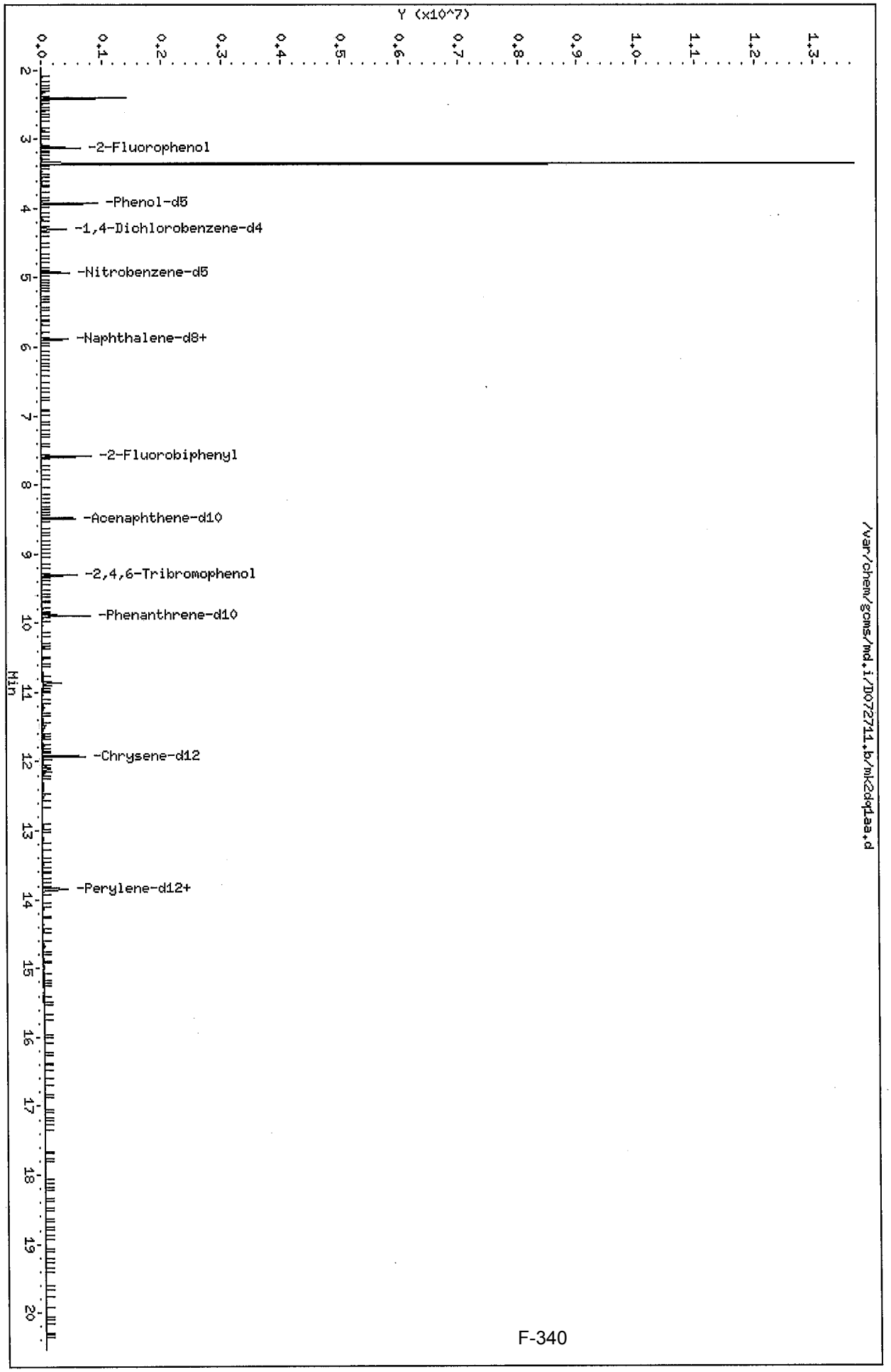
Data File: /var/chem/gcms/md.i/D072711.b/mk2dq1aa.d
Report Date: 28-Jul-2011 10:47

TestAmerica Knoxville

RECOVERY REPORT

Client Name:
Client SDG: H1G200000
Sample Matrix: GAS
Fraction: SV
Lab Smp Id: MK2DQ1AA
Client Smp ID: INTRA-LAB BLANK
Level: LOW
Operator: 60841
Data Type: MS DATA
SampleType: METHOD BLANK
SpikeList File: allspike.spk
Quant Type: ISTD
Sublist File: ICR.sub
Method File: /chem/gcms/md.i/D072711.b/8270a9.m
Misc Info: D072711,8270a9,ICR.sub

SURROGATE COMPOUND	CONC ADDED ug	CONC RECOVERED ug	% RECOVERED	LIMITS
$ 7 2-Fluorophenol	150	94.7	63.13	19-100
$ 8 Phenol-d5	150	127	84.98	15-124
$ 9 Nitrobenzene-d5	100	85.4	85.45	42-104
$ 11 2,4,6-Tribromophen	150	101	67.24	33-130
$ 10 2-Fluorobiphenyl	100	86.5	86.54	51-103
$ 12 Terphenyl-d14	100	0.00	*	58-122
$ 179 13C6-naphthalene	200	3.40	1.70*	50-150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Date : 27-JUL-2011 20:12
Client ID: INTRA-LAB BLANK
Sample Info: MK2DQ1AA,,3,,BLK,
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
/var/chem/gcms/md.i/D072711.b/mk2dq1aa.d
Y (x10^7)
Min
-2-Fluorophenol
-Phenol-d5
-1,4-Dichlorobenzene-d4
-Nitrobenzene-d5
-Naphthalene-d8+
-2-Fluorobiphenyl
-Acenaphthene-d10
-2,4,6-Tribromophenol
-Phenanthrene-d10
-Chrysene-d12
-Perylene-d12+

Data File: /var/chem/gcms/md.i/D072711.b/mk2dq1aa.d

Date : 27-JUL-2011 20:12

Client ID: INTRA-LAB BLANK

Instrument: md.i

Sample Info: MK2DQ1AA,,3,,BLK,

Volume Injected (uL): 1.0

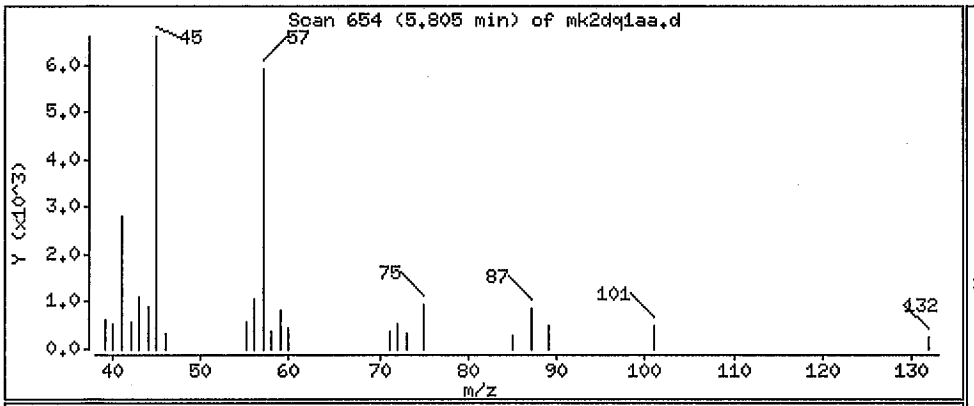
Operator: 60841

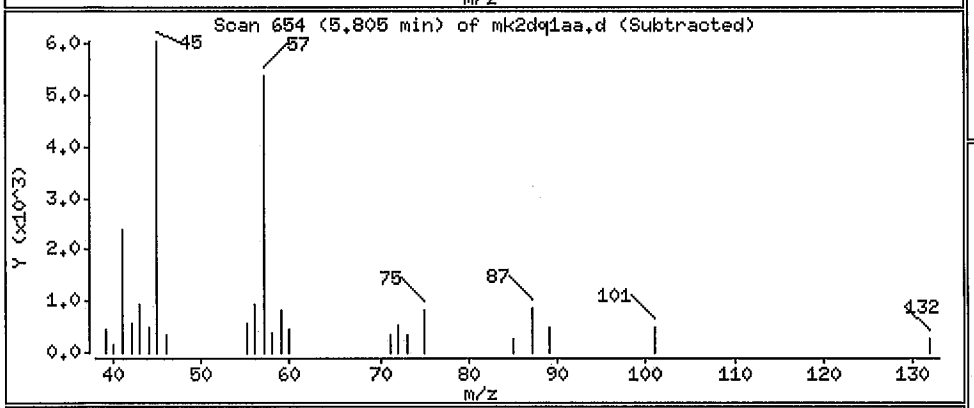
Column phase: Rxi-5 Sil MS

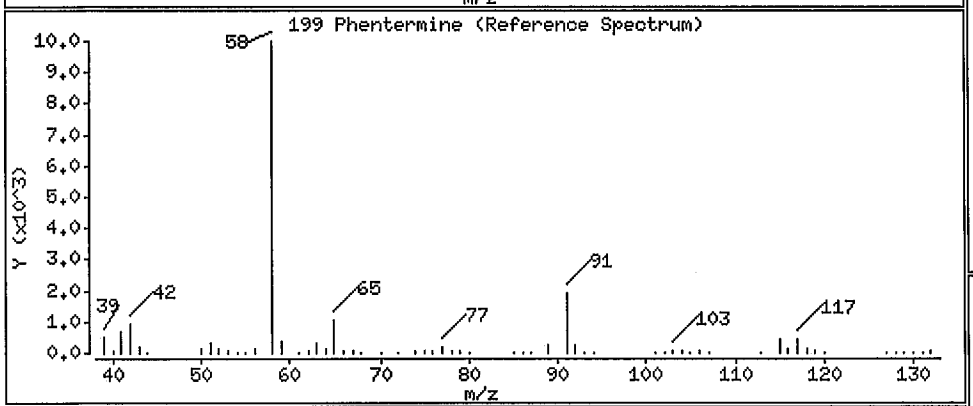
Column diameter: 0.25

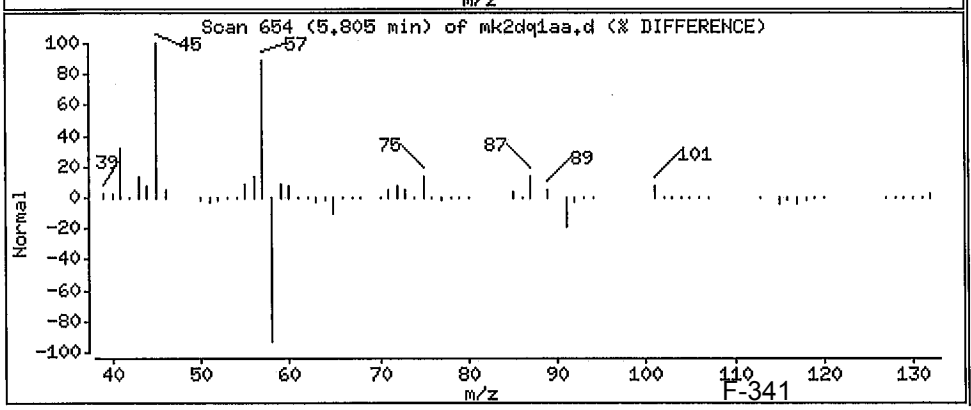
199 Phentermine

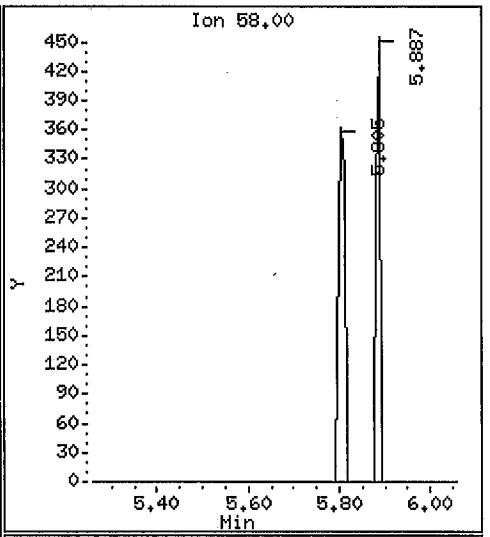
Concentration: 11.9 ug

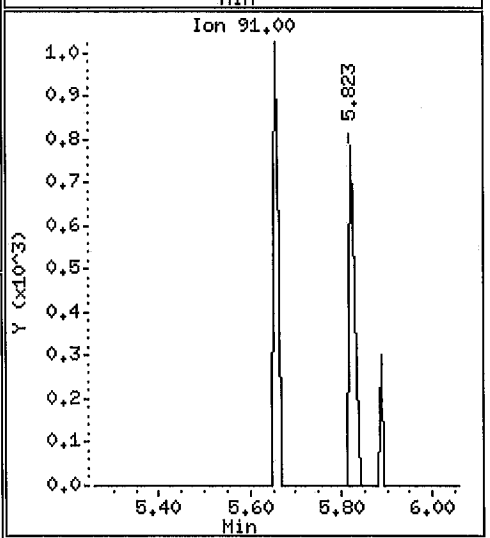


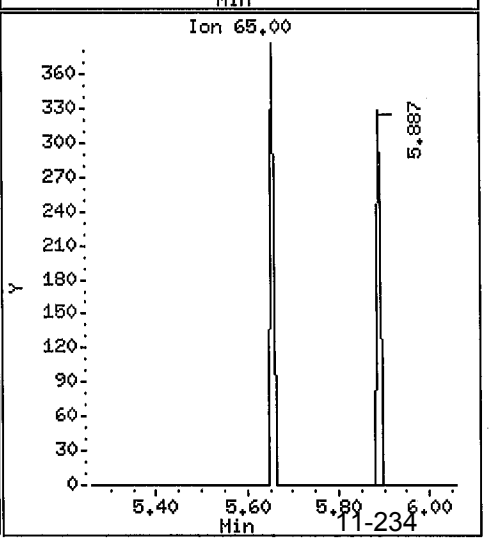












Data File: /var/chem/gcms/md.i/D072711.b/mk2dq1aa.d

Date : 27-JUL-2011 20:12

Client ID: INTRA-LAB BLANK

Instrument: md.i

Sample Info: MK2DQ1AA,,3,,BLK,

Volume Injected (uL): 1.0

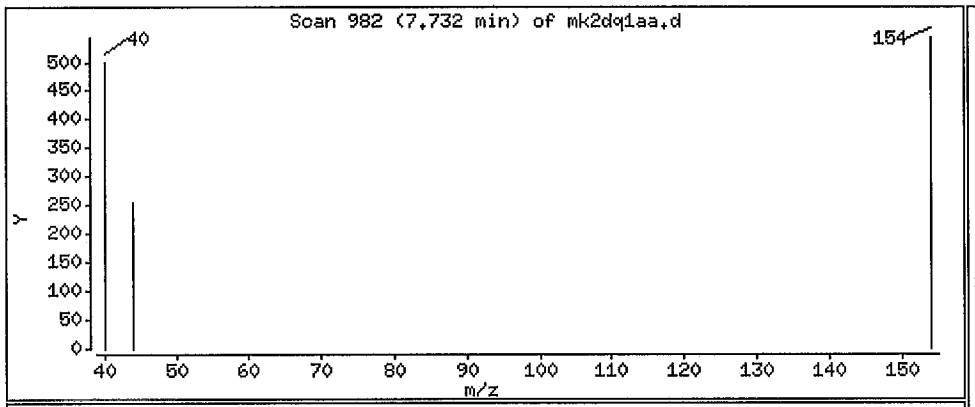
Operator: 60841

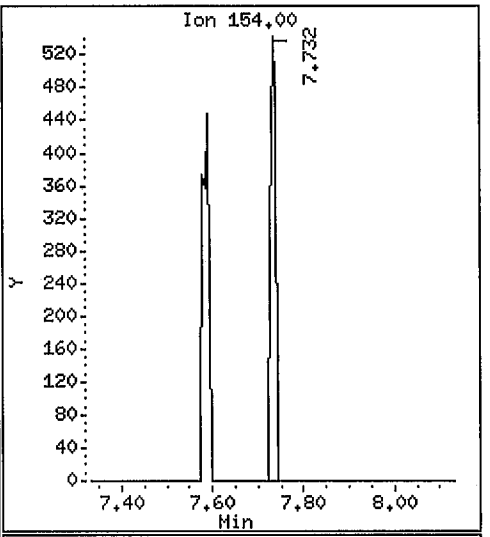
Column phase: Rxi-5 Sil MS

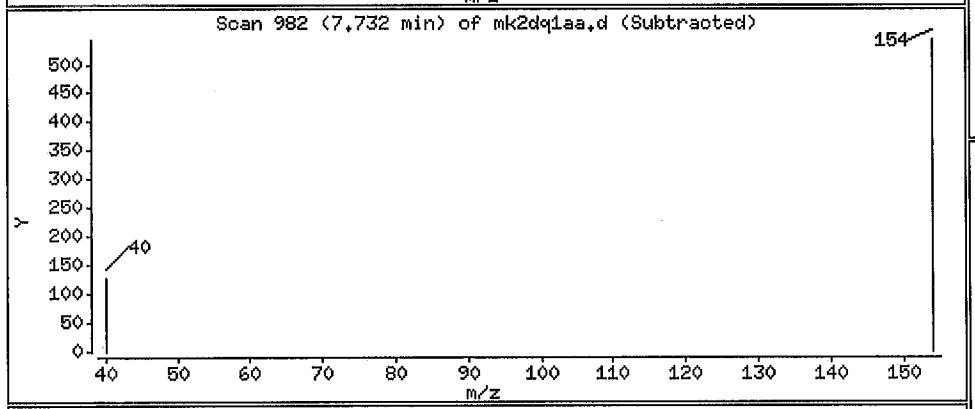
Column diameter: 0.25

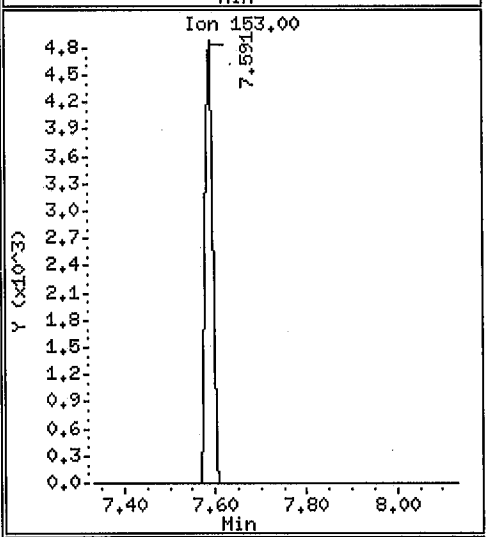
188 1,1'-Biphenyl

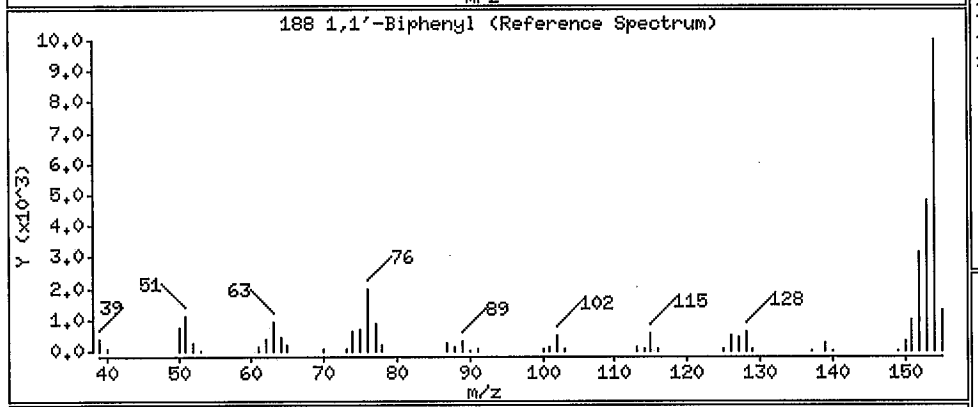
Concentration: 0.104 ug

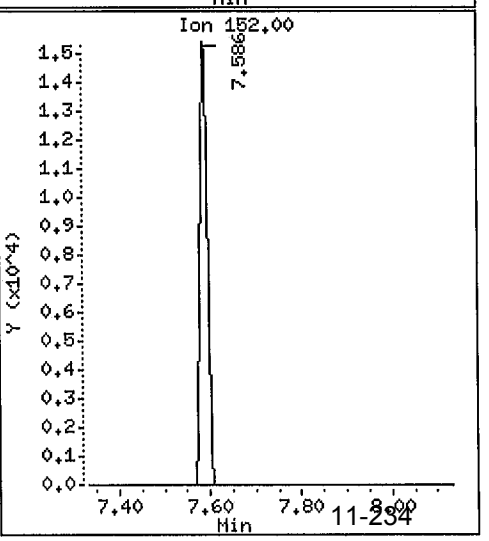


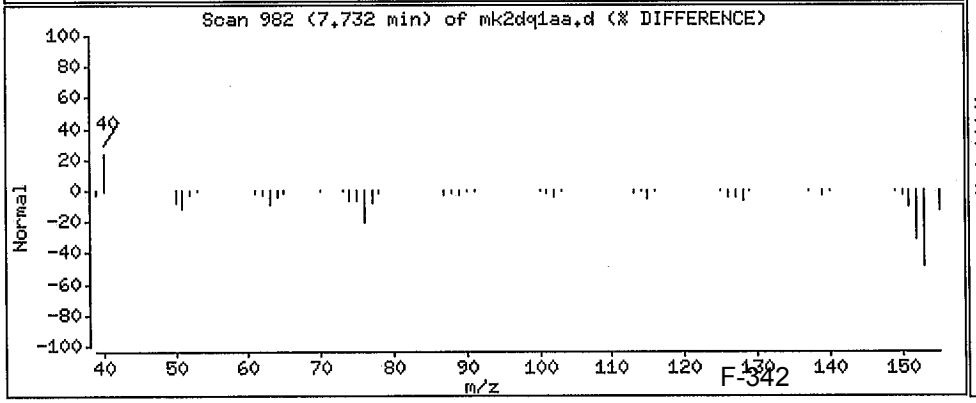












Data File: /var/chem/gcms/md.i/D072711.b/mk2dq1aa.d

Date : 27-JUL-2011 20:12

Client ID: INTRA-LAB BLANK

Instrument: md.i

Sample Info: MK2DQ1AA,,3,,BLK,

Volume Injected (uL): 1.0

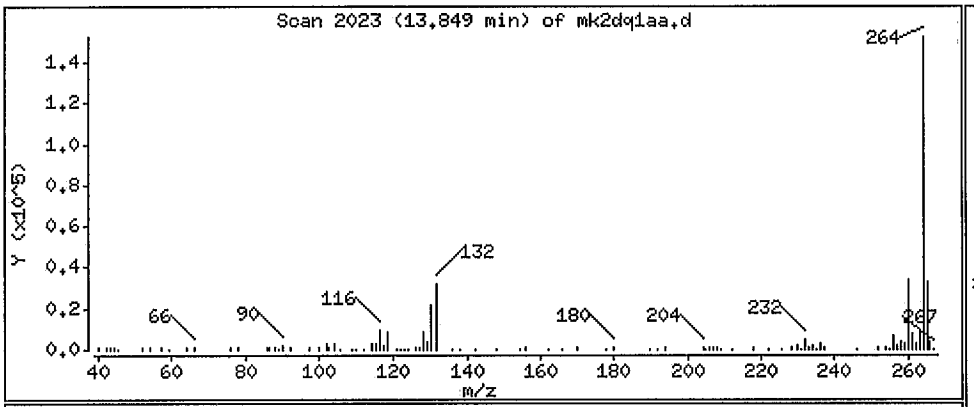
Operator: 60841

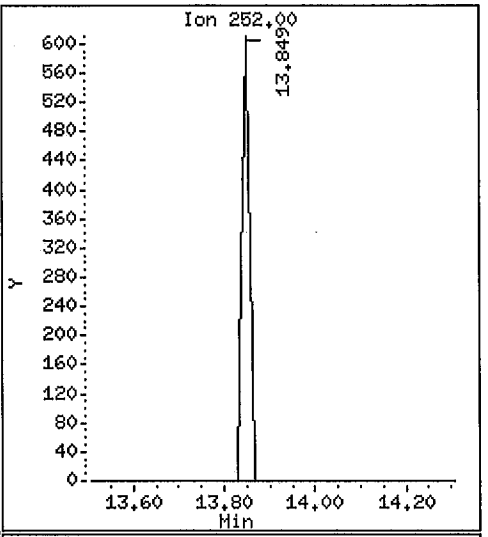
Column phase: Rxi-5 Sil MS

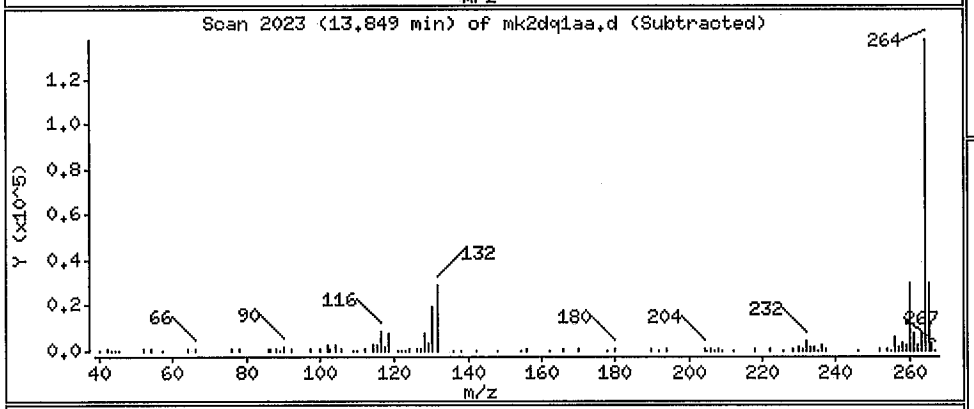
Column diameter: 0.25

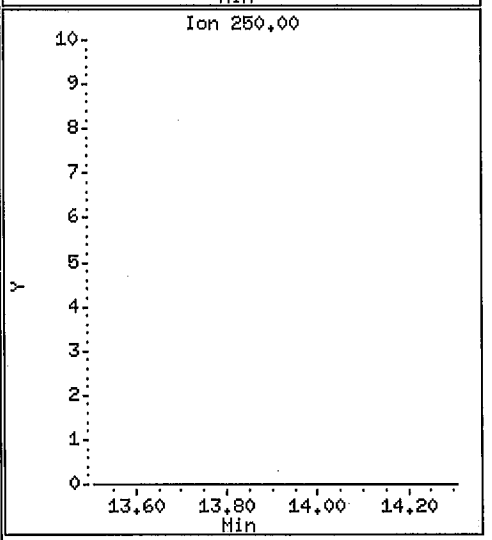
196 Perylene

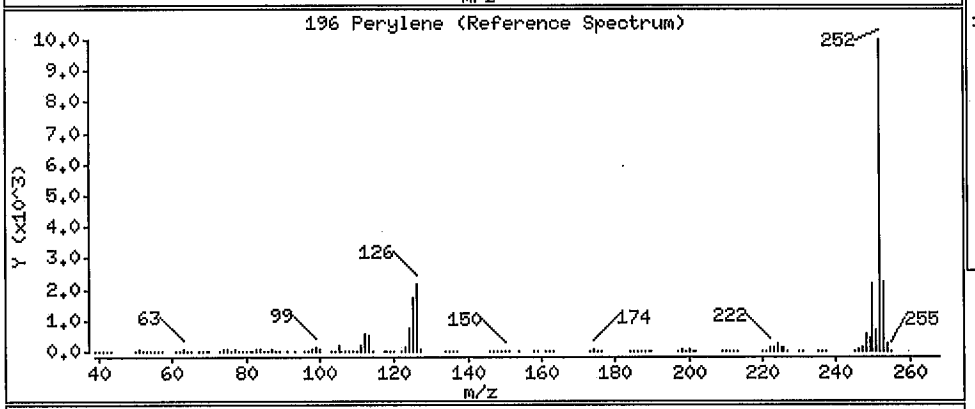
Concentration: 0.116 ug

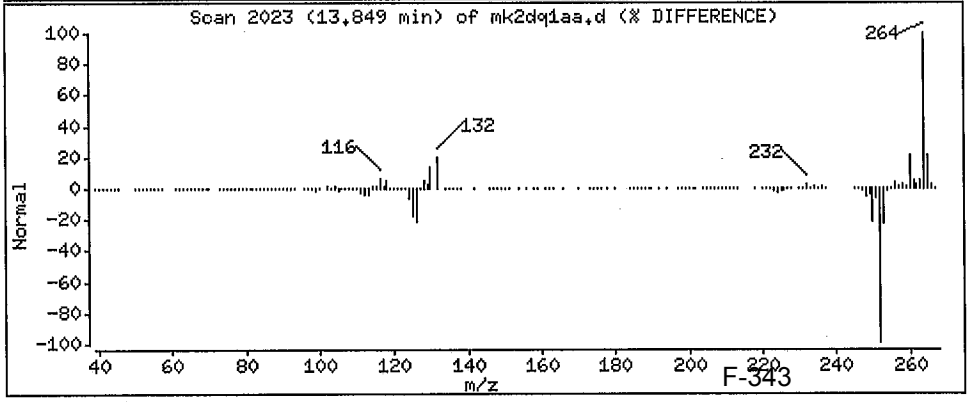












LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H1G200446 Work Order #...: MK2DQ1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H1G200000-076 MK2DQ1AD-LCSD
Prep Date.....: 07/20/11 Analysis Date..: 07/27/11
Prep Batch #...: 1201076
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Acenaphthene	91	(63 - 107)			SW846 8270C
	94	(63 - 107)	2.9	(0-36)	SW846 8270C
Acenaphthylene	94	(64 - 112)			SW846 8270C
	96	(64 - 112)	1.9	(0-36)	SW846 8270C
Aniline	93	(48 - 109)			SW846 8270C
	96	(48 - 109)	2.8	(0-50)	SW846 8270C
Anthracene	94	(59 - 114)			SW846 8270C
	96	(59 - 114)	1.9	(0-36)	SW846 8270C
Benz(a)anthracene	98	(50 - 130)			SW846 8270C
	102	(50 - 130)	4.0	(0-50)	SW846 8270C
Benzidine	86	(10 - 150)			SW846 8270C
	91	(10 - 150)	6.2	(0-50)	SW846 8270C
Benzo(b)fluoranthene	109	(63 - 122)			SW846 8270C
	110	(63 - 122)	0.91	(0-50)	SW846 8270C
Benzo(k)fluoranthene	92	(69 - 118)			SW846 8270C
	90	(69 - 118)	2.1	(0-50)	SW846 8270C
Benzo(ghi)perylene	99	(71 - 122)			SW846 8270C
	97	(71 - 122)	1.5	(0-50)	SW846 8270C
Benzo(a)pyrene	93	(67 - 122)			SW846 8270C
	92	(67 - 122)	0.54	(0-50)	SW846 8270C
Benzo(e)pyrene	102	(50 - 130)			SW846 8270C
	102	(50 - 130)	0.0	(0-50)	SW846 8270C
Biphenyl	85	(50 - 130)			SW846 8270C
	87	(50 - 130)	2.2	(0-50)	SW846 8270C
Chrysene	93	(67 - 114)			SW846 8270C
	97	(67 - 114)	4.1	(0-41)	SW846 8270C
Cresols (total)	97	(50 - 130)			SW846 8270C
	100	(50 - 130)	3.0	(0-50)	SW846 8270C
Dibenz(a,h)anthracene	97	(67 - 122)			SW846 8270C
	98	(67 - 122)	0.92	(0-50)	SW846 8270C
Dibenzofuran	95	(60 - 108)			SW846 8270C
	96	(60 - 108)	1.2	(0-37)	SW846 8270C
Dibenzo(a,e)pyrene	93	(50 - 130)			SW846 8270C
	95	(50 - 130)	1.4	(0-50)	SW846 8270C
3,3'-Dimethoxybenzidine	104	(30 - 130)			SW846 8270C
	112	(30 - 130)	7.4	(0-50)	SW846 8270C
p-Dimethylaminoazobenzene	103	(50 - 130)			SW846 8270C
	107	(50 - 130)	3.8	(0-50)	SW846 8270C
7,12-Dimethylbenz(a)-anthracene	68	(50 - 130)			SW846 8270C
	70	(50 - 130)	4.2	(0-50)	SW846 8270C

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H1G200446 Work Order #...: MK2DQ1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H1G200000-076 MK2DQ1AD-LCSD

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
3,3'-Dimethylbenzidine	107	(30 - 130)			SW846 8270C
	116	(30 - 130)	8.1	(0-50)	SW846 8270C
alpha,alpha-Dimethylphenet	69	(30 - 130)			SW846 8270C
	71	(30 - 130)	3.6	(0-50)	SW846 8270C
2,4-Dimethylphenol	92	(10 - 125)			SW846 8270C
	94	(10 - 125)	2.4	(0-41)	SW846 8270C
Fluoranthene	104	(55 - 120)			SW846 8270C
	106	(55 - 120)	1.9	(0-34)	SW846 8270C
Fluorene	95	(64 - 114)			SW846 8270C
	98	(64 - 114)	2.3	(0-36)	SW846 8270C
Indeno(1,2,3-cd)pyrene	102	(72 - 126)			SW846 8270C
	102	(72 - 126)	0.0	(0-50)	SW846 8270C
Isophorone	94	(56 - 111)			SW846 8270C
	94	(56 - 111)	0.42	(0-37)	SW846 8270C
3-Methylcholanthrene	89	(50 - 130)			SW846 8270C
	90	(50 - 130)	0.44	(0-30)	SW846 8270C
2-Methylnaphthalene	96	(56 - 111)			SW846 8270C
	96	(56 - 111)	0.62	(0-38)	SW846 8270C
Naphthalene	88	(59 - 104)			SW846 8270C
	88	(59 - 104)	0.56	(0-38)	SW846 8270C
Nitrobenzene	88	(58 - 109)			SW846 8270C
	89	(58 - 109)	1.2	(0-38)	SW846 8270C
Perylene	100	(50 - 130)			SW846 8270C
	99	(50 - 130)	1.3	(0-50)	SW846 8270C
Phenanthrene	92	(58 - 109)			SW846 8270C
	94	(58 - 109)	1.6	(0-35)	SW846 8270C
Phenol	94	(54 - 114)			SW846 8270C
	93	(54 - 114)	0.64	(0-39)	SW846 8270C
1,4-Phenylenediamine	22	(5.0- 130)			SW846 8270C
	26	(5.0- 130)	17	(0-50)	SW846 8270C
Pyrene	96	(76 - 118)			SW846 8270C
	101	(76 - 118)	5.4	(0-41)	SW846 8270C
o-Toluidine	96	(30 - 130)			SW846 8270C
	99	(30 - 130)	3.4	(0-50)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	67	(22 - 105)
	63	(22 - 105)
Phenol-d5	89	(48 - 118)
	90	(48 - 118)
Nitrobenzene-d5	85	(43 - 110)
	89	(43 - 110)
2-Fluorobiphenyl	86	(48 - 111)

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H1G200446 **Work Order #...:** MK2DQ1AC-LCS **Matrix.....:** AIR
LCS Lot-Sample#: H1G200000-076 MK2DQ1AD-LCSD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
	88	(48 - 111)
2,4,6-Tribromophenol	83	(34 - 125)
	85	(34 - 125)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: H1G200446 Work Order #...: MK2DQ1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H1G200000-076 MK2DQ1AD-LCSD
Prep Date.....: 07/20/11 Analysis Date..: 07/27/11
Prep Batch #...: 1201076
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Acenaphthene	100	90.8	ug	91		SW846 8270C
	100	93.5	ug	94	2.9	SW846 8270C
Acenaphthylene	100	94.1	ug	94		SW846 8270C
	100	95.9	ug	96	1.9	SW846 8270C
Aniline	100	93.0	ug	93		SW846 8270C
	100	95.6	ug	96	2.8	SW846 8270C
Anthracene	100	94.3	ug	94		SW846 8270C
	100	96.1	ug	96	1.9	SW846 8270C
Benz(a)anthracene	100	98.0	ug	98		SW846 8270C
	100	102	ug	102	4.0	SW846 8270C
Benzidine	200	171	ug	86		SW846 8270C
	200	182	ug	91	6.2	SW846 8270C
Benzo(b)fluoranthene	100	109	ug	109		SW846 8270C
	100	110	ug	110	0.91	SW846 8270C
Benzo(k)fluoranthene	100	91.8	ug	92		SW846 8270C
	100	89.9	ug	90	2.1	SW846 8270C
Benzo(ghi)perylene	100	98.8	ug	99		SW846 8270C
	100	97.3	ug	97	1.5	SW846 8270C
Benzo(a)pyrene	100	92.7	ug	93		SW846 8270C
	100	92.2	ug	92	0.54	SW846 8270C
Benzo(e)pyrene	100	102	ug	102		SW846 8270C
	100	102	ug	102	0.0	SW846 8270C
Biphenyl	100	84.8	ug	85		SW846 8270C
	100	86.7	ug	87	2.2	SW846 8270C
Chrysene	100	93.4	ug	93		SW846 8270C
	100	97.3	ug	97	4.1	SW846 8270C
Cresols (total)	200	194	ug	97		SW846 8270C
	200	200	ug	100	3.0	SW846 8270C
Dibenz(a,h)anthracene	100	96.6	ug	97		SW846 8270C
	100	97.5	ug	98	0.92	SW846 8270C
Dibenzofuran	100	94.7	ug	95		SW846 8270C
	100	95.9	ug	96	1.2	SW846 8270C
Dibenzo(a,e)pyrene	100	93.3	ug	93		SW846 8270C
	100	94.6	ug	95	1.4	SW846 8270C
3,3'-Dimethoxybenzidine	100	104	ug	104		SW846 8270C
	100	112	ug	112	7.4	SW846 8270C
p-Dimethylaminoazobenzene	100	103	ug	103		SW846 8270C
	100	107	ug	107	3.8	SW846 8270C
7,12-Dimethylbenz(a)-anthracene	100	67.6	ug	68		SW846 8270C
	100	70.5	ug	70	4.2	SW846 8270C

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LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: H1G200446 **Work Order #...:** MK2DQ1AC-LCS **Matrix.....:** AIR
LCS Lot-Sample#: H1G200000-076 MK2DQ1AD-LCSD

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
3,3'-Dimethylbenzidine	100	107	ug	107		SW846 8270C
	100	116	ug	116	8.1	SW846 8270C
alpha,alpha-Dimethylphenet	100	68.7	ug	69		SW846 8270C
	100	71.2	ug	71	3.6	SW846 8270C
2,4-Dimethylphenol	100	92.2	ug	92		SW846 8270C
	100	94.4	ug	94	2.4	SW846 8270C
Fluoranthene	100	104	ug	104		SW846 8270C
	100	106	ug	106	1.9	SW846 8270C
Fluorene	100	95.4	ug	95		SW846 8270C
	100	97.6	ug	98	2.3	SW846 8270C
Indeno(1,2,3-cd)pyrene	100	102	ug	102		SW846 8270C
	100	102	ug	102	0.0	SW846 8270C
Isophorone	100	93.5	ug	94		SW846 8270C
	100	93.9	ug	94	0.42	SW846 8270C
3-Methylcholanthrene	100	89.4	ug	89		SW846 8270C
	100	89.8	ug	90	0.44	SW846 8270C
2-Methylnaphthalene	100	95.9	ug	96		SW846 8270C
	100	96.5	ug	96	0.62	SW846 8270C
Naphthalene	100	88.2	ug	88		SW846 8270C
	100	87.7	ug	88	0.56	SW846 8270C
Nitrobenzene	100	88.2	ug	88		SW846 8270C
	100	89.3	ug	89	1.2	SW846 8270C
Perylene	100	100	ug	100		SW846 8270C
	100	98.7	ug	99	1.3	SW846 8270C
Phenanthrene	100	92.2	ug	92		SW846 8270C
	100	93.7	ug	94	1.6	SW846 8270C
Phenol	100	93.9	ug	94		SW846 8270C
	100	93.3	ug	93	0.64	SW846 8270C
1,4-Phenylenediamine	100	22.3	ug	22		SW846 8270C
	100	26.4	ug	26	17	SW846 8270C
Pyrene	100	95.7	ug	96		SW846 8270C
	100	101	ug	101	5.4	SW846 8270C
o-Toluidine	100	95.7	ug	96		SW846 8270C
	100	99.0	ug	99	3.4	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	67	(22 - 105)
	63	(22 - 105)
Phenol-d5	89	(48 - 118)
	90	(48 - 118)
Nitrobenzene-d5	85	(43 - 110)
	89	(43 - 110)
2-Fluorobiphenyl	86	(48 - 111)

(Continued on next page)

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: H1G200446 **Work Order #...:** MK2DQ1AC-LCS **Matrix.....:** AIR
LCS Lot-Sample#: H1G200000-076 MK2DQ1AD-LCSD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
	88	(48 - 111)
2,4,6-Tribromophenol	83	(34 - 125)
	85	(34 - 125)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Data File: /var/chem/gcms/md.i/D072711.b/mk2dq1ac.d
Report Date: 28-Jul-2011 10:57

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072711.b/mk2dq1ac.d
Lab Smp Id: MK2DQ1AC Client Smp ID: INTRA-LAB CHECK
Inj Date : 27-JUL-2011 20:41
Operator : 60841 Inst ID: md.i
Smp Info : MK2DQ1AC,,3,,LCS,
Misc Info : D072711,8270a9,ICR.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /chem/gcms/md.i/D072711.b/8270a9.m
Meth Date : 27-Jul-2011 17:16 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 17:42 Cal File: a9dg267.d
Als bottle: 13 QC Sample: METHOD SPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICR.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * (Vt*Sf)/(Vo*Uf) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)
Sf	1.00000	Prep split factor
Vo	1.00000	Volume of sample extracted (1=total samp
Uf	1000.00000	unit correction factor

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	CONCENTRATIONS FINAL (ug)
* 1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	50008	20.0000	20.0
* 2 Naphthalene-d8	136	5.888	5.887	(1.000)	203678	20.0000	20.0
* 3 Acenaphthene-d10	164	8.485	8.484	(1.000)	126633	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	252167	20.0000	20.0
* 5 Chrysene-d12	240	11.928	11.928	(1.000)	274360	20.0000	20.0
* 6 Perylene-d12	264	13.855	13.855	(1.000)	251499	20.0000	20.0
$ 7 2-Fluorophenol	112	3.132	3.126	(0.728)	138674	50.2283	50.2
$ 8 Phenol-d5	99	3.937	3.931	(0.915)	220161	66.5070	66.5
$ 9 Nitrobenzene-d5	82	4.930	4.930	(0.837)	137976	42.5104	42.5
$ 11 2,4,6-Tribromophenol	330	9.307	9.307	(0.941)	62500	61.9090	61.9
$ 10 2-Fluorobiphenyl	172	7.591	7.591	(0.895)	342099	43.1854	43.2
$ 179 13C6-naphthalene	134	5.888	5.917	(1.000)	19635	1.77397	~~1.77 (RT~~ NA
15 Phenol (ccc)	94	3.949	3.949	(0.918)	319854	93.9497	93.9

KEM 7/28/11
11-234

Data File: /var/chem/gcms/md.i/D072711.b/mk2dq1ac.d
Report Date: 28-Jul-2011 10:57

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	FINAL (ug)
16 Aniline	93	3.972	3.972	(0.924)	392213	92.9564	93.0
23 2-Methylphenol	108	4.577	4.565	(1.064)	258947	96.2560	96.2
26 3&4 Methylphenol	108	4.759	4.753	(1.107)	272125	98.1017	98.1
M 204 total cresols (methylphenols)	108				531072	194.358	194
95 o-toluidine	106	4.789	4.783	(1.113)	440382	95.7186	95.7
29 Nitrobenzene	77	4.953	4.953	(0.841)	280603	88.2453	88.2
30 Isophorone	82	5.271	5.271	(0.895)	488962	93.5043	93.5
32 2,4-Dimethyphenol	107	5.453	5.447	(0.926)	315136	92.2230	92.2
199 Phentermine	58	6.246	5.658	(1.061)	579231	68.7447	68.7(M)
37 Naphthalene	128	5.917	5.923	(1.005)	860363	88.1539	88.2
202 1,4-Phenylenediamine	108	6.510	6.499	(1.106)	75203	22.2954	22.3
41 2-Methylnaphthalene	142	6.933	6.933	(1.178)	632946	95.8792	95.9
188 1,1'-Biphenyl	154	7.738	7.732	(0.912)	850529	84.7630	84.8
47 Acenaphthylene	152	8.308	8.308	(0.979)	1016402	94.0968	94.1
51 Acenaphthene (ccc)	153	8.526	8.520	(1.005)	648621	90.7519	90.8
53 Dibenzofuran	168	8.720	8.719	(1.028)	943127	94.6851	94.7
56 Fluorene	166	9.078	9.078	(1.070)	786690	95.3937	95.4
66 Phenanthrene	178	9.918	9.912	(1.002)	1245902	92.2273	92.2
67 Anthracene	178	9.953	9.953	(1.006)	1236575	94.3491	94.3
70 Fluoranthene (ccc)	202	10.788	10.788	(1.090)	1444520	103.756	104
84 Benzidine	184	10.876	10.870	(1.099)	1512803	171.335	171(A)
71 Pyrene	202	10.941	10.940	(0.917)	1487056	95.7080	95.7
116 p-(dimethylamino)azobenzene	120	11.146	11.146	(1.126)	395206	103.080	103
117 o-tolidine	212	11.399	11.399	(1.152)	911981	106.986	107
200 3,3'-Dimethoxybenzidine	244	11.851	11.851	(0.994)	387506	104.447	104
73 Benzo(a)Anthracene	228	11.916	11.916	(0.999)	1333197	97.9993	98.0
75 Chrysene	228	11.957	11.957	(1.002)	1355032	93.3737	93.4
119 7,12-dimethylbenz(a)anthracen	256	13.232	13.226	(1.109)	459542	67.6354	67.6
78 Benzo(b)fluoranthene	252	13.244	13.238	(0.956)	1380930	109.437	109
79 Benzo(k)fluoranthene	252	13.285	13.279	(0.959)	1395237	91.7559	91.8
85 Benzo(e)pyrene	252	13.679	13.673	(0.987)	1284527	101.711	102
80 Benzo(a)pyrene (ccc)	252	13.767	13.761	(0.994)	1287988	92.6807	92.7
196 Perylene	252	13.914	13.908	(1.004)	1278182	100.556	100
120 3-methylcholanthrene	268	14.372	14.372	(1.037)	674740	89.4083	89.4
81 Indeno(1,2,3-cd)pyrene	276	15.330	15.330	(1.106)	1405758	101.973	102
82 Dibenz(a,h)anthracene	278	15.359	15.353	(1.109)	1089757	96.6288	96.6
83 Benzo(g,h,i)perylene	276	15.664	15.664	(1.131)	1202096	98.8391	98.8
201 Dibenzo(a,e)pyrene	302	18.003	17.997	(1.299)	971054	93.3369	93.3

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /var/chem/gcms/md.i/D072711.b/mk2dq1ac.d
Report Date: 28-Jul-2011 10:42

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072711.b/mk2dq1ac.d
Lab Smp Id: MK2DQ1AC Client Smp ID: INTRA-LAB CHECK
Inj Date : 27-JUL-2011 20:41
Operator : 60841 Inst ID: md.i
Smp Info : MK2DQ1AC,,3,,LCS,
Misc Info : D072711,8270a9,ICR.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /chem/gcms/md.i/D072711.b/8270a9.m
Meth Date : 27-Jul-2011 17:16 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 17:42 Cal File: a9dg267.d
Als bottle: 13 QC Sample: METHOD SPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICR.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * (Vt*Sf)/(Vo*Uf) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)
Sf	1.00000	Prep split factor
Vo	1.00000	Volume of sample extracted (1=total samp
Uf	1000.00000	unit correction factor

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	CONCENTRATIONS FINAL (ug)
* 1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	50008	20.0000	20.0
* 2 Naphthalene-d8	136	5.888	5.887	(1.000)	203678	20.0000	20.0
* 3 Acenaphthene-d10	164	8.485	8.484	(1.000)	126633	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	252167	20.0000	20.0
* 5 Chrysene-d12	240	11.928	11.928	(1.000)	274360	20.0000	20.0
* 6 Perylene-d12	264	13.855	13.855	(1.000)	251499	20.0000	20.0
$ 7 2-Fluorophenol	112	3.132	3.126	(0.728)	138674	50.2284	50.2
$ 8 Phenol-d5	99	3.937	3.931	(0.915)	220161	66.5071	66.5
$ 9 Nitrobenzene-d5	82	4.930	4.930	(0.837)	137976	42.5105	42.5
$ 11 2,4,6-Tribromophenol	330	9.307	9.307	(0.941)	62500	61.9096	61.9
$ 10 2-Fluorobiphenyl	172	7.591	7.591	(0.895)	342099	43.1852	43.2
$ 179 13C6-naphthalene	134	5.888	5.917	(1.000)	19635	1.77399	~~1.77(R)~~ NVA
15 Phenol (ccc)	94	3.949	3.949	(0.918)	319854	93.9498	93.9

KLM 7/28/11

Data File: /var/chem/gcms/md.i/D072711.b/mk2dq1ac.d
Report Date: 28-Jul-2011 10:42

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	FINAL (ug)
16 Aniline	93	3.972	3.972	(0.924)	392213	92.9566	93.0
23 2-Methylphenol	108	4.577	4.565	(1.064)	258947	96.2563	96.2
26 3&4 Methylphenol	108	4.759	4.753	(1.107)	272125	98.1018	98.1
M 204 total cresols (methylphenols)	108				531073	194.358	194
95 o-toluidine	106	4.789	4.783	(1.113)	440382	95.7187	95.7
29 Nitrobenzene	77	4.953	4.953	(0.841)	280603	88.2455	88.2
30 Isophorone	82	5.271	5.271	(0.895)	488962	93.5045	93.5
32 2,4-Dimethyphenol	107	5.453	5.447	(0.926)	315136	92.2232	92.2
199 Phentermine	58	5.694	5.658	(0.967)	598	5.96155	5.96 (6)
37 Naphthalene	128	5.917	5.923	(1.005)	860363	88.1539	88.2
202 1,4-Phenylenediamine	108	6.510	6.499	(1.106)	75203	22.2954	22.3
41 2-Methylnaphthalene	142	6.933	6.933	(1.178)	632946	95.8793	95.9
188 1,1'-Biphenyl	154	7.738	7.732	(0.912)	850529	84.7625	84.8
47 Acenaphthylene	152	8.308	8.308	(0.979)	1016402	94.0962	94.1
51 Acenaphthene (ccc)	153	8.526	8.520	(1.005)	648621	90.7513	90.8
53 Dibenzofuran	168	8.720	8.719	(1.028)	943127	94.6845	94.7
56 Fluorene	166	9.078	9.078	(1.070)	786690	95.3931	95.4
66 Phenanthrene	178	9.918	9.912	(1.002)	1245902	92.2270	92.2
67 Anthracene	178	9.953	9.953	(1.006)	1236575	94.3488	94.3
70 Fluoranthene (ccc)	202	10.788	10.788	(1.090)	1444520	103.756	104
84 Benzidine	184	10.876	10.870	(1.099)	1512803	171.334	171(A)
71 Pyrene	202	10.941	10.940	(0.917)	1487056	95.7077	95.7
116 p-(dimethylamino)azobenzene	120	11.146	11.146	(1.126)	395206	103.080	103
117 o-tolidine	212	11.399	11.399	(1.152)	911981	106.986	107
200 3,3'-Dimethoxybenzidine	244	11.851	11.851	(0.994)	387506	104.447	104
73 Benzo(a)Anthracene	228	11.916	11.916	(0.999)	1333197	97.9990	98.0
75 Chrysene	228	11.957	11.957	(1.002)	1355032	93.3734	93.4
119 7,12-dimethylbenz(a)anthracen	256	13.232	13.226	(1.109)	459542	67.6353	67.6
78 Benzo(b)fluoranthene	252	13.244	13.238	(0.956)	1380930	109.437	109
79 Benzo(k)fluoranthene	252	13.285	13.279	(0.959)	1395237	91.7557	91.8
85 Benzo(e)pyrene	252	13.679	13.673	(0.987)	1284527	101.711	102
80 Benzo(a)pyrene (ccc)	252	13.767	13.761	(0.994)	1287988	92.6805	92.7
196 Perylene	252	13.914	13.908	(1.004)	1278182	100.556	100
120 3-methylcholanthrene	268	14.372	14.372	(1.037)	674740	89.4082	89.4
81 Indeno(1,2,3-cd)pyrene	276	15.330	15.330	(1.106)	1405758	101.973	102
82 Dibenz(a,h)anthracene	278	15.359	15.353	(1.109)	1089757	96.6286	96.6
83 Benzo(g,h,i)perylene	276	15.664	15.664	(1.131)	1202096	98.8389	98.8
201 Dibenzo(a,e)pyrene	302	18.003	17.997	(1.299)	971054	93.3367	93.3

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
R - Spike/Surrogate failed recovery limits.

KRM 7/28/11

Data File: /var/chem/gcms/md.i/D072711.b/mk2dq1ac.d
Report Date: 28-Jul-2011 10:42

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

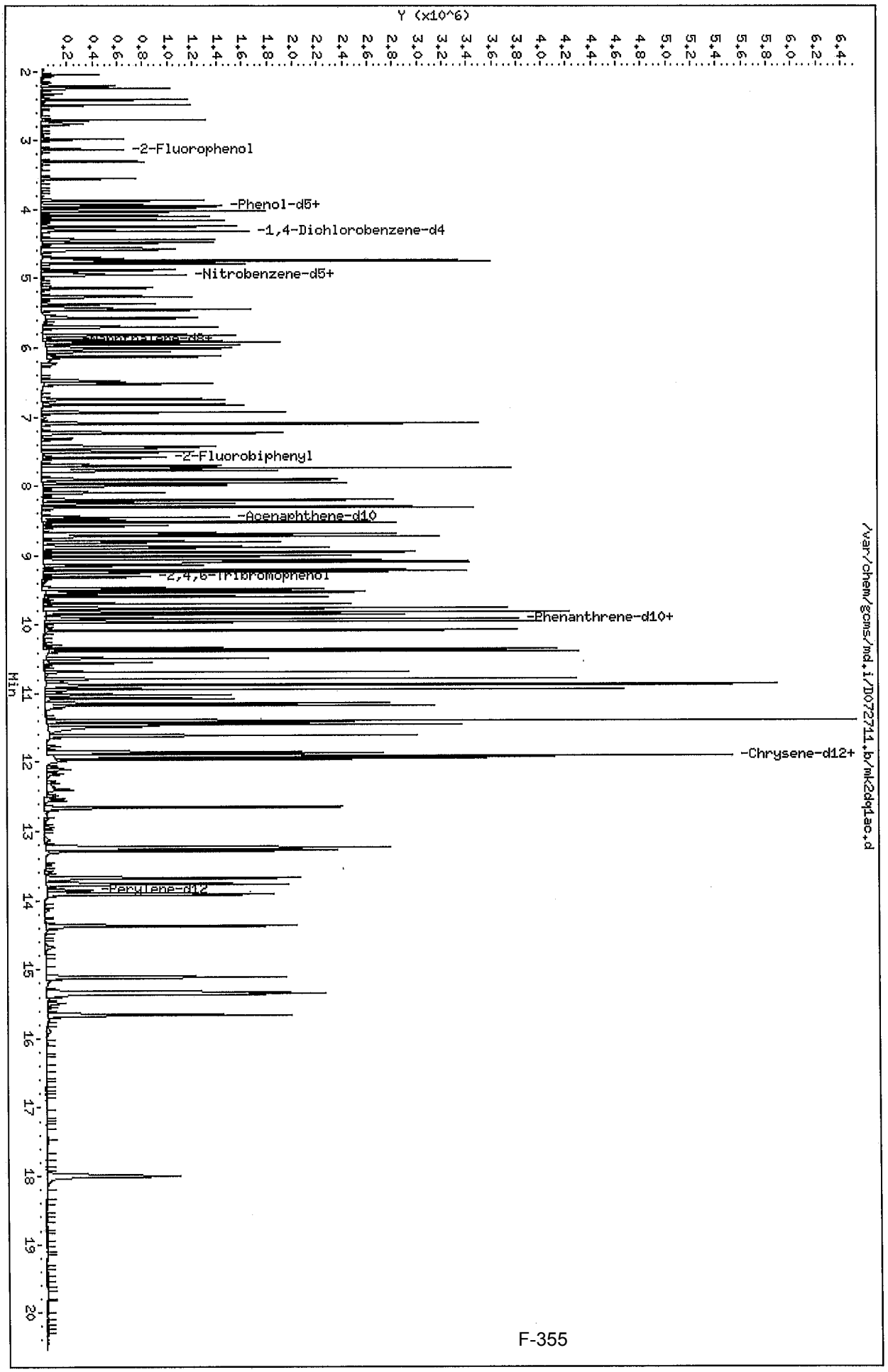
Instrument ID: md.i
Lab File ID: mk2dq1ac.d
Lab Smp Id: MK2DQ1AC
Analysis Type: SV
Quant Type: ISTD
Operator: 60841
Method File: /chem/gcms/md.i/D072711.b/8270a9.m
Misc Info: D072711,8270a9,ICR.sub

Calibration Date: 27-JUL-2011
Calibration Time: 16:02
Client Smp ID: INTRA-LAB CHECK
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	44395	22198	88790	50008	12.64
2 Naphthalene-d8	182374	91187	364748	203678	11.68
3 Acenaphthene-d10	111075	55538	222150	126633	14.01
4 Phenanthrene-d10	217977	108988	435954	252167	15.69
5 Chrysene-d12	247793	123896	495586	274360	10.72
6 Perylene-d12	221015	110508	442030	251499	13.79

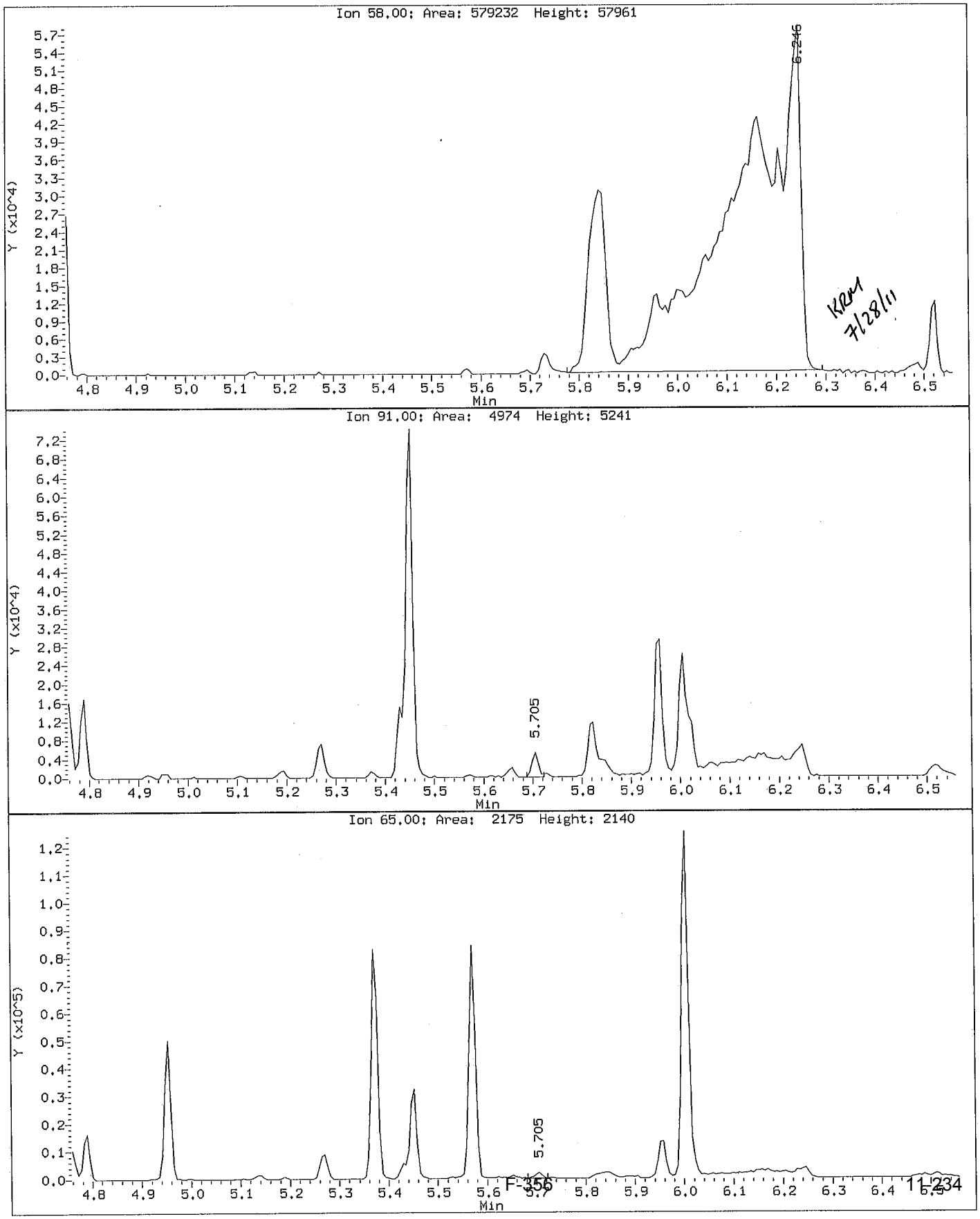
COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	4.30	3.80	4.80	4.30	0.00
2 Naphthalene-d8	5.89	5.39	6.39	5.89	0.00
3 Acenaphthene-d10	8.48	7.98	8.98	8.48	0.00
4 Phenanthrene-d10	9.89	9.39	10.39	9.89	0.00
5 Chrysene-d12	11.93	11.43	12.43	11.93	0.00
6 Perylene-d12	13.85	13.35	14.35	13.85	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.


Data File: /var/chem/gcms/md.i/D072711.b/mk2dq1ac.d
Date : 27-JUL-2011 20:41
Client ID: INTRA-LAB CHECK
Sample Info: MK2DQ1AC,,3,,LCS,
Volume Injected (uL): 1.0
Column phase: Rxi-5 Sil MS
Instrument: md.i
Operator: 60841
Column diameter: 0.25
Y (x10^6)
Min
-2-Fluorophenol
-Phenol-d5+
-1,4-Dichlorobenzene-d4
-Nitrobenzene-d5+
-2-Fluorobiphenyl
-Acenaphthene-d10
-2,4,6-Tribromophenol
-Phenanthrene-d10+
-Chrysene-d12+
-Perylene-d12
/var/chem/gcms/md.i/D072711.b/mk2dq1ac.d

Data File: /var/chem/gcms/md.i/D072711.b/mk2dq1ac.d
Injection Date: 27-JUL-2011 20:41
Instrument: md.i
Client Sample ID: INTRA-LAB CHECK

Compound: Phentermine
CAS Number: 122-09-8



Data File: /var/chem/gcms/md.i/D072711.b/mk2dq1ad.d
Report Date: 03-Aug-2011 13:32

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072711.b/mk2dq1ad.d
Lab Smp Id: MK2DQ1AD Client Smp ID: INTRA-LAB CHECK
Inj Date : 27-JUL-2011 21:09
Operator : 60841 Inst ID: md.i
Smp Info : MK2DQ1AD,,3,,DUP,
Misc Info : D072711,8270a9,ICR.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /chem/gcms/md.i/D072711.b/8270a9.m
Meth Date : 29-Jul-2011 13:09 wilesd Quant Type: ISTD
Cal Date : 26-JUL-2011 17:42 Cal File: a9dg267.d
Als bottle: 14 QC Sample: METHOD SPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICR.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * (Vt*Sf)/(Vo*Uf) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)
Sf	1.00000	Prep split factor
Vo	1.00000	Volume of sample extracted (1=total samp
Uf	1000.00000	unit correction factor

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	FINAL (ug)
* 1 1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	49088	20.0000	20.0
* 2 Naphthalene-d8	136	5.888	5.887	(1.000)	202105	20.0000	20.0
* 3 Acenaphthene-d10	164	8.485	8.484	(1.000)	124337	20.0000	20.0
* 4 Phenanthrene-d10	188	9.895	9.895	(1.000)	250258	20.0000	20.0
* 5 Chrysene-d12	240	11.928	11.928	(1.000)	266436	20.0000	20.0
* 6 Perylene-d12	264	13.855	13.855	(1.000)	256277	20.0000	20.0
$ 7 2-Fluorophenol	112	3.132	3.126	(0.728)	128095	47.2661	47.3
$ 8 Phenol-d5	99	3.937	3.931	(0.915)	220294	67.7944	67.8
$ 9 Nitrobenzene-d5	82	4.924	4.930	(0.836)	143680	44.6124	44.6
$ 11 2,4,6-Tribromophenol	330	9.307	9.307	(0.941)	64129	64.0072	64.0
$ 10 2-Fluorobiphenyl	172	7.591	7.591	(0.895)	342319	44.0112	44.0
$ 179 13C6-naphthalene	134	5.888	5.917	(1.000)	19674	1.79133	1.79(R)
15 Phenol (ccc)	94	3.949	3.949	(0.918)	311899	93.3301	93.3

Data File: /var/chem/gcms/md.i/D072711.b/mk2dq1ad.d
Report Date: 03-Aug-2011 13:32

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	FINAL (ug)
16 Aniline	93	3.972	3.972	(0.924)	396090	95.6347	95.6
23 2-Methylphenol	108	4.577	4.565	(1.064)	261765	99.1271	99.1
26 3&4 Methylphenol	108	4.759	4.753	(1.107)	275658	101.238	101
M 204 total cresols (methylphenols)	108				537423	200.365	200
95 o-toluidine	106	4.789	4.783	(1.113)	446991	98.9760	99.0
29 Nitrobenzene	77	4.953	4.953	(0.841)	281873	89.3347	89.3
30 Isophorone	82	5.265	5.271	(0.894)	487402	93.9314	93.9
32 2,4-Dimethyphenol	107	5.453	5.447	(0.926)	320131	94.4139	94.4
199 Phentermine	58	6.240	5.658	(1.060)	597268	71.2336	71.2(M)
37 Naphthalene	128	5.917	5.923	(1.005)	849340	87.7018	87.7
202 1,4-Phenylenediamine	108	6.510	6.499	(1.106)	93639	26.3912	26.4
41 2-Methylnaphthalene	142	6.933	6.933	(1.178)	632292	96.5256	96.5
188 1,1'-Biphenyl	154	7.738	7.732	(0.912)	854326	86.7136	86.7
47 Acenaphthylene	152	8.308	8.308	(0.979)	1017022	95.8929	95.9
51 Acenaphthene (ccc)	153	8.520	8.520	(1.004)	656088	93.4917	93.5
53 Dibenzofuran	168	8.720	8.719	(1.028)	938278	95.9378	95.9
56 Fluorene	166	9.078	9.078	(1.070)	790751	97.6568	97.6
66 Phenanthrene	178	9.918	9.912	(1.002)	1255743	93.6648	93.7
67 Anthracene	178	9.953	9.953	(1.006)	1249535	96.0652	96.1
70 Fluoranthene (ccc)	202	10.788	10.788	(1.090)	1460883	105.732	106
84 Benzidine	184	10.876	10.870	(1.099)	1599479	182.533	182
71 Pyrene	202	10.941	10.940	(0.917)	1528681	101.313	101
116 p-(dimethylamino)azobenzene	120	11.140	11.146	(1.126)	408823	107.445	107
117 o-tolidine	212	11.399	11.399	(1.152)	977776	115.579	116
200 3,3'-Dimethoxybenzidine	244	11.851	11.851	(0.994)	408738	111.695	112
73 Benzo(a)Anthracene	228	11.916	11.916	(0.999)	1350167	102.198	102
75 Chrysene	228	11.957	11.957	(1.002)	1371331	97.3072	97.3
119 7,12-dimethylbenz(a)anthracen	256	13.232	13.226	(1.109)	466956	70.5317	70.5
78 Benzo(b)fluoranthene	252	13.244	13.238	(0.956)	1418448	110.314	110
79 Benzo(k)fluoranthene	252	13.279	13.279	(0.958)	1393204	89.9140	89.9
85 Benzo(e)pyrene	252	13.679	13.673	(0.987)	1309270	101.737	102
80 Benzo(a)pyrene (ccc)	252	13.767	13.761	(0.994)	1306154	92.2488	92.2
196 Perylene	252	13.908	13.908	(1.004)	1278768	98.7262	98.7
120 3-methylcholanthrene	268	14.372	14.372	(1.037)	690706	89.7871	89.8
81 Indeno(1,2,3-cd)pyrene	276	15.330	15.330	(1.106)	1436775	102.280	102
82 Dibenz(a,h)anthracene	278	15.353	15.353	(1.108)	1120512	97.5035	97.5
83 Benzo(g,h,i)perylene	276	15.665	15.664	(1.131)	1205596	97.2788	97.3
201 Dibenzo(a,e)pyrene	302	17.997	17.997	(1.299)	1003903	94.6342	94.6

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /var/chem/gcms/md.i/D072711.b/mk2dq1ad.d
Report Date: 28-Jul-2011 10:42

TestAmerica Knoxville

Semivolatile Organic Compounds by GC/MS

Data file : /var/chem/gcms/md.i/D072711.b/mk2dq1ad.d
Lab Smp Id: MK2DQ1AD Client Smp ID: INTRA-LAB CHECK
Inj Date : 27-JUL-2011 21:09
Operator : 60841 Inst ID: md.i
Smp Info : MK2DQ1AD,,3,,DUP,
Misc Info : D072711,8270a9,ICR.sub
Comment : Semivolatile Organic Compounds by GC/MS
Method : /chem/gcms/md.i/D072711.b/8270a9.m
Meth Date : 27-Jul-2011 17:16 mcgeek Quant Type: ISTD
Cal Date : 26-JUL-2011 17:42 Cal File: a9dg267.d
Als bottle: 14 QC Sample: METHOD SPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICR.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * (Vt*Sf)/(Vo*Uf) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	1000.00000	Volume of final extract (uL)
Sf	1.00000	Prep split factor
Vo	1.00000	Volume of sample extracted (1=total samp
Uf	1000.00000	unit correction factor

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	FINAL (ug)
* 1	1,4-Dichlorobenzene-d4	152	4.301	4.301	(1.000)	49088	20.0000	20.0
* 2	Naphthalene-d8	136	5.888	5.887	(1.000)	202105	20.0000	20.0
* 3	Acenaphthene-d10	164	8.485	8.484	(1.000)	124337	20.0000	20.0
* 4	Phenanthrene-d10	188	9.895	9.895	(1.000)	250258	20.0000	20.0
* 5	Chrysene-d12	240	11.928	11.928	(1.000)	266436	20.0000	20.0
* 6	Perylene-d12	264	13.855	13.855	(1.000)	256277	20.0000	20.0
$ 7	2-Fluorophenol	112	3.132	3.126	(0.728)	128095	47.2654	47.3
$ 8	Phenol-d5	99	3.937	3.931	(0.915)	220294	67.7935	67.8
$ 9	Nitrobenzene-d5	82	4.924	4.930	(0.836)	143680	44.6125	44.6
$ 11	2,4,6-Tribromophenol	330	9.307	9.307	(0.941)	64129	64.0081	64.0
$ 10	2-Fluorobiphenyl	172	7.591	7.591	(0.895)	342319	44.0111	44.0
$ 179	13C6-naphthalene	134	5.888	5.917	(1.000)	19674	1.79133	1.79(R)
15	Phenol (ccc)	94	3.949	3.949	(0.918)	311899	93.3287	93.3

Data File: /var/chem/gcms/md.i/D072711.b/mk2dq1ad.d
Report Date: 28-Jul-2011 10:42

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng/uL)	FINAL (ug)
16 Aniline	93	3.972	3.972	(0.924)	396090	95.6331	95.6
23 2-Methylphenol	108	4.577	4.565	(1.064)	261765	99.1255	99.1
26 3&4 Methylphenol	108	4.759	4.753	(1.107)	275658	101.236	101
M 204 total cresols (methylphenols)	108				537423	200.362	200
95 o-toluidine	106	4.789	4.783	(1.113)	446991	98.9744	99.0
29 Nitrobenzene	77	4.953	4.953	(0.841)	281873	89.3346	89.3
30 Isophorone	82	5.265	5.271	(0.894)	487402	93.9314	93.9
32 2,4-Dimethyphenol	107	5.453	5.447	(0.926)	320131	94.4139	94.4
199 Phentermine	58	5.694	5.658	(0.967)	377	5.93818	5.94 (6)
37 Naphthalene	128	5.917	5.923	(1.005)	849340	87.7017	87.7
202 1,4-Phenylenediamine	108	6.510	6.499	(1.106)	93639	26.3912	26.4
41 2-Methylnaphthalene	142	6.933	6.933	(1.178)	632292	96.5255	96.5
188 1,1'-Biphenyl	154	7.738	7.732	(0.912)	854326	86.7134	86.7
47 Acenaphthylene	152	8.308	8.308	(0.979)	1017022	95.8927	95.9
51 Acenaphthene (ccc)	153	8.520	8.520	(1.004)	656088	93.4916	93.5
53 Dibenzofuran	168	8.720	8.719	(1.028)	938278	95.9375	95.9
56 Fluorene	166	9.078	9.078	(1.070)	790751	97.6565	97.6
66 Phenanthrene	178	9.918	9.912	(1.002)	1255743	93.6649	93.7
67 Anthracene	178	9.953	9.953	(1.006)	1249535	96.0652	96.1
70 Fluoranthene (ccc)	202	10.788	10.788	(1.090)	1460883	105.732	106
84 Benzidine	184	10.876	10.870	(1.099)	1599479	182.533	182 (A)
71 Pyrene	202	10.941	10.940	(0.917)	1528681	101.313	101
116 p-(dimethylamino)azobenzene	120	11.140	11.146	(1.126)	408823	107.445	107
117 o-tolidine	212	11.399	11.399	(1.152)	977776	115.579	116
200 3,3'-Dimethoxybenzidine	244	11.851	11.851	(0.994)	408738	111.694	112
73 Benzo(a)Anthracene	228	11.916	11.916	(0.999)	1350167	102.198	102
75 Chrysene	228	11.957	11.957	(1.002)	1371331	97.3071	97.3
119 7,12-dimethylbenz(a)anthracen	256	13.232	13.226	(1.109)	466956	70.5317	70.5
78 Benzo(b)fluoranthene	252	13.244	13.238	(0.956)	1418448	110.314	110
79 Benzo(k)fluoranthene	252	13.279	13.279	(0.958)	1393204	89.9139	89.9
85 Benzo(e)pyrene	252	13.679	13.673	(0.987)	1309270	101.737	102
80 Benzo(a)pyrene (ccc)	252	13.767	13.761	(0.994)	1306154	92.2486	92.2
196 Perylene	252	13.908	13.908	(1.004)	1278768	98.7261	98.7
120 3-methylcholanthrene	268	14.372	14.372	(1.037)	690706	89.7870	89.8
81 Indeno(1,2,3-cd)pyrene	276	15.330	15.330	(1.106)	1436775	102.280	102
82 Dibenz(a,h)anthracene	278	15.353	15.353	(1.108)	1120512	97.5034	97.5
83 Benzo(g,h,i)perylene	276	15.665	15.664	(1.131)	1205596	97.2786	97.3
201 Dibenzo(a,e)pyrene	302	17.997	17.997	(1.299)	1003903	94.6340	94.6

QC Flag Legend

KEM 7/28/11

A - Target compound detected but, quantitated amount exceeded maximum amount.
R - Spike/Surrogate failed recovery limits.

Data File: /var/chem/gcms/md.i/D072711.b/mk2dq1ad.d
Report Date: 28-Jul-2011 10:42

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: md.i
Lab File ID: mk2dq1ad.d
Lab Smp Id: MK2DQ1AD
Analysis Type: SV
Quant Type: ISTD
Operator: 60841
Method File: /chem/gcms/md.i/D072711.b/8270a9.m
Misc Info: D072711,8270a9,ICR.sub

Calibration Date: 27-JUL-2011
Calibration Time: 16:02
Client Smp ID: INTRA-LAB CHECK
Level: LOW
Sample Type: AIR

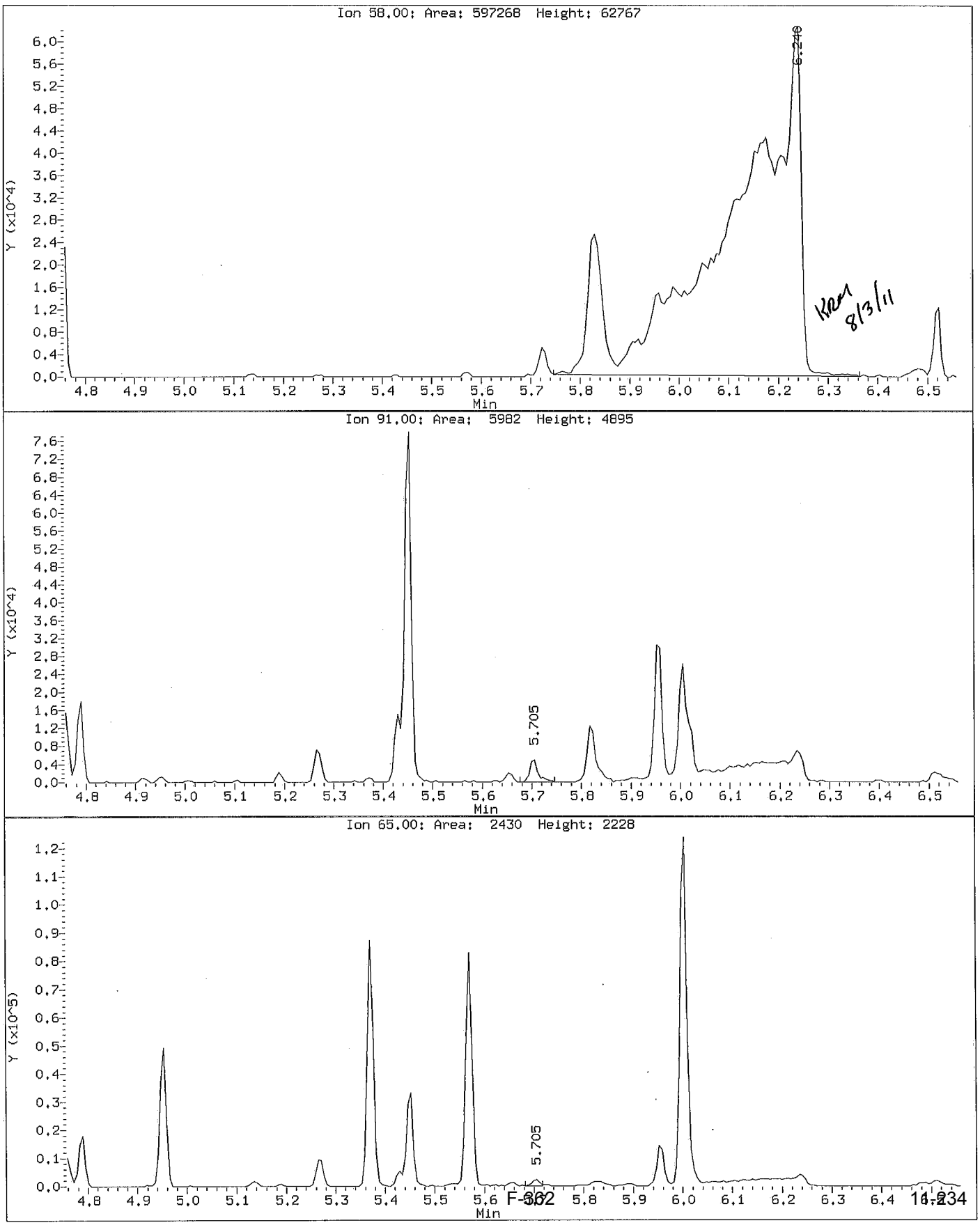
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	44395	22198	88790	49088	10.57
2 Naphthalene-d8	182374	91187	364748	202105	10.82
3 Acenaphthene-d10	111075	55538	222150	124337	11.94
4 Phenanthrene-d10	217977	108988	435954	250258	14.81
5 Chrysene-d12	247793	123896	495586	266436	7.52
6 Perylene-d12	221015	110508	442030	256277	15.95

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	4.30	3.80	4.80	4.30	0.00
2 Naphthalene-d8	5.89	5.39	6.39	5.89	0.00
3 Acenaphthene-d10	8.48	7.98	8.98	8.48	0.00
4 Phenanthrene-d10	9.89	9.39	10.39	9.89	0.00
5 Chrysene-d12	11.93	11.43	12.43	11.93	0.00
6 Perylene-d12	13.85	13.35	14.35	13.85	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /var/chem/gcms/md.i/D072711.b/mk2dq1ad.d
Injection Date: 27-JUL-2011 21:09
Instrument: md.i
Client Sample ID: INTRA-LAB CHECK

Compound: Phentermine
CAS Number: 122-09-8



Miscellaneous Data

TestAmerica Knoxville Semivolatile GC/MS Data Review / Narrative Checklist Lot/Project# H1G200446
Method 8270C - KNOX-MS-0016, Rev 11 & Method TO-13A Mod – KNOX-MS-0017, Rev 4 Page 1 of 2

Instrument:	MD					
Scanned File Names:	D072611I					
	D072711					

Review Items **A. Tune / Calibration**	N/A	Yes	No	If No, why is data reportable?	2nd ☐
1. Were all samples injected within 12 hr of DFTPP?		✓			✓
2. Has a Continuing Calibration Checklist been completed for each analytical batch?		✓			✓
3. Was the correct ICAL used for quantitation?		✓			✓
B. Client Sample and QC Sample Results					✓
1. Were all special project requirements met?		✓			
2. Were prep/dilution/split factors & header information verified?		✓			✓
3. Was date/time of analysis verified between analysis header and logbook as correct?		✓			✓
4. Were the analytes that were not automatically identified in the CCAL searched for manually in the samples?		✓			
5. Sample prep and analyses done within preparation and analytical holding time (HT)? *If no, list samples and NCM #:* _____		✓		☐ [ht1] HT expired upon receipt. ☐ *[ht2] Client requested analysis after HT expired.** ☐ **Re-extraction done after HT expired. See [sur4] or[sur2]**	✓
6. Are surrogates and internal standards within QC limits? *If no, list samples, reason (e.g.,* **sur1***) and NCM #:* _____ Sample / Reason / Sample / Reason		✓		☐ [sur1] MS/MSD surr.%R demonstrated same effect. ☐ [sur2] Re-extraction demonstrated same effect. ☐ **[sur3] Not enough sample for re-extraction.** ☐ **[sur4] Re-extraction done outside HT. Rerun shows original %R were wrong; both data reported.** ☐ **[sur5] Upon client approval, data was flagged as estimated & released without further investigation.*** ☐ [sur7] Obvious matrix interference. Explain: _____ ☐ **[hydr1] H-D exchange; sample reextracted.** ☐ **[hydr2] H-D exchange; affected analytes reported on diluted analysis** ☐ **[sur12] Surr.%R high and all targets ND.** ☐ **[sur13] Surr.%R low. Sample consumed.** ☐ **[sur14] Surr.%R high. Sample consumed.** ☐ [isc1] Samples bracketed by acceptable runs.	✓
6. Are internal standards <0.5min of last CCAL?		✓			✓
7. Were positive hits evaluated using qualitative identification criteria and technical judgment?		✓			✓
8. Are positive results within calibration range? *If no, list samples:* _____		✓		☐ [dil5] At client's request, sample was analyzed with minimum dilution even though some analytes were outside of calibration range.*	✓
9. For initial analysis that's a dilution, was the largest analyte > 20% of calibration range? *List diluted samples and reason (e.g.,* **elev1***):* Sample(s) / Reason	✓			☐ [elev1] Elevated RL for (ANALYTE) due to sample matrix interferences. ☐ [elev2] Elevated RL for (ANALYTE) due to interfering analyte. ☐ [elev3] Elevated RLs for all analytes due to difficult sample matrix. ☐ [elev4] Diluted based on screening results. ☐ [elev5] Elevated RLs for all analytes due to presence of non-target compounds.	MJ

* Such action must be taken in consultation with client. MS029r24.doc, 071111

NOTE: Nonconformance memos are required for **bold** and *italicized* autotext statements: **Bold** = deficiency, *italicized* = anomoly.

TestAmerica Knoxville Semivolatile GC/MS Data Review / Narrative Checklist Lot/Project# H16200446
Method 8270C - KNOX-MS-0016, Rev 11 & Method TO-13A Mod – KNOX-MS-0017, Rev 4 Page 2 of 2

B. Client Sample and QC Sample Results	N/A	Yes	No	If No, why is data reportable?	2nd ☐
10. If amount extracted was < 80% of nominal amount, were the RLs/MDLs adjusted? List samples:	✓			☐ [elev6] Elevated RLs for all analytes due to insufficient sample amount received.	MS
11. If samples were split, are the dilution factores & prep factors applied properly & MDL/RLs adjusted?		✓		☑ [elev7] Elevated RLs for all analytes due to split; list samples: All samples.	✓
12. For secondary diluted analyses to bring compounds in calibration range, was the largest analyte targeted to be above 50% of calibration range? *List diluted samples and reason (e.g.,* **dil1***):* Sample / Reason / Sample / Reason	✓			☐ [dil1] Conc. of (ANALYTE) > calibration range. RLs adjusted accordingly. ☐ [dil2] Conc. of several compounds > calibration range. RLs adjusted accordingly. ☐ [dil3] Conc. of (ANALYTE) > calibration range. Both analyses reported to provide lowest RLs. ☐ [dil4] Conc. of several compounds > calibration range. Both analyses reported to provide lowest RLs.	MS
13. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?		✓		Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	✓
14. Have alternate hits and manual integrations been verified as correct?		✓			✓
C. Preparation/Matrix QC					
1. 8270: LCS done per batch and meet criteria with a limited # marginal exceedences allowed (see table) and no two consecutive MEs. --For TO-13: LCS done per batch within method QC limits		✓		☐ **[lcs2] Insufficient sample for reanalysis.*** ☐ **[lcs3] LCS %R high and all analyte(s) were <RL in associated samples.** ☐ **[lcs4] Entire sample consumed.** ☐ [lcs5] LCS outside marginal exceedences high, but analytes were not detected ☐ [lcs6] LCS analyte(s) flagged as being outside control limits but within marginal limits o **[lcs RPD] RPD out, BUT % R OK.**	✓
2. Method blank done per prep batch and method blank or instrument blank analyzed with each sequence?		✓			✓
3. Method blank surrogate recoveries within QC limits?		✓		☐ **[mb1] Sample surrogates OK and there is no analyte >RL in samples associated with blank.*** ☐ **[mb7] Entire sample consumed.**	✓
4. Are all analytes present in the method blank < RL? *If no, list blank ID and NCM #:*		✓		☐ **[mb3] No analyte > RL in associated samples.*** ☐ **[mb4] Sample results > 20x higher than blank.** ☐ **[mb5] Insufficient sample for reanalysis.*** ☐ **[mb8] Entire sample consumed.**	✓
5. MS/MSD (or LCSD for TO13A) done per batch? Batch: 1201076			✓	☑ [lcsd] Insufficient sample. LCS/LCSD analyzed. ☐ [lcsd1]LCS/LCSD ana for method precision(TO-13)	✓
6. If MS/MSD was done on this client's sample or for reported batch QC, were the MS/MSD recoveries and RPDs within laboratory generated QC limits? *If no, list MS/MSD ID:*	✓			☐ [ms1] LCS acceptable - sample matrix effects. ☐ [ms2] LCS acceptable. High native analyte concentration relative to spike level. ☐ [rpd] LCS acceptable. RPD out due to lack of sample homogeneity.	MS
7. Were MS run #'s assigned correctly?	✓				MS
D. Other					
1.Final report acceptable? (Results correct, RLs calculated correctly, units correct, surrogate %R correct, appropriate flags used, dilution factor correct, and extraction/ analysis dates correct.)		✓			✓
2.Are all nonconformances documented appropriately and copy included with deliverable?	✓				MS
3.Are the correct scanned file names listed at the top of the data review checklist?		✓			✓
4.Were the standards scanned properly with runlogs?					✓
5.Was a narrative prepared and all deviations noted?		✓			✓

Analyst: KRM	Date: 8/3/11	2nd Level Reviewer:	Date: 8/04/11
☐ see following page for comments			

1st Sample	Reason	2nd Sample	Reason

Number of target analytes in LCS	# marginal exceedances of LCS control limits allowed
>90	5
71 - 90	4
51 - 70	3
31 - 50	2
11 - 30	1
< 11	0

* Such action must be taken in consultation with client.

TestAmerica Knoxville Extraction Sheet
Method 0010 Split/Combined Air Train for Semivolatiles and SIM PAHs - KNOX-OP-0009

SVOC Batch #: 1201076
PAH Batch #: 1201079
Start Date/Time: 7/20/11 1700
Compl Date/Time: 7/21/11 1130

PAH Internal Std ID: PAH0317
PAH Native Spike ID: PAH0297
Naphthalene Spike ID: PAH0354

BNA Surr ID: OP70308
BNA Spike ID: OP70315
$MeCl_2$ Lot #: K07503

Spiker: DWS
Witness: [signature]

Delivered: [signature] 7/21/11 1606 (Initials/Date/Time)
Received: KRM 7/21/11 1600 (Initials/Date/Time)

Lot Number	Sample Number	Work Order	Suffix	SAC	FH/BH Combined Extraction: Place XAD and particulate filter sample in a med Soxhlet.	FH/BH Combined Extraction: Set up 1 blank per 10 samples, 1 BNA LCS/LCSD & 1 PAH LCS/LCSD per 20 samples with XAD and blank filters.	FH/BH Combined Extraction: Add 1 mL BNA surr & 2 mL PAH IS to samples/blank. (Add 1/2 the vol. to LCS/LCSDs.)	FH/BH Combined Extraction: Add 1 mL BNA spike (100 µg/mL) to BNA LCS/LCSD.	FH/BH Combined Extraction: Add 1 mL PAH spike (0.25 µg/mL) and 0.5 mL Naphthalene spike (3.75 µg/mL) to PAH LCS/LCSD.	FH/BH Combined Extraction: Extract 18-24 hr with $MeCl_2$.	Solvent Rinses: Acetone present in solvent rinses?	Solvent Rinses: Did solvent rinse lose volume during shipment?	Condensate Volume: Condensate 1 Volume (mL)	Condensate 2 Volume (mL)	Condensate 3 Volume (mL)
H1G190403	1	MK09P1AA/MK09P1AC		QL/YA	✓	NA	✓	NA	NA	✓	N	N	210		
H1G190403	2	MK09Q1AA/MK09Q1AC		QL/YA									295		
H1G190403	3	MK09R1AA/MK09R1AC		QL/YA									364		
H1G190403	4	MK09T1AA/MK09T1AC		QL/YA							✓	✓	NA		
H1G190403	5	MK09V1AA/MK09V1AC		QL/YA							NA	NA	↓		
H1G200446	1	MK2HW1AA/MK2HW1AC		QL/YA							Y	N	323		
H1G200446	2	MK2H01AA/MK2H01AC		QL/YA									230		
H1G200446	3	MK2H11AA/MK2H11AC		QL/YA									270		
H1G200446	4	MK2H21AA/MK2H21AC		QL/YA							✓	✓	NA		
H1G200446	8	MK2H61AA/MK2H61AC		QL/YA		✓		✓			NA	NA			
H1G200000	76	MK2DQ1AA	B	QL		✓		NA							
H1G200000	76	MK2DQ1AC	C	QL				✓							
H1G200000	76	MK2DQ1AD	L	QL				↓							
H1G200000	79	MK2D01AA	B	YA				NA	✓						
H1G200000	79	MK2D01AC	C	YA					↓						
H1G200000	79	MK2D01AD	L	YA											
					DWS/[sig] 7/20	DWS/[sig] 7/20	DWS 7/20	DWS 7/20	DWS 7/20	DWS/[sig] 7/20	DWS 7/21	DWS 7/21	[sig] 7/21		

DWS 7/20/11

Comments: Added 1.0 mL of EM3061 & 1.0 mL of EM3062 to BNA LCS/LCS DUP.

TestAmerica Knoxville Extraction Sheet

Method 0010 Split/Combined Air Train for Semivolatiles and SIM PAHs - KNOX-OP-0009

Start Date/Time: 7/21/11 1615
Compl Date/Time: 7/22/11 1115
Start Date/Time: 7/22/11 1400
Compl Date/Time: 7/23/11 08:20

Alternate Surrogate ID: PAH0355
$MeCl_2$ Lot #: K07503
Na_2SO_4 ID: ~~D4286:11~~ DWS 7/22/11 ~ B4285:23
Spiker DWS witness

H_2SO_4 ID: A4022:12
NaOH ID: D4285:11

Lot Number	Sample Number	Work Order	Suffix	SAC	Pour FH/BH extract into CLLE. Add condensate to CLLE. Pour all rinses thru condensate.	Record sample pH.	Add 2.0 mL (0.25 µg/mL) Alternate Surr to all samples & blank. Add 1.0 mL to PAH LCS/LCSD.	Adjust pH to 0<pH<2 with 1:1 H_2SO_4. Record pH.	Extract 18-24 hr with $MeCl_2$.	Adjust pH to 11<pH<14 with 10N NaOH. Record pH.	Extract 18-24 hr with $MeCl_2$.	Filter extracts thru Na_2SO_4/ Whatman 41 filter paper to 500 mL KD.	Concentrate to 4 to 6 mL in KD.	Split extract 50:50 for SVOCs and SIM PAHs.
H1G190403	1	MK09P1AA/MK09P1AC		QL/YA	✓	7	2.0mL	2	✓	12	✓			Y
H1G190403	2	MK09Q1AA/MK09Q1AC		QL/YA	↓	7	↓	2	↓	12	↓			↓
H1G190403	3	MK09R1AA/MK09R1AC		QL/YA	↓	7	↓	2	↓	12	↓			↓
H1G190403	4	MK09T1AA/MK09T1AC		QL/YA	↓	NA	↓	2	↓	12	↓			↓
H1G190403	5	MK09V1AA/MK09V1AC		QL/YA	NA	↓	NA	NA	NA	NA	NA			↓
H1G200446	1	MK2HW1AA/MK2HW1AC		QL/YA	~~1323~~	6	2.0mL	2	✓	12	✓			↓
H1G200446	2	MK2H01AA/MK2H01AC		QL/YA	1330	6	↓	2	↓	12	↓			↓
H1G200446	3	MK2H11AA/MK2H11AC		QL/YA	~~1340~~	6	↓	2	↓	12	↓			↓
H1G200446	4	MK2H21AA/MK2H21AC		QL/YA	↓	NA	↓	2	↓	12	↓			↓
H1G200446	8	MK2H61AA/MK2H61AC		QL/YA	NA	↓	NA	NA	NA	NA	NA			↓
H1G200000	76	MK2DQ1AA	B	QL	✓	↓	DWS 7/21/11 2.0mL	2	✓	12	✓			Y
H1G200000	76	MK2DQ1AC	C	QL	↓	↓	NA	2	↓	12	↓			NA
H1G200000	76	MK2DQ1AD	L	QL	↓	↓	↓	2	↓	12	↓			↓
H1G200000	79	MK2D01AA	B	YA	↓	↓	2.0mL	2	↓	12	↓			Y
H1G200000	79	MK2D01AC	C	YA	↓	↓	1.0mL	2	↓	12	↓			NA
H1G200000	79	MK2D01AD	L	YA	✓	↓	↓	2	↓	12	↓	↓	↓	↓
					DWS 7/21	DWS 7/21	DWS 7/21	DWS 7/21	DWS 7/21	DWS 7/22	DWS ALL 7/22	DWS 7/25	→	DWS 7/25
												DWS 7/25		

DWS 7/21/11

Comments: All sample had neutral "pH" at approx 8 mL

TestAmerica Knoxville Extraction Sheet

Method 0010 Split/Combined Air Train for Semivolatiles and SIM PAHs - KNOX-OP-0009

Lot Number	Sample Number	Work Order	Suffix	SAC	8270 Extracts: Concentrate to <1 mL by N-EVAP.	8270 Extracts: QC to 1 mL in Class A volumetric. Transfer to 2 mL Vial.
					$MeCl_2$ Lot #: K07503	
H1G190403	1	MK09P1AA/MK09P1AC		QL/YA	>1mL	1.0mL
H1G190403	2	MK09Q1AA/MK09Q1AC		QL/YA	↓	↓
H1G190403	3	MK09R1AA/MK09R1AC		QL/YA		
H1G190403	4	MK09T1AA/MK09T1AC		QL/YA	↓	↓
H1G190403	5	MK09V1AA/MK09V1AC		QL/YA	≥1mL	1.0mL
H1G200446	1	MK2HW1AA/MK2HW1AC		QL/YA	>2mL	2.0mL
H1G200446	2	MK2H01AA/MK2H01AC		QL/YA	>1mL	1.0mL
H1G200446	3	MK2H11AA/MK2H11AC		QL/YA	≥2mL	2.0mL
H1G200446	4	MK2H21AA/MK2H21AC		QL/YA	>10mL	10.0mL
H1G200446	8	MK2H61AA/MK2H61AC		QL/YA	>1mL	1.0mL
H1G200000	76	MK2DQ1AA	B	QL	↓	↓
H1G200000	76	MK2DQ1AC	C	QL		
H1G200000	76	MK2DQ1AD	L	QL	>1mL	1.0mL
H1G200000	79	MK2D01AA	B	YA	NA	NA
H1G200000	79	MK2D01AC	C	YA	↓	↓
H1G200000	79	MK2D01AD	L	YA	7/26/11	7/26/11

SIM PAH Extracts				
Recovery Std ID: NA			$MeCl_2$ Lot #: NA	
Spiker: ↓			Hexane Lot #: ↓	
Witness: ↓				
Concentrate/solvent exchange to hexane by KD to ~4 mL.	Perform silica gel cleanup if needed.	Conc to ~1 mL by N-EVAP.	Add 25 µL recovery std (10 µg/mL) to 2 mL vial. Transfer sample extract to vial.	Conc to 500 µL hexane by N-EVAP.
		↓		
		7/26/11		

Silica Gel Cleanup Reagents		
	Silica Gel ID:	NA
	Na_2SO_4 ID:	↓
	Hexane Lot #:	
	2:3 $MeCl_2$/Hex ID:	

Comments:

RQC058

TestAmerica Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 7/27/11
Time: 13:46:10

LEV 1	LEV 2		LEV 1	LEV 2	
Y	Y	Blank	Y	Y	Weights/Volumes
Y	Y	Check			Spike & Surrogate Worksheet
-	-	MS/MSD	Y	Y	Vial contains correct volume
			Y	Y	Labels, greenbars, worksheets computer batch: correct & all match
			-	-	Anomalies to Extraction Method

Y Expanded Deliverable
Y COC Completed
Y Bench Sheet Copied
Y Package Submitted to AnalyticalGroup
Y Bench Sheet Copied per COC

Extractionist: 403884 David Stout
403899 Joe Maher

Concentrationist: 403899 Joe Maher

Reviewer/Date: STOUTD / 7/27/11

****
* *
* **QC BATCH: 1201076** *
* *
****

PREP DATE: 7/20/11 17:00
COMP DATE: 7/27/11 14:00

Base/Neutrals and Acids (8270C)
SOXHLET (NOMINAL), Airtrains: Combined

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	INIT	PH"S ADJ1	ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
7/21/11	8/02/11	H1G190403-001 **MK09P-1-AA**	D	IP	QL	AIR	**1.0Sample** 1.00mL	NA	NA	NA	MECL2	400.0		.0	OP70308 1.0ML
COMMENTS:															
7/22/11	8/02/11	H1G190403-002 **MK09Q-1-AA**	D	IP	QL	AIR	**1.0Sample** 1.00mL	NA	NA	NA	MECL2	400.0		.0	OP70308 1.0ML
COMMENTS:															
7/22/11	8/02/11	H1G190403-003 **MK09R-1-AA**	D	IP	QL	AIR	**1.0Sample** 1.00mL	NA	NA	NA	MECL2	400.0		.0	OP70308 1.0ML
COMMENTS:															
7/22/11	8/02/11	H1G190403-004 **MK09T-1-AA**	D	IP	QL	AIR	**1.0Sample** 1.00mL	NA	NA	NA	MECL2	400.0		.0	OP70308 1.0ML
COMMENTS:															
7/21/11	8/02/11	H1G190403-005 **MK09V-1-AA**	D	IP	QL	AIR	**1.0Sample** 1.00mL	NA	NA	NA	MECL2	400.0		.0	OP70308 1.0ML
COMMENTS:															
7/21/11	0/00/00	H1G200000-076 **MK2DQ-1-AAB**		IP	QL	AIR	**1.0Sample** 1.00mL	NA	NA	NA	MECL2	400.0		.0	OP70308 1.0ML
COMMENTS:															
7/21/11	0/00/00	H1G200000-076 **MK2DQ-1-ACC**		IP	QL	AIR	**1.0Sample** 1.00mL	NA	NA	NA	MECL2	400.0		.0	EM3061&EM3062 1.0ML EA OP70308 0.5ML
COMMENTS:	OP70315	1.0ML													

RQC058

TestAmerica Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 7/27/11
Time: 13:46:10

QC BATCH: 1201076

PREP DATE: 7/20/11 17:00
COMP DATE: 7/27/11 14:00

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION	SOLVENTS VOL	SOLVENTS EXCHANGE	SOLVENTS VOL	SPIKE STANDARD/ SURROGATE ID
7/21/11	0/00/00	H1G200000-076 **MK2DQ-1-ADL**	R	IP	QL	AIR	**1.0Sample** 1.00mL	NA	NA	NA	MECL2	400.0		.0	EM3061&EM3062 1.0ML EA OP70308 0.5ML
COMMENTS:	OP70315	1.0ML													
7/25/11	8/08/11	H1G200446-001 **MK2HW-1-AA**	D	IP	QL	AIR	**1.0Sample** 2.00mL	NA	NA	NA	MECL2	400.0		.0	OP70308 1.0ML
COMMENTS:															
7/26/11	8/08/11	H1G200446-002 **MK2H0-1-AA**	D	IP	QL	AIR	**1.0Sample** 1.00mL	NA	NA	NA	MECL2	400.0		.0	OP70308 1.0ML
COMMENTS:															
7/26/11	8/08/11	H1G200446-003 **MK2H1-1-AA**	D	IP	QL	AIR	**1.0Sample** 2.00mL	NA	NA	NA	MECL2	400.0		.0	OP70308 1.0ML
COMMENTS:															
7/25/11	8/08/11	H1G200446-004 **MK2H2-1-AA**	D	IP	QL	AIR	**1.0Sample** 10.00mL	NA	NA	NA	MECL2	400.0		.0	OP70308 1.0ML
COMMENTS:															
7/25/11	8/08/11	H1G200446-008 **MK2H6-1-AA**	D	IP	QL	AIR	**1.0Sample** 1.00mL	NA	NA	NA	MECL2	400.0		.0	OP70308 1.0ML
COMMENTS:															

ALL SAMPLES HAD NEUTRAL "PH" AT APPROX. 8ML. ADDED 1.0ML OF EM3061 AND 1.0ML OF EM3062 TO LCS AND LCS DUP.

R = RUSH C = CLP
E = EPA 600 D = EXP.DEL)
M = CLIENT REQ MS/MSD

NUMBER OF WORK ORDERS IN BATCH: 13

F-370

11-234

TestAmerica Knoxville Prep Batch Review Checklist

Batch # 1201076

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd Level
1. Were the samples extracted within the required holding times?		✓		If No, NCM #: _____	✓
2. Are the final extracts free of water, precipitates, multiple phases, and for HRMS - color?		✓			✓
3. Were all project specific requirements met as noted on the Lot Checklists (L40) and the Sample List report?		✓			✓
4. Were MS Run numbers assigned properly?	✓				✓
5. Were the correct weights and volumes entered into QuantIMS for all samples and QC?		✓			✓
6. Was the correct completion date entered into QuantIMS?		✓			✓
7. Were the spike IDs and volumes entered correctly into QuantIMS?		✓			✓
8. Were all appropriate notes and observations recorded on the extraction benchsheet and in QuantIMS?		✓			✓
9. Was the extraction batch reviewed in QuantIMS using LIM L21?		✓			✓
10. Does the prep batch paperwork package contain all required documentation which has been properly and completely filled out, including: • Extraction Benchsheet • QuantIMS Benchsheet • Lot Checklists (L40) for all lots in batch • Sample List • Compound List Report • SOG Sample Tracking Sheet	✓	✓ ✓ ✓ ✓ ✓			✓
11. Are all nonconformances documented appropriately and copy included with deliverable?	✓			If Yes, NCM#: _____	✓

Analyst : JMM **Date:** 7/27/11

Comments:

2nd Level Reviewer: MJL **Date:** 7/27/11

Comments:

SIM PAH

Raw Sample Data

TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN 2 COMBINED

GC/MS Semivolatiles

Lot-Sample #...:	H1G200446-001	Work Order #...:	MK2HW1AC	Matrix.....:	AIR
Date Sampled...:	07/11/11	Date Received..:	07/20/2011		
Prep Date.....:	07/20/11	Analysis Date..:	07/29/2011		
Prep Batch #...:	1201079				
Dilution Factor:	2	Method.....:	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	**12 J**	**40**	ng/sample	9.8
Acenaphthylene	ND	40	ng/sample	4.8
Anthracene	ND	20	ng/sample	7.6
Benzo(a)anthracene	ND	20	ng/sample	7.6
Benzo(b)fluoranthene	ND	200	ng/sample	60
Benzo(k)fluoranthene	ND	200	ng/sample	86
Benzo(ghi)perylene	**30**	**20**	ng/sample	10
Benzo(a)pyrene	ND	20	ng/sample	5.8
Benzo(e)pyrene	ND	20	ng/sample	11
Chrysene	**17 J**	**20**	ng/sample	5.0
Dibenz(a,h)anthracene	ND	20	ng/sample	7.8
Fluoranthene	**48**	**20**	ng/sample	13
Fluorene	**43**	**20**	ng/sample	8.2
Indeno(1,2,3-cd)pyrene	**6.4 J**	**20**	ng/sample	5.2
2-Methylnaphthalene	**92 J**	**100**	ng/sample	42
Naphthalene	**660 J**	**800**	ng/sample	500
Perylene	ND	20	ng/sample	6.2
Phenanthrene	**150**	**60**	ng/sample	48
Pyrene	ND	120	ng/sample	72

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	97	(50 - 150)
Terphenyl-d14	105	(50 - 150)
13C6-Fluorene	78	(50 - 150)
Anthracene-d10	106	(30 - 120)
Naphthalene-d8	80	(30 - 120)
2-Methylnaphthalene-d10	92	(30 - 120)
Acenaphthylene-d8	117	(30 - 120)
Phenanthrene-d10	89	(30 - 120)
Fluoranthene-d10	104	(30 - 120)
Benzo(a)anthracene-d12	156 *	(30 - 120)
Chrysene-d12	81	(30 - 120)
Benzo(b)fluoranthene-d12	115	(30 - 120)
Benzo(k)fluoranthene-d12	82	(30 - 120)
Benzo(a)pyrene-d12	109	(30 - 120)
Perylene-d12	94	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	107	(30 - 120)
Dibenz(ah)anthracene-d14	104	(30 - 120)
Benzo(ghi)perylene-d12	98	(30 - 120)

NOTE(S):

1 13C6-Anthracene = 88 %

* Surrogate recovery is outside stated control limits.

J Estimated result. Result is less than RL.

Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d
Report Date: 08-Aug-2011 15:33

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d
Lab Smp Id: MK2HW1AC Client Smp ID: 11-234 M0010 RUN 2
Inj Date : 29-JUL-2011 14:40
Operator : 11211 Inst ID: mp.i
Smp Info : ,,0,,,
Misc Info : P072911,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Meth Date : 04-Aug-2011 19:00 cochranj Quant Type: ISTD
Cal Date : 26-JUL-2011 20:15 Cal File: pg26ic07.d
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	2.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
* 1 Naphthalene-d8	136	4.869	4.865	(1.000)	636312	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.869	4.865	(0.770)	636312	0.39792	398
3 Naphthalene	128	4.884	4.880	(1.003)	709488	0.65700	657
* 10 2-Methylnaphthalene-d10	152	5.424	5.424	(1.000)	397217	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.424	5.424	(0.858)	397217	0.46035	460
12 2-Methylnaphthalene	142	5.450	5.450	(1.005)	73246	0.09153	91.5
* 13 1-Methylnaphthalene-d10	152	5.507	5.503	(1.000)	365768	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.507	5.503	(0.871)	365768	0.42646	426
15 1-Methylnaphthalene	142	5.533	5.533	(1.005)	45504	0.06412	64.1
16 Biphenyl	154	5.838	5.835	(1.076)	149163	0.15695	157
* 17 2,6-Dimethylnaphthalene-d12	168	5.935	5.933	(1.000)	336703	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.935	5.933	(0.938)	336703	0.45745	457
19 2,6 Dimethylnaphthalene	156	5.974	5.969	(1.007)	37221	0.05547	55.5
* 20 Acenaphthylene-d8	160	6.194	6.194	(1.000)	705545	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d
Report Date: 08-Aug-2011 15:33

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
$	21 Acenaphthylene-d8(SS)	160	6.194	6.194	(0.979)	705545	0.58648	586
	22 Acenaphthylene	152	6.205	6.202	(1.002)	5989	0.00421	4.21
*	23 Acenaphthene-d10	164	6.325	6.325	(1.000)	340011	0.50000	0.500
	24 Acenaphthene	154	6.350	6.350	(1.025)	10056	0.01184	11.8
	25 2,3,5 Trimethylnaphthalene	170	6.669	6.669	(1.124)	11968	0.02138	21.4
$	26 Fluorene-d10	176	6.758	6.758	(0.892)	616844	0.96982	970
	27 Fluorene	166	6.783	6.783	(0.895)	35735	0.04345	43.4
$	28 13C6-Fluorene	171	6.783	6.781	(0.895)	556591	0.78407	784
*	34 Dibenzothiopene-d8	192	7.476	7.474	(1.000)	582605	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.476	7.474	(0.841)	582605	0.43773	438
	36 Dibenzothiophene	184	7.490	7.489	(1.002)	24653	0.02218	22.2
*	41 Phenanthrene-d10	188	7.578	7.578	(1.000)	536465	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.578	7.578	(0.852)	536465	0.44676	447
	43 Phenanthrene	178	7.599	7.597	(1.003)	176062	0.14948	149
*	44 Anthracene-d10	188	7.626	7.626	(1.000)	538856	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.626	7.626	(0.858)	538856	0.53142	531
	46 Anthracene	178	7.642	7.642	(1.002)	9014	0.00650	6.50
$	47 13C6-Anthracene	184	7.642	7.642	(0.860)	484029	0.44039	440
	52 1-Methylphenanthrene	192	8.145	8.143	(1.075)	12016	0.01698	17.0
*	53 Fluoranthene-d10	212	8.667	8.665	(1.000)	582579	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.667	8.665	(0.975)	582579	0.52090	521
	55 Fluoranthene	202	8.687	8.683	(1.002)	62786	0.04790	47.9
*	56 Pyrene-d10	212	8.889	8.885	(1.000)	455917	0.50000	0.500
	57 Pyrene	202	8.908	8.904	(1.028)	35819	0.02584	25.8
$	58 Terphenyl-d14	244	9.045	9.043	(1.044)	627796	1.05174	1050
*	60 Benzo(a)anthracene-d12	240	10.104	10.100	(1.000)	432702	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.104	10.100	(1.137)	432702	0.77812	778(R)
	62 Benzo(a)anthracene	228	10.125	10.121	(1.002)	2075	0.00150	1.50
*	63 Chrysene-d12	240	10.137	10.133	(1.000)	393545	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.137	10.133	(1.140)	393545	0.40338	403
	65 Chrysene	228	10.167	10.163	(1.003)	14731	0.01715	17.1
*	70 Benzo(b)fluoranthene-d12	264	11.259	11.253	(1.000)	428547	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.259	11.253	(0.973)	428547	0.57540	575
	72 Benzo(b)fluoranthene	252	11.283	11.277	(1.002)	13703	0.01088	10.9
*	73 Benzo(k)fluoranthene-d12	264	11.295	11.289	(1.000)	435716	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.295	11.289	(0.976)	435716	0.40991	410
	75 Benzo(k)fluoranthene	252	11.331	11.307	(1.003)	33751	0.03538	35.4
*	76 Benzo(e)pyrene-d12	264	11.576	11.570	(1.000)	353173	0.50000	0.500
	77 Benzo(e)pyrene	252	11.605	11.600	(0.997)	9101	0.00811	8.11
*	78 Benzo(a)pyrene-d12	264	11.641	11.635	(1.000)	413133	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.641	11.635	(1.006)	413133	0.54252	543
	80 Benzo(a)pyrene	252	11.671	11.665	(1.003)	4988	0.00532	5.32
*	81 Perylene-d12	264	11.737	11.737	(1.000)	356613	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.737	11.737	(1.014)	356613	0.46953	470
	83 Perylene	252	11.773	11.761	(1.003)	1521	0.00169	1.69
*	84 Indeno(123-cd)pyrene-d12	288	13.110	13.106	(1.000)	465963	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.110	13.106	(1.133)	465963	0.53547	535

Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d
Report Date: 08-Aug-2011 15:33

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
	86 Indeno(1,2,3-cd)pyrene	276	13.144	13.140	(1.003)	7164	0.00635	6.35
*	87 Dibenz(ah)anthracene-d14	292	13.114	13.110	(1.000)	345056	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.114	13.110	(1.133)	345056	0.52058	521
	89 Dibenz(a,h)anthracene	278	13.152	13.157	(1.003)	1876	0.00221	2.21(M)
*	90 Benzo(ghi)perylene-d12	288	13.464	13.460	(1.000)	320763	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.464	13.460	(1.163)	319510	0.48856	489
	92 Benzo(g,h,i)perylene	276	13.498	13.494	(1.002)	26358	0.02969	29.7

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d
Report Date: 08-Aug-2011 11:22

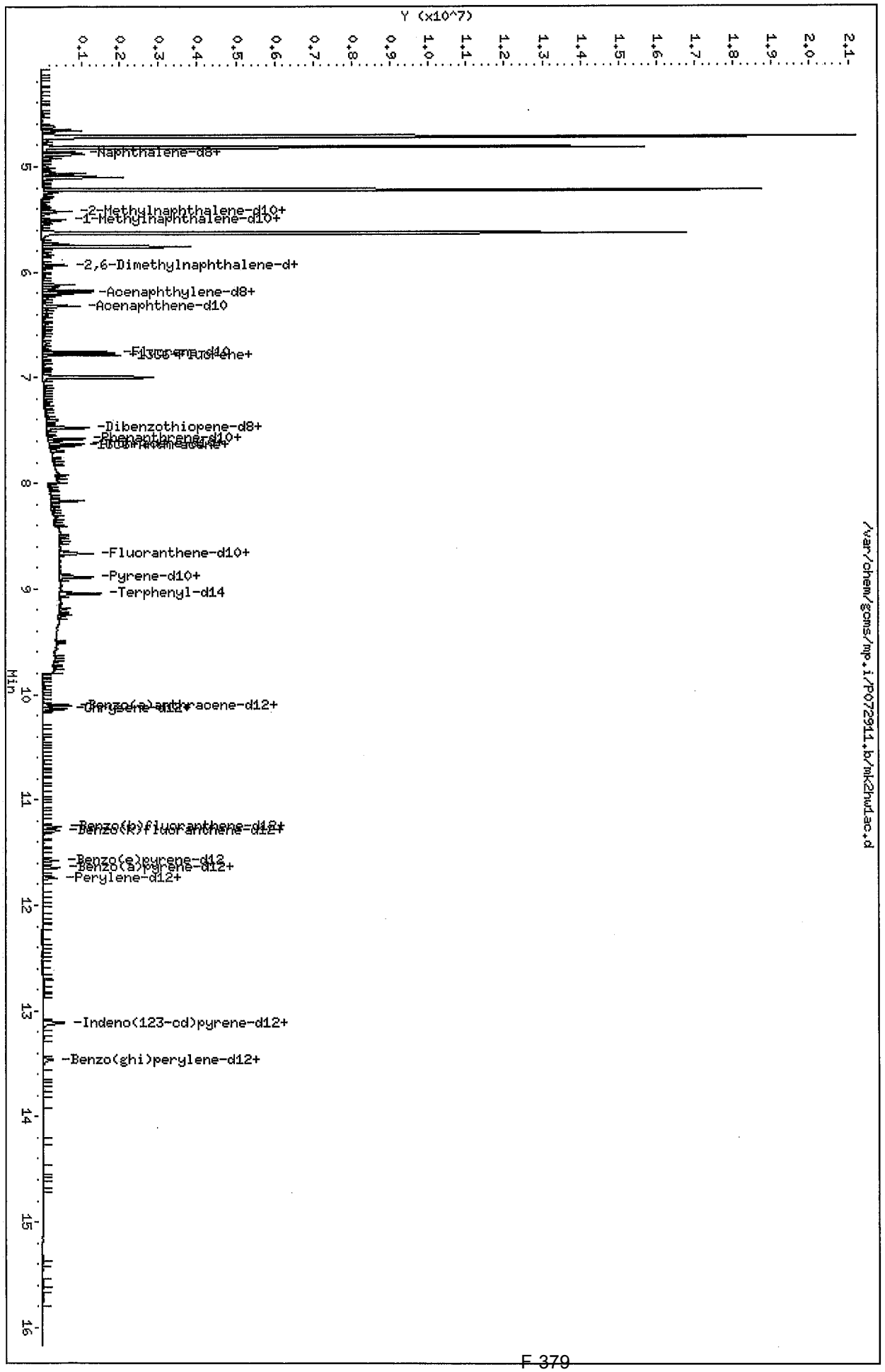
TestAmerica Knoxville

RECOVERY REPORT

Client Name: TestAmerica Air Emis20-JUL-2011 00:00 Client SDG: H1G200446
Sample Matrix: GAS Fraction: SV
Lab Smp Id: MK2HW1AC Client Smp ID: 11-234 M0010 RUN 2
Level: LOW Operator: 11211
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: icv.spk Quant Type: ISTD
Sublist File: pah.sub
Method File: /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Misc Info: P072911,SIMPAH3

SURROGATE COMPOUND	CONC ADDED ng/sample	CONC RECOVERED ng/sample	% RECOVERED	LIMITS	
$ 2 Naphthalene-d8(SS)	500	398	79.58	30-120	
$ 222 13C6-Naphthalene	~~500~~	~~56.9~~	~~11.38~~*	50-150	
$ 11 2-Methylnaphthalen	500	460	92.07	30-120	
$ 14 1-Methylnaphthalen	500	426	85.29	30-120	
$ 18 2,6-Dimethylnaph-d	500	457	91.49	30-120	
$ 21 Acenaphthylene-d8(	500	586	117.30	30-120	
$ 26 Fluorene-d10	1000	970	96.98	~~30-120~~	50-150%
$ 28 13C6-Fluorene	1000	784	78.41	~~30-120~~	
$ 35 Dibenzothiopene-d8	500	438	87.55	30-120	
$ 42 Phenanthrene-d10(S	500	447	89.35	30-120	
$ 45 Anthracene-d10(SS)	500	531	106.29	30-120	
$ 47 13C6-Anthracene	500	440	88.08	30-120	
$ 54 Fluoranthene-d10(S	500	521	104.18	30-120	
$ 58 Terphenyl-d14	1000	1050	105.17	~~30-120~~	50-150%
$ 61 Benzo(a)anthracene	500	778	155.62*	30-120	
$ 64 Chrysene-d12(SS)	500	403	80.68	30-120	
$ 71 Benzo(b)fluoranthe	500	575	115.08	30-120	
$ 74 Benzo(k)fluoranthe	500	410	81.98	30-120	
$ 79 Benzo(a)pyrene-d12	500	543	108.50	30-120	
$ 82 Perylene-d12(SS)	500	470	93.91	30-120	
$ 85 Indeno(123-cd)pyre	500	535	107.09	30-120	
$ 88 Dibenz(ah)anthrace	500	521	104.12	30-120	
$ 91 Benzo(ghi)perylene	500	489	97.71	30-120	

8/9/11


Data File: /var/chem/gcms/mp.i/P072911.b/mk2hwlac.d
Date : 29-JUL-2011 14:40
Client ID: 11-234 MW010 RUN 2
Sample Info: ,,0,,,
Purge Volume: 1.0
Column phase: Varian: 5MS
Instrument: mp.i
Operator: 11211
Column diameter: 0.25
/var/chem/gcms/mp.i/P072911.b/mk2hwlac.d
Y (x10^7)
Min
-Naphthalene-d8+
-2-Methylnaphthalene-d10+
-1-Methylnaphthalene-d10+
-2,6-Dimethylnaphthalene-d+
-Acenaphthylene-d8+
-Acenaphthene-d10
-Dibenzothiopene-d8+
-Fluoranthene-d10+
-Pyrene-d10+
-Terphenyl-d14
-Benzo(b)fluoranthene-d12+
-Benzo(k)fluoranthene-d12+
-Benzo(e)pyrene-d12
-Benzo(a)pyrene-d12+
-Perylene-d12+
-Indeno(123-cd)pyrene-d12+
-Benzo(ghi)perylene-d12+

Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

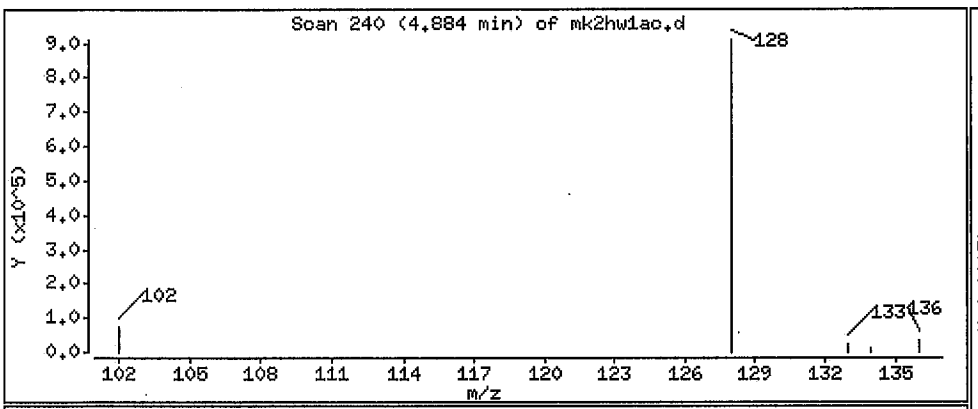
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

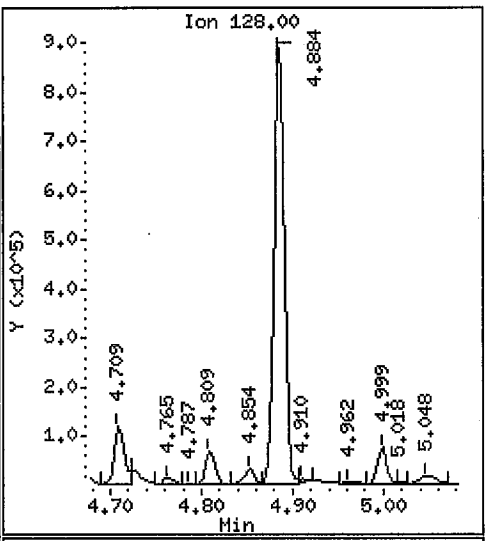
Sample Info: ,,0,,,

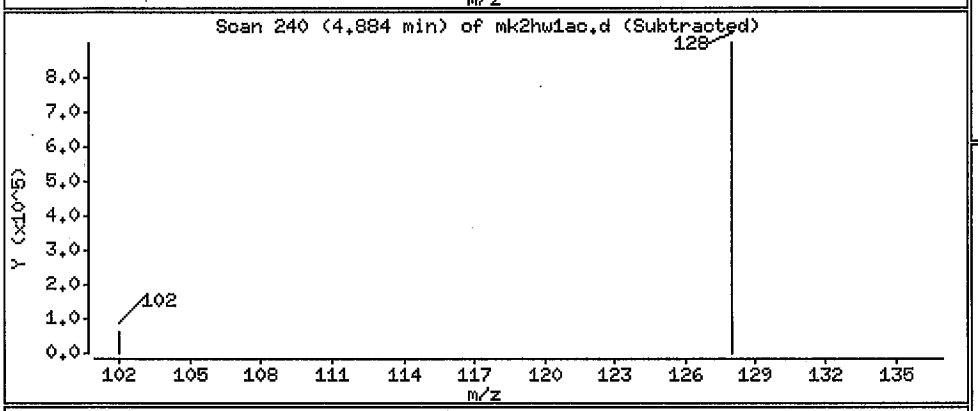
Purge Volume: 1.0 Operator: 11211

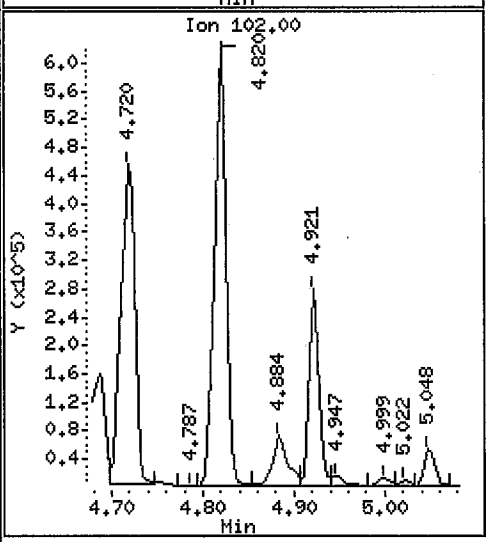
Column phase: Varian: 5MS Column diameter: 0.25

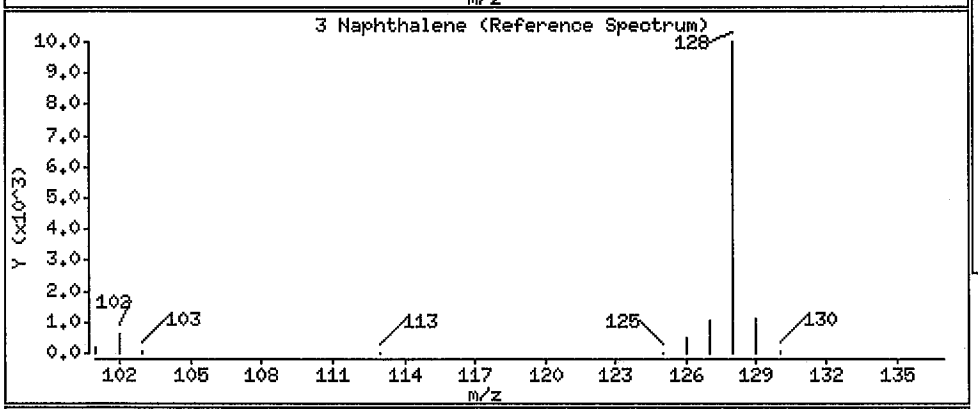
3 Naphthalene Concentration: 657 ng/sample

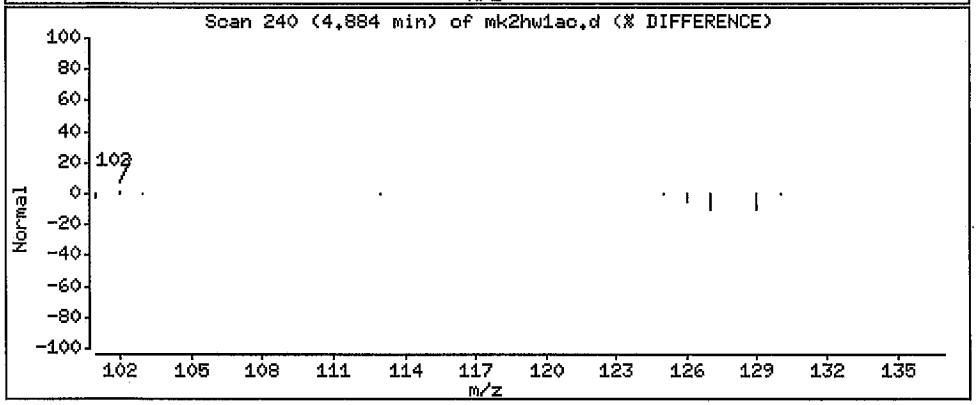












Data File: /var/chem/goms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

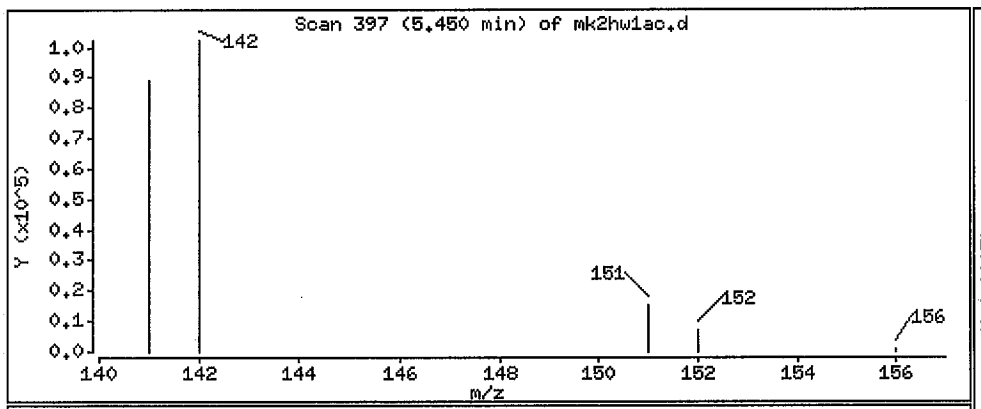
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

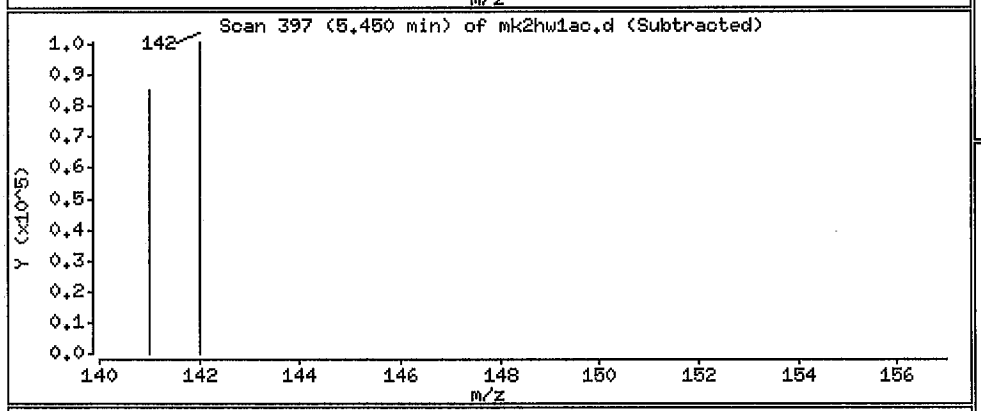
Sample Info: ,,0,,,

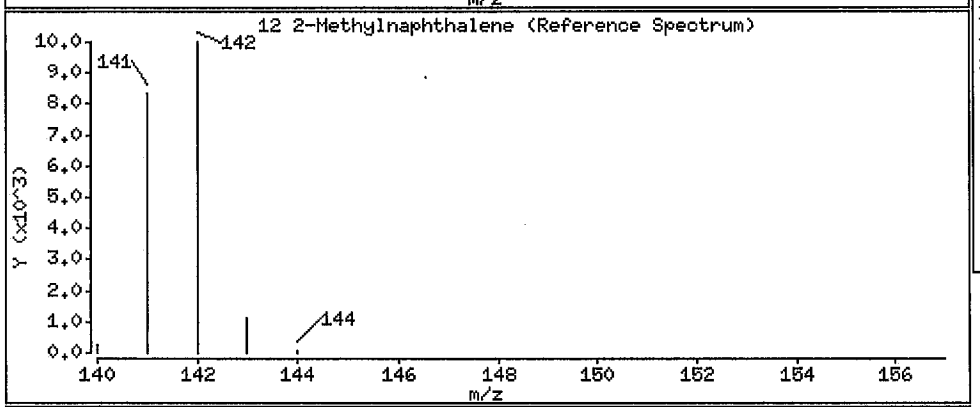
Purge Volume: 1.0 Operator: 11211

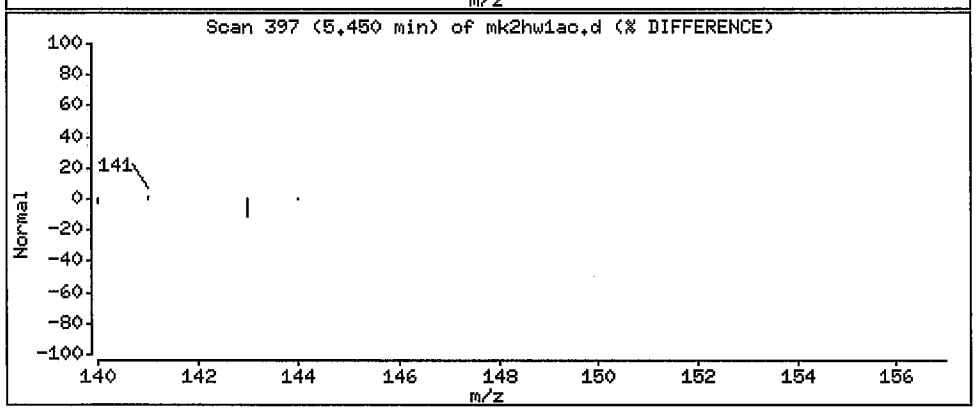
Column phase: Varian: 5MS Column diameter: 0.25

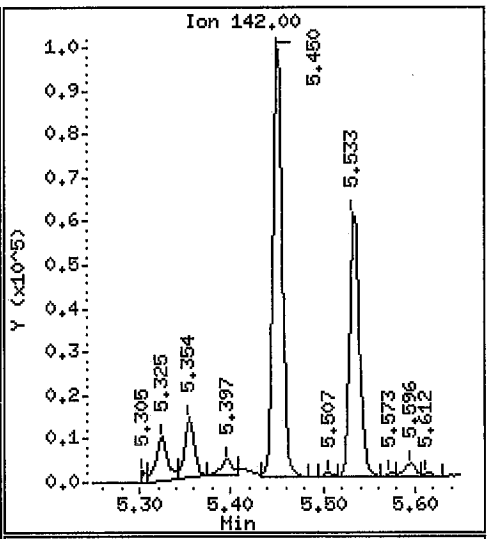
12 2-Methylnaphthalene Concentration: 91.5 ng/sample

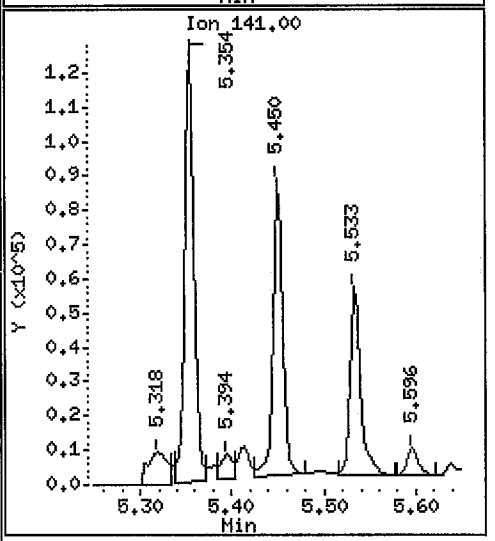












Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

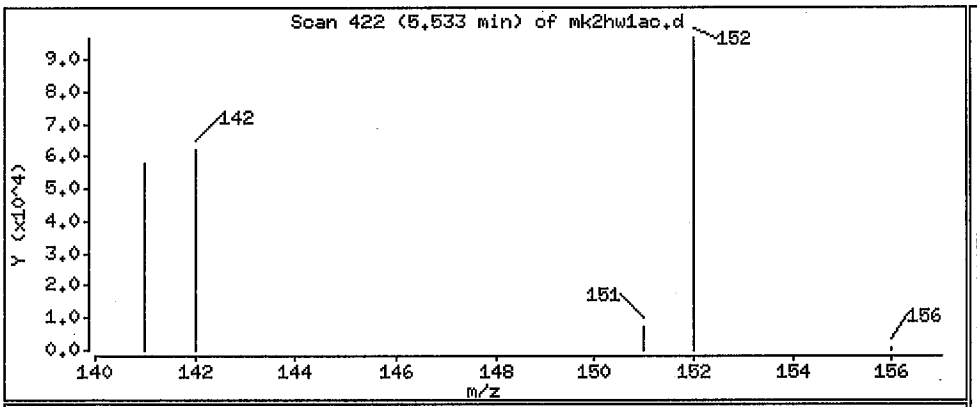
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

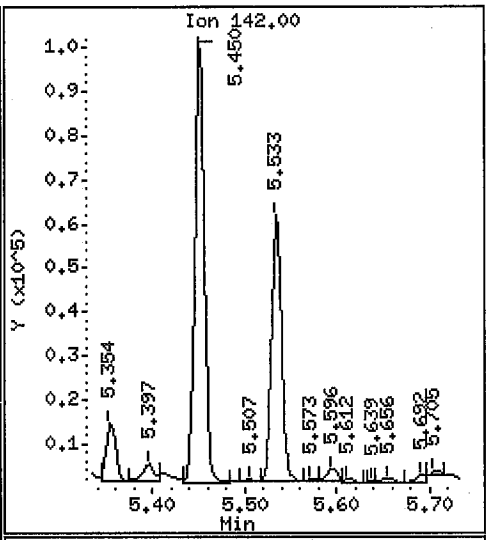
Sample Info: ,,0,,,

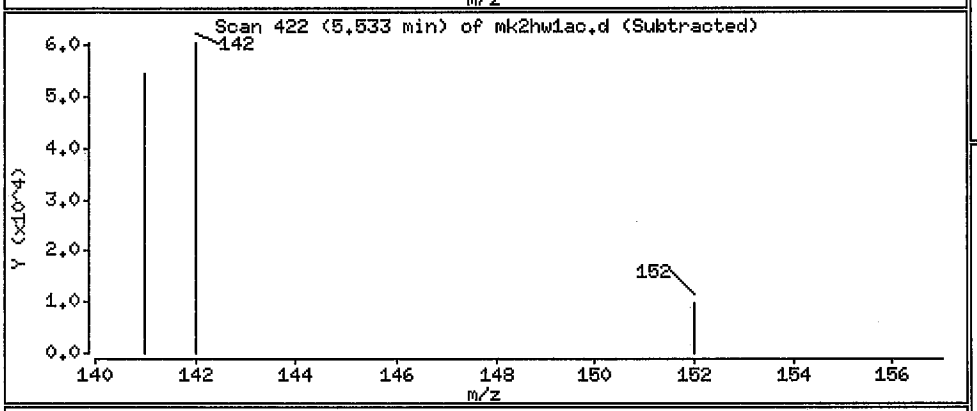
Purge Volume: 1.0 Operator: 11211

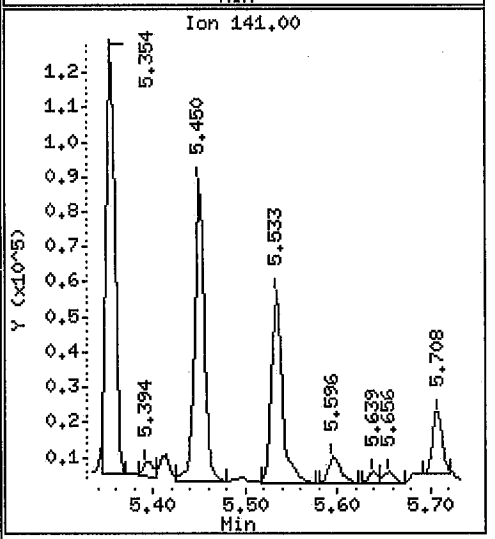
Column phase: Varian: 5MS Column diameter: 0.25

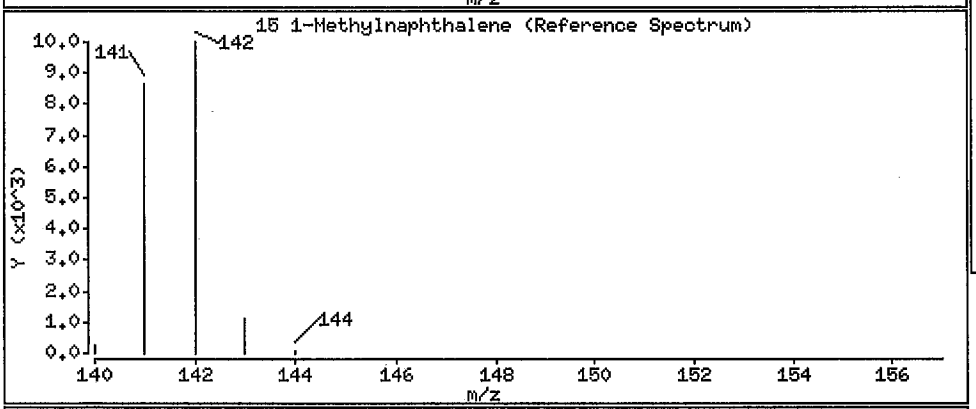
15 1-Methylnaphthalene Concentration: 64.1 ng/sample

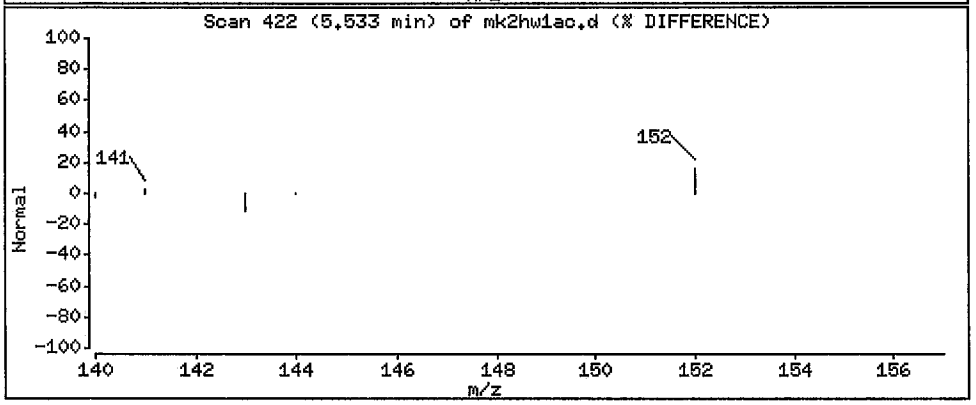












Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

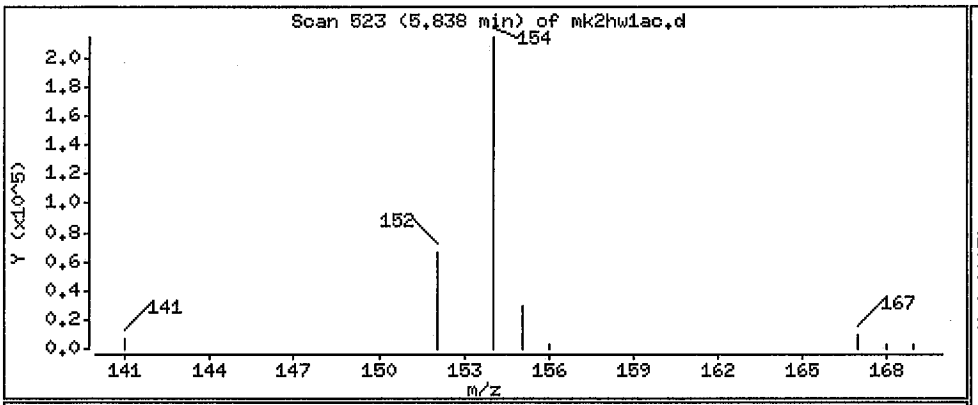
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

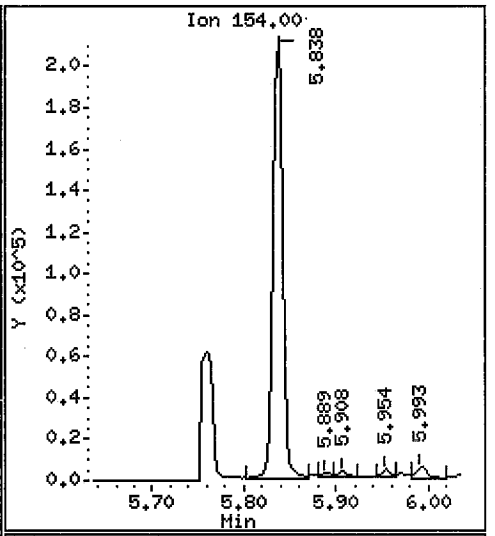
Sample Info: ,,0,,,

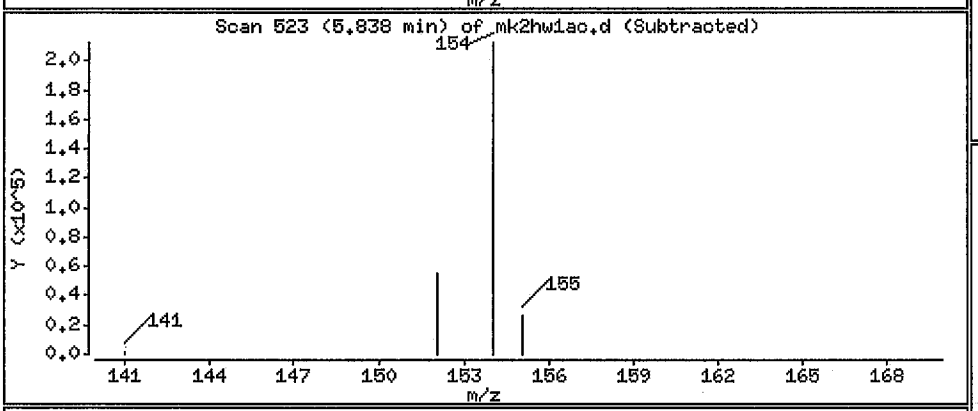
Purge Volume: 1.0 Operator: 11211

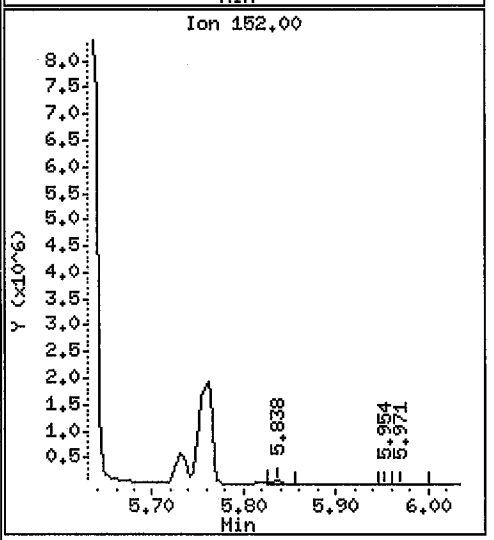
Column phase: Varian: 5MS Column diameter: 0.25

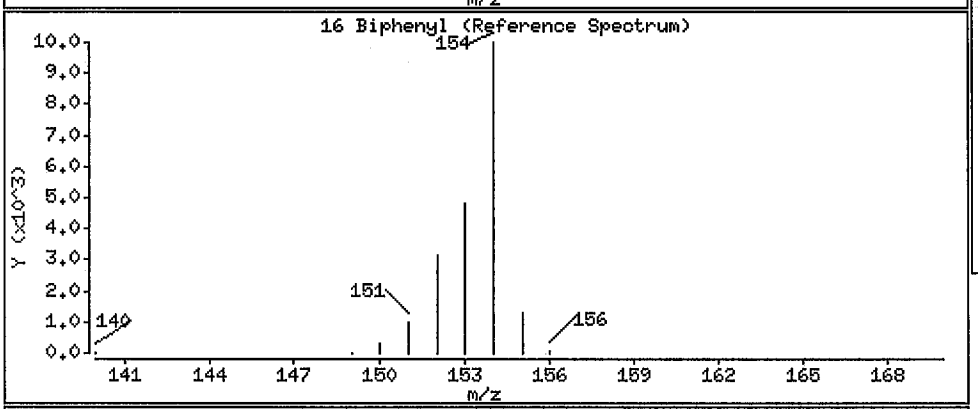
16 Biphenyl Concentration: 157 ng/sample

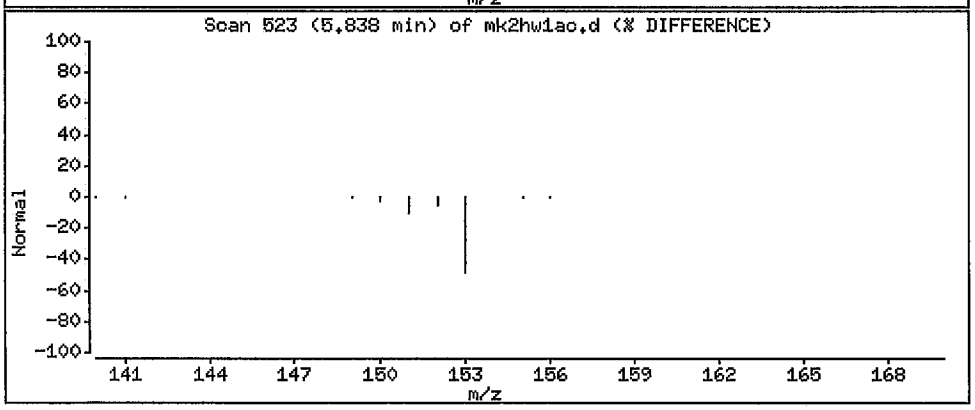












Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

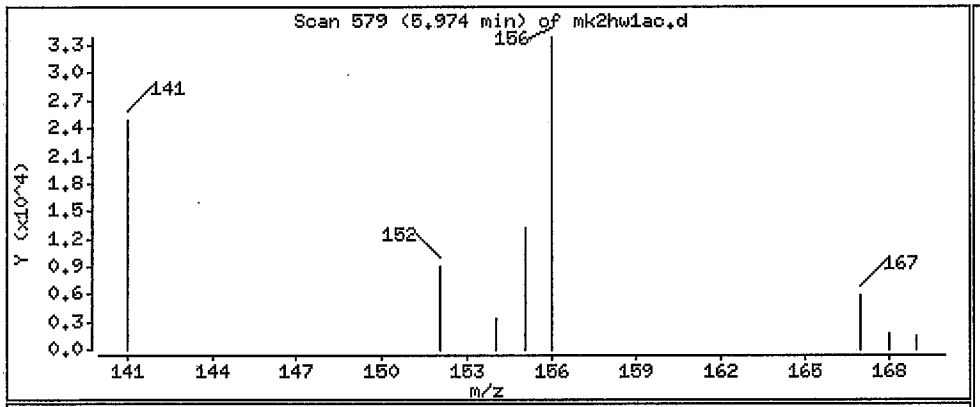
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

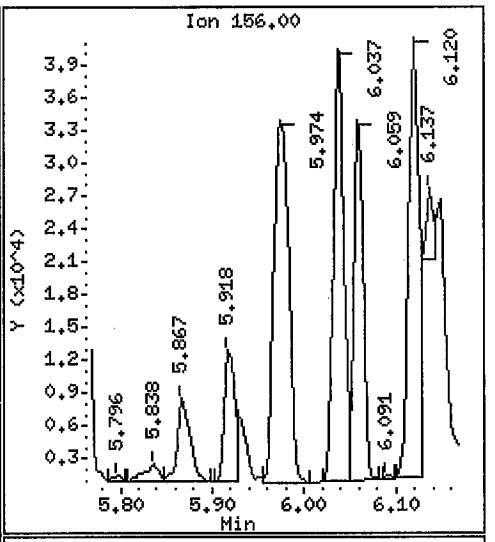
Sample Info: ,,0,,,

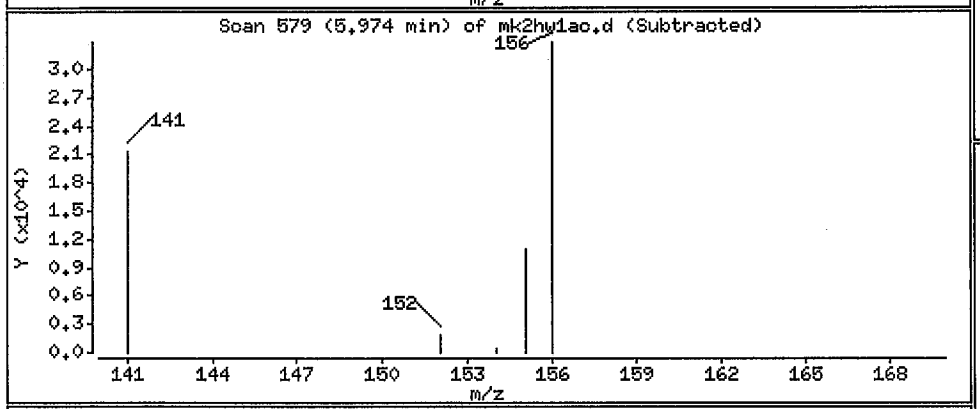
Purge Volume: 1.0 Operator: 11211

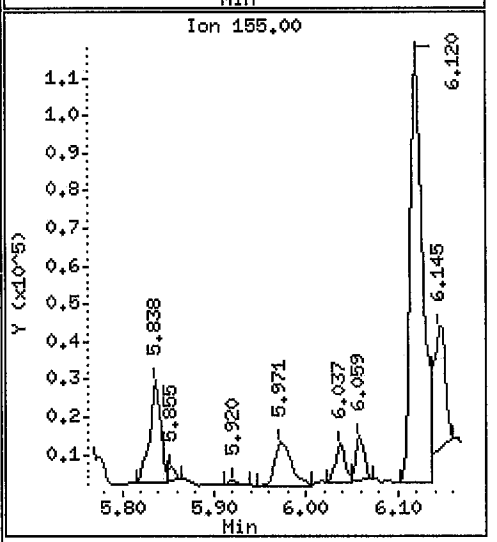
Column phase: Varian: 5MS Column diameter: 0.25

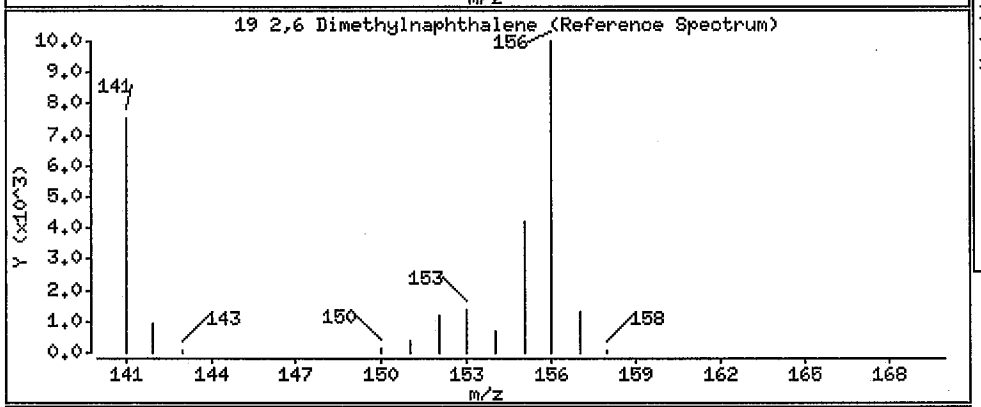
19 2,6 Dimethylnaphthalene Concentration: 55.5 ng/sample

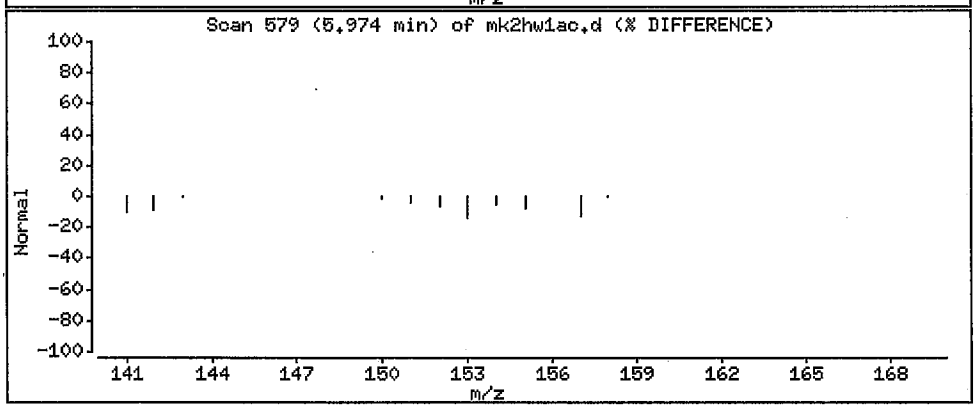












Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

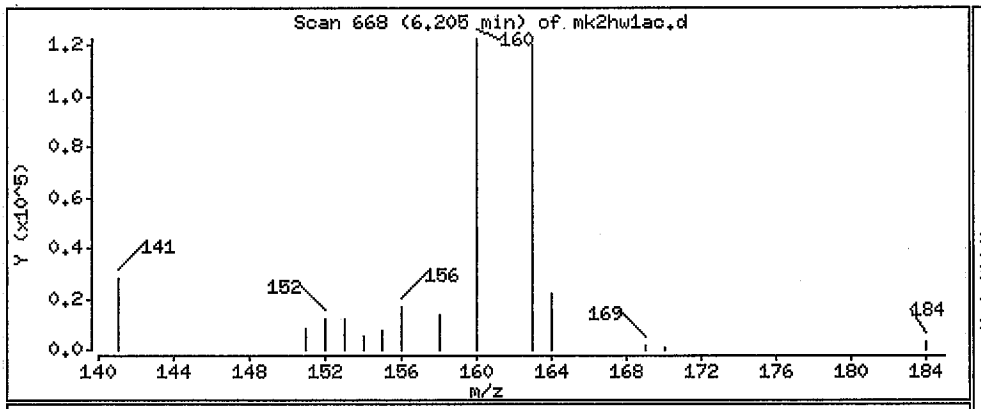
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

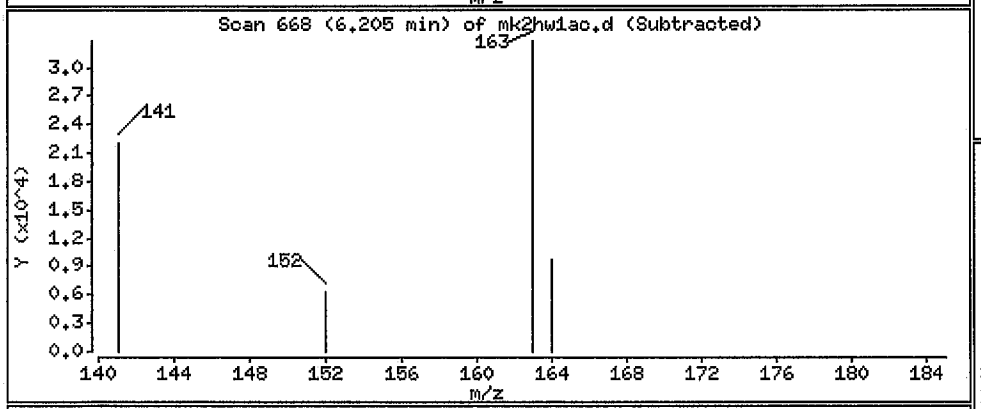
Sample Info: ,,0,,,

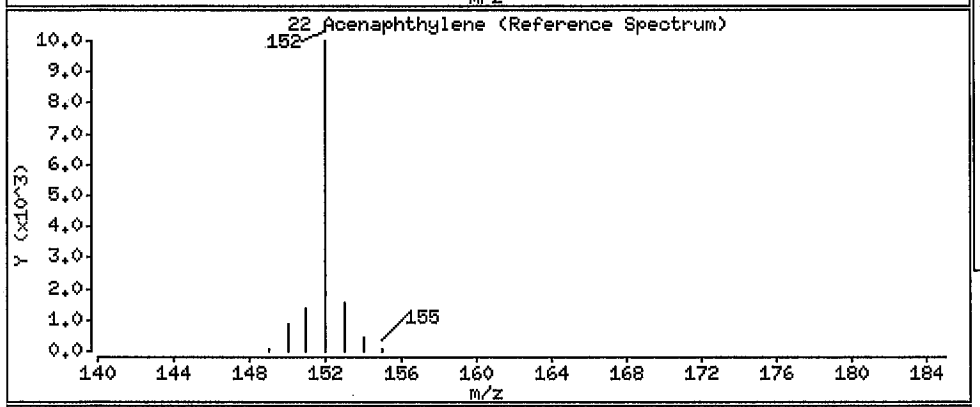
Purge Volume: 1.0 Operator: 11211

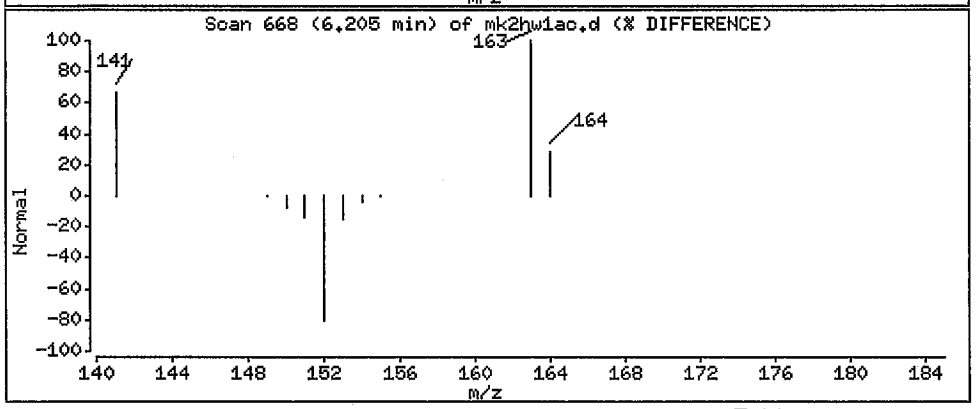
Column phase: Varian: 5MS Column diameter: 0.25

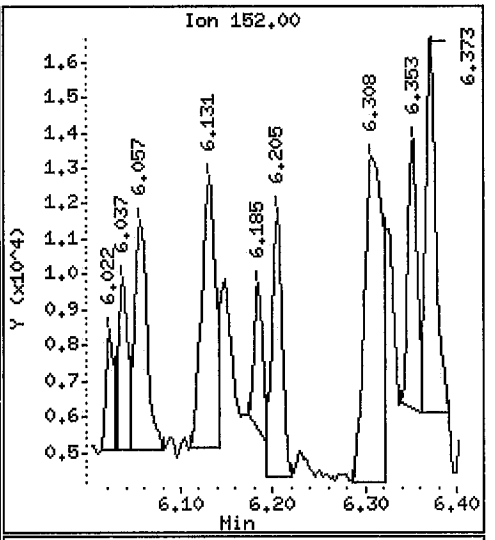
22 Acenaphthylene Concentration: 4.21 ng/sample

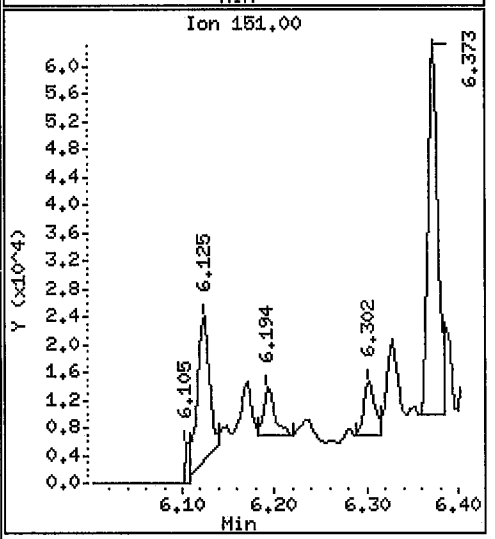












Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

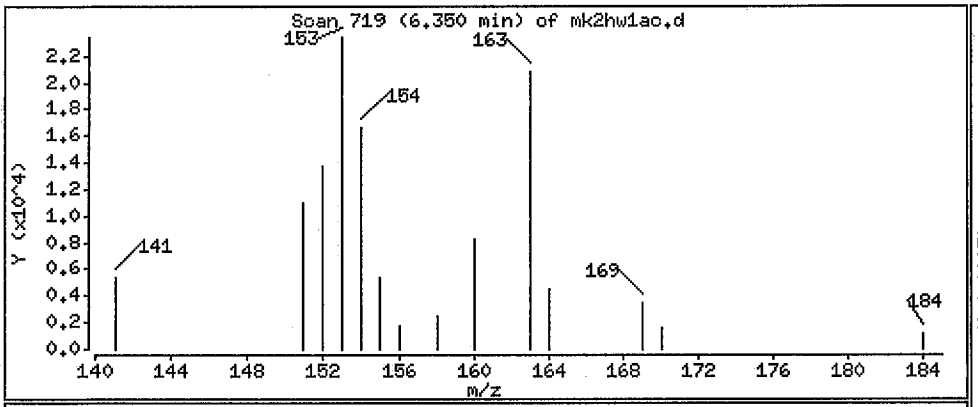
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

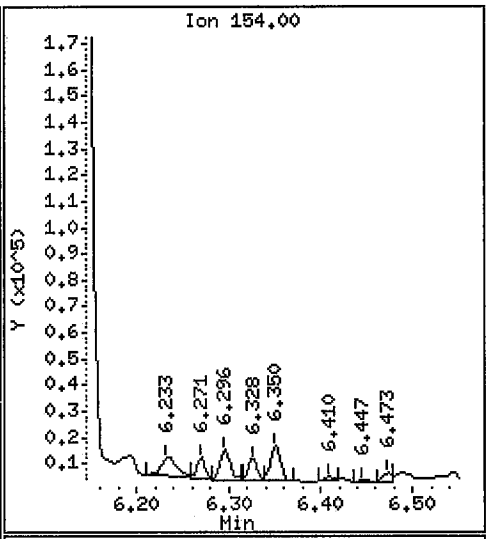
Sample Info: ,,0,,,

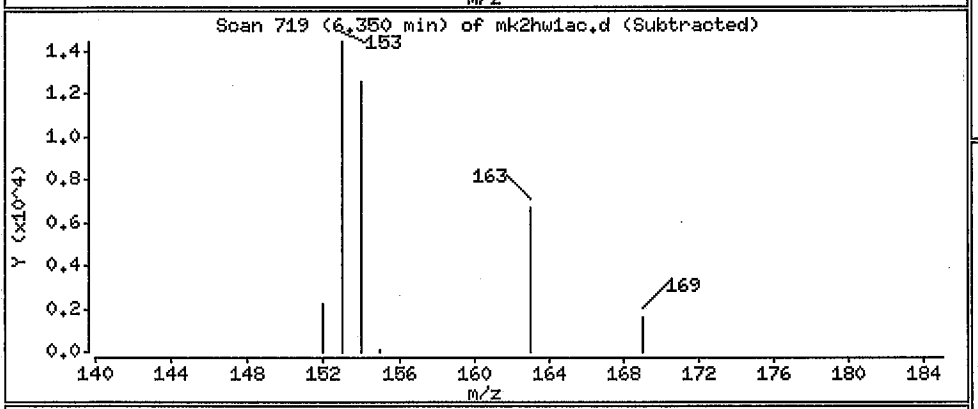
Purge Volume: 1.0 Operator: 11211

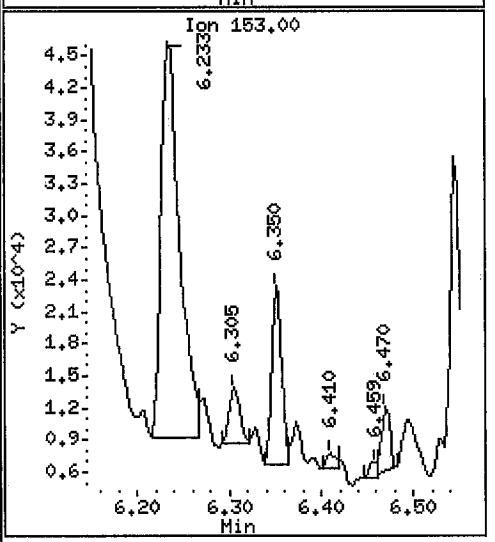
Column phase: Varian: 5MS Column diameter: 0.25

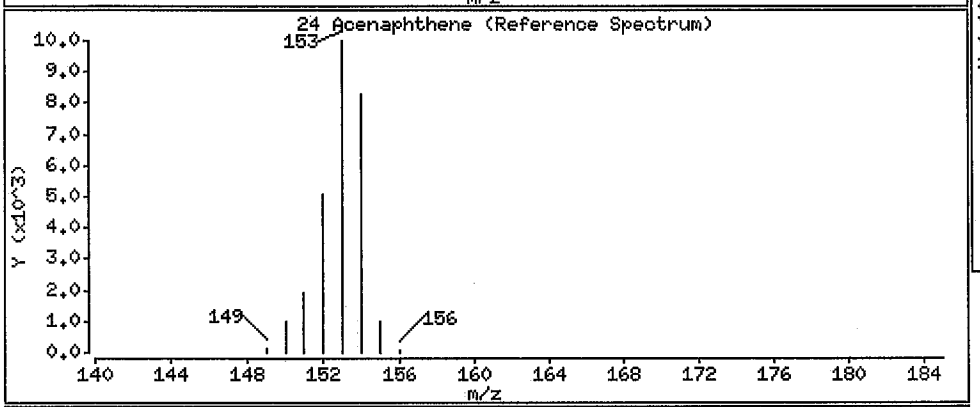
24 Acenaphthene Concentration: 11.8 ng/sample

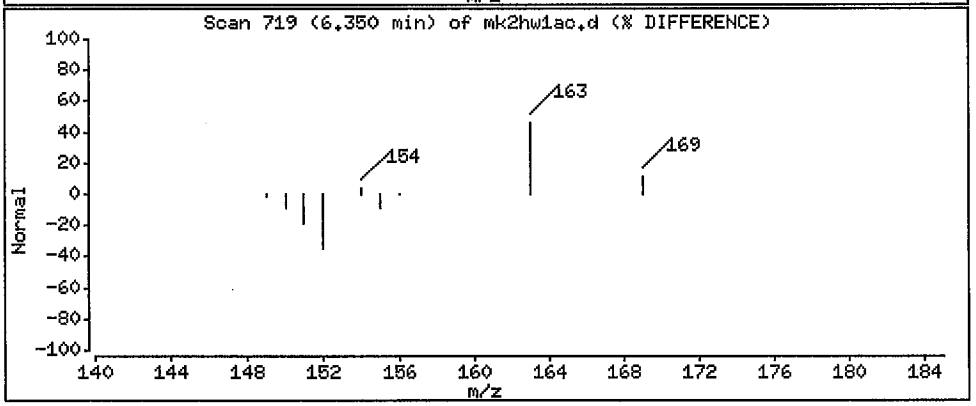












Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

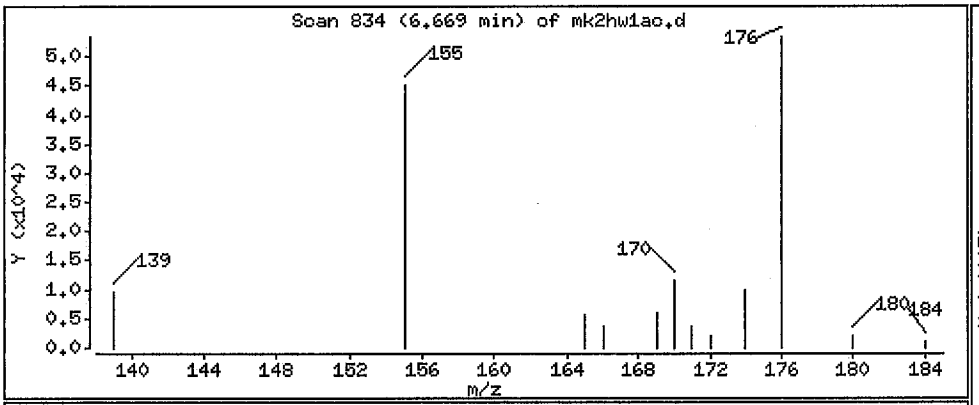
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

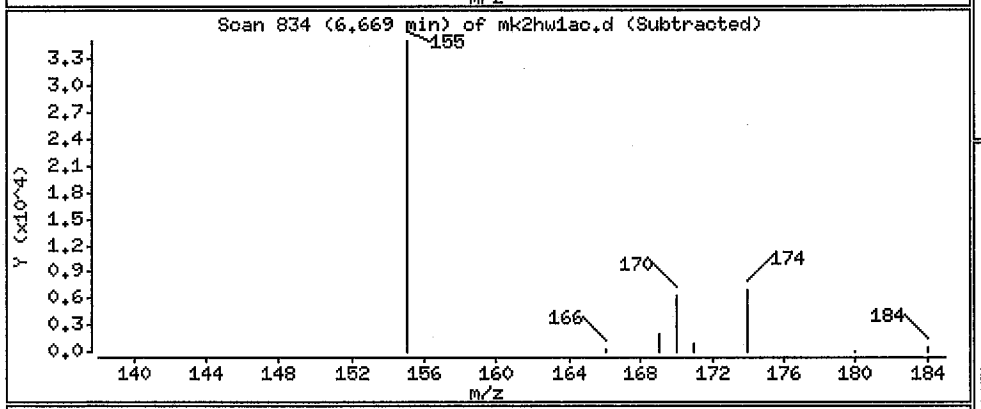
Sample Info: ,,0,,,

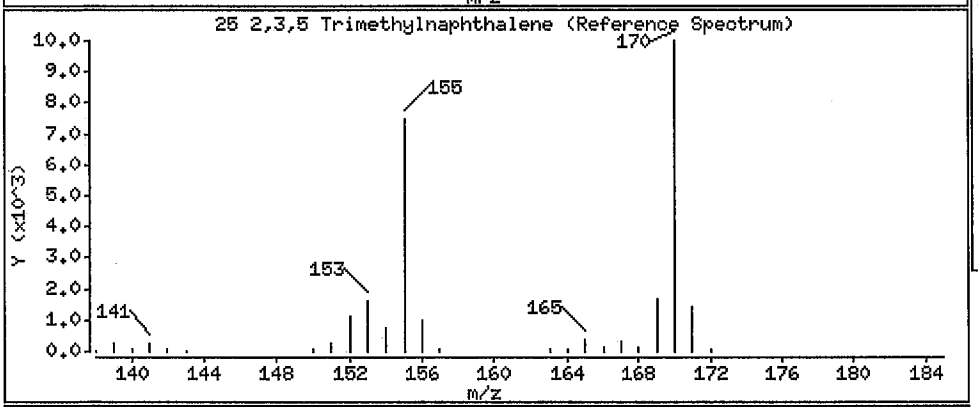
Purge Volume: 1.0 Operator: 11211

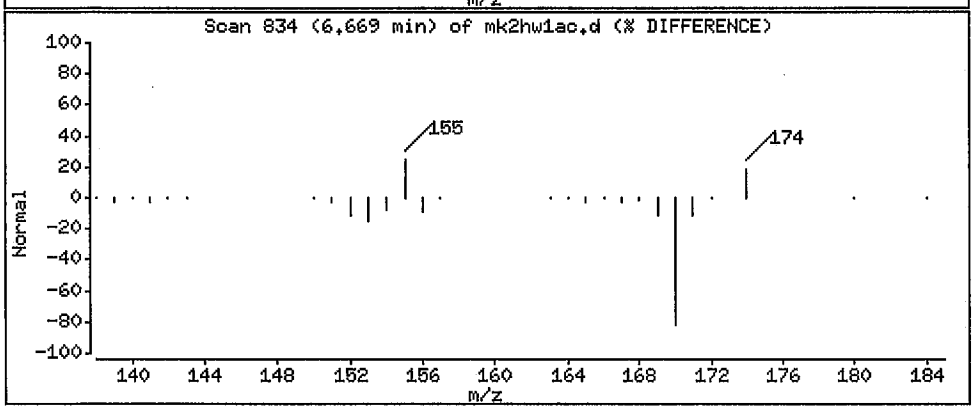
Column phase: Varian: 5MS Column diameter: 0.25

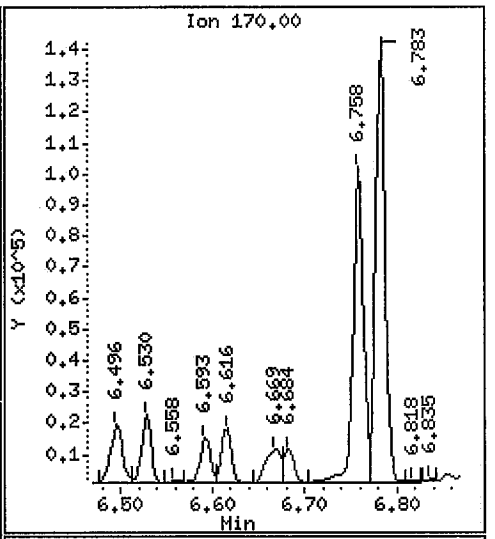
25 2,3,5 Trimethylnaphthalene Concentration: 21.4 ng/sample

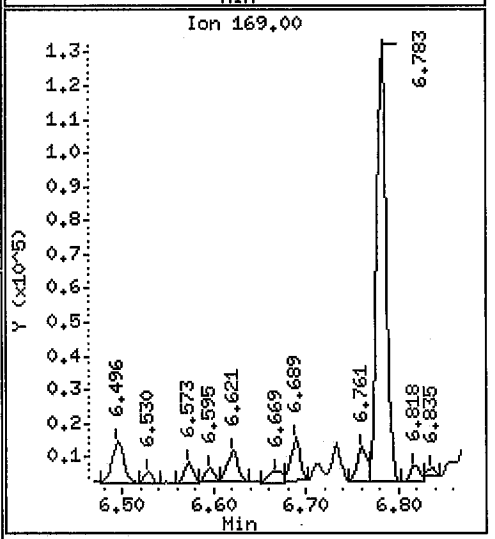












Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

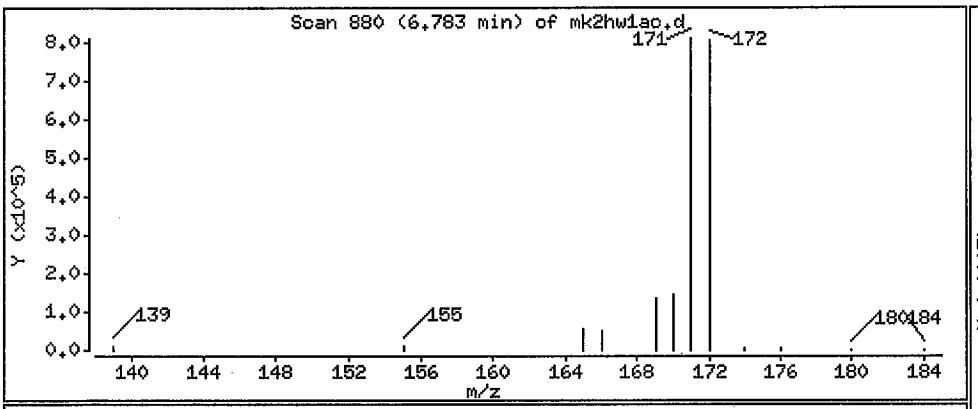
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

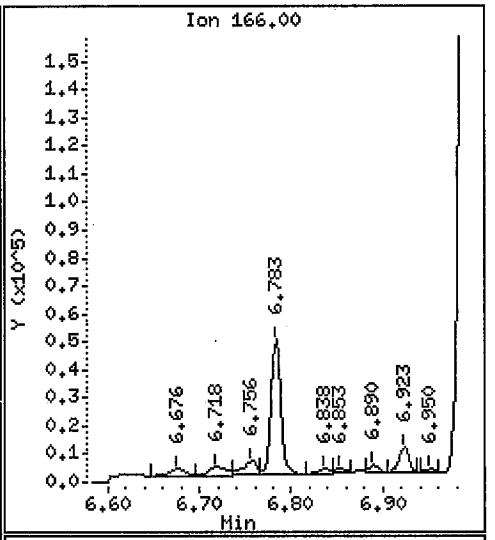
Sample Info: ,,0,,,

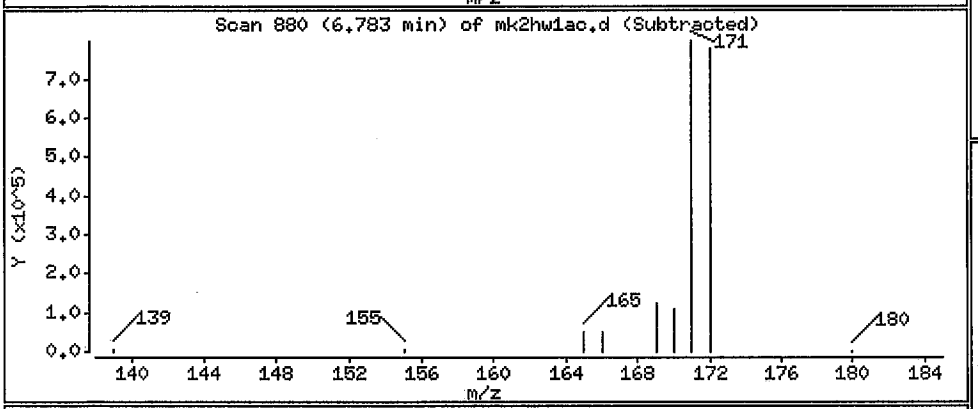
Purge Volume: 1.0 Operator: 11211

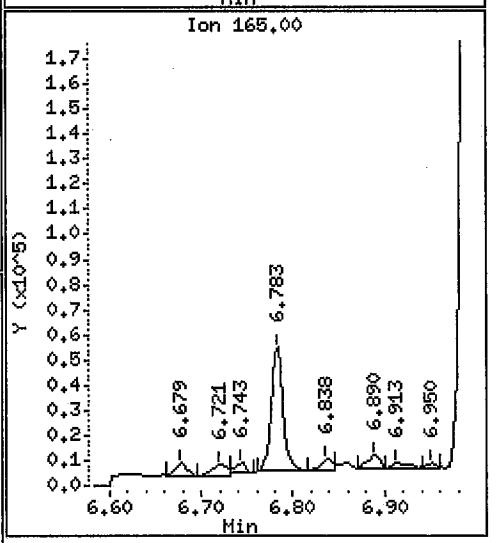
Column phase: Varian: 5MS Column diameter: 0.25

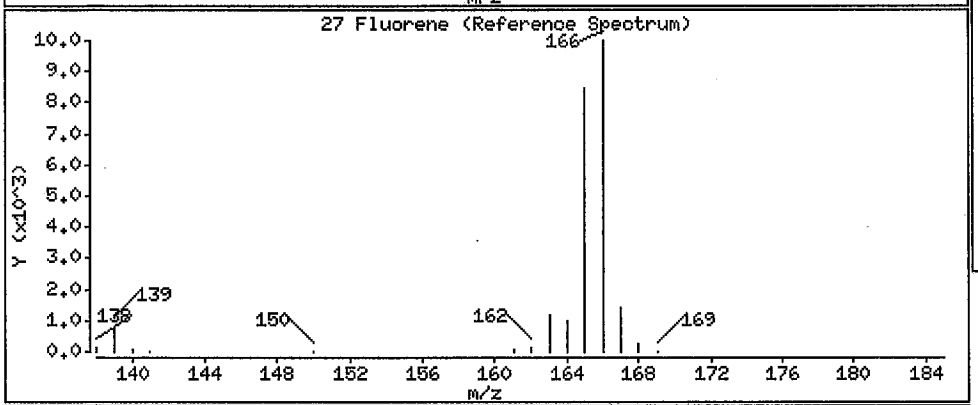
27 Fluorene Concentration: 43.4 ng/sample

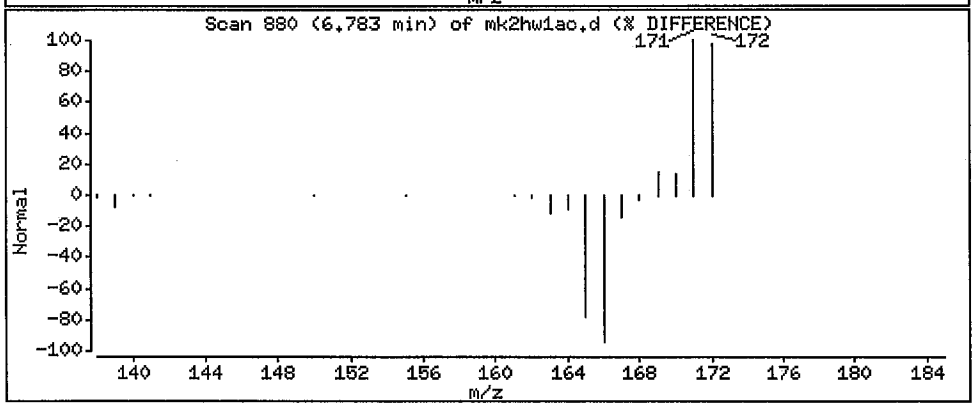












Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

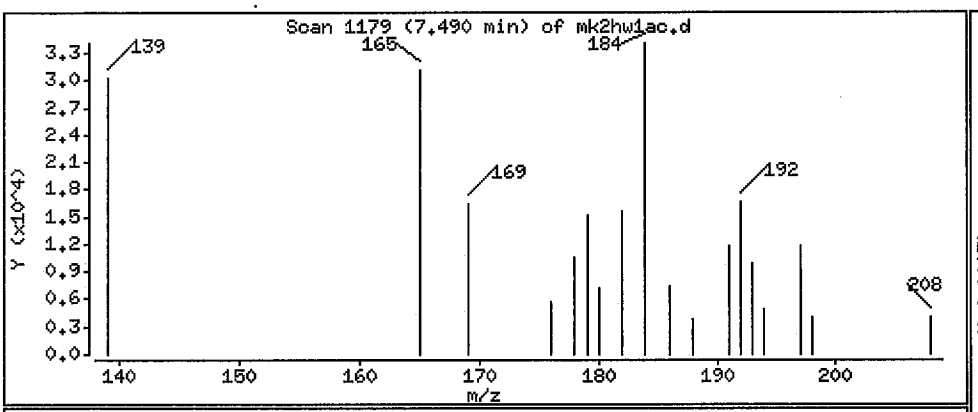
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

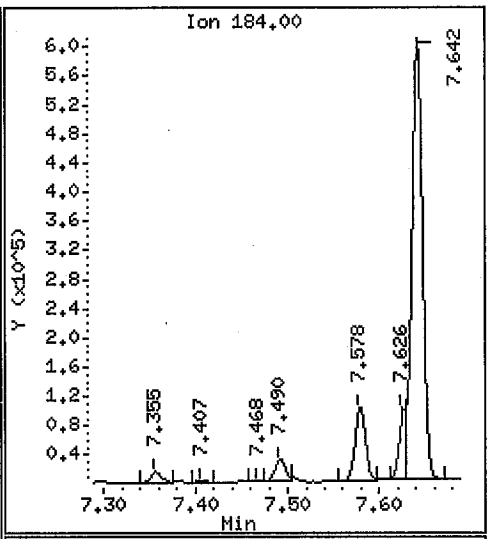
Sample Info: ,,0,,,

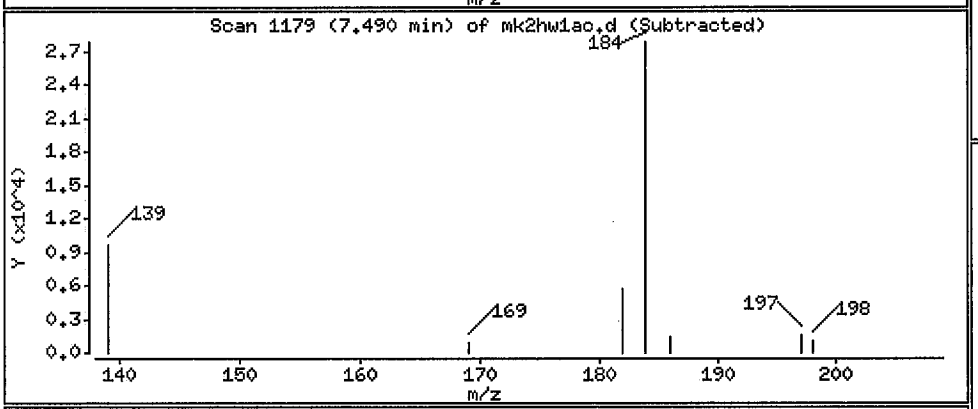
Purge Volume: 1.0 Operator: 11211

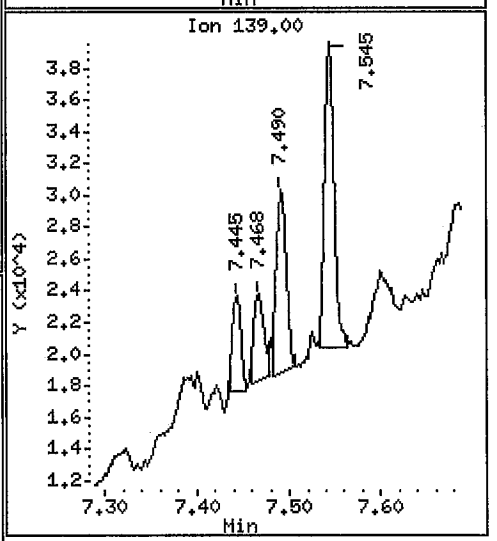
Column phase: Varian: 5MS Column diameter: 0.25

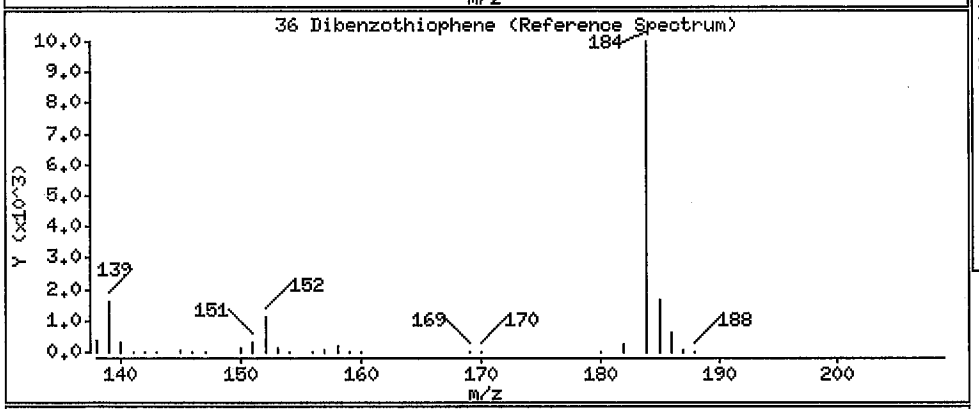
36 Dibenzothiophene Concentration: 22.2 ng/sample

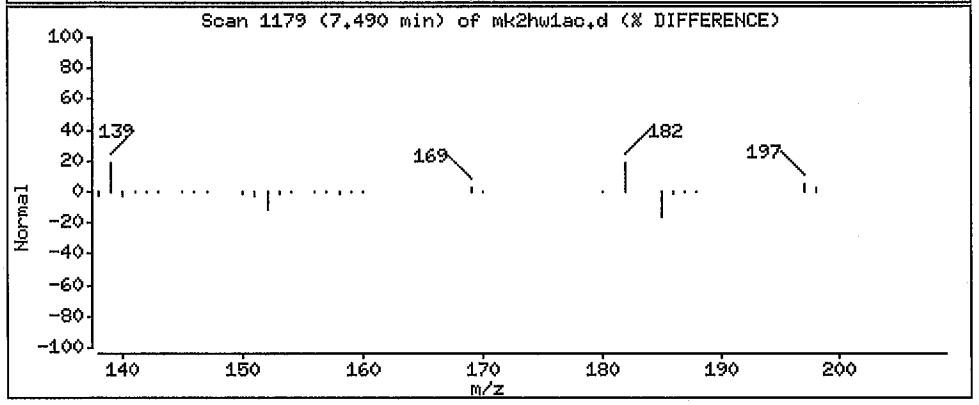












Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

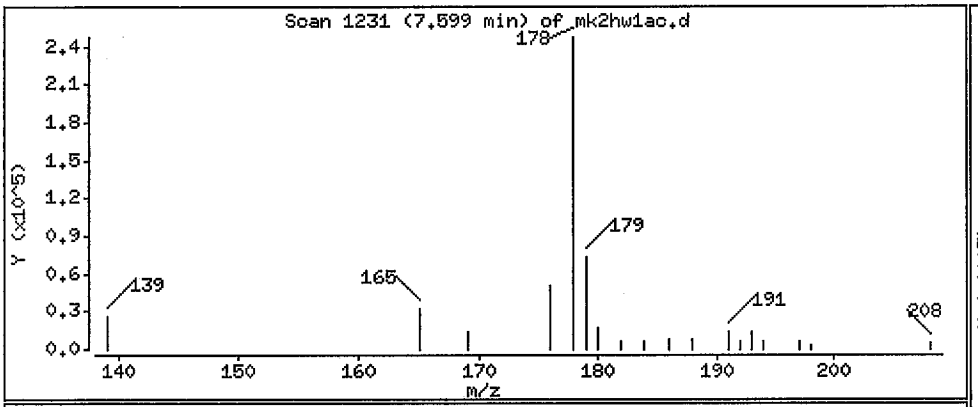
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

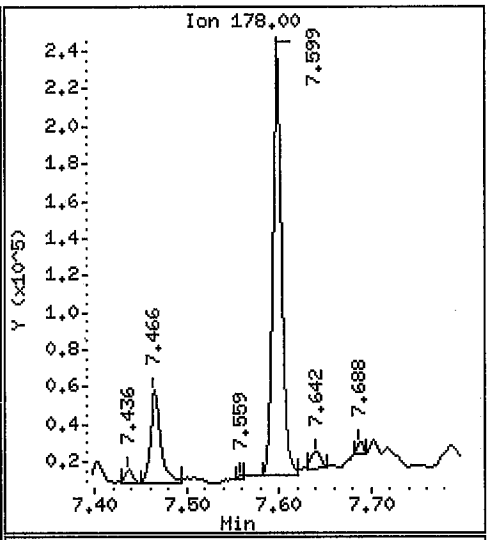
Sample Info: ,,0,,,

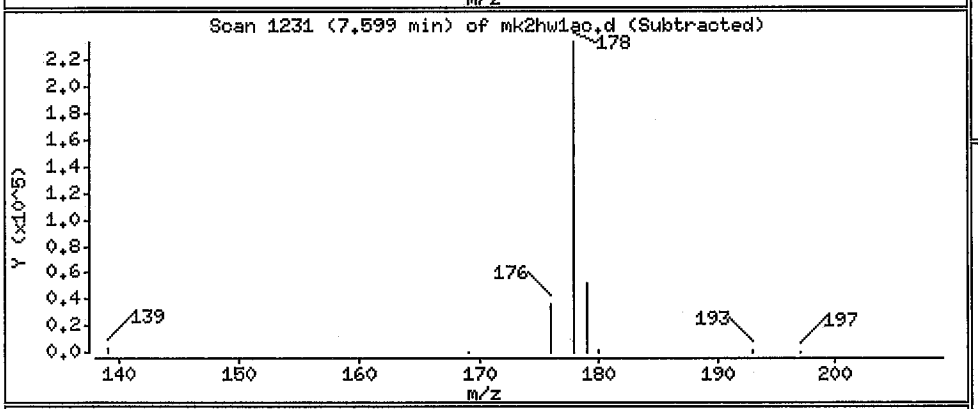
Purge Volume: 1.0 Operator: 11211

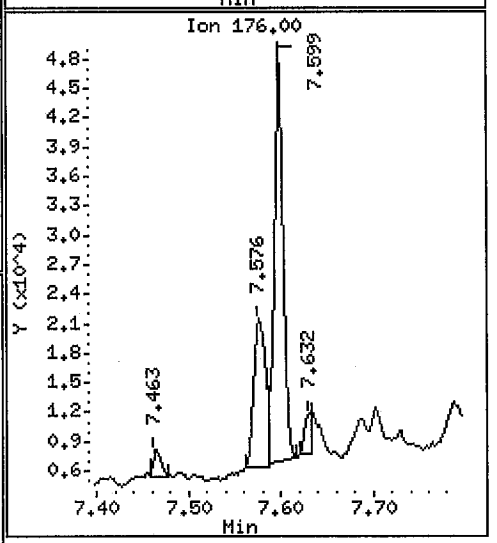
Column phase: Varian: 5MS Column diameter: 0.25

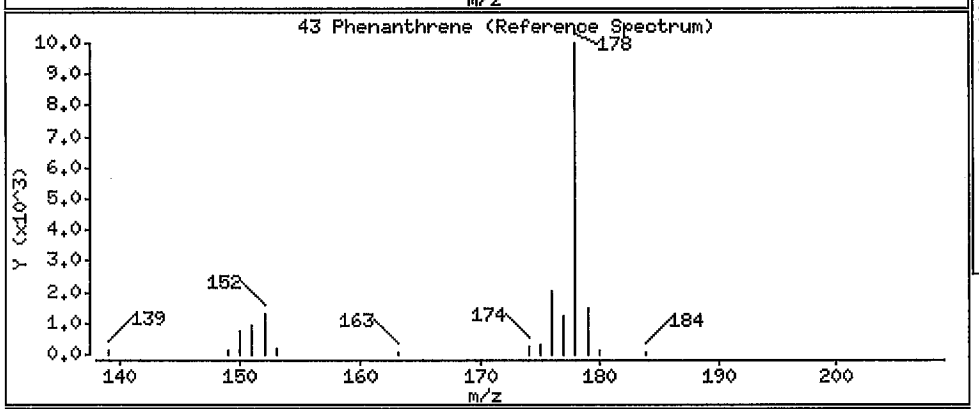
43 Phenanthrene Concentration: 149 ng/sample

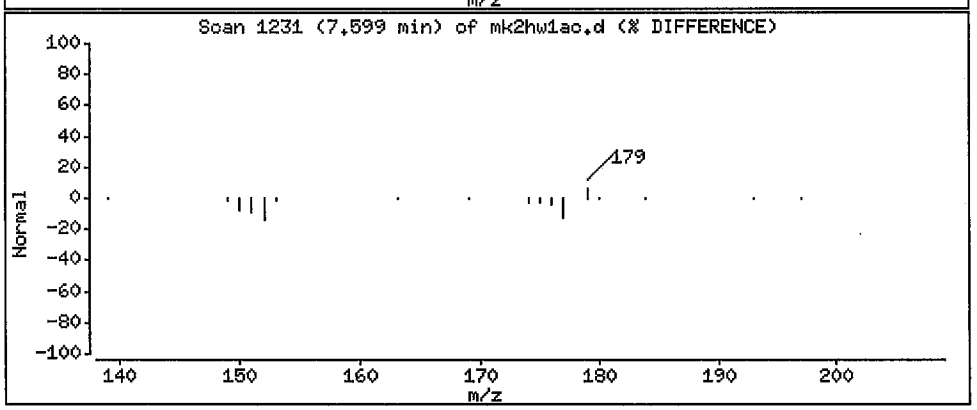












Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

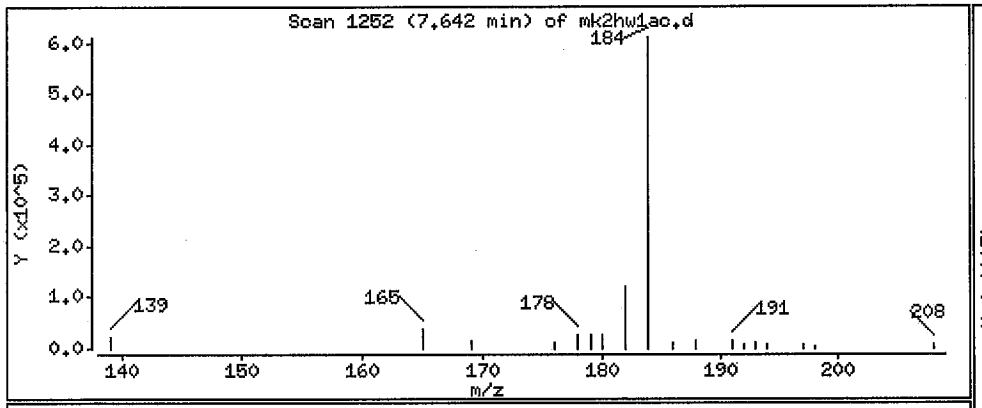
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

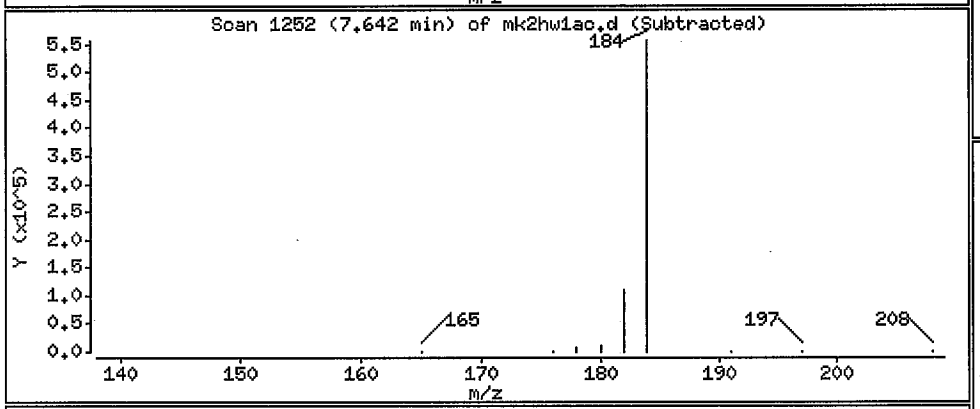
Sample Info: ,,0,,,

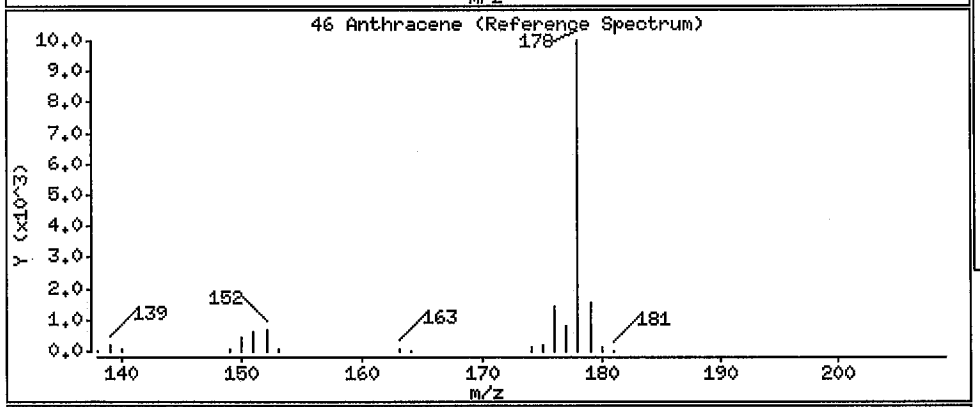
Purge Volume: 1.0 Operator: 11211

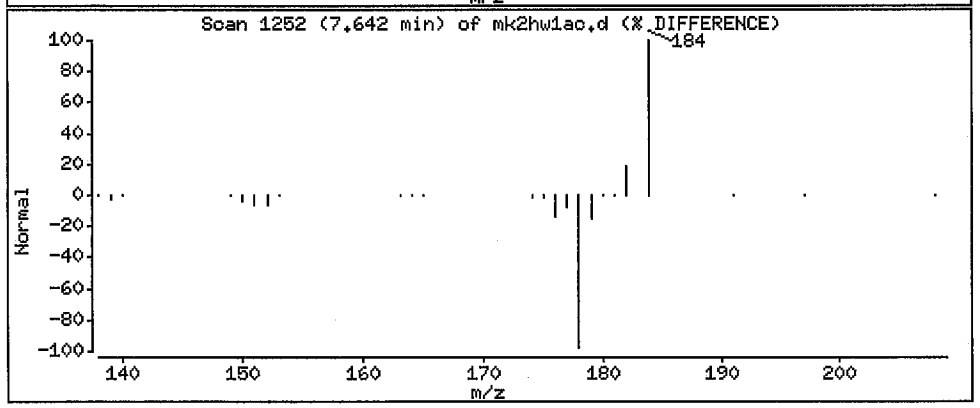
Column phase: Varian: 5MS Column diameter: 0.25

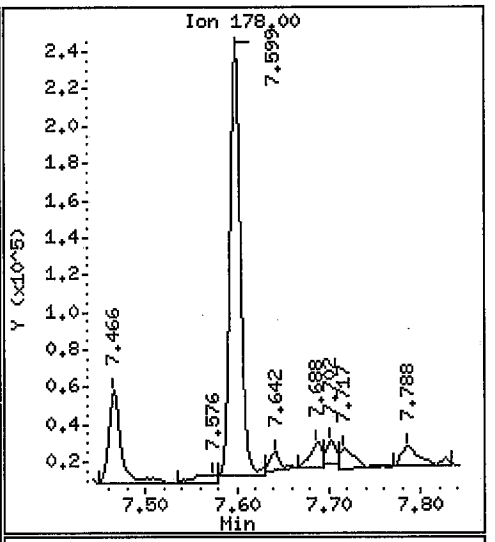
46 Anthracene Concentration: 6.50 ng/sample

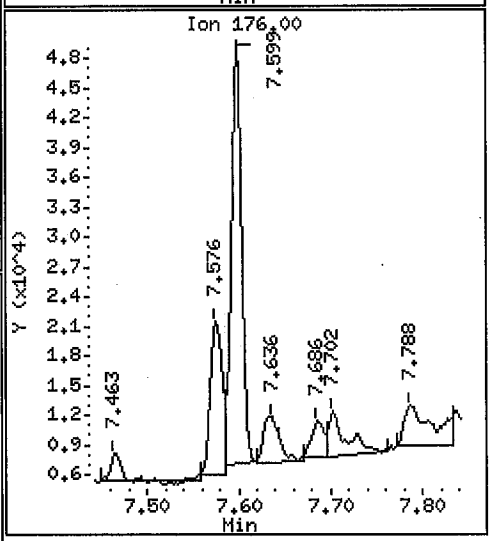












Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

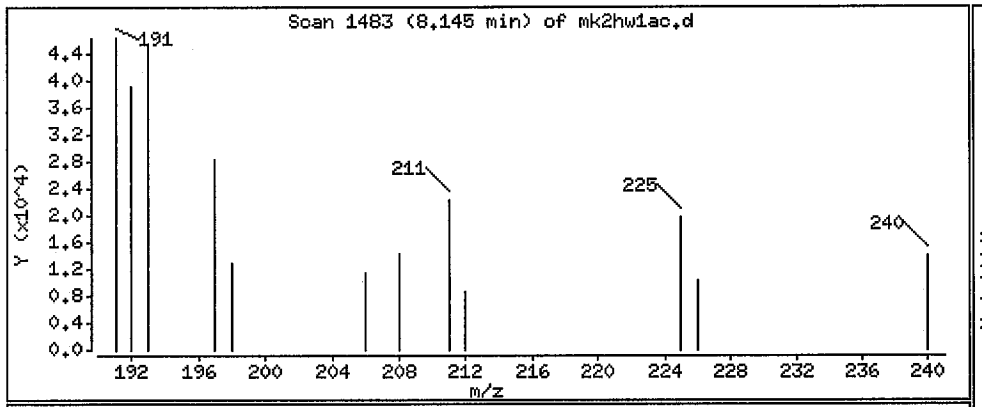
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

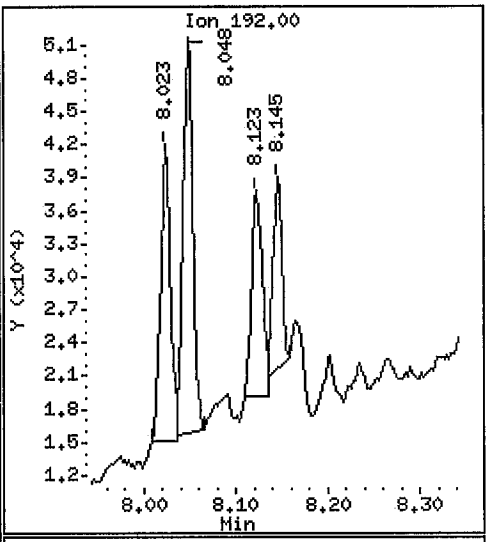
Sample Info: ,,0,,,

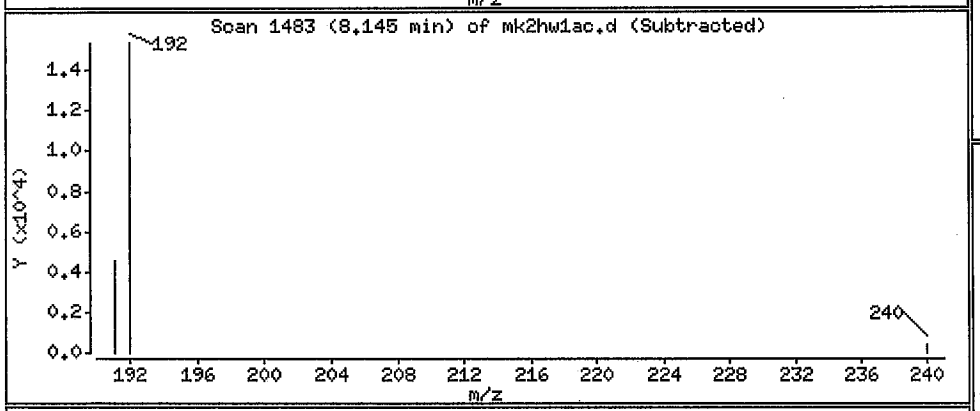
Purge Volume: 1.0 Operator: 11211

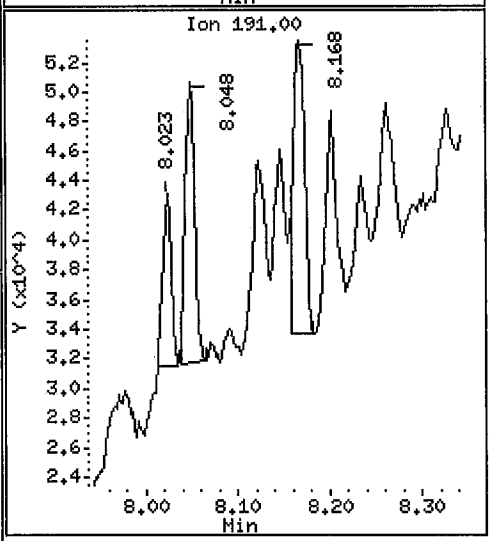
Column phase: Varian: 5MS Column diameter: 0.25

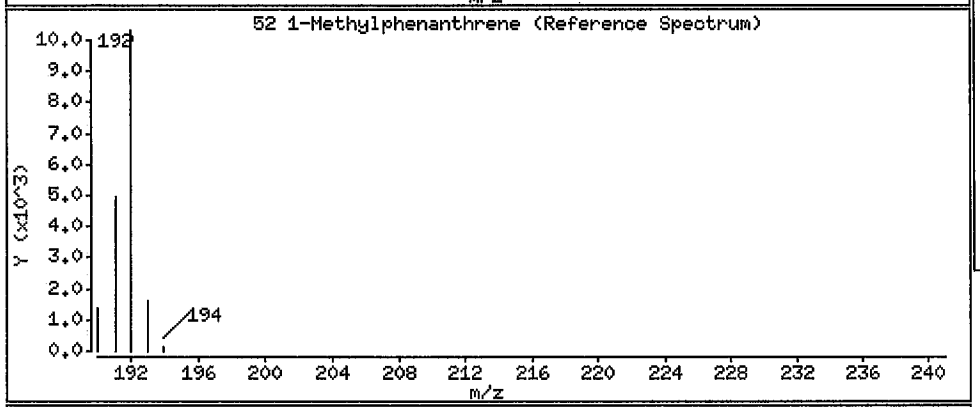
52 1-Methylphenanthrene Concentration: 17.0 ng/sample

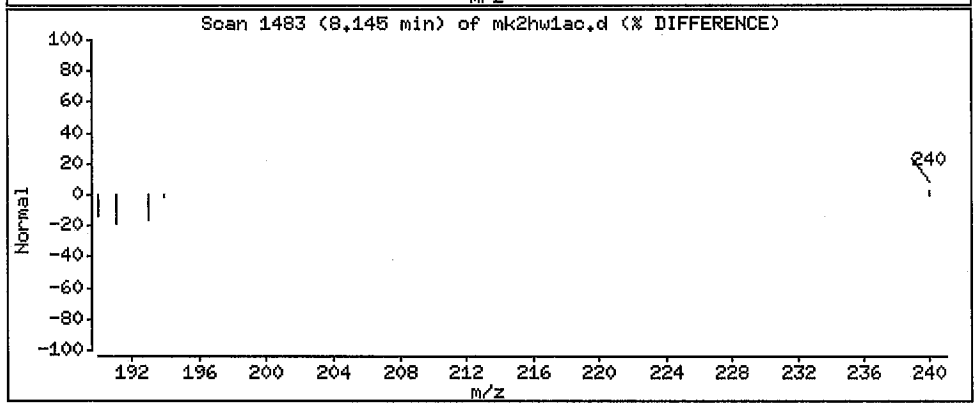












Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

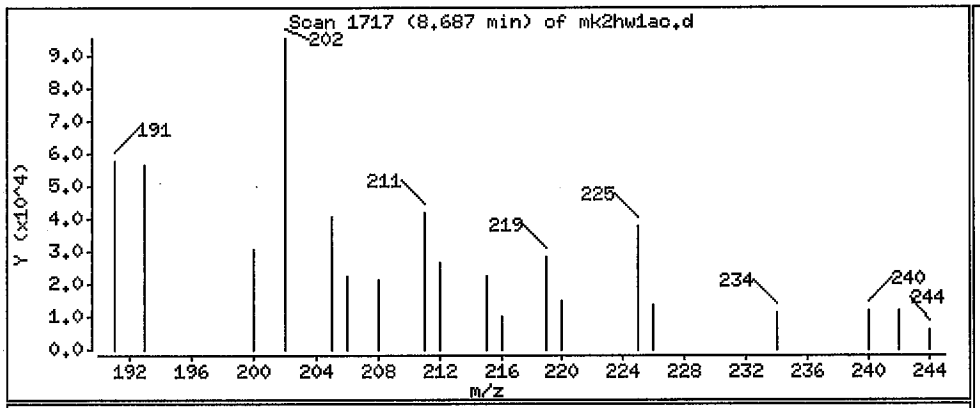
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

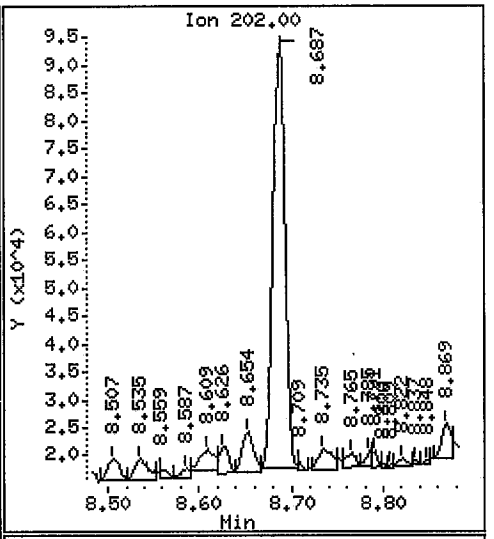
Sample Info: ,,0,,,

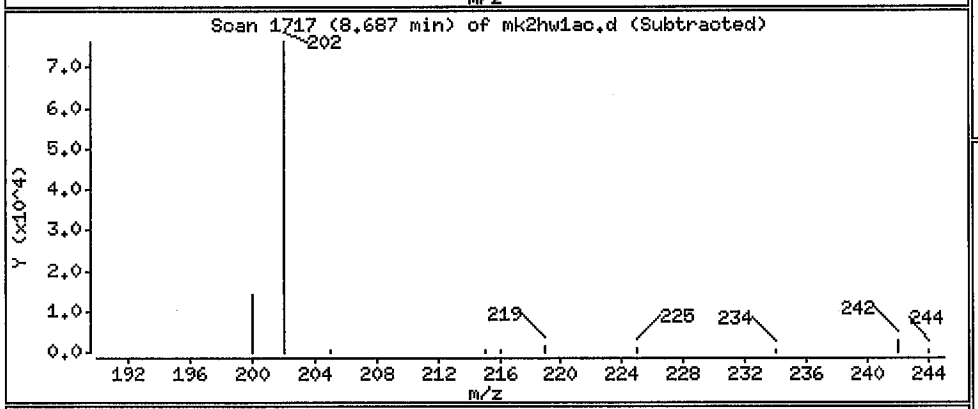
Purge Volume: 1.0 Operator: 11211

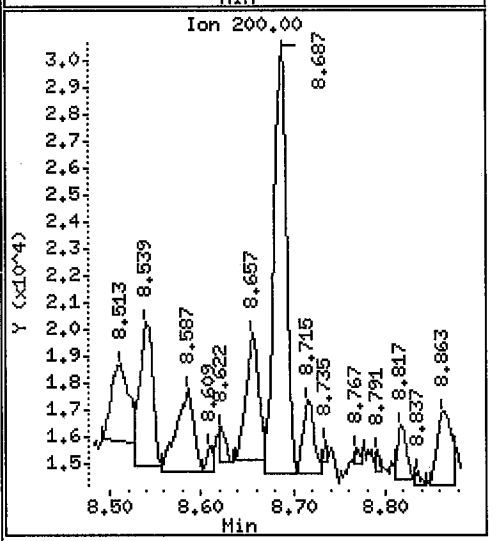
Column phase: Varian: 5MS Column diameter: 0.25

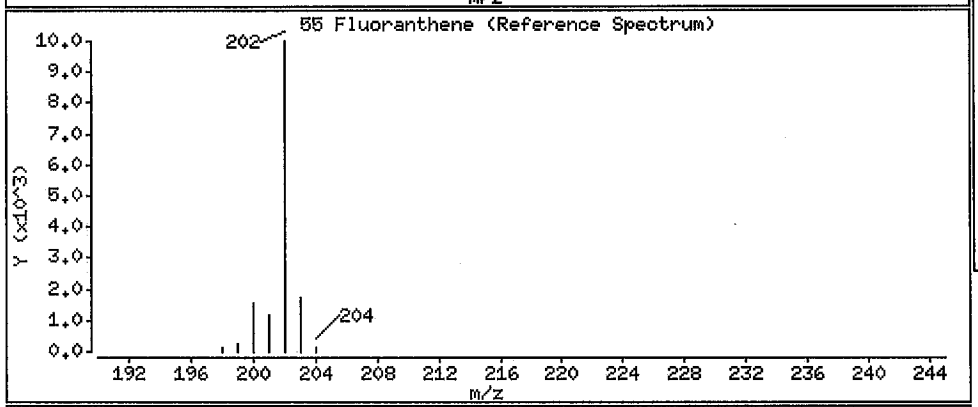
55 Fluoranthene Concentration: 47.9 ng/sample

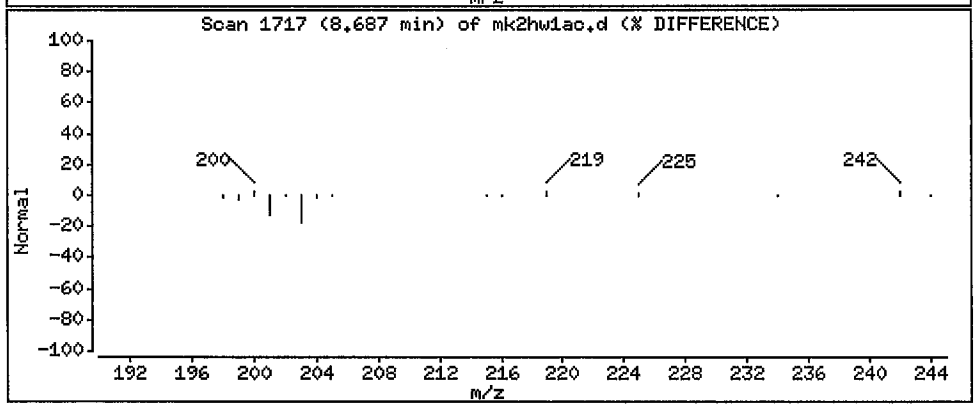












Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

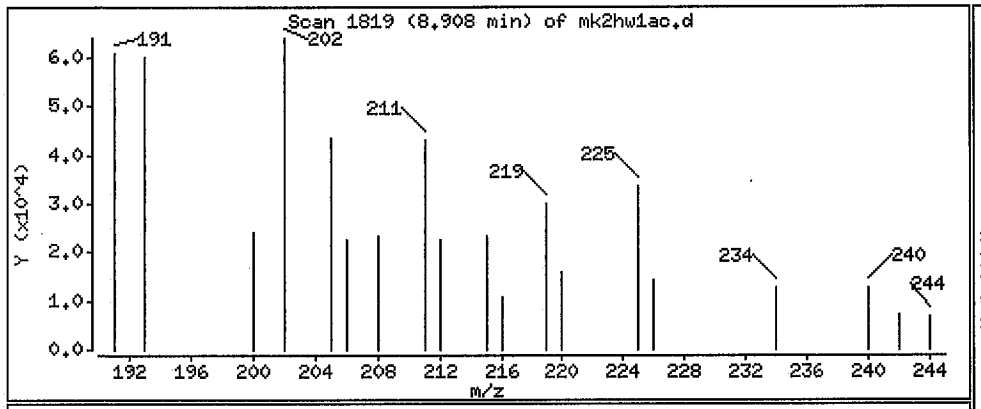
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

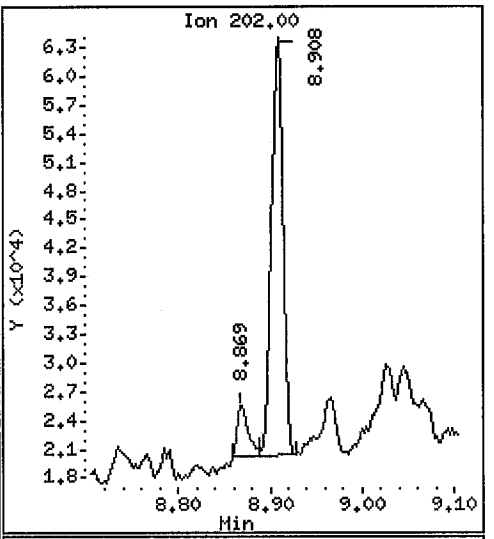
Sample Info: ,,0,,,

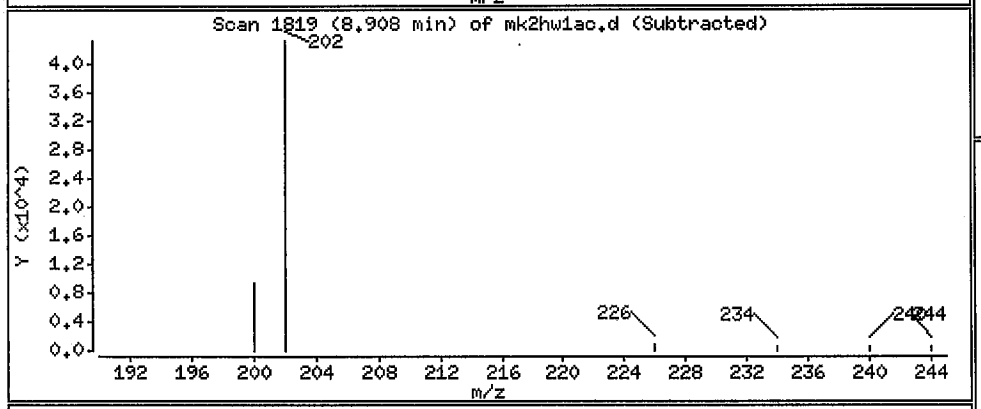
Purge Volume: 1.0 Operator: 11211

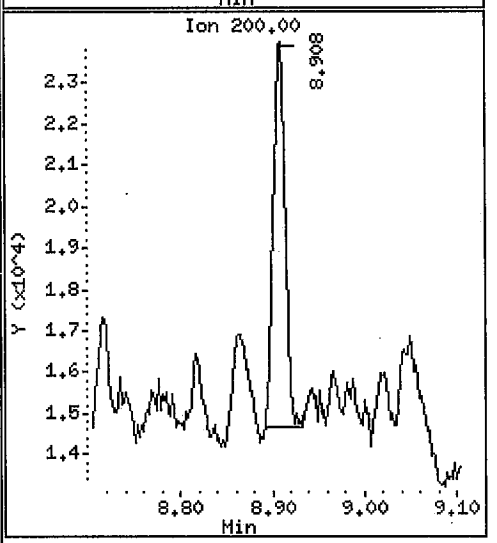
Column phase: Varian: 5MS Column diameter: 0.25

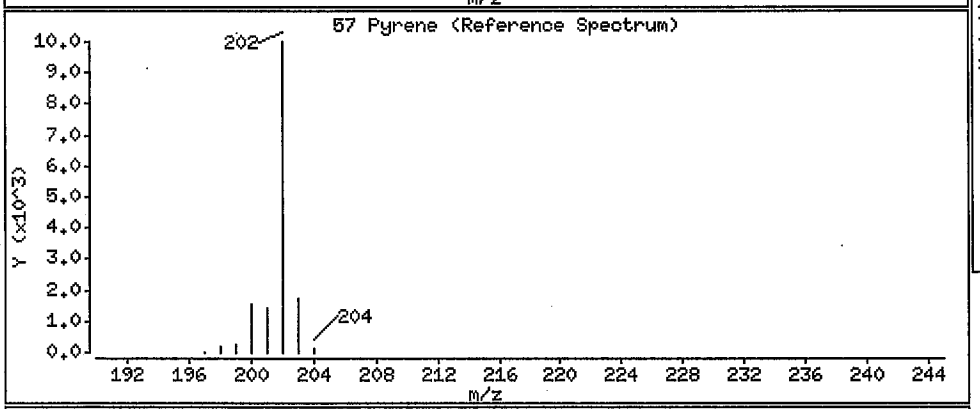
57 Pyrene Concentration: 25.8 ng/sample

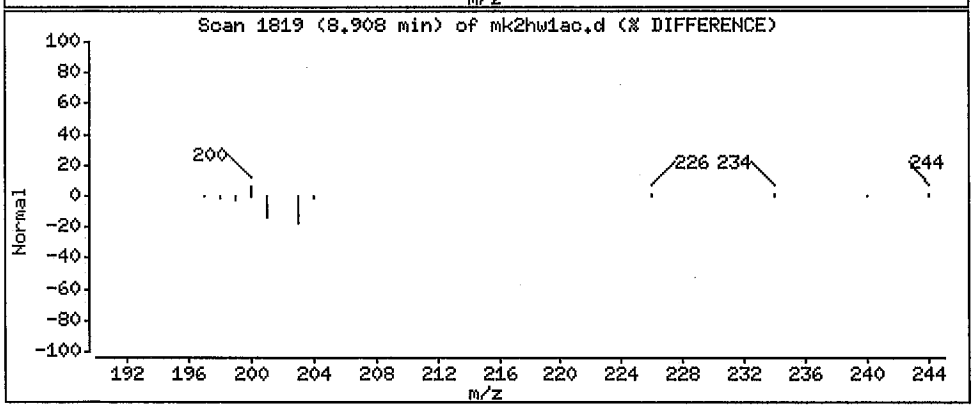












Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

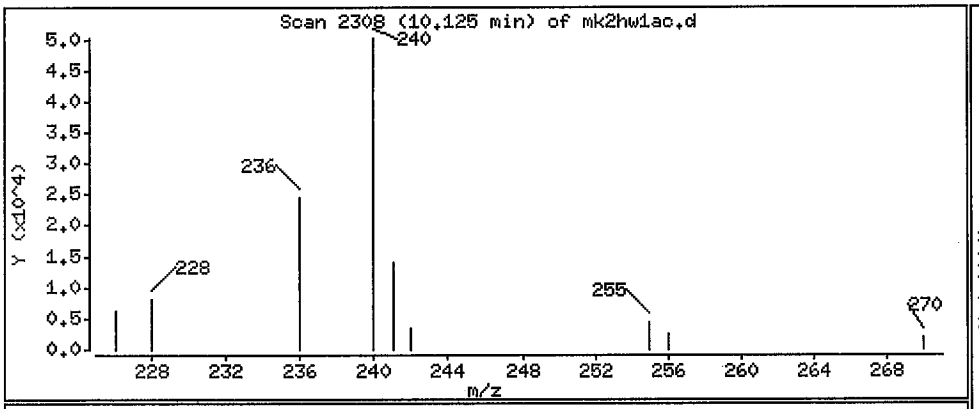
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

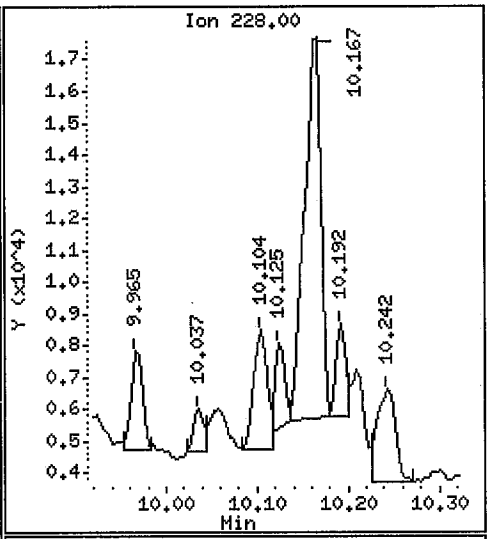
Sample Info: ,,0,,,

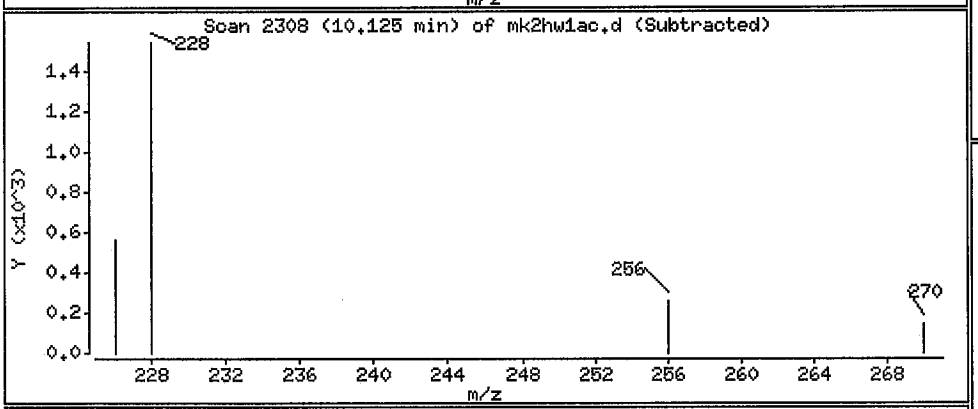
Purge Volume: 1.0 Operator: 11211

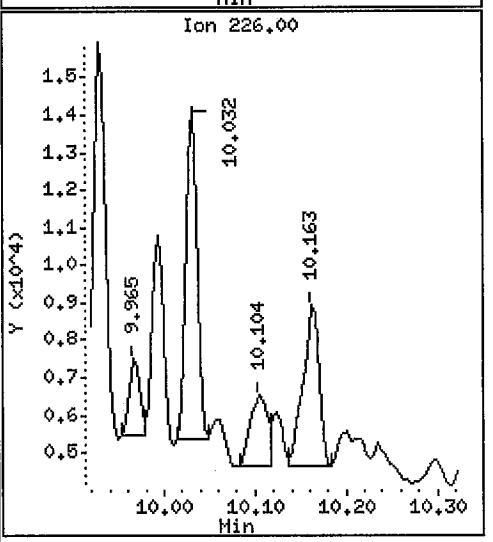
Column phase: Varian: 5MS Column diameter: 0.25

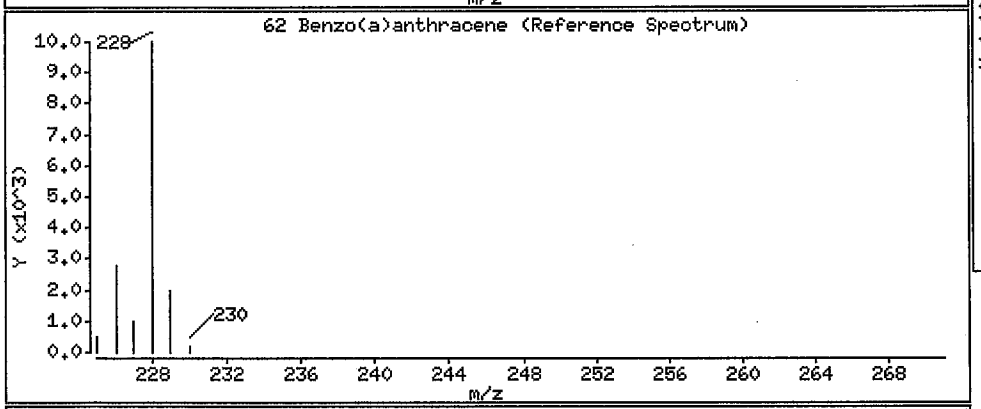
62 Benzo(a)anthracene Concentration: 1.50 ng/sample

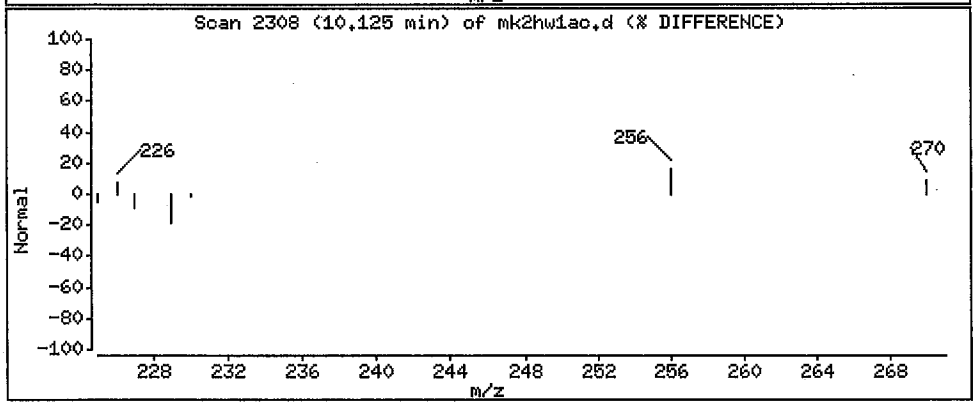












Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

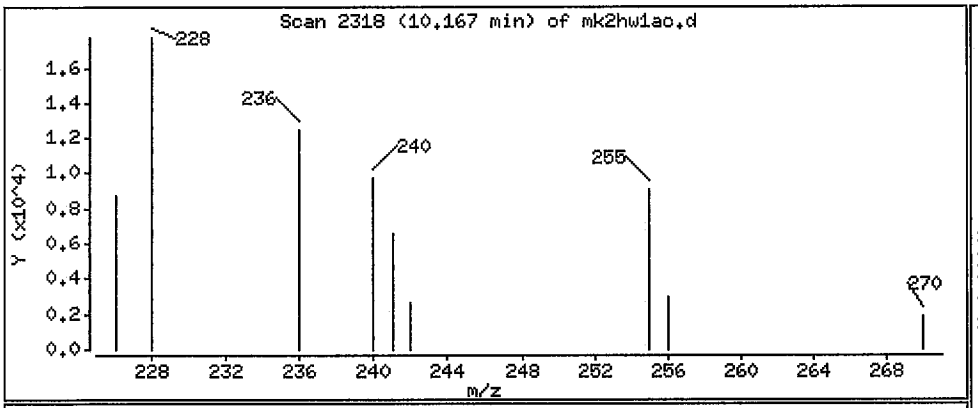
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

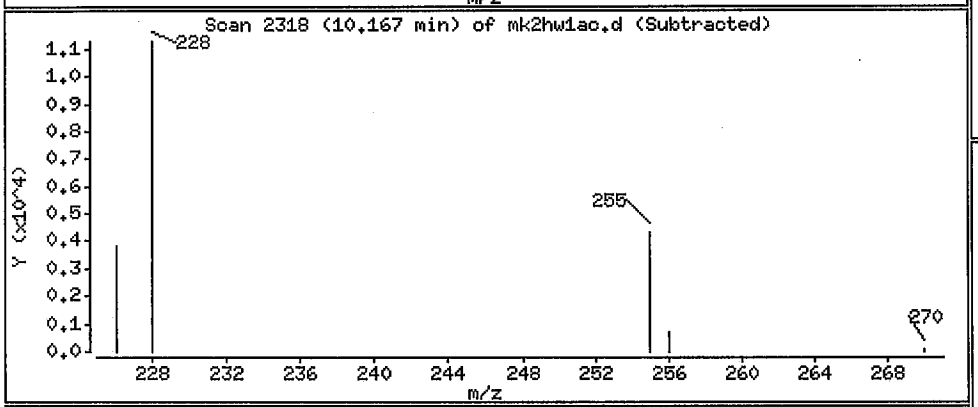
Sample Info: ,,0,,,

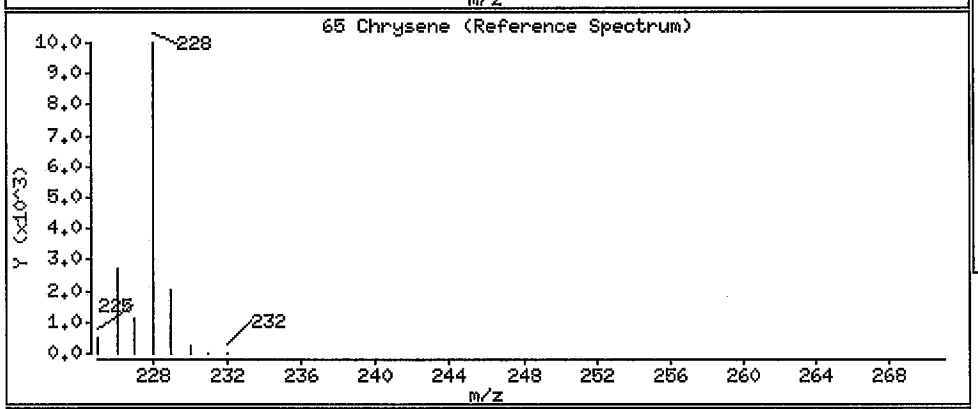
Purge Volume: 1.0 Operator: 11211

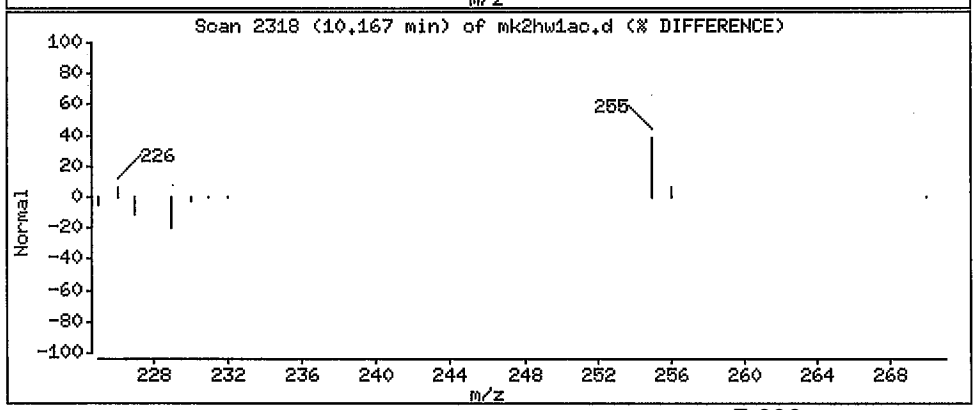
Column phase: Varian: 5MS Column diameter: 0.25

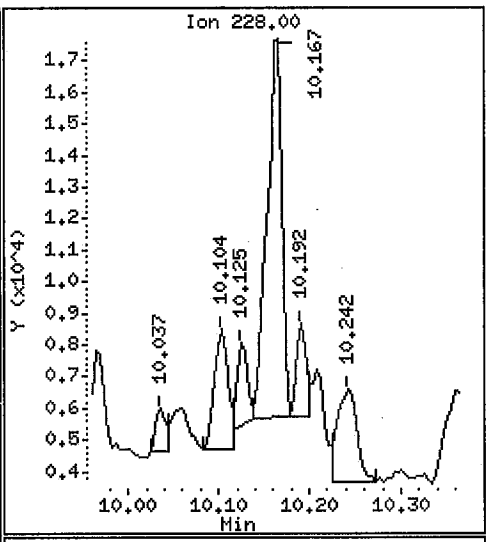
65 Chrysene Concentration: 17.1 ng/sample

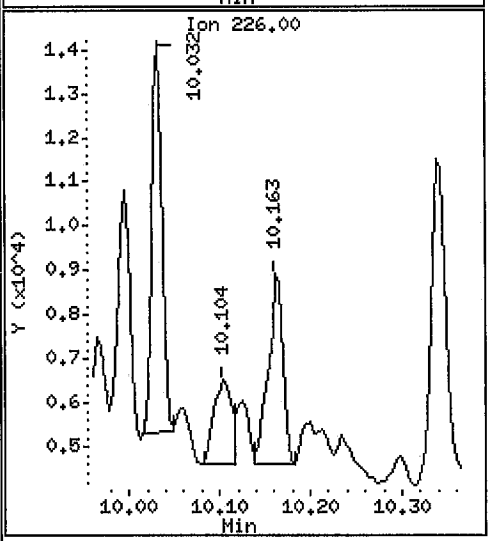












Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

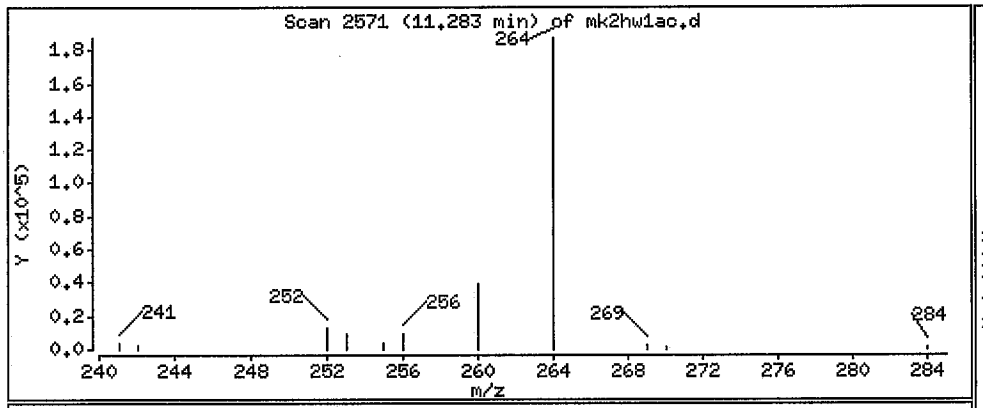
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

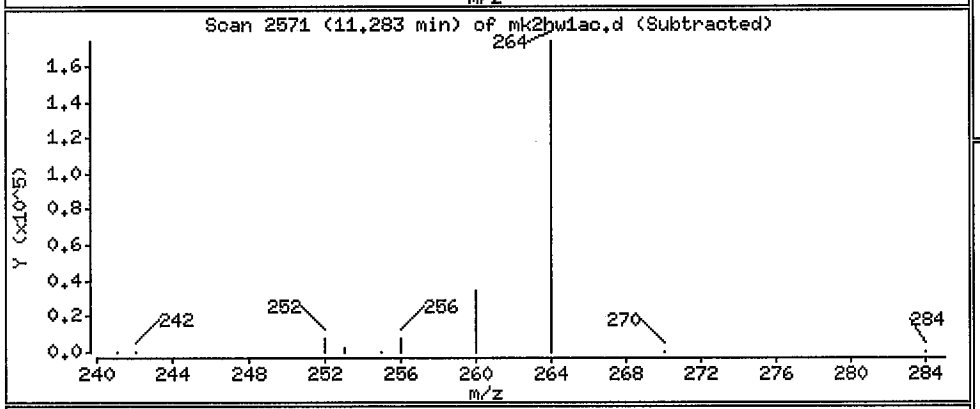
Sample Info: ,,0,,,

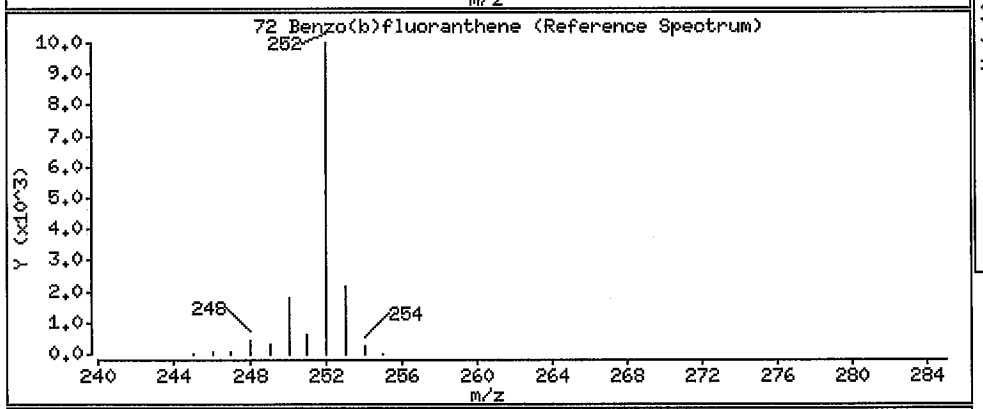
Purge Volume: 1.0 Operator: 11211

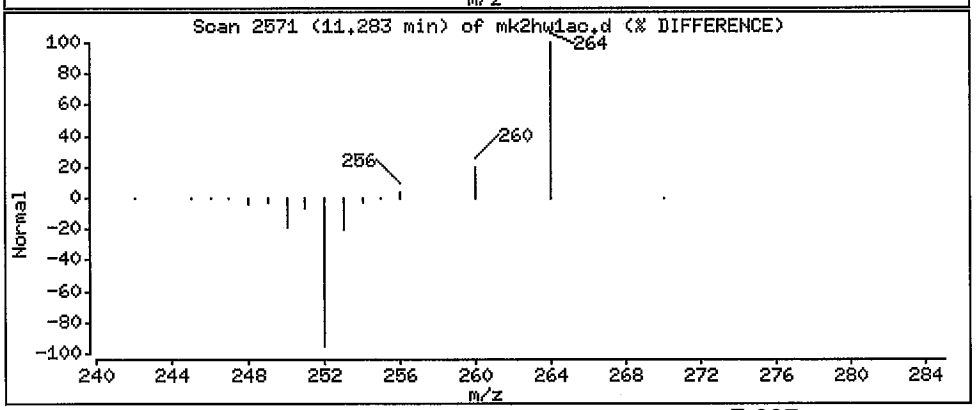
Column phase: Varian: 5MS Column diameter: 0.25

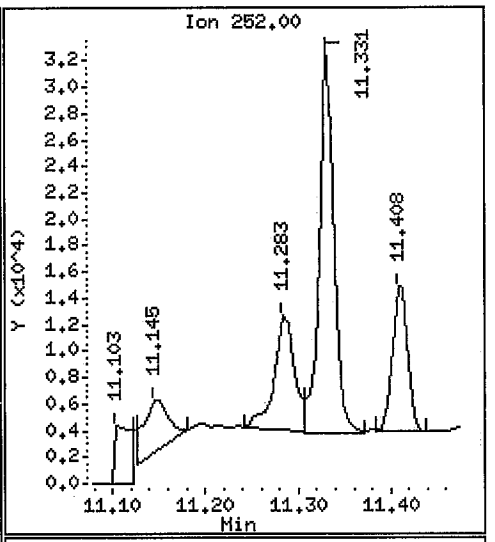
72 Benzo(b)fluoranthene Concentration: 10.9 ng/sample

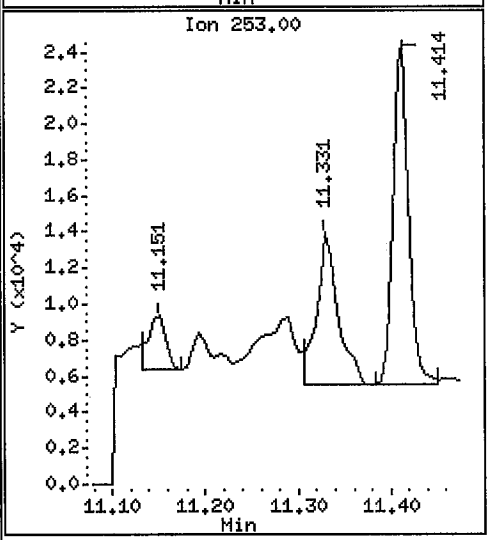












Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

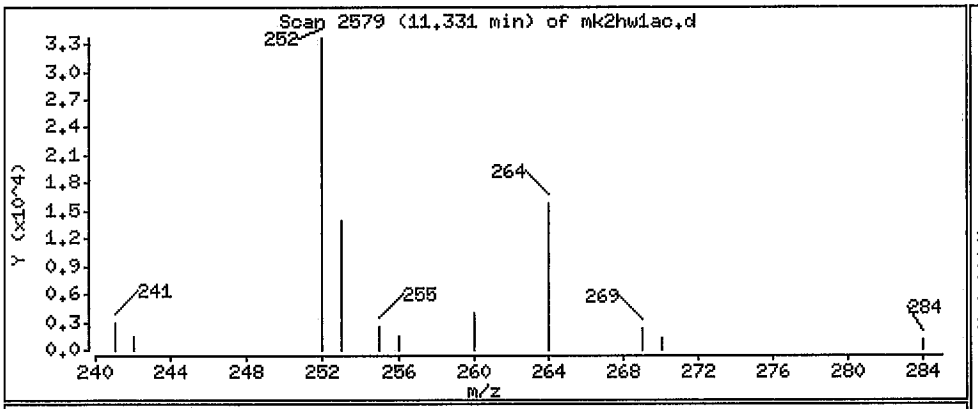
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

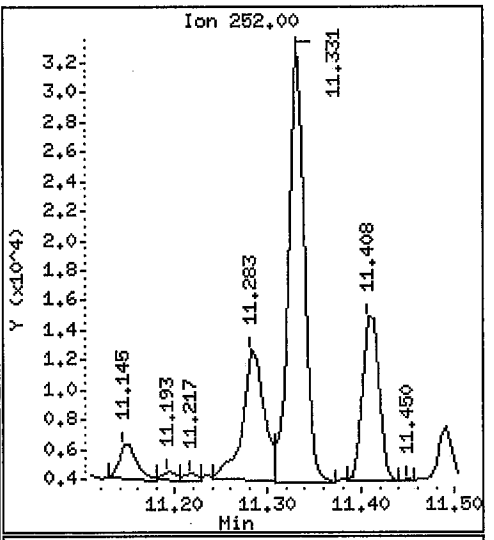
Sample Info: ,,0,,,

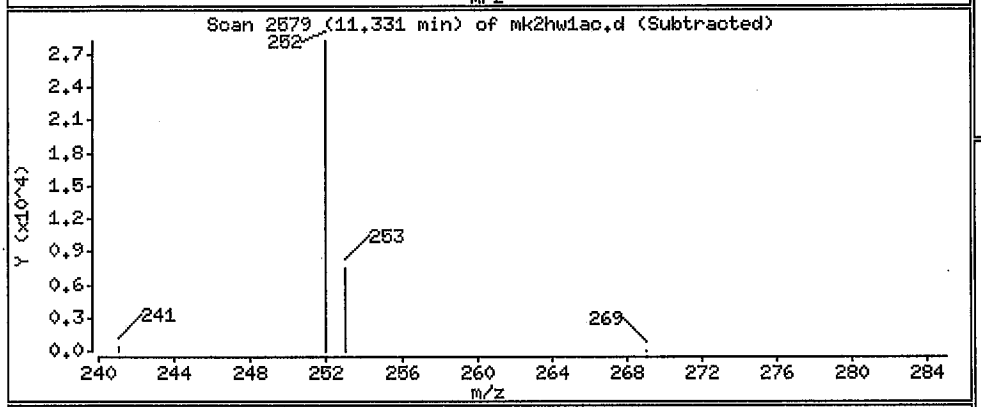
Purge Volume: 1.0 Operator: 11211

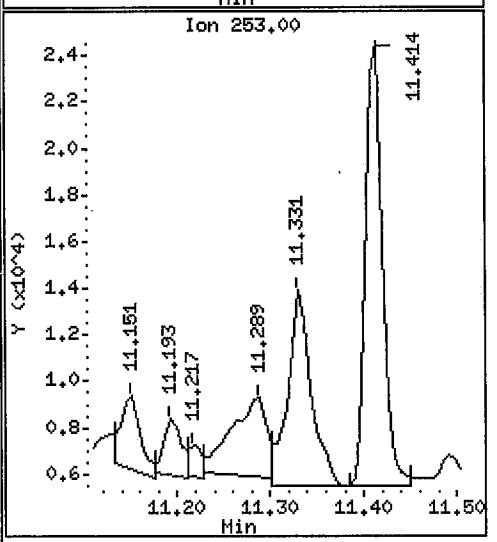
Column phase: Varian: 5MS Column diameter: 0.25

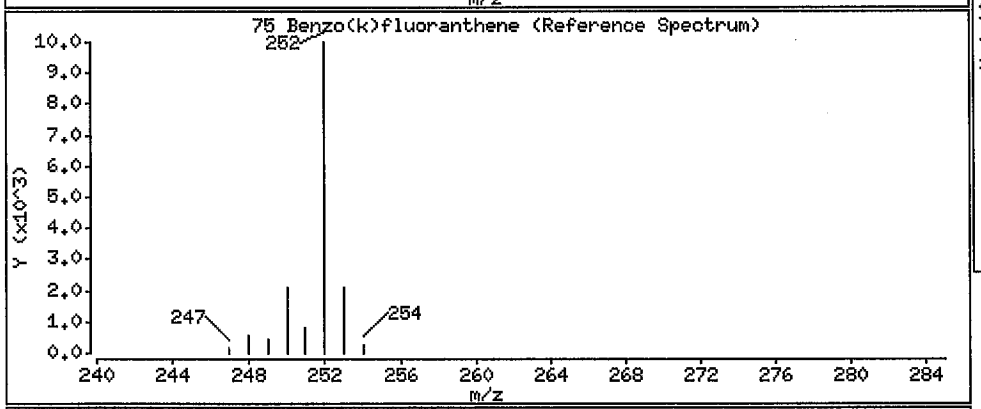
75 Benzo(k)fluoranthene Concentration: 35.4 ng/sample

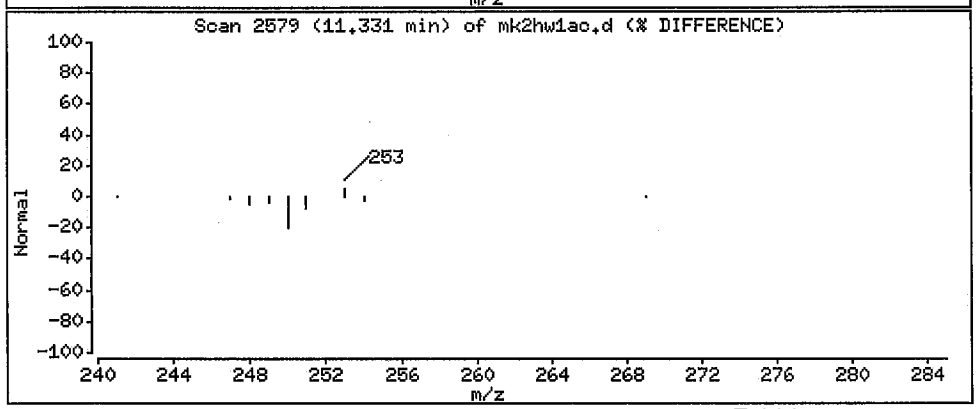












Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

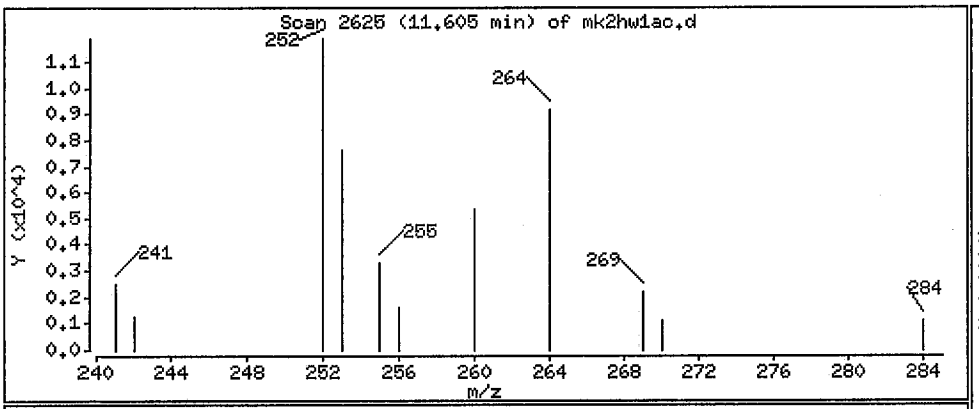
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

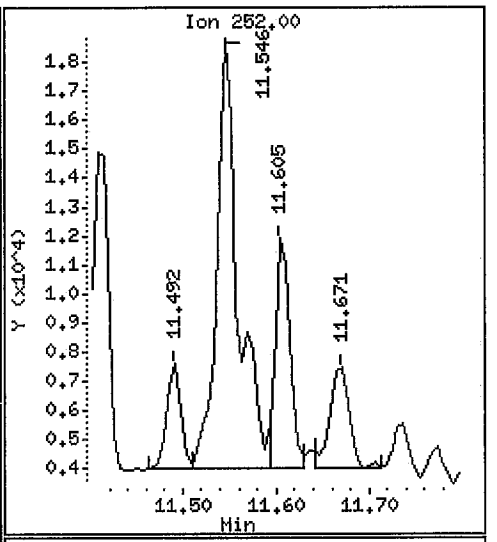
Sample Info: ,,0,,,

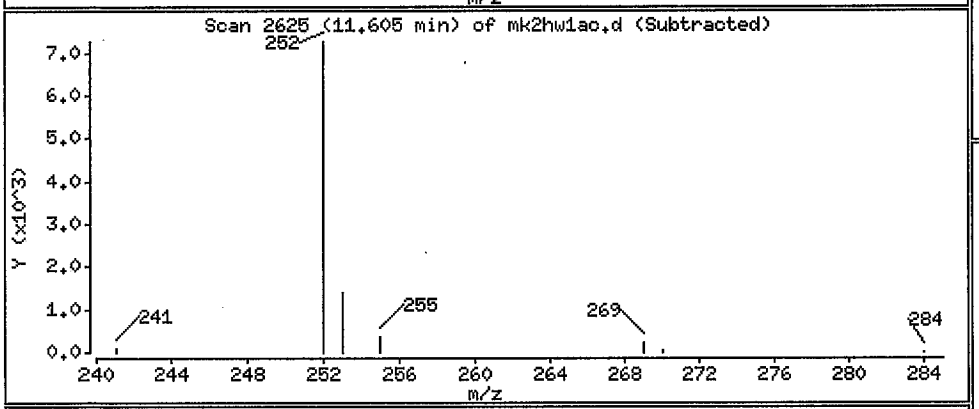
Purge Volume: 1.0 Operator: 11211

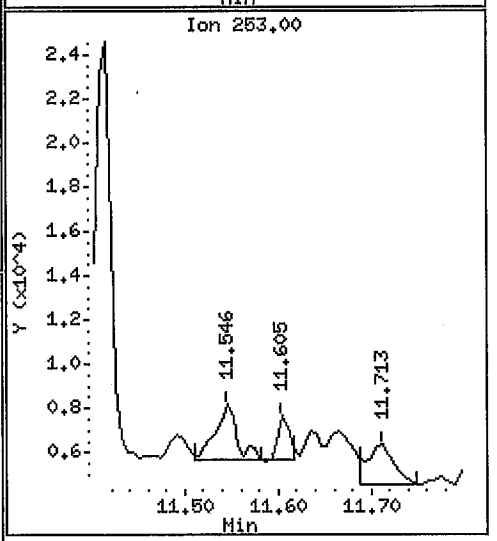
Column phase: Varian: 5MS Column diameter: 0.25

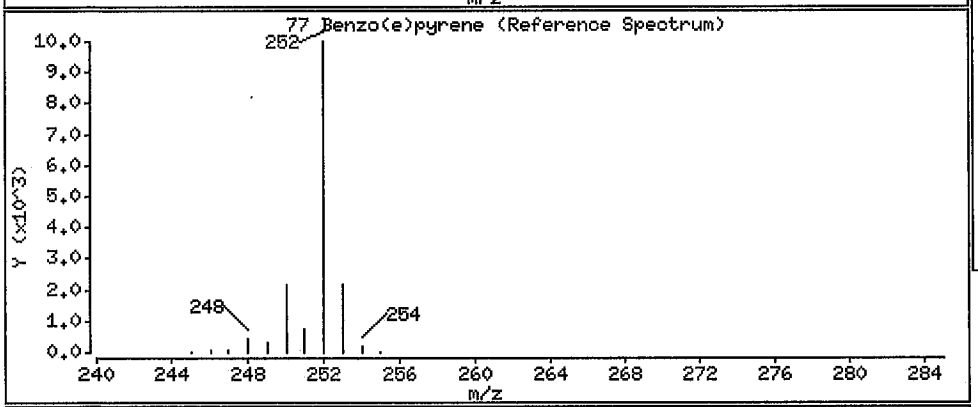
77 Benzo(e)pyrene Concentration: 8.11 ng/sample

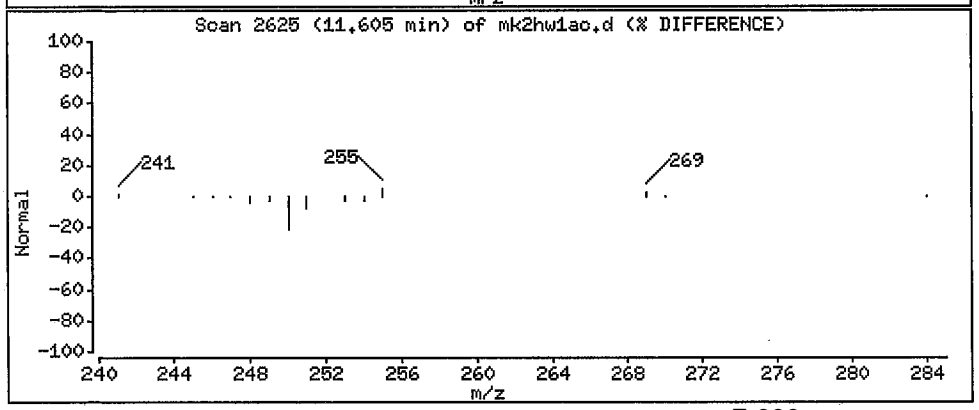












Data File: /var/chem/goms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

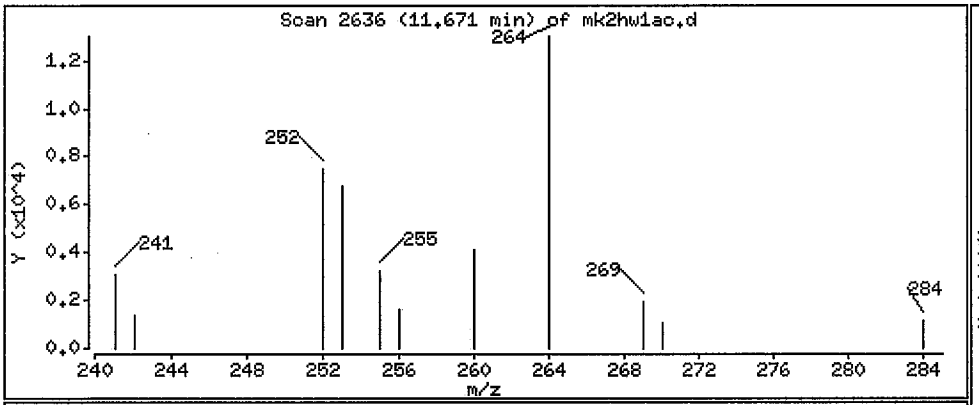
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

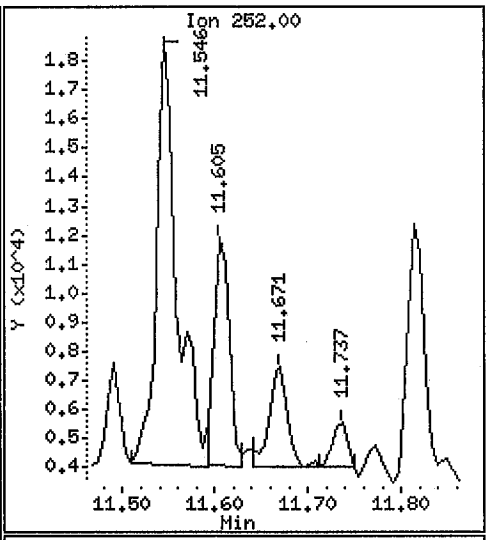
Sample Info: ,,0,,,

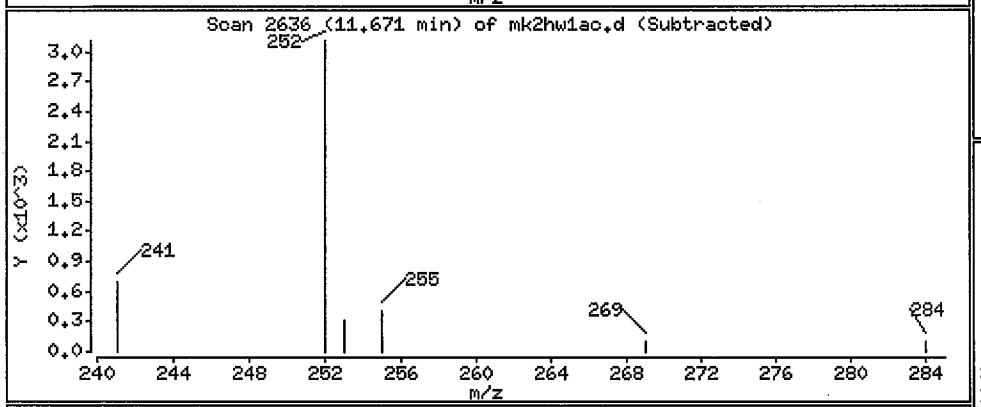
Purge Volume: 1.0 Operator: 11211

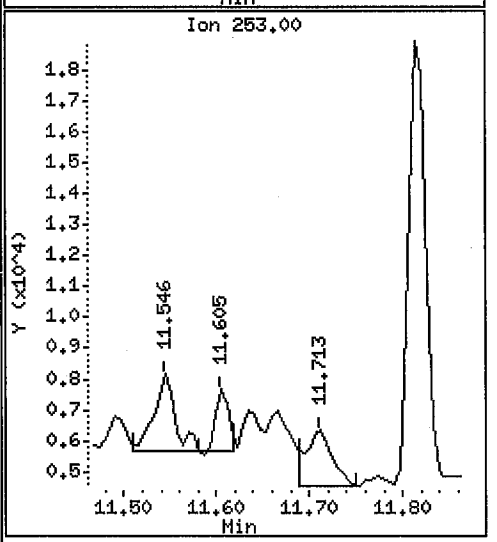
Column phase: Varian: 5MS Column diameter: 0.25

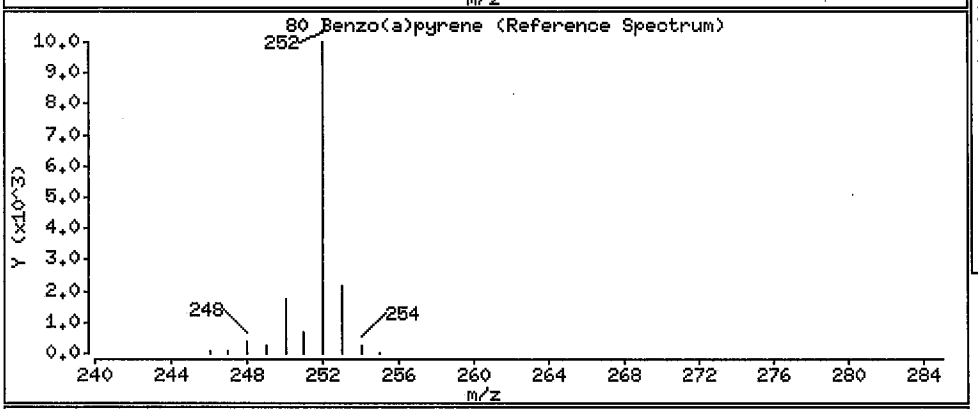
80 Benzo(a)pyrene Concentration: 5.32 ng/sample

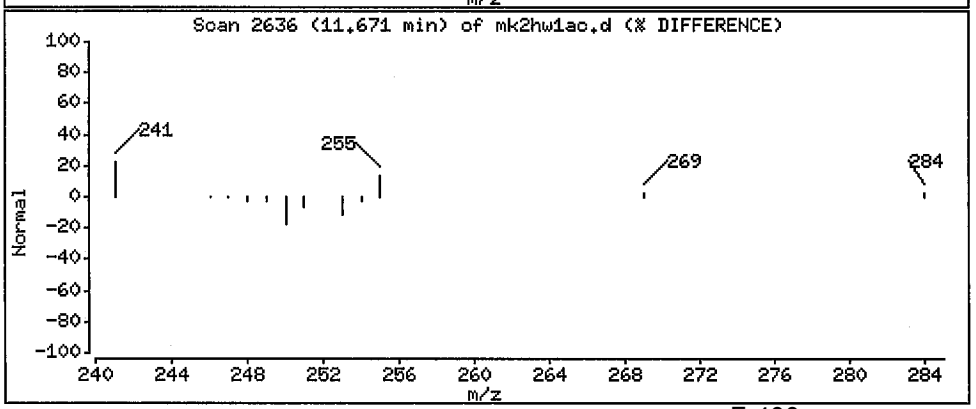












Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

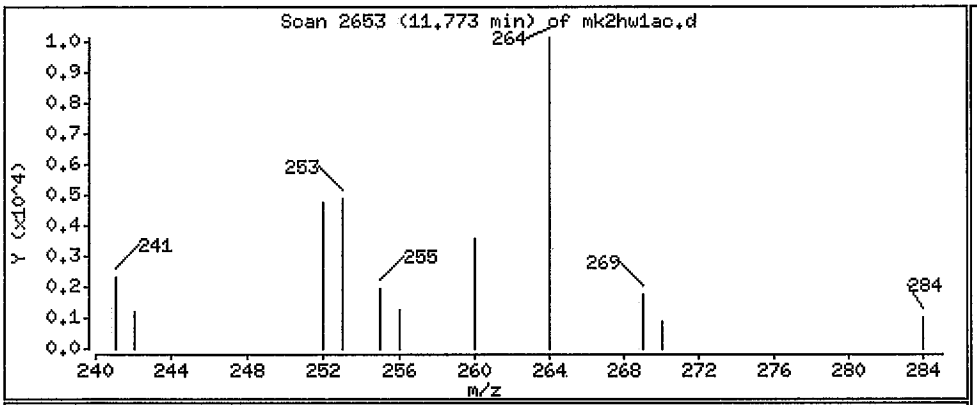
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

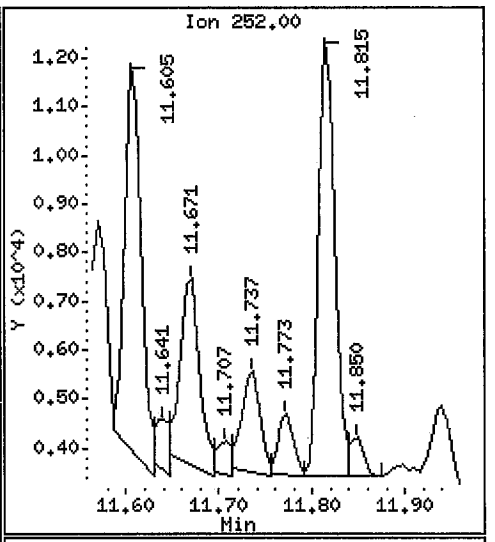
Sample Info: ,,0,,,

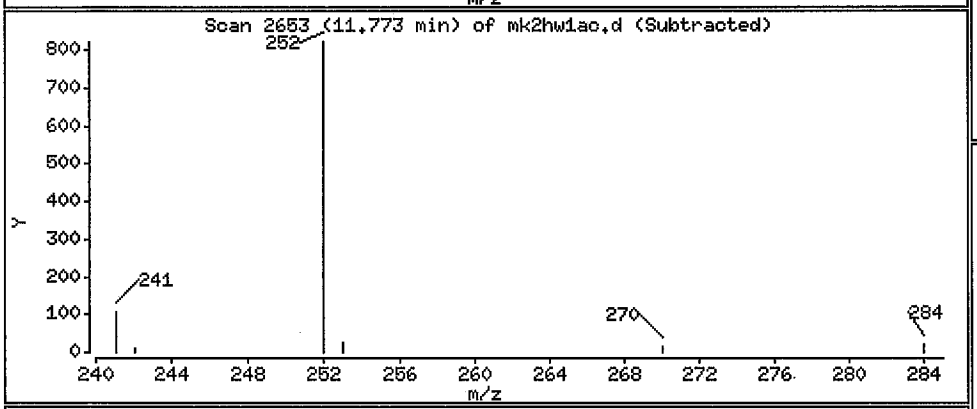
Purge Volume: 1.0 Operator: 11211

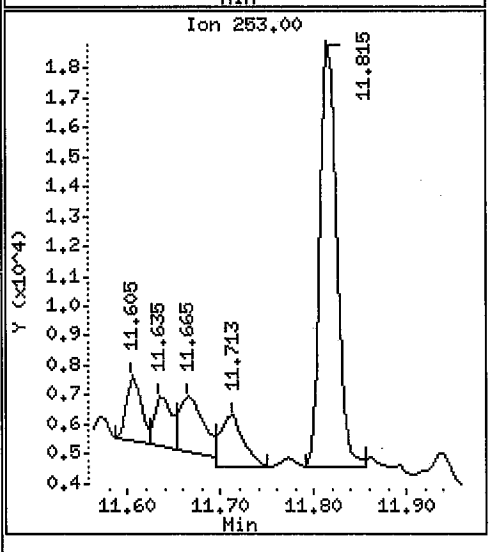
Column phase: Varian: 5MS Column diameter: 0.25

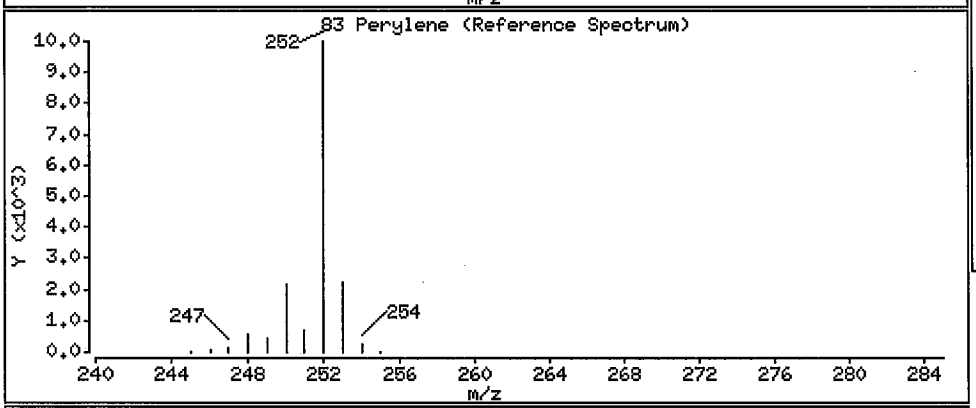
83 Perylene Concentration: 1.69 ng/sample

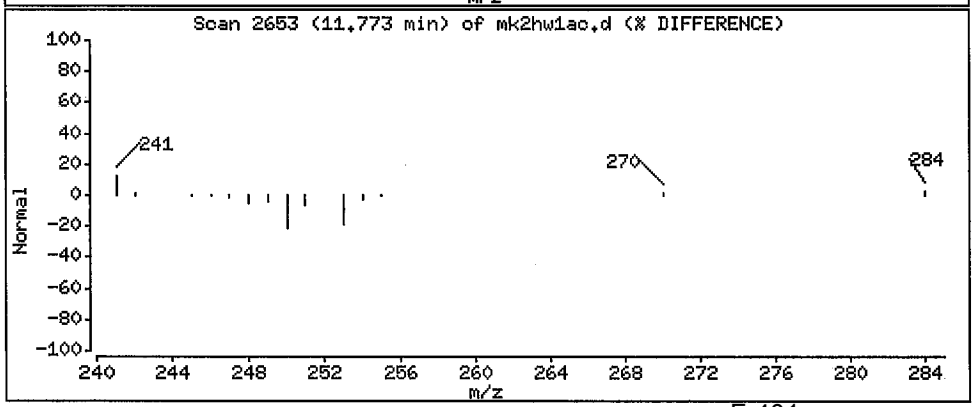












Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

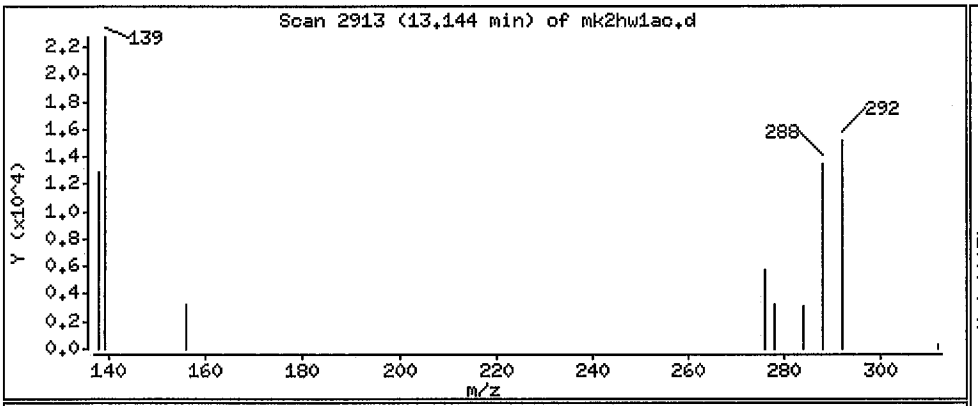
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

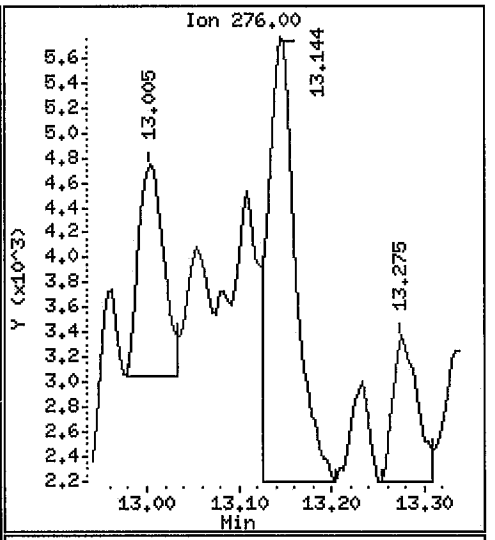
Sample Info: ,,0,,,

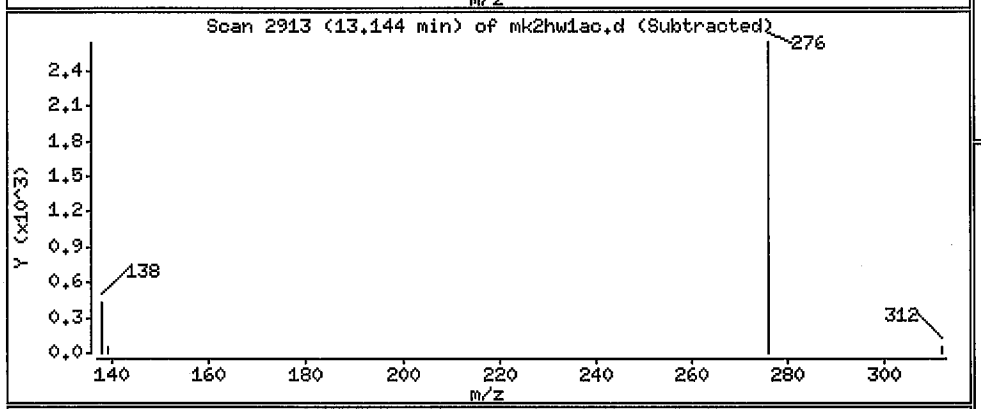
Purge Volume: 1.0 Operator: 11211

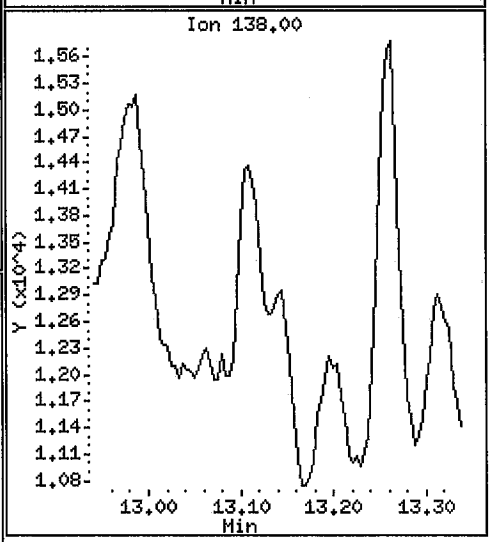
Column phase: Varian: 5MS Column diameter: 0.25

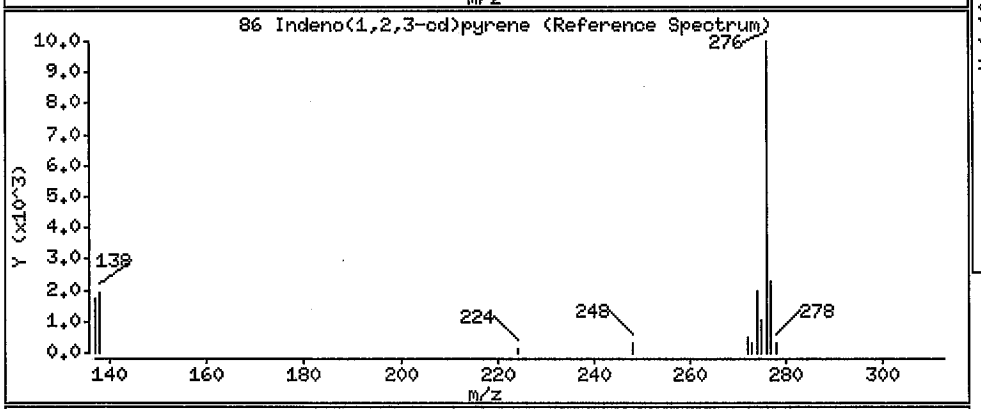
86 Indeno(1,2,3-cd)pyrene Concentration: 6.35 ng/sample

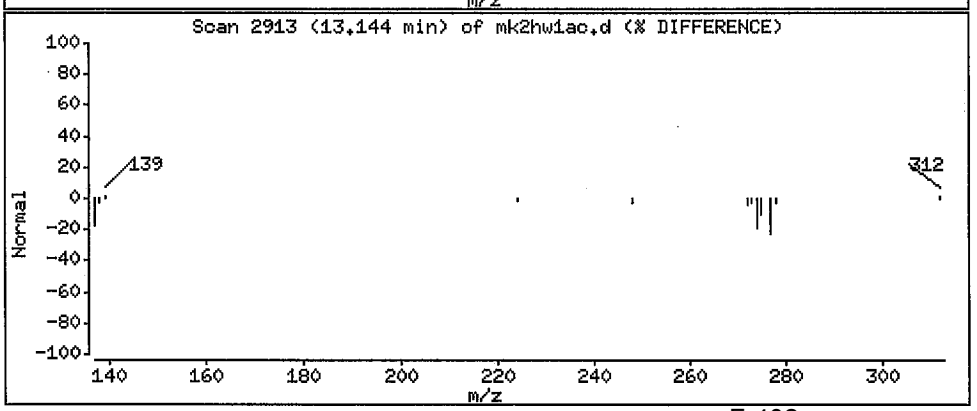












Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

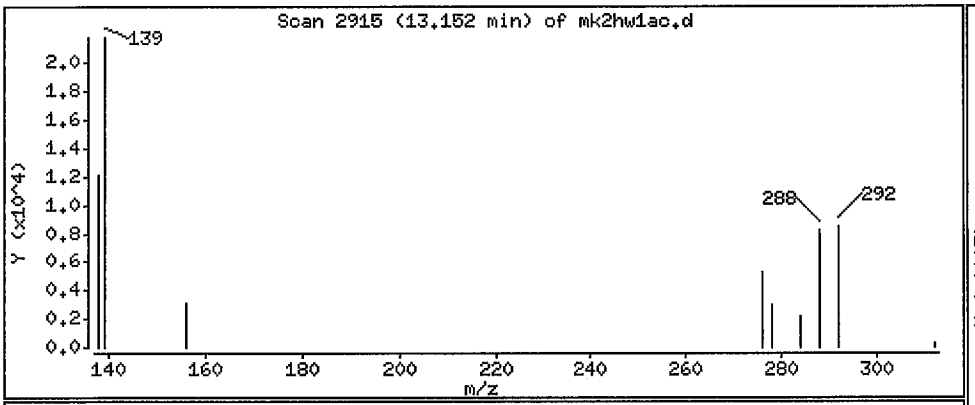
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

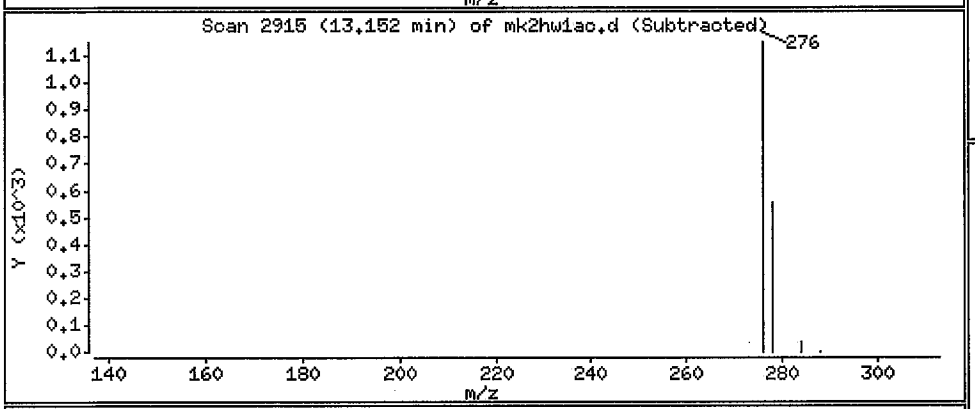
Sample Info: ,,0,,,

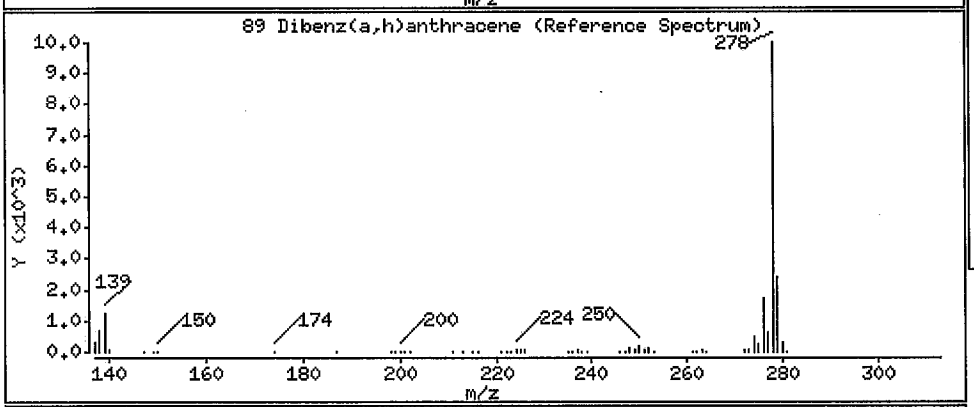
Purge Volume: 1.0 Operator: 11211

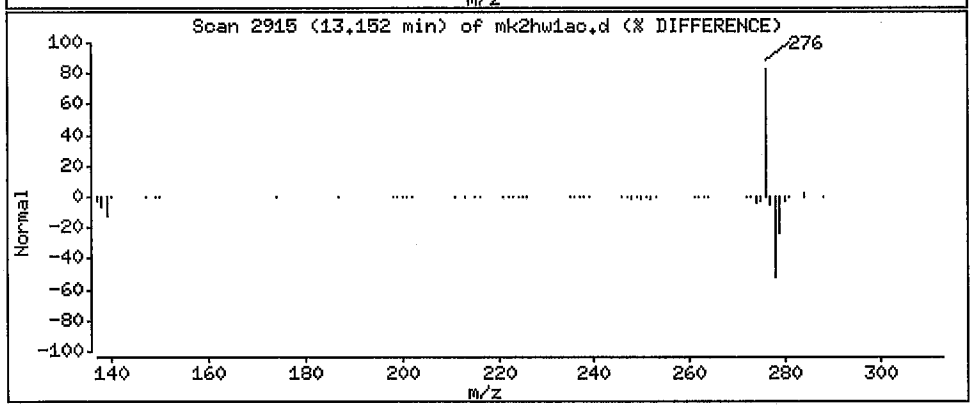
Column phase: Varian: 5MS Column diameter: 0.25

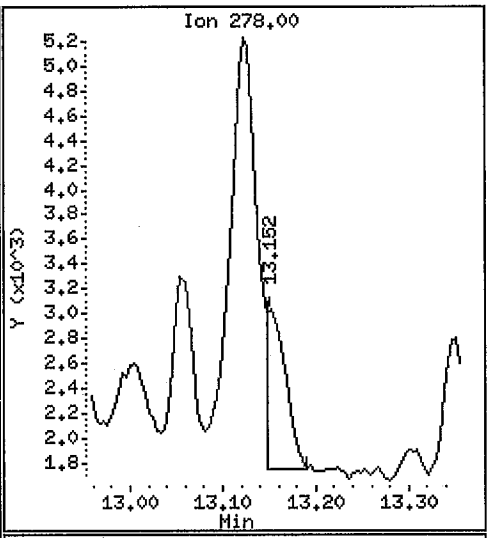
89 Dibenz(a,h)anthracene Concentration: 2.21 ng/sample

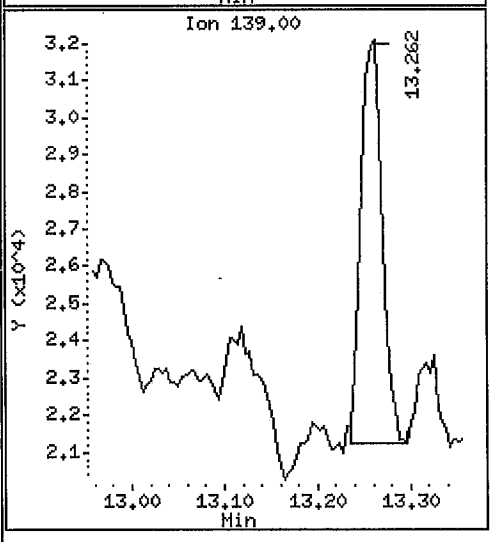












8/8/11

Data File: /var/chem/gcms/mp.i/P072911.b/mk2hw1ac.d

Date : 29-JUL-2011 14:40

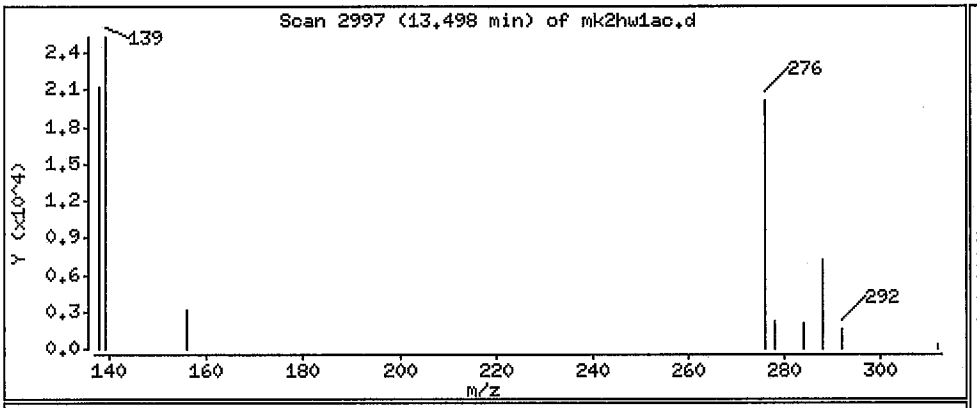
Client ID: 11-234 M0010 RUN 2 Instrument: mp.i

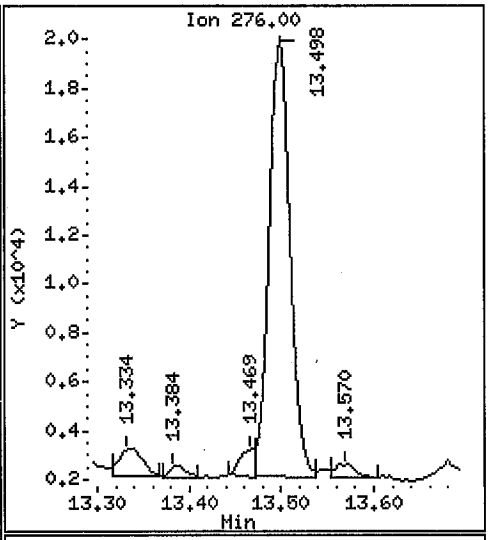
Sample Info: ,,0,,,

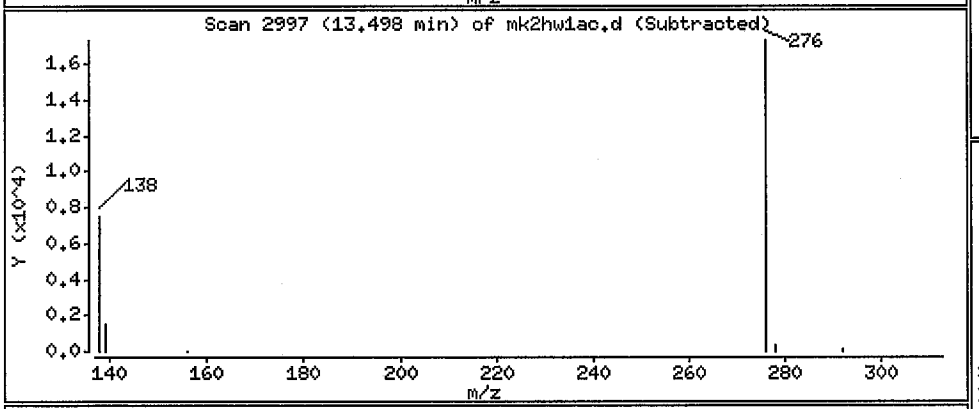
Purge Volume: 1.0 Operator: 11211

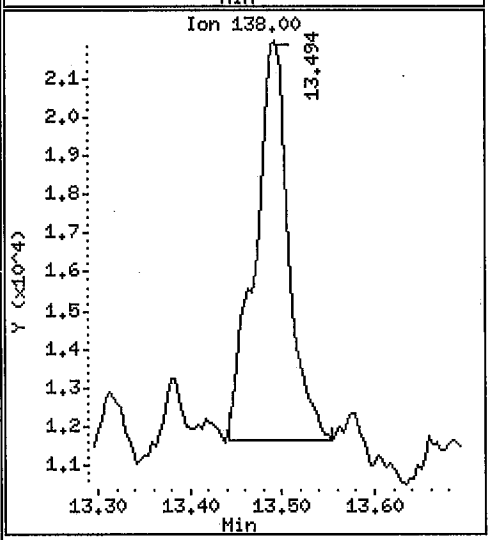
Column phase: Varian: 5MS Column diameter: 0.25

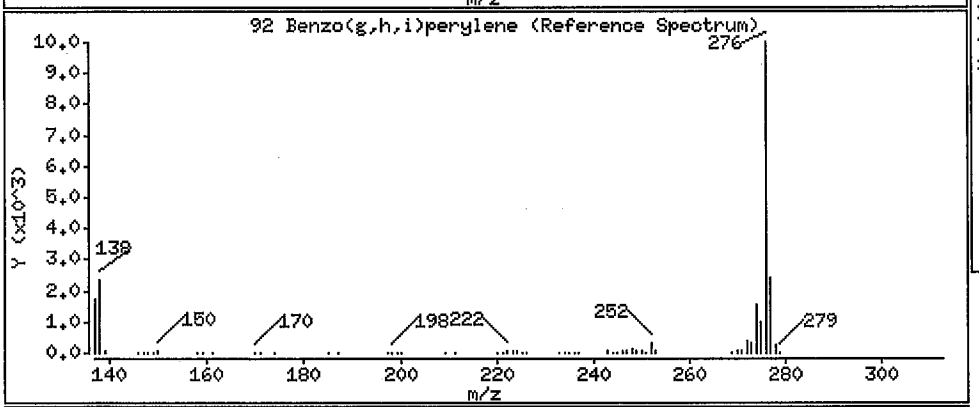
92 Benzo(g,h,i)perylene Concentration: 29.7 ng/sample

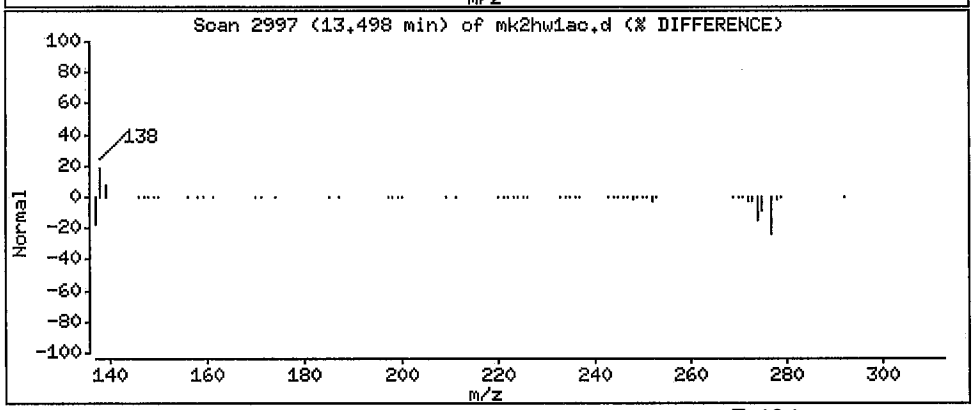












TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN 3 COMBINED

GC/MS Semivolatiles

Lot-Sample #...:	H1G200446-002	Work Order #...:	MK2H01AC	Matrix.....:	AIR
Date Sampled...:	07/12/11	Date Received..:	07/20/2011		
Prep Date.....:	07/20/11	Analysis Date..:	07/29/2011		
Prep Batch #...:	1201079				
Dilution Factor:	2	Method.....:	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	24 J	40	ng/sample	9.8
Acenaphthylene	9.1 J	40	ng/sample	4.8
Anthracene	54	20	ng/sample	7.6
Benzo(a)anthracene	17 J	20	ng/sample	7.6
Benzo(b)fluoranthene	ND	200	ng/sample	60
Benzo(k)fluoranthene	ND	200	ng/sample	86
Benzo(ghi)perylene	36	20	ng/sample	10
Benzo(a)pyrene	29	20	ng/sample	5.8
Benzo(e)pyrene	26	20	ng/sample	11
Chrysene	85	20	ng/sample	5.0
Dibenz(a,h)anthracene	ND	20	ng/sample	7.8
Fluoranthene	230	20	ng/sample	13
Fluorene	110	20	ng/sample	8.2
Indeno(1,2,3-cd)pyrene	28	20	ng/sample	5.2
2-Methylnaphthalene	170	100	ng/sample	42
Naphthalene	640 J	800	ng/sample	500
Perylene	8.0 J	20	ng/sample	6.2
Phenanthrene	680	60	ng/sample	48
Pyrene	150	120	ng/sample	72

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	101	(50 - 150)
Terphenyl-d14	111	(50 - 150)
13C6-Fluorene	85	(50 - 150)
Anthracene-d10	100	(30 - 120)
Naphthalene-d8	79	(30 - 120)
2-Methylnaphthalene-d10	89	(30 - 120)
Acenaphthylene-d8	119	(30 - 120)
Phenanthrene-d10	85	(30 - 120)
Fluoranthene-d10	102	(30 - 120)
Benzo(a)anthracene-d12	154 *	(30 - 120)
Chrysene-d12	66	(30 - 120)
Benzo(b)fluoranthene-d12	117	(30 - 120)
Benzo(k)fluoranthene-d12	87	(30 - 120)
Benzo(a)pyrene-d12	112	(30 - 120)
Perylene-d12	98	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	110	(30 - 120)
Dibenz(ah)anthracene-d14	109	(30 - 120)
Benzo(ghi)perylene-d12	99	(30 - 120)

NOTE(S):

1 13C6-Athracene = 83%

* Surrogate recovery is outside stated control limits.

J Estimated result. Result is less than RL.

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d
Report Date: 08-Aug-2011 11:21

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d
Lab Smp Id: MK2H01AC Client Smp ID: 11-234 M0010 RUN 3
Inj Date : 29-JUL-2011 15:04
Operator : 11211 Inst ID: mp.i
Smp Info : ,,0,,,
Misc Info : P072911,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Meth Date : 04-Aug-2011 19:00 cochranj Quant Type: ISTD
Cal Date : 26-JUL-2011 20:15 Cal File: pg26ic07.d
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	2.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
* 1 Naphthalene-d8	136	4.869	4.865	(1.000)	597561	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.869	4.865	(0.770)	597561	0.39432	394
3 Naphthalene	128	4.884	4.880	(1.003)	648484	0.63946	639
$ 222 13C6-Naphthalene	134	4.869	4.880	(1.000)	67209	0.06123	~~61.2~~ (R)
* 10 2-Methylnaphthalene-d10	152	5.424	5.424	(1.000)	364344	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.424	5.424	(0.858)	364344	0.44557	446
12 2-Methylnaphthalene	142	5.450	5.450	(1.005)	128068	0.17448	174
* 13 1-Methylnaphthalene-d10	152	5.506	5.503	(1.000)	346678	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.506	5.503	(0.871)	346678	0.42652	427
15 1-Methylnaphthalene	142	5.533	5.533	(1.005)	72149	0.10726	107
16 Biphenyl	154	5.837	5.835	(1.076)	191638	0.21984	220
* 17 2,6-Dimethylnaphthalene-d12	168	5.935	5.933	(1.000)	333225	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.935	5.933	(0.938)	333225	0.47772	478
19 2,6 Dimethylnaphthalene	156	5.974	5.969	(1.007)	78241	0.11781	118

6/8/11

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d
Report Date: 08-Aug-2011 11:21

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
* 20 Acenaphthylene-d8	160	6.193	6.194	(1.000)	680658	0.50000	0.500
$ 21 Acenaphthylene-d8(SS)	160	6.193	6.194	(0.979)	680658	0.59703	597
22 Acenaphthylene	152	6.205	6.202	(1.002)	12426	0.00906	9.06
* 23 Acenaphthene-d10	164	6.325	6.325	(1.000)	322220	0.50000	0.500
24 Acenaphthene	154	6.350	6.350	(1.025)	19809	0.02417	24.2
25 2,3,5 Trimethylnaphthalene	170	6.668	6.669	(1.124)	44509	0.08035	80.3
$ 26 Fluorene-d10	176	6.758	6.758	(0.892)	605051	1.01352	1010
27 Fluorene	166	6.783	6.783	(0.895)	86792	0.11243	112
$ 28 13C6-Fluorene	171	6.783	6.781	(0.895)	565197	0.84829	848
* 34 Dibenzothiopene-d8	192	7.476	7.474	(1.000)	529643	0.50000	0.500
$ 35 Dibenzothiopene-d8(SS)	192	7.476	7.474	(0.841)	529643	0.40376	404
36 Dibenzothiophene	184	7.492	7.489	(1.002)	102228	0.10119	101
* 41 Phenanthrene-d10	188	7.580	7.578	(1.000)	503520	0.50000	0.500
$ 42 Phenanthrene-d10(SS)	188	7.580	7.578	(0.853)	503520	0.42545	425
43 Phenanthrene	178	7.598	7.597	(1.002)	750097	0.67850	679
* 44 Anthracene-d10	188	7.627	7.626	(1.000)	499669	0.50000	0.500
$ 45 Anthracene-d10(SS)	188	7.627	7.626	(0.858)	499669	0.49998	500
46 Anthracene	178	7.640	7.642	(1.002)	69133	0.05377	53.8
$ 47 13C6-Anthracene	184	7.644	7.642	(0.860)	449712	0.41515	415
52 1-Methylphenanthrene	192	8.148	8.143	(1.075)	123982	0.18671	187
* 53 Fluoranthene-d10	212	8.669	8.665	(1.000)	563490	0.50000	0.500
$ 54 Fluoranthene-d10(SS)	212	8.669	8.665	(0.975)	563490	0.51120	511
55 Fluoranthene	202	8.687	8.683	(1.002)	294255	0.23209	232
* 56 Pyrene-d10	212	8.889	8.885	(1.000)	449350	0.50000	0.500
57 Pyrene	202	8.906	8.904	(1.027)	201530	0.15031	150
$ 58 Terphenyl-d14	244	9.045	9.043	(1.043)	639483	1.10761	1110
* 60 Benzo(a)anthracene-d12	240	10.104	10.100	(1.000)	421193	0.50000	0.500
$ 61 Benzo(a)anthracene-d12(SS)	240	10.104	10.100	(1.137)	421193	0.76849	768(R)
62 Benzo(a)anthracene	228	10.125	10.121	(1.002)	22940	0.01704	17.0
* 63 Chrysene-d12	240	10.137	10.133	(1.000)	318291	0.50000	0.500
$ 64 Chrysene-d12(SS)	240	10.137	10.133	(1.140)	318291	0.33101	331
65 Chrysene	228	10.162	10.163	(1.002)	59296	0.08534	85.3
* 70 Benzo(b)fluoranthene-d12	264	11.259	11.253	(1.000)	401071	0.50000	0.500
$ 71 Benzo(b)fluoranthene-d12(SS)	264	11.259	11.253	(0.972)	401071	0.58371	584
72 Benzo(b)fluoranthene	252	11.289	11.277	(1.003)	51561	0.04376	43.8
* 73 Benzo(k)fluoranthene-d12	264	11.295	11.289	(1.000)	427111	0.50000	0.500
$ 74 Benzo(k)fluoranthene-d12(SS)	264	11.295	11.289	(0.975)	427111	0.43554	436
75 Benzo(k)fluoranthene	252	11.336	11.307	(1.004)	58895	0.06298	63.0
* 76 Benzo(e)pyrene-d12	264	11.581	11.570	(1.000)	325822	0.50000	0.500
77 Benzo(e)pyrene	252	11.611	11.600	(0.997)	27579	0.02570	25.7
* 78 Benzo(a)pyrene-d12	264	11.641	11.635	(1.000)	394914	0.50000	0.500
$ 79 Benzo(a)pyrene-d12(SS)	264	11.641	11.635	(1.005)	394914	0.56212	562
80 Benzo(a)pyrene	252	11.671	11.665	(1.003)	26191	0.02922	29.2
* 81 Perylene-d12	264	11.743	11.737	(1.000)	342641	0.50000	0.500
$ 82 Perylene-d12(SS)	264	11.743	11.737	(1.014)	342641	0.48901	489
83 Perylene	252	11.773	11.761	(1.003)	6951	0.00805	8.05
* 84 Indeno(123-cd)pyrene-d12	288	13.114	13.106	(1.000)	439063	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d
Report Date: 08-Aug-2011 11:21

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.114	13.106	(1.132)	441574	0.55004	550
	86 Indeno(1,2,3-cd)pyrene	276	13.148	13.140	(1.003)	29859	0.02809	28.1
*	87 Dibenz(ah)anthracene-d14	292	13.118	13.110	(1.000)	334276	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.118	13.110	(1.133)	334588	0.54716	547
	89 Dibenz(a,h)anthracene	278	13.123	13.157	(1.000)	5432	0.00662	~~6.62~~ S/R
*	90 Benzo(ghi)perylene-d12	288	13.464	13.460	(1.000)	299141	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.464	13.460	(1.163)	299141	0.49581	496
	92 Benzo(g,h,i)perylene	276	13.502	13.494	(1.003)	30260	0.03654	36.5

8/8/11

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d
Report Date: 08-Aug-2011 11:41

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d
Lab Smp Id: MK2H01AC Client Smp ID: 11-234 M0010 RUN 3
Inj Date : 29-JUL-2011 15:04
Operator : 11211 Inst ID: mp.i
Smp Info : ,,0,,,
Misc Info : P072911,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Meth Date : 04-Aug-2011 19:00 cochranj Quant Type: ISTD
Cal Date : 26-JUL-2011 20:15 Cal File: pg26ic07.d
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	2.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
* 1 Naphthalene-d8	136	4.869	4.865	(1.000)	597561	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.869	4.865	(0.770)	597561	0.39432	394
3 Naphthalene	128	4.884	4.880	(1.003)	648484	0.63946	639
* 10 2-Methylnaphthalene-d10	152	5.424	5.424	(1.000)	364344	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.424	5.424	(0.858)	364344	0.44557	446
12 2-Methylnaphthalene	142	5.450	5.450	(1.005)	128068	0.17448	174
* 13 1-Methylnaphthalene-d10	152	5.506	5.503	(1.000)	346678	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.506	5.503	(0.871)	346678	0.42652	427
15 1-Methylnaphthalene	142	5.533	5.533	(1.005)	72149	0.10726	107
16 Biphenyl	154	5.837	5.835	(1.076)	191638	0.21984	220
* 17 2,6-Dimethylnaphthalene-d12	168	5.935	5.933	(1.000)	333225	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.935	5.933	(0.938)	333225	0.47772	478
19 2,6 Dimethylnaphthalene	156	5.974	5.969	(1.007)	78241	0.11781	118
* 20 Acenaphthylene-d8	160	6.193	6.194	(1.000)	680658	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d
Report Date: 08-Aug-2011 11:41

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
$	21 Acenaphthylene-d8(SS)	160	6.193	6.194	(0.979)	680658	0.59703	597
	22 Acenaphthylene	152	6.205	6.202	(1.002)	12426	0.00906	9.06
*	23 Acenaphthene-d10	164	6.325	6.325	(1.000)	322220	0.50000	0.500
	24 Acenaphthene	154	6.350	6.350	(1.025)	19809	0.02417	24.2
	25 2,3,5 Trimethylnaphthalene	170	6.668	6.669	(1.124)	44509	0.08035	80.3
$	26 Fluorene-d10	176	6.758	6.758	(0.892)	605051	1.01352	1010
	27 Fluorene	166	6.783	6.783	(0.895)	86792	0.11243	112
$	28 13C6-Fluorene	171	6.783	6.781	(0.895)	565197	0.84829	848
*	34 Dibenzothiopene-d8	192	7.476	7.474	(1.000)	529643	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.476	7.474	(0.841)	529643	0.40376	404
	36 Dibenzothiophene	184	7.492	7.489	(1.002)	102228	0.10119	101
*	41 Phenanthrene-d10	188	7.580	7.578	(1.000)	503520	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.580	7.578	(0.853)	503520	0.42545	425
	43 Phenanthrene	178	7.598	7.597	(1.002)	750097	0.67850	679
*	44 Anthracene-d10	188	7.627	7.626	(1.000)	499669	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.627	7.626	(0.858)	499669	0.49998	500
	46 Anthracene	178	7.640	7.642	(1.002)	69133	0.05377	53.8
$	47 13C6-Anthracene	184	7.644	7.642	(0.860)	449712	0.41515	415
	52 1-Methylphenanthrene	192	8.148	8.143	(1.075)	123982	0.18671	187
*	53 Fluoranthene-d10	212	8.669	8.665	(1.000)	563490	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.669	8.665	(0.975)	563490	0.51120	511
	55 Fluoranthene	202	8.687	8.683	(1.002)	294255	0.23209	232
*	56 Pyrene-d10	212	8.889	8.885	(1.000)	449350	0.50000	0.500
	57 Pyrene	202	8.906	8.904	(1.027)	201530	0.15031	150
$	58 Terphenyl-d14	244	9.045	9.043	(1.043)	639483	1.10761	1110
*	60 Benzo(a)anthracene-d12	240	10.104	10.100	(1.000)	421193	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.104	10.100	(1.137)	421193	0.76849	768(R)
	62 Benzo(a)anthracene	228	10.125	10.121	(1.002)	22940	0.01704	17.0
*	63 Chrysene-d12	240	10.137	10.133	(1.000)	318291	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.137	10.133	(1.140)	318291	0.33101	331
	65 Chrysene	228	10.162	10.163	(1.002)	59296	0.08534	85.3
*	70 Benzo(b)fluoranthene-d12	264	11.259	11.253	(1.000)	401071	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.259	11.253	(0.972)	401071	0.58371	584
	72 Benzo(b)fluoranthene	252	11.289	11.277	(1.003)	51561	0.04376	43.8
*	73 Benzo(k)fluoranthene-d12	264	11.295	11.289	(1.000)	427111	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.295	11.289	(0.975)	427111	0.43554	436
	75 Benzo(k)fluoranthene	252	11.336	11.307	(1.004)	58895	0.06298	63.0
*	76 Benzo(e)pyrene-d12	264	11.581	11.570	(1.000)	325822	0.50000	0.500
	77 Benzo(e)pyrene	252	11.611	11.600	(0.997)	27579	0.02570	25.7
*	78 Benzo(a)pyrene-d12	264	11.641	11.635	(1.000)	394914	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.641	11.635	(1.005)	394914	0.56212	562
	80 Benzo(a)pyrene	252	11.671	11.665	(1.003)	26191	0.02922	29.2
*	81 Perylene-d12	264	11.743	11.737	(1.000)	342641	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.743	11.737	(1.014)	342641	0.48901	489
	83 Perylene	252	11.773	11.761	(1.003)	6951	0.00805	8.05
*	84 Indeno(123-cd)pyrene-d12	288	13.114	13.106	(1.000)	439063	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.114	13.106	(1.132)	441574	0.55004	550

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d
Report Date: 08-Aug-2011 11:41

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
	86 Indeno(1,2,3-cd)pyrene	276	13.148	13.140	(1.003)	29859	0.02809	28.1
*	87 Dibenz(ah)anthracene-d14	292	13.118	13.110	(1.000)	334276	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.118	13.110	(1.133)	334588	0.54716	547
	89 Dibenz(a,h)anthracene	278	13.156	13.157	(1.003)	3761	0.00458	4.58(M)
*	90 Benzo(ghi)perylene-d12	288	13.464	13.460	(1.000)	299141	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.464	13.460	(1.163)	299141	0.49582	496
	92 Benzo(g,h,i)perylene	276	13.502	13.494	(1.003)	30260	0.03654	36.5

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

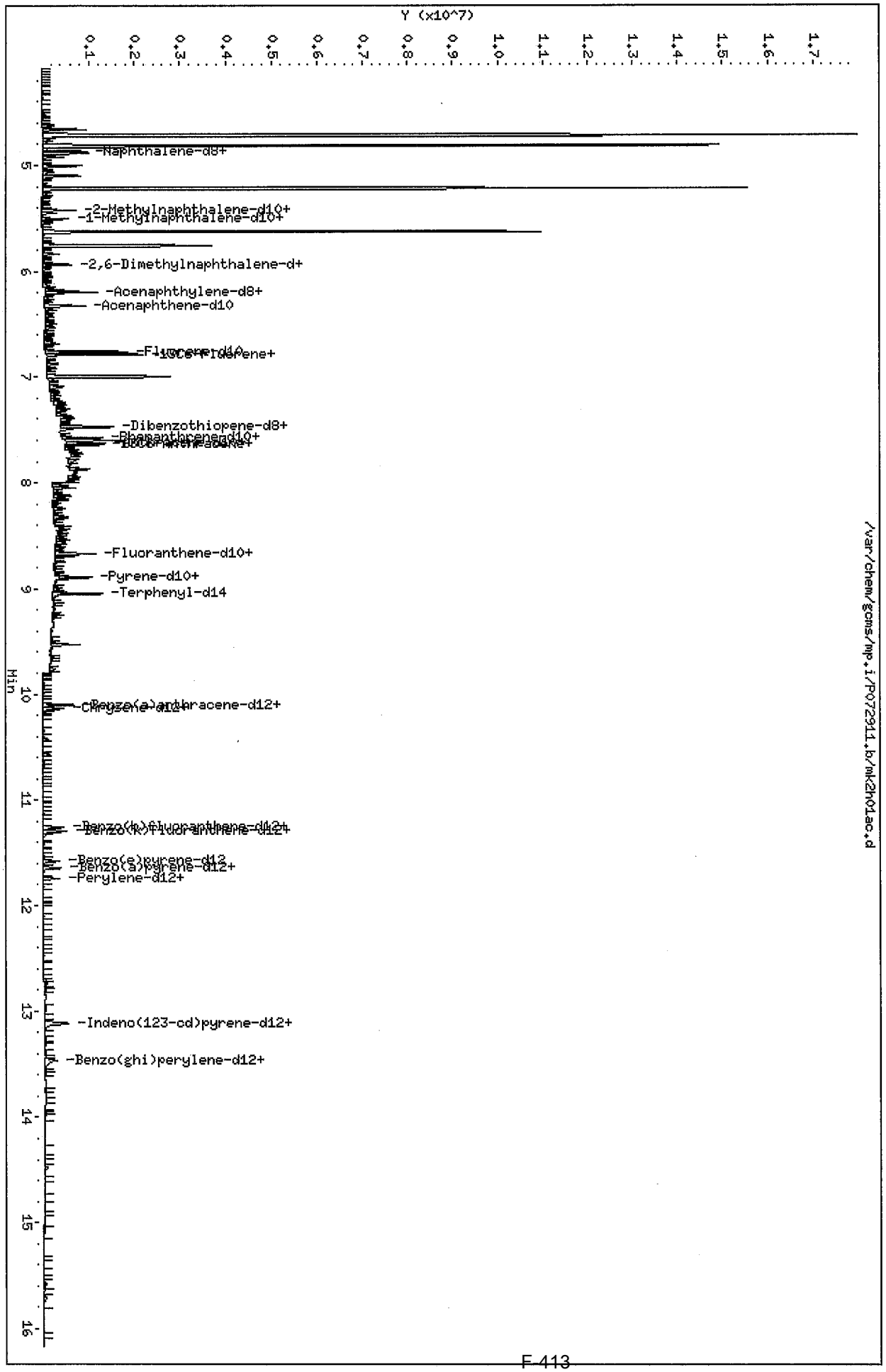
Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d
Report Date: 08-Aug-2011 11:21

TestAmerica Knoxville

RECOVERY REPORT

Client Name: TestAmerica Air Emis20-JUL-2011 00:00 Client SDG: H1G200446
Sample Matrix: GAS Fraction: SV
Lab Smp Id: MK2H01AC Client Smp ID: 11-234 M0010 RUN 3
Level: LOW Operator: 11211
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: icv.spk Quant Type: ISTD
Sublist File: pah.sub
Method File: /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Misc Info: P072911,SIMPAH3

SURROGATE COMPOUND	CONC ADDED ng/sample	CONC RECOVERED ng/sample	% RECOVERED	LIMITS
$ 2 Naphthalene-d8(SS)	500	394	78.86	30-120
$ 222 13C6-Naphthalene	~~500~~	~~61.2~~	~~12.25*~~	50-150
$ 11 2-Methylnaphthalen	500	446	89.11	30-120
$ 14 1-Methylnaphthalen	500	427	85.30	30-120
$ 18 2,6-Dimethylnaph-d	500	478	95.54	30-120
$ 21 Acenaphthylene-d8(	500	597	119.41	30-120
$ 26 Fluorene-d10	1000	1010	101.35	~~30-120~~ 50-150%
$ 28 13C6-Fluorene	1000	848	84.83	~~30-120~~
$ 35 Dibenzothiopene-d8	500	404	80.75	30-120
$ 42 Phenanthrene-d10(S	500	425	85.09	30-120
$ 45 Anthracene-d10(SS)	500	500	100.00	30-120
$ 47 13C6-Anthracene	500	415	83.03	30-120
$ 54 Fluoranthene-d10(S	500	511	102.24	30-120
$ 58 Terphenyl-d14	1000	1110	110.76	~~30-120~~ 50-150%
$ 61 Benzo(a)anthracene	500	768	153.70*	30-120
$ 64 Chrysene-d12(SS)	500	331	66.20	30-120
$ 71 Benzo(b)fluoranthe	500	584	116.74	30-120
$ 74 Benzo(k)fluoranthe	500	436	87.11	30-120
$ 79 Benzo(a)pyrene-d12	500	562	112.42	30-120
$ 82 Perylene-d12(SS)	500	489	97.80	30-120
$ 85 Indeno(123-cd)pyre	500	550	110.01	30-120
$ 88 Dibenz(ah)anthrace	500	547	109.43	30-120
$ 91 Benzo(ghi)perylene	500	496	99.16	30-120


Data File: /var/chem/gcms/mp.i/R072911.b/mk2h01ac.d
Date : 29-JUL-2011 15:04
Client ID: 11-234 H0010 RUN 3
Sample Info: ,,0,,,
Purge Volume: 1.0
Column phase: Varian: 5MS
Instrument: mp.i
Operator: 11211
Column diameter: 0.25
/var/chem/gcms/mp.i/R072911.b/mk2h01ac.d
Y (x10^7)
Min
-Naphthalene-d8+
-2-Methylnaphthalene-d10+
-1-Methylnaphthalene-d10+
-2,6-Dimethylnaphthalene-d+
-Acenaphthylene-d8+
-Acenaphthene-d10
-Dibenzothiopene-d8+
-Fluoranthene-d10+
-Pyrene-d10+
-Terphenyl-d14
-Benzo(a)anthracene-d12+
-Benzo(b)fluoranthene-d12+
-Benzo(k)fluoranthene-d12+
-Benzo(e)pyrene-d12+
-Benzo(a)pyrene-d12+
-Perylene-d12+
-Indeno(123-cd)pyrene-d12+
-Benzo(ghi)perylene-d12+

Data File: /var/chem/goms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

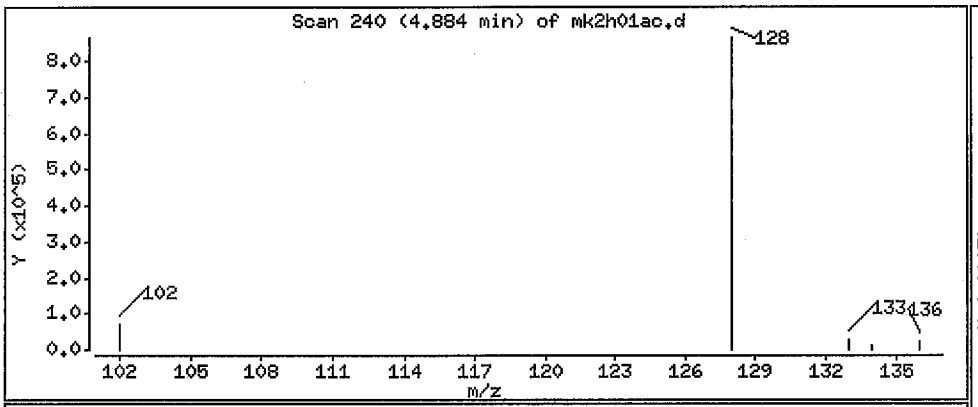
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

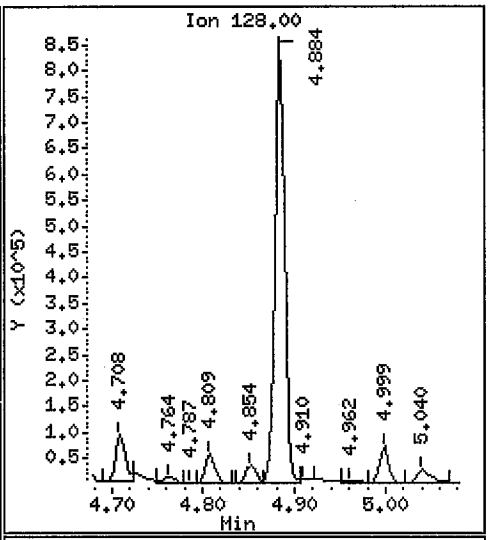
Sample Info: ,,0,,,

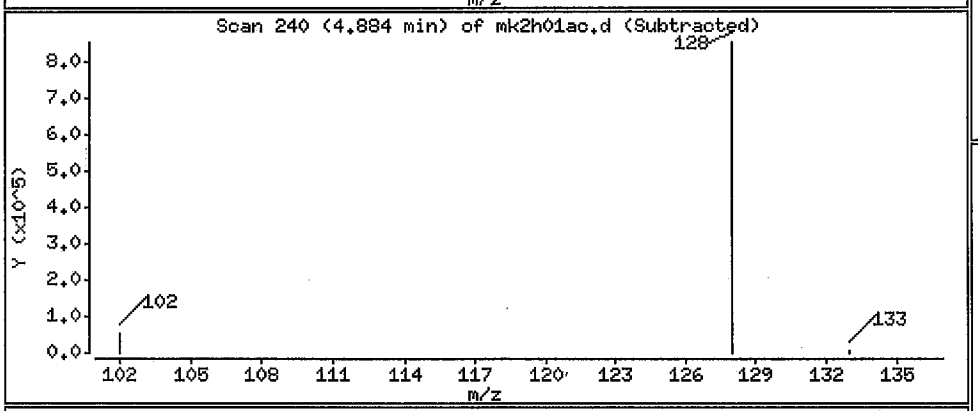
Purge Volume: 1.0 Operator: 11211

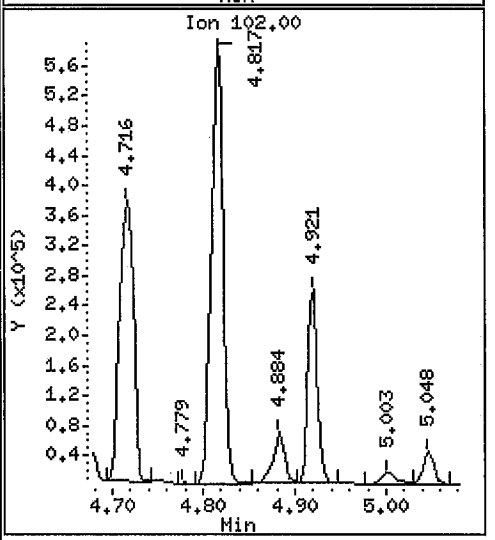
Column phase: Varian: 5MS Column diameter: 0.25

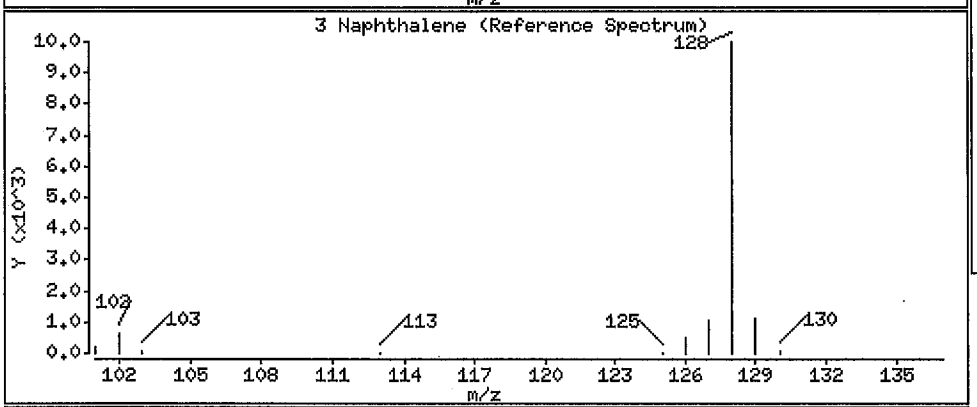
3 Naphthalene Concentration: 639 ng/sample

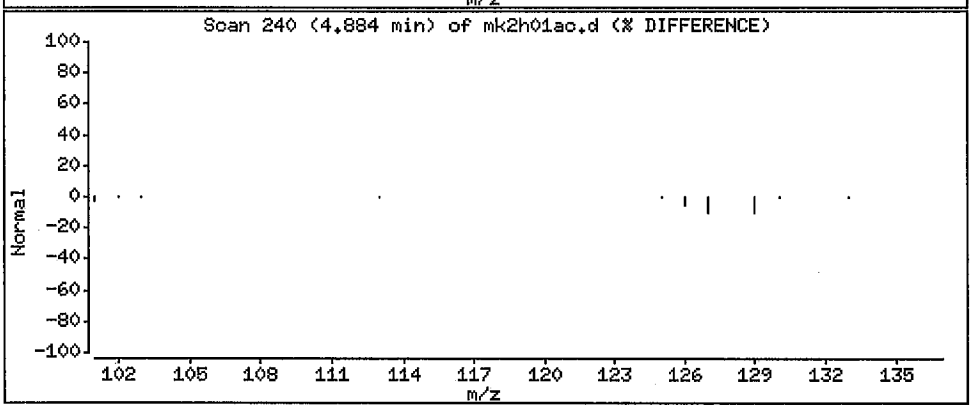












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

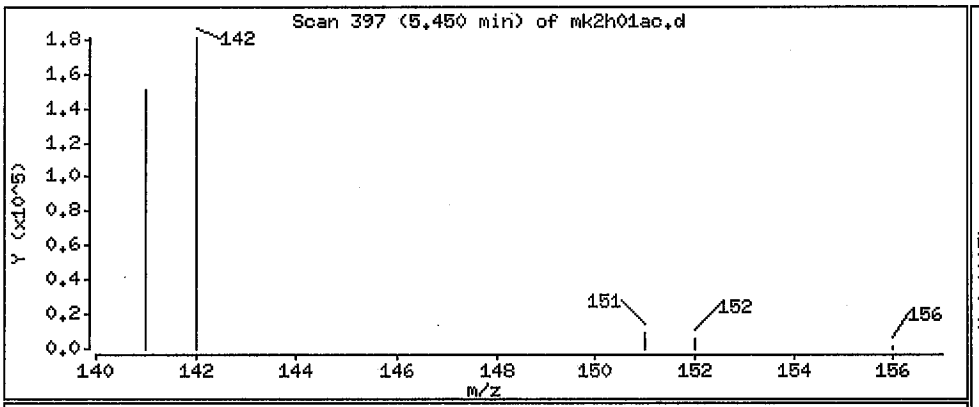
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

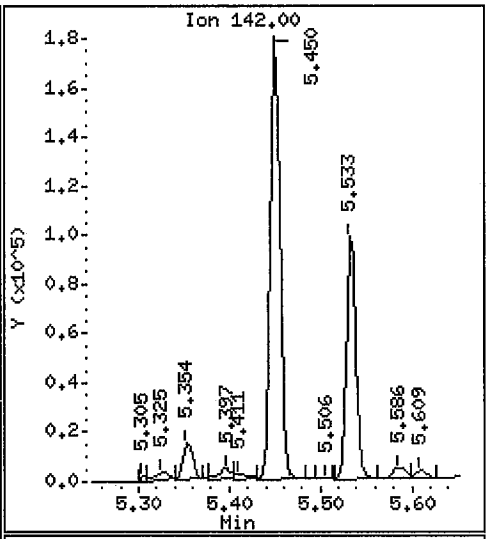
Sample Info: ,,0,,,

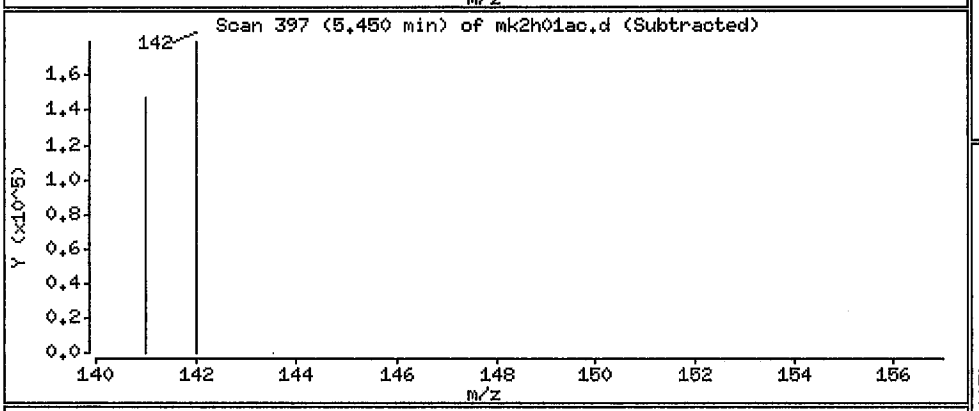
Purge Volume: 1.0 Operator: 11211

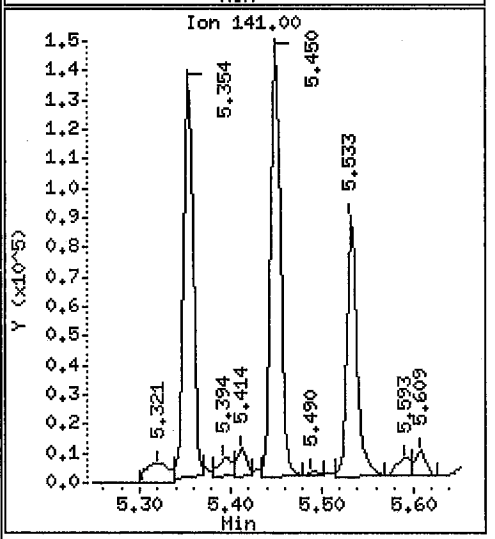
Column phase: Varian: 5MS Column diameter: 0.25

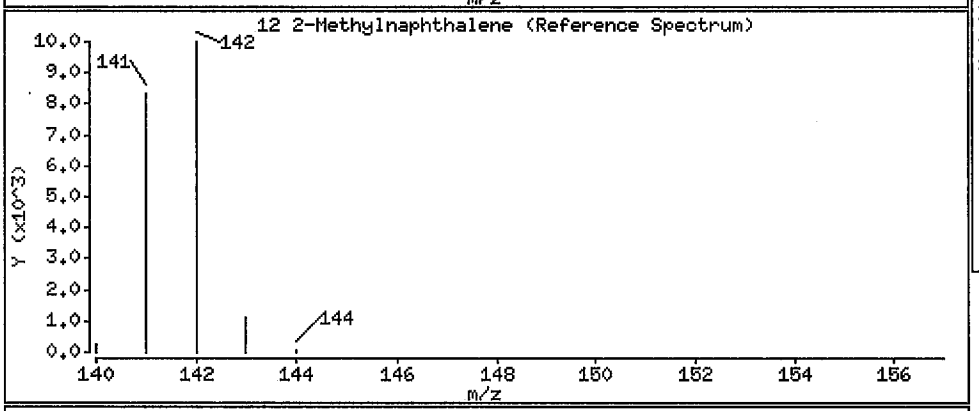
12 2-Methylnaphthalene Concentration: 174 ng/sample

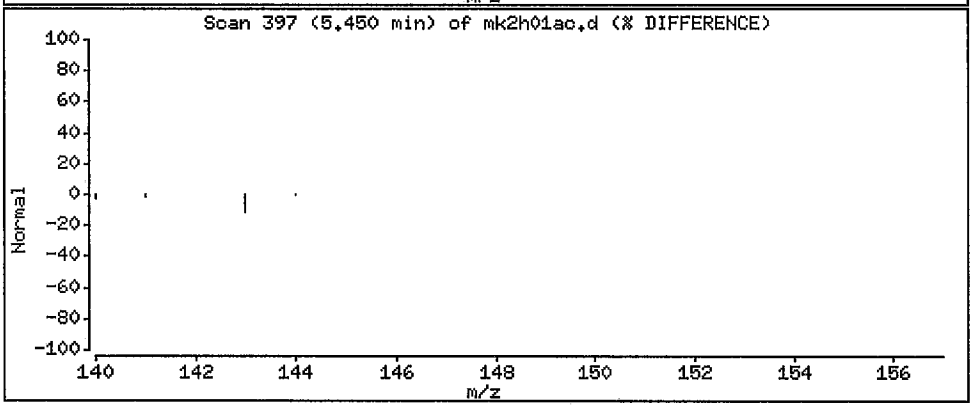












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Date : 29-JUL-2011 15:04

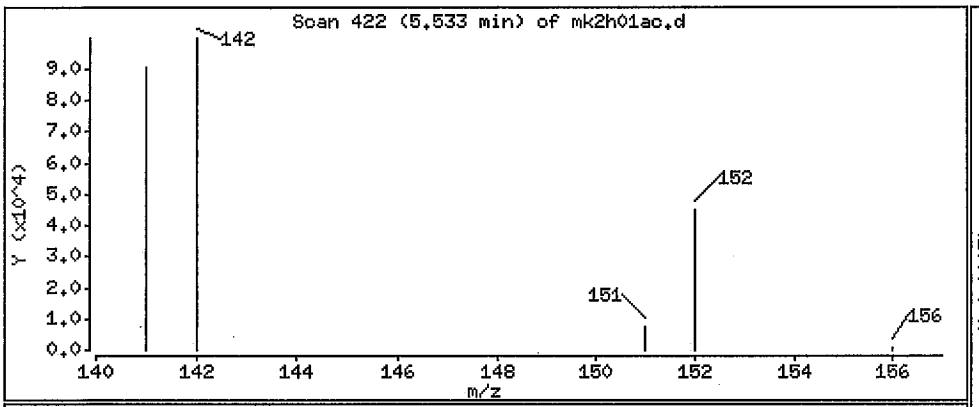
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

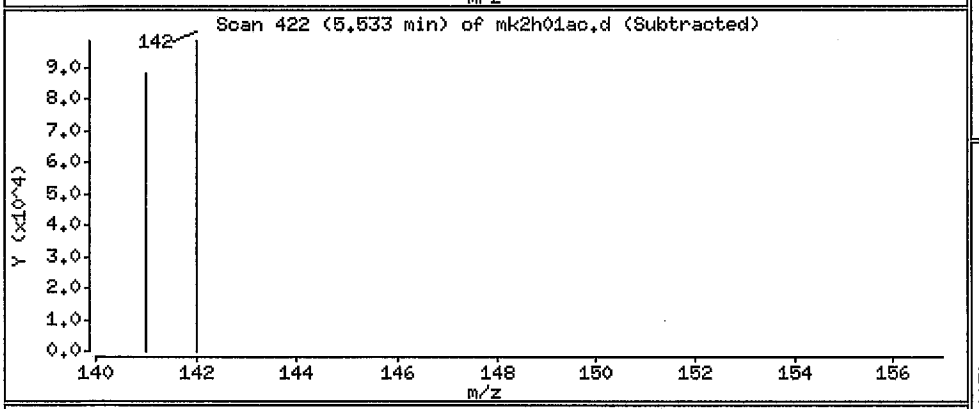
Sample Info: ,,0,,,

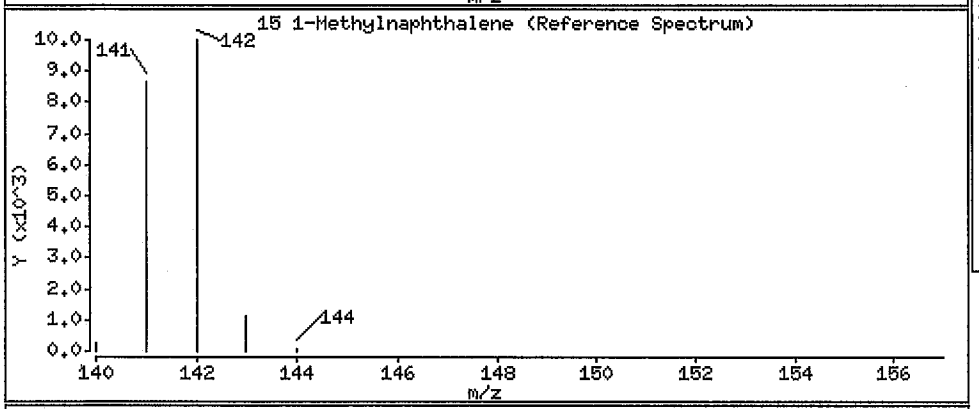
Purge Volume: 1.0 Operator: 11211

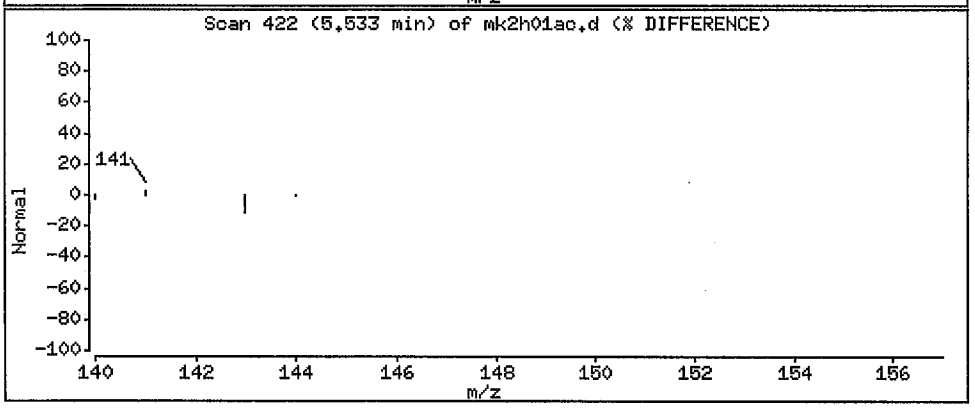
Column phase: Varian: 5MS Column diameter: 0.25

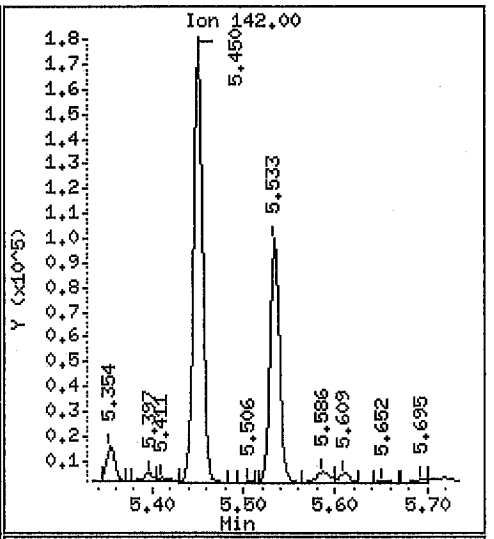
15 1-Methylnaphthalene Concentration: 107 ng/sample

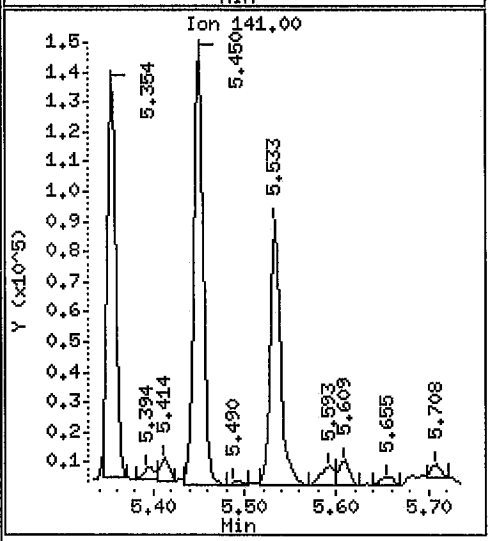












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

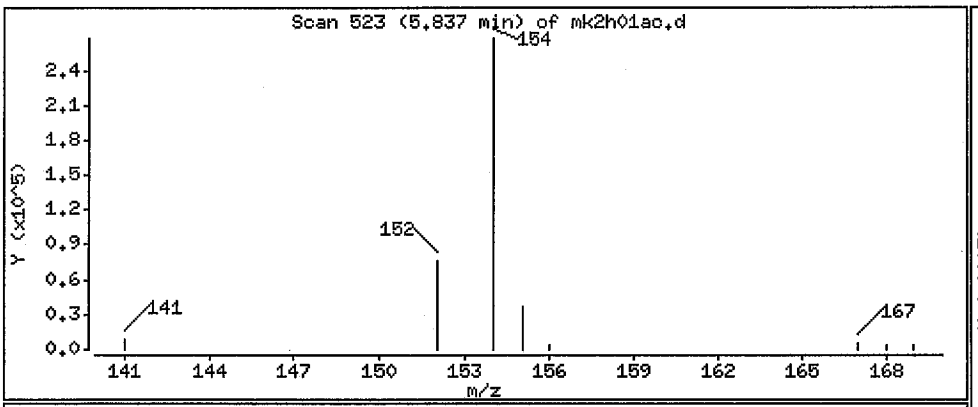
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

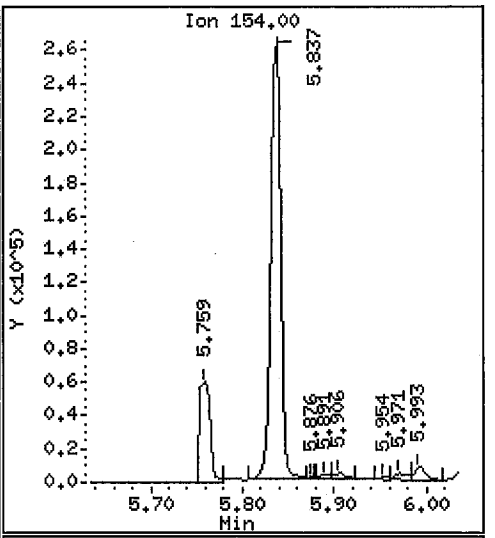
Sample Info: ,,0,,,

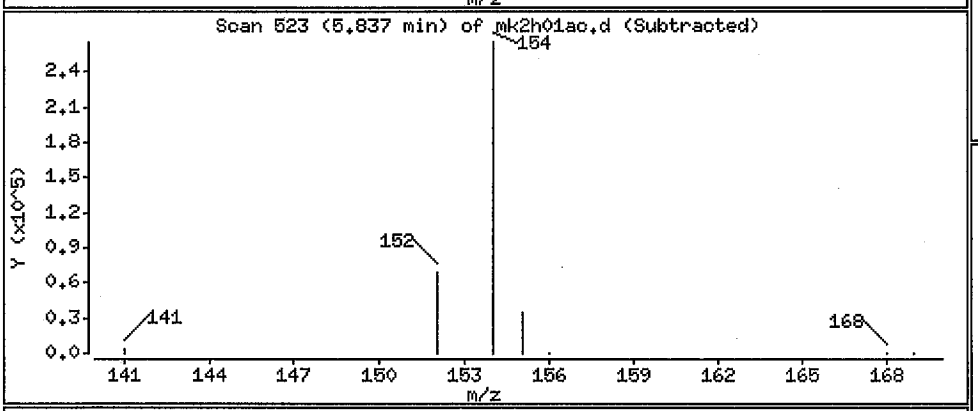
Purge Volume: 1.0 Operator: 11211

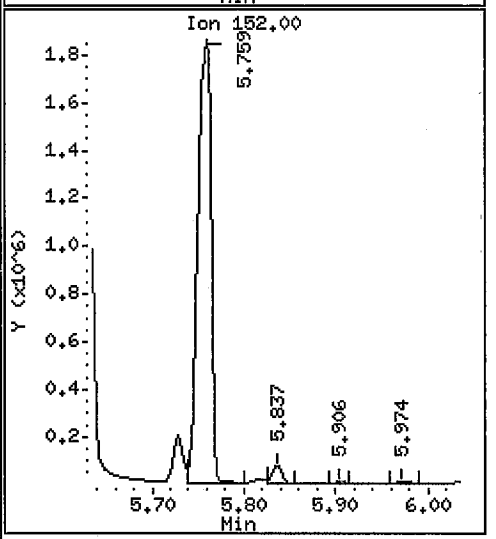
Column phase: Varian: 5MS Column diameter: 0.25

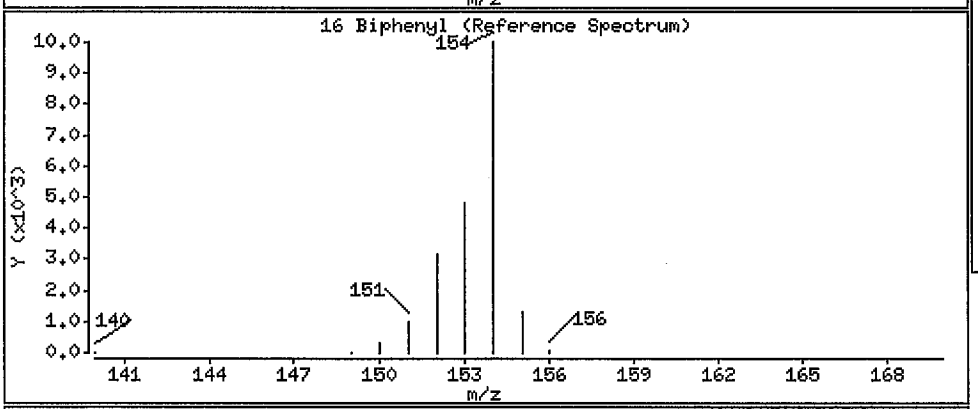
16 Biphenyl Concentration: 220 ng/sample

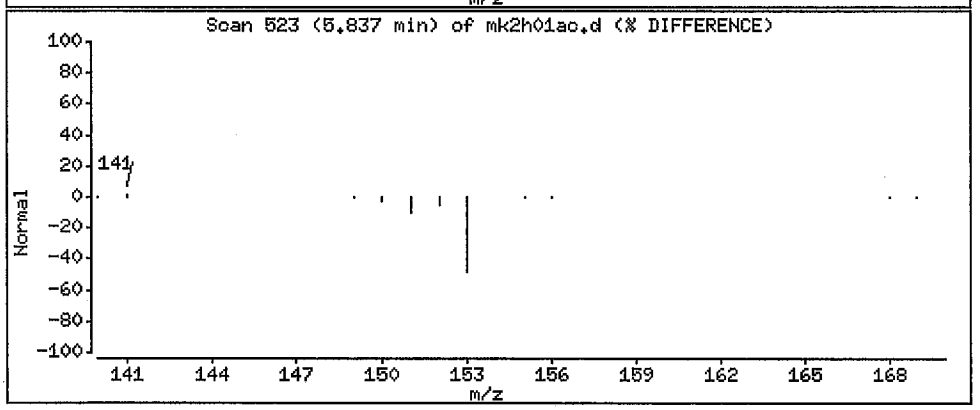












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

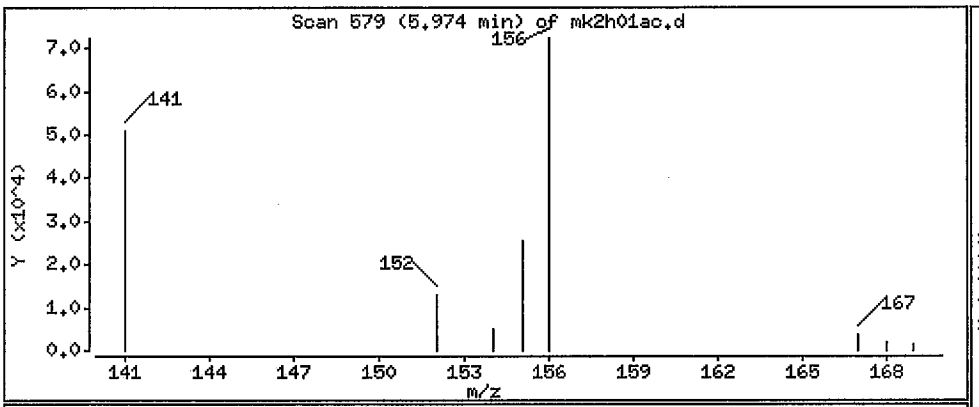
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

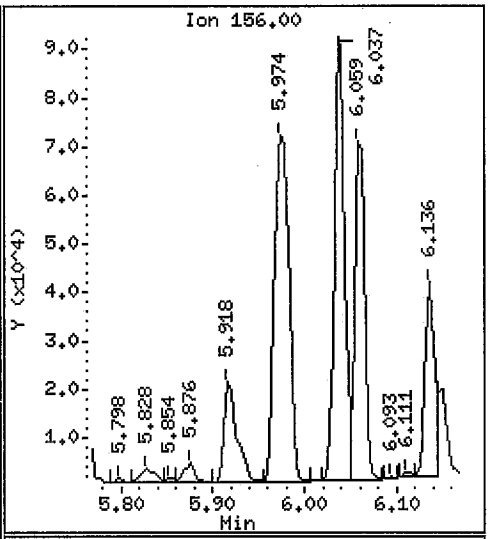
Sample Info: ,,0,,,

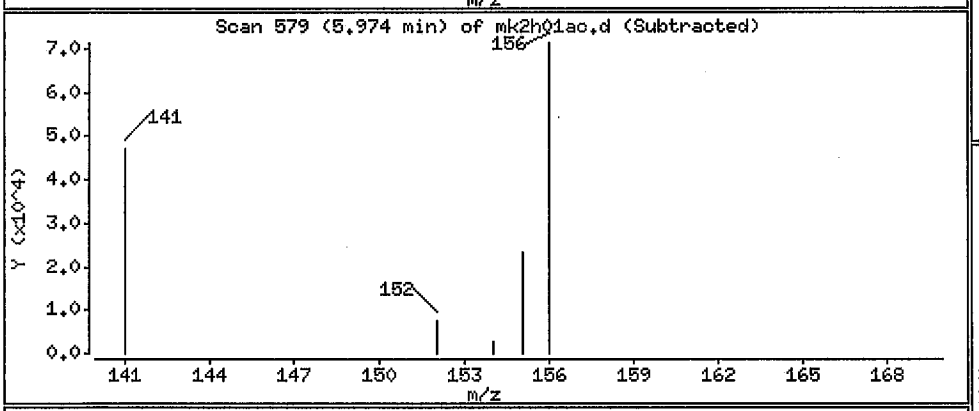
Purge Volume: 1.0 Operator: 11211

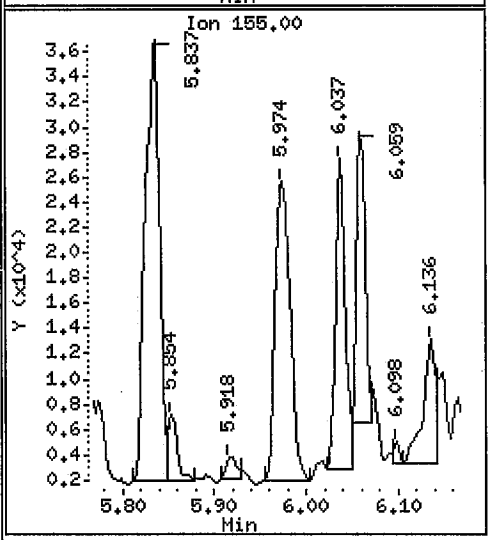
Column phase: Varian: 5MS Column diameter: 0.25

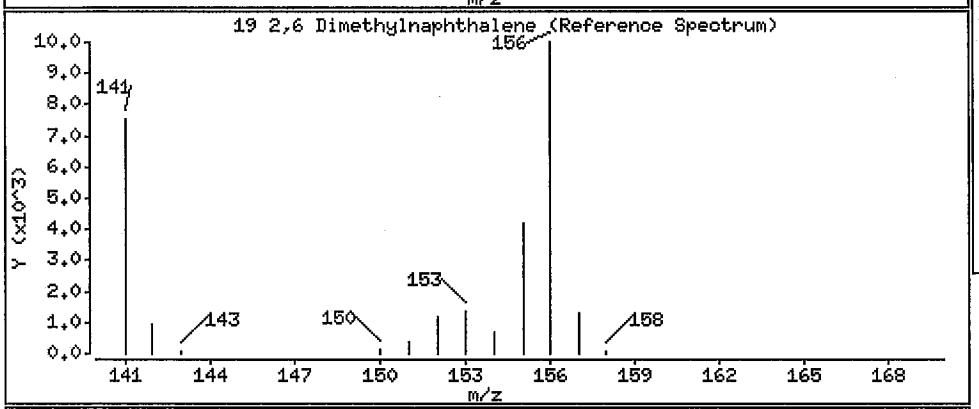
19 2,6 Dimethylnaphthalene Concentration: 118 ng/sample

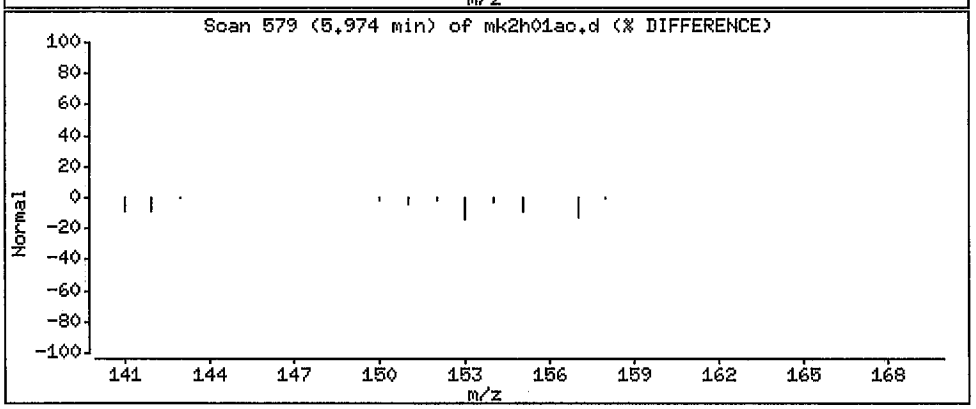












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

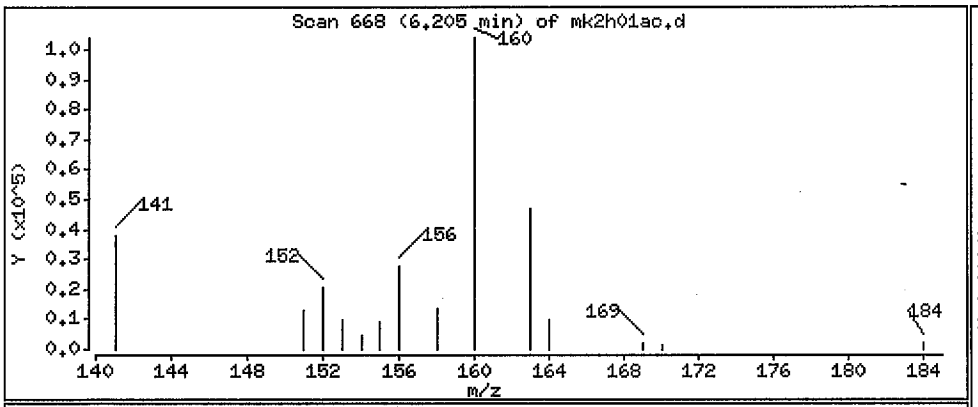
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

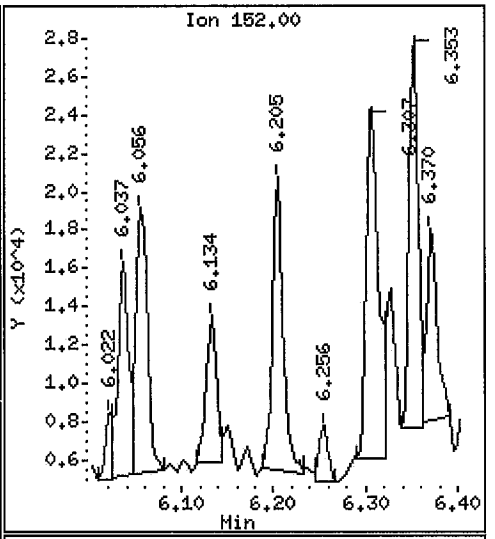
Sample Info: ,,0,,,

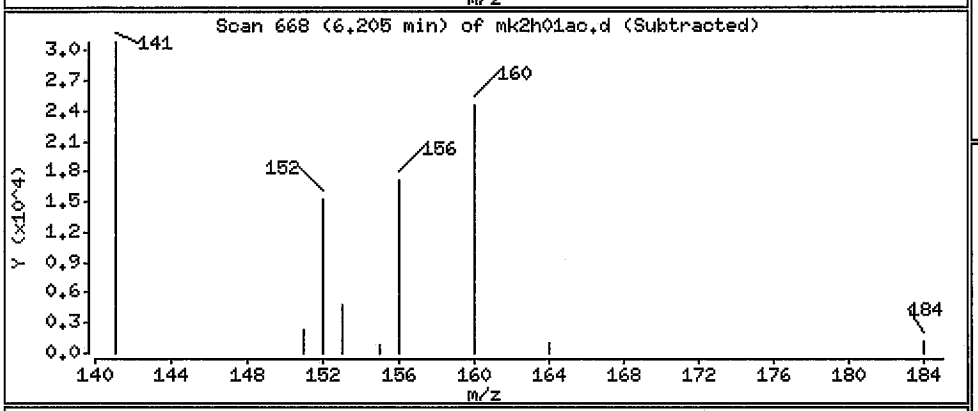
Purge Volume: 1.0 Operator: 11211

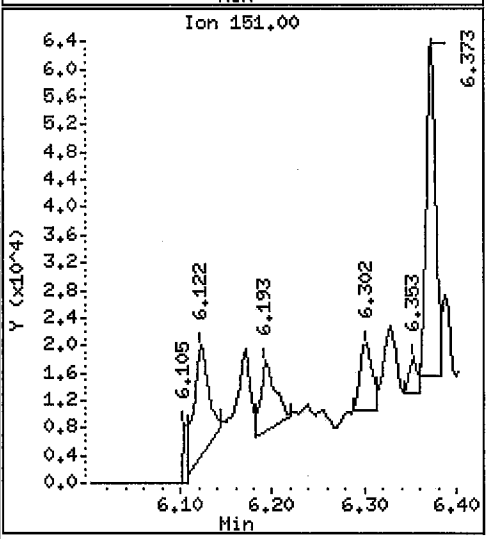
Column phase: Varian: 5MS Column diameter: 0.25

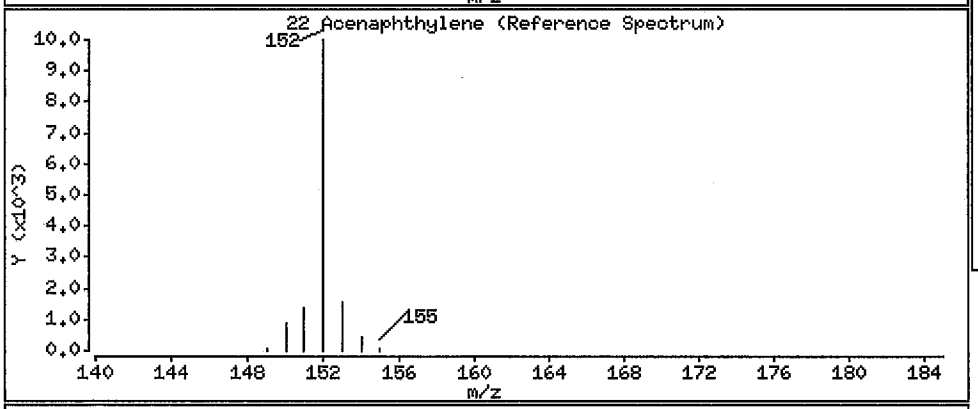
22 Acenaphthylene Concentration: 9.06 ng/sample

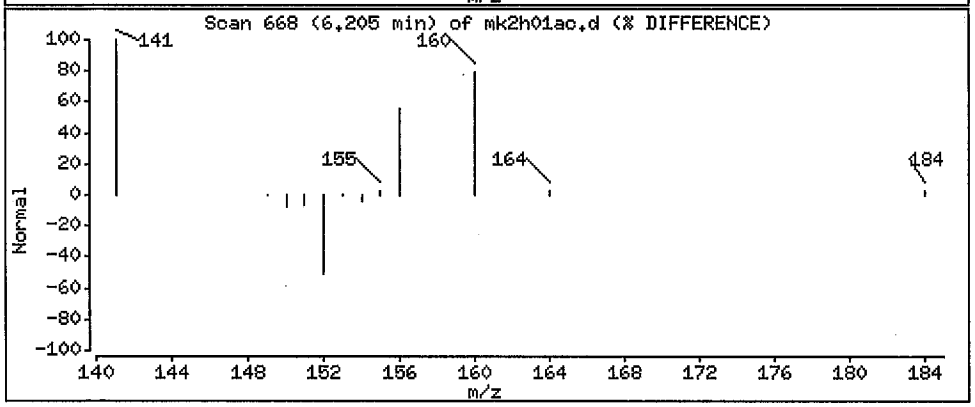












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

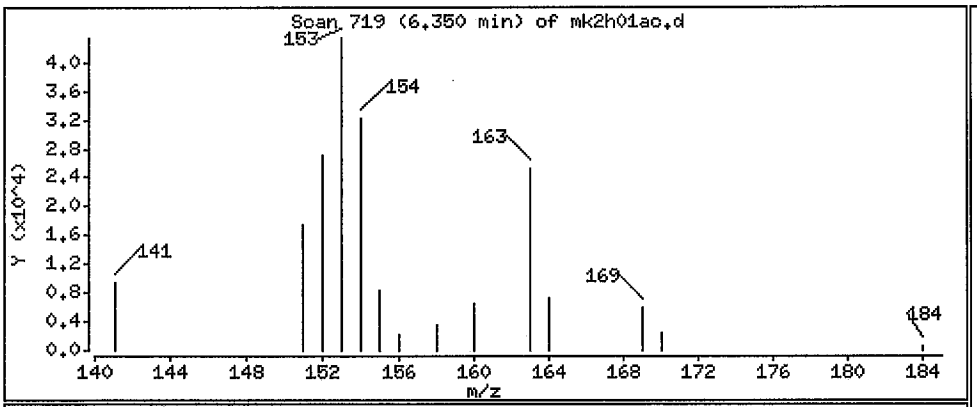
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

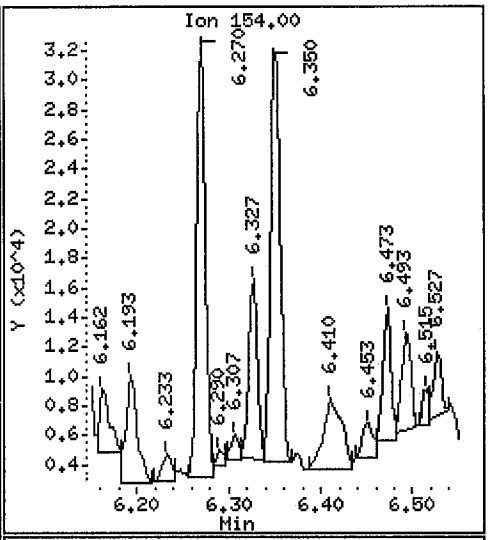
Sample Info: ,,0,,,

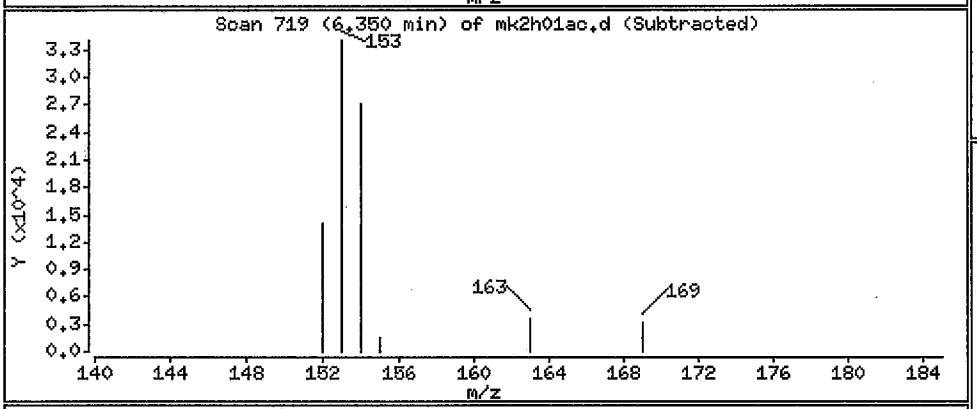
Purge Volume: 1.0 Operator: 11211

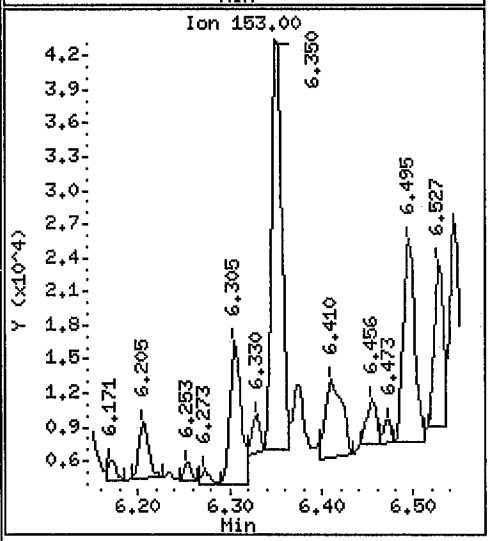
Column phase: Varian: 5MS Column diameter: 0.25

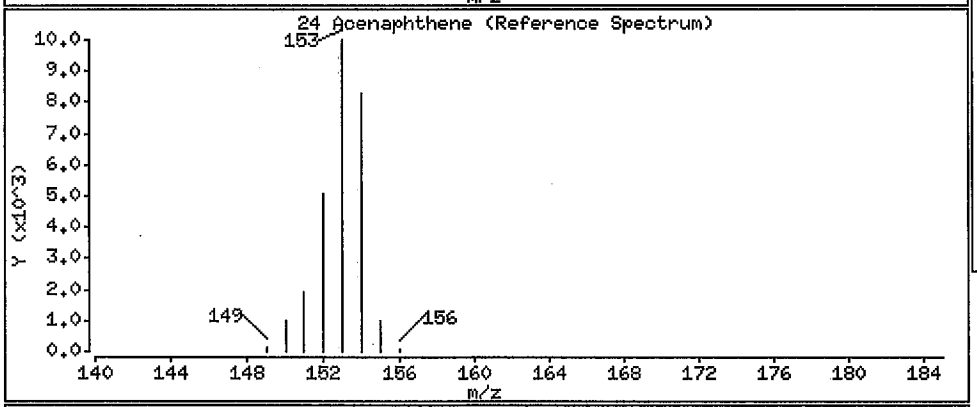
24 Acenaphthene Concentration: 24.2 ng/sample

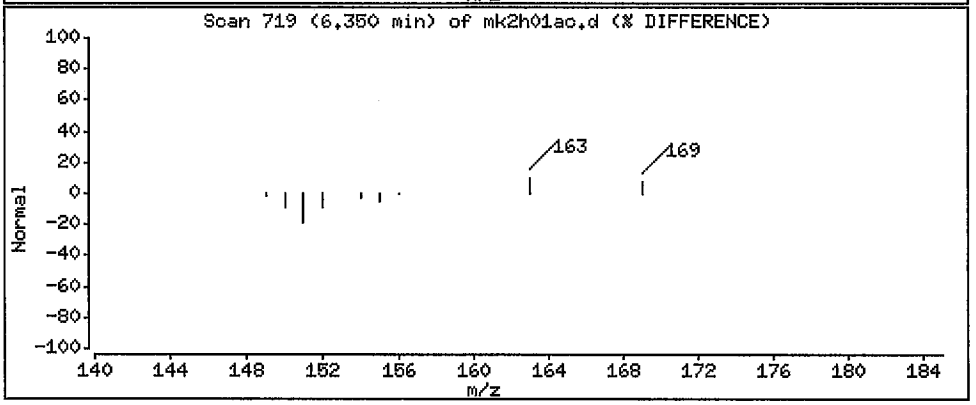












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

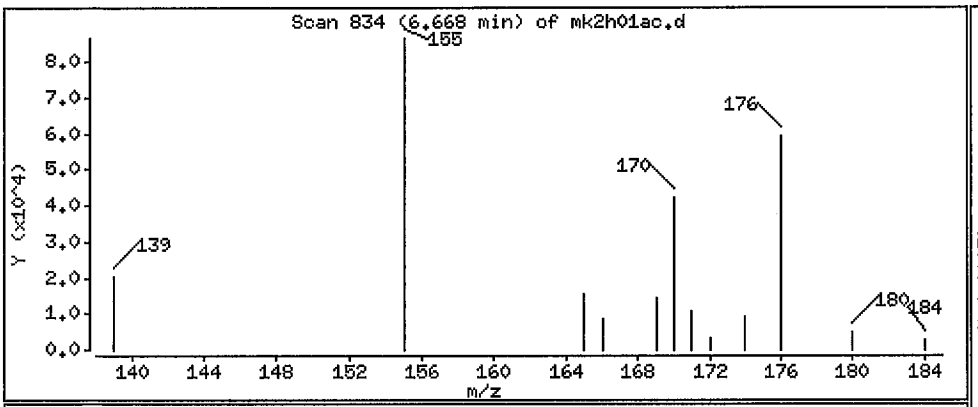
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

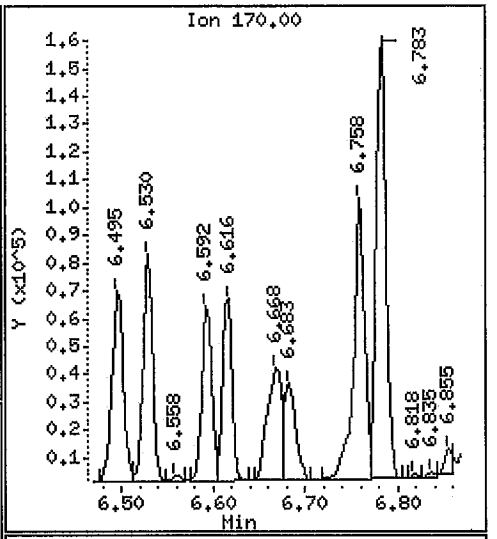
Sample Info: ,,0,,,

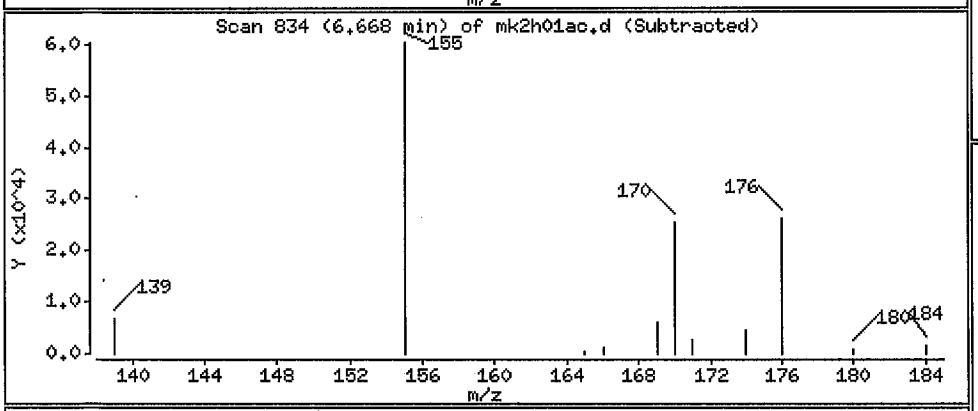
Purge Volume: 1.0 Operator: 11211

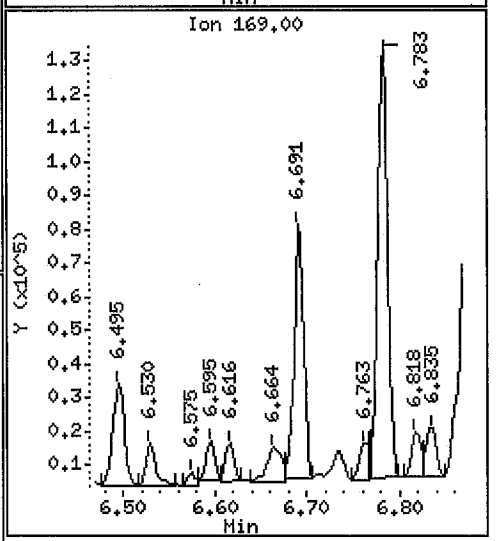
Column phase: Varian: 5MS Column diameter: 0.25

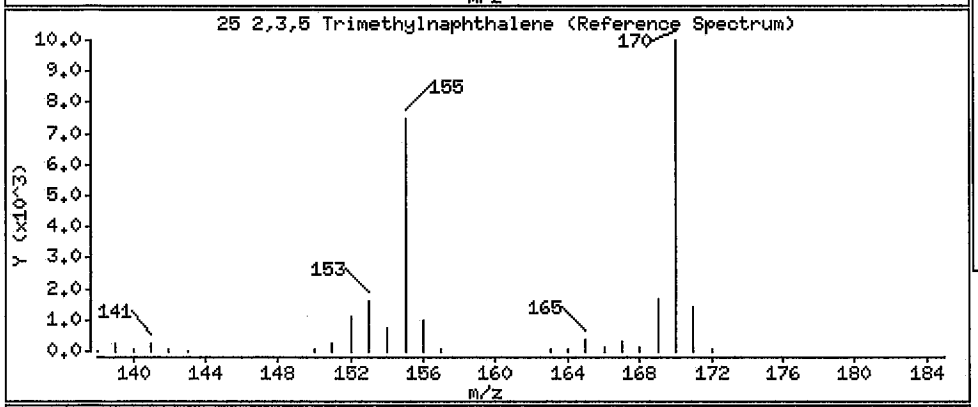
25 2,3,5 Trimethylnaphthalene Concentration: 80.3 ng/sample

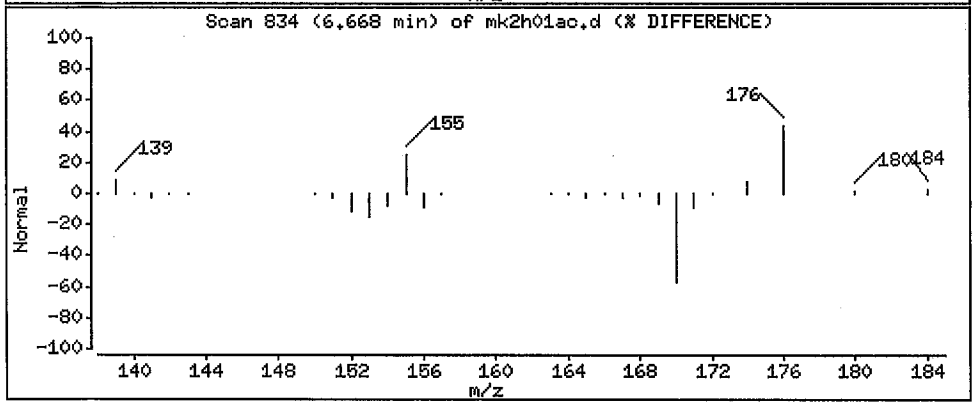












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

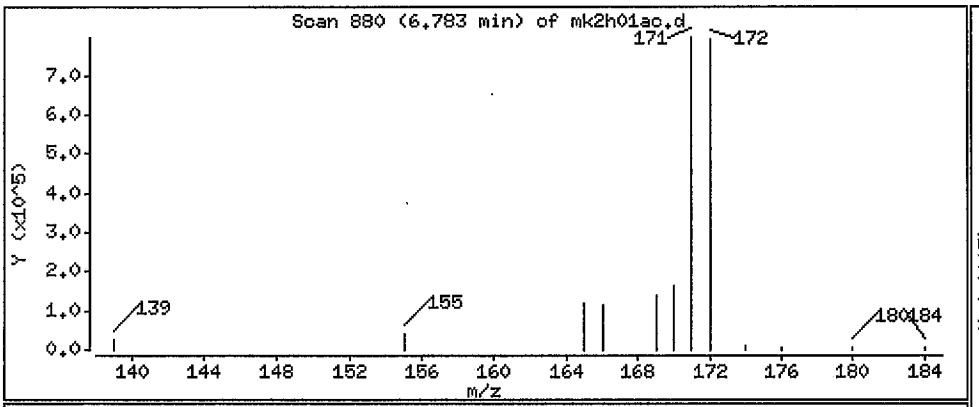
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

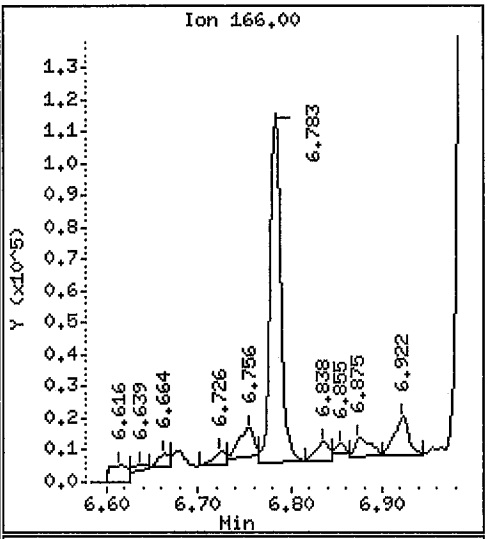
Sample Info: ,,0,,,

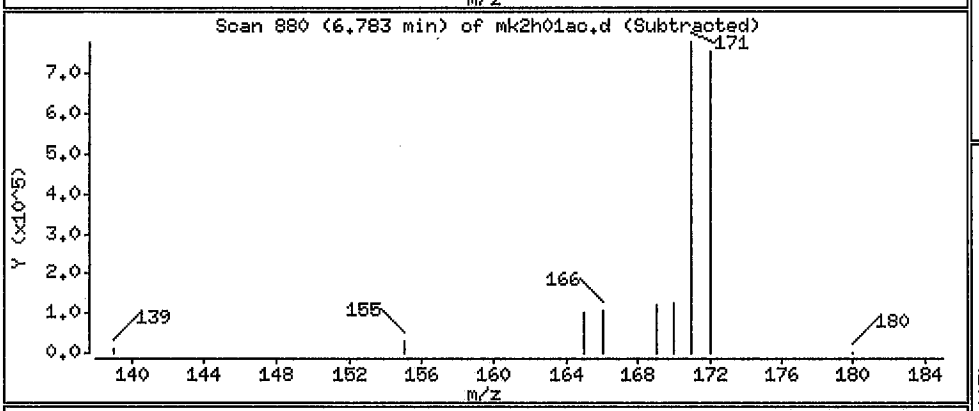
Purge Volume: 1.0 Operator: 11211

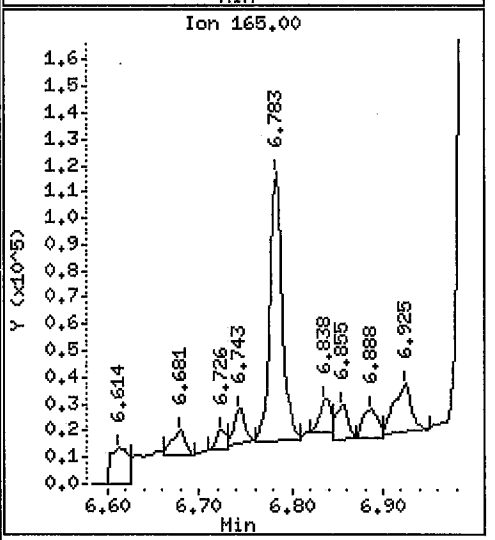
Column phase: Varian: 5MS Column diameter: 0.25

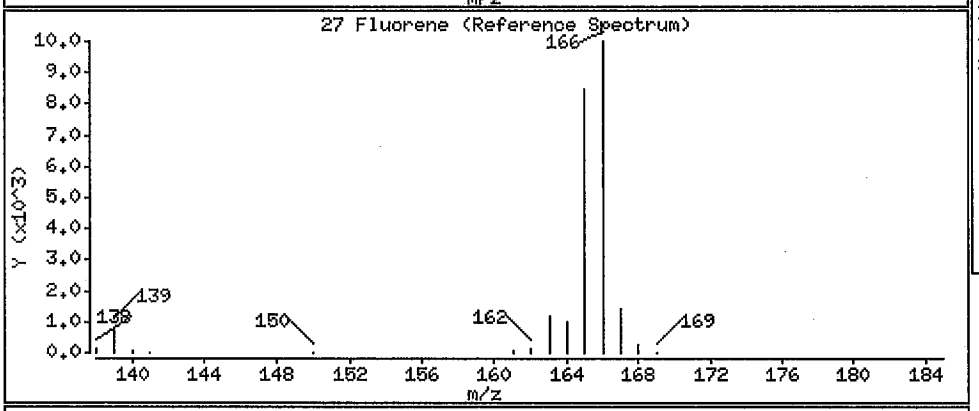
27 Fluorene Concentration: 112 ng/sample

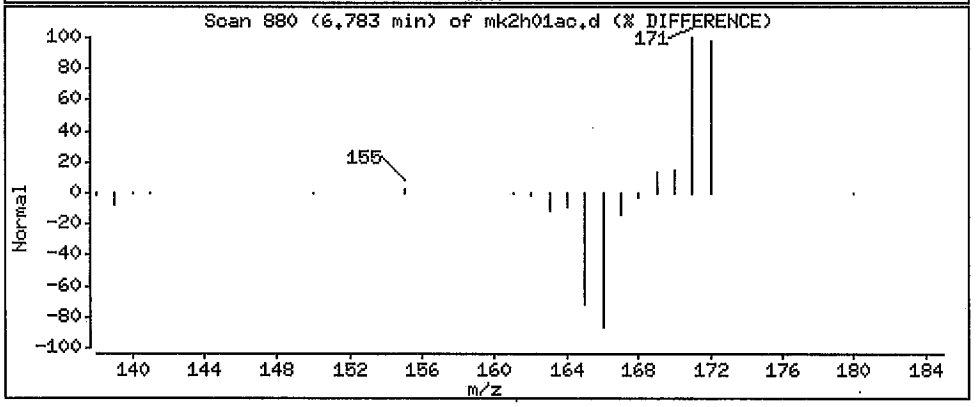












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

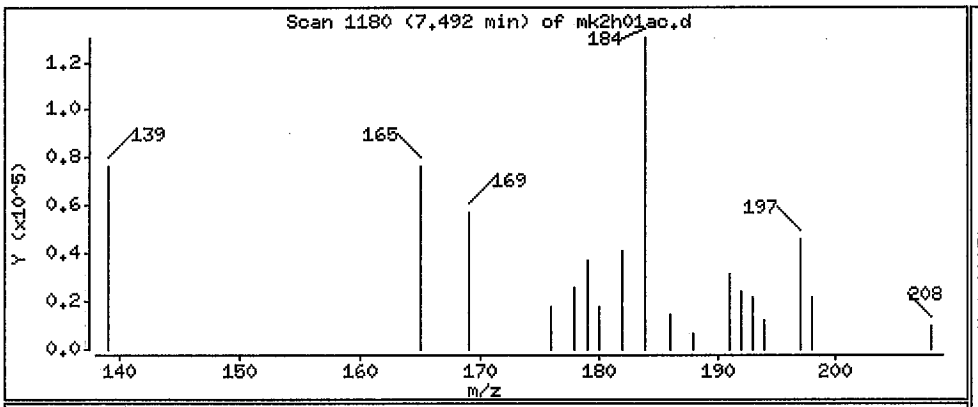
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

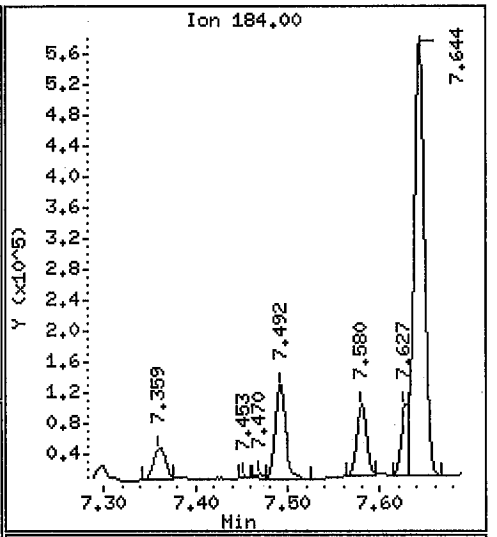
Sample Info: ,,0,,,

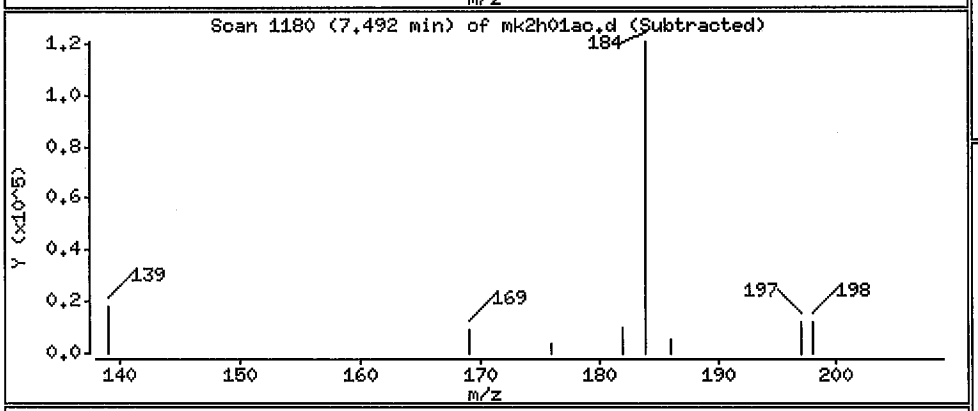
Purge Volume: 1.0 Operator: 11211

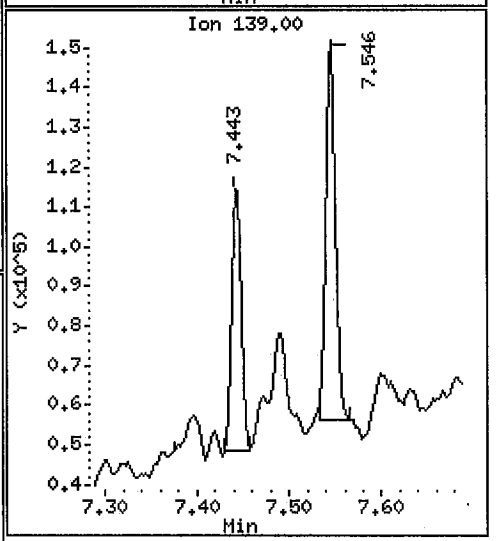
Column phase: Varian: 5MS Column diameter: 0.25

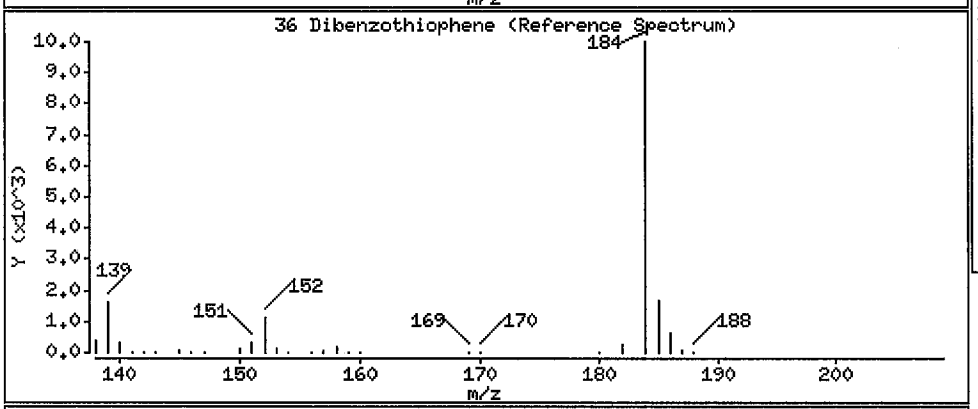
36 Dibenzothiophene Concentration: 101 ng/sample

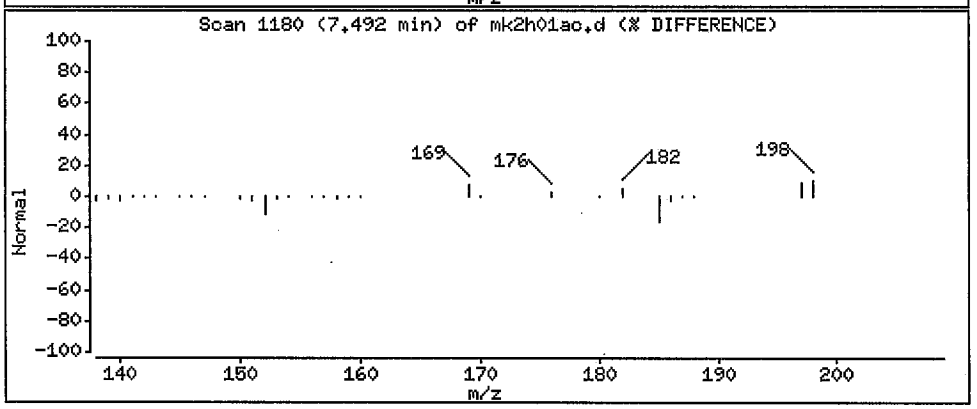












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

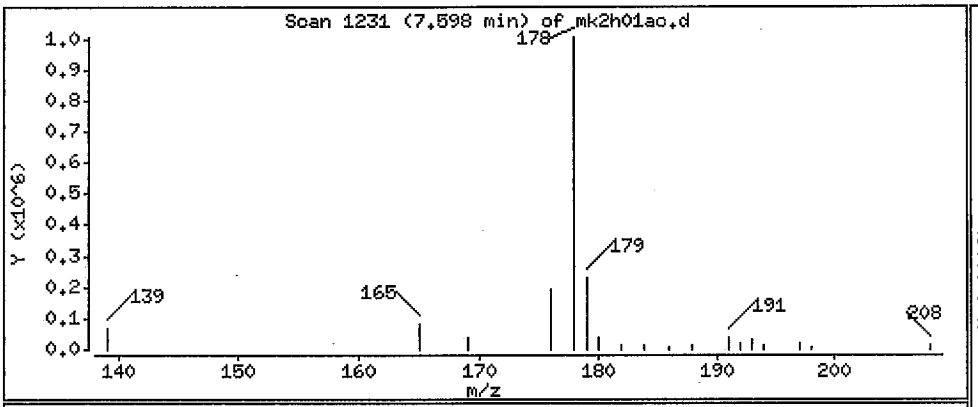
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

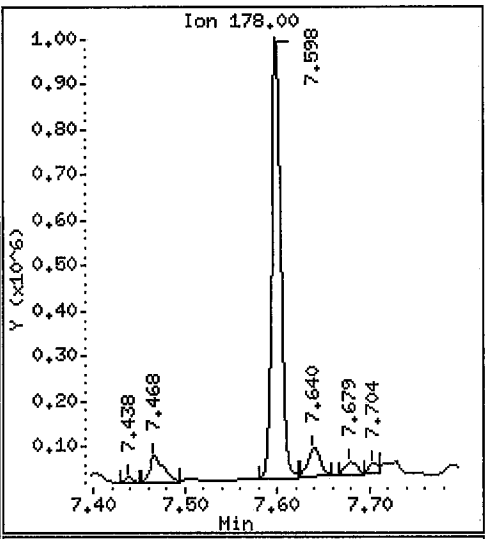
Sample Info: ,,0,,,

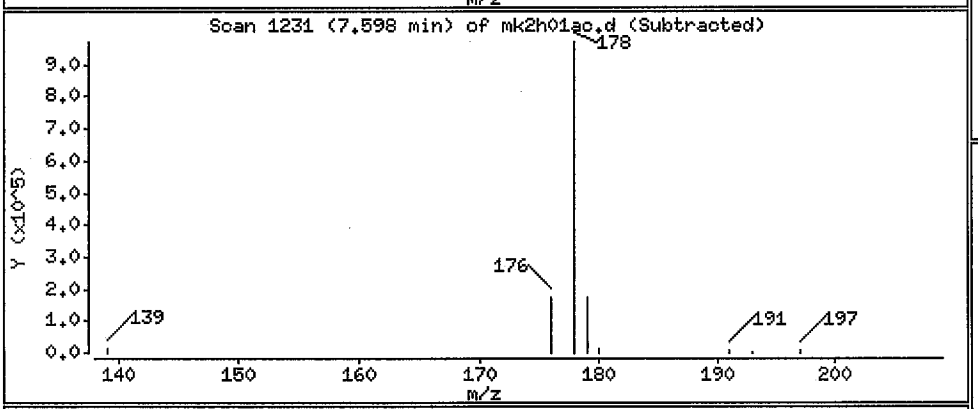
Purge Volume: 1.0 Operator: 11211

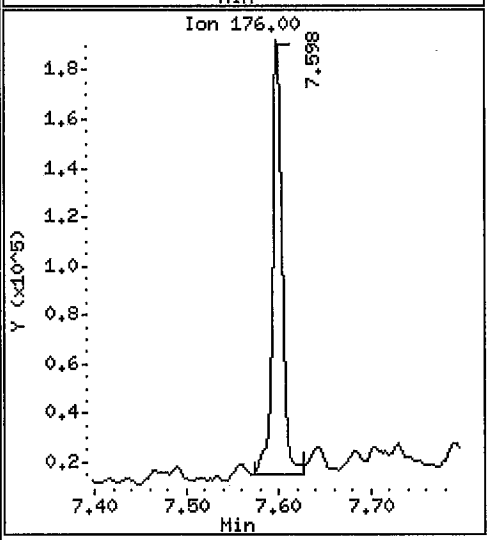
Column phase: Varian: 5MS Column diameter: 0.25

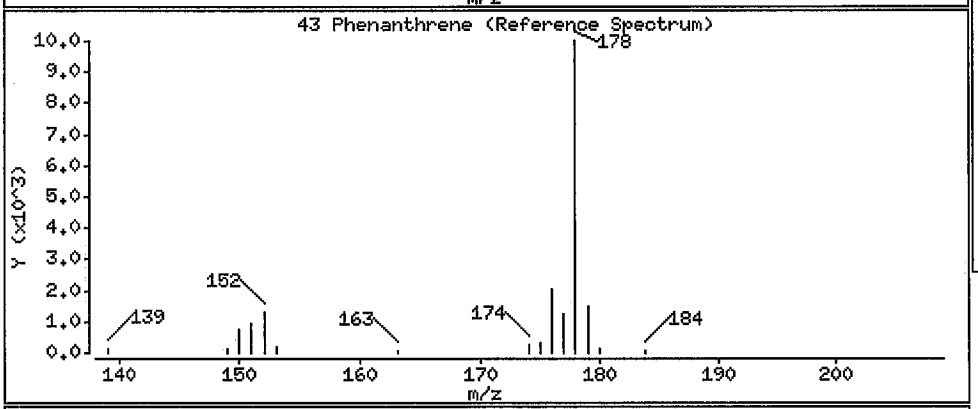
43 Phenanthrene Concentration: 679 ng/sample

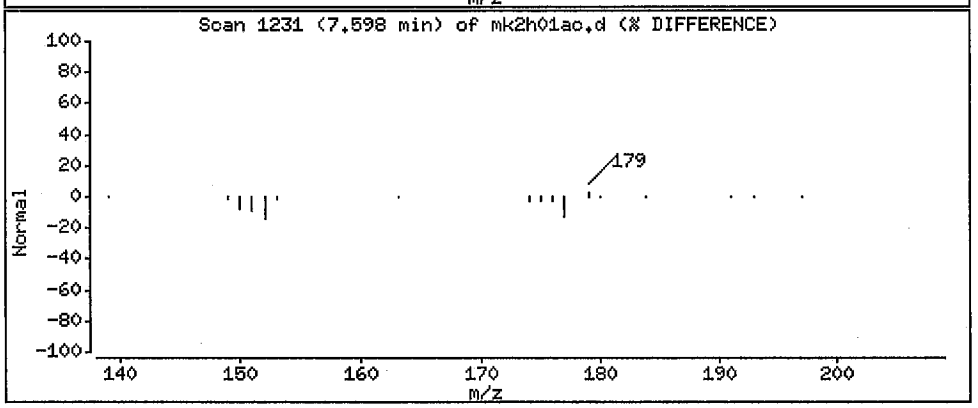












Data File: /var/chem/goms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

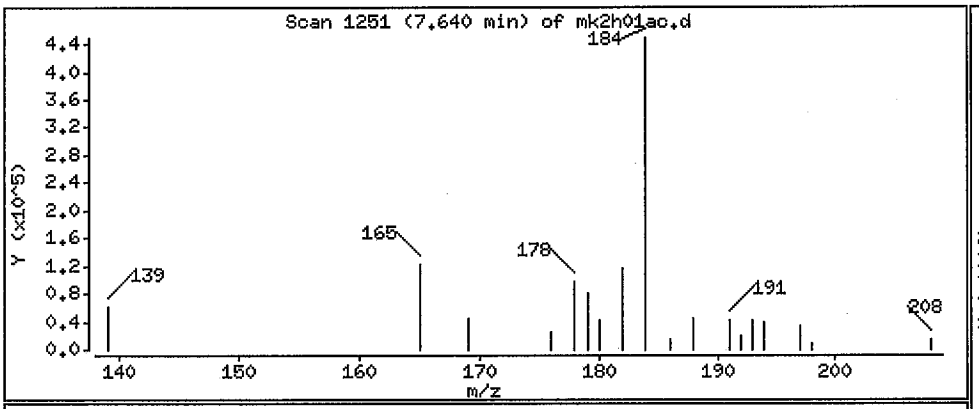
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

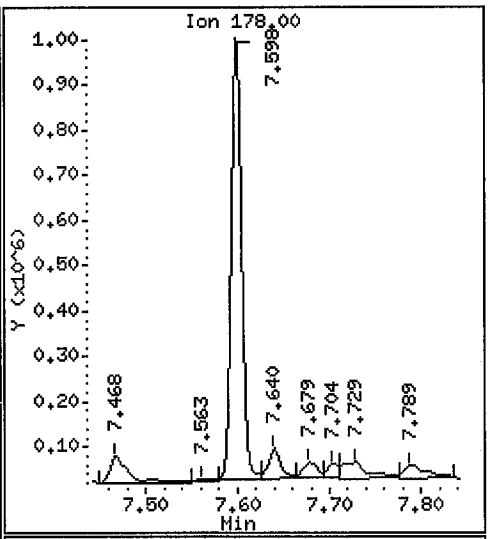
Sample Info: ,,0,,,

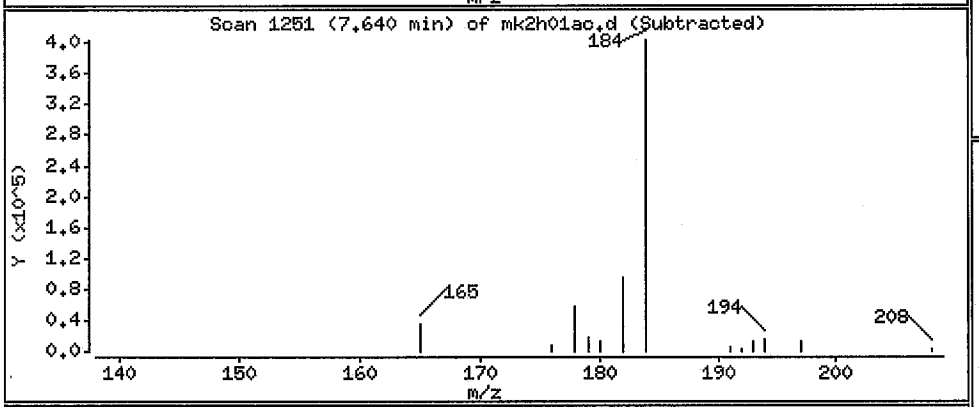
Purge Volume: 1.0 Operator: 11211

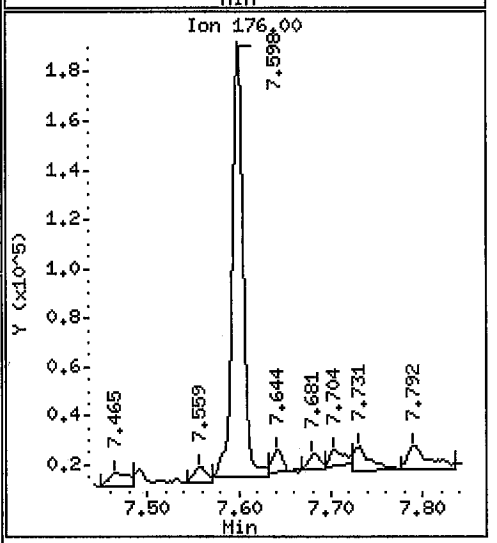
Column phase: Varian: 5MS Column diameter: 0.25

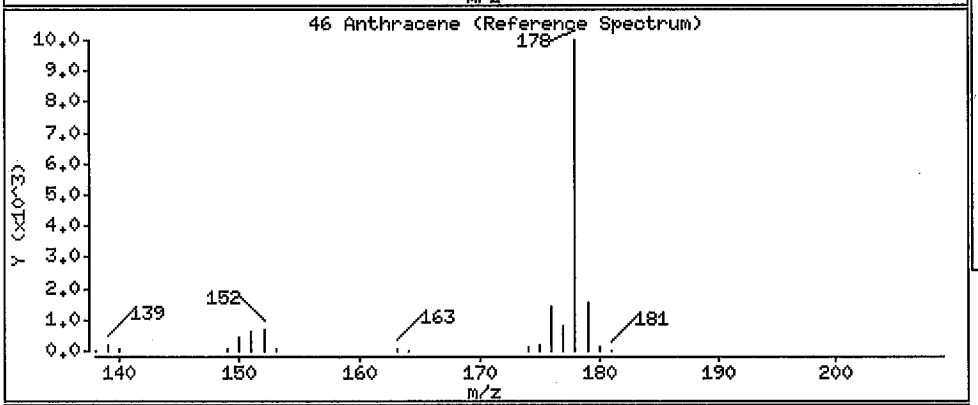
46 Anthracene Concentration: 53.8 ng/sample

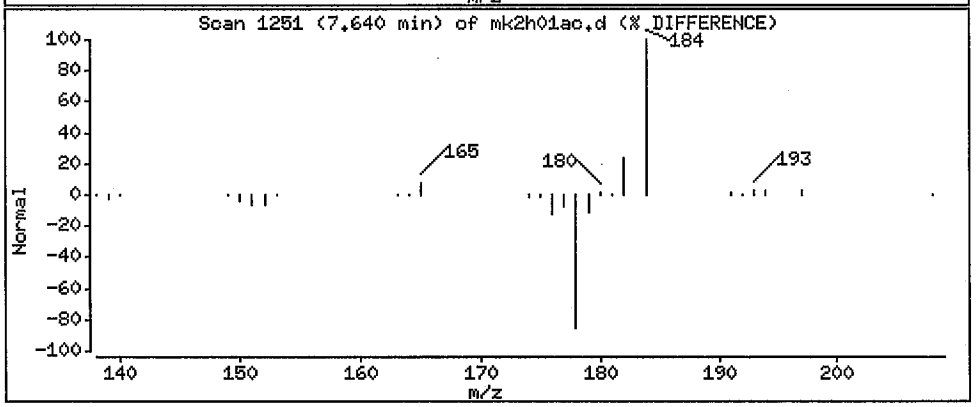












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

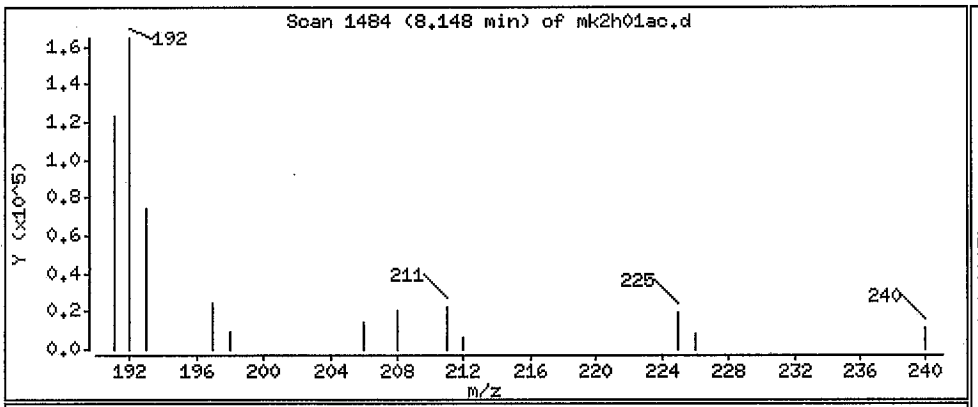
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

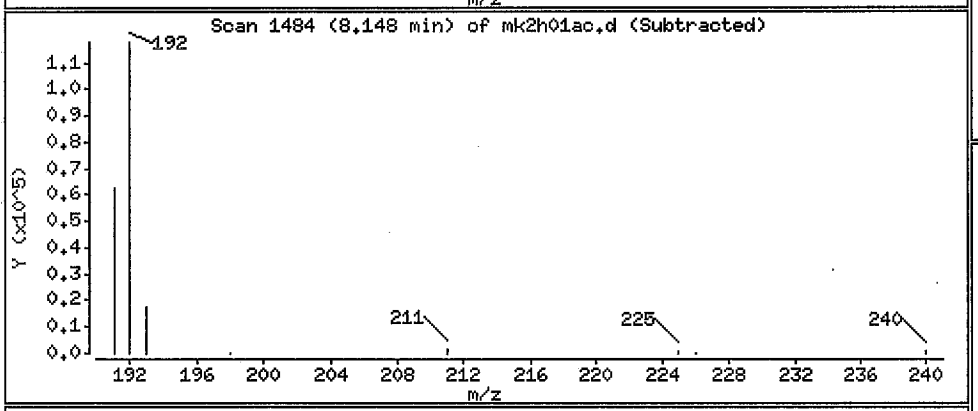
Sample Info: ,,0,,,

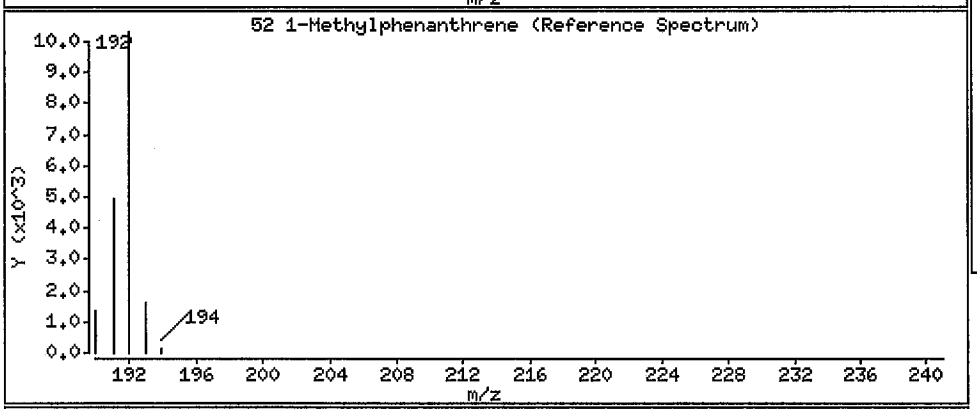
Purge Volume: 1.0 Operator: 11211

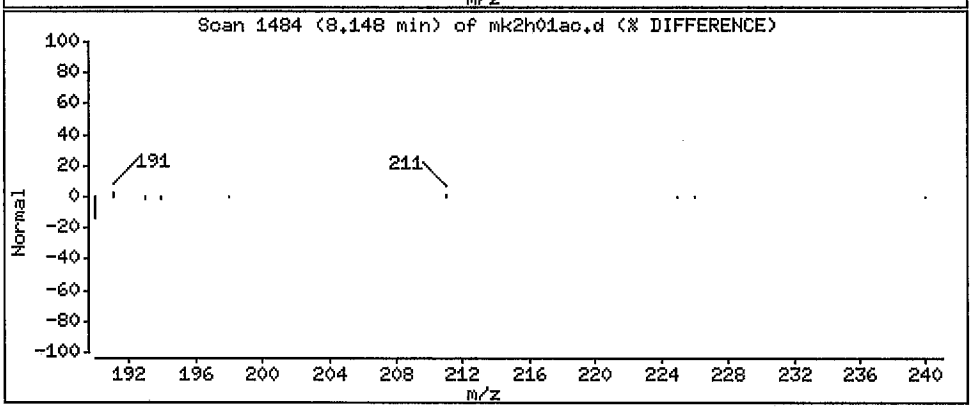
Column phase: Varian: 5MS Column diameter: 0.25 .

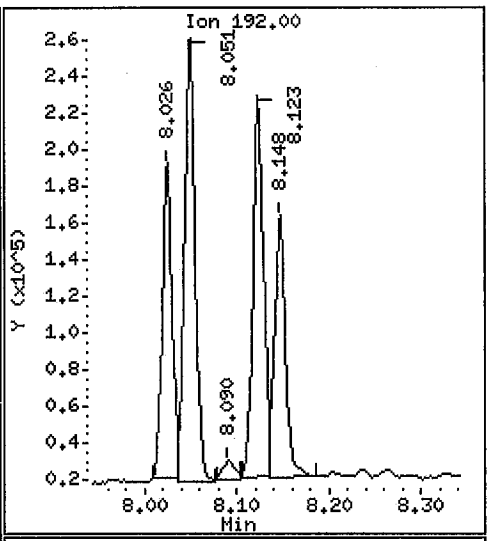
52 1-Methylphenanthrene Concentration: 187 ng/sample

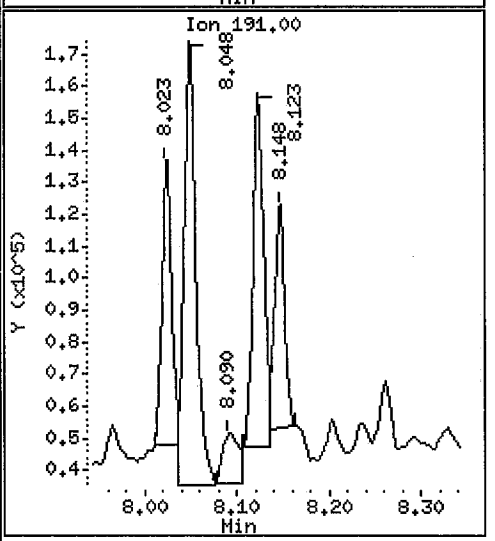












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

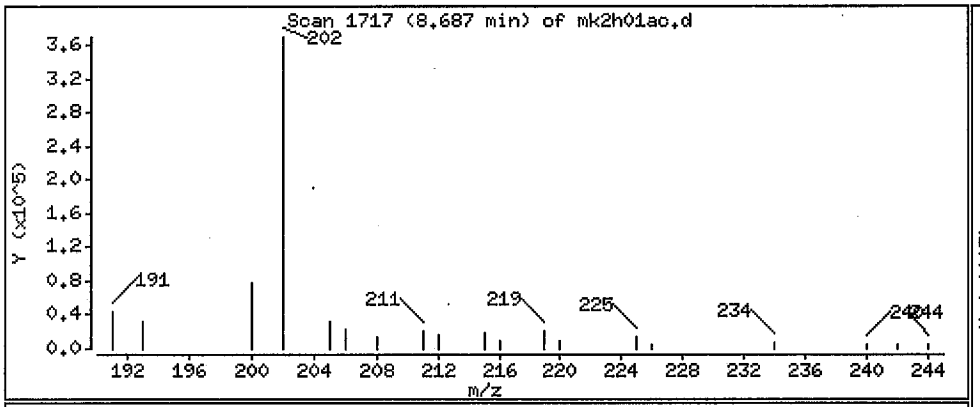
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

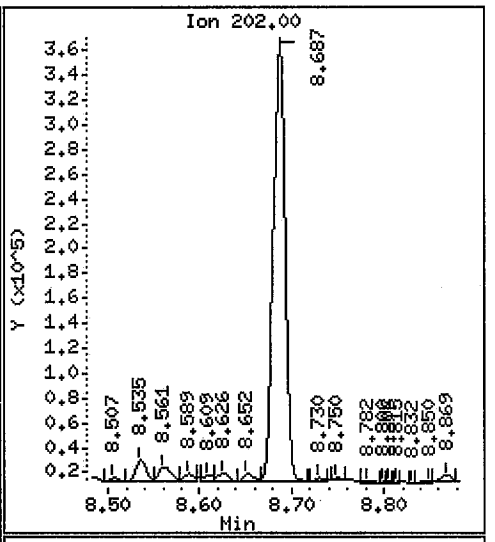
Sample Info: ,,0,,,

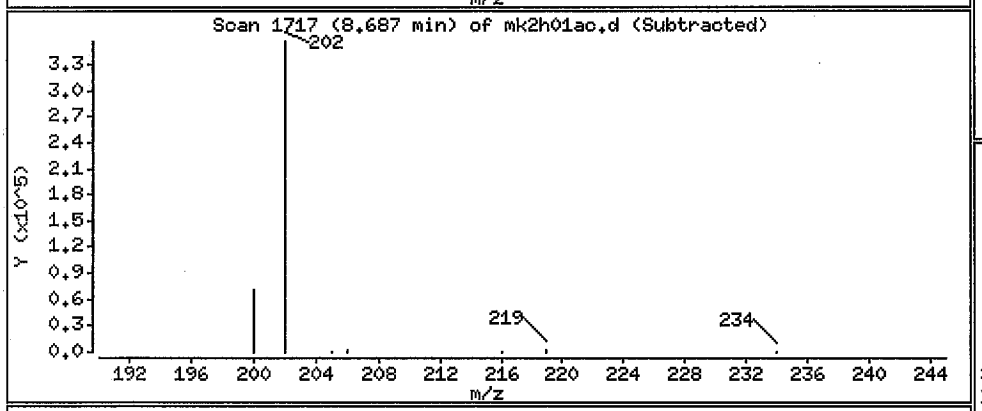
Purge Volume: 1.0 Operator: 11211

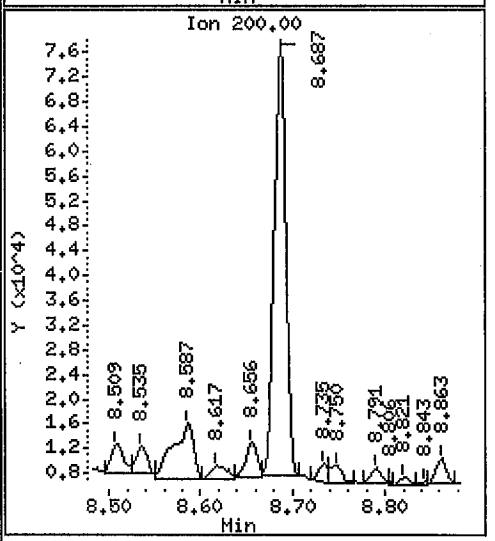
Column phase: Varian: 5MS Column diameter: 0.25

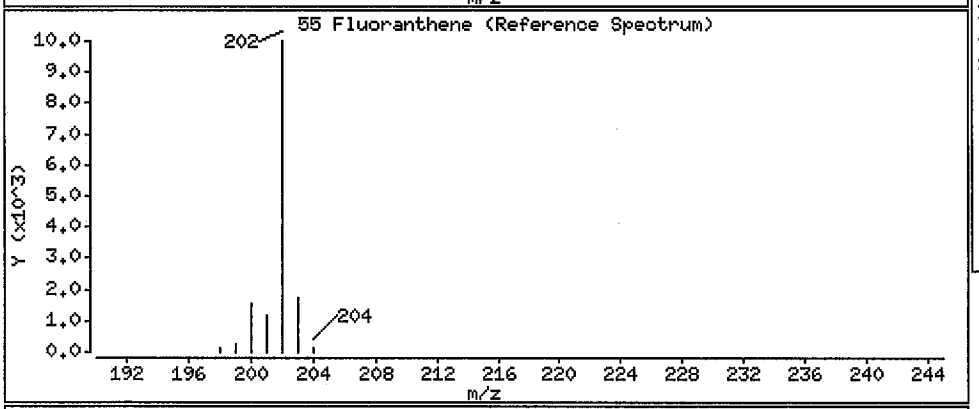
55 Fluoranthene Concentration: 232 ng/sample

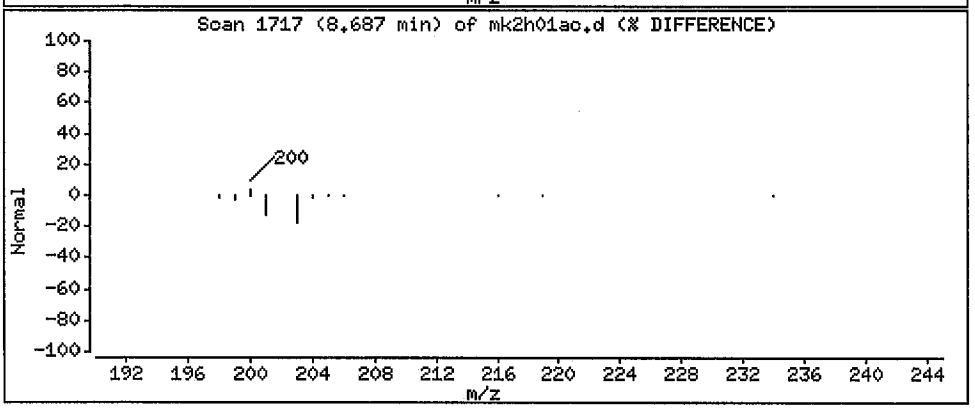












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

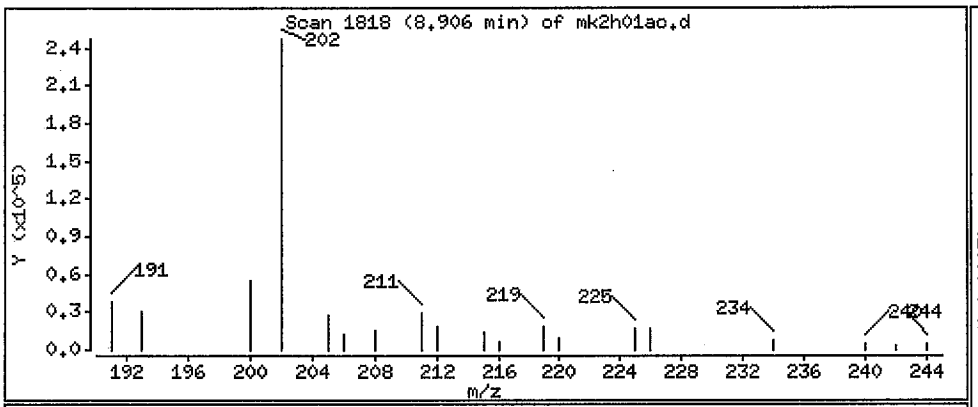
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

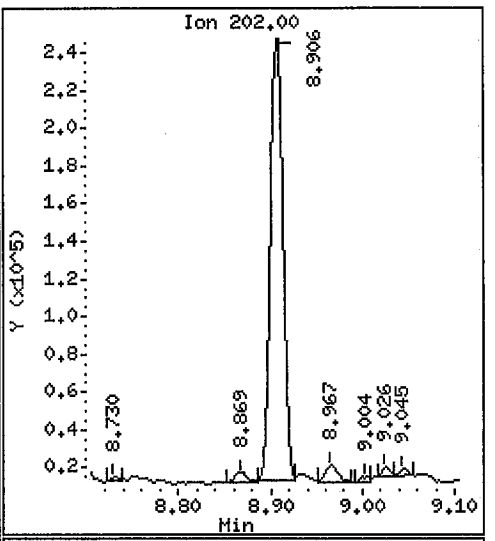
Sample Info: ,,0,,,

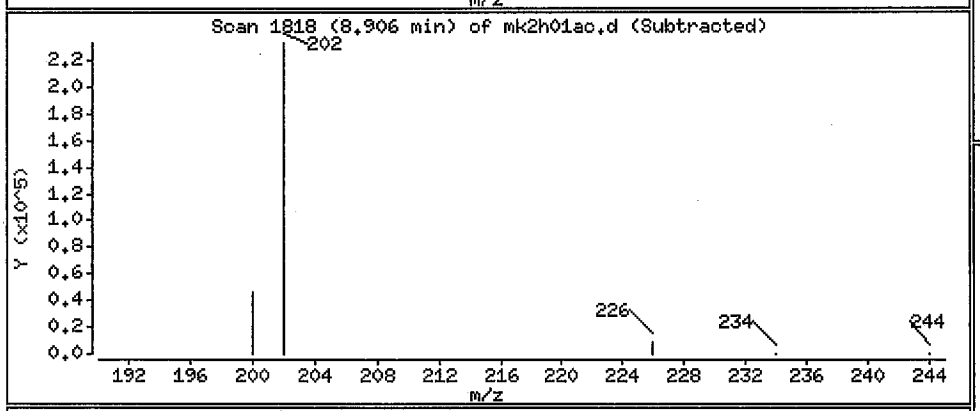
Purge Volume: 1.0 Operator: 11211

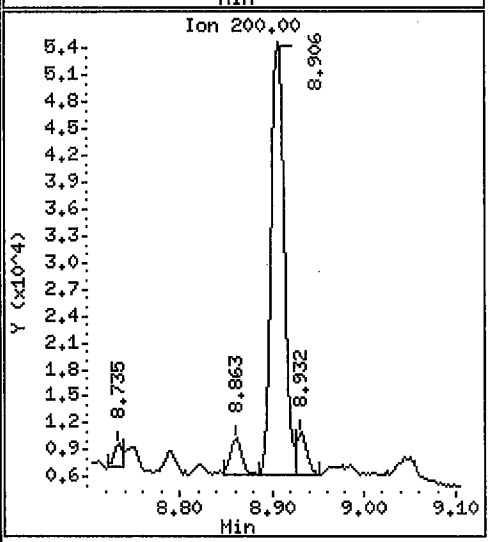
Column phase: Varian: 5MS Column diameter: 0.25

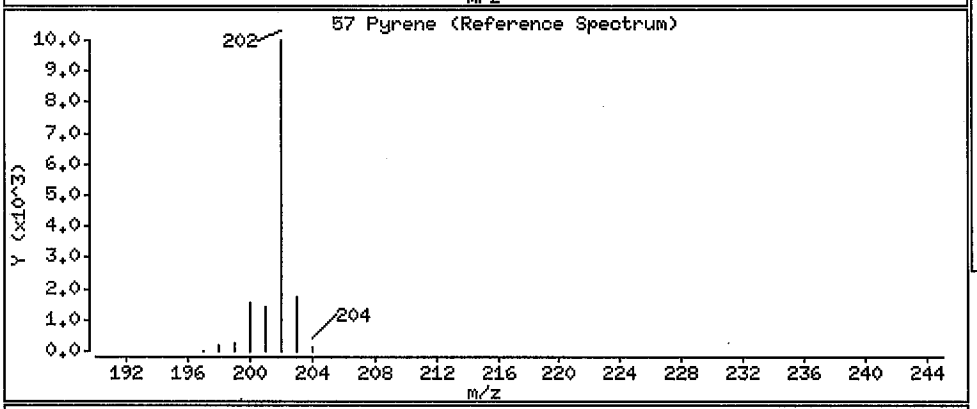
57 Pyrene Concentration: 150 ng/sample

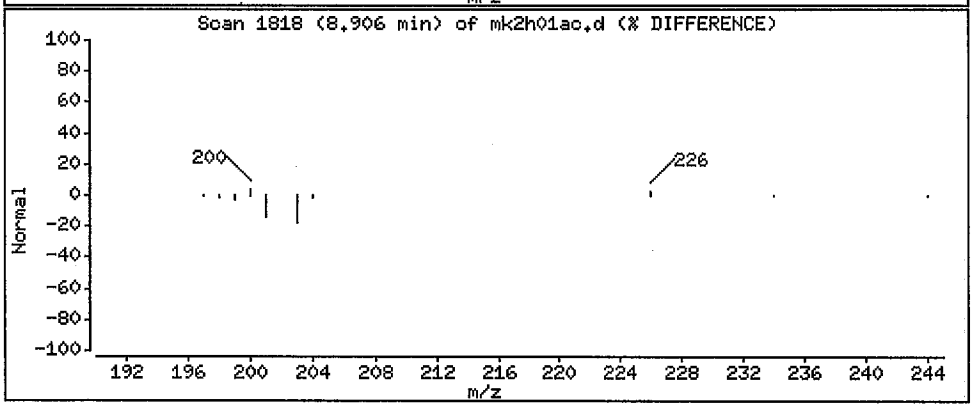












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

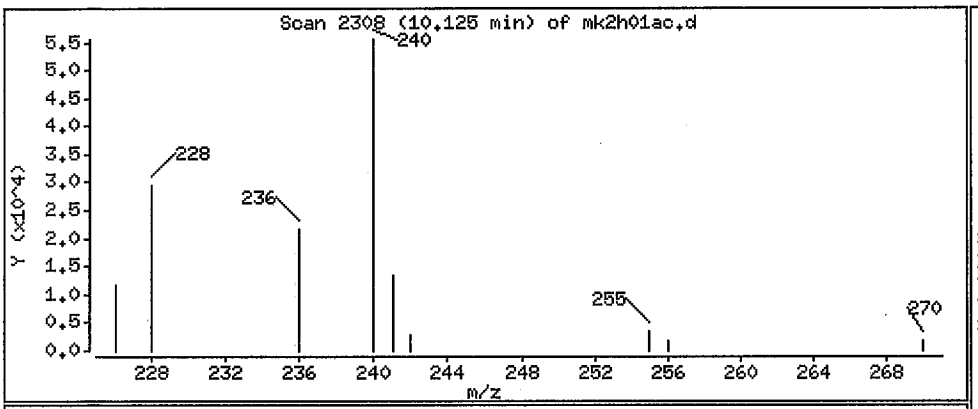
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

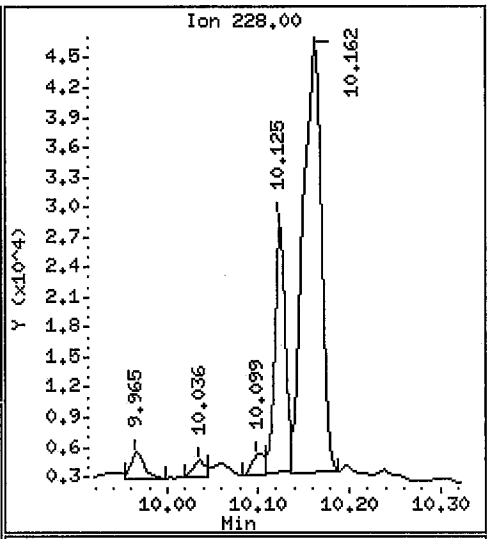
Sample Info: ,,0,,,

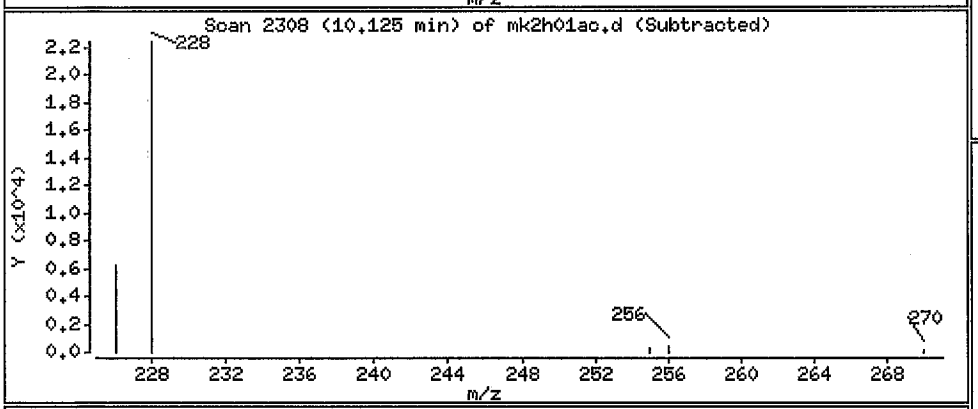
Purge Volume: 1.0 Operator: 11211

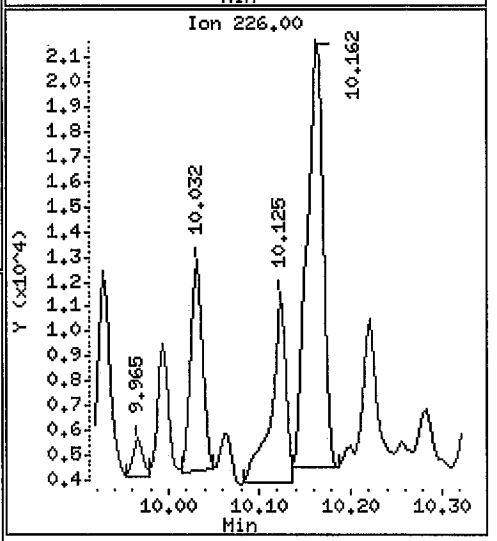
Column phase: Varian: 5MS Column diameter: 0.25

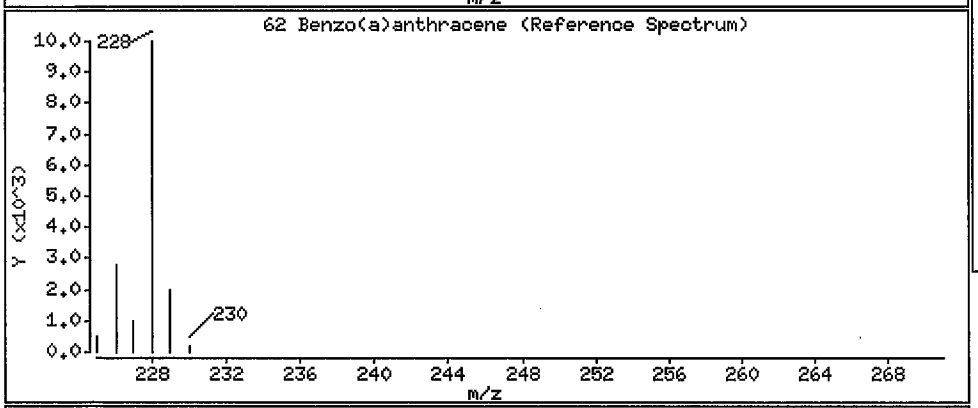
62 Benzo(a)anthracene Concentration: 17.0 ng/sample

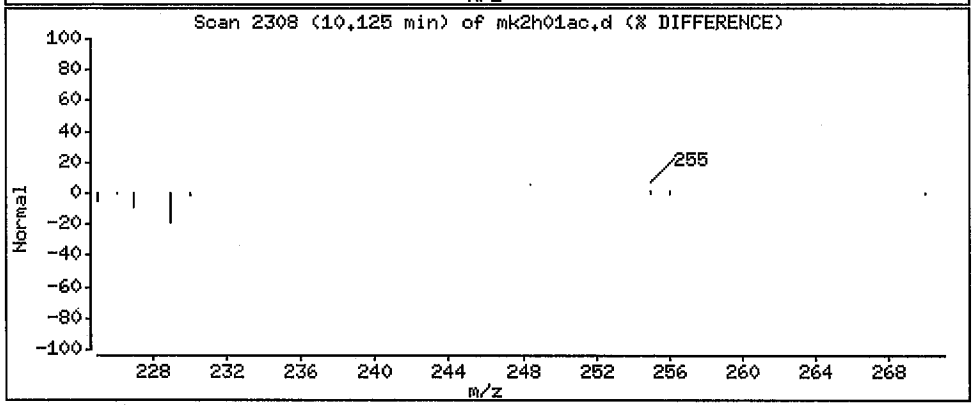












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

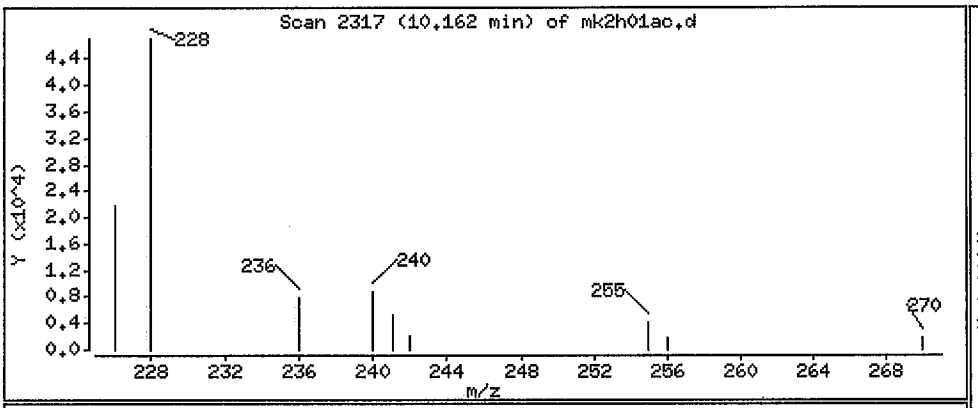
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

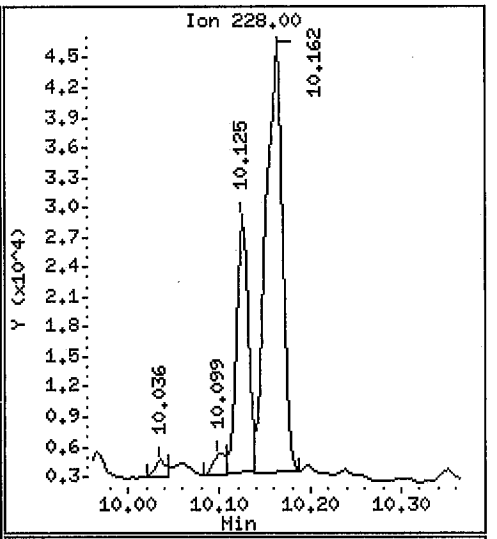
Sample Info: ,,0,,,

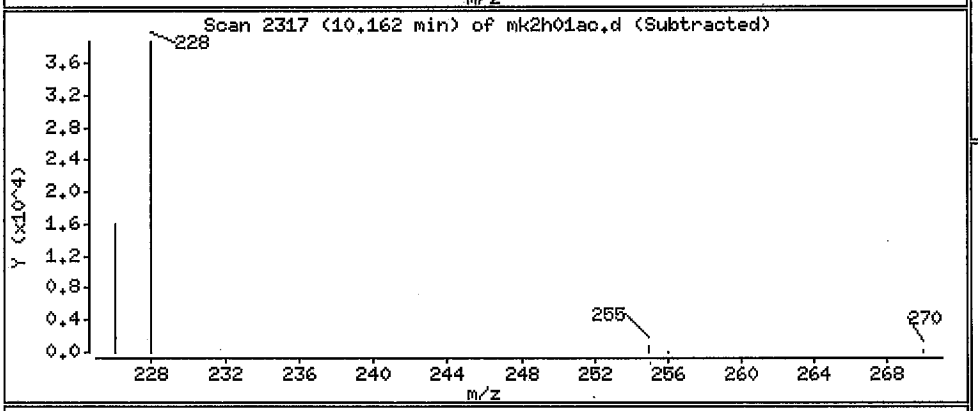
Purge Volume: 1.0 Operator: 11211

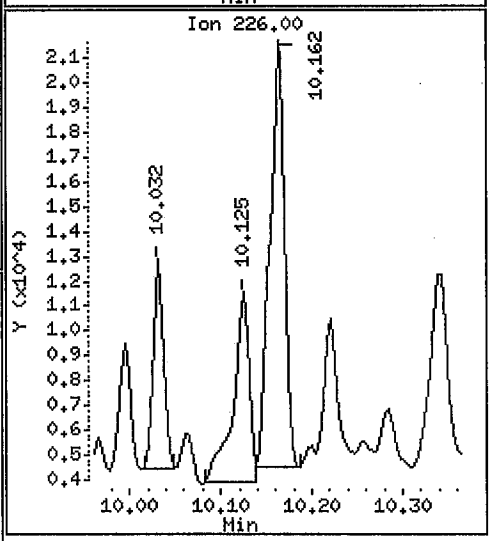
Column phase: Varian: 5MS Column diameter: 0.25

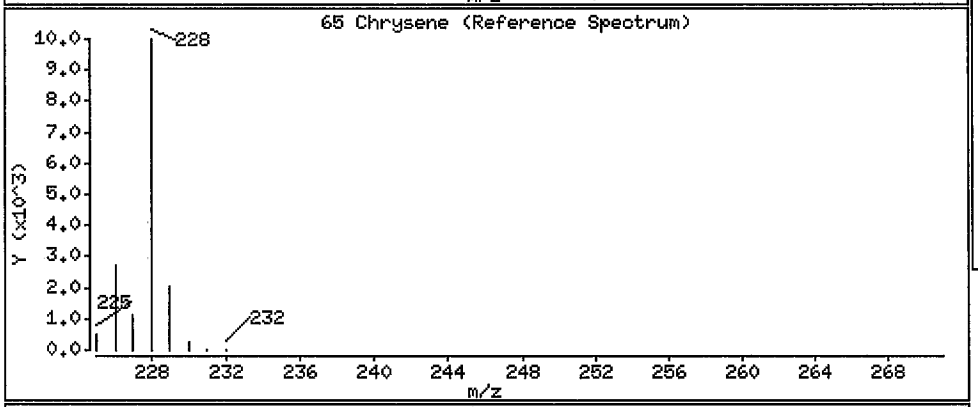
65 Chrysene Concentration: 85.3 ng/sample

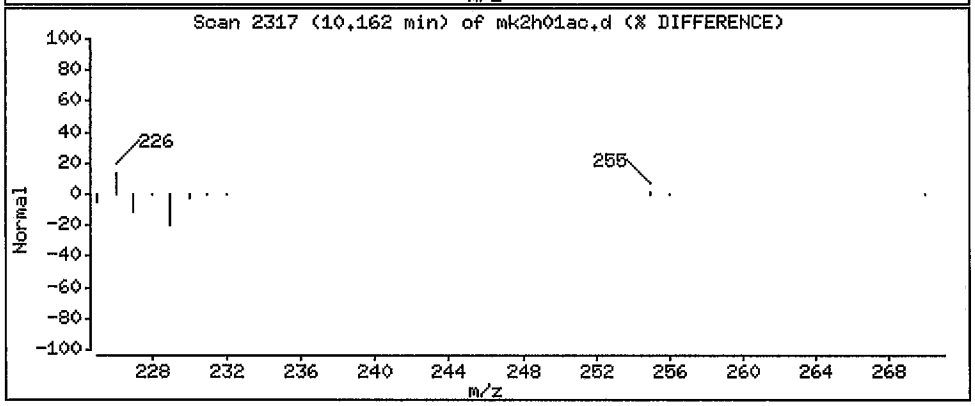












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

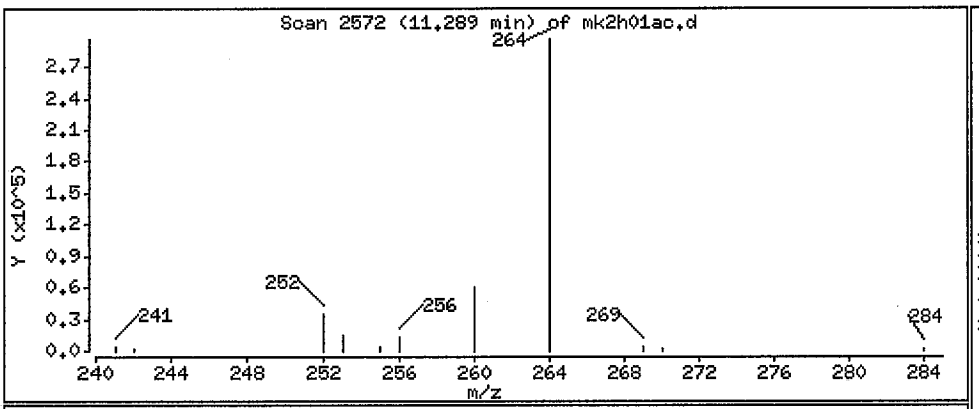
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

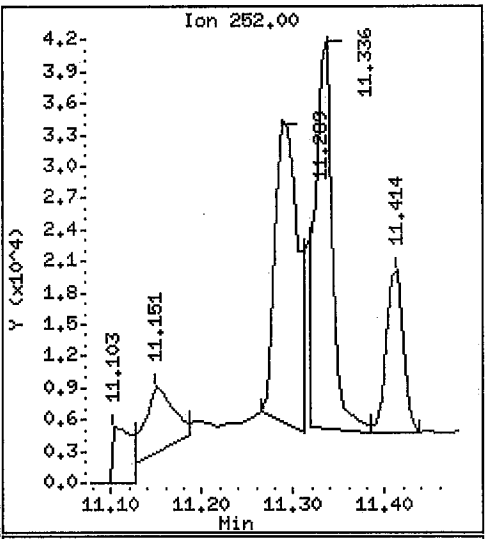
Sample Info: ,,0,,,

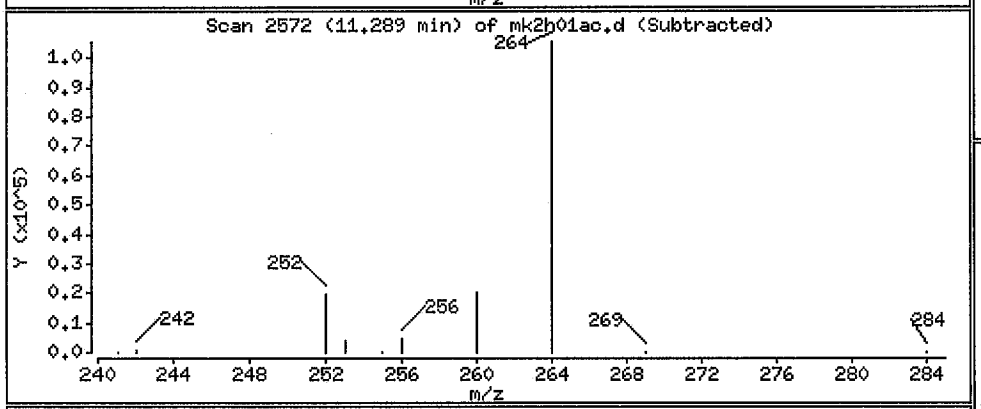
Purge Volume: 1.0 Operator: 11211

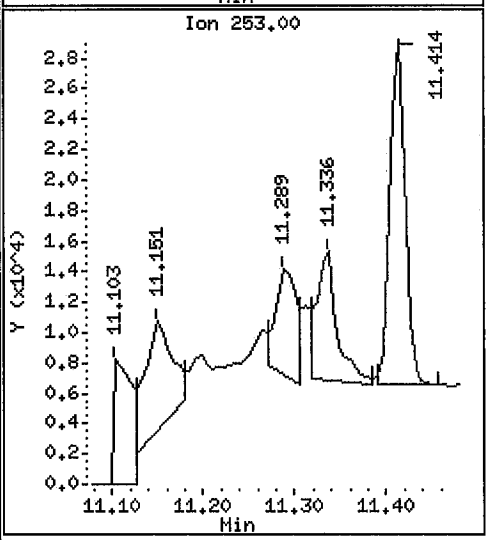
Column phase: Varian: 5MS Column diameter: 0.25

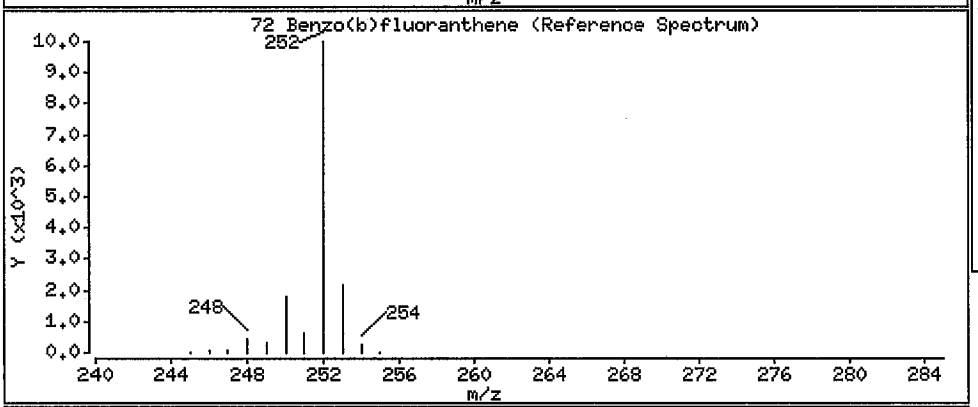
72 Benzo(b)fluoranthene Concentration: 43.8 ng/sample

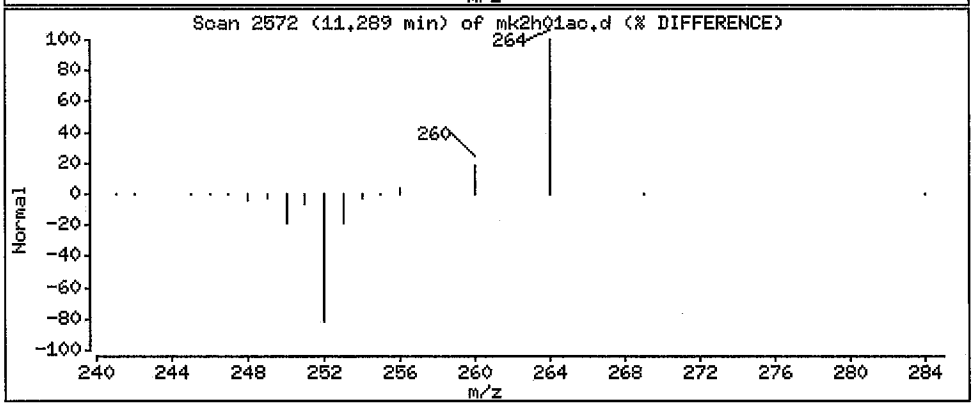












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

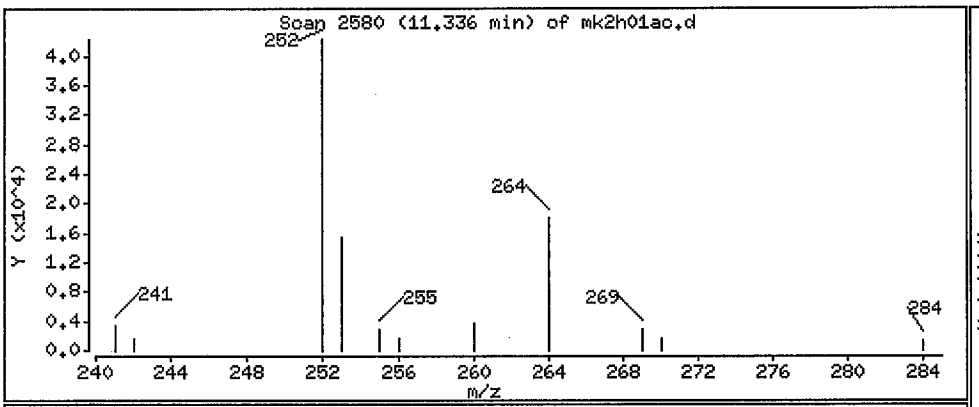
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

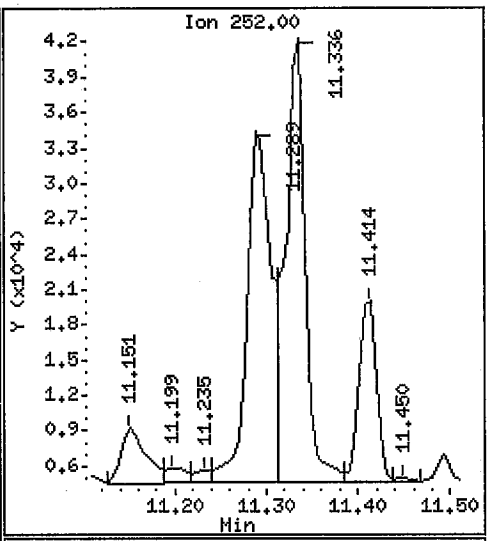
Sample Info: ,,0,,,

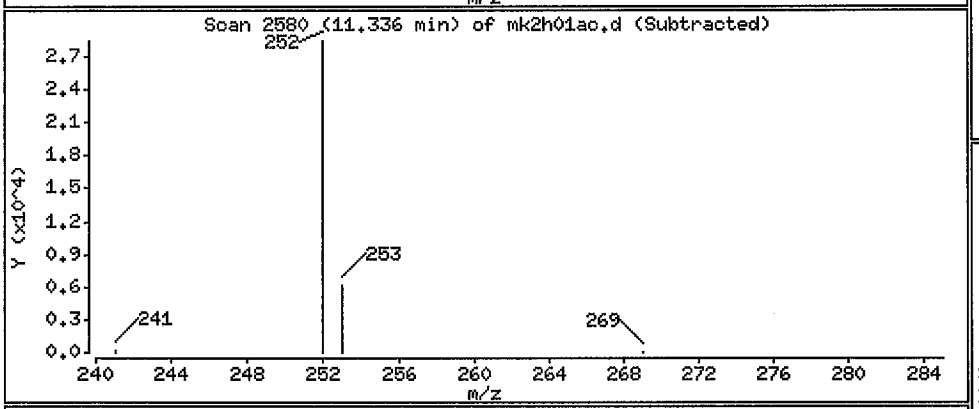
Purge Volume: 1.0 Operator: 11211

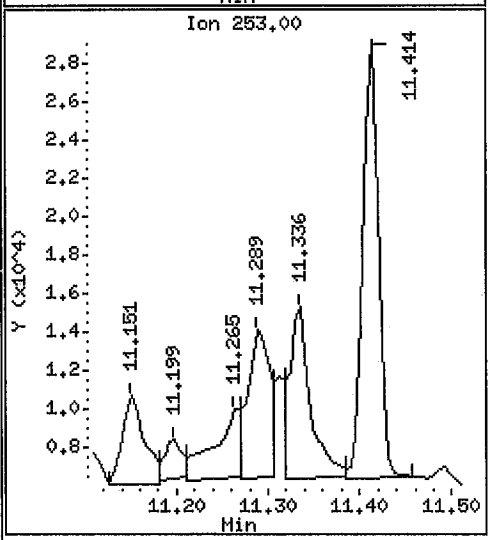
Column phase: Varian: 5MS Column diameter: 0.25

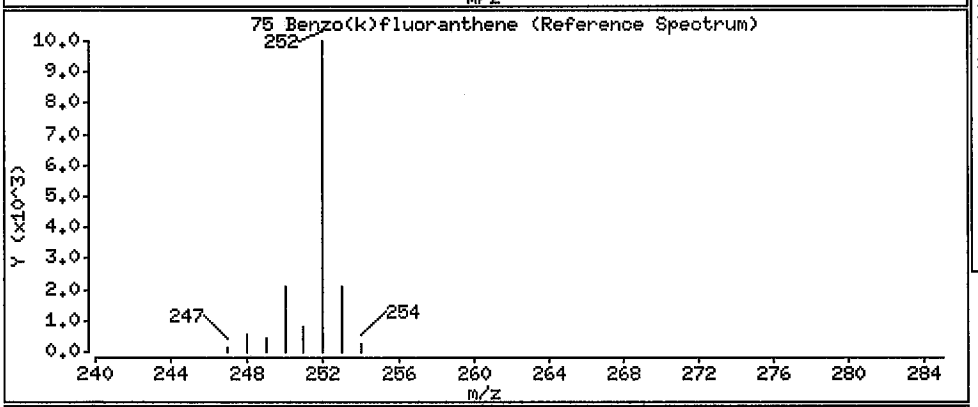
75 Benzo(k)fluoranthene Concentration: 63.0 ng/sample

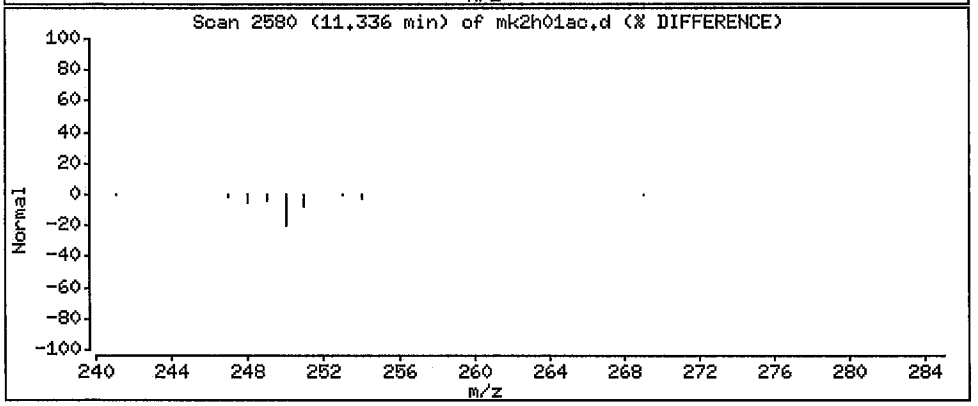












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

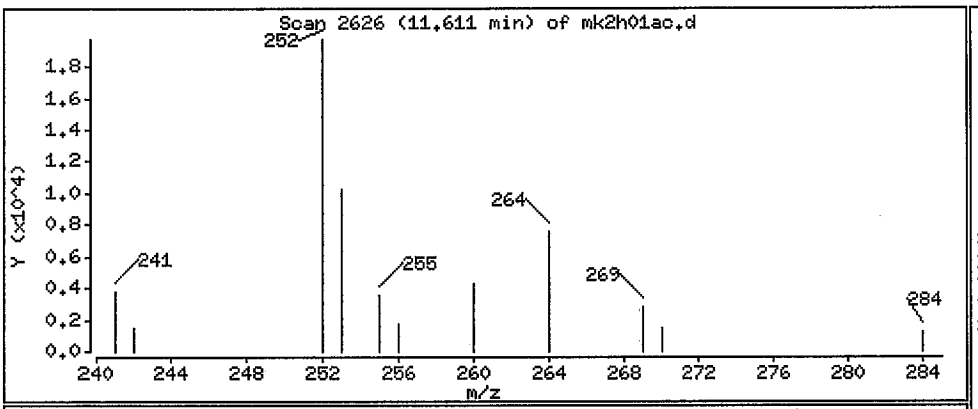
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

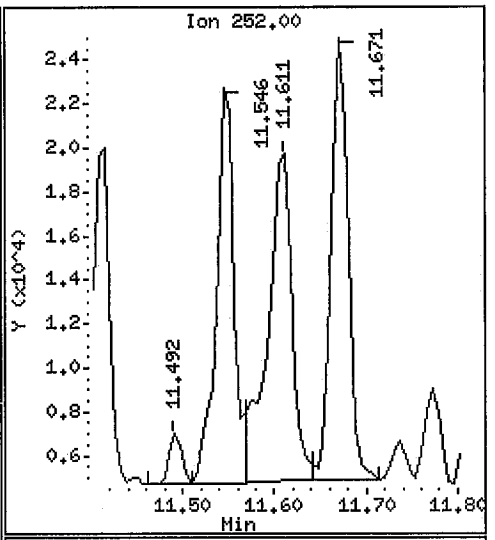
Sample Info: ,,0,,,

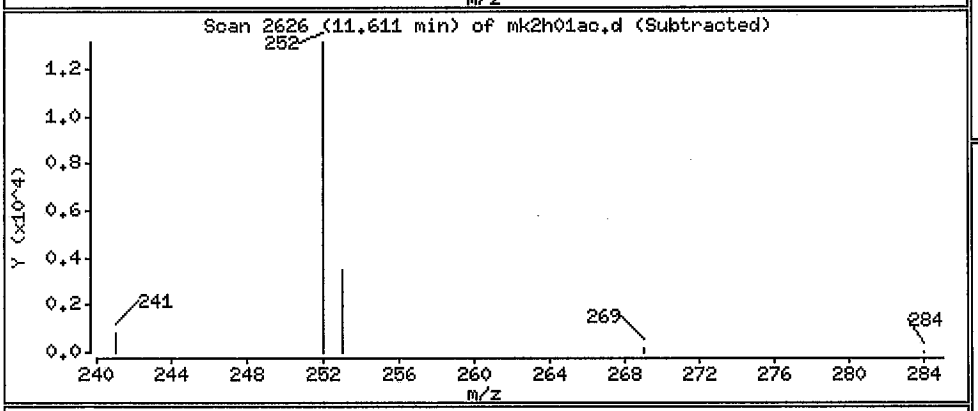
Purge Volume: 1.0 Operator: 11211

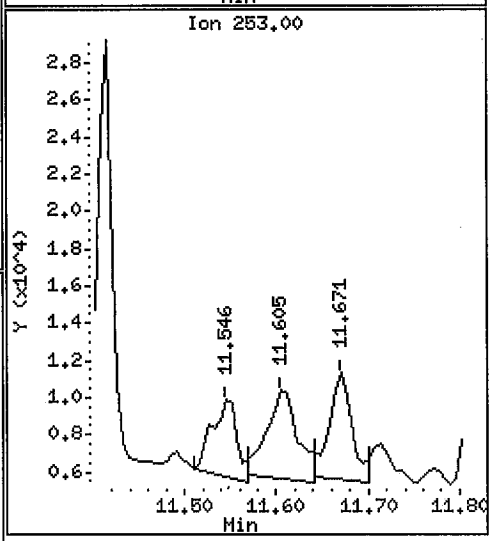
Column phase: Varian: 5MS Column diameter: 0.25

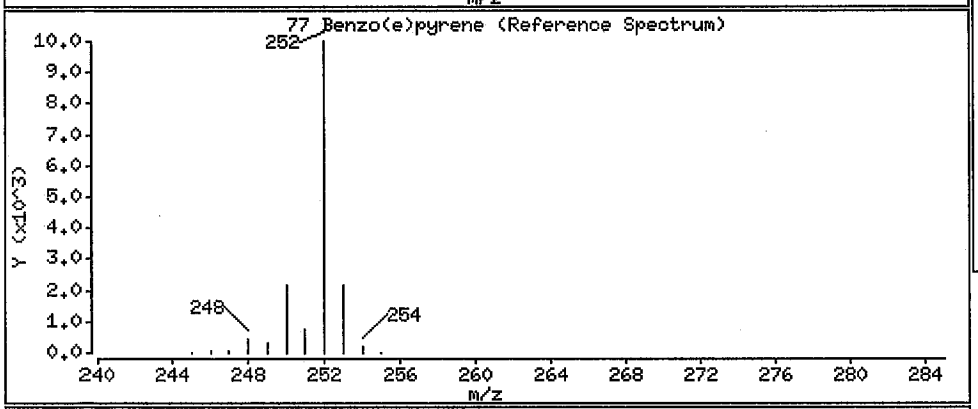
77 Benzo(e)pyrene Concentration: 25.7 ng/sample

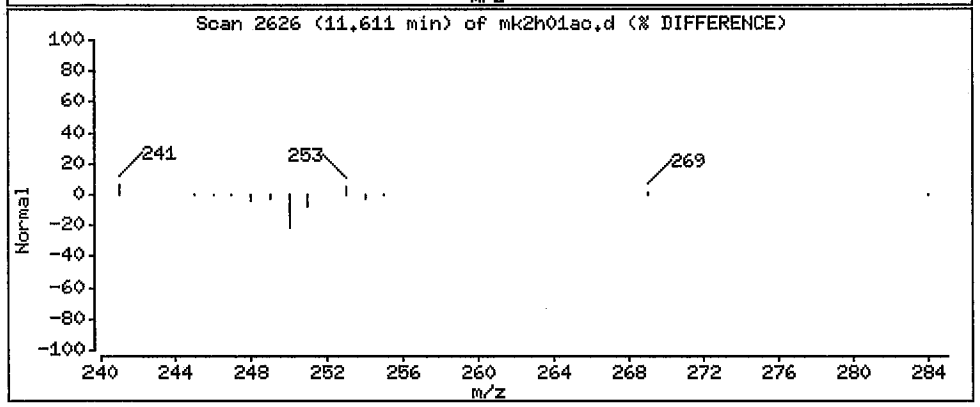












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

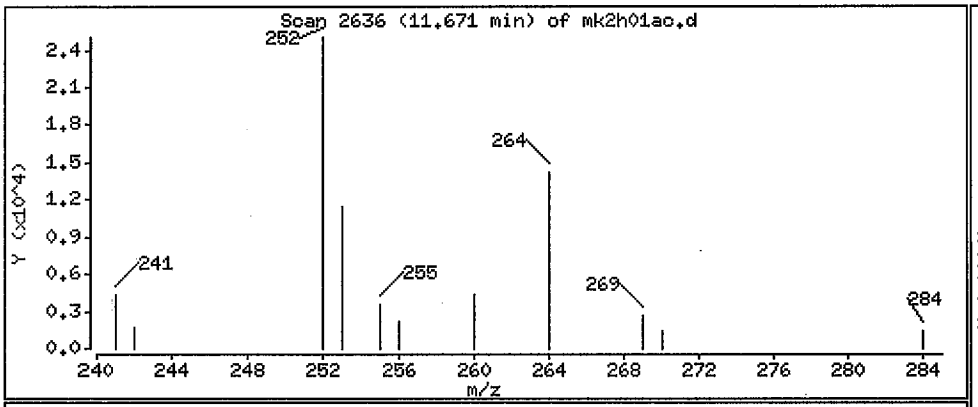
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

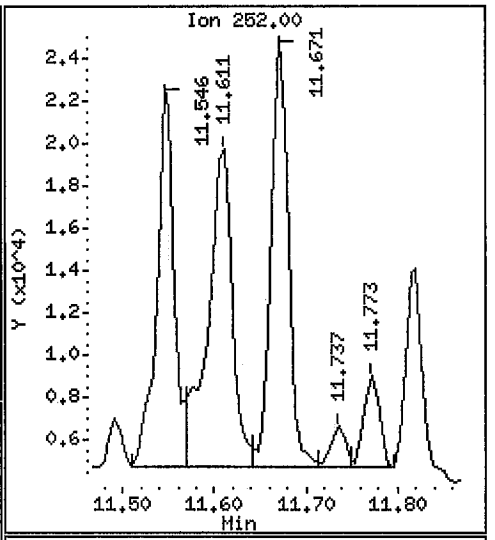
Sample Info: ,,0,,,

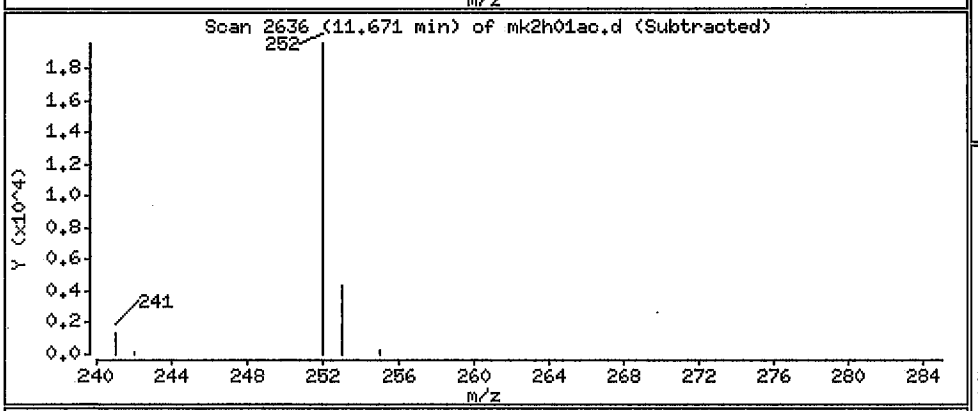
Purge Volume: 1.0 Operator: 11211

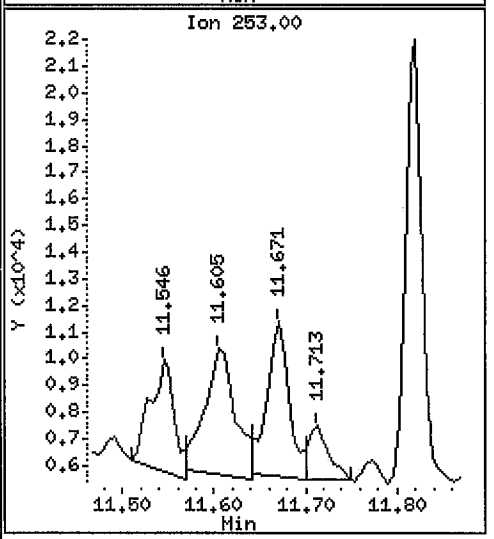
Column phase: Varian: 5MS Column diameter: 0.25

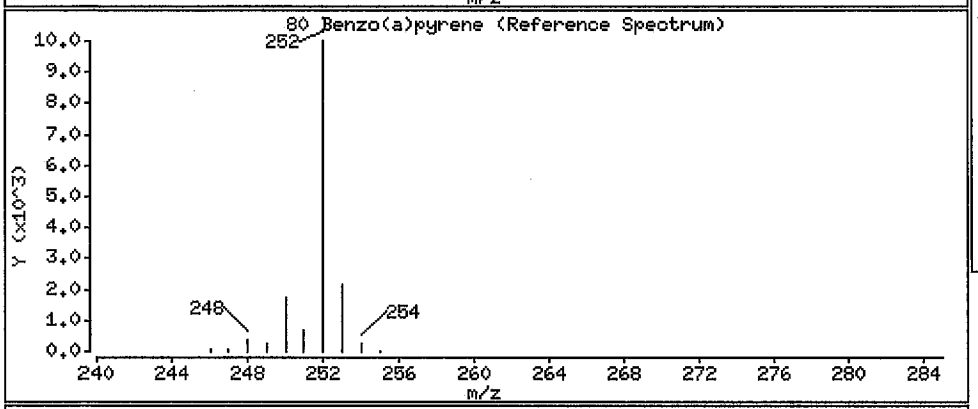
80 Benzo(a)pyrene Concentration: 29.2 ng/sample

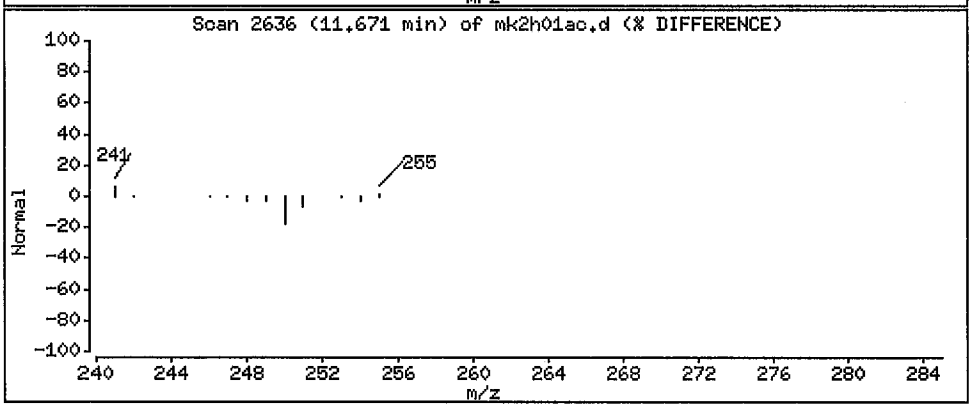












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

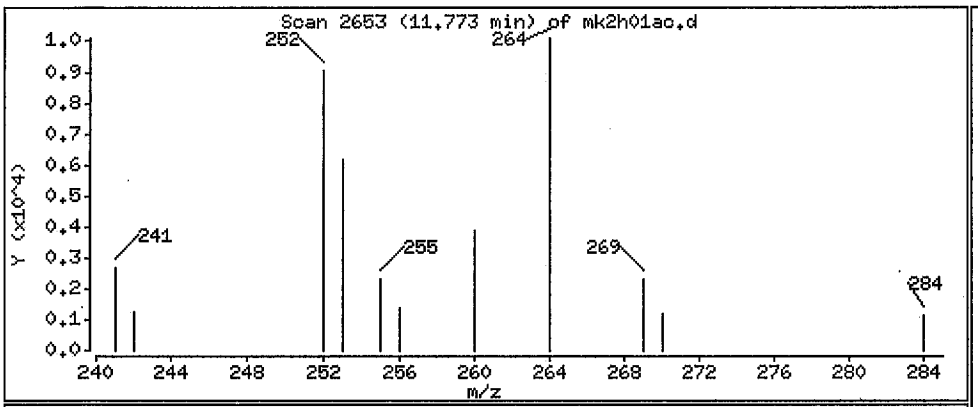
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

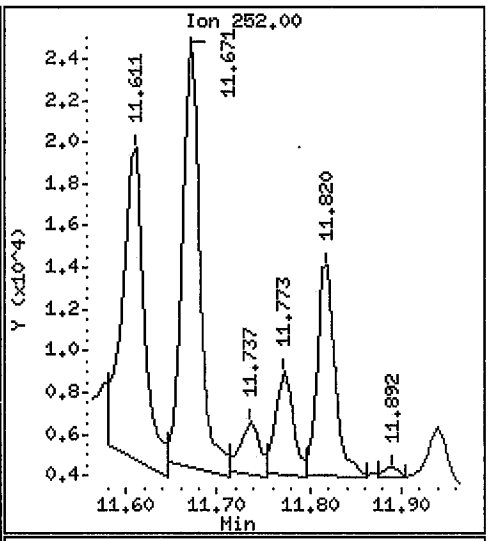
Sample Info: ,,0,,,

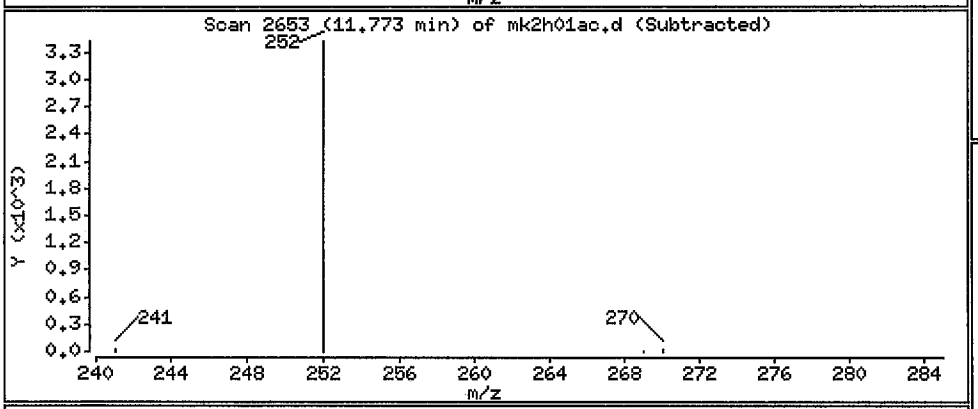
Purge Volume: 1.0 Operator: 11211

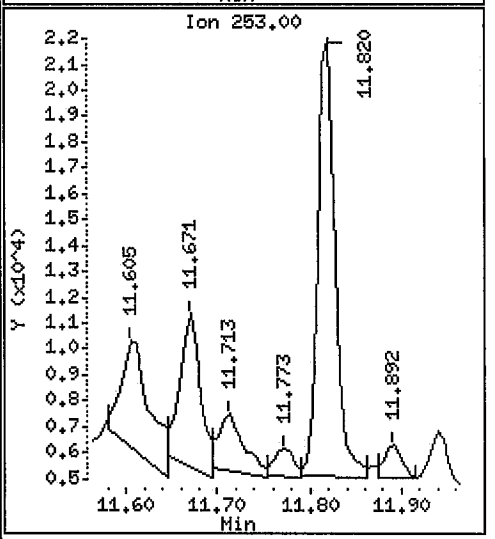
Column phase: Varian: 5MS Column diameter: 0.25

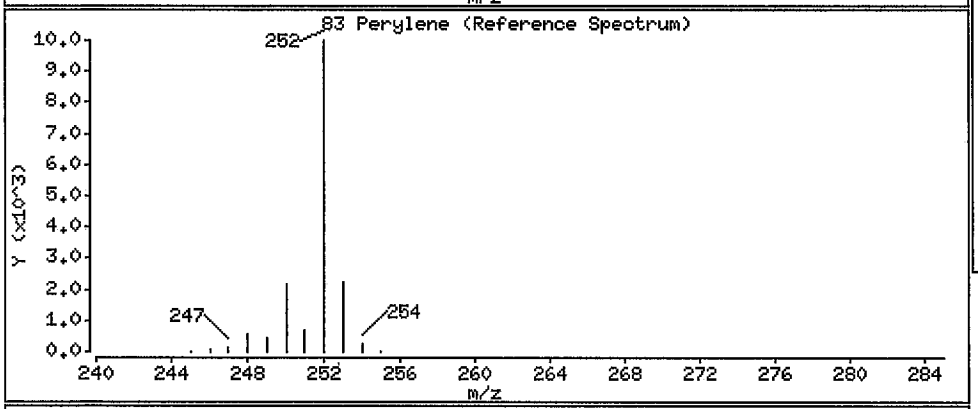
83 Perylene Concentration: 8.05 ng/sample

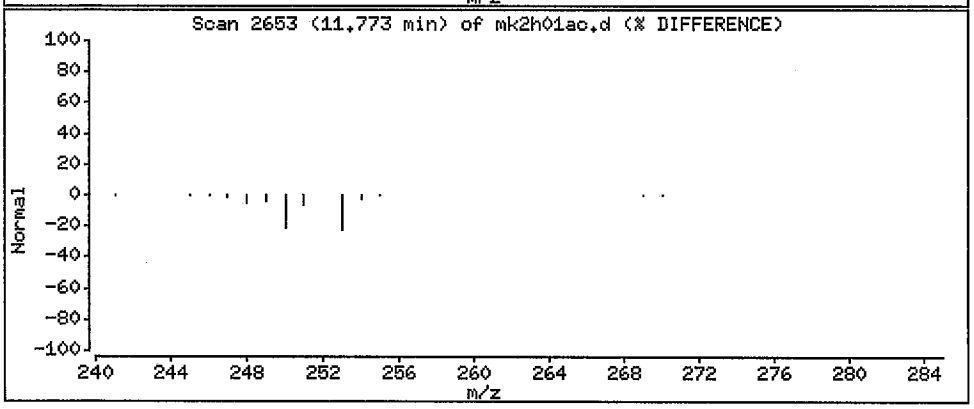












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

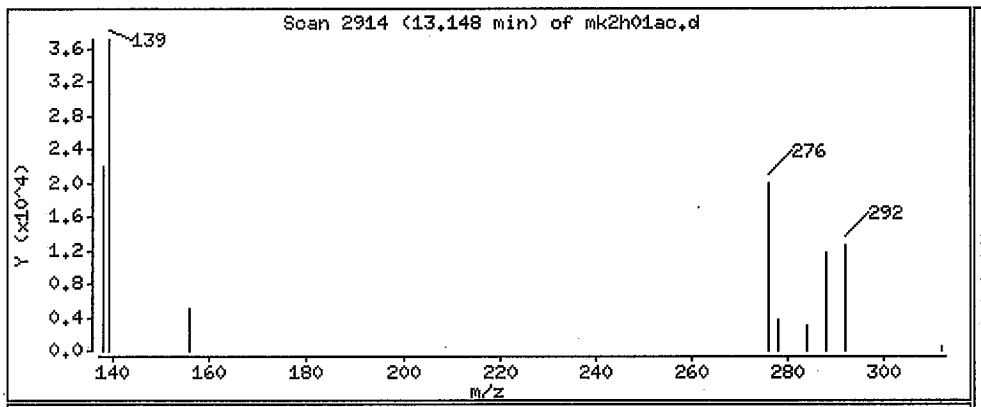
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

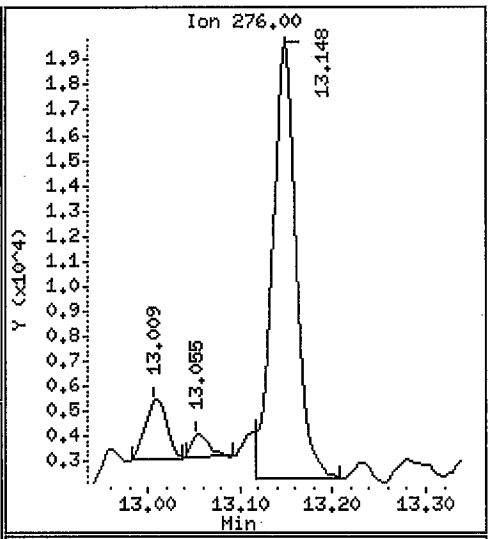
Sample Info: ,,0,,,

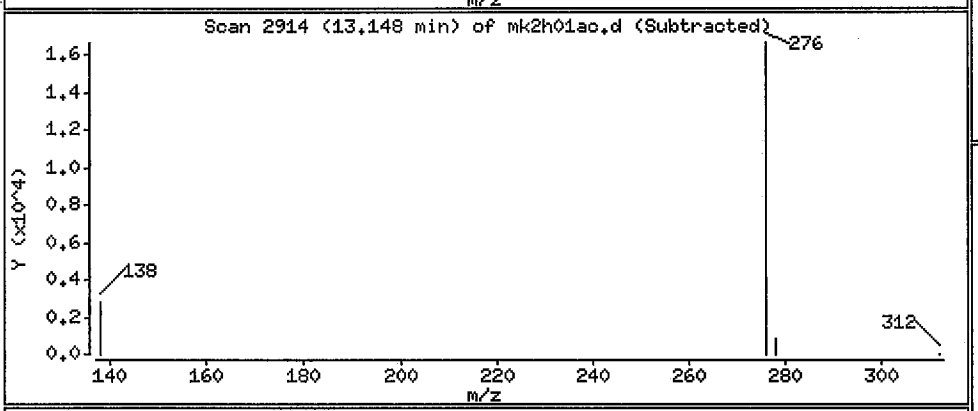
Purge Volume: 1.0 Operator: 11211

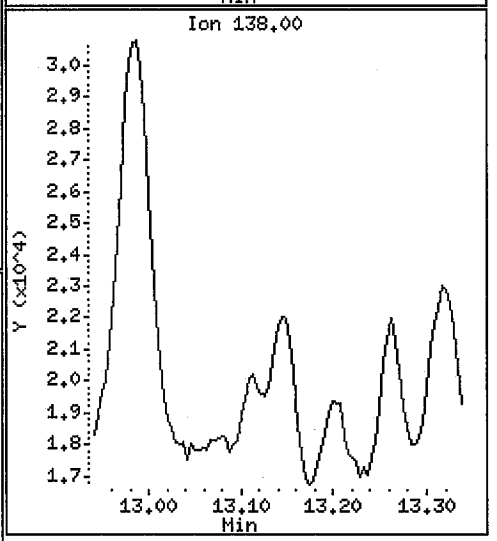
Column phase: Varian: 5MS Column diameter: 0.25

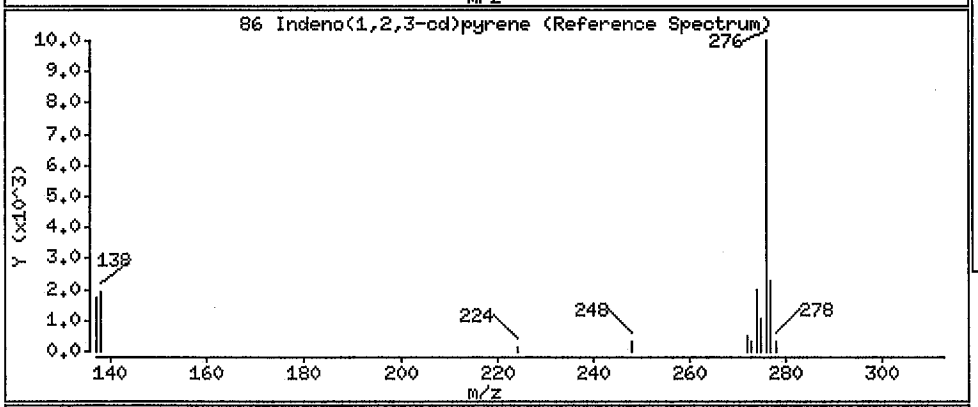
86 Indeno(1,2,3-cd)pyrene Concentration: 28.1 ng/sample

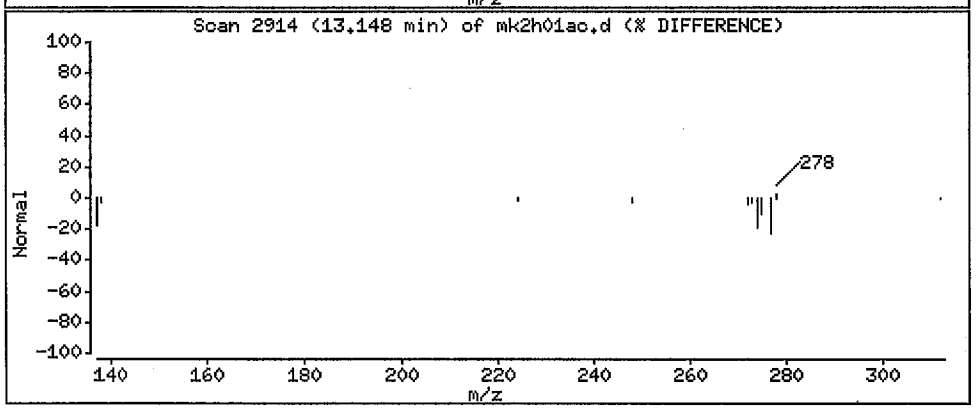












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

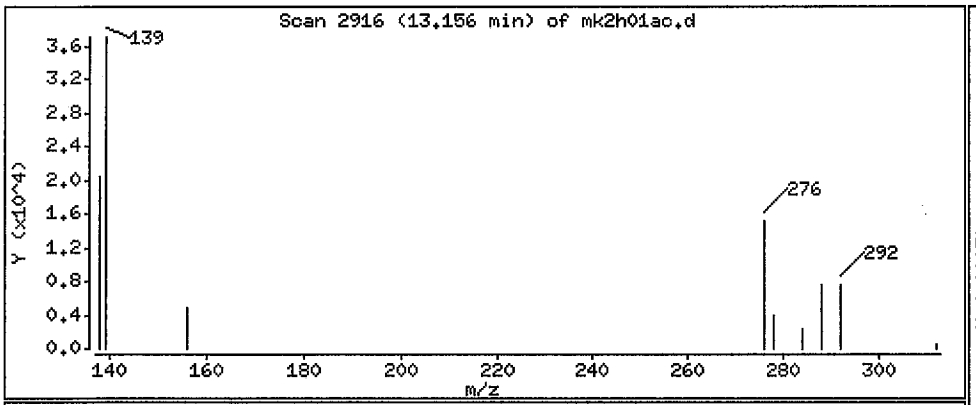
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

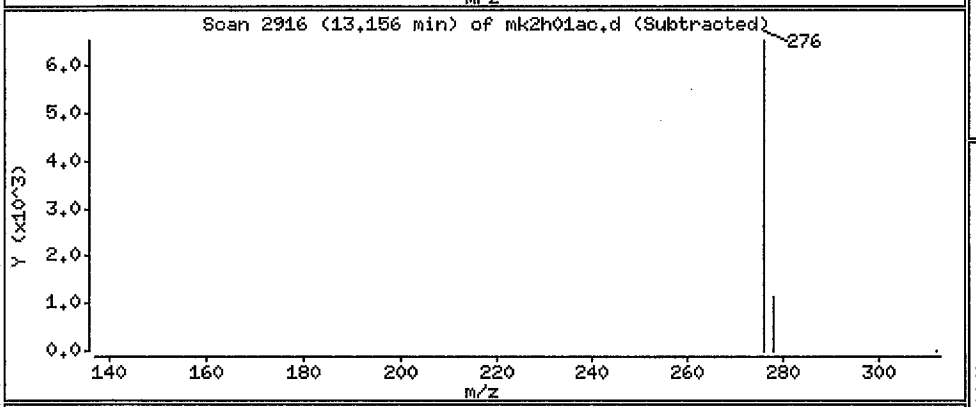
Sample Info: ,,0,,,

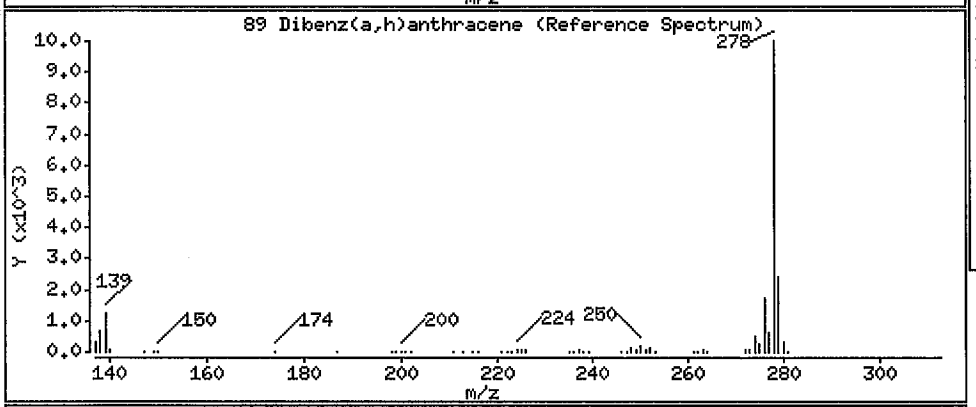
Purge Volume: 1.0 Operator: 11211

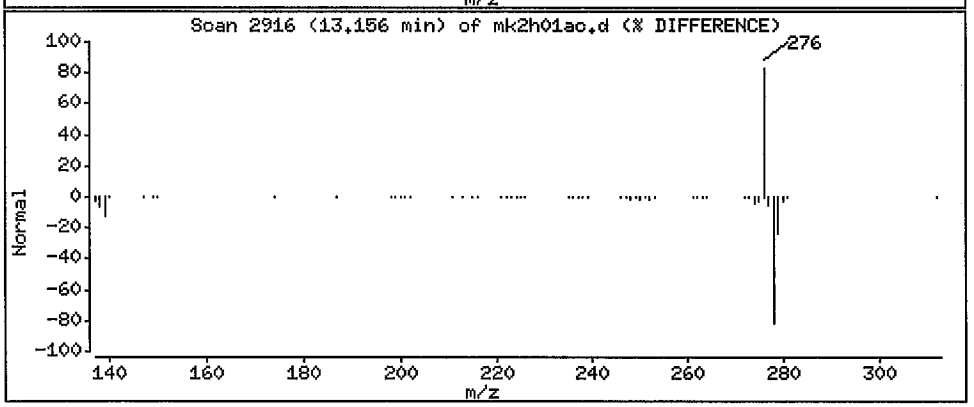
Column phase: Varian: 5MS Column diameter: 0.25

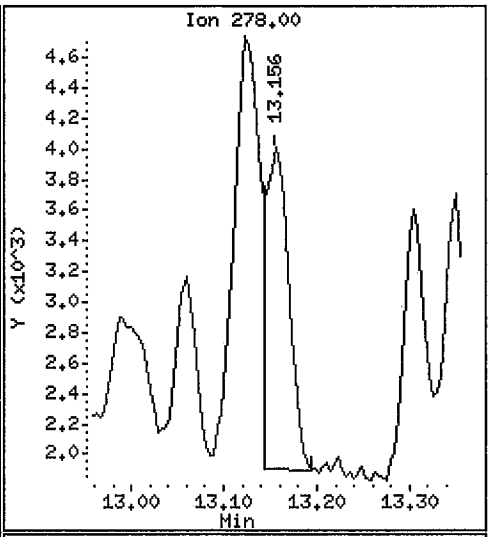
89 Dibenz(a,h)anthracene Concentration: 4.58 ng/sample

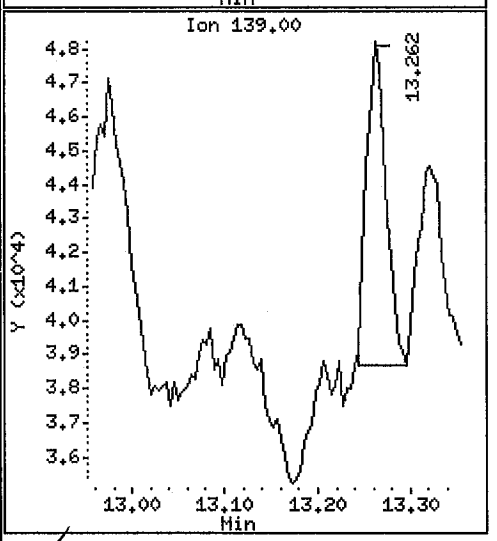












8/16/11

(5)

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h01ac.d

Date : 29-JUL-2011 15:04

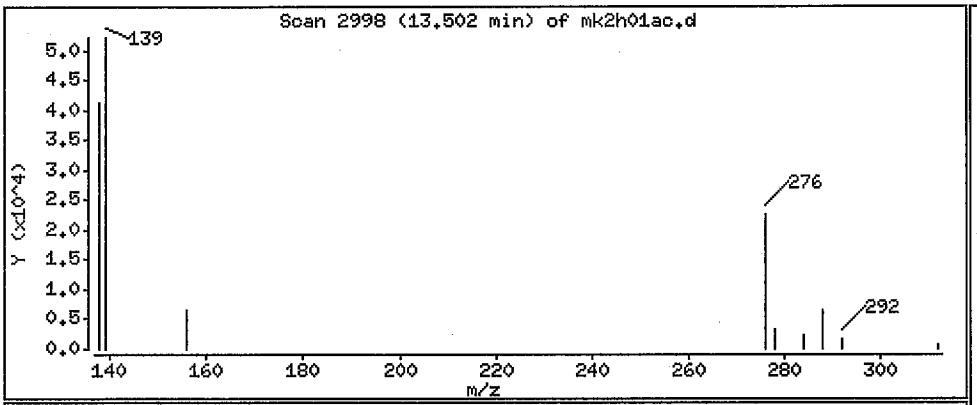
Client ID: 11-234 M0010 RUN 3 Instrument: mp.i

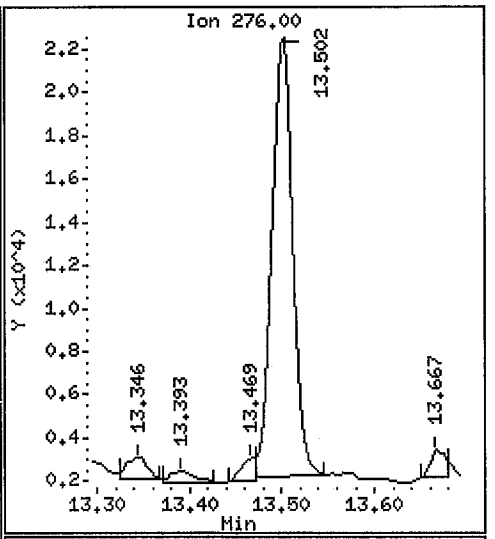
Sample Info: ,,0,,,

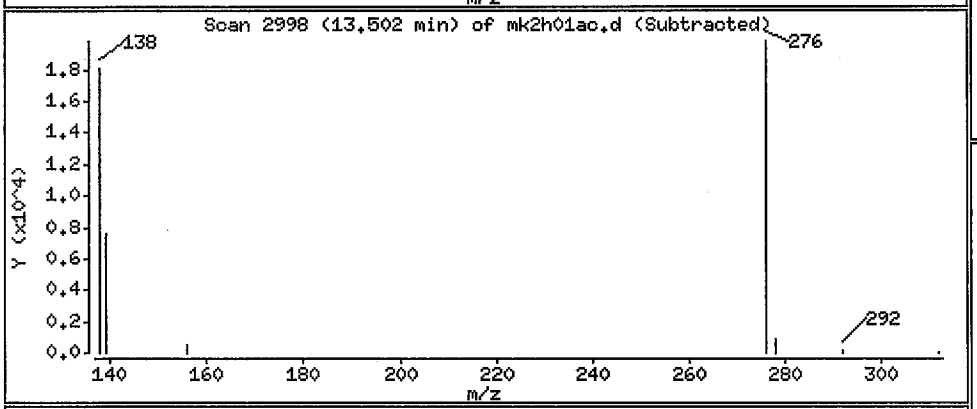
Purge Volume: 1.0 Operator: 11211

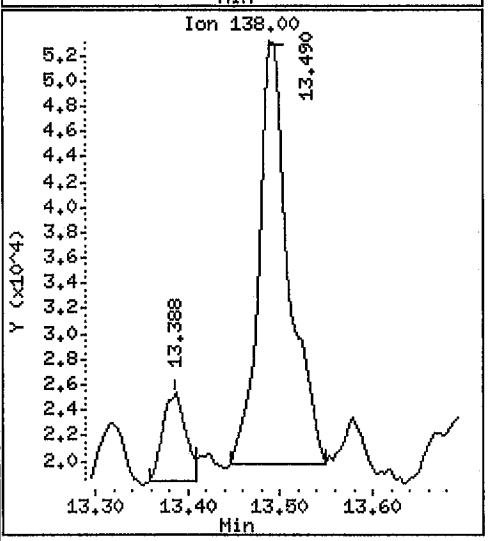
Column phase: Varian: 5MS Column diameter: 0.25

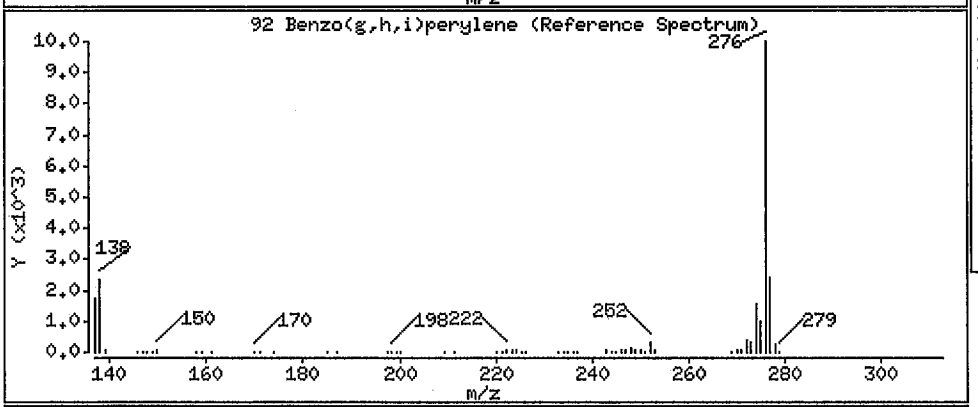
92 Benzo(g,h,i)perylene Concentration: 36.5 ng/sample

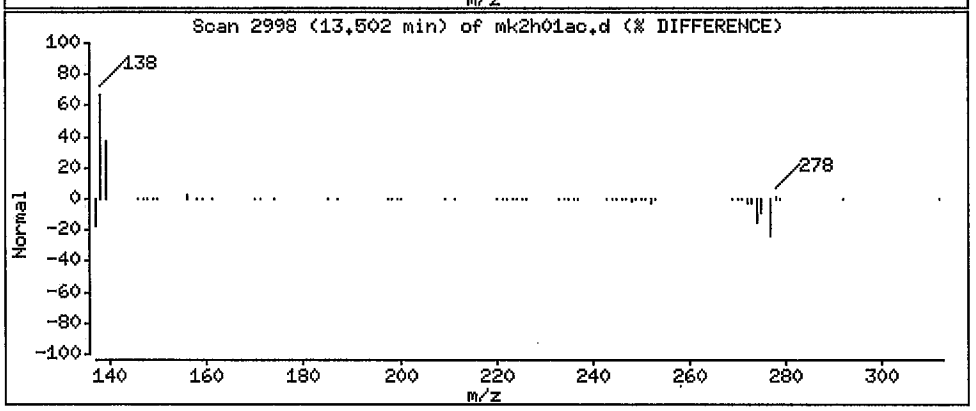












TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN 4 COMBINED

GC/MS Semivolatiles

Lot-Sample #...:	H1G200446-003	Work Order #...:	MK2H11AC	Matrix.....:	AIR
Date Sampled...:	07/12/11	Date Received..:	07/20/2011		
Prep Date.....:	07/20/11	Analysis Date..:	07/29/2011		
Prep Batch #...:	1201079				
Dilution Factor:	2	Method.....:	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	40	ng/sample	9.8
Acenaphthylene	ND	40	ng/sample	4.8
Anthracene	ND	20	ng/sample	7.6
Benzo(a)anthracene	ND	20	ng/sample	7.6
Benzo(b)fluoranthene	ND	200	ng/sample	60
Benzo(k)fluoranthene	ND	200	ng/sample	86
Benzo(ghi)perylene	**30**	**20**	ng/sample	10
Benzo(a)pyrene	ND	20	ng/sample	5.8
Benzo(e)pyrene	ND	20	ng/sample	11
Chrysene	**11 J**	**20**	ng/sample	5.0
Dibenz(a,h)anthracene	ND	20	ng/sample	7.8
Fluoranthene	**32**	**20**	ng/sample	13
Fluorene	**11 J**	**20**	ng/sample	8.2
Indeno(1,2,3-cd)pyrene	ND	20	ng/sample	5.2
2-Methylnaphthalene	ND	100	ng/sample	42
Naphthalene	**570 J**	**800**	ng/sample	500
Perylene	ND	20	ng/sample	6.2
Phenanthrene	**58 J**	**60**	ng/sample	48
Pyrene	ND	120	ng/sample	72

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	98	(50 - 150)
Terphenyl-d14	111	(50 - 150)
13C6-Fluorene	78	(50 - 150)
Anthracene-d10	100	(30 - 120)
Naphthalene-d8	80	(30 - 120)
2-Methylnaphthalene-d10	92	(30 - 120)
Acenaphthylene-d8	119	(30 - 120)
Phenanthrene-d10	84	(30 - 120)
Fluoranthene-d10	101	(30 - 120)
Benzo(a)anthracene-d12	154 *	(30 - 120)
Chrysene-d12	80	(30 - 120)
Benzo(b)fluoranthene-d12	115	(30 - 120)
Benzo(k)fluoranthene-d12	88	(30 - 120)
Benzo(a)pyrene-d12	114	(30 - 120)
Perylene-d12	97	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	109	(30 - 120)
Dibenz(ah)anthracene-d14	106	(30 - 120)
Benzo(ghi)perylene-d12	100	(30 - 120)

NOTE(S):

1 13C6-Anthracene = 86%

* Surrogate recovery is outside stated control limits.

J Estimated result. Result is less than RL.

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d
Report Date: 08-Aug-2011 11:22

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d
Lab Smp Id: MK2H11AC Client Smp ID: 11-234 M0010 RUN 4
Inj Date : 29-JUL-2011 15:29
Operator : 11211 Inst ID: mp.i
Smp Info : ,,0,,,
Misc Info : P072911,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Meth Date : 04-Aug-2011 19:00 cochranj Quant Type: ISTD
Cal Date : 26-JUL-2011 20:15 Cal File: pg26ic07.d
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	2.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
* 1 Naphthalene-d8	136	4.869	4.865	(1.000)	648584	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.869	4.865	(0.770)	648584	0.39957	400
3 Naphthalene	128	4.884	4.880	(1.003)	628276	0.57079	571
$ 222 13C6-Naphthalene	134	4.869	4.880	(1.000)	66586	0.05589	55.9(R)
* 10 2-Methylnaphthalene-d10	152	5.424	5.424	(1.000)	403402	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.424	5.424	(0.858)	403402	0.46058	461
12 2-Methylnaphthalene	142	5.450	5.450	(1.005)	24345	0.02996	30.0
* 13 1-Methylnaphthalene-d10	152	5.507	5.503	(1.000)	375602	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.507	5.503	(0.871)	375602	0.43142	431
15 1-Methylnaphthalene	142	5.533	5.533	(1.005)	19651	0.02697	27.0
16 Biphenyl	154	5.837	5.835	(1.076)	130926	0.13565	136
* 17 2,6-Dimethylnaphthalene-d12	168	5.935	5.933	(1.000)	350761	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.935	5.933	(0.938)	350761	0.46947	469
19 2,6 Dimethylnaphthalene	156	5.974	5.969	(1.007)	6921	0.00990	9.90

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d
Report Date: 08-Aug-2011 11:22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/sample)
*	20 Acenaphthylene-d8	160	6.194	6.194	(1.000)	728238	0.50000	0.500
$	21 Acenaphthylene-d8(SS)	160	6.194	6.194	(0.979)	728238	0.59635	596
	22 Acenaphthylene	152	6.185	6.202	(0.999)	4125	0.00281	~~2.81~~ SNR
*	23 Acenaphthene-d10	164	6.325	6.325	(1.000)	345137	0.50000	0.500
	24 Acenaphthene	154	6.350	6.350	(1.025)	4711	0.00537	5.37
	25 2,3,5 Trimethylnaphthalene	170	6.669	6.669	(1.124)	1619	0.00278	2.78
$	26 Fluorene-d10	176	6.761	6.758	(0.892)	644759	0.97676	977
	27 Fluorene	166	6.783	6.783	(0.895)	9034	0.01058	10.6
$	28 13C6-Fluorene	171	6.783	6.781	(0.895)	572430	0.77698	777
*	34 Dibenzothiopene-d8	192	7.476	7.474	(1.000)	610100	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.476	7.474	(0.841)	610100	0.41455	415
	36 Dibenzothiophene	184	7.493	7.489	(1.002)	8351	0.00718	7.18
*	41 Phenanthrene-d10	188	7.578	7.578	(1.000)	556762	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.578	7.578	(0.852)	556762	0.41932	419
	43 Phenanthrene	178	7.598	7.597	(1.003)	70354	0.05755	57.6
*	44 Anthracene-d10	188	7.628	7.626	(1.000)	562167	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.628	7.626	(0.858)	562167	0.50139	501
	46 Anthracene	178	7.640	7.642	(1.002)	3965	0.00274	2.74
$	47 13C6-Anthracene	184	7.642	7.642	(0.860)	520448	0.42824	428
	52 1-Methylphenanthrene	192	8.145	8.143	(1.075)	5198	0.00708	7.08
*	53 Fluoranthene-d10	212	8.667	8.665	(1.000)	626701	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.667	8.665	(0.975)	626701	0.50677	507
	55 Fluoranthene	202	8.685	8.683	(1.002)	44717	0.03171	31.7
*	56 Pyrene-d10	212	8.889	8.885	(1.000)	504129	0.50000	0.500
	57 Pyrene	202	8.906	8.904	(1.028)	22463	0.01506	15.1
$	58 Terphenyl-d14	244	9.045	9.043	(1.044)	714196	1.11225	1110
*	60 Benzo(a)anthracene-d12	240	10.104	10.100	(1.000)	474466	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.104	10.100	(1.137)	474466	0.77162	772(R)
	62 Benzo(a)anthracene	228	10.125	10.121	(1.002)	2158	0.00142	1.42
*	63 Chrysene-d12	240	10.137	10.133	(1.000)	429566	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.137	10.133	(1.140)	429566	0.39819	398
	65 Chrysene	228	10.163	10.163	(1.002)	10664	0.01137	11.4
*	70 Benzo(b)fluoranthene-d12	264	11.259	11.253	(1.000)	440662	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.259	11.253	(0.973)	440662	0.57589	576
	72 Benzo(b)fluoranthene	252	11.283	11.277	(1.002)	7143	0.00552	5.52
*	73 Benzo(k)fluoranthene-d12	264	11.289	11.289	(1.000)	479247	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.289	11.289	(0.975)	479247	0.43884	439
	75 Benzo(k)fluoranthene	252	11.283	11.307	(0.999)	7321	0.00698	~~6.98~~ SNR
*	76 Benzo(e)pyrene-d12	264	11.575	11.570	(1.000)	362847	0.50000	0.500
	77 Benzo(e)pyrene	252	11.605	11.600	(0.997)	6201	0.00512	5.12
*	78 Benzo(a)pyrene-d12	264	11.641	11.635	(1.000)	445654	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.641	11.635	(1.006)	445654	0.56962	570
	80 Benzo(a)pyrene	252	11.665	11.665	(1.002)	3432	0.00339	3.39
*	81 Perylene-d12	264	11.737	11.737	(1.000)	379288	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.737	11.737	(1.014)	379288	0.48607	486
	83 Perylene	252	11.773	11.761	(1.003)	731	0.000765	0.765
*	84 Indeno(123-cd)pyrene-d12	288	13.110	13.106	(1.000)	487208	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d
Report Date: 08-Aug-2011 11:22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.110	13.106	(1.133)	487208	0.54495	545
	86 Indeno(1,2,3-cd)pyrene	276	13.144	13.140	(1.003)	5397	0.00458	4.58
*	87 Dibenz(ah)anthracene-d14	292	13.114	13.110	(1.000)	361183	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.114	13.110	(1.133)	361183	0.53039	530
	89 Dibenz(a,h)anthracene	278	13.123	13.157	(1.001)	7960	0.00897	~~8.97~~
*	90 Benzo(ghi)perylene-d12	288	13.464	13.460	(1.000)	337215	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.464	13.460	(1.163)	335861	0.49987	500
	92 Benzo(g,h,i)perylene	276	13.498	13.494	(1.002)	28327	0.03035	30.3

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

8/8/11

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d
Report Date: 08-Aug-2011 11:51

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d
Lab Smp Id: MK2H11AC Client Smp ID: 11-234 M0010 RUN 4
Inj Date : 29-JUL-2011 15:29
Operator : 11211 Inst ID: mp.i
Smp Info : ,,0,,,
Misc Info : P072911,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Meth Date : 04-Aug-2011 19:00 cochranj Quant Type: ISTD
Cal Date : 26-JUL-2011 20:15 Cal File: pg26ic07.d
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	2.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
* 1 Naphthalene-d8	136	4.869	4.865	(1.000)	648584	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.869	4.865	(0.770)	648584	0.39957	400
3 Naphthalene	128	4.884	4.880	(1.003)	628276	0.57079	571
* 10 2-Methylnaphthalene-d10	152	5.424	5.424	(1.000)	403402	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.424	5.424	(0.858)	403402	0.46058	461
12 2-Methylnaphthalene	142	5.450	5.450	(1.005)	24345	0.02996	30.0
* 13 1-Methylnaphthalene-d10	152	5.507	5.503	(1.000)	375602	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.507	5.503	(0.871)	375602	0.43142	431
15 1-Methylnaphthalene	142	5.533	5.533	(1.005)	19651	0.02697	27.0
16 Biphenyl	154	5.837	5.835	(1.076)	130926	0.13565	136
* 17 2,6-Dimethylnaphthalene-d12	168	5.935	5.933	(1.000)	350761	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.935	5.933	(0.938)	350761	0.46947	469
19 2,6 Dimethylnaphthalene	156	5.974	5.969	(1.007)	6921	0.00990	9.90
* 20 Acenaphthylene-d8	160	6.194	6.194	(1.000)	728238	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d
Report Date: 08-Aug-2011 11:51

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
$	21 Acenaphthylene-d8(SS)	160	6.194	6.194	(0.979)	728238	0.59635	596
	22 Acenaphthylene	152	6.205	6.202	(1.002)	1333	0.000908	0.908(M)
*	23 Acenaphthene-d10	164	6.325	6.325	(1.000)	345137	0.50000	0.500
	24 Acenaphthene	154	6.350	6.350	(1.025)	4711	0.00537	5.37
	25 2,3,5 Trimethylnaphthalene	170	6.669	6.669	(1.124)	1619	0.00278	2.78
$	26 Fluorene-d10	176	6.761	6.758	(0.892)	644759	0.97676	977
	27 Fluorene	166	6.783	6.783	(0.895)	9034	0.01058	10.6
$	28 13C6-Fluorene	171	6.783	6.781	(0.895)	572430	0.77699	777
*	34 Dibenzothiopene-d8	192	7.476	7.474	(1.000)	610100	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.476	7.474	(0.841)	610100	0.41455	415
	36 Dibenzothiophene	184	7.493	7.489	(1.002)	8351	0.00718	7.18
*	41 Phenanthrene-d10	188	7.578	7.578	(1.000)	556762	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.578	7.578	(0.852)	556762	0.41932	419
	43 Phenanthrene	178	7.598	7.597	(1.003)	70354	0.05755	57.6
*	44 Anthracene-d10	188	7.628	7.626	(1.000)	562167	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.628	7.626	(0.858)	562167	0.50139	501
	46 Anthracene	178	7.640	7.642	(1.002)	3965	0.00274	2.74
$	47 13C6-Anthracene	184	7.642	7.642	(0.860)	520448	0.42824	428
	52 1-Methylphenanthrene	192	8.145	8.143	(1.075)	5198	0.00708	7.08
*	53 Fluoranthene-d10	212	8.667	8.665	(1.000)	626701	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.667	8.665	(0.975)	626701	0.50677	507
	55 Fluoranthene	202	8.685	8.683	(1.002)	44717	0.03171	31.7
*	56 Pyrene-d10	212	8.889	8.885	(1.000)	504129	0.50000	0.500
	57 Pyrene	202	8.906	8.904	(1.028)	22463	0.01506	15.1
$	58 Terphenyl-d14	244	9.045	9.043	(1.044)	714196	1.11225	1110
*	60 Benzo(a)anthracene-d12	240	10.104	10.100	(1.000)	474466	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.104	10.100	(1.137)	474466	0.77162	772(R)
	62 Benzo(a)anthracene	228	10.125	10.121	(1.002)	2158	0.00142	1.42
*	63 Chrysene-d12	240	10.137	10.133	(1.000)	429566	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.137	10.133	(1.140)	429566	0.39819	398
	65 Chrysene	228	10.163	10.163	(1.002)	10664	0.01137	11.4
*	70 Benzo(b)fluoranthene-d12	264	11.259	11.253	(1.000)	440662	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.259	11.253	(0.973)	440662	0.57589	576
	72 Benzo(b)fluoranthene	252	11.283	11.277	(1.002)	7143	0.00552	5.52
*	73 Benzo(k)fluoranthene-d12	264	11.289	11.289	(1.000)	479247	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.289	11.289	(0.975)	479247	0.43884	439
	75 Benzo(k)fluoranthene	252	11.330	11.307	(1.004)	34505	0.03288	32.9(H)
*	76 Benzo(e)pyrene-d12	264	11.575	11.570	(1.000)	362847	0.50000	0.500
	77 Benzo(e)pyrene	252	11.605	11.600	(0.997)	6201	0.00512	5.12
*	78 Benzo(a)pyrene-d12	264	11.641	11.635	(1.000)	445654	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.641	11.635	(1.006)	445654	0.56962	570
	80 Benzo(a)pyrene	252	11.665	11.665	(1.002)	3432	0.00339	3.39
*	81 Perylene-d12	264	11.737	11.737	(1.000)	379288	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.737	11.737	(1.014)	379288	0.48607	486
	83 Perylene	252	11.773	11.761	(1.003)	731	0.000765	0.765
*	84 Indeno(123-cd)pyrene-d12	288	13.110	13.106	(1.000)	487208	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.110	13.106	(1.133)	487208	0.54495	545

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d
Report Date: 08-Aug-2011 11:51

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
	86 Indeno(1,2,3-cd)pyrene	276	13.144	13.140	(1.003)	5397	0.00458	4.58
*	87 Dibenz(ah)anthracene-d14	292	13.114	13.110	(1.000)	361183	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.114	13.110	(1.133)	361183	0.53038	530
*	90 Benzo(ghi)perylene-d12	288	13.464	13.460	(1.000)	337215	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.464	13.460	(1.163)	335861	0.49987	500
	92 Benzo(g,h,i)perylene	276	13.498	13.494	(1.002)	28327	0.03035	30.3

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d
Report Date: 08-Aug-2011 11:22

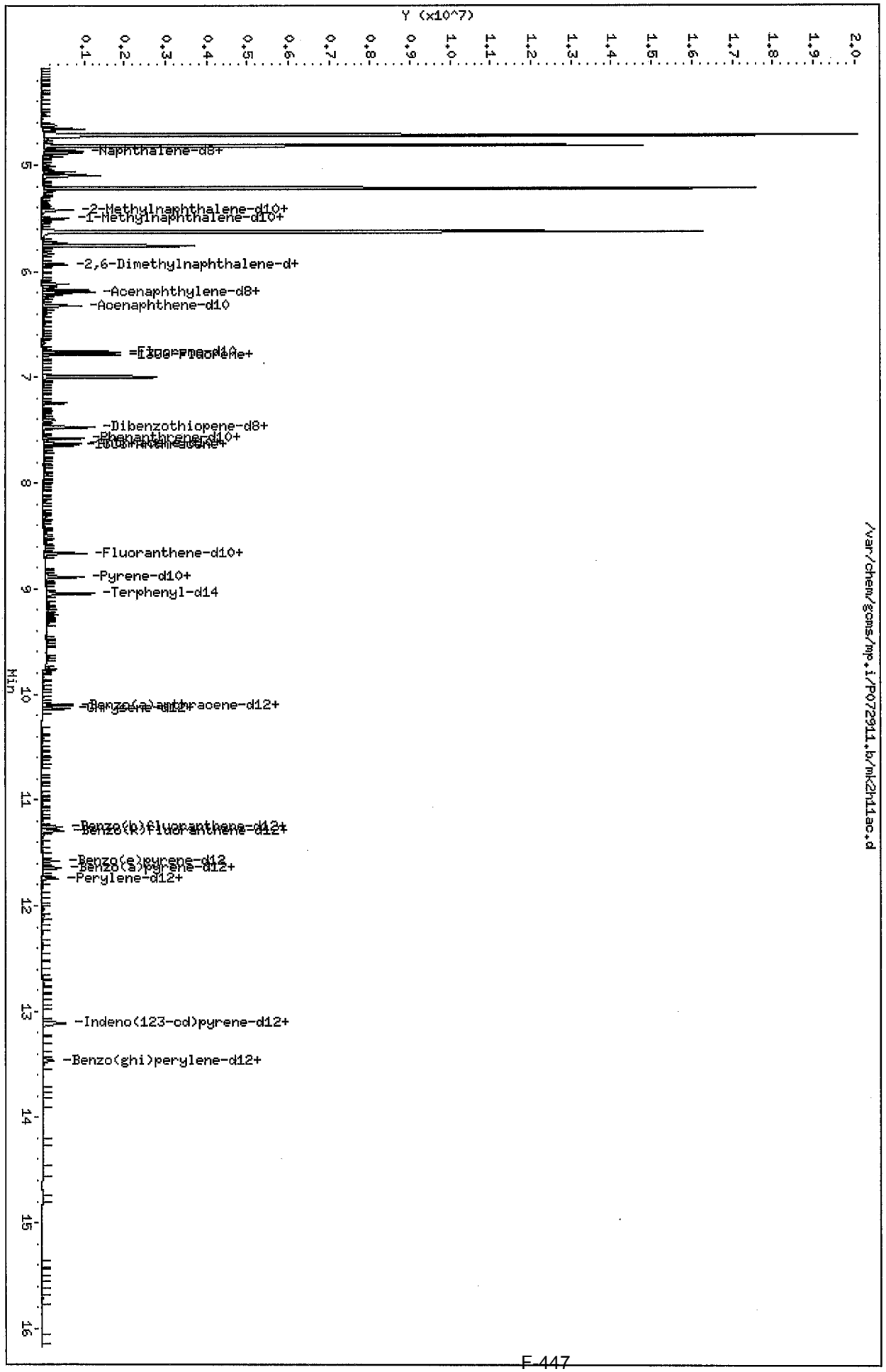
TestAmerica Knoxville

RECOVERY REPORT

Client Name: TestAmerica Air Emis20-JUL-2011 00:00 Client SDG: H1G200446
Sample Matrix: GAS Fraction: SV
Lab Smp Id: MK2H11AC Client Smp ID: 11-234 M0010 RUN 4
Level: LOW Operator: 11211
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: icv.spk Quant Type: ISTD
Sublist File: pah.sub
Method File: /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Misc Info: P072911,SIMPAH3

	SURROGATE COMPOUND	CONC ADDED ng/sample	CONC RECOVERED ng/sample	% RECOVERED	LIMITS
$ 2	Naphthalene-d8(SS)	500	400	79.91	30-120
$ 222	13C6-Naphthalene	~~500~~	~~55.9~~	~~11.18~~*	50-150
$ 11	2-Methylnaphthalen	500	461	92.12	30-120
$ 14	1-Methylnaphthalen	500	431	86.28	30-120
$ 18	2,6-Dimethylnaph-d	500	469	93.89	30-120
$ 21	Acenaphthylene-d8(	500	596	119.27	30-120
$ 26	Fluorene-d10	1000	977	97.68	~~30-120~~ 50-150
$ 28	13C6-Fluorene	1000	777	77.70	~~30-120~~
$ 35	Dibenzothiopene-d8	500	415	82.91	30-120
$ 42	Phenanthrene-d10(S	500	419	83.86	30-120
$ 45	Anthracene-d10(SS)	500	501	100.28	30-120
$ 47	13C6-Anthracene	500	428	85.65	30-120
$ 54	Fluoranthene-d10(S	500	507	101.35	30-120
$ 58	Terphenyl-d14	1000	1110	111.22	~~30-120~~ 50-150
$ 61	Benzo(a)anthracene	500	772	154.32*	30-120
$ 64	Chrysene-d12(SS)	500	398	79.64	30-120
$ 71	Benzo(b)fluoranthe	500	576	115.18	30-120
$ 74	Benzo(k)fluoranthe	500	439	87.77	30-120
$ 79	Benzo(a)pyrene-d12	500	570	113.92	30-120
$ 82	Perylene-d12(SS)	500	486	97.21	30-120
$ 85	Indeno(123-cd)pyre	500	545	108.99	30-120
$ 88	Dibenz(ah)anthrace	500	530	106.08	30-120
$ 91	Benzo(ghi)perylene	500	500	99.97	30-120

8/12/11 MW


Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d
Date : 29-JUL-2011 15:29
Client ID: 11-234 M0010 RUN 4
Sample Info: ,,0,,,
Purge Volume: 1.0
Column phase: Varian 5MS
Instrument: mp.i
Operator: 11211
Column diameter: 0.25
/var/chem/gcms/mp.i/P072911.b/mk2h11ac.d
Y (x10^7)
Min
-Naphthalene-d8+
-2-Methylnaphthalene-d10+
-1-Methylnaphthalene-d10+
-2,6-Dimethylnaphthalene-d+
-Acenaphthylene-d8+
-Acenaphthene-d10
-Dibenzothiopene-d8+
-Fluoranthene-d10+
-Pyrene-d10+
-Terphenyl-d14
-Benzo(a)anthracene-d12+
-Benzo(b)fluoranthene-d12+
-Benzo(k)fluoranthene-d12+
-Benzo(e)pyrene-d12
-Benzo(a)pyrene-d12+
-Perylene-d12+
-Indeno(123-cd)pyrene-d12+
-Benzo(ghi)perylene-d12+

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

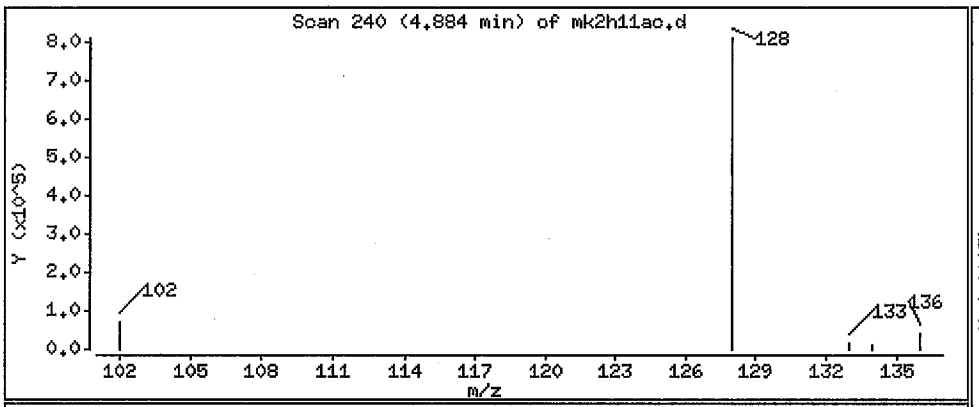
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

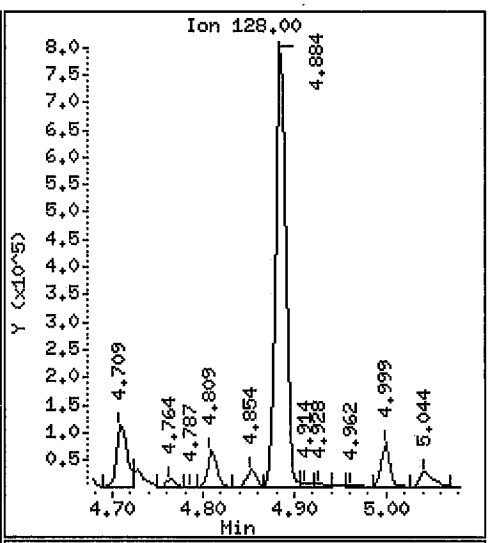
Sample Info: ,,0,,,

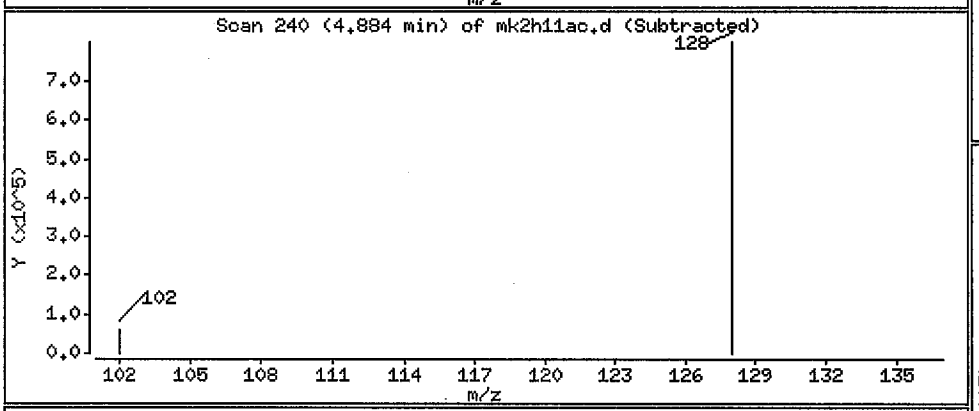
Purge Volume: 1.0 Operator: 11211

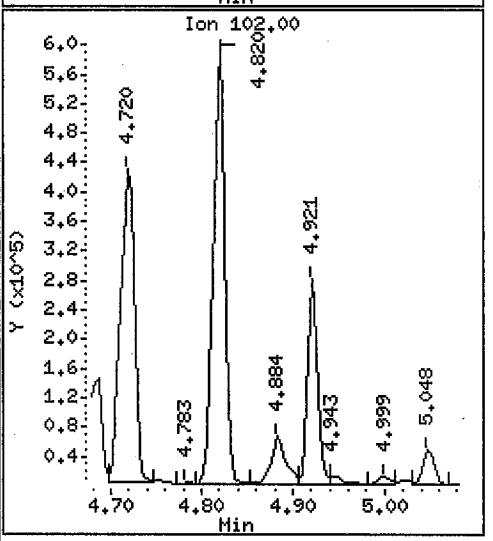
Column phase: Varian: 5MS Column diameter: 0.25

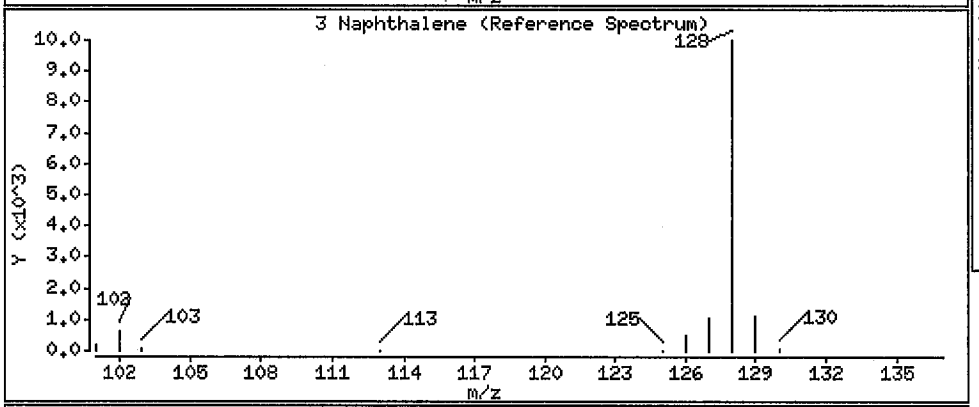
3 Naphthalene Concentration: 571 ng/sample

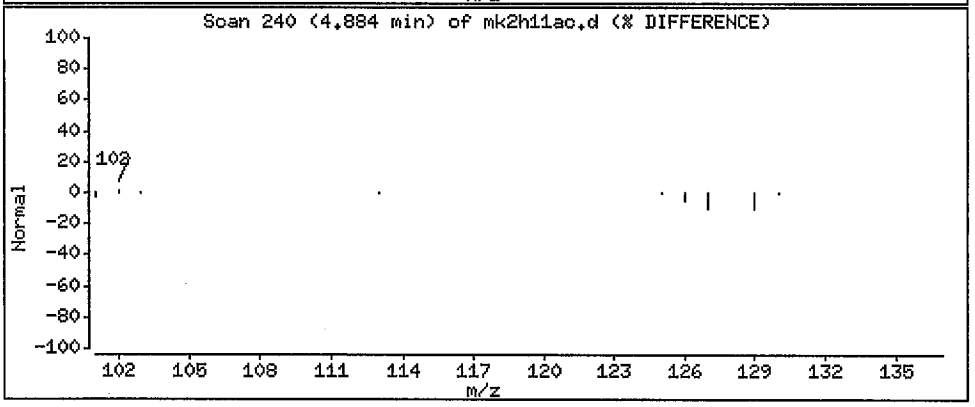












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

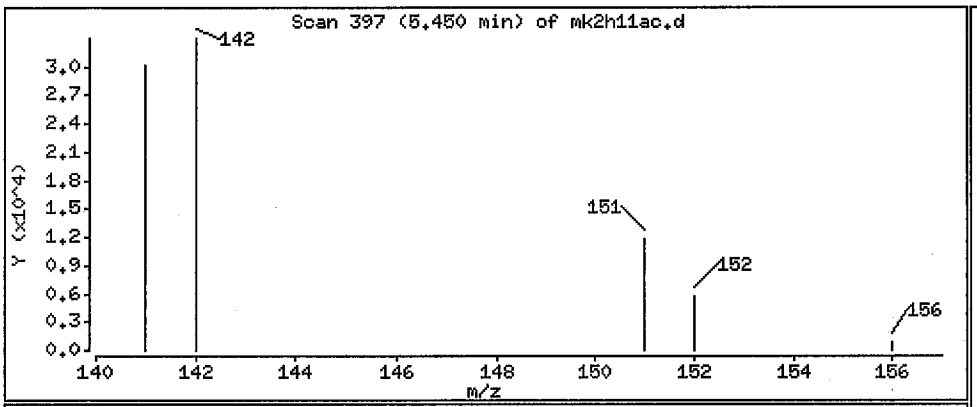
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

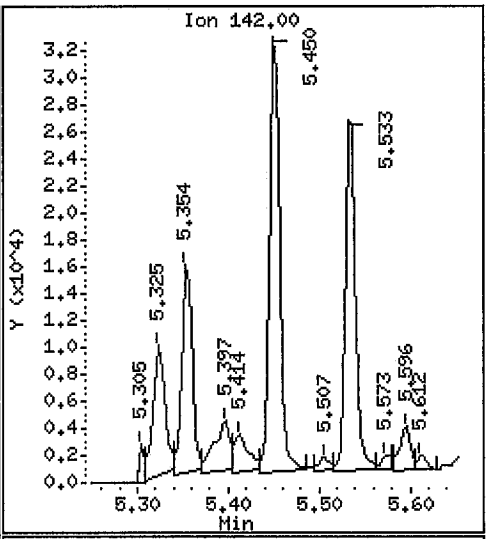
Sample Info: ,,0,,,

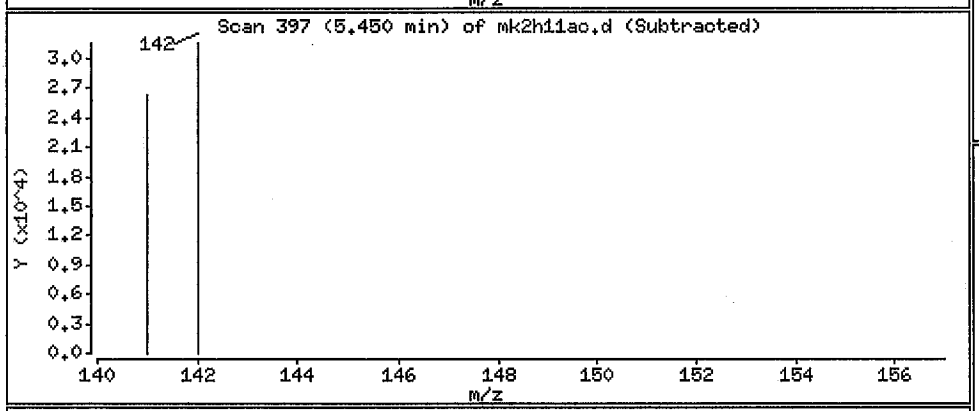
Purge Volume: 1.0 Operator: 11211

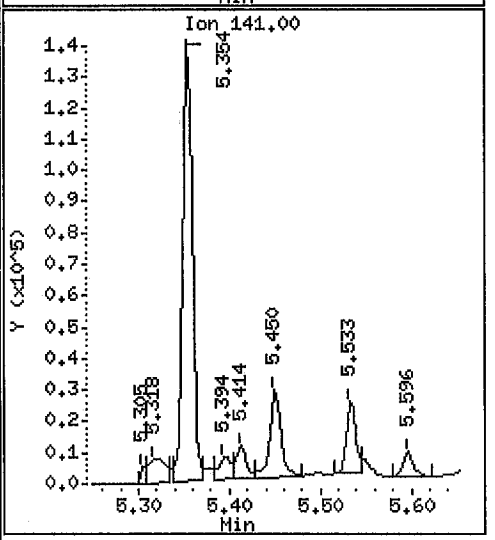
Column phase: Varian: 5MS Column diameter: 0.25

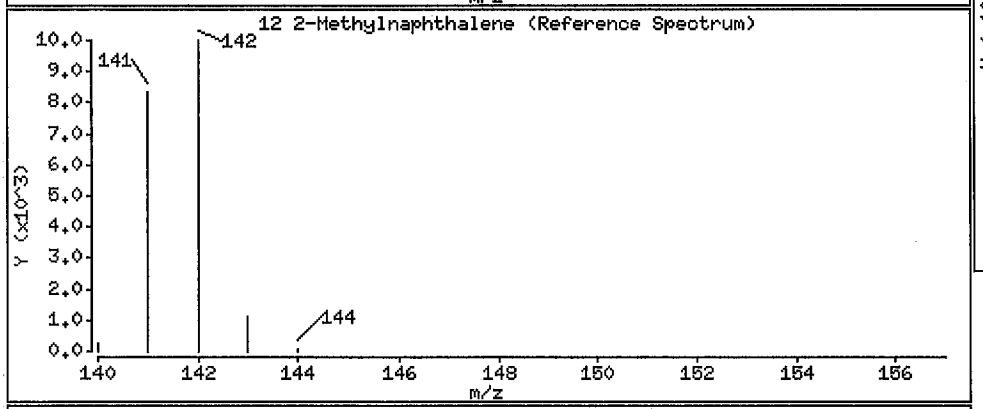
12 2-Methylnaphthalene Concentration: 30.0 ng/sample

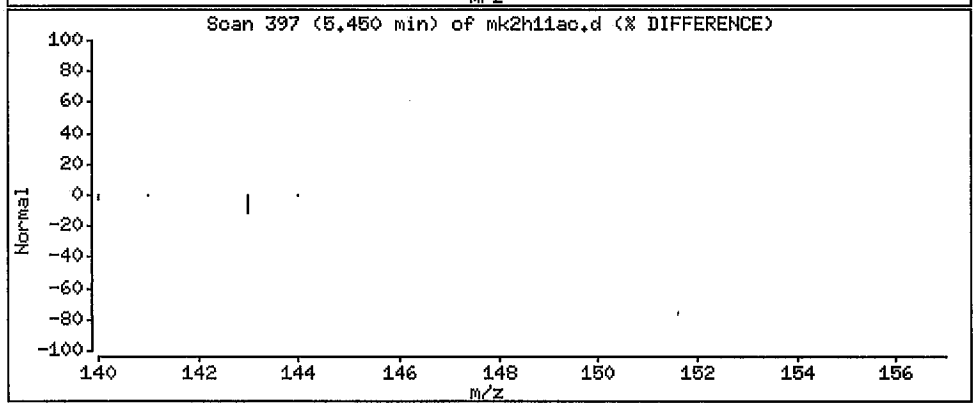












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

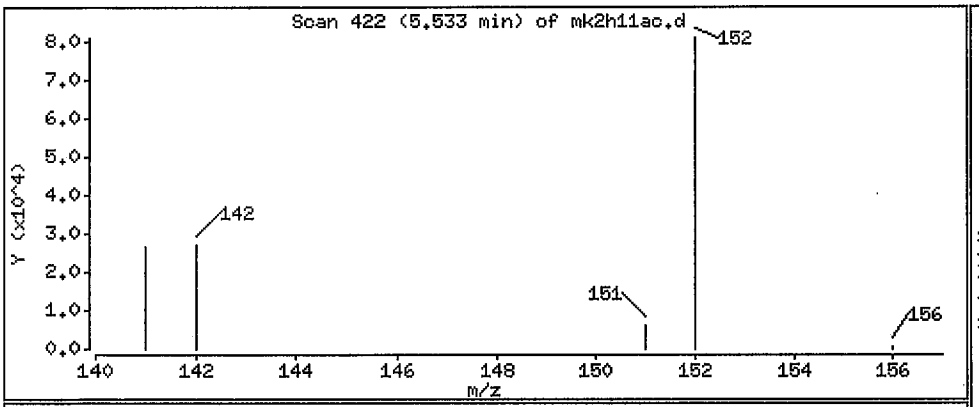
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

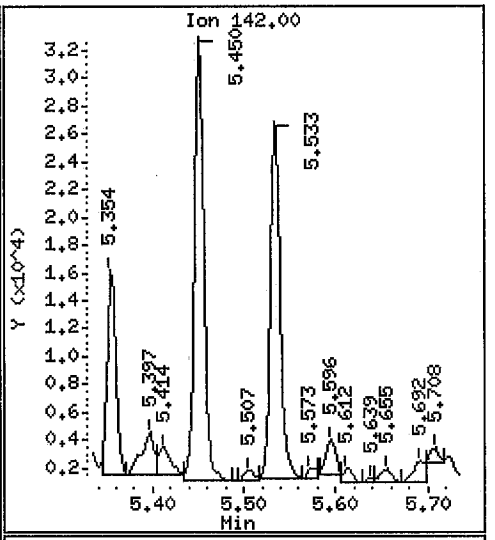
Sample Info: ,,0,,,

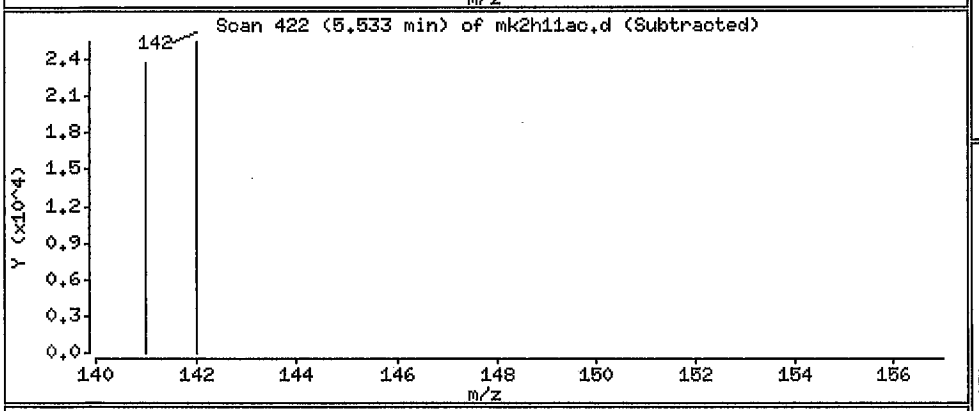
Purge Volume: 1.0 Operator: 11211

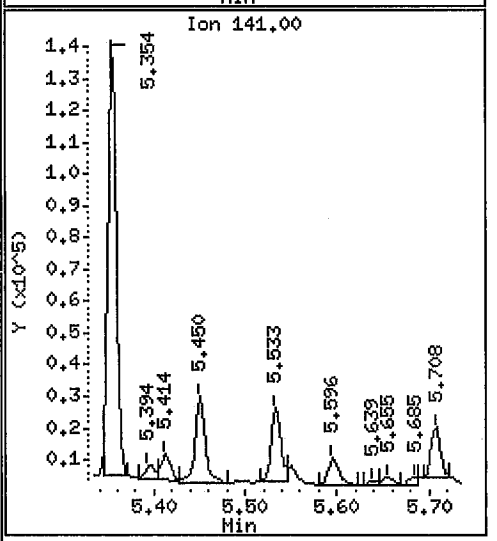
Column phase: Varian: 5MS Column diameter: 0.25

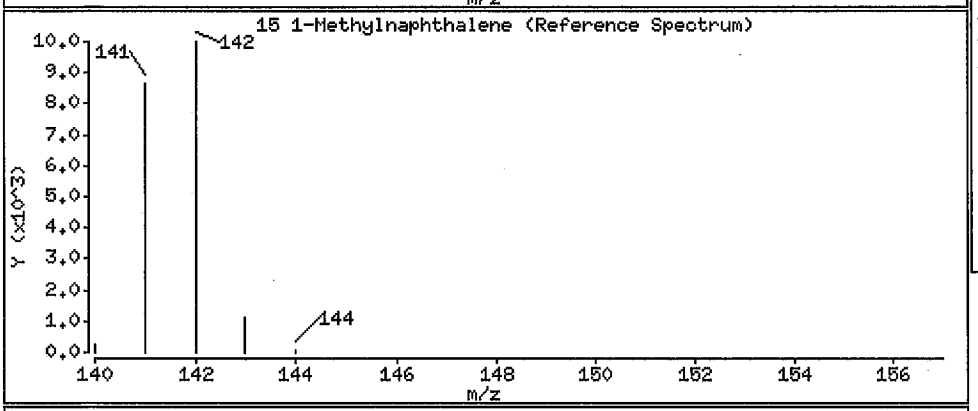
15 1-Methylnaphthalene Concentration: 27.0 ng/sample

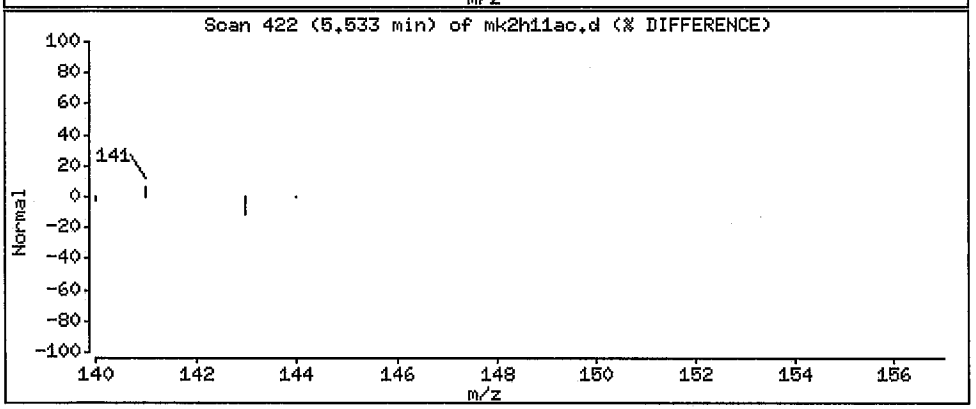












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

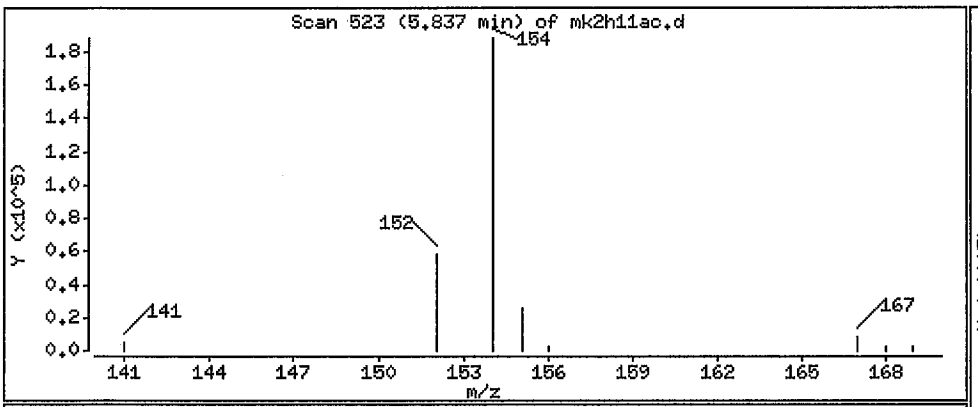
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

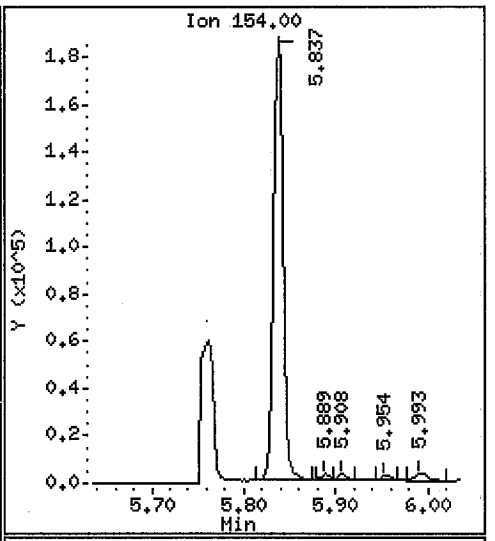
Sample Info: ,,0,,,

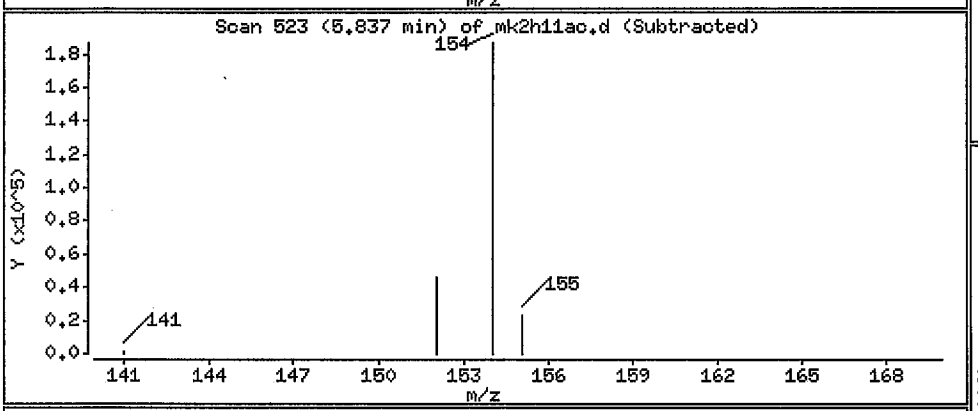
Purge Volume: 1.0 Operator: 11211

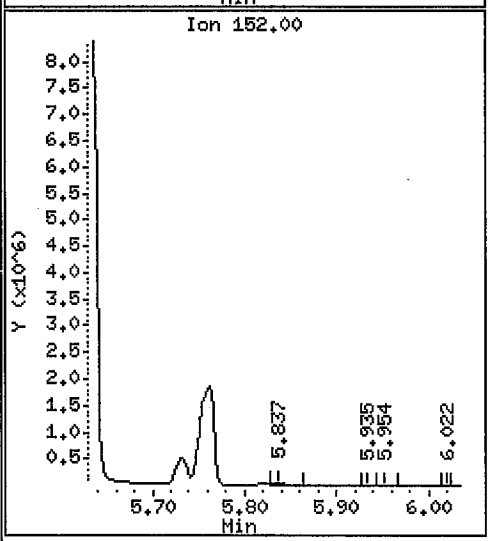
Column phase: Varian: 5MS Column diameter: 0.25

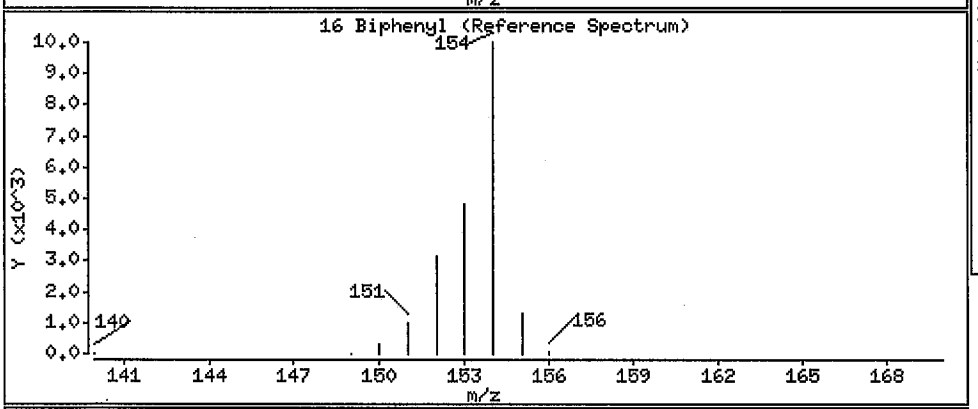
16 Biphenyl Concentration: 136 ng/sample

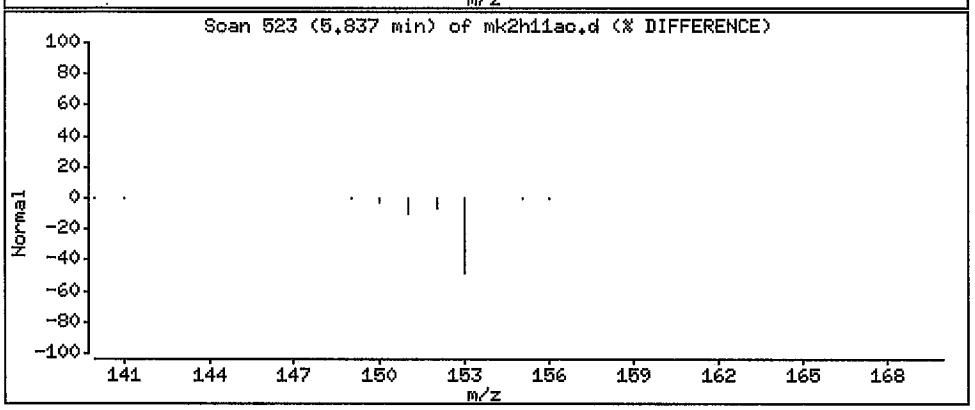












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

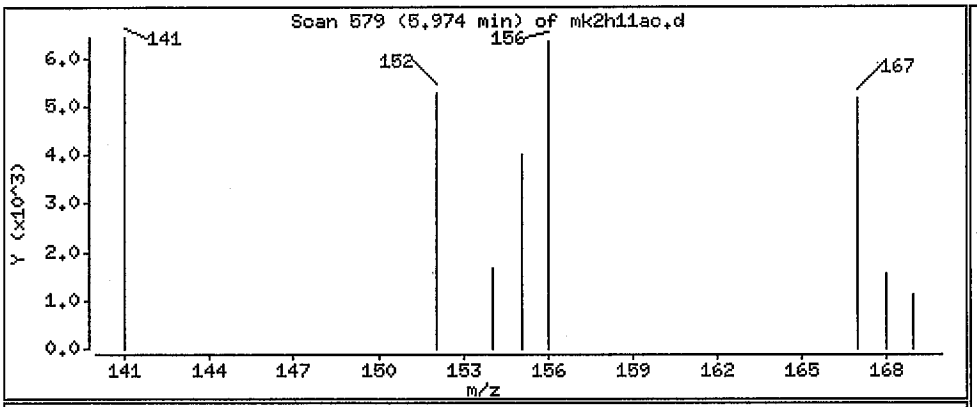
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

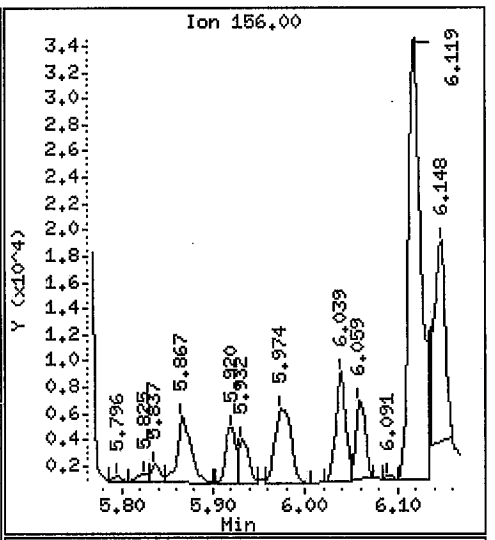
Sample Info: ,,0,,,

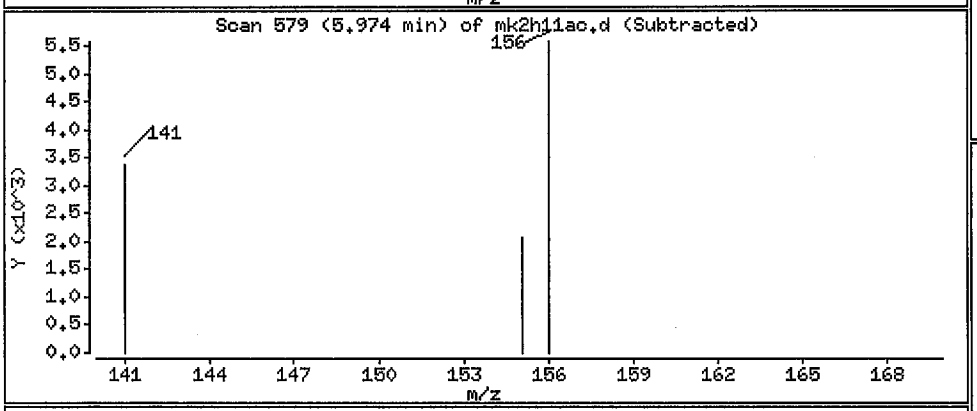
Purge Volume: 1.0 Operator: 11211

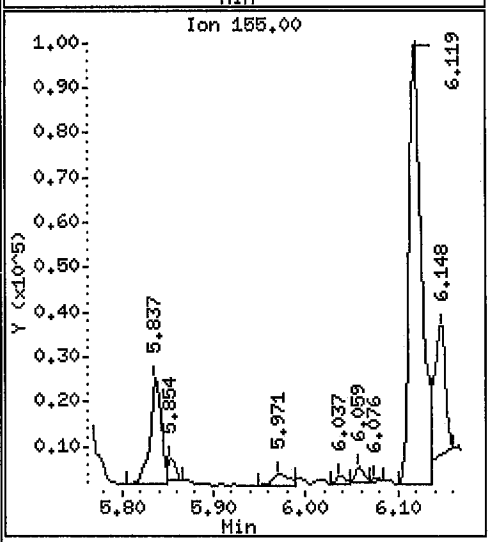
Column phase: Varian: 5MS Column diameter: 0.25

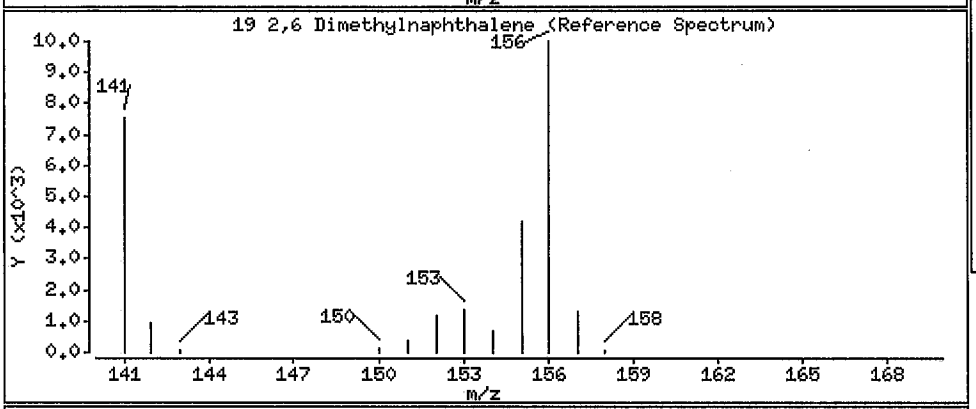
19 2,6 Dimethylnaphthalene Concentration: 9.90 ng/sample

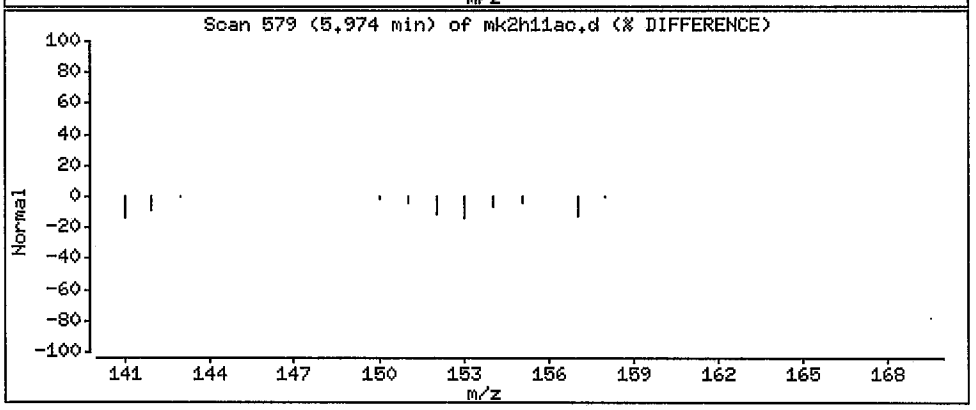












Data File: /chem/gcms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

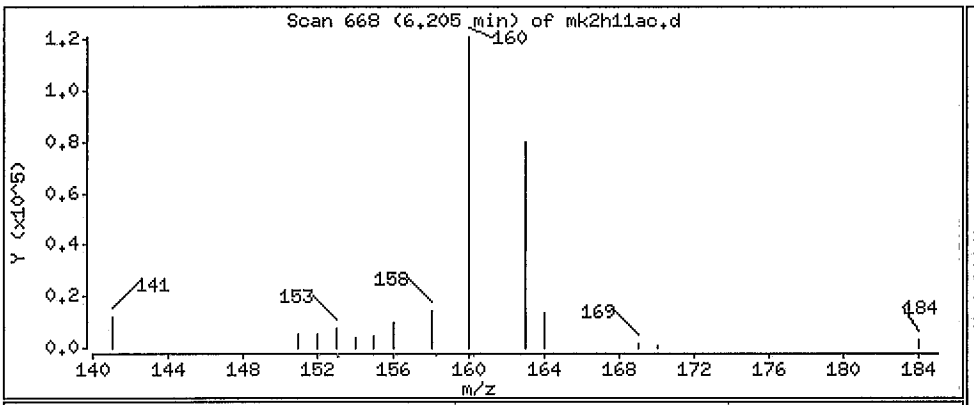
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

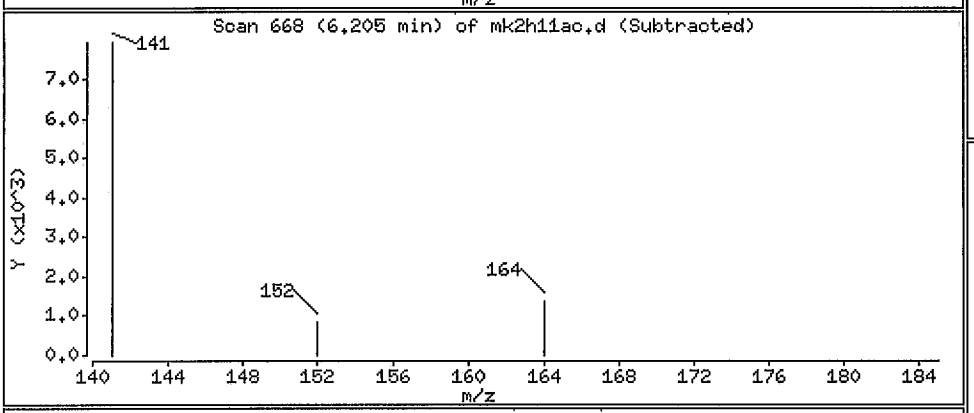
Sample Info: ,,0,,,

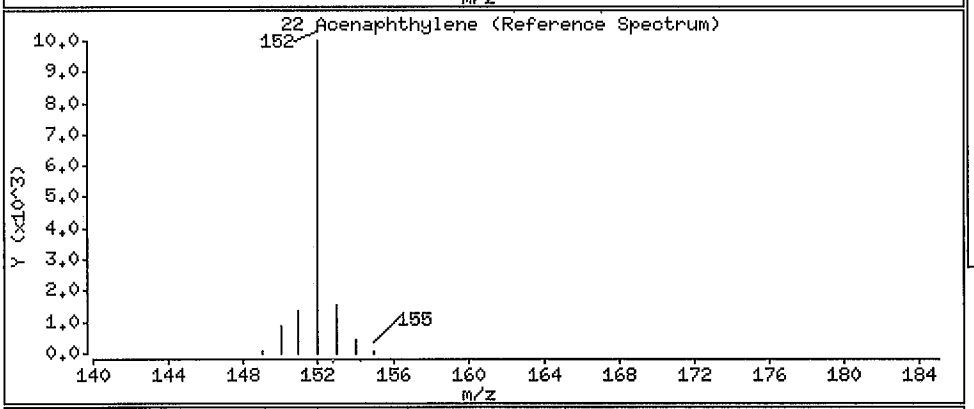
Purge Volume: 1.0 Operator: 11211

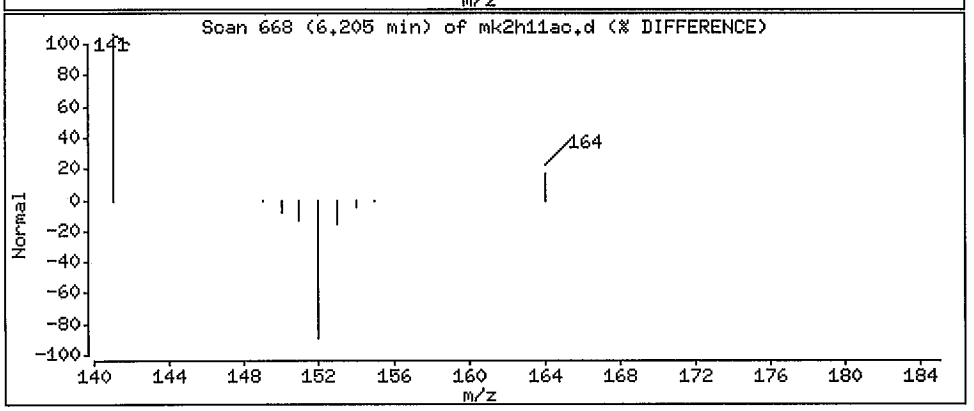
Column phase: Varian: 5MS Column diameter: 0.25

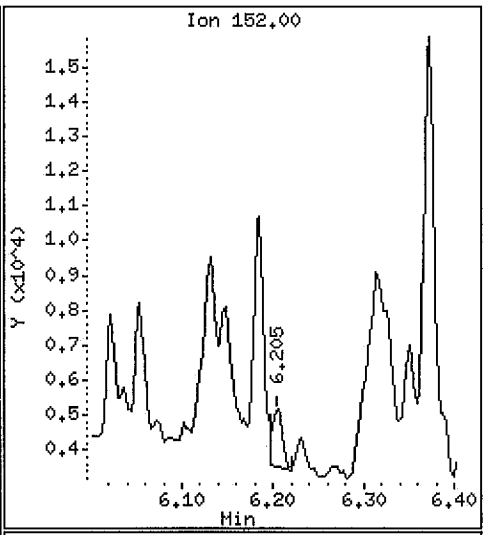
22 Acenaphthylene Concentration: 0.908 ng/sample

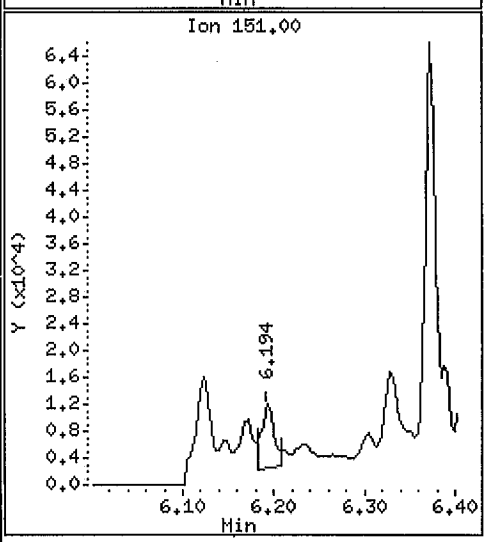












str/11

(5)

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

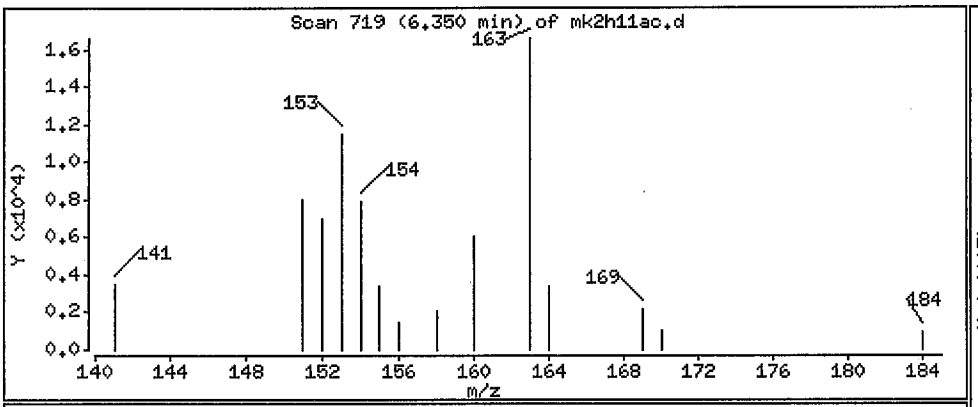
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

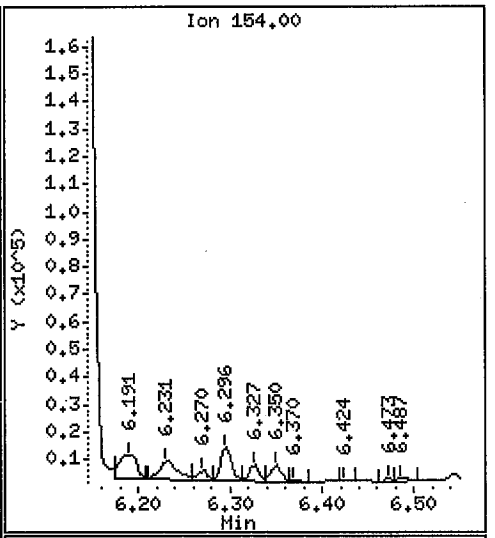
Sample Info: ,,0,,,

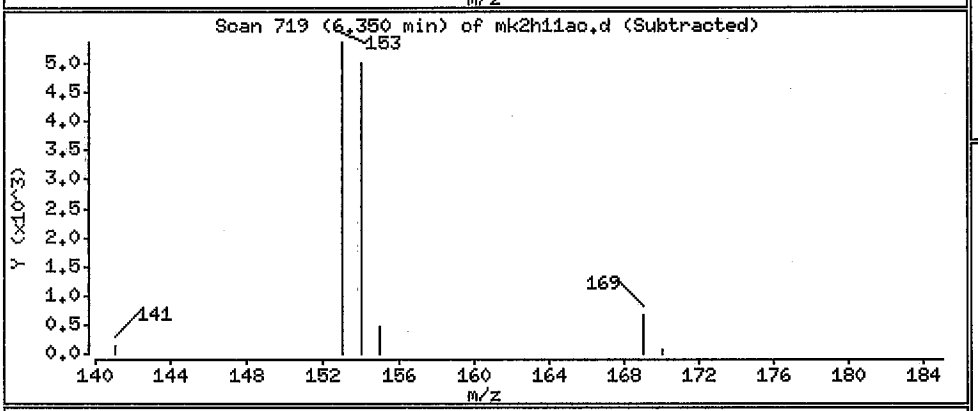
Purge Volume: 1.0 Operator: 11211

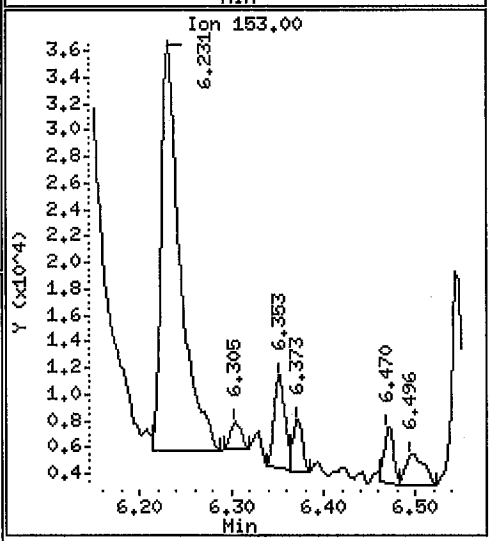
Column phase: Varian: 5MS Column diameter: 0.25

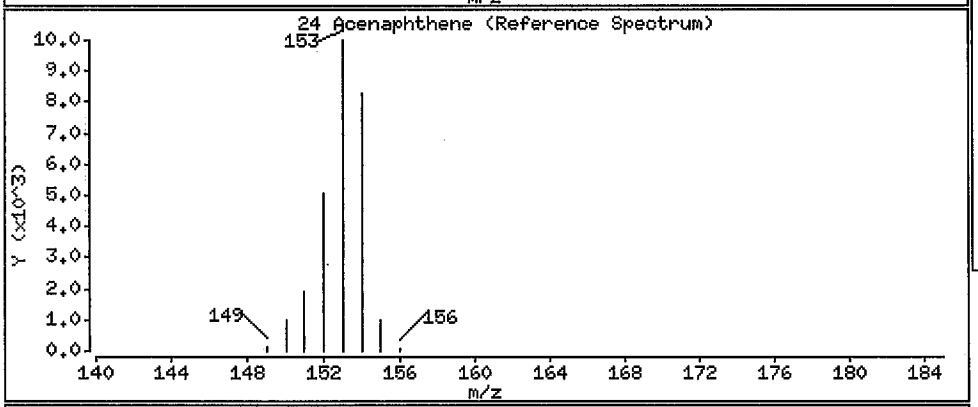
24 Acenaphthene Concentration: 5.37 ng/sample

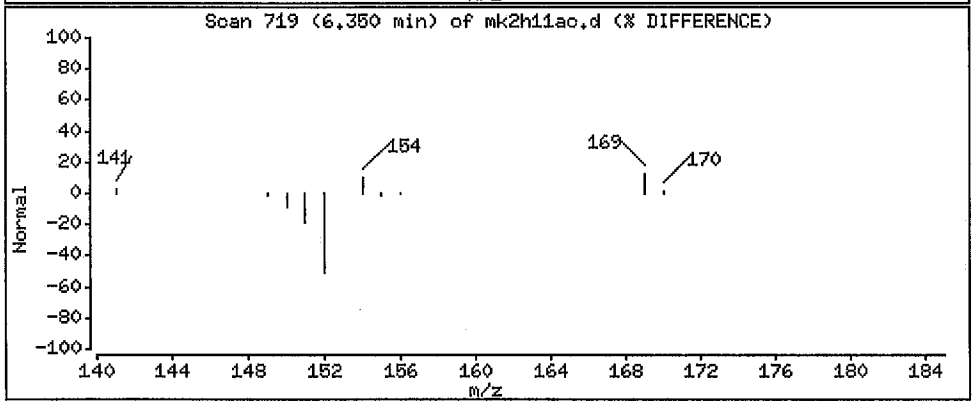












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

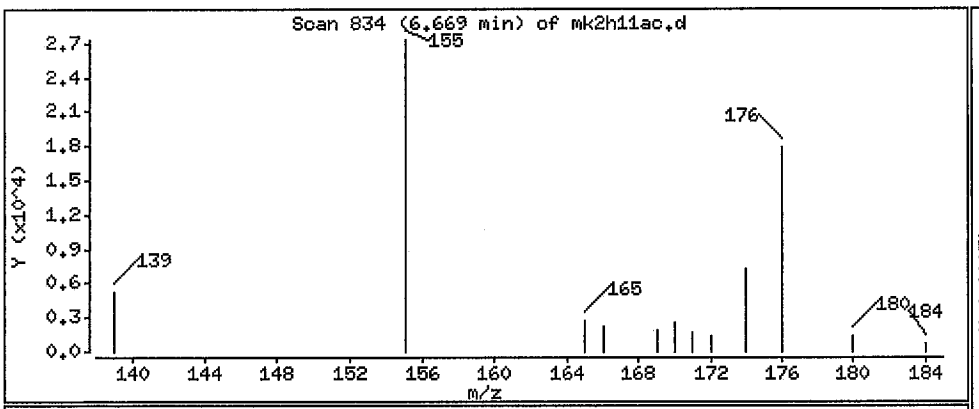
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

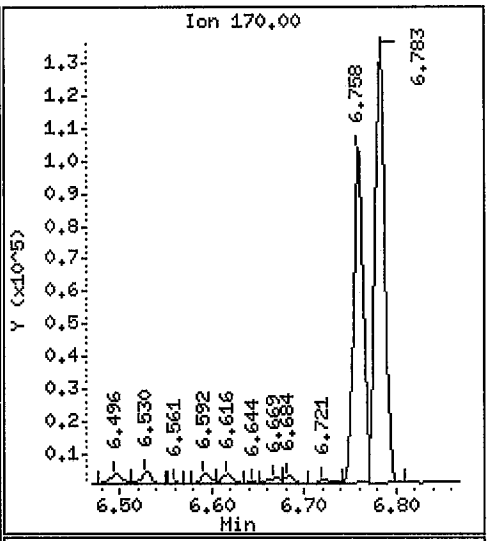
Sample Info: ,,0,,,

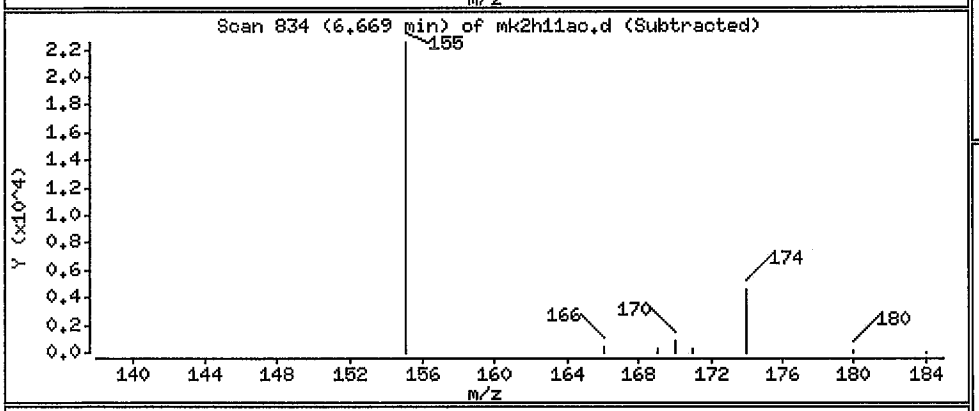
Purge Volume: 1.0 Operator: 11211

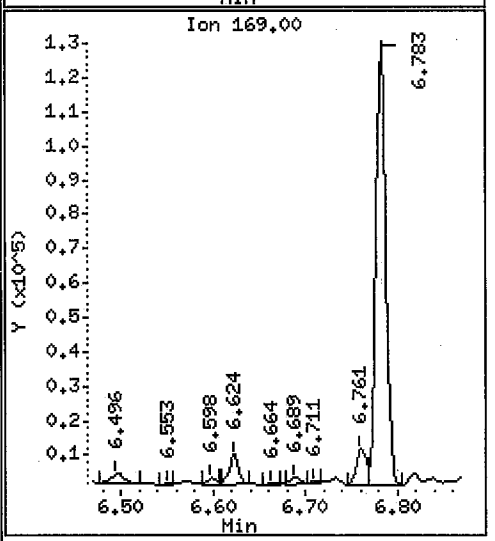
Column phase: Varian: 5MS Column diameter: 0.25

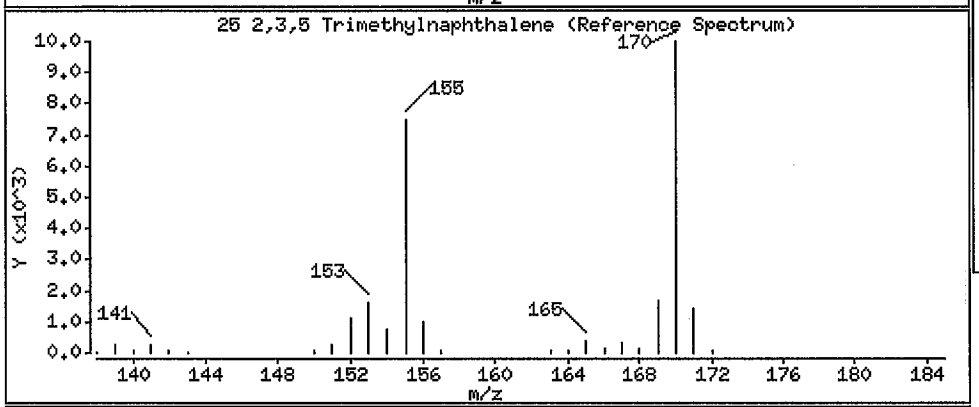
25 2,3,5 Trimethylnaphthalene Concentration: 2.78 ng/sample

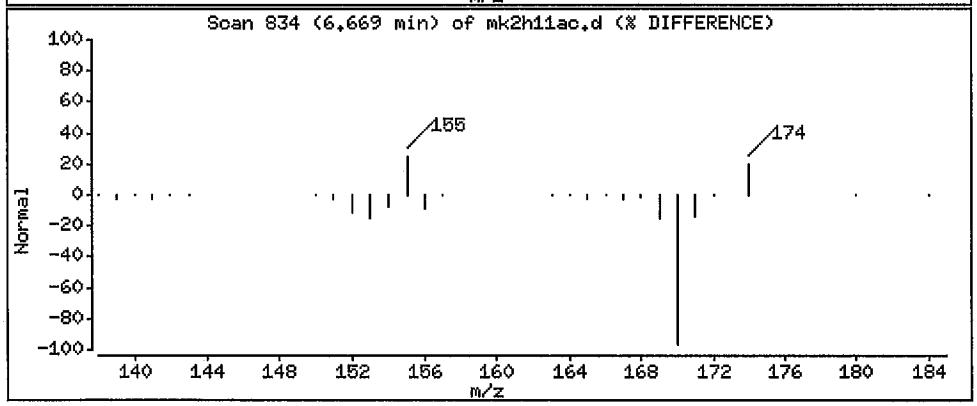












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

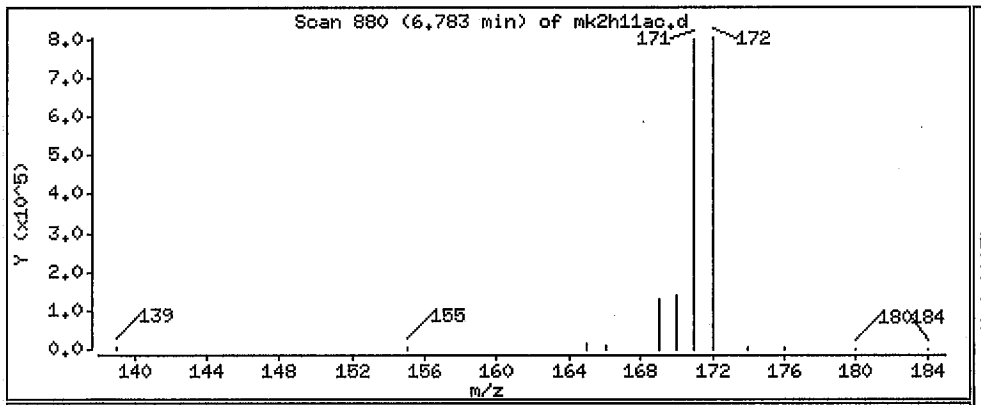
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

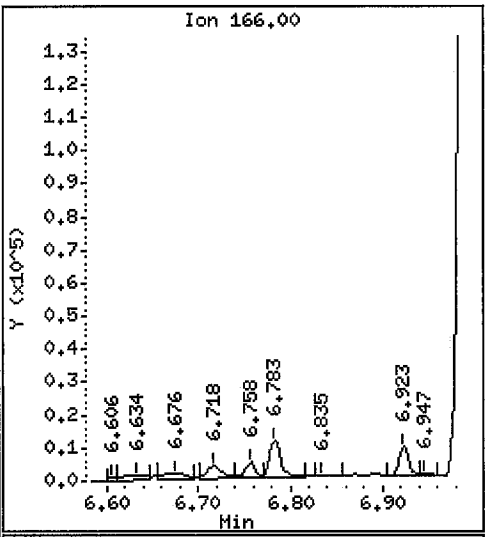
Sample Info: ,,0,,,

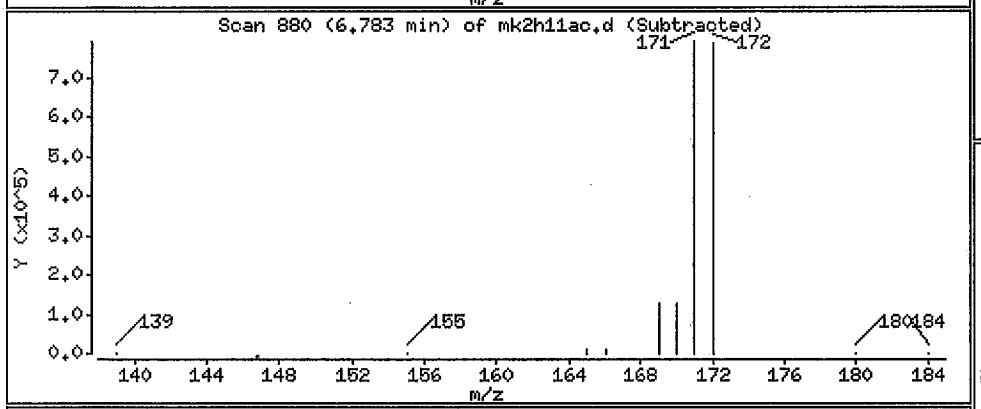
Purge Volume: 1.0 Operator: 11211

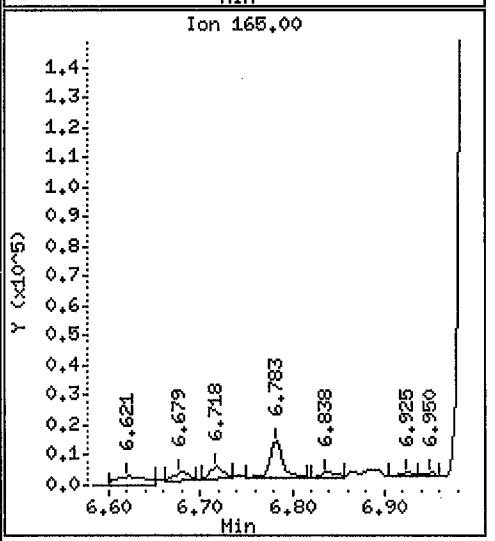
Column phase: Varian: 5MS Column diameter: 0.25

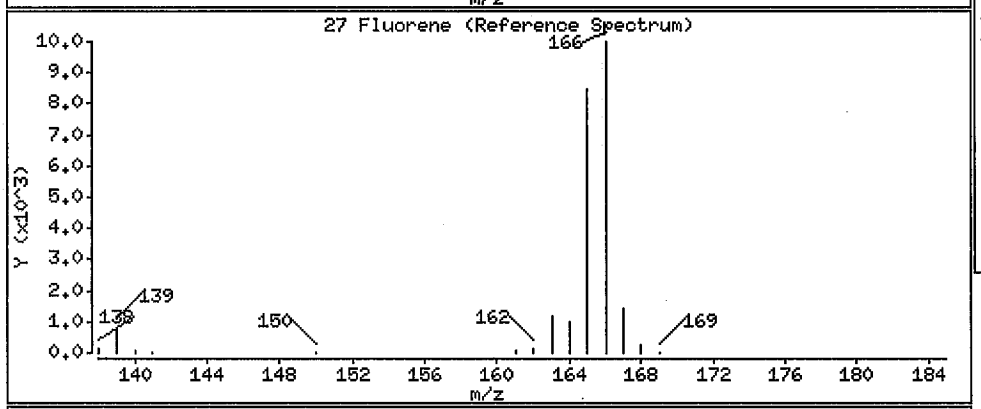
27 Fluorene Concentration: 10.6 ng/sample

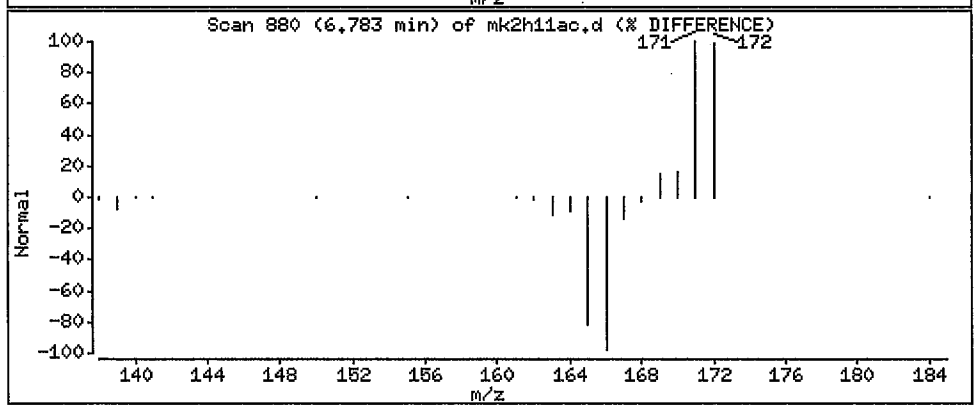












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

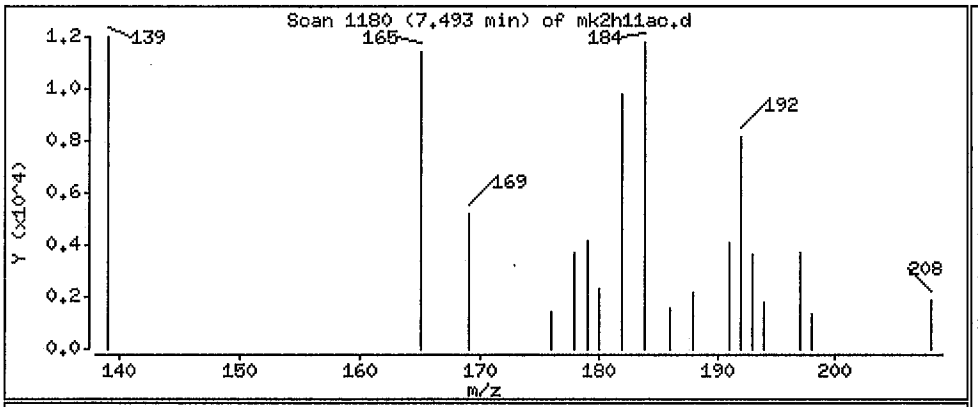
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

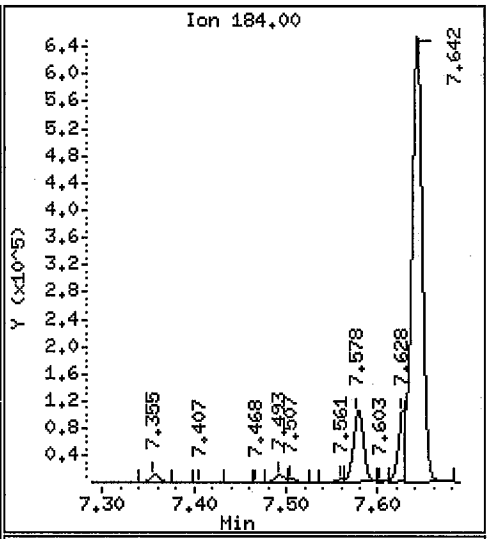
Sample Info: ,,0,,,

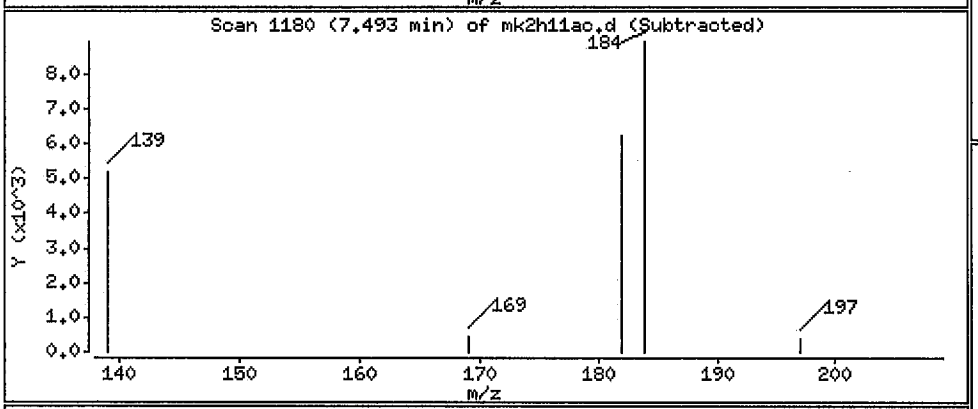
Purge Volume: 1.0 Operator: 11211

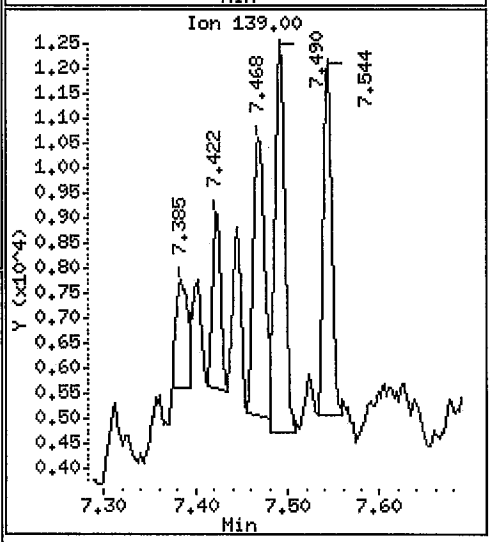
Column phase: Varian: 5MS Column diameter: 0.25

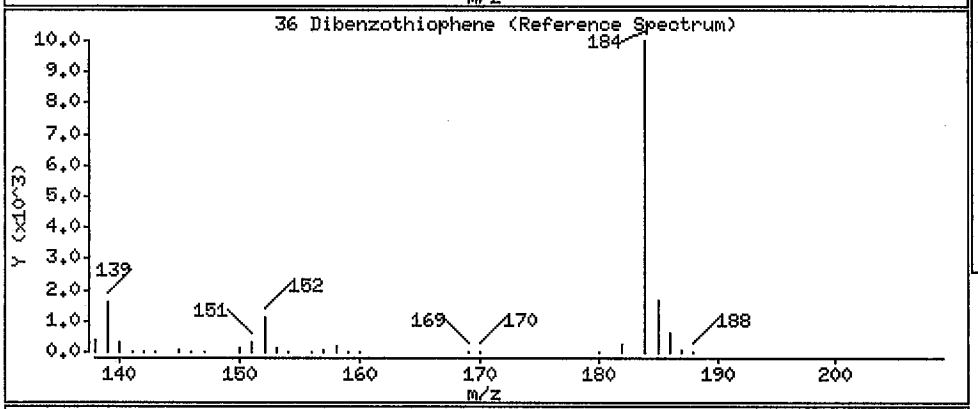
36 Dibenzothiophene Concentration: 7.18 ng/sample

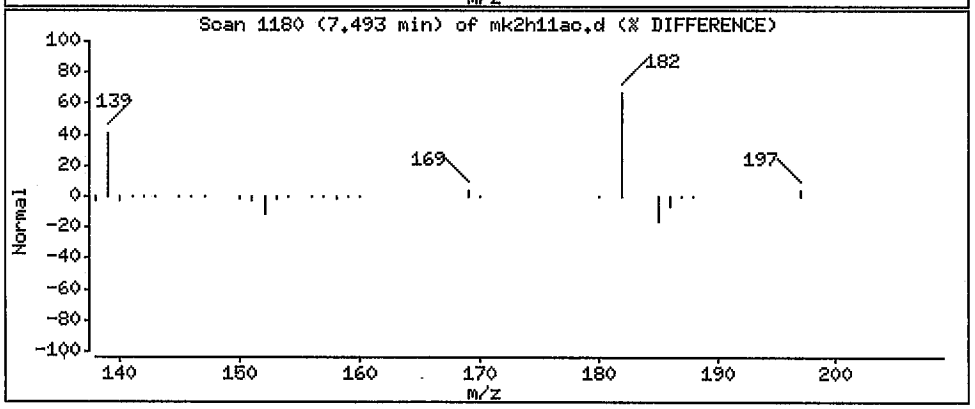












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

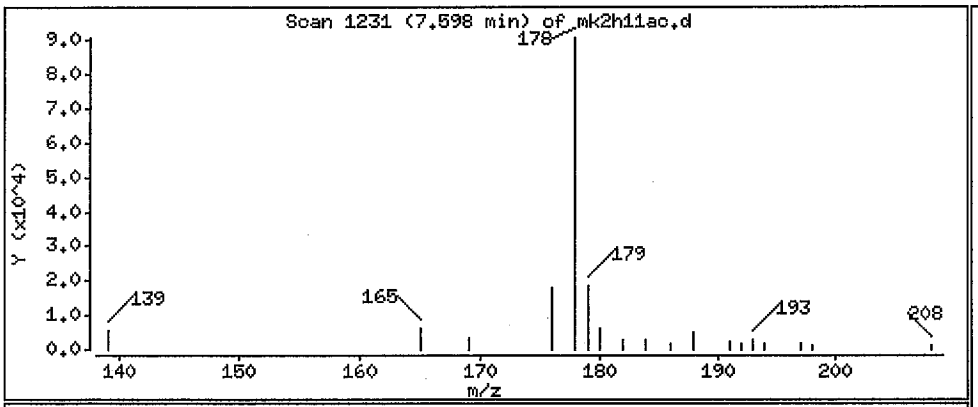
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

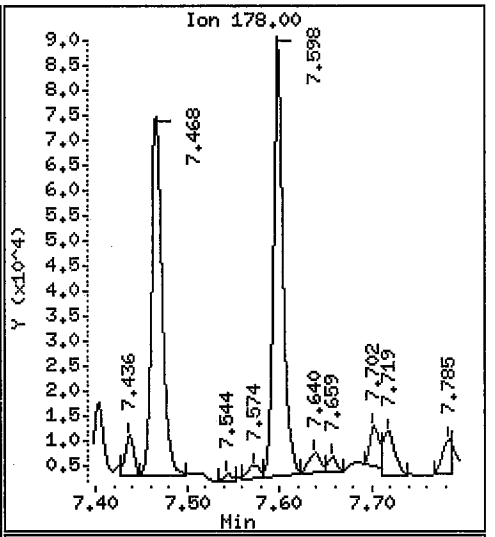
Sample Info: ,,0,,,

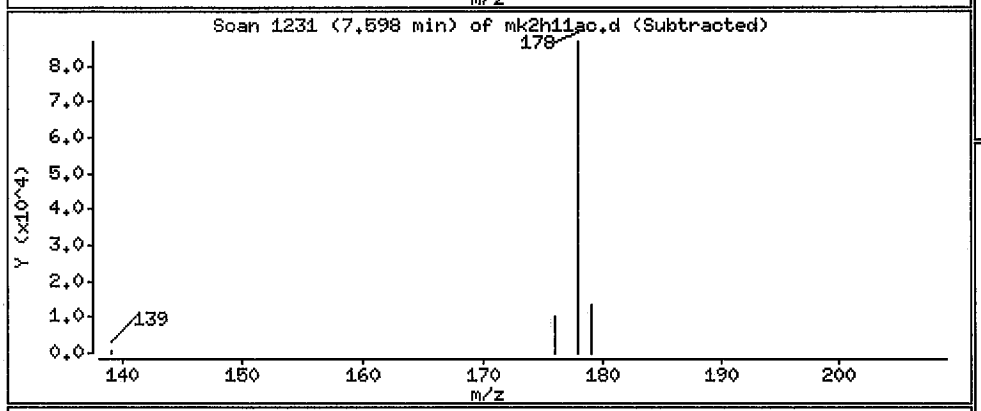
Purge Volume: 1.0 Operator: 11211

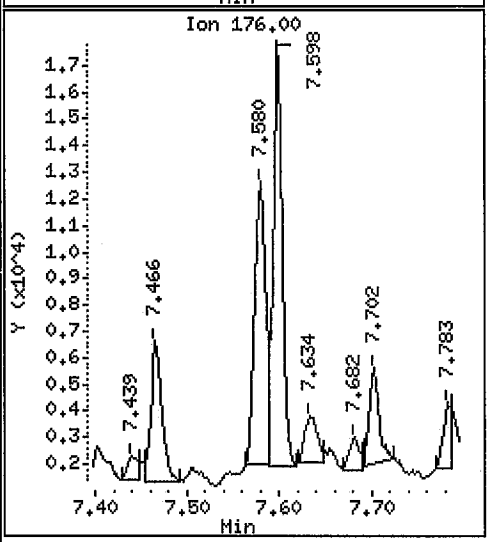
Column phase: Varian: 5MS Column diameter: 0.25

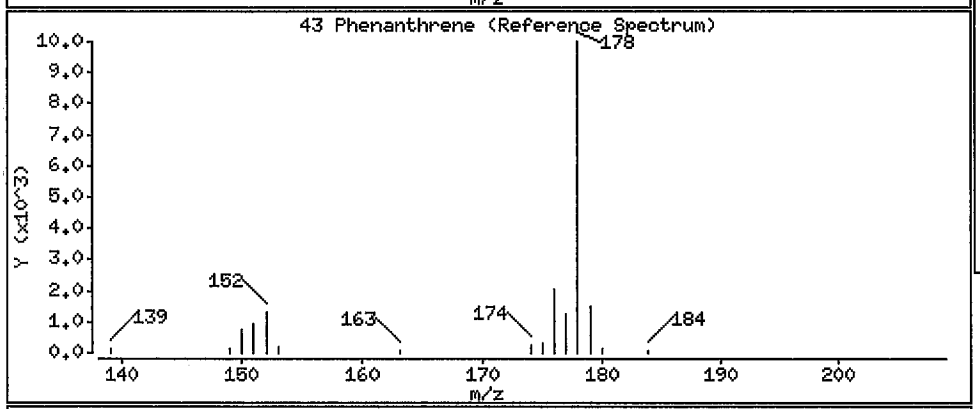
43 Phenanthrene Concentration: 57.6 ng/sample

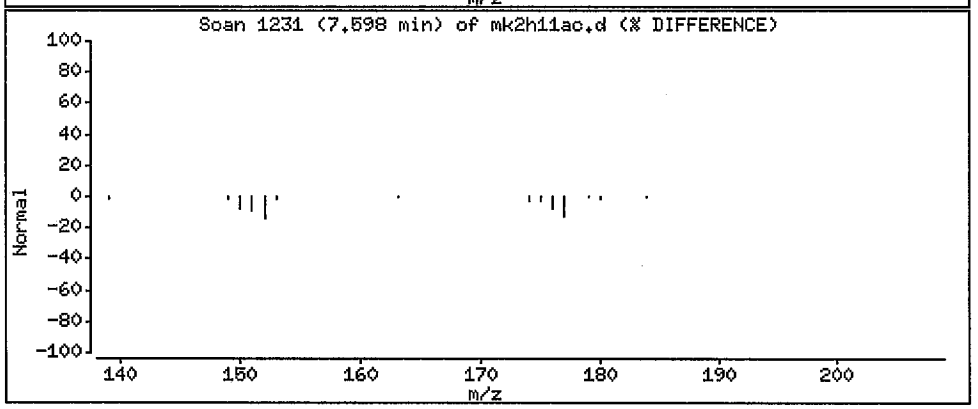












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

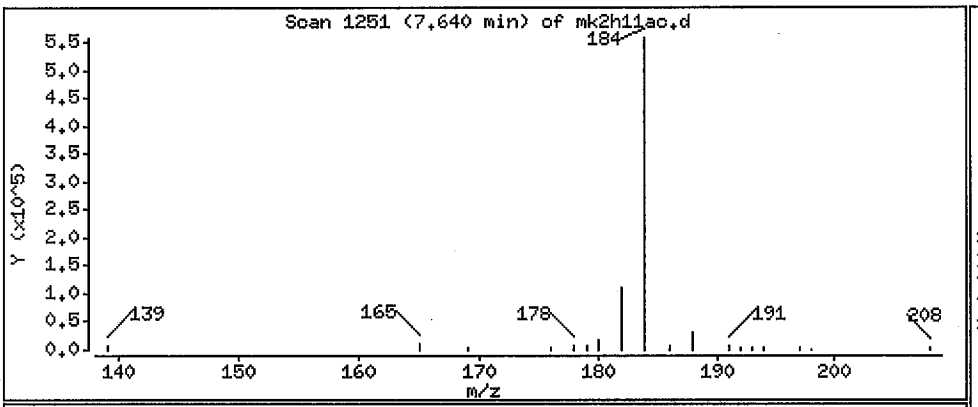
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

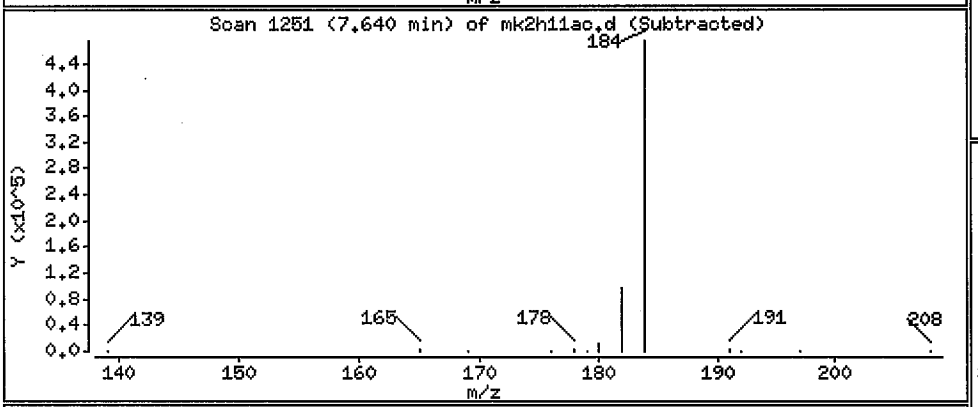
Sample Info: ,,0,,,

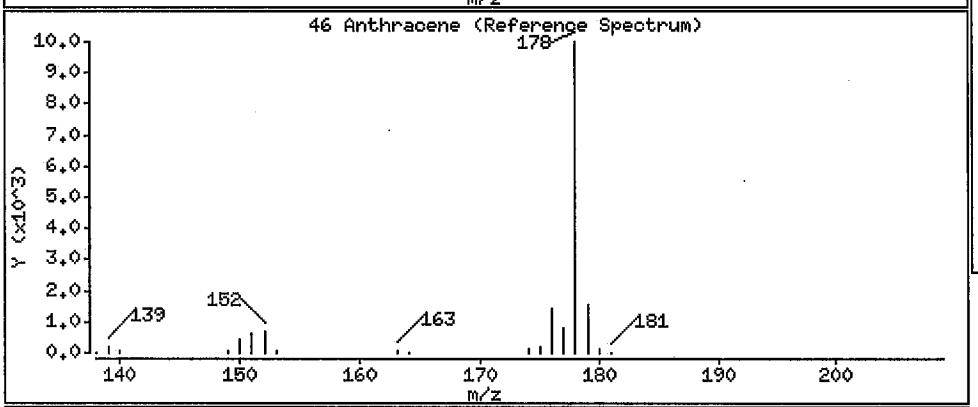
Purge Volume: 1.0 Operator: 11211

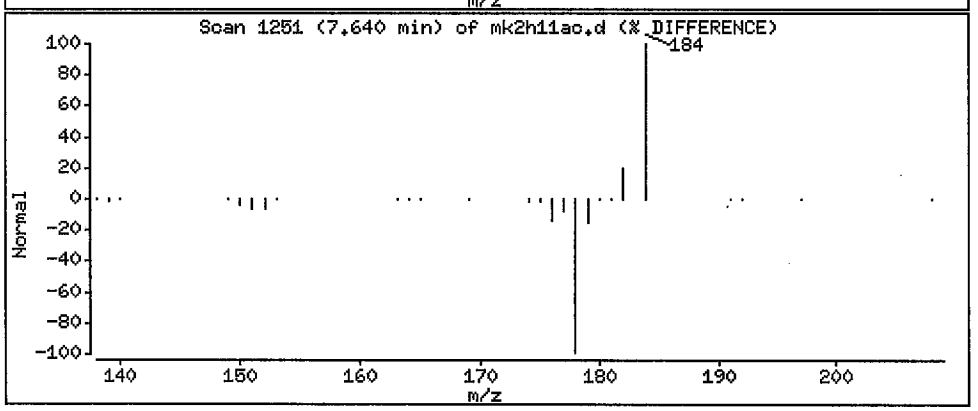
Column phase: Varian: 5MS Column diameter: 0.25

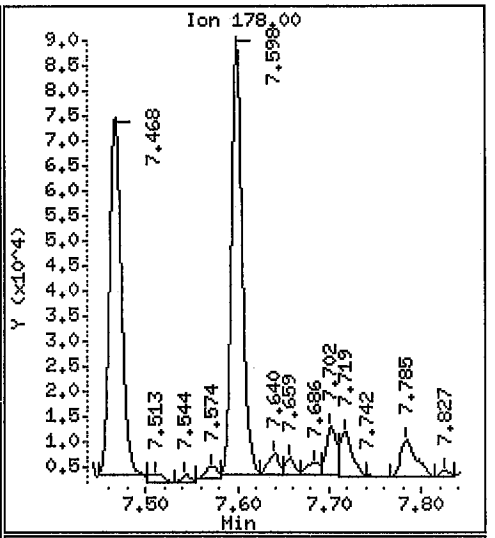
46 Anthracene Concentration: 2.74 ng/sample

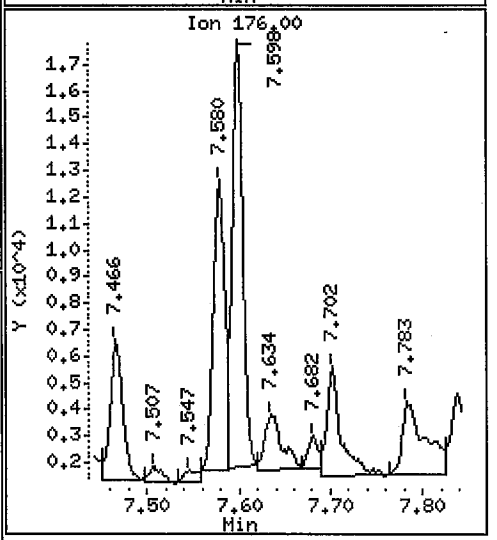












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

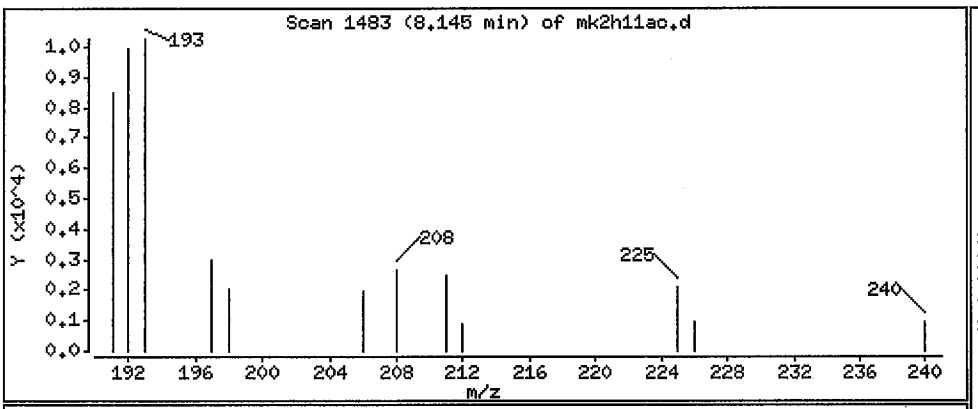
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

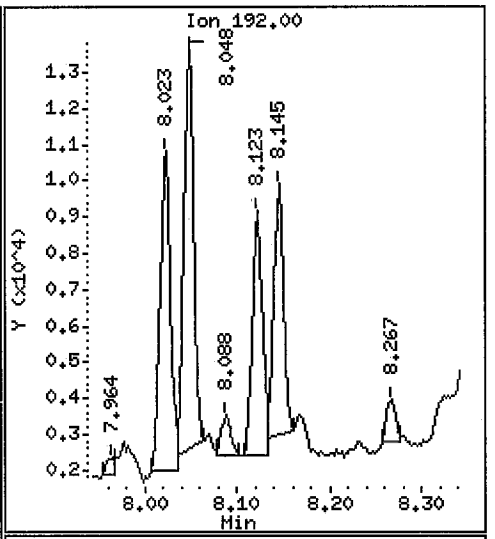
Sample Info: ,,0,,,

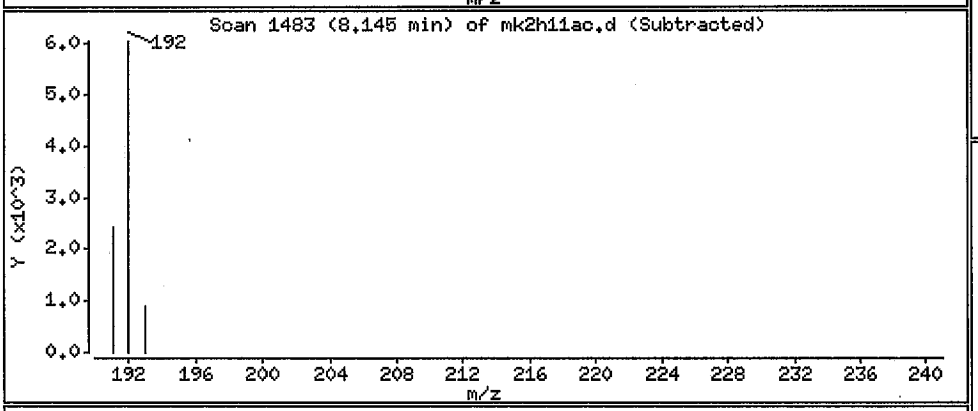
Purge Volume: 1.0 Operator: 11211

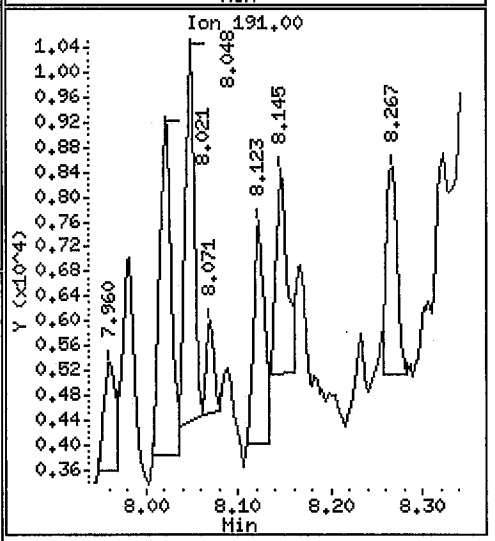
Column phase: Varian: 5MS Column diameter: 0.25

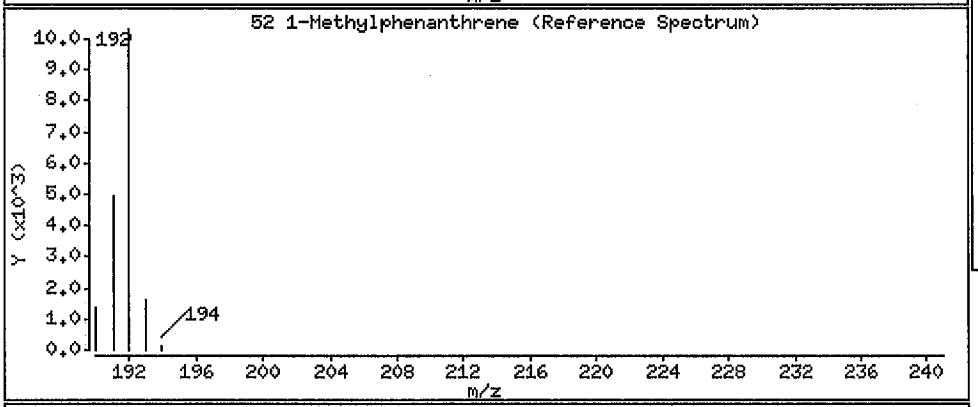
52 1-Methylphenanthrene Concentration: 7.08 ng/sample

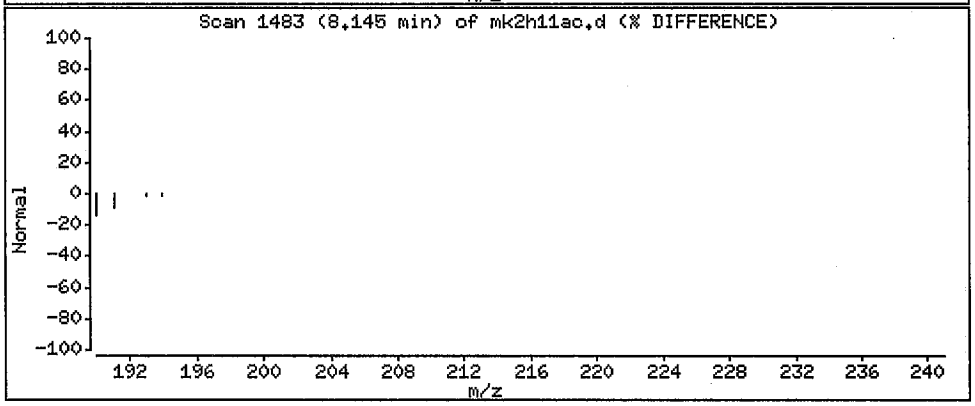












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

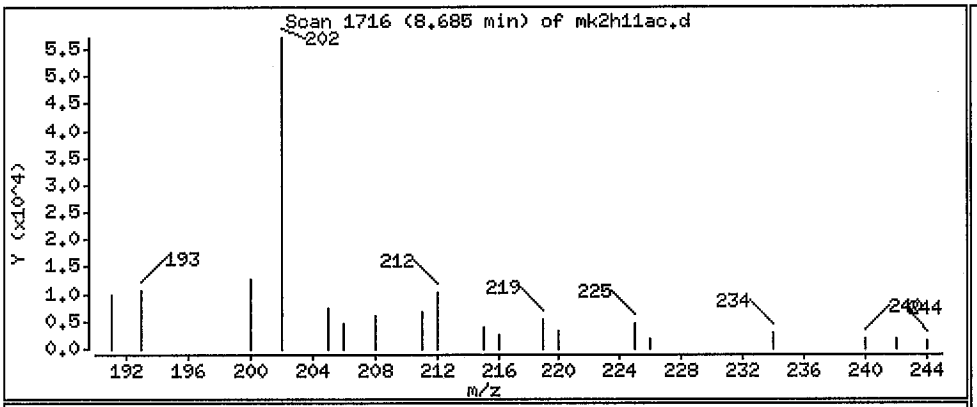
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

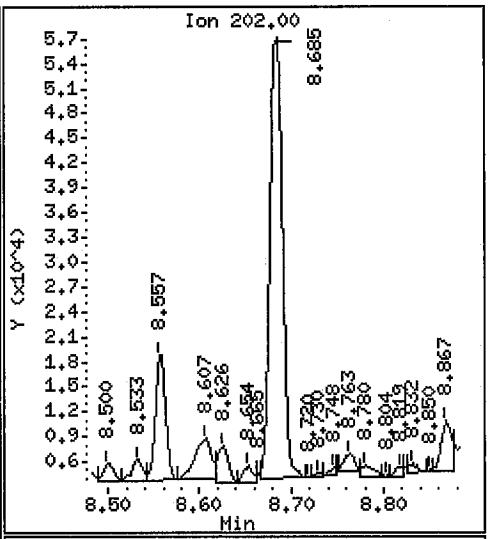
Sample Info: ,,0,,,

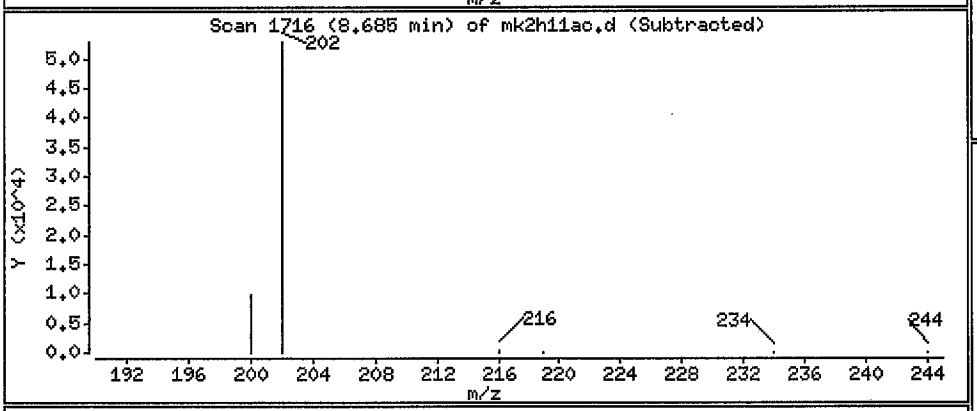
Purge Volume: 1.0 Operator: 11211

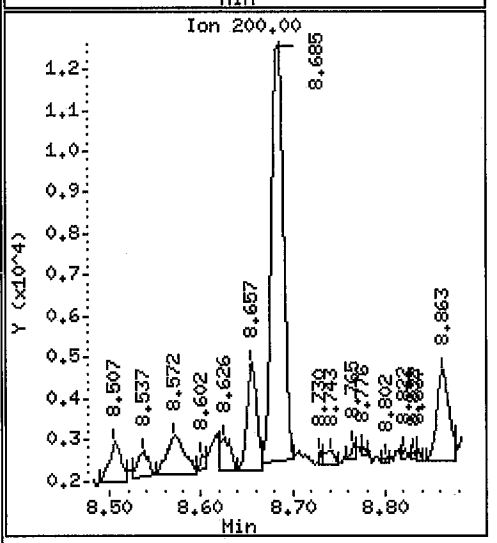
Column phase: Varian: 5MS Column diameter: 0.25

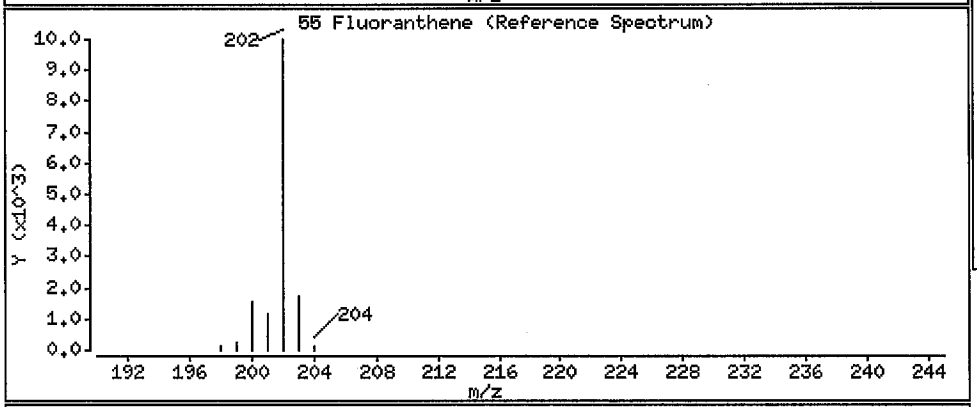
55 Fluoranthene Concentration: 31.7 ng/sample

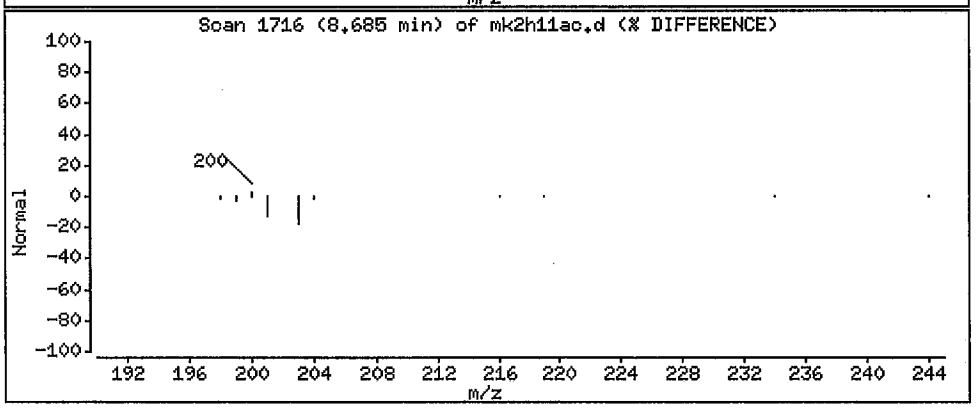












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

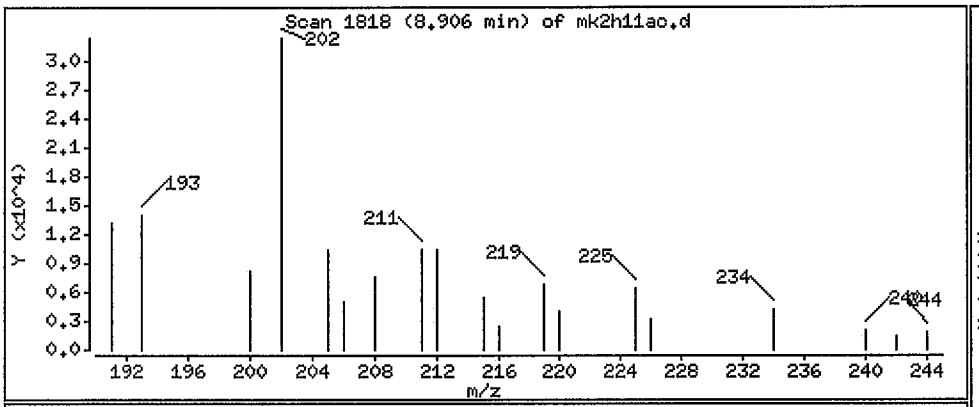
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

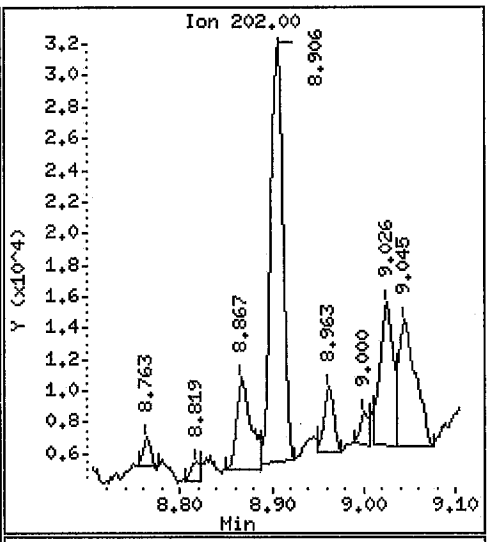
Sample Info: ,,0,,,

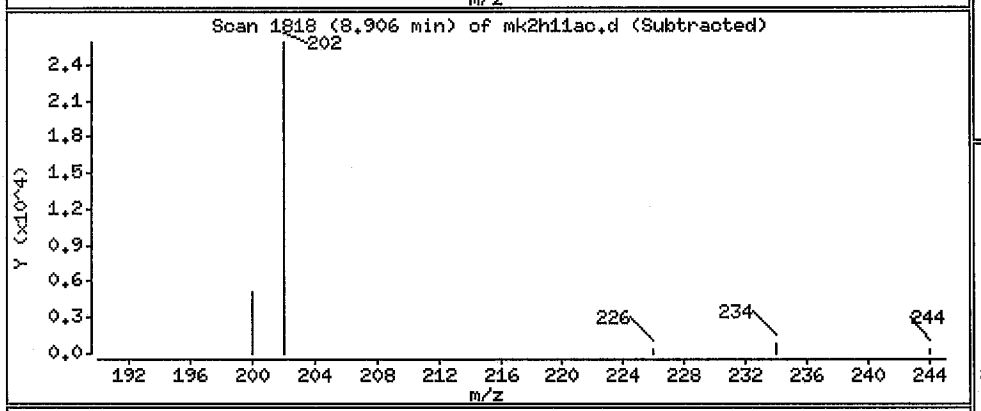
Purge Volume: 1.0 Operator: 11211

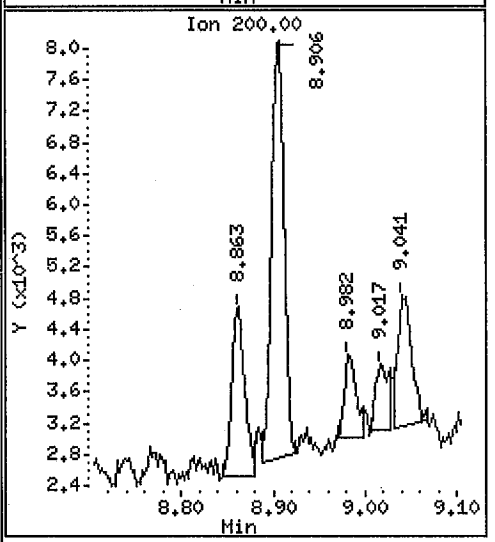
Column phase: Varian: 5MS Column diameter: 0.25

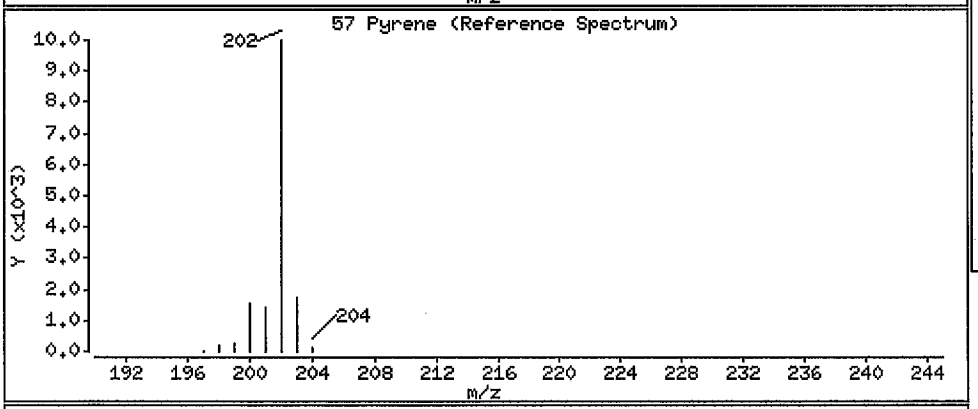
57 Pyrene Concentration: 15.1 ng/sample

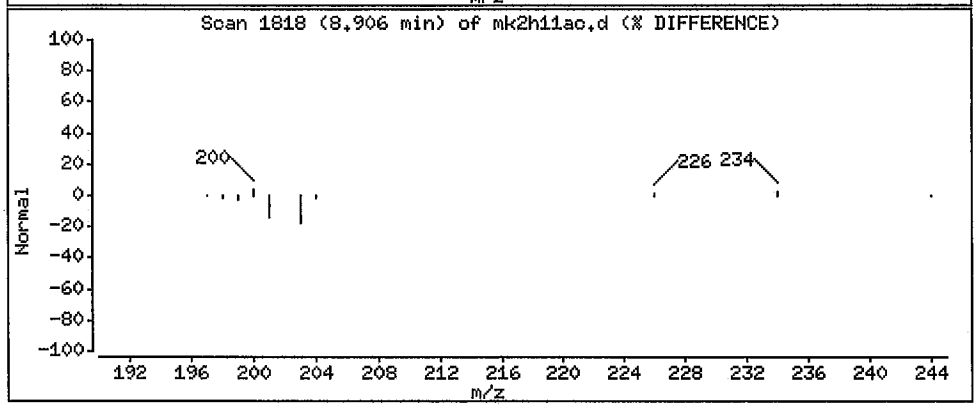












Data File: /var/chem/goms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

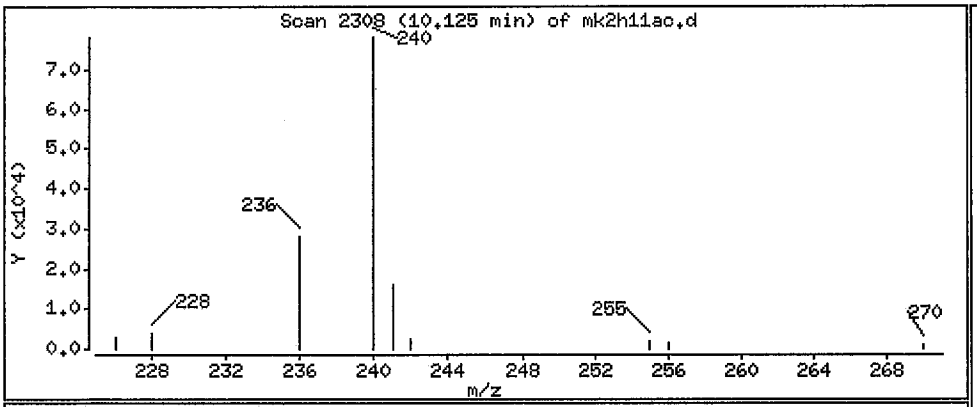
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

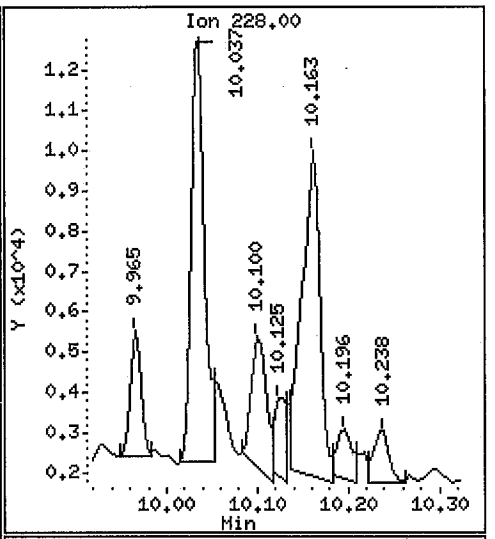
Sample Info: ,,0,,,

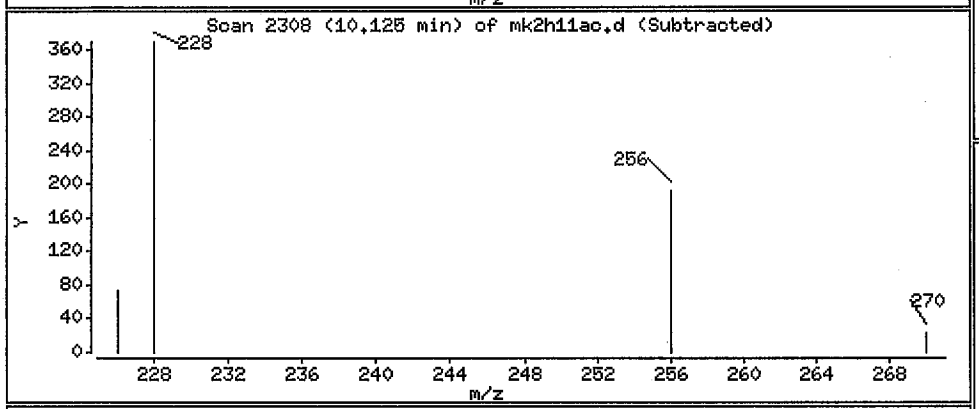
Purge Volume: 1.0 Operator: 11211

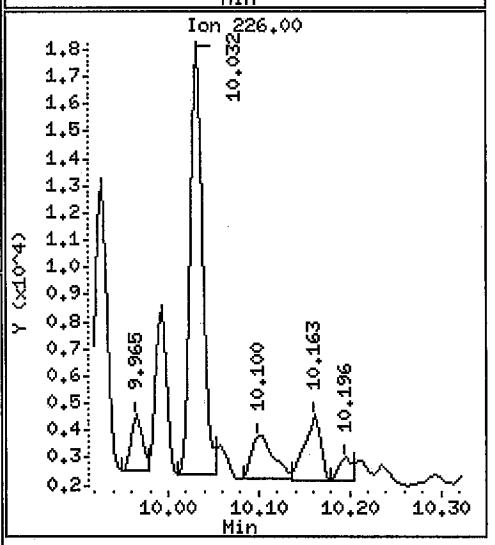
Column phase: Varian: 5MS Column diameter: 0.25

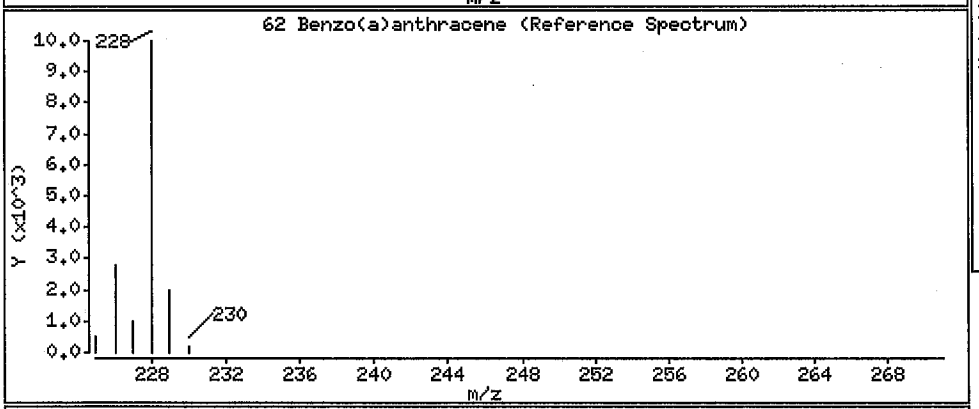
62 Benzo(a)anthracene Concentration: 1.42 ng/sample

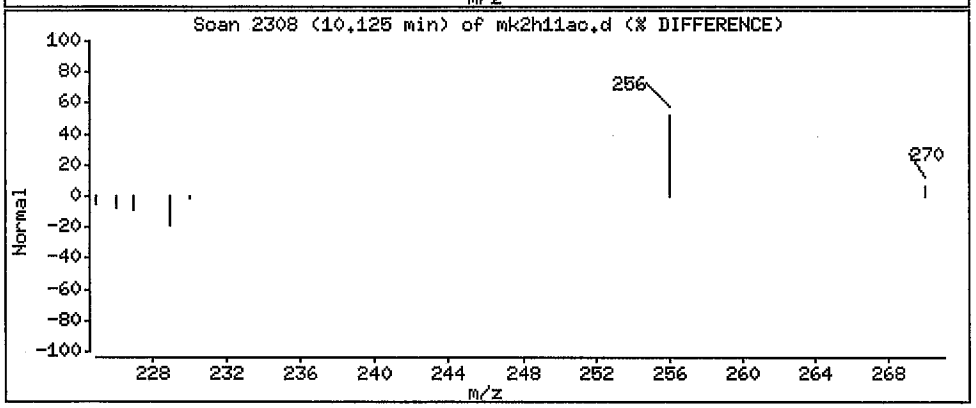












Data File: /var/chem/goms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

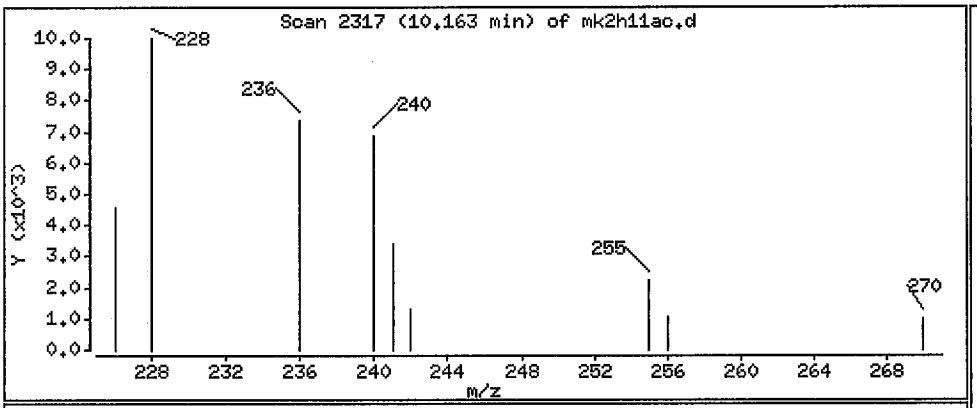
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

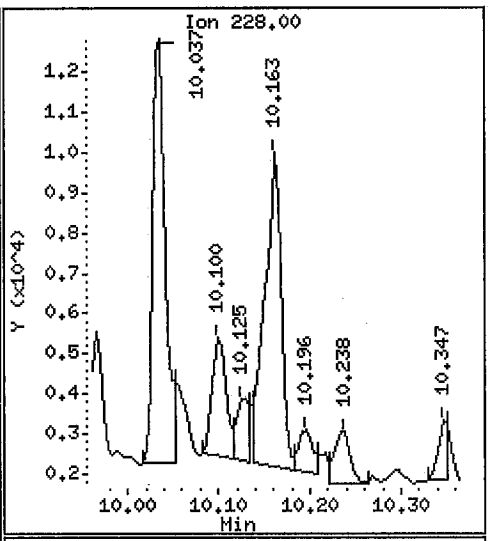
Sample Info: ,,0,,,

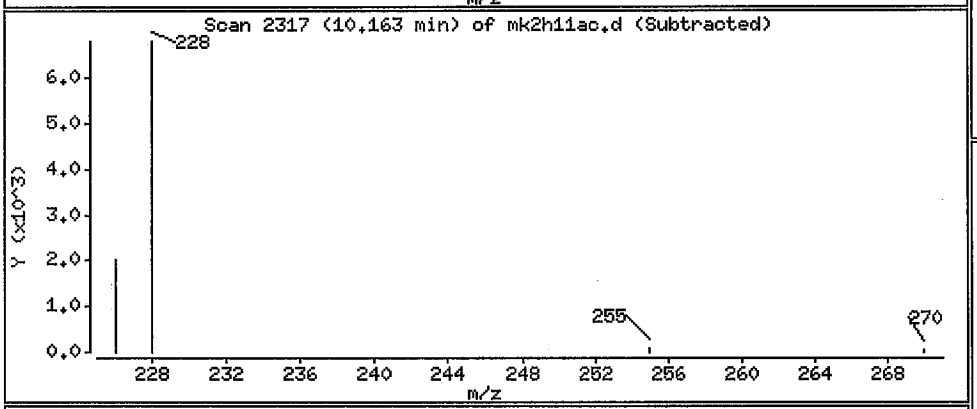
Purge Volume: 1.0 Operator: 11211

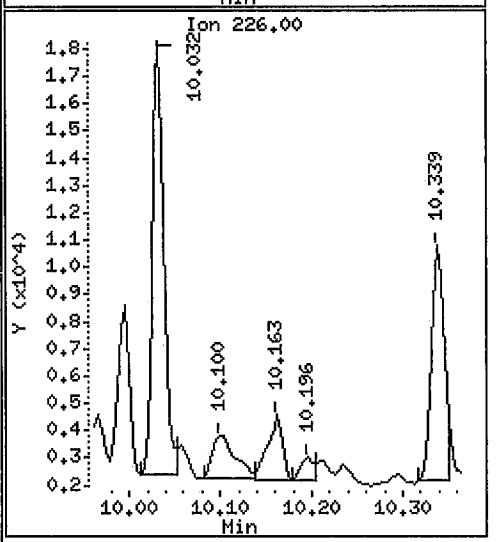
Column phase: Varian: 5MS Column diameter: 0.25

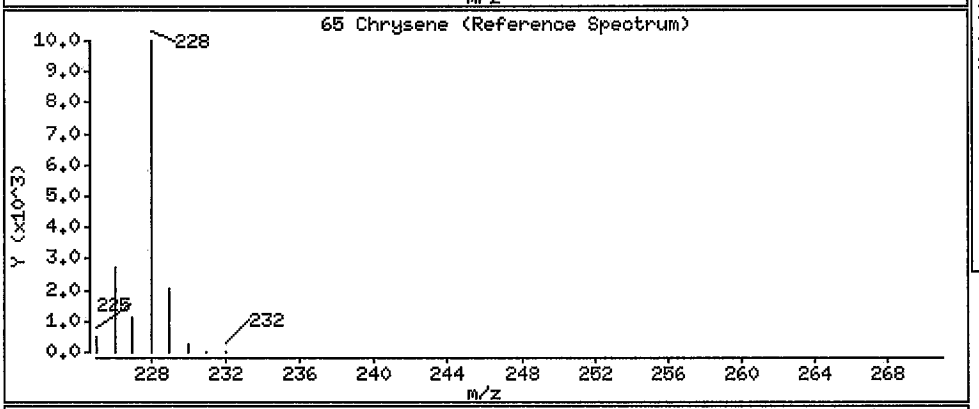
65 Chrysene Concentration: 11.4 ng/sample

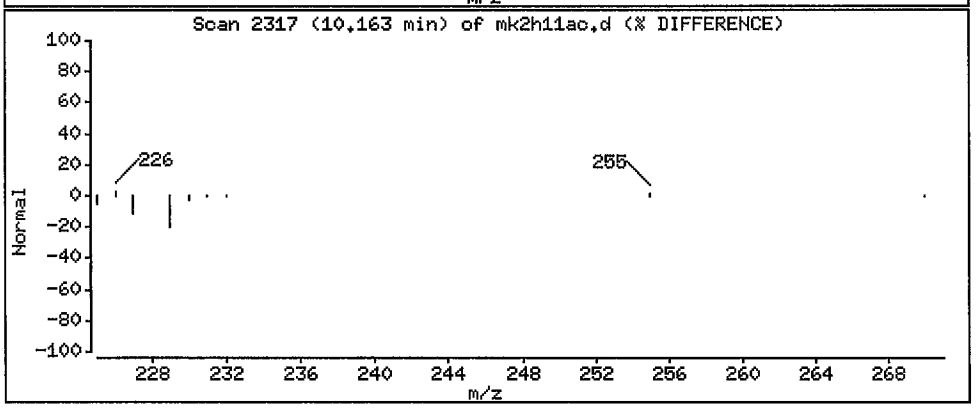












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

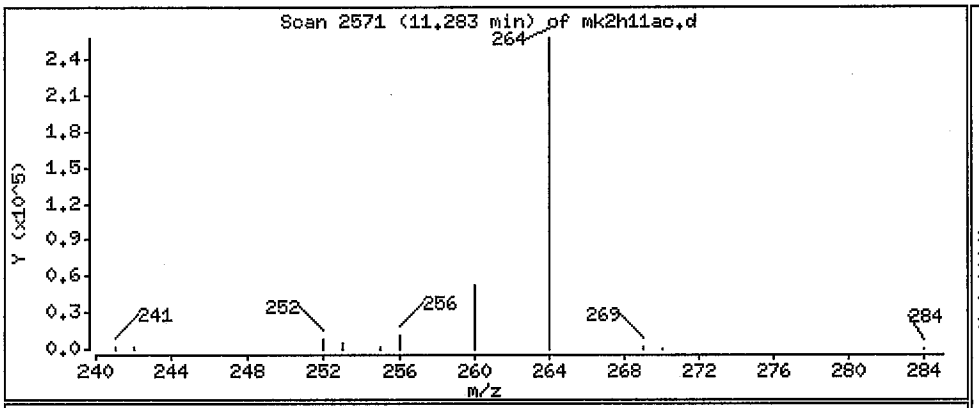
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

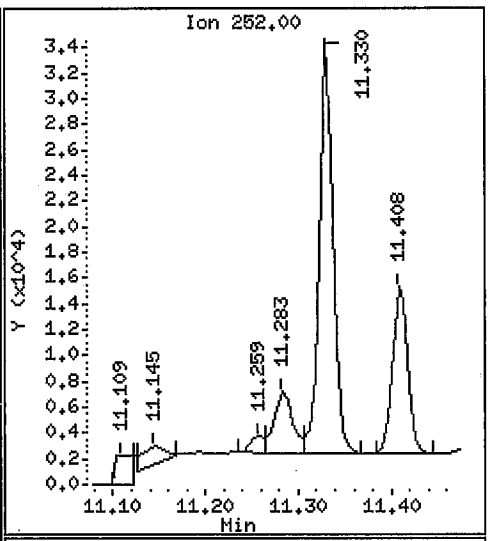
Sample Info: ,,0,,,

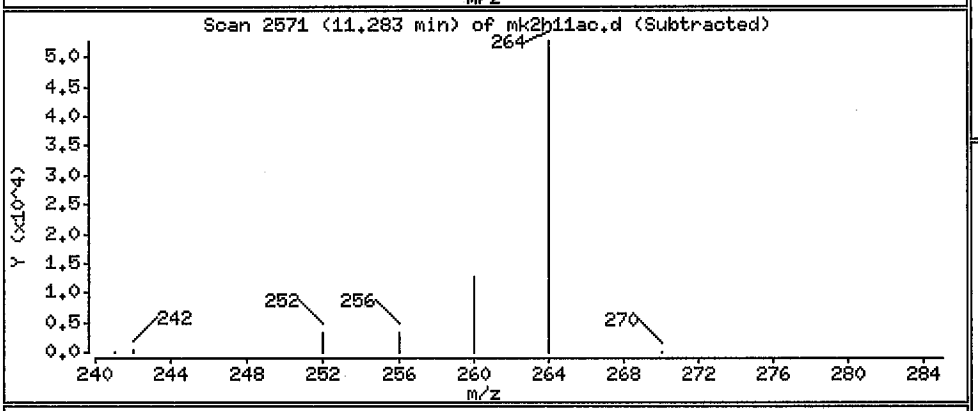
Purge Volume: 1.0 Operator: 11211

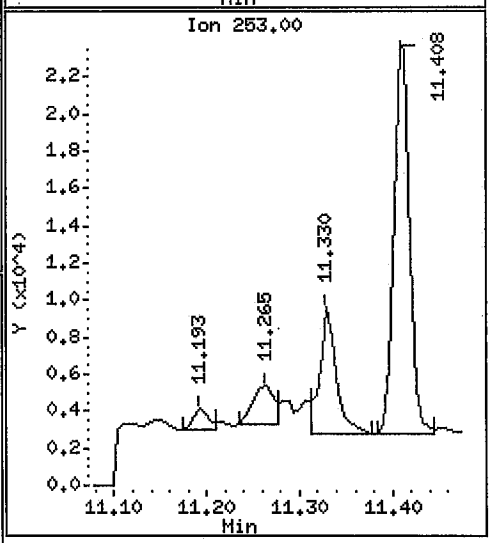
Column phase: Varian: 5MS Column diameter: 0.25

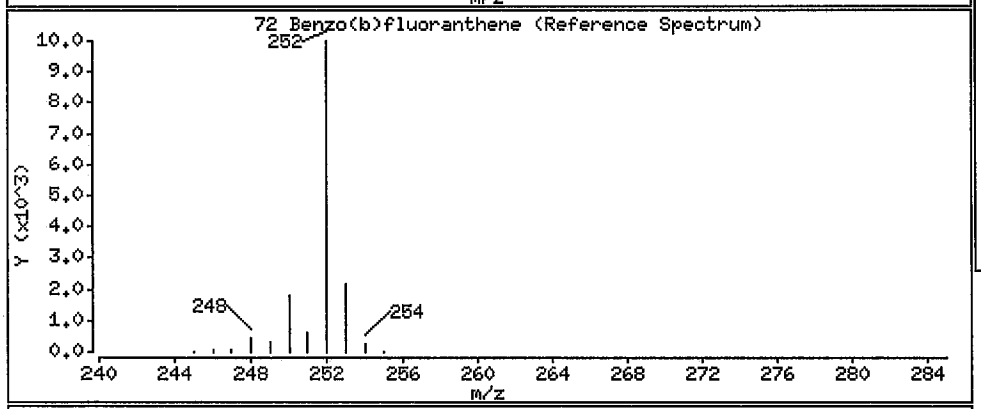
72 Benzo(b)fluoranthene Concentration: 5.52 ng/sample

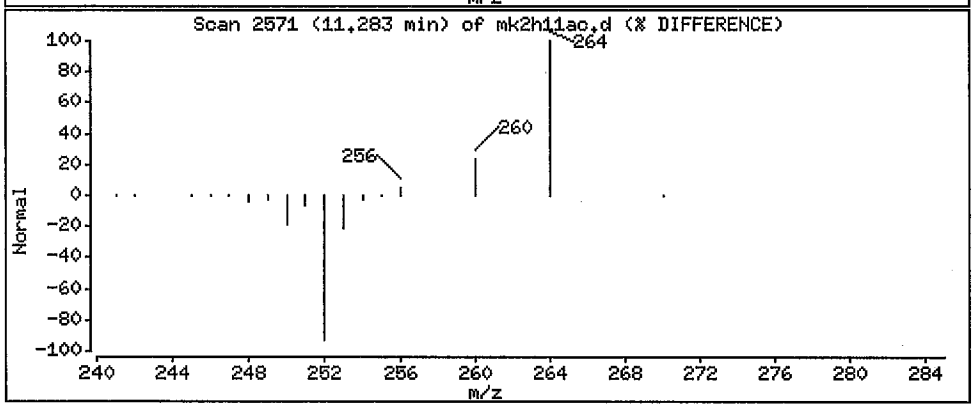












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

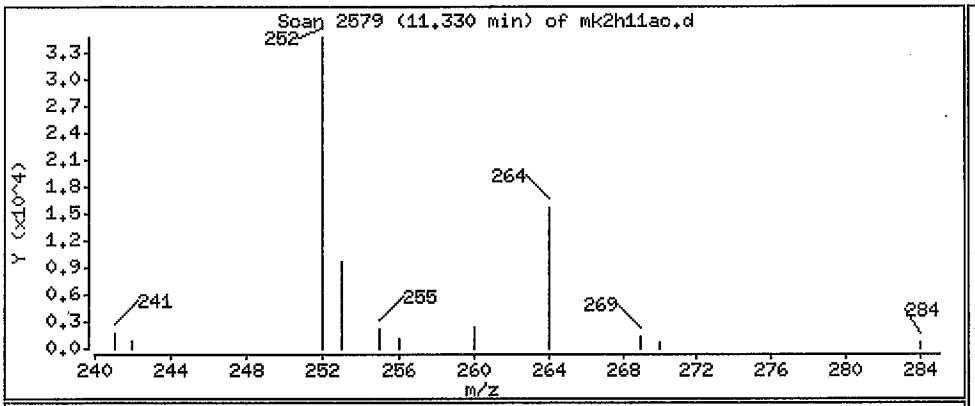
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

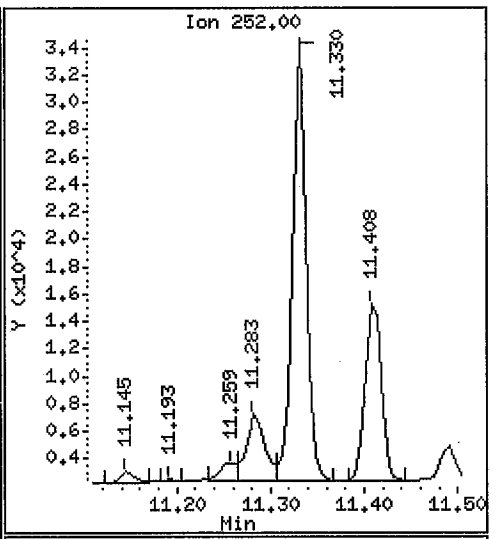
Sample Info: ,,0,,,

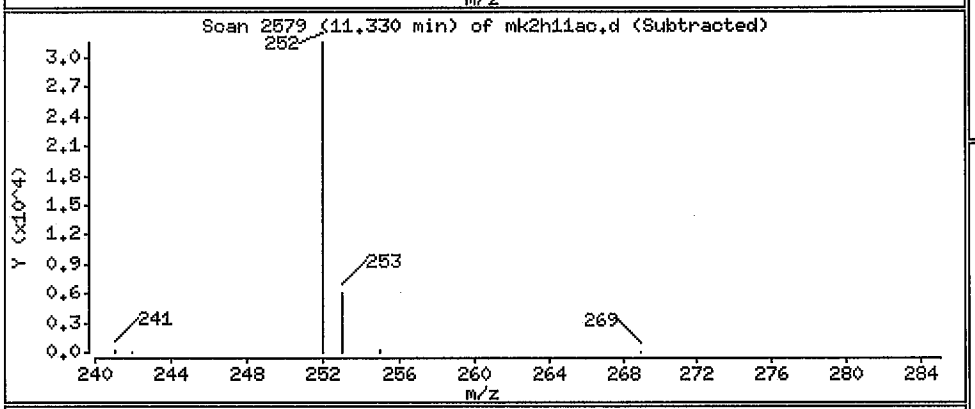
Purge Volume: 1.0 Operator: 11211

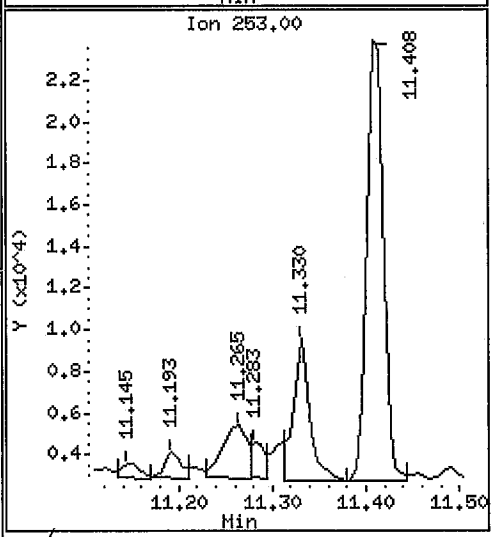
Column phase: Varian: 5MS Column diameter: 0.25

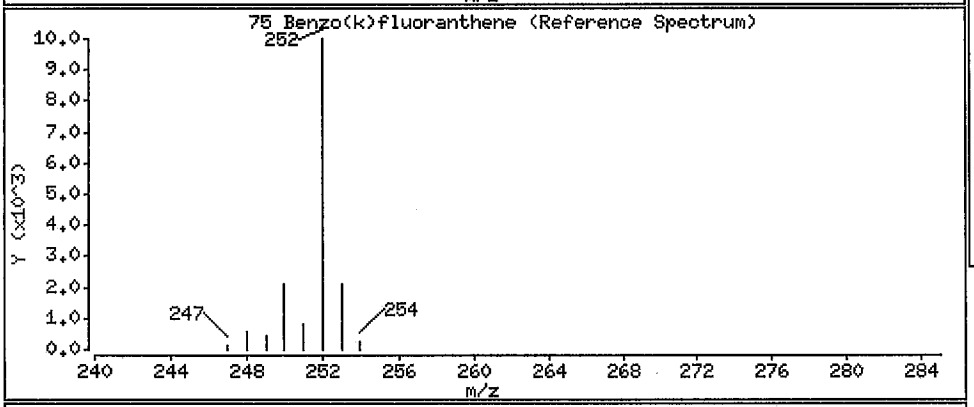
75 Benzo(k)fluoranthene Concentration: 32.9 ng/sample

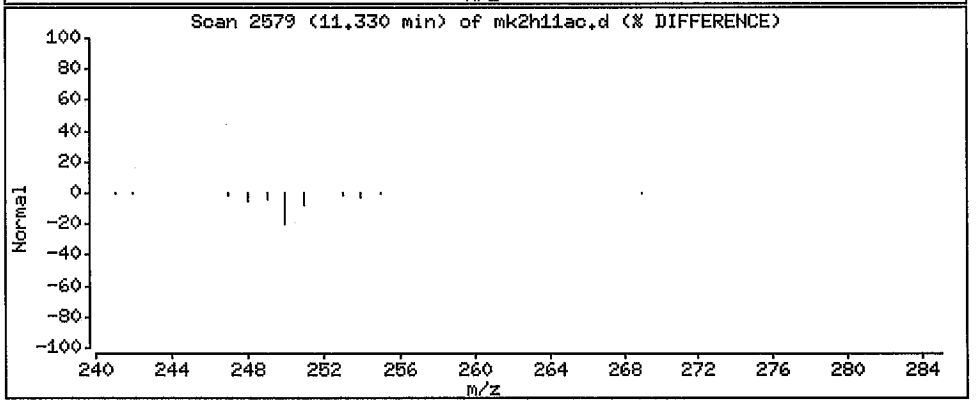












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

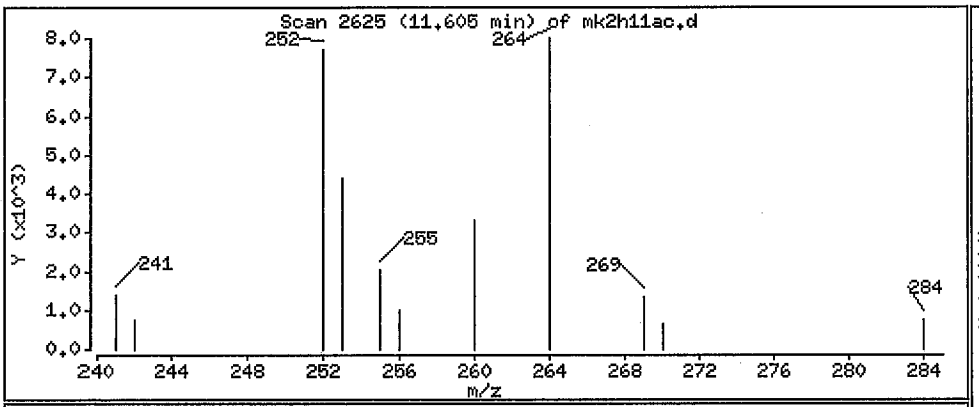
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

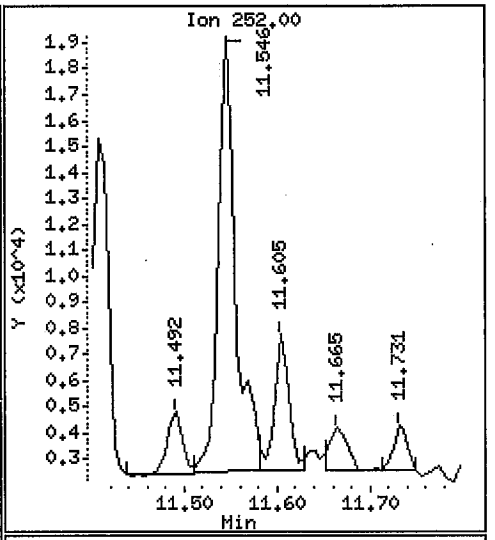
Sample Info: ,,0,,,

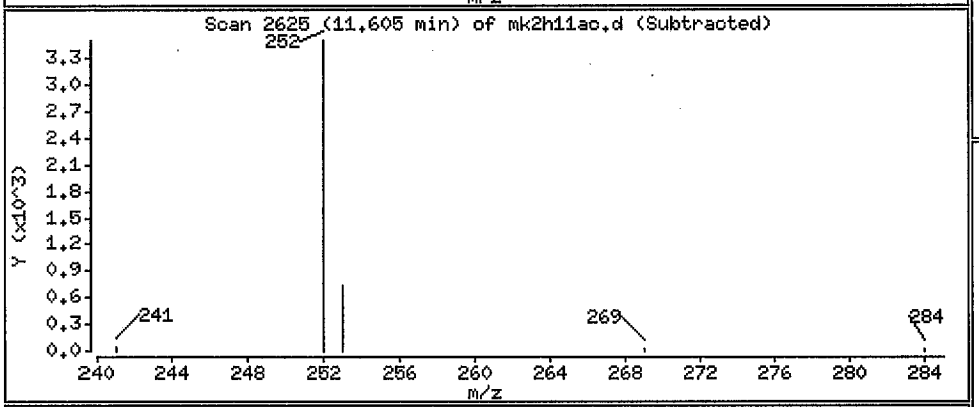
Purge Volume: 1.0 Operator: 11211

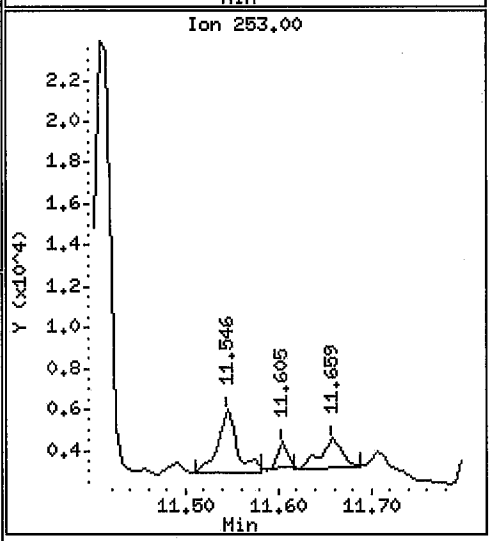
Column phase: Varian: 5MS Column diameter: 0.25

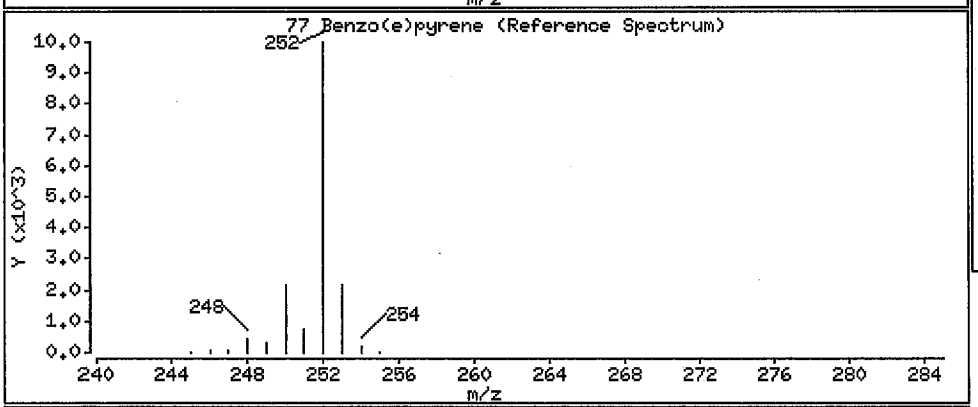
77 Benzo(e)pyrene Concentration: 5.12 ng/sample

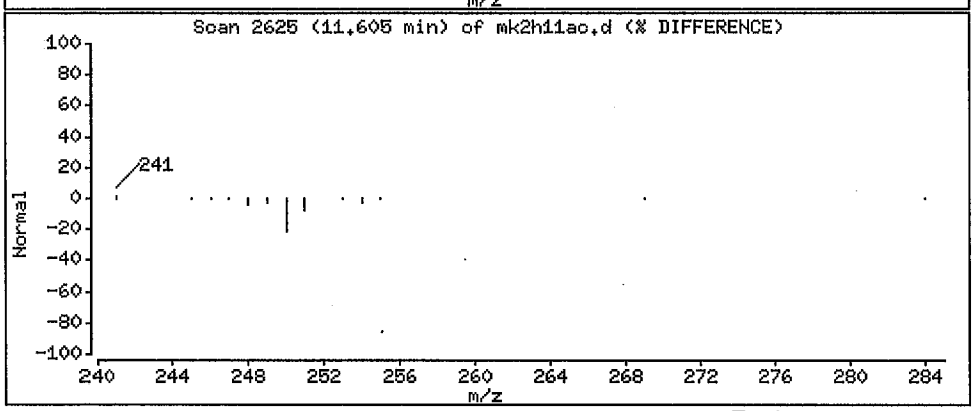












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

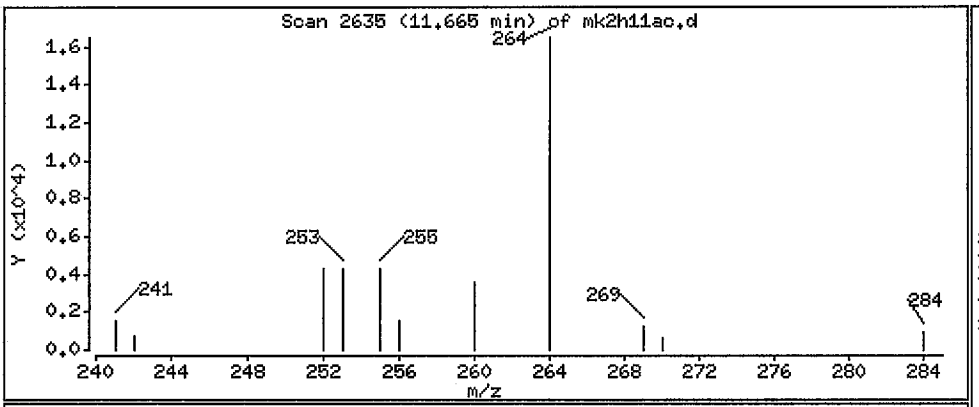
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

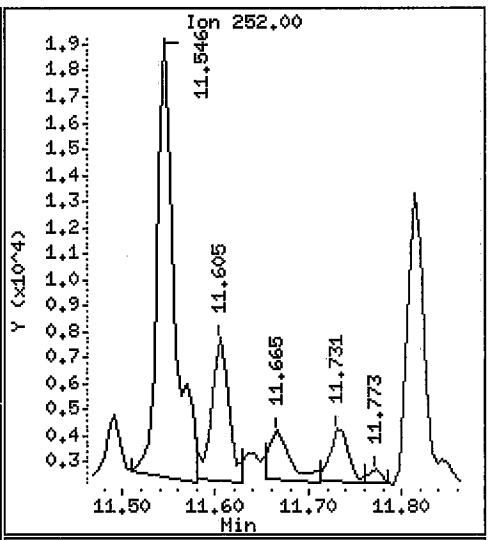
Sample Info: ,,0,,,

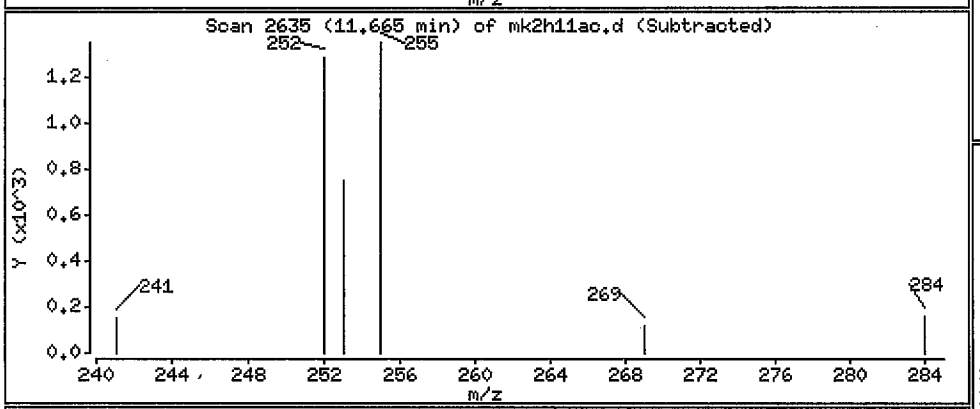
Purge Volume: 1.0 Operator: 11211

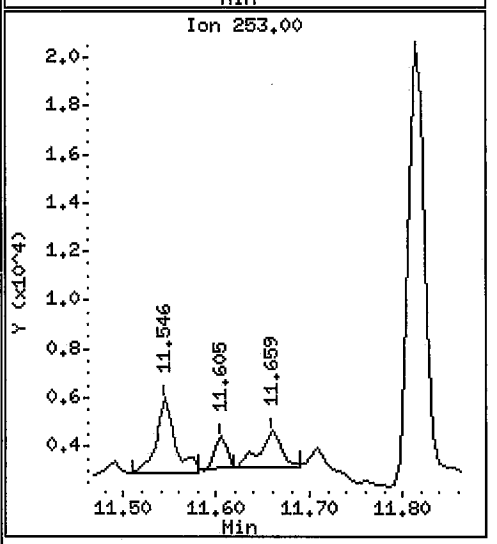
Column phase: Varian: 5MS Column diameter: 0.25

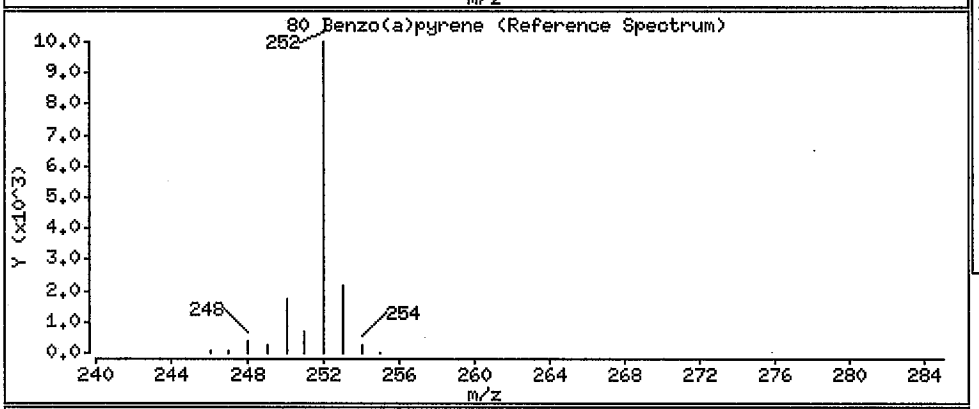
80 Benzo(a)pyrene Concentration: 3.39 ng/sample

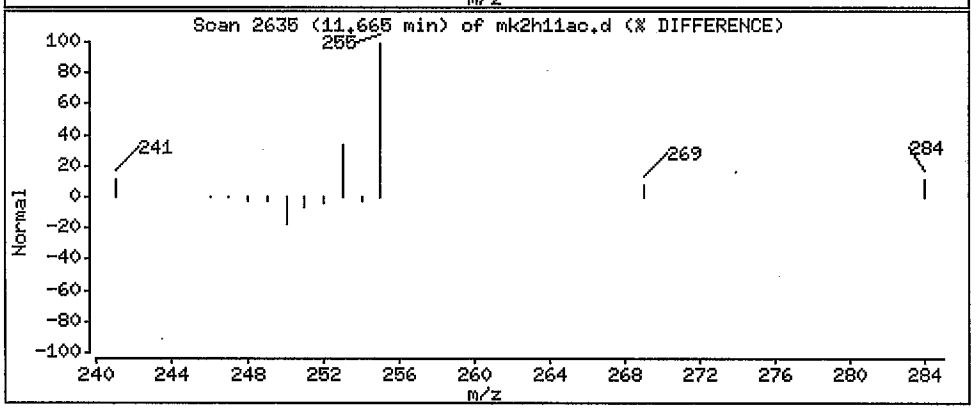












Data File: /var/ohem/goms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

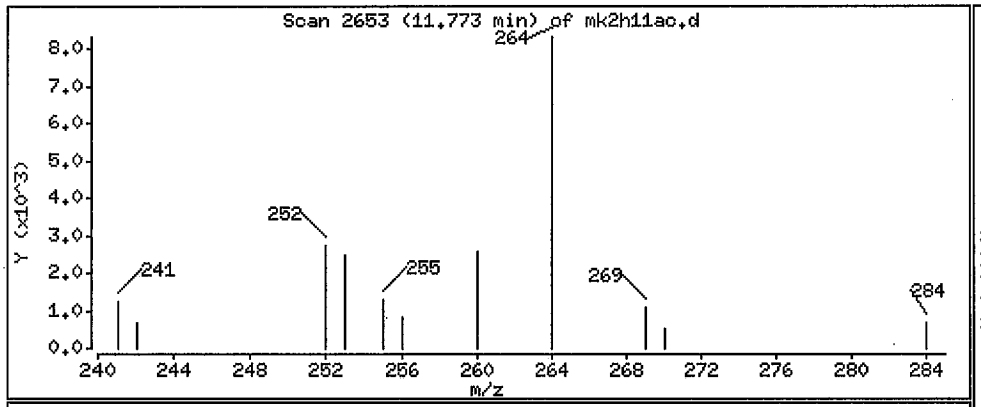
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

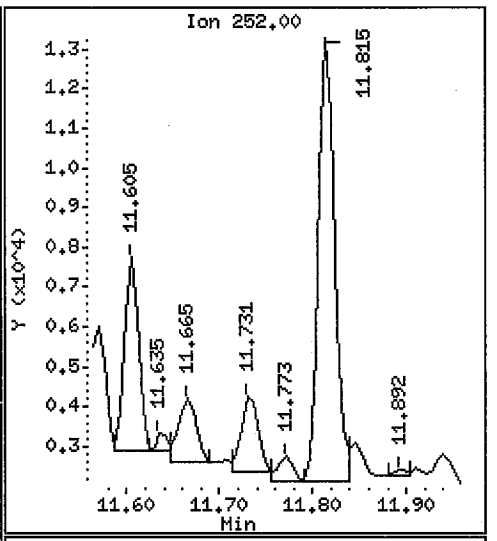
Sample Info: ,,0,,,

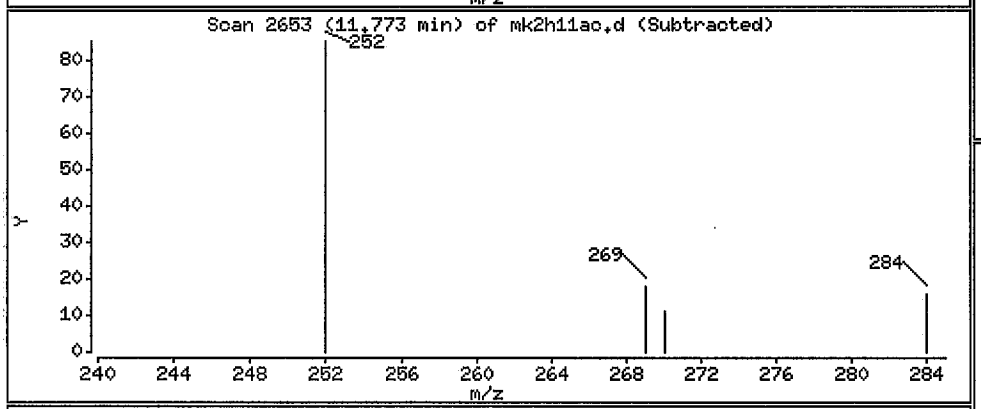
Purge Volume: 1.0 Operator: 11211

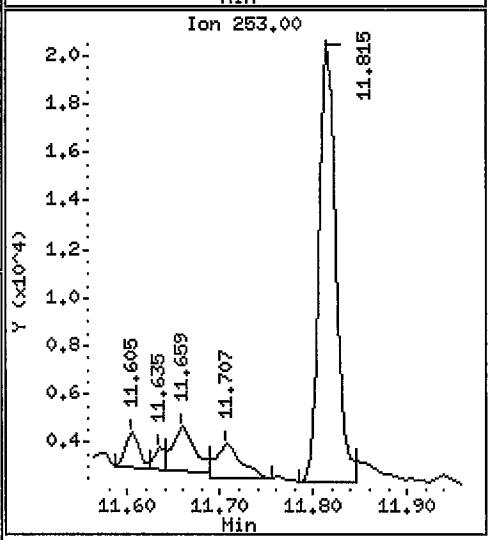
Column phase: Varian: 5MS Column diameter: 0.25

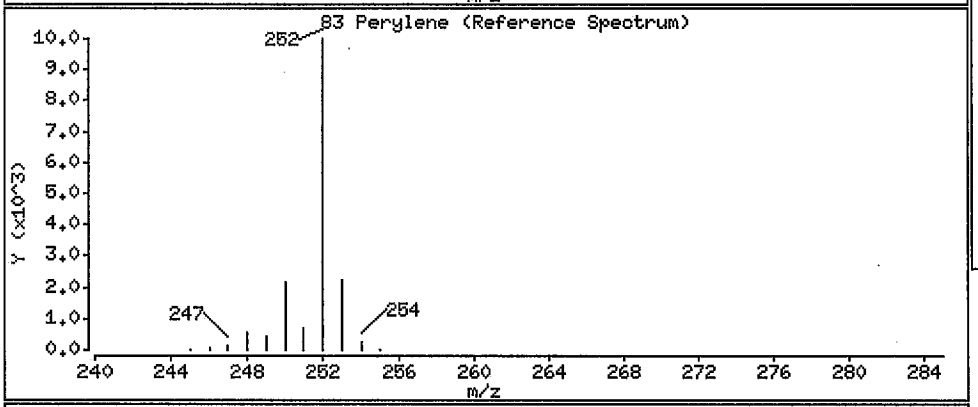
83 Perylene Concentration: 0.765 ng/sample

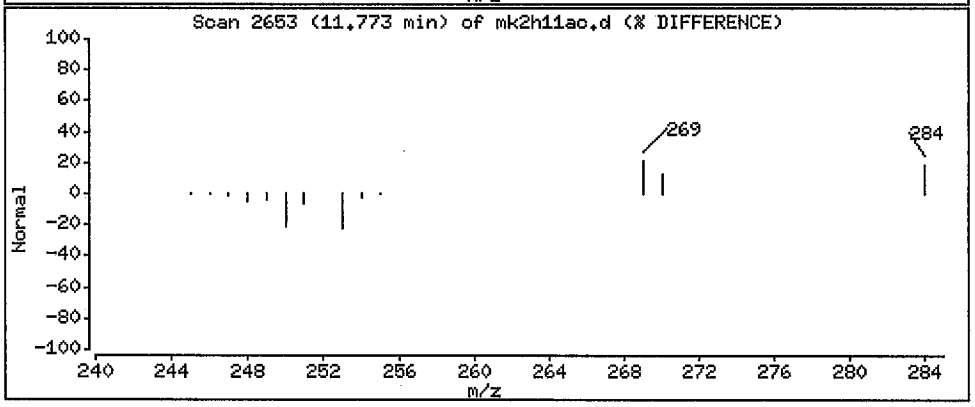












Data File: /var/ohem/goms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

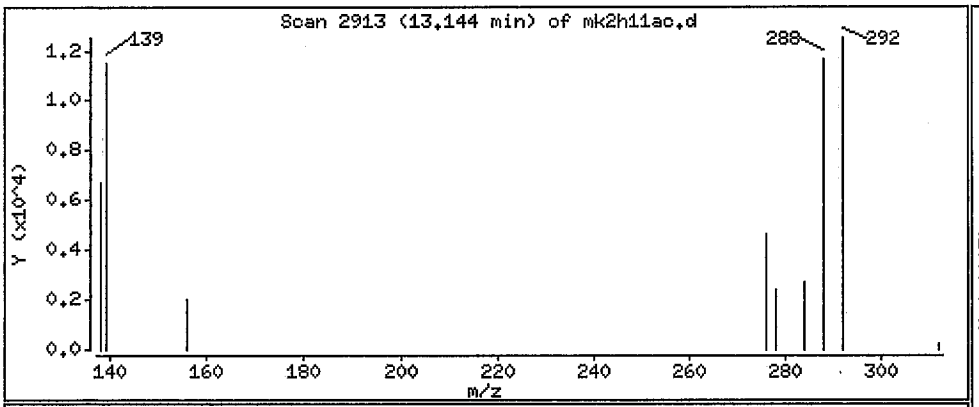
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

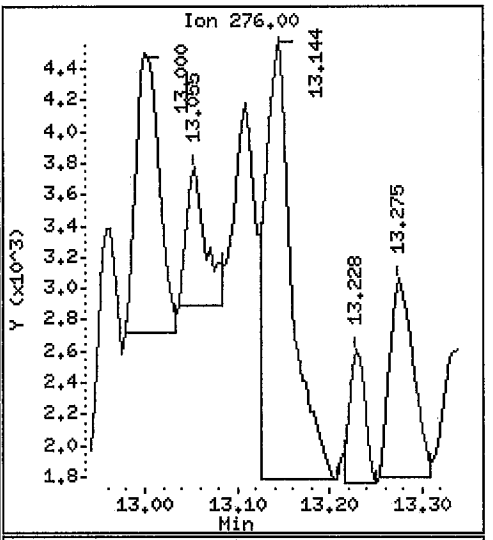
Sample Info: ,,0,,,

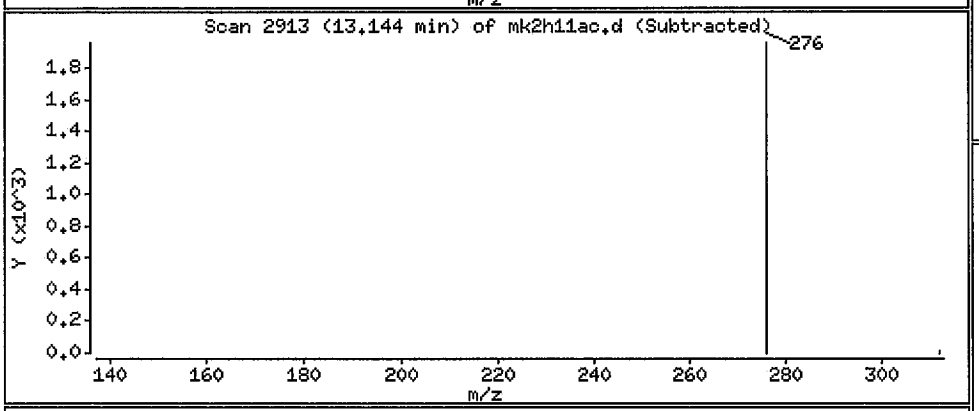
Purge Volume: 1.0 Operator: 11211

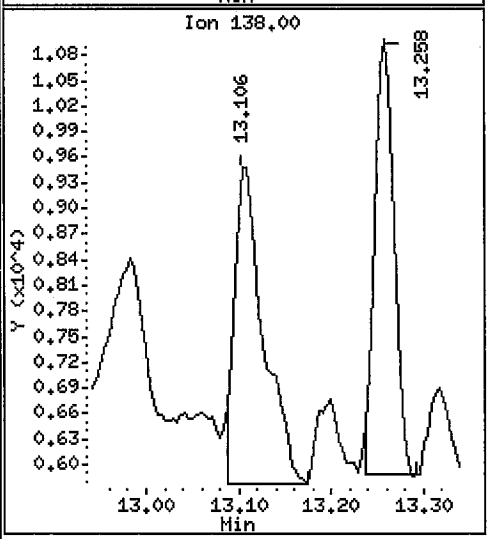
Column phase: Varian: 5MS Column diameter: 0.25

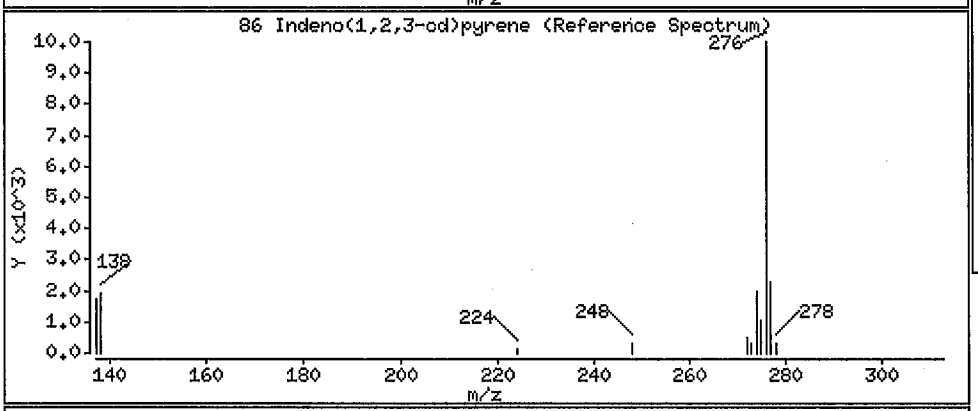
86 Indeno(1,2,3-cd)pyrene Concentration: 4.58 ng/sample

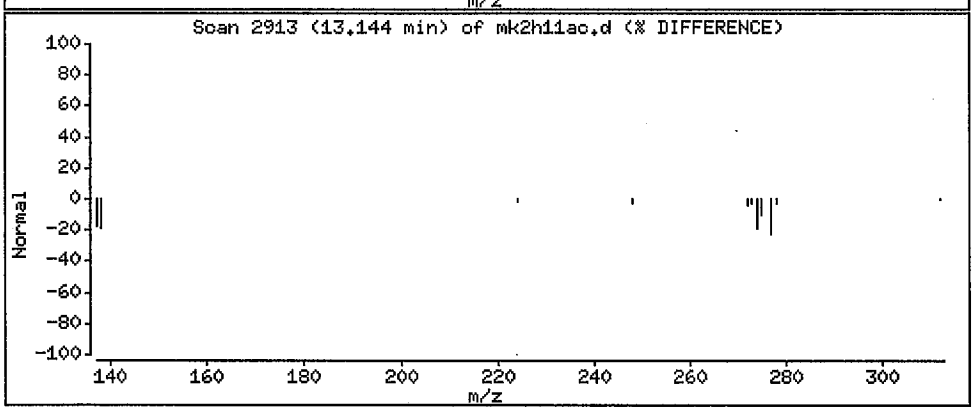












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

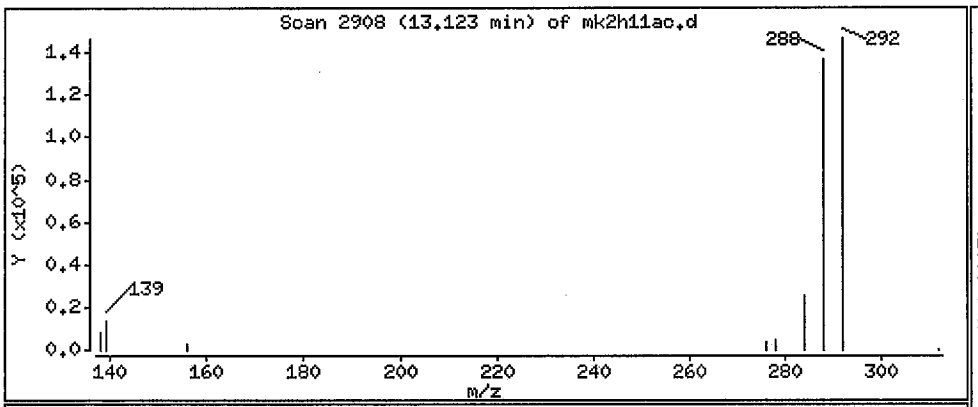
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

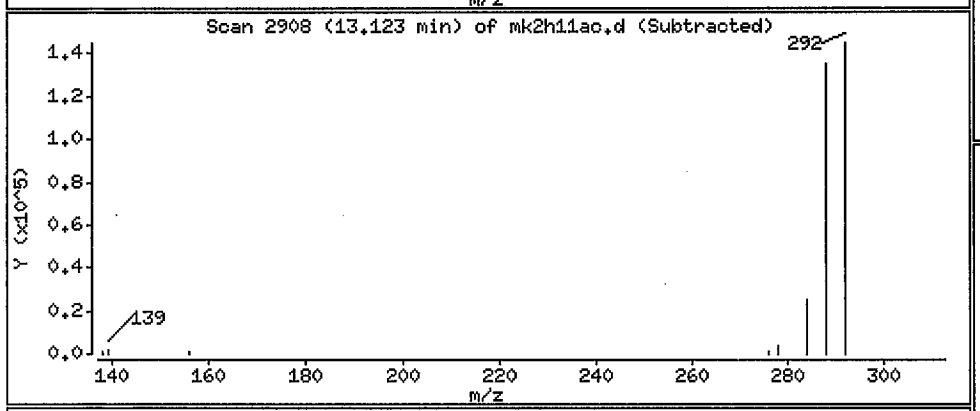
Sample Info: ,,0,,,

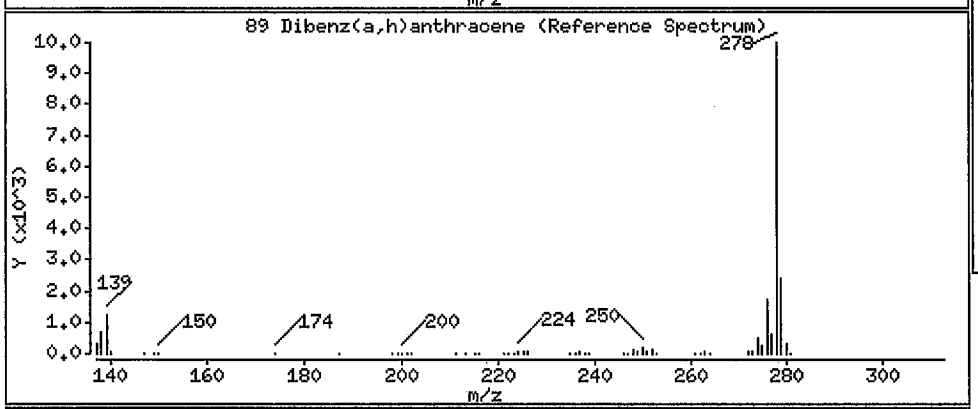
Purge Volume: 1.0 Operator: 11211

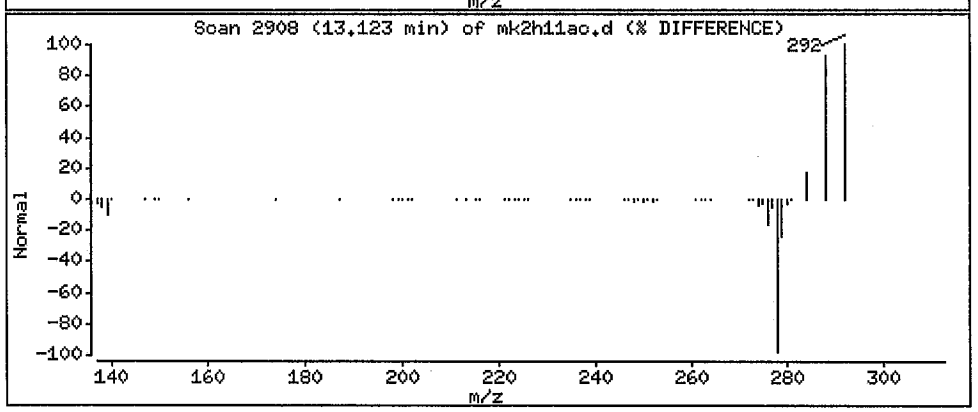
Column phase: Varian: 5MS Column diameter: 0.25

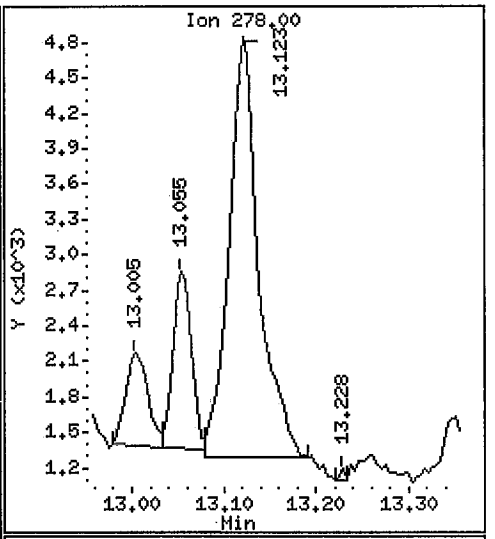
89 Dibenz(a,h)anthracene Concentration: 8.97 ng/sample

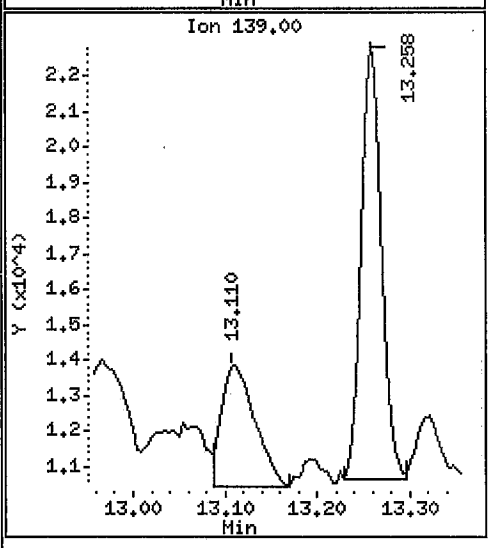












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h11ac.d

Date : 29-JUL-2011 15:29

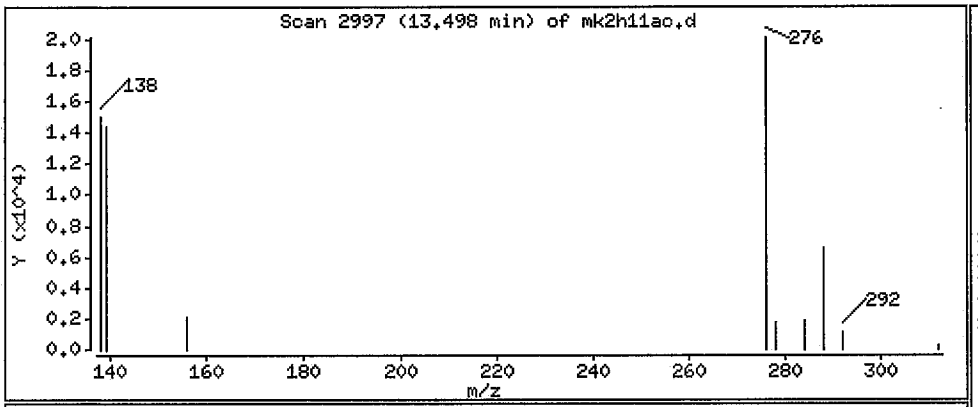
Client ID: 11-234 M0010 RUN 4 Instrument: mp.i

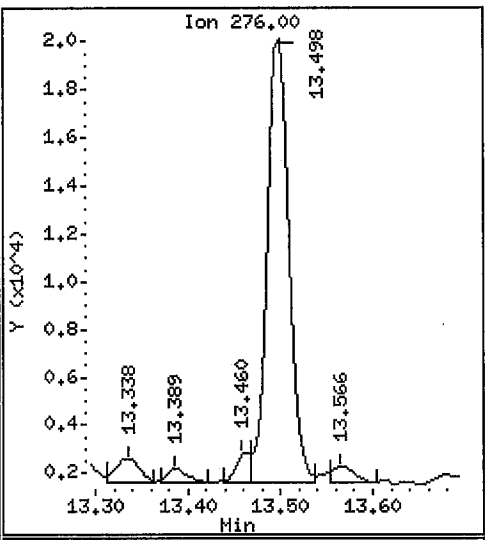
Sample Info: ,,0,,,

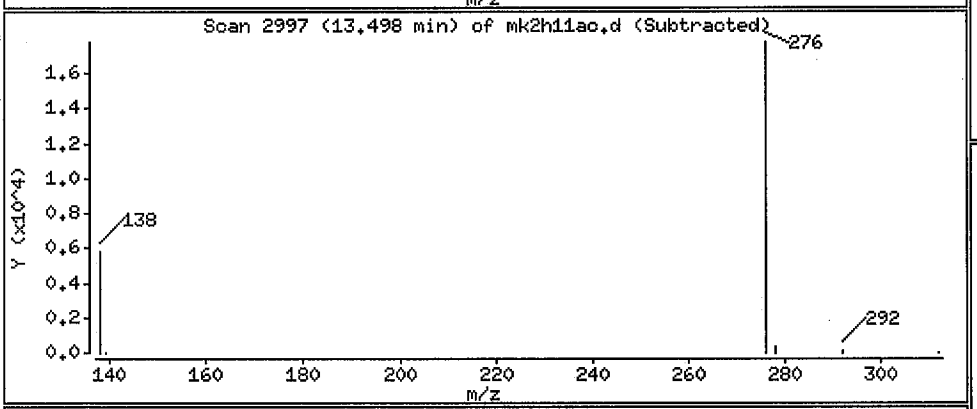
Purge Volume: 1.0 Operator: 11211

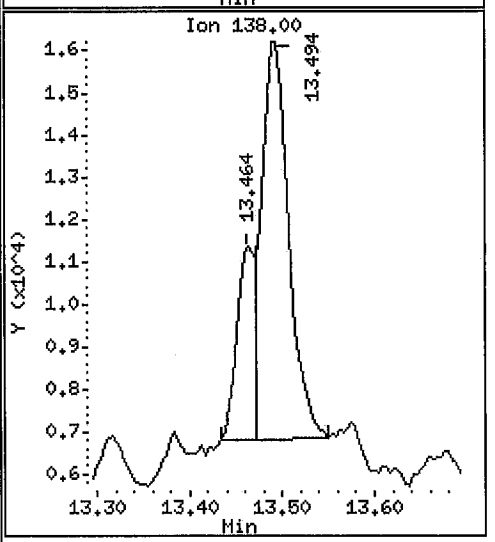
Column phase: Varian: 5MS Column diameter: 0.25

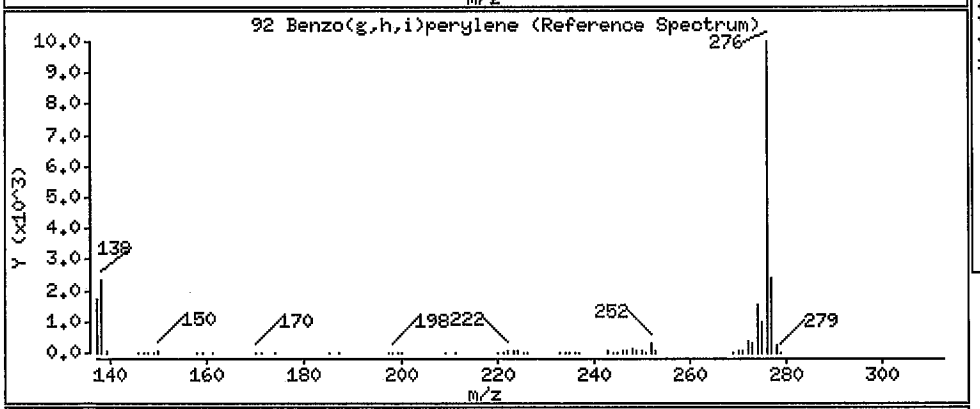
92 Benzo(g,h,i)perylene Concentration: 30.3 ng/sample

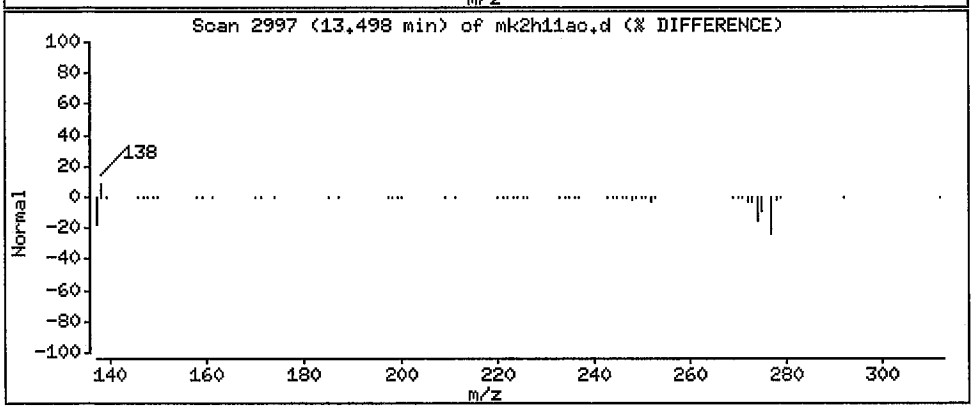












TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN BT COMBINED

GC/MS Semivolatiles

Lot-Sample #...:	H1G200446-004	Work Order #...:	MK2H21AC	Matrix.....:	AIR
Date Sampled...:	07/11/11	Date Received..:	07/20/2011		
Prep Date.....:	07/20/11	Analysis Date..:	07/29/2011		
Prep Batch #...:	1201079				
Dilution Factor:	6	Method.....:	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	NR	120	ng/sample	29
Acenaphthylene	NR	120	ng/sample	14
Anthracene	**27 J**	**60**	ng/sample	23
Benzo(a)anthracene	NR	60	ng/sample	23
Benzo(b)fluoranthene	NR	600	ng/sample	180
Benzo(k)fluoranthene	ND	600	ng/sample	260
Benzo(ghi)perylene	NR	60	ng/sample	31
Benzo(a)pyrene	ND	60	ng/sample	17
Benzo(e)pyrene	ND	60	ng/sample	34
Chrysene	**19 J**	**60**	ng/sample	15
Dibenz(a,h)anthracene	NR	60	ng/sample	23
Fluoranthene	**73**	**60**	ng/sample	38
Fluorene	NR	60	ng/sample	25
Indeno(1,2,3-cd)pyrene	NR	60	ng/sample	16
2-Methylnaphthalene	NR	300	ng/sample	130
Naphthalene	NR	2400	ng/sample	1500
Perylene	ND	60	ng/sample	19
Phenanthrene	**450**	**180**	ng/sample	140
Pyrene	ND	360	ng/sample	220

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Terphenyl-d14	112	(50 - 150)
Anthracene-d10	81	(30 - 120)
Phenanthrene-d10	67	(30 - 120)
Fluoranthene-d10	109	(30 - 120)
Chrysene-d12	111	(30 - 120)
Benzo(k)fluoranthene-d12	83	(30 - 120)
Benzo(a)pyrene-d12	113	(30 - 120)
Perylene-d12	101	(30 - 120)

NOTE(S):

1 13C6-Anthracene = 68%

J Estimated result. Result is less than RL.

NR Not reportable, see Case Narrative.

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h21ac.d
Report Date: 08-Aug-2011 11:22

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P072911.b/mk2h21ac.d
Lab Smp Id: MK2H21AC Client Smp ID: 11-234 M0010 RUN BT
Inj Date : 29-JUL-2011 14:15
Operator : 11211 Inst ID: mp.i
Smp Info : ,,0,,,
Misc Info : P072911,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Meth Date : 04-Aug-2011 19:00 cochranj Quant Type: ISTD
Cal Date : 26-JUL-2011 20:15 Cal File: pg26ic07.d
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	2.00000	Split factor
Vt	~~1500.00000~~	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)
Cpnd Variable		Local Compound Variable

See report

8.8.11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
* 1 Naphthalene-d8	136	4.865	4.865	(1.000)	3101	0.50000	~~0.500~~
$ 2 Naphthalene-d8(SS)	136	4.865	4.865	(0.767)	3101	0.57367	1720 SMR
3 Naphthalene	128	4.876	4.880	(1.002)	13923	2.64502	~~7240~~
$ 222 13C6-Naphthalene	134	4.895	4.880	(1.006)	1479479	259.689	~~779000~~(R)
* 10 2-Methylnaphthalene-d10	152	5.427	5.424	(1.000)	137141	0.50000	~~0.500~~
$ 11 2-Methylnaphthalene-d10(SS)	152	5.427	5.424	(0.856)	137141	47.0073	141000(R) SMR
12 2-Methylnaphthalene	142	5.447	5.450	(1.004)	42368	0.15335	~~460~~
* 13 1-Methylnaphthalene-d10	152	5.500	5.503	(1.000)	2537	0.50000	~~0.500~~
$ 14 1-Methylnaphthalene-d10(SS)	152	5.533	5.503	(0.872)	1563	0.53921	1620 SMR
15 1-Methylnaphthalene	142	5.540	5.533	(1.007)	1255	0.25504	~~765~~
16 Biphenyl	154	5.850	5.835	(1.078)	922	0.00281	~~8.44~~ SMR
* 17 2,6-Dimethylnaphthalene-d12	168	5.969	5.933	(1.000)	49	0.50000	~~0.500~~
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.969	5.933	(0.941)	49	0.01989	~~59.7~~(R) SMR
19 2,6 Dimethylnaphthalene	156	5.998	5.969	(1.005)	16572	167.999	504000

8/4/11

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h21ac.d
Report Date: 08-Aug-2011 11:22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
*	20 Acenaphthylene-d8	160	6.171	6.194	(1.000)	87026	0.50000	0.500
$	21 Acenaphthylene-d8(SS)	160	6.219	6.194	(0.981)	6984	1.71716	5150(R) S/N R
	22 Acenaphthylene	152	6.182	6.202	(1.002)	4180	0.02383	71.5 S/N R
*	23 Acenaphthene-d10	164	6.342	6.325	(1.000)	1149	0.50000	0.500 S/N R
	24 Acenaphthene	154	6.330	6.350	(1.026)	5033	0.04804	144
	25 2,3,5 Trimethylnaphthalene	170	6.709	6.669	(1.124)	74768	908.693	2730000 S/N R
$	26 Fluorene-d10	176	6.746	6.758	(0.891)	91435	0.73531	2210
	27 Fluorene	166	6.773	6.783	(0.895)	87617	0.54489	1630 S/N R
$	28 13C6-Fluorene	171	6.771	6.781	(0.894)	166032	1.19633	1590
*	34 Dibenzothiopene-d8	192	7.468	7.474	(1.000)	112803	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.468	7.474	(0.841)	112803	0.32511	975
	36 Dibenzothiophene	184	7.484	7.489	(1.002)	12267	0.05701	171
*	41 Phenanthrene-d10	188	7.572	7.578	(1.000)	104882	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.572	7.578	(0.852)	104882	0.33504	1010
	43 Phenanthrene	178	7.592	7.597	(1.003)	103721	0.45042	1350
*	44 Anthracene-d10	188	7.619	7.626	(1.000)	107099	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.619	7.626	(0.858)	107099	0.40516	1220
	46 Anthracene	178	7.636	7.642	(1.002)	7547	0.02739	82.2
$	47 13C6-Anthracene	184	7.636	7.642	(0.859)	96840	0.33798	1010
	52 1-Methylphenanthrene	192	8.140	8.143	(1.075)	9230	0.06673	200
*	53 Fluoranthene-d10	212	8.663	8.665	(1.000)	158555	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.663	8.665	(0.975)	158555	0.54382	1630
	55 Fluoranthene	202	8.680	8.683	(1.002)	26193	0.07342	220
*	56 Pyrene-d10	212	8.884	8.885	(1.000)	118854	0.50000	0.500
	57 Pyrene	202	8.904	8.904	(1.028)	20570	0.05452	164
$	58 Terphenyl-d14	244	9.041	9.043	(1.044)	182156	1.12126	3360
*	60 Benzo(a)anthracene-d12	240	10.099	10.100	(1.000)	141762	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.099	10.100	(1.137)	141762	0.97788	2930(R)
	62 Benzo(a)anthracene	228	10.125	10.121	(1.002)	2235	0.00493	14.8
*	63 Chrysene-d12	240	10.133	10.133	(1.000)	141209	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.133	10.133	(1.141)	141209	0.55520	1670
	65 Chrysene	228	10.162	10.163	(1.003)	5770	0.01872	56.2
*	70 Benzo(b)fluoranthene-d12	264	11.253	11.253	(1.000)	178835	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.253	11.253	(0.972)	178836	0.61168	1840(R)
	72 Benzo(b)fluoranthene	252	11.282	11.277	(1.003)	7751	0.01475	44.3
*	73 Benzo(k)fluoranthene-d12	264	11.288	11.289	(1.000)	180681	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.288	11.289	(0.975)	172550	0.41352	1240
	75 Benzo(k)fluoranthene	252	11.282	11.307	(0.999)	8514	0.02152	64.6 S/N R
*	76 Benzo(e)pyrene-d12	264	11.575	11.570	(1.000)	138639	0.50000	0.500
	77 Benzo(e)pyrene	252	11.605	11.600	(0.997)	4771	0.01042	31.3
*	78 Benzo(a)pyrene-d12	264	11.641	11.635	(1.000)	168453	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.641	11.635	(1.006)	168429	0.56343	1690
	80 Benzo(a)pyrene	252	11.665	11.665	(1.002)	3730	0.00976	29.3
*	81 Perylene-d12	264	11.737	11.737	(1.000)	151013	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.737	11.737	(1.014)	151013	0.50650	1520
	83 Perylene	252	11.767	11.761	(1.003)	825	0.00217	6.50
*	84 Indeno(123-cd)pyrene-d12	288	13.110	13.106	(1.000)	220437	0.50000	0.500

8/8/11

8/8/11

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h21ac.d
Report Date: 08-Aug-2011 11:22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.110	13.106	(1.133)	220371	0.64511	1940(R)
	86 Indeno(1,2,3-cd)pyrene	276	13.144	13.140	(1.003)	4367	0.00818	24.6
*	87 Dibenz(ah)anthracene-d14	292	13.110	13.110	(1.000)	171698	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.110	13.110	(1.133)	171758	0.66011	1980(R)
	89 Dibenz(a,h)anthracene	278	13.156	13.157	(1.004)	1135	0.00269	8.08
*	90 Benzo(ghi)perylene-d12	288	13.464	13.460	(1.000)	156497	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.464	13.460	(1.163)	156497	0.60960	1830(R)
	92 Benzo(g,h,i)perylene	276	13.498	13.494	(1.002)	8434	0.01947	58.4

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d
Report Date: 12-Aug-2011 15:11

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /chem/gcms/mp.i/P072911.b/mk2h21ac.d
Lab Smp Id: MK2H21AC Client Smp ID: 11-234 M0010 RUN BT
Inj Date : 29-JUL-2011 14:15
Operator : 11211 Inst ID: mp.i
Smp Info : ,,0,,,
Misc Info : P072911,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Meth Date : 04-Aug-2011 19:00 cochranj Quant Type: ISTD
Cal Date : 26-JUL-2011 20:15 Cal File: pg26ic07.d
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	2.00000	Split factor
Vt	500.00000	default Volume of final extract (uL) (actual vol = 1500 µl) JWS 8.12.11
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
* 1 Naphthalene-d8	136	4.698	4.865	(1.000)	619040	0.50000	0.500(H)
$ 2 Naphthalene-d8(SS)	136	4.698	4.865	(0.745)	619040	4.29932	4300(RH)
3 Naphthalene	128	4.694	4.880	(0.999)	4999021	4.75839	4760(H)
* 10 2-Methylnaphthalene-d10	152	5.384	5.424	(1.000)	57534	0.50000	0.500(H)
$ 11 2-Methylnaphthalene-d10(SS)	152	5.384	5.424	(0.854)	57534	0.74054	741(RH)
12 2-Methylnaphthalene	142	5.411	5.450	(1.005)	33192	0.28637	286(H)
* 13 1-Methylnaphthalene-d10	152	5.467	5.503	(1.000)	55755	0.50000	0.500(H)
$ 14 1-Methylnaphthalene-d10(SS)	152	5.467	5.503	(0.867)	55755	0.72197	722(RH)
15 1-Methylnaphthalene	142	5.493	5.533	(1.005)	17749	0.16407	164(H)
16 Biphenyl	154	5.794	5.835	(1.076)	31439	0.22839	228(H)
* 17 2,6-Dimethylnaphthalene-d12	168	5.906	5.933	(1.000)	19388	0.50000	0.500(M)
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.906	5.933	(0.937)	19254	0.29052	291(MH)
19 2,6 Dimethylnaphthalene	156	5.952	5.969	(1.008)	9477	0.24525	245(M)
* 20 Acenaphthylene-d8	160	6.171	6.194	(1.000)	87026	0.50000	0.500

Matrix interferences Report from 5 x dil JWS 8.12.11

Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d
Report Date: 12-Aug-2011 15:11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
$	21 Acenaphthylene-d8(SS)	160	6.171	6.194	(0.979)	87026	0.80340	803(RH)
	22 Acenaphthylene	152	6.182	6.202	(1.002)	4180	0.02382	23.8(H)
*	23 Acenaphthene-d10	164	6.305	6.325	(1.000)	30615	0.50000	0.500(H)
	24 Acenaphthene	154	6.330	6.350	(1.026)	5033	0.04803	48.0(H)
	25 2,3,5 Trimethylnaphthalene	170	6.646	6.669	(1.125)	5758	0.17864	179(H)
$	26 Fluorene-d10	176	6.746	6.758	(0.891)	91435	0.73531	735(H)
	27 Fluorene	166	6.773	6.783	(0.895)	87617	0.54489	545(H)
$	28 13C6-Fluorene	171	6.771	6.781	(0.894)	166032	1.19633	1200(H)
*	34 Dibenzothiopene-d8	192	7.468	7.474	(1.000)	112803	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.468	7.474	(0.841)	112803	0.32511	325
	36 Dibenzothiophene	184	7.484	7.489	(1.002)	12267	0.05701	57.0
*	41 Phenanthrene-d10	188	7.572	7.578	(1.000)	104882	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.572	7.578	(0.852)	104882	0.33504	335
	43 Phenanthrene	178	7.592	7.597	(1.003)	103721	0.45042	450
*	44 Anthracene-d10	188	7.619	7.626	(1.000)	107099	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.619	7.626	(0.858)	107099	0.40516	405
	46 Anthracene	178	7.636	7.642	(1.002)	7547	0.02738	27.4
$	47 13C6-Anthracene	184	7.636	7.642	(0.859)	96840	0.33798	338
	52 1-Methylphenanthrene	192	8.140	8.143	(1.075)	9230	0.06673	66.7
*	53 Fluoranthene-d10	212	8.663	8.665	(1.000)	158555	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.663	8.665	(0.975)	158555	0.54382	544
	55 Fluoranthene	202	8.680	8.683	(1.002)	26193	0.07342	73.4
*	56 Pyrene-d10	212	8.884	8.885	(1.000)	118854	0.50000	0.500
	57 Pyrene	202	8.904	8.904	(1.028)	20570	0.05452	54.5
$	58 Terphenyl-d14	244	9.041	9.043	(1.044)	182156	1.12126	1120
*	60 Benzo(a)anthracene-d12	240	10.099	10.100	(1.000)	141762	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.099	10.100	(1.137)	141762	0.97788	978(R)
	62 Benzo(a)anthracene	228	10.125	10.121	(1.002)	2235	0.00493	4.93
*	63 Chrysene-d12	240	10.133	10.133	(1.000)	141209	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.133	10.133	(1.141)	141209	0.55520	555
	65 Chrysene	228	10.162	10.163	(1.003)	5770	0.01872	18.7
*	70 Benzo(b)fluoranthene-d12	264	11.253	11.253	(1.000)	178835	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.253	11.253	(0.972)	178836	0.61168	612(R)
	72 Benzo(b)fluoranthene	252	11.282	11.277	(1.003)	7751	0.01475	14.8
*	73 Benzo(k)fluoranthene-d12	264	11.288	11.289	(1.000)	180681	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.288	11.289	(0.975)	172550	0.41352	414
	75 Benzo(k)fluoranthene	252	11.330	11.307	(1.004)	17300	0.04373	43.7(H)
*	76 Benzo(e)pyrene-d12	264	11.575	11.570	(1.000)	138639	0.50000	0.500
	77 Benzo(e)pyrene	252	11.605	11.600	(0.997)	4771	0.01042	10.4
*	78 Benzo(a)pyrene-d12	264	11.641	11.635	(1.000)	168453	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.641	11.635	(1.006)	168429	0.56343	563
	80 Benzo(a)pyrene	252	11.665	11.665	(1.002)	3730	0.00976	9.76
*	81 Perylene-d12	264	11.737	11.737	(1.000)	151013	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.737	11.737	(1.014)	151013	0.50651	507
	83 Perylene	252	11.767	11.761	(1.003)	825	0.00217	2.17
*	84 Indeno(123-cd)pyrene-d12	288	13.110	13.106	(1.000)	220437	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.110	13.106	(1.133)	220371	0.64512	645(R)

Matrix interferences report from 5 x dil

JW 8-12-11

Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d
Report Date: 12-Aug-2011 15:11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
	86 Indeno(1,2,3-cd)pyrene	276	13.144	13.140	(1.003)	4367	0.00818	8.18
*	87 Dibenz(ah)anthracene-d14	292	13.110	13.110	(1.000)	171698	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.110	13.110	(1.133)	171758	0.66011	660(R)
	89 Dibenz(a,h)anthracene	278	13.156	13.157	(1.004)	1135	0.00269	2.69
*	90 Benzo(ghi)perylene-d12	288	13.464	13.460	(1.000)	156497	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.464	13.460	(1.163)	156497	0.60960	610(R)
	92 Benzo(g,h,i)perylene	276	13.498	13.494	(1.002)	8434	0.01947	19.5

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d
Report Date: 12-Aug-2011 15:11

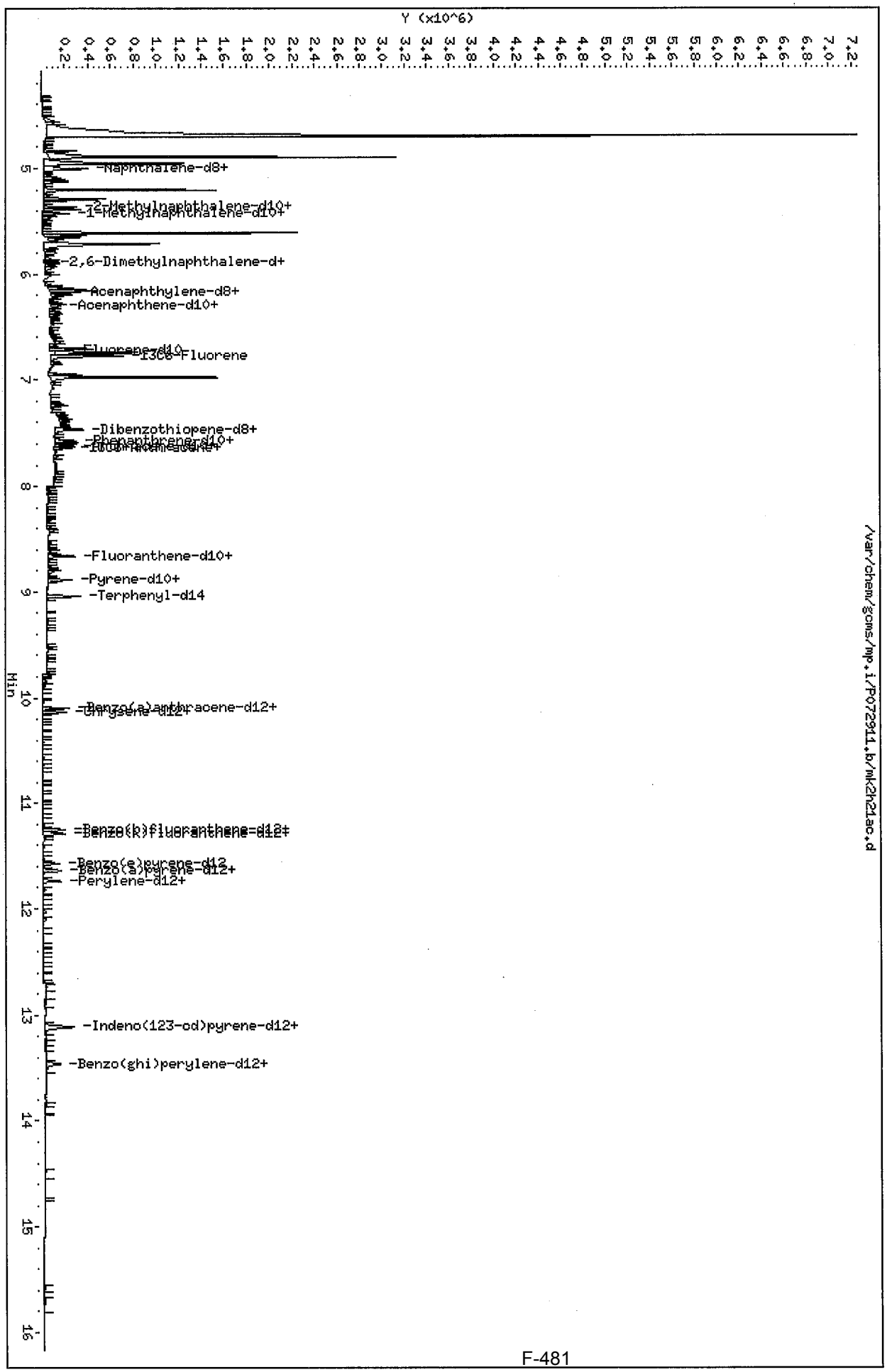
TestAmerica Knoxville

RECOVERY REPORT

Client Name: TestAmerica Air Emis20-JUL-2011 00:00 Client SDG: H1G200446
Sample Matrix: GAS Fraction: SV
Lab Smp Id: MK2H21AC Client Smp ID: 11-234 M0010 RUN BT
Level: LOW Operator: 11211
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: icv.spk Quant Type: ISTD
Sublist File: pah.sub
Method File: /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Misc Info: P072911,SIMPAH3

SURROGATE COMPOUND	CONC ADDED ng/sample	CONC RECOVERED ng/sample	% RECOVERED	LIMITS	
$ 2 Naphthalene-d8(SS)	500	4300	859.86*	30-120	matrix interference
$ 222 13C6-Naphthalene	~~500~~	~~0.00~~	*	50-150	
$ 11 2-Methylnaphthalen	500	741	148.11*	30-120	
$ 14 1-Methylnaphthalen	500	722	144.39*	30-120	
$ 18 2,6-Dimethylnaph-d	500	291	58.10	30-120	
$ 21 Acenaphthylene-d8(	500	803	160.68*	30-120	
$ 26 Fluorene-d10	1000	735	73.53	~~30-120~~	50-150
$ 28 13C6-Fluorene	1000	1200	119.63	~~30-120~~	
$ 35 Dibenzothiopene-d8	500	325	65.02	30-120	
$ 42 Phenanthrene-d10(S	500	335	67.01	30-120	
$ 45 Anthracene-d10(SS)	500	405	81.03	30-120	
$ 47 13C6-Anthracene	500	338	67.60	30-120	
$ 54 Fluoranthene-d10(S	500	544	108.76	30-120	
$ 58 Terphenyl-d14	1000	1120	112.13	~~30-120~~	50-150
$ 61 Benzo(a)anthracene	500	978	195.58*	30-120	
$ 64 Chrysene-d12(SS)	500	555	111.04	30-120	
$ 71 Benzo(b)fluoranthe	500	612	122.34*	30-120	5x d.l w/in Range. w/good agreement.
$ 74 Benzo(k)fluoranthe	500	414	82.70	30-120	
$ 79 Benzo(a)pyrene-d12	500	563	112.69	30-120	
$ 82 Perylene-d12(SS)	500	507	101.30	30-120	
$ 85 Indeno(123-cd)pyre	500	645	129.02*	30-120	
$ 88 Dibenz(ah)anthrace	500	660	132.02*	30-120	
$ 91 Benzo(ghi)perylene	500	610	121.92*	30-120	

DMW 8.12.11


Data File: /var/chem/gcms/mp.i/P072911.b/mk2h21ac.d
Date : 29-JUL-2011 14:15
Client ID: 11-234 H0010 RUN BT
Instrument: mp.i
Sample Info: ,,0,,,
Operator: 11211
Purge Volume: 1.0
Column diameter: 0.25
Column phase: Varian 5MS
/var/chem/gcms/mp.i/P072911.b/mk2h21ac.d
Y (x10^6)
Min
-Naphthalene-d8+
-2-Methylnaphthalene-d10+
-1-Methylnaphthalene-d10+
-2,6-Dimethylnaphthalene-d+
-Acenaphthylene-d8+
-Acenaphthene-d10+
-Fluorene-d10
-13C6-Fluorene
-Dibenzothiopene-d8+
-Phenanthrene-d10+
-Fluoranthene-d10+
-Pyrene-d10+
-Terphenyl-d14
-Benzo(a)anthracene-d12+
-Chrysene-d12+
=Benzo(k)fluoranthene-d12+
-Benzo(e)pyrene-d12
-Benzo(a)pyrene-d12+
-Perylene-d12+
-Indeno(123-cd)pyrene-d12+
-Benzo(ghi)perylene-d12+

Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

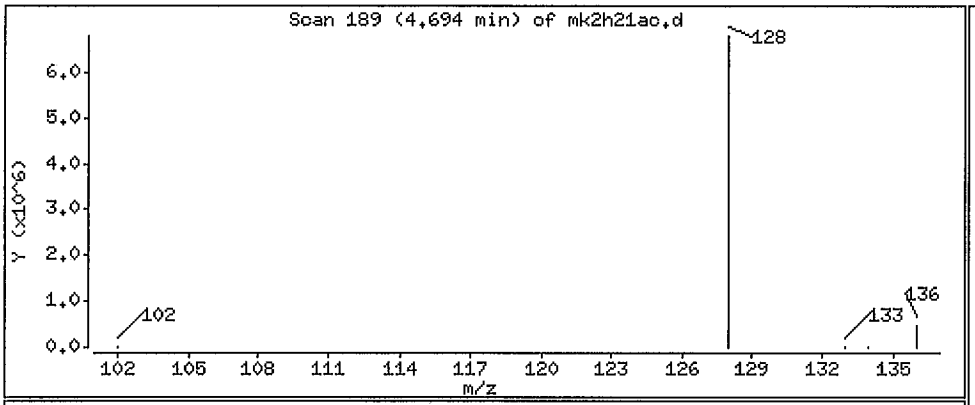
Operator: 11211

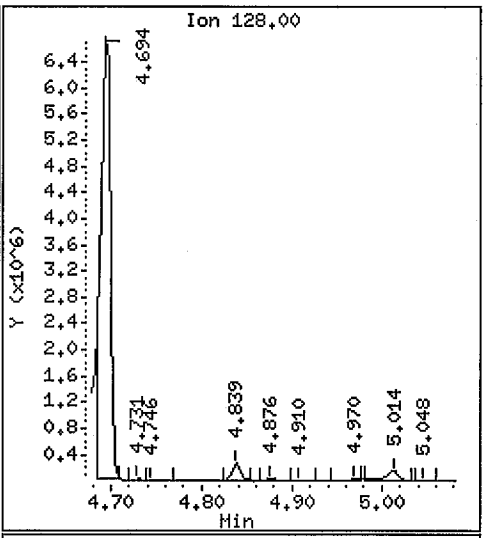
Column phase: Varian: 5MS

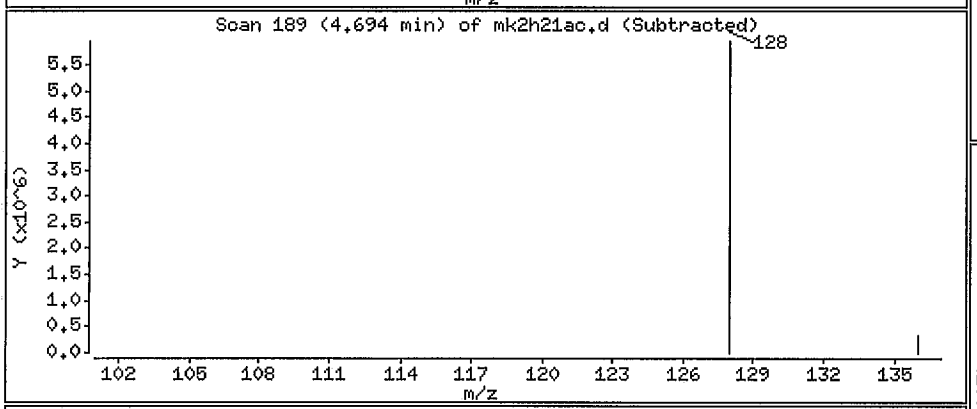
Column diameter: 0.25

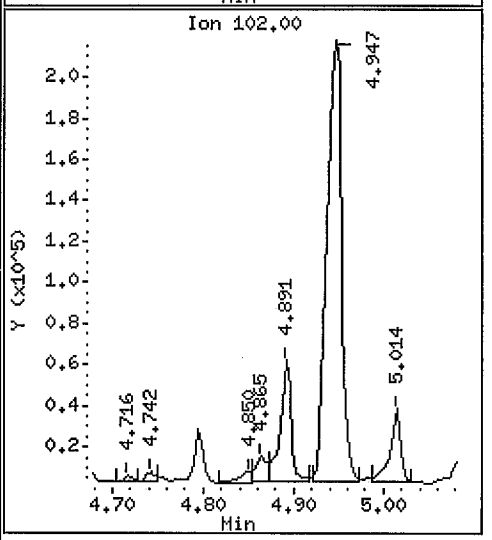
3 Naphthalene

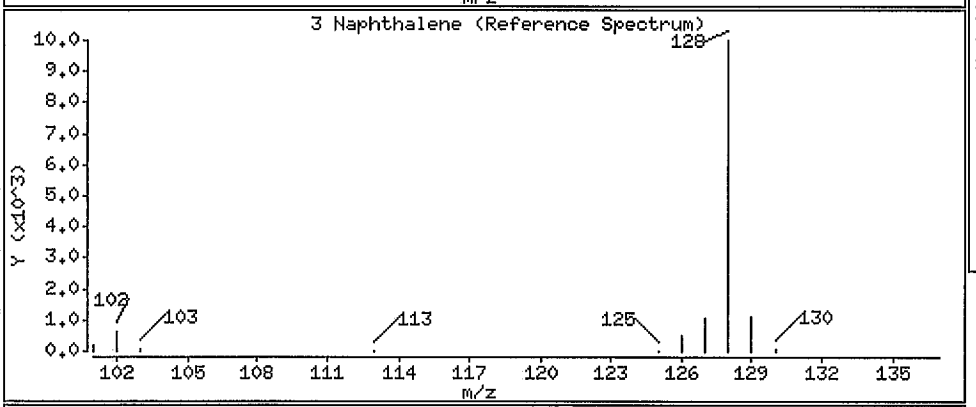
Concentration: 4760 ng/sample

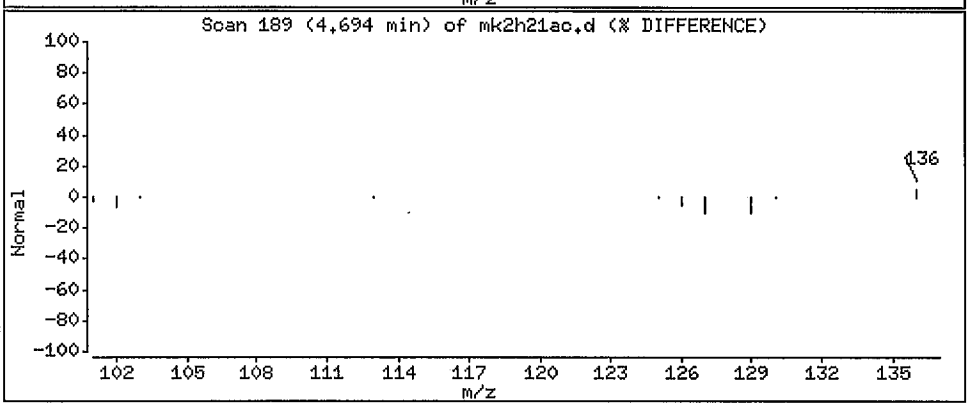












Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

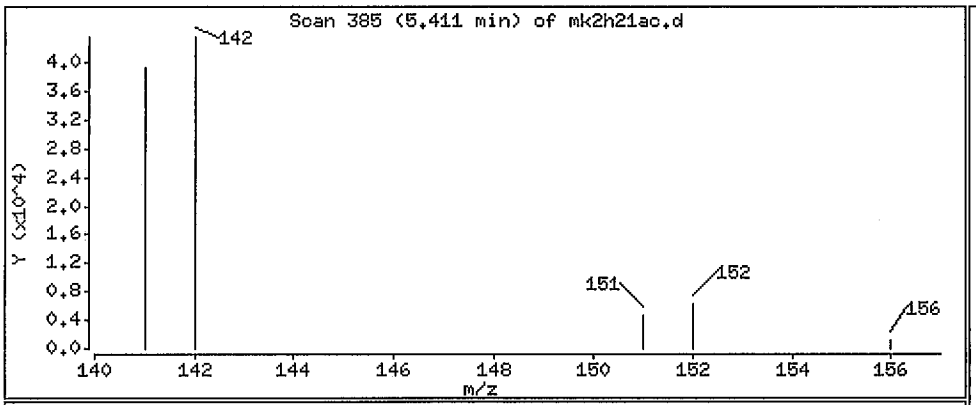
Operator: 11211

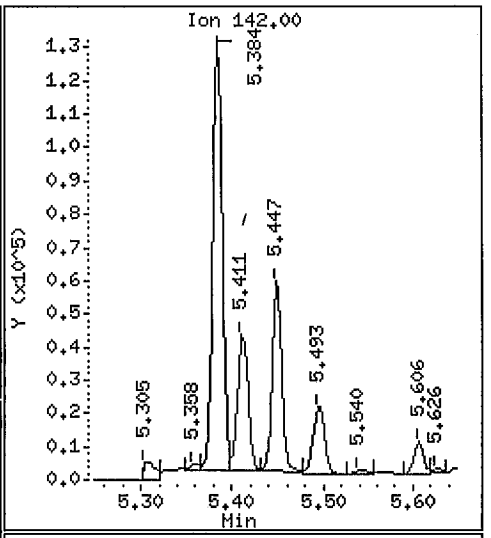
Column phase: Varian: 5MS

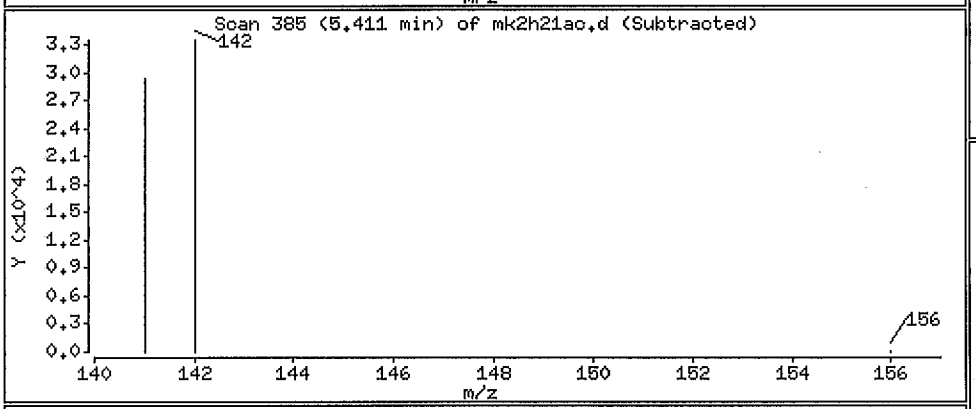
Column diameter: 0.25

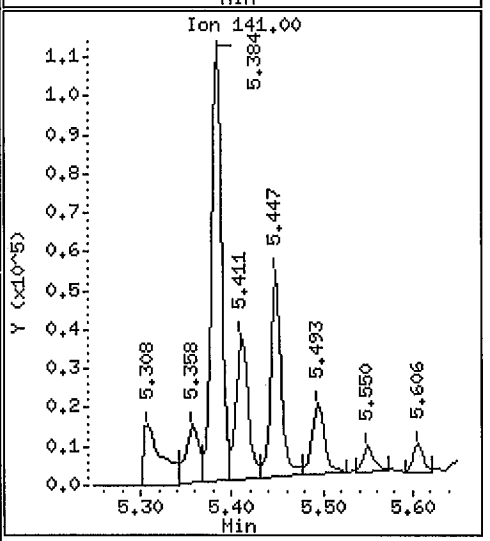
12 2-Methylnaphthalene

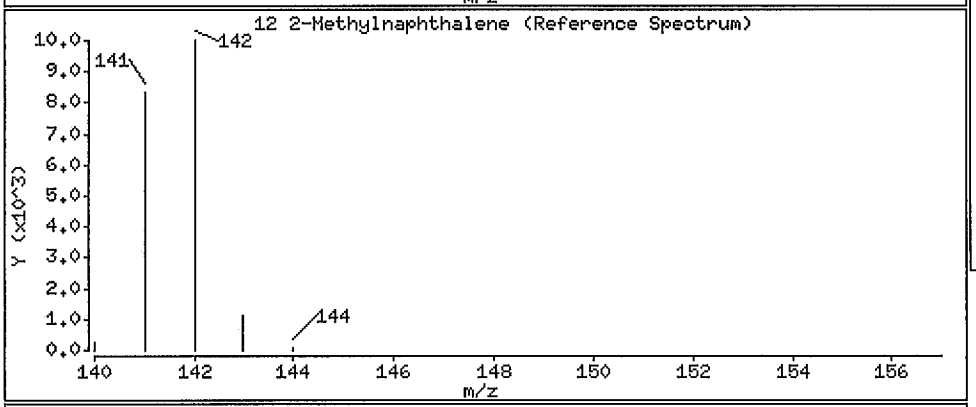
Concentration: 286 ng/sample

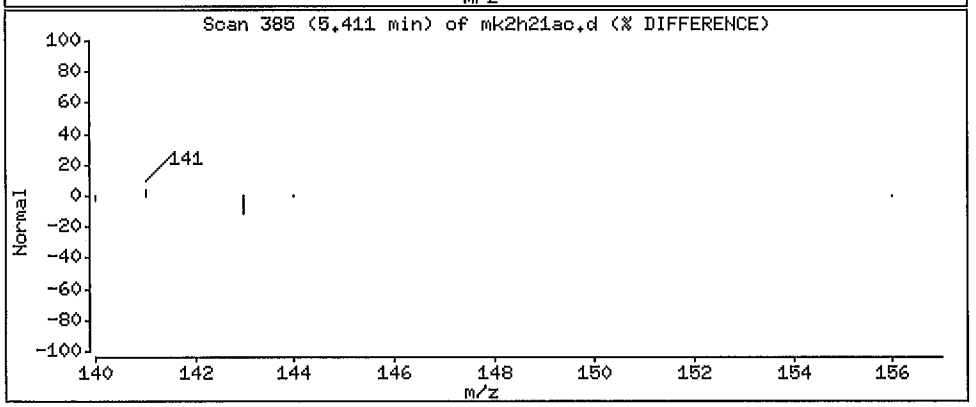












Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

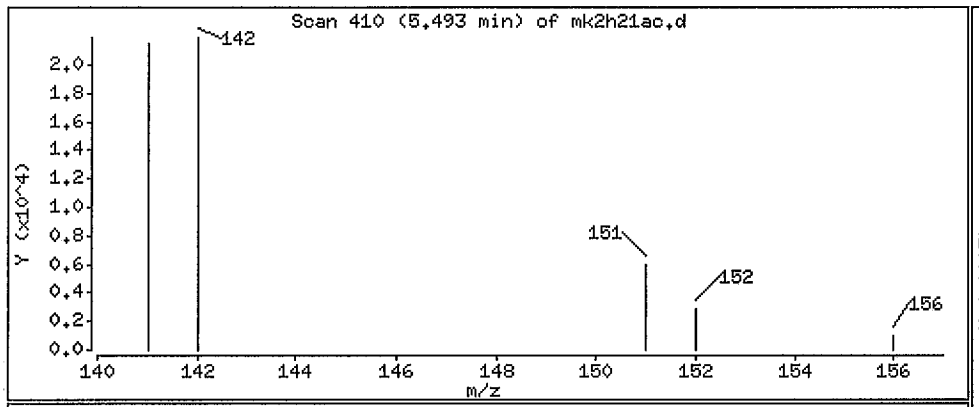
Operator: 11211

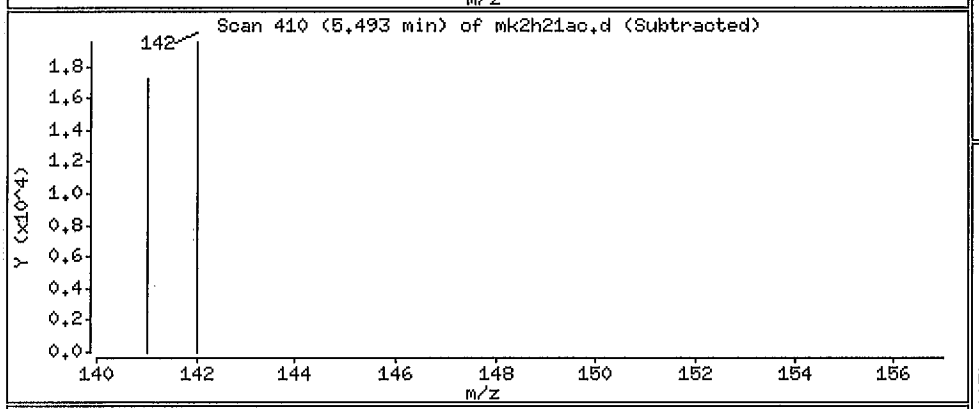
Column phase: Varian: 5MS

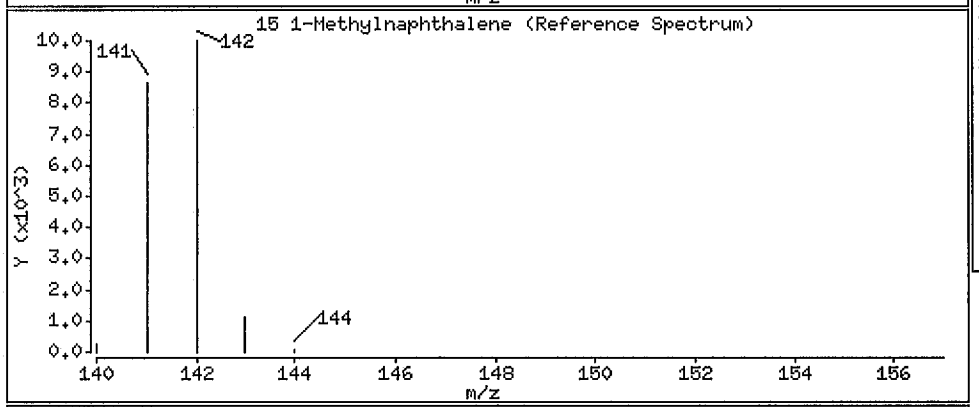
Column diameter: 0.25

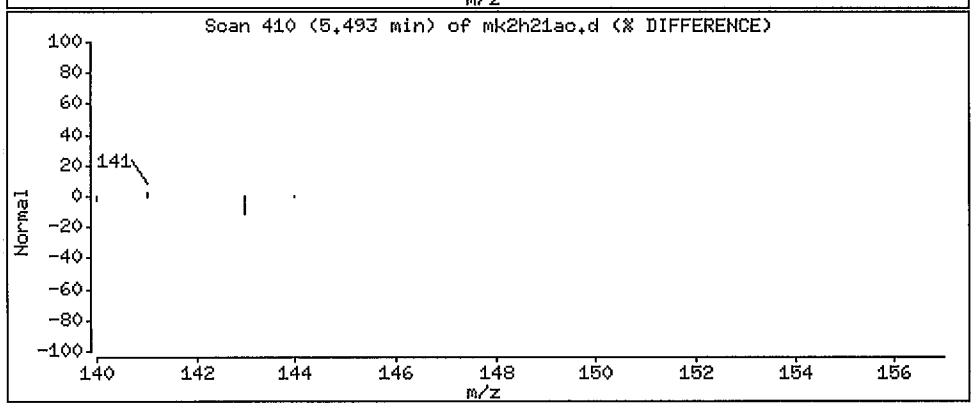
15 1-Methylnaphthalene

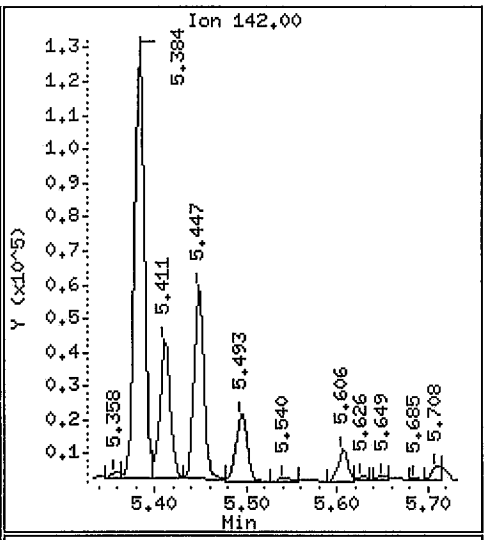
Concentration: 164 ng/sample

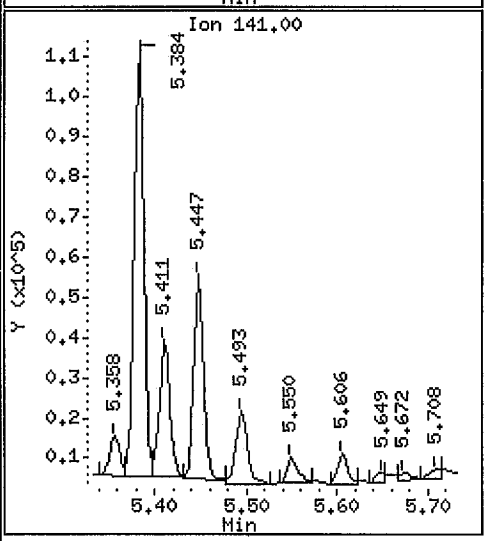












Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

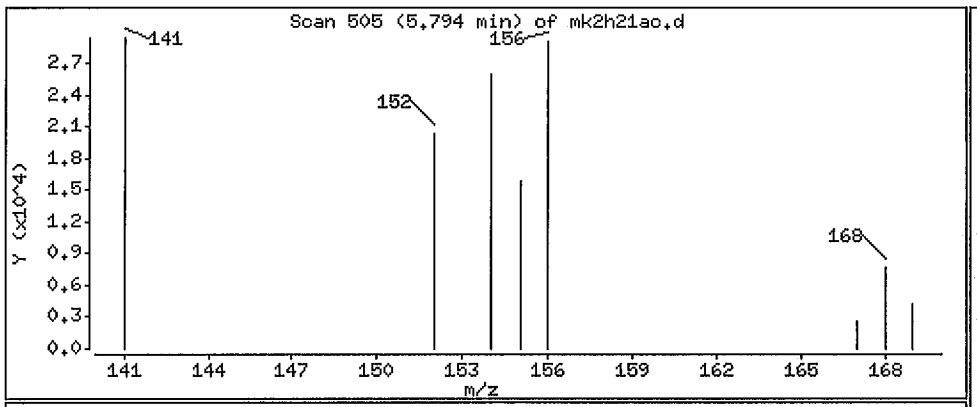
Operator: 11211

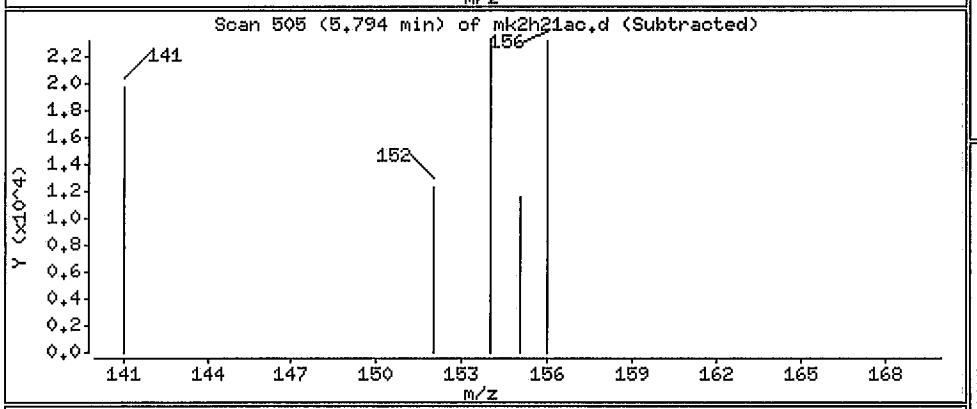
Column phase: Varian: 5MS

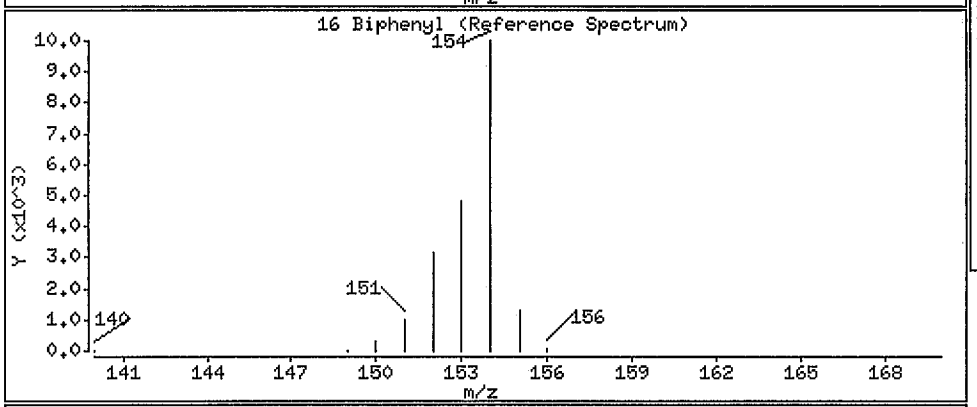
Column diameter: 0.25

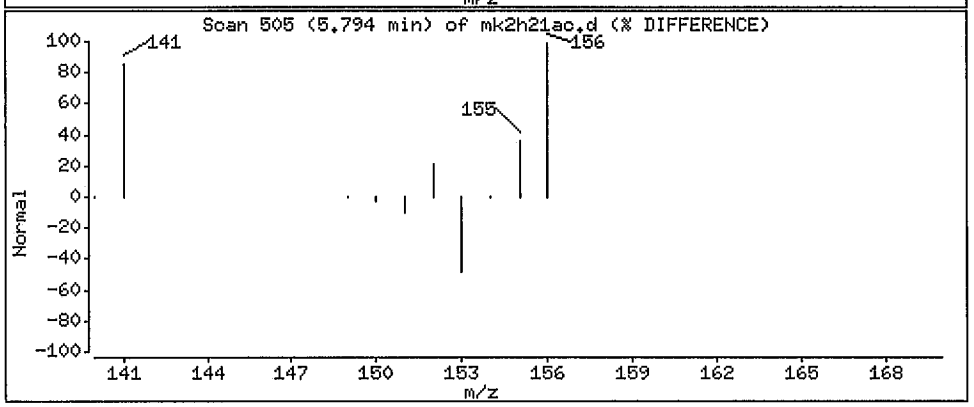
16 Biphenyl

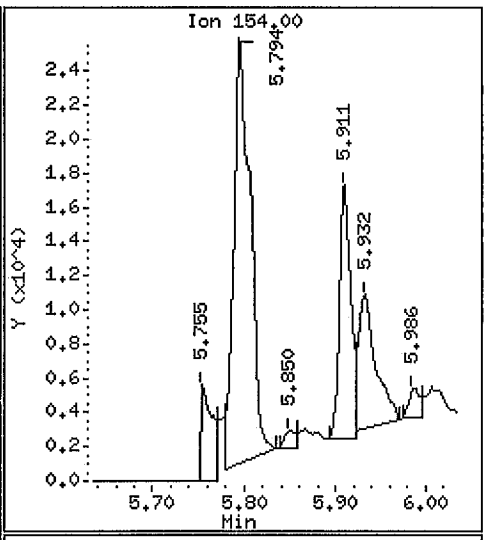
Concentration: 228 ng/sample

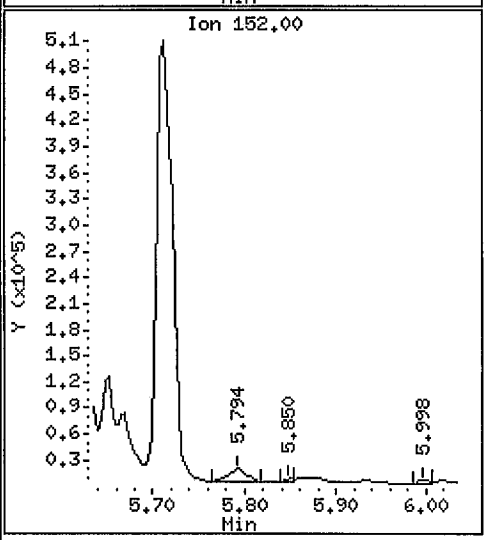












Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

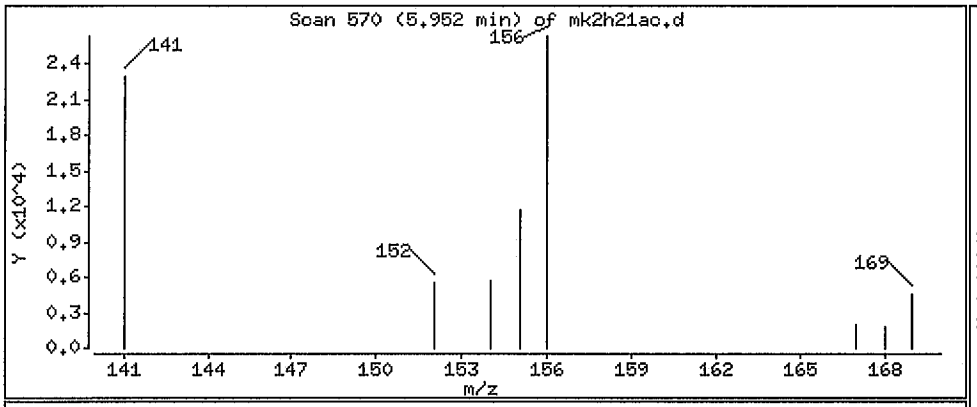
Operator: 11211

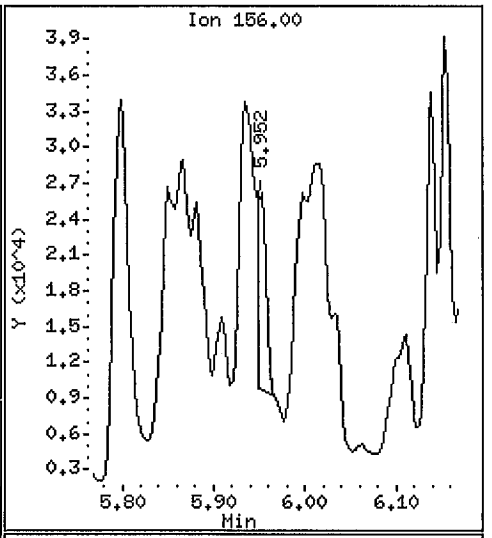
Column phase: Varian: 5MS

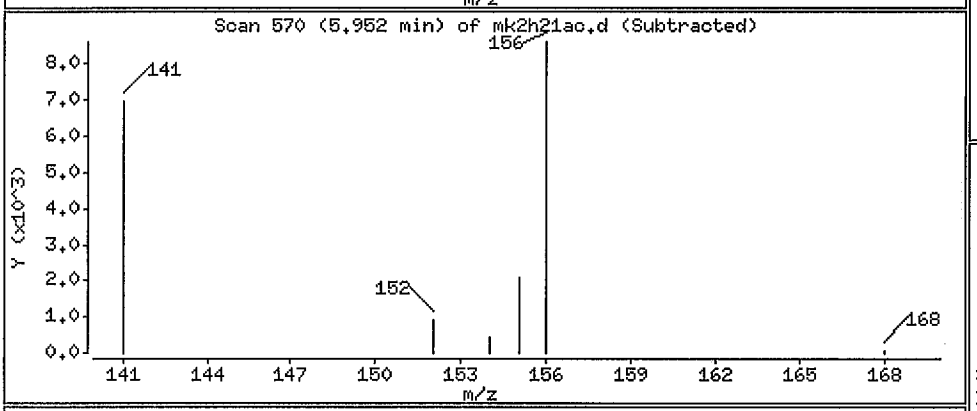
Column diameter: 0.25

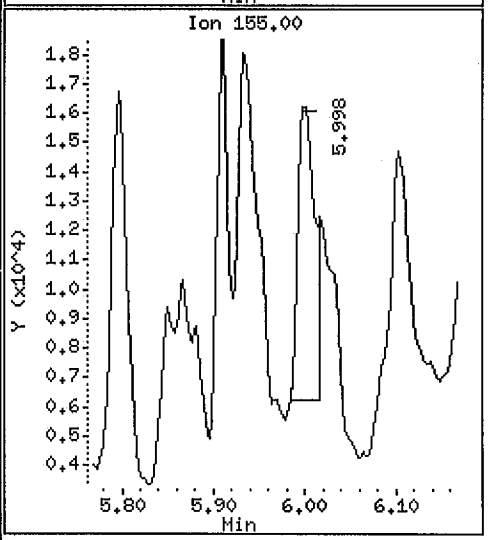
19 2,6 Dimethylnaphthalene

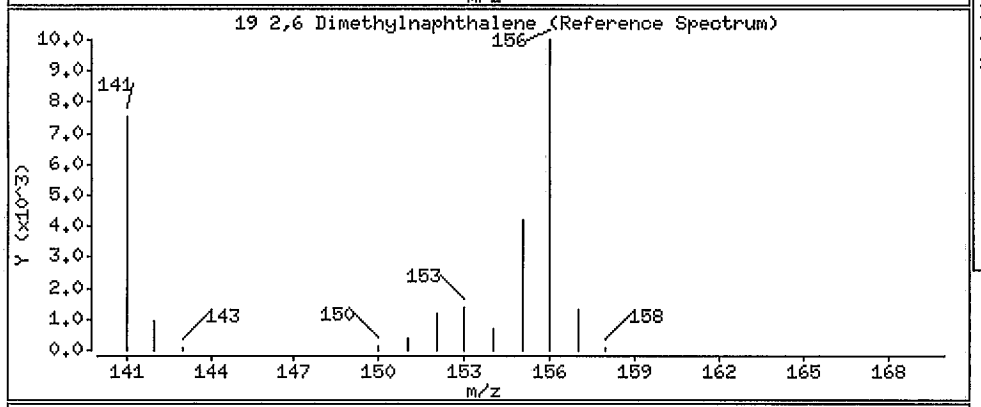
Concentration: 245 ng/sample

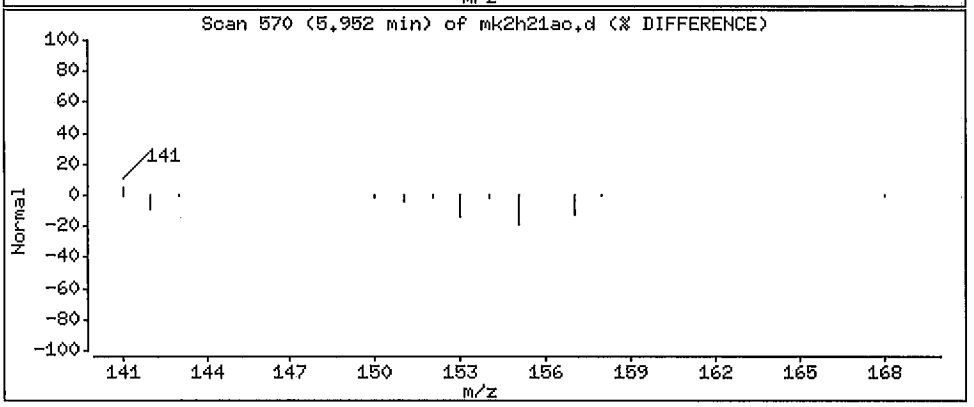












Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

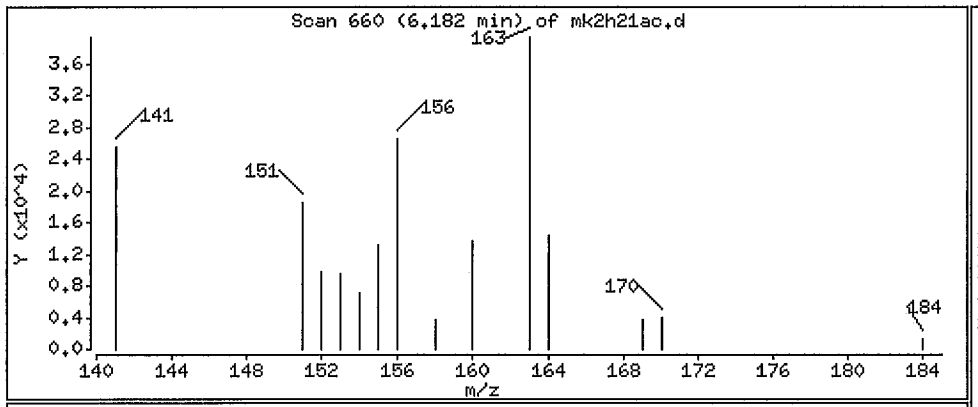
Operator: 11211

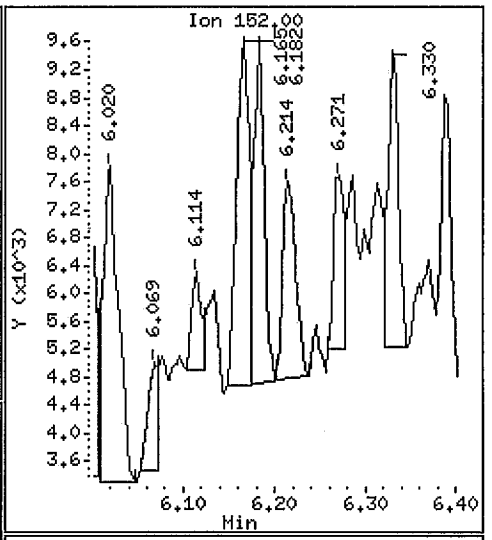
Column phase: Varian: 5MS

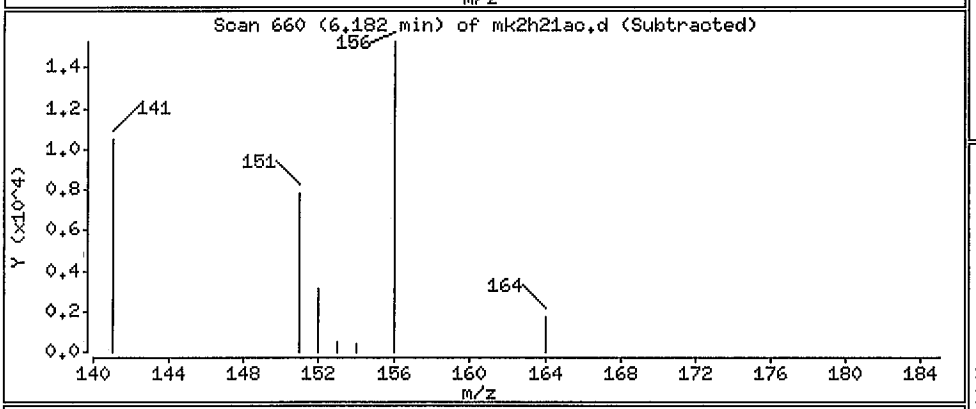
Column diameter: 0.25

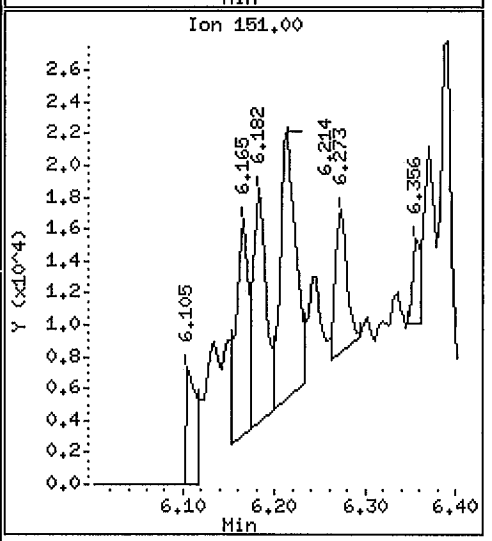
22 Acenaphthylene

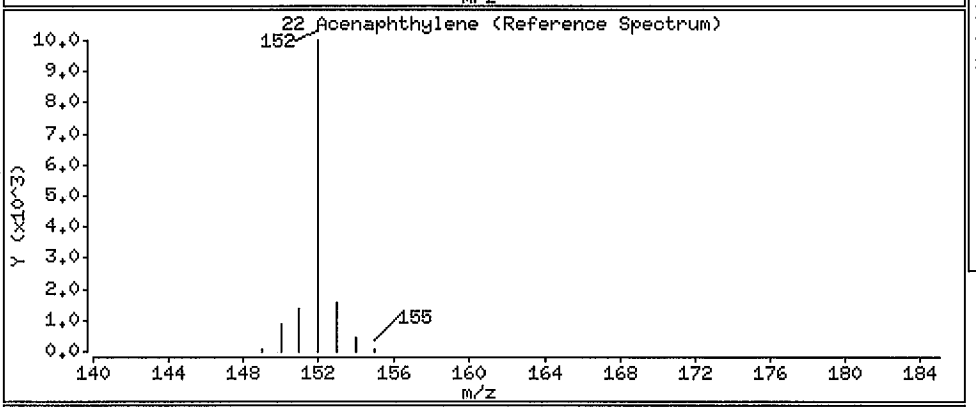
Concentration: 23.8 ng/sample

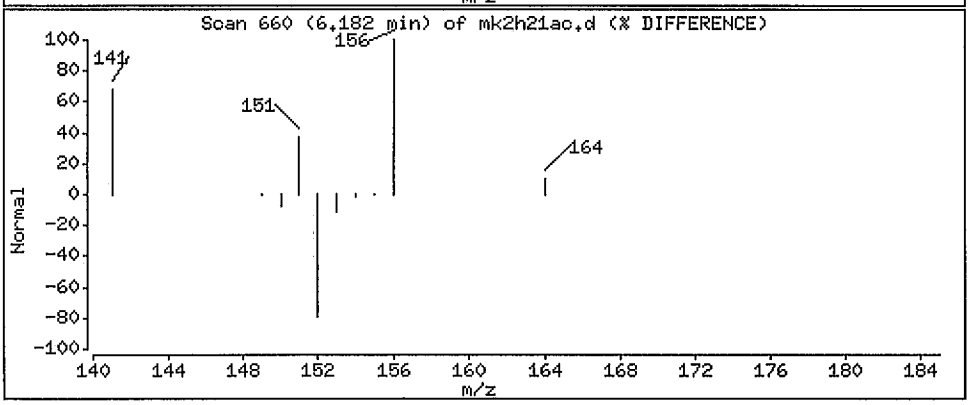












Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

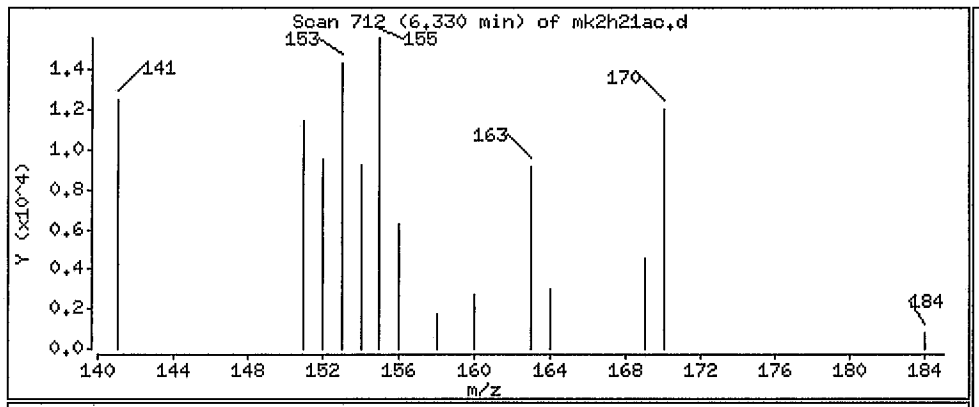
Operator: 11211

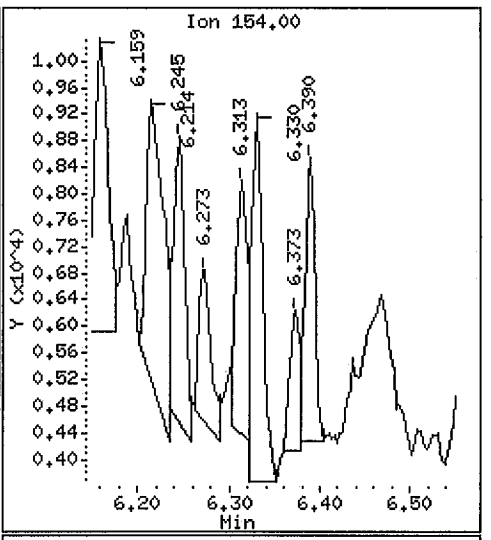
Column phase: Varian: 5MS

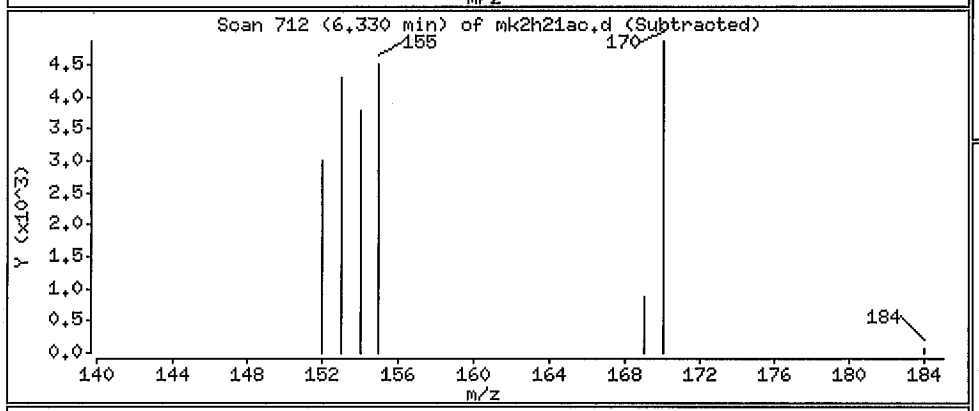
Column diameter: 0.25

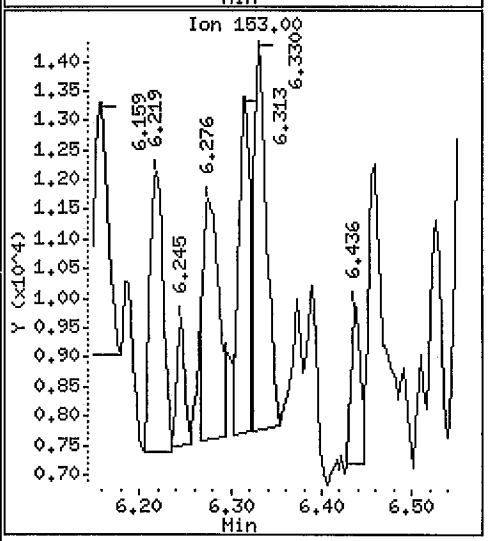
24 Acenaphthene

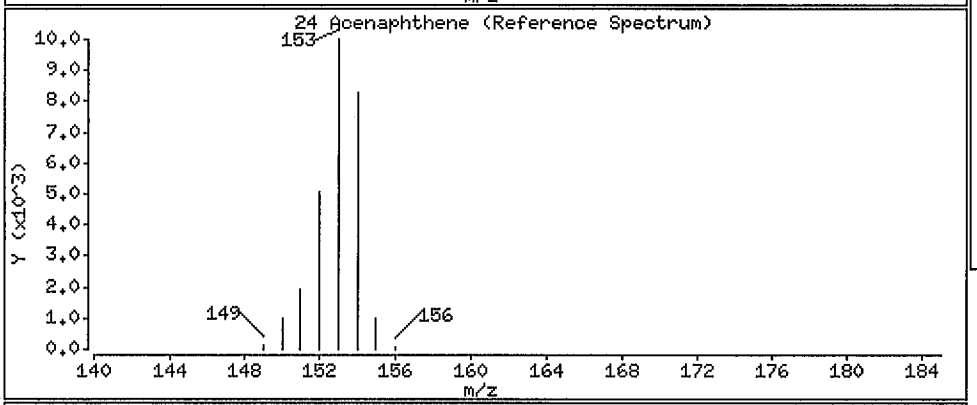
Concentration: 48.0 ng/sample

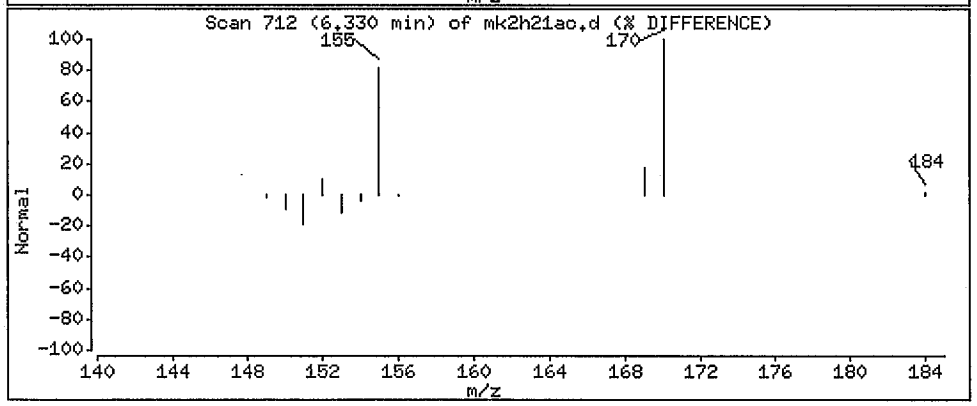












Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

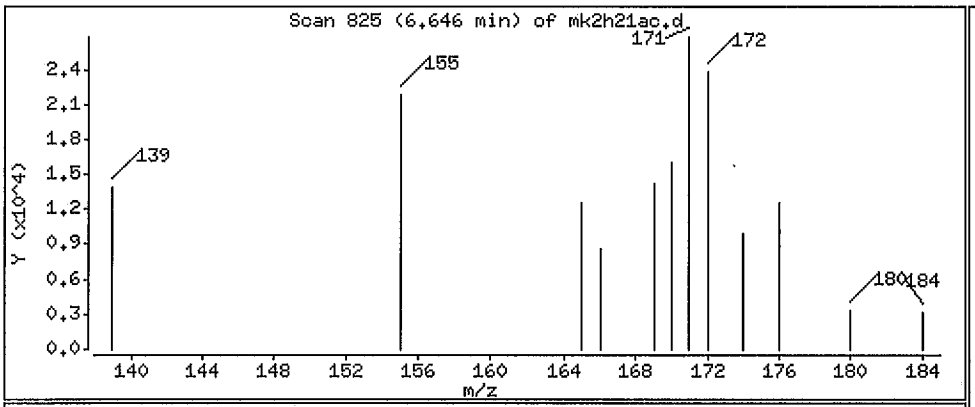
Operator: 11211

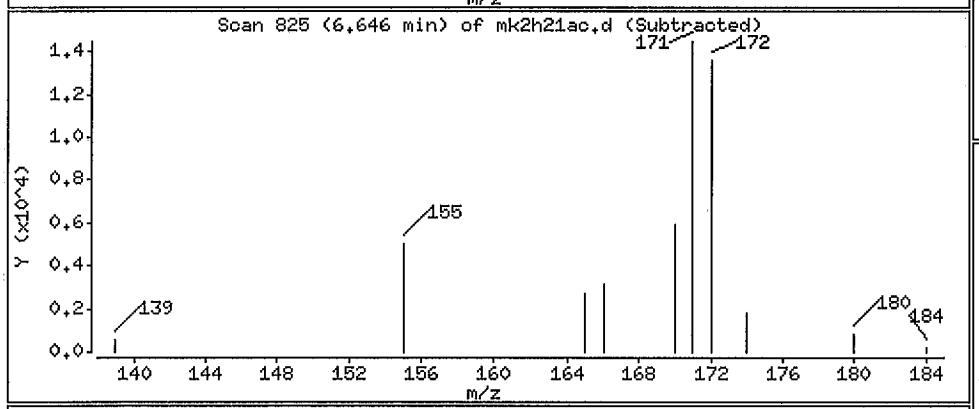
Column phase: Varian: 5MS

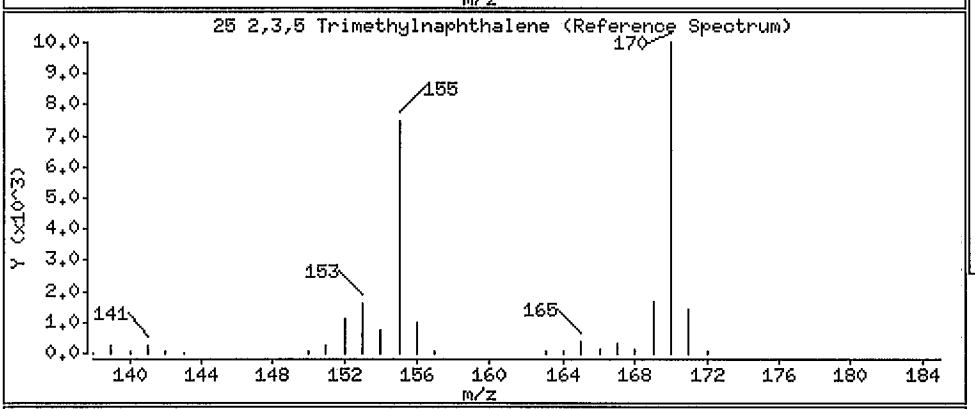
Column diameter: 0.25

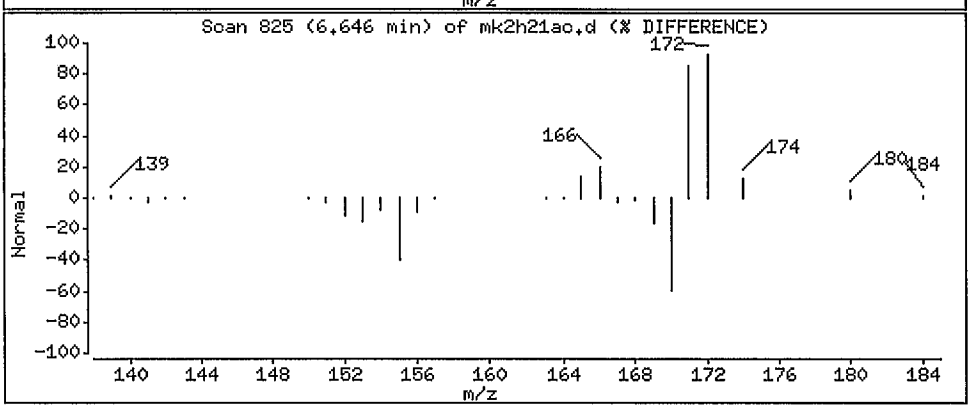
25 2,3,5 Trimethylnaphthalene

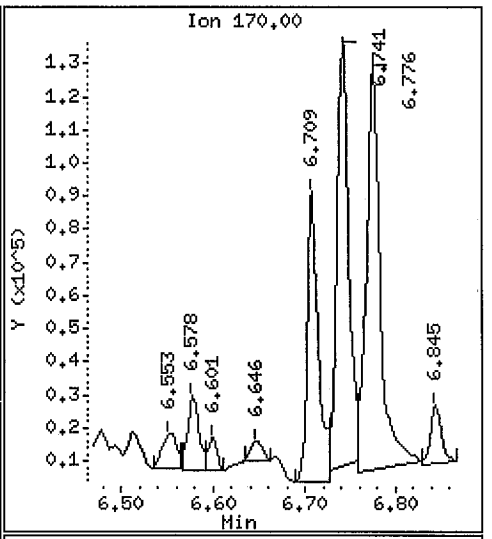
Concentration: 179 ng/sample

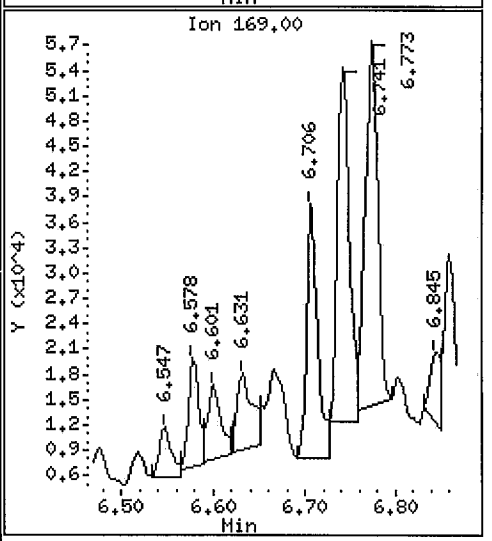












Data File: /chem/goms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

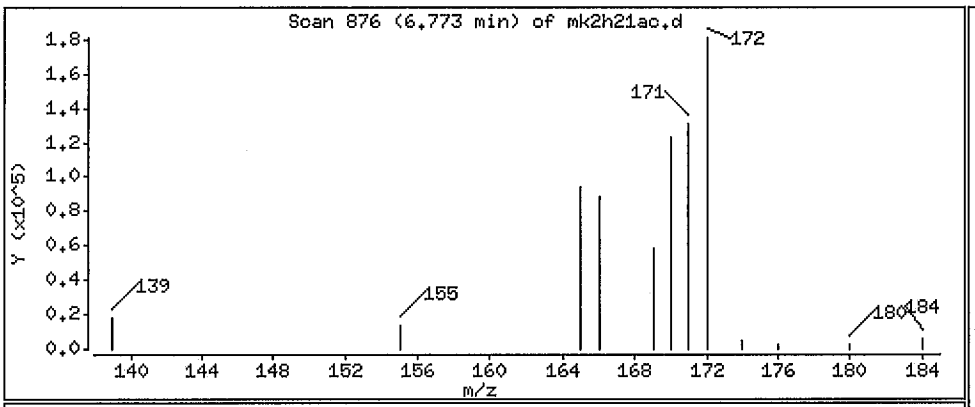
Operator: 11211

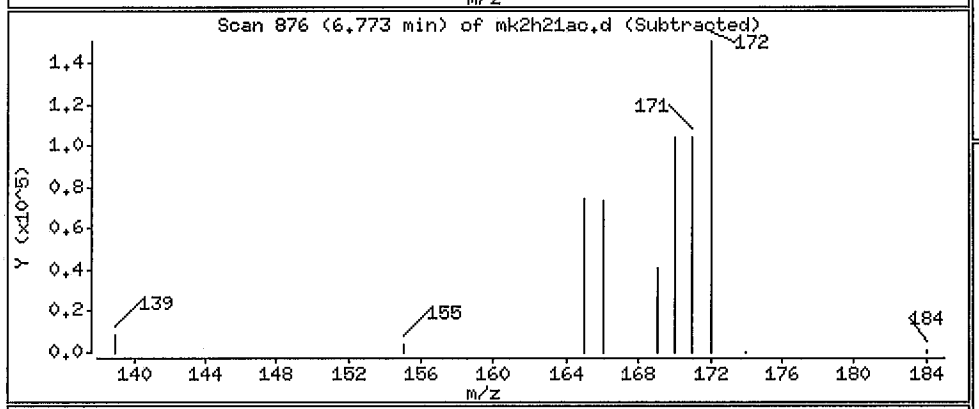
Column phase: Varian: 5MS

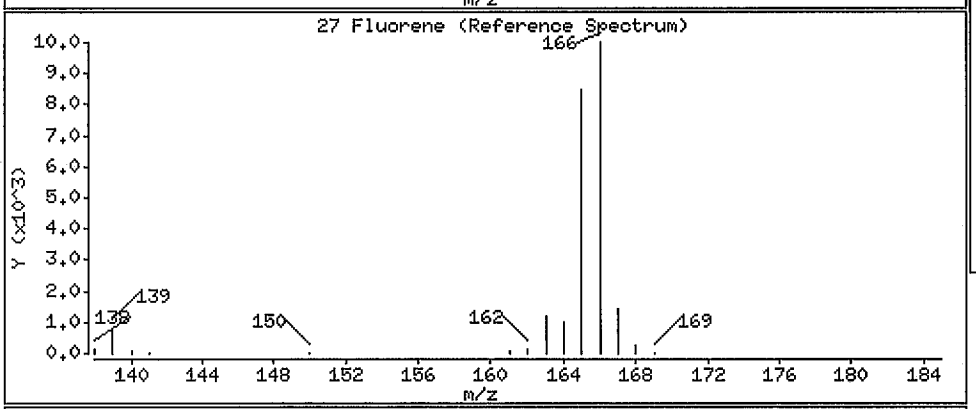
Column diameter: 0.25

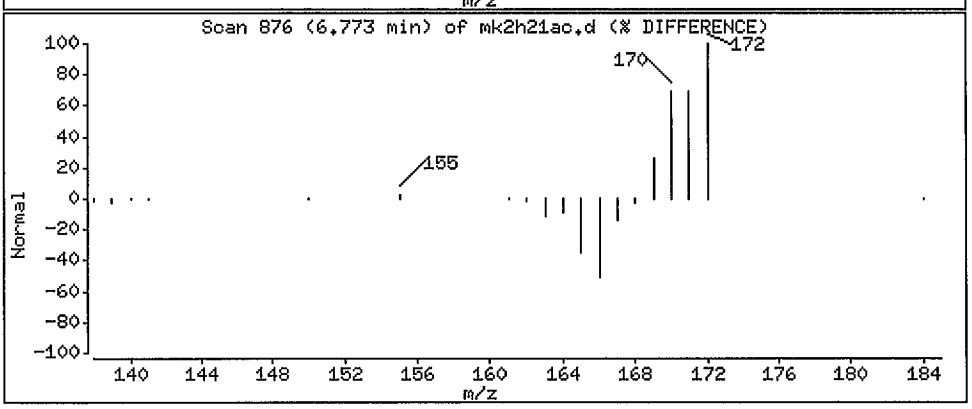
27 Fluorene

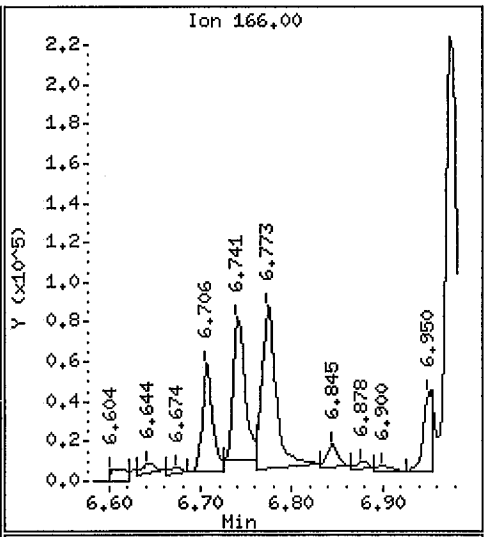
Concentration: 545 ng/sample

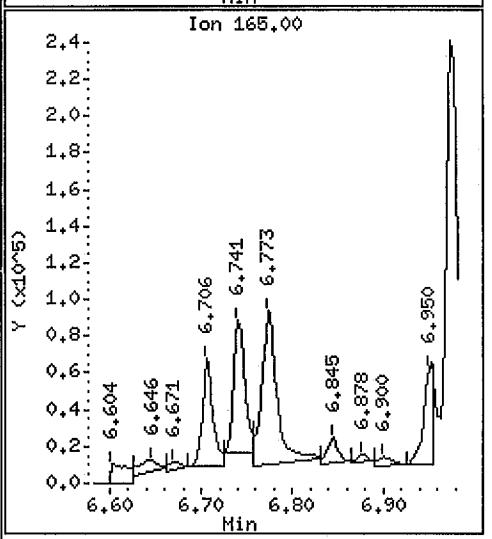












Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

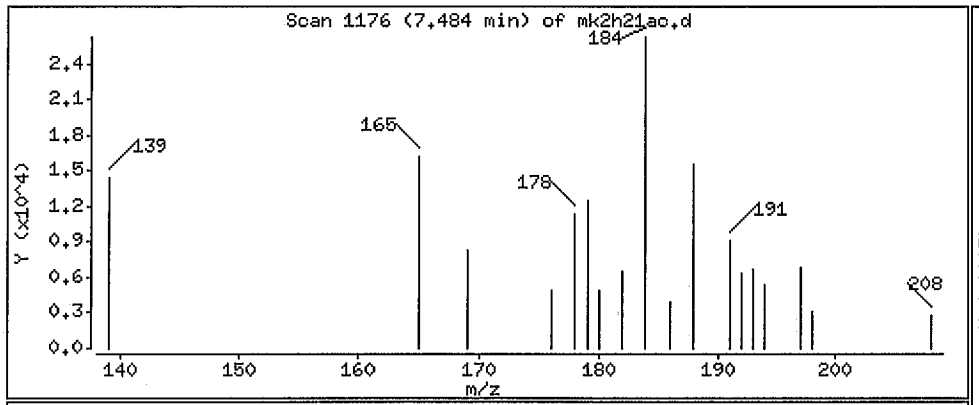
Operator: 11211

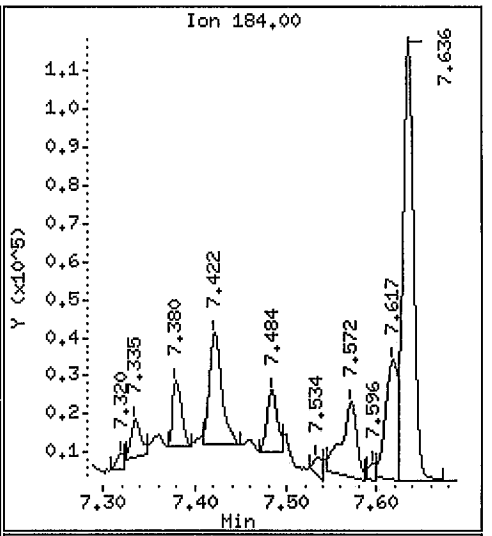
Column phase: Varian: 5MS

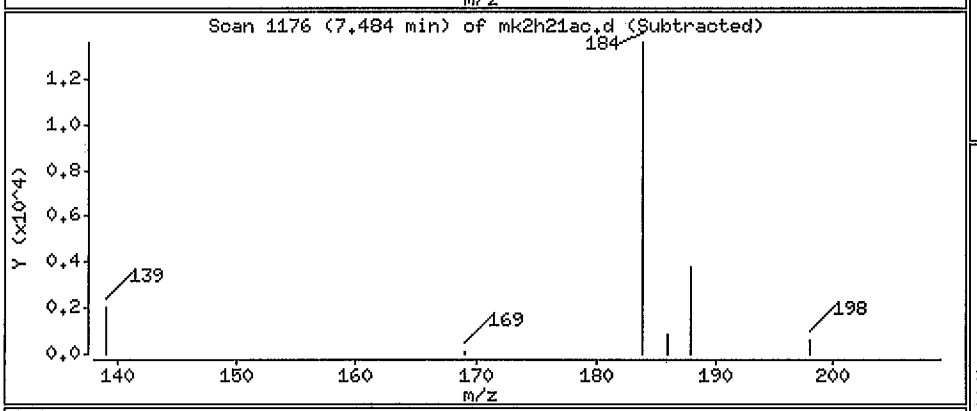
Column diameter: 0.25

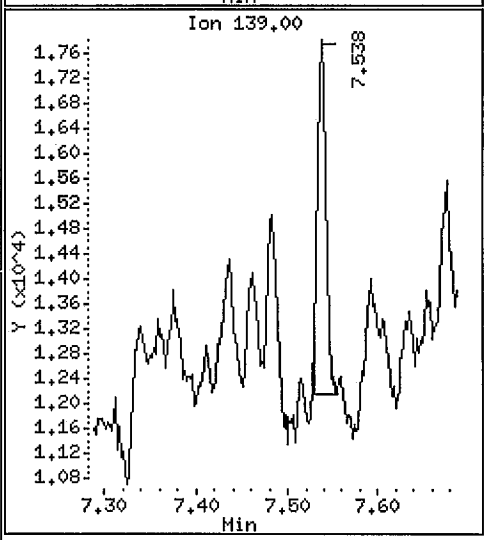
36 Dibenzothiophene

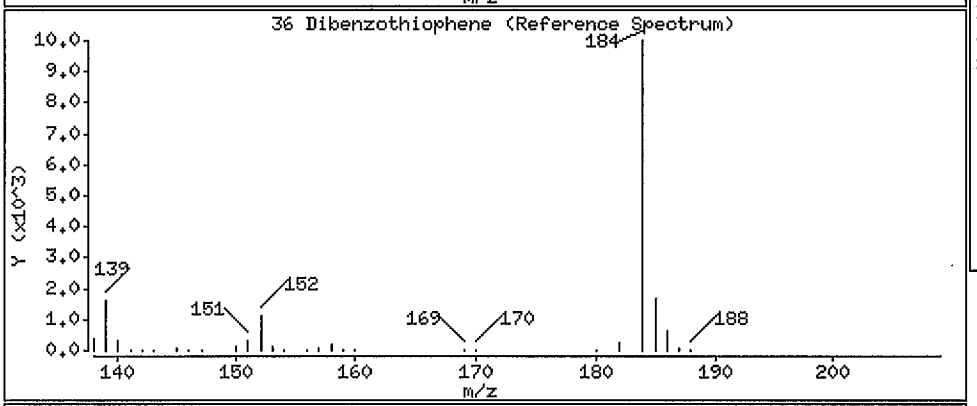
Concentration: 57.0 ng/sample

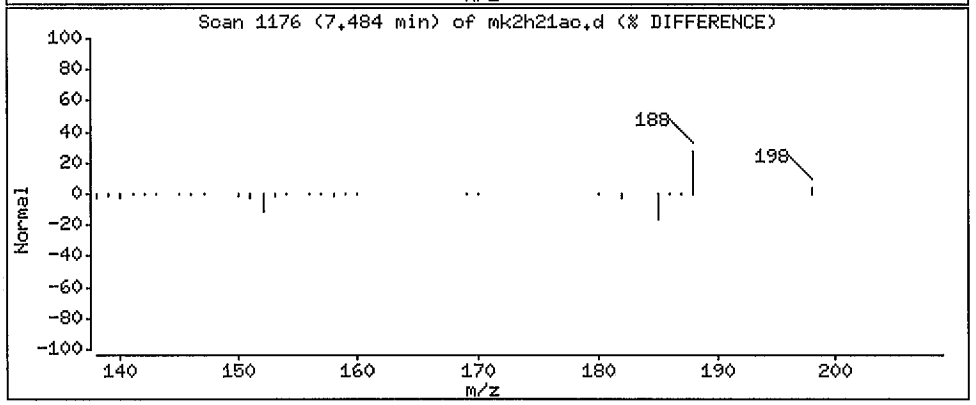












Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

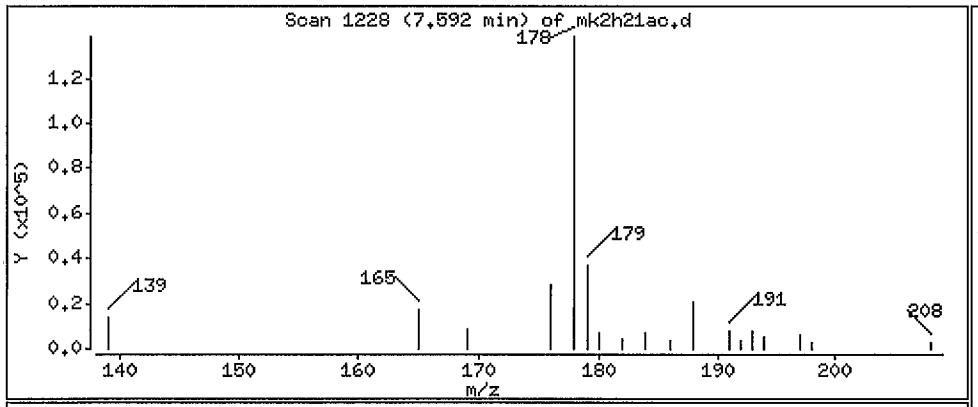
Operator: 11211

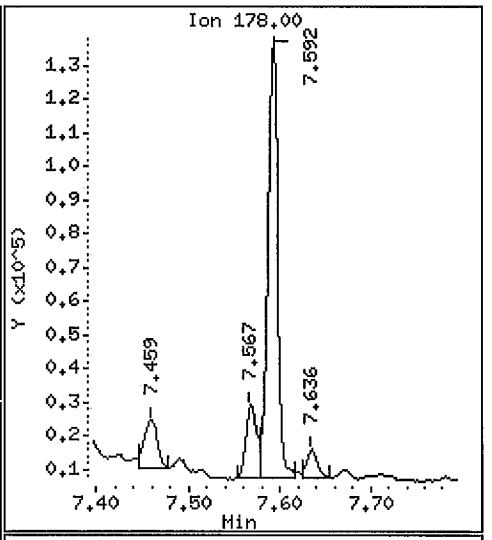
Column phase: Varian: 5MS

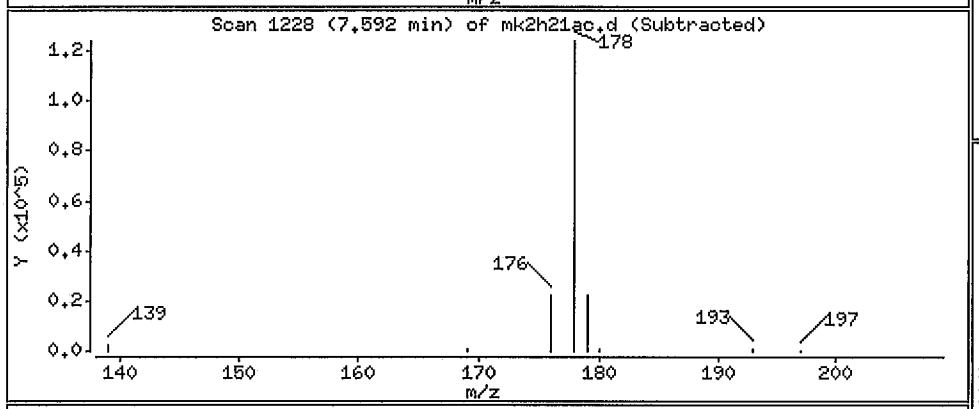
Column diameter: 0.25

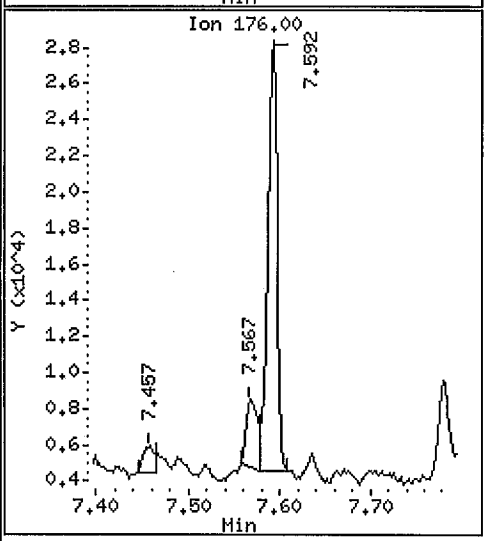
43 Phenanthrene

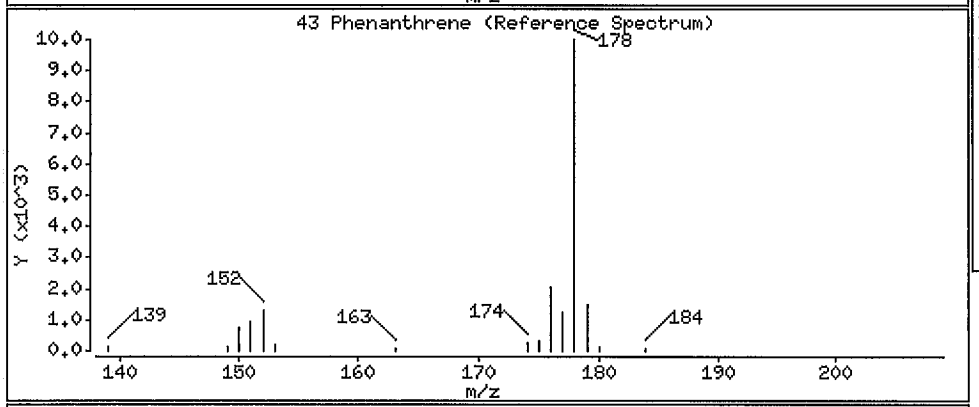
Concentration: 450 ng/sample

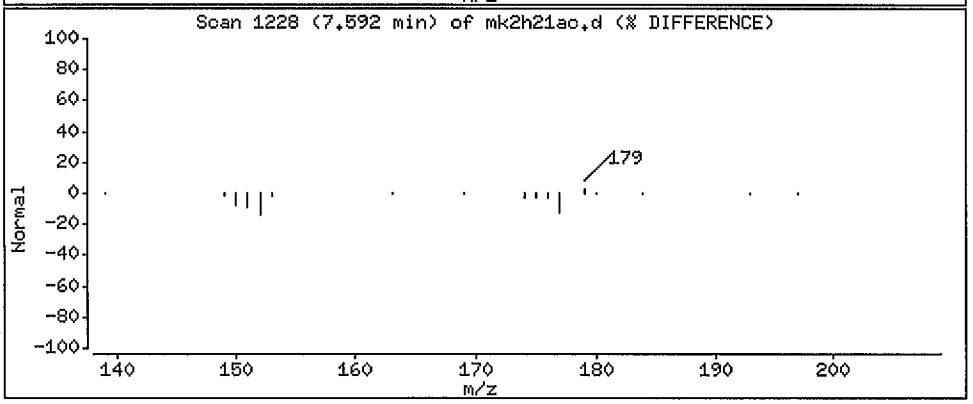












Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

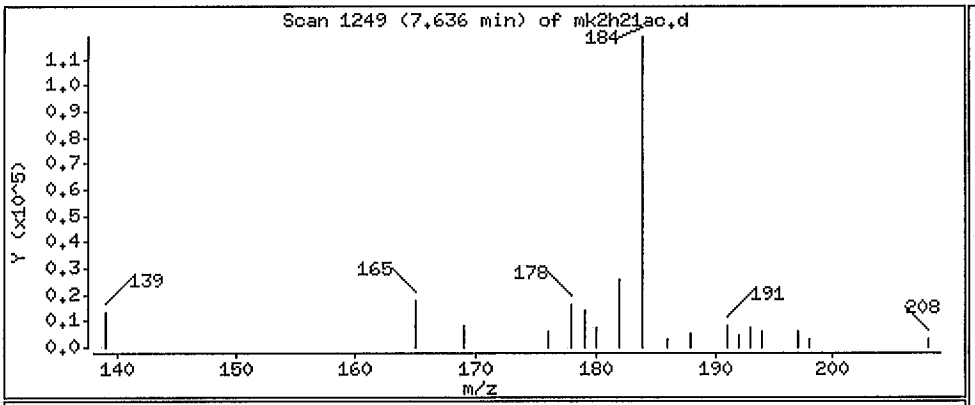
Operator: 11211

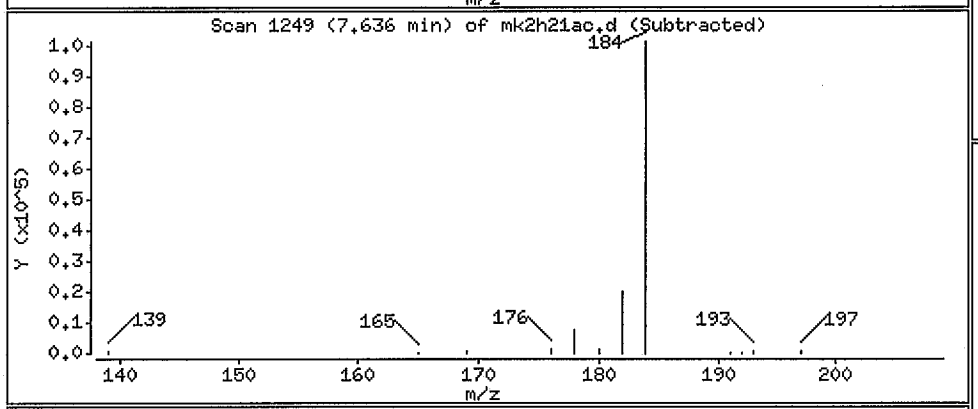
Column phase: Varian: 5MS

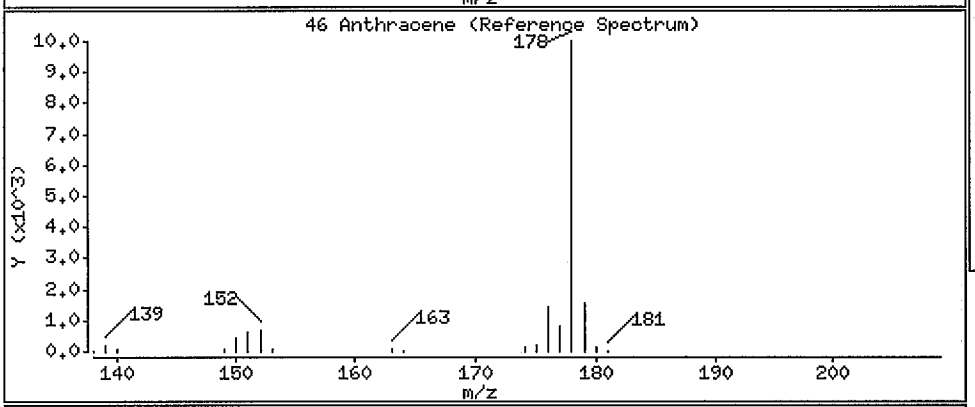
Column diameter: 0.25

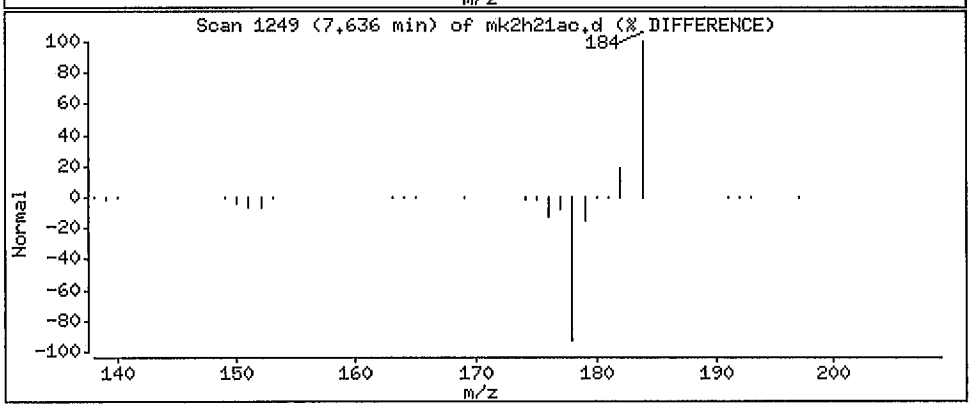
46 Anthracene

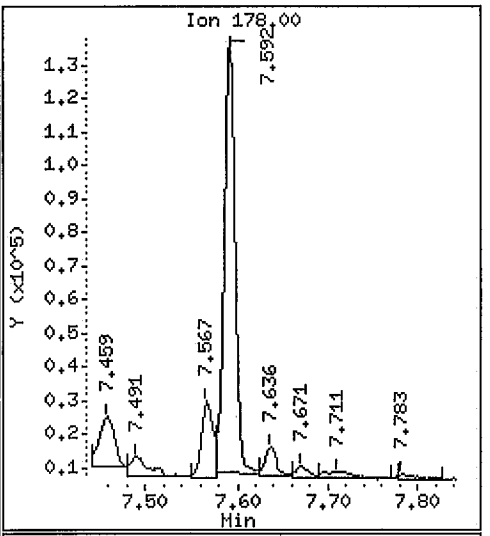
Concentration: 27.4 ng/sample

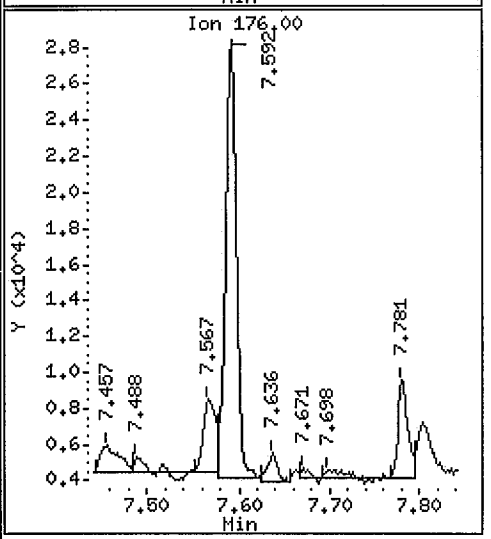












Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

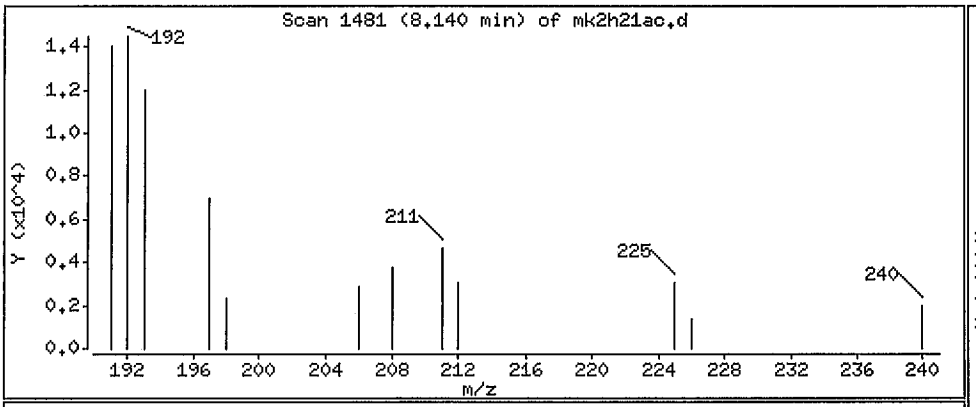
Operator: 11211

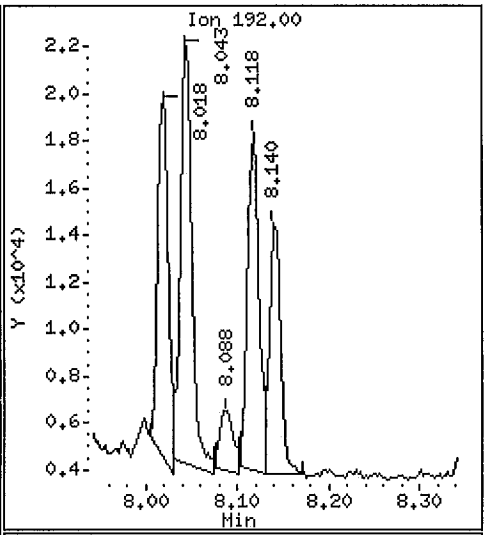
Column phase: Varian: 5MS

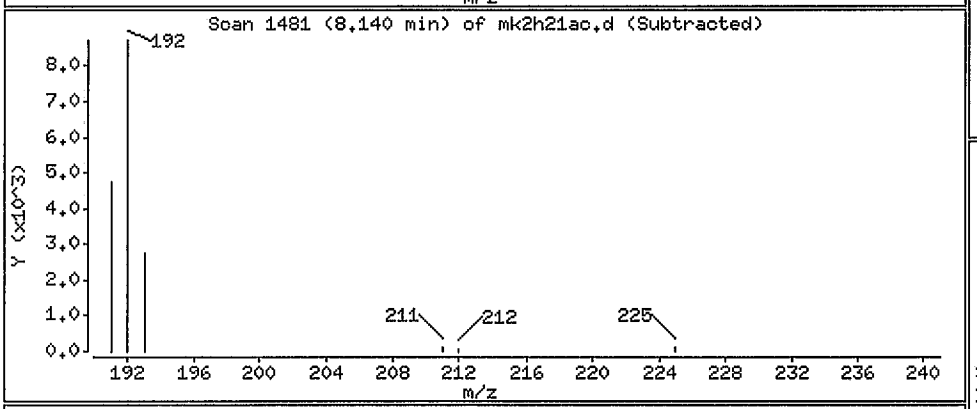
Column diameter: 0.25

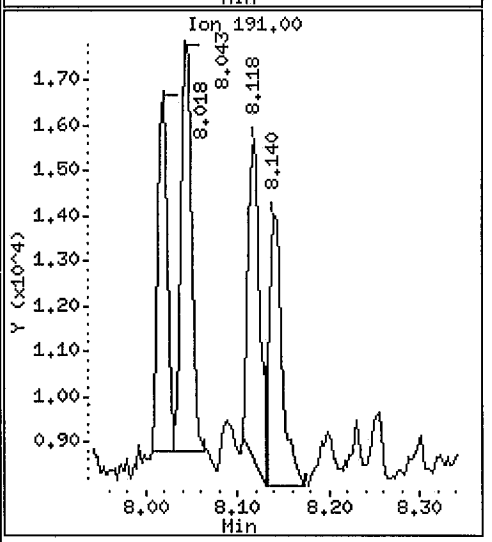
52 1-Methylphenanthrene

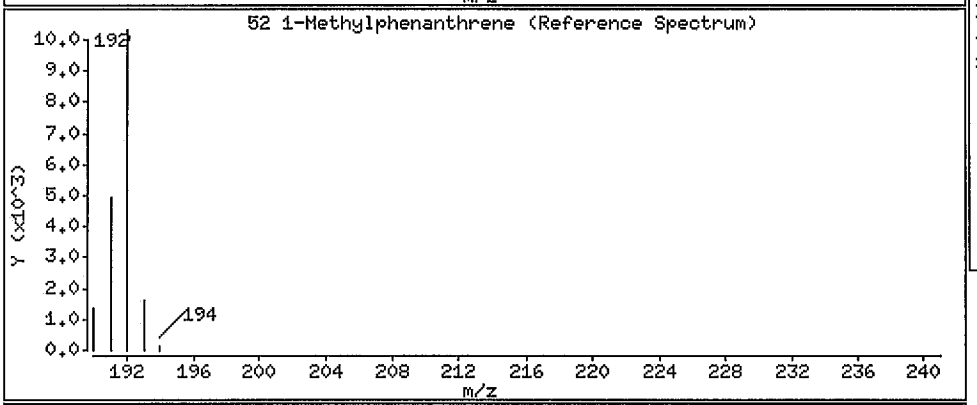
Concentration: 66.7 ng/sample

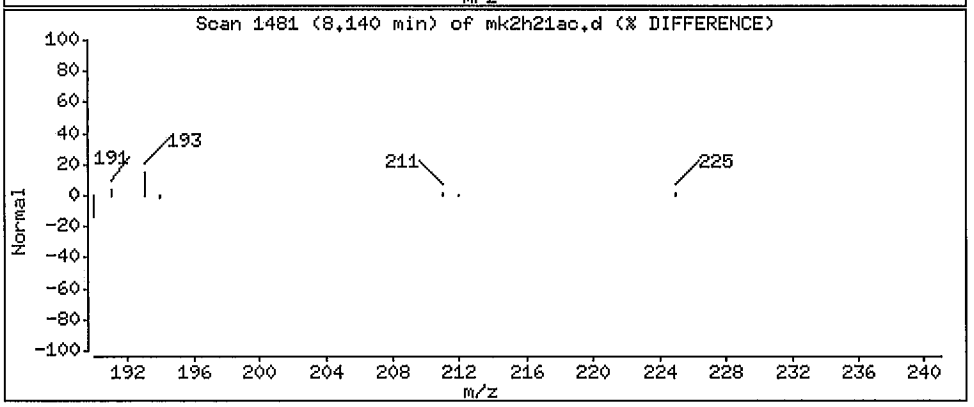












Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

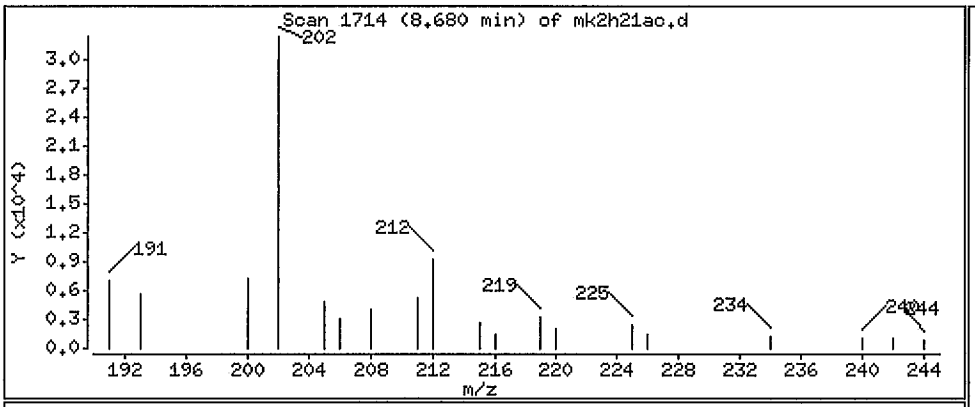
Operator: 11211

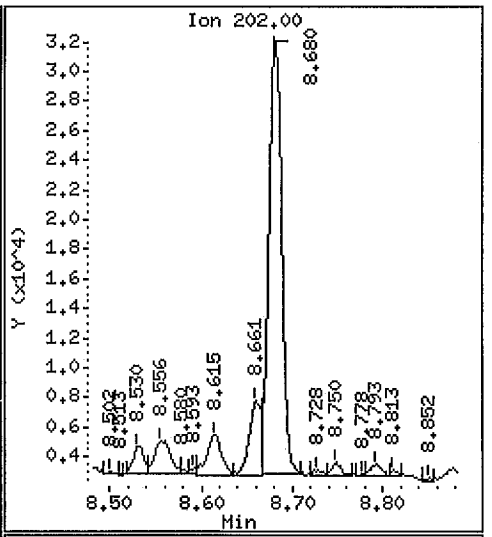
Column phase: Varian: 5MS

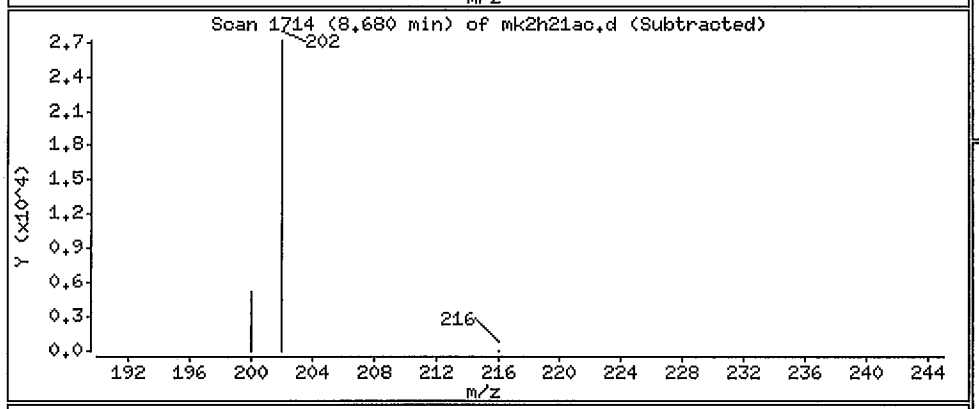
Column diameter: 0.25

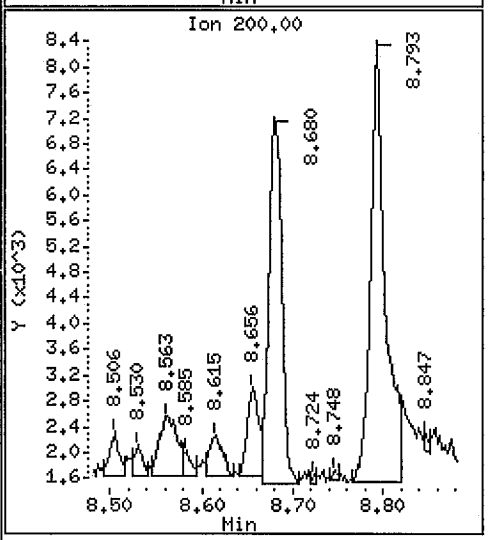
55 Fluoranthene

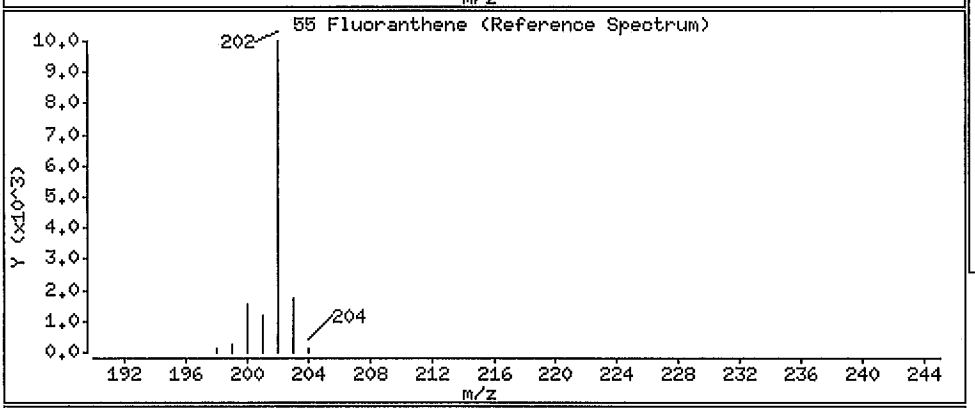
Concentration: 73.4 ng/sample

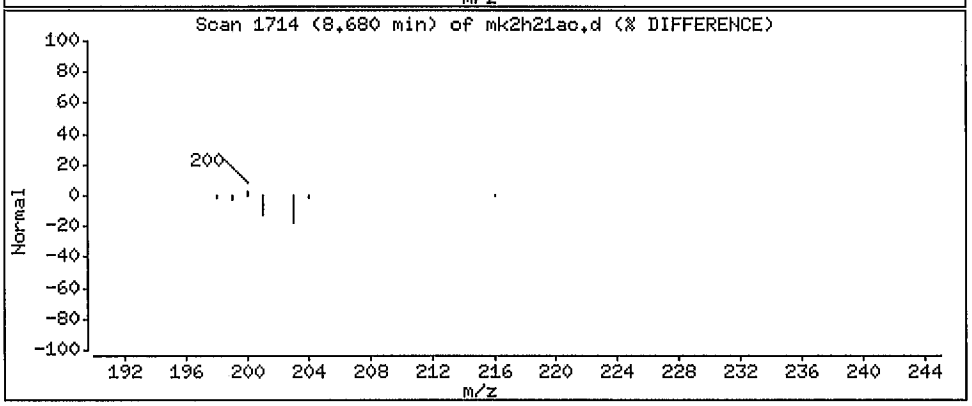












Data File: /chem/goms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

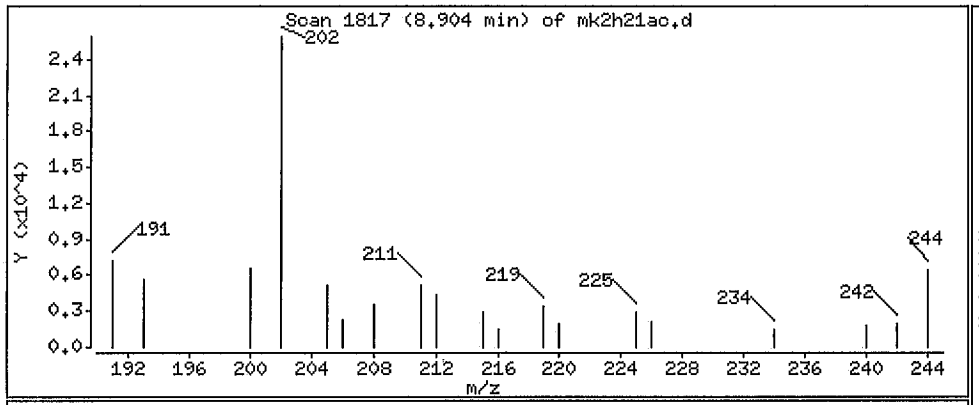
Operator: 11211

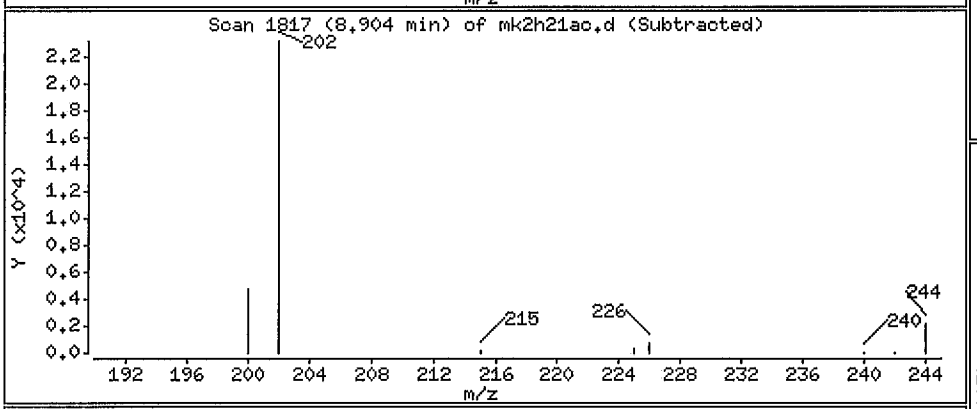
Column phase: Varian: 5MS

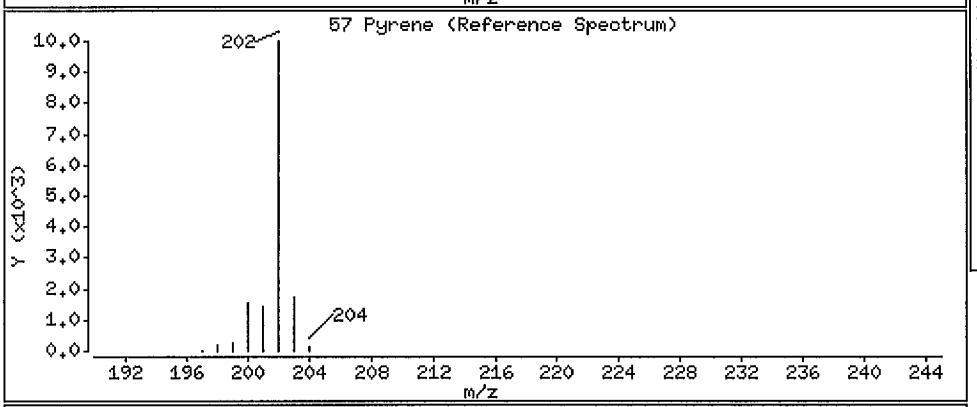
Column diameter: 0.25

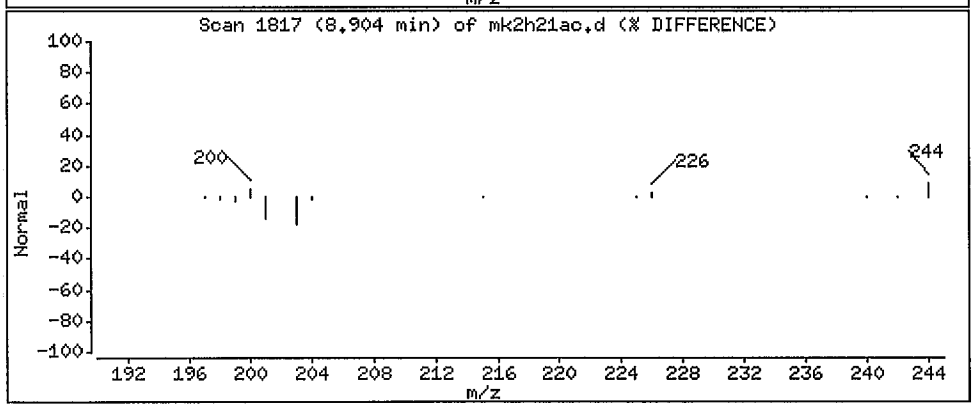
57 Pyrene

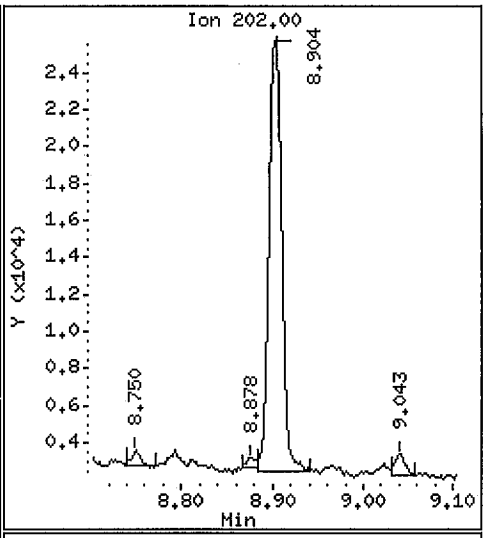
Concentration: 54.5 ng/sample

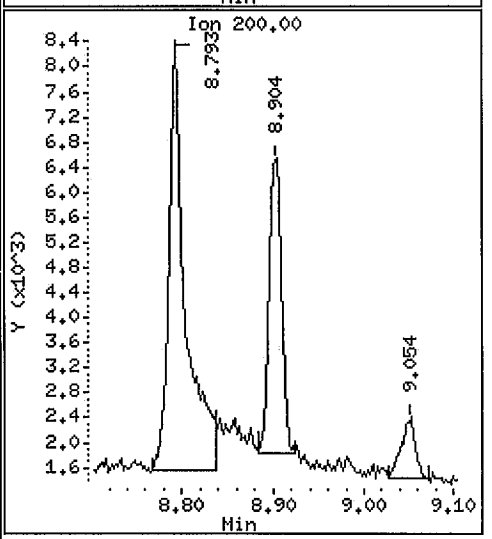












Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

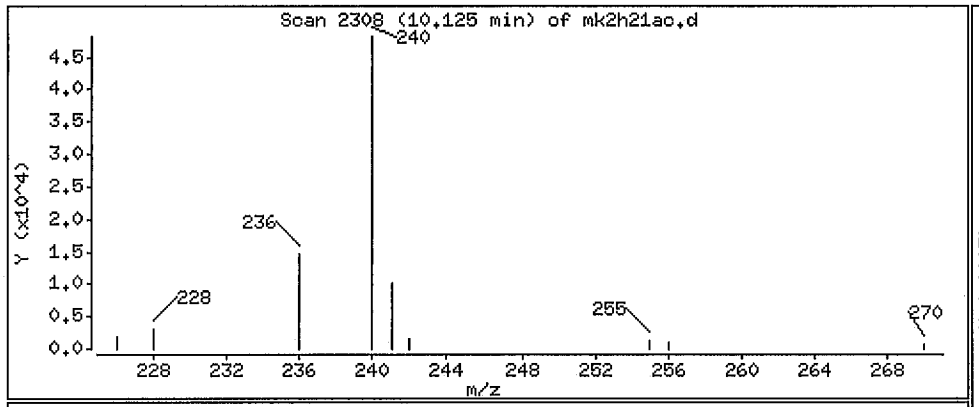
Operator: 11211

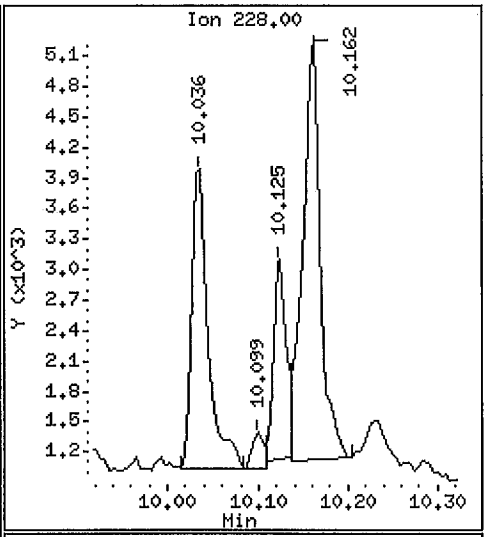
Column phase: Varian: 5MS

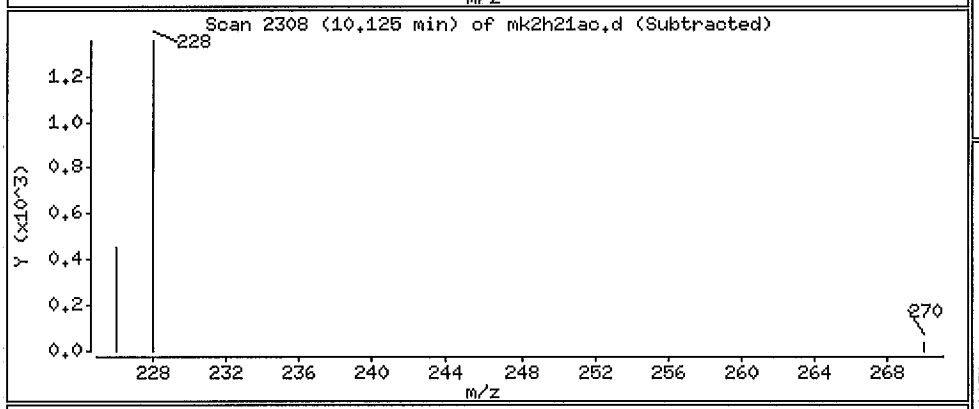
Column diameter: 0.25

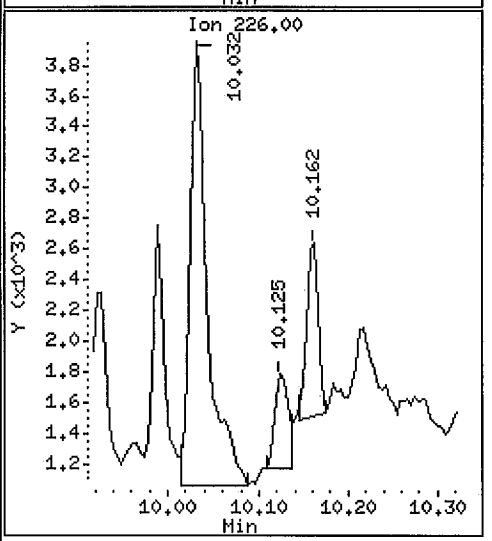
62 Benzo(a)anthracene

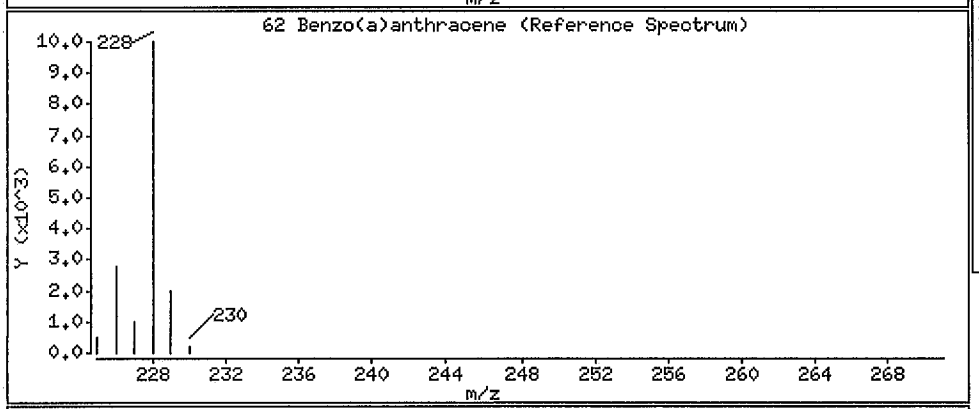
Concentration: 4.93 ng/sample

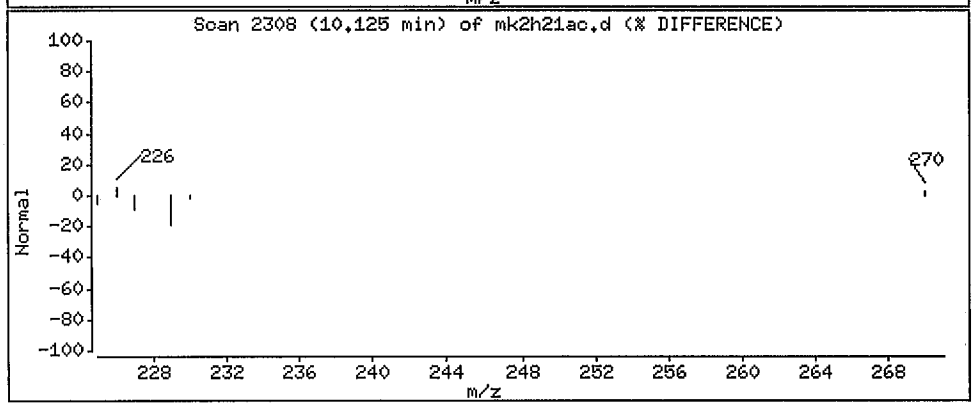












Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

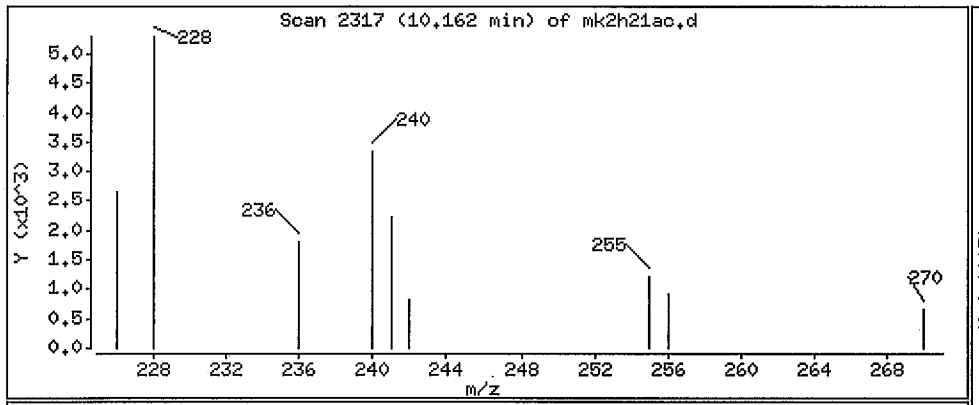
Operator: 11211

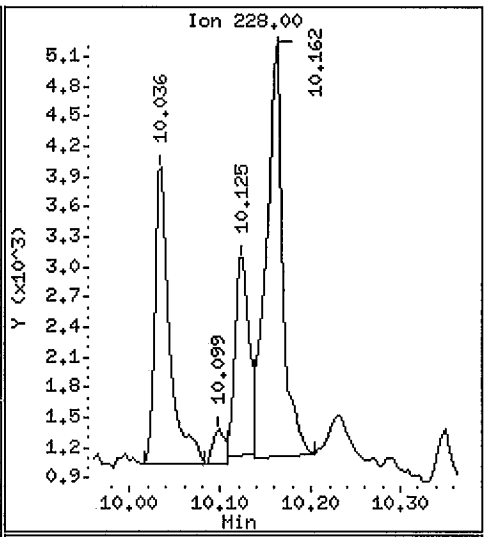
Column phase: Varian: 5MS

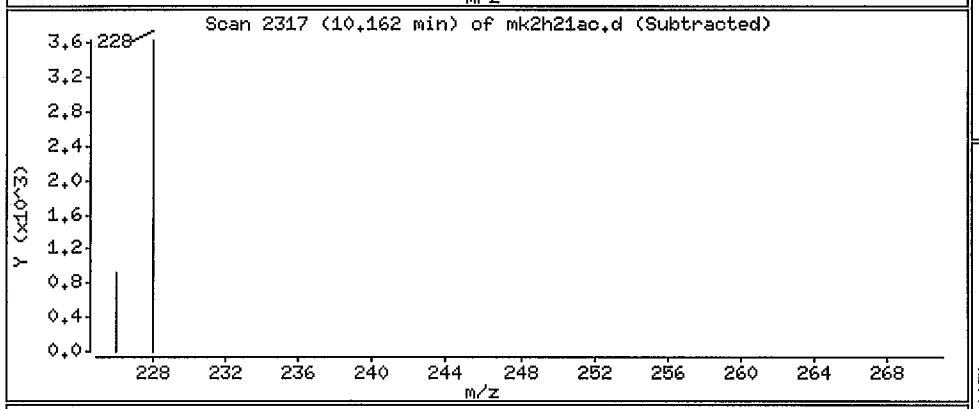
Column diameter: 0.25

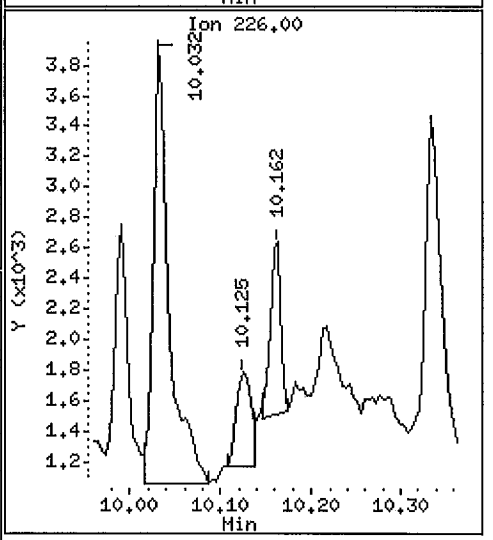
65 Chrysene

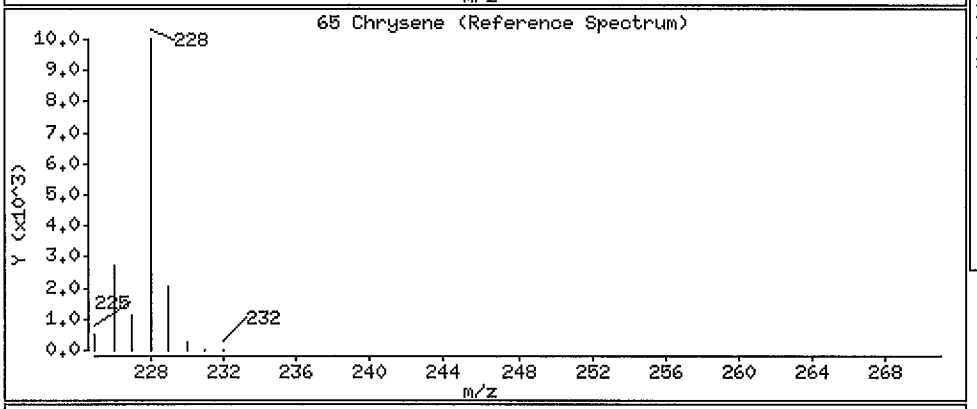
Concentration: 18.7 ng/sample

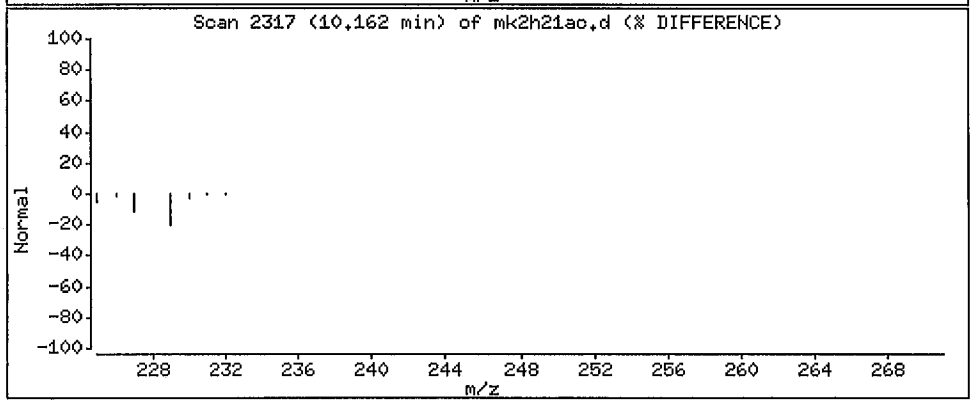












Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

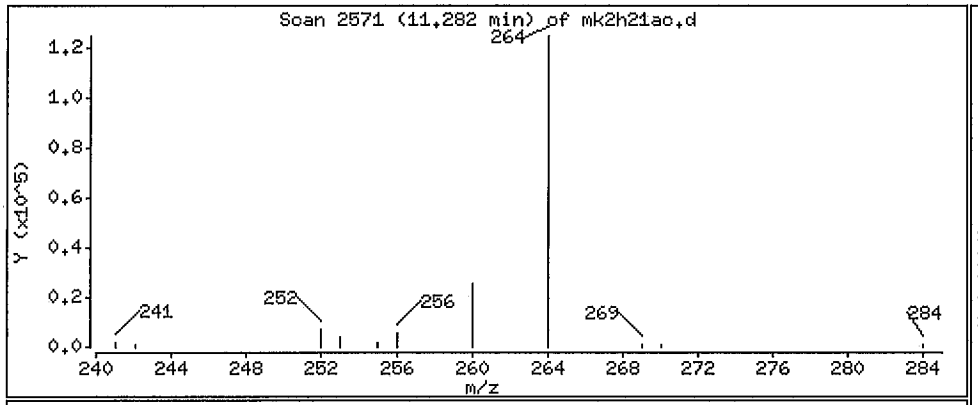
Operator: 11211

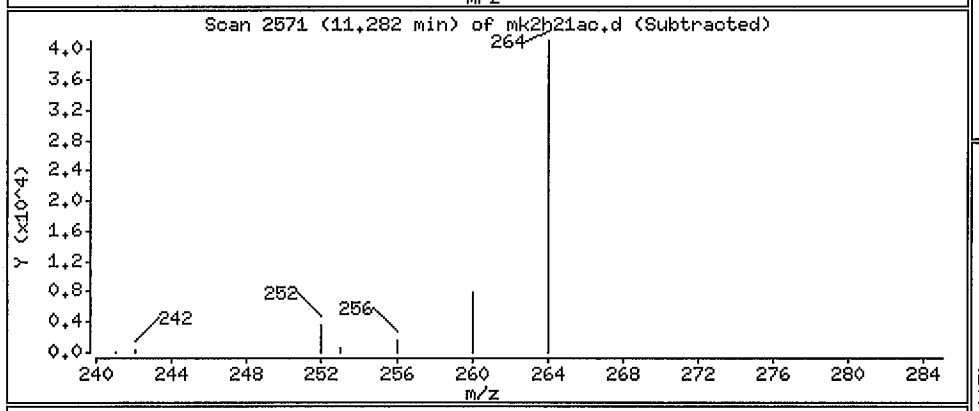
Column phase: Varian: 5MS

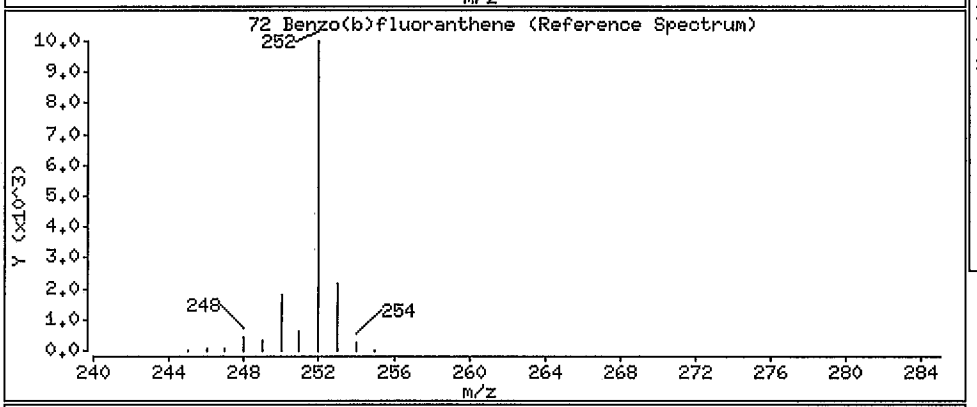
Column diameter: 0.25

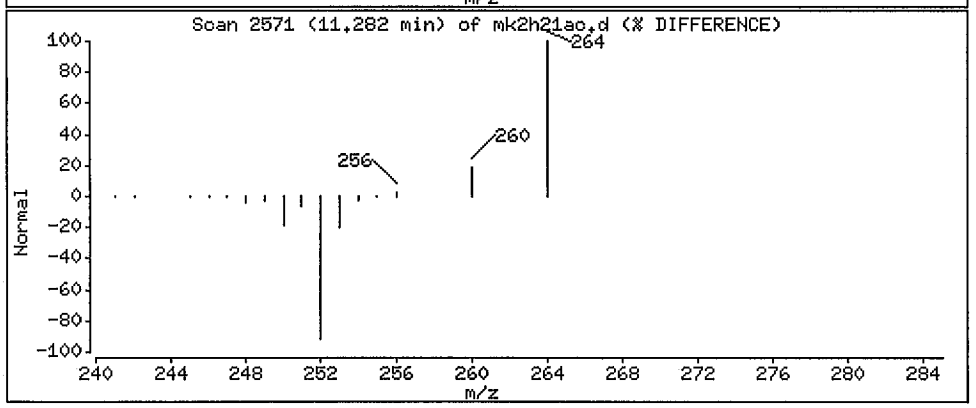
72 Benzo(b)fluoranthene

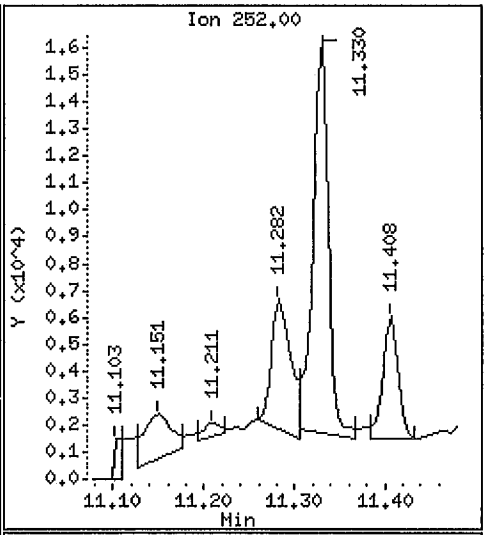
Concentration: 14.8 ng/sample

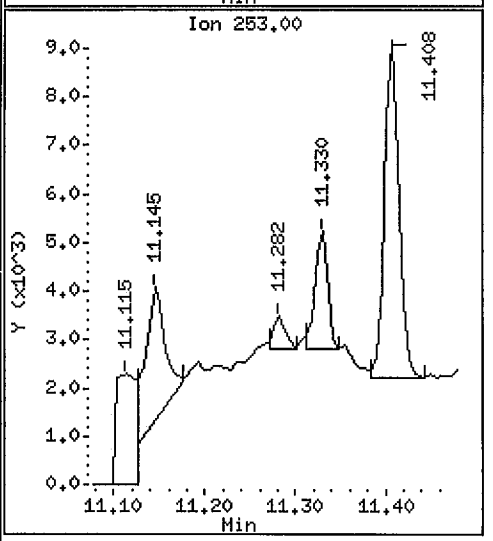












Data File: /chem/goms/mp.i/P072911.b/mk2h21ao.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

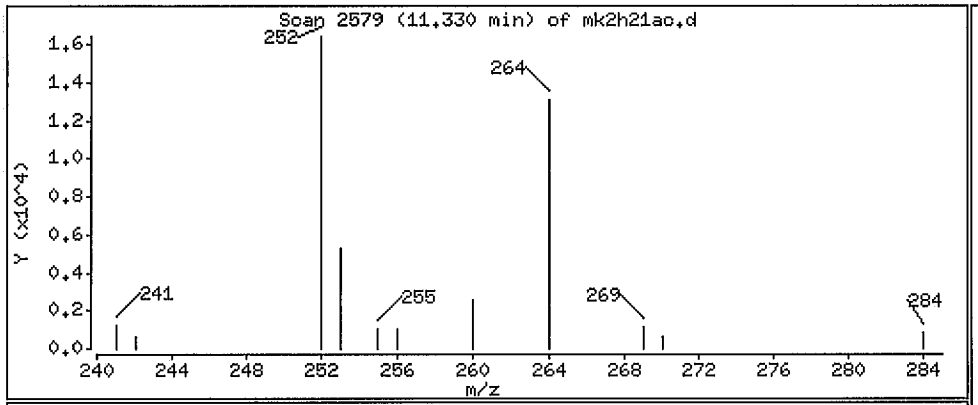
Operator: 11211

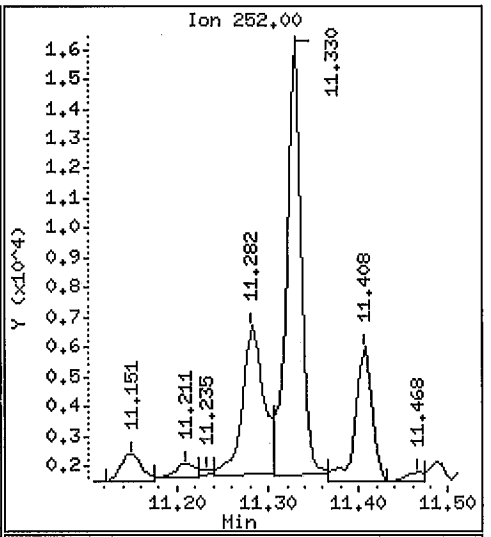
Column phase: Varian: 5MS

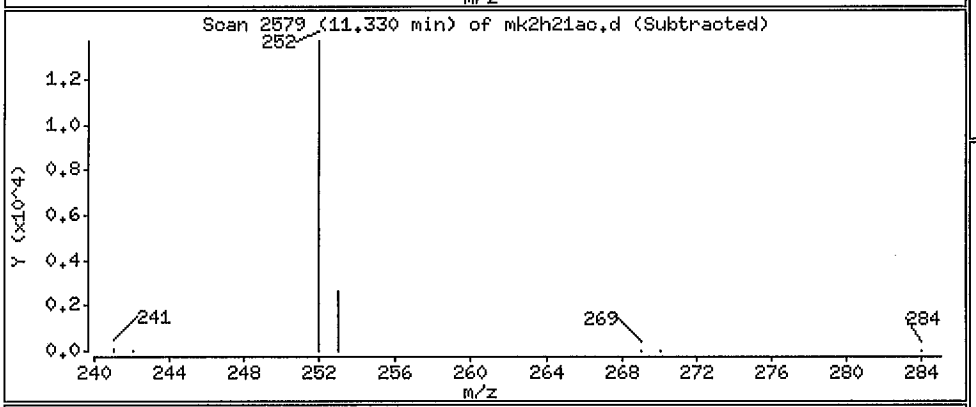
Column diameter: 0.25

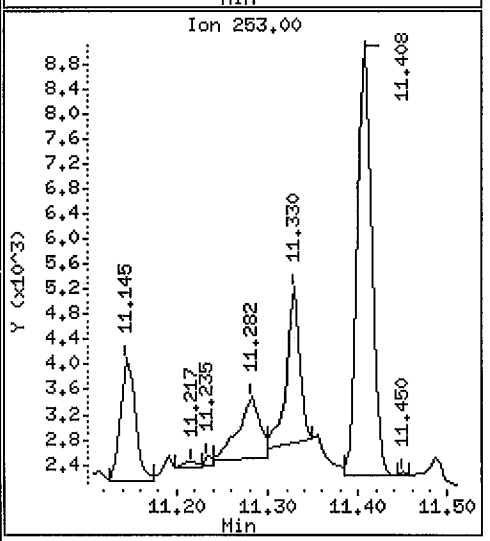
75 Benzo(k)fluoranthene

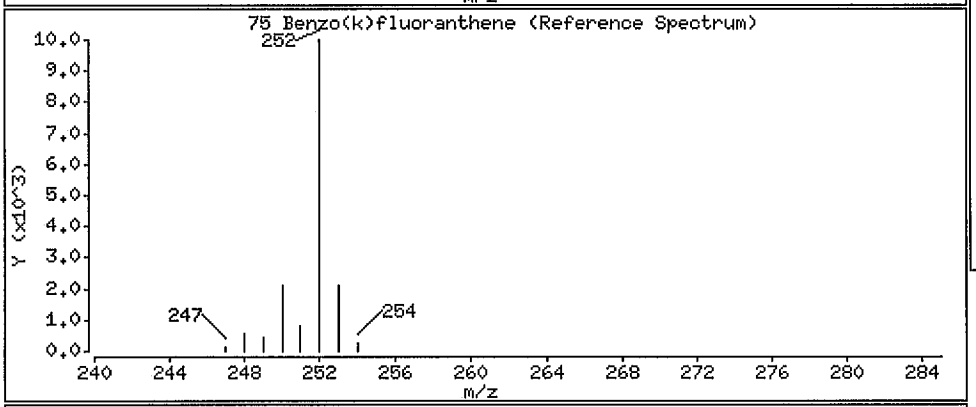
Concentration: 43.7 ng/sample

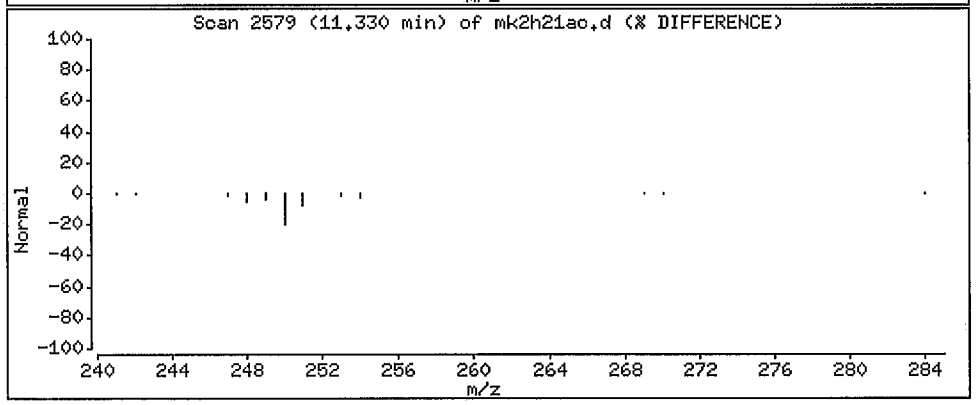












Data File: /chem/goms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

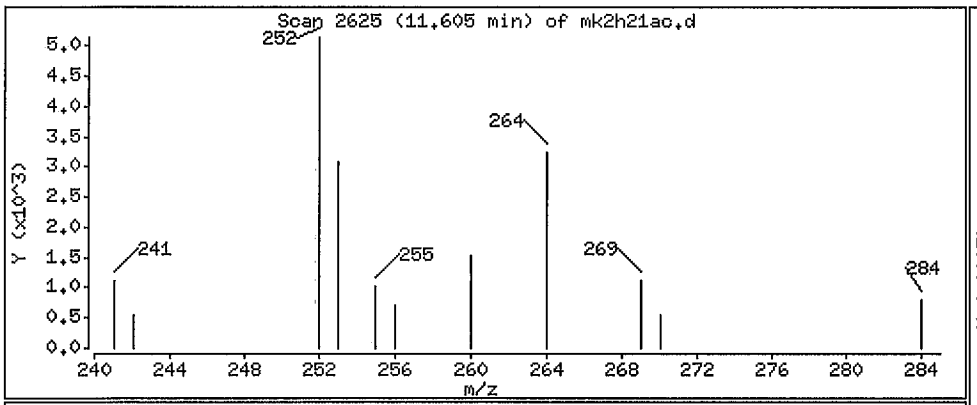
Operator: 11211

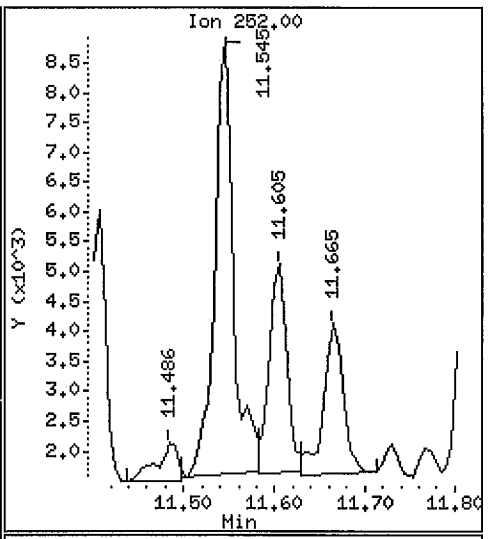
Column phase: Varian: 5MS

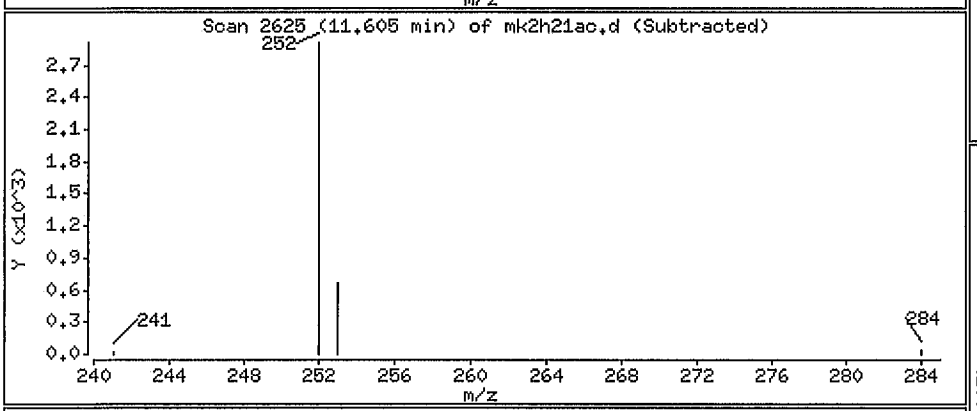
Column diameter: 0.25

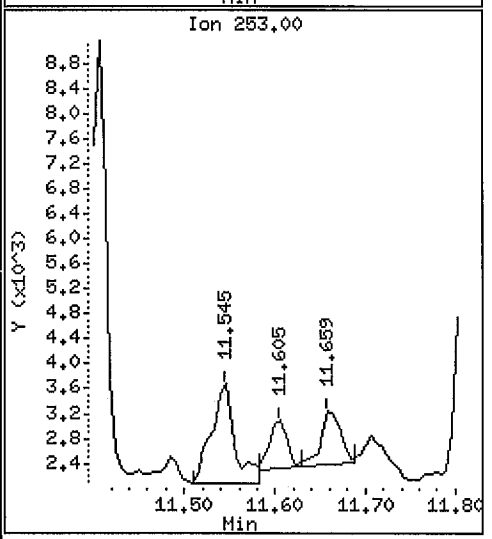
77 Benzo(e)pyrene

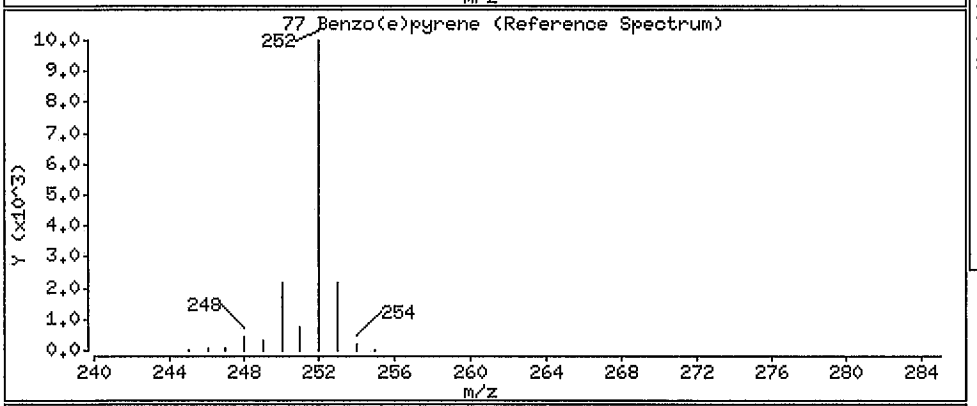
Concentration: 10.4 ng/sample

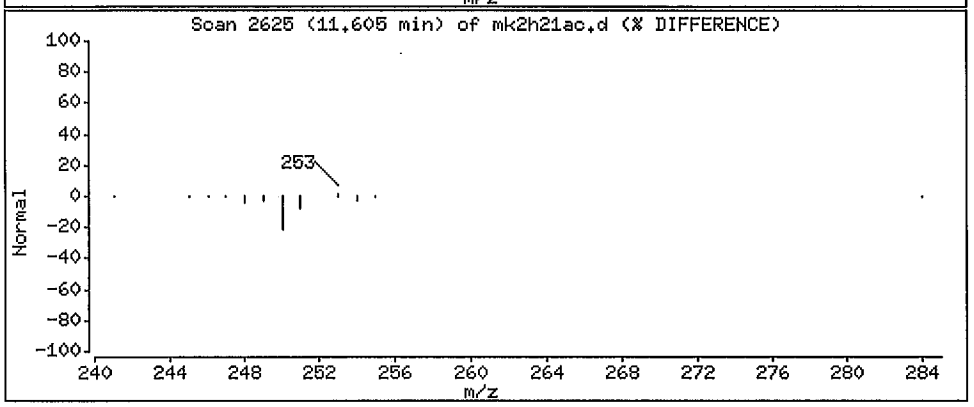












Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

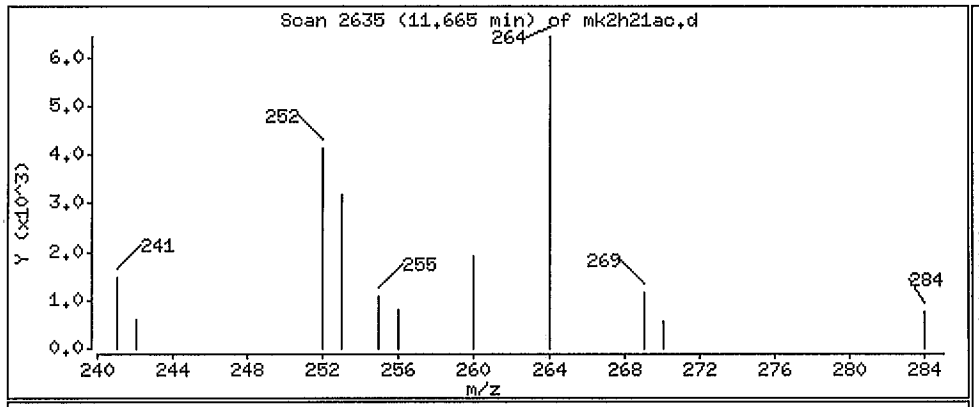
Operator: 11211

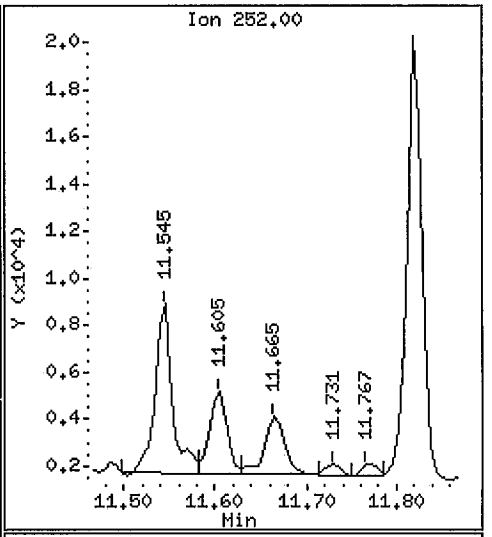
Column phase: Varian: 5MS

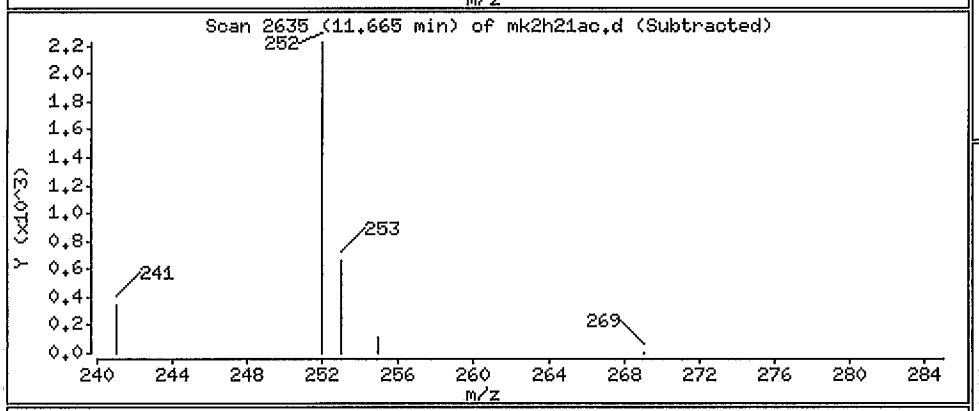
Column diameter: 0.25

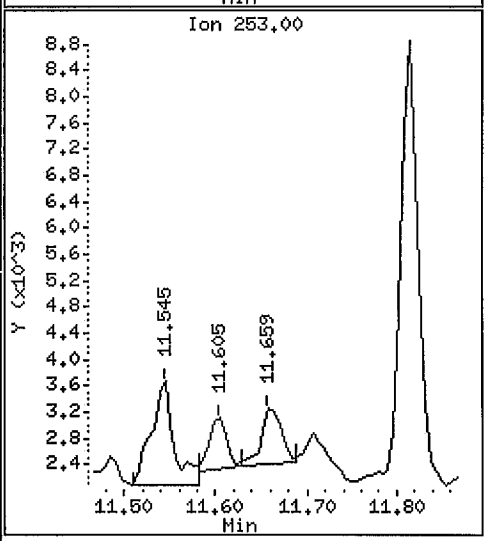
80 Benzo(a)pyrene

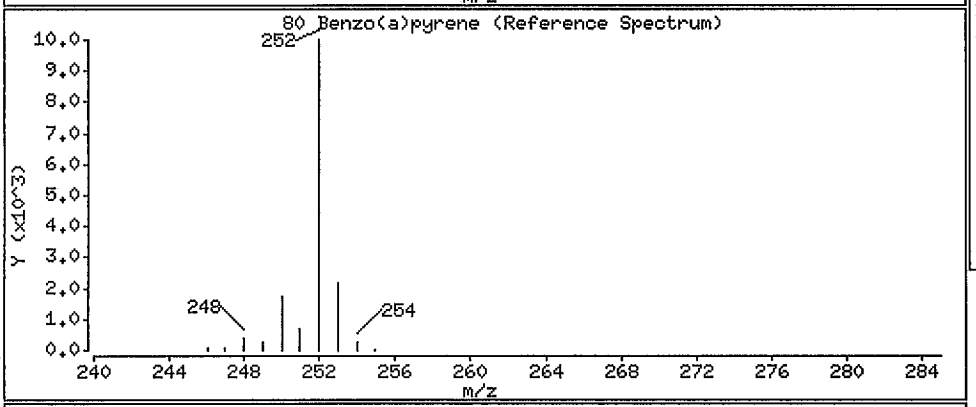
Concentration: 9.76 ng/sample

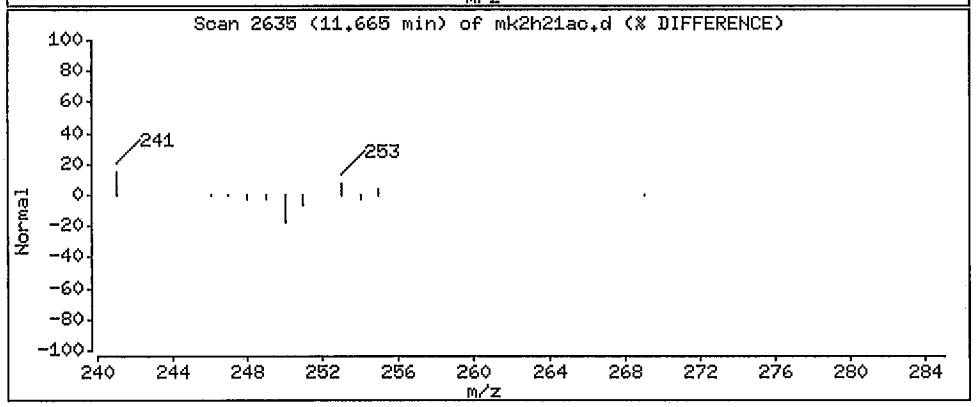












Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

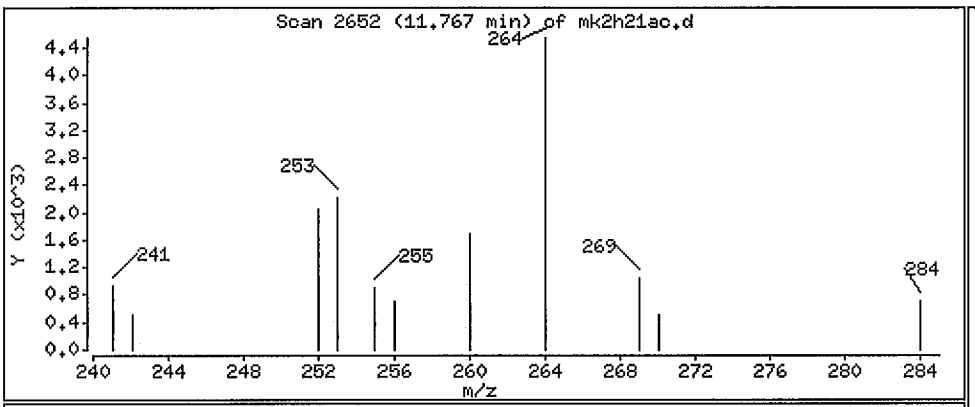
Operator: 11211

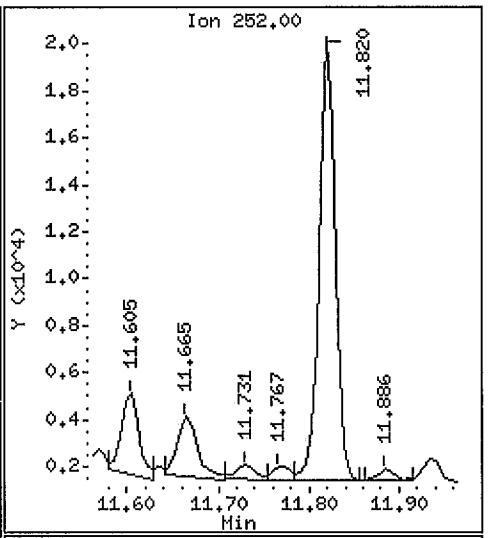
Column phase: Varian: 5MS

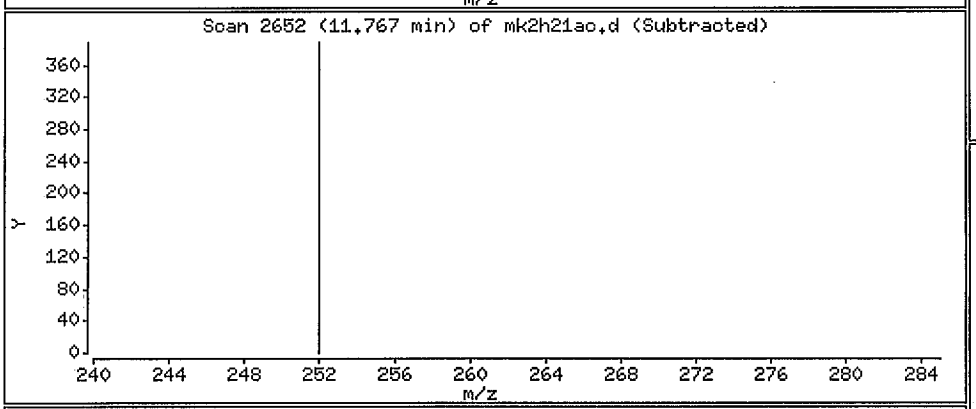
Column diameter: 0.25

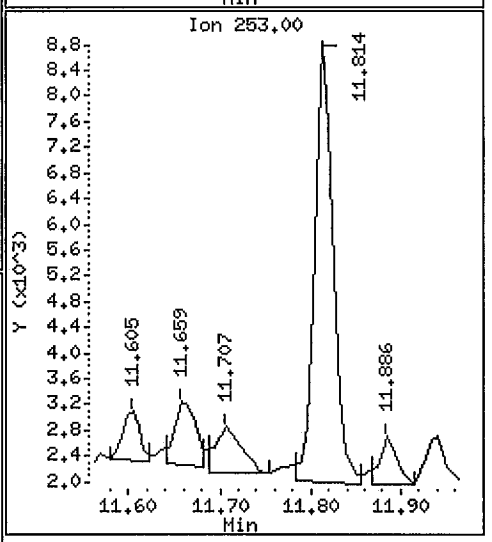
83 Perylene

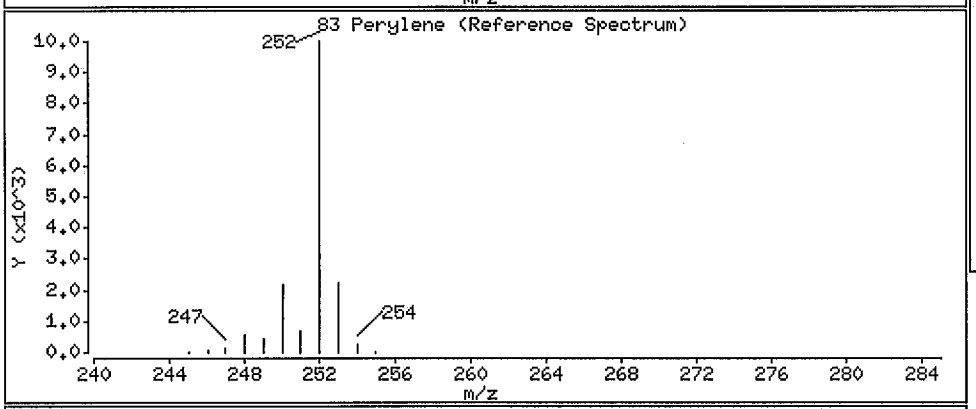
Concentration: 2.17 ng/sample

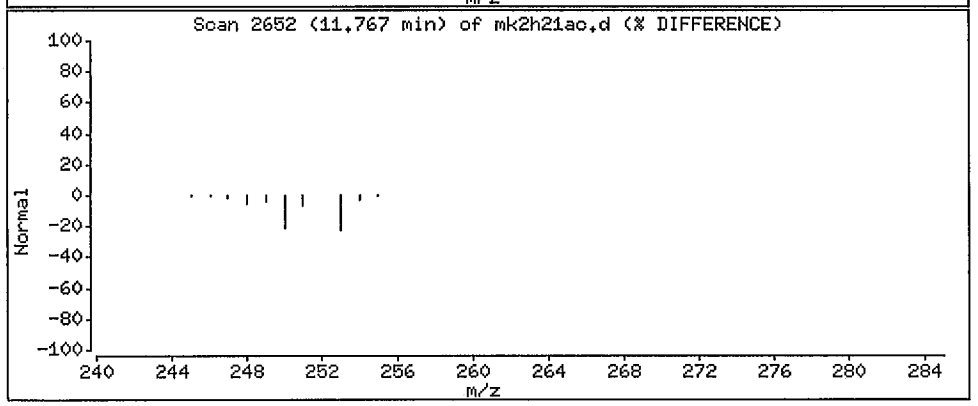












Data File: /chem/gcms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

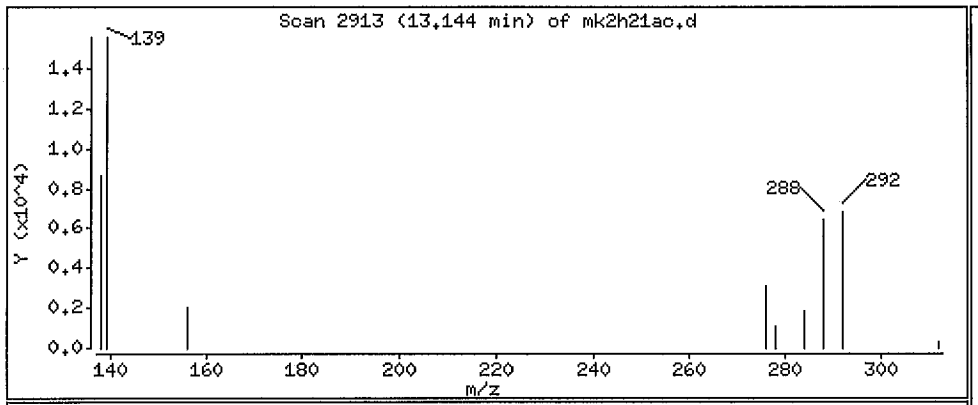
Operator: 11211

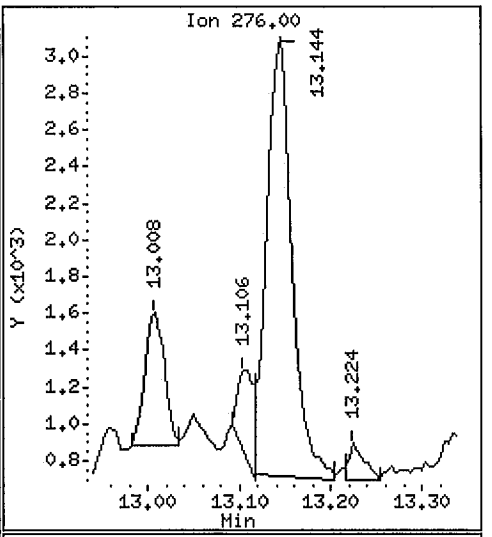
Column phase: Varian: 5MS

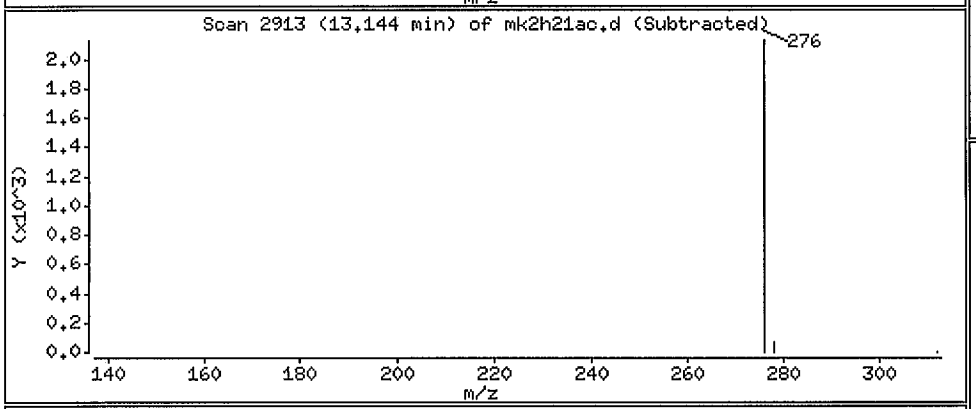
Column diameter: 0.25

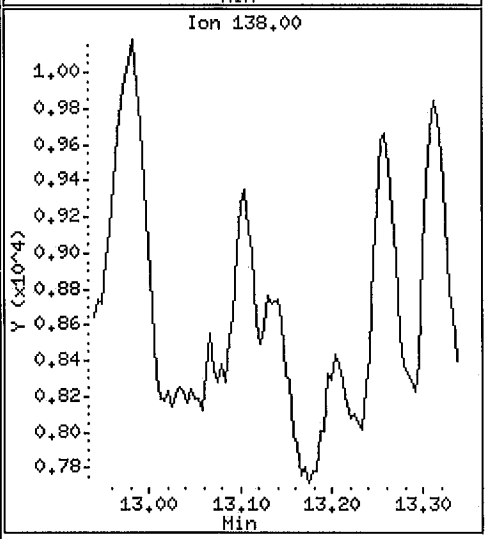
86 Indeno(1,2,3-cd)pyrene

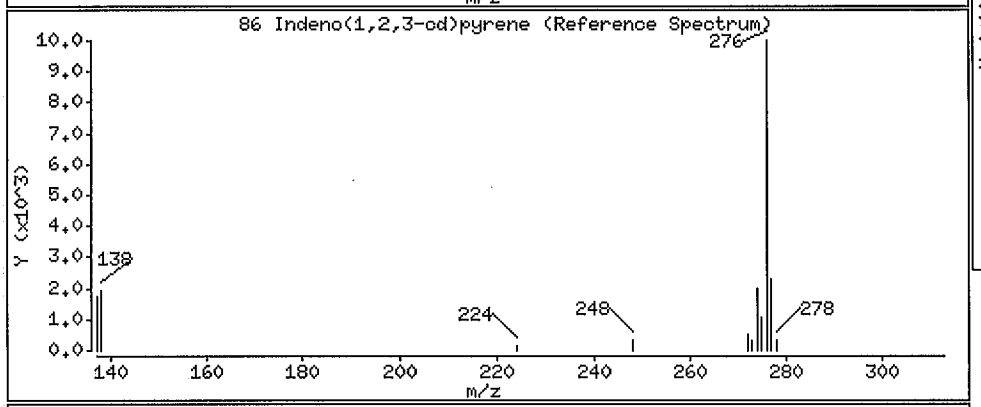
Concentration: 8.18 ng/sample

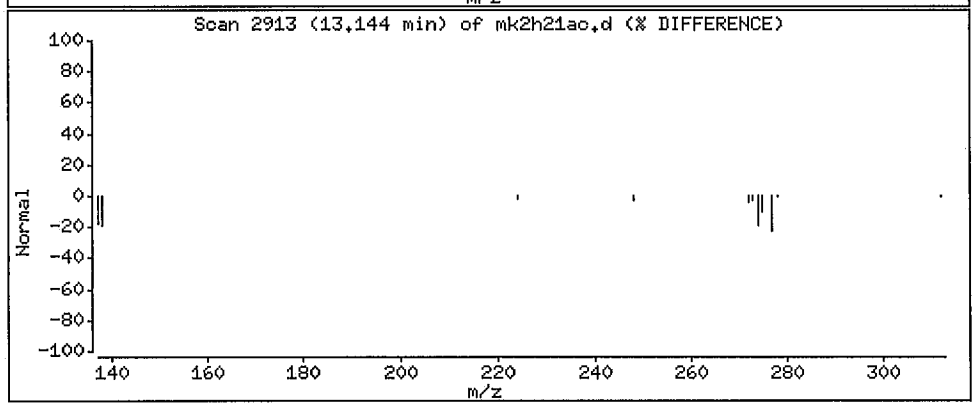












Data File: /chem/gcms/mp.i/P072911.b/mk2h21ao.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

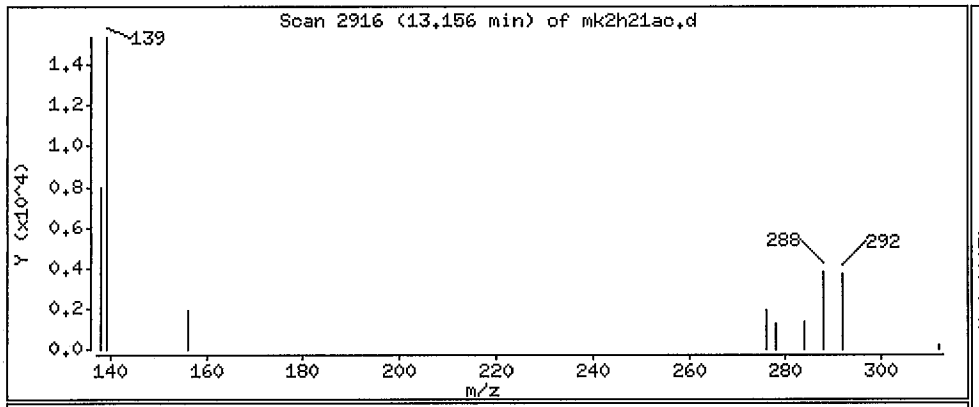
Operator: 11211

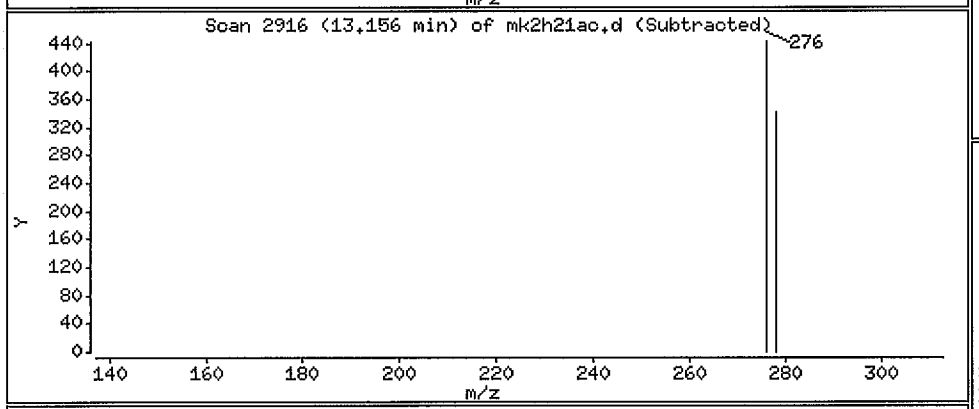
Column phase: Varian: 5MS

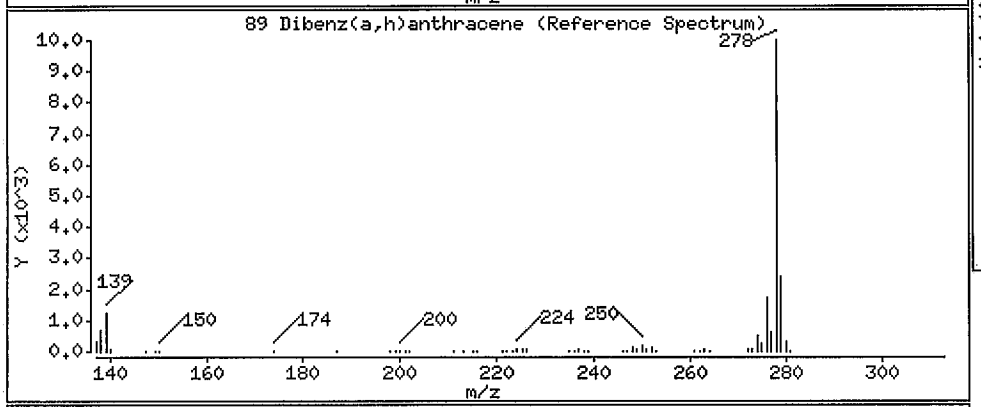
Column diameter: 0.25

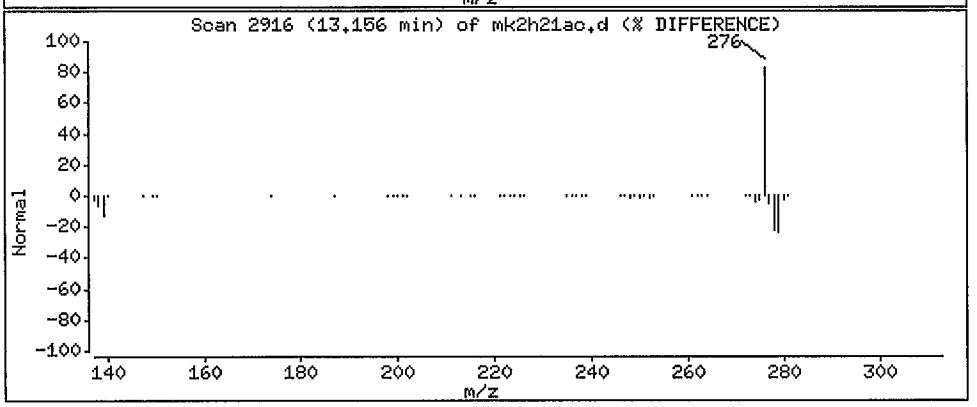
89 Dibenz(a,h)anthracene

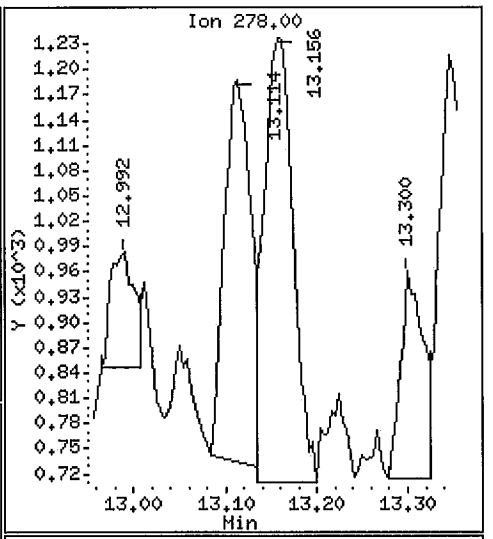
Concentration: 2.69 ng/sample

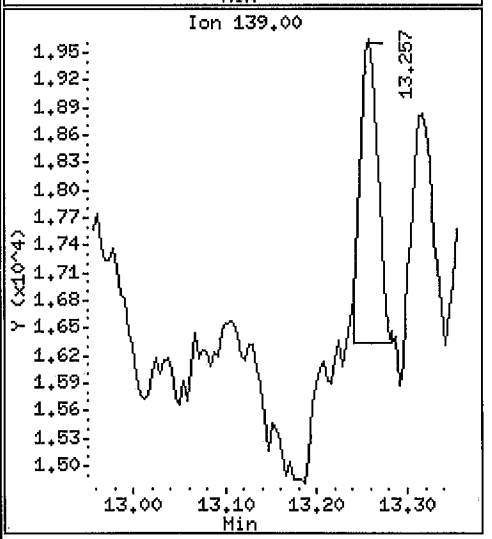












Data File: /chem/goms/mp.i/P072911.b/mk2h21ac.d

Date : 29-JUL-2011 14:15

Client ID: 11-234 M0010 RUN BT

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

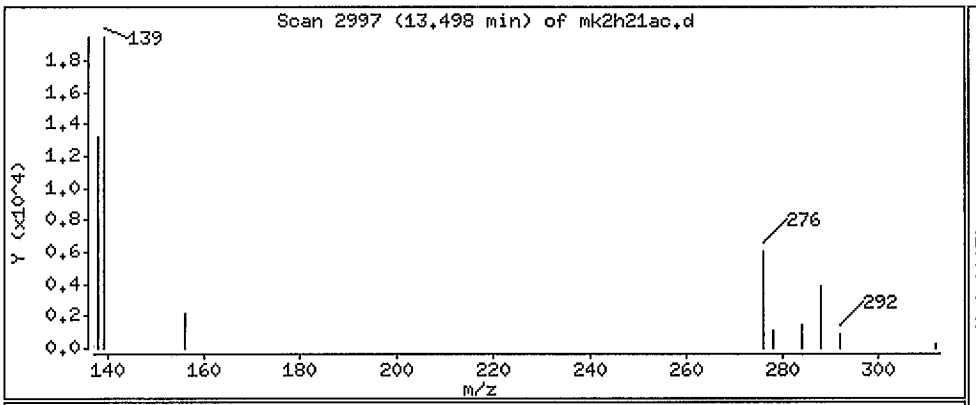
Operator: 11211

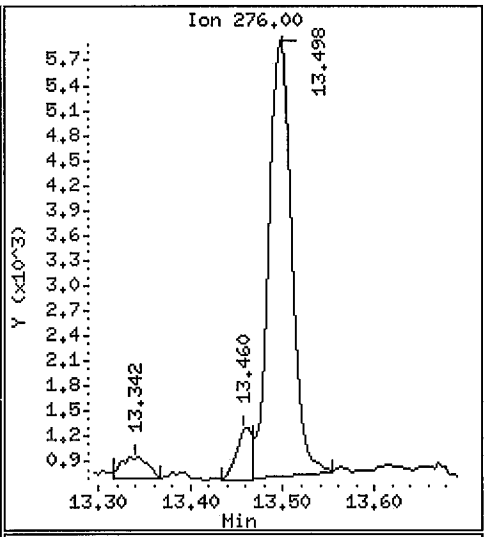
Column phase: Varian: 5MS

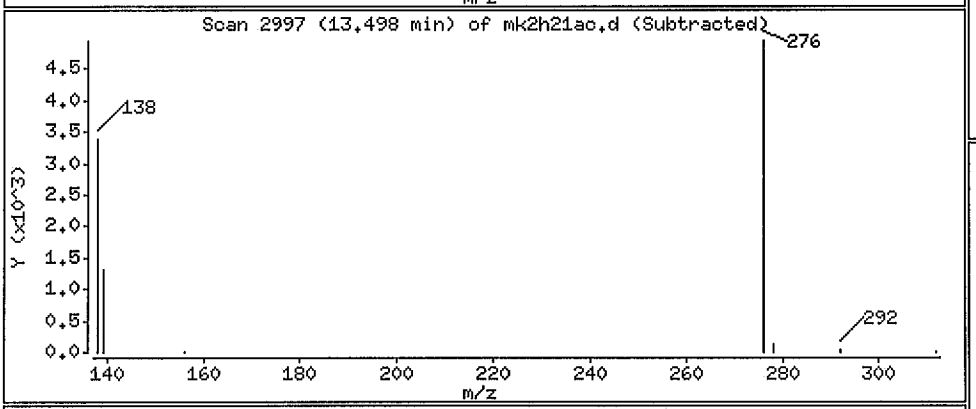
Column diameter: 0.25

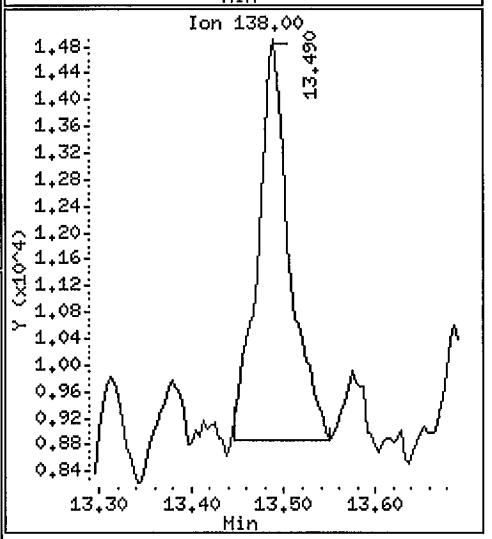
92 Benzo(g,h,i)perylene

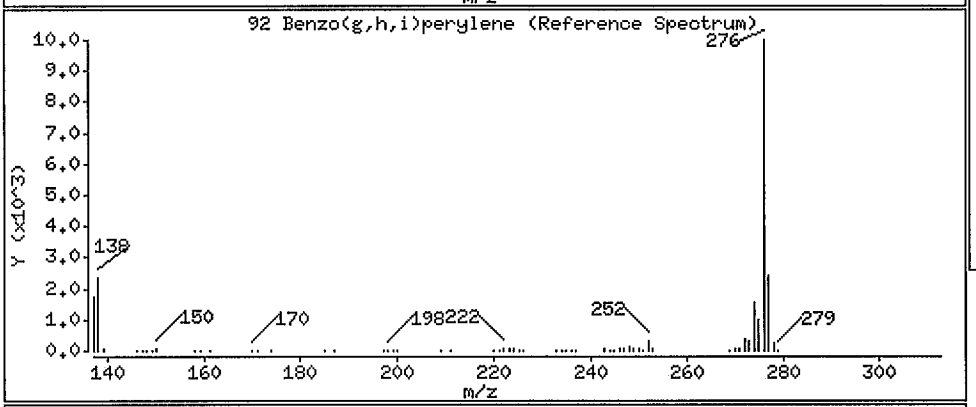
Concentration: 19.5 ng/sample

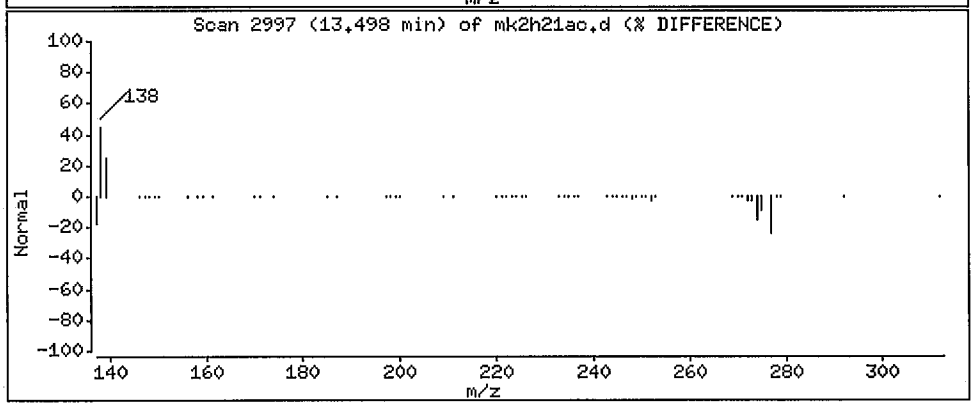




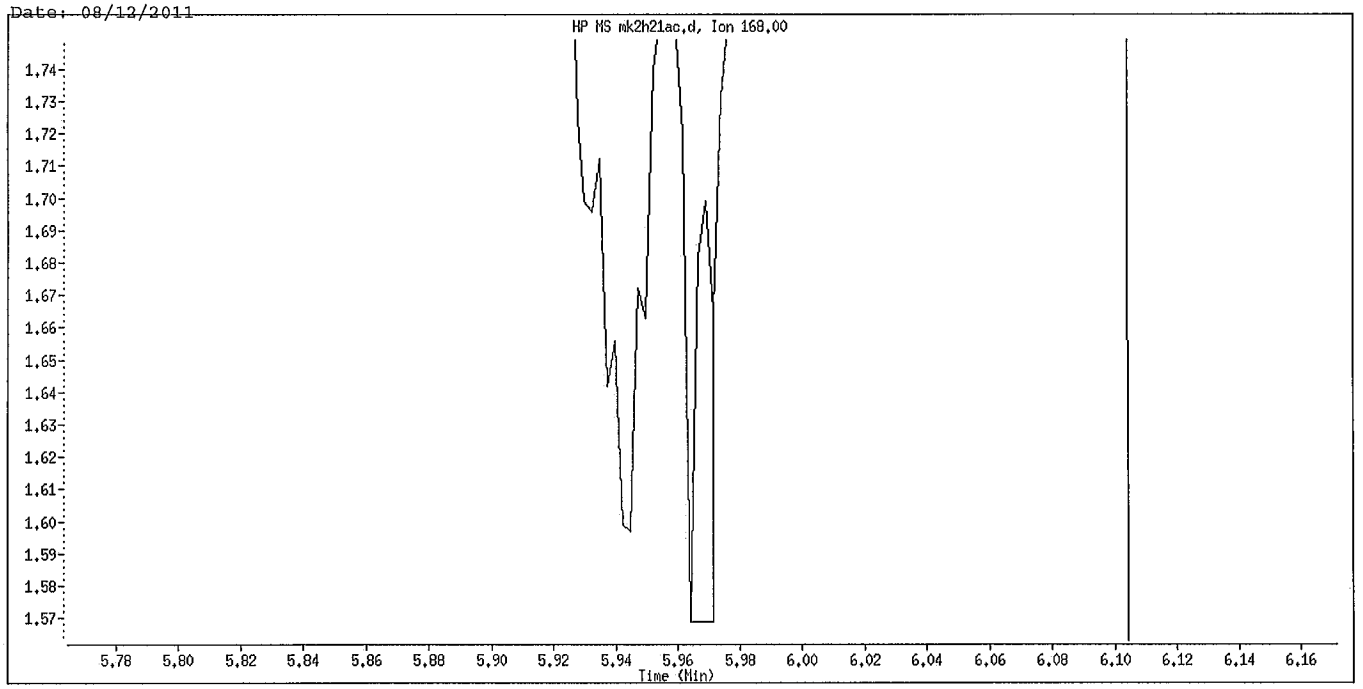




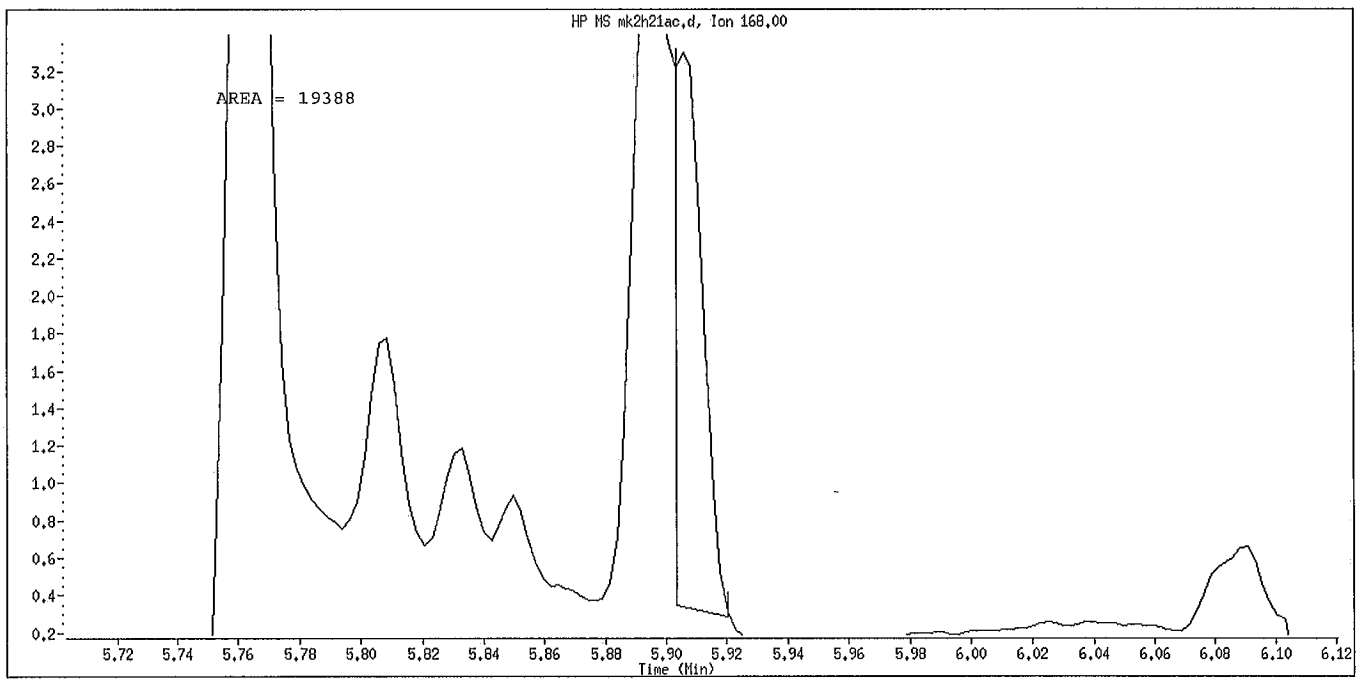




Data File Name: mk2h21ac.d
Inj. Date and Time: 29-JUL-2011 14:15
Instrument ID: mp.i
Client ID: 11-234 M0010 RUN BT
Compound Name: 2,6-Dimethylnaphthalene-d12
CAS #: -Q2032
Report Date: 08/12/2011



Original Integration

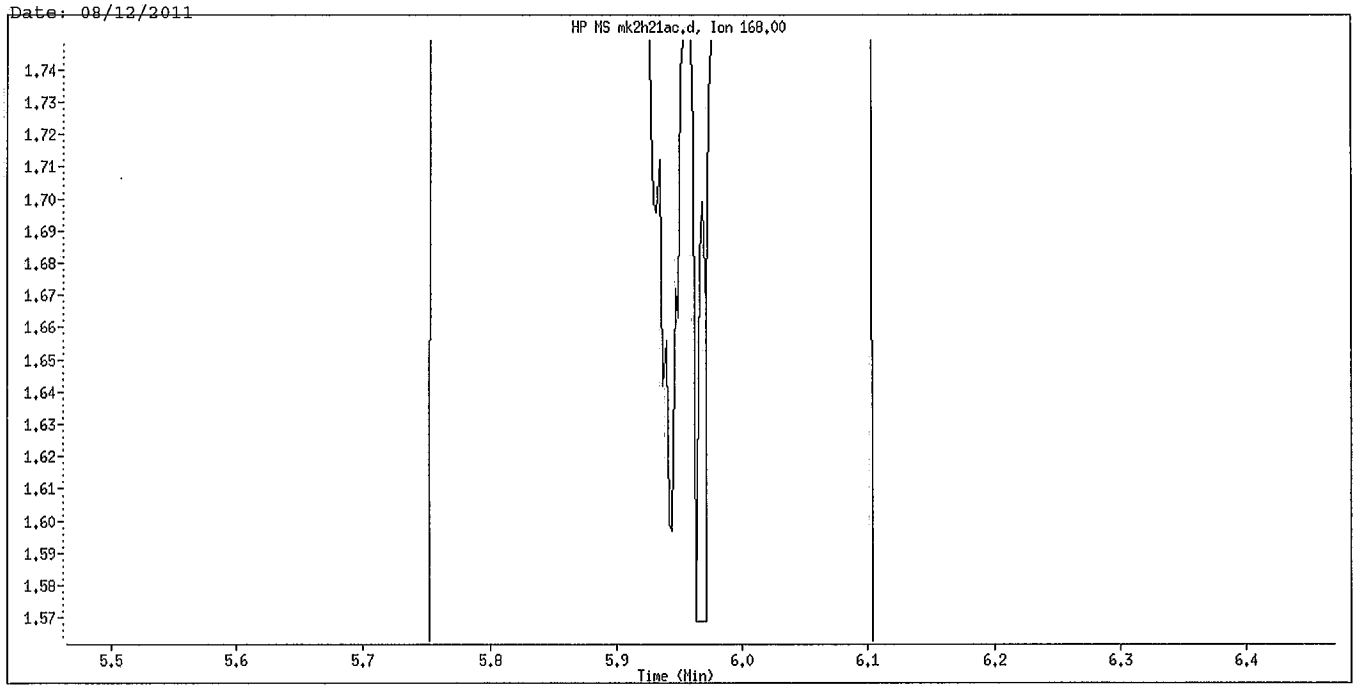


Manual Integration

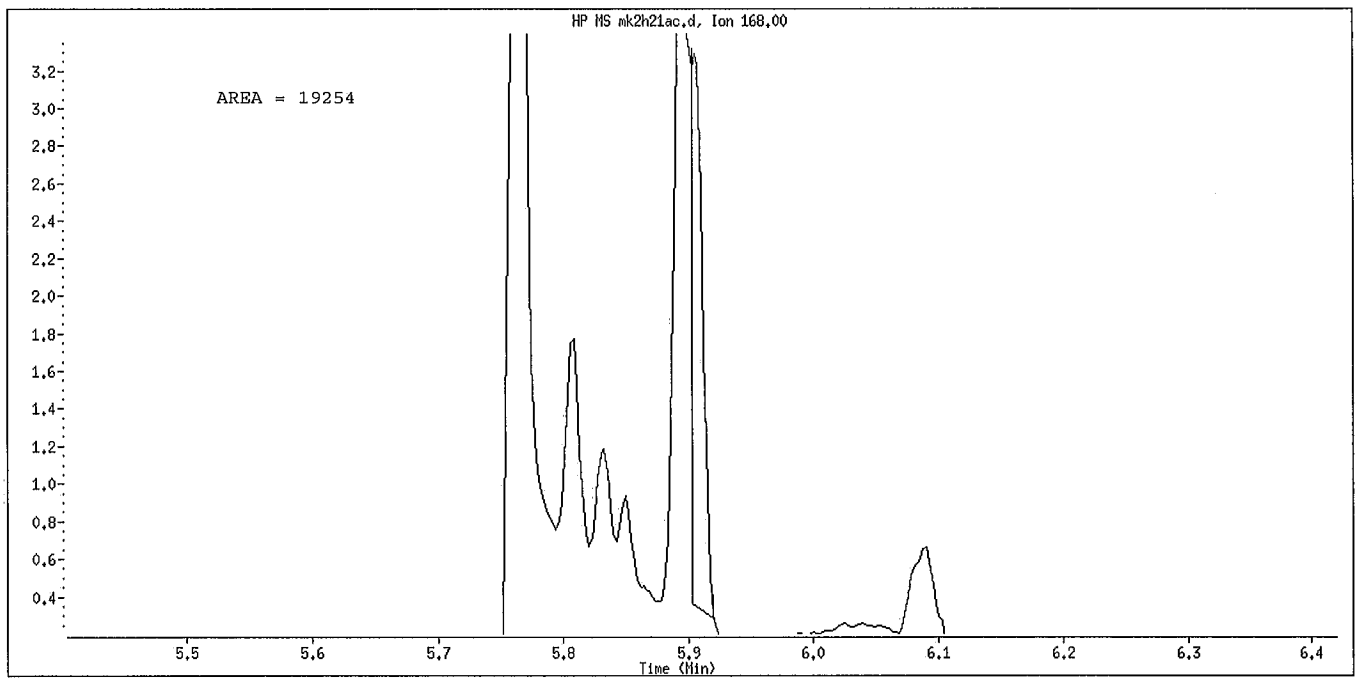
Manually Integrated By: wilesd
Manual Integration Reason: Analyte Misidentified by the Data System

8/12/11

Data File Name: mk2h21ac.d
Inj. Date and Time: 29-JUL-2011 14:15
Instrument ID: mp.i
Client ID: 11-234 M0010 RUN BT
Compound Name: 2,6-Dimethylnaph-d12(SS)
CAS #: Q2032
Report Date: 08/12/2011



Original Integration



Manual Integration

Manually Integrated By: wilesd
Manual Integration Reason: Analyte Misidentified by the Data System

8/12/11

TestAmerica Air Emissions Dallas

Client Sample ID: 11-234 M0010 RUN BT COMBINED

GC/MS Semivolatiles

Lot-Sample #...:	H1G200446-004	Work Order #...:	MK2H22AC	Matrix.....:	AIR
Date Sampled...:	07/11/11	Date Received..:	07/20/2011		
Prep Date.....:	07/20/11	Analysis Date..:	08/03/2011		
Prep Batch #...:	1201079				
Dilution Factor:	30	Method.....:	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	600	ng/sample	150
Acenaphthylene	ND	600	ng/sample	72
Benzo(a)anthracene	ND	300	ng/sample	110
Benzo(b)fluoranthene	ND	3000	ng/sample	900
Benzo(ghi)perylene	ND	300	ng/sample	150
Dibenz(a,h)anthracene	ND	300	ng/sample	120
Fluorene	**190 J**	**300**	ng/sample	120
Indeno(1,2,3-cd)pyrene	ND	300	ng/sample	78
2-Methylnaphthalene	ND	1500	ng/sample	630
Naphthalene	ND	12000	ng/sample	7500

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	121	(50 - 150)
13C6-Fluorene	105	(50 - 150)
Naphthalene-d8	78	(30 - 120)
2-Methylnaphthalene-d10	74	(30 - 120)
Acenaphthylene-d8	100	(30 - 120)
Phenanthrene-d10	82	(30 - 120)
Benzo(a)anthracene-d12	158 *	(30 - 120)
Benzo(b)fluoranthene-d12	115	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	120	(30 - 120)
Dibenz(ah)anthracene-d14	118	(30 - 120)
Benzo(ghi)perylene-d12	113	(30 - 120)

NOTE(S):

1 13C6-Anthracene = 98%

* Surrogate recovery is outside stated control limits.

J Estimated result. Result is less than RL.

Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d
Report Date: 09-Aug-2011 07:59

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d
Lab Smp Id: MK2H22AC
Inj Date : 03-AUG-2011 20:31
Operator : 11211 Inst ID: mp.i
Smp Info : MK2H22AC,,3,,D1:5
Misc Info : P080311,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P080311.b/SIMPAH3.m
Meth Date : 05-Aug-2011 09:34 cochranj Quant Type: ISTD
Cal Date : 01-AUG-2011 15:19 Cal File: ph01ic07.d
Als bottle: 20 QC Sample: D1:5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	2.00000	Split factor
Vt	~~1500~~ 500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/sample)
* 1 Naphthalene-d8	136	4.861	4.869	(1.000)	26910	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.861	4.869	(0.768)	26910	0.38850	1170
3 Naphthalene	128	4.876	4.887	(1.003)	15207	0.33706	1010
$ 222 13C6-Naphthalene	134	4.895	4.887	(1.007)	1301	0.02617	78.5(R)
* 10 2-Methylnaphthalene-d10	152	5.437	5.427	(1.000)	13893	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.437	5.427	(0.859)	13891	0.36895	1110
12 2-Methylnaphthalene	142	5.464	5.454	(1.005)	9125	0.32766	983
* 13 1-Methylnaphthalene-d10	152	5.516	5.510	(1.000)	12213	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.516	5.510	(0.871)	12213	0.32605	978
15 1-Methylnaphthalene	142	5.546	5.536	(1.005)	4299	0.18155	545
16 Biphenyl	154	5.845	5.840	(1.075)	8653	0.26090	783
* 17 2,6-Dimethylnaphthalene-d12	168	5.942	5.937	(1.000)	13593	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.942	5.937	(0.939)	13593	0.42134	1260
19 2,6 Dimethylnaphthalene	156	5.981	5.974	(1.007)	6465	0.23927	718

Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d
Report Date: 09-Aug-2011 07:59

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
* 20 Acenaphthylene-d8	160	6.202	6.196	(1.000)	27038	0.50000	0.500
$ 21 Acenaphthylene-d8(SS)	160	6.202	6.196	(0.980)	27038	0.49770	1490
22 Acenaphthylene	152	6.213	6.208	(1.002)	982	0.01835	55.0
* 23 Acenaphthene-d10	164	6.330	6.327	(1.000)	14947	0.50000	0.500
24 Acenaphthene	154	6.359	6.353	(1.025)	1628	0.05164	155
25 2,3,5 Trimethylnaphthalene	170	6.674	6.674	(1.123)	2637	0.11477	344
$ 26 Fluorene-d10	176	6.766	6.763	(0.892)	34036	1.21407	3640(R)
27 Fluorene	166	6.788	6.788	(0.895)	6895	0.19137	574
$ 28 13C6-Fluorene	171	6.788	6.786	(0.895)	32586	1.04809	3140
* 34 Dibenzothiopene-d8	192	7.482	7.478	(1.000)	29421	0.50000	0.500
$ 35 Dibenzothiopene-d8(SS)	192	7.482	7.478	(0.841)	29421	0.46704	1400
36 Dibenzothiophene	184	7.497	7.495	(1.002)	3825	0.06837	205
* 41 Phenanthrene-d10	188	7.586	7.582	(1.000)	23442	0.50000	0.500
$ 42 Phenanthrene-d10(SS)	188	7.586	7.582	(0.853)	23442	0.41168	1240
43 Phenanthrene	178	7.605	7.603	(1.002)	24462	0.47872	1440
* 44 Anthracene-d10	188	7.634	7.632	(1.000)	23959	0.50000	0.500
$ 45 Anthracene-d10(SS)	188	7.634	7.632	(0.858)	23958	0.48740	1460
46 Anthracene	178	7.648	7.648	(1.002)	3088	0.05161	155
$ 47 13C6-Anthracene	184	7.650	7.646	(0.860)	25344	0.48889	1470
52 1-Methylphenanthrene	192	8.153	8.150	(1.075)	2150	0.06835	205
* 53 Fluoranthene-d10	212	8.674	8.672	(1.000)	28122	0.50000	0.500
$ 54 Fluoranthene-d10(SS)	212	8.674	8.672	(0.975)	28122	0.51808	1550
55 Fluoranthene	202	8.691	8.687	(1.002)	4727	0.07597	228
* 56 Pyrene-d10	212	8.895	8.891	(1.000)	22123	0.50000	0.500
57 Pyrene	202	8.913	8.908	(1.028)	4302	0.06543	196
$ 58 Terphenyl-d14	244	9.050	9.050	(1.043)	34849	1.24209	3730(R)
* 60 Benzo(a)anthracene-d12	240	10.108	10.108	(1.000)	22133	0.50000	0.500
$ 61 Benzo(a)anthracene-d12(SS)	240	10.108	10.108	(1.136)	22133	0.79136	2370(R)
62 Benzo(a)anthracene	228	10.133	10.129	(1.002)	346	0.00525	15.8
* 63 Chrysene-d12	240	10.146	10.142	(1.000)	24799	0.50000	0.500
$ 64 Chrysene-d12(SS)	240	10.146	10.142	(1.141)	24799	0.55980	1680
65 Chrysene	228	10.167	10.167	(1.002)	1418	0.02600	78.0
* 70 Benzo(b)fluoranthene-d12	264	11.265	11.259	(1.000)	24016	0.50000	0.500
$ 71 Benzo(b)fluoranthene-d12(SS)	264	11.265	11.259	(0.973)	24016	0.57309	1720
72 Benzo(b)fluoranthene	252	11.295	11.289	(1.003)	1099	0.01648	49.5
* 73 Benzo(k)fluoranthene-d12	264	11.301	11.295	(1.000)	27200	0.50000	0.500
$ 74 Benzo(k)fluoranthene-d12(SS)	264	11.301	11.295	(0.976)	27200	0.46396	1390
75 Benzo(k)fluoranthene	252	11.336	11.319	(1.003)	2202	0.03665	110
* 76 Benzo(e)pyrene-d12	264	11.581	11.581	(1.000)	19676	0.50000	0.500
77 Benzo(e)pyrene	252	11.611	11.611	(0.997)	855	0.01406	42.2
* 78 Benzo(a)pyrene-d12	264	11.647	11.647	(1.000)	23735	0.50000	0.500
$ 79 Benzo(a)pyrene-d12(SS)	264	11.647	11.647	(1.006)	23735	0.54683	1640
80 Benzo(a)pyrene	252	11.677	11.671	(1.003)	455	0.00870	26.1
* 81 Perylene-d12	264	11.749	11.743	(1.000)	21551	0.50000	0.500
$ 82 Perylene-d12(SS)	264	11.749	11.743	(1.014)	21551	0.51257	1540
83 Perylene	252	11.779	11.773	(1.003)	55	0.00102	3.07
* 84 Indeno(123-cd)pyrene-d12	288	13.123	13.118	(1.000)	28489	0.50000	0.500

8.12.11

Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d
Report Date: 09-Aug-2011 07:59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.123	13.118	(1.133)	28489	0.59993	1800
	86 Indeno(1,2,3-cd)pyrene	276	13.161	13.152	(1.003)	545	0.00811	24.3
*	87 Dibenz(ah)anthracene-d14	292	13.127	13.123	(1.000)	21223	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.127	13.123	(1.133)	21223	0.59174	1780
	89 Dibenz(a,h)anthracene	278	13.177	13.169	(1.004)	160	0.00315	9.44
*	90 Benzo(ghi)perylene-d12	288	13.477	13.469	(1.000)	20103	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.477	13.469	(1.164)	20103	0.56567	1700
	92 Benzo(g,h,i)perylene	276	13.511	13.502	(1.002)	1121	0.02054	61.6

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: /chem/gcms/mp.i/P080311.b/mk2h22ac2.d
Report Date: 12-Aug-2011 12:51

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /chem/gcms/mp.i/P080311.b/mk2h22ac2.d
Lab Smp Id: MK2H22AC
Inj Date : 03-AUG-2011 20:31
Operator : 11211 Inst ID: mp.i
Smp Info : MK2H22AC,,3,,D1:5
Misc Info : P080311,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P080311.b/SIMPAH3.m
Meth Date : 09-Aug-2011 16:01 cochranj Quant Type: ISTD
Cal Date : 01-AUG-2011 15:19 Cal File: ph01ic07.d
Als bottle: 20 QC Sample: D1:5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	2.00000	Split factor
Vt	✓ 500.00000 default	Volume of final extract (uL) (vol. delivered = 1500 µL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
* 1 Naphthalene-d8	136	4.861	4.869	(1.000)	26910	0.50000	0.500(H)
$ 2 Naphthalene-d8(SS)	136	4.861	4.869	(0.768)	26910	0.38850	388(H)
3 Naphthalene	128	4.876	4.887	(1.003)	15207	0.33706	337(H)
* 10 2-Methylnaphthalene-d10	152	5.437	5.427	(1.000)	13893	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.437	5.427	(0.859)	13891	0.36895	369
12 2-Methylnaphthalene	142	5.464	5.454	(1.005)	9125	0.32766	328
* 13 1-Methylnaphthalene-d10	152	5.516	5.510	(1.000)	12213	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.516	5.510	(0.871)	12213	0.32605	326
15 1-Methylnaphthalene	142	5.546	5.536	(1.005)	4299	0.18155	182
16 Biphenyl	154	5.845	5.840	(1.075)	8653	0.26090	261
* 17 2,6-Dimethylnaphthalene-d12	168	5.942	5.937	(1.000)	13593	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.942	5.937	(0.939)	13593	0.42134	421
19 2,6 Dimethylnaphthalene	156	5.981	5.974	(1.007)	6465	0.23927	239
* 20 Acenaphthylene-d8	160	6.202	6.196	(1.000)	27038	0.50000	0.500

Data File: /chem/gcms/mp.i/P080311.b/mk2h22ac2.d
Report Date: 12-Aug-2011 12:51

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
$	21 Acenaphthylene-d8(SS)	160	6.202	6.196	(0.980)	27038	0.49770	498
	22 Acenaphthylene	152	6.213	6.208	(1.002)	982	0.01835	18.3
*	23 Acenaphthene-d10	164	6.330	6.327	(1.000)	14947	0.50000	0.500
	24 Acenaphthene	154	6.359	6.353	(1.025)	1628	0.05164	51.6
	25 2,3,5 Trimethylnaphthalene	170	6.674	6.674	(1.123)	2637	0.11477	115
$	26 Fluorene-d10	176	6.766	6.763	(0.892)	34036	1.21407	1210(R)
	27 Fluorene	166	6.788	6.788	(0.895)	6895	0.19137	191
$	28 13C6-Fluorene	171	6.788	6.786	(0.895)	32586	1.04809	1050
*	34 Dibenzothiopene-d8	192	7.482	7.478	(1.000)	29421	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.482	7.478	(0.841)	29421	0.46704	467
	36 Dibenzothiophene	184	7.497	7.495	(1.002)	3825	0.06837	68.4
*	41 Phenanthrene-d10	188	7.586	7.582	(1.000)	23442	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.586	7.582	(0.853)	23442	0.41168	412
	43 Phenanthrene	178	7.605	7.603	(1.002)	24462	0.47872	479
*	44 Anthracene-d10	188	7.634	7.632	(1.000)	23959	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.634	7.632	(0.858)	23958	0.48740	487
	46 Anthracene	178	7.648	7.648	(1.002)	3088	0.05161	51.6
$	47 13C6-Anthracene	184	7.650	7.646	(0.860)	25344	0.48889	489
	52 1-Methylphenanthrene	192	8.153	8.150	(1.075)	2150	0.06835	68.3
*	53 Fluoranthene-d10	212	8.674	8.672	(1.000)	28122	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.674	8.672	(0.975)	28122	0.51808	518
	55 Fluoranthene	202	8.691	8.687	(1.002)	4727	0.07597	76.0
*	56 Pyrene-d10	212	8.895	8.891	(1.000)	22123	0.50000	0.500
	57 Pyrene	202	8.913	8.908	(1.028)	4302	0.06543	65.4
$	58 Terphenyl-d14	244	9.050	9.050	(1.043)	34849	1.24209	1240(R)
*	60 Benzo(a)anthracene-d12	240	10.108	10.108	(1.000)	22133	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.108	10.108	(1.136)	22133	0.79136	791(R)
	62 Benzo(a)anthracene	228	10.133	10.129	(1.002)	346	0.00525	5.25
*	63 Chrysene-d12	240	10.146	10.142	(1.000)	24799	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.146	10.142	(1.141)	24799	0.55980	560
	65 Chrysene	228	10.167	10.167	(1.002)	1418	0.02600	26.0
*	70 Benzo(b)fluoranthene-d12	264	11.265	11.259	(1.000)	24016	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.265	11.259	(0.973)	24016	0.57309	573
	72 Benzo(b)fluoranthene	252	11.295	11.289	(1.003)	1099	0.01648	16.5
*	73 Benzo(k)fluoranthene-d12	264	11.301	11.295	(1.000)	27200	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.301	11.295	(0.976)	27200	0.46396	464
	75 Benzo(k)fluoranthene	252	11.336	11.319	(1.003)	2202	0.03665	36.7
*	76 Benzo(e)pyrene-d12	264	11.581	11.581	(1.000)	19676	0.50000	0.500
	77 Benzo(e)pyrene	252	11.611	11.611	(0.997)	855	0.01406	14.1
*	78 Benzo(a)pyrene-d12	264	11.647	11.647	(1.000)	23735	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.647	11.647	(1.006)	23735	0.54683	547
	80 Benzo(a)pyrene	252	11.677	11.671	(1.003)	455	0.00870	8.70
*	81 Perylene-d12	264	11.749	11.743	(1.000)	21551	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.749	11.743	(1.014)	21551	0.51257	513
	83 Perylene	252	11.779	11.773	(1.003)	55	0.00102	1.02
*	84 Indeno(123-cd)pyrene-d12	288	13.123	13.118	(1.000)	28489	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.123	13.118	(1.133)	28489	0.59993	600

Data File: /chem/gcms/mp.i/P080311.b/mk2h22ac2.d
Report Date: 12-Aug-2011 12:51

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
	86 Indeno(1,2,3-cd)pyrene	276	13.161	13.152	(1.003)	545	0.00811	8.11
*	87 Dibenz(ah)anthracene-d14	292	13.127	13.123	(1.000)	21223	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.127	13.123	(1.133)	21223	0.59174	592
	89 Dibenz(a,h)anthracene	278	13.177	13.169	(1.004)	160	0.00315	3.15
*	90 Benzo(ghi)perylene-d12	288	13.477	13.469	(1.000)	20103	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.477	13.469	(1.164)	20103	0.56567	566
	92 Benzo(g,h,i)perylene	276	13.511	13.502	(1.002)	1121	0.02054	20.5

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
H - Operator selected an alternate compound hit.

Data File: /chem/gcms/mp.i/P080311.b/mk2h22ac2.d
Report Date: 12-Aug-2011 12:51

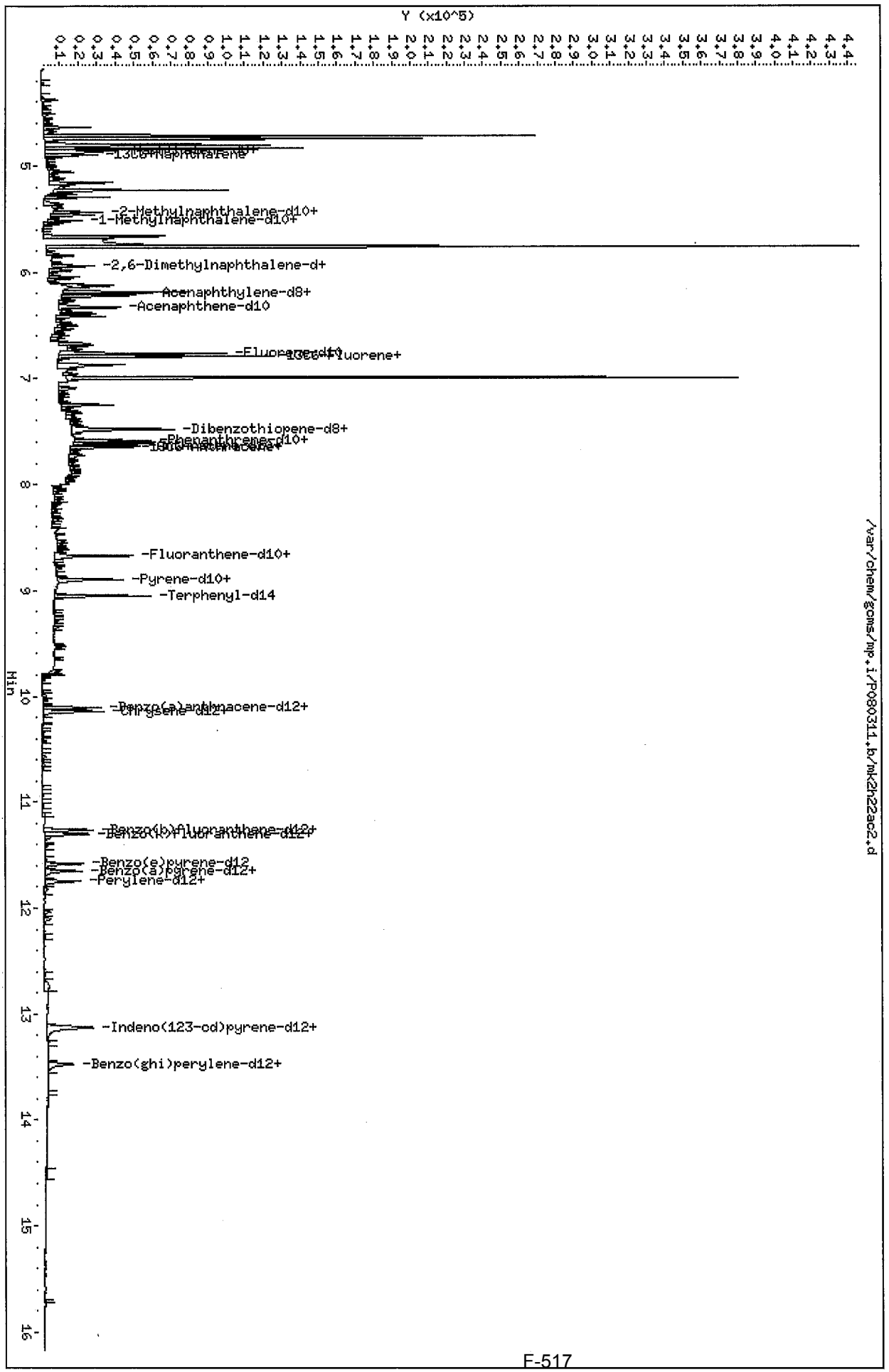
TestAmerica Knoxville

RECOVERY REPORT

Client Name: ITSBUR
Client SDG: P080311
Sample Matrix: GAS
Fraction: SV
Lab Smp Id: MK2H22AC
Level: LOW
Operator: 11211
Data Type: MS DATA
SampleType: D1:5
SpikeList File: icv.spk
Quant Type: ISTD
Sublist File: pah.sub
Method File: /var/chem/gcms/mp.i/P080311.b/SIMPAH3.m
Misc Info: P080311,SIMPAH3

SURROGATE COMPOUND	CONC ADDED ng/sample	CONC RECOVERED ng/sample	% RECOVERED	LIMITS	
$ 2 Naphthalene-d8(SS)	500	388	77.70	30-120	
$ 222 13C6-Naphthalene	~~500~~	~~0.00~~	*	50-150	
$ 11 2-Methylnaphthalen	500	369	73.79	30-120	
$ 14 1-Methylnaphthalen	500	326	65.21	30-120	
$ 18 2,6-Dimethylnaph-d	500	421	84.27	30-120	
$ 21 Acenaphthylene-d8(	500	498	99.54	30-120	
$ 26 Fluorene-d10	1000	1210	121.41*	~~30-120~~	50-150
$ 28 13C6-Fluorene	1000	1050	104.81	~~30-120~~	
$ 35 Dibenzothiopene-d8	500	467	93.41	30-120	
$ 42 Phenanthrene-d10(S	500	412	82.34	30-120	
$ 45 Anthracene-d10(SS)	500	487	97.48	30-120	
$ 47 13C6-Anthracene	500	489	97.78	30-120	
$ 54 Fluoranthene-d10(S	500	518	103.62	30-120	
$ 58 Terphenyl-d14	1000	1240	124.21*	~~30-120~~	50-150
$ 61 Benzo(a)anthracene	500	791	158.27*	30-120	
$ 64 Chrysene-d12(SS)	500	560	111.96	30-120	
$ 71 Benzo(b)fluoranthe	500	573	114.62	30-120	
$ 74 Benzo(k)fluoranthe	500	464	92.79	30-120	
$ 79 Benzo(a)pyrene-d12	500	547	109.37	30-120	
$ 82 Perylene-d12(SS)	500	513	102.51	30-120	
$ 85 Indeno(123-cd)pyre	500	600	119.99	30-120	
$ 88 Dibenz(ah)anthrace	500	592	118.35	30-120	
$ 91 Benzo(ghi)perylene	500	566	113.13	30-120	

TNW 8.12.11


Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d
Date : 03-AUG-2011 20:31
Client ID:
Sample Info: MK2H22AC,,3,,D1:5
Purge Volume: 1.0
Column phase: Varian: 5MS
Instrument: mp.i
Operator: 11211
Column diameter: 0.25
/var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d
Y (x10^5)
Min
-13C6-Naphthalene
-2-Methylnaphthalene-d10+
-1-Methylnaphthalene-d10+
-2,6-Dimethylnaphthalene-d+
Acenaphthylene-d8+
-Acenaphthene-d10
-Fluorene-d10
-13C6-Fluorene+
-Dibenzothiopene-d8+
-Phenanthrene-d10+
-Fluoranthene-d10+
-Pyrene-d10+
-Terphenyl-d14
-Benzo(a)anthracene-d12+
-Chrysene-d12+
-Benzo(b)fluoranthene-d12+
-Benzo(k)fluoranthene-d12+
-Benzo(e)pyrene-d12
-Benzo(a)pyrene-d12+
-Perylene-d12+
-Indeno(123-cd)pyrene-d12+
-Benzo(ghi)perylene-d12+

Data File: /var/chem/goms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

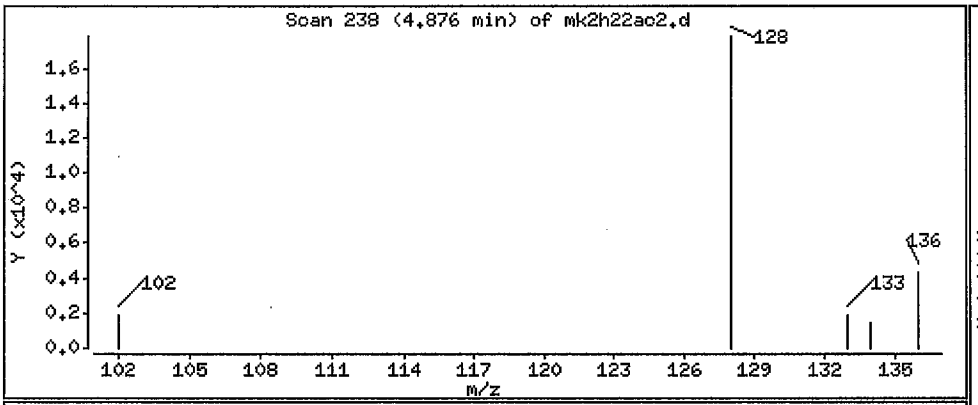
Operator: 11211

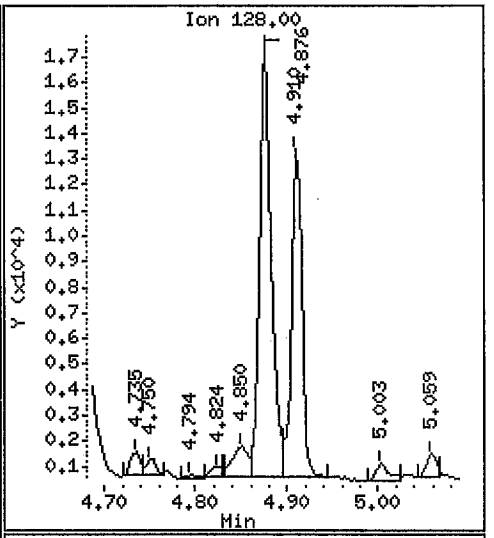
Column phase: Varian: 5MS

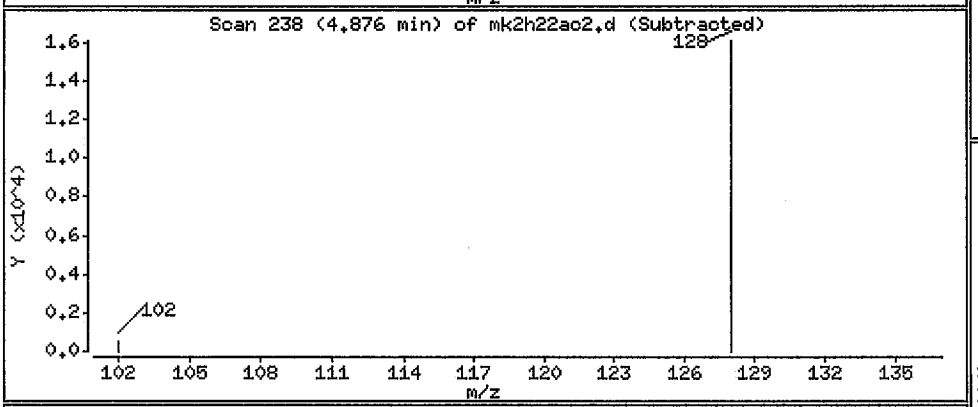
Column diameter: 0.25

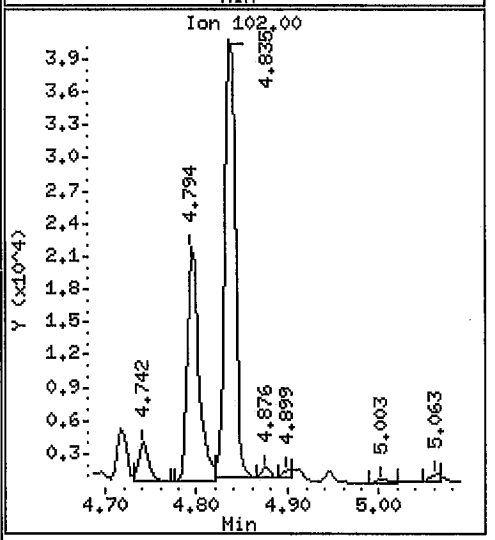
3 Naphthalene

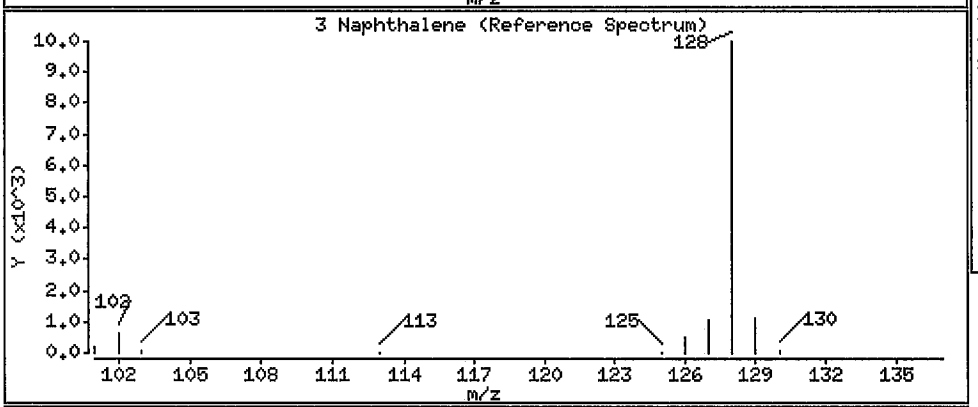
Concentration: 1010 ng/sample

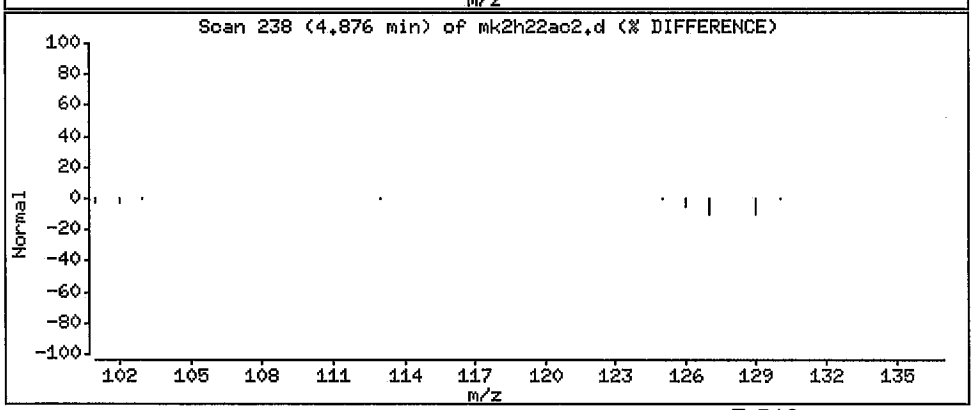












Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

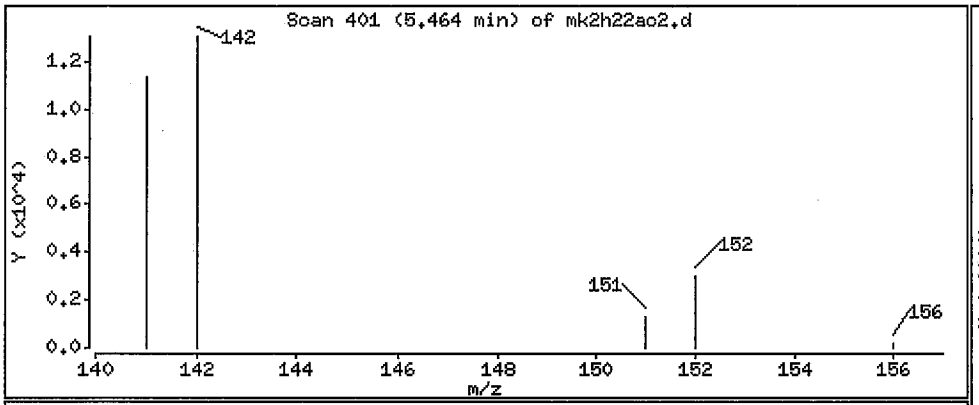
Operator: 11211

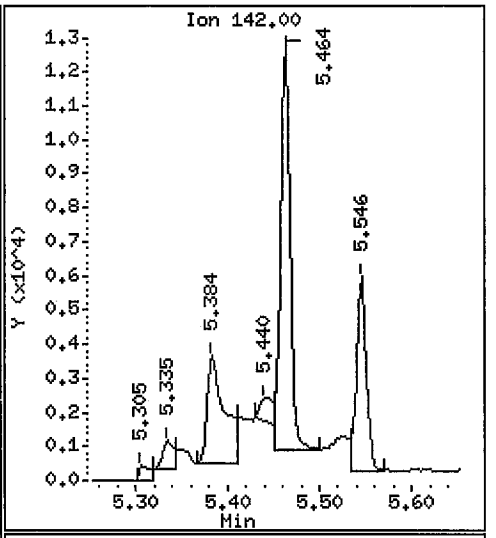
Column phase: Varian: 5MS

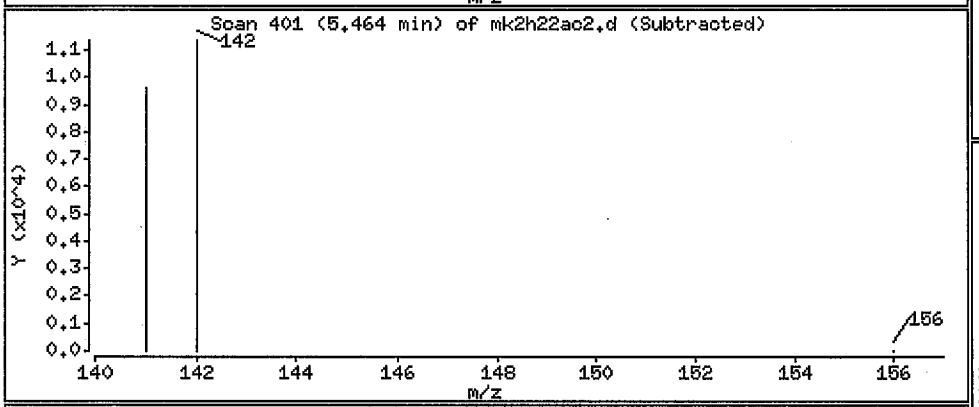
Column diameter: 0.25

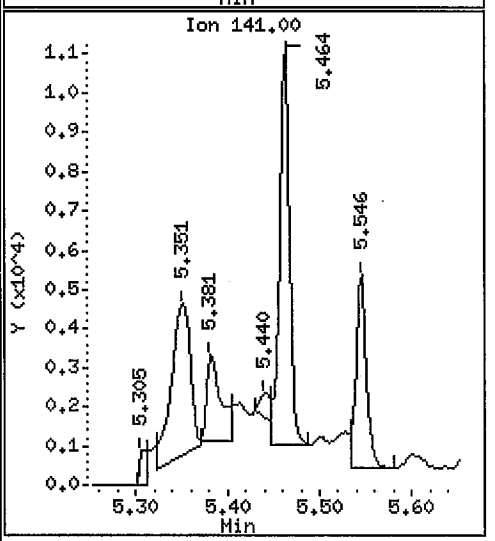
12 2-Methylnaphthalene

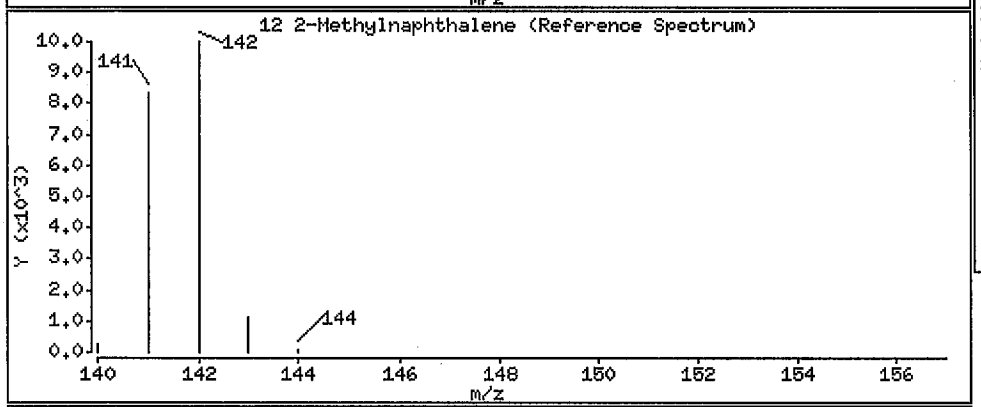
Concentration: 983 ng/sample

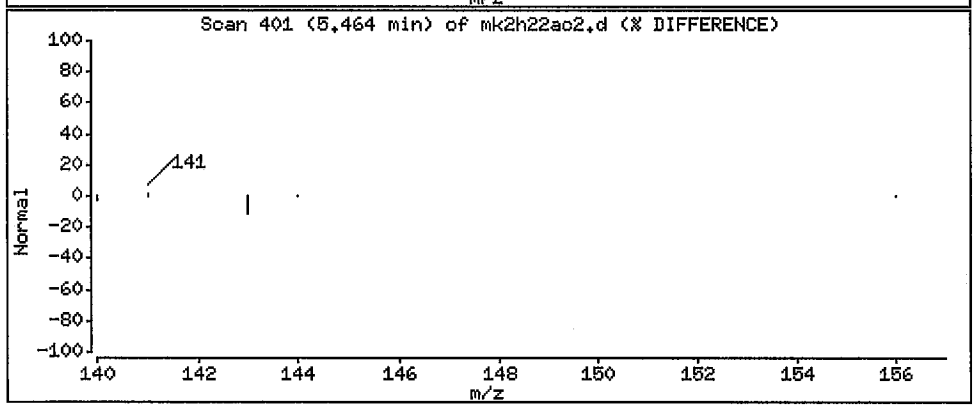












Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

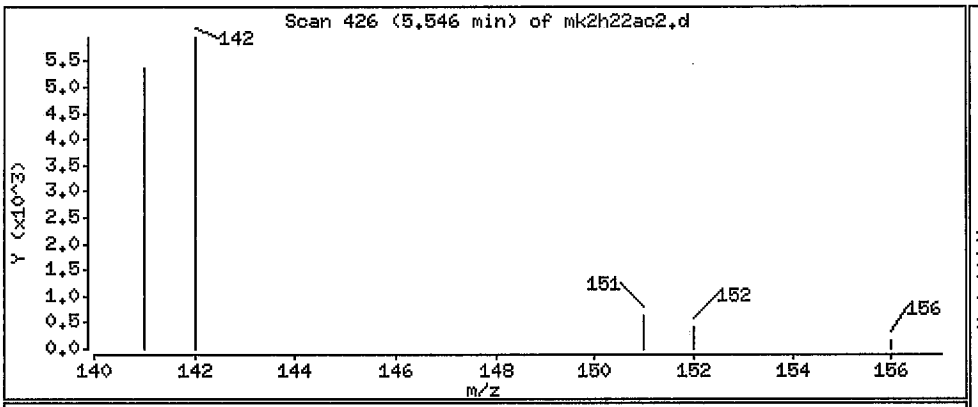
Operator: 11211

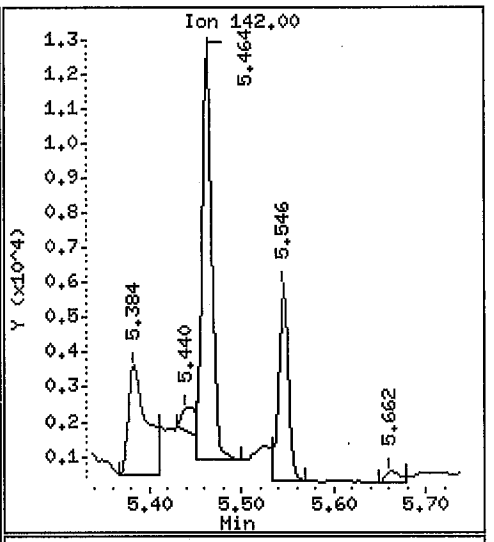
Column phase: Varian: 5MS

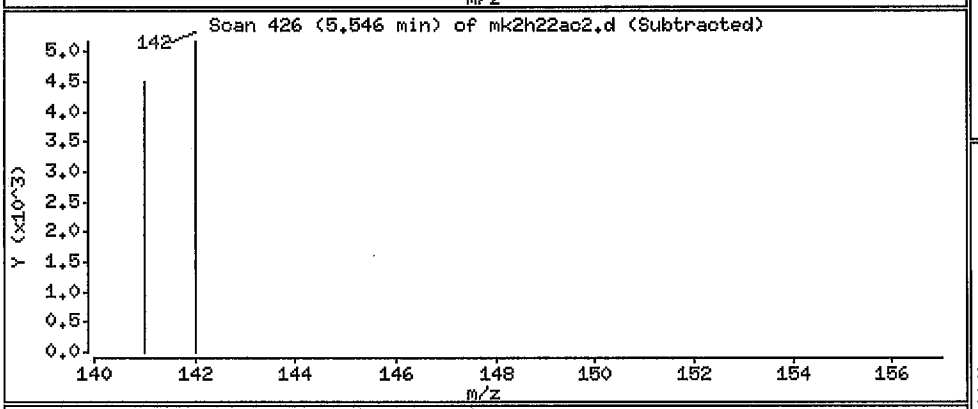
Column diameter: 0.25

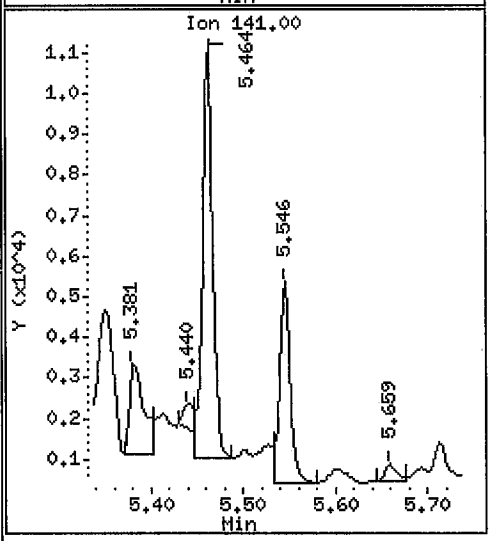
15 1-Methylnaphthalene

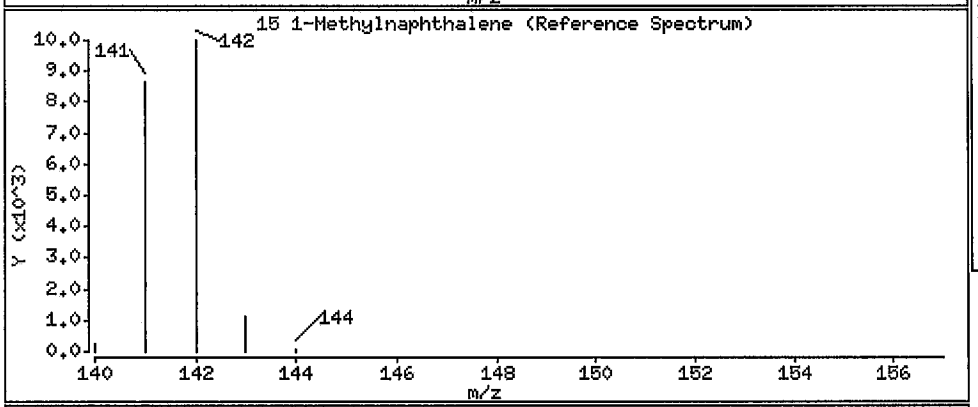
Concentration: 545 ng/sample

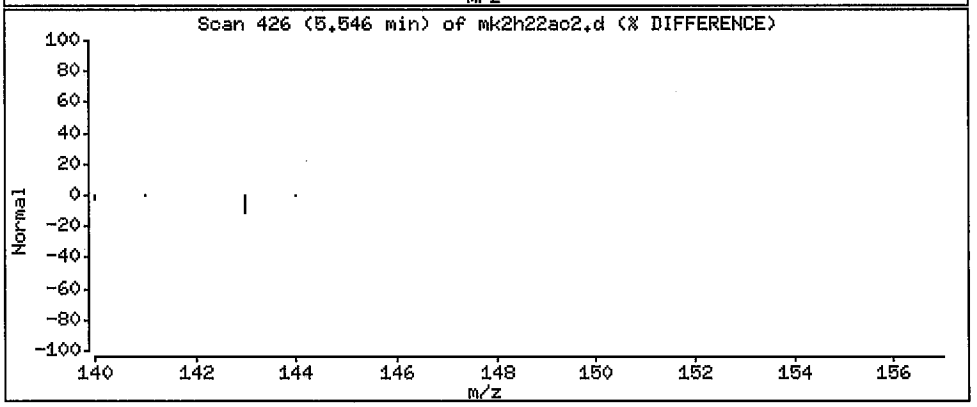












Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

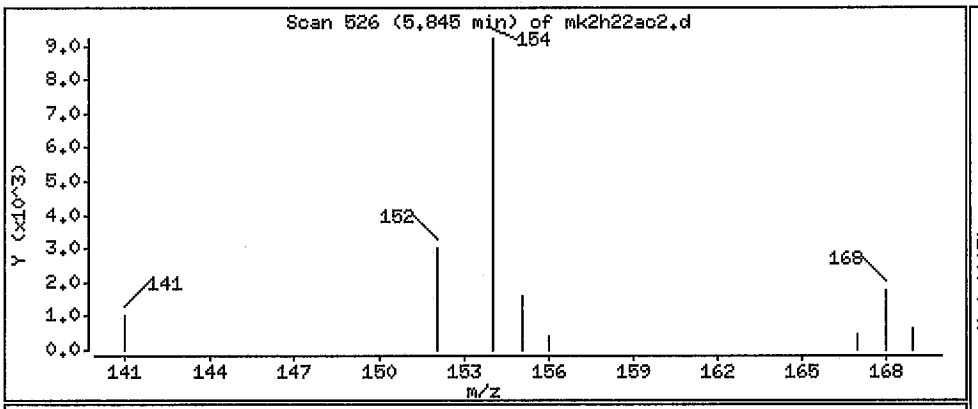
Operator: 11211

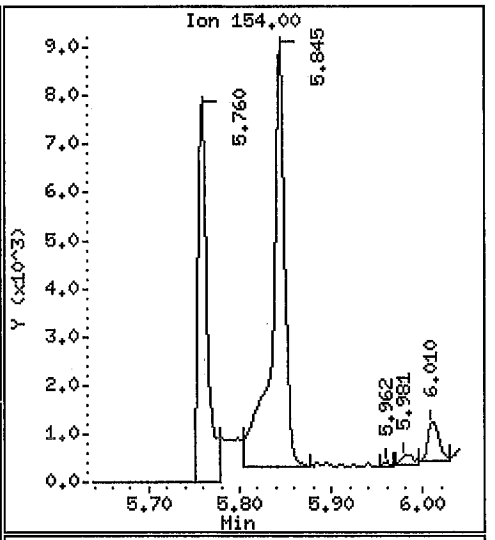
Column phase: Varian: 5MS

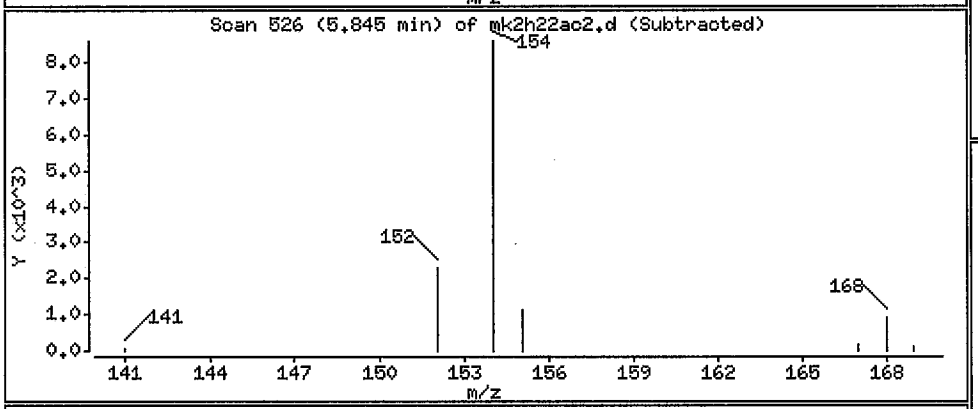
Column diameter: 0.25

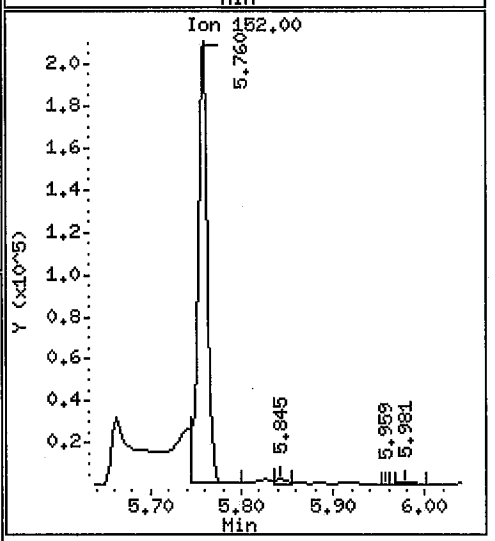
16 Biphenyl

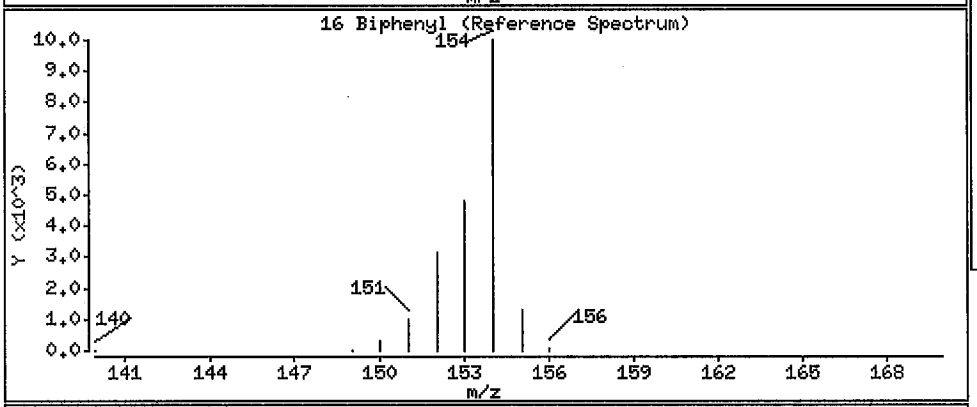
Concentration: 783 ng/sample

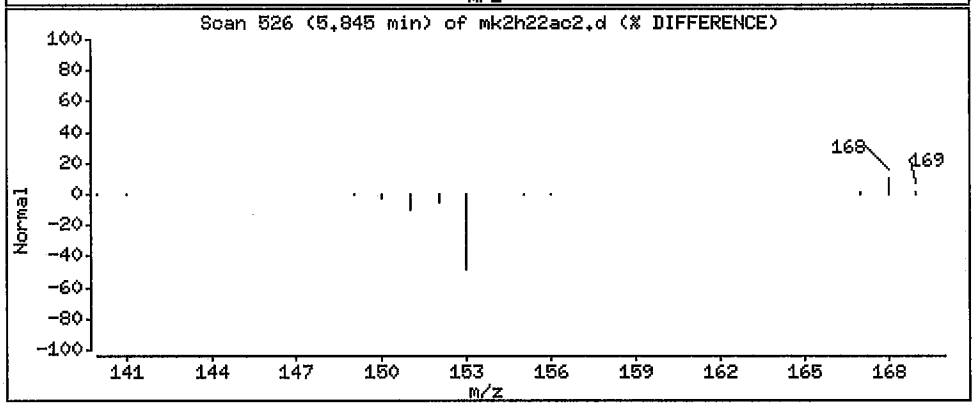












Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

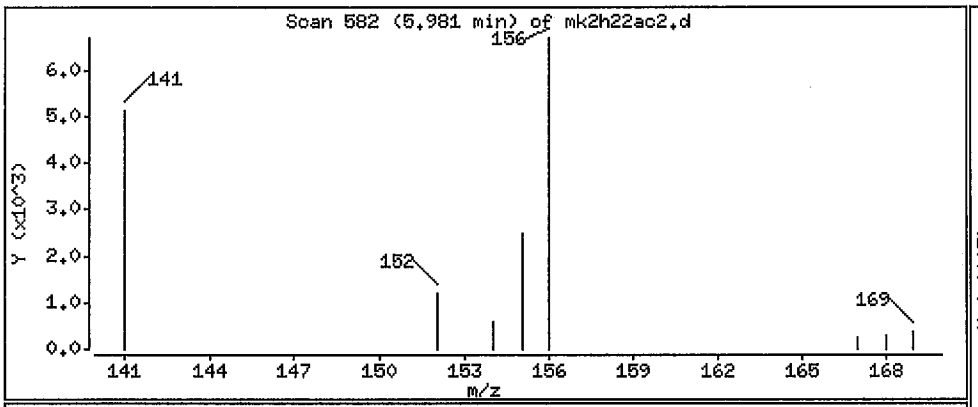
Operator: 11211

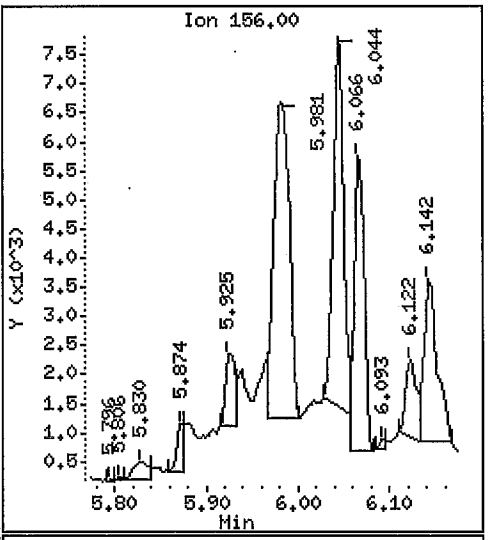
Column phase: Varian: 5MS

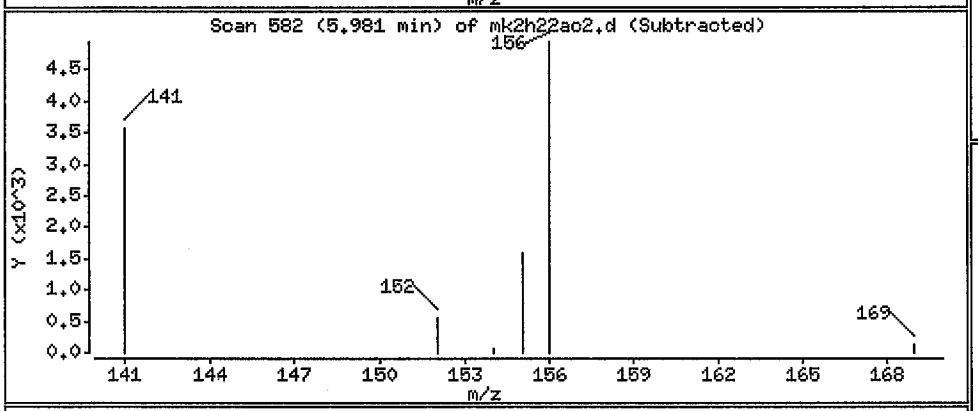
Column diameter: 0.25

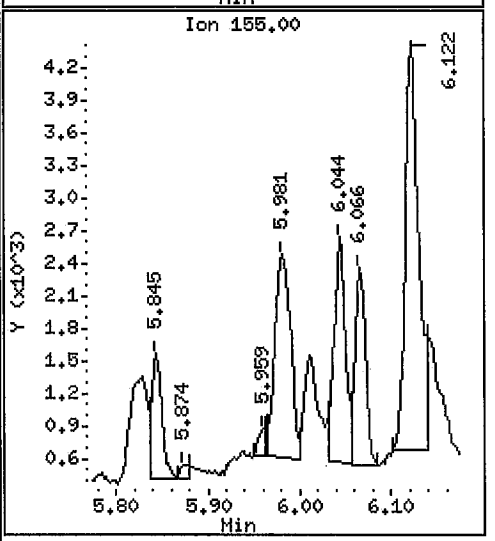
19 2,6 Dimethylnaphthalene

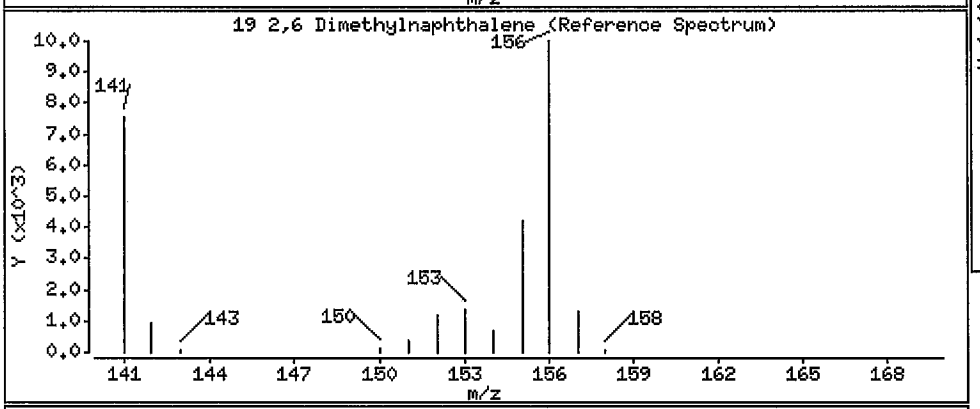
Concentration: 718 ng/sample

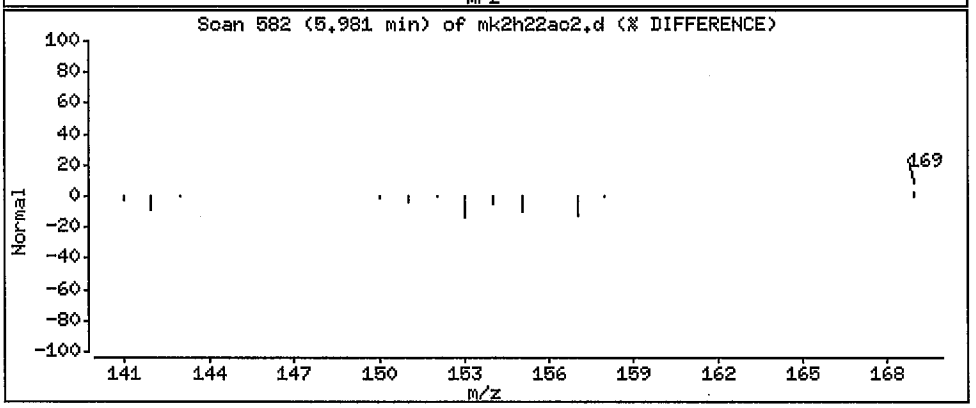












Data File: /var/chem/goms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

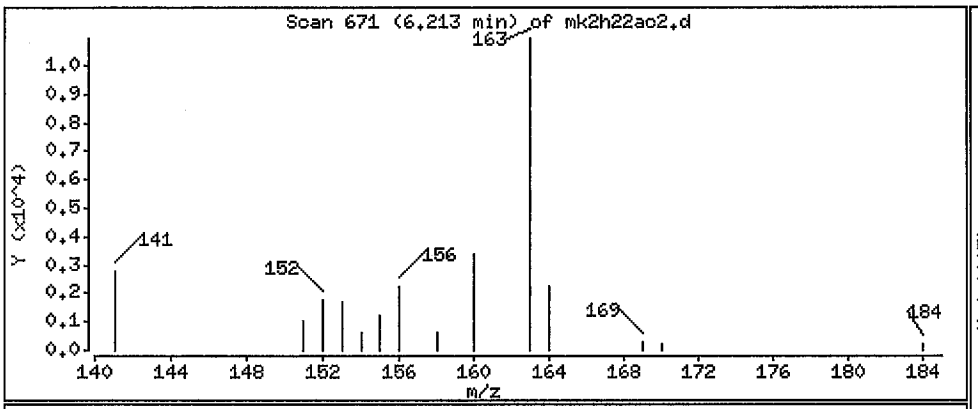
Operator: 11211

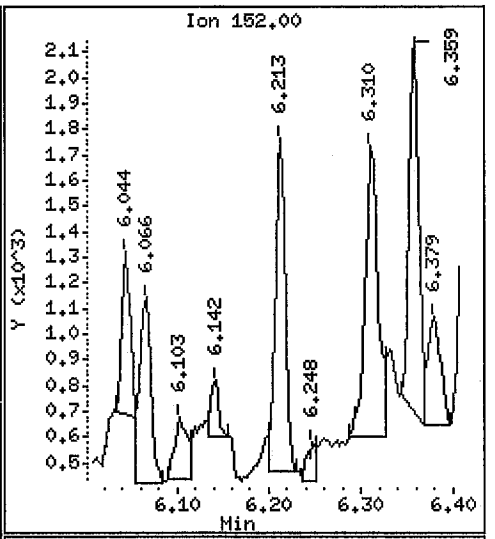
Column phase: Varian: 5MS

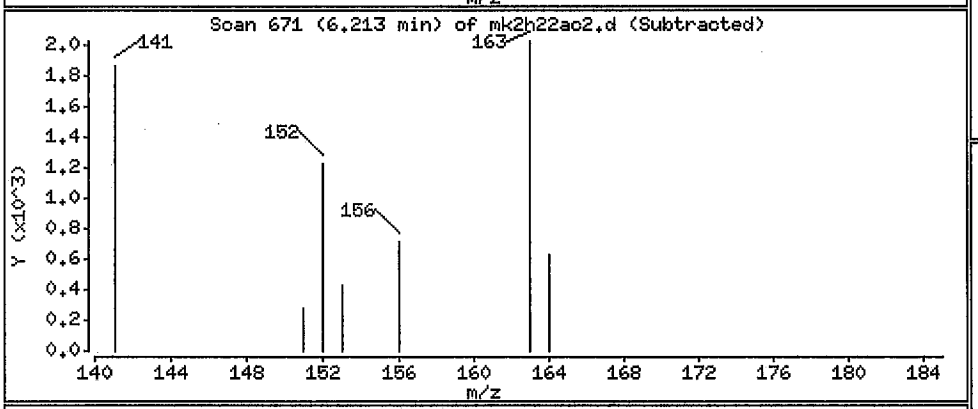
Column diameter: 0.25

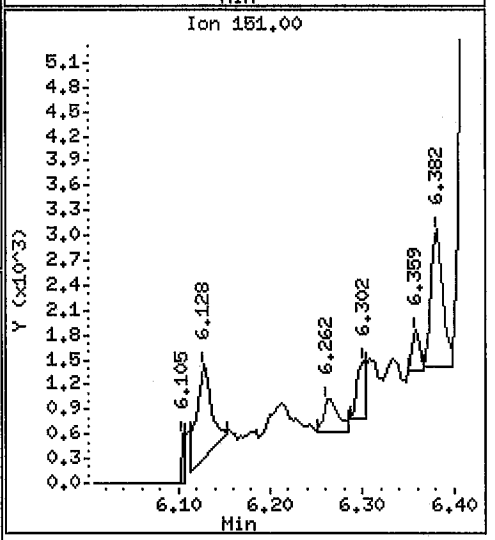
22 Acenaphthylene

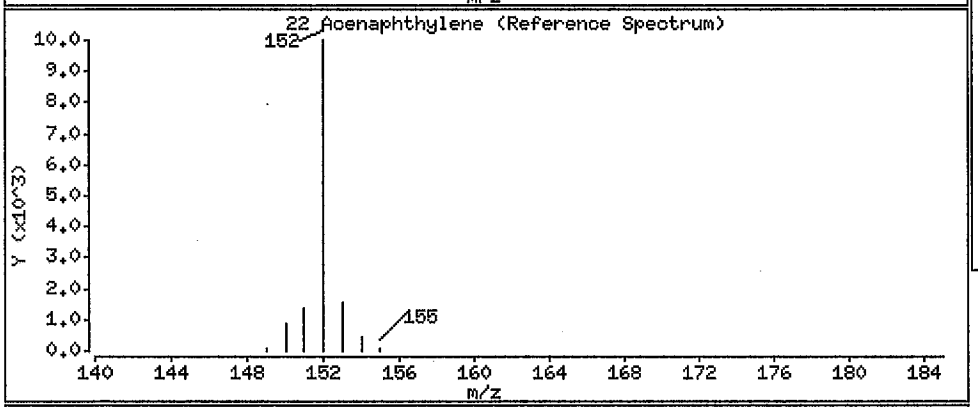
Concentration: 55.0 ng/sample

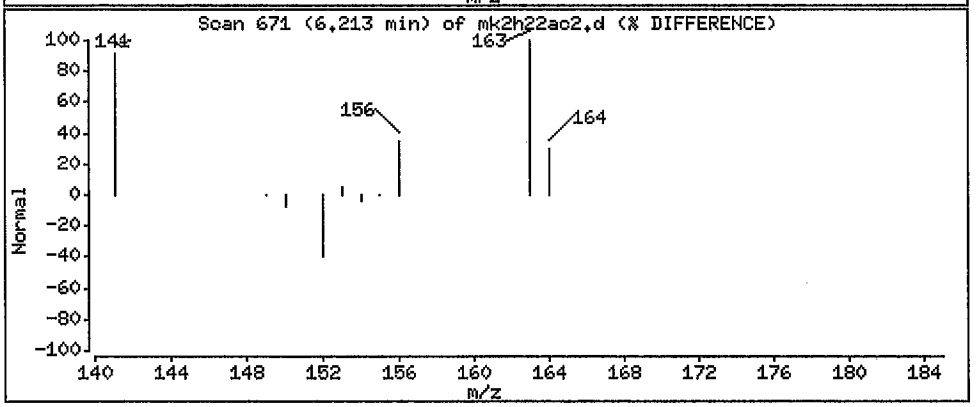












Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

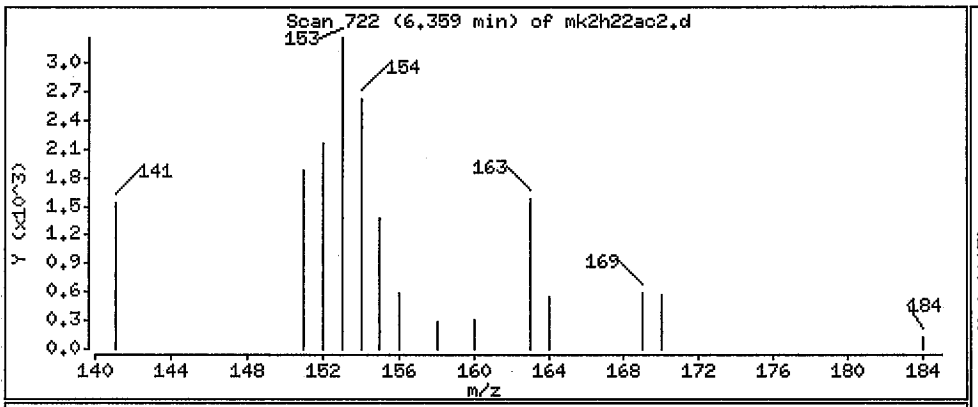
Operator: 11211

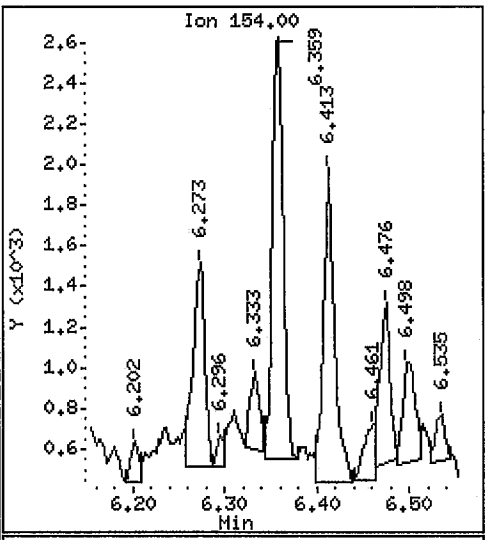
Column phase: Varian: 5MS

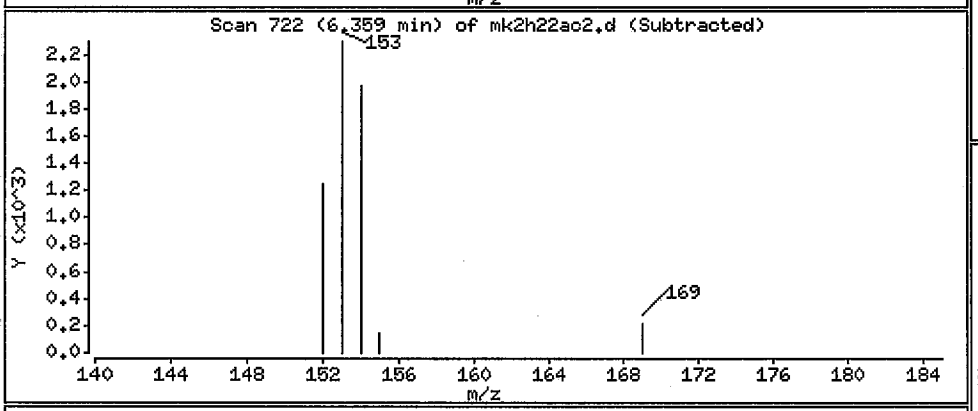
Column diameter: 0.25

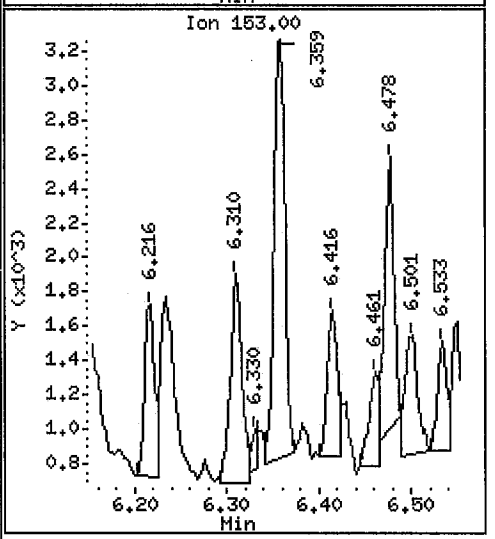
24 Acenaphthene

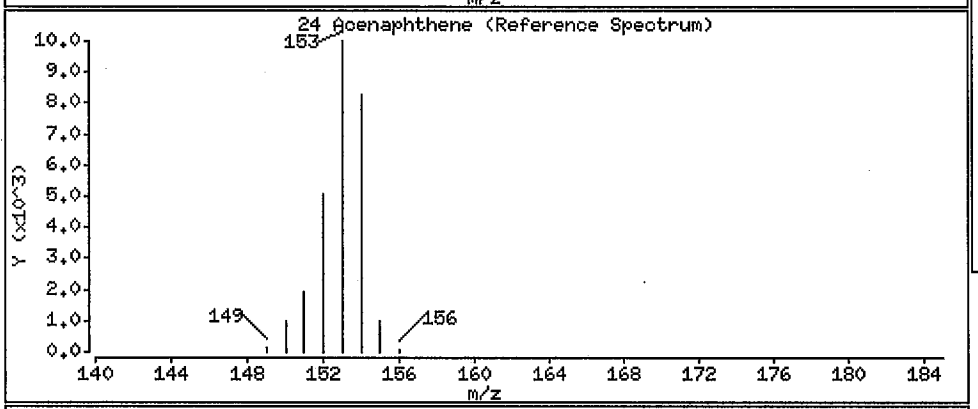
Concentration: 155 ng/sample

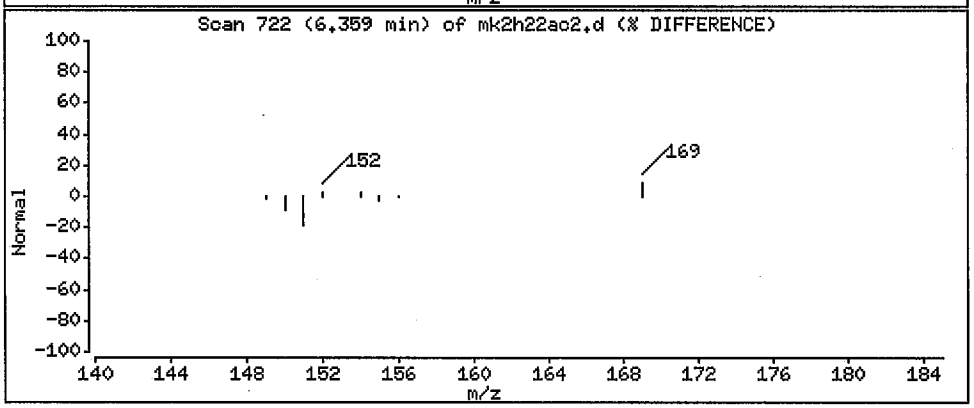












Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

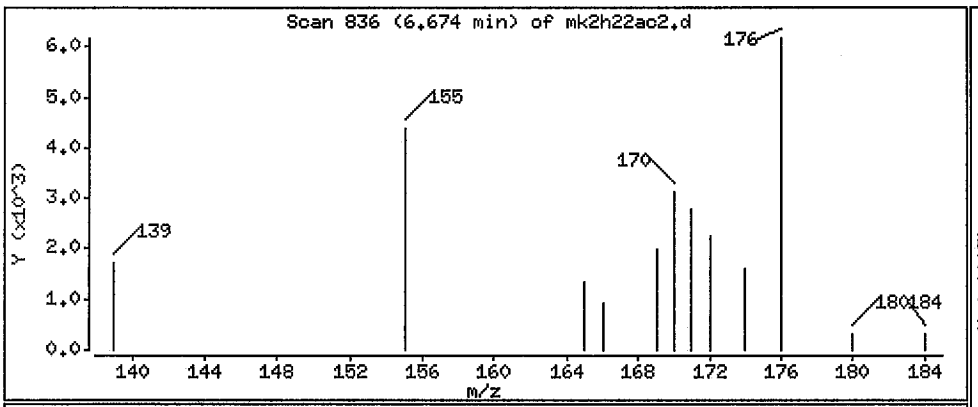
Operator: 11211

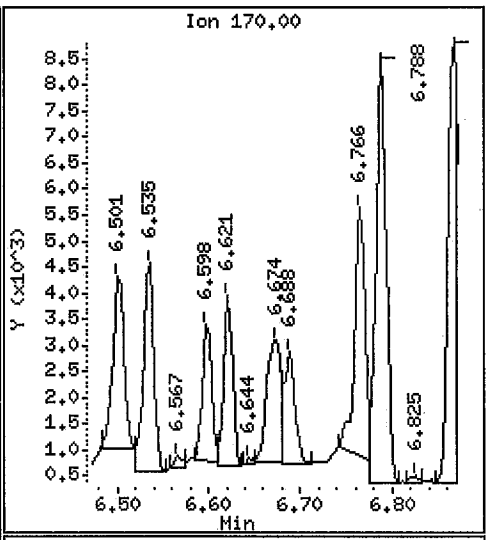
Column phase: Varian: 5MS

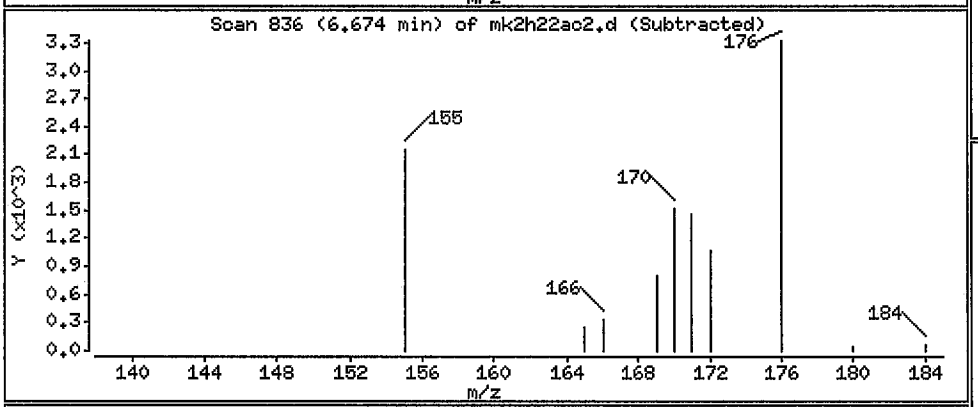
Column diameter: 0.25

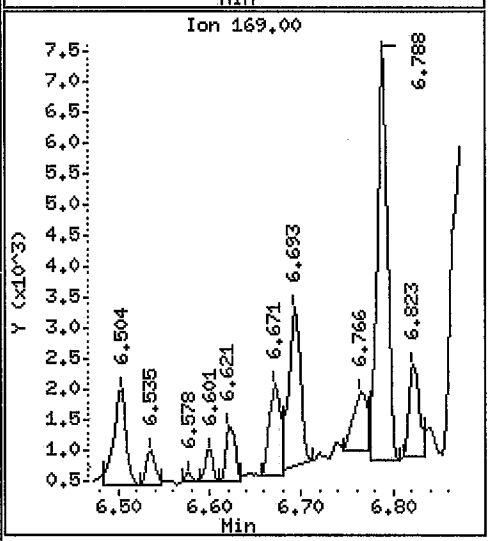
25 2,3,5 Trimethylnaphthalene

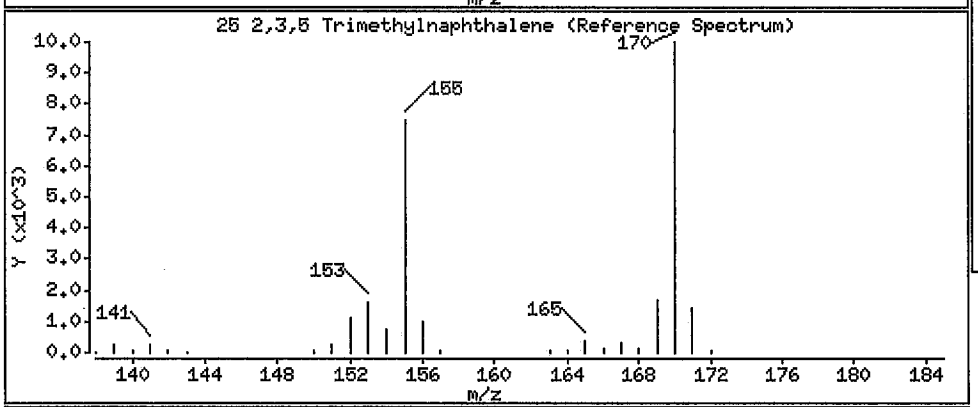
Concentration: 344 ng/sample

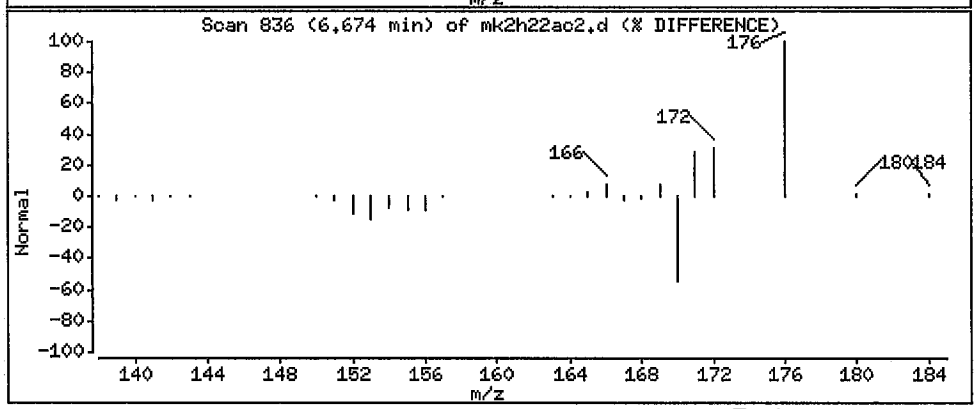












Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

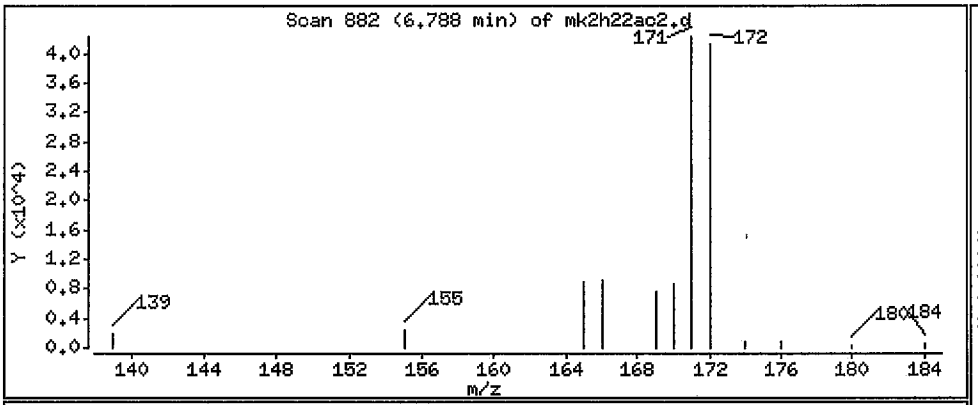
Operator: 11211

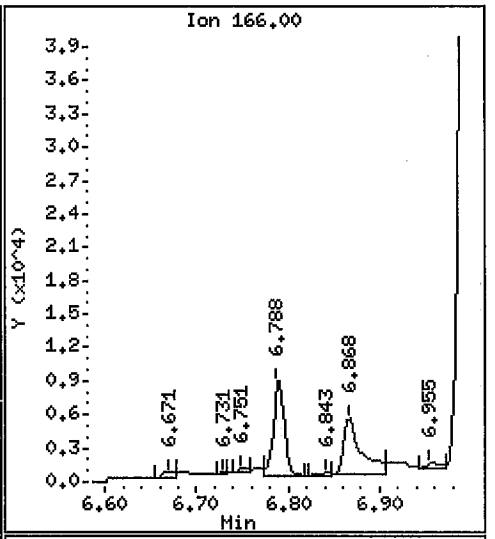
Column phase: Varian: 5MS

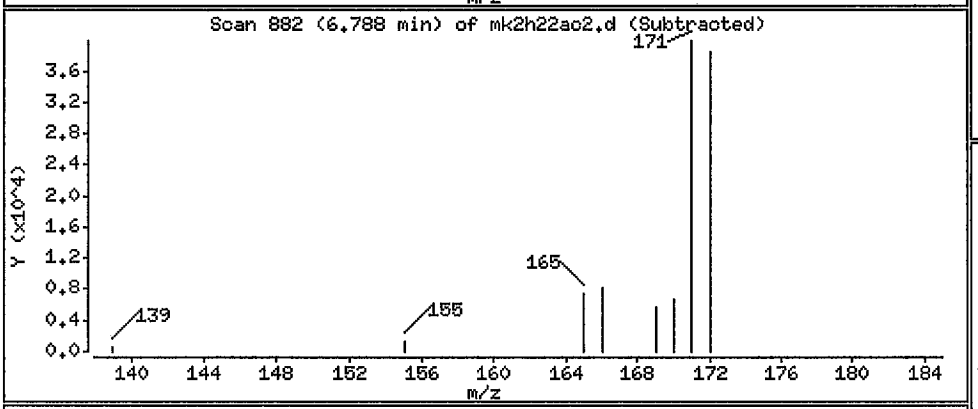
Column diameter: 0.25

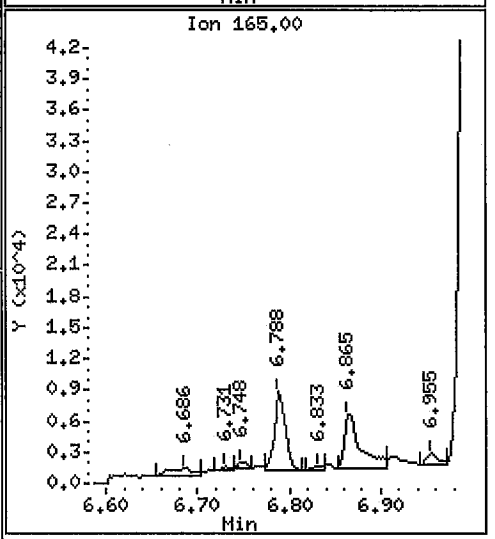
27 Fluorene

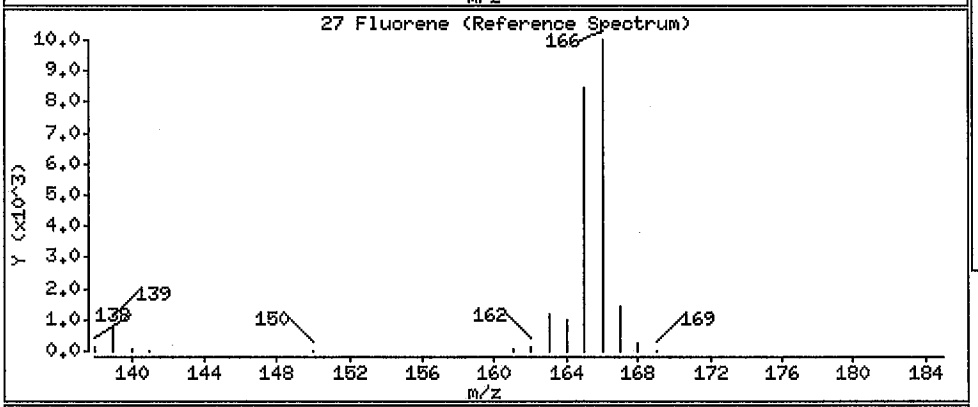
Concentration: 574 ng/sample

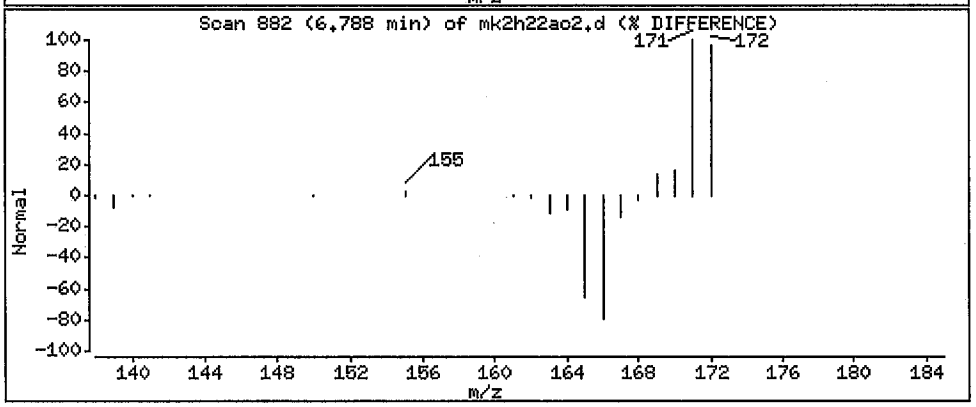












Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

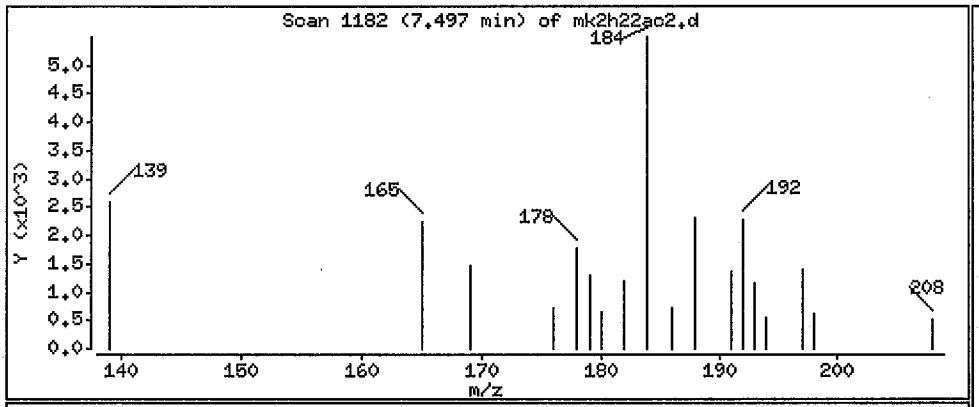
Operator: 11211

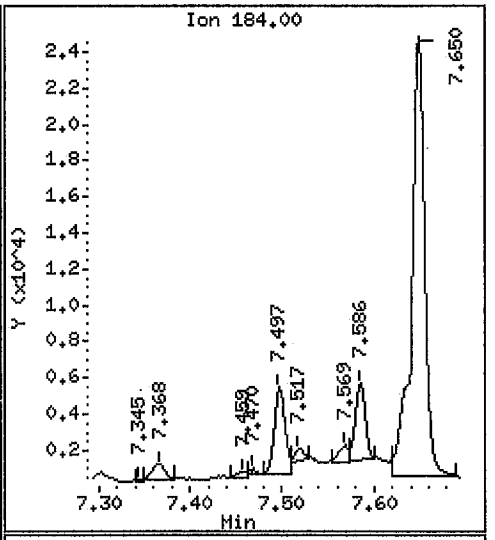
Column phase: Varian: 5MS

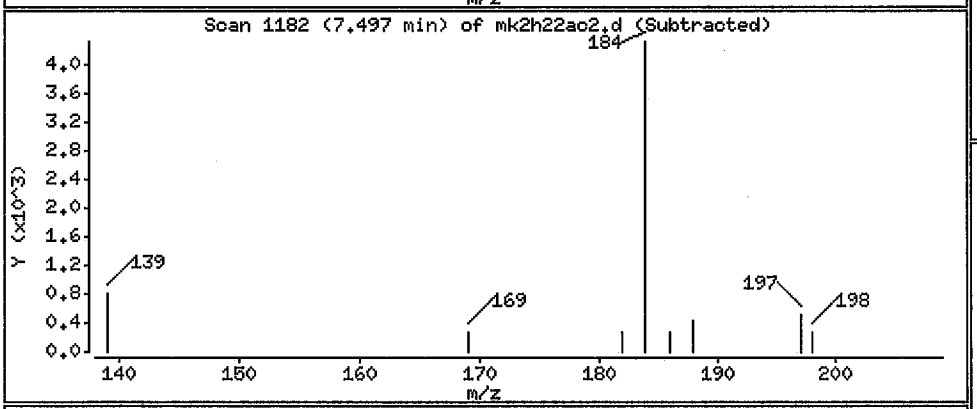
Column diameter: 0.25

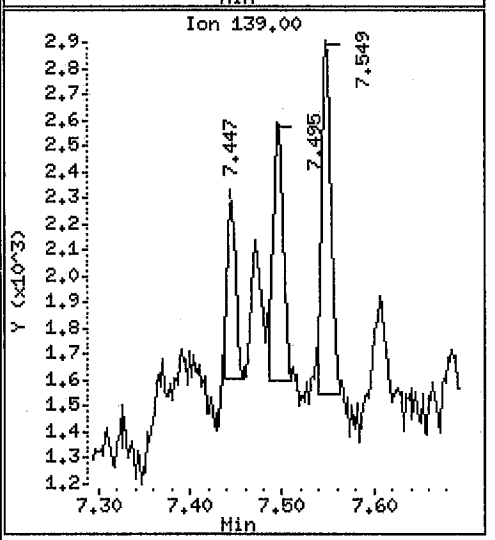
36 Dibenzothiophene

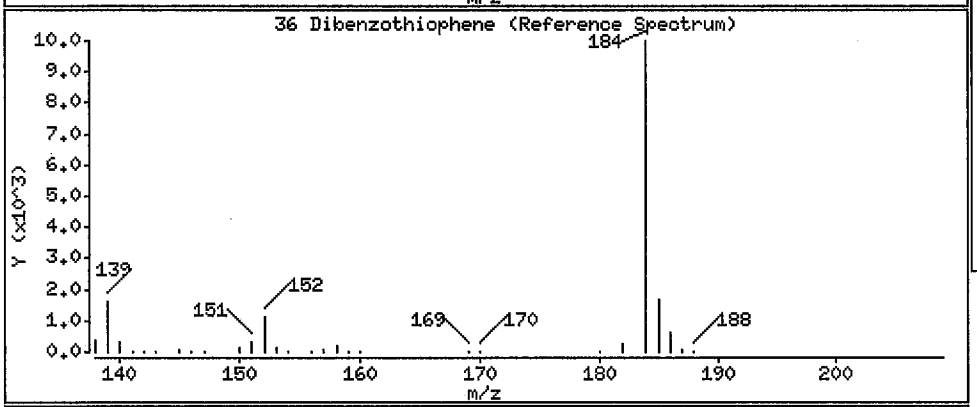
Concentration: 205 ng/sample

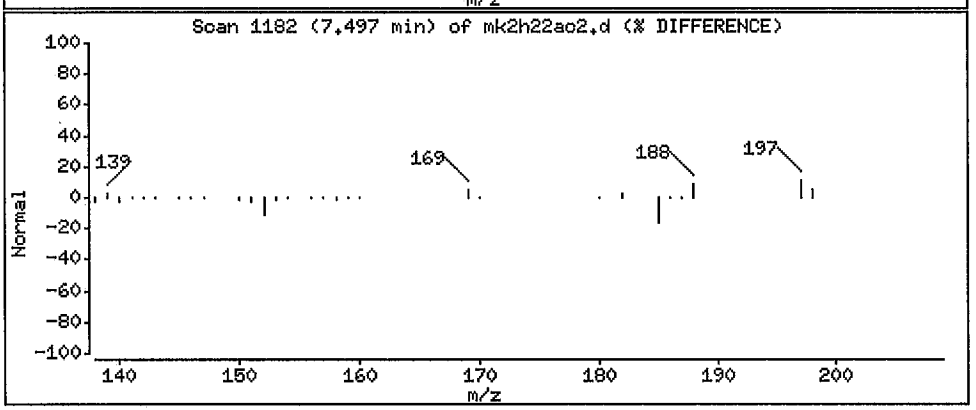












Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

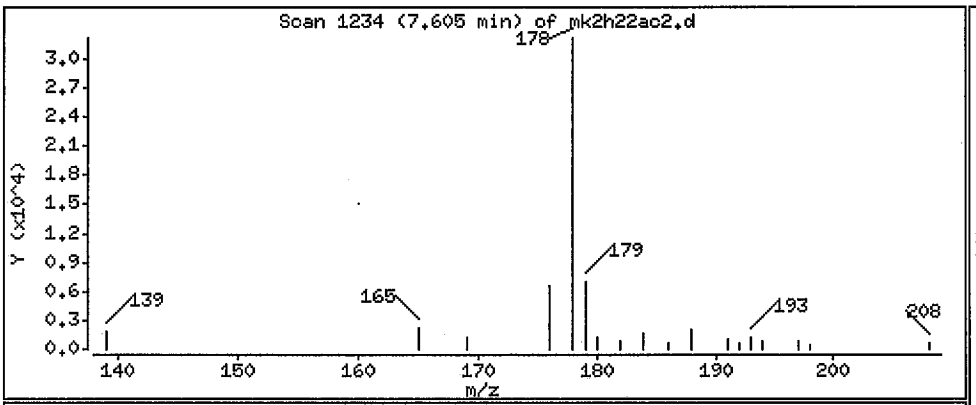
Operator: 11211

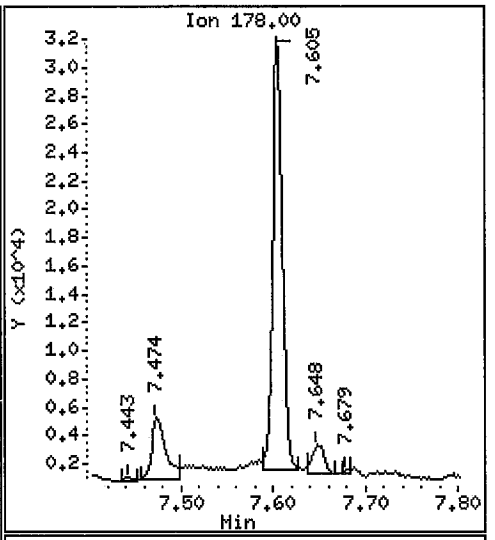
Column phase: Varian: 5MS

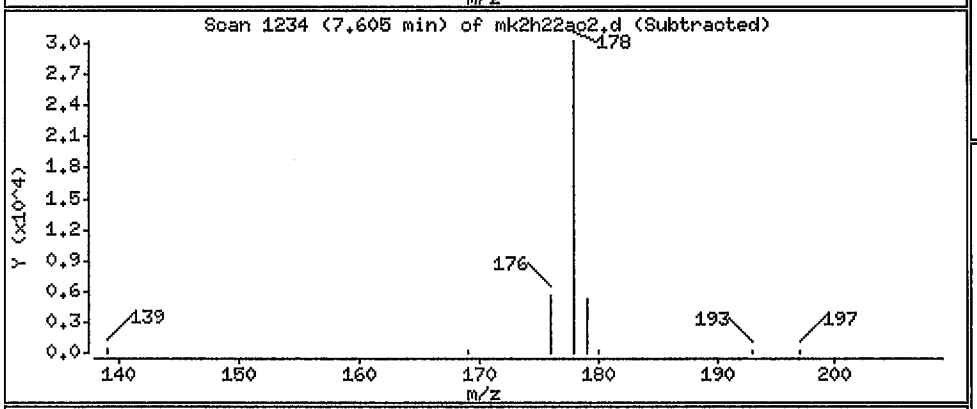
Column diameter: 0.25

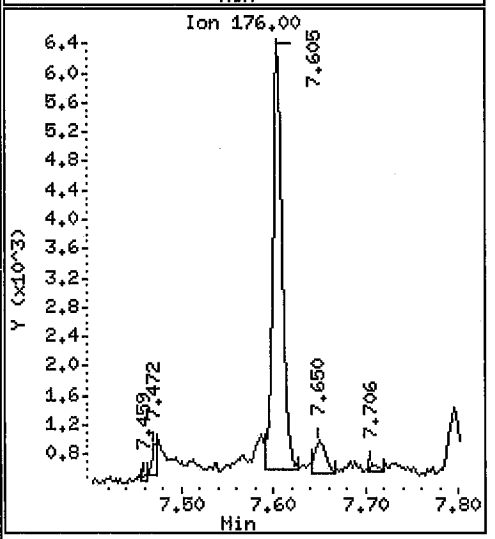
43 Phenanthrene

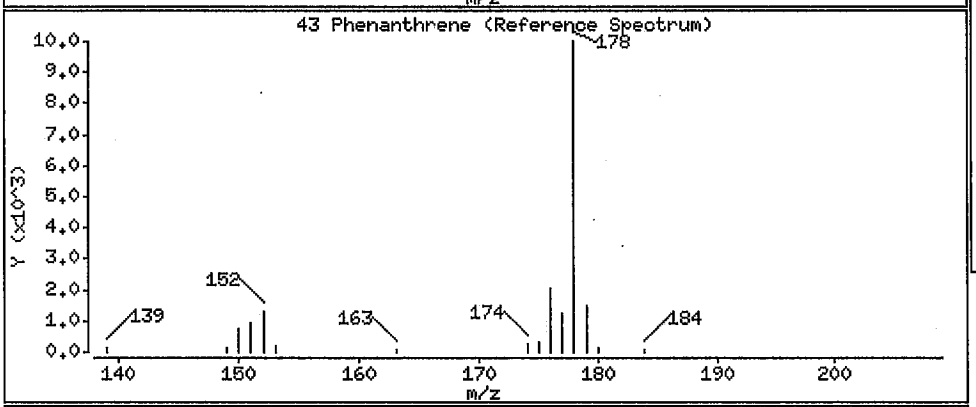
Concentration: 1440 ng/sample

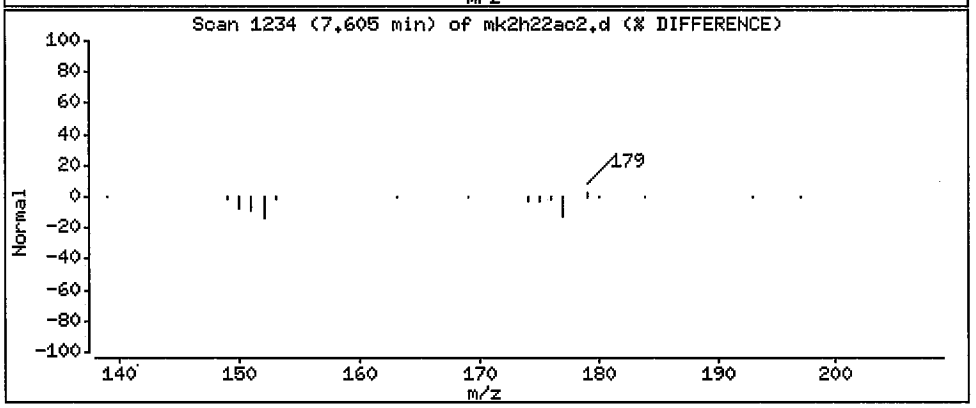












Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

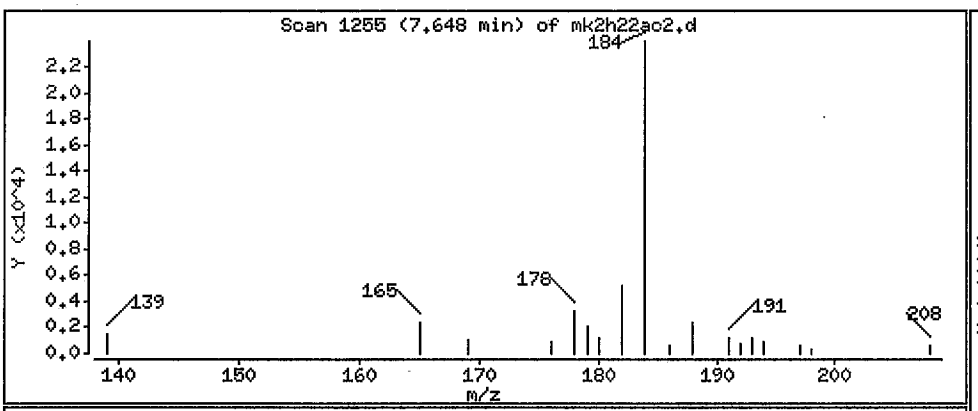
Operator: 11211

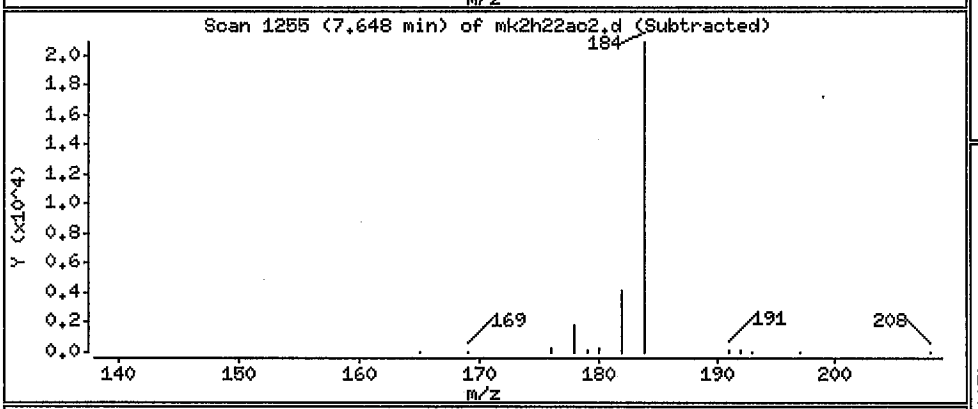
Column phase: Varian: 5MS

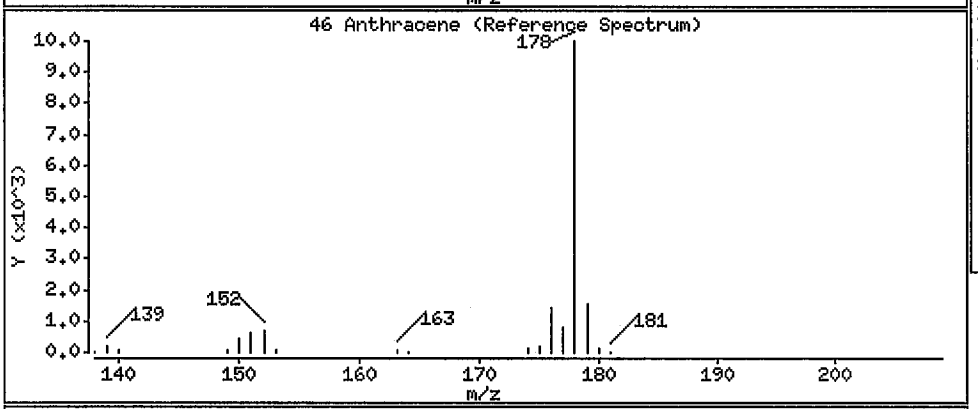
Column diameter: 0.25

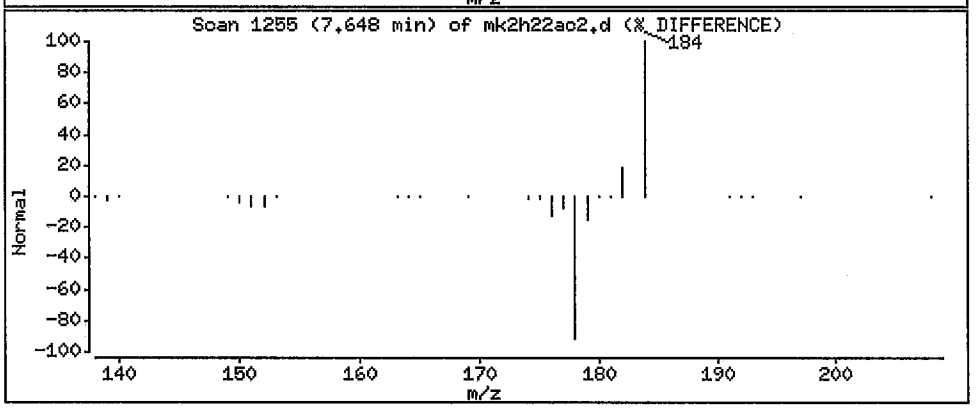
46 Anthracene

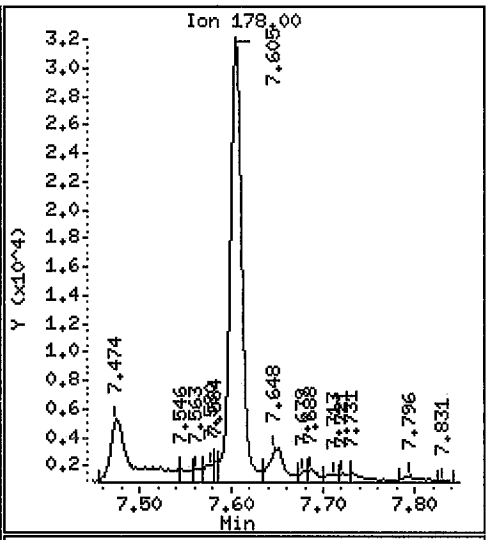
Concentration: 155 ng/sample

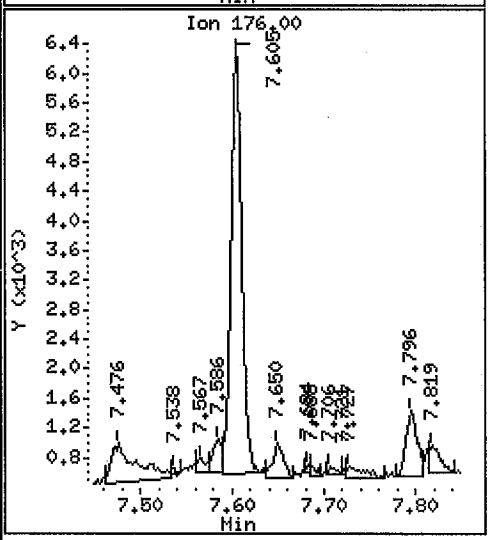












Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

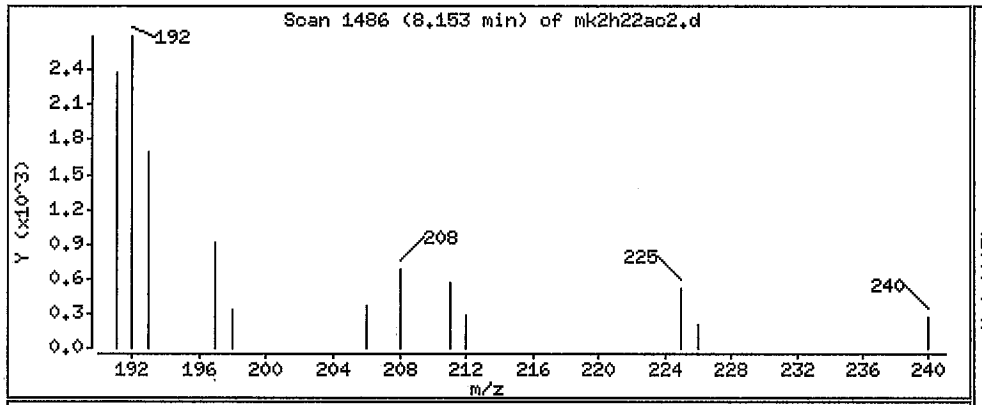
Operator: 11211

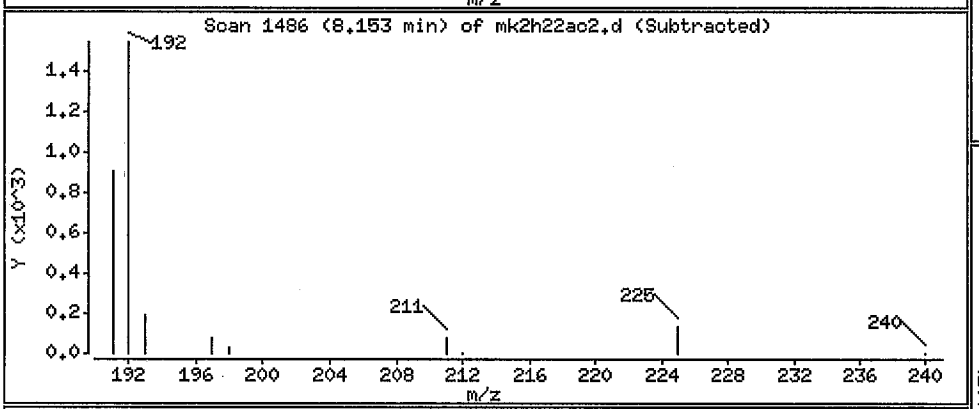
Column phase: Varian: 5MS

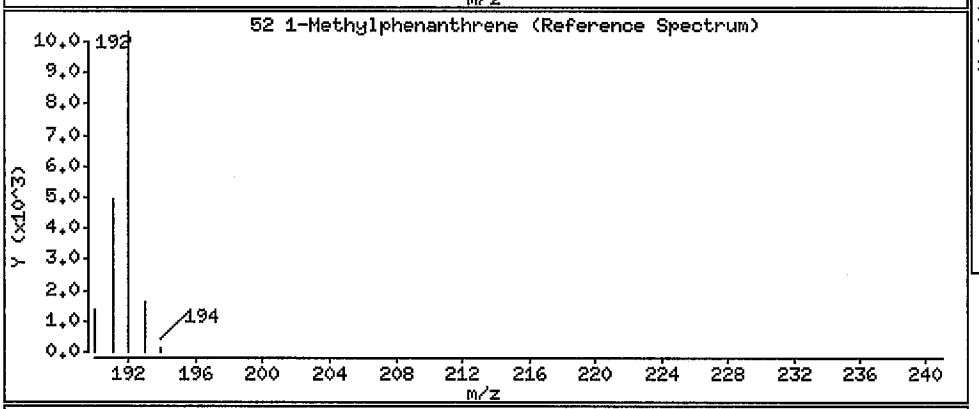
Column diameter: 0.25

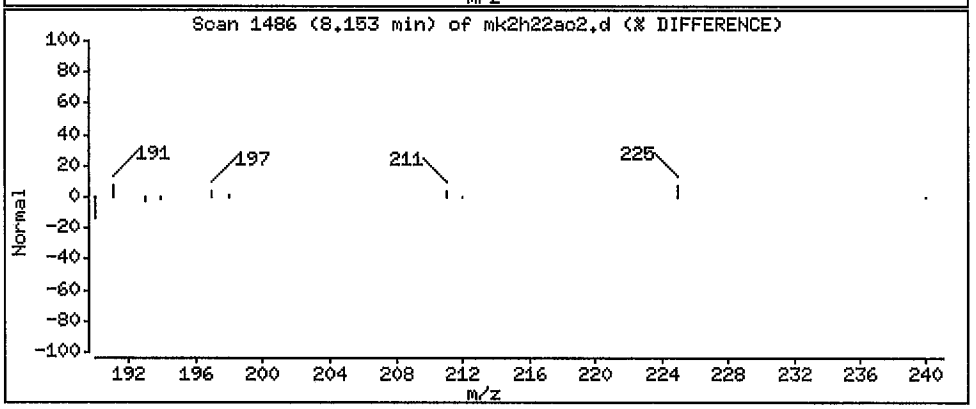
52 1-Methylphenanthrene

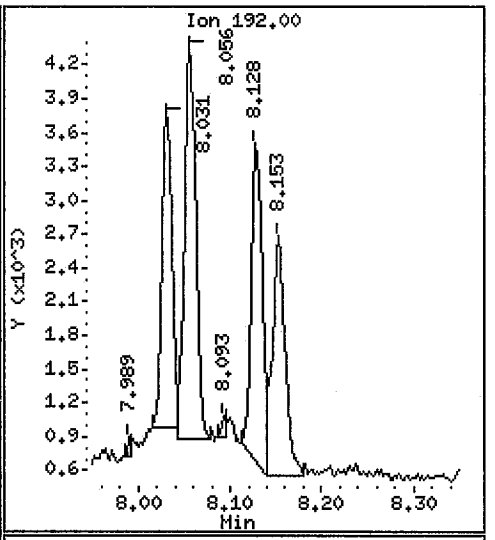
Concentration: 205 ng/sample

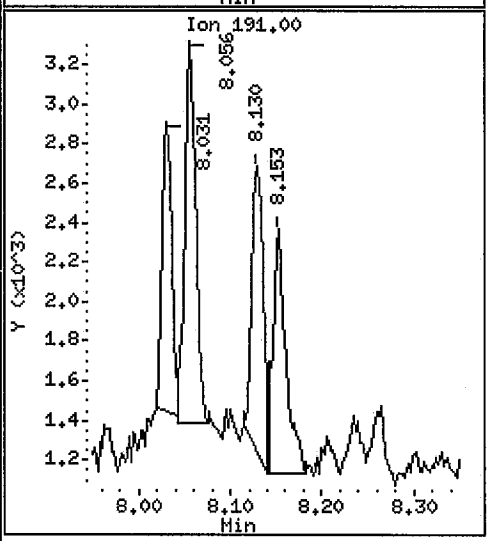












Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

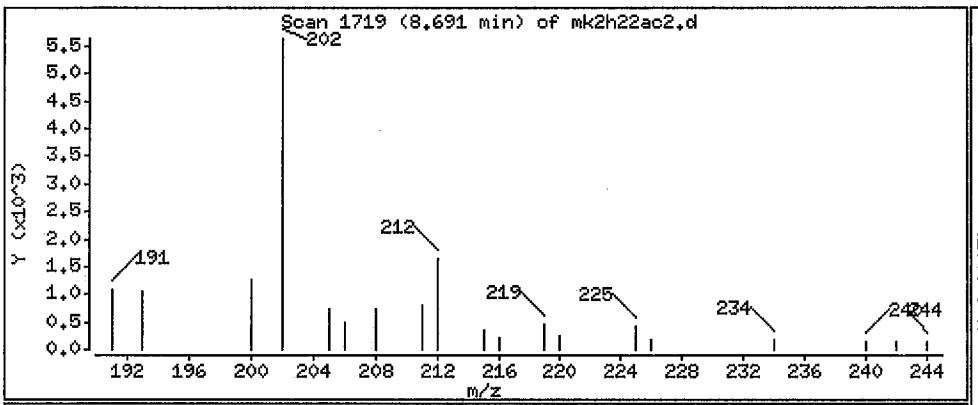
Operator: 11211

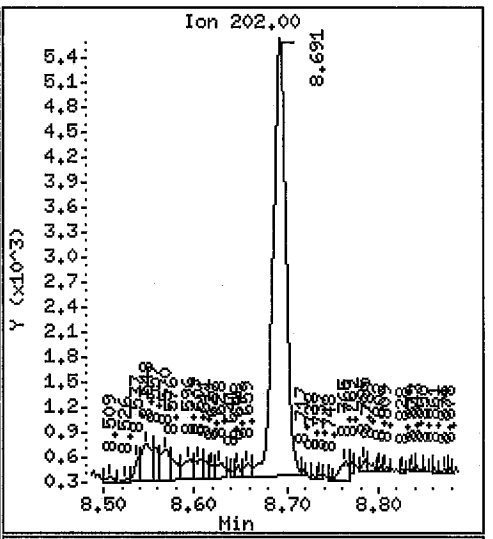
Column phase: Varian: 5MS

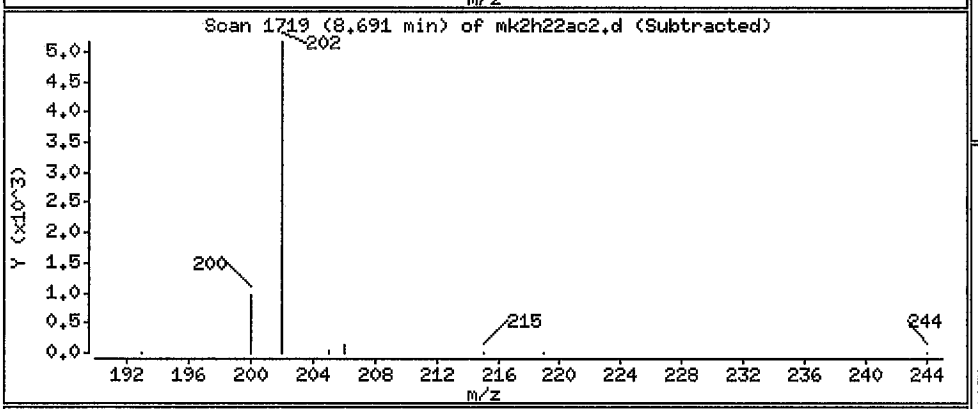
Column diameter: 0.25

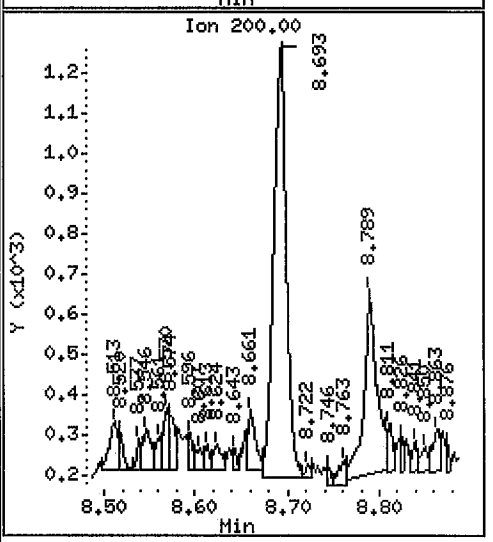
55 Fluoranthene

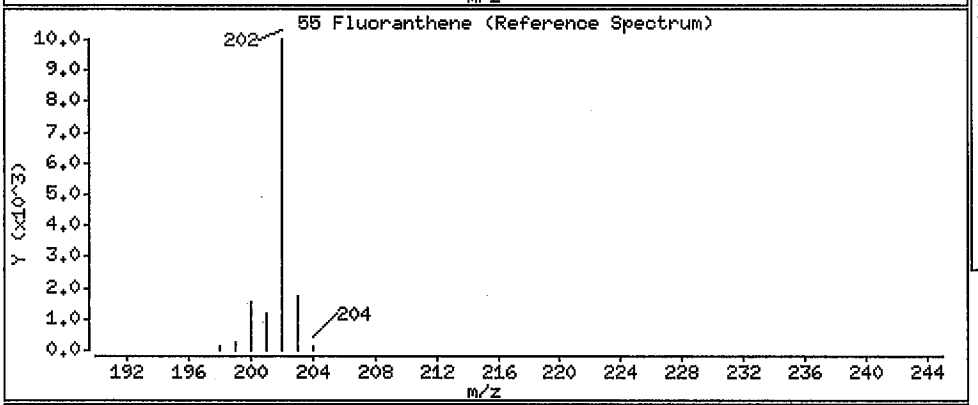
Concentration: 228 ng/sample

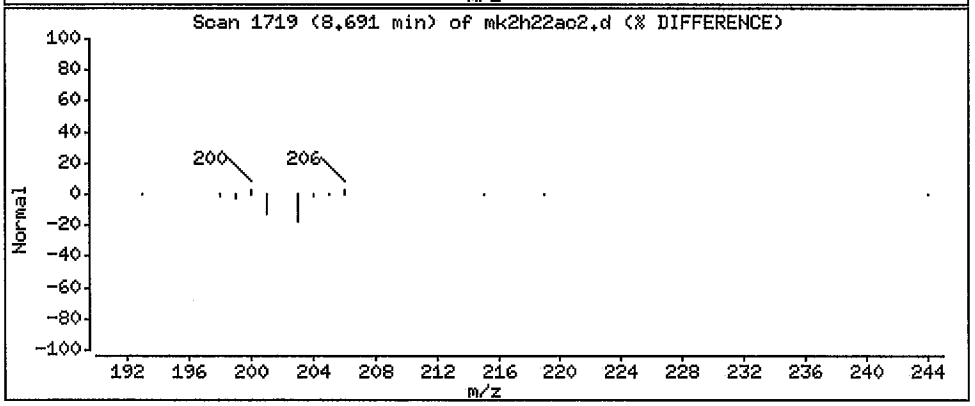












Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

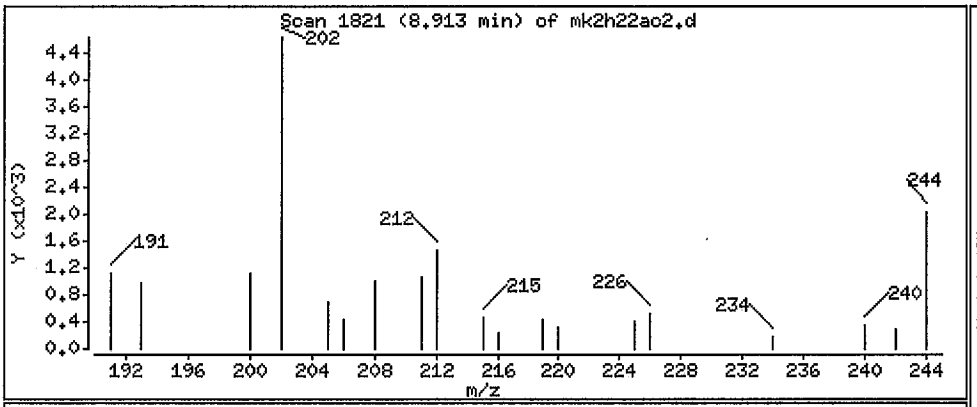
Operator: 11211

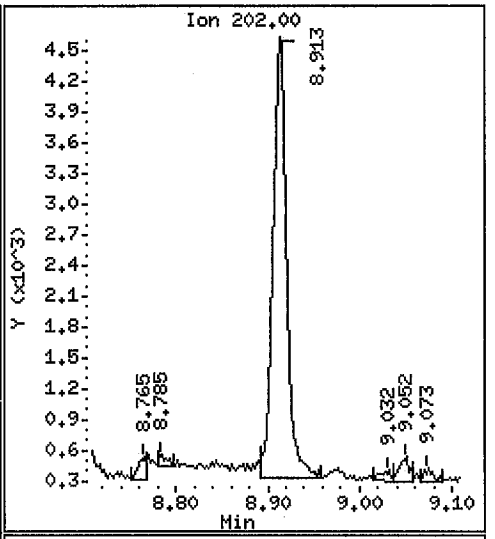
Column phase: Varian: 5MS

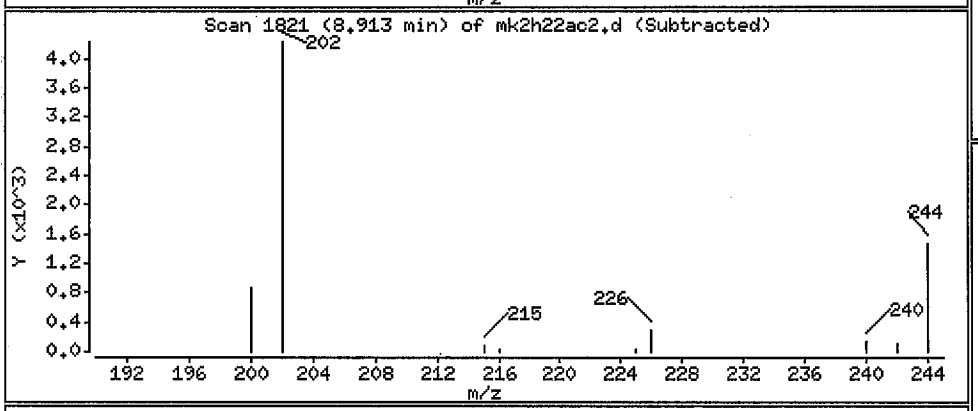
Column diameter: 0.25

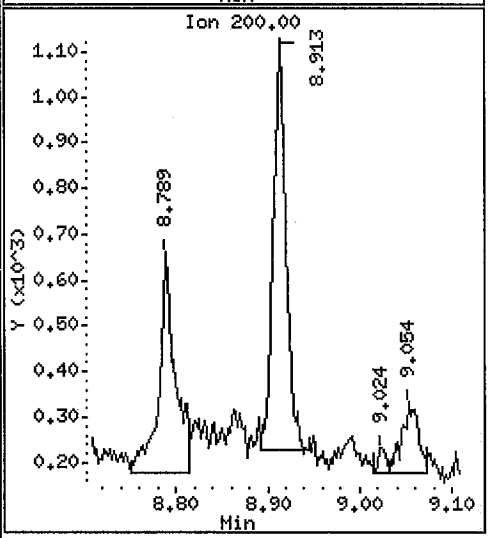
57 Pyrene

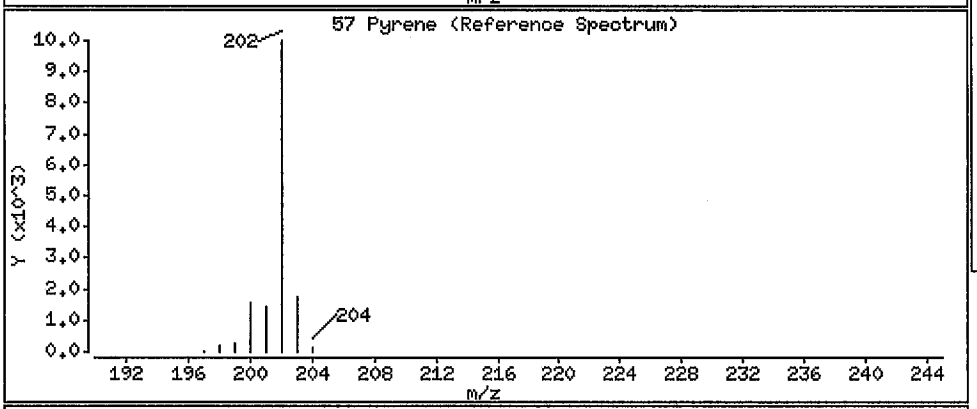
Concentration: 196 ng/sample

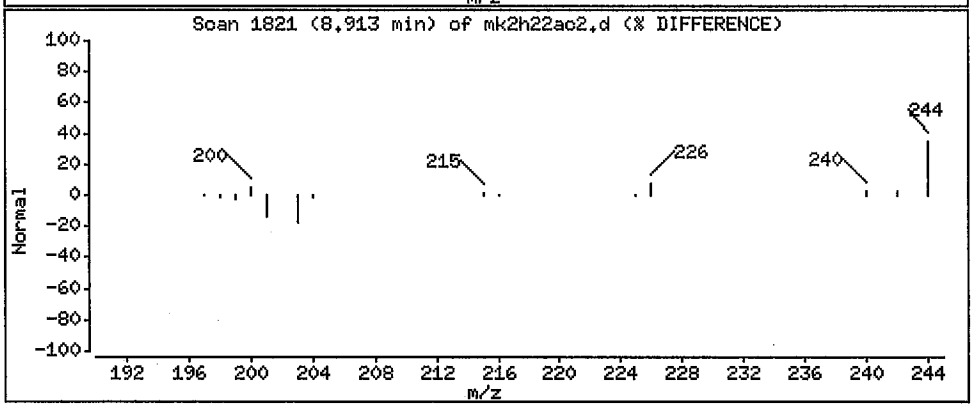












Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

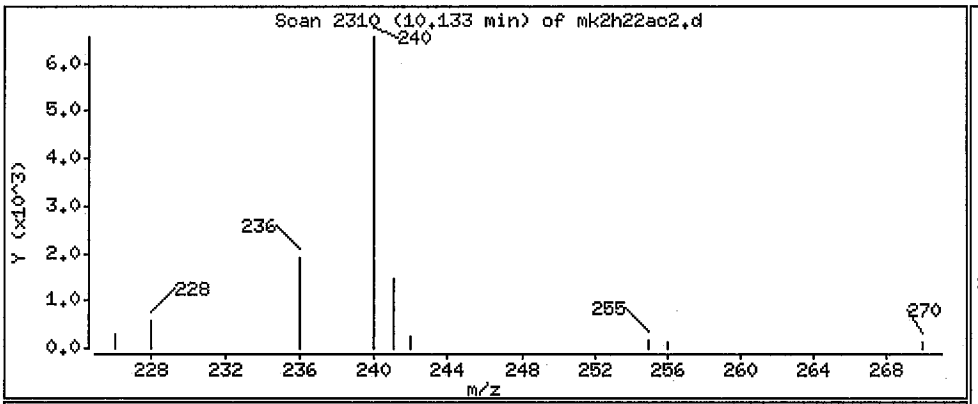
Operator: 11211

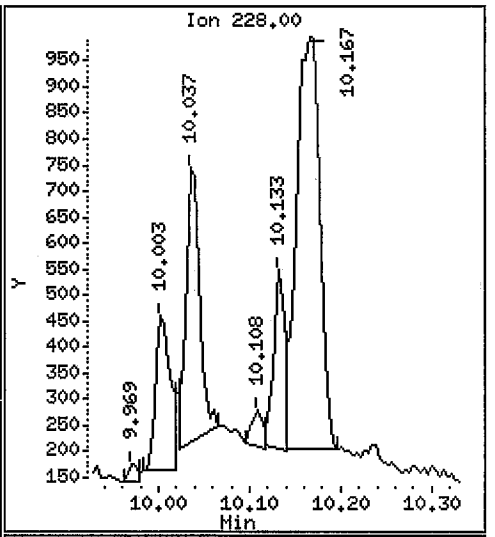
Column phase: Varian: 5MS

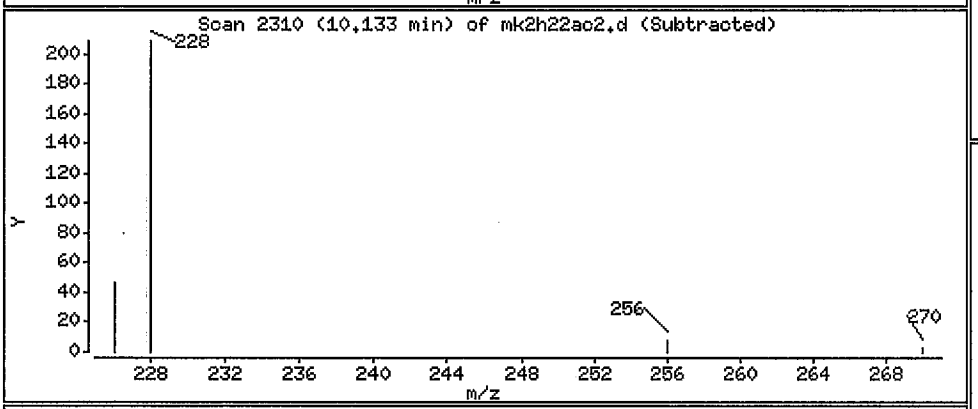
Column diameter: 0.25

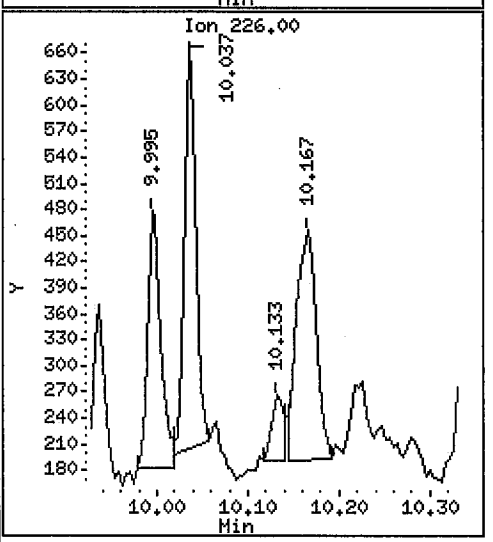
62 Benzo(a)anthracene

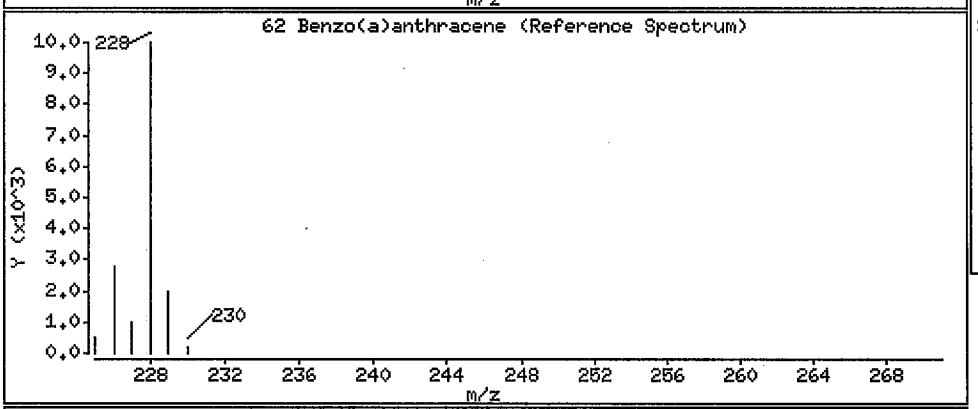
Concentration: 15.8 ng/sample

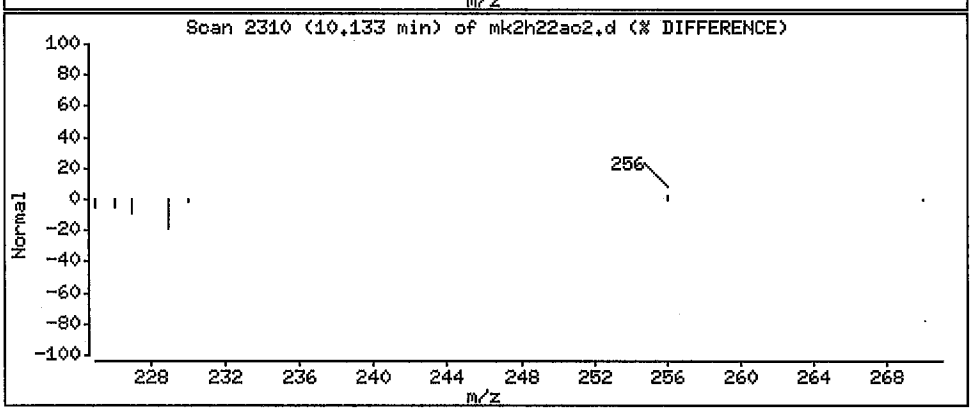












Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

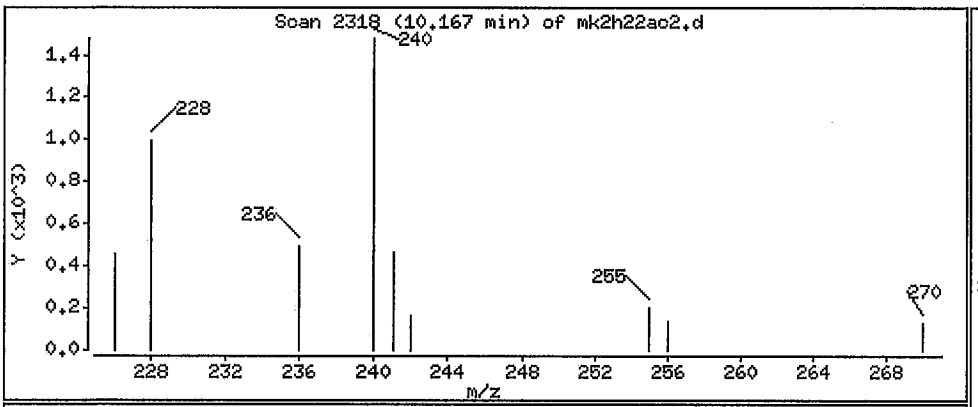
Operator: 11211

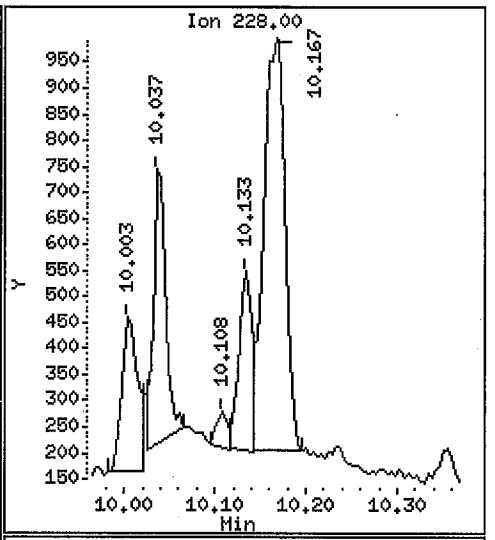
Column phase: Varian: 5MS

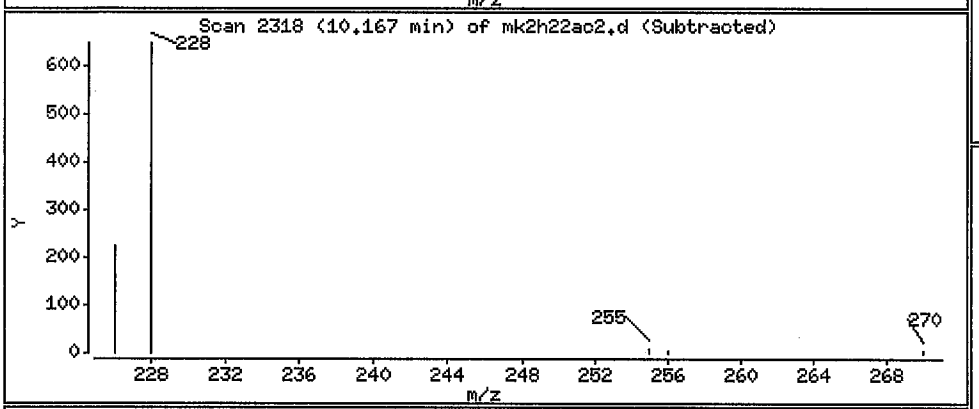
Column diameter: 0.25

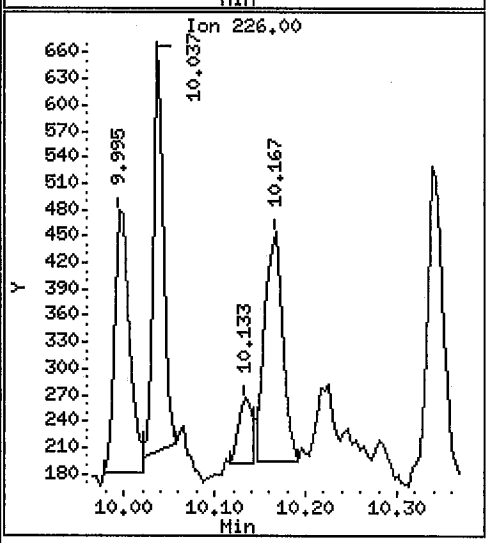
65 Chrysene

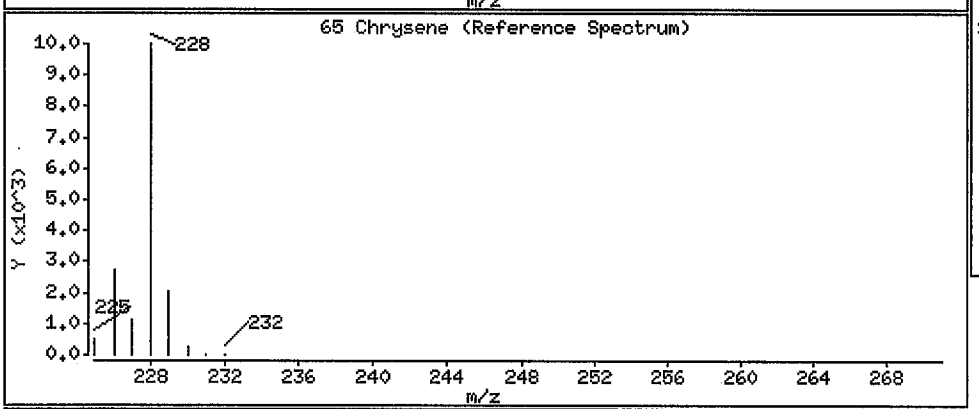
Concentration: 78.0 ng/sample

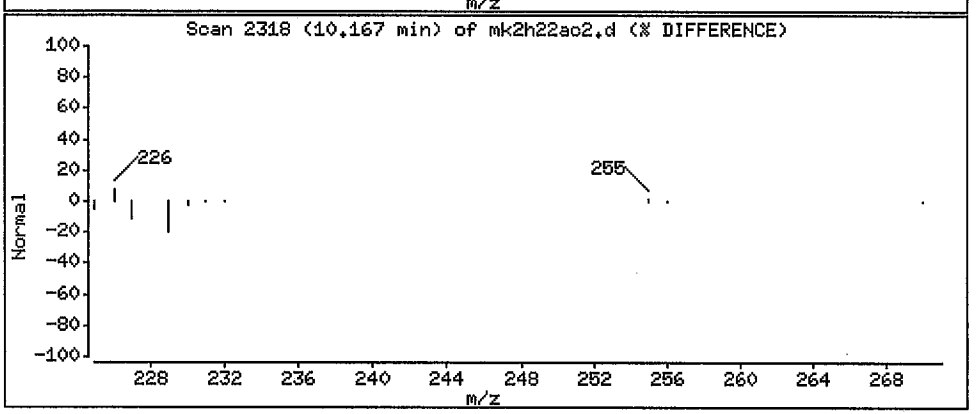












Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

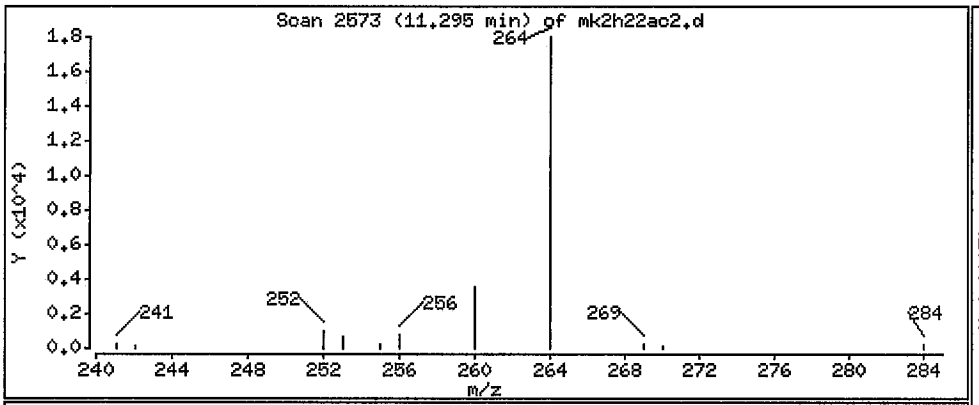
Operator: 11211

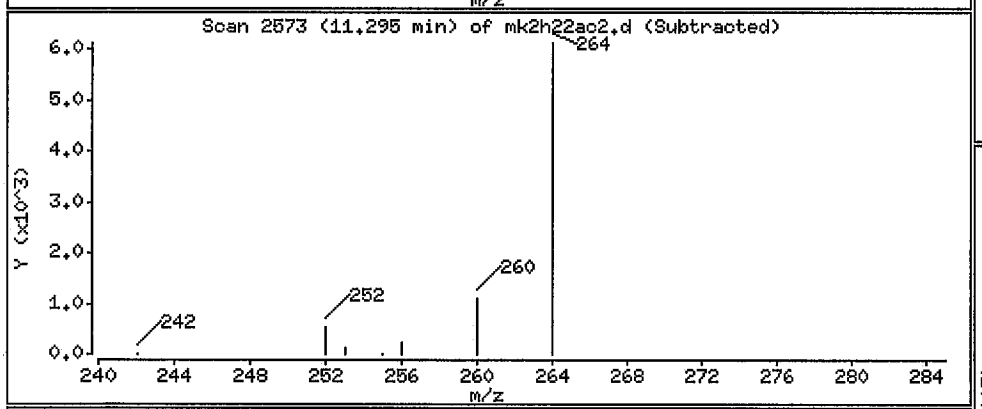
Column phase: Varian: 5MS

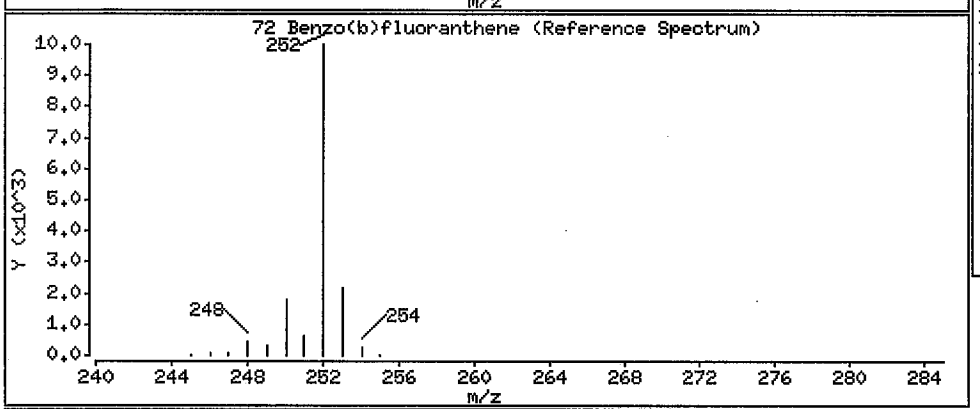
Column diameter: 0.25

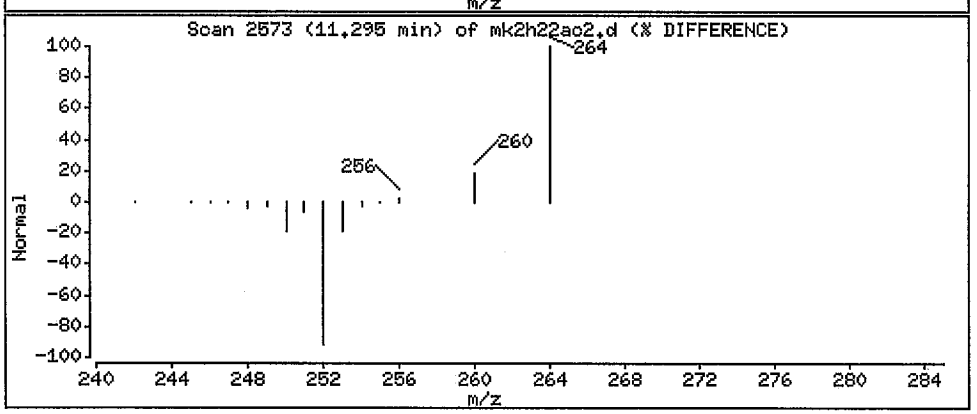
72 Benzo(b)fluoranthene

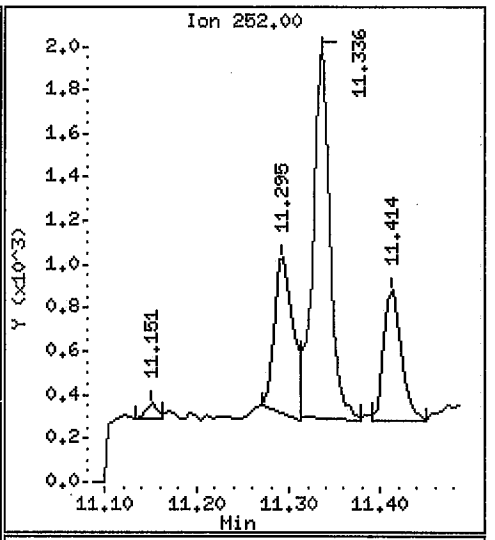
Concentration: 49.5 ng/sample

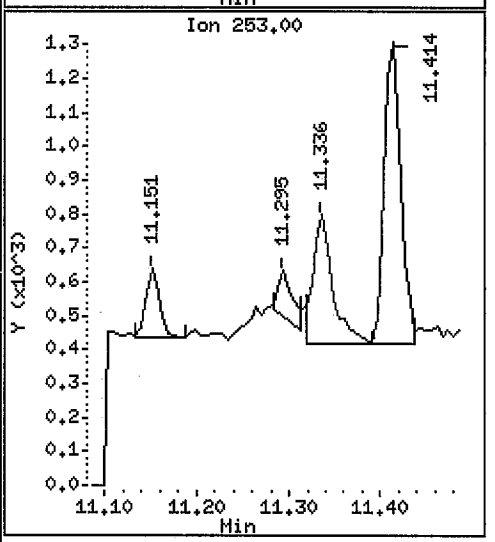












Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

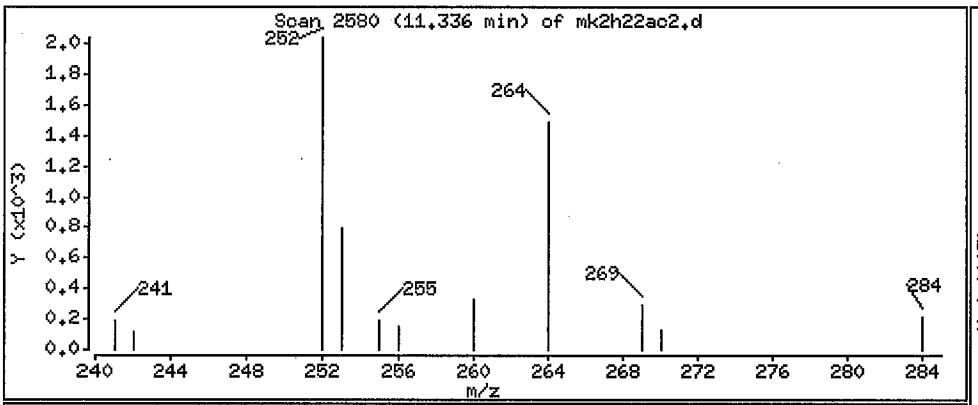
Operator: 11211

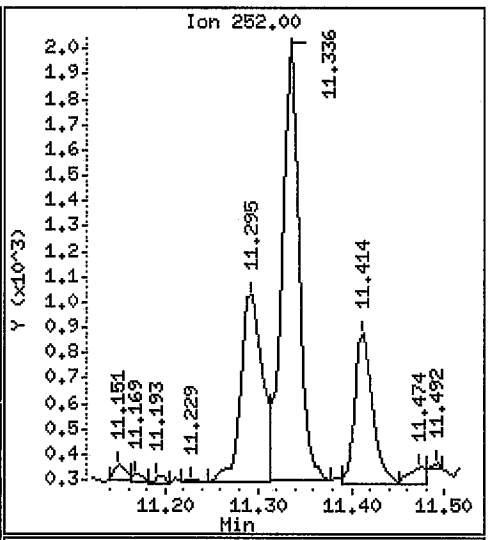
Column phase: Varian: 5MS

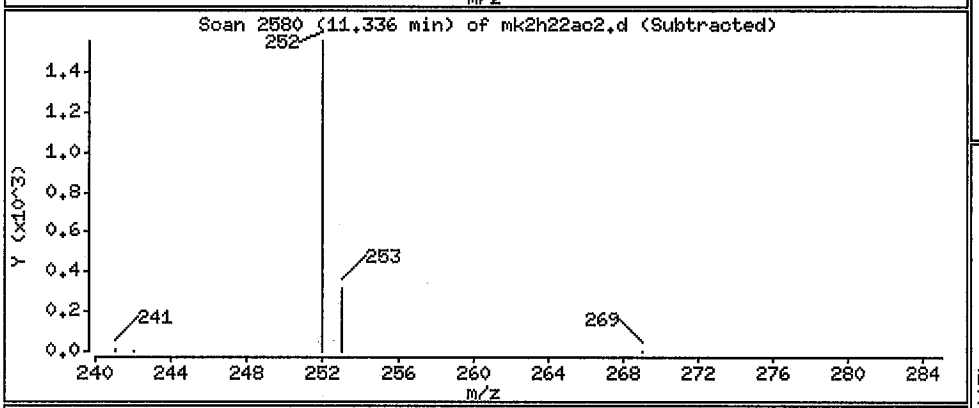
Column diameter: 0.25

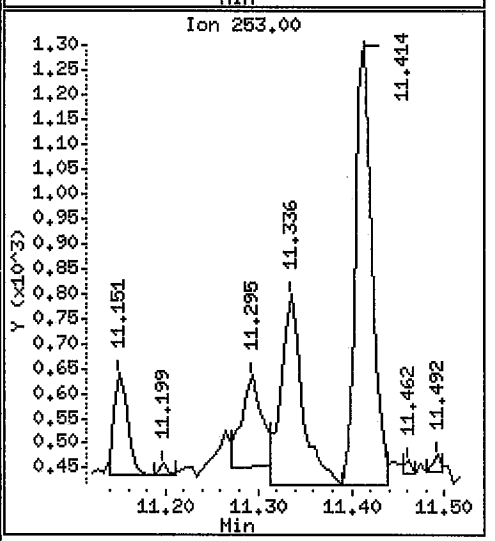
75 Benzo(k)fluoranthene

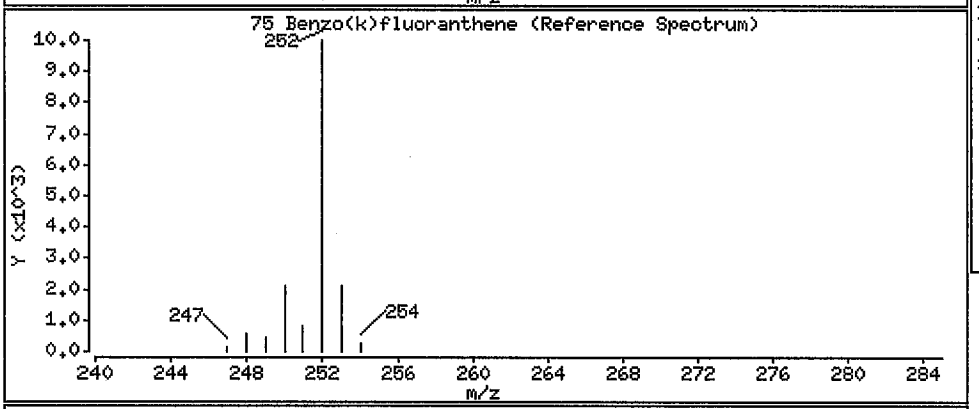
Concentration: 110 ng/sample

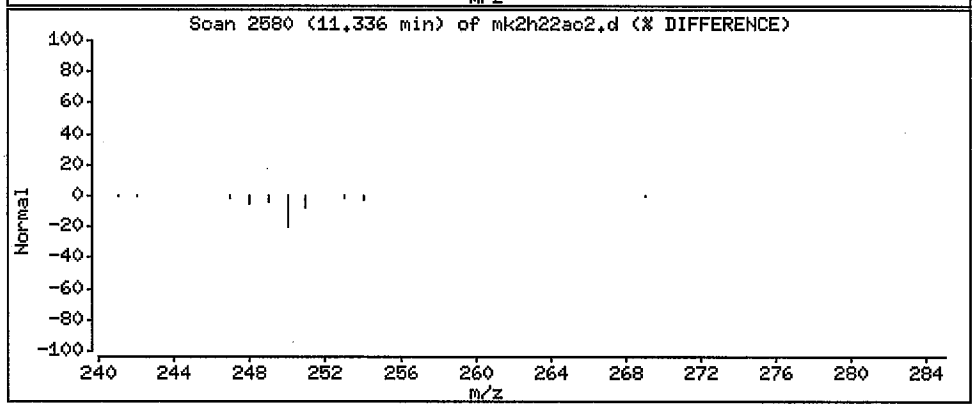












Data File: /var/chem/goms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

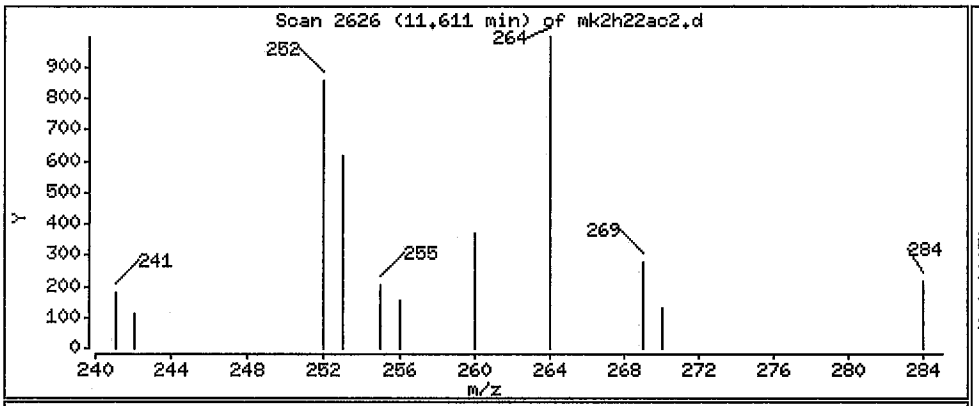
Operator: 11211

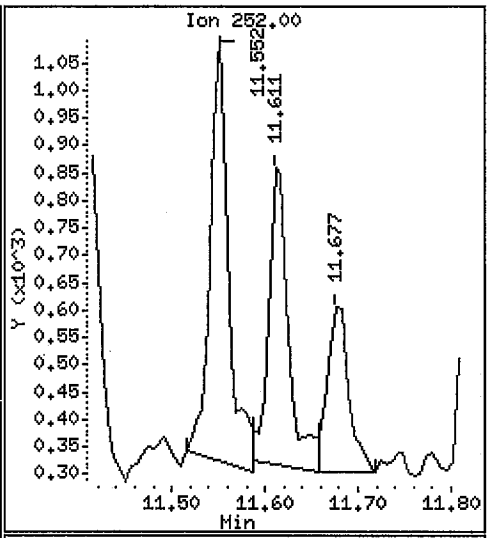
Column phase: Varian: 5MS

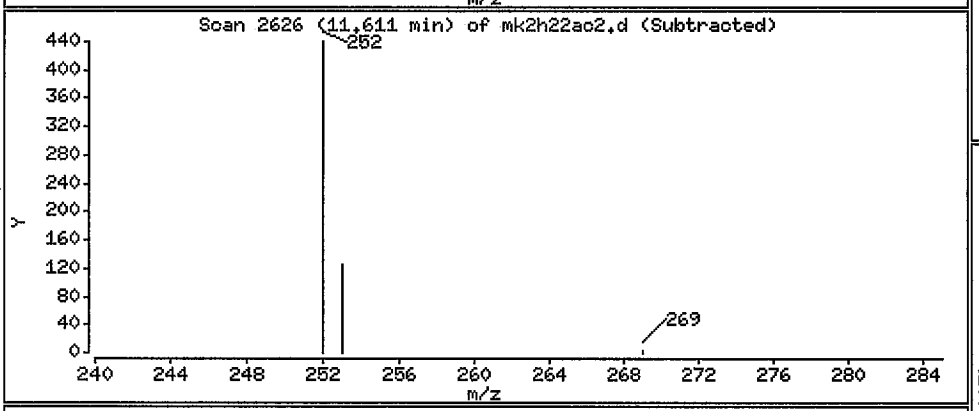
Column diameter: 0.25

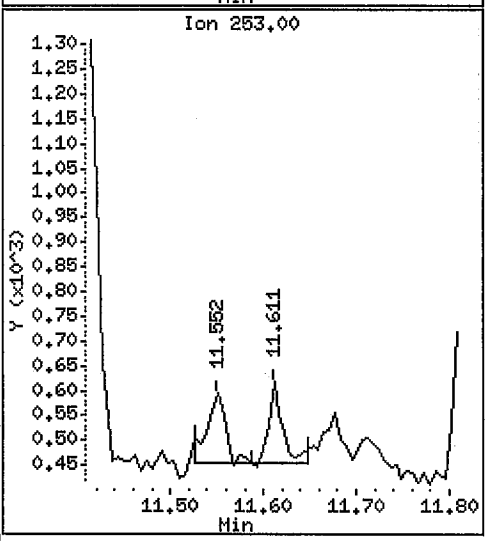
77 Benzo(e)pyrene

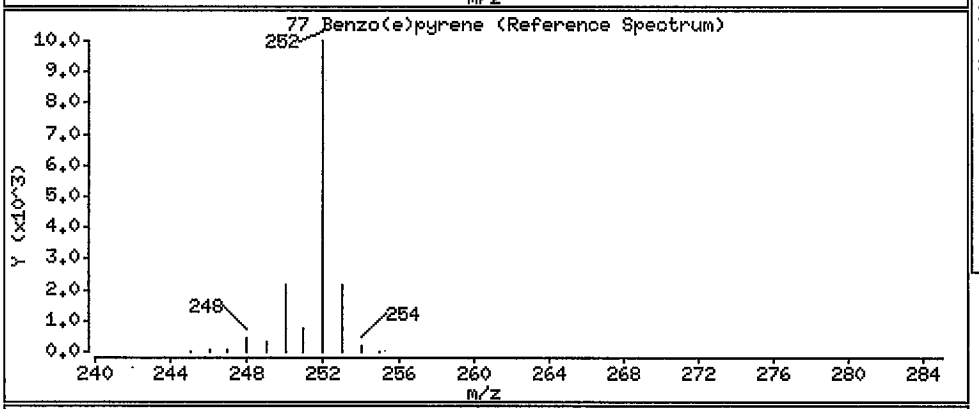
Concentration: 42.2 ng/sample

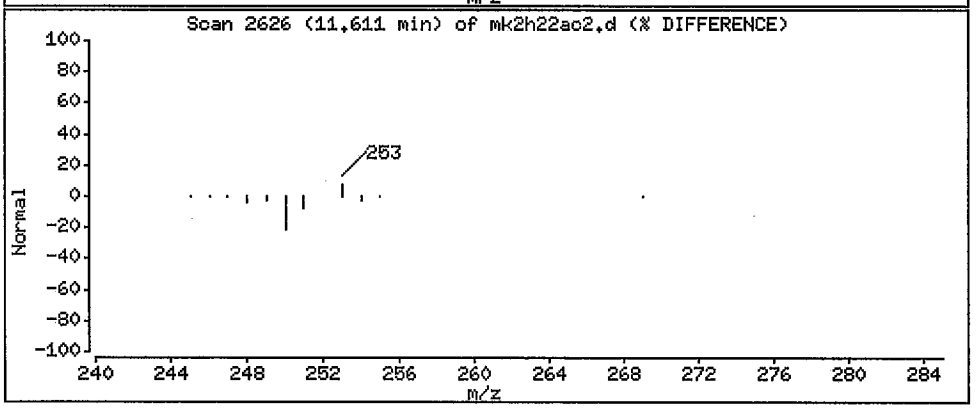












Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

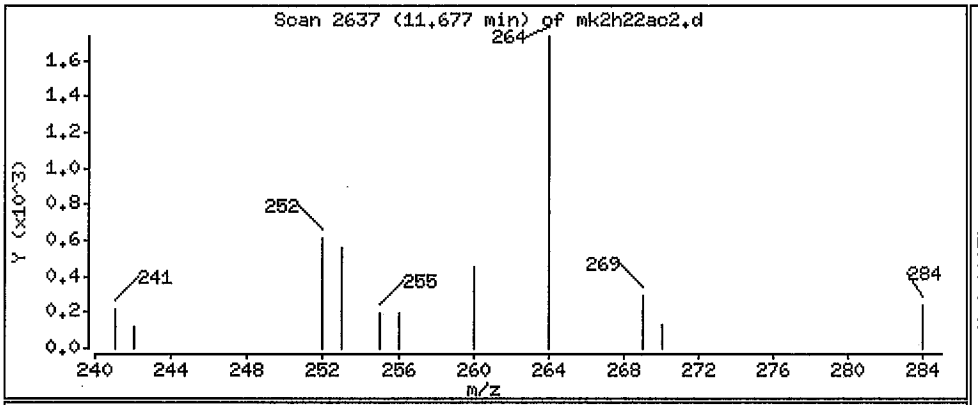
Operator: 11211

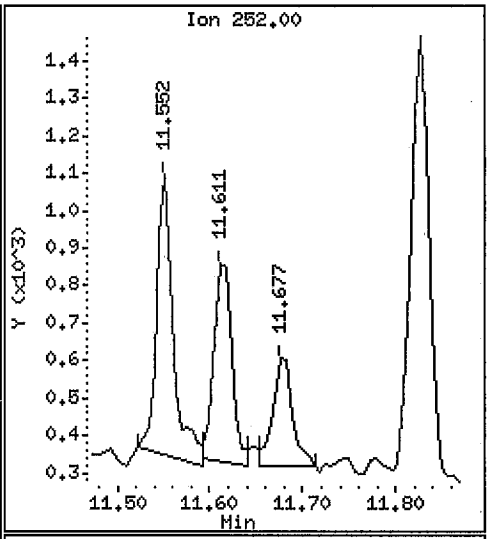
Column phase: Varian: 5MS

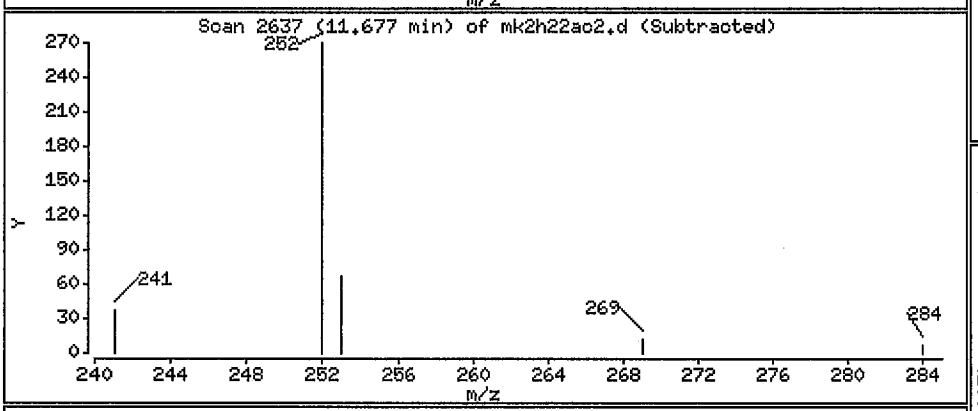
Column diameter: 0.25

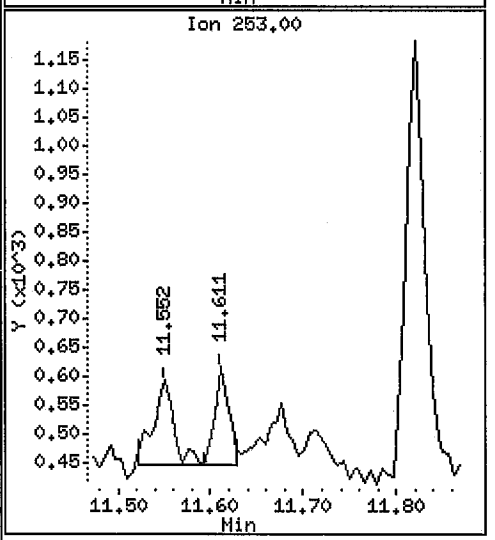
80 Benzo(a)pyrene

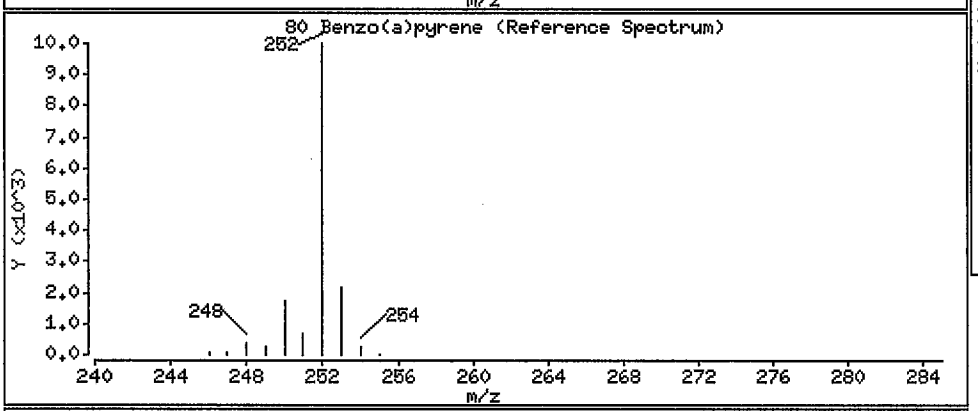
Concentration: 26.1 ng/sample

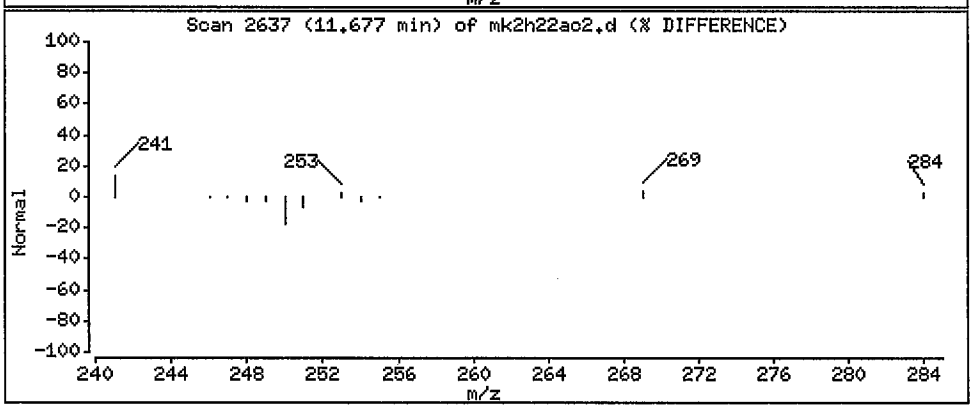












Data File: /var/chem/goms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

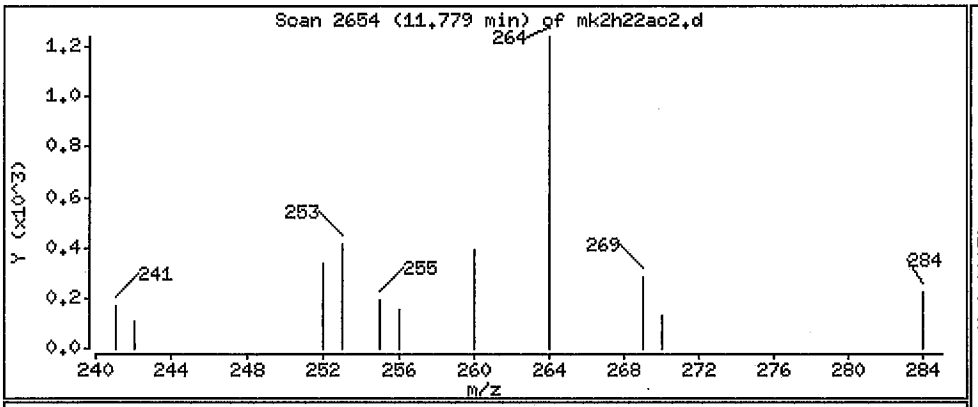
Operator: 11211

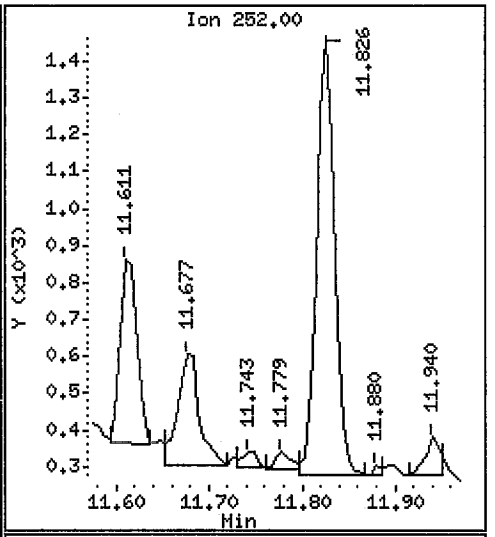
Column phase: Varian: 5MS

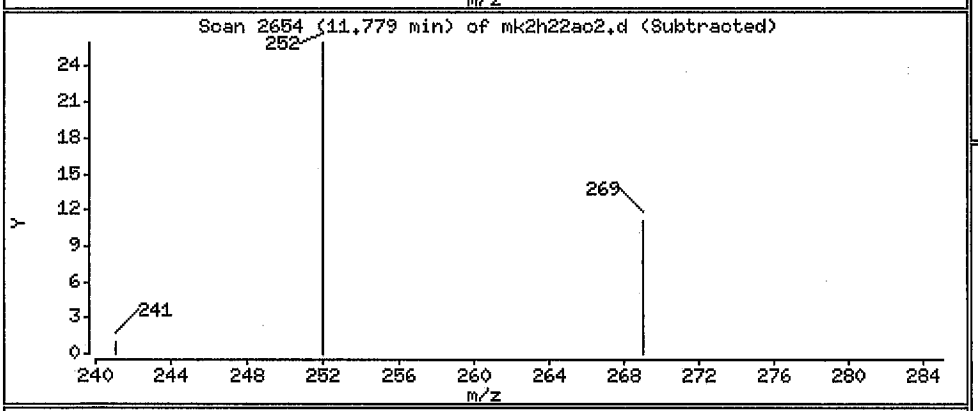
Column diameter: 0.25

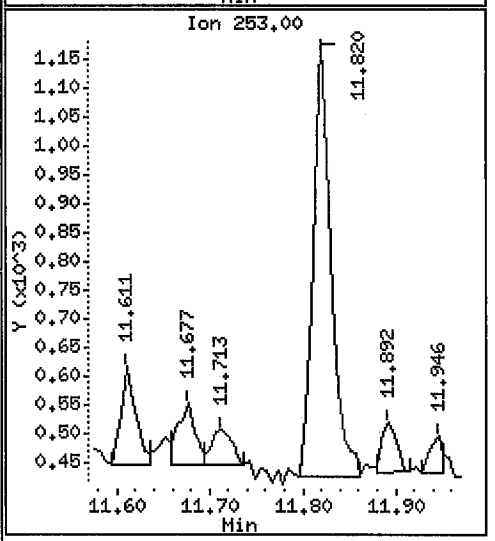
83 Perylene

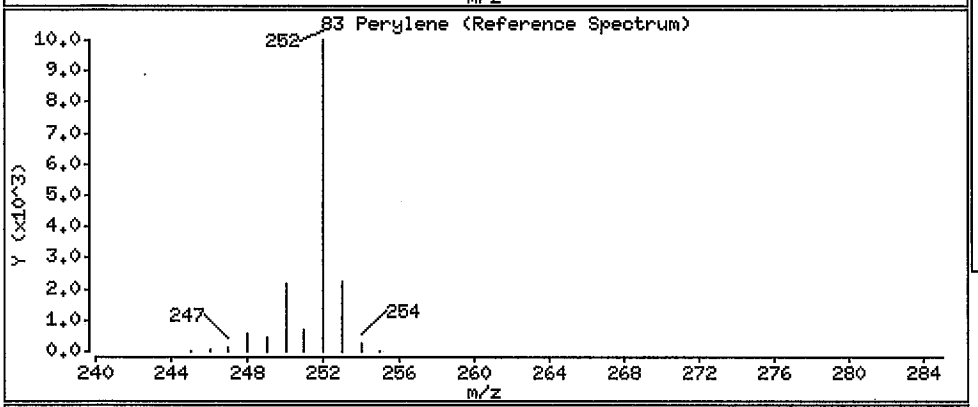
Concentration: 3.07 ng/sample

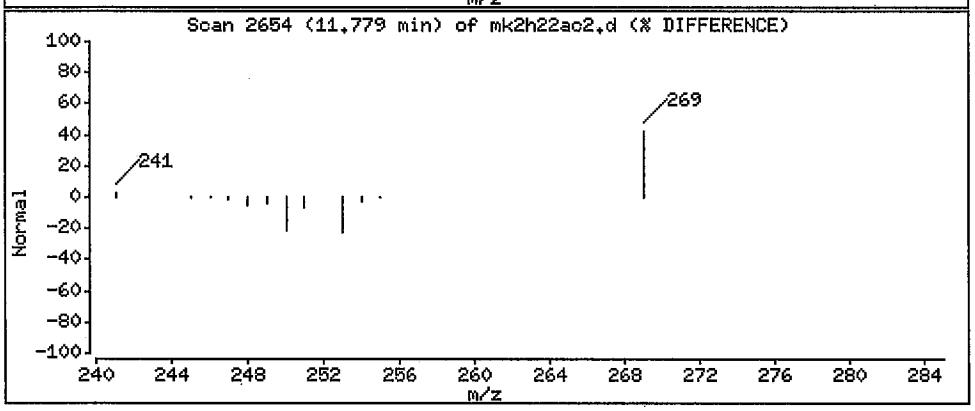












Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

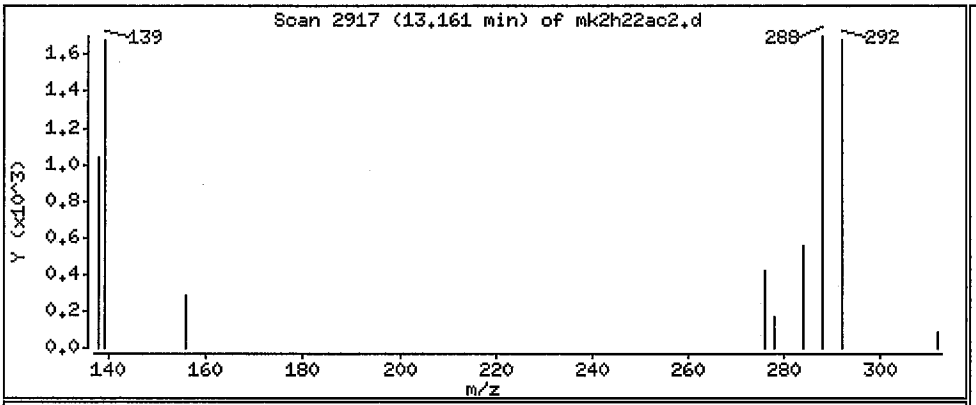
Operator: 11211

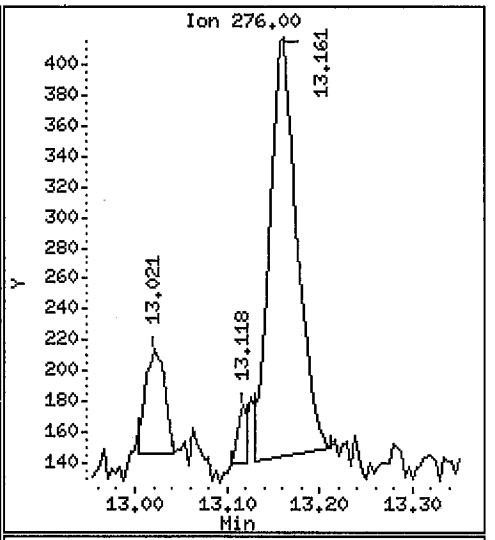
Column phase: Varian: 5MS

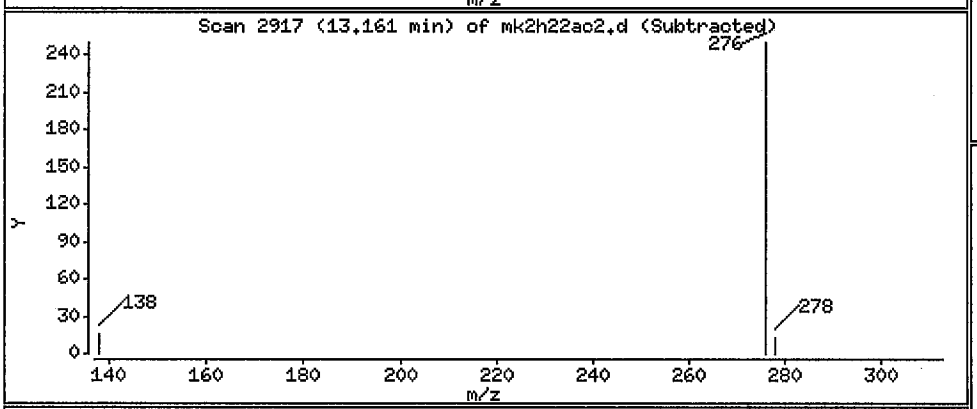
Column diameter: 0.25

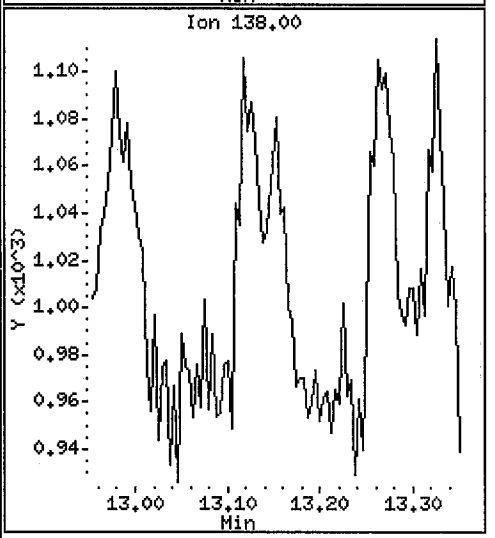
86 Indeno(1,2,3-cd)pyrene

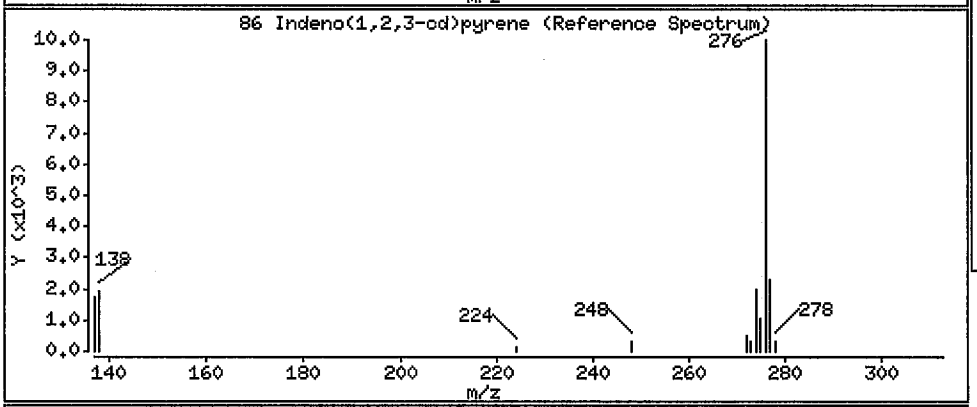
Concentration: 24.3 ng/sample

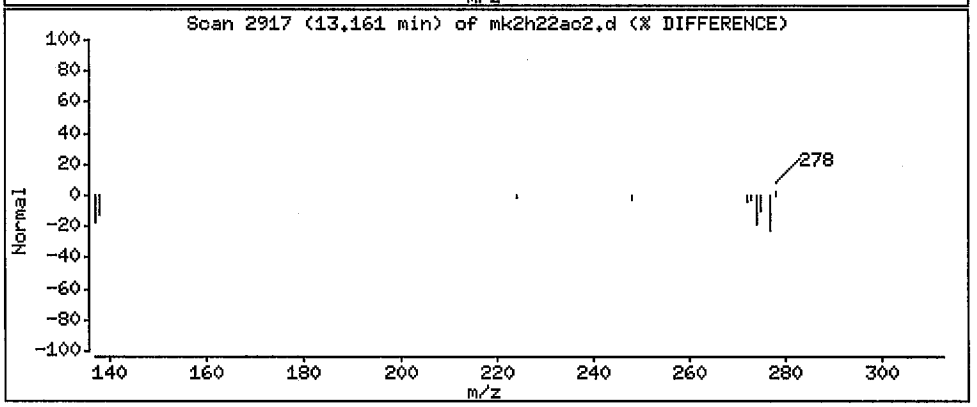












Data File: /var/chem/goms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

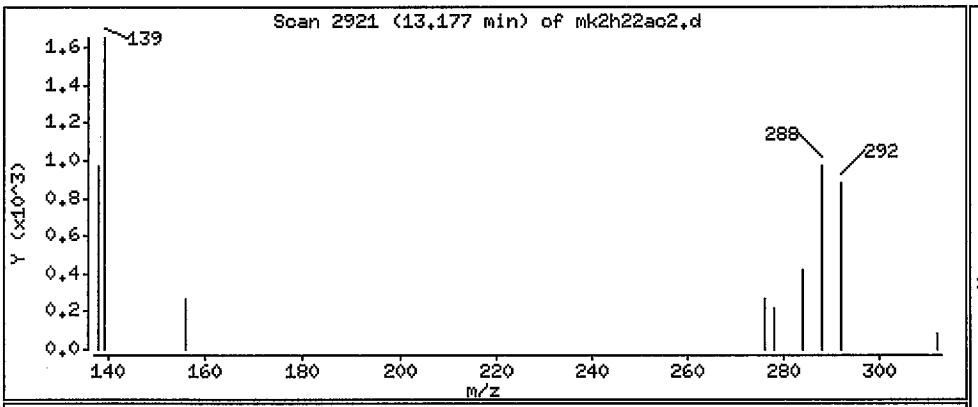
Operator: 11211

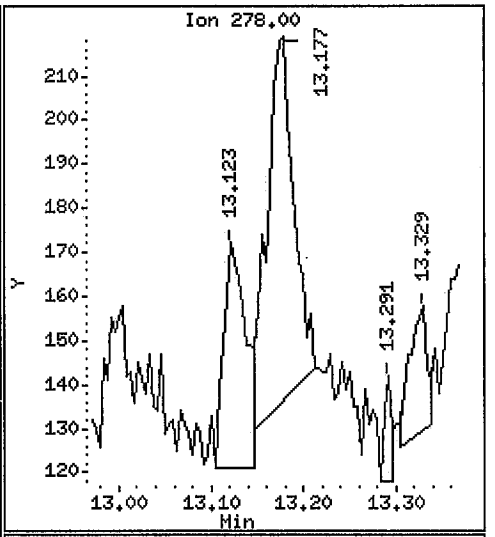
Column phase: Varian: 5MS

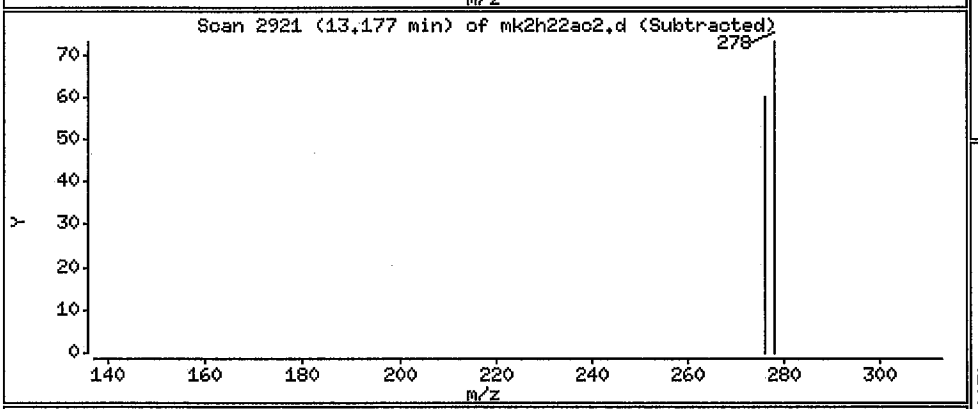
Column diameter: 0.25

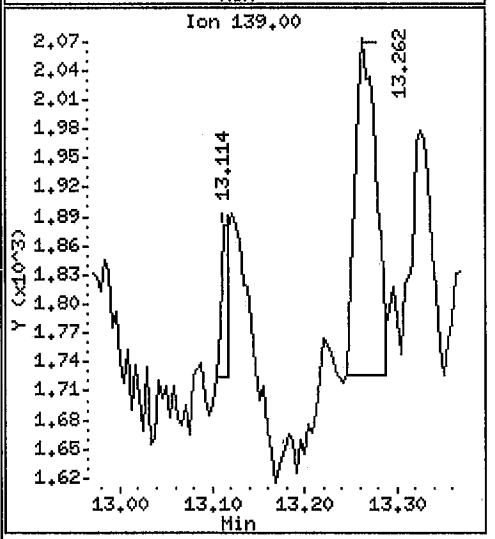
89 Dibenz(a,h)anthracene

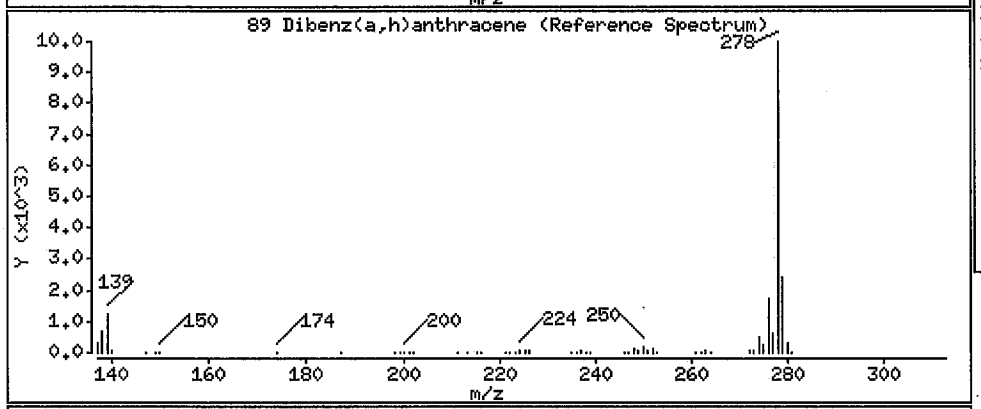
Concentration: 9.44 ng/sample

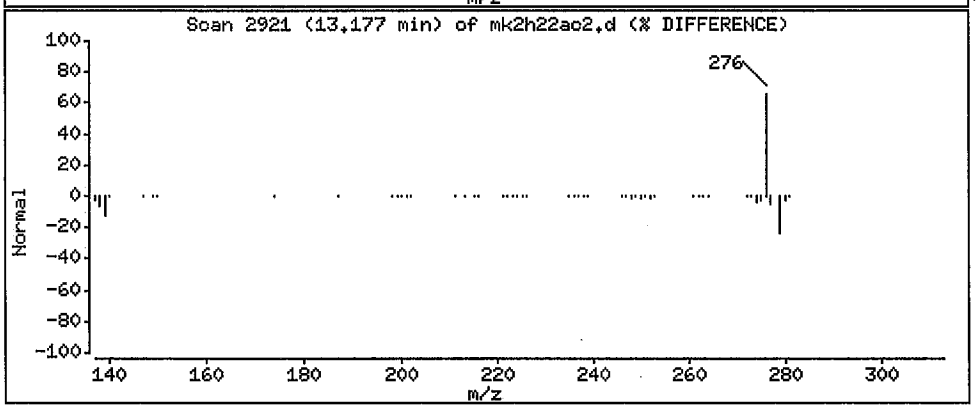












Data File: /var/chem/gcms/mp.i/P080311.b/mk2h22ac2.d

Date : 03-AUG-2011 20:31

Client ID:

Instrument: mp.i

Sample Info: MK2H22AC,,3,,D1:5

Purge Volume: 1.0

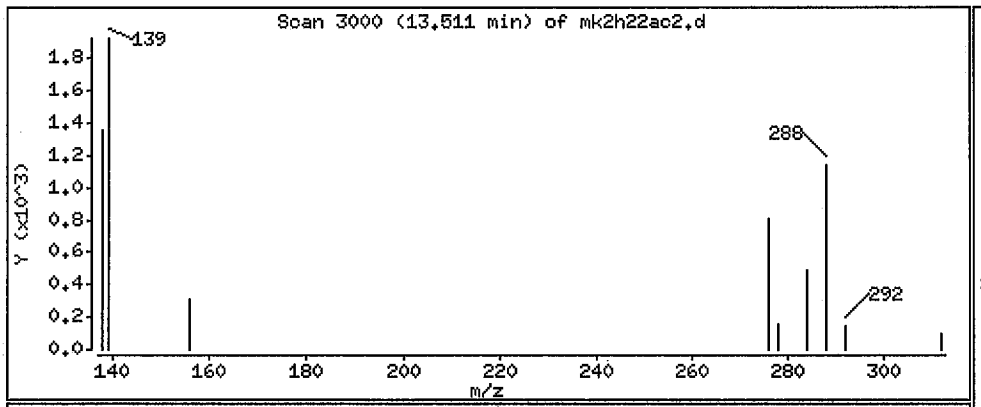
Operator: 11211

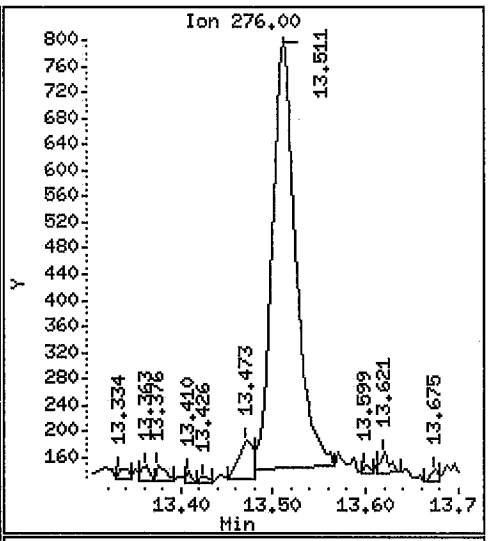
Column phase: Varian: 5MS

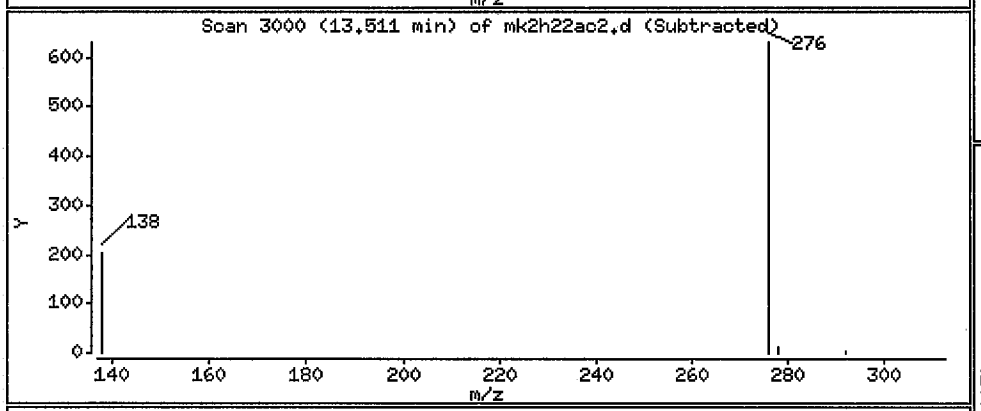
Column diameter: 0.25

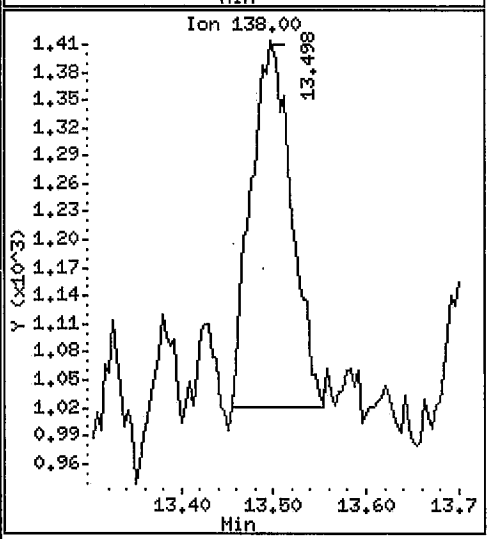
92 Benzo(g,h,i)perylene

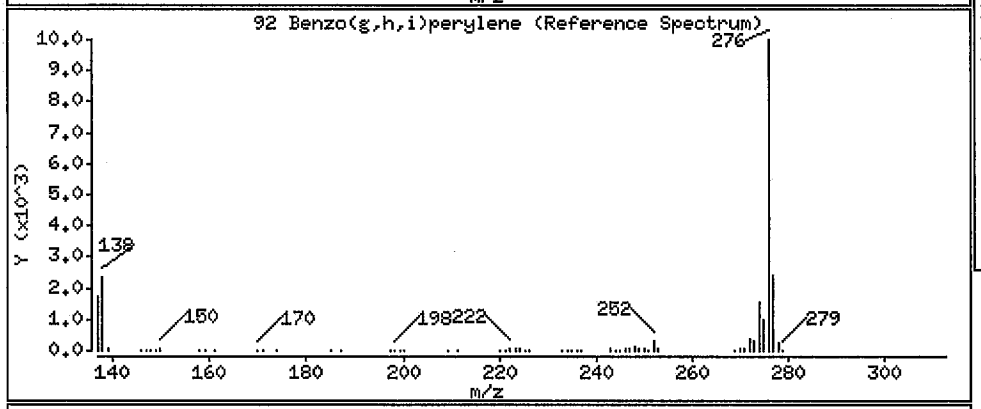
Concentration: 61.6 ng/sample

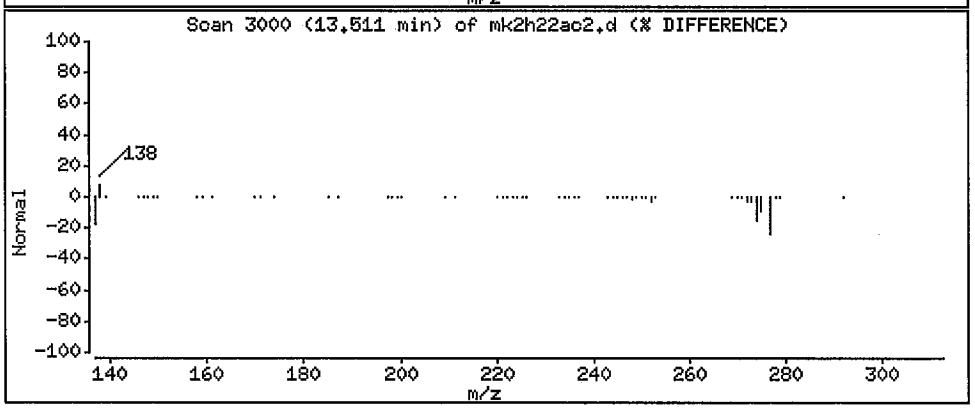












TestAmerica Air Emissions Dallas

Client Sample ID: A-6455,A-6456 MEDIA CHECK

GC/MS Semivolatiles

Lot-Sample #...:	H1G200446-008	Work Order #...:	MK2H61AC	Matrix.....:	AIR
Date Sampled...:	07/11/11	Date Received..:	07/20/2011		
Prep Date.....:	07/20/11	Analysis Date..:	07/29/2011		
Prep Batch #...:	1201079				
Dilution Factor:	2	Method.....:	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	40	ng/sample	9.8
Acenaphthylene	ND	40	ng/sample	4.8
Anthracene	ND	20	ng/sample	7.6
Benzo(a)anthracene	ND	20	ng/sample	7.6
Benzo(b)fluoranthene	ND	200	ng/sample	60
Benzo(k)fluoranthene	ND	200	ng/sample	86
Benzo(ghi)perylene	ND	20	ng/sample	10
Benzo(a)pyrene	ND	20	ng/sample	5.8
Benzo(e)pyrene	ND	20	ng/sample	11
Chrysene	ND	20	ng/sample	5.0
Dibenz(a,h)anthracene	ND	20	ng/sample	7.8
Fluoranthene	ND	20	ng/sample	13
Fluorene	ND	20	ng/sample	8.2
Indeno(1,2,3-cd)pyrene	ND	20	ng/sample	5.2
2-Methylnaphthalene	ND	100	ng/sample	42
Naphthalene	ND	800	ng/sample	500
Perylene	ND	20	ng/sample	6.2
Phenanthrene	ND	60	ng/sample	48
Pyrene	ND	120	ng/sample	72

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Anthracene-d10	100	(30 - 120)
Naphthalene-d8	91	(30 - 120)
2-Methylnaphthalene-d10	97	(30 - 120)
Acenaphthylene-d8	114	(30 - 120)
Phenanthrene-d10	84	(30 - 120)
Fluoranthene-d10	101	(30 - 120)
Benzo(a)anthracene-d12	145 *	(30 - 120)
Chrysene-d12	87	(30 - 120)
Benzo(b)fluoranthene-d12	113	(30 - 120)
Benzo(k)fluoranthene-d12	79	(30 - 120)
Benzo(a)pyrene-d12	111	(30 - 120)
Perylene-d12	102	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	102	(30 - 120)
Dibenz(ah)anthracene-d14	97	(30 - 120)
Benzo(ghi)perylene-d12	95	(30 - 120)

NOTE(S):

* Surrogate recovery is outside stated control limits.

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d
Report Date: 08-Aug-2011 11:22

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d
Lab Smp Id: MK2H61AC Client Smp ID: A-6455,A-6456 MEDIA
Inj Date : 29-JUL-2011 13:51
Operator : 11211 Inst ID: mp.i
Smp Info : ,,0,,,
Misc Info : P072911,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Meth Date : 04-Aug-2011 19:00 cochranj Quant Type: ISTD
Cal Date : 26-JUL-2011 20:15 Cal File: pg26ic07.d
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	2.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
* 1 Naphthalene-d8	136	4.865	4.865	(1.000)	768336	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.865	4.865	(0.769)	768336	0.45693	457
3 Naphthalene	128	4.880	4.880	(1.003)	145260	0.11140	111
$ 222 13C6-Naphthalene	134	4.865	4.880	(1.000)	70143	0.04970	~~49.7(R)~~
* 10 2-Methylnaphthalene-d10	152	5.424	5.424	(1.000)	440108	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.424	5.424	(0.858)	440108	0.48506	485
12 2-Methylnaphthalene	142	5.450	5.450	(1.005)	10620	0.01198	12.0
* 13 1-Methylnaphthalene-d10	152	5.503	5.503	(1.000)	427785	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.503	5.503	(0.870)	427785	0.47432	474
15 1-Methylnaphthalene	142	5.533	5.533	(1.005)	5849	0.00705	7.05
16 Biphenyl	154	5.837	5.835	(1.076)	137170	0.13027	130
* 17 2,6-Dimethylnaphthalene-d12	168	5.935	5.933	(1.000)	385878	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.935	5.933	(0.938)	385878	0.49856	499
19 2,6 Dimethylnaphthalene	156	5.976	5.969	(1.007)	2396	0.00312	3.12

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d
Report Date: 08-Aug-2011 11:22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
*	20 Acenaphthylene-d8	160	6.194	6.194	(1.000)	721217	0.50000	0.500
$	21 Acenaphthylene-d8(SS)	160	6.194	6.194	(0.979)	721217	0.57012	570
	22 Acenaphthylene	152	6.205	6.202	(1.002)	318	0.000219	0.219
*	23 Acenaphthene-d10	164	6.325	6.325	(1.000)	357537	0.50000	0.500
	24 Acenaphthene	154	6.350	6.350	(1.025)	3083	0.00355	3.55
	25 2,3,5 Trimethylnaphthalene	170	6.671	6.669	(1.124)	584	0.000912	0.912
$	26 Fluorene-d10	176	6.763	6.758	(0.892)	306	0.000444	~~0.444(R)~~
	27 Fluorene	166	6.786	6.783	(0.895)	4194	0.00471	4.71
$	28 13C6-Fluorene	171	6.786	6.781	(0.895)	316	0.000411	~~0.411(R)~~
*	34 Dibenzothiopene-d8	192	7.474	7.474	(1.000)	591698	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.474	7.474	(0.841)	591698	0.38598	386
	36 Dibenzothiophene	184	7.490	7.489	(1.002)	1671	0.00148	1.48
*	41 Phenanthrene-d10	188	7.578	7.578	(1.000)	581448	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.578	7.578	(0.853)	581448	0.42041	420
	43 Phenanthrene	178	7.598	7.597	(1.003)	26405	0.02068	20.7
*	44 Anthracene-d10	188	7.625	7.626	(1.000)	583552	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.625	7.626	(0.858)	583552	0.49967	500
	46 Anthracene	178	7.638	7.642	(1.002)	775	0.000517	0.517
$	47 13C6-Anthracene	184	7.625	7.642	(0.858)	77907	0.06154	~~61.5(R)~~
	52 1-Methylphenanthrene	192	8.148	8.143	(1.075)	871	0.00114	1.14
*	53 Fluoranthene-d10	212	8.665	8.665	(1.000)	650422	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.665	8.665	(0.975)	650422	0.50493	505
	55 Fluoranthene	202	8.682	8.683	(1.002)	8366	0.00572	5.72
*	56 Pyrene-d10	212	8.886	8.885	(1.000)	525115	0.50000	0.500
	57 Pyrene	202	8.904	8.904	(1.028)	4337	0.00280	2.80
$	58 Terphenyl-d14	244	9.047	9.043	(1.044)	418	0.000628	~~0.628(R)~~
*	60 Benzo(a)anthracene-d12	240	10.099	10.100	(1.000)	463487	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.099	10.100	(1.136)	463487	0.72364	724(R)
	62 Benzo(a)anthracene	228	10.133	10.121	(1.003)	1494	0.00101	~~1.01~~
*	63 Chrysene-d12	240	10.133	10.133	(1.000)	487809	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.133	10.133	(1.140)	487809	0.43411	434
	65 Chrysene	228	10.162	10.163	(1.003)	306	0.000288	0.288
*	70 Benzo(b)fluoranthene-d12	264	11.253	11.253	(1.000)	448855	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.253	11.253	(0.973)	448855	0.56383	564
	72 Benzo(b)fluoranthene	252	11.282	11.277	(1.003)	2363	0.00179	1.79
*	73 Benzo(k)fluoranthene-d12	264	11.288	11.289	(1.000)	446702	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.288	11.289	(0.976)	446702	0.39316	393
	75 Benzo(k)fluoranthene	252	11.312	11.307	(1.002)	544	0.000557	0.557
*	76 Benzo(e)pyrene-d12	264	11.569	11.570	(1.000)	377498	0.50000	0.500
	77 Benzo(e)pyrene	252	11.599	11.600	(0.997)	629	0.000512	0.512
*	78 Benzo(a)pyrene-d12	264	11.635	11.635	(1.000)	452146	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.635	11.635	(1.006)	452146	0.55549	555
	80 Benzo(a)pyrene	252	11.665	11.665	(1.003)	1410	0.00137	1.37
*	81 Perylene-d12	264	11.737	11.737	(1.000)	412303	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.737	11.737	(1.014)	412303	0.50787	508
	83 Perylene	252	11.766	11.761	(1.003)	966	0.00093	0.930
*	84 Indeno(123-cd)pyrene-d12	288	13.105	13.106	(1.000)	475533	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d
Report Date: 08-Aug-2011 11:22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.105	13.106	(1.133)	475533	0.51125	511
	86 Indeno(1,2,3-cd)pyrene	276	13.101	13.140	(1.000)	1566	0.00136	~~1.36~~ SNR
*	87 Dibenz(ah)anthracene-d14	292	13.110	13.110	(1.000)	341879	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.110	13.110	(1.133)	341879	0.48255	483
	89 Dibenz(a,h)anthracene	278	13.160	13.157	(1.004)	471	0.000561	0.561
*	90 Benzo(ghi)perylene-d12	288	13.460	13.460	(1.000)	333444	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.460	13.460	(1.163)	333444	0.47702	477
	92 Benzo(g,h,i)perylene	276	13.494	13.494	(1.002)	730	0.000792	0.792

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d
Report Date: 08-Aug-2011 15:27

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d
Lab Smp Id: MK2H61AC Client Smp ID: A-6455,A-6456 MEDIA
Inj Date : 29-JUL-2011 13:51
Operator : 11211 Inst ID: mp.i
Smp Info : ,,0,,,
Misc Info : P072911,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Meth Date : 04-Aug-2011 19:00 cochranj Quant Type: ISTD
Cal Date : 26-JUL-2011 20:15 Cal File: pg26ic07.d
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	2.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

all are unit 7/8/11

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
* 1 Naphthalene-d8	136	4.865	4.865	(1.000)	768336	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.865	4.865	(0.769)	768336	0.45693	457
3 Naphthalene	128	4.880	4.880	(1.003)	145260	0.11140	111
* 10 2-Methylnaphthalene-d10	152	5.424	5.424	(1.000)	440108	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.424	5.424	(0.858)	440108	0.48506	485
12 2-Methylnaphthalene	142	5.450	5.450	(1.005)	10620	0.01198	12.0
* 13 1-Methylnaphthalene-d10	152	5.503	5.503	(1.000)	427785	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.503	5.503	(0.870)	427785	0.47432	474
15 1-Methylnaphthalene	142	5.533	5.533	(1.005)	5849	0.00705	7.05
16 Biphenyl	154	5.837	5.835	(1.076)	137170	0.13027	130
* 17 2,6-Dimethylnaphthalene-d12	168	5.935	5.933	(1.000)	385878	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.935	5.933	(0.938)	385878	0.49856	499
19 2,6 Dimethylnaphthalene	156	5.976	5.969	(1.007)	2396	0.00312	3.12
* 20 Acenaphthylene-d8	160	6.194	6.194	(1.000)	721217	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d
Report Date: 08-Aug-2011 15:27

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
$	21 Acenaphthylene-d8(SS)	160	6.194	6.194	(0.979)	721217	0.57012	570
	22 Acenaphthylene	152	6.205	6.202	(1.002)	318	0.000219	0.219
*	23 Acenaphthene-d10	164	6.325	6.325	(1.000)	357537	0.50000	0.500
	24 Acenaphthene	154	6.350	6.350	(1.025)	3083	0.00355	3.55
	25 2,3,5 Trimethylnaphthalene	170	6.671	6.669	(1.124)	584	0.00091	0.910
	27 Fluorene	166	6.786	6.783	(0.895)	4194	0.00470	4.70
*	34 Dibenzothiopene-d8	192	7.474	7.474	(1.000)	591698	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.474	7.474	(0.841)	591698	0.38598	386
	36 Dibenzothiophene	184	7.490	7.489	(1.002)	1671	0.00148	1.48
*	41 Phenanthrene-d10	188	7.578	7.578	(1.000)	581448	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.578	7.578	(0.853)	581448	0.42041	420
	43 Phenanthrene	178	7.598	7.597	(1.003)	26405	0.02068	20.7
*	44 Anthracene-d10	188	7.625	7.626	(1.000)	583552	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.625	7.626	(0.858)	583552	0.49967	500
	46 Anthracene	178	7.638	7.642	(1.002)	775	0.000516	0.516
	52 1-Methylphenanthrene	192	8.148	8.143	(1.075)	871	0.00114	1.14
*	53 Fluoranthene-d10	212	8.665	8.665	(1.000)	650422	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.665	8.665	(0.975)	650422	0.50493	505
	55 Fluoranthene	202	8.682	8.683	(1.002)	8366	0.00572	5.72
*	56 Pyrene-d10	212	8.886	8.885	(1.000)	525115	0.50000	0.500
	57 Pyrene	202	8.904	8.904	(1.028)	4337	0.00280	2.80
*	60 Benzo(a)anthracene-d12	240	10.099	10.100	(1.000)	463487	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.099	10.100	(1.136)	463487	0.72364	724(R)
*	63 Chrysene-d12	240	10.133	10.133	(1.000)	487809	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.133	10.133	(1.140)	487809	0.43411	434
	65 Chrysene	228	10.162	10.163	(1.003)	306	0.000287	0.287
*	70 Benzo(b)fluoranthene-d12	264	11.253	11.253	(1.000)	448855	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.253	11.253	(0.973)	448855	0.56383	564
	72 Benzo(b)fluoranthene	252	11.282	11.277	(1.003)	2363	0.00179	1.79
*	73 Benzo(k)fluoranthene-d12	264	11.288	11.289	(1.000)	446702	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.288	11.289	(0.976)	446702	0.39316	393
	75 Benzo(k)fluoranthene	252	11.312	11.307	(1.002)	544	0.000556	0.556
*	76 Benzo(e)pyrene-d12	264	11.569	11.570	(1.000)	377498	0.50000	0.500
	77 Benzo(e)pyrene	252	11.599	11.600	(0.997)	629	0.000512	0.512
*	78 Benzo(a)pyrene-d12	264	11.635	11.635	(1.000)	452146	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.635	11.635	(1.006)	452146	0.55549	555
	80 Benzo(a)pyrene	252	11.665	11.665	(1.003)	1410	0.00137	1.37
*	81 Perylene-d12	264	11.737	11.737	(1.000)	412303	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.737	11.737	(1.014)	412303	0.50788	508
	83 Perylene	252	11.766	11.761	(1.003)	966	0.00093	0.930
*	84 Indeno(123-cd)pyrene-d12	288	13.105	13.106	(1.000)	475533	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.105	13.106	(1.133)	475533	0.51125	511
	86 Indeno(1,2,3-cd)pyrene	276	13.143	13.140	(1.003)	843	0.000733	0.733(M)
*	87 Dibenz(ah)anthracene-d14	292	13.110	13.110	(1.000)	341879	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.110	13.110	(1.133)	341879	0.48255	483
	89 Dibenz(a,h)anthracene	278	13.160	13.157	(1.004)	471	0.000561	0.561
*	90 Benzo(ghi)perylene-d12	288	13.460	13.460	(1.000)	333444	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d
Report Date: 08-Aug-2011 15:27

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/sample)
$ 91 Benzo(ghi)perylene-d12(SS)	288	13.460	13.460	(1.163)	333444	0.47702	477
92 Benzo(g,h,i)perylene	276	13.494	13.494	(1.002)	730	0.000791	0.791

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

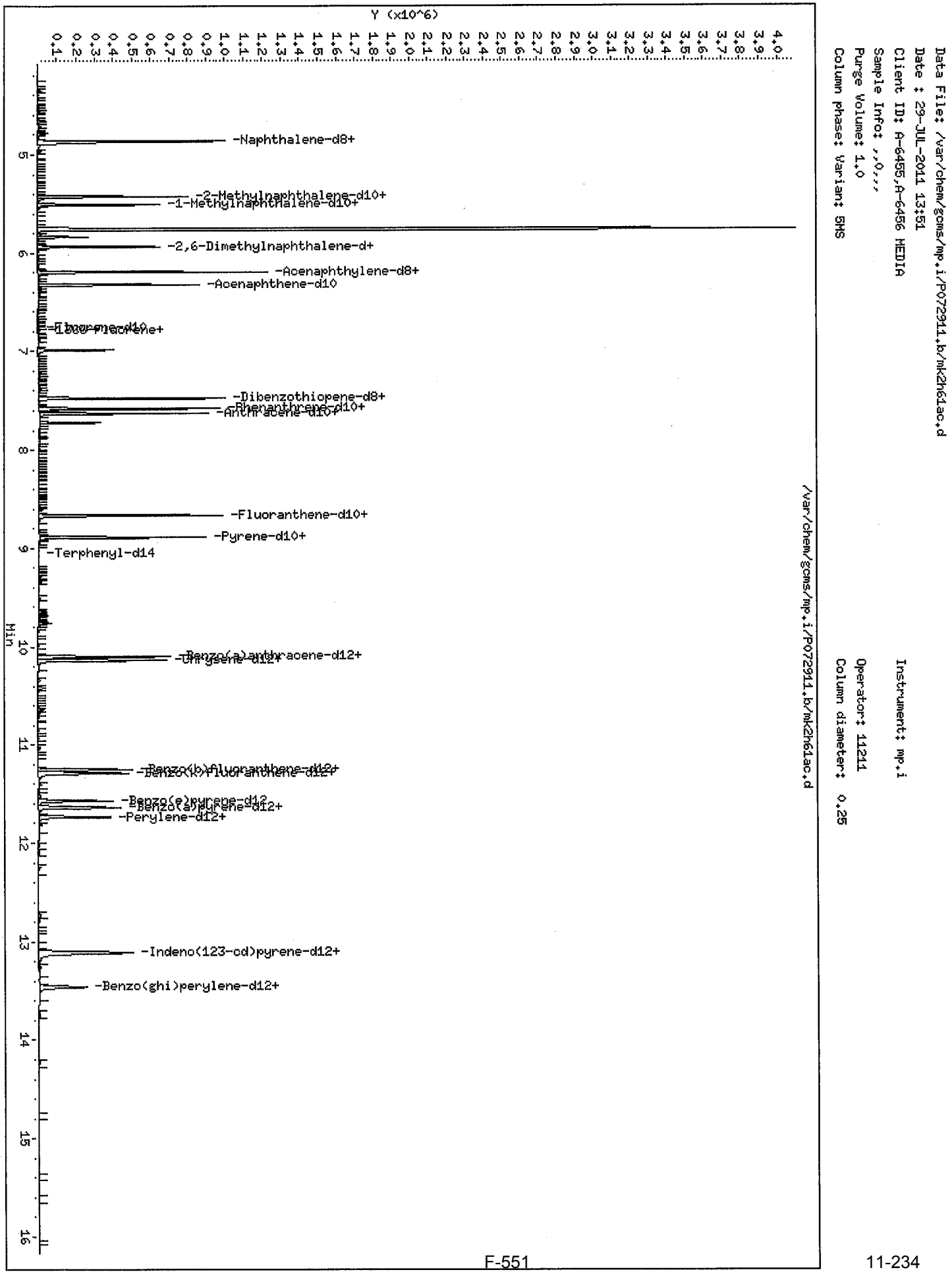
Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d
Report Date: 08-Aug-2011 11:22

TestAmerica Knoxville

RECOVERY REPORT

Client Name: TestAmerica Air Emis20-JUL-2011 00:00 Client SDG: H1G200446
Sample Matrix: GAS Fraction: SV
Lab Smp Id: MK2H61AC Client Smp ID: A-6455,A-6456 MEDIA
Level: LOW Operator: 11211
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: icv.spk Quant Type: ISTD
Sublist File: pah.sub
Method File: /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Misc Info: P072911,SIMPAH3

SURROGATE COMPOUND	CONC ADDED ng/sample	CONC RECOVERED ng/sample	% RECOVERED	LIMITS
$ 2 Naphthalene-d8(SS)	500	457	91.39	30-120
$ 222 13C6-Naphthalene	~~500~~	~~49.7~~	~~9.94*~~	50-150
$ 11 2-Methylnaphthalen	500	485	97.01	30-120
$ 14 1-Methylnaphthalen	500	474	94.86	30-120
$ 18 2,6-Dimethylnaph-d	500	499	99.71	30-120
$ 21 Acenaphthylene-d8(	500	570	114.02	30-120
$ 26 Fluorene-d10	~~1000~~	~~0.444~~	~~0.04*~~	30-120
$ 28 13C6-Fluorene	~~1000~~	~~0.411~~	~~0.04*~~	30-120
$ 35 Dibenzothiopene-d8	500	386	77.20	30-120
$ 42 Phenanthrene-d10(S	500	420	84.08	30-120
$ 45 Anthracene-d10(SS)	500	500	99.93	30-120
$ 47 13C6-Anthracene	~~500~~	~~61.5~~	~~12.31*~~	30-120
$ 54 Fluoranthene-d10(S	500	505	100.99	30-120
$ 58 Terphenyl-d14	~~1000~~	~~0.628~~	~~0.06*~~	30-120
$ 61 Benzo(a)anthracene	500	724	144.73*	30-120
$ 64 Chrysene-d12(SS)	500	434	86.82	30-120
$ 71 Benzo(b)fluoranthe	500	564	112.77	30-120
$ 74 Benzo(k)fluoranthe	500	393	78.63	30-120
$ 79 Benzo(a)pyrene-d12	500	555	111.10	30-120
$ 82 Perylene-d12(SS)	500	508	101.57	30-120
$ 85 Indeno(123-cd)pyre	500	511	102.25	30-120
$ 88 Dibenz(ah)anthrace	500	483	96.51	30-120
$ 91 Benzo(ghi)perylene	500	477	95.40	30-120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Date : 29-JUL-2011 13:51
Client ID: A-6455,A-6456 MEDIA
Instrument: mp.i
Sample Info: ,,0,,,
Purge Volume: 1.0
Operator: 11211
Column phase: Varian 5MS
Column diameter: 0.25
/var/chem/gcms/mp.i/P072911.b/mk2h61ac.d
Y (x10^6)
Min
-Naphthalene-d8+
-2-Methylnaphthalene-d10+
-1-Methylnaphthalene-d10+
-2,6-Dimethylnaphthalene-d+
-Acenaphthylene-d8+
-Acenaphthene-d10
-Fluorene-d10
-Dibenzothiopene-d8+
-Phenanthrene-d10+
-Anthracene-d10+
-Fluoranthene-d10+
-Pyrene-d10+
-Terphenyl-d14
-Benzo(a)anthracene-d12+
-Chrysene-d12+
-Benzo(b)fluoranthene-d12+
-Benzo(k)fluoranthene-d12+
-Benzo(e)pyrene-d12+
-Benzo(a)pyrene-d12+
-Perylene-d12+
-Indeno(123-cd)pyrene-d12+
-Benzo(ghi)perylene-d12+

Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

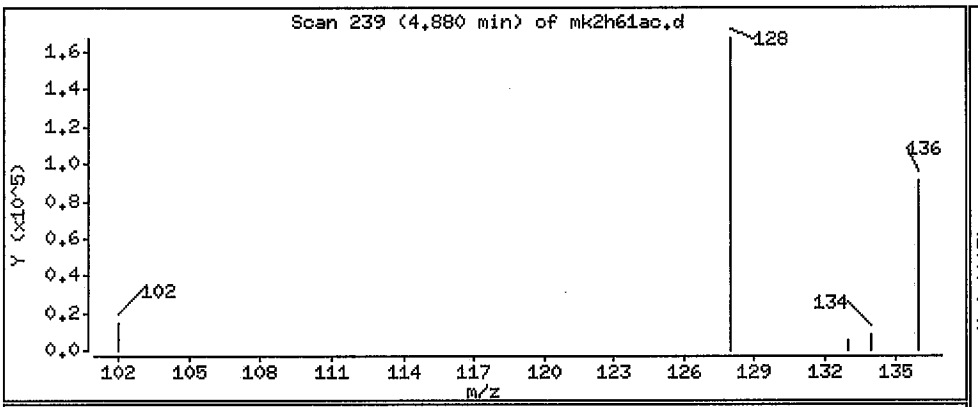
Operator: 11211

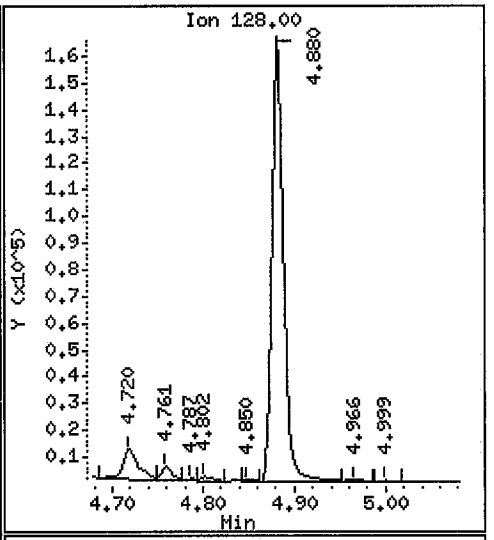
Column phase: Varian: 5MS

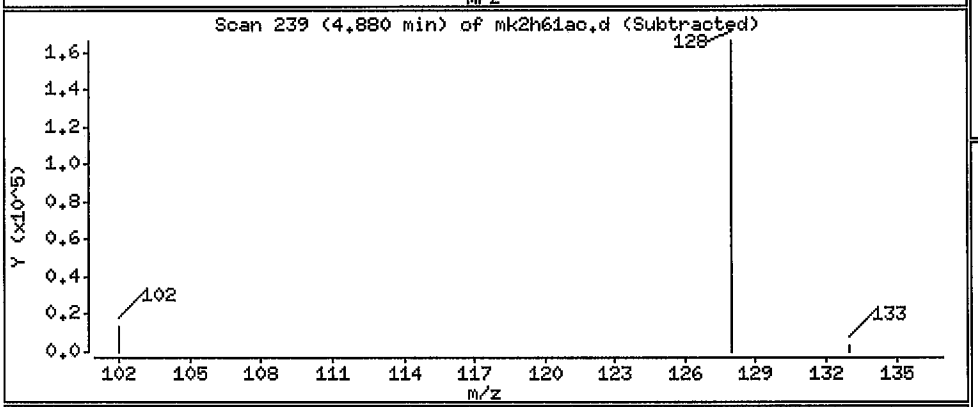
Column diameter: 0.25

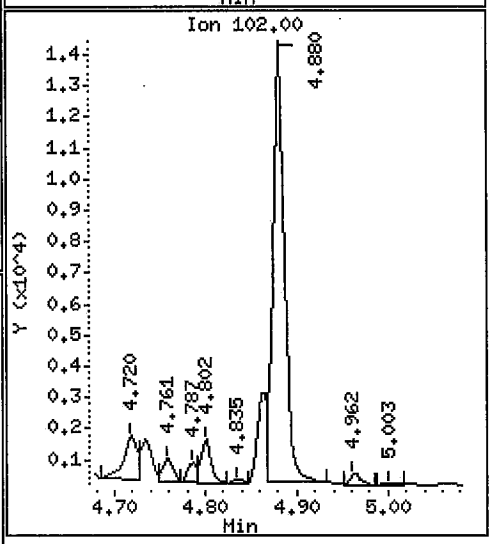
3 Naphthalene

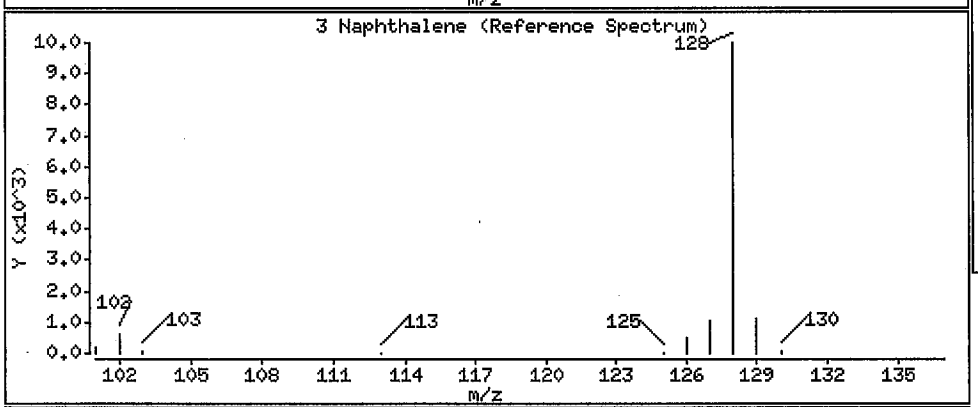
Concentration: 111 ng/sample

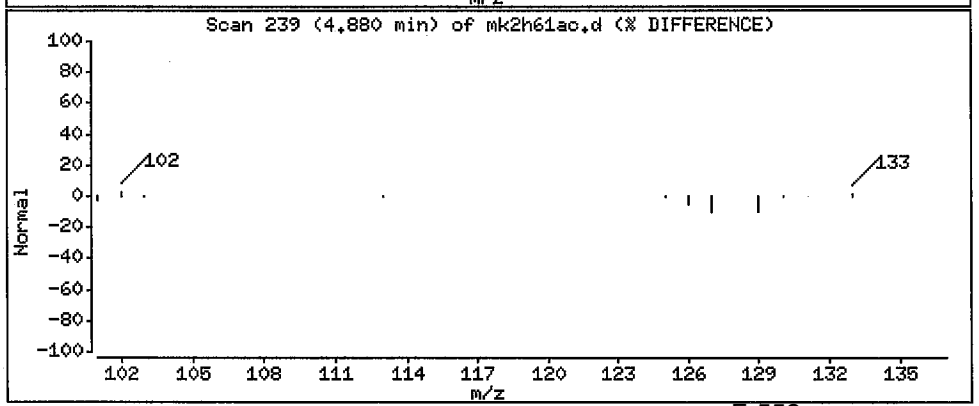












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

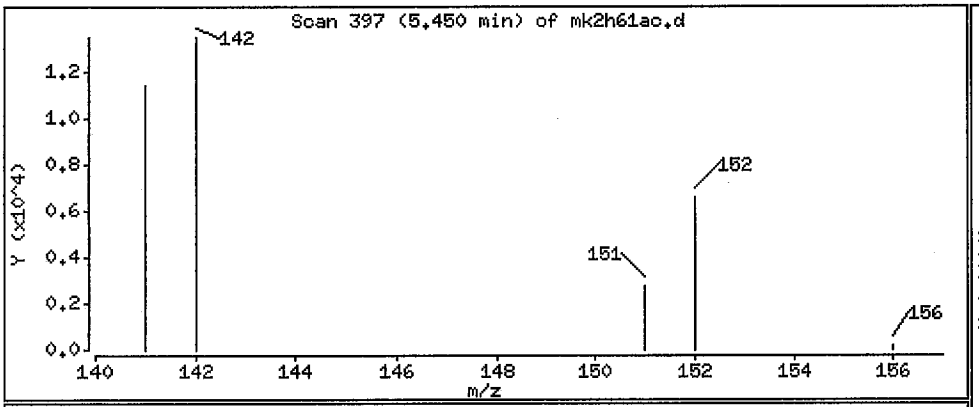
Operator: 11211

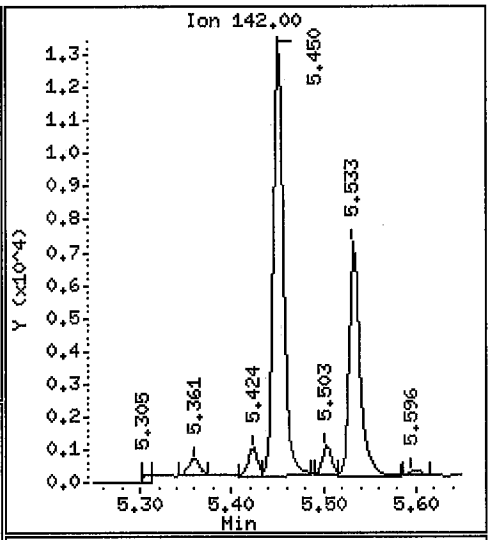
Column phase: Varian: 5MS

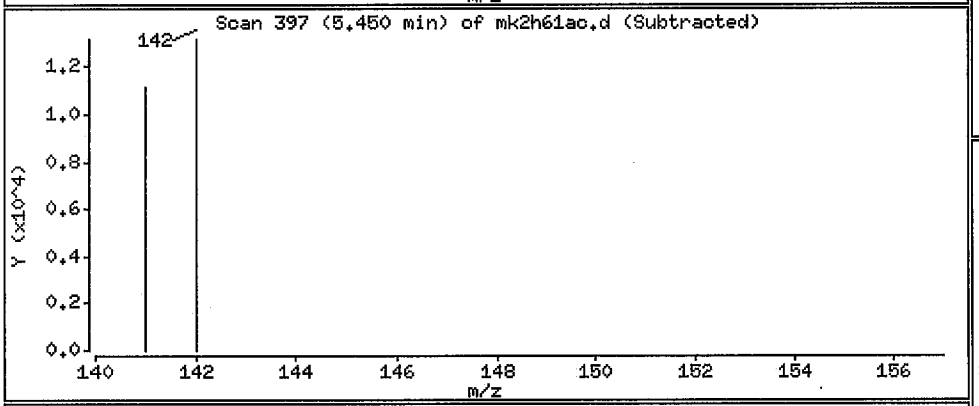
Column diameter: 0.25

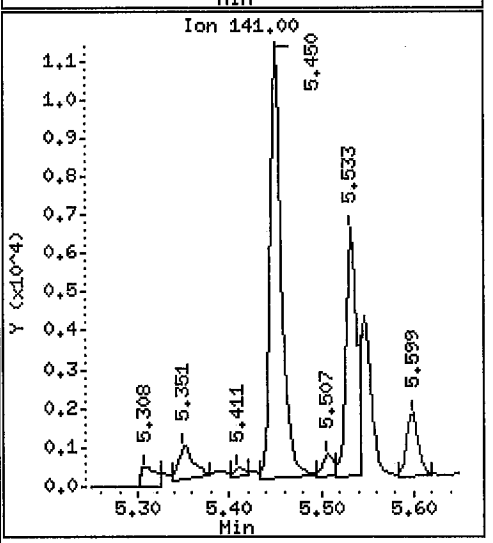
12 2-Methylnaphthalene

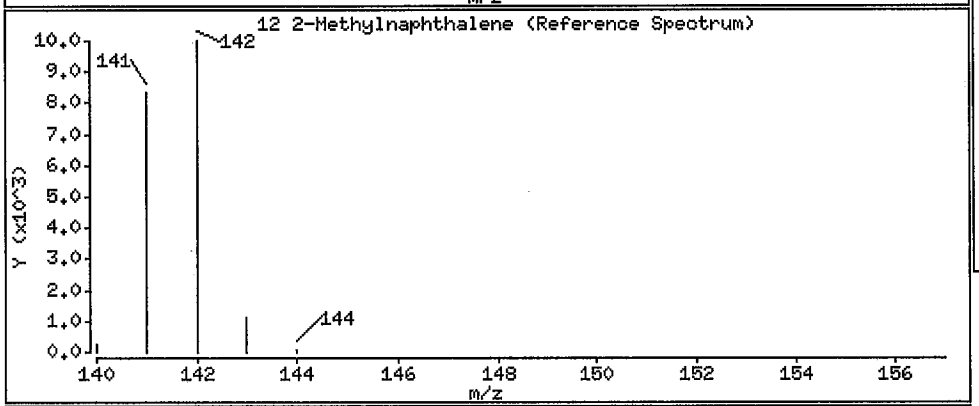
Concentration: 12.0 ng/sample

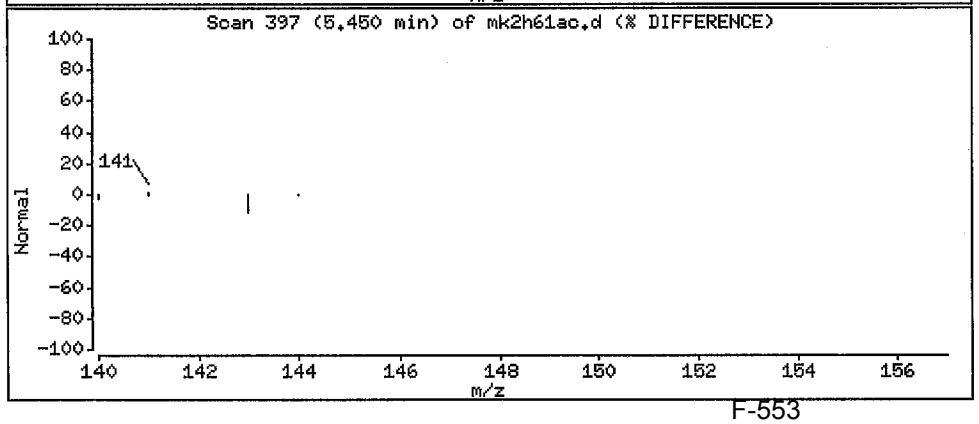












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

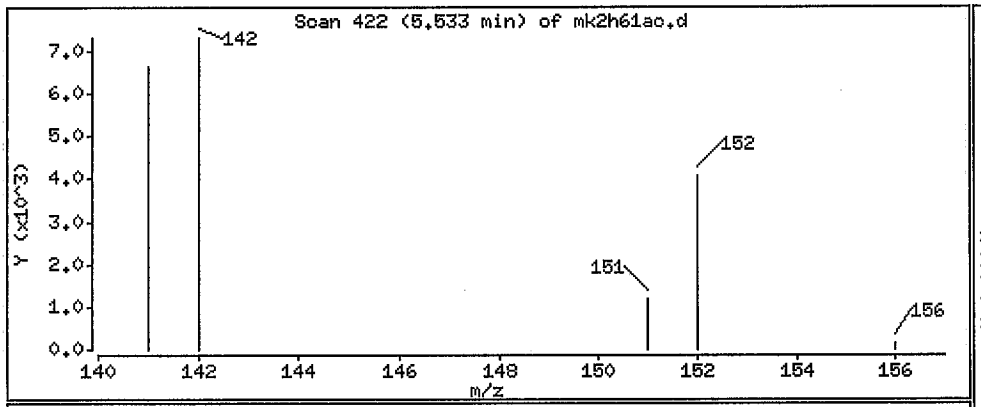
Operator: 11211

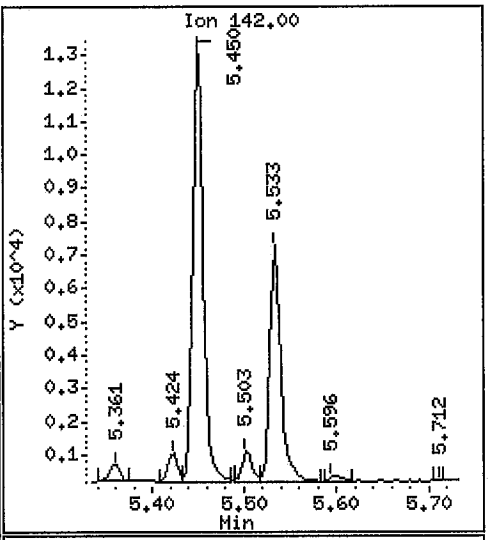
Column phase: Varian: 5MS

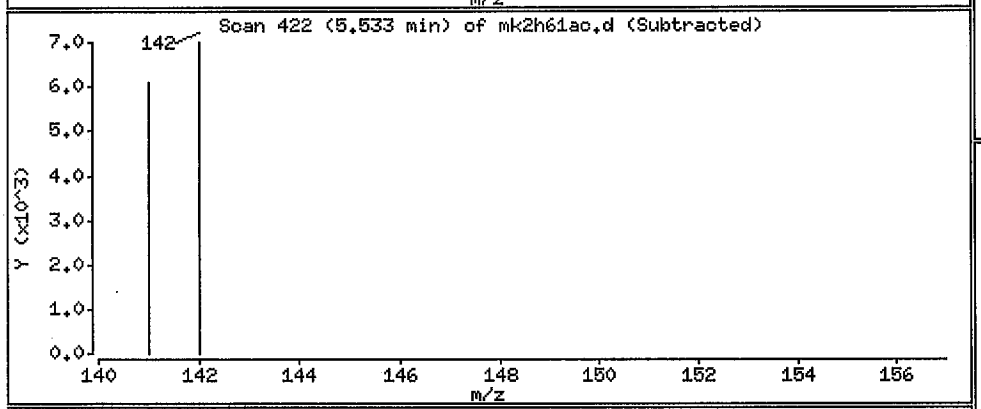
Column diameter: 0.25

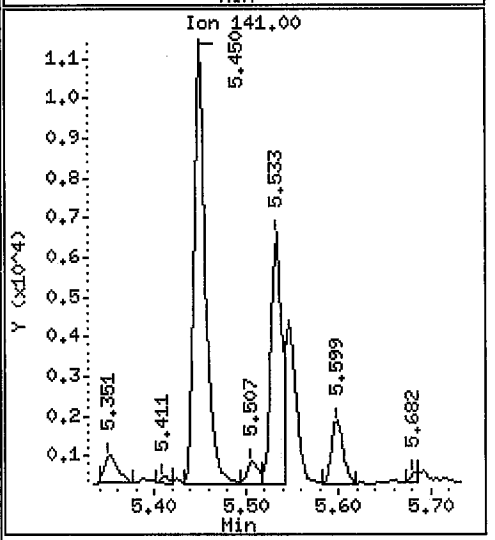
15 1-Methylnaphthalene

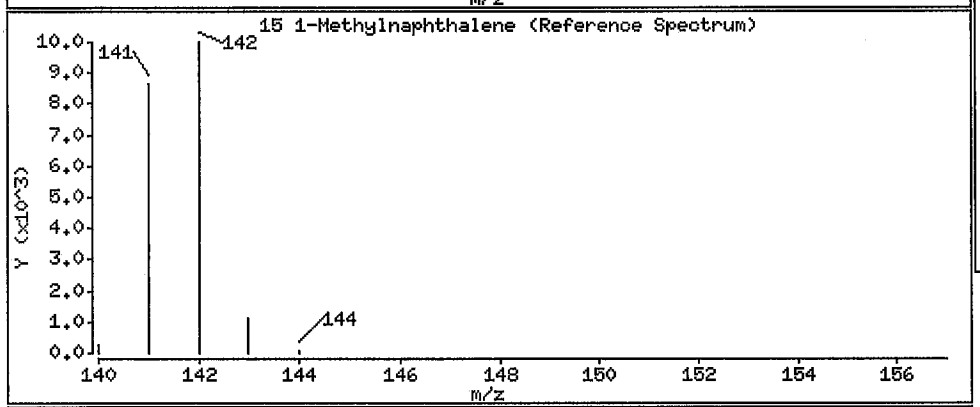
Concentration: 7.05 ng/sample

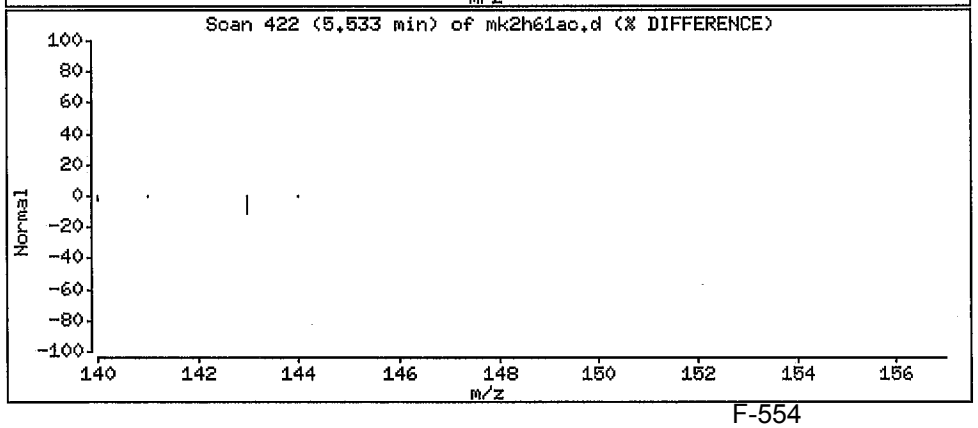












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

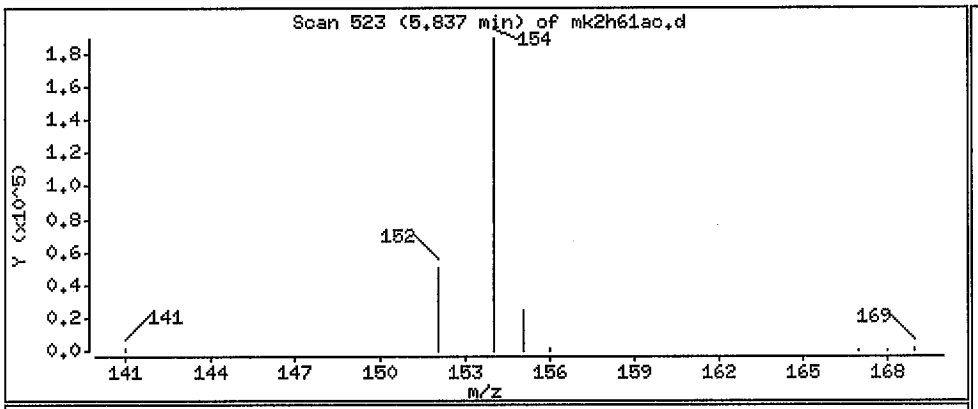
Operator: 11211

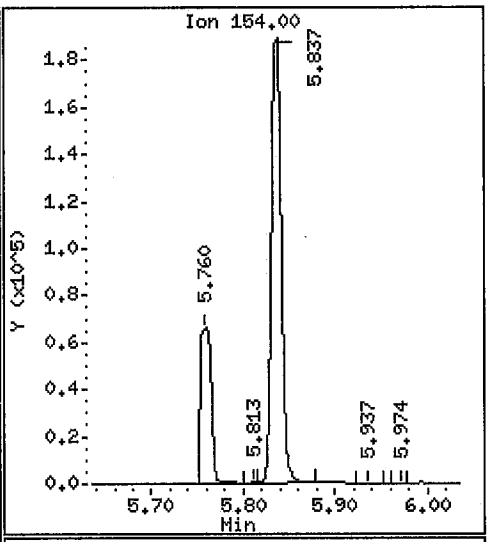
Column phase: Varian: 5MS

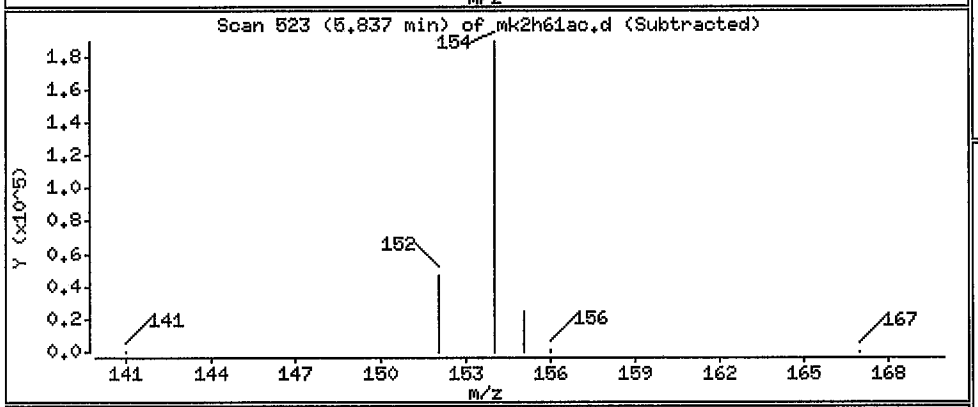
Column diameter: 0.25

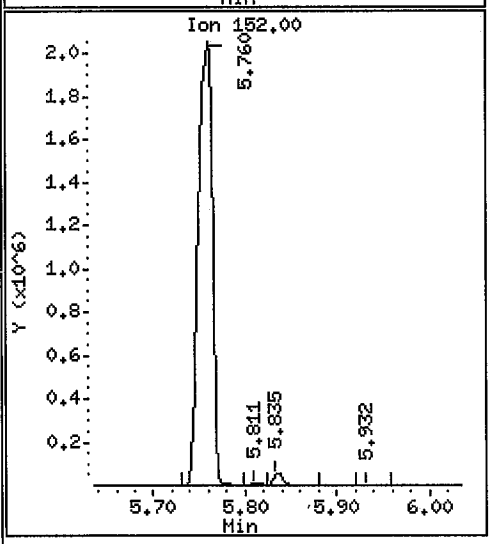
16 Biphenyl

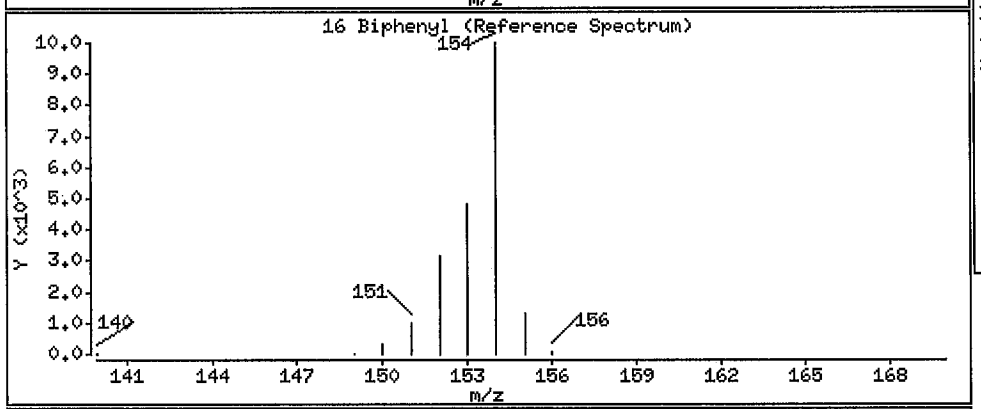
Concentration: 130 ng/sample

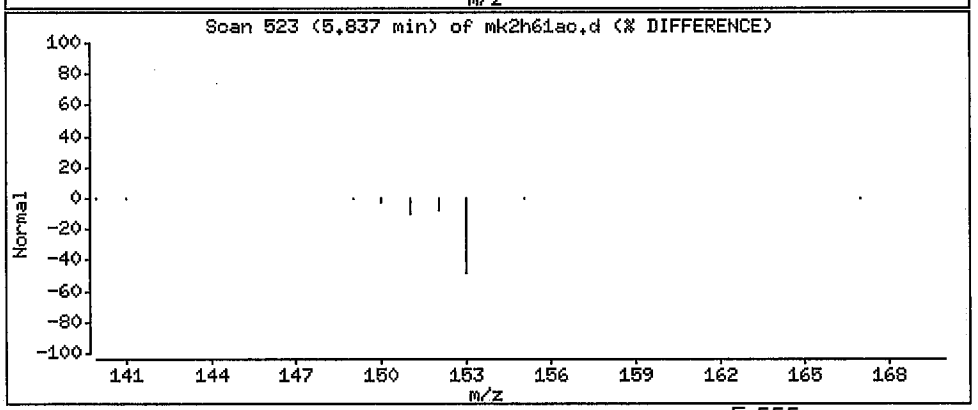












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

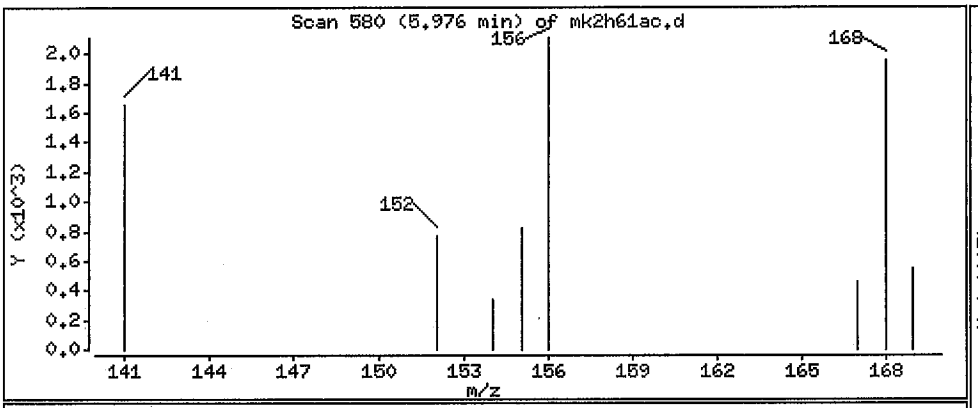
Operator: 11211

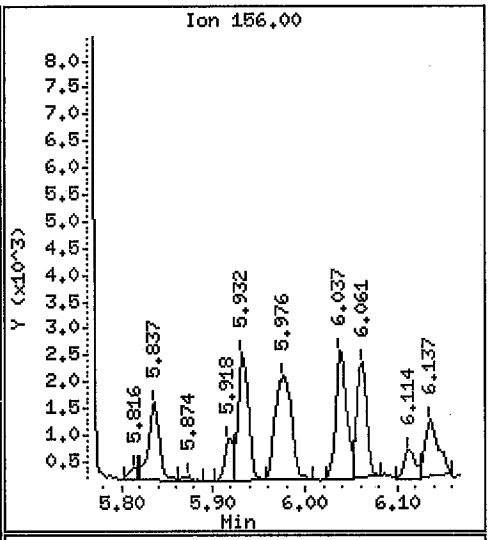
Column phase: Varian: 5MS

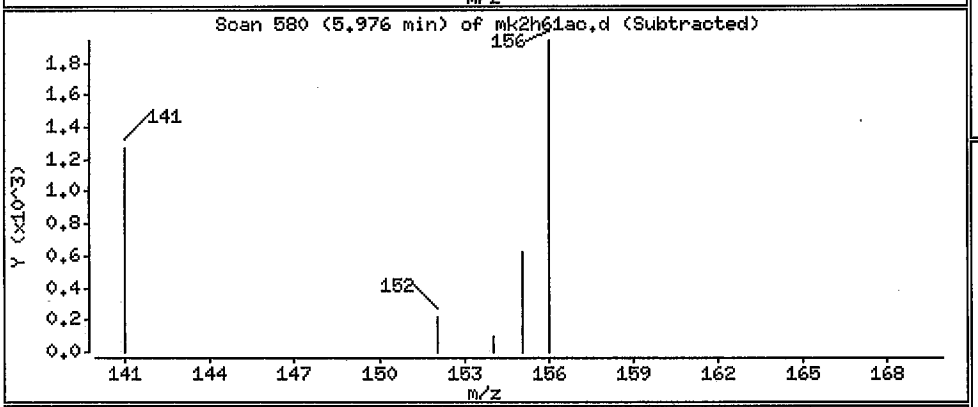
Column diameter: 0.25

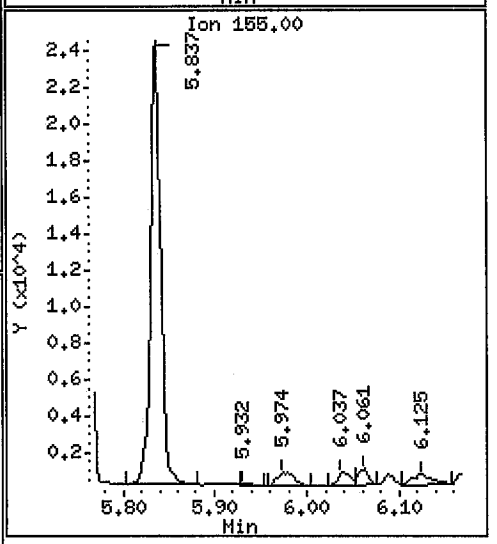
19 2,6 Dimethylnaphthalene

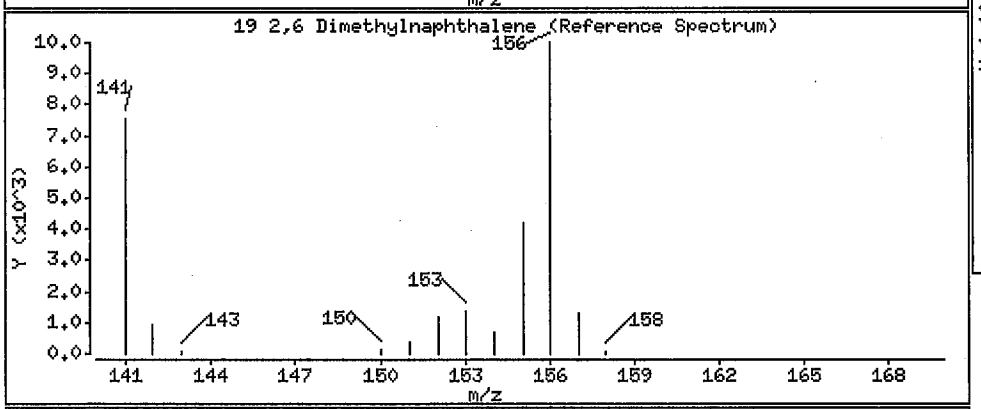
Concentration: 3.12 ng/sample

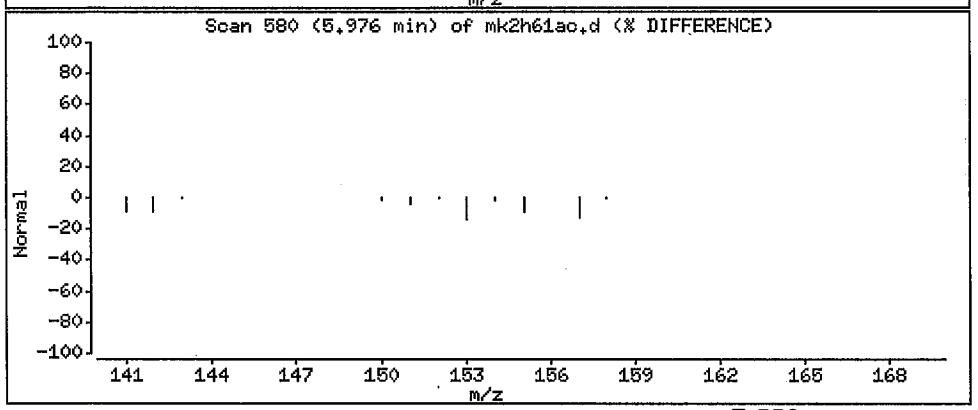












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

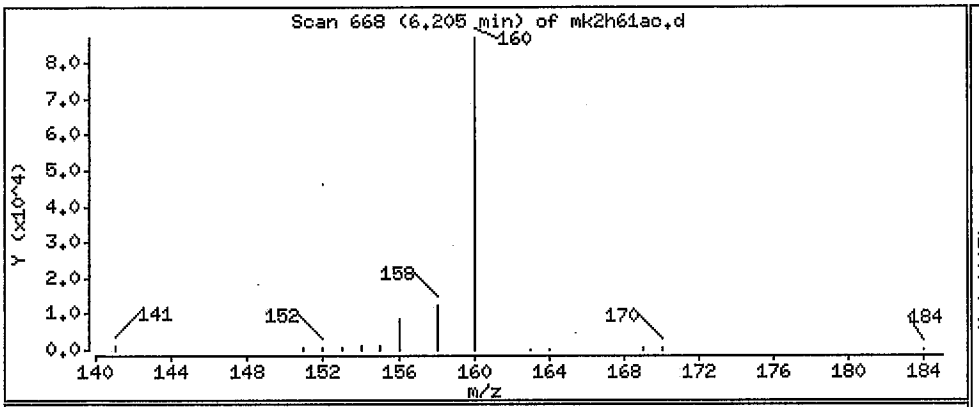
Operator: 11211

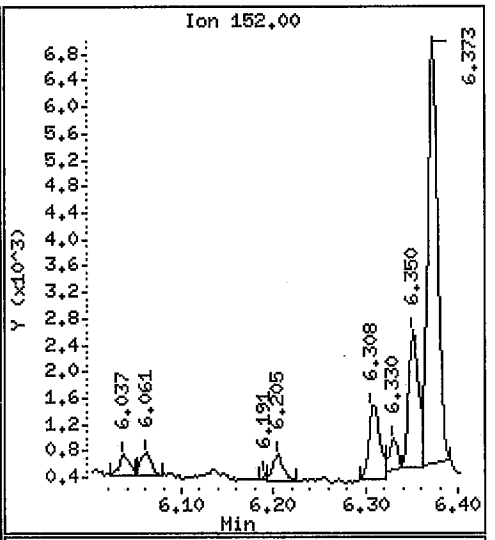
Column phase: Varian: 5MS

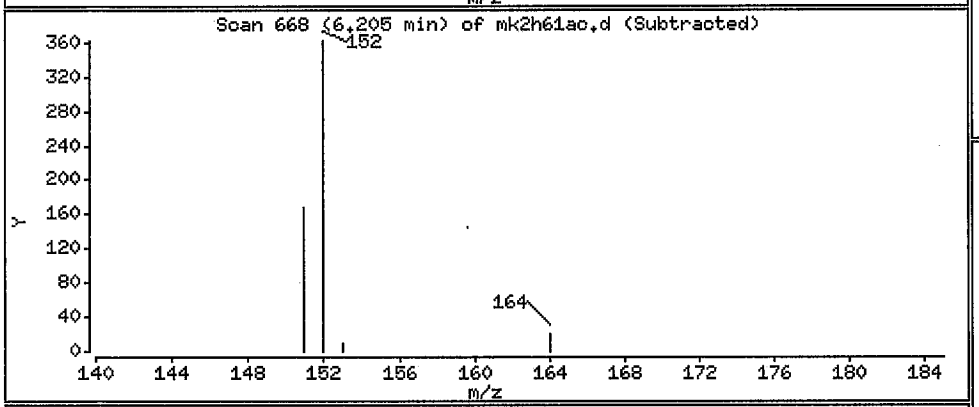
Column diameter: 0.25

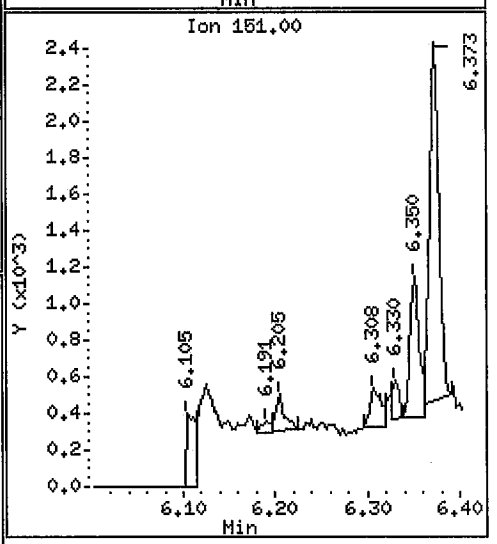
22 Acenaphthylene

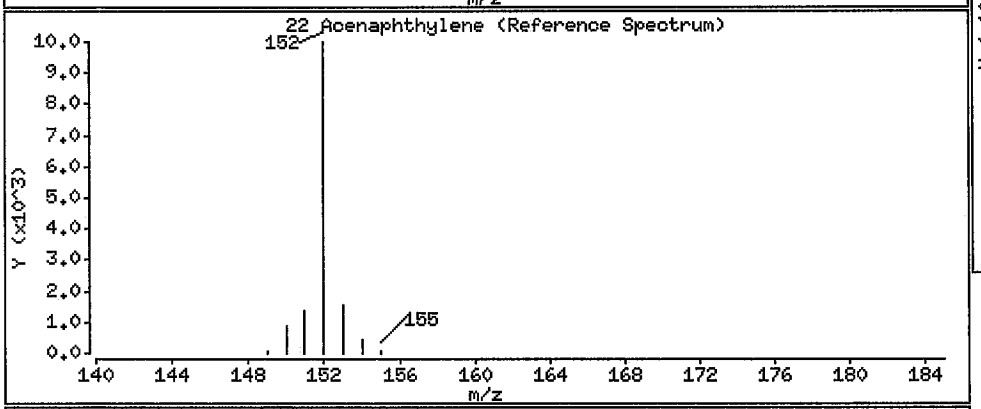
Concentration: 0.219 ng/sample

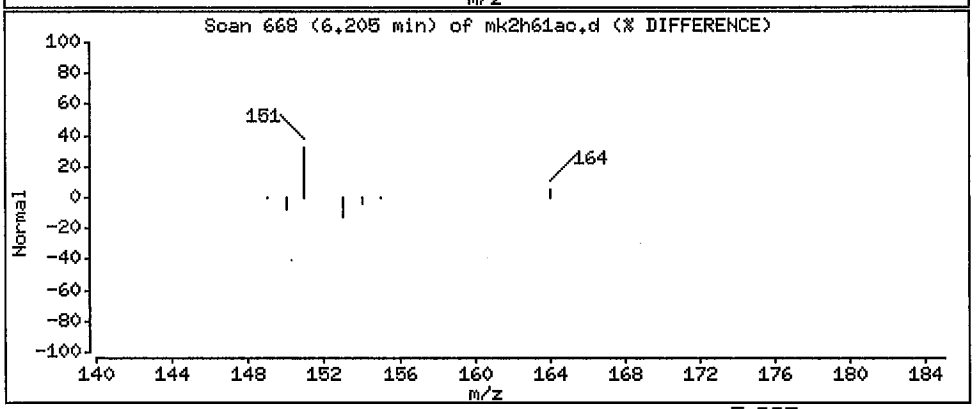












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

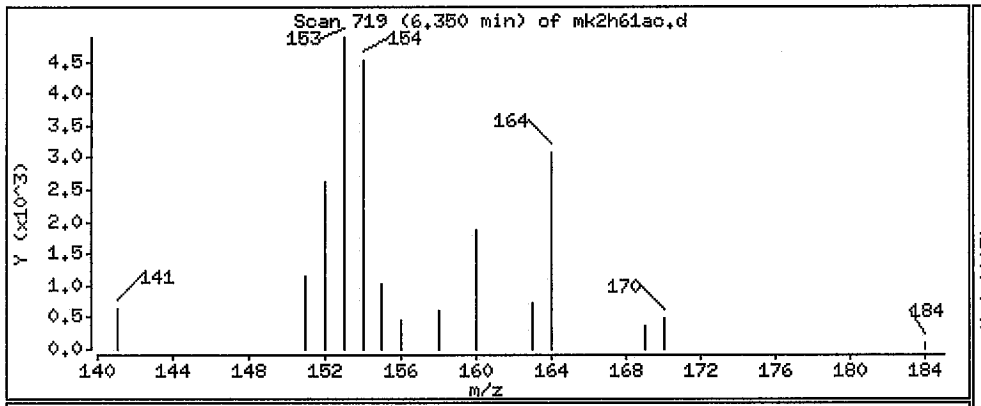
Operator: 11211

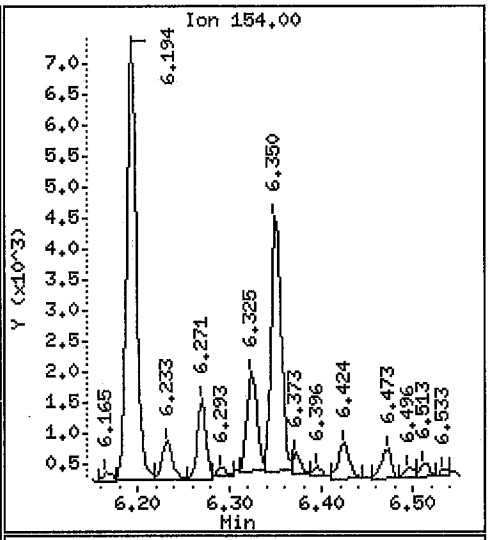
Column phase: Varian: 5MS

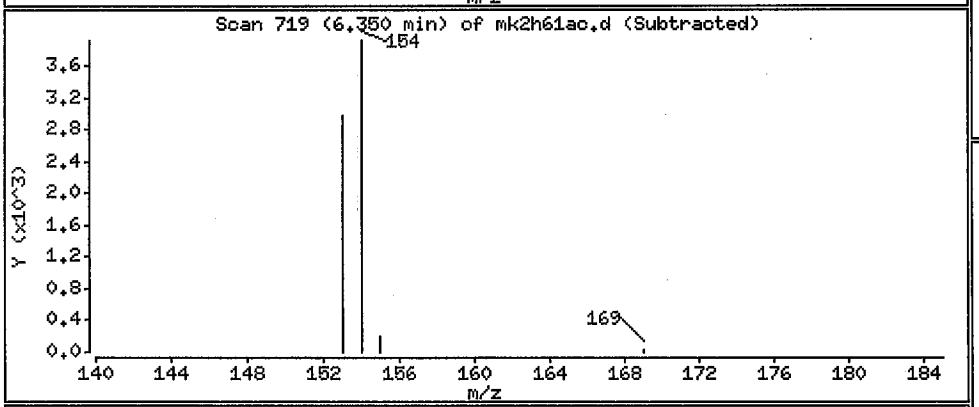
Column diameter: 0.25

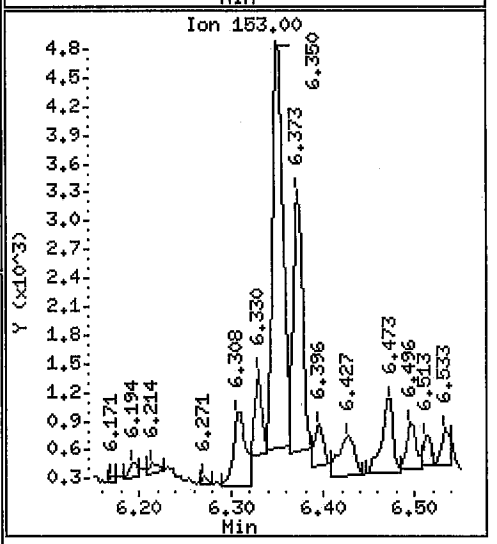
24 Acenaphthene

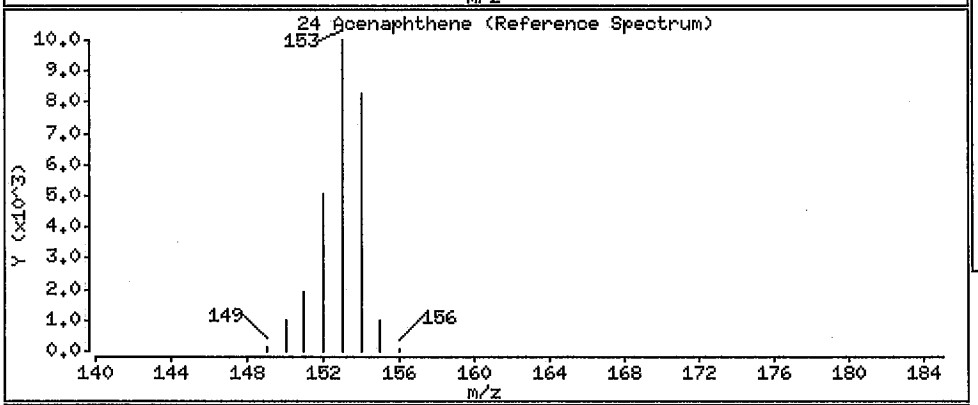
Concentration: 3.55 ng/sample

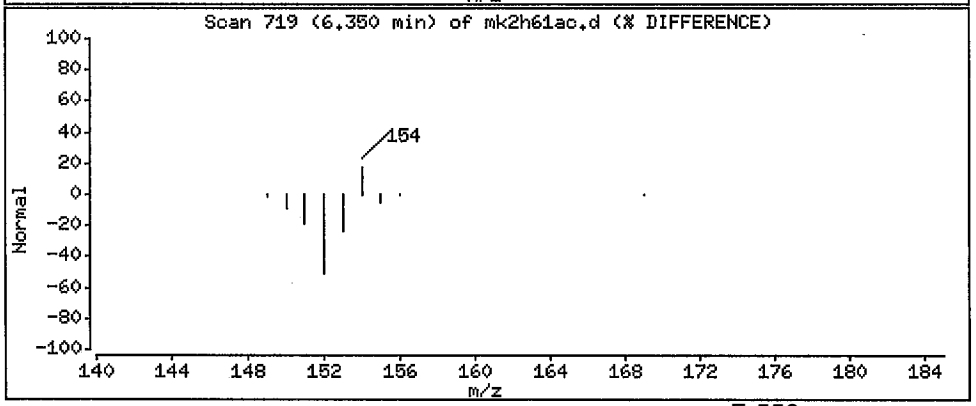












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

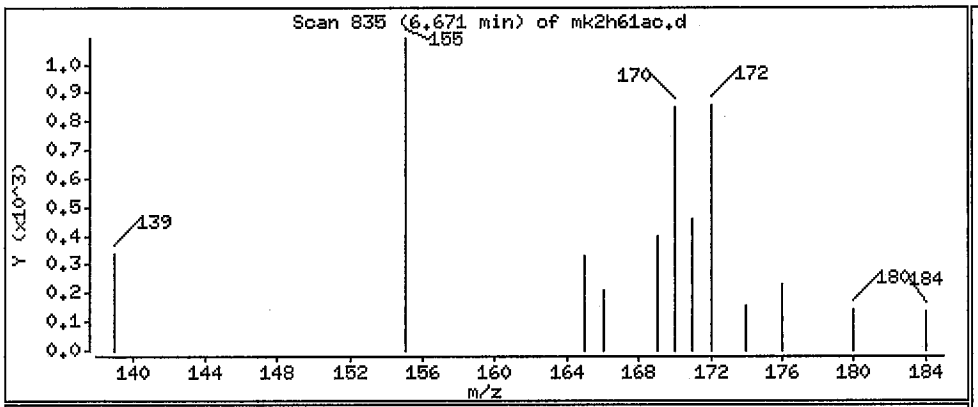
Operator: 11211

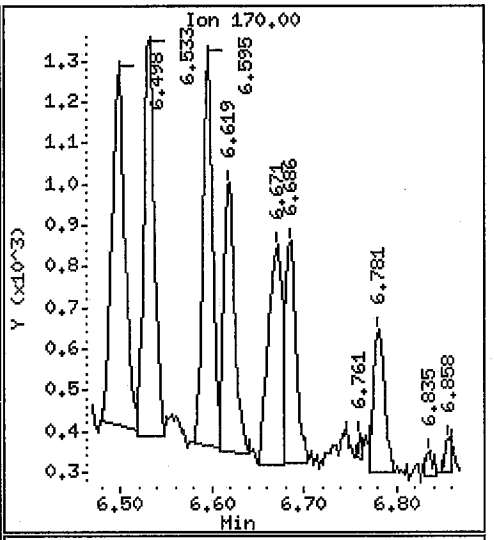
Column phase: Varian: 5MS

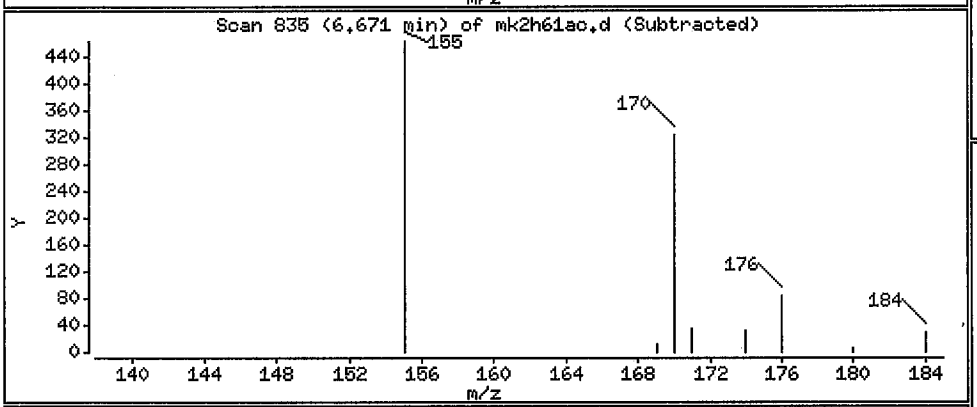
Column diameter: 0.25

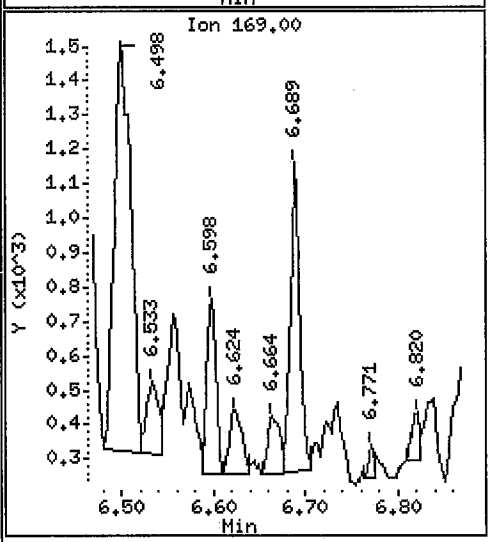
25 2,3,5 Trimethylnaphthalene

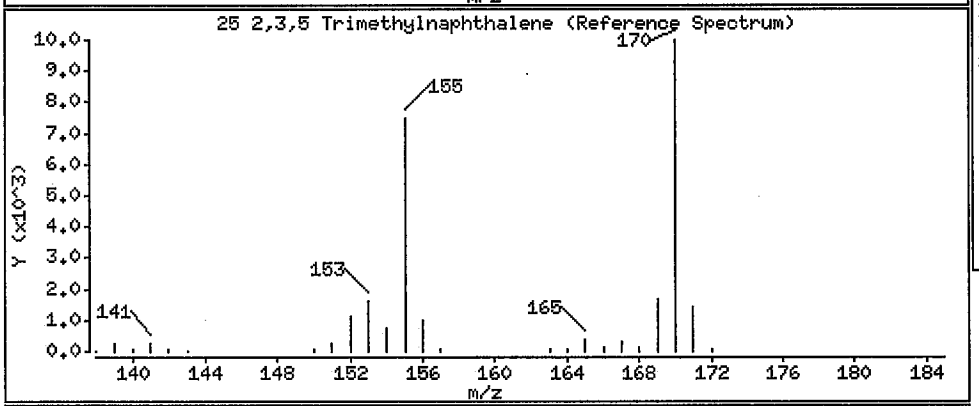
Concentration: 0.912 ng/sample

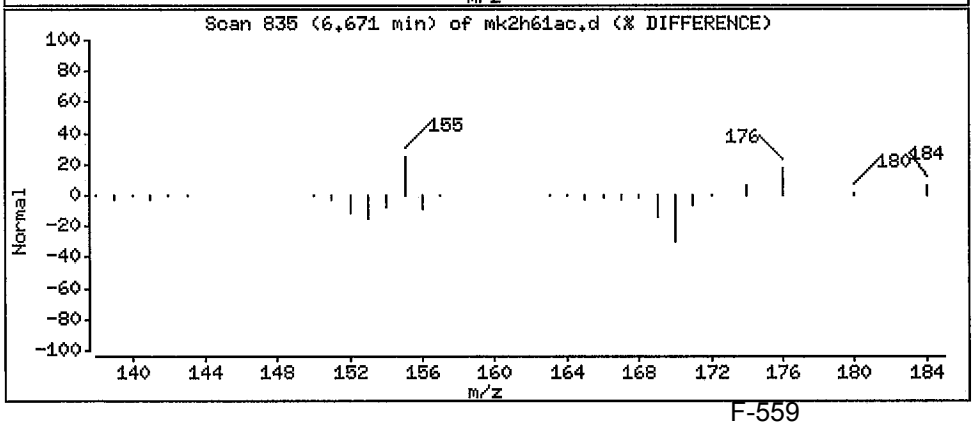












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

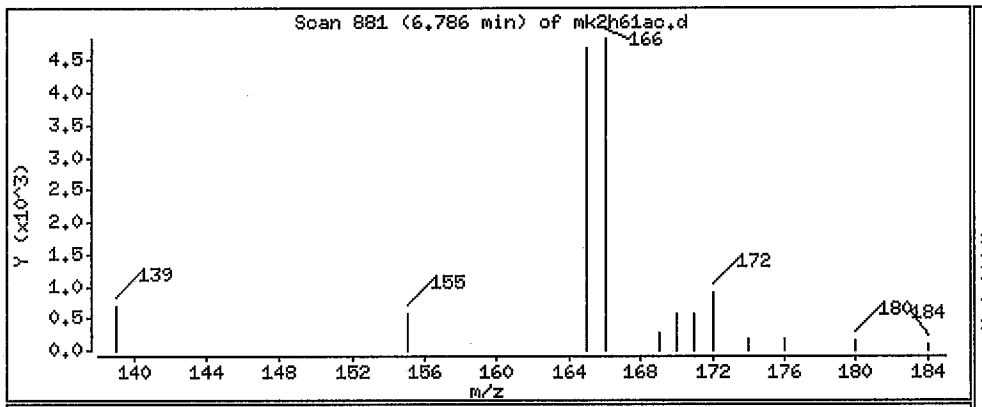
Operator: 11211

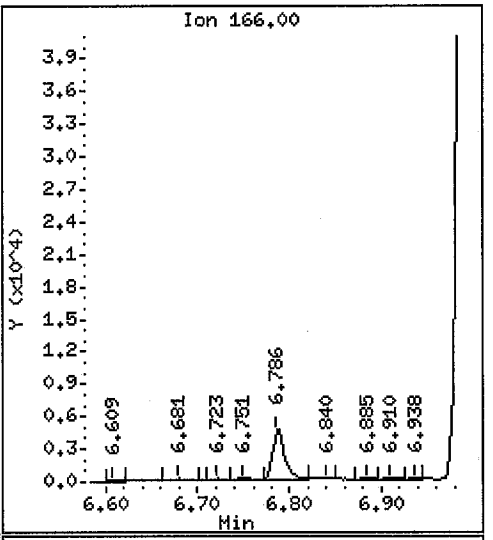
Column phase: Varian: 5MS

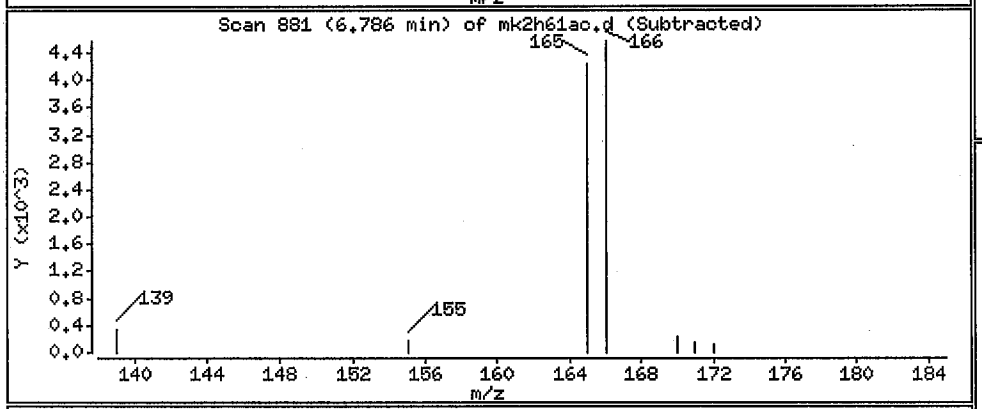
Column diameter: 0.25

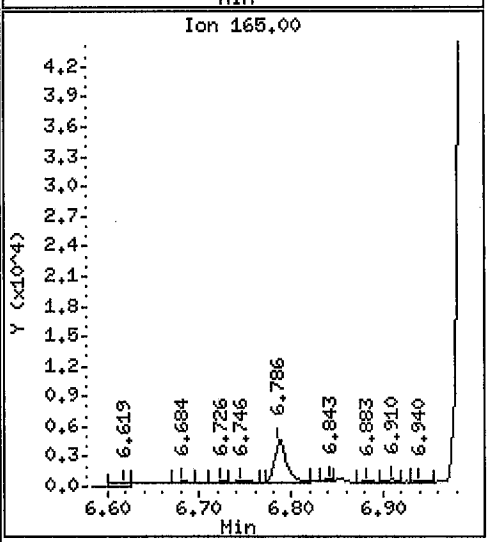
27 Fluorene

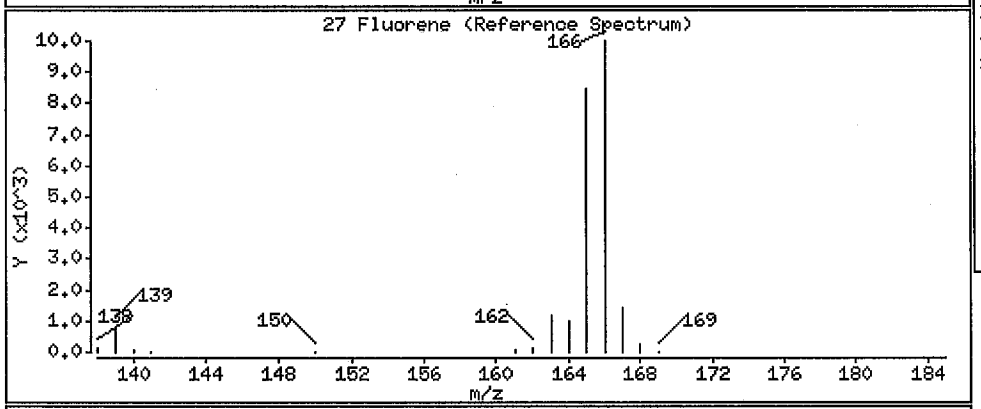
Concentration: 4.71 ng/sample

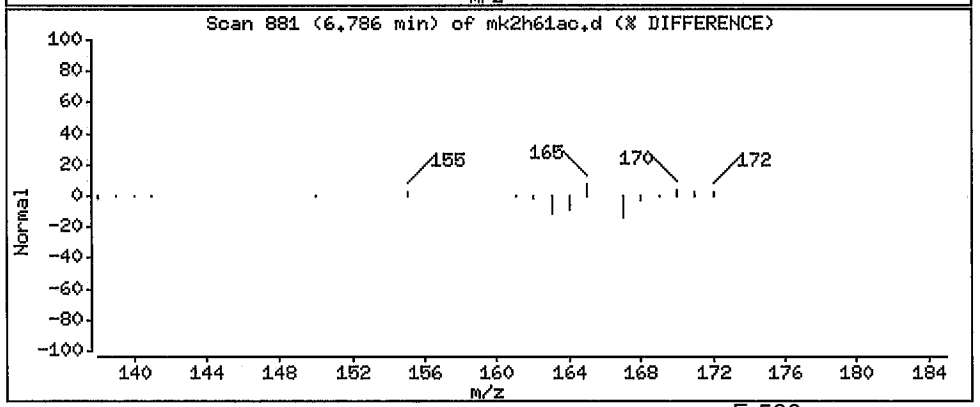












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

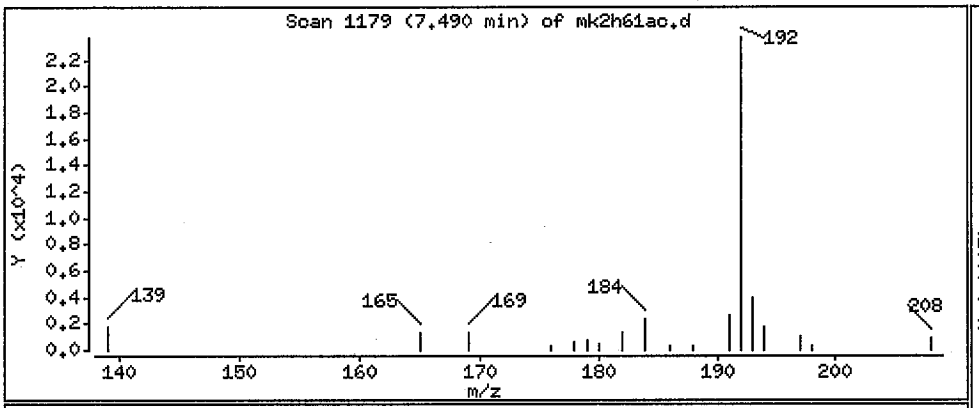
Operator: 11211

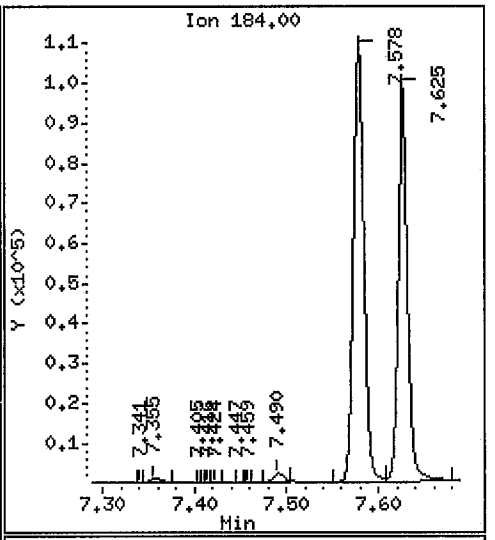
Column phase: Varian: 5MS

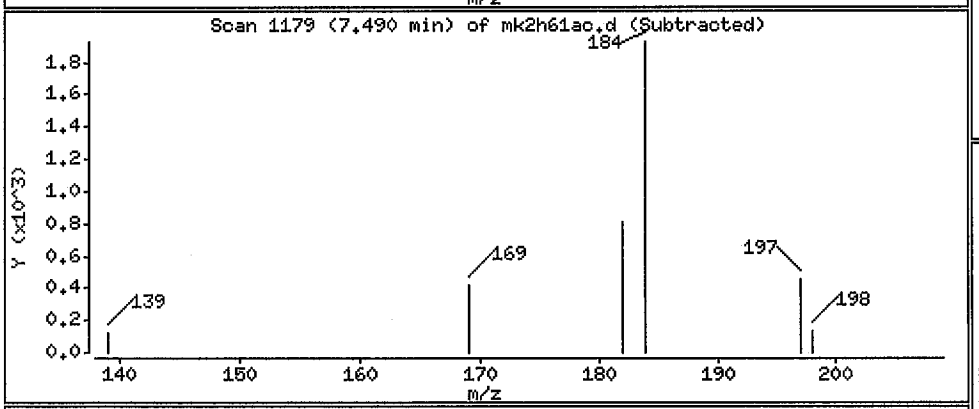
Column diameter: 0.25

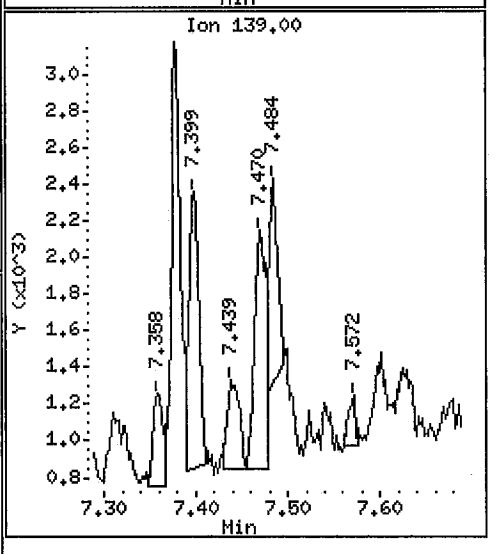
36 Dibenzothiophene

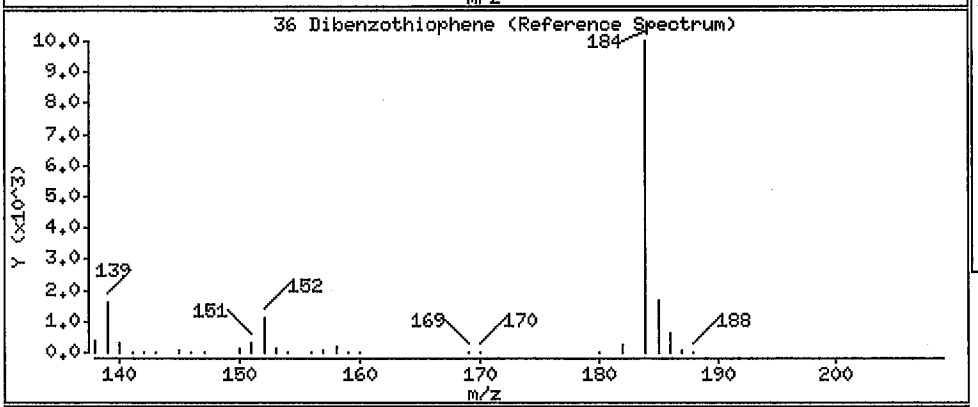
Concentration: 1.48 ng/sample

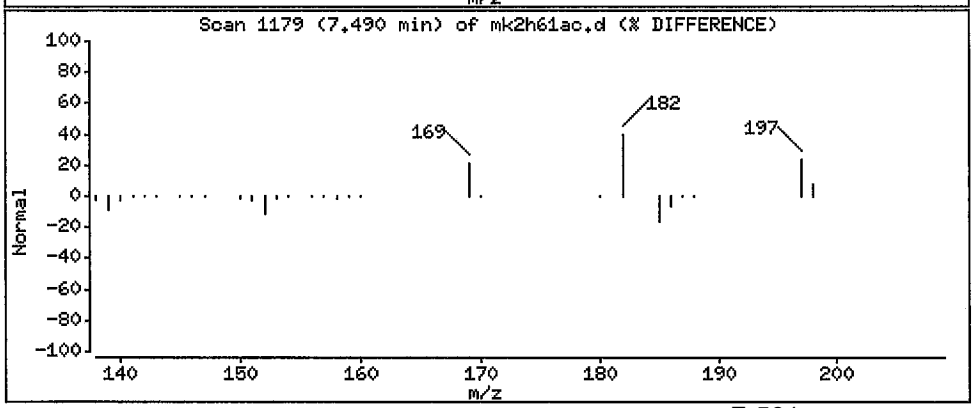












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

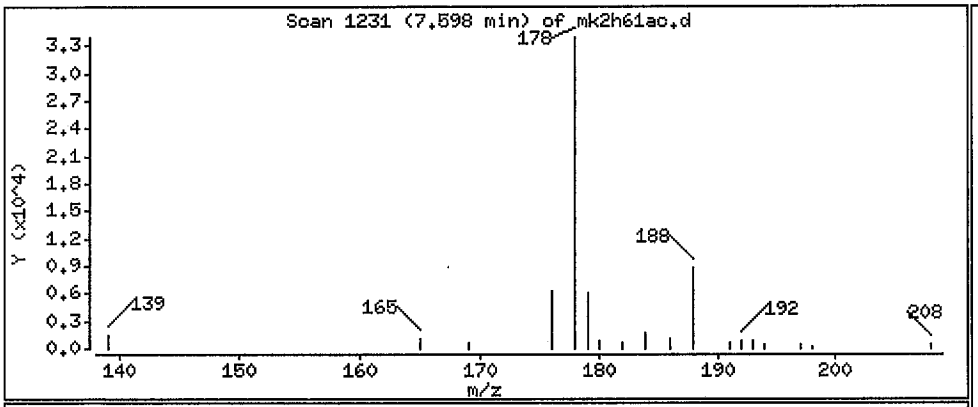
Operator: 11211

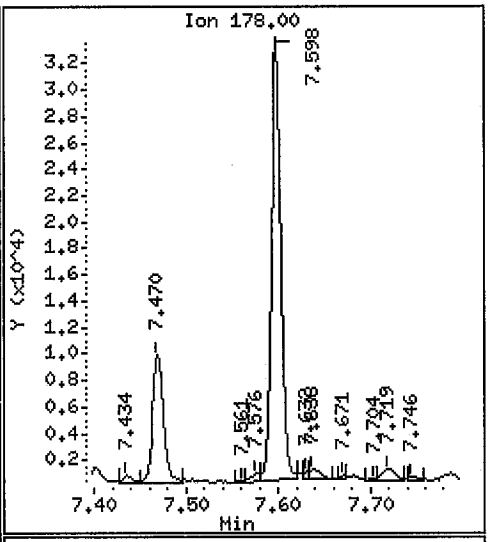
Column phase: Varian: 5MS

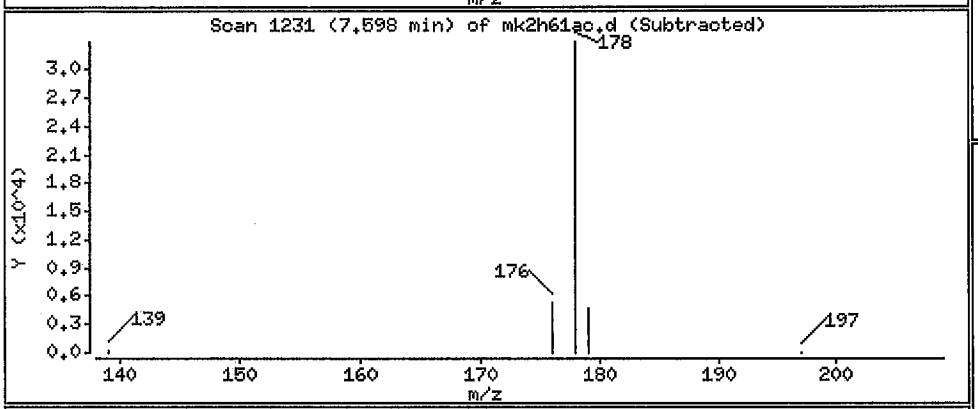
Column diameter: 0.25

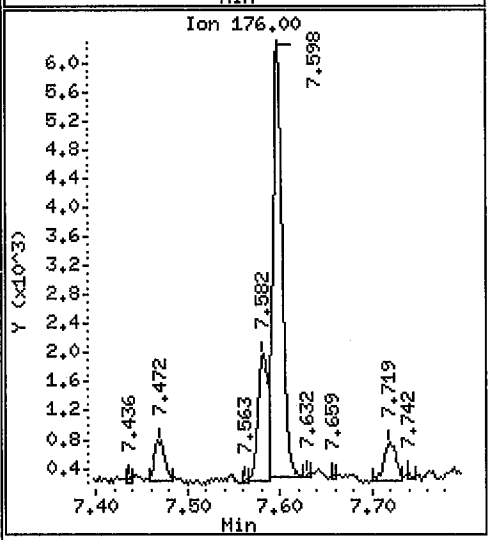
43 Phenanthrene

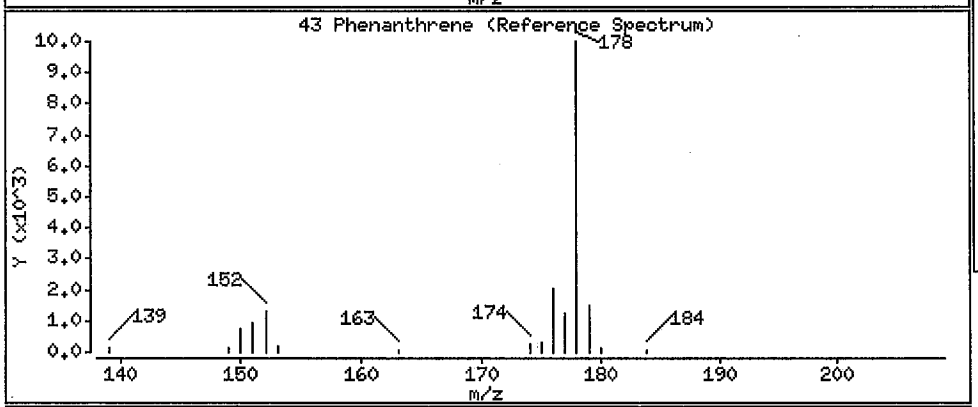
Concentration: 20.7 ng/sample

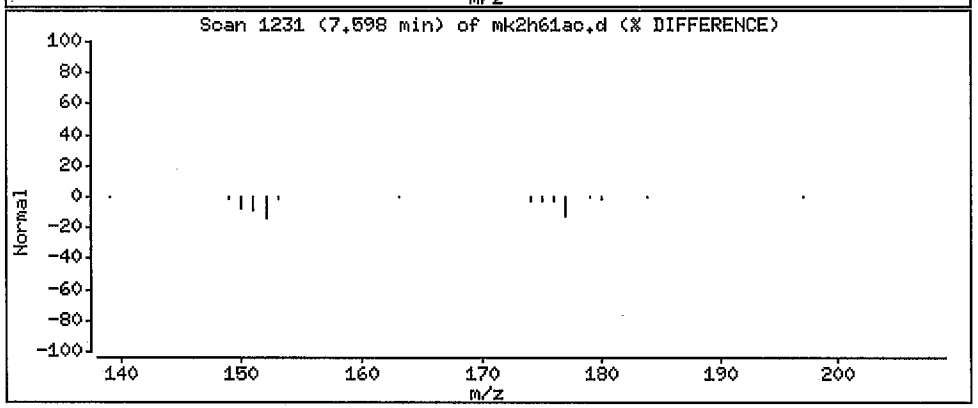












Data File: /var/chem/goms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

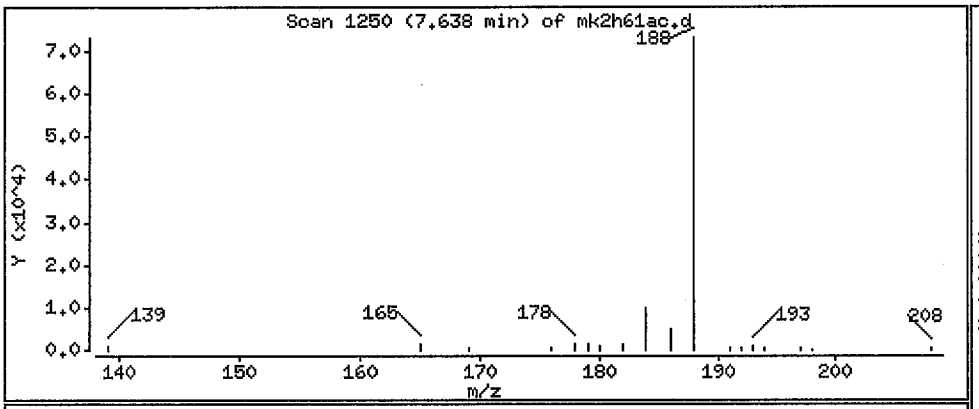
Operator: 11211

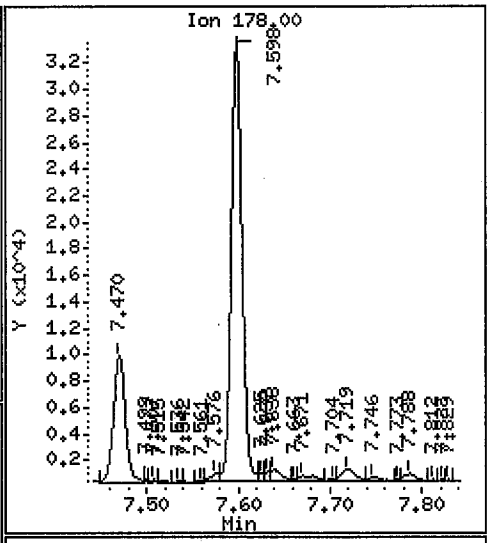
Column phase: Varian: 5MS

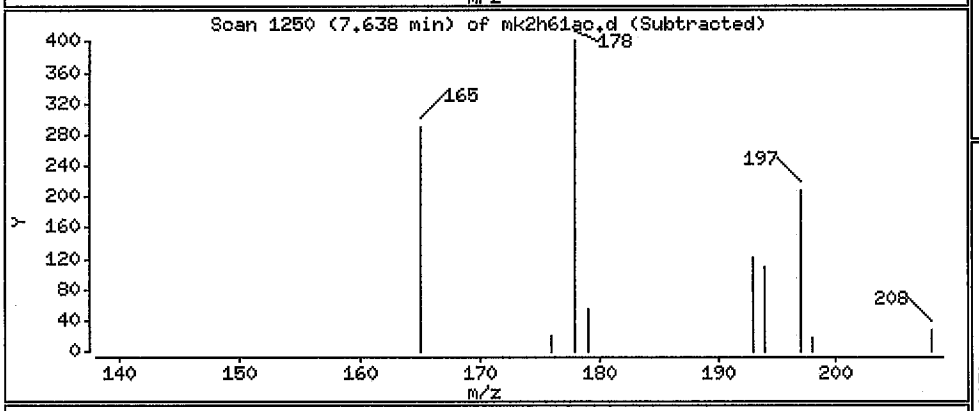
Column diameter: 0.25

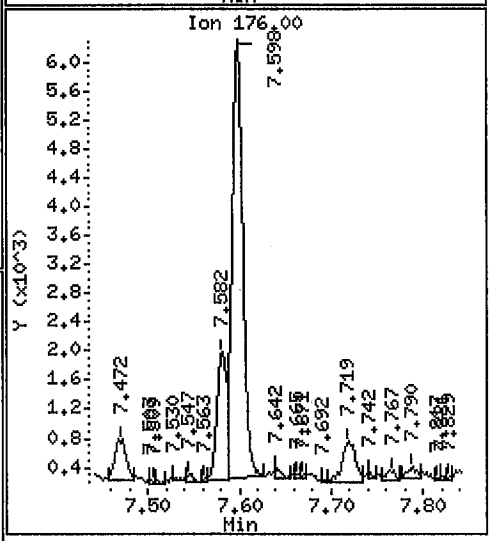
46 Anthracene

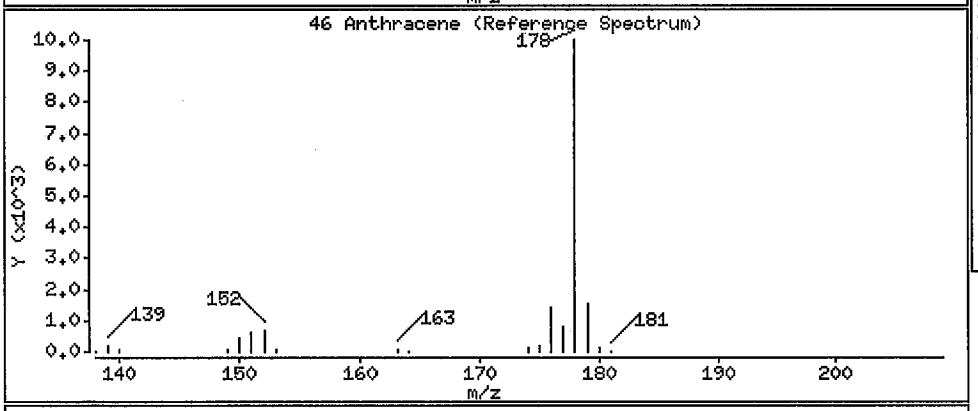
Concentration: 0.517 ng/sample

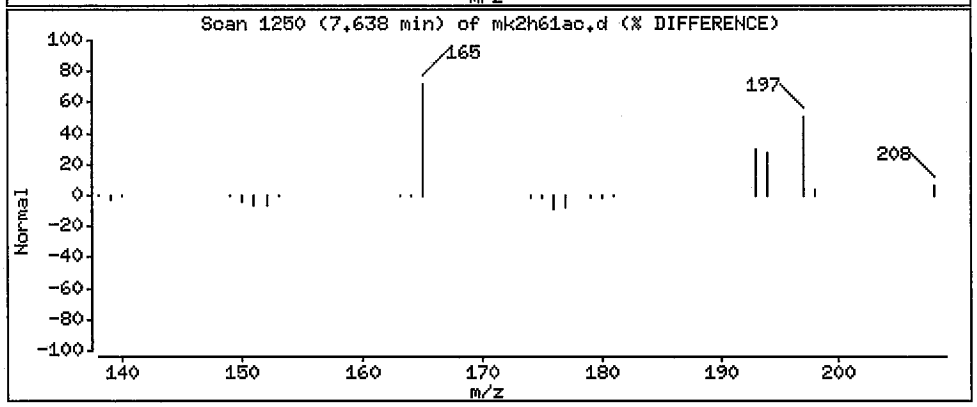












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

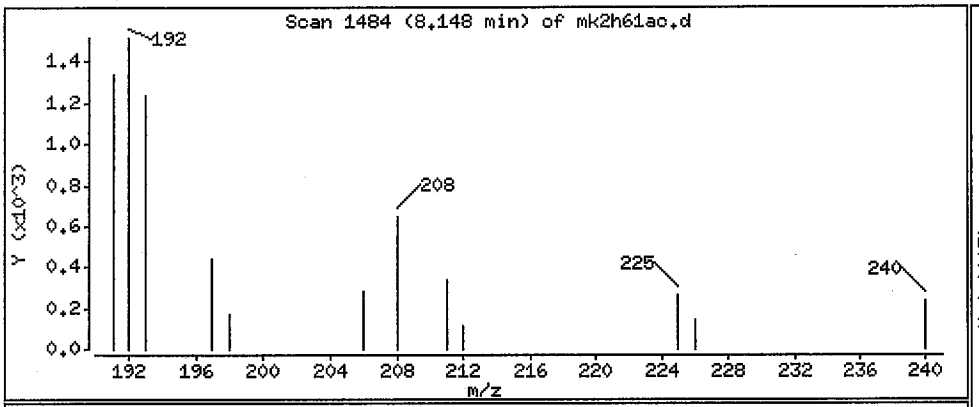
Operator: 11211

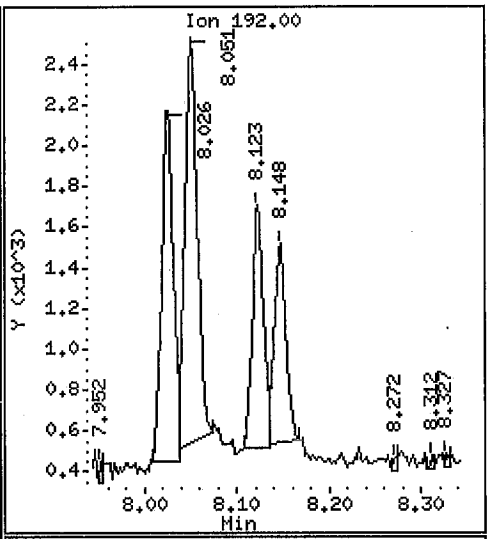
Column phase: Varian: 5MS

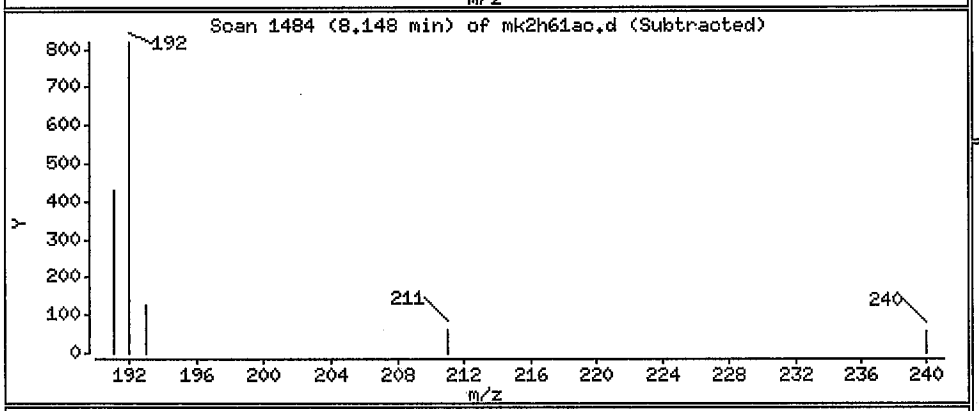
Column diameter: 0.25

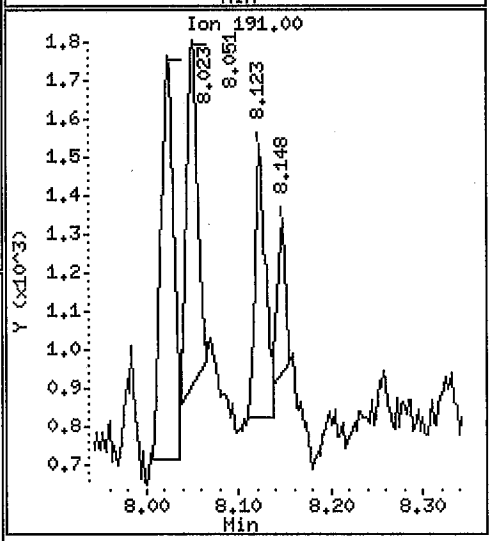
52 1-Methylphenanthrene

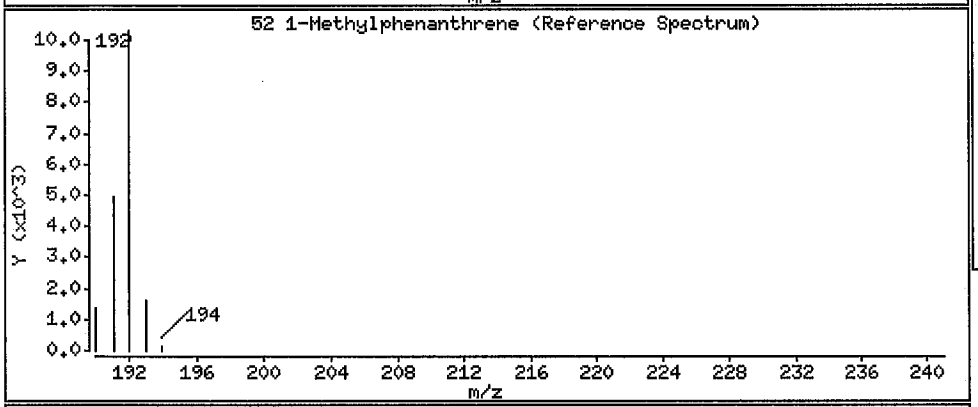
Concentration: 1.14 ng/sample

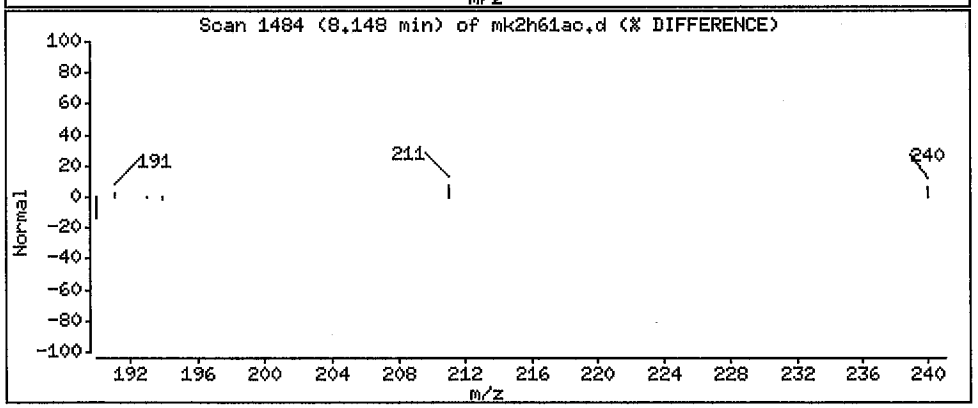












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

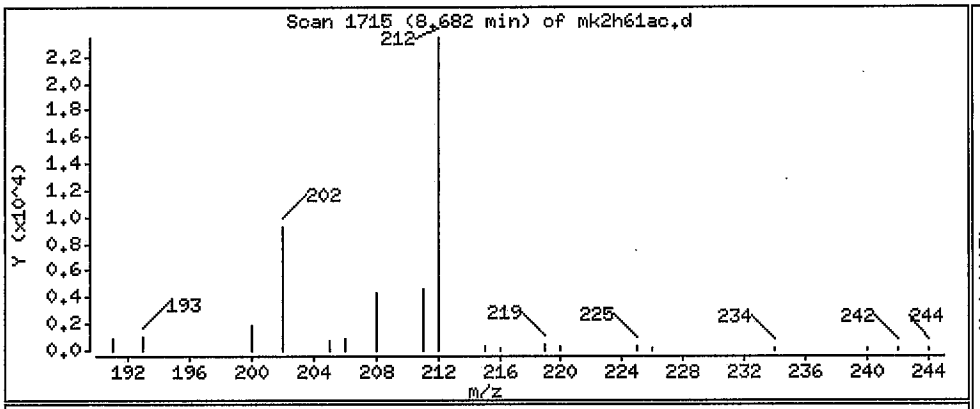
Operator: 11211

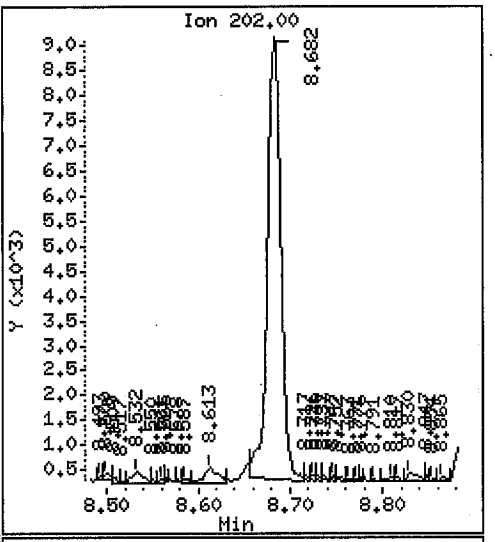
Column phase: Varian: 5MS

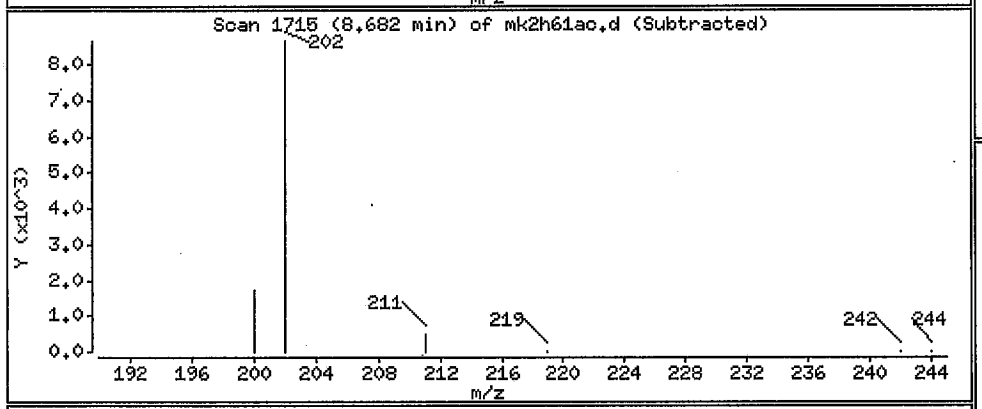
Column diameter: 0.25

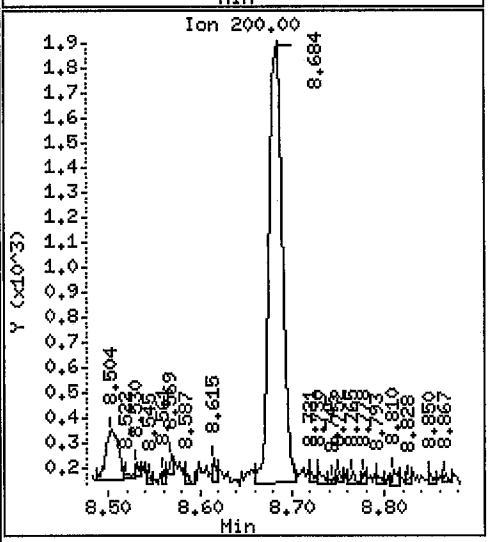
55 Fluoranthene

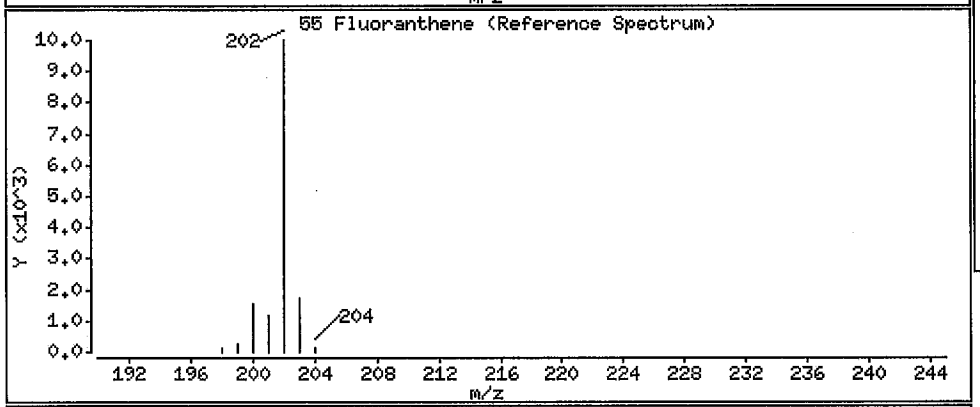
Concentration: 5.72 ng/sample

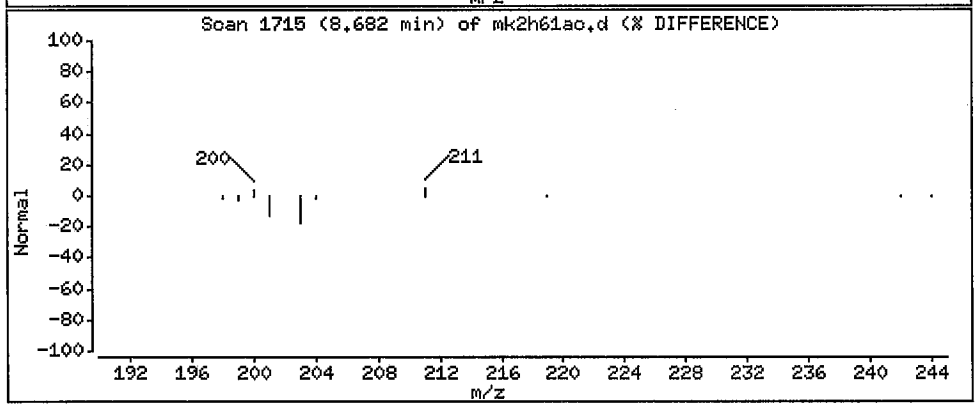












Data File: /var/chem/goms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

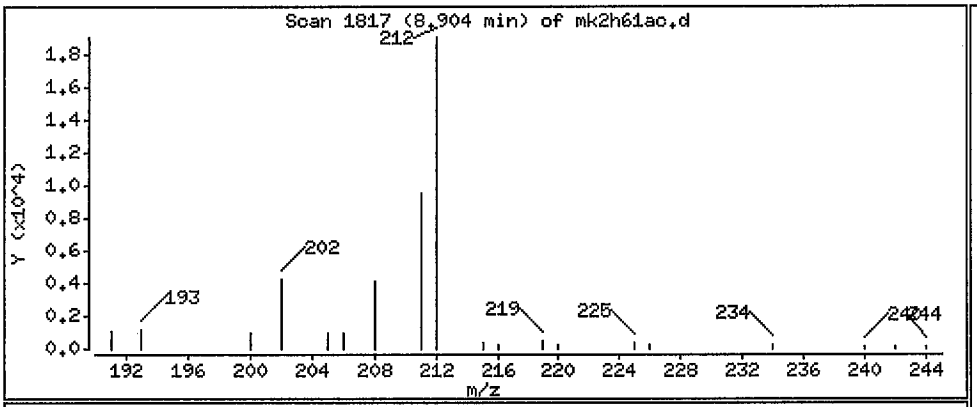
Operator: 11211

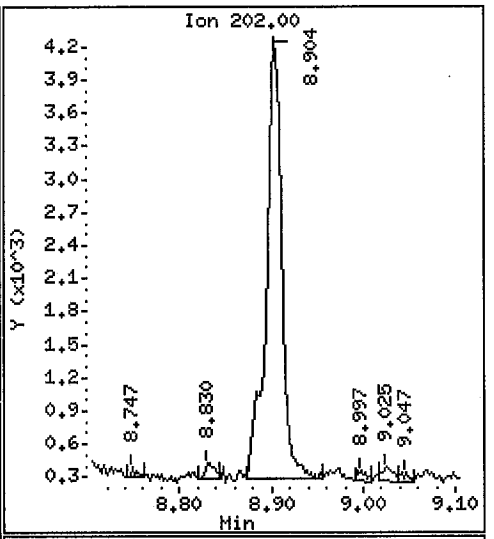
Column phase: Varian: 5MS

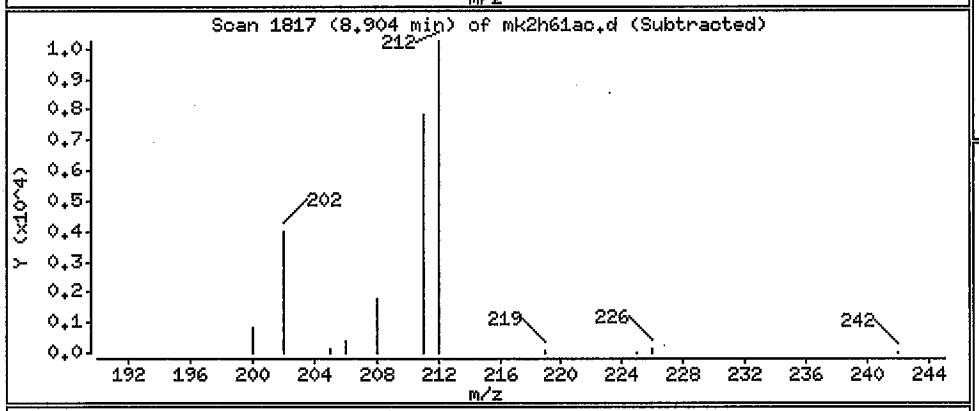
Column diameter: 0.25

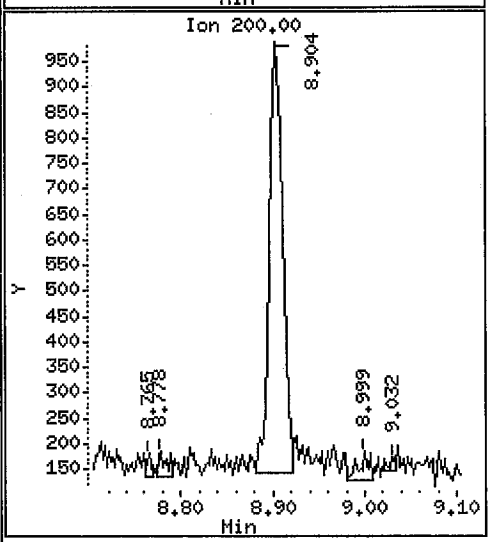
57 Pyrene

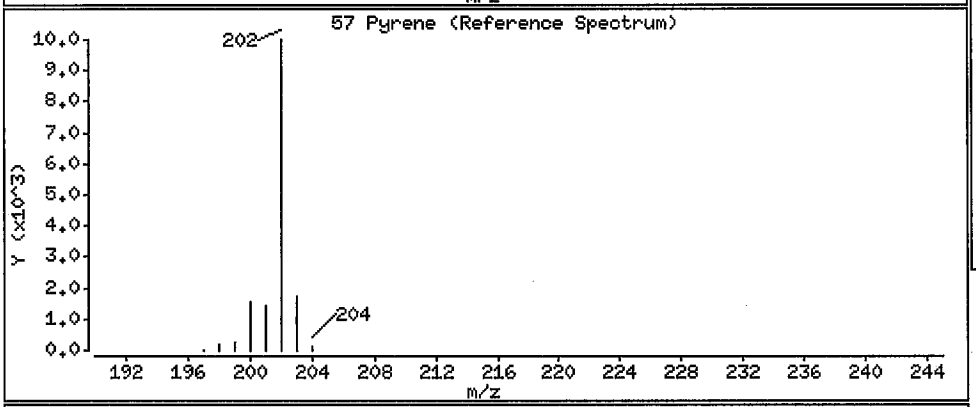
Concentration: 2.80 ng/sample

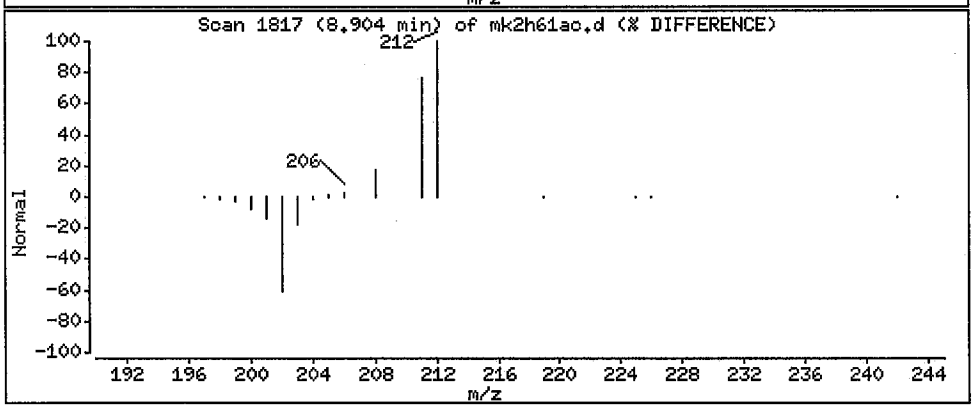












Data File: /var/chem/goms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

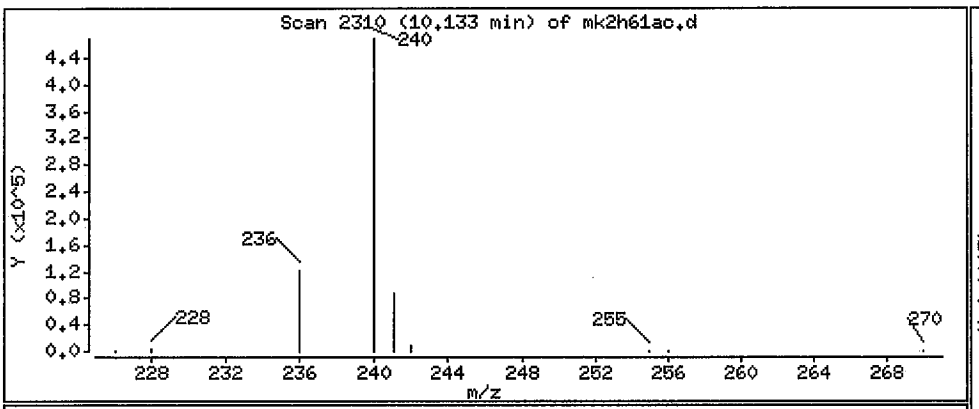
Operator: 11211

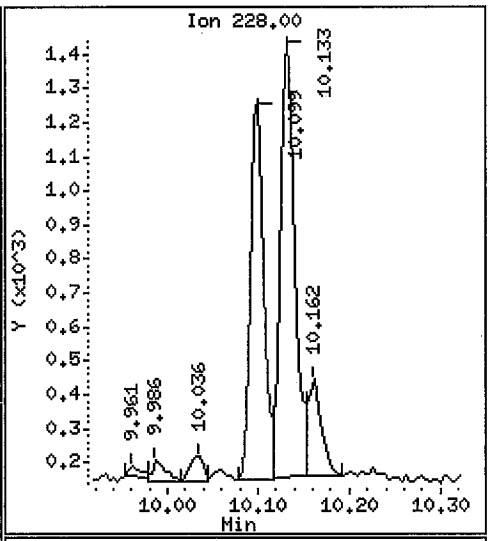
Column phase: Varian: 5MS

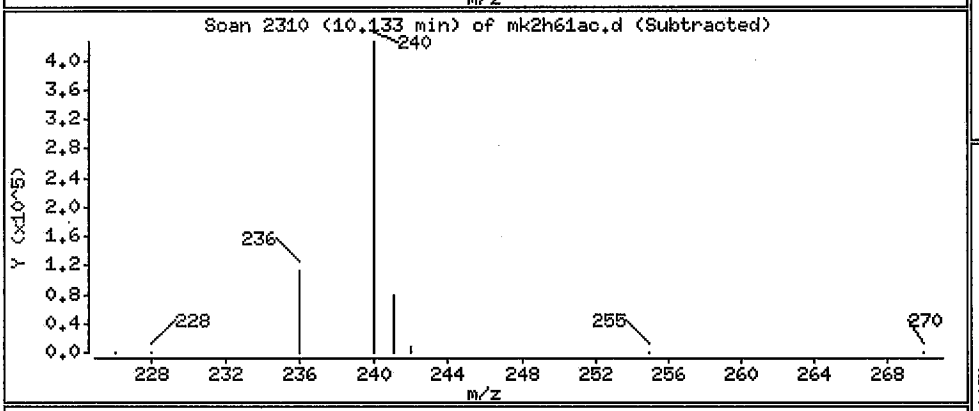
Column diameter: 0.25

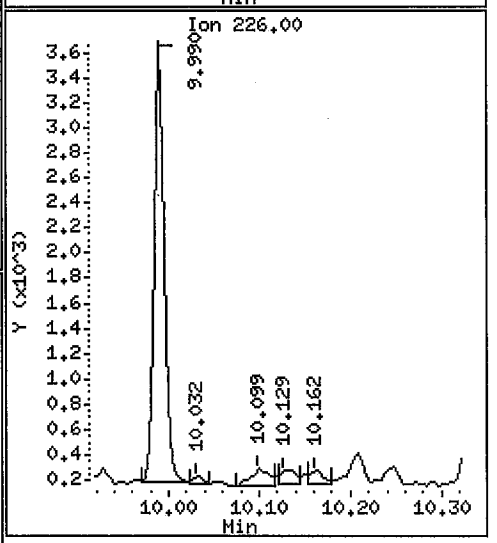
62 Benzo(a)anthracene

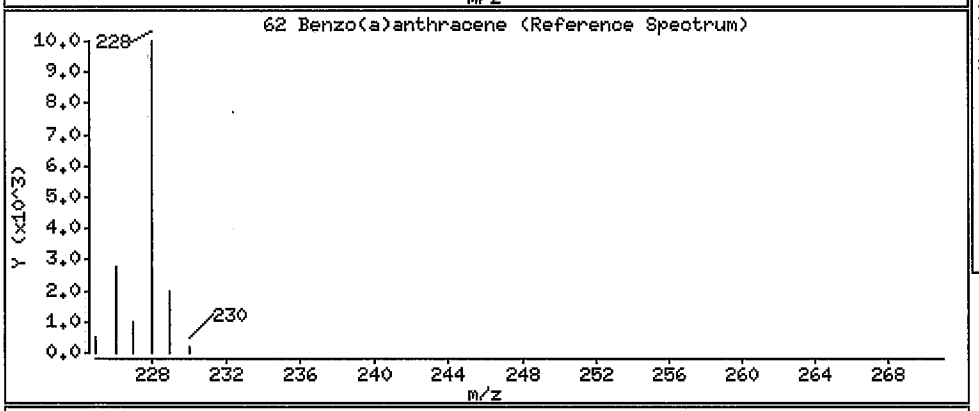
Concentration: 1.01 ng/sample

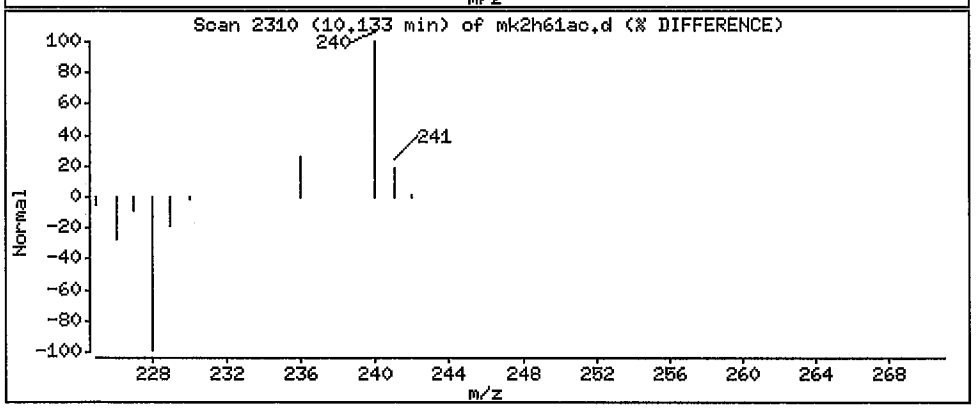












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

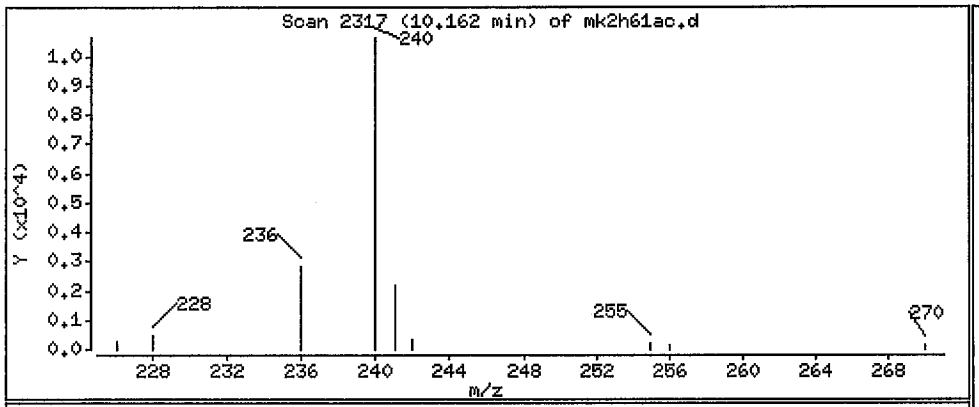
Operator: 11211

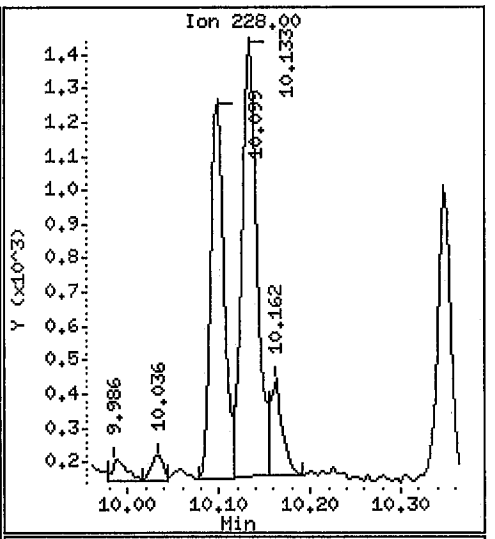
Column phase: Varian: 5MS

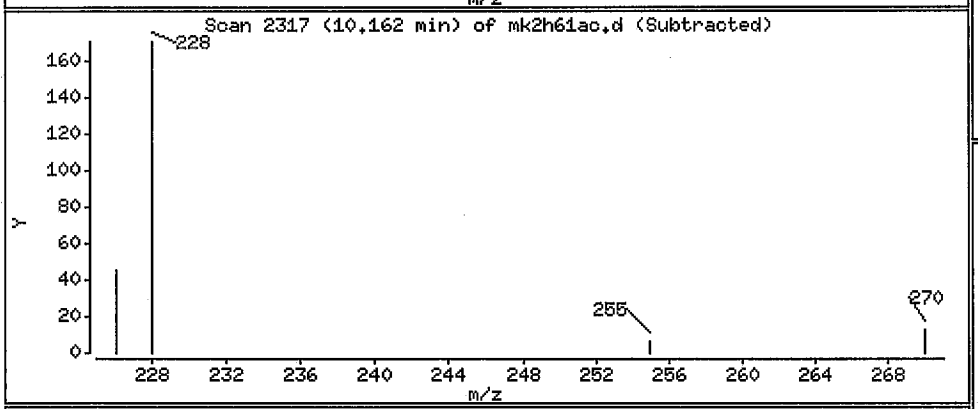
Column diameter: 0.25

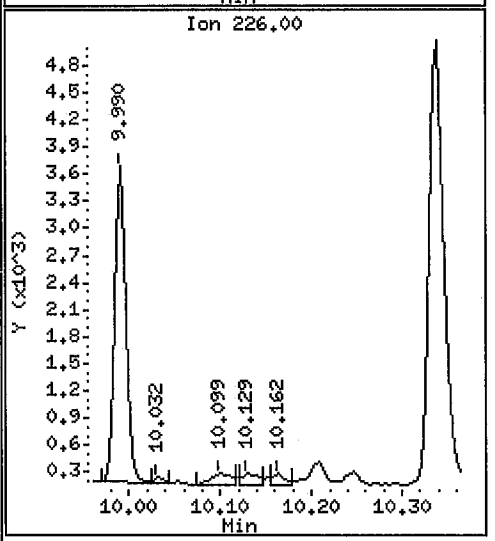
65 Chrysene

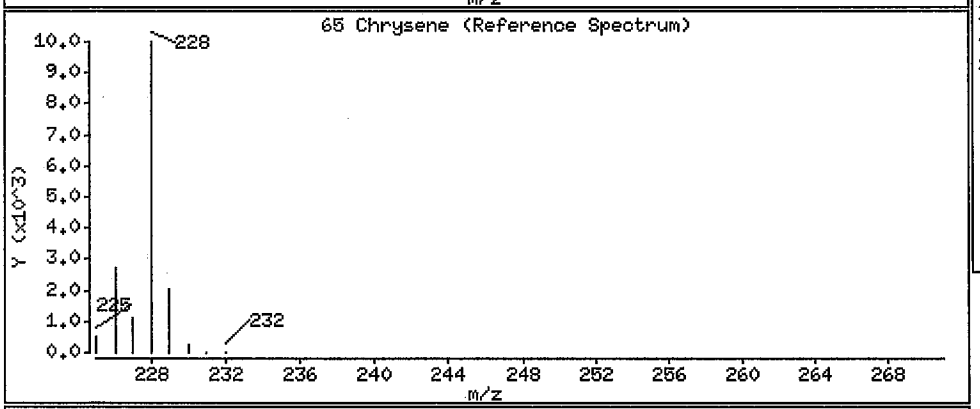
Concentration: 0.288 ng/sample

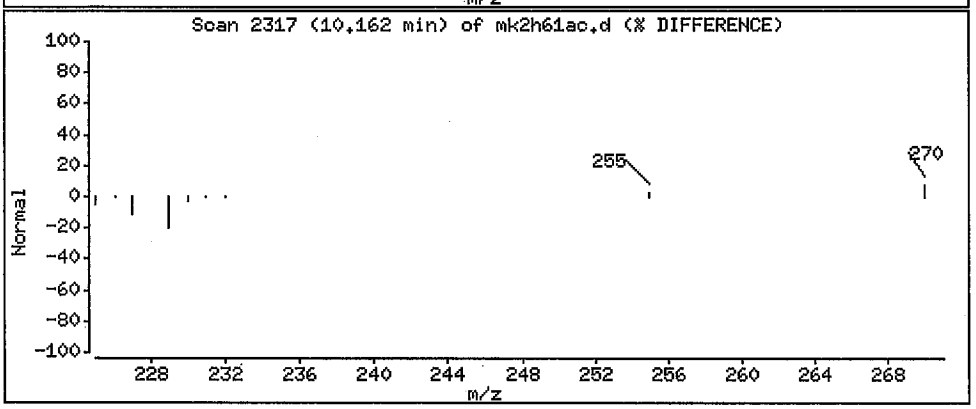












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

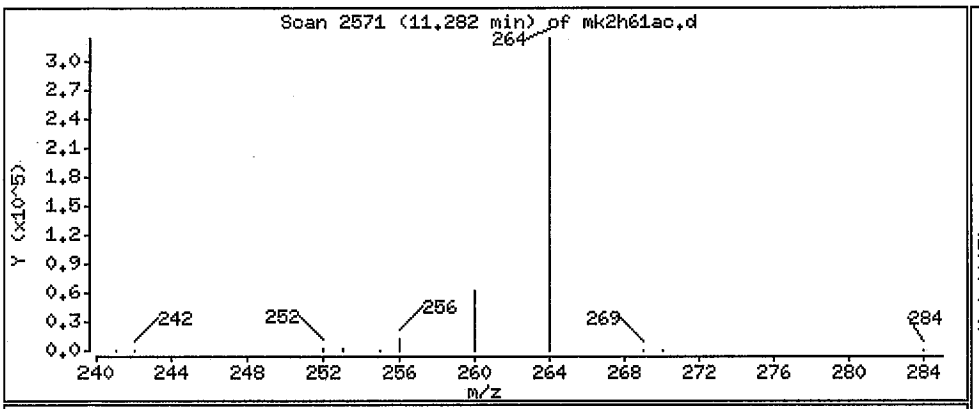
Operator: 11211

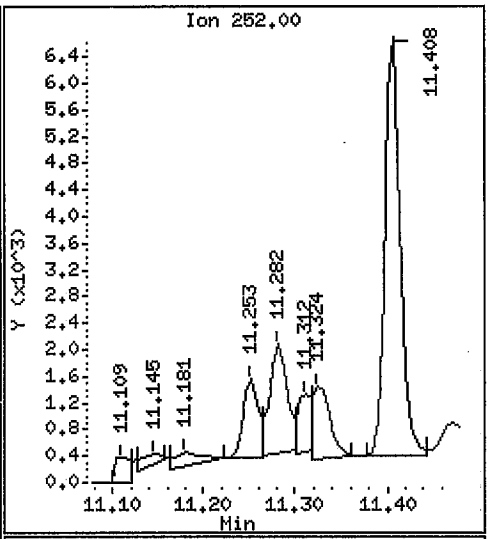
Column phase: Varian: 5MS

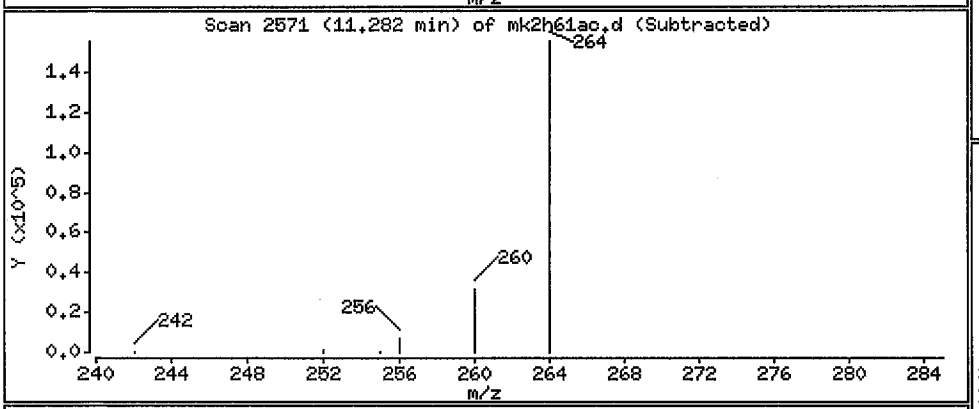
Column diameter: 0.25

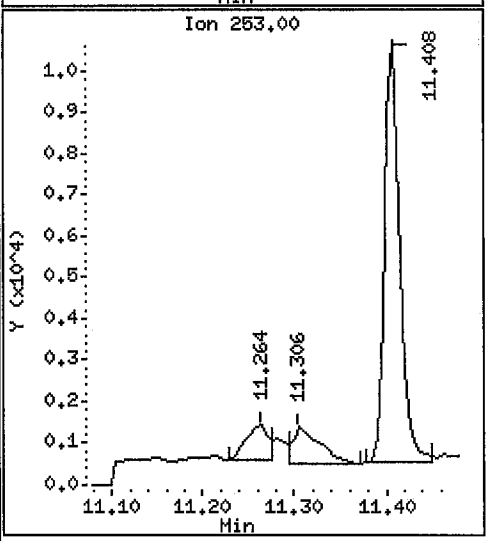
72 Benzo(b)fluoranthene

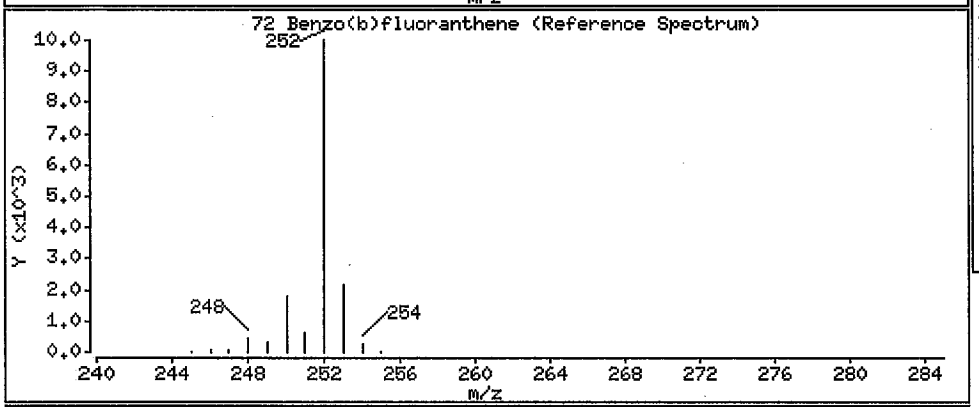
Concentration: 1.79 ng/sample

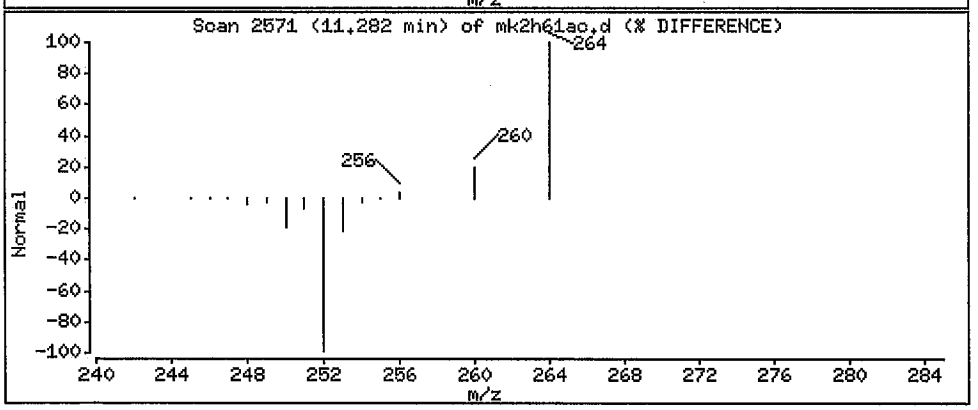












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

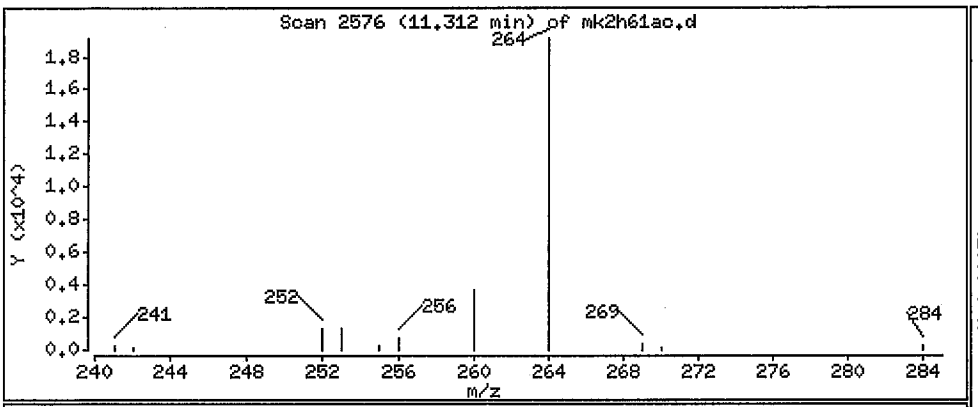
Operator: 11211

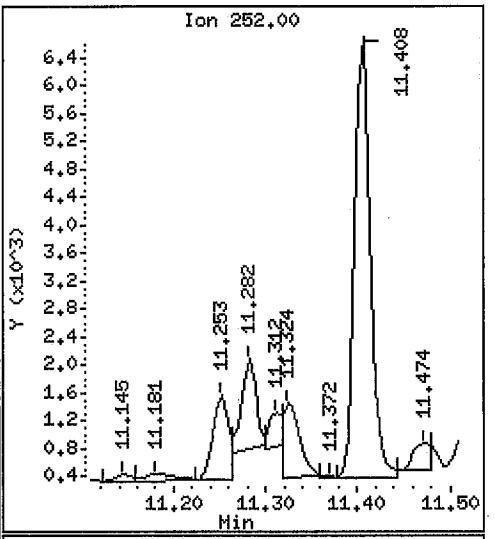
Column phase: Varian: 5MS

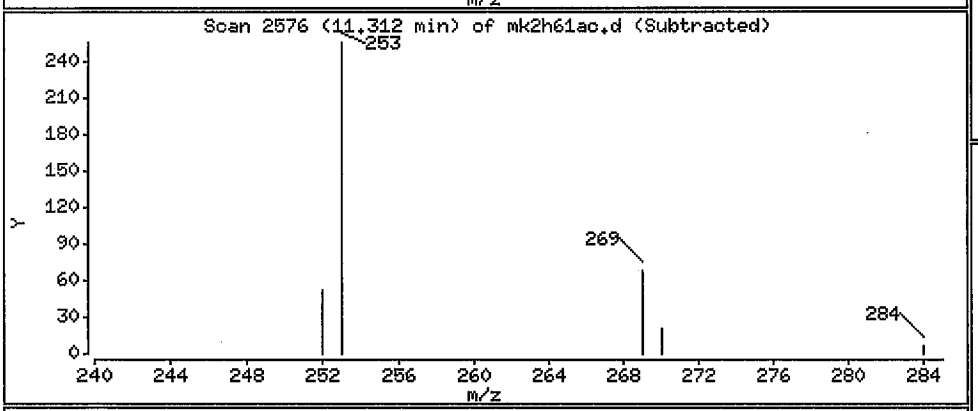
Column diameter: 0.25

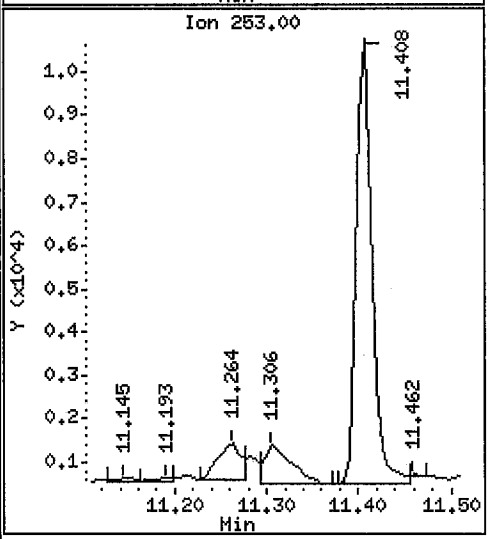
75 Benzo(k)fluoranthene

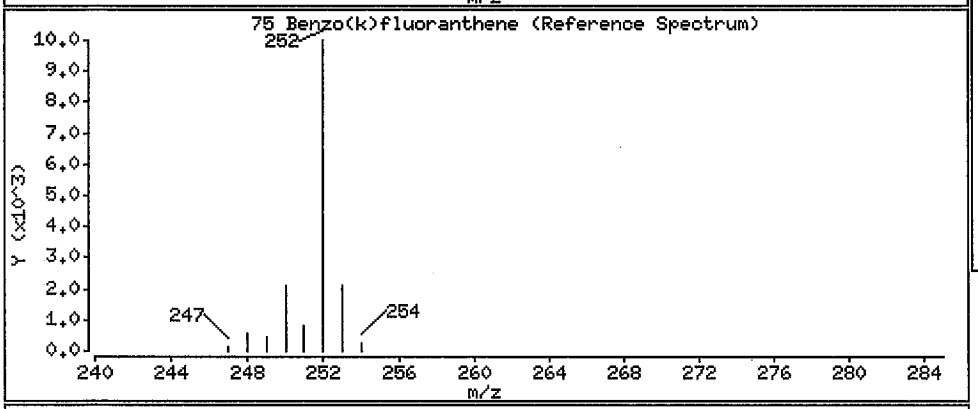
Concentration: 0.557 ng/sample

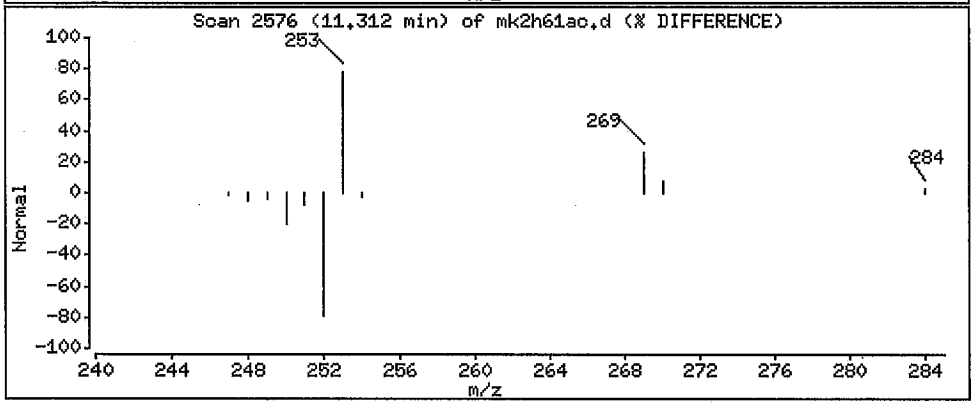












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

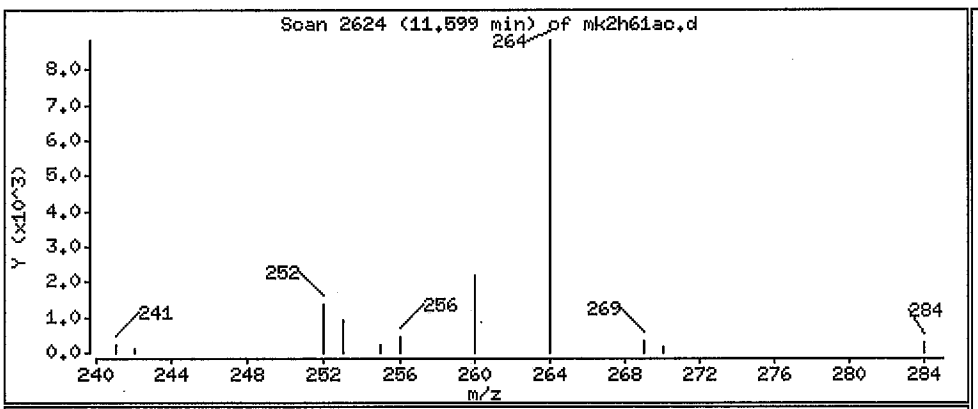
Operator: 11211

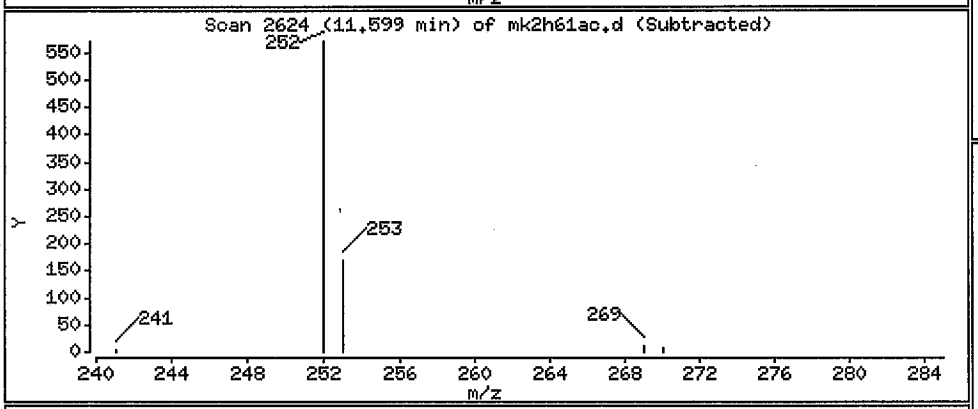
Column phase: Varian: 5MS

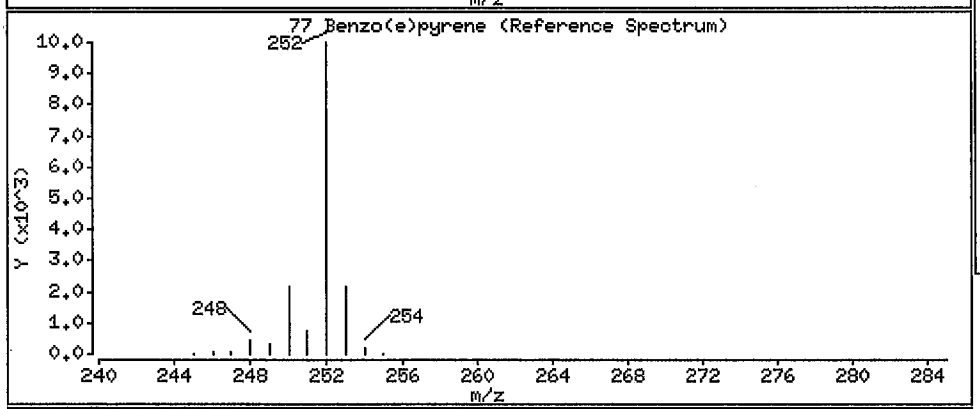
Column diameter: 0.25

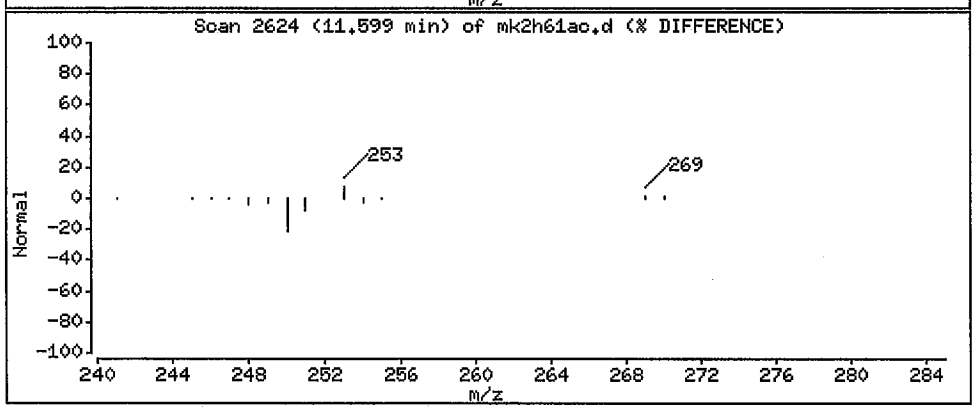
77 Benzo(e)pyrene

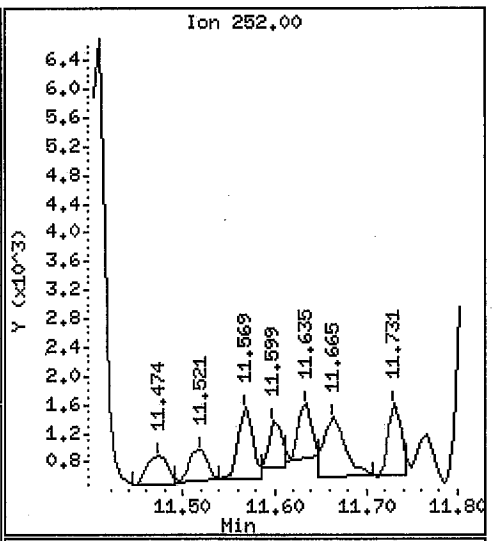
Concentration: 0.512 ng/sample

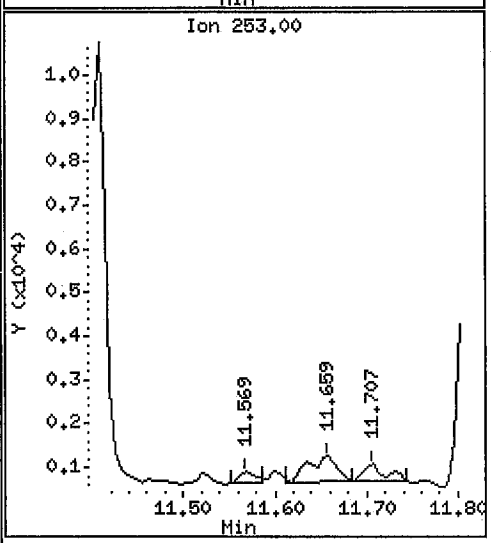












Data File: /var/chem/goms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

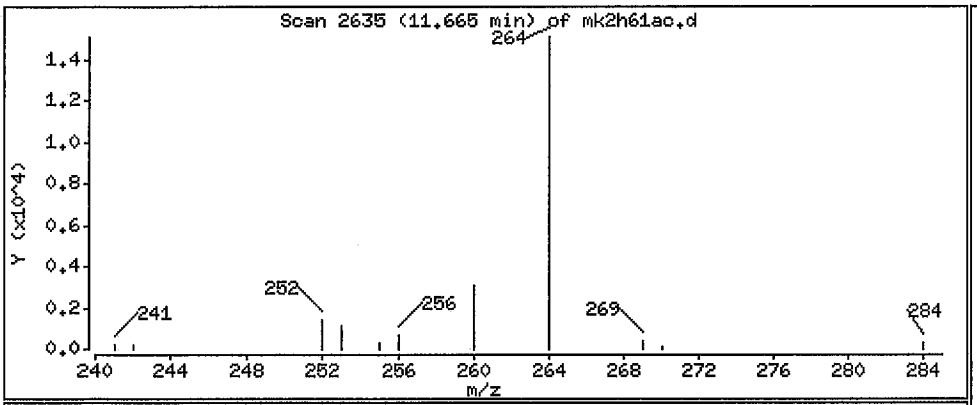
Operator: 11211

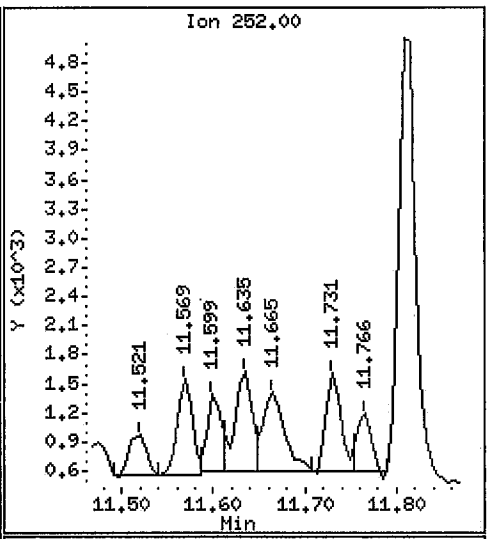
Column phase: Varian: 5MS

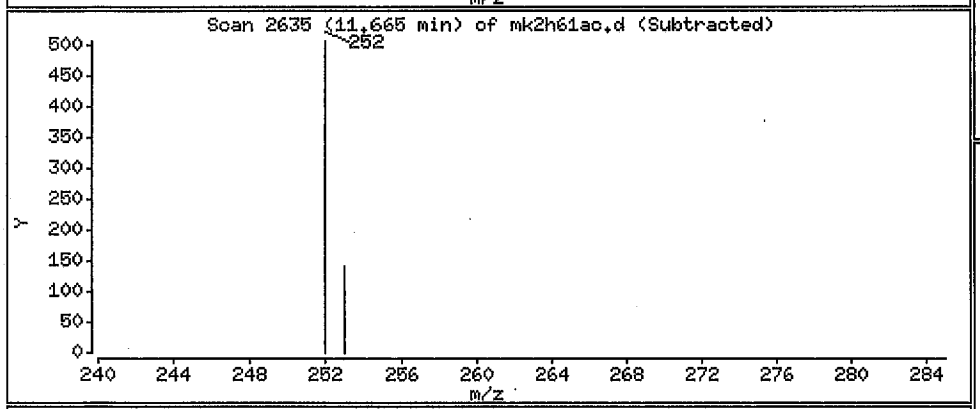
Column diameter: 0.25

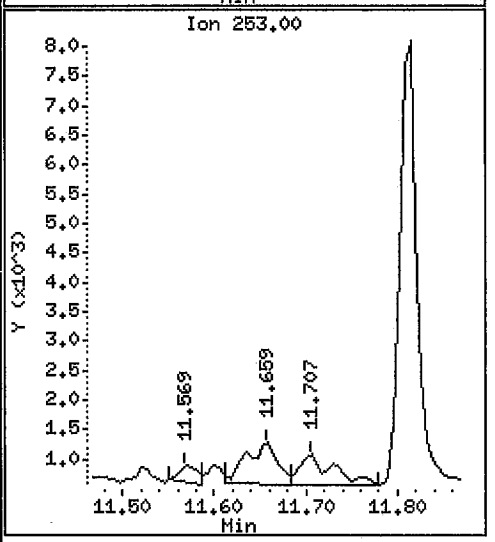
80 Benzo(a)pyrene

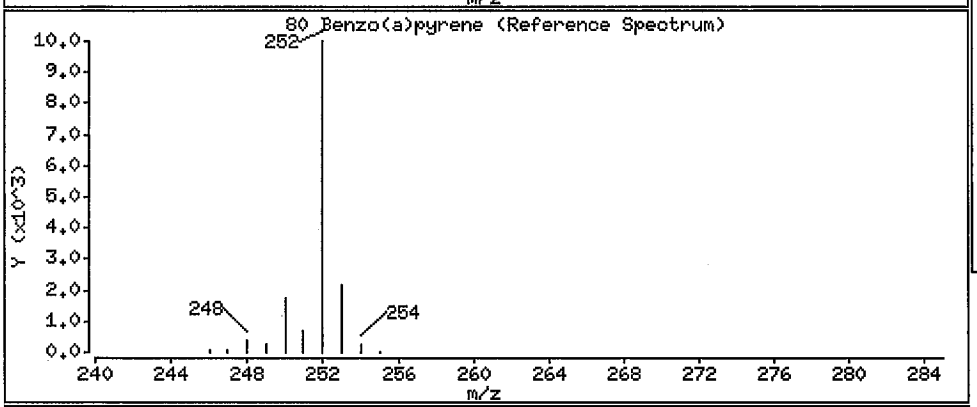
Concentration: 1.37 ng/sample

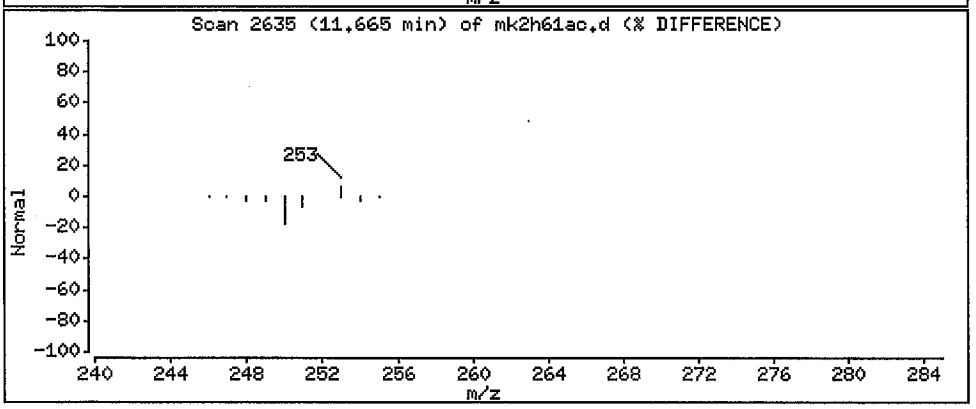












Data File: /var/chem/goms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

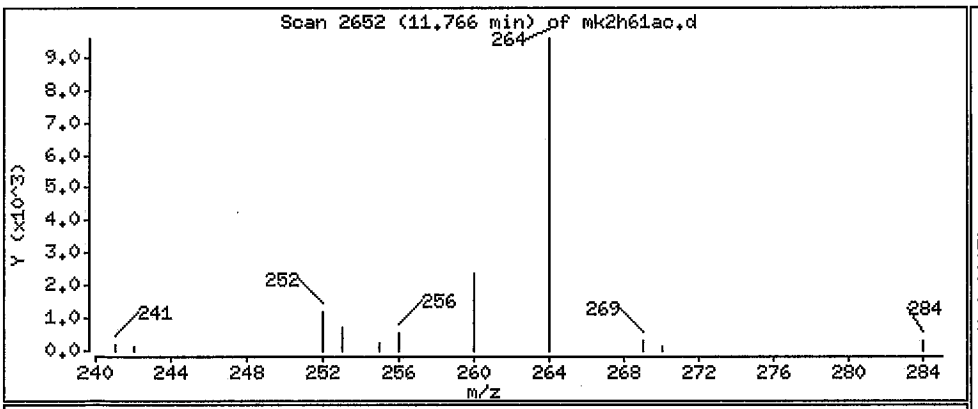
Operator: 11211

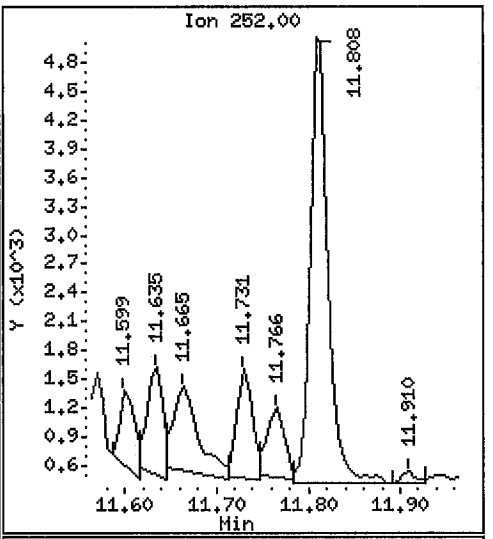
Column phase: Varian: 5MS

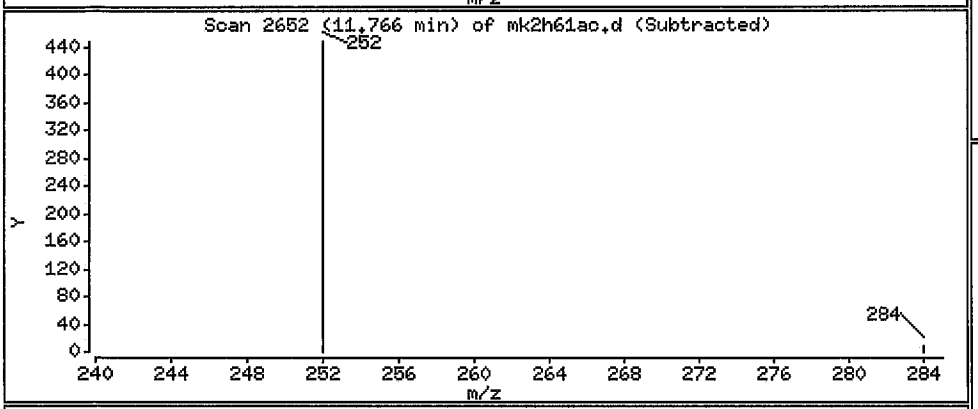
Column diameter: 0.25

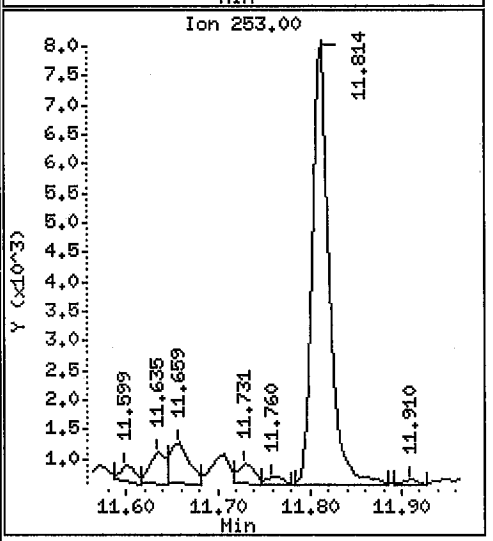
83 Perylene

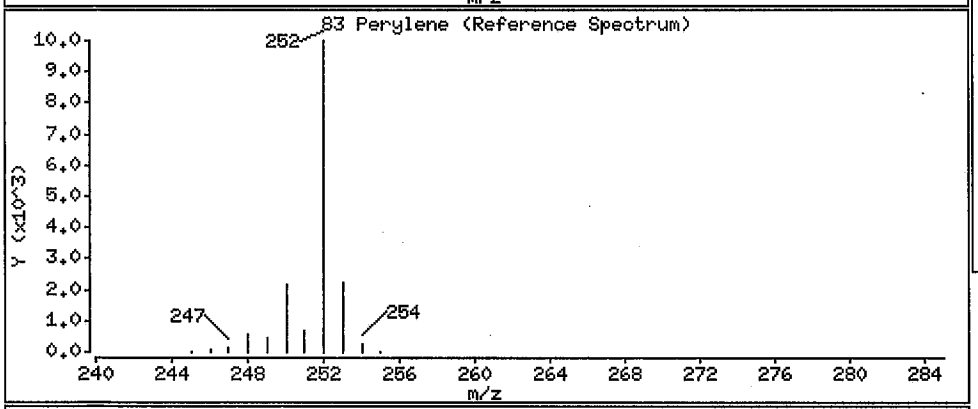
Concentration: 0.930 ng/sample

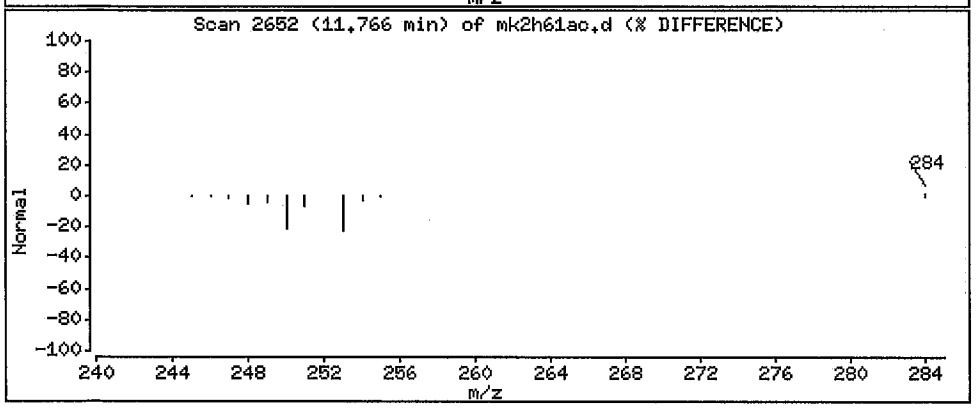












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

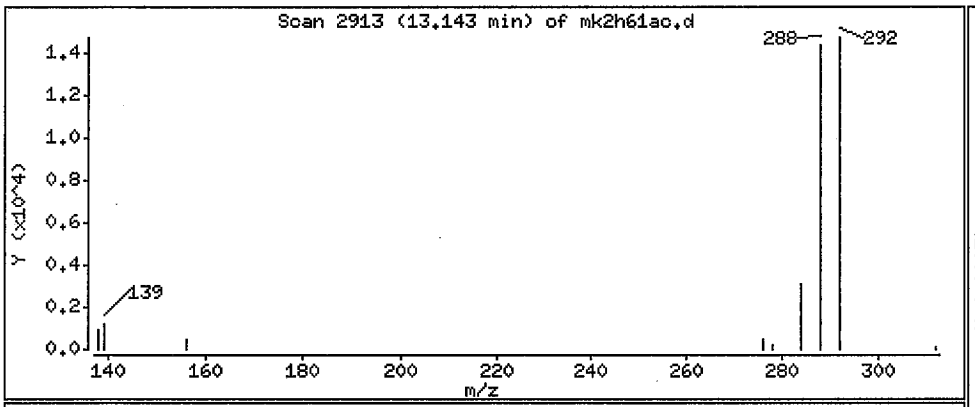
Operator: 11211

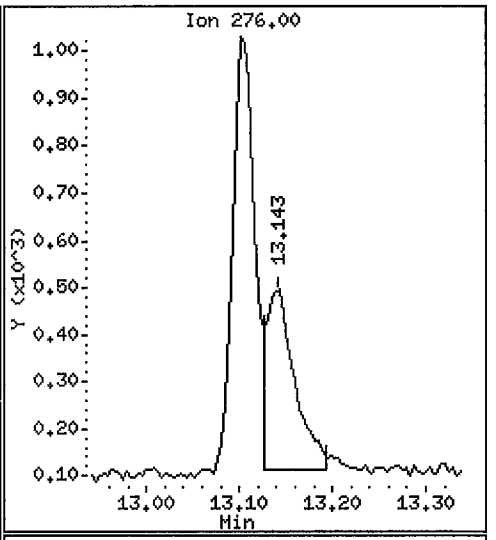
Column phase: Varian: 5MS

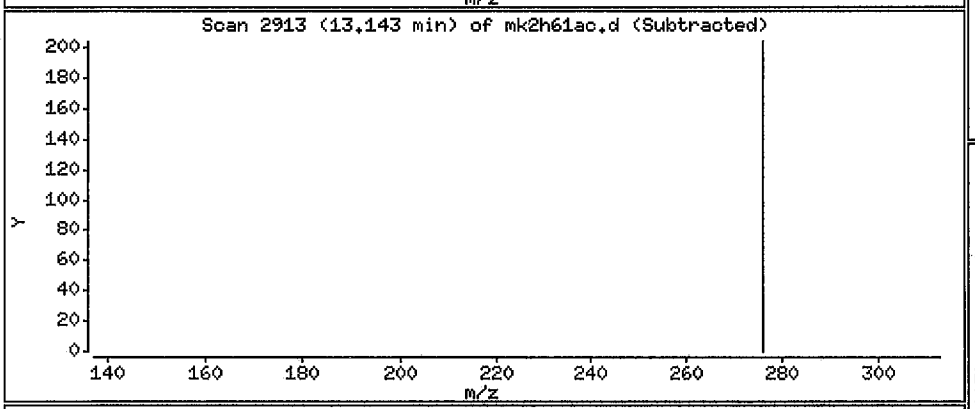
Column diameter: 0.25

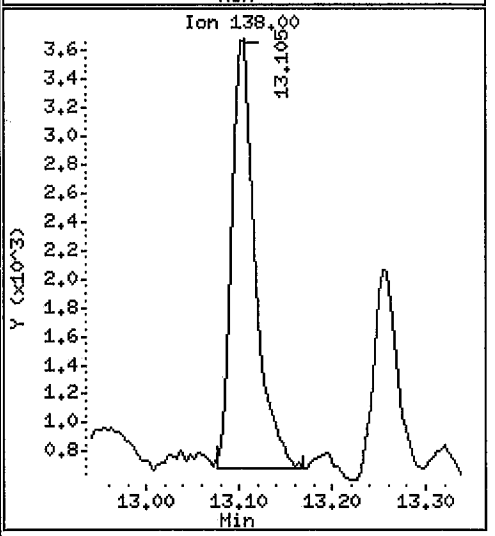
86 Indeno(1,2,3-cd)pyrene

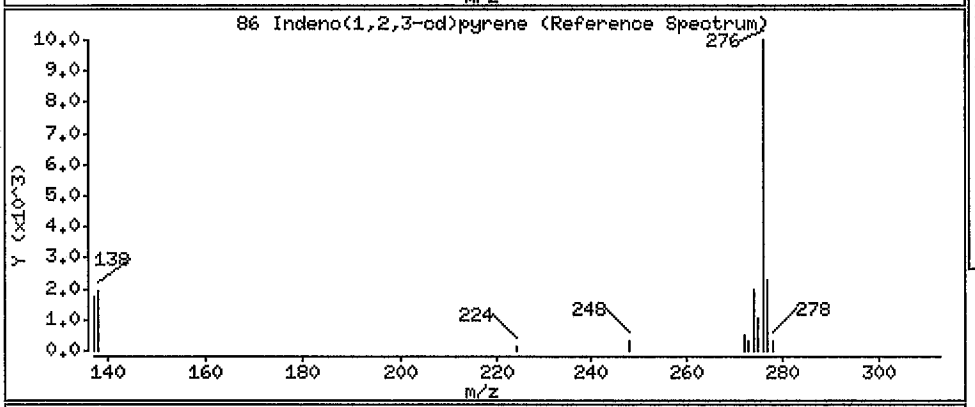
Concentration: 0.733 ng/sample

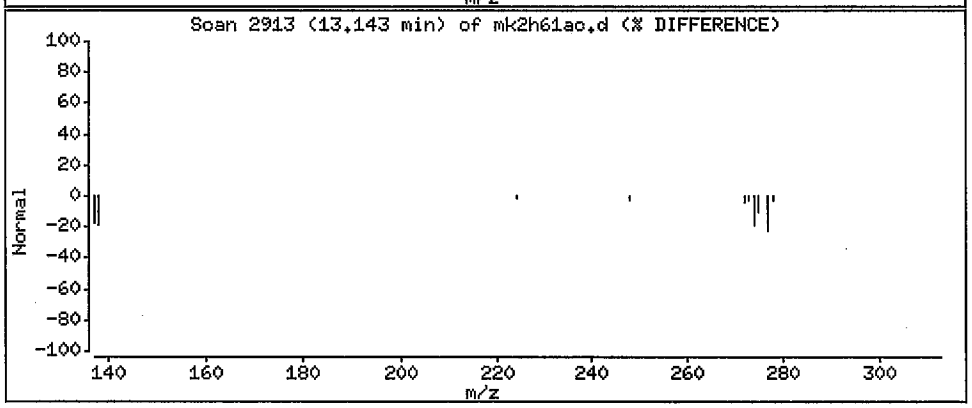












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

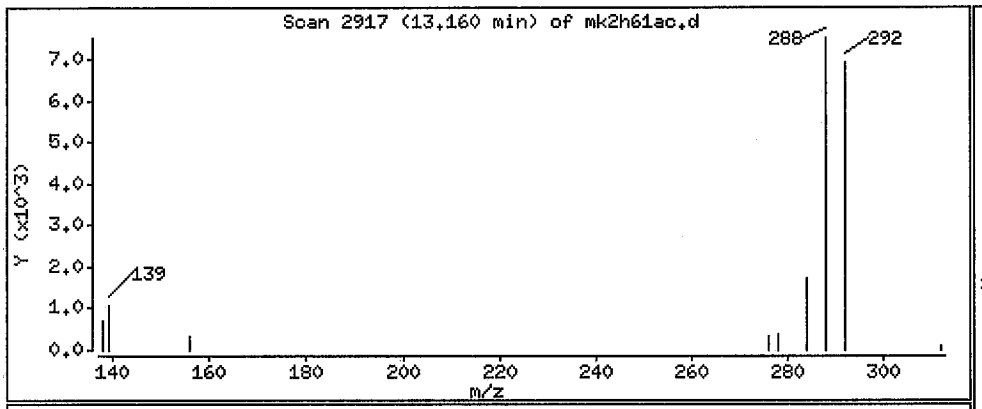
Operator: 11211

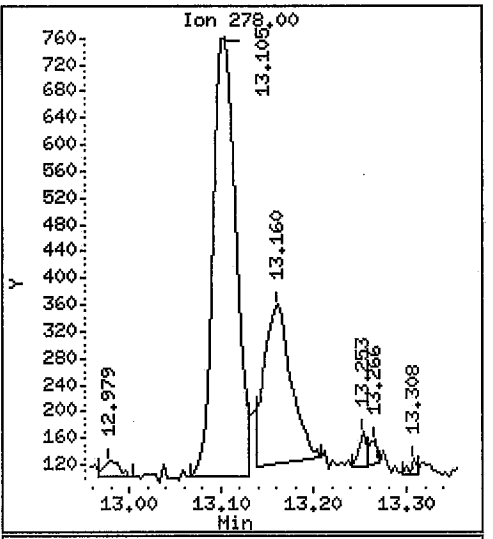
Column phase: Varian: 5MS

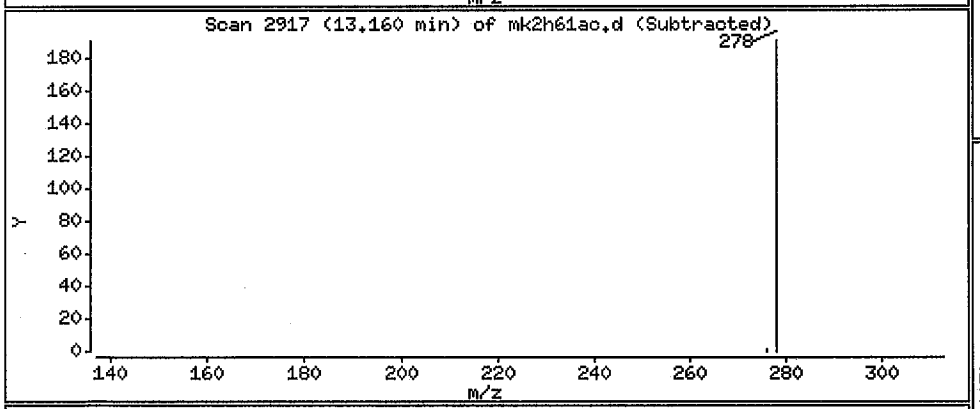
Column diameter: 0.25

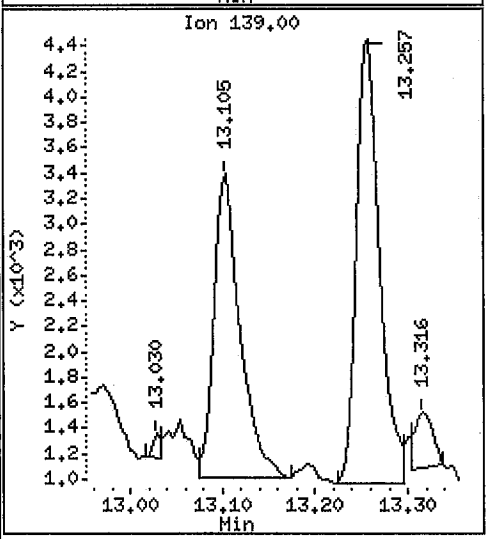
89 Dibenz(a,h)anthracene

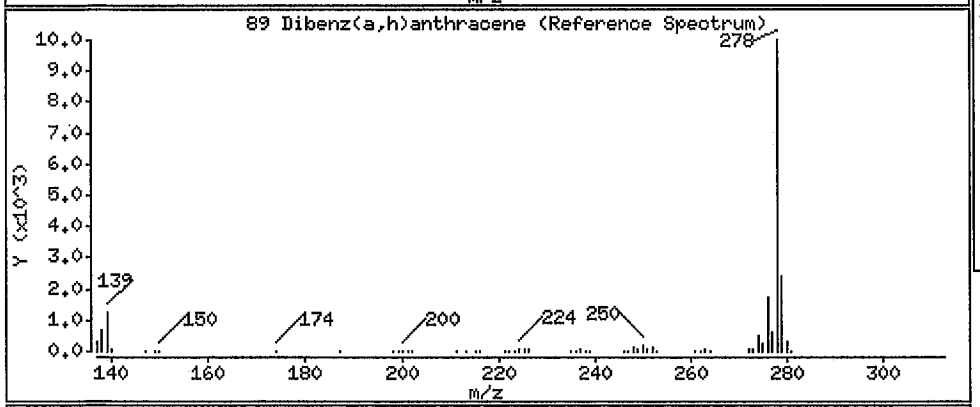
Concentration: 0.561 ng/sample

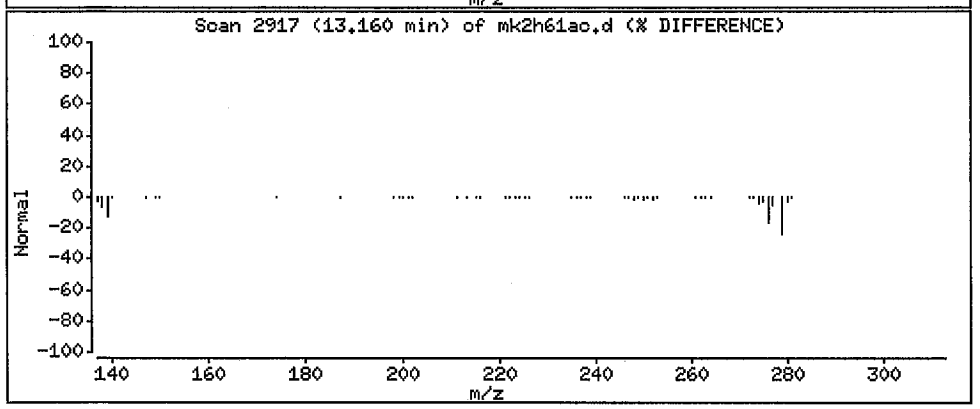












Data File: /var/chem/gcms/mp.i/P072911.b/mk2h61ac.d

Date : 29-JUL-2011 13:51

Client ID: A-6455,A-6456 MEDIA

Instrument: mp.i

Sample Info: ,,0,,,

Purge Volume: 1.0

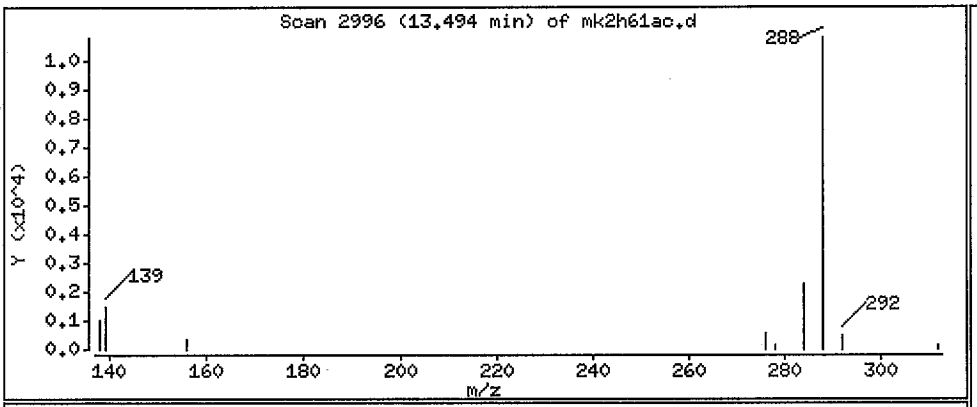
Operator: 11211

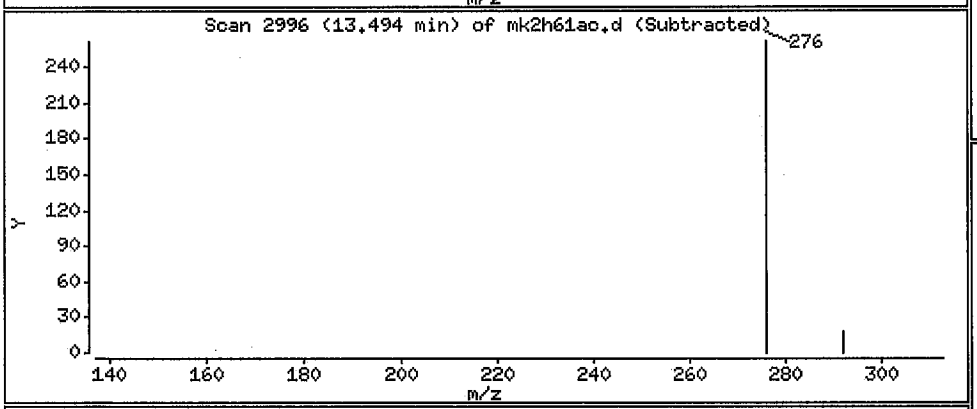
Column phase: Varian: 5MS

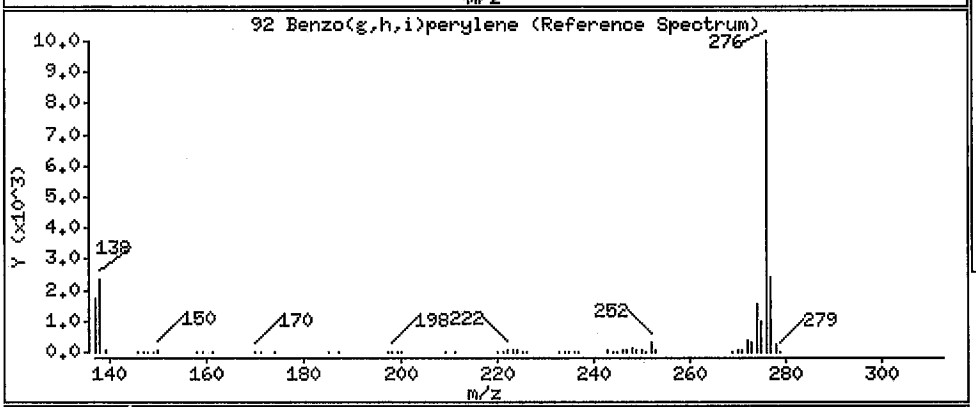
Column diameter: 0.25

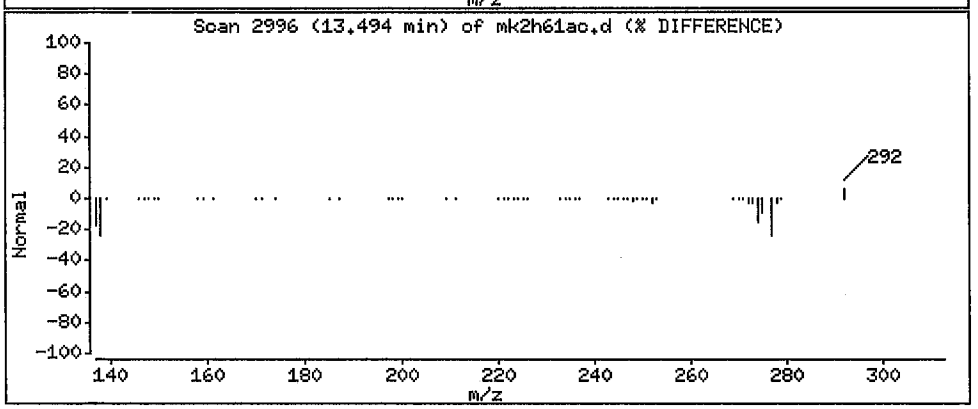
92 Benzo(g,h,i)perylene

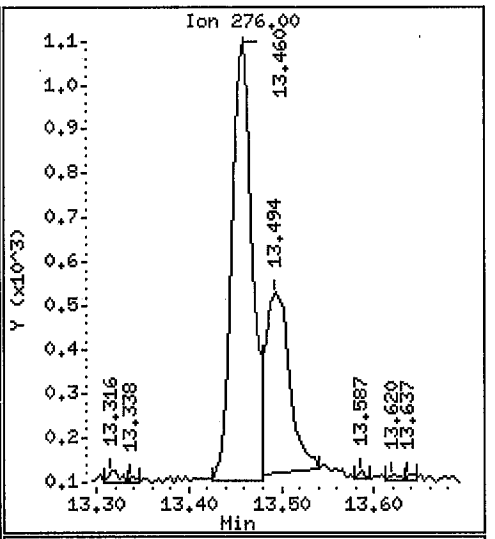
Concentration: 0.792 ng/sample

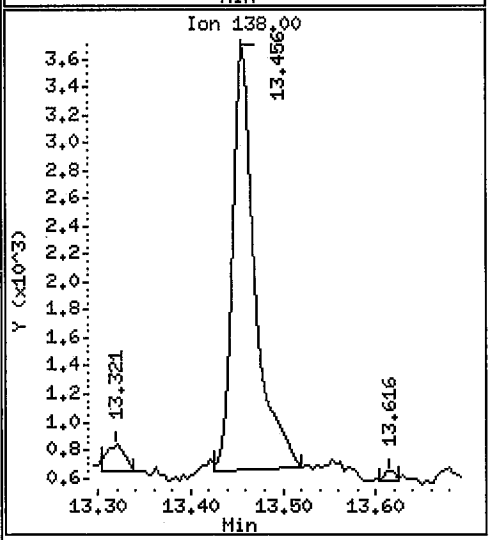












Standards Data

TestAmerica Knoxville GC/MS-SIM Initial Calibration Data Review / Narrative Checklist
Method: PAHs and Selected SVOCs - KNOX-ID-0016, Revision 8

Analysis Date:	7/26/11	Instrument::	MP	ICAL Batch/Scan Name:	P072611 I	Scanned ☑

A. Review Items	N/A	Yes	No	Why is data reportable?	2nd √
1. Were all standards injected within 12 hr of first calibration standard?		✓			✓
2. Was date/time of analysis verified between header and logbook?		✓			✓
3. Are peak integrations appropriate?		✓			✓
4. Were ≥ 5 levels of each analyte/IS analyzed?		✓			✓
5. Was the high point standard checked for saturation?		✓			✓
6. Was low level standard at or below RL?		✓			✓
7. Are all %RSD ≤30% ?		✓			✓
8. Are the MID descriptors properly set?		✓			✓
9. Are correct RFs listed in ICAL summary?		✓			✓
10. Was ICAL summary form processed using the correct method?		✓			✓
11. Are the ICAL start and end dates/times correct on ICAL summary?		✓			✓
12. Elution order checked on isomeric pairs?					
• 2-methylnaphthalene before 1-methylnaphthalene (& d10 isomers)		✓			✓
• acenaphthylene before acenaphthene (& d10 isomers)		✓			✓
• dibenzothiophene before anthracene		✓			✓
• phenanthrene before anthracene (& d10 isomers)		✓			✓
• fluoranthene before pyrene (& d10 isomers)		✓			✓
• benzo(a)anthracene before chrysene (& d12 isomers)		✓			✓
• benzo(b)fluoranthene before benzo(k)fluoranthene (& d12 isomers)		✓			✓
• benzo(e)pyrene before benzo(a)pyrene benzo(a)pyrene before perylene (& d12 isomers)		✓			✓
• Indeno(1,2,3-cd)pyrene before benzo(g,h,i)perylene (& d12 isomers)		✓			✓
13. Is the 2nd source ICV with +/- 30% of the expected value?		✓			✓
14. Are the Alkyl RFs correct (i.e., same as the parent RF)?		✓			✓
15. If criteria were not met, was a NCM generated and approved by supervisor?	✓				MG
16. Does the ICAL folder contain **complete** data in the following order? ICAL data review checklist, runlog, Target Initial Calibration Report, followed by the quan report and chromatograms for all calibration and 2nd source standards.		✓			✓

1st Level Reviewer:		Date: 7/27/11
Comments: DFTPP required for Passare only		
2nd Level Reviewer:		Date: 07/29/11
Comments:		

TestAmerica Knoxville
Instrument MP Run/Maintenance Log

Date/Time Verified ☑

Preventive Maintenance Performed: □ septa □ liner □ seal □ clip column □ SPME fiber □ other: see below / maint. log

Target Batch	P072611 I			Date	7/27/11
ICAL Batch	↓			Analyst	JRC & DLW
Method	☑ KNOX-ID-0016	□ KNOX-ID-0018	□	IS ID & vol.	N/A

Lot	Filename	Time	Dil.	Matrix	Batch	Comments
	PG26HEX	1647		hexane		
DFTPP	PG26DFTPP	1705		PAH0363		
	PG26IB01	1722		hexane		
IC- 0.02	PG26IC01	1747		PAH0356		
0.1	2	1812		57		
0.25	3	1837		58		
0.5	4	1902		59		
1.0	5	1926		60		
2.5	6	1951		61		
5.0	7	2015		PAH0316		
	PG26HEX2	2040		hexane		
2nd Source	ICV	2104		PAH0309		
window	WIN	2129		265		
	HEX3	2154		hexane		

JRC 7/27/11

Comments:

Data File: /var/chem/gcms/mp.i/P072611I.b/pg26dftpp.d

Date : 26-JUL-2011 17:05

Client ID: Tune

Instrument: mp.i

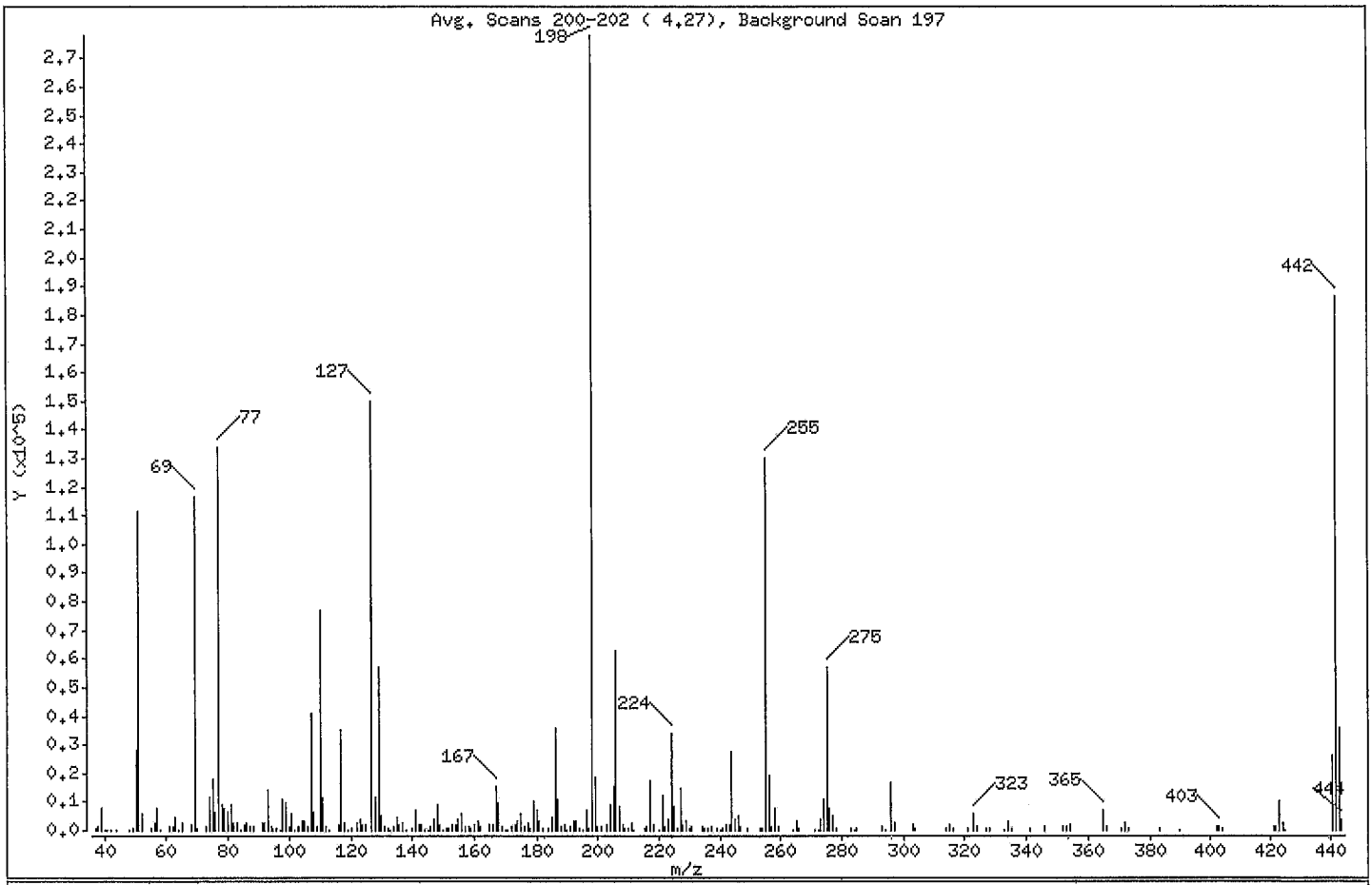
Sample Info: PG26DFTPP,,3,,PAH0363

Operator: 11211

Column phase: XTI-5

Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 80.00% of mass 198	40.16
68	Less than 2.00% of mass 69	0.61 (1.45)
69	Mass 69 relative abundance	41.97
70	Less than 2.00% of mass 69	0.17 (0.41)
127	25.00 - 75.00% of mass 198	53.82
197	Less than 1.00% of mass 198	0.30
199	5.00 - 9.00% of mass 198	6.76
275	10.00 - 30.00% of mass 198	20.60
365	Greater than 0.75% of mass 198	2.63
441	Present, but less than mass 443	9.41
442	40.00 - 110.00% of mass 198	67.08
443	15.00 - 24.00% of mass 442	12.82 (19.12)

Data File: /var/chem/gcms/mp.i/P072611I.b/pg26dftpp.d

Date : 26-JUL-2011 17:05

Client ID: Tune

Instrument: mp.i

Sample Info: PG26DFTPP,,3,,PAH0363

Operator: 11211

Column phase: XTI-5

Column diameter: 0.25

Data File: pg26dftpp.d
Spectrum: Avg. Scans 200-202 (4.27), Background Scan 197
Location of Maximum: 198.00
Number of points: 245

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	779	113.00	229	182.00	421	256.00	18960
38.00	1438	116.00	2172	184.00	530	257.00	1569
39.00	7412	117.00	35096	185.00	4558	258.00	7708
40.00	282	118.00	2764	186.00	36136	259.00	1016
41.00	160	119.00	177	187.00	10623	264.00	161
42.00	61	120.00	459	188.00	1141	265.00	3135
44.00	156	122.00	2718	189.00	2008	266.00	494
48.00	42	123.00	3925	190.00	197	271.00	173
49.00	380	124.00	1928	191.00	1118	272.00	178
50.00	28240	125.00	1693	192.00	3482	273.00	3963
51.00	111632	127.00	149568	193.00	3399	274.00	10982
52.00	5938	128.00	11215	194.00	815	275.00	57248
55.00	876	129.00	56984	195.00	173	276.00	7830
56.00	2879	130.00	4989	196.00	7114	277.00	5085
57.00	7670	131.00	991	197.00	835	278.00	831
58.00	179	132.00	640	198.00	277952	283.00	461
61.00	1564	133.00	169	199.00	18792	284.00	190
62.00	1502	134.00	1450	200.00	1506	285.00	748
63.00	4397	135.00	4700	201.00	1231	293.00	1011
64.00	304	136.00	1724	203.00	1881	294.00	190
65.00	2504	137.00	2687	204.00	9070	296.00	16832
68.00	1691	138.00	251	205.00	15507	297.00	2320
69.00	116656	140.00	522	206.00	62664	303.00	1860
70.00	478	141.00	7004	207.00	8161	304.00	432
73.00	1124	142.00	2220	208.00	2143	314.00	746
74.00	11234	143.00	1699	209.00	606	315.00	1862
75.00	18040	144.00	201	210.00	517	316.00	876
76.00	6287	145.00	232	211.00	2322	321.00	407
77.00	133824	146.00	1137	212.00	299	323.00	5505
78.00	9237	147.00	3779	215.00	532	324.00	973
79.00	7987	148.00	8734	216.00	1359	327.00	946
80.00	6209	149.00	1935	217.00	17232	328.00	470
81.00	8646	150.00	305	218.00	2229	333.00	274
82.00	2372	151.00	888	220.00	214	334.00	3436
83.00	2492	152.00	341	221.00	12455	335.00	667

Data File: /var/chem/gcms/mp.i/P072611I.b/pg26dftpp.d

Date : 26-JUL-2011 17:05

Client ID: Tune

Instrument: mp.i

Sample Info: PG26DFTPP,,3,,PAH0363

Operator: 11211

Column phase: XTI-5

Column diameter: 0.25

Data File: pg26dftpp.d
Spectrum: Avg. Scans 200-202 (4.27), Background Scan 197
Location of Maximum: 198.00
Number of points: 245

m/z	Y	m/z	Y	m/z	Y	m/z	Y
84.00	19	153.00	2226	222.00	1326	341.00	560
85.00	1776	154.00	1629	223.00	3545	346.00	1162
86.00	2478	155.00	3830	224.00	33720	352.00	1338
87.00	1321	156.00	5750	225.00	8356	353.00	1007
88.00	1101	157.00	1075	226.00	713	354.00	1688
91.00	2299	158.00	1280	227.00	14782	365.00	7308
92.00	2408	159.00	936	228.00	2169	366.00	1069
93.00	14319	160.00	2231	229.00	2921	371.00	373
94.00	1017	161.00	3458	230.00	476	372.00	2856
95.00	443	162.00	1003	231.00	1235	373.00	669
96.00	887	165.00	2140	234.00	993	383.00	741
97.00	195	166.00	2049	235.00	774	390.00	209
98.00	11105	167.00	15288	236.00	572	402.00	1070
99.00	9782	168.00	9529	237.00	1332	403.00	1427
100.00	1010	169.00	1338	239.00	532	404.00	497
101.00	5536	170.00	311	240.00	252	421.00	1324
102.00	187	171.00	301	241.00	631	422.00	1147
103.00	1590	172.00	1325	242.00	1884	423.00	9965
104.00	3335	173.00	1635	243.00	1752	424.00	2584
105.00	3095	174.00	2910	244.00	27312	425.00	185
106.00	1138	175.00	5473	245.00	3748	441.00	26160
107.00	41024	176.00	1499	246.00	5088	442.00	186432
108.00	6499	177.00	2263	247.00	1065	443.00	35640
109.00	973	178.00	915	249.00	860	444.00	3536
110.00	77152	179.00	10245	253.00	595		
111.00	11755	180.00	7260	254.00	678		
112.00	1472	181.00	3357	255.00	130152		

Data File‡ /var/chem/goms/mp.i/P072611I.b/pg26dftpp.d

Date ‡ 26-JUL-2011 17‡05

Client ID‡ Tune

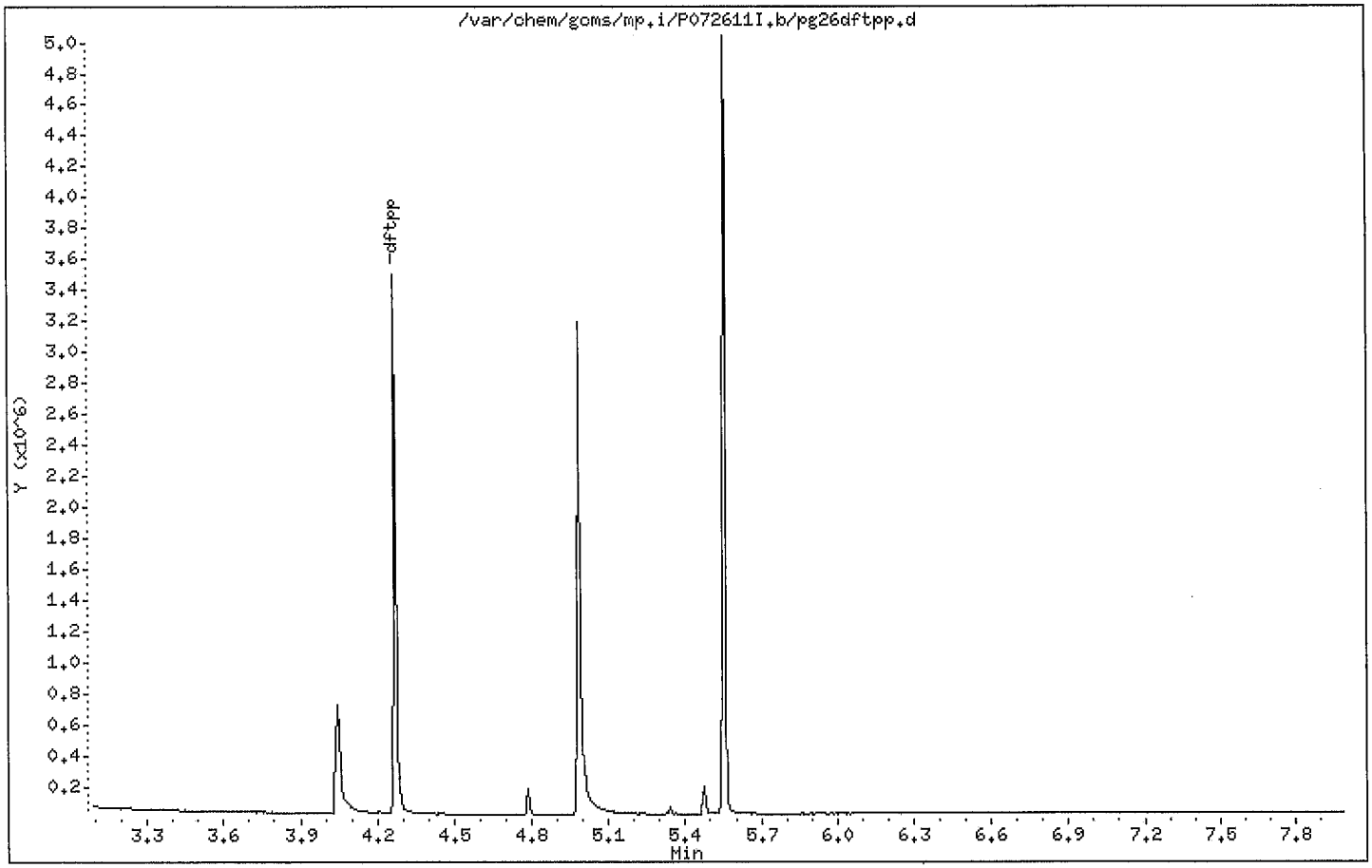
Instrument‡ mp.i

Sample Info‡ PG26DFTPP,,3,,PAH0363

Operator‡ 11211

Column phase‡ XTI-5

Column diameter‡ 0.25



Report Date : 27-Jul-2011 16:19

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUL-2011 17:47 ✓
End Cal Date : 26-JUL-2011 20:15
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mp.i/P072611I.b/SIMPAH3.m
Cal Date : 27-Jul-2011 16:12 wilesd
Curve Type : Average

Calibration File Names:
Level 1: /var/chem/gcms/mp.i/P072611I.b/pg26ic01.d
Level 2: /var/chem/gcms/mp.i/P072611I.b/pg26ic02.d
Level 3: /var/chem/gcms/mp.i/P072611I.b/pg26ic03.d
Level 4: /var/chem/gcms/mp.i/P072611I.b/pg26ic04.d
Level 5: /var/chem/gcms/mp.i/P072611I.b/pg26ic05.d
Level 6: /var/chem/gcms/mp.i/P072611I.b/pg26ic06.d
Level 7: /var/chem/gcms/mp.i/P072611I.b/pg26ic07.d

Compound	0.02000 Level 1 / 5.000 Level 7	0.10000 Level 2	0.25000 Level 3	0.50000 Level 4	1.000 Level 5	2.500 Level 6	RRF	% RSD
3 Naphthalene	0.78860 / 0.81802	0.86813	0.88390	0.86969	0.86561	0.84588	0.84855	3.998
4 C2-Naphthalenes	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	0.84855	+++++
5 C3-Naphthalenes(a)	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	0.84855	+++++
6 C3-Naphthalenes(b)	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	0.84855	+++++
7 C3-Naphthalenes(c)	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	0.84855	+++++
M 8 C3-Naphthalenes(total)	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	0.84855	+++++

Report Date : 27-Jul-2011 16:19

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INITIAL CALIBRATION DATA

Start Cal Date : 26-JUL-2011 17:47
End Cal Date : 26-JUL-2011 20:15
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Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mp.i/P072611I.b/SIMPAH3.m
Cal Date : 27-Jul-2011 16:12 wilesd
Curve Type : Average

Compound	0.02000 Level 1	0.10000 Level 2	0.25000 Level 3	0.50000 Level 4	1.000 Level 5	2.500 Level 6	5.000 Level 7	___ RRF	% RSD
9 C4-Naphthalenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	0.84855	+++++
12 2-Methylnaphthalene	0.89046	1.00820	1.03189	1.02844	1.03169	1.03007	1.03031	1.00729	5.182
15 1-Methylnaphthalene	0.85568	0.97148	0.99627	0.99010	0.99510	0.98497	0.99722	0.97012	5.283
16 Biphenyl	1.00492	1.18273	1.23181	1.23764	1.25112	1.23914	1.22663	1.19629	7.283
19 2,6 Dimethylnaphthalene	0.84544	0.97742	1.01539	1.01729	1.03498	1.04177	1.04338	0.99652	7.060
22 Acenaphthylene	0.85176	0.97640	1.01085	1.01794	1.04747	1.07125	1.08067	1.00805	7.722
24 Acenaphthene	0.51715	0.59301	0.62101	0.61900	0.62783	0.62220	0.61417	0.60205	6.488
25 2,3,5 Trimethylnaphthalene	0.65234	0.77078	0.82203	0.85087	0.88753	0.91268	0.92238	0.83123	11.438
27 Fluorene	0.58469	0.73352	0.79946	0.81705	0.82715	0.81141	0.79265	0.76656	11.192

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Integrator : HP RTE
Method file : /var/chem/gcms/mp.i/P072611I.b/SIMPAH3.m
Cal Date : 27-Jul-2011 16:12 wilesd
Curve Type : Average

Compound	0.02000 Level 1 / 5.000 Level 7	0.10000 Level 2	0.25000 Level 3	0.50000 Level 4	1.000 Level 5	2.500 Level 6	___ RRF	% RSD
29 C1-Fluorenes(a)	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	0.76656	+++++
30 C1-Fluorenes(b)	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	0.76656	+++++
M 31 C1-Fluorenes(total)	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	0.76656	+++++
32 C2-Fluorenes	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	0.76656	+++++
33 C3-Fluorenes	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	0.76656	+++++
36 Dibenzothiophene	0.84958 / 0.97870	0.94590	0.97176	0.96811	0.98201	0.98016	0.95374	4.985
37 C1-Dibenzothiophenes	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	0.95374	+++++
38 C2-Dibenzothiophenes	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	0.95374	+++++
39 C3-Dibenzothiophenes	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	0.95374	+++++

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Origin : Disabled
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Method file : /var/chem/gcms/mp.i/P072611I.b/SIMPAH3.m
Cal Date : 27-Jul-2011 16:12 wilesd
Curve Type : Average

Compound	0.02000 Level 1	0.10000 Level 2	0.25000 Level 3	0.50000 Level 4	1.000 Level 5	2.500 Level 6	5.000 Level 7	___ RRF	% RSD
40 C4-Dibenzothiophenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	0.95374	+++++
43 Phenanthrene	0.98878	1.09020	1.11409	1.11449	1.12195	1.12843	1.12656	1.09779	4.530
46 Anthracene	1.18726	1.29957	1.33271	1.29910	1.30681	1.30017	1.28079	1.28663	3.610
48 C1-Phenan/Anthracenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.09779	+++++
49 C2-Phenan/Anthracenes(a)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.09779	+++++
220 C2-Phenan/Anthracenes(b)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.09779	+++++
M 221 C2-Phenan/Anthracenes(total)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.09779	+++++
50 C3-Phenan/Anthracenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.09779	+++++
51 C4-Phenan/Anthracenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.09779	+++++

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INITIAL CALIBRATION DATA

Start Cal Date : 26-JUL-2011 17:47
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Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mp.i/P072611I.b/SIMPAH3.m
Cal Date : 27-Jul-2011 16:12 wilesd
Curve Type : Average

Compound	0.02000 Level 1	0.10000 Level 2	0.25000 Level 3	0.50000 Level 4	1.000 Level 5	2.500 Level 6	5.000 Level 7	___ RRF	% RSD
52 1-Methylphenanthrene	0.49732	0.58254	0.63617	0.67595	0.71188	0.74777	0.76424	0.65941	14.459
55 Fluoranthene	0.98975	1.08278	1.10672	1.12757	1.16327	1.19040	1.21464	1.12502	6.710
57 Pyrene	1.06543	1.14588	1.18791	1.19274	1.22568	1.24827	1.26211	1.18972	5.674
59 C1-Fluoran/Pyrenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.18972	+++++
62 Benzo(a)anthracene	1.24558	1.47203	1.51487	1.62663	1.68554	1.79613	1.84930	1.59858	12.968
65 Chrysene	0.97261	1.05942	1.14195	1.11391	1.12814	1.11646	1.10790	1.09148	5.348
66 C1-Benz(a)anthraceneChrysenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.09148	+++++
67 C2-Benz(a)anthraceneChrysenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.09148	+++++
68 C3-Benz(a)anthraceneChrysenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.09148	+++++

Report Date : 27-Jul-2011 16:19

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUL-2011 17:47
End Cal Date : 26-JUL-2011 20:15
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mp.i/P072611I.b/SIMPAH3.m
Cal Date : 27-Jul-2011 16:12 wilesd
Curve Type : Average

Compound	0.02000 Level 1	0.10000 Level 2	0.25000 Level 3	0.50000 Level 4	1.000 Level 5	2.500 Level 6	5.000 Level 7	___ RRF	% RSD
69 C4-Benz(a)anthraceneChrysenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.09148	+++++
72 Benzo(b)fluoranthene	1.35671	1.38997	1.44092	1.45471	1.50203	1.55075	1.58797	1.46901	5.680
75 Benzo(k)fluoranthene	0.97737	1.05638	1.10053	1.11237	1.12309	1.13378	1.15945	1.09471	5.545
77 Benzo(e)pyrene	1.34324	1.25141	1.38210	1.38148	1.38156	1.39951	1.37122	1.35865	3.700
80 Benzo(a)pyrene	0.89786	0.97897	1.10503	1.15246	1.21246	1.31276	1.28351	1.13472	13.530
83 Perylene	1.02632	1.15220	1.25446	1.29834	1.33298	1.37981	1.37505	1.25988	10.280
86 Indeno(1,2,3-cd)pyrene	1.03585	1.10526	1.17710	1.21568	1.26780	1.31448	1.35638	1.21037	9.426
89 Dibenz(a,h)anthracene	0.90185	1.08224	1.18105	1.26194	1.33937	1.39426	1.43461	1.22790	15.370
92 Benzo(g,h,i)perylene	1.13479	1.30859	1.37152	1.40473	1.44953	1.48517	1.53407	1.38406	9.577

Report Date : 27-Jul-2011 16:19

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End Cal Date : 26-JUL-2011 20:15
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mp.i/P072611I.b/SIMPAH3.m
Cal Date : 27-Jul-2011 16:12 wilesd
Curve Type : Average

Compound	0.02000 Level 1	0.10000 Level 2	0.25000 Level 3	0.50000 Level 4	1.000 Level 5	2.500 Level 6	5.000 Level 7	RRF	% RSD
$ 2 Naphthalene-d8(SS)	2.37489	2.38833	2.33085	2.33637	2.33968	2.29967	2.39108	2.35155	1.447
$ 222 13C6-Naphthalene	0.97145	0.94711	0.95881	0.96704	0.90789	0.86892	0.80743	0.91838	6.670
$ 11 2-Methylnaphthalene-d10(SS)	1.28039	1.28573	1.24824	1.25761	1.26394	1.25584	1.29027	1.26886	1.296
$ 14 1-Methylnaphthalene-d10(SS)	1.28412	1.29062	1.25752	1.25018	1.25414	1.23830	1.25388	1.26125	1.502
$ 18 2,6-Dimethylnaph-d12(SS)	1.08579	1.10054	1.06619	1.07980	1.08018	1.06989	1.09435	1.08239	1.141
$ 21 Acenaphthylene-d8(SS)	1.78118	1.79027	1.71838	1.74703	1.76102	1.76408	1.82172	1.76910	1.862
$ 26 Fluorene-d10	0.46568	0.56604	0.60946	0.61732	0.63276	0.63629	0.62208	0.59281	10.238
$ 28 13C6-Fluorene	0.50884	0.62867	0.69205	0.70699	0.71618	0.70670	0.67192	0.66162	11.128
$ 35 Dibenzothiopene-d8(SS)	1.47621	1.49620	1.46538	1.44919	1.44125	1.41978	1.46954	1.45965	1.719

Report Date : 27-Jul-2011 16:19

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUL-2011 17:47
End Cal Date : 26-JUL-2011 20:15
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mp.i/P072611I.b/SIMPAH3.m
Cal Date : 27-Jul-2011 16:12 wilesd
Curve Type : Average

Compound	0.02000 Level 1	0.10000 Level 2	0.25000 Level 3	0.50000 Level 4	1.000 Level 5	2.500 Level 6	5.000 Level 7	___ RRF	% RSD
$ 42 Phenanthrene-d10(SS)	1.32534	1.34419	1.32028	1.30969	1.31232	1.28439	1.32212	1.31690	1.381
$ 45 Anthracene-d10(SS)	1.09338	1.10199	1.07524	1.10038	1.11638	1.11460	1.18221	1.11203	3.047
$ 47 13C6-Anthracene	1.16923	1.19686	1.21263	1.21398	1.23359	1.18482	1.22643	1.20536	1.906
$ 54 Fluoranthene-d10(SS)	1.23668	1.25101	1.22375	1.22707	1.22032	1.19844	1.22852	1.22654	1.307
$ 58 Terphenyl-d14	0.36190	0.46898	0.51408	0.54119	0.56441	0.57209	0.56346	0.51230	14.746
$ 61 Benzo(a)anthracene-d12(SS)	0.64108	0.62505	0.60697	0.59766	0.59549	0.58800	0.61475	0.60986	3.047
$ 64 Chrysene-d12(SS)	1.01714	1.07754	1.03768	1.07780	1.08822	1.08005	1.11128	1.06996	2.978
$ 71 Benzo(b)fluoranthene-d12(SS)	1.08354	1.10885	1.04614	1.05273	1.05298	1.01558	1.02113	1.05442	3.122
$ 74 Benzo(k)fluoranthene-d12(SS)	1.44097	1.46842	1.46071	1.49418	1.51406	1.55605	1.59974	1.50487	3.757

Report Date : 27-Jul-2011 16:19

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUL-2011 17:47
End Cal Date : 26-JUL-2011 20:15
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mp.i/P072611I.b/SIMPAH3.m
Cal Date : 27-Jul-2011 16:12 wilesd
Curve Type : Average

Compound	0.02000 Level 1	0.10000 Level 2	0.25000 Level 3	0.50000 Level 4	1.000 Level 5	2.500 Level 6	5.000 Level 7	___ RRF	% RSD
$ 79 Benzo(a)pyrene-d12(SS)	1.03060	1.05428	1.02557	1.06782	1.10537	1.10147	1.16161	1.07810	4.473
$ 82 Perylene-d12(SS)	0.98211	1.05141	1.04262	1.07858	1.09983	1.10564	1.16664	1.07526	5.396
$ 85 Indeno(123-cd)pyrene-d12(SS)	1.22022	1.23523	1.18062	1.22302	1.24477	1.24432	1.27564	1.23197	2.364
$ 88 Dibenz(ah)anthracene-d14(SS)	0.92554	0.93552	0.90023	0.93670	0.94592	0.94774	0.97708	0.93839	2.489
$ 91 Benzo(ghi)perylene-d12(SS)	0.91341	0.92279	0.89345	0.91993	0.93889	0.93612	0.95644	0.92586	2.187

Data File: /chem/gcms/mp.i/P072611I.b/pg26ic01.d
Report Date: 26-Jul-2011 18:00

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /chem/gcms/mp.i/P072611I.b/pg26ic01.d
Lab Smp Id: PG26IC01 Client Smp ID: PAH0356
Inj Date : 26-JUL-2011 17:47
Operator : 11211 Inst ID: mp.i
Smp Info : PG26IC01,,1,1,,PAH0356
Misc Info : P072611I,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P072611I.b/SIMPAH3.m
Meth Date : 26-Jul-2011 18:00 chemist Quant Type: ISTD
Cal Date : 26-JUL-2011 17:47 Cal File: pg26ic01.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	1.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

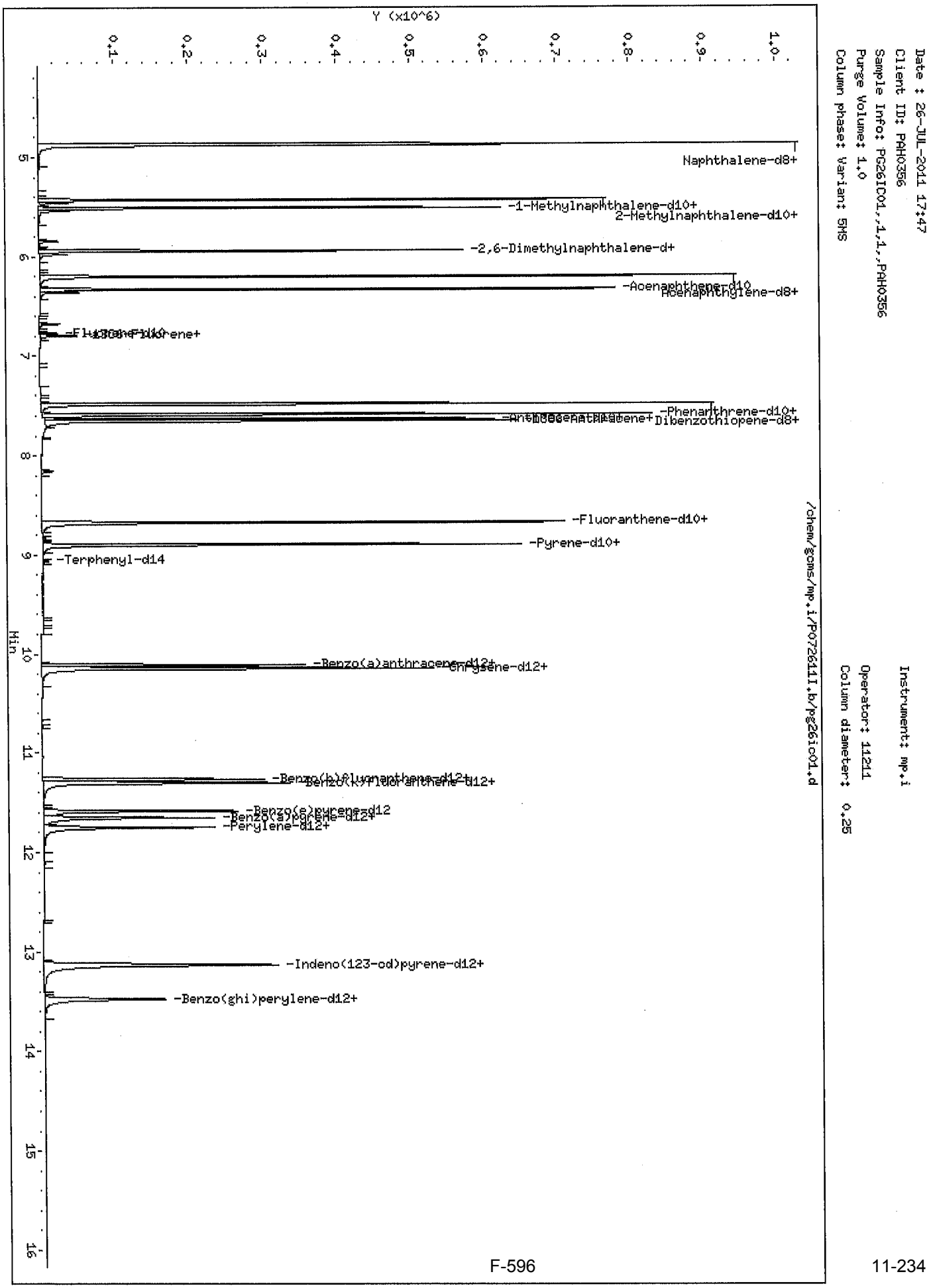
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
* 1 Naphthalene-d8	136	4.873	4.873	(1.000)	788360	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.873	4.873	(0.770)	788360	0.50000	0.507
3 Naphthalene	128	4.888	4.888	(1.003)	24868	0.02000	0.0187
$ 222 13C6-Naphthalene	134	4.888	4.888	(1.003)	30634	0.02000	0.0211
* 10 2-Methylnaphthalene-d10	152	5.431	5.431	(1.000)	425033	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.431	5.431	(0.858)	425033	0.50000	0.501
12 2-Methylnaphthalene	142	5.457	5.457	(1.005)	15139	0.02000	0.0178
* 13 1-Methylnaphthalene-d10	152	5.510	5.510	(1.000)	426271	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.510	5.510	(0.870)	426271	0.50000	0.510
15 1-Methylnaphthalene	142	5.540	5.540	(1.005)	14590	0.02000	0.0177
16 Biphenyl	154	5.845	5.845	(1.076)	17085	0.02000	0.0170
* 17 2,6-Dimethylnaphthalene-d12	168	5.942	5.942	(1.000)	360435	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.942	5.942	(0.939)	360435	0.50000	0.496
19 2,6 Dimethylnaphthalene	156	5.979	5.979	(1.006)	12189	0.02000	0.0171

Data File: /chem/gcms/mp.i/P072611I.b/pg26ic01.d
Report Date: 26-Jul-2011 18:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
*	20 Acenaphthylene-d8	160	6.202	6.202	(1.000)	591275	0.50000	0.500
$	21 Acenaphthylene-d8(SS)	160	6.202	6.202	(0.980)	591275	0.50000	0.472
	22 Acenaphthylene	152	6.211	6.211	(1.001)	20145	0.02000	0.0177
*	23 Acenaphthene-d10	164	6.330	6.330	(1.000)	331957	0.50000	0.500
	24 Acenaphthene	154	6.359	6.359	(1.025)	12231	0.02000	0.0183
	25 2,3,5 Trimethylnaphthalene	170	6.679	6.679	(1.124)	9405	0.02000	0.0156
$	26 Fluorene-d10	176	6.771	6.771	(0.893)	9700	0.02000	0.0156
	27 Fluorene	166	6.796	6.796	(0.896)	12179	0.02000	0.0152
$	28 13C6-Fluorene	171	6.793	6.793	(0.895)	10599	0.02000	0.0153
*	34 Dibenzothiopene-d8	192	7.482	7.482	(1.000)	580024	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.482	7.482	(0.841)	580024	0.50000	0.518
	36 Dibenzothiophene	184	7.497	7.497	(1.002)	19711	0.02000	0.0180
*	41 Phenanthrene-d10	188	7.586	7.586	(1.000)	520743	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.586	7.586	(0.853)	520743	0.50000	0.517
	43 Phenanthrene	178	7.605	7.605	(1.002)	20596	0.02000	0.0182
*	44 Anthracene-d10	188	7.634	7.634	(1.000)	429602	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.634	7.634	(0.858)	429602	0.50000	0.481
	46 Anthracene	178	7.650	7.650	(1.002)	20402	0.02000	0.0193
$	47 13C6-Anthracene	184	7.650	7.650	(0.860)	459405	0.50000	0.491
	52 1-Methylphenanthrene	192	8.158	8.158	(1.075)	10359	0.02000	0.0147
*	53 Fluoranthene-d10	212	8.674	8.674	(1.000)	485907	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.674	8.674	(0.975)	485907	0.50000	0.499
	55 Fluoranthene	202	8.691	8.691	(1.002)	19237	0.02000	0.0181
*	56 Pyrene-d10	212	8.896	8.896	(1.000)	392913	0.50000	0.500
	57 Pyrene	202	8.913	8.913	(1.028)	20708	0.02000	0.0185
$	58 Terphenyl-d14	244	9.058	9.058	(1.044)	7034	0.02000	0.0144
*	60 Benzo(a)anthracene-d12	240	10.112	10.112	(1.000)	251890	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.112	10.112	(1.137)	251890	0.50000	0.457
	62 Benzo(a)anthracene	228	10.133	10.133	(1.002)	12550	0.02000	0.0174
*	63 Chrysene-d12	240	10.146	10.146	(1.000)	399648	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.146	10.146	(1.141)	399648	0.50000	0.487
	65 Chrysene	228	10.171	10.171	(1.002)	15548	0.02000	0.0177
*	70 Benzo(b)fluoranthene-d12	264	11.265	11.265	(1.000)	274064	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.265	11.265	(0.972)	274064	0.50000	0.492
	72 Benzo(b)fluoranthene	252	11.295	11.295	(1.003)	14873	0.02000	0.0200
*	73 Benzo(k)fluoranthene-d12	264	11.301	11.301	(1.000)	364472	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.301	11.301	(0.975)	364472	0.50000	0.477
	75 Benzo(k)fluoranthene	252	11.319	11.319	(1.002)	14249	0.02000	0.0177
*	76 Benzo(e)pyrene-d12	264	11.588	11.588	(1.000)	252935	0.50000	0.500
	77 Benzo(e)pyrene	252	11.617	11.617	(0.997)	14006	0.02000	0.0214
*	78 Benzo(a)pyrene-d12	264	11.653	11.653	(1.000)	260675	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.653	11.653	(1.006)	260675	0.50000	0.452
	80 Benzo(a)pyrene	252	11.677	11.677	(1.002)	9362	0.02000	0.0164
*	81 Perylene-d12	264	11.749	11.749	(1.000)	248411	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.749	11.749	(1.014)	248411	0.50000	0.457
	83 Perylene	252	11.779	11.779	(1.003)	10198	0.02000	0.0165
*	84 Indeno(123-cd)pyrene-d12	288	13.127	13.127	(1.000)	308636	0.50000	0.500

Data File: /chem/gcms/mp.i/P072611I.b/pg26ic01.d
Report Date: 26-Jul-2011 18:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.127	13.127	(1.133)	308636	0.50000	0.477
	86 Indeno(1,2,3-cd)pyrene	276	13.156	13.156	(1.002)	12788	0.02000	0.0178
*	87 Dibenz(ah)anthracene-d14	292	13.127	13.127	(1.000)	234101	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.127	13.127	(1.133)	234101	0.50000	0.483
	89 Dibenz(a,h)anthracene	278	13.173	13.173	(1.004)	8445	0.02000	0.0151
*	90 Benzo(ghi)perylene-d12	288	13.477	13.477	(1.000)	231033	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.477	13.477	(1.163)	231033	0.50000	0.491
	92 Benzo(g,h,i)perylene	276	13.507	13.507	(1.002)	10487	0.02000	0.0167


Data File: /chem/gcms/mp.i/P072611I.b/pg26ic01.d
Date : 26-JUL-2011 17:47
Client ID: P&H0356
Sample Info: PG26IC01,,1,1,,P&H0356
Purge Volume: 1.0
Column phase: Varian 5MS
Instrument: mp.i
Operator: 11211
Column diameter: 0.25
Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
Min
5
6
7
8
9
10
11
12
13
14
15
16
Naphthalene-d8+
-1-Methylnaphthalene-d10+
2-Methylnaphthalene-d10+
-2,6-Dimethylnaphthalene-d+
-Acenaphthene-d10
Acenaphthylene-d8+
-Phenanthrene-d10+
Dibenzothiopene-d8+
-Fluoranthene-d10+
-Pyrene-d10+
-Terphenyl-d14
Chrysene-d12+
-Perylene-d12+
-Indeno(123-cd)pyrene-d12+
-Benzo(ghi)perylene-d12+
/chem/gcms/mp.i/P072611I.b/pg26ic01.d

Data File: /chem/gcms/mp.i/P072611I.b/pg26ic02.d
Report Date: 26-Jul-2011 18:25

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /chem/gcms/mp.i/P072611I.b/pg26ic02.d
Lab Smp Id: PG26IC02 Client Smp ID: PAH0357
Inj Date : 26-JUL-2011 18:12
Operator : 11211 Inst ID: mp.i
Smp Info : PG26IC02,,1,2,,PAH0357
Misc Info : P072611I,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P072611I.b/SIMPAH3.m
Meth Date : 26-Jul-2011 18:25 chemist Quant Type: ISTD
Cal Date : 26-JUL-2011 18:12 Cal File: pg26ic02.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	1.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

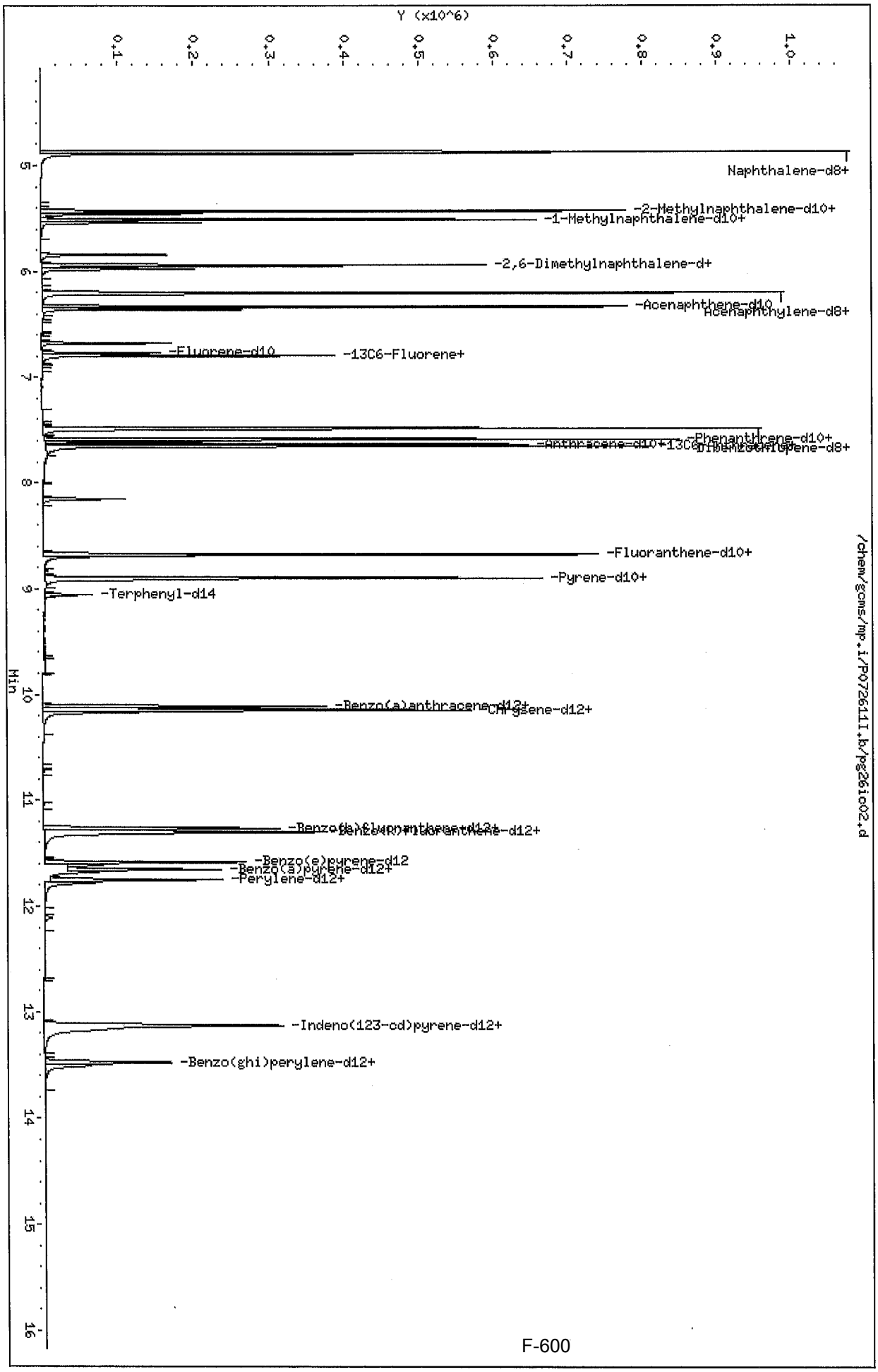
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
* 1 Naphthalene-d8	136	4.873	4.873	(1.000)	797630	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.873	4.873	(0.770)	797630	0.50000	0.509
3 Naphthalene	128	4.888	4.888	(1.003)	138490	0.10000	0.103
$ 222 13C6-Naphthalene	134	4.888	4.888	(1.003)	151088	0.10000	0.103
* 10 2-Methylnaphthalene-d10	152	5.431	5.431	(1.000)	429396	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.431	5.431	(0.858)	429396	0.50000	0.504
12 2-Methylnaphthalene	142	5.457	5.457	(1.005)	86583	0.10000	0.101
* 13 1-Methylnaphthalene-d10	152	5.510	5.510	(1.000)	431030	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.510	5.510	(0.870)	431030	0.50000	0.512
15 1-Methylnaphthalene	142	5.540	5.540	(1.005)	83747	0.10000	0.100
16 Biphenyl	154	5.845	5.845	(1.076)	101572	0.10000	0.0998
* 17 2,6-Dimethylnaphthalene-d12	168	5.942	5.942	(1.000)	367548	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.942	5.942	(0.939)	367548	0.50000	0.504
19 2,6 Dimethylnaphthalene	156	5.979	5.979	(1.006)	71850	0.10000	0.0986

Data File: /chem/gcms/mp.i/P072611I.b/pg26ic02.d
Report Date: 26-Jul-2011 18:25

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
*	20 Acenaphthylene-d8	160	6.199	6.199	(1.000)	597895	0.50000	0.500
$	21 Acenaphthylene-d8(SS)	160	6.199	6.199	(0.979)	597895	0.50000	0.481
	22 Acenaphthylene	152	6.211	6.211	(1.002)	116757	0.10000	0.101
*	23 Acenaphthene-d10	164	6.330	6.330	(1.000)	333970	0.50000	0.500
	24 Acenaphthene	154	6.359	6.359	(1.026)	70912	0.10000	0.104
	25 2,3,5 Trimethylnaphthalene	170	6.676	6.676	(1.123)	56660	0.10000	0.0927
$	26 Fluorene-d10	176	6.768	6.768	(0.892)	60583	0.10000	0.0952
	27 Fluorene	166	6.791	6.791	(0.895)	78508	0.10000	0.0958
$	28 13C6-Fluorene	171	6.791	6.791	(0.895)	67286	0.10000	0.0950
*	34 Dibenzothiopene-d8	192	7.482	7.482	(1.000)	595663	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.482	7.482	(0.841)	595663	0.50000	0.523
	36 Dibenzothiophene	184	7.497	7.497	(1.002)	112687	0.10000	0.100
*	41 Phenanthrene-d10	188	7.586	7.586	(1.000)	535143	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.586	7.586	(0.853)	535143	0.50000	0.521
	43 Phenanthrene	178	7.605	7.605	(1.002)	116683	0.10000	0.1000
*	44 Anthracene-d10	188	7.634	7.634	(1.000)	438721	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.634	7.634	(0.858)	438721	0.50000	0.488
	46 Anthracene	178	7.651	7.651	(1.002)	114030	0.10000	0.105
$	47 13C6-Anthracene	184	7.651	7.651	(0.860)	476490	0.50000	0.502
	52 1-Methylphenanthrene	192	8.155	8.155	(1.075)	62348	0.10000	0.0870
*	53 Fluoranthene-d10	212	8.674	8.674	(1.000)	498047	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.674	8.674	(0.975)	498047	0.50000	0.506
	55 Fluoranthene	202	8.691	8.691	(1.002)	107855	0.10000	0.0983
*	56 Pyrene-d10	212	8.895	8.895	(1.000)	398116	0.50000	0.500
	57 Pyrene	202	8.913	8.913	(1.028)	114140	0.10000	0.0989
$	58 Terphenyl-d14	244	9.054	9.054	(1.044)	46715	0.10000	0.0930
*	60 Benzo(a)anthracene-d12	240	10.108	10.108	(1.000)	248844	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.108	10.108	(1.136)	248844	0.50000	0.457
	62 Benzo(a)anthracene	228	10.133	10.133	(1.002)	73261	0.10000	0.101
*	63 Chrysene-d12	240	10.141	10.141	(1.000)	428986	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.141	10.141	(1.140)	428986	0.50000	0.513
	65 Chrysene	228	10.171	10.171	(1.003)	90895	0.10000	0.0970
*	70 Benzo(b)fluoranthene-d12	264	11.265	11.265	(1.000)	284279	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.265	11.265	(0.973)	284279	0.50000	0.507
	72 Benzo(b)fluoranthene	252	11.288	11.288	(1.002)	79028	0.10000	0.101
*	73 Benzo(k)fluoranthene-d12	264	11.300	11.300	(1.000)	376455	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.300	11.300	(0.976)	376462	0.50000	0.487
	75 Benzo(k)fluoranthene	252	11.318	11.318	(1.002)	79536	0.10000	0.0960
*	76 Benzo(e)pyrene-d12	264	11.581	11.581	(1.000)	256373	0.50000	0.500
	77 Benzo(e)pyrene	252	11.611	11.611	(0.997)	68680	0.10000	0.0985
*	78 Benzo(a)pyrene-d12	264	11.647	11.647	(1.000)	274410	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.647	11.647	(1.006)	270290	0.50000	0.469
	80 Benzo(a)pyrene	252	11.677	11.677	(1.003)	53728	0.10000	0.0892
*	81 Perylene-d12	264	11.749	11.749	(1.000)	269554	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.749	11.749	(1.014)	269554	0.50000	0.491
	83 Perylene	252	11.778	11.778	(1.003)	62116	0.10000	0.0928
*	84 Indeno(123-cd)pyrene-d12	288	13.122	13.122	(1.000)	316079	0.50000	0.500

Data File: /chem/gcms/mp.i/P072611I.b/pg26ic02.d
Report Date: 26-Jul-2011 18:25

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.122	13.122	(1.133)	316680	0.50000	0.486
	86 Indeno(1,2,3-cd)pyrene	276	13.156	13.156	(1.003)	69870	0.10000	0.0946
*	87 Dibenz(ah)anthracene-d14	292	13.127	13.127	(1.000)	239841	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.127	13.127	(1.133)	239841	0.50000	0.490
	89 Dibenz(a,h)anthracene	278	13.173	13.173	(1.004)	51913	0.10000	0.0903
*	90 Benzo(ghi)perylene-d12	288	13.477	13.477	(1.000)	236055	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.477	13.477	(1.164)	236578	0.50000	0.497
	92 Benzo(g,h,i)perylene	276	13.511	13.511	(1.002)	61780	0.10000	0.0961


Data File: /chem/gcms/mp.i/P072611I.b/pg26ic02.d
Date : 26-JUL-2011 18:12
Client ID: PAH0357
Sample Info: PG26IC02,,1,2,,PAH0357
Purge Volume: 1.0
Column phase: Varian: 5MS
Instrument: mp.i
Operator: 11211
Column diameter: 0.25
/chem/gcms/mp.i/P072611I.b/pg26ic02.d
Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
Min
5
6
7
8
9
10
11
12
13
14
15
16
Naphthalene-d8+
-2-Methylnaphthalene-d10+
-1-Methylnaphthalene-d10+
-2,6-Dimethylnaphthalene-d+
-Acenaphthene-d10
Acenaphthylene-d8+
-Fluorene-d10
-13C6-Fluorene+
-Phenanthrene-d10+
-Anthracene-d10+13C6
Dibenz(ah)anthracene-d8+
-Fluoranthene-d10+
-Pyrene-d10+
-Terphenyl-d14
-Benzo(a)anthracene-d12+
Chrysene-d12+
-Benzo(b)fluoranthene-d12+
Benzo(k)fluoranthene-d12+
-Benzo(e)pyrene-d12
-Benzo(a)pyrene-d12+
-Perylene-d12+
-Indeno(123-cd)pyrene-d12+
-Benzo(ghi)perylene-d12+

Data File: /chem/gcms/mp.i/P072611I.b/pg26ic03.d
Report Date: 26-Jul-2011 18:50

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /chem/gcms/mp.i/P072611I.b/pg26ic03.d
Lab Smp Id: PG26IC03 Client Smp ID: PAH0358
Inj Date : 26-JUL-2011 18:37
Operator : 11211 Inst ID: mp.i
Smp Info : PG26IC03,,1,3,,PAH0358
Misc Info : P072611I,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P072611I.b/SIMPAH3.m
Meth Date : 26-Jul-2011 18:50 chemist Quant Type: ISTD
Cal Date : 26-JUL-2011 18:37 Cal File: pg26ic03.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	1.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

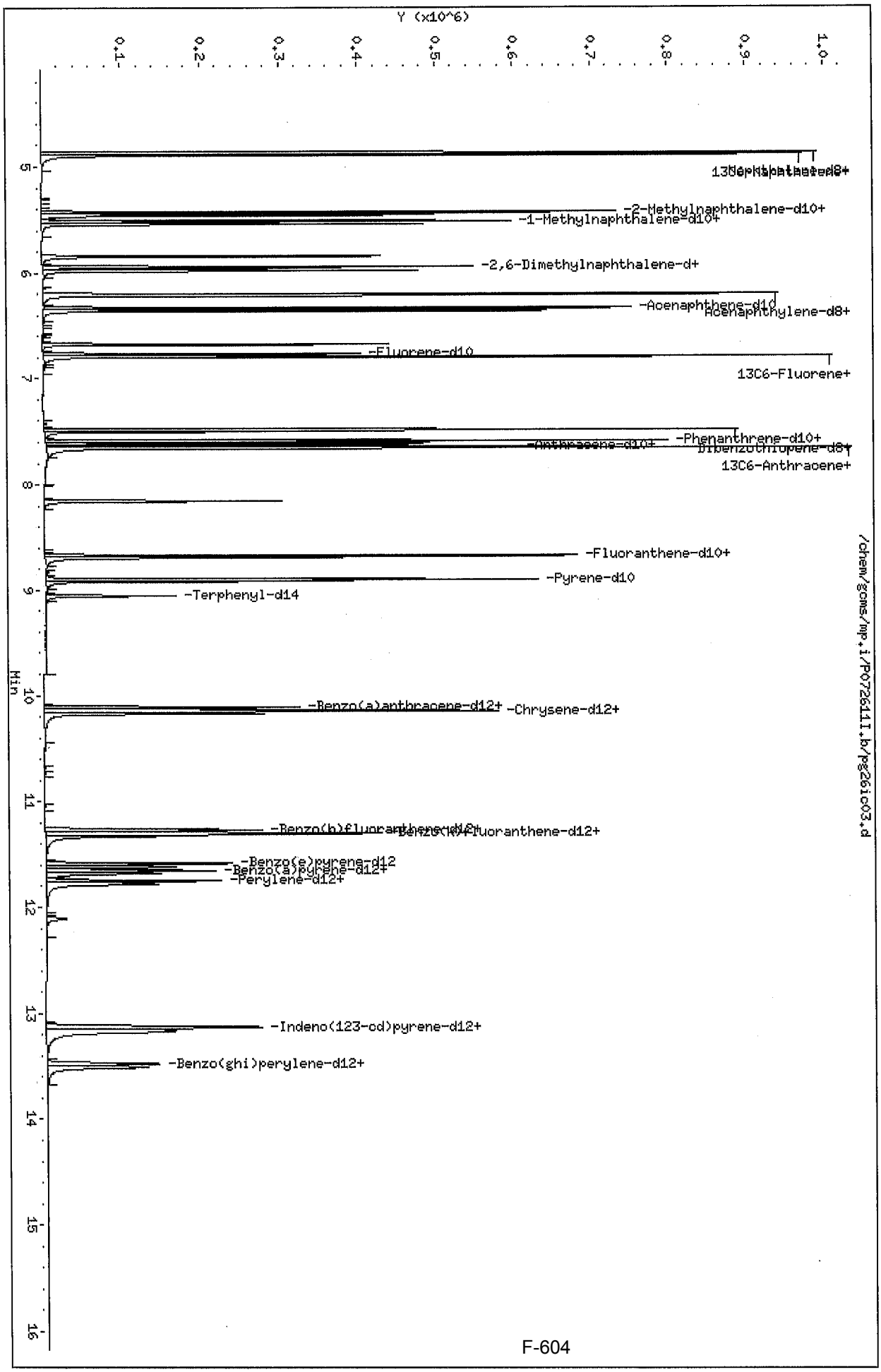
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
* 1 Naphthalene-d8	136	4.872	4.872	(1.000)	741572	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.872	4.872	(0.770)	741572	0.50000	0.497
3 Naphthalene	128	4.887	4.887	(1.003)	327736	0.25000	0.261
$ 222 13C6-Naphthalene	134	4.887	4.887	(1.003)	355515	0.25000	0.261
* 10 2-Methylnaphthalene-d10	152	5.430	5.430	(1.000)	397133	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.430	5.430	(0.858)	397133	0.50000	0.490
12 2-Methylnaphthalene	142	5.457	5.457	(1.005)	204899	0.25000	0.257
* 13 1-Methylnaphthalene-d10	152	5.510	5.510	(1.000)	400087	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.510	5.510	(0.870)	400087	0.50000	0.499
15 1-Methylnaphthalene	142	5.540	5.540	(1.005)	199298	0.25000	0.257
16 Biphenyl	154	5.842	5.842	(1.076)	244596	0.25000	0.259
* 17 2,6-Dimethylnaphthalene-d12	168	5.942	5.942	(1.000)	339213	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.942	5.942	(0.939)	339213	0.50000	0.489
19 2,6 Dimethylnaphthalene	156	5.979	5.979	(1.006)	172216	0.25000	0.256

Data File: /chem/gcms/mp.i/P072611I.b/pg26ic03.d
Report Date: 26-Jul-2011 18:50

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
*	20 Acenaphthylene-d8	160	6.199	6.199	(1.000)	546710	0.50000	0.500
$	21 Acenaphthylene-d8(SS)	160	6.199	6.199	(0.979)	546710	0.50000	0.468
	22 Acenaphthylene	152	6.211	6.211	(1.002)	276320	0.25000	0.259
*	23 Acenaphthene-d10	164	6.330	6.330	(1.000)	318155	0.50000	0.500
	24 Acenaphthene	154	6.359	6.359	(1.026)	169757	0.25000	0.267
	25 2,3,5 Trimethylnaphthalene	170	6.676	6.676	(1.124)	139422	0.25000	0.248
$	26 Fluorene-d10	176	6.768	6.768	(0.892)	150689	0.25000	0.256
	27 Fluorene	166	6.791	6.791	(0.895)	197667	0.25000	0.261
$	28 13C6-Fluorene	171	6.791	6.791	(0.895)	171110	0.25000	0.262
*	34 Dibenzothiopene-d8	192	7.482	7.482	(1.000)	548843	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.482	7.482	(0.841)	548843	0.50000	0.509
	36 Dibenzothiophene	184	7.497	7.497	(1.002)	266673	0.25000	0.257
*	41 Phenanthrene-d10	188	7.586	7.586	(1.000)	494499	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.586	7.586	(0.853)	494499	0.50000	0.509
	43 Phenanthrene	178	7.605	7.605	(1.002)	275458	0.25000	0.255
*	44 Anthracene-d10	188	7.634	7.634	(1.000)	402720	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.634	7.634	(0.858)	402720	0.50000	0.479
	46 Anthracene	178	7.650	7.650	(1.002)	268354	0.25000	0.265
$	47 13C6-Anthracene	184	7.650	7.650	(0.860)	454177	0.50000	0.507
	52 1-Methylphenanthrene	192	8.153	8.153	(1.075)	157293	0.25000	0.239
*	53 Fluoranthene-d10	212	8.674	8.674	(1.000)	458344	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.674	8.674	(0.975)	458344	0.50000	0.496
	55 Fluoranthene	202	8.691	8.691	(1.002)	253630	0.25000	0.250
*	56 Pyrene-d10	212	8.895	8.895	(1.000)	374540	0.50000	0.500
	57 Pyrene	202	8.912	8.912	(1.028)	272236	0.25000	0.255
$	58 Terphenyl-d14	244	9.054	9.054	(1.044)	117813	0.25000	0.255
*	60 Benzo(a)anthracene-d12	240	10.112	10.112	(1.000)	227336	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.112	10.112	(1.137)	227336	0.50000	0.453
	62 Benzo(a)anthracene	228	10.133	10.133	(1.002)	172192	0.25000	0.257
*	63 Chrysene-d12	240	10.145	10.145	(1.000)	388654	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.145	10.145	(1.141)	388654	0.50000	0.494
	65 Chrysene	228	10.171	10.171	(1.002)	221911	0.25000	0.261
*	70 Benzo(b)fluoranthene-d12	264	11.264	11.264	(1.000)	249292	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.264	11.264	(0.973)	249292	0.50000	0.483
	72 Benzo(b)fluoranthene	252	11.288	11.288	(1.002)	179605	0.25000	0.258
*	73 Benzo(k)fluoranthene-d12	264	11.300	11.300	(1.000)	348073	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.300	11.300	(0.976)	348081	0.50000	0.486
	75 Benzo(k)fluoranthene	252	11.318	11.318	(1.002)	191532	0.25000	0.251
*	76 Benzo(e)pyrene-d12	264	11.581	11.581	(1.000)	238296	0.50000	0.500
	77 Benzo(e)pyrene	252	11.617	11.617	(0.997)	168885	0.25000	0.267
*	78 Benzo(a)pyrene-d12	264	11.647	11.647	(1.000)	244389	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.647	11.647	(1.006)	244389	0.50000	0.462
	80 Benzo(a)pyrene	252	11.677	11.677	(1.003)	135029	0.25000	0.250
*	81 Perylene-d12	264	11.748	11.748	(1.000)	248452	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.748	11.748	(1.014)	248452	0.50000	0.487
	83 Perylene	252	11.778	11.778	(1.003)	155836	0.25000	0.252
*	84 Indeno(123-cd)pyrene-d12	288	13.122	13.122	(1.000)	281336	0.50000	0.500

Data File: /chem/gcms/mp.i/P072611I.b/pg26ic03.d
Report Date: 26-Jul-2011 18:50

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.122	13.122	(1.133)	281336	0.50000	0.468
	86 Indeno(1,2,3-cd)pyrene	276	13.156	13.156	(1.003)	165581	0.25000	0.250
*	87 Dibenz(ah)anthracene-d14	292	13.126	13.126	(1.000)	214521	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.126	13.126	(1.133)	214521	0.50000	0.474
	89 Dibenz(a,h)anthracene	278	13.173	13.173	(1.004)	126680	0.25000	0.245
*	90 Benzo(ghi)perylene-d12	288	13.477	13.477	(1.000)	212906	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.477	13.477	(1.164)	212906	0.50000	0.481
	92 Benzo(g,h,i)perylene	276	13.506	13.506	(1.002)	146002	0.25000	0.251


Data File: /chem/gcms/mp.i/P0726111.b/pg26ic03.d
Date : 26-JUL-2011 18:37
Client ID: PAH0358
Sample Info: PG26IC03,,1.3,,PAH0358
Purge Volume: 1.0
Column phase: Varian 5MS
Instrument: mp.i
Operator: 11211
Column diameter: 0.25
/chem/gcms/mp.i/P0726111.b/pg26ic03.d
Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
Min
5
6
7
8
9
10
11
12
13
14
15
16
13C6-Naphthalene+
-2-Methylnaphthalene-d10+
-1-Methylnaphthalene-d10+
-2,6-Dimethylnaphthalene-d+
-Acenaphthene-d10
Acenaphthylene-d8+
-Fluorene-d10
13C6-Fluorene+
-Phenanthrene-d10+
Dibenzothiophene-d8+
-Anthracene-d10+
13C6-Anthracene+
-Fluoranthene-d10+
-Pyrene-d10
-Terphenyl-d14
-Benzo(a)anthracene-d12+
-Chrysene-d12+
-Benzo(b)fluoranthene-d12+
Benzo(k)fluoranthene-d12+
-Benzo(e)pyrene-d12
-Benzo(a)pyrene-d12+
-Perylene-d12+
-Indeno(123-cd)pyrene-d12+
-Benzo(ghi)perylene-d12+

Data File: /chem/gcms/mp.i/P072611I.b/pg26ic04.d
Report Date: 26-Jul-2011 19:15

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /chem/gcms/mp.i/P072611I.b/pg26ic04.d
Lab Smp Id: PG26IC04 Client Smp ID: PAH0359
Inj Date : 26-JUL-2011 19:02
Operator : 11211 Inst ID: mp.i
Smp Info : PG26IC04,,1,4,,PAH0359
Misc Info : P072611I,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P072611I.b/SIMPAH3.m
Meth Date : 26-Jul-2011 19:15 chemist Quant Type: ISTD
Cal Date : 26-JUL-2011 19:02 Cal File: pg26ic04.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	1.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

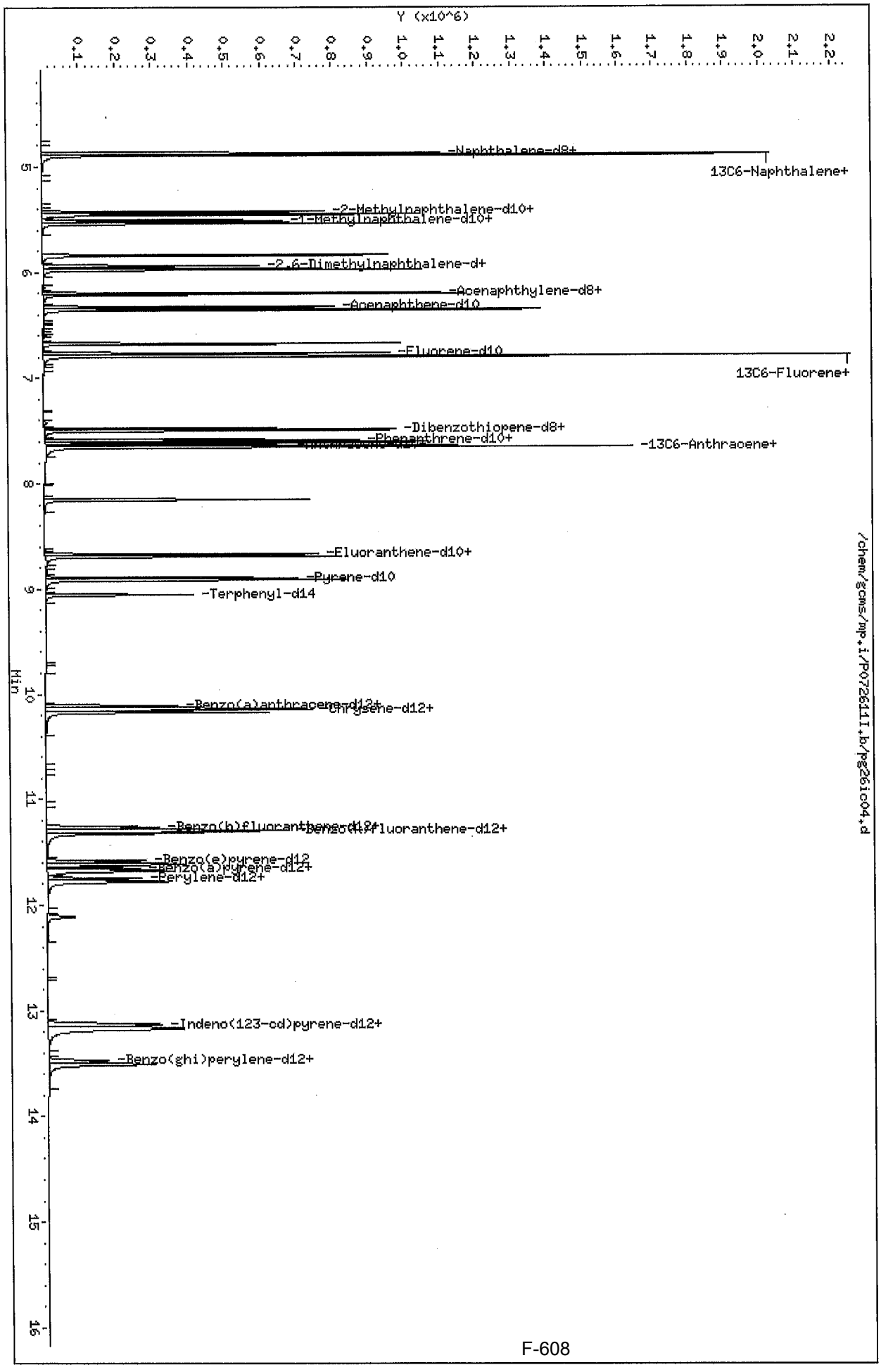
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
* 1 Naphthalene-d8	136	4.873	4.873	(1.000)	785363	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.873	4.873	(0.770)	785363	0.50000	0.499
3 Naphthalene	128	4.887	4.887	(1.003)	683021	0.50000	0.513
$ 222 13C6-Naphthalene	134	4.887	4.887	(1.003)	759477	0.50000	0.526
* 10 2-Methylnaphthalene-d10	152	5.431	5.431	(1.000)	422743	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.431	5.431	(0.858)	422743	0.50000	0.494
12 2-Methylnaphthalene	142	5.457	5.457	(1.005)	434767	0.50000	0.512
* 13 1-Methylnaphthalene-d10	152	5.510	5.510	(1.000)	420243	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.510	5.510	(0.870)	420243	0.50000	0.496
15 1-Methylnaphthalene	142	5.540	5.540	(1.005)	416084	0.50000	0.510
16 Biphenyl	154	5.842	5.842	(1.076)	523205	0.50000	0.519
* 17 2,6-Dimethylnaphthalene-d12	168	5.940	5.940	(1.000)	362971	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.940	5.940	(0.938)	362971	0.50000	0.497
19 2,6 Dimethylnaphthalene	156	5.976	5.976	(1.006)	369246	0.50000	0.512

Data File: /chem/gcms/mp.i/P072611I.b/pg26ic04.d
Report Date: 26-Jul-2011 19:15

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
*	20 Acenaphthylene-d8	160	6.199	6.199	(1.000)	587259	0.50000	0.500
$	21 Acenaphthylene-d8(SS)	160	6.199	6.199	(0.979)	587259	0.50000	0.482
	22 Acenaphthylene	152	6.211	6.211	(1.002)	597793	0.50000	0.518
*	23 Acenaphthene-d10	164	6.330	6.330	(1.000)	336147	0.50000	0.500
	24 Acenaphthene	154	6.356	6.356	(1.025)	363513	0.50000	0.527
	25 2,3,5 Trimethylnaphthalene	170	6.676	6.676	(1.124)	308842	0.50000	0.513
$	26 Fluorene-d10	176	6.766	6.766	(0.892)	330978	0.50000	0.520
	27 Fluorene	166	6.791	6.791	(0.895)	438066	0.50000	0.533
$	28 13C6-Fluorene	171	6.788	6.788	(0.895)	379058	0.50000	0.534
*	34 Dibenzothiopene-d8	192	7.482	7.482	(1.000)	593262	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.482	7.482	(0.841)	593262	0.50000	0.501
	36 Dibenzothiophene	184	7.497	7.497	(1.002)	574340	0.50000	0.510
*	41 Phenanthrene-d10	188	7.584	7.584	(1.000)	536157	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.584	7.584	(0.853)	536157	0.50000	0.503
	43 Phenanthrene	178	7.605	7.605	(1.003)	597542	0.50000	0.509
*	44 Anthracene-d10	188	7.634	7.634	(1.000)	450469	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.634	7.634	(0.858)	450469	0.50000	0.492
	46 Anthracene	178	7.650	7.650	(1.002)	585204	0.50000	0.513
$	47 13C6-Anthracene	184	7.650	7.650	(0.860)	496976	0.50000	0.507
	52 1-Methylphenanthrene	192	8.153	8.153	(1.075)	362413	0.50000	0.511
*	53 Fluoranthene-d10	212	8.674	8.674	(1.000)	502333	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.674	8.674	(0.975)	502333	0.50000	0.498
	55 Fluoranthene	202	8.691	8.691	(1.002)	566414	0.50000	0.508
*	56 Pyrene-d10	212	8.895	8.895	(1.000)	409376	0.50000	0.500
	57 Pyrene	202	8.913	8.913	(1.028)	599154	0.50000	0.509
$	58 Terphenyl-d14	244	9.052	9.052	(1.044)	271857	0.50000	0.534
*	60 Benzo(a)anthracene-d12	240	10.108	10.108	(1.000)	244666	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.108	10.108	(1.136)	244666	0.50000	0.458
	62 Benzo(a)anthracene	228	10.133	10.133	(1.002)	397982	0.50000	0.540
*	63 Chrysene-d12	240	10.142	10.142	(1.000)	441227	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.142	10.142	(1.140)	441227	0.50000	0.510
	65 Chrysene	228	10.171	10.171	(1.003)	491486	0.50000	0.509
*	70 Benzo(b)fluoranthene-d12	264	11.265	11.265	(1.000)	279680	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.265	11.265	(0.973)	279680	0.50000	0.490
	72 Benzo(b)fluoranthene	252	11.289	11.289	(1.002)	406853	0.50000	0.514
*	73 Benzo(k)fluoranthene-d12	264	11.301	11.301	(1.000)	396960	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.301	11.301	(0.976)	396960	0.50000	0.496
	75 Benzo(k)fluoranthene	252	11.319	11.319	(1.002)	441568	0.50000	0.507
*	76 Benzo(e)pyrene-d12	264	11.581	11.581	(1.000)	265671	0.50000	0.500
	77 Benzo(e)pyrene	252	11.611	11.611	(0.997)	391910	0.50000	0.526
*	78 Benzo(a)pyrene-d12	264	11.647	11.647	(1.000)	283689	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.647	11.647	(1.006)	283689	0.50000	0.486
	80 Benzo(a)pyrene	252	11.677	11.677	(1.003)	326939	0.50000	0.518
*	81 Perylene-d12	264	11.749	11.749	(1.000)	286548	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.749	11.749	(1.014)	286548	0.50000	0.504
	83 Perylene	252	11.779	11.779	(1.003)	372038	0.50000	0.519
*	84 Indeno(123-cd)pyrene-d12	288	13.123	13.123	(1.000)	324921	0.50000	0.500

Data File: /chem/gcms/mp.i/P072611I.b/pg26ic04.d
Report Date: 26-Jul-2011 19:15

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.123	13.123	(1.133)	324921	0.50000	0.489
	86 Indeno(1,2,3-cd)pyrene	276	13.156	13.156	(1.003)	394999	0.50000	0.514
*	87 Dibenz(ah)anthracene-d14	292	13.127	13.127	(1.000)	248853	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.127	13.127	(1.133)	248853	0.50000	0.496
	89 Dibenz(a,h)anthracene	278	13.173	13.173	(1.004)	314038	0.50000	0.522
*	90 Benzo(ghi)perylene-d12	288	13.473	13.473	(1.000)	244398	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.473	13.473	(1.163)	244398	0.50000	0.496
	92 Benzo(g,h,i)perylene	276	13.507	13.507	(1.002)	343312	0.50000	0.513


Data File: /chem/gcms/mp.i/P072611I.b/pg26ic04.d
Date : 26-JUL-2011 19:02
Client ID: PAH0359
Sample Info: PG26IC04,,1,4,,PAH0359
Purge Volume: 1.0
Column phase: Varian 5MS
Instrument: mp.i
Operator: 11211
Column diameter: 0.25
Y (x10^6)
Min
-Naphthalene-d8+
13C6-Naphthalene+
-2-Methylnaphthalene-d10+
-1-Methylnaphthalene-d10+
-2,6-Dimethylnaphthalene-d+
-Acenaphthylene-d8+
-Acenaphthene-d10
-Fluorene-d10
13C6-Fluorene+
-Dibenzothiopene-d8+
-Phenanthrene-d10+
-13C6-Anthracene+
-Fluoranthene-d10+
-Pyrene-d10
-Terphenyl-d14
-Benzo(a)anthracene-d12+
Chrysene-d12+
-Benzo(b)fluoranthene-d12+
Benzo(k)fluoranthene-d12+
-Benzo(e)pyrene-d12
-Benzo(a)pyrene-d12+
-Perylene-d12+
-Indeno(123-cd)pyrene-d12+
-Benzo(ghi)perylene-d12+
/chem/gcms/mp.i/P072611I.b/pg26ic04.d

Data File: /chem/gcms/mp.i/P072611I.b/pg26ic05.d
Report Date: 26-Jul-2011 19:39

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /chem/gcms/mp.i/P072611I.b/pg26ic05.d
Lab Smp Id: PG26IC05 Client Smp ID: PAH0360
Inj Date : 26-JUL-2011 19:26
Operator : 11211 Inst ID: mp.i
Smp Info : PG26IC05,,1,5,,PAH0360
Misc Info : P072611I,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P072611I.b/SIMPAH3.m
Meth Date : 26-Jul-2011 19:39 chemist Quant Type: ISTD
Cal Date : 26-JUL-2011 19:26 Cal File: pg26ic05.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	1.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

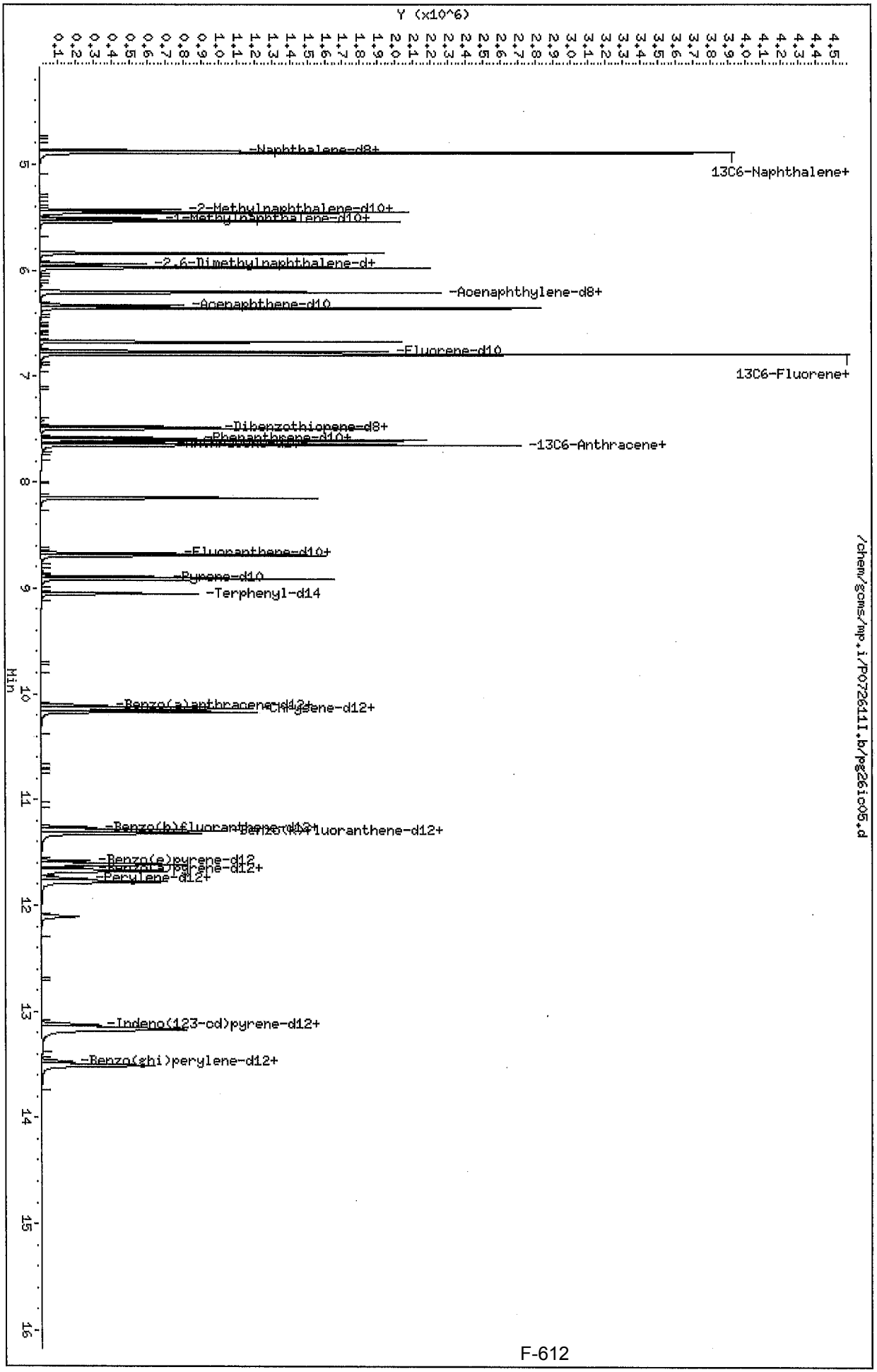
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
* 1 Naphthalene-d8	136	4.873	4.873	(1.000)	771715	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.873	4.873	(0.770)	771715	0.50000	0.498
3 Naphthalene	128	4.887	4.887	(1.003)	1336016	1.00000	1.02
$ 222 13C6-Naphthalene	134	4.887	4.887	(1.003)	1401268	1.00000	0.989
* 10 2-Methylnaphthalene-d10	152	5.431	5.431	(1.000)	416895	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.431	5.431	(0.858)	416895	0.50000	0.498
12 2-Methylnaphthalene	142	5.457	5.457	(1.005)	860211	1.00000	1.03
* 13 1-Methylnaphthalene-d10	152	5.510	5.510	(1.000)	413662	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.510	5.510	(0.870)	413662	0.50000	0.498
15 1-Methylnaphthalene	142	5.540	5.540	(1.005)	823269	1.00000	1.03
16 Biphenyl	154	5.842	5.842	(1.076)	1043175	1.00000	1.05
* 17 2,6-Dimethylnaphthalene-d12	168	5.940	5.940	(1.000)	356284	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.940	5.940	(0.938)	356284	0.50000	0.498
19 2,6 Dimethylnaphthalene	156	5.976	5.976	(1.006)	737494	1.00000	1.04

Data File: /chem/gcms/mp.i/P072611I.b/pg26ic05.d
Report Date: 26-Jul-2011 19:39

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
*	20 Acenaphthylene-d8	160	6.199	6.199	(1.000)	580850	0.50000	0.500
$	21 Acenaphthylene-d8(SS)	160	6.199	6.199	(0.979)	580850	0.50000	0.490
	22 Acenaphthylene	152	6.211	6.211	(1.002)	1216850	1.00000	1.06
*	23 Acenaphthene-d10	164	6.330	6.330	(1.000)	329838	0.50000	0.500
	24 Acenaphthene	154	6.356	6.356	(1.025)	729347	1.00000	1.06
	25 2,3,5 Trimethylnaphthalene	170	6.676	6.676	(1.124)	632427	1.00000	1.07
$	26 Fluorene-d10	176	6.766	6.766	(0.892)	669881	1.00000	1.07
	27 Fluorene	166	6.788	6.788	(0.895)	875681	1.00000	1.08
$	28 13C6-Fluorene	171	6.788	6.788	(0.895)	758198	1.00000	1.08
*	34 Dibenzothiopene-d8	192	7.480	7.480	(1.000)	581340	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.480	7.480	(0.841)	581340	0.50000	0.498
	36 Dibenzothiophene	184	7.497	7.497	(1.002)	1141758	1.00000	1.03
*	41 Phenanthrene-d10	188	7.584	7.584	(1.000)	529335	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.584	7.584	(0.853)	529335	0.50000	0.502
	43 Phenanthrene	178	7.605	7.605	(1.003)	1187779	1.00000	1.02
*	44 Anthracene-d10	188	7.634	7.634	(1.000)	450301	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.634	7.634	(0.858)	450301	0.50000	0.500
	46 Anthracene	178	7.648	7.648	(1.002)	1176916	1.00000	1.03
$	47 13C6-Anthracene	184	7.648	7.648	(0.860)	497578	0.50000	0.516
	52 1-Methylphenanthrene	192	8.150	8.150	(1.075)	753645	1.00000	1.08
*	53 Fluoranthene-d10	212	8.674	8.674	(1.000)	492224	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.674	8.674	(0.975)	492224	0.50000	0.496
	55 Fluoranthene	202	8.689	8.689	(1.002)	1145180	1.00000	1.04
*	56 Pyrene-d10	212	8.893	8.893	(1.000)	403358	0.50000	0.500
	57 Pyrene	202	8.911	8.911	(1.027)	1206619	1.00000	1.04
$	58 Terphenyl-d14	244	9.052	9.052	(1.044)	555636	1.00000	1.11
*	60 Benzo(a)anthracene-d12	240	10.108	10.108	(1.000)	240196	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.108	10.108	(1.137)	240196	0.50000	0.466
	62 Benzo(a)anthracene	228	10.129	10.129	(1.002)	809720	1.00000	1.10
*	63 Chrysene-d12	240	10.142	10.142	(1.000)	438944	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.142	10.142	(1.140)	438944	0.50000	0.513
	65 Chrysene	228	10.171	10.171	(1.003)	990378	1.00000	1.03
*	70 Benzo(b)fluoranthene-d12	264	11.265	11.265	(1.000)	276331	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.265	11.265	(0.973)	276331	0.50000	0.493
	72 Benzo(b)fluoranthene	252	11.289	11.289	(1.002)	830115	1.00000	1.05
*	73 Benzo(k)fluoranthene-d12	264	11.295	11.295	(1.000)	397329	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.295	11.295	(0.975)	397329	0.50000	0.504
	75 Benzo(k)fluoranthene	252	11.319	11.319	(1.002)	892469	1.00000	1.02
*	76 Benzo(e)pyrene-d12	264	11.581	11.581	(1.000)	262427	0.50000	0.500
	77 Benzo(e)pyrene	252	11.611	11.611	(0.997)	801528	1.00000	1.04
*	78 Benzo(a)pyrene-d12	264	11.647	11.647	(1.000)	290080	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.647	11.647	(1.006)	290080	0.50000	0.506
	80 Benzo(a)pyrene	252	11.677	11.677	(1.003)	703418	1.00000	1.08
*	81 Perylene-d12	264	11.749	11.749	(1.000)	288626	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.749	11.749	(1.014)	288626	0.50000	0.513
	83 Perylene	252	11.773	11.773	(1.002)	769463	1.00000	1.06
*	84 Indeno(123-cd)pyrene-d12	288	13.123	13.123	(1.000)	326660	0.50000	0.500

Data File: /chem/gcms/mp.i/P072611I.b/pg26ic05.d
Report Date: 26-Jul-2011 19:39

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.123	13.123	(1.133)	326660	0.50000	0.500
	86 Indeno(1,2,3-cd)pyrene	276	13.156	13.156	(1.003)	828279	1.00000	1.06
*	87 Dibenz(ah)anthracene-d14	292	13.127	13.127	(1.000)	248235	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.127	13.127	(1.133)	248235	0.50000	0.502
	89 Dibenz(a,h)anthracene	278	13.173	13.173	(1.004)	664958	1.00000	1.10
*	90 Benzo(ghi)perylene-d12	288	13.473	13.473	(1.000)	246391	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.473	13.473	(1.163)	246391	0.50000	0.506
	92 Benzo(g,h,i)perylene	276	13.507	13.507	(1.002)	714303	1.00000	1.06


Y (x10^6)
Min
-Naphthalene-d8+
13C6-Naphthalene+
-2-Methylnaphthalene-d10+
-1-Methylnaphthalene-d10+
-2,6-Dimethylnaphthalene-d+
-Acenaphthylene-d8+
-Acenaphthene-d10
-Fluorene-d10
13C6-Fluorene+
-Dibenzothiopene-d8+
-Phenanthrene-d10+
-13C6-Anthracene+
-Fluoranthene-d10+
-Pyrene-d10
-Terphenyl-d14
-Benzo(a)anthracene-d12+
Chrysene-d12+
-Benzo(b)fluoranthene-d12+
Benzo(k)fluoranthene-d12+
-Benzo(e)pyrene-d12
-Benzo(a)pyrene-d12+
-Perylene-d12+
-Indeno(123-cd)pyrene-d12+
-Benzo(ghi)perylene-d12+
/chem/gcms/mp.i/P072611I.b/pg26ic05.d
Data File: /chem/gcms/mp.i/P072611I.b/pg26ic05.d
Date : 26-JUL-2011 19:26
Client ID: PAH0360
Sample Info: PG26IC05,.1,5,,PAH0360
Purge Volume: 1.0
Column phase: Varian 5MS
Instrument: mp.i
Operator: 11211
Column diameter: 0.25

Data File: /chem/gcms/mp.i/P072611I.b/pg26ic06.d
Report Date: 26-Jul-2011 20:03

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SEMIVOLATILE QUANTITATION REPORT

Data file : /chem/gcms/mp.i/P072611I.b/pg26ic06.d
Lab Smp Id: PG26IC06 Client Smp ID: PAH0361
Inj Date : 26-JUL-2011 19:51
Operator : 11211 Inst ID: mp.i
Smp Info : PG26IC06,,1,6,,PAH0361
Misc Info : P072611I,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P072611I.b/SIMPAH3.m
Meth Date : 26-Jul-2011 20:03 chemist Quant Type: ISTD
Cal Date : 26-JUL-2011 19:51 Cal File: pg26ic06.d
Als bottle: 1 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	1.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

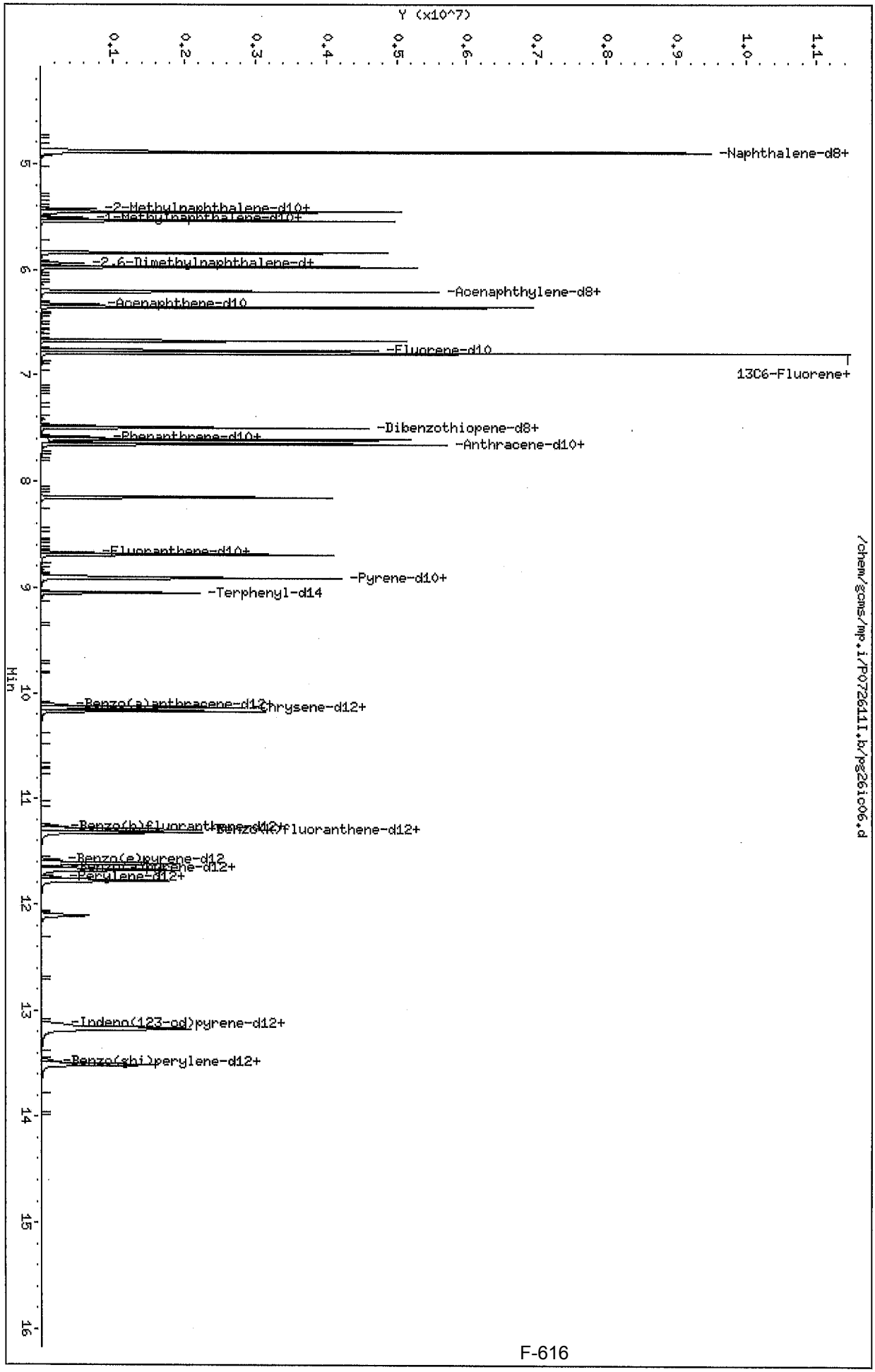
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
*	1 Naphthalene-d8	136	4.873	4.873	(1.000)	740778	0.50000	0.500
$	2 Naphthalene-d8(SS)	136	4.873	4.873	(0.770)	740778	0.50000	0.489
	3 Naphthalene	128	4.891	4.891	(1.004)	3133055	2.50000	2.50
$	222 13C6-Naphthalene	134	4.891	4.891	(1.004)	3218370	2.50000	2.37
*	10 2-Methylnaphthalene-d10	152	5.431	5.431	(1.000)	404536	0.50000	0.500
$	11 2-Methylnaphthalene-d10(SS)	152	5.431	5.431	(0.858)	404536	0.50000	0.495
	12 2-Methylnaphthalene	142	5.454	5.454	(1.004)	2083505	2.50000	2.56
*	13 1-Methylnaphthalene-d10	152	5.510	5.510	(1.000)	398885	0.50000	0.500
$	14 1-Methylnaphthalene-d10(SS)	152	5.510	5.510	(0.870)	398885	0.50000	0.491
	15 1-Methylnaphthalene	142	5.540	5.540	(1.005)	1964440	2.50000	2.54
	16 Biphenyl	154	5.840	5.840	(1.075)	2506391	2.50000	2.59
*	17 2,6-Dimethylnaphthalene-d12	168	5.940	5.940	(1.000)	344635	0.50000	0.500
$	18 2,6-Dimethylnaph-d12(SS)	168	5.940	5.940	(0.938)	344635	0.50000	0.494
	19 2,6 Dimethylnaphthalene	156	5.976	5.976	(1.006)	1795151	2.50000	2.61

Data File: /chem/gcms/mp.i/P072611I.b/pg26ic06.d
Report Date: 26-Jul-2011 20:03

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
*	20 Acenaphthylene-d8	160	6.199	6.199	(1.000)	568251	0.50000	0.500
$	21 Acenaphthylene-d8(SS)	160	6.199	6.199	(0.979)	568251	0.50000	0.495
	22 Acenaphthylene	152	6.211	6.211	(1.002)	3043704	2.50000	2.68
*	23 Acenaphthene-d10	164	6.330	6.330	(1.000)	322123	0.50000	0.500
	24 Acenaphthene	154	6.356	6.356	(1.025)	1767843	2.50000	2.60
	25 2,3,5 Trimethylnaphthalene	170	6.674	6.674	(1.124)	1572700	2.50000	2.74
$	26 Fluorene-d10	176	6.766	6.766	(0.892)	1629213	2.50000	2.68
	27 Fluorene	166	6.788	6.788	(0.895)	2077595	2.50000	2.65
$	28 13C6-Fluorene	171	6.788	6.788	(0.895)	1809489	2.50000	2.67
*	34 Dibenzothiopene-d8	192	7.480	7.480	(1.000)	566078	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.480	7.480	(0.841)	566078	0.50000	0.489
	36 Dibenzothiophene	184	7.495	7.495	(1.002)	2774221	2.50000	2.57
*	41 Phenanthrene-d10	188	7.584	7.584	(1.000)	512096	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.584	7.584	(0.853)	512096	0.50000	0.490
	43 Phenanthrene	178	7.605	7.605	(1.003)	2889314	2.50000	2.57
*	44 Anthracene-d10	188	7.632	7.632	(1.000)	444401	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.632	7.632	(0.858)	444401	0.50000	0.501
	46 Anthracene	178	7.648	7.648	(1.002)	2888977	2.50000	2.54
$	47 13C6-Anthracene	184	7.648	7.648	(0.860)	472399	0.50000	0.494
	52 1-Methylphenanthrene	192	8.150	8.150	(1.075)	1914653	2.50000	2.83
*	53 Fluoranthene-d10	212	8.672	8.672	(1.000)	477830	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.672	8.672	(0.975)	477830	0.50000	0.489
	55 Fluoranthene	202	8.689	8.689	(1.002)	2844050	2.50000	2.66
*	56 Pyrene-d10	212	8.893	8.893	(1.000)	398709	0.50000	0.500
	57 Pyrene	202	8.911	8.911	(1.028)	2982312	2.50000	2.64
$	58 Terphenyl-d14	244	9.050	9.050	(1.044)	1366799	2.50000	2.80
*	60 Benzo(a)anthracene-d12	240	10.108	10.108	(1.000)	234441	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.108	10.108	(1.137)	234441	0.50000	0.471
	62 Benzo(a)anthracene	228	10.129	10.129	(1.002)	2105438	2.50000	2.87
*	63 Chrysene-d12	240	10.142	10.142	(1.000)	430624	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.142	10.142	(1.140)	430624	0.50000	0.508
	65 Chrysene	228	10.171	10.171	(1.003)	2403874	2.50000	2.55
*	70 Benzo(b)fluoranthene-d12	264	11.265	11.265	(1.000)	259509	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.265	11.265	(0.973)	259509	0.50000	0.479
	72 Benzo(b)fluoranthene	252	11.289	11.289	(1.002)	2012172	2.50000	2.68
*	73 Benzo(k)fluoranthene-d12	264	11.301	11.301	(1.000)	397615	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.301	11.301	(0.976)	397615	0.50000	0.518
	75 Benzo(k)fluoranthene	252	11.319	11.319	(1.002)	2254040	2.50000	2.59
*	76 Benzo(e)pyrene-d12	264	11.581	11.581	(1.000)	255529	0.50000	0.500
	77 Benzo(e)pyrene	252	11.611	11.611	(0.997)	1969512	2.50000	2.60
*	78 Benzo(a)pyrene-d12	264	11.647	11.647	(1.000)	281457	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.647	11.647	(1.006)	281457	0.50000	0.509
	80 Benzo(a)pyrene	252	11.677	11.677	(1.003)	1847427	2.50000	2.91
*	81 Perylene-d12	264	11.749	11.749	(1.000)	282522	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.749	11.749	(1.014)	282522	0.50000	0.515
	83 Perylene	252	11.779	11.779	(1.003)	1949136	2.50000	2.75
*	84 Indeno(123-cd)pyrene-d12	288	13.123	13.123	(1.000)	317961	0.50000	0.500

Data File: /chem/gcms/mp.i/P072611I.b/pg26ic06.d
Report Date: 26-Jul-2011 20:03

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.123	13.123	(1.133)	317961	0.50000	0.502
	86 Indeno(1,2,3-cd)pyrene	276	13.156	13.156	(1.003)	2089771	2.50000	2.74
*	87 Dibenz(ah)anthracene-d14	292	13.127	13.127	(1.000)	242176	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.127	13.127	(1.133)	242176	0.50000	0.504
	89 Dibenz(a,h)anthracene	278	13.173	13.173	(1.004)	1688287	2.50000	2.85
*	90 Benzo(ghi)perylene-d12	288	13.473	13.473	(1.000)	239206	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.473	13.473	(1.163)	239206	0.50000	0.505
	92 Benzo(g,h,i)perylene	276	13.507	13.507	(1.002)	1776312	2.50000	2.70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Min
5
6
7
8
9
10
11
12
13
14
15
16
-Naphthalene-d8+
-2-Methylnaphthalene-d10+
-1-Methylnaphthalene-d10+
-2,6-Dimethylnaphthalene-d+
-Acenaphthylene-d8+
-Acenaphthene-d10
-Fluorene-d10
13C6-Fluorene+
-Dibenzothiopene-d8+
-Phenanthrene-d10+
-Anthracene-d10+
-Fluoranthene-d10+
-Pyrene-d10+
-Terphenyl-d14
-Benzo(a)anthracene-d12
Chrysene-d12+
-Benzo(b)fluoranthene-d12+
Benzo(k)fluoranthene-d12+
-Benzo(e)pyrene-d12
-Perylene-d12+
-Indeno(123-cd)pyrene-d12+
-Benzo(ghi)perylene-d12+
/chem/gcms/mp.i/P0726111.b/pg26ic06.d
Data File: /chem/gcms/mp.i/P0726111.b/pg26ic06.d
Date : 26-JUL-2011 19:51
Client ID: PAH0361
Sample Info: PG26IC06,1,6,,PAH0361
Purge Volume: 1.0
Column phase: Varian 5MS
Instrument: mp.i
Operator: 11211
Column diameter: 0.25

Data File: /chem/gcms/mp.i/P072611I.b/pg26ic07.d
Report Date: 26-Jul-2011 20:28

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /chem/gcms/mp.i/P072611I.b/pg26ic07.d
Lab Smp Id: PG26IC07 Client Smp ID: PAH0316
Inj Date : 26-JUL-2011 20:15
Operator : 11211 Inst ID: mp.i
Smp Info : PG26IC07,,1,7,,PAH0316
Misc Info : P072611I,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P072611I.b/SIMPAH3.m
Meth Date : 26-Jul-2011 20:28 chemist Quant Type: ISTD
Cal Date : 26-JUL-2011 20:15 Cal File: pg26ic07.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	1.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

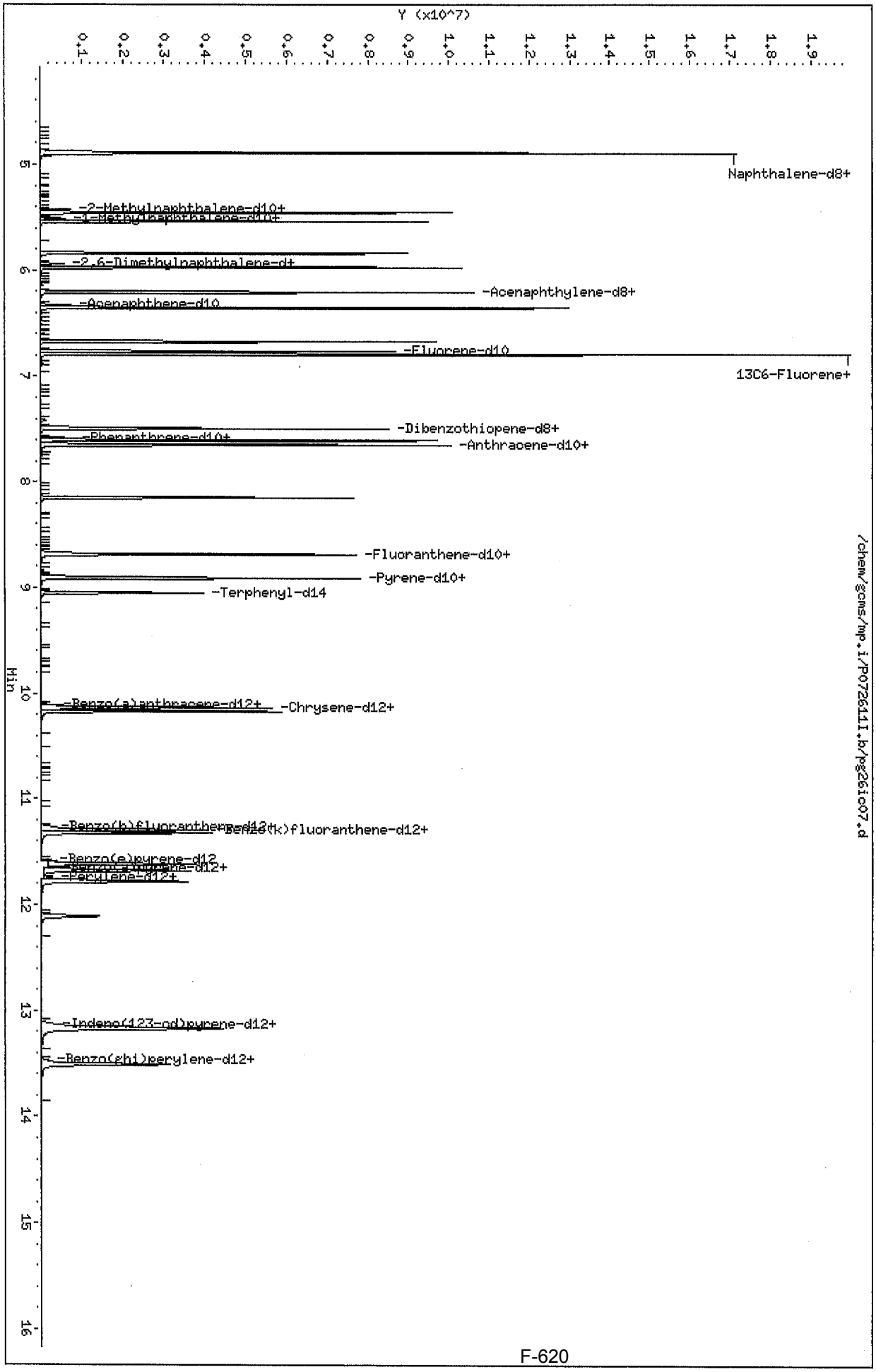
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
* 1 Naphthalene-d8	136	4.876	4.876	(1.000)	707909	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.876	4.876	(0.770)	707909	0.50000	0.508
3 Naphthalene	128	4.895	4.895	(1.004)	5790870	5.00000	4.82
$ 222 13C6-Naphthalene	134	4.895	4.895	(1.004)	5715865	5.00000	4.40
* 10 2-Methylnaphthalene-d10	152	5.430	5.430	(1.000)	382002	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.430	5.430	(0.858)	382002	0.50000	0.508
12 2-Methylnaphthalene	142	5.457	5.457	(1.005)	3935799	5.00000	5.11
* 13 1-Methylnaphthalene-d10	152	5.510	5.510	(1.000)	371228	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.510	5.510	(0.870)	371228	0.50000	0.497
15 1-Methylnaphthalene	142	5.540	5.540	(1.005)	3701960	5.00000	5.14
16 Biphenyl	154	5.842	5.842	(1.076)	4685750	5.00000	5.13
* 17 2,6-Dimethylnaphthalene-d12	168	5.940	5.940	(1.000)	323998	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.940	5.940	(0.938)	323998	0.50000	0.506
19 2,6 Dimethylnaphthalene	156	5.976	5.976	(1.006)	3380538	5.00000	5.24

Data File: /chem/gcms/mp.i/P072611I.b/pg26ic07.d
Report Date: 26-Jul-2011 20:28

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
*	20 Acenaphthylene-d8	160	6.199	6.199	(1.000)	539345	0.50000	0.500
$	21 Acenaphthylene-d8(SS)	160	6.199	6.199	(0.979)	539345	0.50000	0.515
	22 Acenaphthylene	152	6.211	6.211	(1.002)	5828550	5.00000	5.36
*	23 Acenaphthene-d10	164	6.330	6.330	(1.000)	296063	0.50000	0.500
	24 Acenaphthene	154	6.356	6.356	(1.025)	3312507	5.00000	5.10
	25 2,3,5 Trimethylnaphthalene	170	6.676	6.676	(1.124)	2988482	5.00000	5.55
$	26 Fluorene-d10	176	6.766	6.766	(0.892)	2970625	5.00000	5.25
	27 Fluorene	166	6.790	6.790	(0.895)	3785134	5.00000	5.17
$	28 13C6-Fluorene	171	6.790	6.790	(0.895)	3208596	5.00000	5.08
*	34 Dibenzothiopene-d8	192	7.480	7.480	(1.000)	530774	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.480	7.480	(0.841)	530774	0.50000	0.503
	36 Dibenzothiophene	184	7.497	7.497	(1.002)	5194660	5.00000	5.13
*	41 Phenanthrene-d10	188	7.584	7.584	(1.000)	477528	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.584	7.584	(0.853)	477528	0.50000	0.502
	43 Phenanthrene	178	7.605	7.605	(1.003)	5379641	5.00000	5.13
*	44 Anthracene-d10	188	7.632	7.632	(1.000)	426995	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.632	7.632	(0.858)	426997	0.50000	0.532
	46 Anthracene	178	7.650	7.650	(1.002)	5468914	5.00000	4.98
$	47 13C6-Anthracene	184	7.648	7.648	(0.860)	442968	0.50000	0.509
	52 1-Methylphenanthrene	192	8.150	8.150	(1.075)	3649450	5.00000	5.79
*	53 Fluoranthene-d10	212	8.671	8.671	(1.000)	443720	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.671	8.671	(0.975)	443720	0.50000	0.501
	55 Fluoranthene	202	8.691	8.691	(1.002)	5389604	5.00000	5.40
*	56 Pyrene-d10	212	8.895	8.895	(1.000)	361184	0.50000	0.500
	57 Pyrene	202	8.912	8.912	(1.028)	5600248	5.00000	5.30
$	58 Terphenyl-d14	244	9.051	9.051	(1.044)	2500181	5.00000	5.50
*	60 Benzo(a)anthracene-d12	240	10.108	10.108	(1.000)	222039	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.108	10.108	(1.136)	222039	0.50000	0.504
	62 Benzo(a)anthracene	228	10.133	10.133	(1.002)	4106177	5.00000	5.78
*	63 Chrysene-d12	240	10.141	10.141	(1.000)	401378	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.141	10.141	(1.140)	401378	0.50000	0.519
	65 Chrysene	228	10.171	10.171	(1.003)	4446848	5.00000	5.08
*	70 Benzo(b)fluoranthene-d12	264	11.264	11.264	(1.000)	238600	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.264	11.264	(0.973)	238600	0.50000	0.484
	72 Benzo(b)fluoranthene	252	11.294	11.294	(1.003)	3788908	5.00000	5.40
*	73 Benzo(k)fluoranthene-d12	264	11.300	11.300	(1.000)	373799	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.300	11.300	(0.976)	373799	0.50000	0.532
	75 Benzo(k)fluoranthene	252	11.324	11.324	(1.002)	4334026	5.00000	5.30
*	76 Benzo(e)pyrene-d12	264	11.581	11.581	(1.000)	233662	0.50000	0.500
	77 Benzo(e)pyrene	252	11.617	11.617	(0.997)	3721803	5.00000	5.05
*	78 Benzo(a)pyrene-d12	264	11.653	11.653	(1.000)	271423	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.653	11.653	(1.006)	271423	0.50000	0.539
	80 Benzo(a)pyrene	252	11.677	11.677	(1.002)	3483733	5.00000	5.66
*	81 Perylene-d12	264	11.748	11.748	(1.000)	272600	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.748	11.748	(1.014)	272600	0.50000	0.542
	83 Perylene	252	11.778	11.778	(1.003)	3748392	5.00000	5.46
*	84 Indeno(123-cd)pyrene-d12	288	13.126	13.126	(1.000)	298069	0.50000	0.500

Data File: /chem/gcms/mp.i/P072611I.b/pg26ic07.d
Report Date: 26-Jul-2011 20:28

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.126	13.126	(1.133)	298069	0.50000	0.518
	86 Indeno(1,2,3-cd)pyrene	276	13.160	13.160	(1.003)	4042952	5.00000	5.60
*	87 Dibenz(ah)anthracene-d14	292	13.131	13.131	(1.000)	228306	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.131	13.131	(1.134)	228306	0.50000	0.521
	89 Dibenz(a,h)anthracene	278	13.173	13.173	(1.003)	3275291	5.00000	5.84
*	90 Benzo(ghi)perylene-d12	288	13.472	13.472	(1.000)	223483	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.472	13.472	(1.163)	223483	0.50000	0.517
	92 Benzo(g,h,i)perylene	276	13.510	13.510	(1.003)	3428395	5.00000	5.54



Data File: /chem/gcms/mp.i/P072611I.b/pg26ic07.d
Date : 26-JUL-2011 20:15
Client ID: PAH0316
Sample Info: PG26IC07,,1.7,,PAH0316
Purge Volume: 1.0
Column phase: Varian 5MS

Instrument: mp.i
Operator: 11211
Column diameter: 0.25

Data File: /chem/gcms/mp.i/P072611I.b/pg26icv.d
Report Date: 26-Jul-2011 21:18

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /chem/gcms/mp.i/P072611I.b/pg26icv.d
Lab Smp Id: PG26ICV
Inj Date : 26-JUL-2011 21:04
Operator : 11211 Inst ID: mp.i
Smp Info : PG26ICV,,3,,PAH0309
Misc Info : P072611I,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P072611I.b/SIMPAH3.m
Meth Date : 26-Jul-2011 20:28 chemist Quant Type: ISTD
Cal Date : 26-JUL-2011 20:15 Cal File: pg26ic07.d
Als bottle: 1 QC Sample: PAH0309
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	1.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
* 1 Naphthalene-d8	136	4.872	4.876	(1.000)	699337	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.872	4.876	(0.770)	699337	0.49747	249
3 Naphthalene	128	4.887	4.895	(1.003)	620547	0.52285	261
$ 222 13C6-Naphthalene	134	4.872	4.895	(1.000)	62538	0.04869	24.3(R)
* 10 2-Methylnaphthalene-d10	152	5.430	5.430	(1.000)	390973	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.430	5.430	(0.858)	390973	0.51543	258
12 2-Methylnaphthalene	142	5.454	5.457	(1.004)	401385	0.50960	255
* 13 1-Methylnaphthalene-d10	152	5.510	5.510	(1.000)	382234	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.510	5.510	(0.870)	382234	0.50695	253
15 1-Methylnaphthalene	142	5.540	5.540	(1.005)	396015	0.53398	267
16 Biphenyl	154	5.842	5.842	(1.076)	468547	0.50089	250
* 17 2,6-Dimethylnaphthalene-d12	168	5.940	5.940	(1.000)	322796	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.940	5.940	(0.938)	322796	0.49886	249
19 2,6 Dimethylnaphthalene	156	5.976	5.976	(1.006)	327530	0.50910	255

Data File: /chem/gcms/mp.i/P072611I.b/pg26icv.d
Report Date: 26-Jul-2011 21:18

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
*	20 Acenaphthylene-d8	160	6.199	6.199	(1.000)	517667	0.50000	0.500
$	21 Acenaphthylene-d8(SS)	160	6.199	6.199	(0.979)	517667	0.48948	245
	22 Acenaphthylene	152	6.210	6.211	(1.002)	529836	0.50767	254
*	23 Acenaphthene-d10	164	6.330	6.330	(1.000)	298906	0.50000	0.500
	24 Acenaphthene	154	6.356	6.356	(1.025)	334779	0.53709	269
	25 2,3,5 Trimethylnaphthalene	170	6.676	6.676	(1.124)	277761	0.51760	259
$	26 Fluorene-d10	176	6.768	6.766	(0.892)	342	0.000621	0.310(R)
	27 Fluorene	166	6.790	6.790	(0.895)	364818	0.51105	256
$	28 13C6-Fluorene	171	6.788	6.790	(0.895)	307	0.000499	0.249(R)
*	34 Dibenzothiopene-d8	192	7.480	7.480	(1.000)	511342	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.480	7.480	(0.841)	511342	0.50429	252
	36 Dibenzothiophene	184	7.497	7.497	(1.002)	506307	0.51909	260
*	41 Phenanthrene-d10	188	7.584	7.584	(1.000)	465622	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.584	7.584	(0.853)	465622	0.50897	254
	43 Phenanthrene	178	7.605	7.605	(1.003)	550847	0.53883	269
*	44 Anthracene-d10	188	7.634	7.632	(1.000)	365586	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.634	7.632	(0.858)	365586	0.47325	237
	46 Anthracene	178	7.648	7.650	(1.002)	464942	0.49423	247
$	47 13C6-Anthracene	184	7.648	7.648	(0.860)	437777	0.52282	261
	52 1-Methylphenanthrene	192	8.150	8.150	(1.075)	326085	0.53102	266
*	53 Fluoranthene-d10	212	8.672	8.671	(1.000)	429833	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.672	8.671	(0.975)	429833	0.50447	252
	55 Fluoranthene	202	8.689	8.691	(1.002)	510092	0.52742	264
*	56 Pyrene-d10	212	8.893	8.895	(1.000)	347340	0.50000	0.500
	57 Pyrene	202	8.910	8.912	(1.028)	530632	0.51882	259
$	58 Terphenyl-d14	244	9.060	9.051	(1.045)	201	0.000458	0.229(R)
*	60 Benzo(a)anthracene-d12	240	10.108	10.108	(1.000)	201163	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.108	10.108	(1.137)	201163	0.47482	237
	62 Benzo(a)anthracene	228	10.129	10.133	(1.002)	330320	0.51360	257
*	63 Chrysene-d12	240	10.141	10.141	(1.000)	380403	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.141	10.141	(1.140)	380411	0.51180	256
	65 Chrysene	228	10.171	10.171	(1.003)	437163	0.52644	263
*	70 Benzo(b)fluoranthene-d12	264	11.265	11.264	(1.000)	234905	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.265	11.264	(0.973)	234905	0.50143	251
	72 Benzo(b)fluoranthene	252	11.289	11.294	(1.002)	375002	0.54336	272
*	73 Benzo(k)fluoranthene-d12	264	11.294	11.300	(1.000)	336975	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.294	11.300	(0.975)	336975	0.50400	252
	75 Benzo(k)fluoranthene	252	11.318	11.324	(1.002)	389917	0.52850	264
*	76 Benzo(e)pyrene-d12	264	11.581	11.581	(1.000)	222146	0.50000	0.500
	77 Benzo(e)pyrene	252	11.611	11.617	(0.997)	348168	0.54425	272
*	78 Benzo(a)pyrene-d12	264	11.647	11.653	(1.000)	235426	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.647	11.653	(1.006)	235426	0.49150	246
	80 Benzo(a)pyrene	252	11.677	11.677	(1.003)	281631	0.52712	264
*	81 Perylene-d12	264	11.743	11.748	(1.000)	237960	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.743	11.748	(1.014)	237960	0.49810	249
	83 Perylene	252	11.773	11.778	(1.003)	315472	0.52614	263
*	84 Indeno(123-cd)pyrene-d12	288	13.123	13.126	(1.000)	261485	0.50000	0.500

Data File: /chem/gcms/mp.i/P072611I.b/pg26icv.d
Report Date: 26-Jul-2011 21:18

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.123	13.126	(1.133)	261485	0.47772	239
	86 Indeno(1,2,3-cd)pyrene	276	13.156	13.160	(1.003)	325217	0.51378	257
*	87 Dibenz(ah)anthracene-d14	292	13.127	13.131	(1.000)	200079	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.127	13.131	(1.133)	200079	0.47990	240
	89 Dibenz(a,h)anthracene	278	13.173	13.173	(1.004)	266794	0.54297	271
*	90 Benzo(ghi)perylene-d12	288	13.473	13.472	(1.000)	201673	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.473	13.472	(1.163)	201673	0.49027	245
	92 Benzo(g,h,i)perylene	276	13.507	13.510	(1.002)	292622	0.52417	262

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: /var/chem/gcms/mp.i/P072611I.b/pg26icv.d
Report Date: 01-Aug-2011 09:22

TestAmerica Knoxville

RECOVERY REPORT

Client Name: ITSBUR
Client SDG: P072611I
Sample Matrix: GAS
Fraction: SV
Lab Smp Id: PG26ICV
Level: LOW
Operator: 11211
Data Type: MS DATA
SampleType: PAH0309
SpikeList File: icv.spk
Quant Type: ISTD
Sublist File: pah.sub
Method File: /var/chem/gcms/mp.i/P072611I.b/SIMPAH3.m
Misc Info: P072611I,SIMPAH3

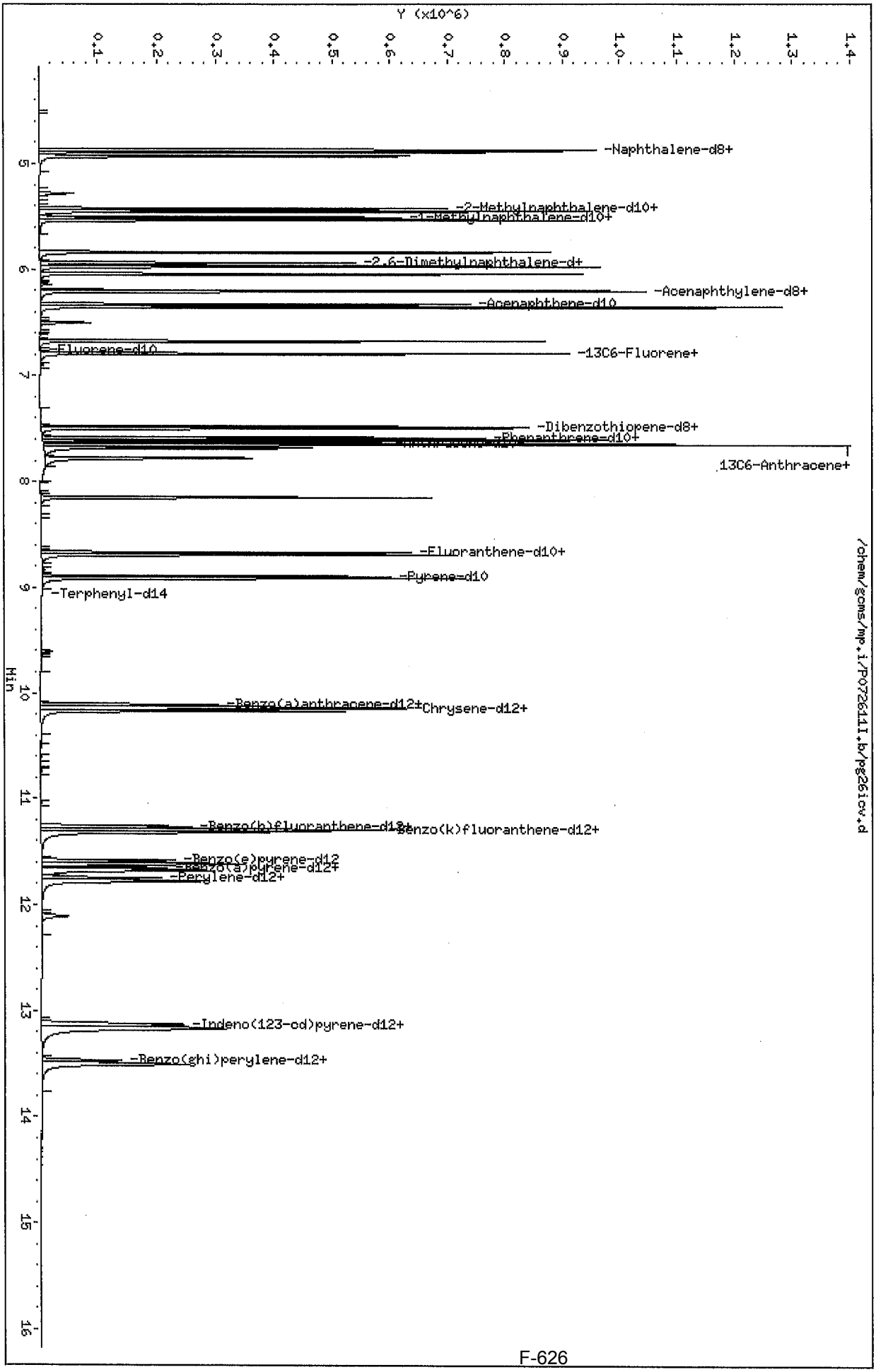
SPIKE COMPOUND	CONC ADDED ng/sample	CONC RECOVERED ng/sample	% RECOVERED	LIMITS
3 Naphthalene	250	261	104.57	70-130
12 2-Methylnaphthalen	250	255	101.92	70-130
15 1-Methylnaphthalen	250	267	106.80	70-130
16 Biphenyl	250	250	100.18	70-130
19 2,6 Dimethylnaphth	250	255	101.82	70-130
22 Acenaphthylene	250	254	101.53	70-130
24 Acenaphthene	250	269	107.42	70-130
25 2,3,5 Trimethylnap	250	259	103.52	70-130
27 Fluorene	250	256	102.21	70-130
36 Dibenzothiophene	250	260	103.82	70-130
43 Phenanthrene	250	269	107.77	70-130
46 Anthracene	250	247	98.85	70-130
52 1-Methylphenanthre	250	266	106.20	70-130
55 Fluoranthene	250	264	105.48	70-130
57 Pyrene	250	259	103.76	70-130
62 Benzo(a)anthracene	250	257	102.72	70-130
65 Chrysene	250	263	105.29	70-130
72 Benzo(b)fluoranthe	250	272	108.67	70-130
75 Benzo(k)fluoranthe	250	264	105.70	70-130
77 Benzo(e)pyrene	250	272	108.85	70-130
80 Benzo(a)pyrene	250	264	105.42	70-130
83 Perylene	250	263	105.23	70-130
86 Indeno(1,2,3-cd)py	250	257	102.76	70-130
89 Dibenz(a,h)anthrac	250	271	108.60	70-130
92 Benzo(g,h,i)peryle	250	262	104.83	70-130

SURROGATE COMPOUND	CONC ADDED ng/sample	CONC RECOVERED ng/sample	% RECOVERED	LIMITS
$ 2 Naphthalene-d8(SS)	250	249	99.49	30-120

Data File: /var/chem/gcms/mp.i/P072611I.b/pg26icv.d
Report Date: 01-Aug-2011 09:22

SURROGATE COMPOUND	CONC ADDED ng/sample	CONC RECOVERED ng/sample	% RECOVERED	LIMITS
$ 222 13C6-Naphthalene	250	24.3	9.74*	50-150
$ 11 2-Methylnaphthalen	250	258	103.09	30-120
$ 14 1-Methylnaphthalen	250	253	101.39	30-120
$ 18 2,6-Dimethylnaph-d	250	249	99.77	30-120
$ 21 Acenaphthylene-d8(	250	245	97.90	30-120
$ 26 Fluorene-d10	250	0.310	0.12*	30-120
$ 28 13C6-Fluorene	250	0.249	0.10*	30-120
$ 35 Dibenzothiopene-d8	250	252	100.86	30-120
$ 42 Phenanthrene-d10(S	250	254	101.79	30-120
$ 45 Anthracene-d10(SS)	250	237	94.65	30-120
$ 47 13C6-Anthracene	250	261	104.56	30-120
$ 54 Fluoranthene-d10(S	250	252	100.89	0-120
$ 58 Terphenyl-d14	250	0.228	0.09*	30-120
$ 61 Benzo(a)anthracene	250	237	94.97	30-120
$ 64 Chrysene-d12(SS)	250	256	102.36	30-120
$ 71 Benzo(b)fluoranthe	250	251	100.29	30-120
$ 74 Benzo(k)fluoranthe	250	252	100.80	30-120
$ 79 Benzo(a)pyrene-d12	250	246	98.30	30-120
$ 82 Perylene-d12(SS)	250	249	99.62	30-120
$ 85 Indeno(123-cd)pyre	250	239	95.54	30-120
$ 88 Dibenz(ah)anthrace	250	240	95.98	30-120
$ 91 Benzo(ghi)perylene	250	245	98.05	30-120

8.1.11 DW



Data File: /chem/gcms/mp.i/P072611I.b/pg26icv.d
Date : 26-JUL-2011 21:04
Client ID:
Sample Info: PG26ICV,,3,,PAH0309
Purge Volume: 1.0
Column phase: Variant 5MS

Instrument: mp.i
Operator: 11211
Column diameter: 0.25

TestAmerica Knoxville GC/MS-SIM Continuing Calibration Review / Narrative Checklist
Method: LRPAH PAHs and Selected SVOCs - KNOX-ID-0016, Revision 8

Analysis Date:	7/29/11	CCAL Batch/ Scan Name:	P072911	Instrument:	MP	ICAL Batch/ Scan Name:	P072611I	Scanned ☐

A. Review Items	N/A	Yes	No	Why is data reportable?	2nd √
1. Were all injections in sequence within 12 hr of CCAL?		✓			✓
2. Was date/time of analysis verified between header and logbook?		✓			✓
3. Are peak integrations appropriate?		✓			✓
4. Is the %D or drift <30% for all analytes		✓			✓
5. Are the recovery standards within 50-200% of the ICAL CS4 level?		✓			✓
6. Are the MID descriptors properly set?		✓			✓
7. Are correct RFs listed in CCAL summary?		✓			✓
8. Was the correct ICAL used for quantitation? (Verify 1 RF.)		✓			✓
9. Elution order checked on isomeric pairs/coeluters?					
• 2-methylnaphthalene before 1-methylnaphthalene (& d10 isomers)		✓			✓
• acenaphthylene before acenaphthene (& d10 isomers)		✓			✓
• dibenzothiophene before anthracene		✓			✓
• phenanthrene before anthracene (& d10 isomers)		✓			✓
• fluoranthene before pyrene (& d10 isomers)		✓			✓
• benzo(a)anthracene before chrysene (& d12 isomers)		✓			✓
• benzo(b)fluoranthene before benzo(k)fluoranthene (& d12 isomers)		✓			✓
• benzo(e)pyrene before benzo(a)pyrene benzo(a)pyrene before perylene (& d12 isomers)		✓			✓
• Indeno(1,2,3-cd)pyrene before benzo(g,h,i)perylene (& d12 isomers)		✓			✓
10. Were the first/last RTs for each alkyl PAH homologue group properly identified and indicated on the chromatogram?	✓				N/A
11. If criteria were not met, was a NCM generated and approved by supervisor?	✓				N/A
12. Does the CCAL folder contain **complete** data in the following order? CCAL data review checklist, runlog, Target Continuing Calibration Report, followed by the quan report and chromatograms for the CCAL and window standard.		✓			✓

1st Level Reviewer:	Date: 8/1/11
Comments:	

2nd Level Reviewer:	Date: 8/1/11
Comments:	

TestAmerica Knoxville
Instrument MP Run/Maintenance Log

Date/Time Verified ☑

Preventive Maintenance Performed: ☐ septa ☐ liner ☐ seal ☐ clip column ☐ SPME fiber ☐ other: see below / maint. log

Target Batch	P072911			Date	7/29/11
ICAL Batch	P072611I			Analyst	DW
Method	☑ KNOX-ID-0016	☐ KNOX-ID-0018	☐	IS ID & vol.	N/A

Lot	Filename	Time	Dil.	Matrix	Batch	Comments
IB	PG29HEX	1059	-	HEXANE	-	
CCV	PG29CCV	1123	-	PAH0362	-	
BLK	MK2D01AA	1148		Air	1201079	
LCS	C	1212				
LCSD	D	1237				
DW 7.29.11 HIG190403	MK09V1AC	1301				
	T	1326				
HIG200446	MK2H6	1351				
	2	1415				? matrix? rr @ dil or reshot (*)
	W	1440				
	0	1540				time = 1504
	1	1529				
HIG190403	MK09P	1554				DW 7.29.11 Neated several E
	Q	1619				" "
	R	1643				" "

DW 7.29.11

DW 7.29.11

Comments: (*) MK2H21AC: prep had issues w/ this extract ... could only concentrate to 1.5 mL

Data File: /chem/gcms/mp.i/P072911.b/pg29ccv.d
Report Date: 29-Jul-2011 11:36

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mp.i
Lab File ID: pg29ccv.d
Analysis Type: AIR
Lab Sample ID: PG29CCV
Method: /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m

Injection Date: 29-JUL-2011 11:23
Init. Cal. Date(s): 26-JUL-2011 26-JUL-2011
Init. Cal. Times: 17:47 20:15
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF0.500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 2 Naphthalene-d8(SS)	2.35155	2.31263	0.000	1.65519	30.00000	Averaged
3 Naphthalene	0.84855	0.86356	0.000	-1.76873	30.00000	Averaged
$ 222 13C6-Naphthalene	0.91838	0.94362	0.000	-2.74814	30.00000	Averaged
$ 11 2-Methylnaphthalene-d10(SS)	1.26886	1.25961	0.000	0.72937	30.00000	Averaged
12 2-Methylnaphthalene	1.00729	1.01607	0.000	-0.87107	30.00000	Averaged
$ 14 1-Methylnaphthalene-d10(SS)	1.26125	1.24312	0.000	1.43726	30.00000	Averaged
15 1-Methylnaphthalene	0.97012	0.99093	0.000	-2.14516	30.00000	Averaged
16 Biphenyl	1.19629	1.22317	0.000	-2.24721	30.00000	Averaged
$ 18 2,6-Dimethylnaph-d12(SS)	1.08239	1.08378	0.000	-0.12813	30.00000	Averaged
19 2,6 Dimethylnaphthalene	0.99652	1.01675	0.000	-2.02995	30.00000	Averaged
$ 21 Acenaphthylene-d8(SS)	1.76910	1.94068	0.000	-9.69868	30.00000	Averaged
22 Acenaphthylene	1.00805	0.96268	0.000	4.50056	30.00000	Averaged
24 Acenaphthene	0.60205	0.55613	0.000	7.62708	30.00000	Averaged
25 2,3,5 Trimethylnaphthalene	0.83123	0.87886	0.000	-5.73036	30.00000	Averaged
$ 26 Fluorene-d10	0.59281	0.61710	0.000	-4.09797	30.00000	Averaged
27 Fluorene	0.76656	0.80840	0.000	-5.45760	30.00000	Averaged
$ 28 13C6-Fluorene	0.66162	0.69680	0.000	-5.31688	30.00000	Averaged
$ 35 Dibenzothiopene-d8(SS)	1.45965	1.38616	0.000	5.03462	30.00000	Averaged
36 Dibenzothiophene	0.95374	0.95377	0.000	-0.00263	30.00000	Averaged
$ 42 Phenanthrene-d10(SS)	1.31690	1.24819	0.000	5.21780	30.00000	Averaged
43 Phenanthrene	1.09779	1.09767	0.000	0.01080	30.00000	Averaged
$ 45 Anthracene-d10(SS)	1.11203	1.12414	0.000	-1.08971	30.00000	Averaged
46 Anthracene	1.28663	1.22960	0.000	4.43236	30.00000	Averaged
$ 47 13C6-Anthracene	1.20536	1.19451	0.000	0.90033	30.00000	Averaged
52 1-Methylphenanthrene	0.65941	0.70855	0.000	-7.45248	30.00000	Averaged
$ 54 Fluoranthene-d10(SS)	1.22654	1.25078	0.000	-1.97607	30.00000	Averaged
55 Fluoranthene	1.12502	1.08656	0.000	3.41827	30.00000	Averaged
57 Pyrene	1.18972	1.13940	0.000	4.22953	30.00000	Averaged
$ 58 Terphenyl-d14	0.51230	0.52340	0.000	-2.16644	30.00000	Averaged
$ 61 Benzo(a)anthracene-d12(SS)	0.60986	0.77213	0.000	-26.60867	30.00000	Averaged
62 Benzo(a)anthracene	1.59858	1.32670	0.000	17.00799	30.00000	Averaged
$ 64 Chrysene-d12(SS)	1.06996	0.99692	0.000	6.82626	30.00000	Averaged
65 Chrysene	1.09148	1.15122	0.000	-5.47282	30.00000	Averaged
$ 71 Benzo(b)fluoranthene-d12(SS	1.05442	1.19043	0.000	-12.89911	30.00000	Averaged
72 Benzo(b)fluoranthene	1.46901	1.27027	0.000	13.52870	30.00000	Averaged
$ 74 Benzo(k)fluoranthene-d12(SS	1.50487	1.42914	0.000	5.03242	30.00000	Averaged

Data File: /chem/gcms/mp.i/P072911.b/pg29ccv.d
Report Date: 29-Jul-2011 11:36

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mp.i
Lab File ID: pg29ccv.d
Analysis Type: AIR
Lab Sample ID: PG29CCV
Method: /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m

Injection Date: 29-JUL-2011 11:23
Init. Cal. Date(s): 26-JUL-2011 26-JUL-2011
Init. Cal. Times: 17:47 20:15
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF0.500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
75 Benzo(k)fluoranthene	1.09471	1.13260	0.000	-3.46137	30.00000	Averaged
77 Benzo(e)pyrene	1.35865	1.17534	0.000	13.49212	30.00000	Averaged
$ 79 Benzo(a)pyrene-d12(SS)	1.07810	1.20275	0.000	-11.56170	30.00000	Averaged
80 Benzo(a)pyrene	1.13472	1.07340	0.000	5.40392	30.00000	Averaged
$ 82 Perylene-d12(SS)	1.07526	1.05898	0.000	1.51451	30.00000	Averaged
83 Perylene	1.25988	1.28695	0.000	-2.14838	30.00000	Averaged
$ 85 Indeno(123-cd)pyrene-d12(SS	1.23197	1.30440	0.000	-5.87902	30.00000	Averaged
86 Indeno(1,2,3-cd)pyrene	1.21037	1.12669	0.000	6.91335	30.00000	Averaged
$ 88 Dibenz(ah)anthracene-d14(SS	0.93839	0.97304	0.000	-3.69294	30.00000	Averaged
89 Dibenz(a,h)anthracene	1.22790	1.20295	0.000	2.03204	30.00000	Averaged
$ 91 Benzo(ghi)perylene-d12(SS)	0.92586	0.92321	0.000	0.28608	30.00000	Averaged
92 Benzo(g,h,i)perylene	1.38406	1.36271	0.000	1.54211	30.00000	Averaged

Data File: /chem/gcms/mp.i/P072911.b/pg29ccv.d
Report Date: 29-Jul-2011 11:36

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /chem/gcms/mp.i/P072911.b/pg29ccv.d
Lab Smp Id: PG29CCV Client Smp ID: PAH0362
Inj Date : 29-JUL-2011 11:23
Operator : 60487 Inst ID: mp.i
Smp Info : PG29CCV,,2,4,,PAH0362
Misc Info : P072911,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Meth Date : 29-Jul-2011 11:36 chemist Quant Type: ISTD
Cal Date : 26-JUL-2011 20:15 Cal File: pg26ic07.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	1.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
* 1 Naphthalene-d8	136	4.865	4.865	(1.000)	729166	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.865	4.865	(0.769)	729166	0.50000	0.492
3 Naphthalene	128	4.880	4.880	(1.003)	629677	0.50000	0.509
$ 222 13C6-Naphthalene	134	4.880	4.880	(1.003)	688053	0.50000	0.514
* 10 2-Methylnaphthalene-d10	152	5.424	5.424	(1.000)	397150	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.424	5.424	(0.858)	397150	0.50000	0.496
12 2-Methylnaphthalene	142	5.450	5.450	(1.005)	403532	0.50000	0.504
* 13 1-Methylnaphthalene-d10	152	5.503	5.503	(1.000)	391954	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.503	5.503	(0.870)	391954	0.50000	0.493
15 1-Methylnaphthalene	142	5.533	5.533	(1.005)	388397	0.50000	0.511
16 Biphenyl	154	5.835	5.835	(1.076)	485782	0.50000	0.511
* 17 2,6-Dimethylnaphthalene-d12	168	5.933	5.933	(1.000)	341712	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.933	5.933	(0.938)	341712	0.50000	0.501
19 2,6 Dimethylnaphthalene	156	5.969	5.969	(1.006)	347437	0.50000	0.510

Data File: /chem/gcms/mp.i/P072911.b/pg29ccv.d
Report Date: 29-Jul-2011 11:36

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
*	20 Acenaphthylene-d8	160	6.194	6.194	(1.000)	611890	0.50000	0.500
$	21 Acenaphthylene-d8(SS)	160	6.194	6.194	(0.979)	611890	0.50000	0.548
	22 Acenaphthylene	152	6.202	6.202	(1.001)	589055	0.50000	0.477
*	23 Acenaphthene-d10	164	6.325	6.325	(1.000)	315297	0.50000	0.500
	24 Acenaphthene	154	6.350	6.350	(1.025)	340293	0.50000	0.462
	25 2,3,5 Trimethylnaphthalene	170	6.669	6.669	(1.124)	300318	0.50000	0.529
$	26 Fluorene-d10	176	6.758	6.758	(0.892)	309331	0.50000	0.520
	27 Fluorene	166	6.783	6.783	(0.895)	405224	0.50000	0.527
$	28 13C6-Fluorene	171	6.781	6.781	(0.895)	349283	0.50000	0.527
*	34 Dibenzothiopene-d8	192	7.474	7.474	(1.000)	556677	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.474	7.474	(0.841)	556677	0.50000	0.475
	36 Dibenzothiophene	184	7.489	7.489	(1.002)	530940	0.50000	0.500
*	41 Phenanthrene-d10	188	7.578	7.578	(1.000)	501268	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.578	7.578	(0.853)	501268	0.50000	0.474
	43 Phenanthrene	178	7.597	7.597	(1.002)	550226	0.50000	0.500
*	44 Anthracene-d10	188	7.626	7.626	(1.000)	451451	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.626	7.626	(0.858)	451451	0.50000	0.505
	46 Anthracene	178	7.642	7.642	(1.002)	555106	0.50000	0.478
$	47 13C6-Anthracene	184	7.642	7.642	(0.860)	479711	0.50000	0.495
	52 1-Methylphenanthrene	192	8.143	8.143	(1.075)	355174	0.50000	0.537
*	53 Fluoranthene-d10	212	8.665	8.665	(1.000)	502307	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.665	8.665	(0.975)	502307	0.50000	0.510
	55 Fluoranthene	202	8.683	8.683	(1.002)	545788	0.50000	0.483
*	56 Pyrene-d10	212	8.885	8.885	(1.000)	401596	0.50000	0.500
	57 Pyrene	202	8.904	8.904	(1.028)	572328	0.50000	0.479
$	58 Terphenyl-d14	244	9.043	9.043	(1.044)	262907	0.50000	0.511
*	60 Benzo(a)anthracene-d12	240	10.100	10.100	(1.000)	310086	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.100	10.100	(1.137)	310086	0.50000	0.633
	62 Benzo(a)anthracene	228	10.121	10.121	(1.002)	411390	0.50000	0.415
*	63 Chrysene-d12	240	10.133	10.133	(1.000)	400359	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.133	10.133	(1.141)	400359	0.50000	0.466
	65 Chrysene	228	10.163	10.163	(1.003)	460900	0.50000	0.527
*	70 Benzo(b)fluoranthene-d12	264	11.253	11.253	(1.000)	316551	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.253	11.253	(0.973)	316551	0.50000	0.564
	72 Benzo(b)fluoranthene	252	11.277	11.277	(1.002)	402106	0.50000	0.432
*	73 Benzo(k)fluoranthene-d12	264	11.289	11.289	(1.000)	380027	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.289	11.289	(0.976)	380027	0.50000	0.475
	75 Benzo(k)fluoranthene	252	11.307	11.307	(1.002)	430420	0.50000	0.517
*	76 Benzo(e)pyrene-d12	264	11.570	11.570	(1.000)	265913	0.50000	0.500
	77 Benzo(e)pyrene	252	11.600	11.600	(0.997)	375904	0.50000	0.433
*	78 Benzo(a)pyrene-d12	264	11.635	11.635	(1.000)	319826	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.635	11.635	(1.006)	319826	0.50000	0.558
	80 Benzo(a)pyrene	252	11.665	11.665	(1.003)	343302	0.50000	0.473
*	81 Perylene-d12	264	11.737	11.737	(1.000)	281596	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.737	11.737	(1.014)	281596	0.50000	0.492
	83 Perylene	252	11.761	11.761	(1.002)	362399	0.50000	0.511
*	84 Indeno(123-cd)pyrene-d12	288	13.106	13.106	(1.000)	349643	0.50000	0.500

Data File: /chem/gcms/mp.i/P072911.b/pg29ccv.d
Report Date: 29-Jul-2011 11:36

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.106	13.106	(1.133)	346857	0.50000	0.529
	86 Indeno(1,2,3-cd)pyrene	276	13.140	13.140	(1.003)	393939	0.50000	0.465
*	87 Dibenz(ah)anthracene-d14	292	13.110	13.110	(1.000)	258864	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.110	13.110	(1.133)	258744	0.50000	0.518
	89 Dibenz(a,h)anthracene	278	13.157	13.157	(1.004)	311401	0.50000	0.490
*	90 Benzo(ghi)perylene-d12	288	13.460	13.460	(1.000)	245279	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.460	13.460	(1.163)	245494	0.50000	0.499
	92 Benzo(g,h,i)perylene	276	13.494	13.494	(1.002)	334246	0.50000	0.492

Data File: /chem/gcms/mp.i/P072911.b/pg29ccv.d
Report Date: 29-Jul-2011 11:36

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mp.i
Lab File ID: pg29ccv.d
Lab Smp Id: PG29CCV
Analysis Type: SV
Quant Type: ISTD
Operator: 60487
Method File: /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Misc Info: P072911,SIMPAH3

Calibration Date: 29-JUL-2011
Calibration Time: 11:23
Client Smp ID: PAH0362
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	729166	364583	1458332	729166	0.00
10 2-Methylnaphthale	397150	198575	794300	397150	0.00
13 1-Methylnaphthale	391954	195977	783908	391954	0.00
17 2,6-Dimethylnapht	341712	170856	683424	341712	0.00
20 Acenaphthylene-d8	611890	305945	1223780	611890	0.00
23 Acenaphthene-d10	315297	157648	630594	315297	0.00
34 Dibenzothiopene-d	556677	278338	1113354	556677	0.00
41 Phenanthrene-d10	501268	250634	1002536	501268	0.00
44 Anthracene-d10	451451	225726	902902	451451	0.00
53 Fluoranthene-d10	502307	251154	1004614	502307	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.87	4.37	5.37	4.87	0.00
10 2-Methylnaphthale	5.42	4.92	5.92	5.42	0.00
13 1-Methylnaphthale	5.50	5.00	6.00	5.50	0.00
17 2,6-Dimethylnapht	5.93	5.43	6.43	5.93	0.00
20 Acenaphthylene-d8	6.19	5.69	6.69	6.19	0.00
23 Acenaphthene-d10	6.32	5.82	6.82	6.32	0.00
34 Dibenzothiopene-d	7.47	6.97	7.97	7.47	0.00
41 Phenanthrene-d10	7.58	7.08	8.08	7.58	0.00
44 Anthracene-d10	7.63	7.13	8.13	7.63	0.00
53 Fluoranthene-d10	8.67	8.17	9.17	8.67	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/gcms/mp.i/P072911.b/pg29ccv.d
Report Date: 29-Jul-2011 11:36

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

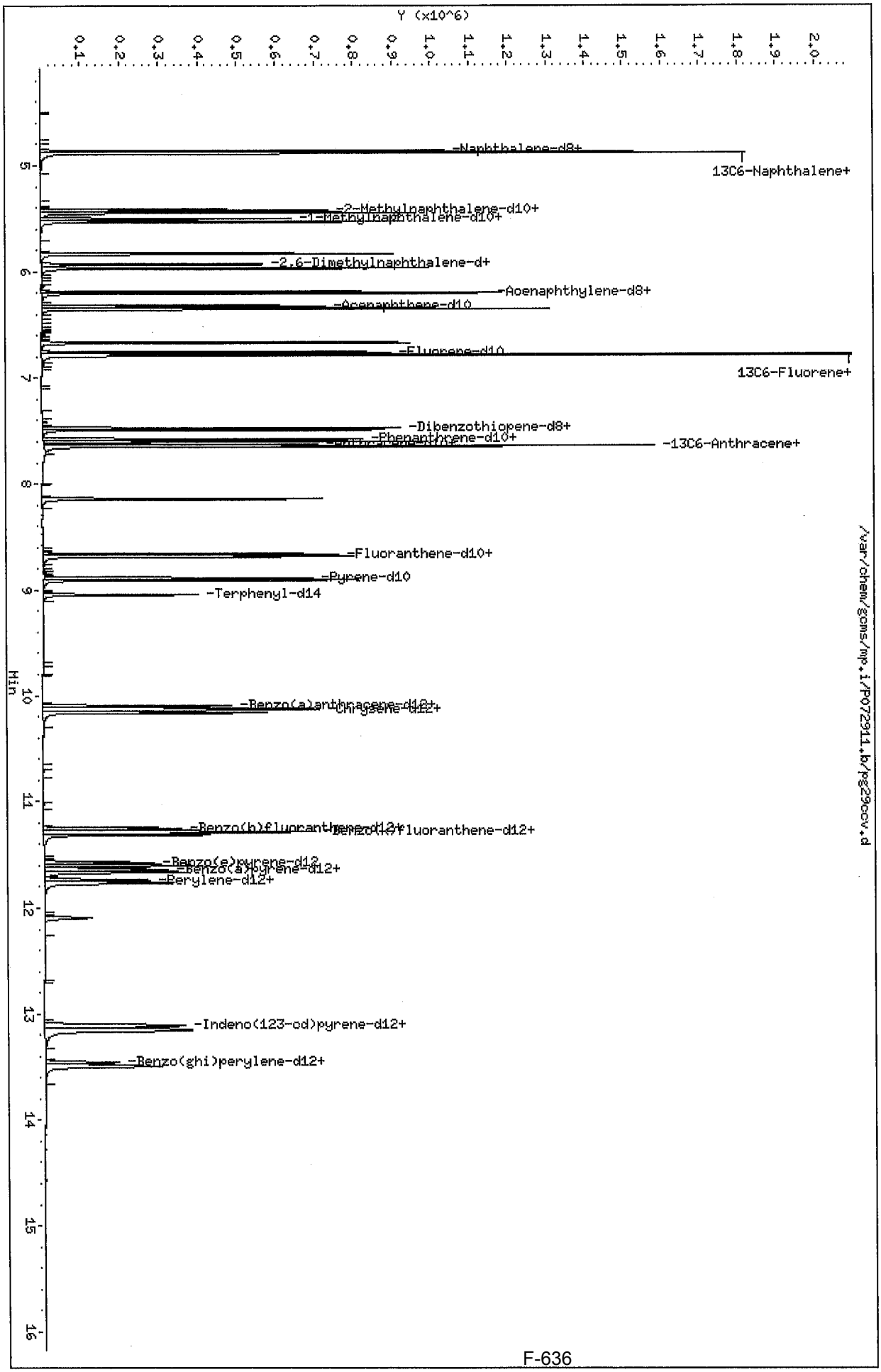
Instrument ID: mp.i
Lab File ID: pg29ccv.d
Lab Smp Id: PG29CCV
Analysis Type: SV
Quant Type: ISTD
Operator: 60487
Method File: /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Misc Info: P072911,SIMPAH3

Calibration Date: 29-JUL-2011
Calibration Time: 11:23
Client Smp ID: PAH0362
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
56 Pyrene-d10	401596	200798	803192	401596	0.00
60 Benzo(a)anthracen	310086	155043	620172	310086	0.00
63 Chrysene-d12	400359	200180	800718	400359	0.00
70 Benzo(b)fluoranth	316551	158276	633102	316551	0.00
73 Benzo(k)fluoranth	380027	190014	760054	380027	0.00
76 Benzo(e)pyrene-d1	265913	132956	531826	265913	0.00
78 Benzo(a)pyrene-d1	319826	159913	639652	319826	0.00
81 Perylene-d12	281596	140798	563192	281596	0.00
84 Indeno(123-cd)pyr	349643	174822	699286	349643	0.00
87 Dibenz(ah)anthrac	258864	129432	517728	258864	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
56 Pyrene-d10	8.88	8.38	9.38	8.88	0.00
60 Benzo(a)anthracen	10.10	9.60	10.60	10.10	0.00
63 Chrysene-d12	10.13	9.63	10.63	10.13	0.00
70 Benzo(b)fluoranth	11.25	10.75	11.75	11.25	0.00
73 Benzo(k)fluoranth	11.29	10.79	11.79	11.29	0.00
76 Benzo(e)pyrene-d1	11.57	11.07	12.07	11.57	0.00
78 Benzo(a)pyrene-d1	11.64	11.14	12.14	11.64	0.00
81 Perylene-d12	11.74	11.24	12.24	11.74	0.00
84 Indeno(123-cd)pyr	13.11	12.61	13.61	13.11	0.00
87 Dibenz(ah)anthrac	13.11	12.61	13.61	13.11	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.



Data File: /var/chem/gcms/mp.i/P072911.b/ps29ccv.d
Date : 29-JUL-2011 11:23
Client ID: PAH0362
Sample Info: PS29CCV,2,4,,PAH0362
Purge Volume: 1.0
Column phase: Varian 5MS

Instrument: mp.i
Operator: 60487
Column diameter: 0.25

TestAmerica Knoxville GC/MS-SIM Initial Calibration Data Review / Narrative Checklist
Method: PAHs and Selected SVOCs - KNOX-ID-0016, Revision 8

Analysis Date:	8/1/11	Instrument::	MP	ICAL Batch/Scan Name:	P080111E	Scanned ☐

A. Review Items	N/A	Yes	No	Why is data reportable?	2nd √
1. Were all standards injected within 12 hr of first calibration standard?		✓			✓
2. Was date/time of analysis verified between header and logbook?		✓			✓
3. Are peak integrations appropriate?		✓			✓
4. Were ≥ 5 levels of each analyte/IS analyzed?		✓			✓
5. Was the high point standard checked for saturation?		✓			✓
6. Was low level standard at or below RL?		✓			✓
7. Are all %RSD ≤30% ?		✓			✓
8. Are the MID descriptors properly set?		✓			✓
9. Are correct RFs listed in ICAL summary?		✓			✓
10. Was ICAL summary form processed using the correct method?		✓			✓
11. Are the ICAL start and end dates/times correct on ICAL summary?		✓			✓
12. Elution order checked on isomeric pairs?					
• 2-methylnaphthalene before 1-methylnaphthalene (& d10 isomers)		✓			✓
• acenaphthylene before acenaphthene (& d10 isomers)		✓			✓
• dibenzothiophene before anthracene		✓			✓
• phenanthrene before anthracene (& d10 isomers)		✓			✓
• fluoranthene before pyrene (& d10 isomers)		✓			✓
• benzo(a)anthracene before chrysene (& d12 isomers)		✓			✓
• benzo(b)fluoranthene before benzo(k)fluoranthene (& d12 isomers)		✓			✓
• benzo(e)pyrene before benzo(a)pyrene benzo(a)pyrene before perylene (& d12 isomers)		✓			✓
• Indeno(1,2,3-cd)pyrene before benzo(g,h,I)perylene (& d12 isomers)		✓			✓
13. Is the 2nd source ICV with +/- 30% of the expected value?		✓			✓
14. Are the Alkyl RFs correct (i.e., same as the parent RF)?		✓			✓
15. If criteria were not met, was a NCM generated and approved by supervisor?	✓				NA
16. Does the ICAL folder contain **complete** data in the following order? ICAL data review checklist, runlog, Target Initial Calibration Report, followed by the quan report and chromatograms for all calibration and 2nd source standards.		✓			✓

1st Level Reviewer:		Date: 8/1/11
Comments:		
2nd Level Reviewer:		Date: 8/2/11
Comments:		

TestAmerica Knoxville
Instrument MP Run/Maintenance Log

Date/Time Verified ☑

Preventive Maintenance Performed: □ septa □ liner □ seal □ clip column □ SPME fiber □ other: see below / maint. log

Target Batch	P080111E	P080111A		Date	8/1/11
ICAL Batch	P080111E			Analyst	TMC
Method	☑KNOX-ID-0016	□ KNOX-ID-0018	□	IS ID & vol.	IS#4

Lot	Filename	Time	Dil.	Matrix	Batch	Comments
	PH01HEX	11:48				
tune	PH01DFTPP	12:06				PAH0363
	PH01B01	12:25				
ICAL	PH01CC01	12:50				PAH0356
	PH01CC02	13:14				PAH0357
	PH01CC03	13:39				PAH0358
	PH01CC04	14:04				PAH0359
	PH01CC05	14:29				PAH0360
	PH01CC06	14:54				PAH0361
	PH01CC07	15:19				PAH0316
	PH01HEX2	15:43				
ICV	PH01ICV	16:08				PAH0309
	PH01HEX3	16:33				
MB	MK5JL1AA	16:58		Solids	1206100	(P080111A)
LCS	MK5JL1AC	17:22				
LCSD	MK5JL1AD	17:47				
H1G250404	MK5CW1AA	18:12				

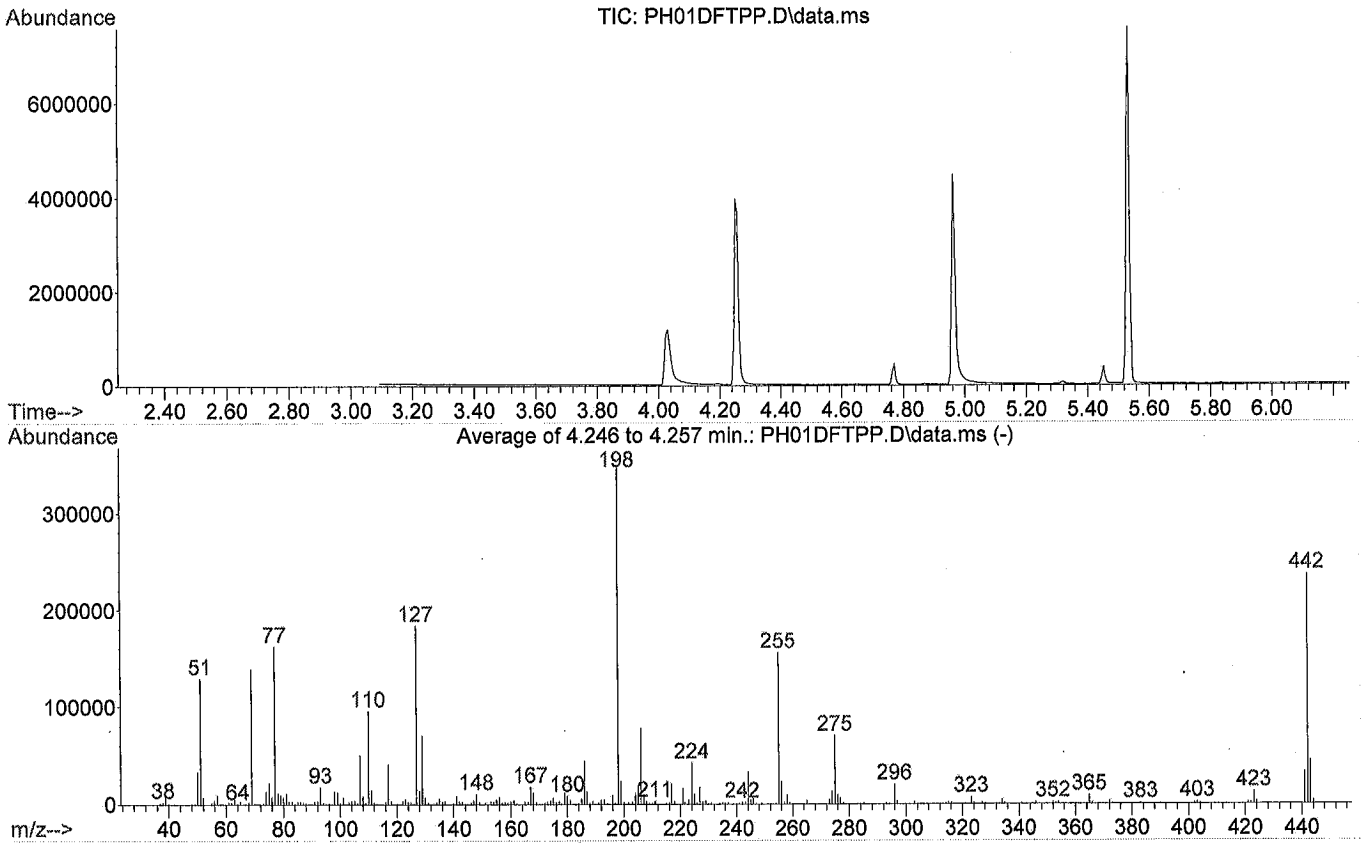
8/1/11

Comments:

Data Path : D:\20110801I\
Data File : PH01DFTPP.D
Acq On : 1 Aug 2011 12:06 pm
Operator : 11211
Sample : PH01DFTPP,,3,,PAH0363
Misc : P080111I,SIMPAH3
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPPTest.M
Title : Test
Last Update : Mon Oct 13 10:04:32 2008



AutoFind: Scans 197, 198, 199; Background Corrected with Scan 193

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	36.9	129072	PASS
68	69	0.00	2	1.4	1977	PASS
69	198	0.01	100	39.7	138981	PASS
70	69	0.00	2	0.6	899	PASS
127	198	10	80	52.5	183971	PASS
197	198	0.00	1	0.4	1311	PASS
198	198	100	100	100.0	350208	PASS
199	198	5	9	6.7	23563	PASS
275	198	10	60	20.0	70175	PASS
365	198	0.90	100	2.5	8911	PASS
441	443	0.01	100	72.4	32458	PASS
442	198	50	100	67.5	236368	PASS
443	442	15	24	19.0	44806	PASS

Report Date : 01-Aug-2011 18:58

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-AUG-2011 12:50
End Cal Date : 01-AUG-2011 15:19
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mp.i/P080111I.b/SIMPAH3.m
Cal Date : 01-Aug-2011 18:57 cochranj
Curve Type : Average

Calibration File Names:
Level 1: /var/chem/gcms/mp.i/P080111I.b/ph01ic01.d
Level 2: /var/chem/gcms/mp.i/P080111I.b/ph01ic02.d
Level 3: /var/chem/gcms/mp.i/P080111I.b/ph01ic03.d
Level 4: /var/chem/gcms/mp.i/P080111I.b/ph01ic04.d
Level 5: /var/chem/gcms/mp.i/P080111I.b/ph01ic05.d
Level 6: /var/chem/gcms/mp.i/P080111I.b/ph01ic06.d
Level 7: /var/chem/gcms/mp.i/P080111I.b/ph01ic07.d

Compound	0.02000 Level 1	0.10000 Level 2	0.25000 Level 3	0.50000 Level 4	1.000 Level 5	2.500 Level 6	RRF	% RSD
	5.000 Level 7							
3 Naphthalene	0.79229	0.87233	0.88213	0.86454	0.86029	0.81770		
	0.77868						0.83828	4.954
4 C2-Naphthalenes	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						0.83828	+++++
5 C3-Naphthalenes(a)	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						0.83828	+++++
6 C3-Naphthalenes(b)	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						0.83828	+++++
7 C3-Naphthalenes(c)	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						0.83828	+++++
M 8 C3-Naphthalenes(total)	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						0.83828	+++++

Report Date : 01-Aug-2011 18:58

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-AUG-2011 12:50
End Cal Date : 01-AUG-2011 15:19
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mp.i/P080111I.b/SIMPAH3.m
Cal Date : 01-Aug-2011 18:57 cochranj
Curve Type : Average

Compound	0.02000 Level 1	0.10000 Level 2	0.25000 Level 3	0.50000 Level 4	1.000 Level 5	2.500 Level 6	5.000 Level 7	___ RRF	% RSD
9 C4-Naphthalenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	0.83828	+++++
12 2-Methylnaphthalene	0.89954	1.01801	1.03718	1.02497	1.03173	1.00816	0.99619	1.00226	4.728
15 1-Methylnaphthalene	0.85978	0.98299	1.00733	0.99075	0.99531	0.98334	0.96652	0.96943	5.152
16 Biphenyl	1.02935	1.18693	1.23634	1.23884	1.24851	1.21813	1.19730	1.19363	6.355
19 2,6 Dimethylnaphthalene	0.85782	0.98831	1.02080	1.01948	1.03128	1.02436	1.01503	0.99387	6.188
22 Acenaphthylene	0.84859	0.96591	0.99897	1.01334	1.03832	1.03548	1.02785	0.98978	6.782
24 Acenaphthene	0.50685	0.57890	0.60608	0.60317	0.60979	0.59475	0.58107	0.58295	6.111
25 2,3,5 Trimethylnaphthalene	0.68375	0.79950	0.84821	0.86707	0.89764	0.91305	0.90710	0.84519	9.639
27 Fluorene	0.62576	0.75186	0.81449	0.82138	0.82735	0.78629	0.75218	0.76847	9.141

Report Date : 01-Aug-2011 18:58

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-AUG-2011 12:50
End Cal Date : 01-AUG-2011 15:19
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mp.i/P080111I.b/SIMPAH3.m
Cal Date : 01-Aug-2011 18:57 cochranj
Curve Type : Average

Compound	0.02000 Level 1	0.10000 Level 2	0.25000 Level 3	0.50000 Level 4	1.000 Level 5	2.500 Level 6	5.000 Level 7	___ RRF	% RSD
29 C1-Fluorenes(a)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	0.76847	+++++
30 C1-Fluorenes(b)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	0.76847	+++++
M 31 C1-Fluorenes(total)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	0.76847	+++++
32 C2-Fluorenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	0.76847	+++++
33 C3-Fluorenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	0.76847	+++++
36 Dibenzothiophene	0.84825	0.95500	0.97429	0.96831	0.97846	0.97052	0.96083	0.95081	4.829
37 C1-Dibenzothiophenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	0.95081	+++++
38 C2-Dibenzothiophenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	0.95081	+++++
39 C3-Dibenzothiophenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	0.95081	+++++

Report Date : 01-Aug-2011 18:58

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-AUG-2011 12:50
End Cal Date : 01-AUG-2011 15:19
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mp.i/P080111I.b/SIMPAH3.m
Cal Date : 01-Aug-2011 18:57 cochranj
Curve Type : Average

Compound	0.02000 Level 1	0.10000 Level 2	0.25000 Level 3	0.50000 Level 4	1.000 Level 5	2.500 Level 6	5.000 Level 7	___ RRF	% RSD
40 C4-Dibenzothiophenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	0.95081	+++++
43 Phenanthrene	0.98834	1.09388	1.11450	1.10907	1.11860	1.10773	1.09716	1.08990	4.187
46 Anthracene	1.16062	1.26309	1.28474	1.27817	1.27068	1.26600	1.21797	1.24875	3.560
48 C1-Phenan/Anthracenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.08990	+++++
49 C2-Phenan/Anthracenes(a)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.08990	+++++
220 C2-Phenan/Anthracenes(b)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.08990	+++++
M 221 C2-Phenan/Anthracenes(total)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.08990	+++++
50 C3-Phenan/Anthracenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.08990	+++++
51 C4-Phenan/Anthracenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.08990	+++++

Report Date : 01-Aug-2011 18:58

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-AUG-2011 12:50
End Cal Date : 01-AUG-2011 15:19
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mp.i/P080111I.b/SIMPAH3.m
Cal Date : 01-Aug-2011 18:57 cochranj
Curve Type : Average

Compound	0.02000 Level 1	0.10000 Level 2	0.25000 Level 3	0.50000 Level 4	1.000 Level 5	2.500 Level 6	5.000 Level 7	RRF	% RSD
52 1-Methylphenanthrene	0.51286	0.61657	0.66147	0.68947	0.71963	0.74567	0.75113	0.67097	12.582
55 Fluoranthene	0.98279	1.07747	1.10489	1.12164	1.14857	1.14870	1.15992	1.10628	5.570
57 Pyrene	1.05064	1.15229	1.17604	1.18958	1.20868	1.20175	1.20451	1.16907	4.771
59 C1-Fluoran/Pyrenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.16907	+++++
62 Benzo(a)anthracene	1.21668	1.39216	1.46255	1.49702	1.58421	1.62162	1.64354	1.48825	10.073
65 Chrysene	0.96832	1.10684	1.13826	1.13815	1.12562	1.11591	1.10525	1.09976	5.410
66 C1-Benz(a)anthraceneChrysenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.09976	+++++
67 C2-Benz(a)anthraceneChrysenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.09976	+++++
68 C3-Benz(a)anthraceneChrysenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.09976	+++++

Report Date : 01-Aug-2011 18:58

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-AUG-2011 12:50
End Cal Date : 01-AUG-2011 15:19
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mp.i/P080111I.b/SIMPAH3.m
Cal Date : 01-Aug-2011 18:57 cochranj
Curve Type : Average

Compound	0.02000 Level 1	0.10000 Level 2	0.25000 Level 3	0.50000 Level 4	1.000 Level 5	2.500 Level 6	5.000 Level 7	RRF	% RSD
69 C4-Benz(a)anthraceneChrysenes	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.09976	+++++
72 Benzo(b)fluoranthene	1.39743	1.33192	1.35867	1.37946	1.30788	1.47162	1.46927	1.38804	4.574
75 Benzo(k)fluoranthene	0.90548	1.08708	1.12612	1.12821	1.23136	1.11882	1.13308	1.10431	8.908
77 Benzo(e)pyrene	1.17850	1.23486	1.29621	1.31702	1.33594	1.31127	1.29334	1.28102	4.305
80 Benzo(a)pyrene	0.89537	1.00819	1.05901	1.11202	1.19417	1.24389	1.20354	1.10231	11.257
83 Perylene	1.05229	1.17180	1.24795	1.27599	1.31416	1.34847	1.32806	1.24839	8.387
86 Indeno(1,2,3-cd)pyrene	1.03326	1.08885	1.15666	1.18431	1.23363	1.26439	1.29638	1.17964	8.038
89 Dibenz(a,h)anthracene	0.91767	1.04683	1.18968	1.23178	1.29521	1.33605	1.36630	1.19765	13.613
92 Benzo(g,h,i)perylene	1.15455	1.29147	1.34748	1.37166	1.41804	1.43786	1.48186	1.35756	8.038

Report Date : 01-Aug-2011 18:58

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-AUG-2011 12:50
End Cal Date : 01-AUG-2011 15:19
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mp.i/P080111I.b/SIMPAH3.m
Cal Date : 01-Aug-2011 18:57 cochranj
Curve Type : Average

Compound	0.02000 Level 1	0.10000 Level 2	0.25000 Level 3	0.50000 Level 4	1.000 Level 5	2.500 Level 6	5.000 Level 7	___ RRF	% RSD
$ 2 Naphthalene-d8(SS)	2.34341	2.34994	2.29117	2.31171	2.31410	2.26249	2.34685	2.31710	1.404
$ 222 13C6-Naphthalene	1.07138	0.99549	0.94448	0.92810	0.91423	0.84523	0.76787	0.92383	10.637
$ 11 2-Methylnaphthalene-d10(SS)	1.26569	1.27654	1.24177	1.25628	1.25522	1.24583	1.27476	1.25944	1.071
$ 14 1-Methylnaphthalene-d10(SS)	1.27983	1.28558	1.24632	1.25409	1.25084	1.21375	1.24070	1.25302	1.934
$ 18 2,6-Dimethylnaph-d12(SS)	1.08366	1.09262	1.06581	1.08152	1.07704	1.06652	1.08713	1.07919	0.937
$ 21 Acenaphthylene-d8(SS)	1.82595	1.83957	1.77403	1.80053	1.79145	1.81259	1.87693	1.81729	1.876
$ 26 Fluorene-d10	0.49323	0.58480	0.61978	0.62720	0.63446	0.62412	0.60211	0.59796	8.223
$ 28 13C6-Fluorene	0.53224	0.65295	0.70835	0.71171	0.71517	0.68471	0.63688	0.66314	9.831
$ 35 Dibenzothiopene-d8(SS)	1.44218	1.45865	1.42399	1.41746	1.40890	1.38241	1.43246	1.42372	1.721

Report Date : 01-Aug-2011 18:58

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-AUG-2011 12:50
End Cal Date : 01-AUG-2011 15:19
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mp.i/P080111I.b/SIMPAH3.m
Cal Date : 01-Aug-2011 18:57 cochranj
Curve Type : Average

Compound	0.02000 Level 1	0.10000 Level 2	0.25000 Level 3	0.50000 Level 4	1.000 Level 5	2.500 Level 6	5.000 Level 7	RRF	% RSD
$ 42 Phenanthrene-d10(SS)	1.29666	1.31549	1.28757	1.28158	1.28149	1.25451	1.29123	1.28693	1.432
$ 45 Anthracene-d10(SS)	1.10300	1.11713	1.08453	1.08304	1.10518	1.10590	1.17786	1.11095	2.873
$ 47 13C6-Anthracene	1.14475	1.17788	1.17914	1.18560	1.20121	1.14465	1.16823	1.17164	1.786
$ 54 Fluoranthene-d10(SS)	1.23706	1.25119	1.22172	1.22008	1.21390	1.20825	1.23545	1.22681	1.226
$ 58 Terphenyl-d14	0.34639	0.46609	0.49583	0.53098	0.55518	0.55695	0.54047	0.49884	15.010
$ 61 Benzo(a)anthracene-d12(SS)	0.63398	0.64522	0.59524	0.62639	0.61397	0.64271	0.66728	0.63211	3.679
$ 64 Chrysene-d12(SS)	0.95544	0.98951	0.96116	1.00031	1.02347	1.02965	1.04894	1.00121	3.512
$ 71 Benzo(b)fluoranthene-d12(SS)	1.08147	1.08473	1.02319	1.03855	1.08723	1.06499	1.07423	1.06491	2.328
$ 74 Benzo(k)fluoranthene-d12(SS)	1.45091	1.48786	1.48886	1.51696	1.46659	1.48766	1.52961	1.48978	1.814

Report Date : 01-Aug-2011 18:58

TestAmerica Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 01-AUG-2011 12:50
End Cal Date : 01-AUG-2011 15:19
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mp.i/P080111I.b/SIMPAH3.m
Cal Date : 01-Aug-2011 18:57 cochranj
Curve Type : Average

Compound	0.02000 Level 1	0.10000 Level 2	0.25000 Level 3	0.50000 Level 4	1.000 Level 5	2.500 Level 6	5.000 Level 7	___ RRF	% RSD
$ 79 Benzo(a)pyrene-d12(SS)	1.06829	1.08957	1.06222	1.10429	1.09977	1.12963	1.16714	1.10299	3.286
$ 82 Perylene-d12(SS)	1.01964	1.04665	1.02791	1.06992	1.08162	1.08844	1.14486	1.06843	3.992
$ 85 Indeno(123-cd)pyrene-d12(SS)	1.18224	1.22006	1.18032	1.21362	1.19357	1.21804	1.23921	1.20672	1.815
$ 88 Dibenz(ah)anthracene-d14(SS)	0.88214	0.91453	0.89146	0.91780	0.90137	0.92671	0.94578	0.91140	2.379
$ 91 Benzo(ghi)perylene-d12(SS)	0.87973	0.91211	0.88928	0.91009	0.89519	0.91143	0.92383	0.90309	1.709

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01ic01.d
Report Date: 01-Aug-2011 18:59

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P080111I.b/ph01ic01.d
Lab Smp Id: PH01IC01 Client Smp ID: PAH0356
Inj Date : 01-AUG-2011 12:50
Operator : 11211 Inst ID: mp.i
Smp Info : PH01IC01,,1,1,,PAH0356
Misc Info : P080111I,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P080111I.b/SIMPAH3.m
Meth Date : 01-Aug-2011 18:58 cochranj Quant Type: ISTD
Cal Date : 01-AUG-2011 12:50 Cal File: ph01ic01.d
Als bottle: 4 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	1.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

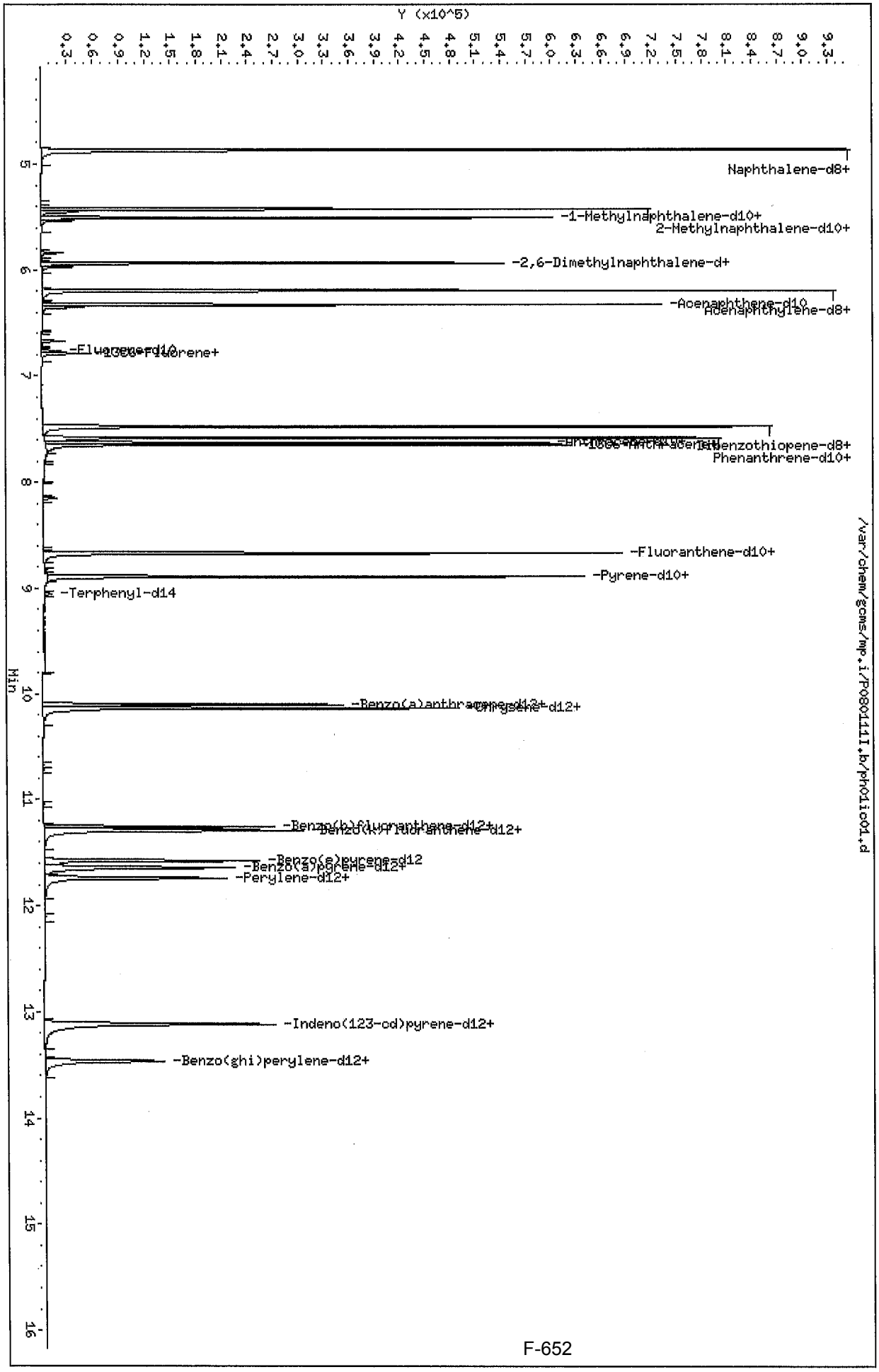
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
* 1 Naphthalene-d8	136	4.869	4.873	(1.000)	741335	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.869	4.873	(0.770)	741335	0.50000	0.500
3 Naphthalene	128	4.884	4.891	(1.003)	23494	0.02000	0.0200
$ 222 13C6-Naphthalene	134	4.884	4.891	(1.003)	31770	0.02000	0.0200
* 10 2-Methylnaphthalene-d10	152	5.424	5.427	(1.000)	400399	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.424	5.427	(0.858)	400399	0.50000	0.500
12 2-Methylnaphthalene	142	5.450	5.454	(1.005)	14407	0.02000	0.0200
* 13 1-Methylnaphthalene-d10	152	5.507	5.507	(1.000)	404872	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.507	5.507	(0.871)	404872	0.50000	0.500
15 1-Methylnaphthalene	142	5.533	5.536	(1.005)	13924	0.02000	0.0200
16 Biphenyl	154	5.840	5.838	(1.077)	16486	0.02000	0.0200
* 17 2,6-Dimethylnaphthalene-d12	168	5.935	5.935	(1.000)	342815	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.935	5.935	(0.938)	342815	0.50000	0.500
19 2,6 Dimethylnaphthalene	156	5.971	5.971	(1.006)	11763	0.02000	0.0200
* 20 Acenaphthylene-d8	160	6.194	6.194	(1.000)	577636	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01ic01.d
Report Date: 01-Aug-2011 18:59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
$	21 Acenaphthylene-d8(SS)	160	6.194	6.194	(0.979)	577636	0.50000	0.500
	22 Acenaphthylene	152	6.205	6.205	(1.002)	19607	0.02000	0.0200
*	23 Acenaphthene-d10	164	6.325	6.325	(1.000)	316349	0.50000	0.500
	24 Acenaphthene	154	6.353	6.350	(1.026)	11711	0.02000	0.0200
	25 2,3,5 Trimethylnaphthalene	170	6.674	6.671	(1.124)	9376	0.02000	0.0200
$	26 Fluorene-d10	176	6.766	6.761	(0.893)	9646	0.02000	0.0200
	27 Fluorene	166	6.788	6.786	(0.896)	12238	0.02000	0.0200
$	28 13C6-Fluorene	171	6.788	6.786	(0.896)	10409	0.02000	0.0200
*	34 Dibenzothiopene-d8	192	7.476	7.476	(1.000)	543795	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.476	7.476	(0.841)	543795	0.50000	0.500
	36 Dibenzothiophene	184	7.493	7.490	(1.002)	18451	0.02000	0.0200
*	41 Phenanthrene-d10	188	7.580	7.580	(1.000)	488924	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.580	7.580	(0.853)	488924	0.50000	0.500
	43 Phenanthrene	178	7.601	7.599	(1.003)	19329	0.02000	0.0200
*	44 Anthracene-d10	188	7.628	7.628	(1.000)	415897	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.628	7.628	(0.858)	415900	0.50000	0.500
	46 Anthracene	178	7.644	7.644	(1.002)	19308	0.02000	0.0200
$	47 13C6-Anthracene	184	7.644	7.644	(0.860)	431645	0.50000	0.500
	52 1-Methylphenanthrene	192	8.150	8.145	(1.075)	10030	0.02000	0.0200
*	53 Fluoranthene-d10	212	8.667	8.667	(1.000)	466452	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.667	8.667	(0.975)	466452	0.50000	0.500
	55 Fluoranthene	202	8.684	8.684	(1.002)	18337	0.02000	0.0200
*	56 Pyrene-d10	212	8.889	8.889	(1.000)	377064	0.50000	0.500
	57 Pyrene	202	8.906	8.906	(1.028)	19603	0.02000	0.0200
$	58 Terphenyl-d14	244	9.049	9.045	(1.044)	6463	0.02000	0.0200
*	60 Benzo(a)anthracene-d12	240	10.104	10.104	(1.000)	239052	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.104	10.104	(1.137)	239052	0.50000	0.500
	62 Benzo(a)anthracene	228	10.124	10.125	(1.002)	11634	0.02000	0.0200
*	63 Chrysene-d12	240	10.137	10.137	(1.000)	360262	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.137	10.137	(1.140)	360262	0.50000	0.500
	65 Chrysene	228	10.162	10.162	(1.002)	13954	0.02000	0.0200
*	70 Benzo(b)fluoranthene-d12	264	11.258	11.258	(1.000)	252160	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.258	11.258	(0.973)	252160	0.50000	0.500
	72 Benzo(b)fluoranthene	252	11.282	11.282	(1.002)	14095	0.02000	0.0200
*	73 Benzo(k)fluoranthene-d12	264	11.288	11.294	(1.000)	338301	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.288	11.294	(0.975)	338301	0.50000	0.500
	75 Benzo(k)fluoranthene	252	11.312	11.312	(1.002)	12253	0.02000	0.0200
*	76 Benzo(e)pyrene-d12	264	11.575	11.575	(1.000)	233165	0.50000	0.500
	77 Benzo(e)pyrene	252	11.605	11.605	(0.997)	11742	0.02000	0.0200
*	78 Benzo(a)pyrene-d12	264	11.641	11.641	(1.000)	249088	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.641	11.641	(1.006)	249088	0.50000	0.500
	80 Benzo(a)pyrene	252	11.665	11.671	(1.002)	8921	0.02000	0.0200
*	81 Perylene-d12	264	11.737	11.737	(1.000)	237744	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.737	11.737	(1.014)	237744	0.50000	0.500
	83 Perylene	252	11.766	11.766	(1.003)	10007	0.02000	0.0200
*	84 Indeno(123-cd)pyrene-d12	288	13.111	13.114	(1.000)	275656	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.111	13.114	(1.133)	275656	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01ic01.d
Report Date: 01-Aug-2011 18:59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
	86 Indeno(1,2,3-cd)pyrene	276	13.145	13.152	(1.003)	11393	0.02000	0.0200
*	87 Dibenz(ah)anthracene-d14	292	13.116	13.118	(1.000)	205685	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.116	13.118	(1.133)	205685	0.50000	0.500
	89 Dibenz(a,h)anthracene	278	13.162	13.165	(1.004)	7550	0.02000	0.0200
*	90 Benzo(ghi)perylene-d12	288	13.462	13.464	(1.000)	205123	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.462	13.464	(1.163)	205123	0.50000	0.500
	92 Benzo(g,h,i)perylene	276	13.495	13.502	(1.002)	9473	0.02000	0.0200


Data File: /var/chem/gcms/mp.i/P0801111.b/ph01ic01.d
Date : 01-AUG-2011 12:50
Client ID: PAH0356
Sample Info: PH01IC01,,1,1,,PAH0356
Purge Volume: 1.0
Column phase: Variant 5MS
Instrument: mp.i
Operator: 11211
Column diameter: 0.25
/var/chem/gcms/mp.i/P0801111.b/ph01ic01.d
Y (x10^5)
Min
Naphthalene-d8+
-1-Methylnaphthalene-d10+
2-Methylnaphthalene-d10+
-2,6-Dimethylnaphthalene-d+
-Acenaphthene-d10
Acenaphthylene-d8+
Benzothiopene-d8+
Phenanthrene-d10+
-Fluoranthene-d10+
-Pyrene-d10+
-Terphenyl-d14
Chrysene-d12+
-Benzo(b)fluoranthene-d12+
-Benzo(e)pyrene-d12
-Perylene-d12+
-Indeno(123-cd)pyrene-d12+
-Benzo(ghi)perylene-d12+

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01ic02.d
Report Date: 01-Aug-2011 18:59

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P080111I.b/ph01ic02.d
Lab Smp Id: PH01IC02 Client Smp ID: PAH0357
Inj Date : 01-AUG-2011 13:14
Operator : 11211 Inst ID: mp.i
Smp Info : PH01IC02,,1,2,,PAH0357
Misc Info : P080111I,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P080111I.b/SIMPAH3.m
Meth Date : 01-Aug-2011 18:58 cochranj Quant Type: ISTD
Cal Date : 01-AUG-2011 13:14 Cal File: ph01ic02.d
Als bottle: 5 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	1.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

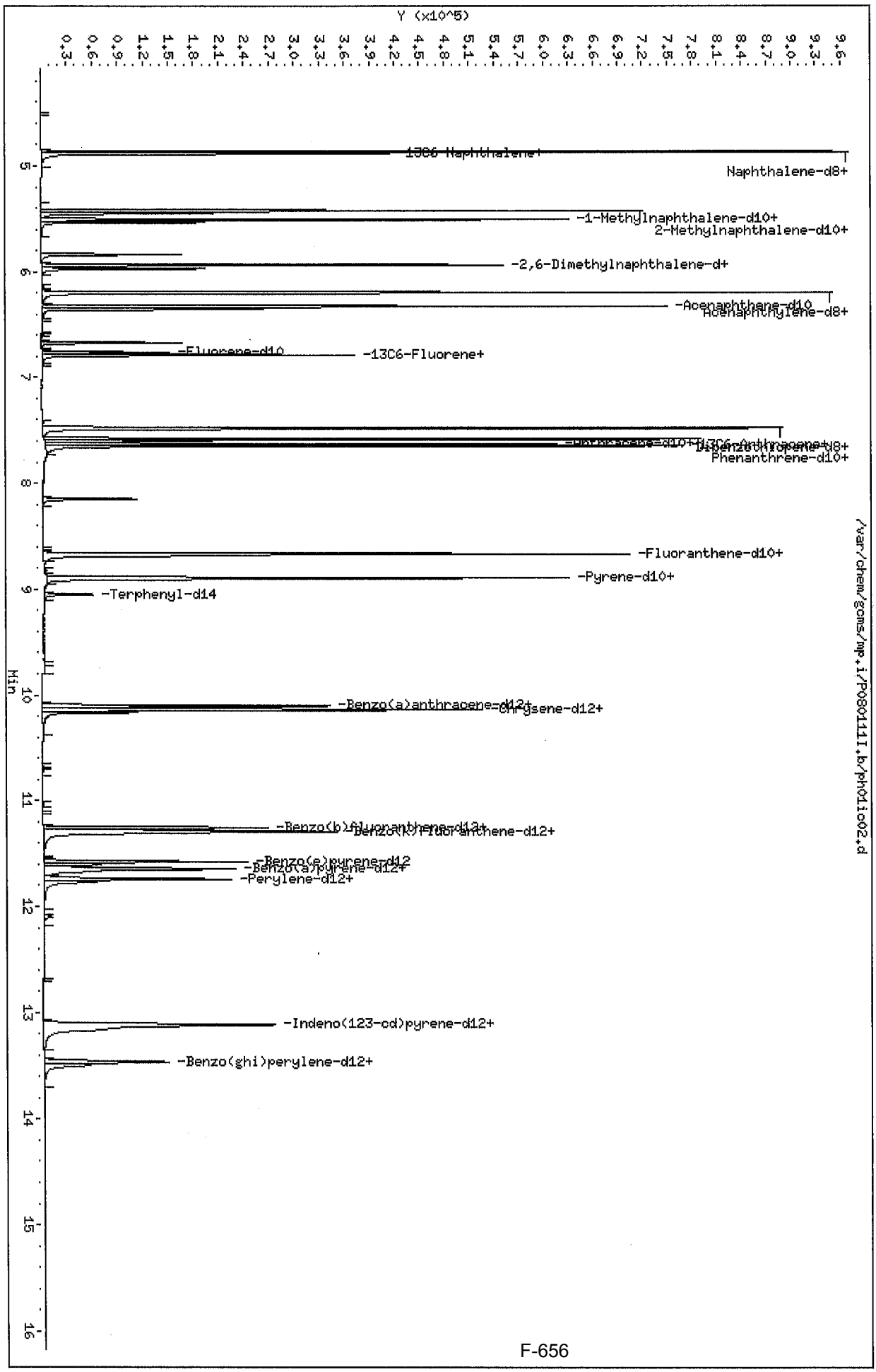
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
* 1 Naphthalene-d8	136	4.869	4.873	(1.000)	739800	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.869	4.873	(0.770)	739800	0.50000	0.501
3 Naphthalene	128	4.884	4.891	(1.003)	129070	0.10000	0.105
$ 222 13C6-Naphthalene	134	4.884	4.891	(1.003)	147293	0.10000	0.0963
* 10 2-Methylnaphthalene-d10	152	5.424	5.427	(1.000)	401877	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.424	5.427	(0.858)	401877	0.50000	0.502
12 2-Methylnaphthalene	142	5.450	5.454	(1.005)	81823	0.10000	0.106
* 13 1-Methylnaphthalene-d10	152	5.507	5.507	(1.000)	404723	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.507	5.507	(0.871)	404723	0.50000	0.501
15 1-Methylnaphthalene	142	5.533	5.536	(1.005)	79568	0.10000	0.107
16 Biphenyl	154	5.837	5.838	(1.076)	95400	0.10000	0.107
* 17 2,6-Dimethylnaphthalene-d12	168	5.935	5.935	(1.000)	343976	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.935	5.935	(0.938)	343976	0.50000	0.502
19 2,6 Dimethylnaphthalene	156	5.971	5.971	(1.006)	67991	0.10000	0.107
* 20 Acenaphthylene-d8	160	6.196	6.194	(1.000)	579128	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01ic02.d
Report Date: 01-Aug-2011 18:59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
$	21 Acenaphthylene-d8(SS)	160	6.196	6.194	(0.980)	579128	0.50000	0.502
	22 Acenaphthylene	152	6.205	6.205	(1.001)	111877	0.10000	0.106
*	23 Acenaphthene-d10	164	6.325	6.325	(1.000)	314817	0.50000	0.500
	24 Acenaphthene	154	6.350	6.350	(1.025)	67052	0.10000	0.107
	25 2,3,5 Trimethylnaphthalene	170	6.671	6.671	(1.124)	55002	0.10000	0.108
$	26 Fluorene-d10	176	6.761	6.761	(0.892)	57842	0.10000	0.108
	27 Fluorene	166	6.786	6.786	(0.895)	74366	0.10000	0.109
$	28 13C6-Fluorene	171	6.786	6.786	(0.895)	64583	0.10000	0.110
*	34 Dibenzothiopene-d8	192	7.476	7.476	(1.000)	548369	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.476	7.476	(0.841)	548369	0.50000	0.503
	36 Dibenzothiophene	184	7.490	7.490	(1.002)	104738	0.10000	0.106
*	41 Phenanthrene-d10	188	7.580	7.580	(1.000)	494549	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.580	7.580	(0.853)	494549	0.50000	0.504
	43 Phenanthrene	178	7.598	7.599	(1.002)	108195	0.10000	0.105
*	44 Anthracene-d10	188	7.628	7.628	(1.000)	419978	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.628	7.628	(0.858)	419978	0.50000	0.503
	46 Anthracene	178	7.644	7.644	(1.002)	106094	0.10000	0.104
$	47 13C6-Anthracene	184	7.644	7.644	(0.860)	442816	0.50000	0.507
	52 1-Methylphenanthrene	192	8.148	8.145	(1.075)	60985	0.10000	0.109
*	53 Fluoranthene-d10	212	8.665	8.667	(1.000)	470377	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.665	8.667	(0.975)	470377	0.50000	0.503
	55 Fluoranthene	202	8.685	8.684	(1.002)	101363	0.10000	0.105
*	56 Pyrene-d10	212	8.889	8.889	(1.000)	375944	0.50000	0.500
	57 Pyrene	202	8.906	8.906	(1.028)	108402	0.10000	0.105
$	58 Terphenyl-d14	244	9.047	9.045	(1.044)	43848	0.10000	0.115
*	60 Benzo(a)anthracene-d12	240	10.100	10.104	(1.000)	242566	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.100	10.104	(1.136)	242566	0.50000	0.504
	62 Benzo(a)anthracene	228	10.125	10.125	(1.002)	67538	0.10000	0.107
*	63 Chrysene-d12	240	10.133	10.137	(1.000)	372002	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.133	10.137	(1.140)	372002	0.50000	0.509
	65 Chrysene	228	10.163	10.162	(1.003)	82349	0.10000	0.107
*	70 Benzo(b)fluoranthene-d12	264	11.253	11.258	(1.000)	254816	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.253	11.258	(0.972)	254816	0.50000	0.501
	72 Benzo(b)fluoranthene	252	11.283	11.282	(1.003)	67879	0.10000	0.0976
*	73 Benzo(k)fluoranthene-d12	264	11.289	11.294	(1.000)	349515	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.289	11.294	(0.975)	349515	0.50000	0.506
	75 Benzo(k)fluoranthene	252	11.313	11.312	(1.002)	75990	0.10000	0.109
*	76 Benzo(e)pyrene-d12	264	11.576	11.575	(1.000)	234911	0.50000	0.500
	77 Benzo(e)pyrene	252	11.605	11.605	(0.997)	63213	0.10000	0.102
*	78 Benzo(a)pyrene-d12	264	11.641	11.641	(1.000)	255953	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.641	11.641	(1.006)	255953	0.50000	0.505
	80 Benzo(a)pyrene	252	11.665	11.671	(1.002)	51610	0.10000	0.106
*	81 Perylene-d12	264	11.737	11.737	(1.000)	245869	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.737	11.737	(1.014)	245869	0.50000	0.507
	83 Perylene	252	11.767	11.766	(1.003)	57622	0.10000	0.105
*	84 Indeno(123-cd)pyrene-d12	288	13.110	13.114	(1.000)	286606	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.110	13.114	(1.133)	286606	0.50000	0.508

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01ic02.d
Report Date: 01-Aug-2011 18:59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
	86 Indeno(1,2,3-cd)pyrene	276	13.144	13.152	(1.003)	62414	0.10000	0.103
*	87 Dibenz(ah)anthracene-d14	292	13.114	13.118	(1.000)	214834	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.114	13.118	(1.133)	214834	0.50000	0.509
	89 Dibenz(a,h)anthracene	278	13.161	13.165	(1.004)	44979	0.10000	0.107
*	90 Benzo(ghi)perylene-d12	288	13.464	13.464	(1.000)	214264	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.464	13.464	(1.163)	214264	0.50000	0.509
	92 Benzo(g,h,i)perylene	276	13.498	13.502	(1.002)	55343	0.10000	0.106



Data File: /var/chem/gcms/mp.i/P0801111.b/ph01ic02.d
Date : 01-AUG-2011 13:14
Client ID: P&H0357
Sample Info: PH01IC02,,1.2,,P&H0357
Purge Volume: 1.0
Column phase: Varian 5MS

Instrument: mp.i
Operator: 11211
Column diameter: 0.25

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01ic03.d
Report Date: 01-Aug-2011 18:59

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SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P080111I.b/ph01ic03.d
Lab Smp Id: PH01IC03 Client Smp ID: PAH0358
Inj Date : 01-AUG-2011 13:39
Operator : 11211 Inst ID: mp.i
Smp Info : PH01IC03,,1,3,,PAH0358
Misc Info : P080111I,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P080111I.b/SIMPAH3.m
Meth Date : 01-Aug-2011 18:58 cochranj Quant Type: ISTD
Cal Date : 01-AUG-2011 13:39 Cal File: ph01ic03.d
Als bottle: 6 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	1.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

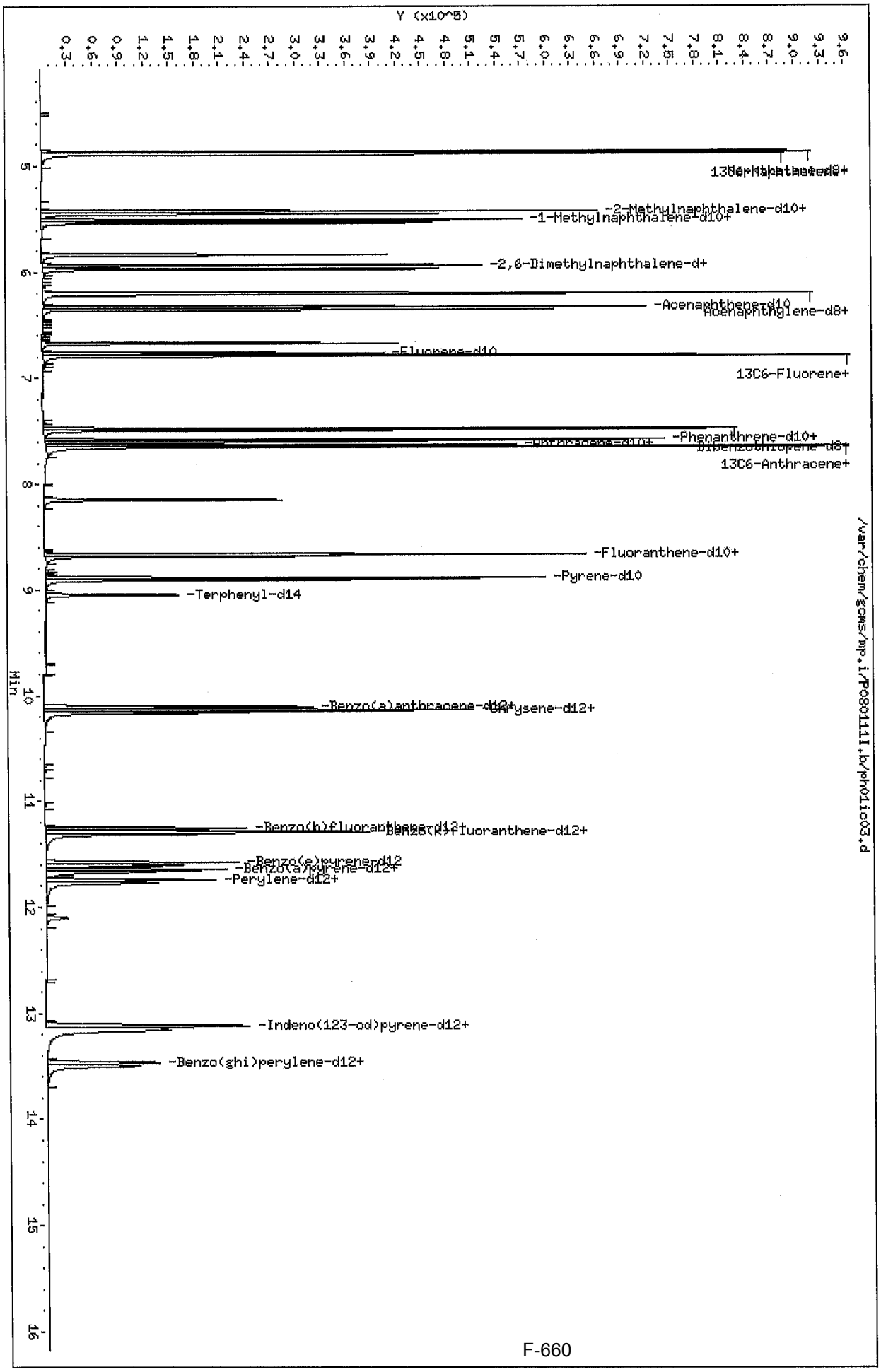
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
* 1 Naphthalene-d8	136	4.869	4.873	(1.000)	688318	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.869	4.873	(0.770)	688318	0.50000	0.492
3 Naphthalene	128	4.884	4.891	(1.003)	303593	0.25000	0.260
$ 222 13C6-Naphthalene	134	4.884	4.891	(1.003)	325050	0.25000	0.235
* 10 2-Methylnaphthalene-d10	152	5.424	5.427	(1.000)	373054	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.424	5.427	(0.858)	373054	0.50000	0.492
12 2-Methylnaphthalene	142	5.450	5.454	(1.005)	193463	0.25000	0.263
* 13 1-Methylnaphthalene-d10	152	5.507	5.507	(1.000)	374423	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.507	5.507	(0.871)	374423	0.50000	0.490
15 1-Methylnaphthalene	142	5.533	5.536	(1.005)	188583	0.25000	0.265
16 Biphenyl	154	5.837	5.838	(1.076)	230610	0.25000	0.269
* 17 2,6-Dimethylnaphthalene-d12	168	5.935	5.935	(1.000)	320193	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.935	5.935	(0.938)	320193	0.50000	0.493
19 2,6 Dimethylnaphthalene	156	5.971	5.971	(1.006)	163426	0.25000	0.267
* 20 Acenaphthylene-d8	160	6.193	6.194	(1.000)	532959	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01ic03.d
Report Date: 01-Aug-2011 18:59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
$	21 Acenaphthylene-d8(SS)	160	6.193	6.194	(0.979)	532959	0.50000	0.489
	22 Acenaphthylene	152	6.205	6.205	(1.002)	266205	0.25000	0.266
*	23 Acenaphthene-d10	164	6.325	6.325	(1.000)	300422	0.50000	0.500
	24 Acenaphthene	154	6.350	6.350	(1.025)	161508	0.25000	0.269
	25 2,3,5 Trimethylnaphthalene	170	6.671	6.671	(1.124)	135795	0.25000	0.273
$	26 Fluorene-d10	176	6.761	6.761	(0.892)	141682	0.25000	0.274
	27 Fluorene	166	6.786	6.786	(0.895)	186192	0.25000	0.279
$	28 13C6-Fluorene	171	6.786	6.786	(0.895)	161928	0.25000	0.281
*	34 Dibenzothiopene-d8	192	7.476	7.476	(1.000)	505642	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.476	7.476	(0.841)	505642	0.50000	0.494
	36 Dibenzothiophene	184	7.490	7.490	(1.002)	246320	0.25000	0.263
*	41 Phenanthrene-d10	188	7.580	7.580	(1.000)	457200	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.580	7.580	(0.853)	457200	0.50000	0.495
	43 Phenanthrene	178	7.598	7.599	(1.002)	254775	0.25000	0.261
*	44 Anthracene-d10	188	7.627	7.628	(1.000)	385107	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.627	7.628	(0.858)	385103	0.50000	0.492
	46 Anthracene	178	7.644	7.644	(1.002)	247382	0.25000	0.260
$	47 13C6-Anthracene	184	7.644	7.644	(0.860)	418697	0.50000	0.505
	52 1-Methylphenanthrene	192	8.148	8.145	(1.075)	151212	0.25000	0.277
*	53 Fluoranthene-d10	212	8.667	8.667	(1.000)	433819	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.667	8.667	(0.975)	433819	0.50000	0.494
	55 Fluoranthene	202	8.684	8.684	(1.002)	239662	0.25000	0.262
*	56 Pyrene-d10	212	8.889	8.889	(1.000)	355088	0.50000	0.500
	57 Pyrene	202	8.906	8.906	(1.028)	255094	0.25000	0.261
$	58 Terphenyl-d14	244	9.047	9.045	(1.044)	107551	0.25000	0.284
*	60 Benzo(a)anthracene-d12	240	10.103	10.104	(1.000)	211364	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.103	10.104	(1.137)	211364	0.50000	0.476
	62 Benzo(a)anthracene	228	10.124	10.125	(1.002)	154565	0.25000	0.269
*	63 Chrysene-d12	240	10.137	10.137	(1.000)	341296	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.137	10.137	(1.140)	341296	0.50000	0.496
	65 Chrysene	228	10.162	10.162	(1.002)	194241	0.25000	0.266
*	70 Benzo(b)fluoranthene-d12	264	11.258	11.258	(1.000)	221797	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.258	11.258	(0.973)	221797	0.50000	0.481
	72 Benzo(b)fluoranthene	252	11.282	11.282	(1.002)	150675	0.25000	0.249
*	73 Benzo(k)fluoranthene-d12	264	11.288	11.294	(1.000)	322741	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.288	11.294	(0.975)	322741	0.50000	0.504
	75 Benzo(k)fluoranthene	252	11.312	11.312	(1.002)	181722	0.25000	0.271
*	76 Benzo(e)pyrene-d12	264	11.575	11.575	(1.000)	216770	0.50000	0.500
	77 Benzo(e)pyrene	252	11.605	11.605	(0.997)	149231	0.25000	0.262
*	78 Benzo(a)pyrene-d12	264	11.641	11.641	(1.000)	230258	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.641	11.641	(1.006)	230258	0.50000	0.495
	80 Benzo(a)pyrene	252	11.665	11.671	(1.002)	121923	0.25000	0.268
*	81 Perylene-d12	264	11.736	11.737	(1.000)	222819	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.736	11.737	(1.014)	222819	0.50000	0.498
	83 Perylene	252	11.766	11.766	(1.003)	139034	0.25000	0.270
*	84 Indeno(123-cd)pyrene-d12	288	13.114	13.114	(1.000)	255857	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.114	13.114	(1.133)	255857	0.50000	0.494

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01ic03.d
Report Date: 01-Aug-2011 18:59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
	86 Indeno(1,2,3-cd)pyrene	276	13.148	13.152	(1.003)	147970	0.25000	0.265
*	87 Dibenz(ah)anthracene-d14	292	13.118	13.118	(1.000)	193242	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.118	13.118	(1.133)	193242	0.50000	0.497
	89 Dibenz(a,h)anthracene	278	13.164	13.165	(1.004)	114948	0.25000	0.283
*	90 Benzo(ghi)perylene-d12	288	13.464	13.464	(1.000)	192770	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.464	13.464	(1.163)	192770	0.50000	0.498
	92 Benzo(g,h,i)perylene	276	13.498	13.502	(1.002)	129877	0.25000	0.266


Data File: /var/chem/gcms/mp.i/P0801111.b/ph01ic03.d
Date : 01-AUG-2011 13:39
Client ID: PAH0358
Sample Info: PH01IC03,1,3,,PAH0358
Purge Volume: 1.0
Column phase: Varian: 5MS
Instrument: mp.i
Operator: 11211
Column diameter: 0.25
Y (x10^5)
Min
/var/chem/gcms/mp.i/P0801111.b/ph01ic03.d
-2-Methylnaphthalene-d10+
-1-Methylnaphthalene-d10+
-2,6-Dimethylnaphthalene-d+
-Acenaphthene-d10
Acenaphthylene-d8+
-Fluorene-d10
13C6-Fluorene+
-Phenanthrene-d10+
13C6-Anthracene+
-Fluoranthene-d10+
-Pyrene-d10
-Terphenyl-d14
-Benzo(a)anthracene-d12+
Chrysene-d12+
-Benzo(b)fluoranthene-d12+
BeP26(R)fluoranthene-d12+
-Benzo(e)pyrene-d12
-Benzo(a)pyrene-d12+
-Perylene-d12+
-Indeno(123-cd)pyrene-d12+
-Benzo(ghi)perylene-d12+

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01ic04.d
Report Date: 01-Aug-2011 18:59

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P080111I.b/ph01ic04.d
Lab Smp Id: PH01IC04 Client Smp ID: PAH0359
Inj Date : 01-AUG-2011 14:04
Operator : 11211 Inst ID: mp.i
Smp Info : PH01IC04,,1,4,,PAH0359
Misc Info : P080111I,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P080111I.b/SIMPAH3.m
Meth Date : 01-Aug-2011 18:58 cochranj Quant Type: ISTD
Cal Date : 01-AUG-2011 14:04 Cal File: ph01ic04.d
Als bottle: 7 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	1.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

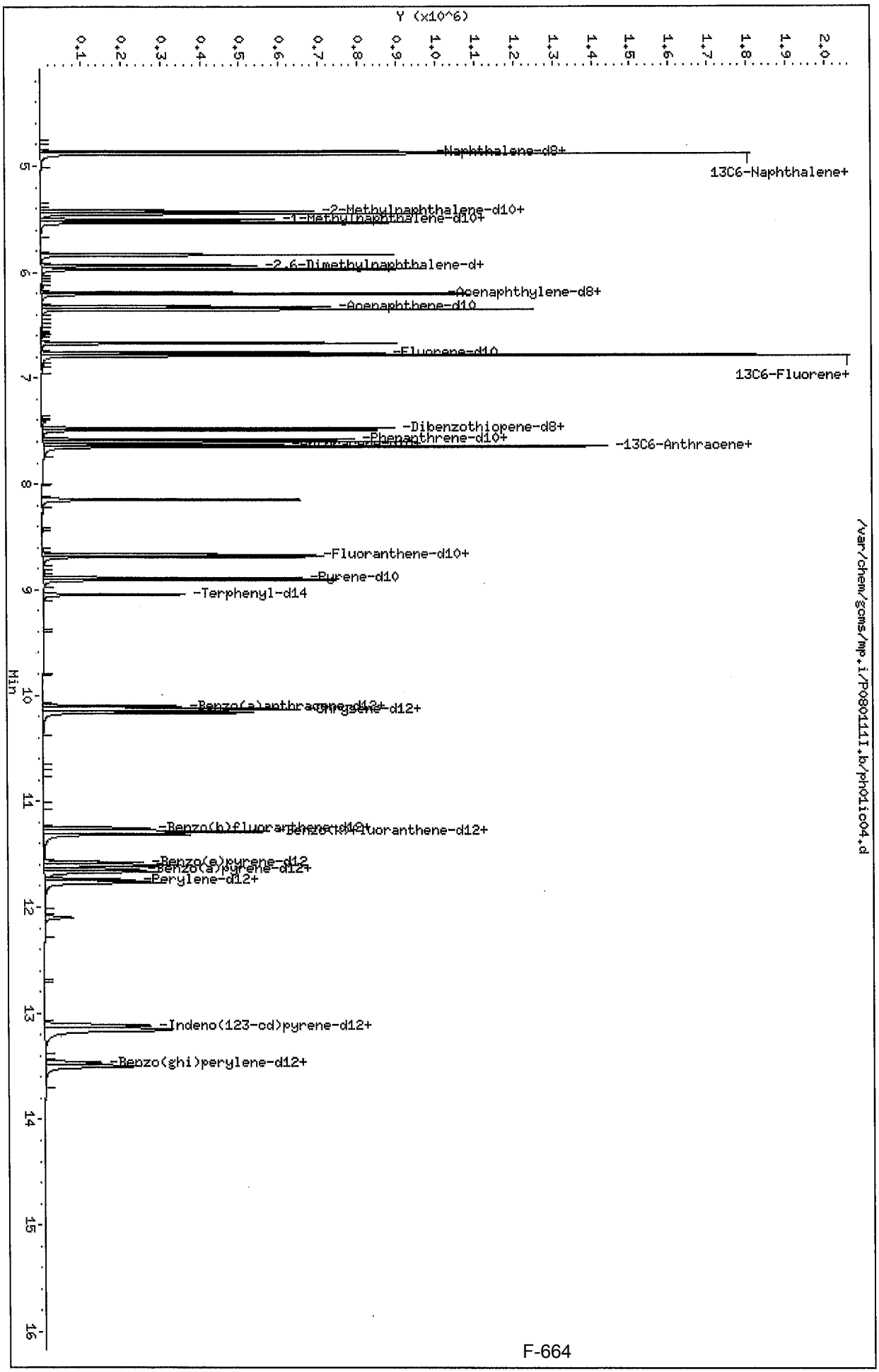
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
* 1 Naphthalene-d8	136	4.869	4.873	(1.000)	699877	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.869	4.873	(0.770)	699877	0.50000	0.497
3 Naphthalene	128	4.884	4.891	(1.003)	605073	0.50000	0.507
$ 222 13C6-Naphthalene	134	4.884	4.891	(1.003)	649557	0.50000	0.471
* 10 2-Methylnaphthalene-d10	152	5.424	5.427	(1.000)	380342	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.424	5.427	(0.858)	380342	0.50000	0.498
12 2-Methylnaphthalene	142	5.450	5.454	(1.005)	389838	0.50000	0.515
* 13 1-Methylnaphthalene-d10	152	5.506	5.507	(1.000)	379679	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.506	5.507	(0.871)	379679	0.50000	0.495
15 1-Methylnaphthalene	142	5.533	5.536	(1.005)	376167	0.50000	0.516
16 Biphenyl	154	5.837	5.838	(1.076)	471181	0.50000	0.528
* 17 2,6-Dimethylnaphthalene-d12	168	5.935	5.935	(1.000)	327434	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.935	5.935	(0.938)	327434	0.50000	0.500
19 2,6 Dimethylnaphthalene	156	5.971	5.971	(1.006)	333814	0.50000	0.525
* 20 Acenaphthylene-d8	160	6.193	6.194	(1.000)	545116	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01ic04.d
Report Date: 01-Aug-2011 18:59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
$	21 Acenaphthylene-d8(SS)	160	6.193	6.194	(0.979)	545116	0.50000	0.497
	22 Acenaphthylene	152	6.205	6.205	(1.002)	552390	0.50000	0.530
*	23 Acenaphthene-d10	164	6.325	6.325	(1.000)	302753	0.50000	0.500
	24 Acenaphthene	154	6.350	6.350	(1.025)	328799	0.50000	0.526
	25 2,3,5 Trimethylnaphthalene	170	6.671	6.671	(1.124)	283908	0.50000	0.542
$	26 Fluorene-d10	176	6.761	6.761	(0.892)	298046	0.50000	0.540
	27 Fluorene	166	6.783	6.786	(0.895)	390321	0.50000	0.545
$	28 13C6-Fluorene	171	6.783	6.786	(0.895)	338206	0.50000	0.546
*	34 Dibenzothiopene-d8	192	7.476	7.476	(1.000)	525584	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.476	7.476	(0.841)	525584	0.50000	0.494
	36 Dibenzothiophene	184	7.490	7.490	(1.002)	508930	0.50000	0.517
*	41 Phenanthrene-d10	188	7.580	7.580	(1.000)	475201	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.580	7.580	(0.853)	475201	0.50000	0.495
	43 Phenanthrene	178	7.598	7.599	(1.002)	527033	0.50000	0.515
*	44 Anthracene-d10	188	7.627	7.628	(1.000)	401583	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.627	7.628	(0.858)	401583	0.50000	0.494
	46 Anthracene	178	7.644	7.644	(1.002)	513293	0.50000	0.513
$	47 13C6-Anthracene	184	7.644	7.644	(0.860)	439614	0.50000	0.506
	52 1-Methylphenanthrene	192	8.148	8.145	(1.075)	327639	0.50000	0.556
*	53 Fluoranthene-d10	212	8.667	8.667	(1.000)	452396	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.667	8.667	(0.975)	452396	0.50000	0.495
	55 Fluoranthene	202	8.685	8.684	(1.002)	507427	0.50000	0.523
*	56 Pyrene-d10	212	8.889	8.889	(1.000)	370793	0.50000	0.500
	57 Pyrene	202	8.904	8.906	(1.027)	538160	0.50000	0.521
$	58 Terphenyl-d14	244	9.045	9.045	(1.044)	240211	0.50000	0.577
*	60 Benzo(a)anthracene-d12	240	10.104	10.104	(1.000)	232260	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.104	10.104	(1.137)	232260	0.50000	0.501
	62 Benzo(a)anthracene	228	10.125	10.125	(1.002)	347697	0.50000	0.538
*	63 Chrysene-d12	240	10.137	10.137	(1.000)	370908	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.137	10.137	(1.140)	370908	0.50000	0.512
	65 Chrysene	228	10.162	10.162	(1.002)	422150	0.50000	0.523
*	70 Benzo(b)fluoranthene-d12	264	11.259	11.258	(1.000)	242052	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.259	11.258	(0.973)	242052	0.50000	0.491
	72 Benzo(b)fluoranthene	252	11.283	11.282	(1.002)	333900	0.50000	0.505
*	73 Benzo(k)fluoranthene-d12	264	11.289	11.294	(1.000)	353554	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.289	11.294	(0.975)	353554	0.50000	0.510
	75 Benzo(k)fluoranthene	252	11.312	11.312	(1.002)	398883	0.50000	0.531
*	76 Benzo(e)pyrene-d12	264	11.575	11.575	(1.000)	233067	0.50000	0.500
	77 Benzo(e)pyrene	252	11.605	11.605	(0.997)	338966	0.50000	0.524
*	78 Benzo(a)pyrene-d12	264	11.641	11.641	(1.000)	257374	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.641	11.641	(1.006)	257374	0.50000	0.511
	80 Benzo(a)pyrene	252	11.665	11.671	(1.002)	286204	0.50000	0.546
*	81 Perylene-d12	264	11.737	11.737	(1.000)	249364	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.737	11.737	(1.014)	249364	0.50000	0.514
	83 Perylene	252	11.767	11.766	(1.003)	318185	0.50000	0.537
*	84 Indeno(123-cd)pyrene-d12	288	13.110	13.114	(1.000)	282855	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.110	13.114	(1.133)	282855	0.50000	0.506

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01ic04.d
Report Date: 01-Aug-2011 18:59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
	86 Indeno(1,2,3-cd)pyrene	276	13.144	13.152	(1.003)	334988	0.50000	0.531
*	87 Dibenz(ah)anthracene-d14	292	13.114	13.118	(1.000)	213909	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.114	13.118	(1.133)	213909	0.50000	0.509
	89 Dibenz(a,h)anthracene	278	13.161	13.165	(1.004)	263489	0.50000	0.562
*	90 Benzo(ghi)perylene-d12	288	13.464	13.464	(1.000)	212111	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.464	13.464	(1.163)	212111	0.50000	0.507
	92 Benzo(g,h,i)perylene	276	13.498	13.502	(1.002)	290945	0.50000	0.531


Data File: /var/chem/gcms/mp.i/P0801111.b/ph01ic04.d
Date : 01-AUG-2011 14:04
Client ID: PAH0359
Sample Info: PH01IC04,1,4,,PAH0359
Purge Volume: 1.0
Column phase: Varian: 5MS
Instrument: mp.i
Operator: 11241
Column diameter: 0.25
Y (x10^6)
Min
-Naphthalene-d8+
13C6-Naphthalene+
-2-Methylnaphthalene-d10+
-1-Methylnaphthalene-d10+
-2,6-Dimethylnaphthalene-d+
-Acenaphthylene-d8+
-Acenaphthene-d10
-Fluorene-d10
13C6-Fluorene+
-Dibenzothiopene-d8+
-Phenanthrene-d10+
-13C6-Anthracene+
-Fluoranthene-d10+
-Pyrene-d10
-Terphenyl-d14
-Chrysene-d12+
-Benzo(b)fluoranthene-d12+
-Benzo(k)fluoranthene-d12+
-Benzo(e)pyrene-d12
-Benzo(a)pyrene-d12+
-Perylene-d12+
-Indeno(123-cd)pyrene-d12+
-Benzo(ghi)perylene-d12+
/var/chem/gcms/mp.i/P0801111.b/ph01ic04.d

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01ic05.d
Report Date: 01-Aug-2011 18:59

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P080111I.b/ph01ic05.d
Lab Smp Id: PH01IC05 Client Smp ID: PAH0360
Inj Date : 01-AUG-2011 14:29
Operator : 11211 Inst ID: mp.i
Smp Info : PH01IC05,,1,5,,PAH0360
Misc Info : P080111I,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P080111I.b/SIMPAH3.m
Meth Date : 01-Aug-2011 18:58 cochranj Quant Type: ISTD
Cal Date : 01-AUG-2011 14:29 Cal File: ph01ic05.d
Als bottle: 8 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	1.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

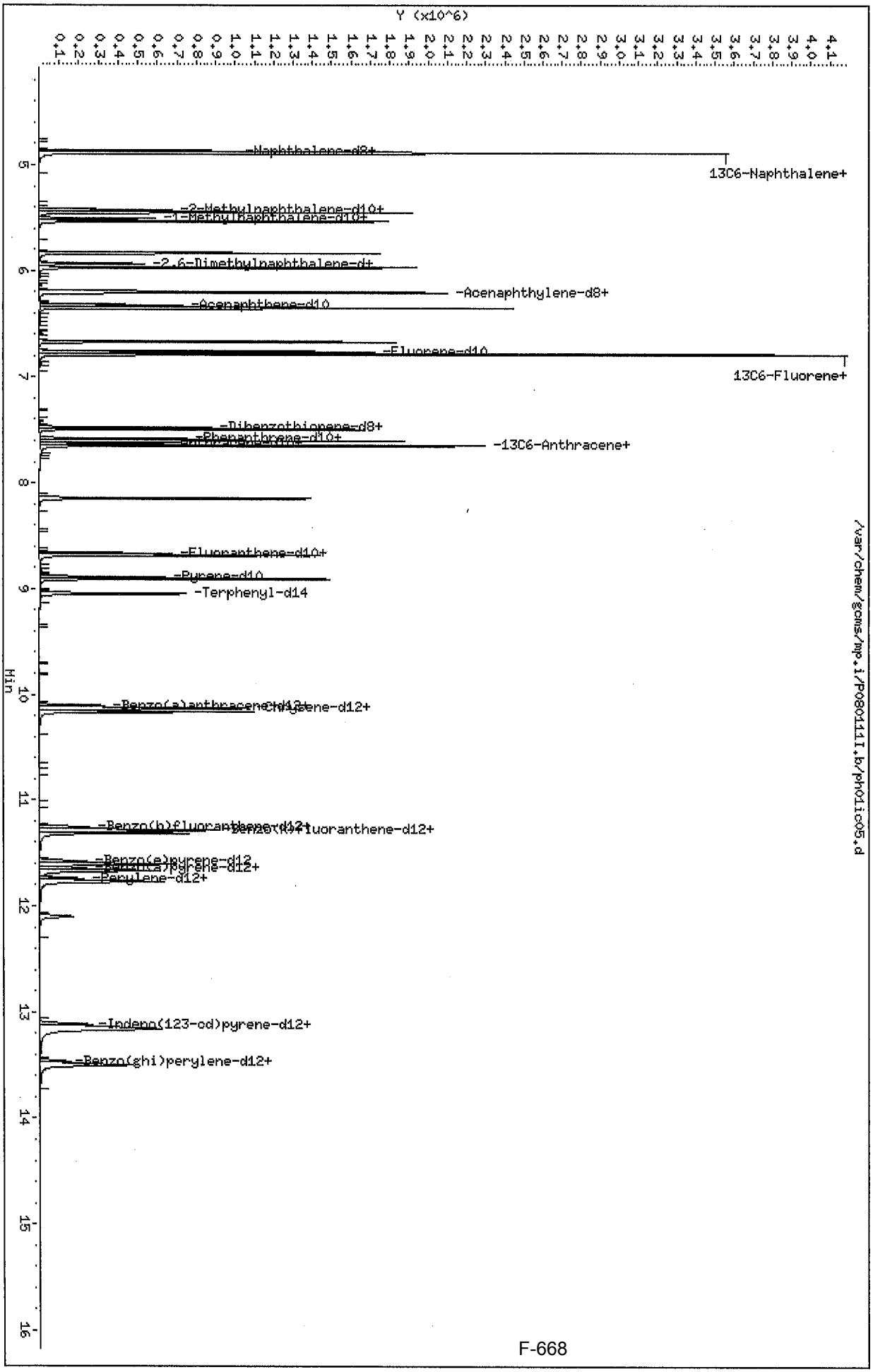
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
*	1 Naphthalene-d8	136	4.869	4.873	(1.000)	684320	0.50000	0.500
$	2 Naphthalene-d8(SS)	136	4.869	4.873	(0.770)	684320	0.50000	0.498
	3 Naphthalene	128	4.884	4.891	(1.003)	1177428	1.00000	1.01
$	222 13C6-Naphthalene	134	4.884	4.891	(1.003)	1251256	1.00000	0.942
*	10 2-Methylnaphthalene-d10	152	5.424	5.427	(1.000)	371191	0.50000	0.500
$	11 2-Methylnaphthalene-d10(SS)	152	5.424	5.427	(0.858)	371191	0.50000	0.498
	12 2-Methylnaphthalene	142	5.450	5.454	(1.005)	765941	1.00000	1.03
*	13 1-Methylnaphthalene-d10	152	5.507	5.507	(1.000)	369895	0.50000	0.500
$	14 1-Methylnaphthalene-d10(SS)	152	5.507	5.507	(0.871)	369895	0.50000	0.495
	15 1-Methylnaphthalene	142	5.533	5.536	(1.005)	736319	1.00000	1.03
	16 Biphenyl	154	5.837	5.838	(1.076)	926875	1.00000	1.05
*	17 2,6-Dimethylnaphthalene-d12	168	5.935	5.935	(1.000)	318500	0.50000	0.500
$	18 2,6-Dimethylnaph-d12(SS)	168	5.935	5.935	(0.938)	318500	0.50000	0.499
	19 2,6 Dimethylnaphthalene	156	5.971	5.971	(1.006)	656926	1.00000	1.05
*	20 Acenaphthylene-d8	160	6.194	6.194	(1.000)	529762	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01ic05.d
Report Date: 01-Aug-2011 18:59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
$	21 Acenaphthylene-d8(SS)	160	6.194	6.194	(0.979)	529762	0.50000	0.496
	22 Acenaphthylene	152	6.205	6.205	(1.002)	1100126	1.00000	1.07
*	23 Acenaphthene-d10	164	6.325	6.325	(1.000)	295717	0.50000	0.500
	24 Acenaphthene	154	6.350	6.350	(1.025)	646091	1.00000	1.05
	25 2,3,5 Trimethylnaphthalene	170	6.671	6.671	(1.124)	571797	1.00000	1.10
$	26 Fluorene-d10	176	6.761	6.761	(0.892)	590529	1.00000	1.07
	27 Fluorene	166	6.783	6.786	(0.895)	770061	1.00000	1.08
$	28 13C6-Fluorene	171	6.783	6.786	(0.895)	665647	1.00000	1.08
*	34 Dibenzothiopene-d8	192	7.476	7.476	(1.000)	511649	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.476	7.476	(0.841)	511649	0.50000	0.493
	36 Dibenzothiophene	184	7.490	7.490	(1.002)	1001257	1.00000	1.04
*	41 Phenanthrene-d10	188	7.580	7.580	(1.000)	465380	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.580	7.580	(0.853)	465380	0.50000	0.496
	43 Phenanthrene	178	7.598	7.599	(1.002)	1041147	1.00000	1.03
*	44 Anthracene-d10	188	7.628	7.628	(1.000)	401349	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.628	7.628	(0.858)	401349	0.50000	0.503
	46 Anthracene	178	7.644	7.644	(1.002)	1019970	1.00000	1.02
$	47 13C6-Anthracene	184	7.644	7.644	(0.860)	436224	0.50000	0.510
	52 1-Methylphenanthrene	192	8.145	8.145	(1.075)	669807	1.00000	1.12
*	53 Fluoranthene-d10	212	8.667	8.667	(1.000)	440831	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.667	8.667	(0.975)	440831	0.50000	0.494
	55 Fluoranthene	202	8.684	8.684	(1.002)	1012654	1.00000	1.06
*	56 Pyrene-d10	212	8.889	8.889	(1.000)	363154	0.50000	0.500
	57 Pyrene	202	8.906	8.906	(1.028)	1065645	1.00000	1.05
$	58 Terphenyl-d14	244	9.045	9.045	(1.044)	489480	1.00000	1.16
*	60 Benzo(a)anthracene-d12	240	10.104	10.104	(1.000)	222967	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.104	10.104	(1.137)	222967	0.50000	0.493
	62 Benzo(a)anthracene	228	10.124	10.125	(1.002)	706451	1.00000	1.11
*	63 Chrysene-d12	240	10.137	10.137	(1.000)	371677	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.137	10.137	(1.140)	371677	0.50000	0.519
	65 Chrysene	228	10.162	10.162	(1.002)	836736	1.00000	1.03
*	70 Benzo(b)fluoranthene-d12	264	11.258	11.258	(1.000)	244388	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.258	11.258	(0.973)	244388	0.50000	0.511
	72 Benzo(b)fluoranthene	252	11.282	11.282	(1.002)	639262	1.00000	0.965
*	73 Benzo(k)fluoranthene-d12	264	11.288	11.294	(1.000)	329661	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.288	11.294	(0.975)	329661	0.50000	0.495
	75 Benzo(k)fluoranthene	252	11.312	11.312	(1.002)	811862	1.00000	1.12
*	76 Benzo(e)pyrene-d12	264	11.575	11.575	(1.000)	224780	0.50000	0.500
	77 Benzo(e)pyrene	252	11.605	11.605	(0.997)	660504	1.00000	1.05
*	78 Benzo(a)pyrene-d12	264	11.641	11.641	(1.000)	247206	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.641	11.641	(1.006)	247206	0.50000	0.507
	80 Benzo(a)pyrene	252	11.665	11.671	(1.002)	590414	1.00000	1.13
*	81 Perylene-d12	264	11.737	11.737	(1.000)	243126	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.737	11.737	(1.014)	243126	0.50000	0.515
	83 Perylene	252	11.766	11.766	(1.003)	639013	1.00000	1.08
*	84 Indeno(123-cd)pyrene-d12	288	13.114	13.114	(1.000)	268291	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.114	13.114	(1.133)	268291	0.50000	0.498

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01ic05.d
Report Date: 01-Aug-2011 18:59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
	86 Indeno(1,2,3-cd)pyrene	276	13.143	13.152	(1.002)	661941	1.00000	1.08
*	87 Dibenz(ah)anthracene-d14	292	13.118	13.118	(1.000)	202611	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.118	13.118	(1.133)	202611	0.50000	0.500
	89 Dibenz(a,h)anthracene	278	13.160	13.165	(1.003)	524848	1.00000	1.14
*	90 Benzo(ghi)perylene-d12	288	13.464	13.464	(1.000)	201220	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.464	13.464	(1.163)	201220	0.50000	0.499
	92 Benzo(g,h,i)perylene	276	13.498	13.502	(1.002)	570677	1.00000	1.08



Data File: /var/chem/gcms/mp.i/P0801111.b/ph01ic05.d
Date : 01-AUG-2011 14:29
Client ID: PAH0360
Sample Info: PH01IC05,,1,5,,PAH0360
Purge Volume: 1.0
Column phase: Varian 5MS

Instrument: mp.i
Operator: 11211
Column diameter: 0.25

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01ic06.d
Report Date: 01-Aug-2011 18:59

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SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P080111I.b/ph01ic06.d
Lab Smp Id: PH01IC06 Client Smp ID: PAH0361
Inj Date : 01-AUG-2011 14:54
Operator : 11211 Inst ID: mp.i
Smp Info : PH01IC06,,1,6,,PAH0361
Misc Info : P080111I,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P080111I.b/SIMPAH3.m
Meth Date : 01-Aug-2011 18:58 cochranj Quant Type: ISTD
Cal Date : 01-AUG-2011 14:54 Cal File: ph01ic06.d
Als bottle: 9 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	1.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

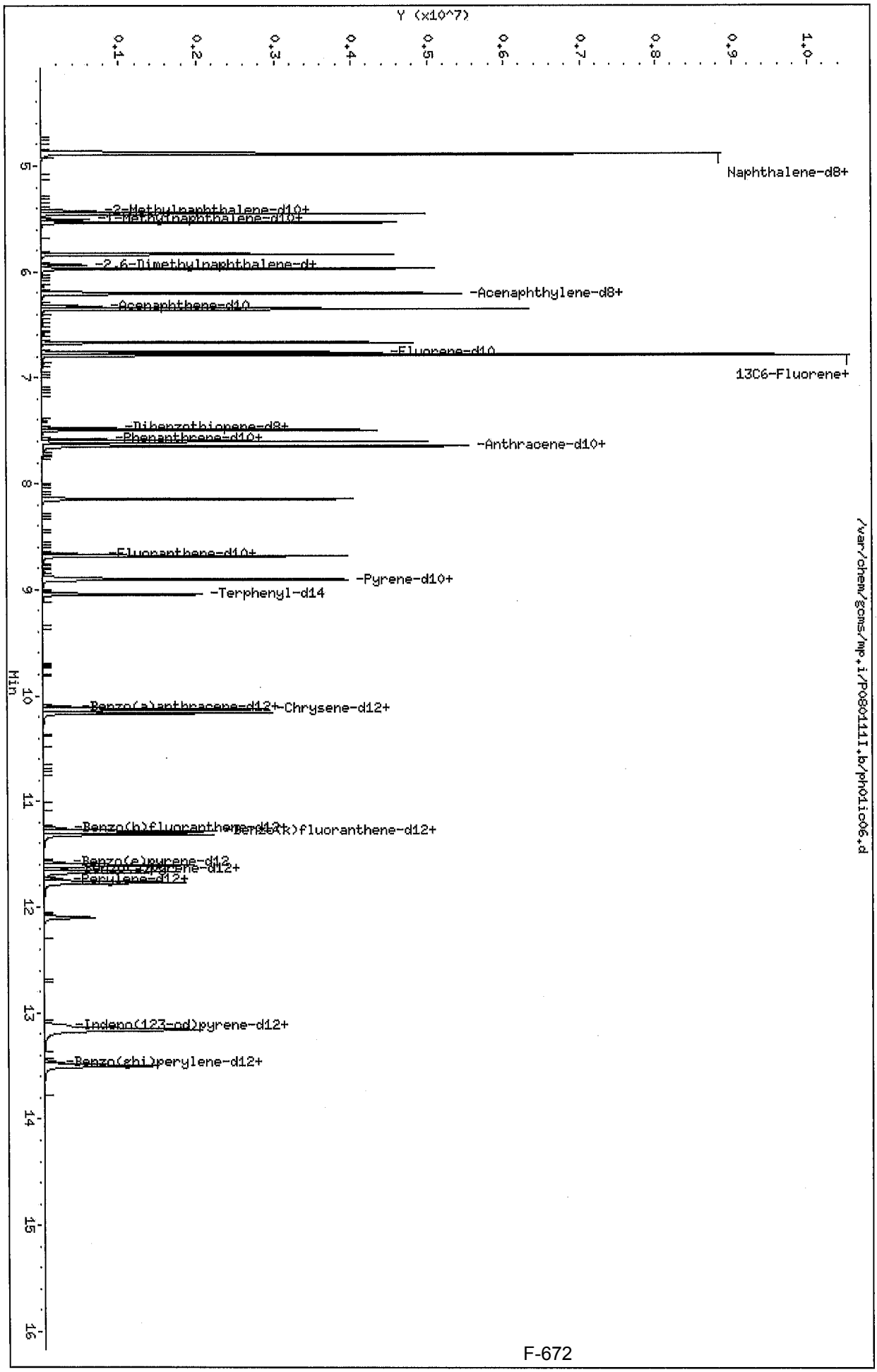
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
* 1 Naphthalene-d8	136	4.869	4.873	(1.000)	700707	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.869	4.873	(0.770)	700707	0.50000	0.489
3 Naphthalene	128	4.887	4.891	(1.004)	2864851	2.50000	2.41
$ 222 13C6-Naphthalene	134	4.887	4.891	(1.004)	2961305	2.50000	2.22
* 10 2-Methylnaphthalene-d10	152	5.424	5.427	(1.000)	385841	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.424	5.427	(0.858)	385841	0.50000	0.496
12 2-Methylnaphthalene	142	5.450	5.454	(1.005)	1944946	2.50000	2.51
* 13 1-Methylnaphthalene-d10	152	5.507	5.507	(1.000)	375906	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.507	5.507	(0.871)	375906	0.50000	0.484
15 1-Methylnaphthalene	142	5.533	5.536	(1.005)	1848223	2.50000	2.53
16 Biphenyl	154	5.835	5.838	(1.076)	2350018	2.50000	2.55
* 17 2,6-Dimethylnaphthalene-d12	168	5.935	5.935	(1.000)	330307	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.935	5.935	(0.938)	330307	0.50000	0.495
19 2,6 Dimethylnaphthalene	156	5.971	5.971	(1.006)	1691764	2.50000	2.59
* 20 Acenaphthylene-d8	160	6.194	6.194	(1.000)	561371	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01ic06.d
Report Date: 01-Aug-2011 18:59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
$	21 Acenaphthylene-d8(SS)	160	6.194	6.194	(0.979)	561371	0.50000	0.501
	22 Acenaphthylene	152	6.205	6.205	(1.002)	2906431	2.50000	2.63
*	23 Acenaphthene-d10	164	6.325	6.325	(1.000)	309706	0.50000	0.500
	24 Acenaphthene	154	6.350	6.350	(1.025)	1669370	2.50000	2.55
	25 2,3,5 Trimethylnaphthalene	170	6.671	6.671	(1.124)	1507933	2.50000	2.73
$	26 Fluorene-d10	176	6.761	6.761	(0.892)	1535392	2.50000	2.61
	27 Fluorene	166	6.783	6.786	(0.895)	1934354	2.50000	2.55
$	28 13C6-Fluorene	171	6.783	6.786	(0.895)	1684442	2.50000	2.56
*	34 Dibenzothiopene-d8	192	7.476	7.476	(1.000)	542182	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.476	7.476	(0.841)	542182	0.50000	0.486
	36 Dibenzothiophene	184	7.490	7.490	(1.002)	2630992	2.50000	2.56
*	41 Phenanthrene-d10	188	7.580	7.580	(1.000)	492019	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.580	7.580	(0.853)	492019	0.50000	0.488
	43 Phenanthrene	178	7.598	7.599	(1.002)	2725131	2.50000	2.54
*	44 Anthracene-d10	188	7.628	7.628	(1.000)	433737	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.628	7.628	(0.858)	433737	0.50000	0.503
	46 Anthracene	178	7.644	7.644	(1.002)	2745556	2.50000	2.52
$	47 13C6-Anthracene	184	7.644	7.644	(0.860)	448933	0.50000	0.488
	52 1-Methylphenanthrene	192	8.145	8.145	(1.075)	1834410	2.50000	2.83
*	53 Fluoranthene-d10	212	8.667	8.667	(1.000)	473877	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.667	8.667	(0.975)	473877	0.50000	0.493
	55 Fluoranthene	202	8.684	8.684	(1.002)	2721706	2.50000	2.62
*	56 Pyrene-d10	212	8.889	8.889	(1.000)	392201	0.50000	0.500
	57 Pyrene	202	8.906	8.906	(1.028)	2847419	2.50000	2.58
$	58 Terphenyl-d14	244	9.045	9.045	(1.044)	1319618	2.50000	2.83
*	60 Benzo(a)anthracene-d12	240	10.104	10.104	(1.000)	252070	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.104	10.104	(1.137)	252070	0.50000	0.513
	62 Benzo(a)anthracene	228	10.124	10.125	(1.002)	2043813	2.50000	2.77
*	63 Chrysene-d12	240	10.137	10.137	(1.000)	403828	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.137	10.137	(1.140)	403828	0.50000	0.518
	65 Chrysene	228	10.162	10.162	(1.002)	2253174	2.50000	2.54
*	70 Benzo(b)fluoranthene-d12	264	11.258	11.258	(1.000)	269913	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.258	11.258	(0.973)	269913	0.50000	0.501
	72 Benzo(b)fluoranthene	252	11.282	11.282	(1.002)	1986042	2.50000	2.68
*	73 Benzo(k)fluoranthene-d12	264	11.288	11.294	(1.000)	377037	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.288	11.294	(0.975)	377037	0.50000	0.502
	75 Benzo(k)fluoranthene	252	11.312	11.312	(1.002)	2109179	2.50000	2.54
*	76 Benzo(e)pyrene-d12	264	11.575	11.575	(1.000)	253443	0.50000	0.500
	77 Benzo(e)pyrene	252	11.605	11.605	(0.997)	1877071	2.50000	2.56
*	78 Benzo(a)pyrene-d12	264	11.641	11.641	(1.000)	286298	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.641	11.641	(1.006)	286298	0.50000	0.517
	80 Benzo(a)pyrene	252	11.671	11.671	(1.003)	1780615	2.50000	2.86
*	81 Perylene-d12	264	11.737	11.737	(1.000)	275858	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.737	11.737	(1.014)	275858	0.50000	0.516
	83 Perylene	252	11.766	11.766	(1.003)	1859931	2.50000	2.73
*	84 Indeno(123-cd)pyrene-d12	288	13.114	13.114	(1.000)	308704	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.114	13.114	(1.133)	308704	0.50000	0.507

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01ic06.d
Report Date: 01-Aug-2011 18:59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
	86 Indeno(1,2,3-cd)pyrene	276	13.148	13.152	(1.003)	1951617	2.50000	2.72
*	87 Dibenz(ah)anthracene-d14	292	13.118	13.118	(1.000)	234867	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.118	13.118	(1.133)	234867	0.50000	0.512
	89 Dibenz(a,h)anthracene	278	13.160	13.165	(1.003)	1568970	2.50000	2.86
*	90 Benzo(ghi)perylene-d12	288	13.464	13.464	(1.000)	230996	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.464	13.464	(1.163)	230996	0.50000	0.507
	92 Benzo(g,h,i)perylene	276	13.498	13.502	(1.002)	1660698	2.50000	2.69



Data File: /var/chem/gcms/mp.i/P0801111.b/ph01ic06.d
Date : 01-AUG-2011 14:54
Client ID: PAH0361
Sample Info: PH01IC06,1,6,,PAH0361
Purge Volume: 1.0
Column phase: Varian: 5MS

Instrument: mp.i
Operator: 11211
Column diameter: 0.25

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01ic07.d
Report Date: 01-Aug-2011 18:59

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SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P080111I.b/ph01ic07.d
Lab Smp Id: PH01IC07 Client Smp ID: PAH0316
Inj Date : 01-AUG-2011 15:19
Operator : 11211 Inst ID: mp.i
Smp Info : PH01IC07,,1,7,,PAH0316
Misc Info : P080111I,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P080111I.b/SIMPAH3.m
Meth Date : 01-Aug-2011 18:58 cochranj Quant Type: ISTD
Cal Date : 01-AUG-2011 15:19 Cal File: ph01ic07.d
Als bottle: 10 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	1.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

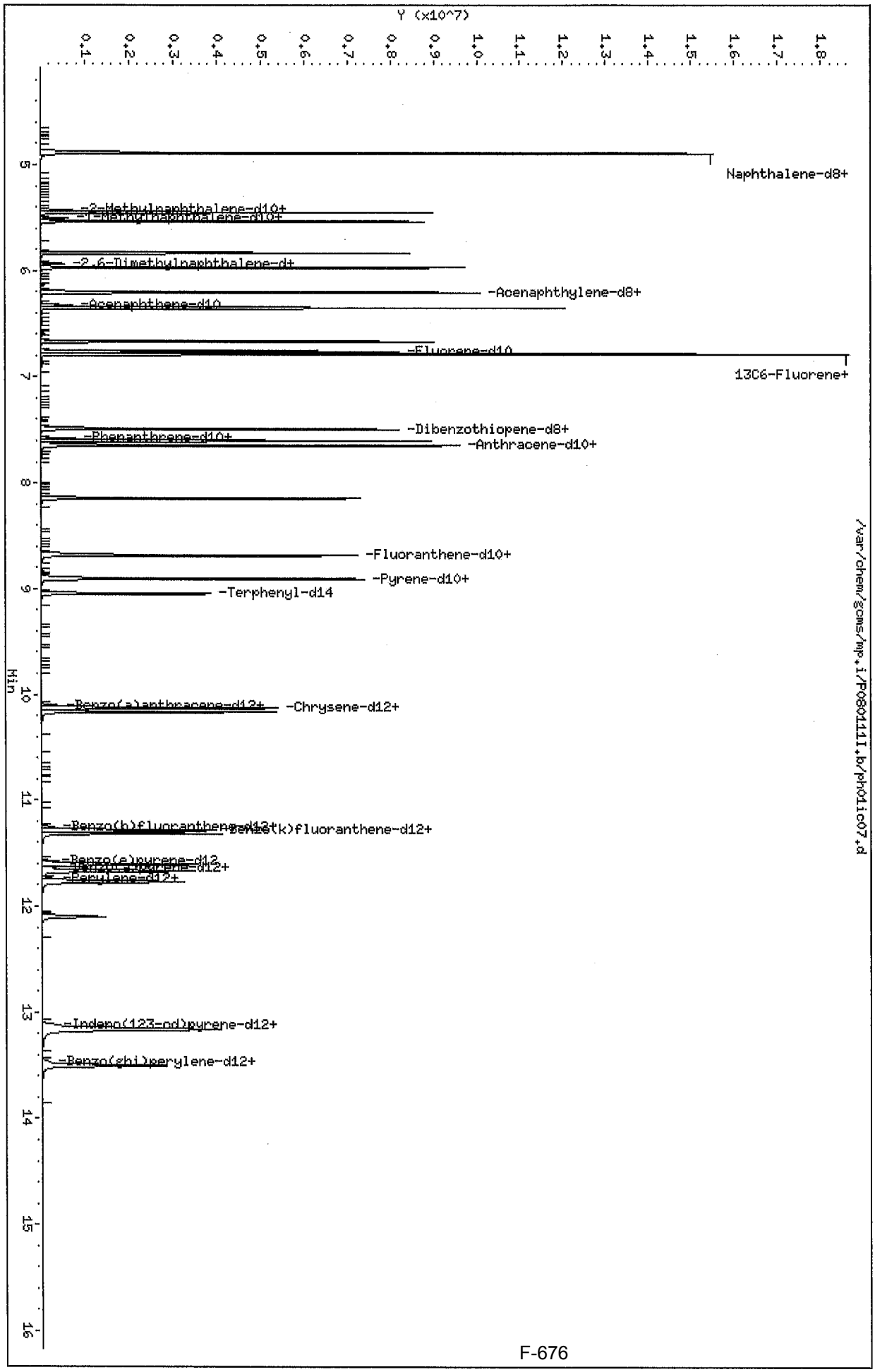
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
*	1 Naphthalene-d8	136	4.873	4.873	(1.000)	676180	0.50000	0.500
$	2 Naphthalene-d8(SS)	136	4.873	4.873	(0.770)	676180	0.50000	0.506
	3 Naphthalene	128	4.891	4.891	(1.004)	5265255	5.00000	4.64
$	222 13C6-Naphthalene	134	4.891	4.891	(1.004)	5192212	5.00000	4.16
*	10 2-Methylnaphthalene-d10	152	5.427	5.427	(1.000)	367285	0.50000	0.500
$	11 2-Methylnaphthalene-d10(SS)	152	5.427	5.427	(0.858)	367285	0.50000	0.506
	12 2-Methylnaphthalene	142	5.454	5.454	(1.005)	3658872	5.00000	4.97
*	13 1-Methylnaphthalene-d10	152	5.507	5.507	(1.000)	357474	0.50000	0.500
$	14 1-Methylnaphthalene-d10(SS)	152	5.507	5.507	(0.871)	357474	0.50000	0.495
	15 1-Methylnaphthalene	142	5.536	5.536	(1.005)	3455053	5.00000	4.98
	16 Biphenyl	154	5.838	5.838	(1.076)	4397508	5.00000	5.02
*	17 2,6-Dimethylnaphthalene-d12	168	5.935	5.935	(1.000)	313227	0.50000	0.500
$	18 2,6-Dimethylnaph-d12(SS)	168	5.935	5.935	(0.938)	313227	0.50000	0.504
	19 2,6 Dimethylnaphthalene	156	5.971	5.971	(1.006)	3179333	5.00000	5.11
*	20 Acenaphthylene-d8	160	6.194	6.194	(1.000)	540786	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01ic07.d
Report Date: 01-Aug-2011 18:59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
$	21 Acenaphthylene-d8(SS)	160	6.194	6.194	(0.979)	540786	0.50000	0.516
	22 Acenaphthylene	152	6.205	6.205	(1.002)	5558479	5.00000	5.19
*	23 Acenaphthene-d10	164	6.325	6.325	(1.000)	288122	0.50000	0.500
	24 Acenaphthene	154	6.350	6.350	(1.025)	3142369	5.00000	4.98
	25 2,3,5 Trimethylnaphthalene	170	6.671	6.671	(1.124)	2841271	5.00000	5.37
$	26 Fluorene-d10	176	6.761	6.761	(0.892)	2808242	5.00000	5.03
	27 Fluorene	166	6.786	6.786	(0.895)	3508187	5.00000	4.89
$	28 13C6-Fluorene	171	6.786	6.786	(0.895)	2970438	5.00000	4.80
*	34 Dibenzothiopene-d8	192	7.476	7.476	(1.000)	517416	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.476	7.476	(0.841)	517416	0.50000	0.503
	36 Dibenzothiophene	184	7.490	7.490	(1.002)	4971469	5.00000	5.05
*	41 Phenanthrene-d10	188	7.580	7.580	(1.000)	466404	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.580	7.580	(0.853)	466404	0.50000	0.502
	43 Phenanthrene	178	7.599	7.599	(1.002)	5117220	5.00000	5.03
*	44 Anthracene-d10	188	7.628	7.628	(1.000)	425452	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.628	7.628	(0.858)	425452	0.50000	0.530
	46 Anthracene	178	7.644	7.644	(1.002)	5181868	5.00000	4.88
$	47 13C6-Anthracene	184	7.644	7.644	(0.860)	421973	0.50000	0.499
	52 1-Methylphenanthrene	192	8.145	8.145	(1.075)	3503312	5.00000	5.60
*	53 Fluoranthene-d10	212	8.667	8.667	(1.000)	446254	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.667	8.667	(0.975)	446254	0.50000	0.504
	55 Fluoranthene	202	8.684	8.684	(1.002)	5176170	5.00000	5.24
*	56 Pyrene-d10	212	8.889	8.889	(1.000)	361208	0.50000	0.500
	57 Pyrene	202	8.906	8.906	(1.028)	5375176	5.00000	5.15
$	58 Terphenyl-d14	244	9.045	9.045	(1.044)	2411870	5.00000	5.42
*	60 Benzo(a)anthracene-d12	240	10.104	10.104	(1.000)	241026	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.104	10.104	(1.137)	241026	0.50000	0.528
	62 Benzo(a)anthracene	228	10.125	10.125	(1.002)	3961358	5.00000	5.52
*	63 Chrysene-d12	240	10.137	10.137	(1.000)	378887	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.137	10.137	(1.140)	378887	0.50000	0.524
	65 Chrysene	228	10.162	10.162	(1.002)	4187639	5.00000	5.02
*	70 Benzo(b)fluoranthene-d12	264	11.258	11.258	(1.000)	253088	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.258	11.258	(0.973)	253088	0.50000	0.504
	72 Benzo(b)fluoranthene	252	11.282	11.282	(1.002)	3718557	5.00000	5.29
*	73 Benzo(k)fluoranthene-d12	264	11.294	11.294	(1.000)	360375	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.294	11.294	(0.976)	360375	0.50000	0.513
	75 Benzo(k)fluoranthene	252	11.312	11.312	(1.002)	4083323	5.00000	5.13
*	76 Benzo(e)pyrene-d12	264	11.575	11.575	(1.000)	235599	0.50000	0.500
	77 Benzo(e)pyrene	252	11.605	11.605	(0.997)	3556378	5.00000	5.05
*	78 Benzo(a)pyrene-d12	264	11.641	11.641	(1.000)	274977	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.641	11.641	(1.006)	274977	0.50000	0.529
	80 Benzo(a)pyrene	252	11.671	11.671	(1.003)	3309445	5.00000	5.46
*	81 Perylene-d12	264	11.737	11.737	(1.000)	269729	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.737	11.737	(1.014)	269729	0.50000	0.536
	83 Perylene	252	11.766	11.766	(1.003)	3582155	5.00000	5.32
*	84 Indeno(123-cd)pyrene-d12	288	13.114	13.114	(1.000)	291957	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.114	13.114	(1.133)	291957	0.50000	0.513

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01ic07.d
Report Date: 01-Aug-2011 18:59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
	86 Indeno(1,2,3-cd)pyrene	276	13.152	13.152	(1.003)	3784863	5.00000	5.49
*	87 Dibenz(ah)anthracene-d14	292	13.118	13.118	(1.000)	222826	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.118	13.118	(1.133)	222826	0.50000	0.519
	89 Dibenz(a,h)anthracene	278	13.165	13.165	(1.004)	3044481	5.00000	5.70
*	90 Benzo(ghi)perylene-d12	288	13.464	13.464	(1.000)	217654	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.464	13.464	(1.163)	217654	0.50000	0.511
	92 Benzo(g,h,i)perylene	276	13.502	13.502	(1.003)	3225329	5.00000	5.46



Data File: /var/chem/gcms/mp.i/P0801111.b/ph01ic07.d
Date : 01-AUG-2011 15:19
Client ID: PAH0316
Sample Info: PH01IC07,1,7,,PAH0316
Purge Volume: 1.0
Column phase: Varian 5MS

Instrument: mp.i
Operator: 11211
Column diameter: 0.25

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01icv.d
Report Date: 01-Aug-2011 18:59

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SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P080111I.b/ph01icv.d
Lab Smp Id: PH01ICV
Inj Date : 01-AUG-2011 16:08
Operator : 11211 Inst ID: mp.i
Smp Info : PH01ICV,,3,,PAH0309
Misc Info : P080111I,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P080111I.b/SIMPAH3.m
Meth Date : 01-Aug-2011 18:58 cochranj Quant Type: ISTD
Cal Date : 01-AUG-2011 15:19 Cal File: ph01ic07.d
Als bottle: 12 QC Sample: 2ND SOURCE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	1.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

		QUANT SIG					CONCENTRATIONS ON-COLUMN	FINAL
Compounds		MASS	RT	EXP RT	REL RT	RESPONSE	(ug/ml)	(ng/sample)
*	1 Naphthalene-d8	136	4.869	4.873	(1.000)	660863	0.50000	0.500
$	2 Naphthalene-d8(SS)	136	4.869	4.873	(0.769)	660863	0.49603	248
	3 Naphthalene	128	4.884	4.891	(1.003)	581887	0.52518	263
$	222 13C6-Naphthalene	134	4.869	4.891	(1.000)	59052	0.04836	~~24.2(R)~~
*	10 2-Methylnaphthalene-d10	152	5.427	5.427	(1.000)	369456	0.50000	0.500
$	11 2-Methylnaphthalene-d10(SS)	152	5.427	5.427	(0.858)	369456	0.51018	255
	12 2-Methylnaphthalene	142	5.450	5.454	(1.004)	380190	0.51337	257
*	13 1-Methylnaphthalene-d10	152	5.507	5.507	(1.000)	361478	0.50000	0.500
$	14 1-Methylnaphthalene-d10(SS)	152	5.507	5.507	(0.870)	361478	0.50172	251
	15 1-Methylnaphthalene	142	5.533	5.536	(1.005)	375457	0.53571	268
	16 Biphenyl	154	5.837	5.838	(1.076)	446168	0.50587	253
*	17 2,6-Dimethylnaphthalene-d12	168	5.937	5.935	(1.000)	308569	0.50000	0.500
$	18 2,6-Dimethylnaph-d12(SS)	168	5.937	5.935	(0.938)	308569	0.49727	249
	19 2,6 Dimethylnaphthalene	156	5.971	5.971	(1.006)	314453	0.51268	256
*	20 Acenaphthylene-d8	160	6.196	6.194	(1.000)	513389	0.50000	0.500

JW 8.2.11

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01icv.d
Report Date: 01-Aug-2011 18:59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
$	21 Acenaphthylene-d8(SS)	160	6.196	6.194	(0.979)	513389	0.49132	246
	22 Acenaphthylene	152	6.208	6.205	(1.002)	519260	0.51094	255
*	23 Acenaphthene-d10	164	6.327	6.325	(1.000)	287495	0.50000	0.500
	24 Acenaphthene	154	6.353	6.350	(1.025)	320605	0.53563	268
	25 2,3,5 Trimethylnaphthalene	170	6.671	6.671	(1.124)	273082	0.52355	262
$	26 Fluorene-d10	176	6.763	6.761	(0.892)	306	0.000581	~~0.290(R)~~
	27 Fluorene	166	6.786	6.786	(0.895)	349180	0.51420	257
$	28 13C6-Fluorene	171	6.788	6.786	(0.896)	218	0.000373	~~0.187(R)~~
*	34 Dibenzothiopene-d8	192	7.476	7.476	(1.000)	486131	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.476	7.476	(0.841)	486131	0.50181	251
	36 Dibenzothiophene	184	7.493	7.490	(1.002)	480613	0.51990	260
*	41 Phenanthrene-d10	188	7.580	7.580	(1.000)	441837	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.580	7.580	(0.853)	441837	0.50457	252
	43 Phenanthrene	178	7.601	7.599	(1.003)	521057	0.54101	271
*	44 Anthracene-d10	188	7.628	7.628	(1.000)	368517	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.628	7.628	(0.858)	368517	0.48750	244
	46 Anthracene	178	7.644	7.644	(1.002)	442240	0.48050	240
$	47 13C6-Anthracene	184	7.644	7.644	(0.860)	390580	0.48992	245
	52 1-Methylphenanthrene	192	8.148	8.145	(1.075)	315003	0.53127	266
*	53 Fluoranthene-d10	212	8.667	8.667	(1.000)	417169	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.667	8.667	(0.975)	417169	0.49974	250
	55 Fluoranthene	202	8.687	8.684	(1.002)	488847	0.52962	265
*	56 Pyrene-d10	212	8.889	8.889	(1.000)	340219	0.50000	0.500
	57 Pyrene	202	8.906	8.906	(1.028)	508269	0.52109	261
$	58 Terphenyl-d14	244	9.058	9.045	(1.045)	158	0.00038	~~0.190(R)~~
*	60 Benzo(a)anthracene-d12	240	10.103	10.104	(1.000)	205478	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.103	10.104	(1.137)	205478	0.47773	239
	62 Benzo(a)anthracene	228	10.124	10.125	(1.002)	314832	0.51476	257
*	63 Chrysene-d12	240	10.137	10.137	(1.000)	346927	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.137	10.137	(1.140)	346927	0.50924	255
	65 Chrysene	228	10.162	10.162	(1.002)	399082	0.52299	261
*	70 Benzo(b)fluoranthene-d12	264	11.258	11.258	(1.000)	229113	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.258	11.258	(0.973)	229113	0.50854	254
	72 Benzo(b)fluoranthene	252	11.282	11.282	(1.002)	339440	0.53368	267
*	73 Benzo(k)fluoranthene-d12	264	11.288	11.294	(1.000)	311793	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.288	11.294	(0.975)	311793	0.49469	247
	75 Benzo(k)fluoranthene	252	11.312	11.312	(1.002)	358467	0.52055	260
*	76 Benzo(e)pyrene-d12	264	11.575	11.575	(1.000)	211533	0.50000	0.500
	77 Benzo(e)pyrene	252	11.605	11.605	(0.997)	320956	0.54146	271
*	78 Benzo(a)pyrene-d12	264	11.641	11.641	(1.000)	231364	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.641	11.641	(1.006)	231364	0.49581	248
	80 Benzo(a)pyrene	252	11.671	11.671	(1.003)	266770	0.52301	262
*	81 Perylene-d12	264	11.742	11.737	(1.000)	228284	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.742	11.737	(1.014)	228284	0.50503	253
	83 Perylene	252	11.766	11.766	(1.002)	292518	0.51321	257
*	84 Indeno(123-cd)pyrene-d12	288	13.114	13.114	(1.000)	248237	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.114	13.114	(1.133)	248237	0.48624	243

JDW 8.2.11

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01icv.d
Report Date: 01-Aug-2011 18:59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/sample)
	86 Indeno(1,2,3-cd)pyrene	276	13.148	13.152	(1.003)	294355	0.50260	251
*	87 Dibenz(ah)anthracene-d14	292	13.118	13.118	(1.000)	186685	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.118	13.118	(1.133)	186685	0.48416	242
	89 Dibenz(a,h)anthracene	278	13.165	13.165	(1.004)	240042	0.53681	268
*	90 Benzo(ghi)perylene-d12	288	13.464	13.464	(1.000)	187991	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.464	13.464	(1.163)	187991	0.49203	246
	92 Benzo(g,h,i)perylene	276	13.498	13.502	(1.002)	265609	0.52037	260

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01icv.d
Report Date: 01-Aug-2011 18:59

TestAmerica Knoxville

RECOVERY REPORT

Client Name: ITSBUR
Client SDG: P080111I
Sample Matrix: GAS
Fraction: SV
Lab Smp Id: PH01ICV
Level: LOW
Operator: 11211
Data Type: MS DATA
SampleType: 2ND SOURCE
SpikeList File: icv.spk
Quant Type: ISTD
Sublist File: pah.sub
Method File: /var/chem/gcms/mp.i/P080111I.b/SIMPAH3.m
Misc Info: P080111I,SIMPAH3

SPIKE COMPOUND	CONC ADDED ng/sample	CONC RECOVERED ng/sample	% RECOVERED	LIMITS
3 Naphthalene	250	263	105.04	70-130
12 2-Methylnaphthalen	250	257	102.67	70-130
15 1-Methylnaphthalen	250	268	107.14	70-130
16 Biphenyl	250	253	101.17	70-130
19 2,6 Dimethylnaphth	250	256	102.54	70-130
22 Acenaphthylene	250	255	102.19	70-130
24 Acenaphthene	250	268	107.13	70-130
25 2,3,5 Trimethylnap	250	262	104.71	70-130
27 Fluorene	250	257	102.84	70-130
36 Dibenzothiophene	250	260	103.98	70-130
43 Phenanthrene	250	271	108.20	70-130
46 Anthracene	250	240	96.10	70-130
52 1-Methylphenanthre	250	266	106.25	70-130
55 Fluoranthene	250	265	105.92	70-130
57 Pyrene	250	261	104.22	70-130
62 Benzo(a)anthracene	250	257	102.95	70-130
65 Chrysene	250	261	104.60	70-130
72 Benzo(b)fluoranthe	250	267	106.74	70-130
75 Benzo(k)fluoranthe	250	260	104.11	70-130
77 Benzo(e)pyrene	250	271	108.29	70-130
80 Benzo(a)pyrene	250	262	104.60	70-130
83 Perylene	250	257	102.64	70-130
86 Indeno(1,2,3-cd)py	250	251	100.52	70-130
89 Dibenz(a,h)anthrac	250	268	107.36	70-130
92 Benzo(g,h,i)peryle	250	260	104.07	70-130

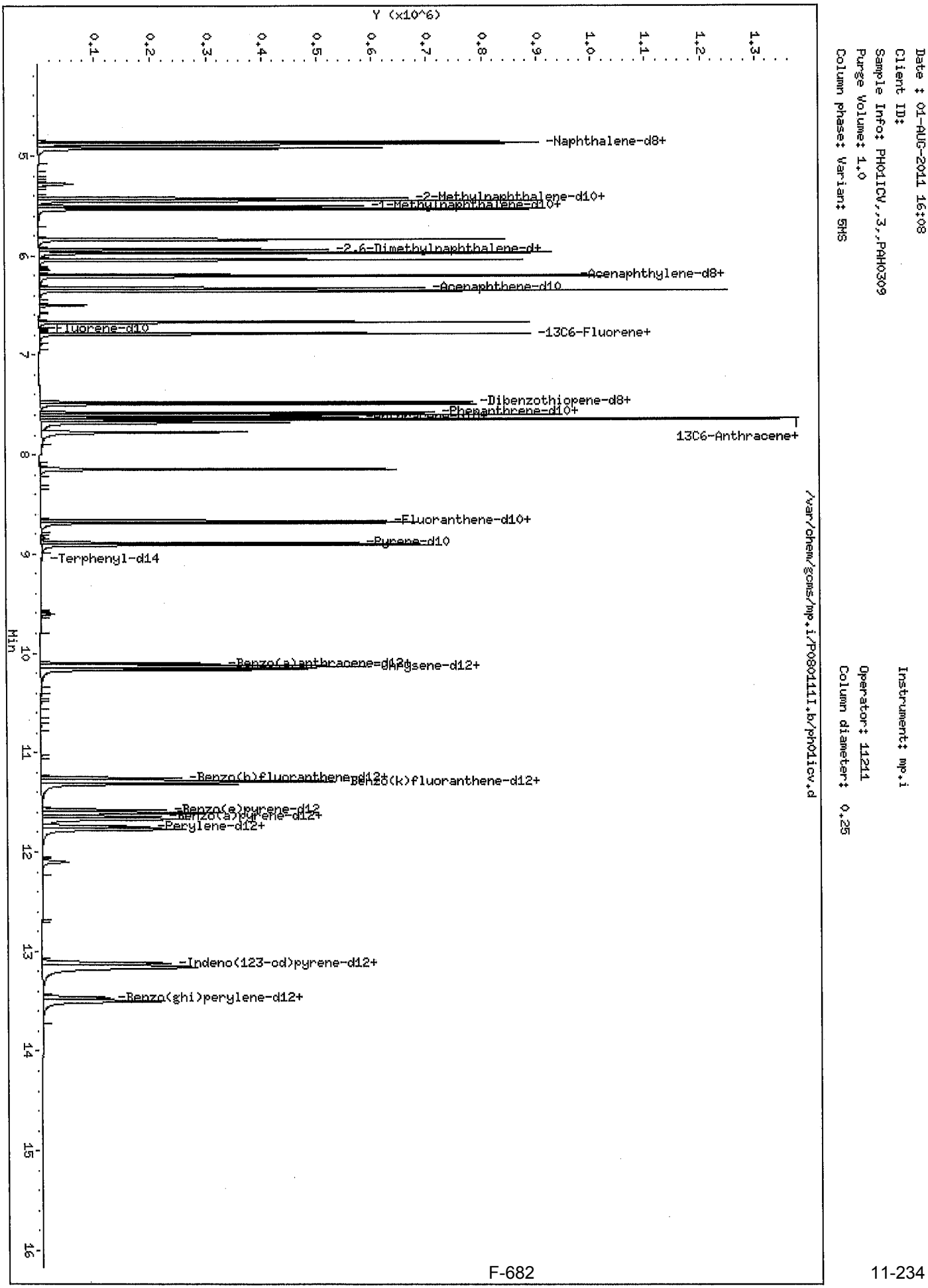
SURROGATE COMPOUND	CONC ADDED ng/sample	CONC RECOVERED ng/sample	% RECOVERED	LIMITS
$ 2 Naphthalene-d8(SS)	250	248	99.21	~~30-120~~ 70-130

8/1/11

Data File: /var/chem/gcms/mp.i/P080111I.b/ph01icv.d
Report Date: 01-Aug-2011 18:59

SURROGATE COMPOUND	CONC ADDED ng/sample	CONC RECOVERED ng/sample	% RECOVERED	LIMITS
$ 222 13C6-Naphthalene	250	24.2	9.67*	50-150
$ 11 2-Methylnaphthalen	250	255	102.04	30-120
$ 14 1-Methylnaphthalen	250	251	100.34	30-120
$ 18 2,6-Dimethylnaph-d	250	249	99.45	30-120
$ 21 Acenaphthylene-d8(	250	246	98.26	30-120
$ 26 Fluorene-d10	250	0.290	0.12*	30-120
$ 28 13C6-Fluorene	250	0.187	0.07*	30-120
$ 35 Dibenzothiopene-d8	250	251	100.36	30-120
$ 42 Phenanthrene-d10(S	250	252	100.91	30-120
$ 45 Anthracene-d10(SS)	250	244	97.50	30-120
$ 47 13C6-Anthracene	250	245	97.98	30-120
$ 54 Fluoranthene-d10(S	250	250	99.95	0-120
$ 58 Terphenyl-d14	250	0.190	0.08*	30-120
$ 61 Benzo(a)anthracene	250	239	95.55	30-120
$ 64 Chrysene-d12(SS)	250	255	101.85	30-120
$ 71 Benzo(b)fluoranthe	250	254	101.71	30-120
$ 74 Benzo(k)fluoranthe	250	247	98.94	30-120
$ 79 Benzo(a)pyrene-d12	250	248	99.16	30-120
$ 82 Perylene-d12(SS)	250	253	101.01	30-120
$ 85 Indeno(123-cd)pyre	250	243	97.25	30-120
$ 88 Dibenz(ah)anthrace	250	242	96.83	30-120
$ 91 Benzo(ghi)perylene	250	246	98.41	30-120

70-130
ok



Data File: /var/chem/gcms/mp.i/P0801111.b/ph01icv.d
Date : 01-AUG-2011 16:08
Client ID:
Sample Info: PH01ICV,.3,.PAH0309
Purge Volume: 1.0
Column phase: Varian 5MS

Instrument: mp.i
Operator: 11211
Column diameter: 0.25

TestAmerica Knoxville GC/MS-SIM Continuing Calibration Review / Narrative Checklist
Method: LRPAH PAHs and Selected SVOCs - KNOX-ID-0016, Revision 8

Analysis Date:	8/3/11	CCAL Batch/ Scan Name:	P080311	Instrument:	MP	ICAL Batch/ Scan Name:	P080111E	Scanned

A. Review Items	N/A	Yes	No	Why is data reportable?	2nd √
1. Were all injections in sequence within 12 hr of CCAL?		✓			✓
2. Was date/time of analysis verified between header and logbook?		✓			✓
3. Are peak integrations appropriate?		✓			✓
4. Is the %D or drift <30% for all analytes		✓			✓
5. Are the recovery standards within 50-200% of the ICAL CS4 level?		✓			✓
6. Are the MID descriptors properly set?		✓			✓
7. Are correct RFs listed in CCAL summary?		✓			✓
8. Was the correct ICAL used for quantitation? (Verify 1 RF.)		✓			✓
9. Elution order checked on isomeric pairs/coeluters?					
• 2-methylnaphthalene before 1-methylnaphthalene (& d10 isomers)		✓			✓
• acenaphthylene before acenaphthene (& d10 isomers)		✓			✓
• dibenzothiophene before anthracene		✓			✓
• phenanthrene before anthracene (& d10 isomers)		✓			✓
• fluoranthene before pyrene (& d10 isomers)		✓			✓
• benzo(a)anthracene before chrysene (& d12 isomers)		✓			✓
• benzo(b)fluoranthene before benzo(k)fluoranthene (& d12 isomers)		✓			✓
• benzo(e)pyrene before benzo(a)pyrene benzo(a)pyrene before perylene (& d12 isomers)		✓			✓
• Indeno(1,2,3-cd)pyrene before benzo(g,h,i)perylene (& d12 isomers)		✓			✓
10. Were the first/last RTs for each alkyl PAH homologue group properly identified and indicated on the chromatogram?	✓				NA
11. If criteria were not met, was a NCM generated and approved by supervisor?	✓	8/4/11 ✓			NA
12. Does the CCAL folder contain complete data in the following order? CCAL data review checklist, runlog, Target Continuing Calibration Report, followed by the quan report and chromatograms for the CCAL and window standard.		✓			✓

1st Level Reviewer:		Date:	8/4/11
Comments:			

2nd Level Reviewer:		Date:	8/4/11
Comments:			

TestAmerica Knoxville
Instrument MP Run/Maintenance Log

Date/Time Verified ☑

Preventive Maintenance Performed: □ septa □ liner □ seal □ clip column □ SPME fiber □ other: see below / maint. log

Target Batch	P080311			Date	5/3/11
ICAL Batch	P080111E			Analyst	TMC
Method	☑ KNOX-ID-0016	□ KNOX-ID-0018	□	IS ID & vol.	1201079

Lot	Filename	Time	Dil.	Matrix	Batch	Comments
IB	PH03FB01	12:03	1	1	—	
CCV	PH03CCV	12:27	1	1	—	P080362
MB	MK2D01AA	12:52	1	1	1201079	
HIGH0403	MK09P2AC	13:54	5	Comb Air	1	20 uL to 100 mL
1	MK04Q2AC	14:19	5	1	1	20 uL to 100 mL
1	MK09R2AC	14:43	5	1	1	20 uL to 100 mL
HIG200446	MK2H22AC	15:08	2	1	1	50 uL to 100 mL
—	PH03HEX01	15:33	—	—	—	
MB	MK51E1AA	15:58	1	Combined Air	1207014	
LCS	MK51E1AC	16:23	1	1	1	
LCSD	MK51E1AD	16:48	1	1	1	
HIG250906	MK5C71AC	17:13	1	1	1	
HIG250917	MK5KL1AC	17:38	1	1	1	
1	MK5K81AC	18:02	1	1	1	
1	MK5KR1AC	18:27	1	1	1	
1	MK5KT1AC	18:52	1	1	1	
1	MK5KW1AC	19:17	1	1	1	
—	PH03HEX02	19:41	1	—	—	
HIG190403	MK09P2AC2	20:06	7	Comb Air	1201079	13 uL to 91 mL
HIG200446	MK2H22AC2	20:31	5	1	1	20 uL to 100 mL
HIG250406	MK5C31AC	20:56	25	1	1207014	4 uL to 100 mL
1	MK5C61AC	21:20	25	1	1	4 uL to 100 mL
1	MK5C51AC	21:45	50	1	1	2 uL to 100 mL
MB	MK51EX	5/4/11 12:24	—	1	1207014	Full scan
MB	MK2D0X	12:49	—	1	1201079	Full scan

Comments: Three hexane rinses were analyzed after sample MK5C51AC : PH03HEX03 22:09 5/4/11
PH03HEX04 22:34
5/4/11 PH03HEX05 22:59

Data File: /var/chem/gcms/mp.i/P080311.b/ph03ccv.d
Report Date: 04-Aug-2011 15:29

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mp.i
Lab File ID: ph03ccv.d
Analysis Type: AIR
Lab Sample ID: PH03CCV
Method: /chem/gcms/mp.i/P080311.b/SIMPAH3.m

Injection Date: 03-AUG-2011 12:27
Init. Cal. Date(s): 01-AUG-2011 01-AUG-2011
Init. Cal. Times: 12:50 15:19
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF0.500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 2 Naphthalene-d8(SS)	2.31710	2.27686	0.000	1.73653	30.00000	Averaged
3 Naphthalene	0.83828	0.86720	0.000	-3.45004	30.00000	Averaged
$ 222 13C6-Naphthalene	0.92383	0.92603	0.000	-0.23824	30.00000	Averaged
$ 11 2-Methylnaphthalene-d10(SS)	1.25944	1.24101	0.000	1.46338	30.00000	Averaged
12 2-Methylnaphthalene	1.00226	1.03159	0.000	-2.92688	30.00000	Averaged
$ 14 1-Methylnaphthalene-d10(SS)	1.25302	1.24700	0.000	0.48017	30.00000	Averaged
15 1-Methylnaphthalene	0.96943	0.99499	0.000	-2.63659	30.00000	Averaged
16 Biphenyl	1.19363	1.25006	0.000	-4.72752	30.00000	Averaged
$ 18 2,6-Dimethylnaph-d12(SS)	1.07919	1.06979	0.000	0.87078	30.00000	Averaged
19 2,6 Dimethylnaphthalene	0.99387	1.02240	0.000	-2.87110	30.00000	Averaged
$ 21 Acenaphthylene-d8(SS)	1.81729	1.69150	0.000	6.92184	30.00000	Averaged
22 Acenaphthylene	0.98978	1.04514	0.000	-5.59343	30.00000	Averaged
24 Acenaphthene	0.58295	0.63724	0.000	-9.31382	30.00000	Averaged
25 2,3,5 Trimethylnaphthalene	0.84519	0.86901	0.000	-2.81818	30.00000	Averaged
$ 26 Fluorene-d10	0.59796	0.62071	0.000	-3.80514	30.00000	Averaged
27 Fluorene	0.76847	0.81554	0.000	-6.12525	30.00000	Averaged
$ 28 13C6-Fluorene	0.66314	0.70192	0.000	-5.84767	30.00000	Averaged
$ 35 Dibenzothiopene-d8(SS)	1.42372	1.43824	0.000	-1.02002	30.00000	Averaged
36 Dibenzothiophene	0.95081	0.97602	0.000	-2.65157	30.00000	Averaged
$ 42 Phenanthrene-d10(SS)	1.28693	1.29920	0.000	-0.95301	30.00000	Averaged
43 Phenanthrene	1.08990	1.11793	0.000	-2.57150	30.00000	Averaged
$ 45 Anthracene-d10(SS)	1.11095	1.06402	0.000	4.22400	30.00000	Averaged
46 Anthracene	1.24875	1.32075	0.000	-5.76582	30.00000	Averaged
$ 47 13C6-Anthracene	1.17164	1.17282	0.000	-0.10134	30.00000	Averaged
52 1-Methylphenanthrene	0.67097	0.68804	0.000	-2.54432	30.00000	Averaged
$ 54 Fluoranthene-d10(SS)	1.22681	1.23623	0.000	-0.76835	30.00000	Averaged
55 Fluoranthene	1.10628	1.12184	0.000	-1.40637	30.00000	Averaged
57 Pyrene	1.16907	1.19511	0.000	-2.22741	30.00000	Averaged
$ 58 Terphenyl-d14	0.49884	0.53751	0.000	-7.75103	30.00000	Averaged
$ 61 Benzo(a)anthracene-d12(SS)	0.63211	0.57485	0.000	9.05831	30.00000	Averaged
62 Benzo(a)anthracene	1.48825	1.63359	0.000	-9.76587	30.00000	Averaged
$ 64 Chrysene-d12(SS)	1.00121	1.07840	0.000	-7.70951	30.00000	Averaged
65 Chrysene	1.09976	1.10401	0.000	-0.38595	30.00000	Averaged
$ 71 Benzo(b)fluoranthene-d12(SS	1.06491	1.01827	0.000	4.38010	30.00000	Averaged
72 Benzo(b)fluoranthene	1.38804	1.43915	0.000	-3.68253	30.00000	Averaged
$ 74 Benzo(k)fluoranthene-d12(SS	1.48978	1.50325	0.000	-0.90417	30.00000	Averaged

Data File: /var/chem/gcms/mp.i/P080311.b/ph03ccv.d
Report Date: 04-Aug-2011 15:29

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P080311.b/ph03ccv.d
Lab Smp Id: PH03CCV Client Smp ID: PAH0362
Inj Date : 03-AUG-2011 12:27
Operator : 11211 Inst ID: mp.i
Smp Info : PH03CCV,,2,4,,PAH0362
Misc Info : P080311,SIMPAH3
Comment :
Method : /chem/gcms/mp.i/P080311.b/SIMPAH3.m
Meth Date : 04-Aug-2011 15:29 cochranj Quant Type: ISTD
Cal Date : 01-AUG-2011 15:19 Cal File: ph01ic07.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	1.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

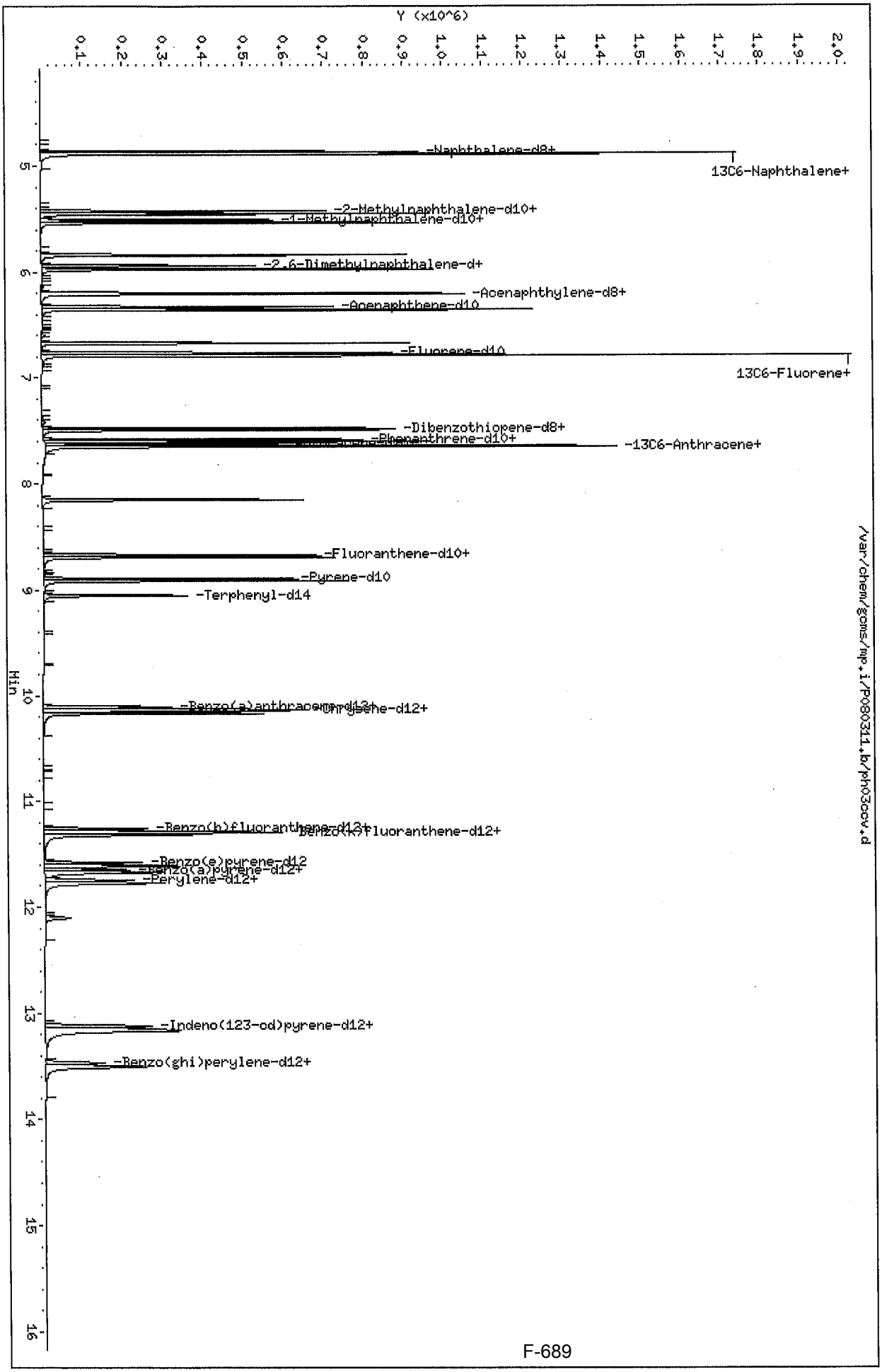
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
* 1 Naphthalene-d8	136	4.869	4.869	(1.000)	692165	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.869	4.869	(0.769)	692165	0.50000	0.491
3 Naphthalene	128	4.887	4.887	(1.004)	600246	0.50000	0.517
$ 222 13C6-Naphthalene	134	4.887	4.887	(1.004)	640964	0.50000	0.501
* 10 2-Methylnaphthalene-d10	152	5.427	5.427	(1.000)	377267	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.427	5.427	(0.858)	377267	0.50000	0.493
12 2-Methylnaphthalene	142	5.454	5.454	(1.005)	389185	0.50000	0.515
* 13 1-Methylnaphthalene-d10	152	5.510	5.510	(1.000)	379088	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.510	5.510	(0.871)	379088	0.50000	0.498
15 1-Methylnaphthalene	142	5.536	5.536	(1.005)	377189	0.50000	0.513
16 Biphenyl	154	5.840	5.840	(1.076)	471605	0.50000	0.524
* 17 2,6-Dimethylnaphthalene-d12	168	5.937	5.937	(1.000)	325216	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.937	5.937	(0.938)	325216	0.50000	0.496
19 2,6 Dimethylnaphthalene	156	5.974	5.974	(1.006)	332502	0.50000	0.514

Data File: /var/chem/gcms/mp.i/P080311.b/ph03ccv.d
Report Date: 04-Aug-2011 15:29

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
*	20 Acenaphthylene-d8	160	6.196	6.196	(1.000)	514217	0.50000	0.500
$	21 Acenaphthylene-d8(SS)	160	6.196	6.196	(0.979)	514217	0.50000	0.465
	22 Acenaphthylene	152	6.208	6.208	(1.002)	537430	0.50000	0.528
*	23 Acenaphthene-d10	164	6.327	6.327	(1.000)	304000	0.50000	0.500
	24 Acenaphthene	154	6.353	6.353	(1.025)	327680	0.50000	0.547
	25 2,3,5 Trimethylnaphthalene	170	6.674	6.674	(1.124)	282615	0.50000	0.514
$	26 Fluorene-d10	176	6.763	6.763	(0.892)	297686	0.50000	0.519
	27 Fluorene	166	6.788	6.788	(0.895)	391127	0.50000	0.531
$	28 13C6-Fluorene	171	6.786	6.786	(0.895)	336635	0.50000	0.529
*	34 Dibenzothiopene-d8	192	7.478	7.478	(1.000)	530919	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.478	7.478	(0.841)	530919	0.50000	0.505
	36 Dibenzothiophene	184	7.495	7.495	(1.002)	518187	0.50000	0.513
*	41 Phenanthrene-d10	188	7.582	7.582	(1.000)	479591	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.582	7.582	(0.853)	479591	0.50000	0.505
	43 Phenanthrene	178	7.603	7.603	(1.003)	536147	0.50000	0.513
*	44 Anthracene-d10	188	7.632	7.632	(1.000)	392777	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.632	7.632	(0.858)	392777	0.50000	0.479
	46 Anthracene	178	7.648	7.648	(1.002)	518762	0.50000	0.529
$	47 13C6-Anthracene	184	7.646	7.646	(0.860)	432941	0.50000	0.501
	52 1-Methylphenanthrene	192	8.150	8.150	(1.075)	329980	0.50000	0.513
*	53 Fluoranthene-d10	212	8.672	8.672	(1.000)	456348	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.672	8.672	(0.975)	456348	0.50000	0.504
	55 Fluoranthene	202	8.687	8.687	(1.002)	511950	0.50000	0.507
*	56 Pyrene-d10	212	8.891	8.891	(1.000)	369144	0.50000	0.500
	57 Pyrene	202	8.908	8.908	(1.027)	545386	0.50000	0.511
$	58 Terphenyl-d14	244	9.050	9.050	(1.044)	245290	0.50000	0.539
*	60 Benzo(a)anthracene-d12	240	10.108	10.108	(1.000)	212204	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.108	10.108	(1.137)	212204	0.50000	0.455
	62 Benzo(a)anthracene	228	10.129	10.129	(1.002)	346655	0.50000	0.549
*	63 Chrysene-d12	240	10.142	10.142	(1.000)	398085	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.142	10.142	(1.141)	398085	0.50000	0.539
	65 Chrysene	228	10.167	10.167	(1.002)	439489	0.50000	0.502
*	70 Benzo(b)fluoranthene-d12	264	11.259	11.259	(1.000)	241851	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.259	11.259	(0.972)	241851	0.50000	0.478
	72 Benzo(b)fluoranthene	252	11.289	11.289	(1.003)	348060	0.50000	0.518
*	73 Benzo(k)fluoranthene-d12	264	11.295	11.295	(1.000)	357040	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.295	11.295	(0.975)	357040	0.50000	0.505
	75 Benzo(k)fluoranthene	252	11.319	11.319	(1.002)	399386	0.50000	0.506
*	76 Benzo(e)pyrene-d12	264	11.581	11.581	(1.000)	237512	0.50000	0.500
	77 Benzo(e)pyrene	252	11.611	11.611	(0.997)	344655	0.50000	0.563
*	78 Benzo(a)pyrene-d12	264	11.647	11.647	(1.000)	238944	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.647	11.647	(1.006)	243570	0.50000	0.465
	80 Benzo(a)pyrene	252	11.671	11.671	(1.002)	278522	0.50000	0.529
*	81 Perylene-d12	264	11.743	11.743	(1.000)	252806	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.743	11.743	(1.014)	252806	0.50000	0.498
	83 Perylene	252	11.773	11.773	(1.003)	317859	0.50000	0.504
*	84 Indeno(123-cd)pyrene-d12	288	13.118	13.118	(1.000)	279187	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P080311.b/ph03ccv.d
Report Date: 04-Aug-2011 15:29

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.118	13.118	(1.133)	279187	0.50000	0.487
	86 Indeno(1,2,3-cd)pyrene	276	13.152	13.152	(1.003)	339113	0.50000	0.515
*	87 Dibenz(ah)anthracene-d14	292	13.123	13.123	(1.000)	214736	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.123	13.123	(1.133)	214736	0.50000	0.496
	89 Dibenz(a,h)anthracene	278	13.169	13.169	(1.004)	270639	0.50000	0.526
*	90 Benzo(ghi)perylene-d12	288	13.469	13.469	(1.000)	217118	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.469	13.469	(1.163)	215687	0.50000	0.503
	92 Benzo(g,h,i)perylene	276	13.502	13.502	(1.002)	299165	0.50000	0.507


Data File: /var/chem/gcms/mp.i/P080311.b/ph03ccv.d
Date : 03-AUG-2011 12:27
Client ID: PAH0362
Sample Info: PH03CCV,2,4,,PAH0362
Purge Volume: 1.0
Column phase: Varian 5MS
Instrument: mp.i
Operator: 11211
Column diameter: 0.25
Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
2.0
-Naphthalene-d8+
13C6-Naphthalene+
-2-Methylnaphthalene-d10+
-1-Methylnaphthalene-d10+
-2,6-Dimethylnaphthalene-d+
-Acenaphthylene-d8+
-Acenaphthene-d10
-Fluorene-d10
13C6-Fluorene+
-Dibenzothiopene-d8+
-Phenanthrene-d10+
-13C6-Anthracene+
-Fluoranthene-d10+
-Pyrene-d10
-Terphenyl-d14
-Benzo(a)anthracene-d12+
-Chrysene-d12+
-Benzo(b)fluoranthene-d12+
-Benzo(k)fluoranthene-d12+
-Benzo(e)pyrene-d12
-Benzo(a)pyrene-d12+
-Perylene-d12+
-Indeno(123-cd)pyrene-d12+
-Benzo(ghi)perylene-d12+
Min
5
6
7
8
9
10
11
12
13
14
15
16
/var/chem/gcms/mp.i/P080311.b/ph03ccv.d

Raw QC Data

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...:	H1G200446				
MB Lot-Sample #:	H1G200000-079	Work Order #...:	MK2D01AA	Matrix.....:	AIR
Prep Date.....:	07/20/11	Analysis Date..:	07/29/2011		
Prep Batch #...:	1201079				
Dilution Factor:	2	Method.....:	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	40	ng/sample	9.8
Acenaphthylene	ND	40	ng/sample	4.8
Anthracene	ND	20	ng/sample	7.6
Benzo(a)anthracene	ND	20	ng/sample	7.6
Benzo(b)fluoranthene	ND	200	ng/sample	60
Benzo(k)fluoranthene	ND	200	ng/sample	86
Benzo(ghi)perylene	ND	20	ng/sample	10
Benzo(a)pyrene	ND	20	ng/sample	5.8
Benzo(e)pyrene	ND	20	ng/sample	11
Chrysene	ND	20	ng/sample	5.0
Dibenz(a,h)anthracene	ND	20	ng/sample	7.8
Fluoranthene	ND	20	ng/sample	13
Fluorene	ND	20	ng/sample	8.2
Indeno(1,2,3-cd)pyrene	ND	20	ng/sample	5.2
2-Methylnaphthalene	ND	100	ng/sample	42
Naphthalene	ND	800	ng/sample	500
Perylene	ND	20	ng/sample	6.2
Phenanthrene	ND	60	ng/sample	48
Pyrene	ND	120	ng/sample	72

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Anthracene-d10	93	(30 - 120)
Naphthalene-d8	89	(30 - 120)
2-Methylnaphthalene-d10	94	(30 - 120)
Acenaphthylene-d8	104	(30 - 120)
Phenanthrene-d10	82	(30 - 120)
Fluoranthene-d10	100	(30 - 120)
Benzo(a)anthracene-d12	144 *	(30 - 120)
Chrysene-d12	90	(30 - 120)
Benzo(b)fluoranthene-d12	116	(30 - 120)
Benzo(k)fluoranthene-d12	90	(30 - 120)
Benzo(a)pyrene-d12	110	(30 - 120)
Perylene-d12	102	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	104	(30 - 120)
Dibenz(ah)anthracene-d14	101	(30 - 120)
Benzo(ghi)perylene-d12	96	(30 - 120)

NOTE(S):

1 13C6-Anthracene = 80 %

* Surrogate recovery is outside stated control limits.

Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d
Report Date: 04-Aug-2011 16:26

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d
Lab Smp Id: MK2D01AA Client Smp ID: INTRA-LAB BLANK
Inj Date : 29-JUL-2011 11:48
Operator : 60487 11/2/11 Inst ID: mp.i
Smp Info : ,,3,,BLANK
Misc Info : P072911,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Meth Date : 29-Jul-2011 11:36 chemist Quant Type: ISTD
Cal Date : 26-JUL-2011 20:15 Cal File: pg26ic07.d
Als bottle: 3 QC Sample: METHOD BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	1.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

		QUANT SIG					CONCENTRATIONS ON-COLUMN	FINAL
Compounds		MASS	RT	EXP RT	REL RT	RESPONSE	(ug/ml)	(ng/sample)
*	1 Naphthalene-d8	136	4.865	4.865	(1.000)	631638	0.50000	0.500
$	2 Naphthalene-d8(SS)	136	4.865	4.865	(0.769)	631638	0.44274	221
	3 Naphthalene	128	4.880	4.880	(1.003)	100776	0.09401	47.0
$	222 13C6-Naphthalene	134	4.865	4.880	(1.000)	57448	0.04952	24.8 (R)
*	10 2-Methylnaphthalene-d10	152	5.424	5.424	(1.000)	360626	0.50000	0.500
$	11 2-Methylnaphthalene-d10(SS)	152	5.424	5.424	(0.858)	360626	0.46847	234
	12 2-Methylnaphthalene	142	5.450	5.450	(1.005)	10921	0.01503	7.52
*	13 1-Methylnaphthalene-d10	152	5.503	5.503	(1.000)	351839	0.50000	0.500
$	14 1-Methylnaphthalene-d10(SS)	152	5.503	5.503	(0.870)	351839	0.45981	230
	15 1-Methylnaphthalene	142	5.533	5.533	(1.005)	5915	0.00866	4.33
	16 Biphenyl	154	5.835	5.835	(1.076)	111592	0.12933	64.7
*	17 2,6-Dimethylnaphthalene-d12	168	5.935	5.933	(1.000)	311694	0.50000	0.500
$	18 2,6-Dimethylnaph-d12(SS)	168	5.935	5.933	(0.938)	311694	0.47466	237
	19 2,6 Dimethylnaphthalene	156	5.976	5.969	(1.007)	2374	0.00382	1.91

Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d
Report Date: 04-Aug-2011 16:26

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
*	20 Acenaphthylene-d8	160	6.193	6.194	(1.000)	559723	0.50000	0.500
$	21 Acenaphthylene-d8(SS)	160	6.193	6.194	(0.979)	559723	0.52150	261
	22 Acenaphthylene	152	6.202	6.202	(1.001)	535	0.000474	0.237
*	23 Acenaphthene-d10	164	6.324	6.325	(1.000)	303344	0.50000	0.500
	24 Acenaphthene	154	6.350	6.350	(1.025)	2479	0.00368	1.84
	25 2,3,5 Trimethylnaphthalene	170	6.668	6.669	(1.124)	585	0.00113	0.564
$	26 Fluorene-d10	176	6.763	6.758	(0.892)	217	0.000382	~~0.191(R)~~
	27 Fluorene	166	6.785	6.783	(0.895)	3565	0.00485	2.42
$	28 13C6-Fluorene	171	6.785	6.781	(0.895)	149	0.000235	~~0.117(R)~~
*	34 Dibenzothiopene-d8	192	7.474	7.474	(1.000)	517814	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.474	7.474	(0.841)	517814	0.39860	199
	36 Dibenzothiophene	184	7.490	7.489	(1.002)	1575	0.00159	0.797
*	41 Phenanthrene-d10	188	7.578	7.578	(1.000)	479727	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.578	7.578	(0.853)	479727	0.40931	205
	43 Phenanthrene	178	7.598	7.597	(1.003)	23727	0.02253	11.3
*	44 Anthracene-d10	188	7.625	7.626	(1.000)	459247	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.625	7.626	(0.858)	459247	0.46402	232
	46 Anthracene	178	7.640	7.642	(1.002)	1131	0.000957	0.479
$	47 13C6-Anthracene	184	7.642	7.642	(0.860)	429515	0.40038	200
	52 1-Methylphenanthrene	192	8.148	8.143	(1.075)	920	0.00145	0.727
*	53 Fluoranthene-d10	212	8.665	8.665	(1.000)	543863	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.665	8.665	(0.975)	543863	0.49821	249
	55 Fluoranthene	202	8.682	8.683	(1.002)	7426	0.00607	3.03
*	56 Pyrene-d10	212	8.887	8.885	(1.000)	445002	0.50000	0.500
	57 Pyrene	202	8.904	8.904	(1.028)	4145	0.00320	1.60
$	58 Terphenyl-d14	244	9.049	9.043	(1.044)	238	0.000427	~~0.214(R)~~
*	60 Benzo(a)anthracene-d12	240	10.099	10.100	(1.000)	390378	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.099	10.100	(1.136)	390378	0.71922	360(R)
	62 Benzo(a)anthracene	228	10.125	10.121	(1.002)	3175	0.00254	~~1.27~~
*	63 Chrysene-d12	240	10.133	10.133	(1.000)	427679	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.133	10.133	(1.140)	427679	0.44912	225
	65 Chrysene	228	10.162	10.163	(1.003)	2481	0.00266	1.33
*	70 Benzo(b)fluoranthene-d12	264	11.253	11.253	(1.000)	381466	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.253	11.253	(0.973)	381466	0.57929	290
	72 Benzo(b)fluoranthene	252	11.283	11.277	(1.003)	3706	0.00331	~~1.65~~
*	73 Benzo(k)fluoranthene-d12	264	11.289	11.289	(1.000)	420652	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.289	11.289	(0.976)	420656	0.44759	224
	75 Benzo(k)fluoranthene	252	11.312	11.307	(1.002)	4378	0.00475	2.38
*	76 Benzo(e)pyrene-d12	264	11.569	11.570	(1.000)	312260	0.50000	0.500
	77 Benzo(e)pyrene	252	11.599	11.600	(0.997)	1510	0.00150	0.748
*	78 Benzo(a)pyrene-d12	264	11.635	11.635	(1.000)	371316	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.635	11.635	(1.006)	371316	0.55149	276
	80 Benzo(a)pyrene	252	11.665	11.665	(1.003)	2392	0.00284	1.42
*	81 Perylene-d12	264	11.737	11.737	(1.000)	343498	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.737	11.737	(1.014)	343498	0.51152	256
	83 Perylene	252	11.767	11.761	(1.003)	1407	0.00163	0.813
*	84 Indeno(123-cd)pyrene-d12	288	13.106	13.106	(1.000)	401017	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d
Report Date: 04-Aug-2011 16:26

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
$ 85 Indeno(123-cd)pyrene-d12(SS)	288	13.106	13.106	(1.133)	401017	0.52121	261
86 Indeno(1,2,3-cd)pyrene	276	13.144	13.140	(1.003)	973	0.00100	0.501
* 87 Dibenz(ah)anthracene-d14	292	13.110	13.110	(1.000)	294881	0.50000	0.500
$ 88 Dibenz(ah)anthracene-d14(SS)	292	13.110	13.110	(1.133)	294881	0.50317	252
89 Dibenz(a,h)anthracene	278	13.156	13.157	(1.004)	654	0.000903	0.452
* 90 Benzo(ghi)perylene-d12	288	13.460	13.460	(1.000)	277371	0.50000	0.500
$ 91 Benzo(ghi)perylene-d12(SS)	288	13.460	13.460	(1.163)	277371	0.47970	240
92 Benzo(g,h,i)perylene	276	13.494	13.494	(1.002)	900	0.00117	0.586

JMW 8.8.11

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d
Report Date: 05-Aug-2011 13:50

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d
Lab Smp Id: MK2D01AA Client Smp ID: INTRA-LAB BLANK
Inj Date : 29-JUL-2011 11:48
Operator : 11211 Inst ID: mp.i
Smp Info : ,,3,,BLANK
Misc Info : P072911,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Meth Date : 04-Aug-2011 19:00 cochranj Quant Type: ISTD
Cal Date : 26-JUL-2011 20:15 Cal File: pg26ic07.d
Als bottle: 3 QC Sample: METHOD BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	2.00000 ✓	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

all are <MDL
JW 8.8.11

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
*	1	Naphthalene-d8	136	4.865	4.865	(1.000)	631638	0.50000	0.500
$	2	Naphthalene-d8(SS)	136	4.865	4.865	(0.769)	631638	0.44274	443
	3	Naphthalene	128	4.880	4.880	(1.003)	100776	0.09401 ✓	94.0 ✓
*	10	2-Methylnaphthalene-d10	152	5.424	5.424	(1.000)	360626	0.50000	0.500
$	11	2-Methylnaphthalene-d10(SS)	152	5.424	5.424	(0.858)	360626	0.46847	468
	12	2-Methylnaphthalene	142	5.450	5.450	(1.005)	10921	0.01503	15.0
*	13	1-Methylnaphthalene-d10	152	5.503	5.503	(1.000)	351839	0.50000	0.500
$	14	1-Methylnaphthalene-d10(SS)	152	5.503	5.503	(0.870)	351839	0.45981	460
	15	1-Methylnaphthalene	142	5.533	5.533	(1.005)	5915	0.00866	8.66
	16	Biphenyl	154	5.835	5.835	(1.076)	111592	0.12933	129
*	17	2,6-Dimethylnaphthalene-d12	168	5.935	5.933	(1.000)	311694	0.50000	0.500
$	18	2,6-Dimethylnaph-d12(SS)	168	5.935	5.933	(0.938)	311694	0.47466	475
	19	2,6 Dimethylnaphthalene	156	5.976	5.969	(1.007)	2374	0.00382	3.82
*	20	Acenaphthylene-d8	160	6.193	6.194	(1.000)	559723	0.50000	0.500

calc JW 8.8.11

Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d
Report Date: 05-Aug-2011 13:50

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
$	21 Acenaphthylene-d8(SS)	160	6.193	6.194	(0.979)	559723	0.52150	522
	22 Acenaphthylene	152	6.202	6.202	(1.001)	535	0.000474	0.474
*	23 Acenaphthene-d10	164	6.324	6.325	(1.000)	303344	0.50000	0.500
	24 Acenaphthene	154	6.350	6.350	(1.025)	2479	0.00368	3.68
	25 2,3,5 Trimethylnaphthalene	170	6.668	6.669	(1.124)	585	0.00113	1.13
	27 Fluorene	166	6.785	6.783	(0.895)	3565	0.00485	4.85
*	34 Dibenzothiopene-d8	192	7.474	7.474	(1.000)	517814	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.474	7.474	(0.841)	517814	0.39860	399
	36 Dibenzothiophene	184	7.490	7.489	(1.002)	1575	0.00159	1.59
*	41 Phenanthrene-d10	188	7.578	7.578	(1.000)	479727	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.578	7.578	(0.853)	479727	0.40931	409
	43 Phenanthrene	178	7.598	7.597	(1.003)	23727	0.02253	22.5
*	44 Anthracene-d10	188	7.625	7.626	(1.000)	459247	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.625	7.626	(0.858)	459247	0.46402	464
	46 Anthracene	178	7.640	7.642	(1.002)	1131	0.000957	0.957
$	47 13C6-Anthracene	184	7.642	7.642	(0.860)	429515	0.40038	400
	52 1-Methylphenanthrene	192	8.148	8.143	(1.075)	920	0.00145	1.45
*	53 Fluoranthene-d10	212	8.665	8.665	(1.000)	543863	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.665	8.665	(0.975)	543863	0.49821	498
	55 Fluoranthene	202	8.682	8.683	(1.002)	7426	0.00607	6.07
*	56 Pyrene-d10	212	8.887	8.885	(1.000)	445002	0.50000	0.500
	57 Pyrene	202	8.904	8.904	(1.028)	4145	0.00320	3.20
*	60 Benzo(a)anthracene-d12	240	10.099	10.100	(1.000)	390378	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.099	10.100	(1.136)	390378	0.71922	719(R)
*	63 Chrysene-d12	240	10.133	10.133	(1.000)	427679	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.133	10.133	(1.140)	427679	0.44912	449
	65 Chrysene	228	10.162	10.163	(1.003)	2481	0.00266	2.66
*	70 Benzo(b)fluoranthene-d12	264	11.253	11.253	(1.000)	381466	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.253	11.253	(0.973)	381466	0.57929	579
	72 Benzo(b)fluoranthene	252	11.283	11.277	(1.003)	3706	0.00331	3.31(H)
*	73 Benzo(k)fluoranthene-d12	264	11.289	11.289	(1.000)	420652	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.289	11.289	(0.976)	420656	0.44759	448
	75 Benzo(k)fluoranthene	252	11.312	11.307	(1.002)	4378	0.00475	4.75
*	76 Benzo(e)pyrene-d12	264	11.569	11.570	(1.000)	312260	0.50000	0.500
	77 Benzo(e)pyrene	252	11.599	11.600	(0.997)	1510	0.00150	1.50
*	78 Benzo(a)pyrene-d12	264	11.635	11.635	(1.000)	371316	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.635	11.635	(1.006)	371316	0.55149	551
	80 Benzo(a)pyrene	252	11.665	11.665	(1.003)	2392	0.00284	2.84
*	81 Perylene-d12	264	11.737	11.737	(1.000)	343498	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.737	11.737	(1.014)	343498	0.51152	512
	83 Perylene	252	11.767	11.761	(1.003)	1407	0.00163	1.63
*	84 Indeno(123-cd)pyrene-d12	288	13.106	13.106	(1.000)	401017	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.106	13.106	(1.133)	401017	0.52121	521
	86 Indeno(1,2,3-cd)pyrene	276	13.144	13.140	(1.003)	973	0.00100	1.00
*	87 Dibenz(ah)anthracene-d14	292	13.110	13.110	(1.000)	294881	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.110	13.110	(1.133)	294881	0.50317	503
	89 Dibenz(a,h)anthracene	278	13.156	13.157	(1.004)	654	0.000903	0.903

Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d
Report Date: 05-Aug-2011 13:50

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/sample)
* 90 Benzo(ghi)perylene-d12	288	13.460	13.460	(1.000)	277371	0.50000	0.500
$ 91 Benzo(ghi)perylene-d12(SS)	288	13.460	13.460	(1.163)	277371	0.47970	480
92 Benzo(g,h,i)perylene	276	13.494	13.494	(1.002)	900	0.00117	1.17

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
H - Operator selected an alternate compound hit.

Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d
Report Date: 05-Aug-2011 11:21

TestAmerica Knoxville

RECOVERY REPORT

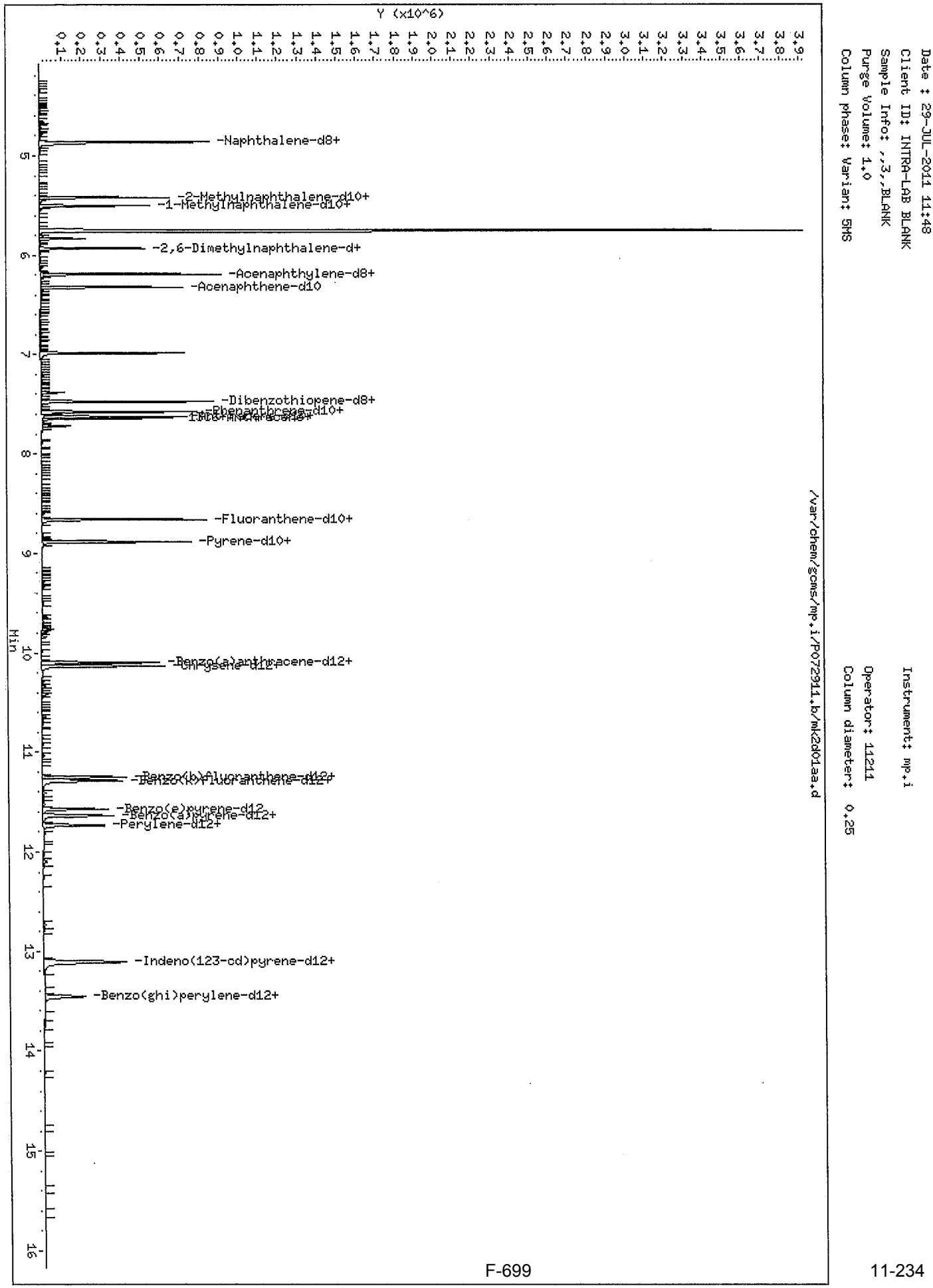
Client Name: ITSBUR
Sample Matrix: GAS
Lab Smp Id: MK2D01AA
Level: LOW
Data Type: MS DATA
SpikeList File: icv.spk
Sublist File: pah.sub
Method File: /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Misc Info: P072911,SIMPAH3

Client SDG: H1G200000
Fraction: SV
Client Smp ID: INTRA-LAB BLANK
Operator: 11211
SampleType: METHOD BLANK
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ng/sample	CONC RECOVERED ng/sample	% RECOVERED	LIMITS
$ 2 Naphthalene-d8(SS)	500	443	88.55	30-120
$ 222 13C6-Naphthalene	500	0.00	*	50-150
$ 11 2-Methylnaphthalen	500	468	93.69	30-120
$ 14 1-Methylnaphthalen	500	460	91.96	30-120
$ 18 2,6-Dimethylnaph-d	500	475	94.93	30-120
$ 21 Acenaphthylene-d8(	500	522	104.30	30-120
$ 26 Fluorene-d10	1000	0.00	*	30-120
$ 28 13C6-Fluorene	1000	0.00	*	30-120
$ 35 Dibenzothiopene-d8	500	399	79.72	30-120
$ 42 Phenanthrene-d10(S	500	409	81.86	30-120
$ 45 Anthracene-d10(SS)	500	464	92.80	30-120
$ 47 13C6-Anthracene	500	400	80.08	30-120
$ 54 Fluoranthene-d10(S	500	498	99.64	0-120
$ 58 Terphenyl-d14	1000	0.00	*	30-120
$ 61 Benzo(a)anthracene	500	719	143.84*	30-120 *
$ 64 Chrysene-d12(SS)	500	449	89.82	30-120
$ 71 Benzo(b)fluoranthe	500	579	115.86	30-120
$ 74 Benzo(k)fluoranthe	500	448	89.52	30-120
$ 79 Benzo(a)pyrene-d12	500	551	110.30	30-120
$ 82 Perylene-d12(SS)	500	512	102.30	30-120
$ 85 Indeno(123-cd)pyre	500	521	104.24	30-120
$ 88 Dibenz(ah)anthrace	500	503	100.63	30-120
$ 91 Benzo(ghi)perylene	500	480	95.94	30-120

calc 88.4

60-140


Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d
Date : 29-JUL-2011 11:48
Client ID: INTRA-LAB BLANK
Sample Info: ,,3,,BLANK
Purge Volume: 1.0
Column phase: Varian 5MS
Instrument: mp.i
Operator: 11211
Column diameter: 0.25
/var/chem/gcms/mp.i/P072911.b/mk2d01aa.d
Y (x10^6)
Min
-Naphthalene-d8+
-2-Methylnaphthalene-d10+
-1-Methylnaphthalene-d10+
-2,6-Dimethylnaphthalene-d+
-Acenaphthylene-d8+
-Acenaphthene-d10
-Dibenzothiopene-d8+
-Fluoranthene-d10+
-Pyrene-d10+
-Benzo(a)anthracene-d12+
-Benzo(b)fluoranthene-d12+
-Benzo(k)fluoranthene-d12+
-Benzo(e)pyrene-d12
-Benzo(a)pyrene-d12+
-Perylene-d12+
-Indeno(123-cd)pyrene-d12+
-Benzo(ghi)perylene-d12+

Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

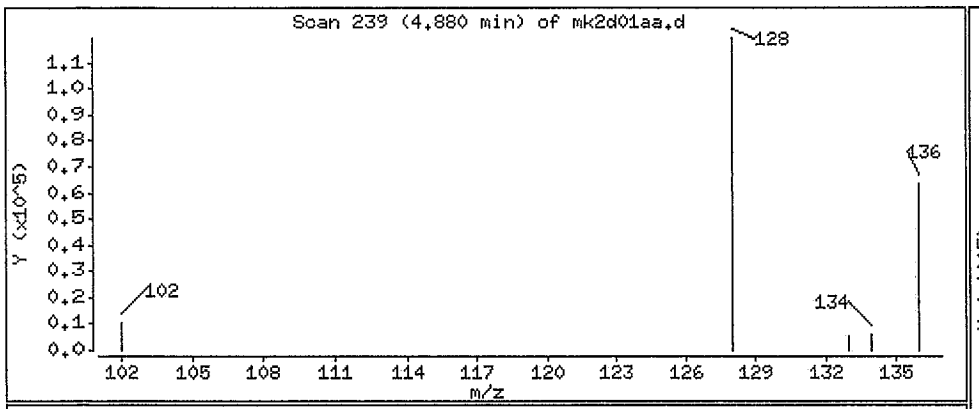
Operator: 11211

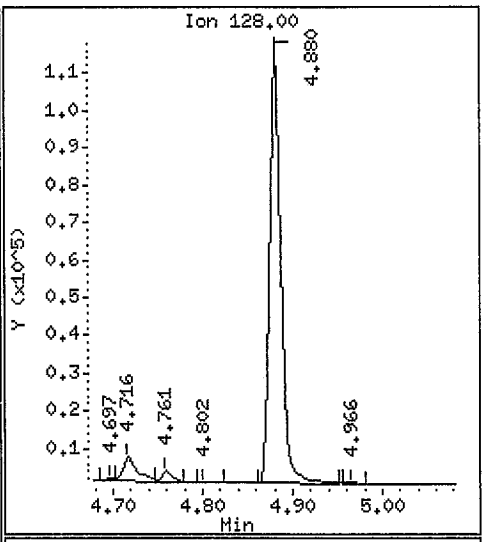
Column phase: Varian: 5MS

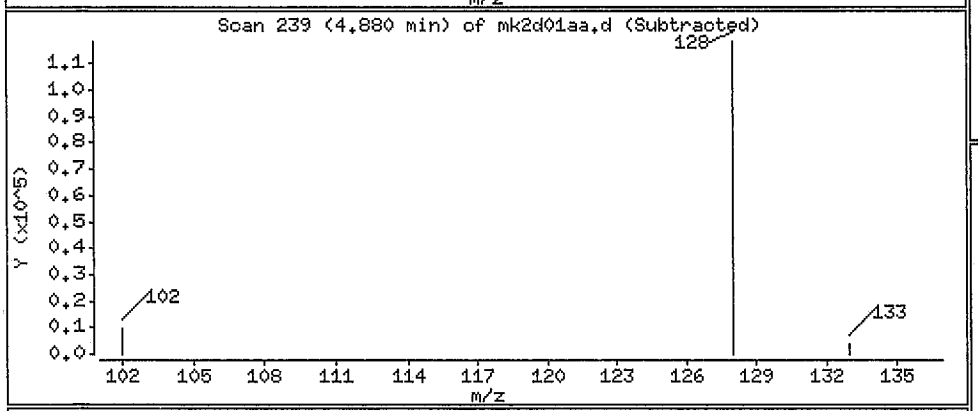
Column diameter: 0.25

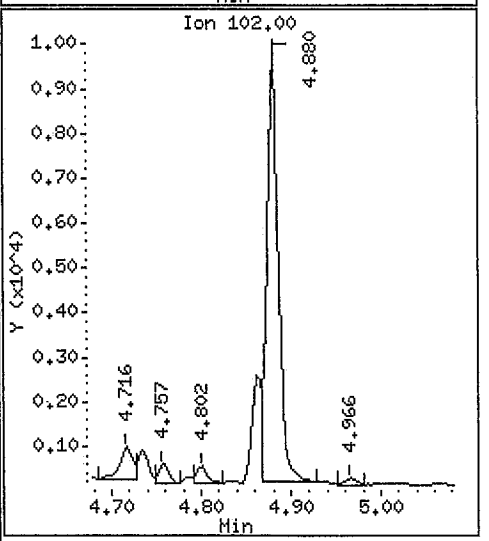
3 Naphthalene

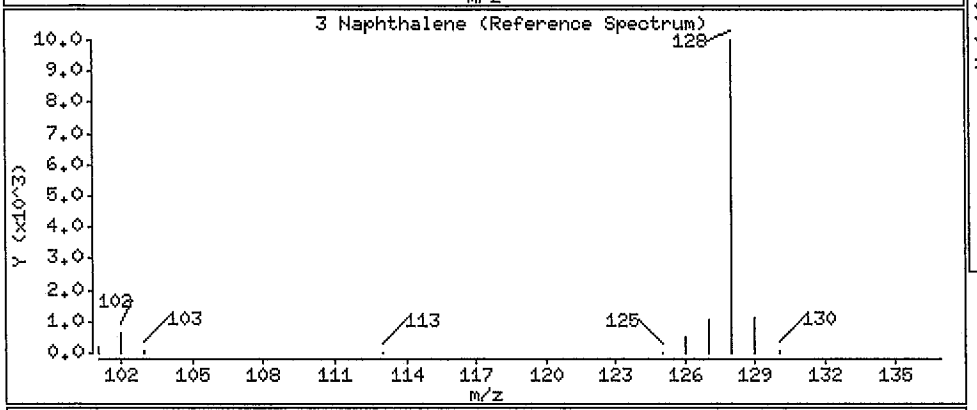
Concentration: 94.0 ng/sample

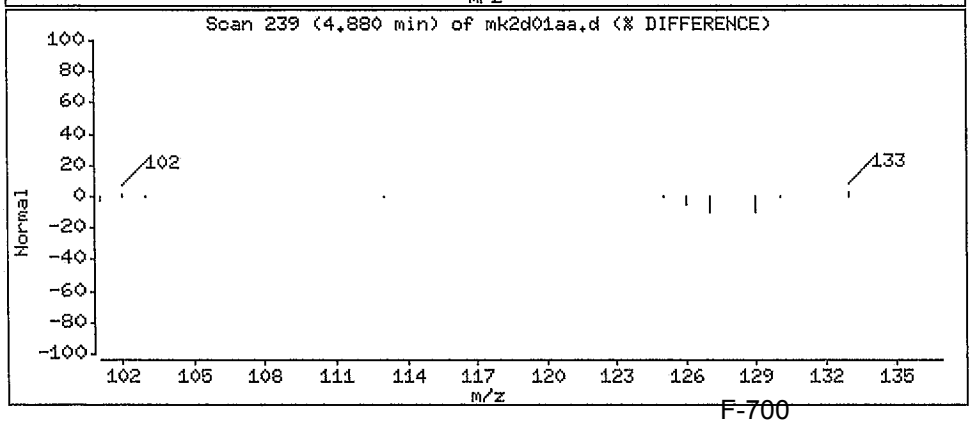












Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

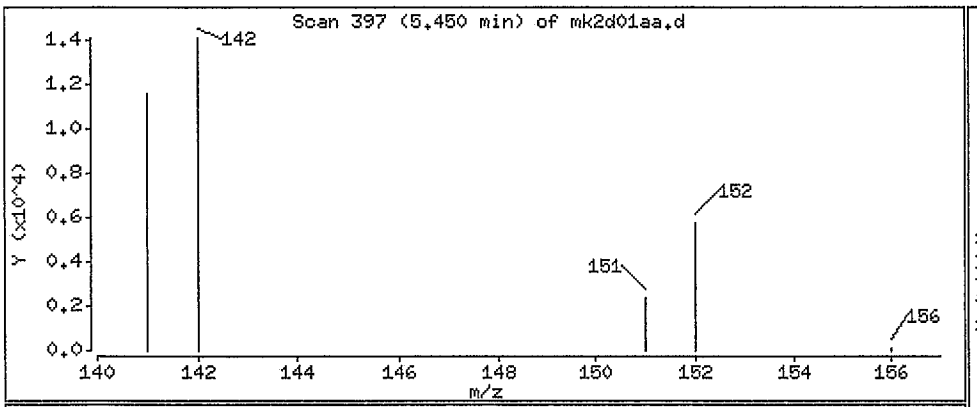
Operator: 11211

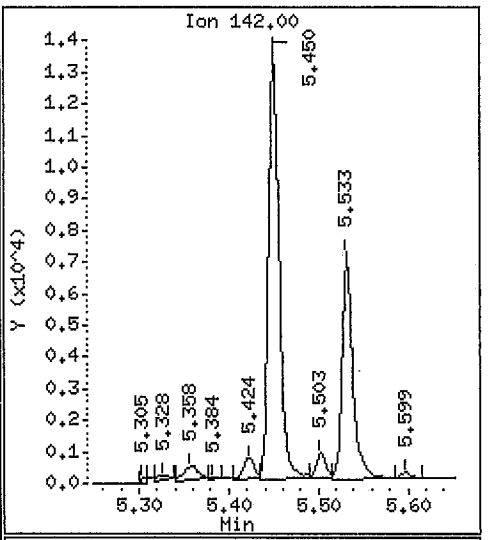
Column phase: Varian: 5MS

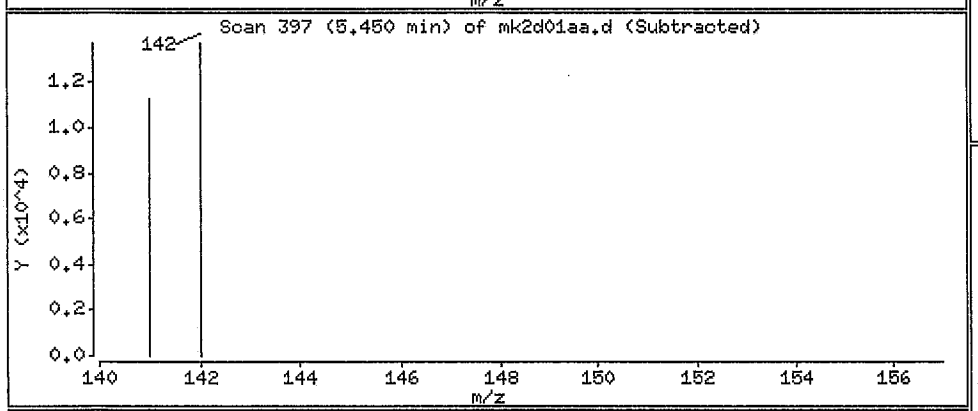
Column diameter: 0.25

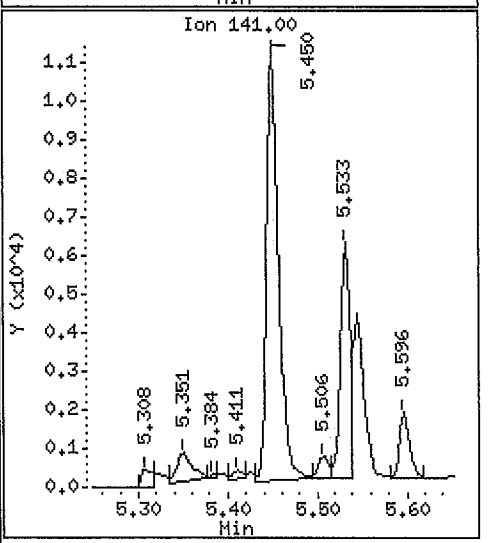
12 2-Methylnaphthalene

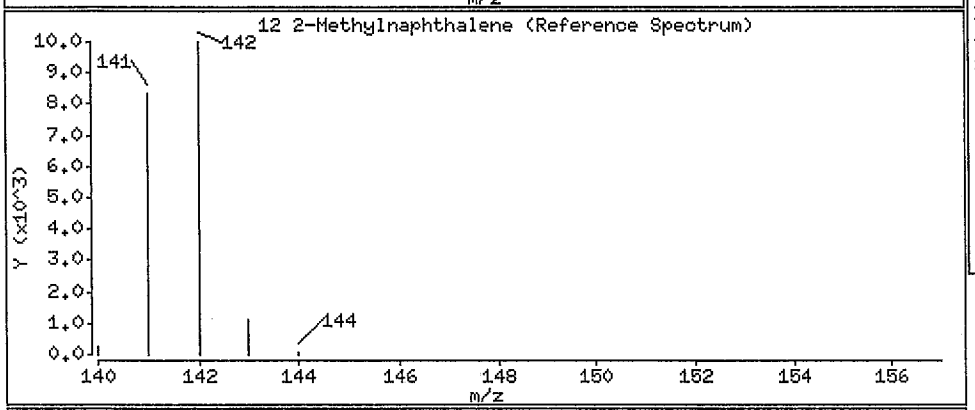
Concentration: 15.0 ng/sample

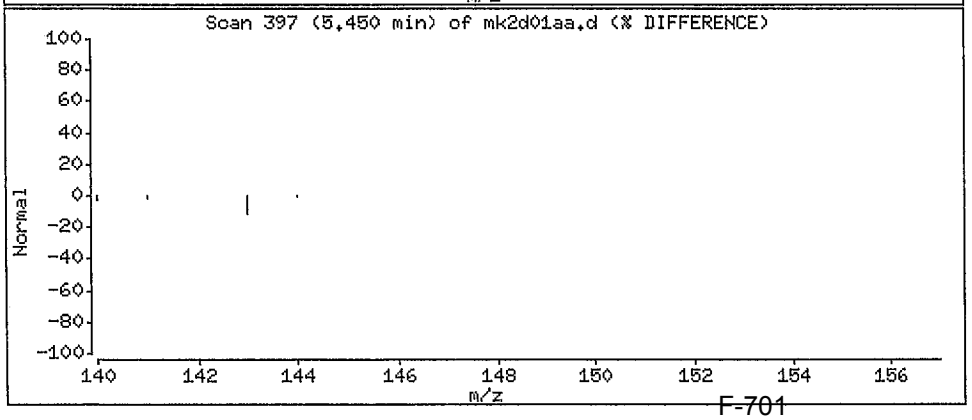












Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

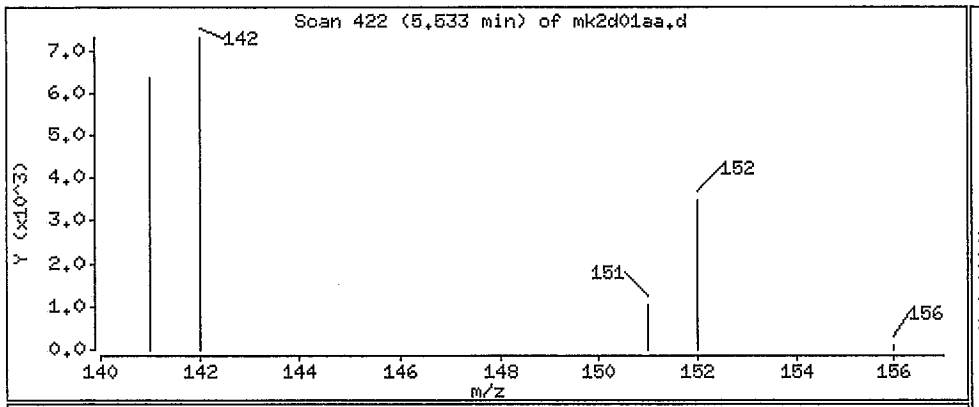
Operator: 11211

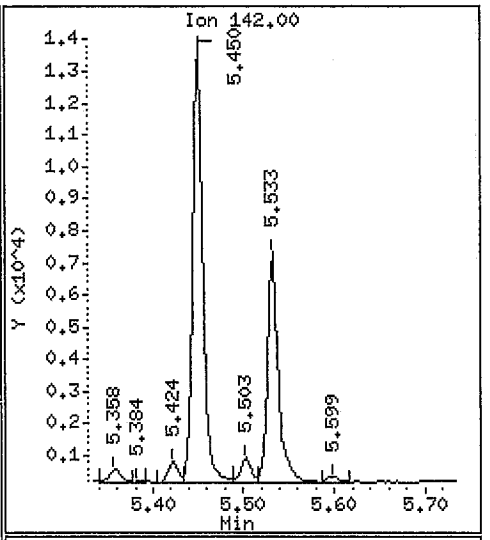
Column phase: Varian: 5MS

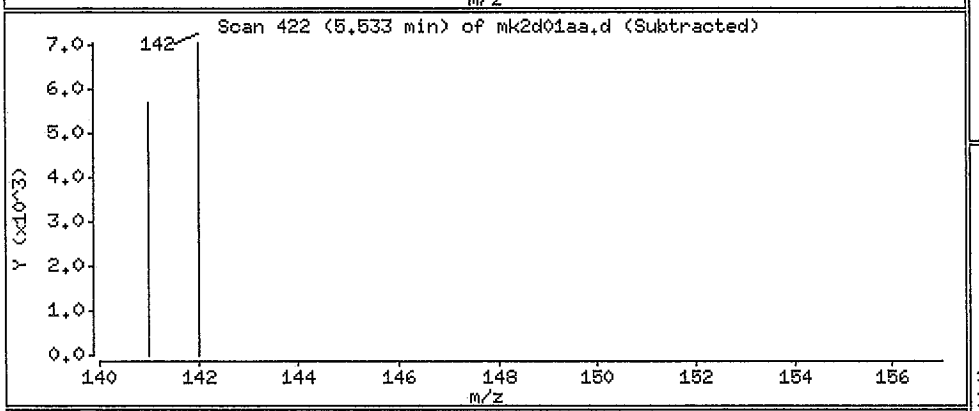
Column diameter: 0.25

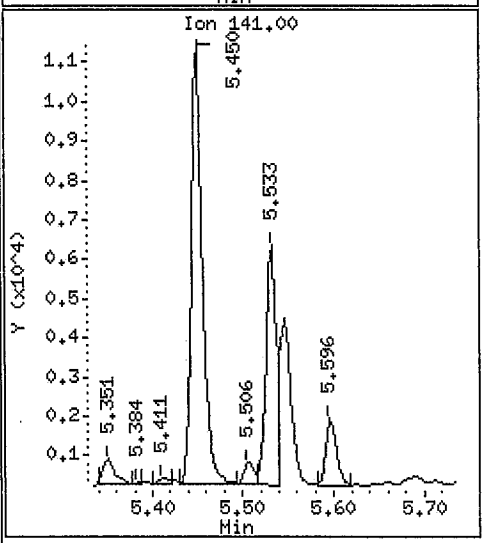
15 1-Methylnaphthalene

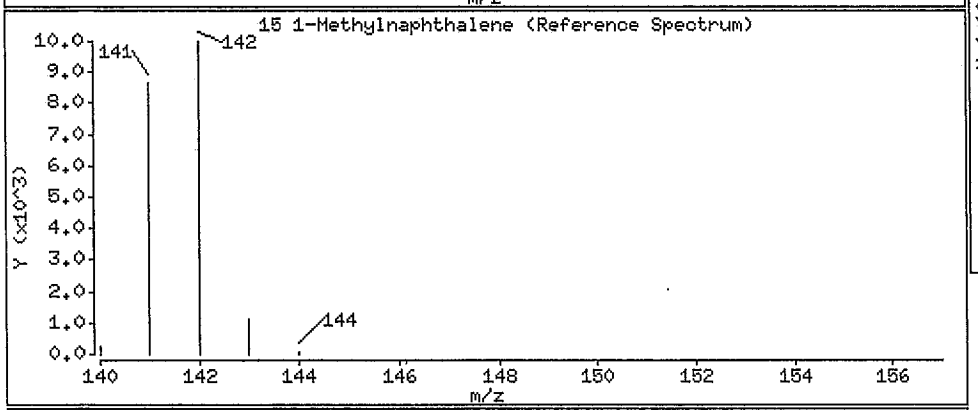
Concentration: 8.66 ng/sample

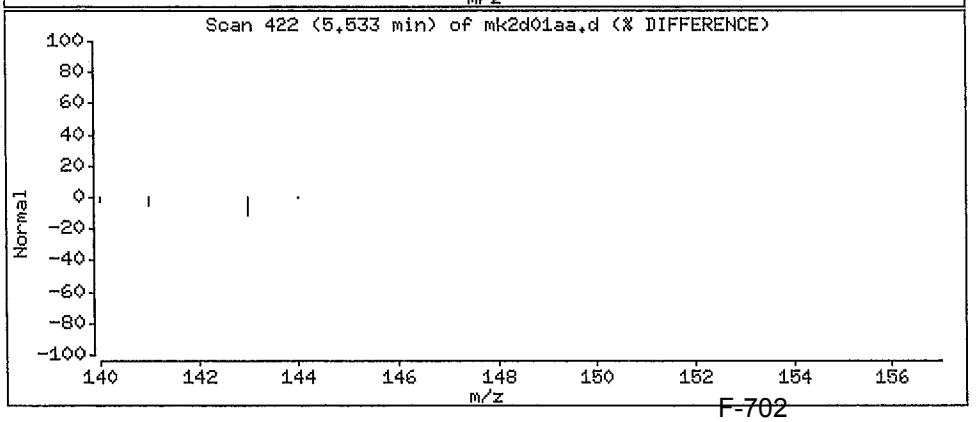












Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

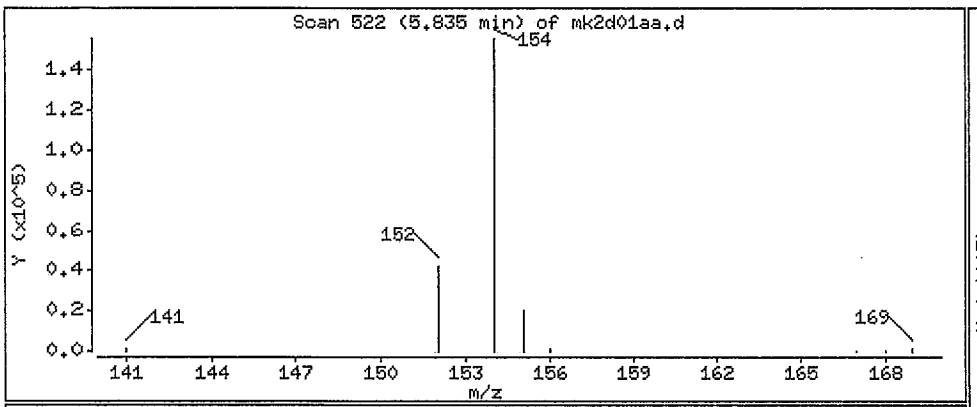
Operator: 11211

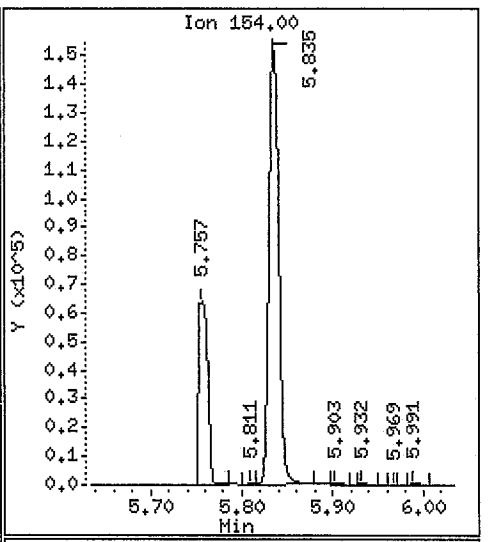
Column phase: Varian: 5MS

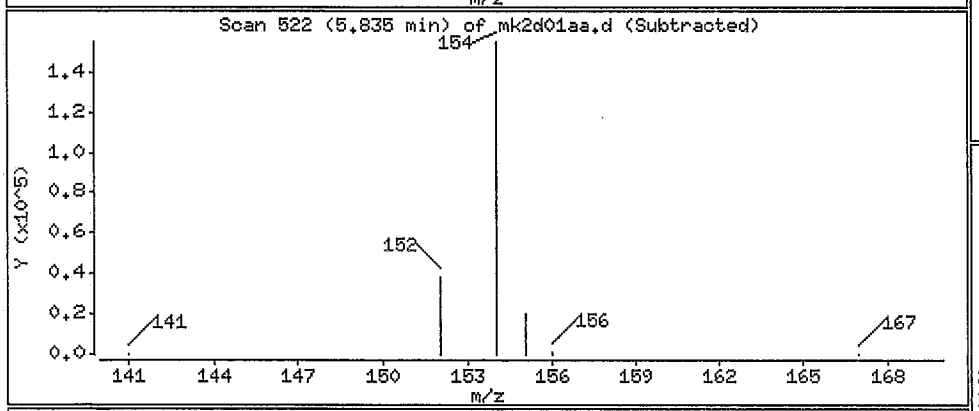
Column diameter: 0.25

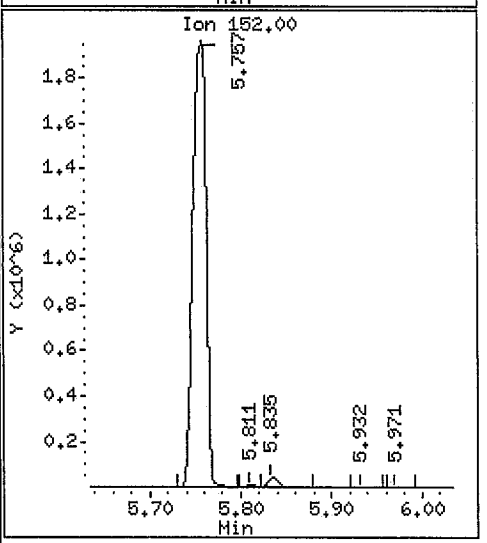
16 Biphenyl

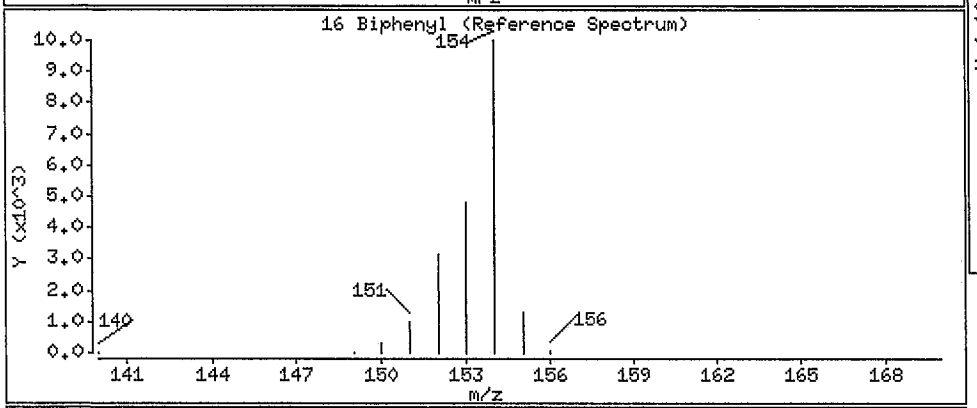
Concentration: 129 ng/sample

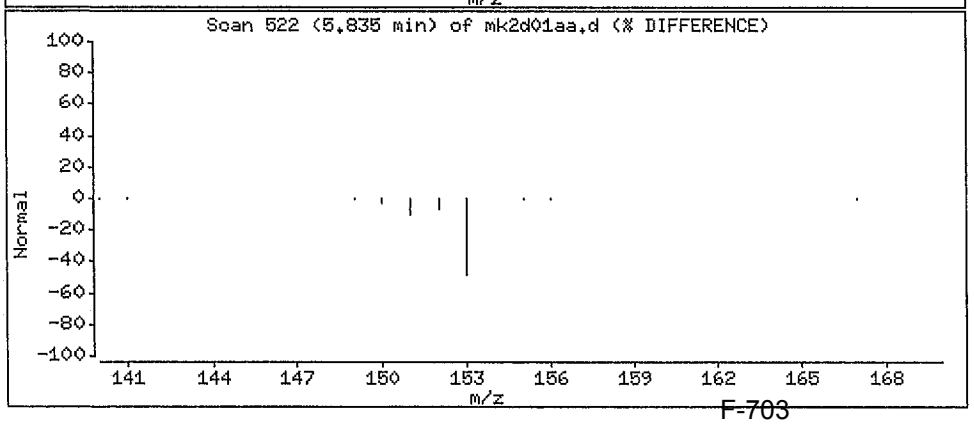












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Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

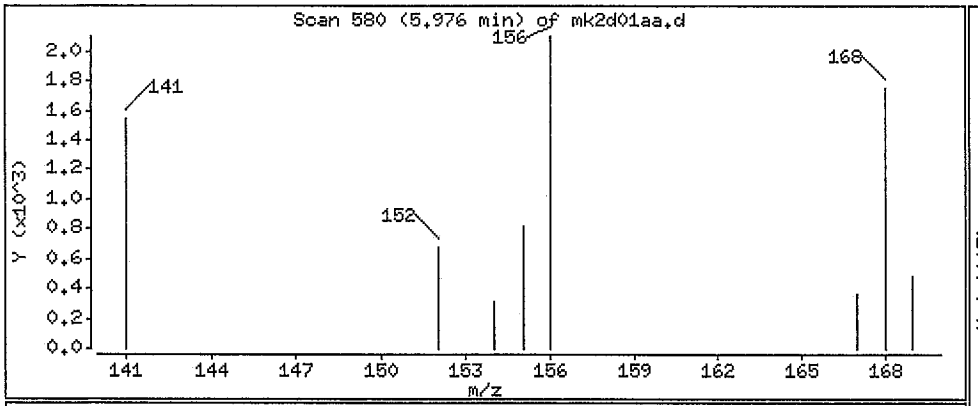
Operator: 11211

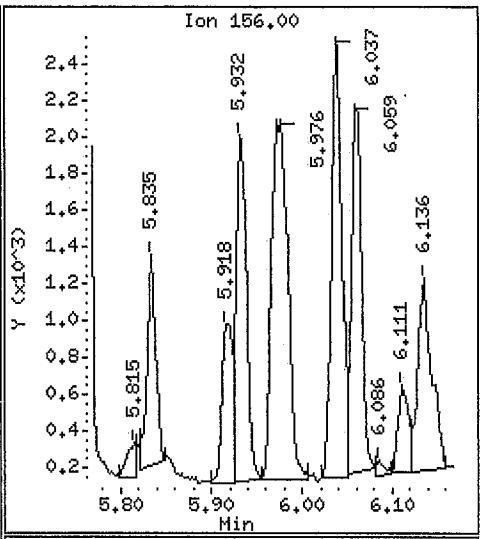
Column phase: Varian: 5MS

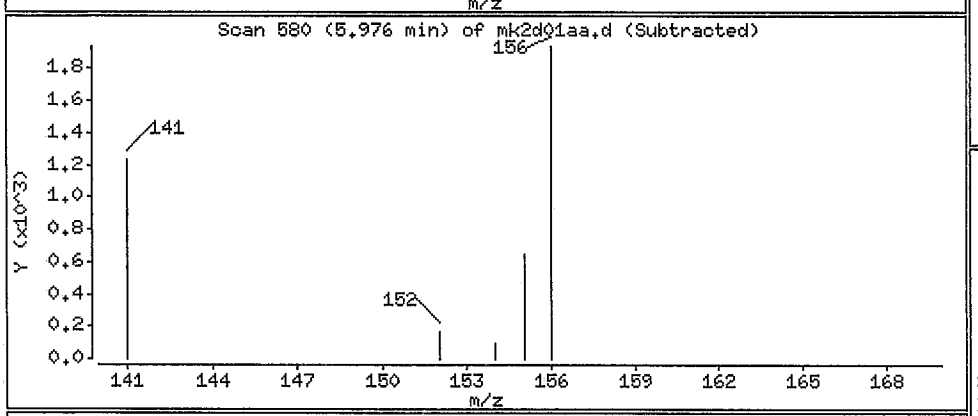
Column diameter: 0.25

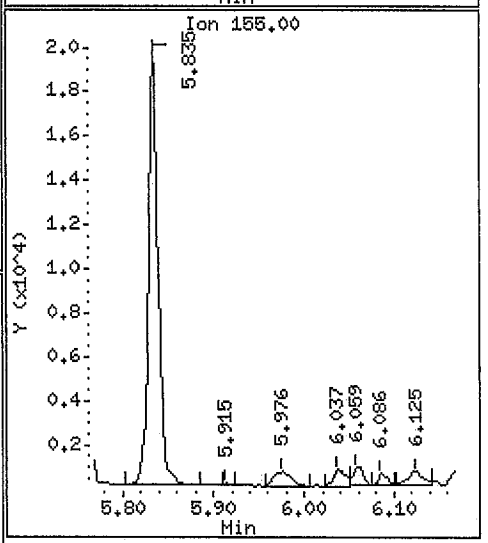
19 2,6 Dimethylnaphthalene

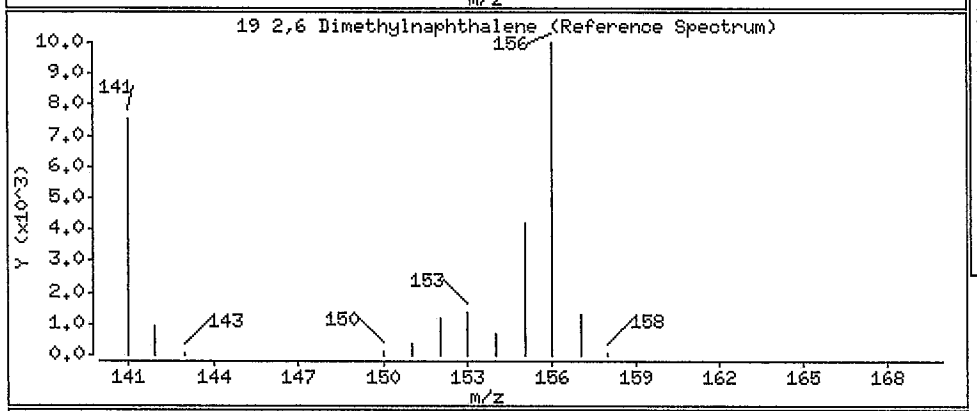
Concentration: 3.82 ng/sample

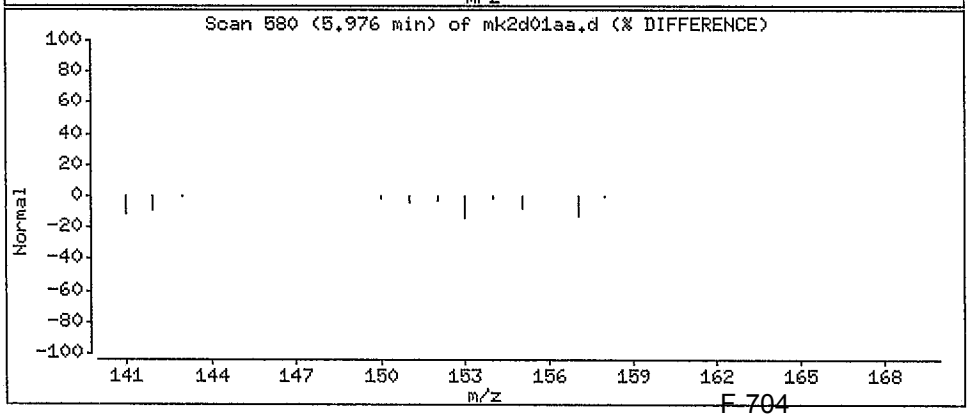












Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

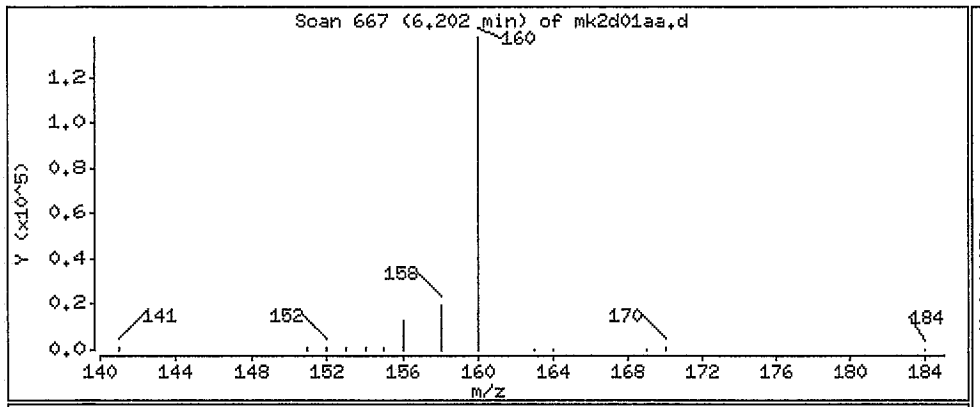
Operator: 11211

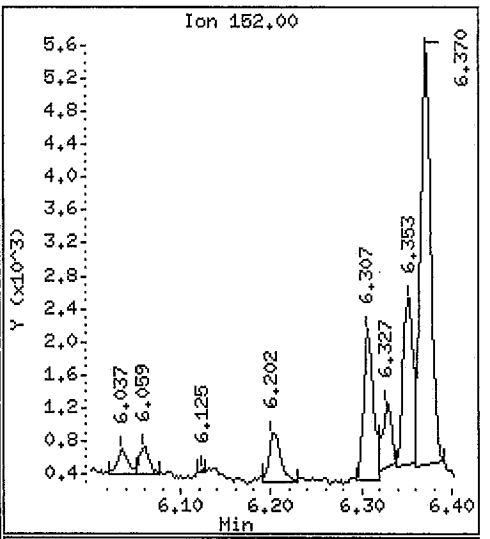
Column phase: Varian: 5MS

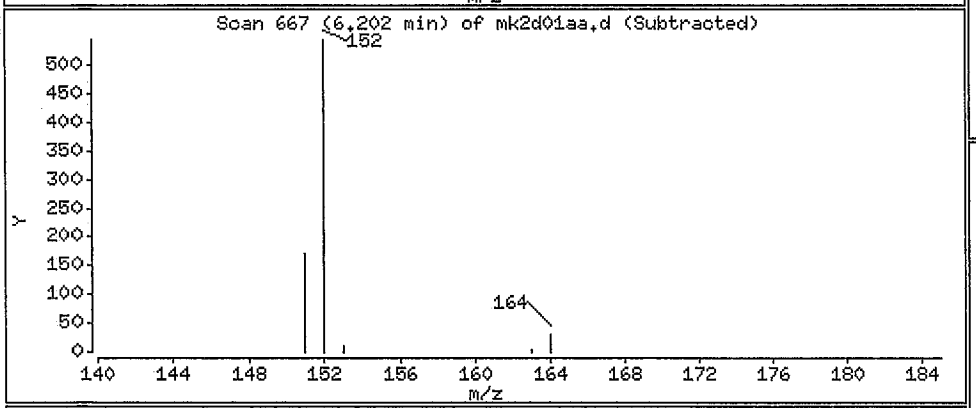
Column diameter: 0.25

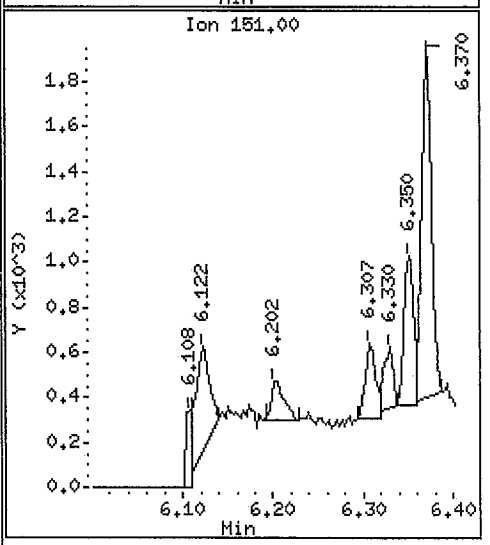
22 Acenaphthylene

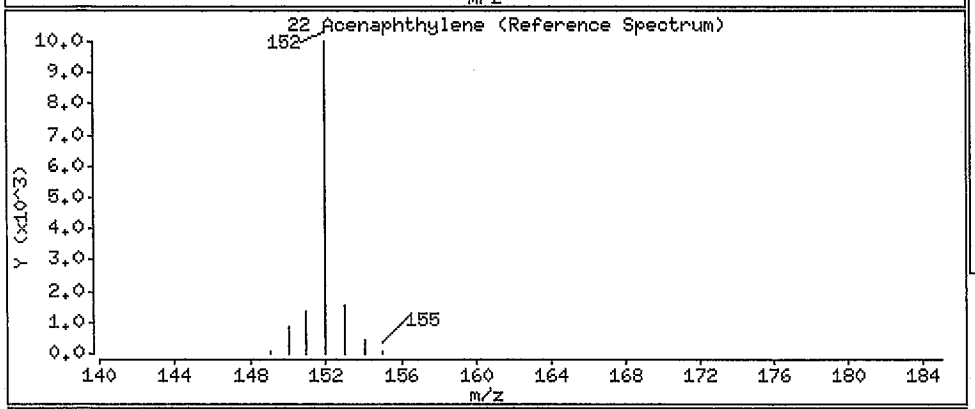
Concentration: 0.474 ng/sample

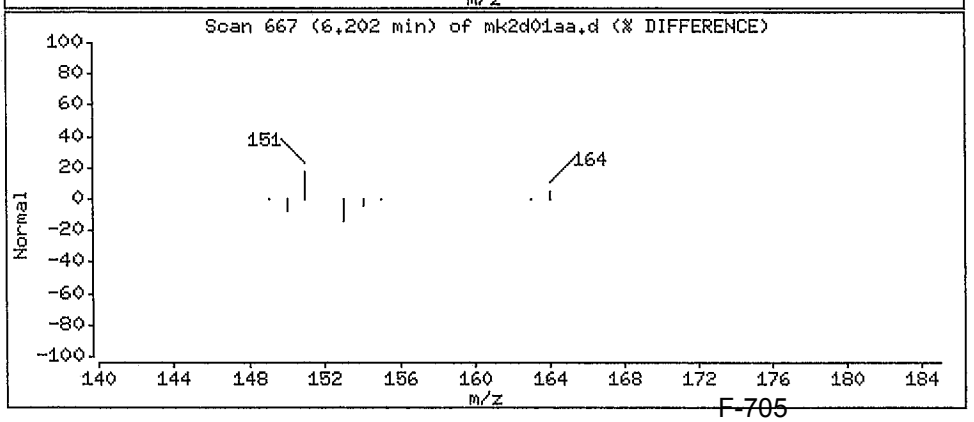












Data File: /var/chem/goms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

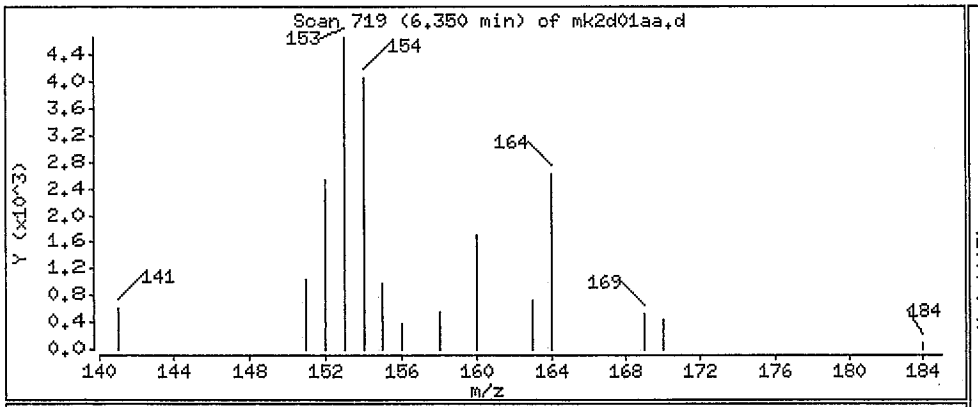
Operator: 11211

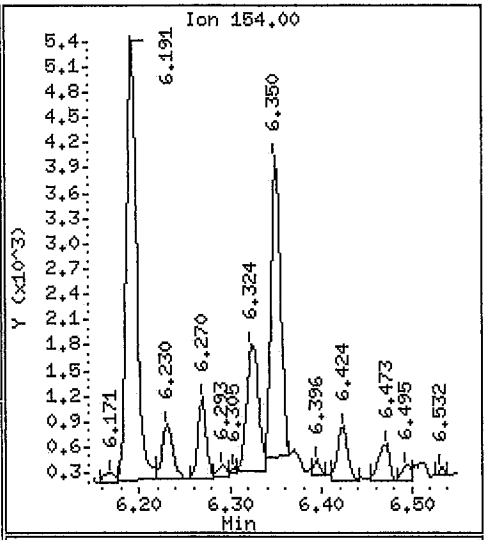
Column phase: Varian: 5MS

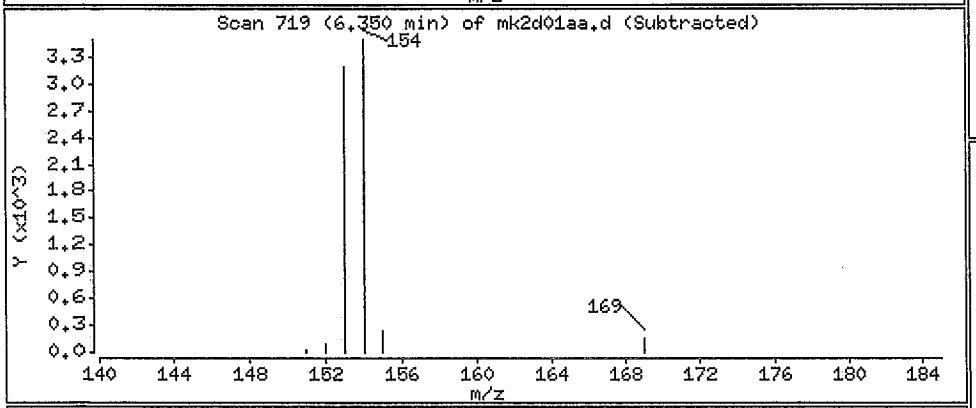
Column diameter: 0.25

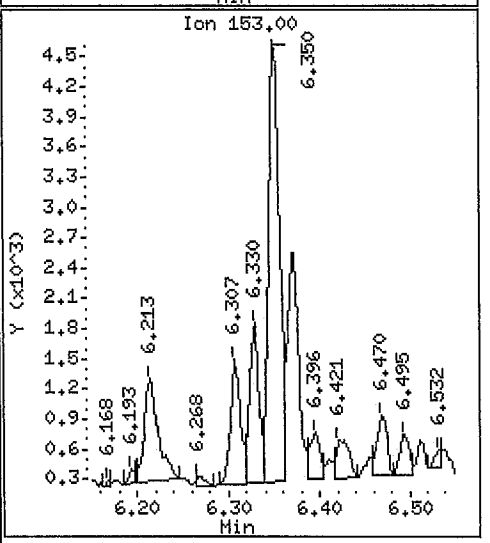
24 Acenaphthene

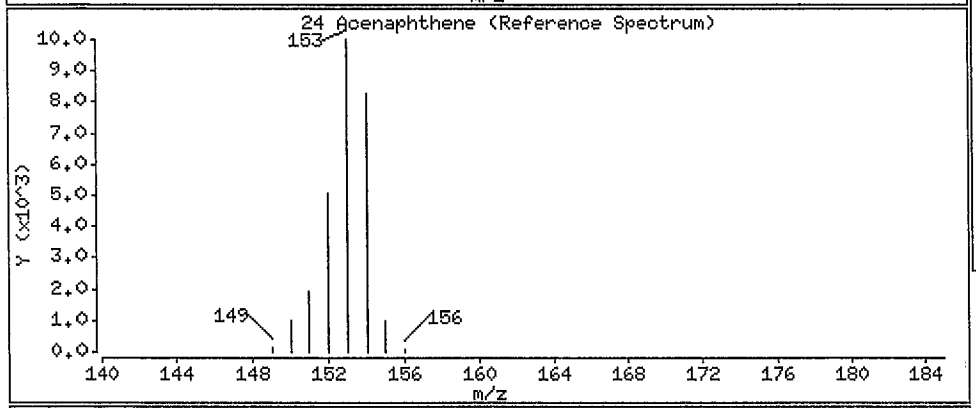
Concentration: 3.68 ng/sample

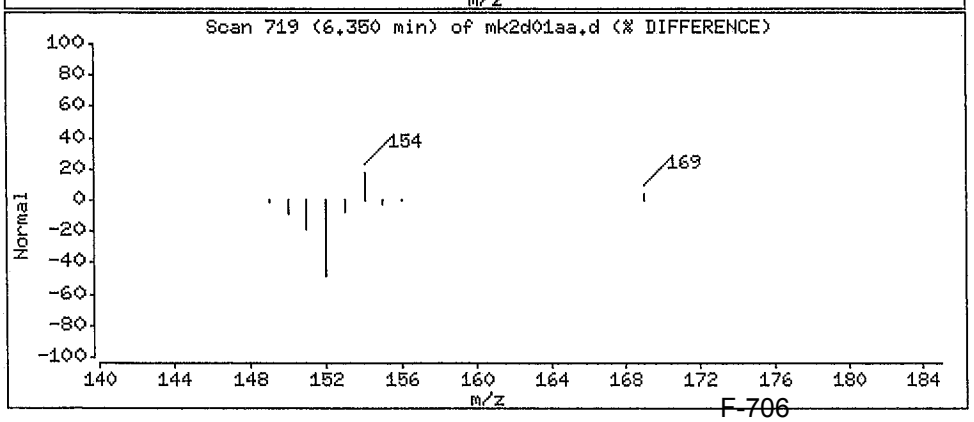












Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

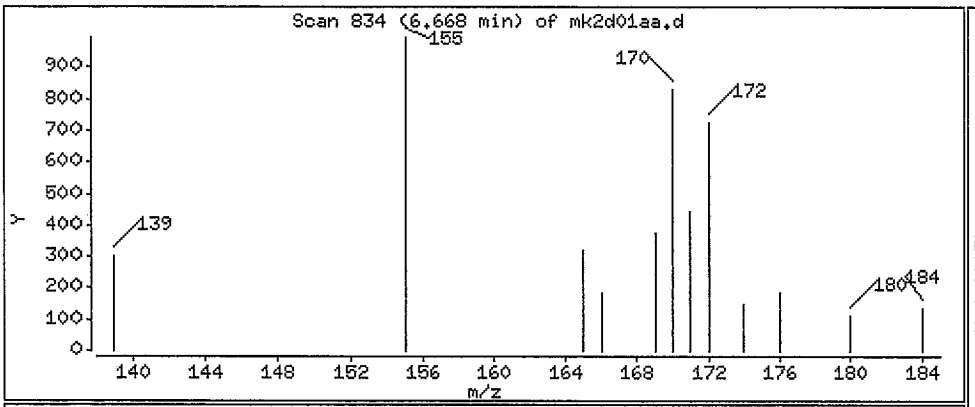
Operator: 11211

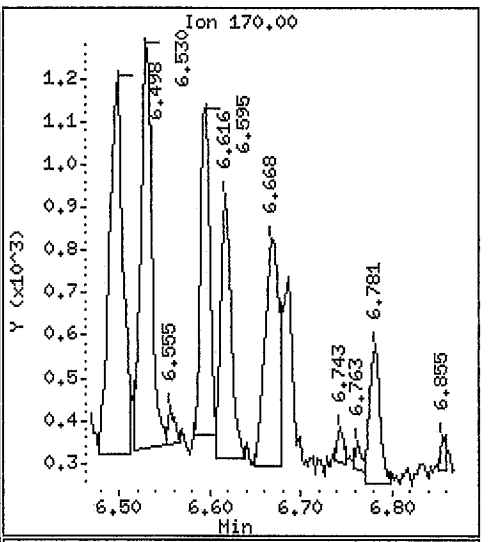
Column phase: Varian: 5MS

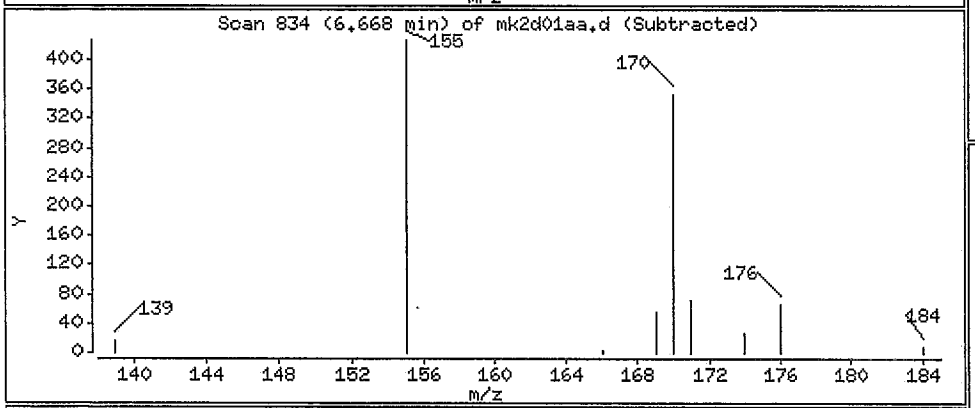
Column diameter: 0.25

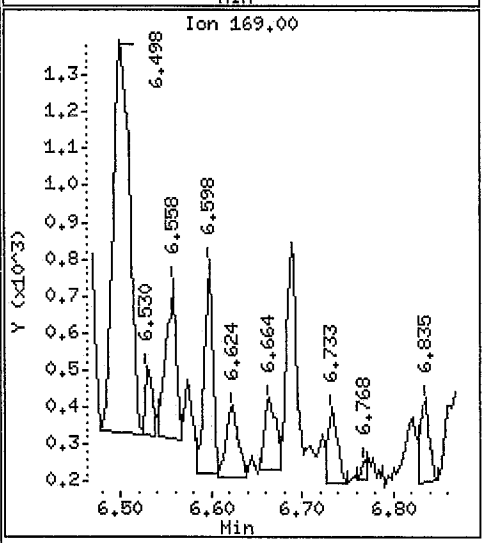
25 2,3,5 Trimethylnaphthalene

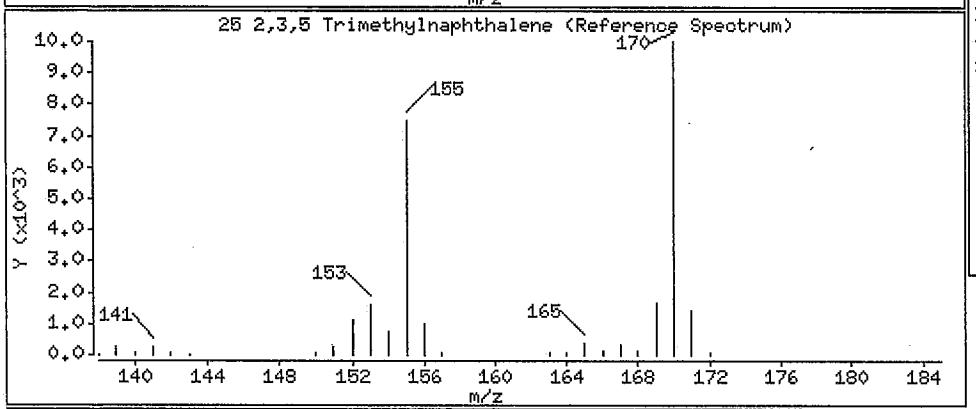
Concentration: 1.13 ng/sample

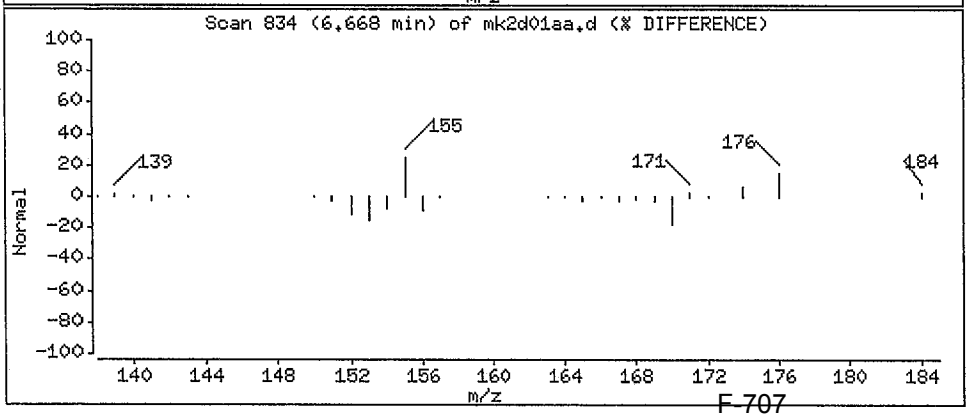












Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

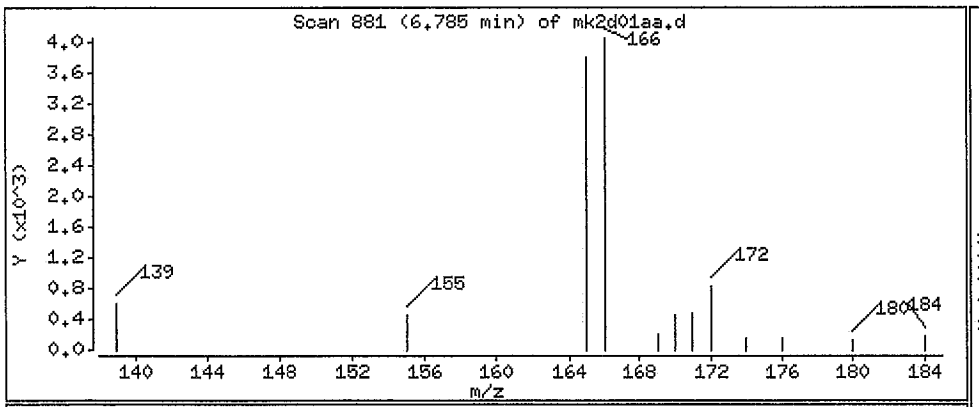
Operator: 11211

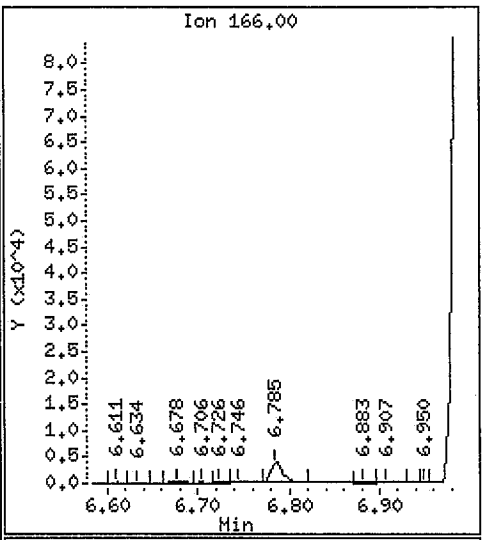
Column phase: Varian: 5MS

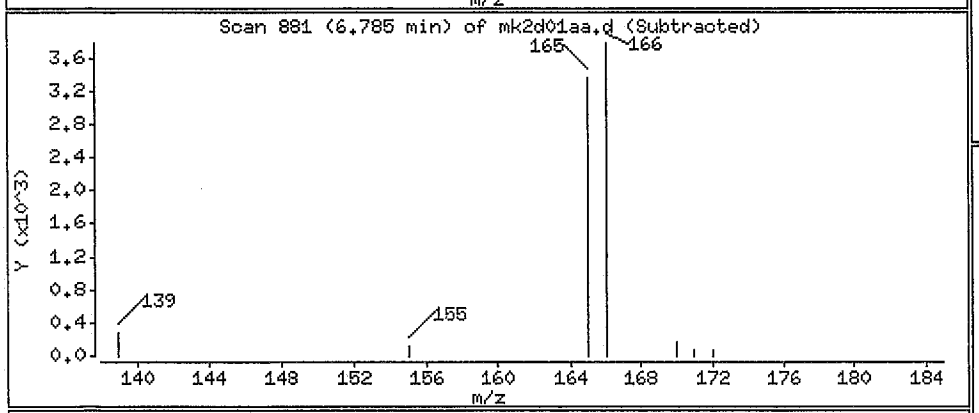
Column diameter: 0.25

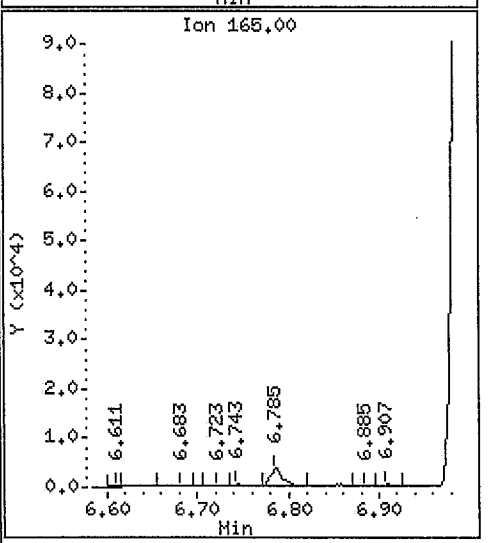
27 Fluorene

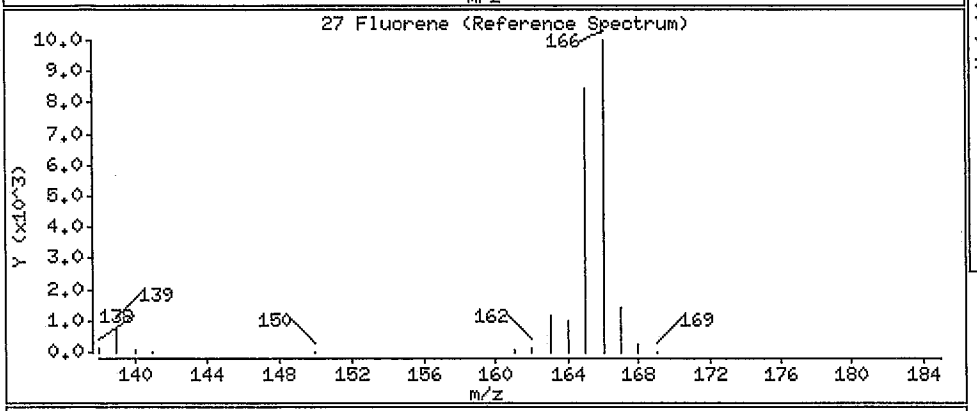
Concentration: 4.85 ng/sample

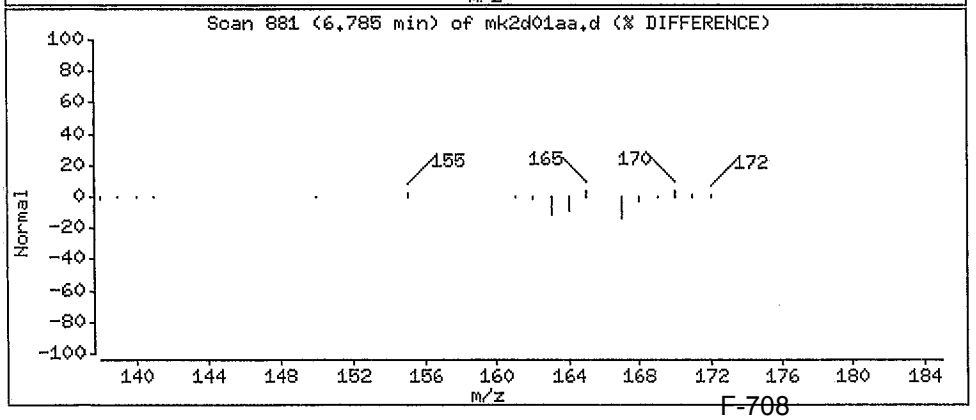












Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

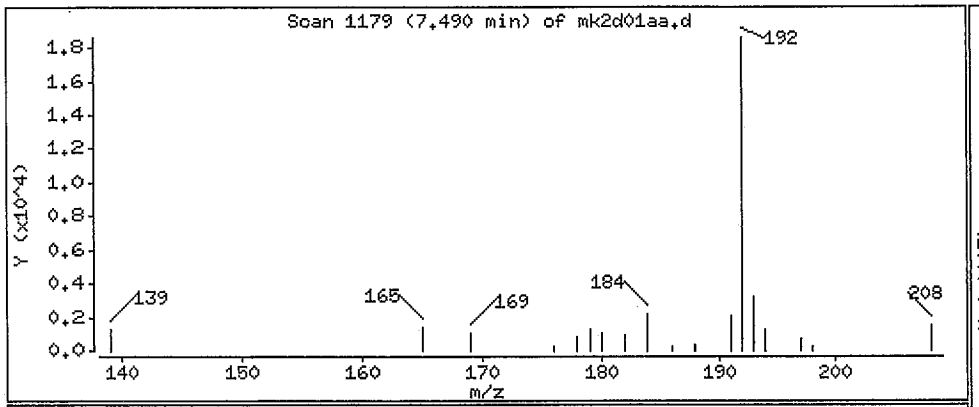
Operator: 11211

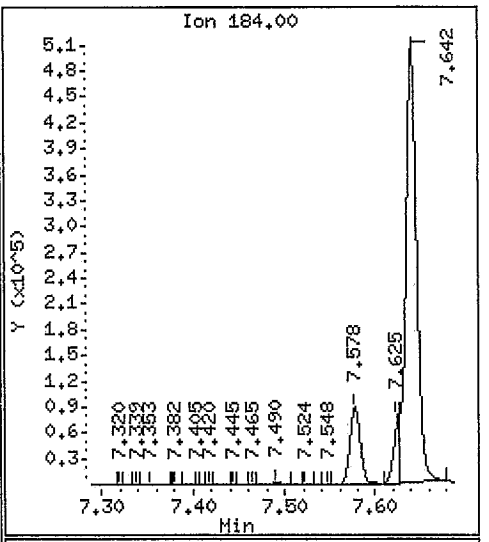
Column phase: Varian: 5MS

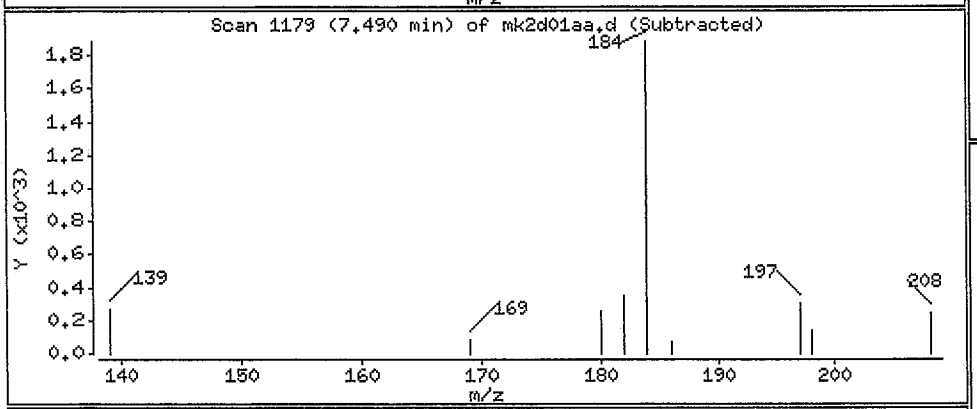
Column diameter: 0.25

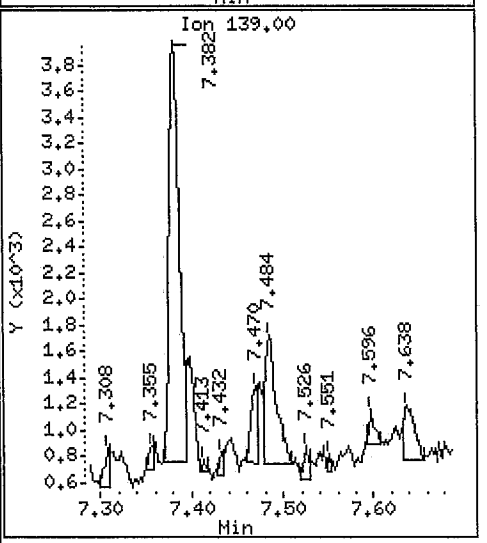
36 Dibenzothiophene

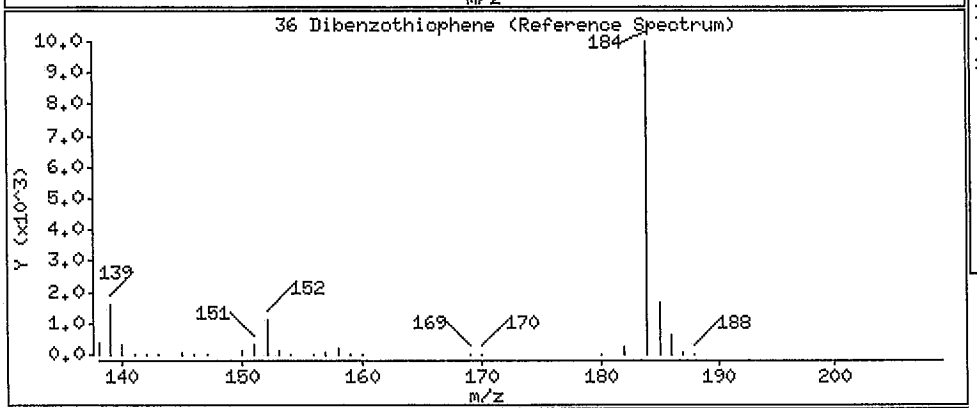
Concentration: 1.59 ng/sample

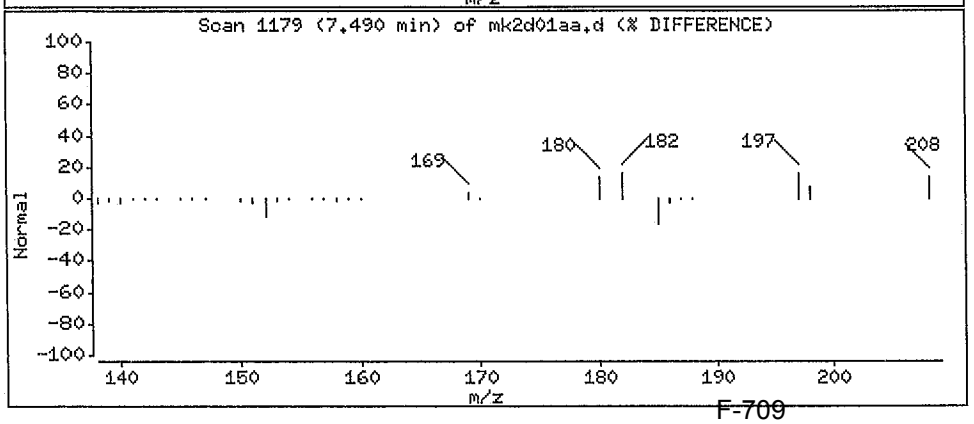












Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

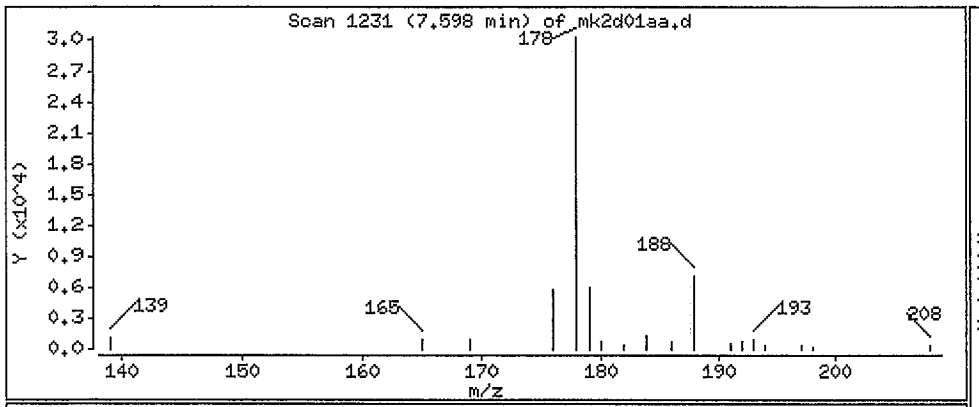
Operator: 11211

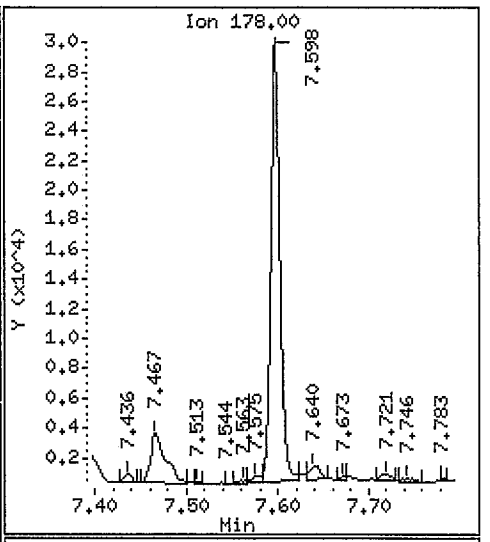
Column phase: Varian: 5MS

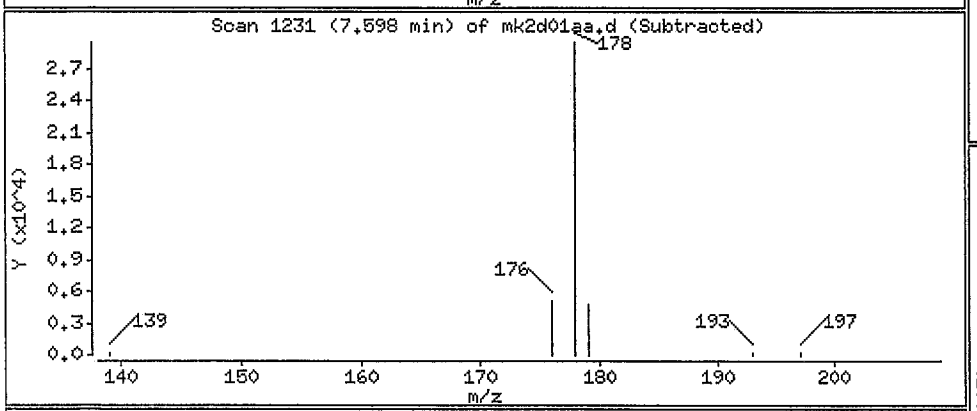
Column diameter: 0.25

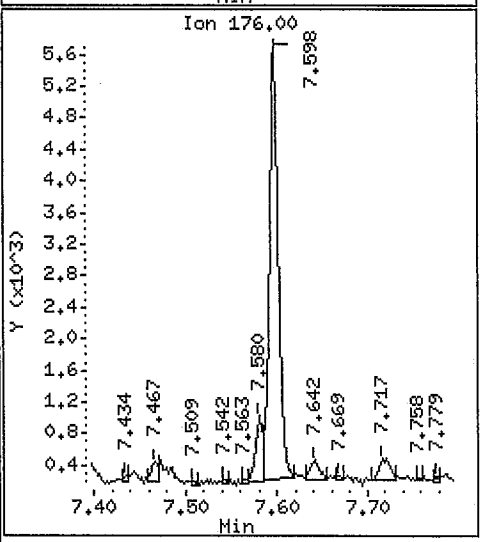
43 Phenanthrene

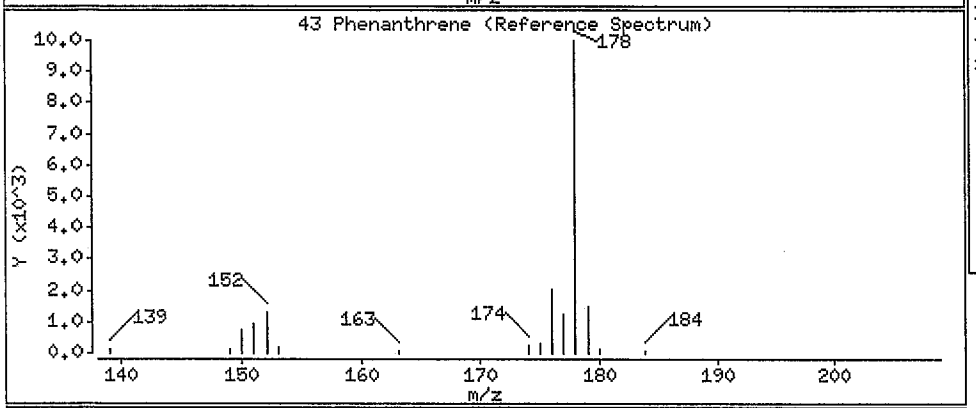
Concentration: 22.5 ng/sample

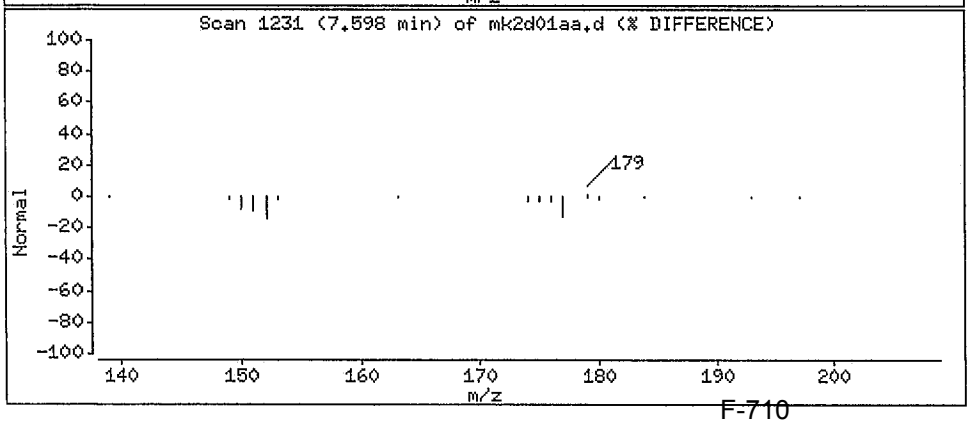












Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

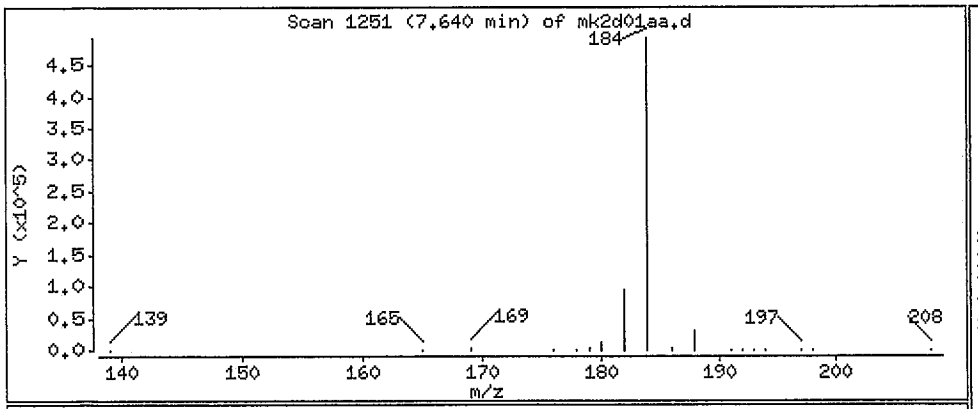
Operator: 11211

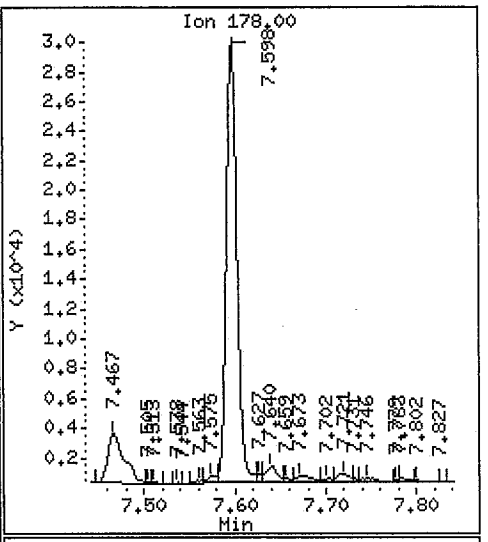
Column phase: Varian: 5MS

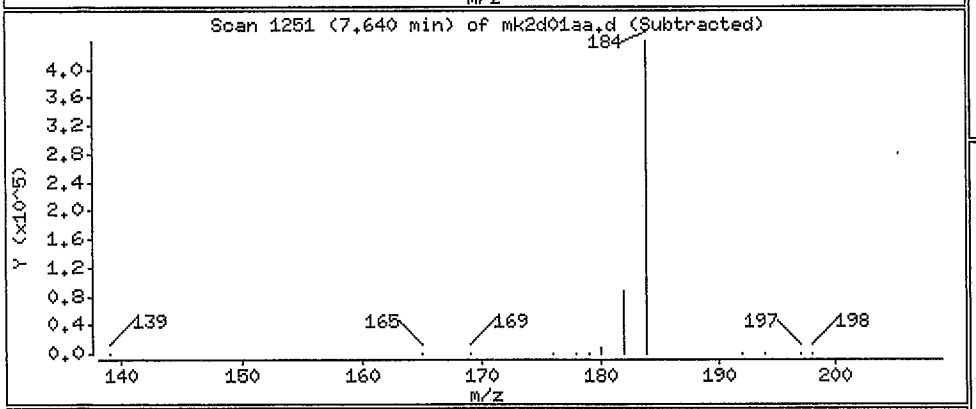
Column diameter: 0.25

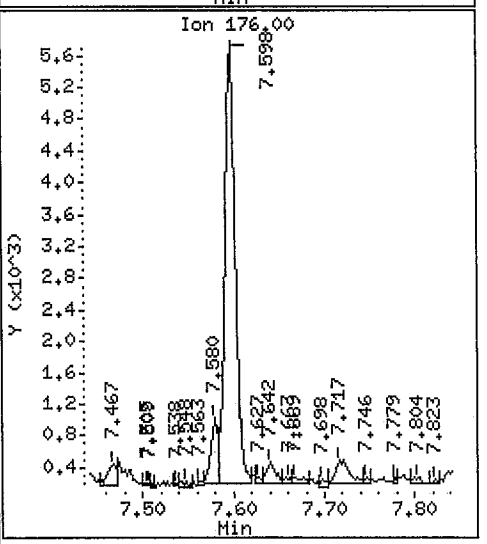
46 Anthracene

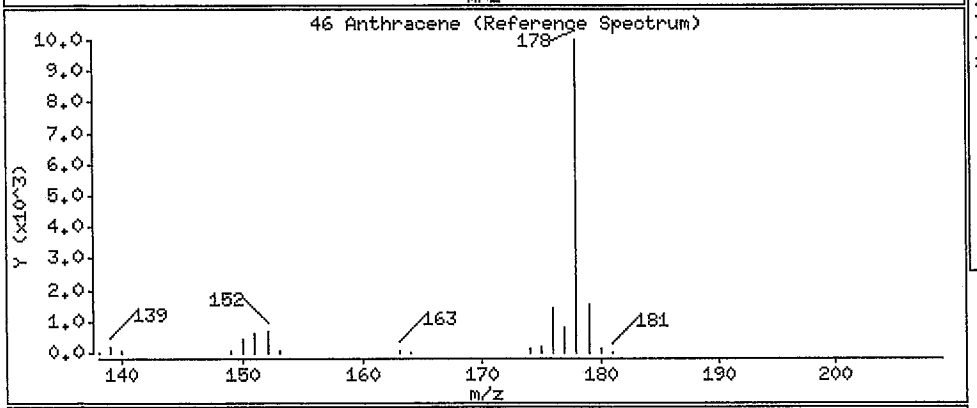
Concentration: 0.957 ng/sample

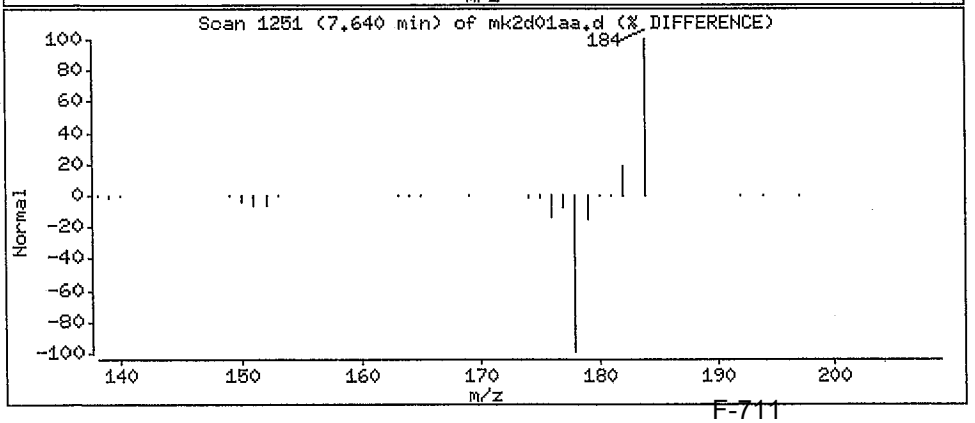












Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

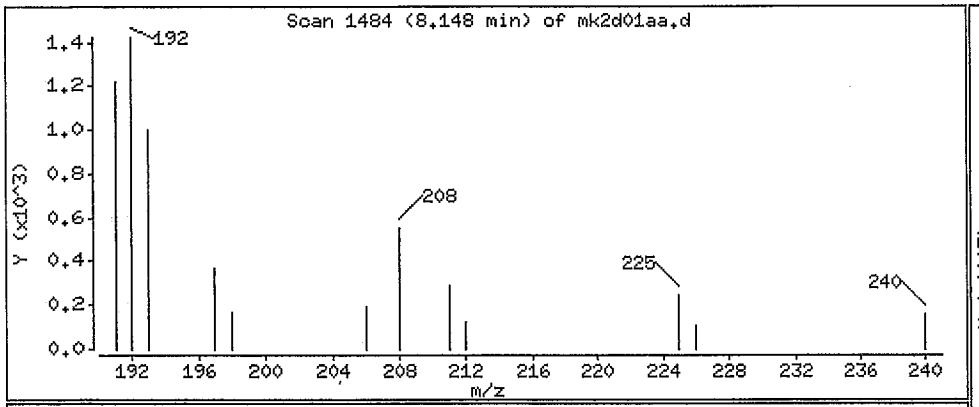
Operator: 11211

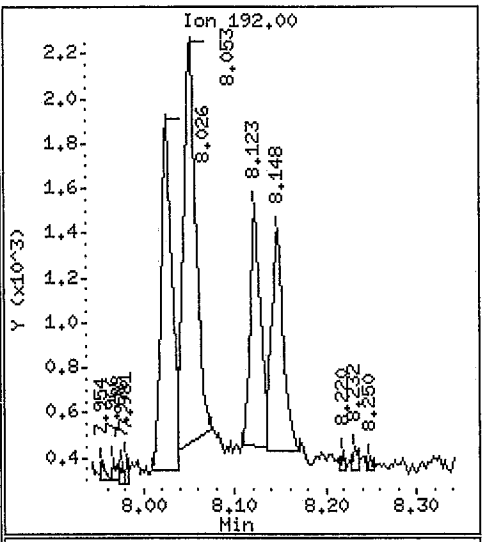
Column phase: Varian: 5MS

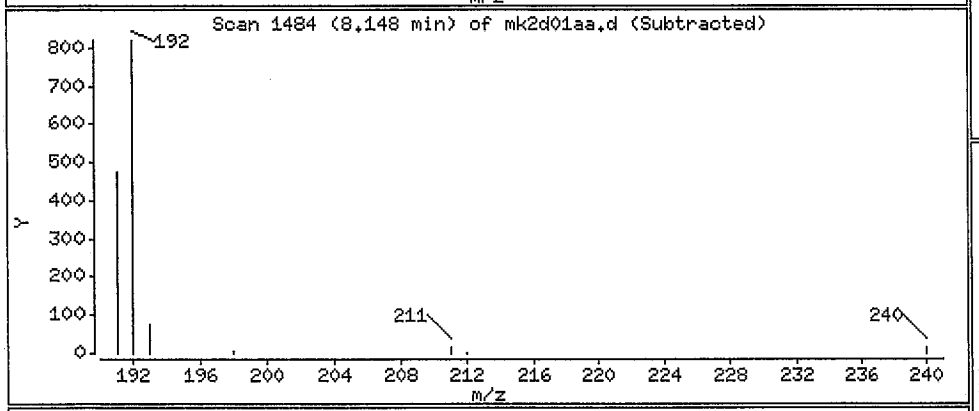
Column diameter: 0.25

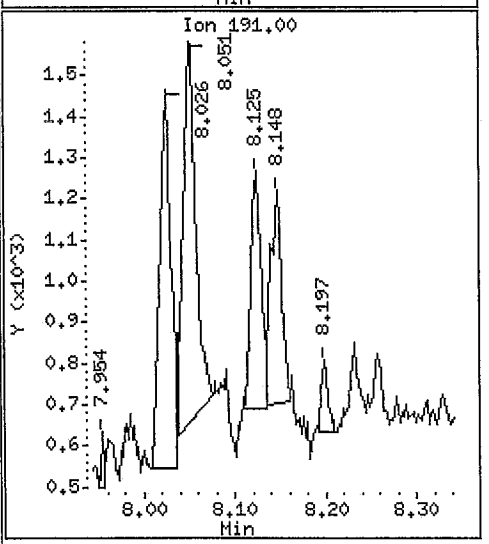
52 1-Methylphenanthrene

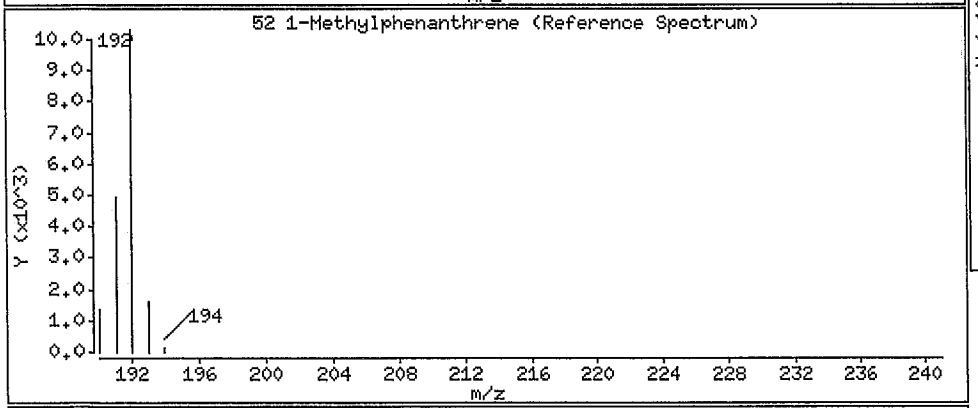
Concentration: 1.45 ng/sample

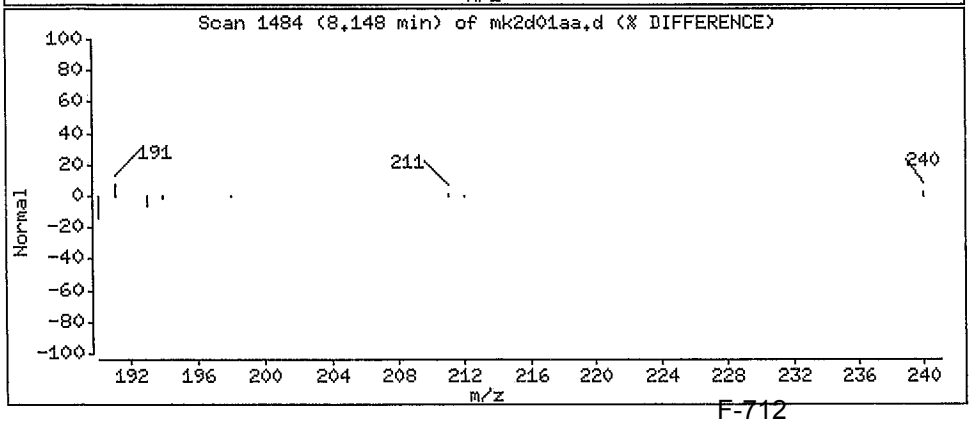












Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

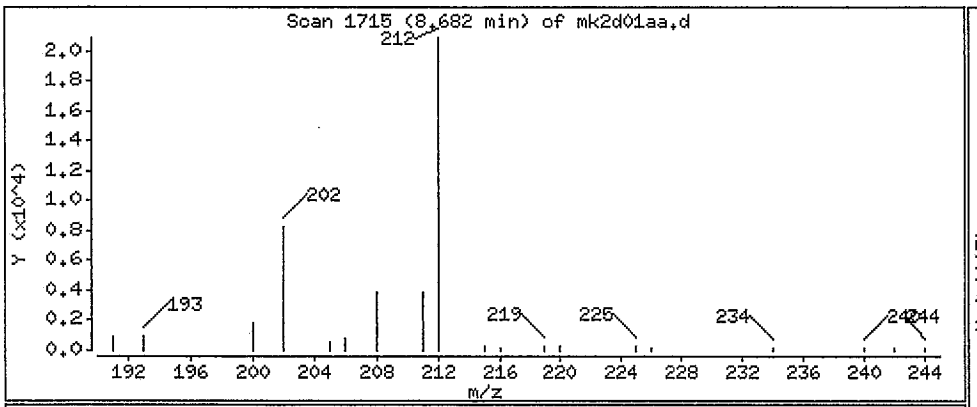
Operator: 11211

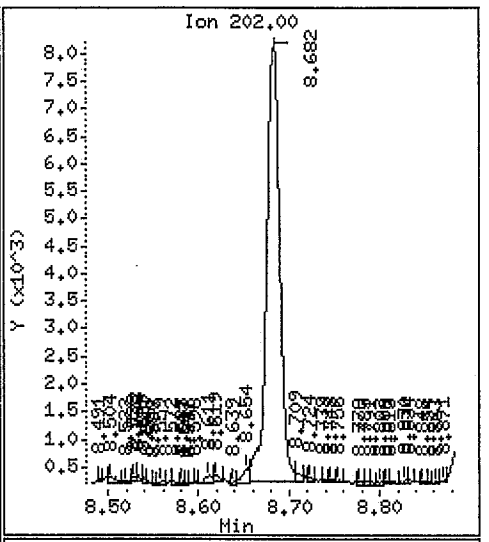
Column phase: Varian: 5MS

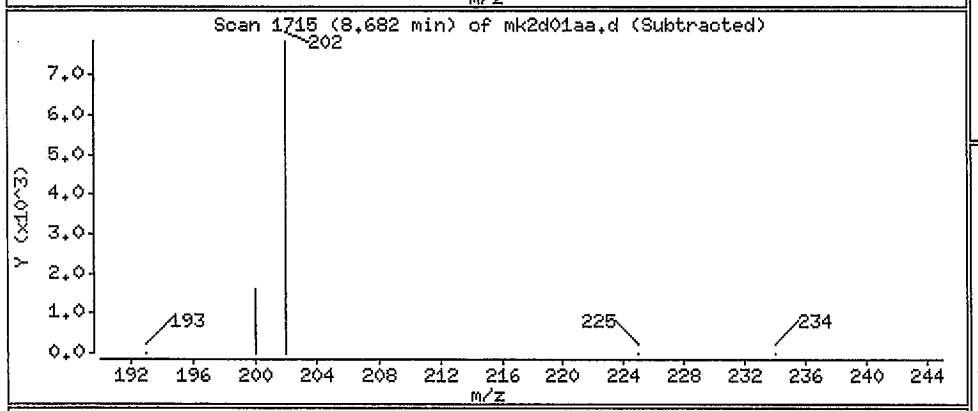
Column diameter: 0.25

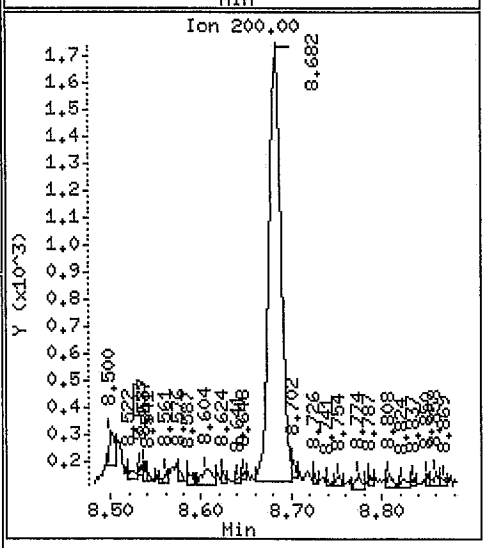
55 Fluoranthene

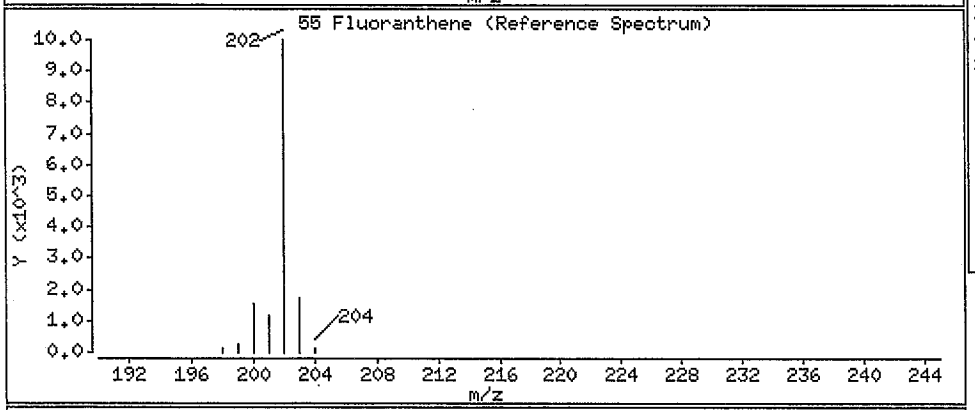
Concentration: 6.07 ng/sample

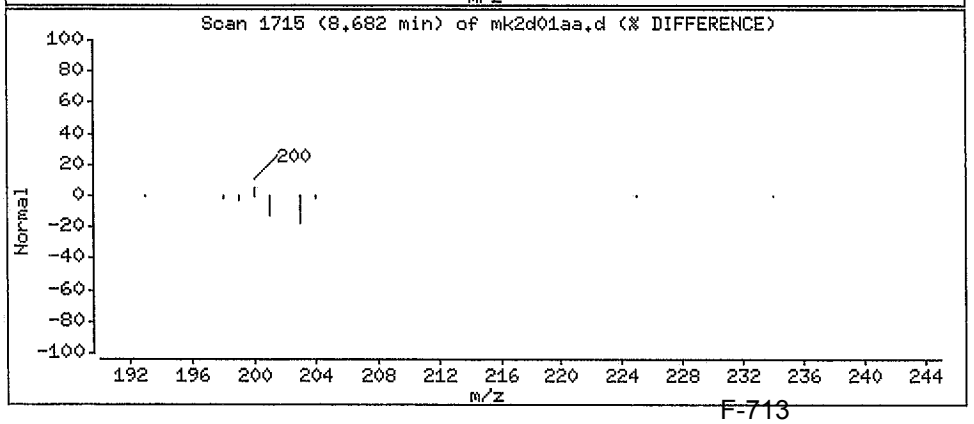












Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

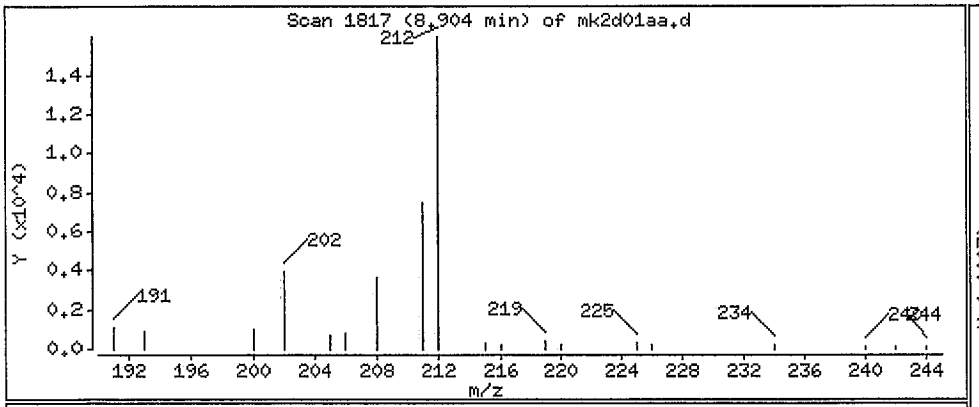
Operator: 11211

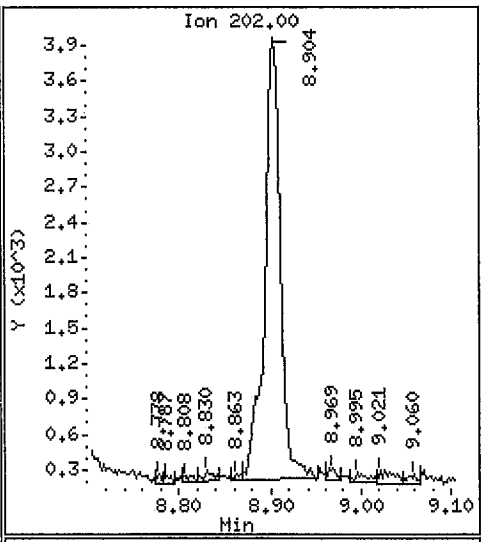
Column phase: Varian: 5MS

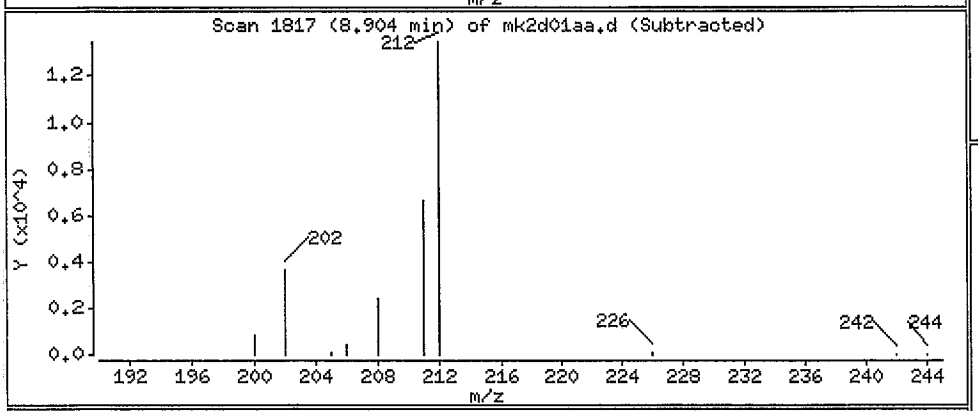
Column diameter: 0.25

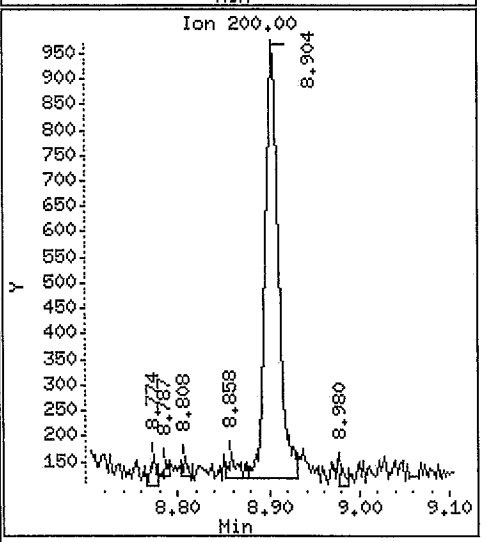
57 Pyrene

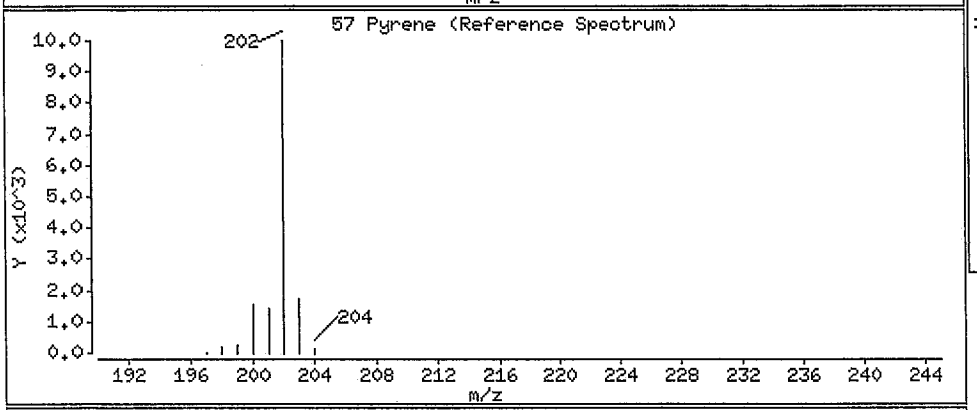
Concentration: 3.20 ng/sample

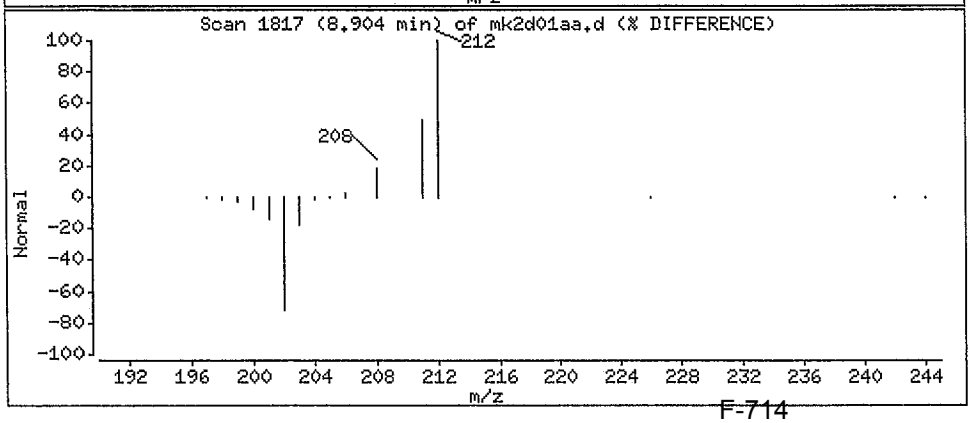












Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

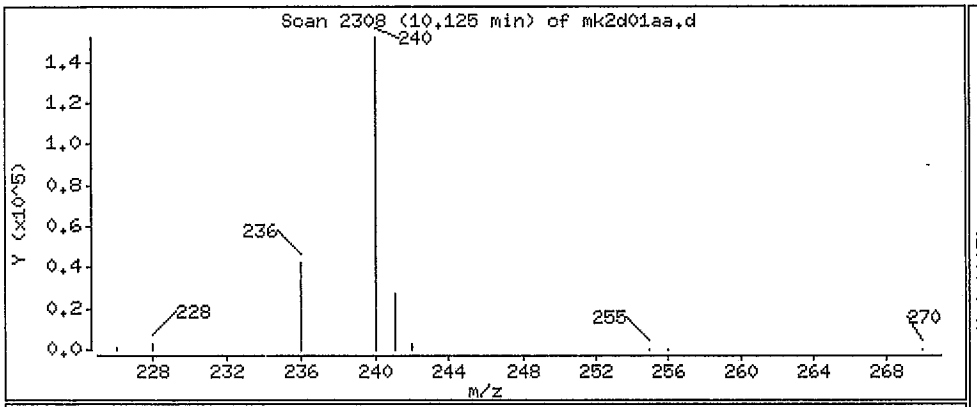
Operator: 60487

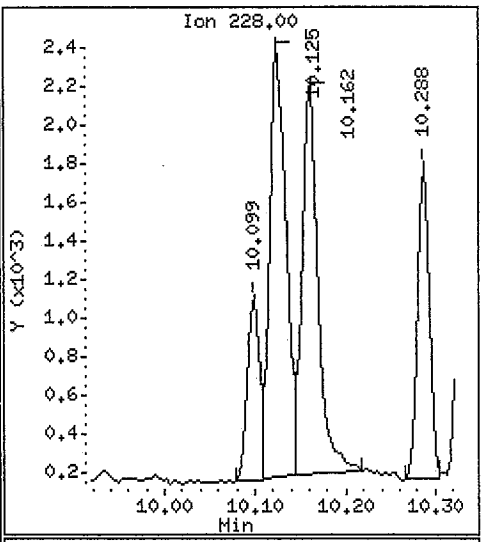
Column phase: Varian: 5MS

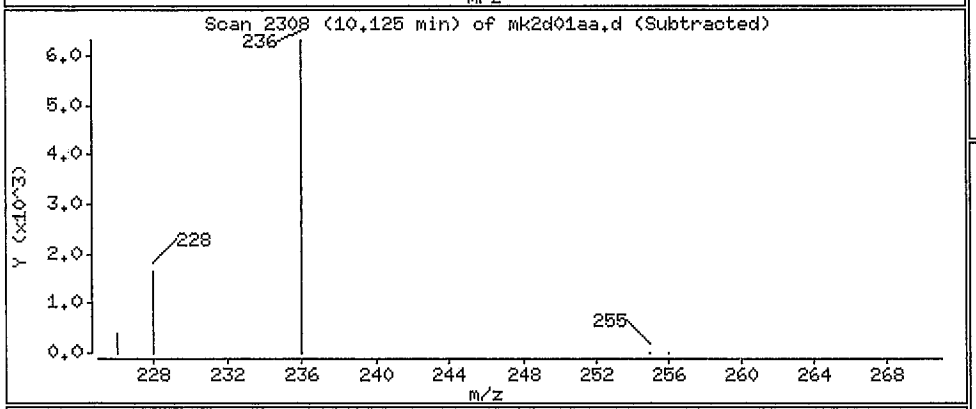
Column diameter: 0.25

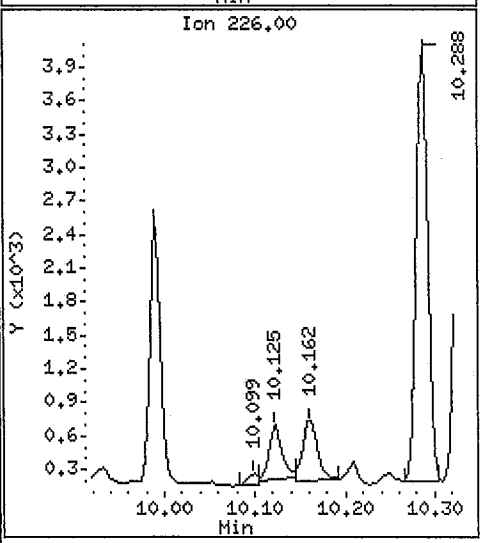
62 Benzo(a)anthracene

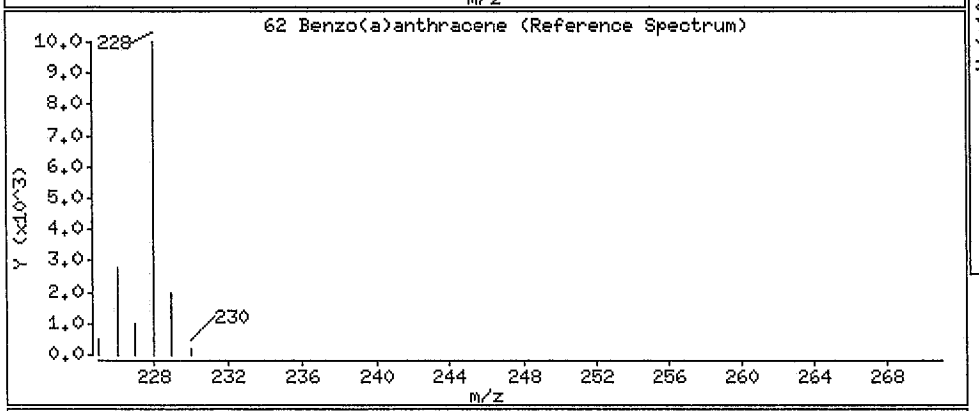
Concentration: 1.27 ng/sample

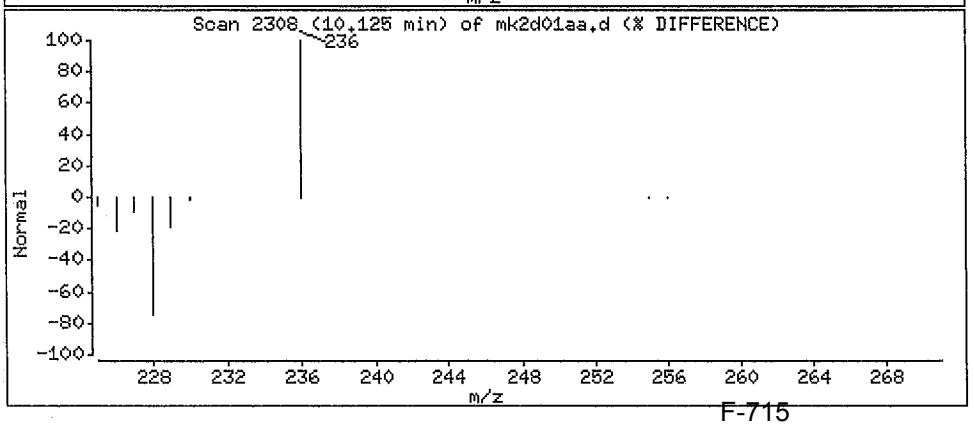












Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

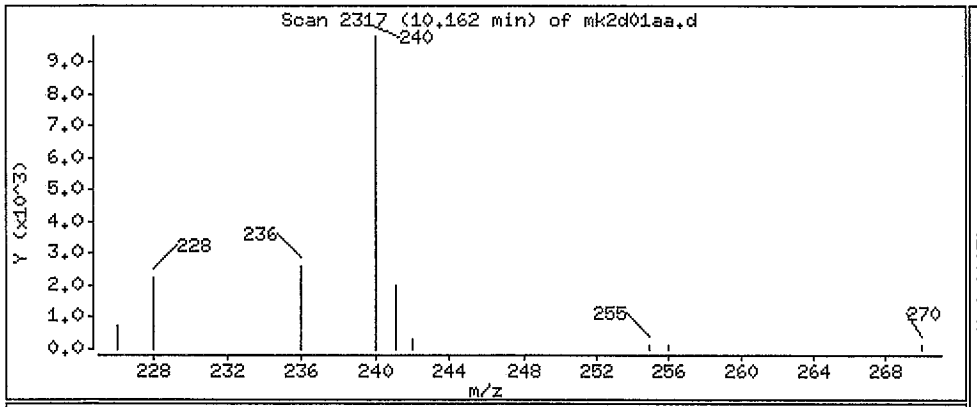
Operator: 11211

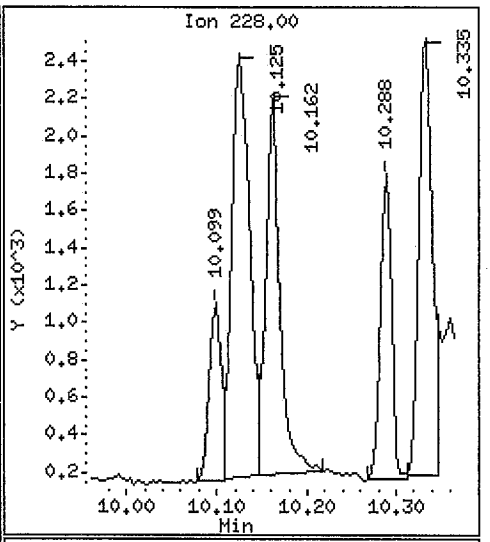
Column phase: Varian: 5MS

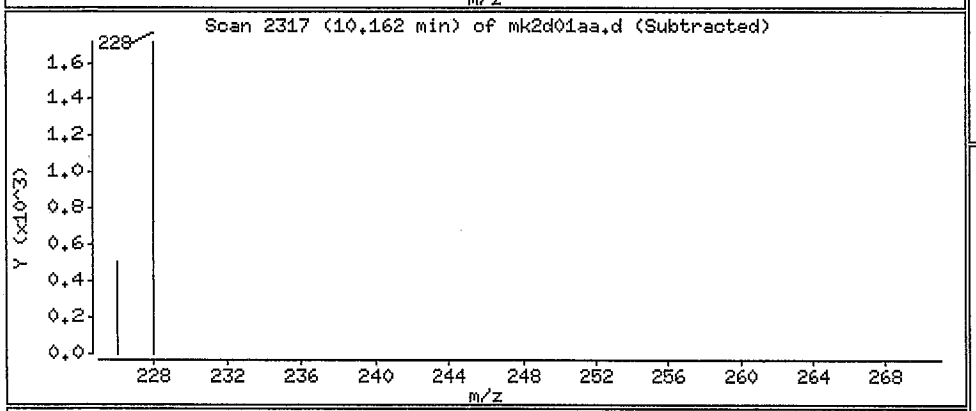
Column diameter: 0.25

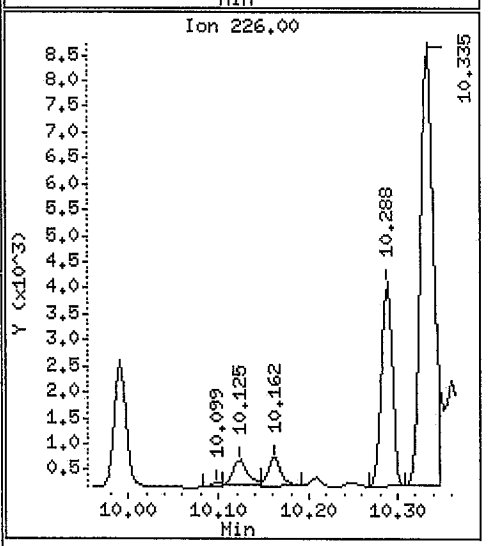
65 Chrysene

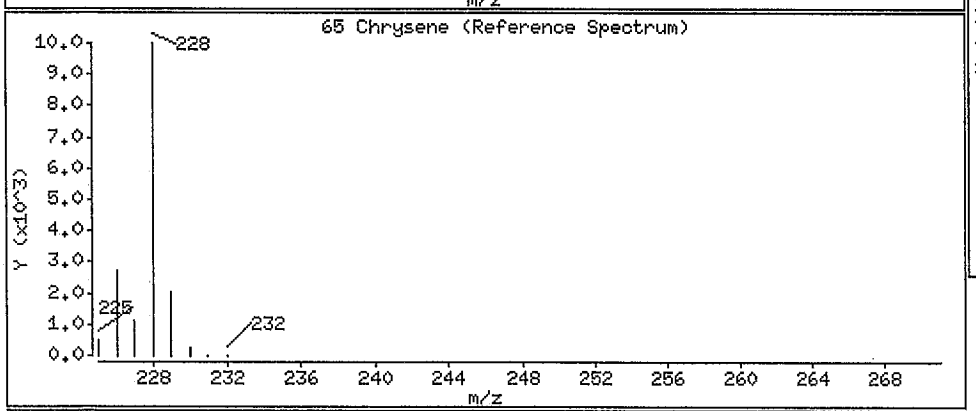
Concentration: 2.66 ng/sample

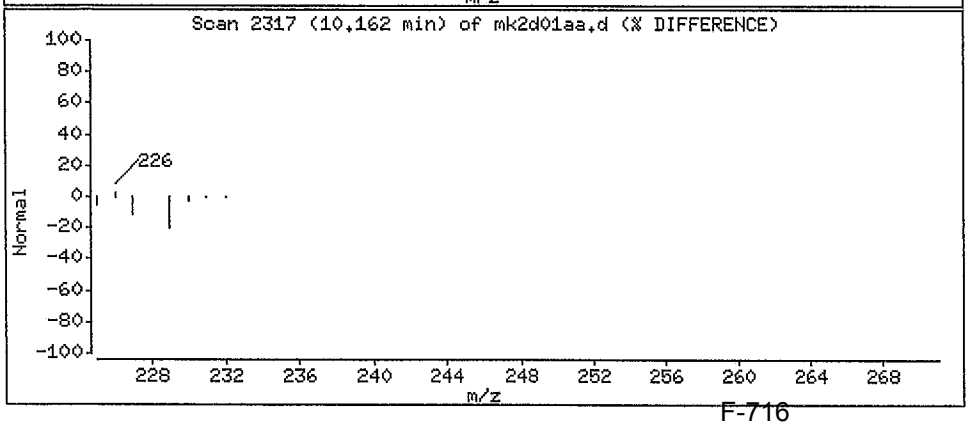












Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

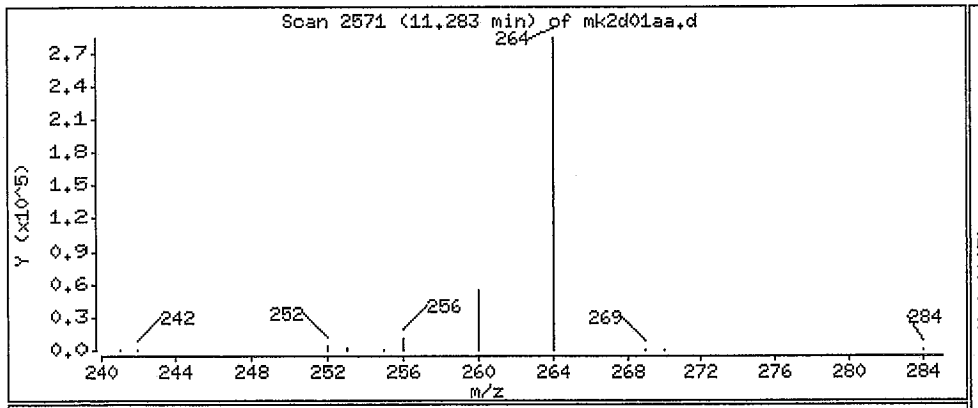
Operator: 11211

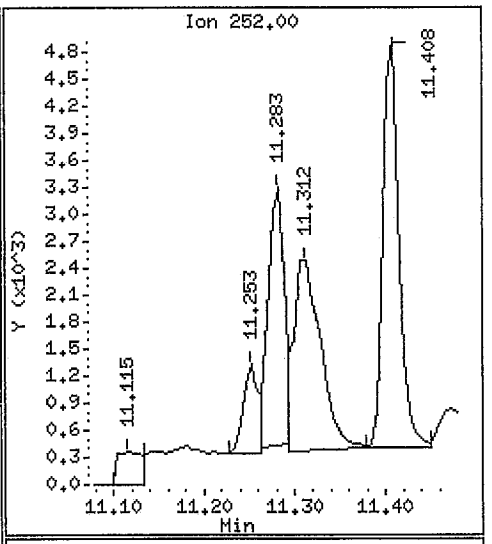
Column phase: Varian: 5MS

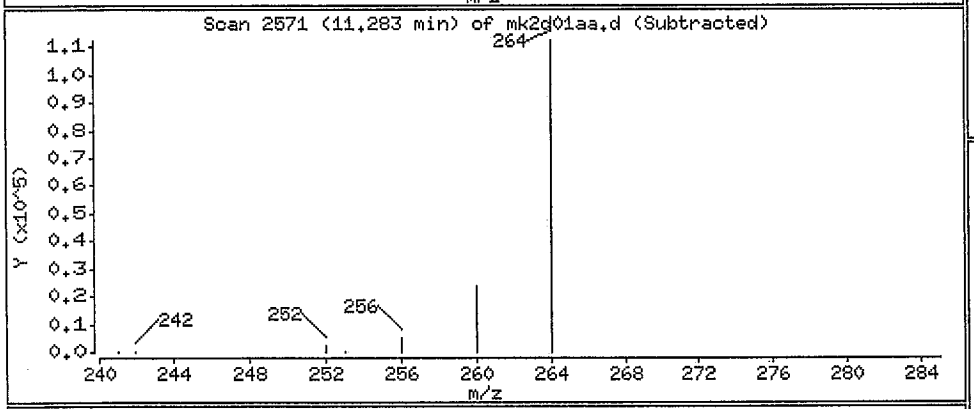
Column diameter: 0.25

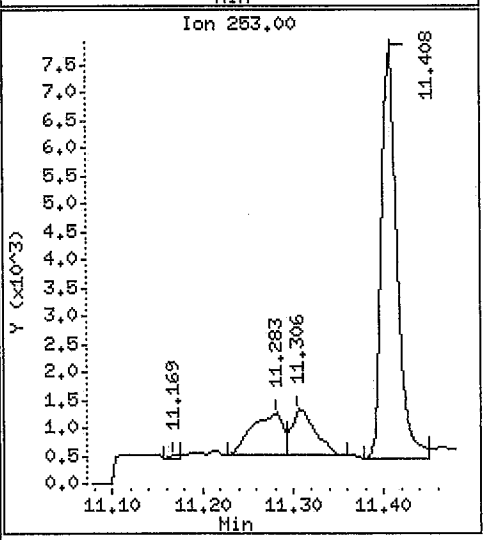
72 Benzo(b)fluoranthene

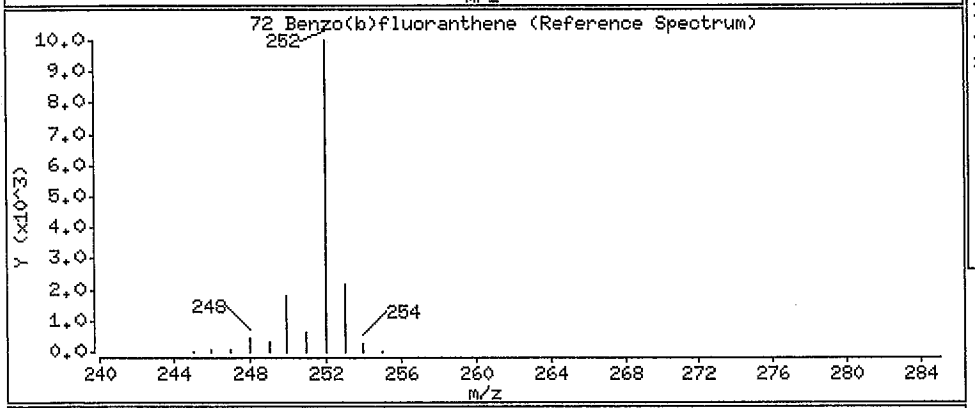
Concentration: 3.31 ng/sample

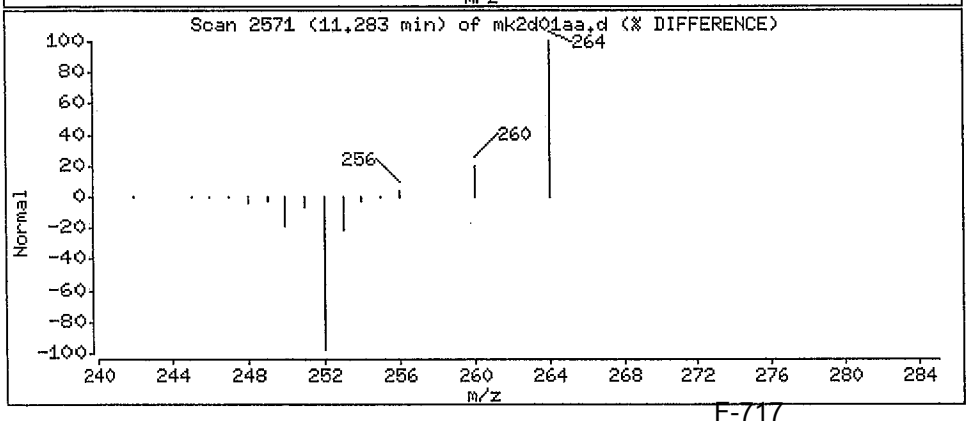












Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

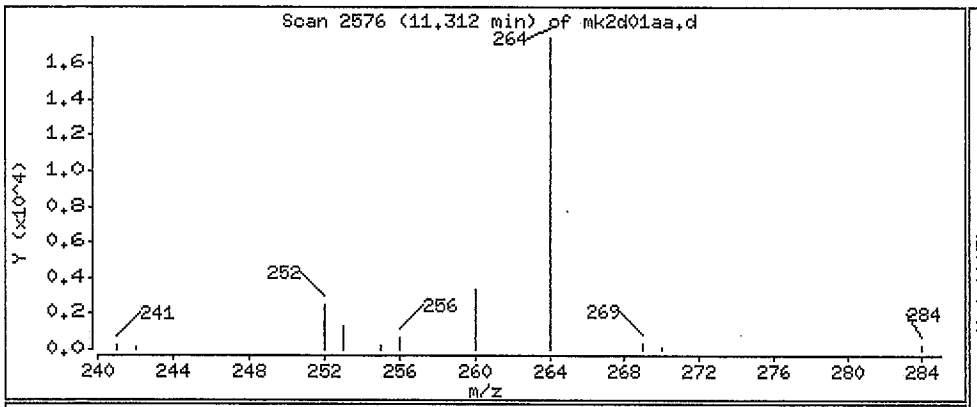
Operator: 11211

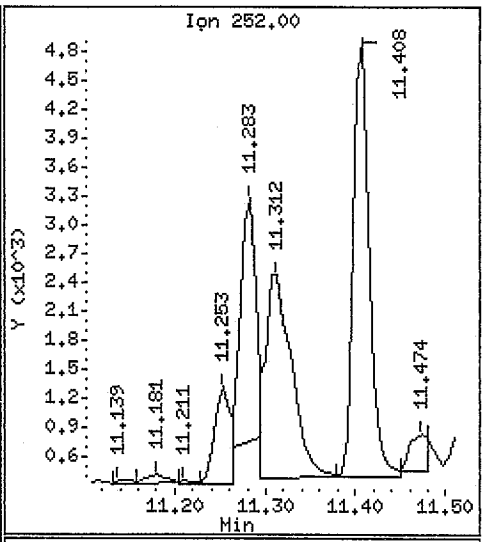
Column phase: Varian: 5MS

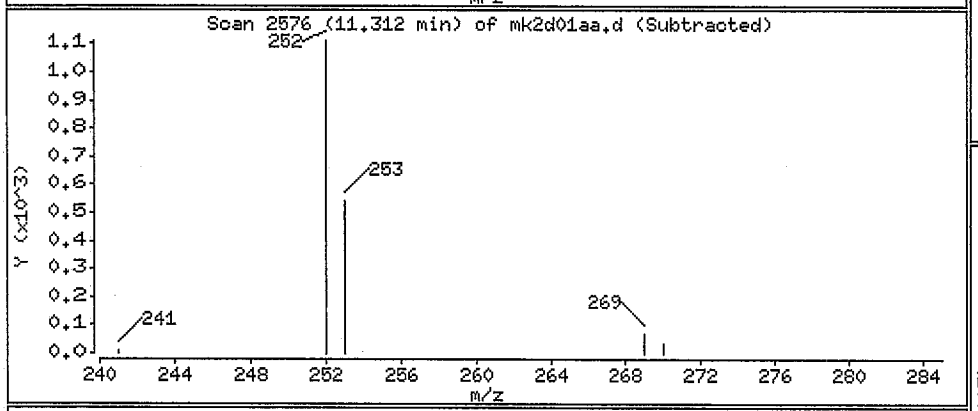
Column diameter: 0.25

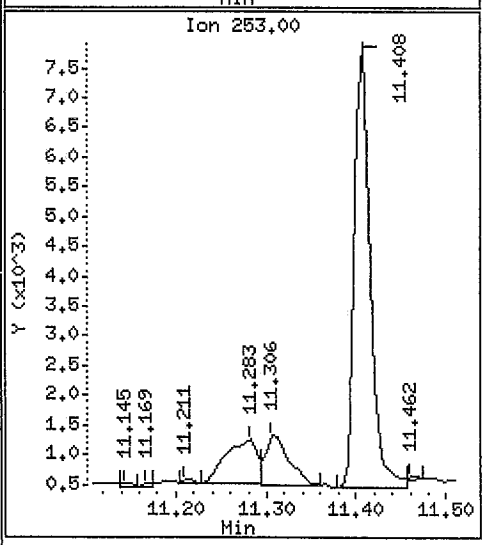
75 Benzo(k)fluoranthene

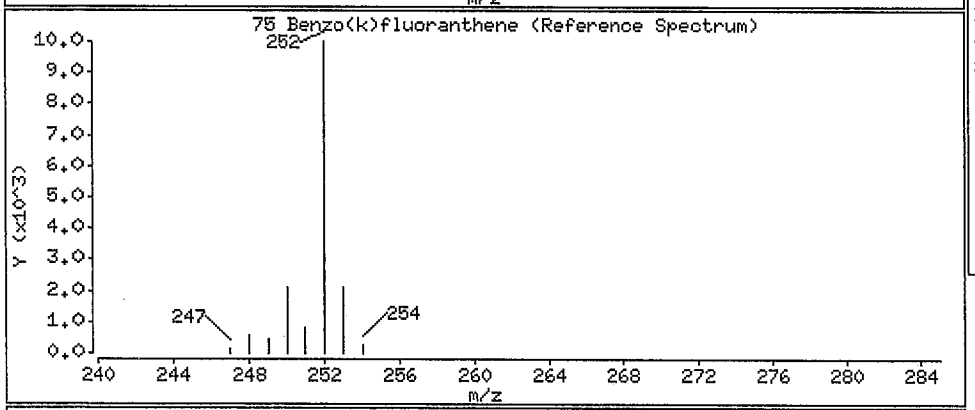
Concentration: 4.75 ng/sample

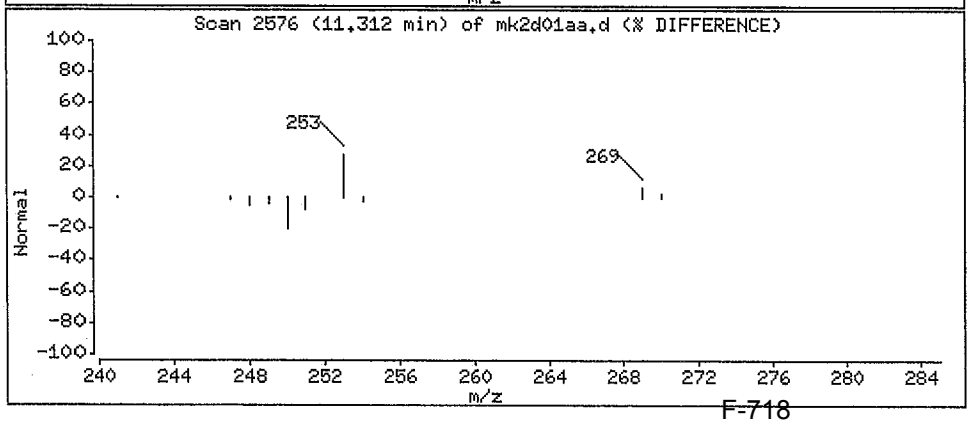












Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

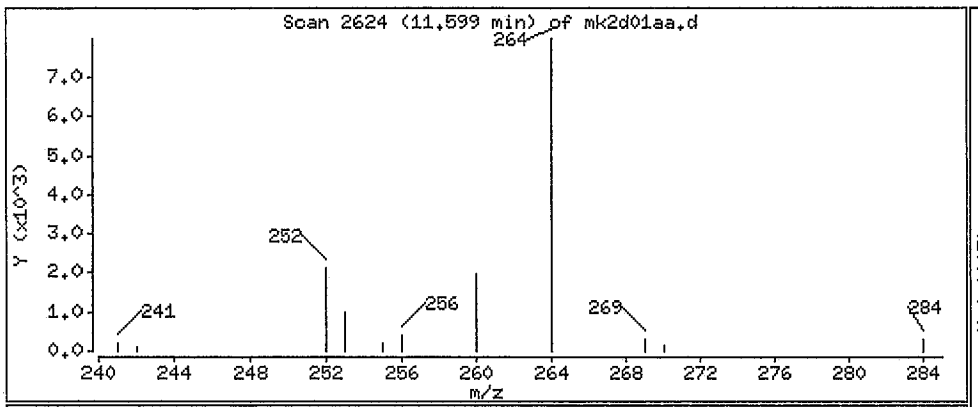
Operator: 11211

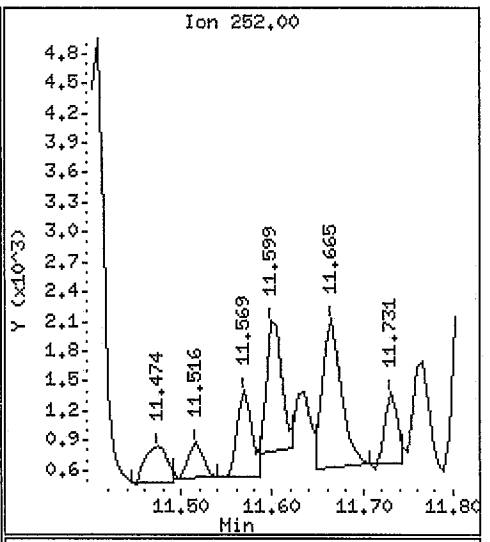
Column phase: Varian: 5MS

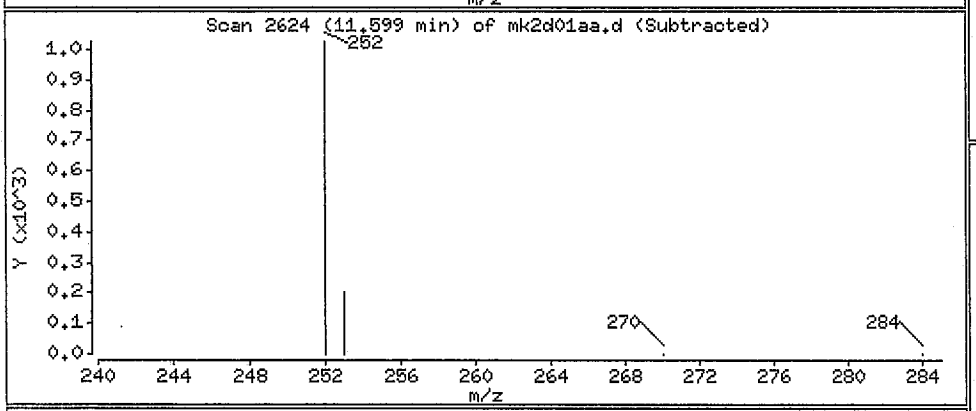
Column diameter: 0.25

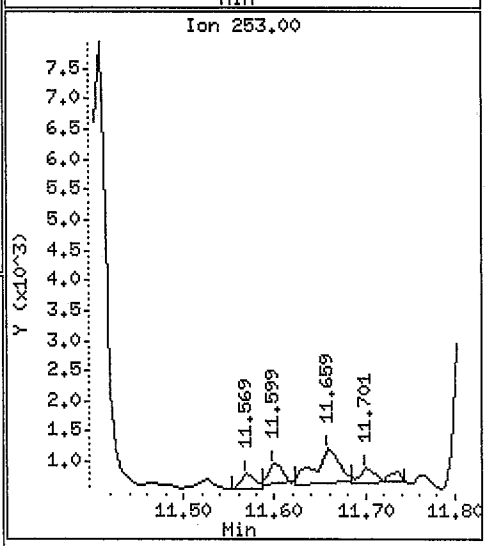
77 Benzo(e)pyrene

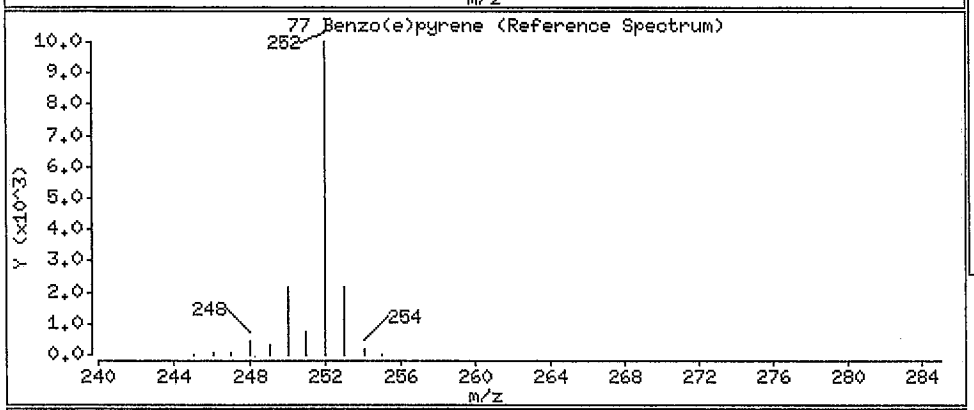
Concentration: 1.50 ng/sample

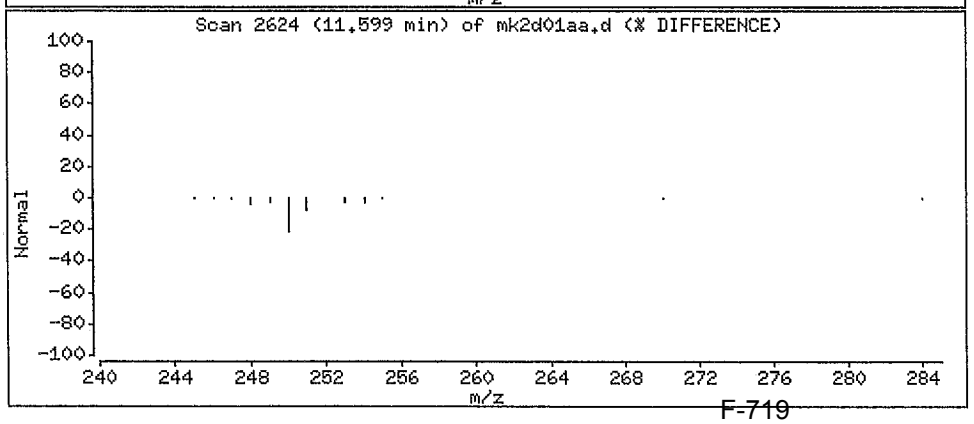












Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

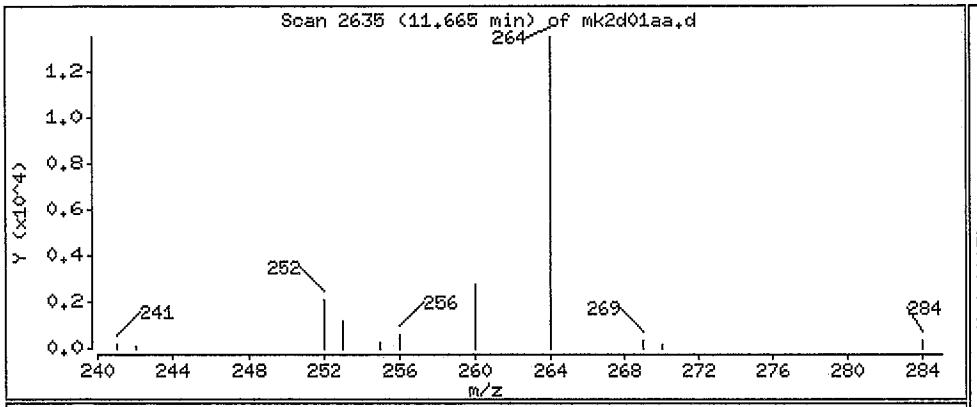
Operator: 11211

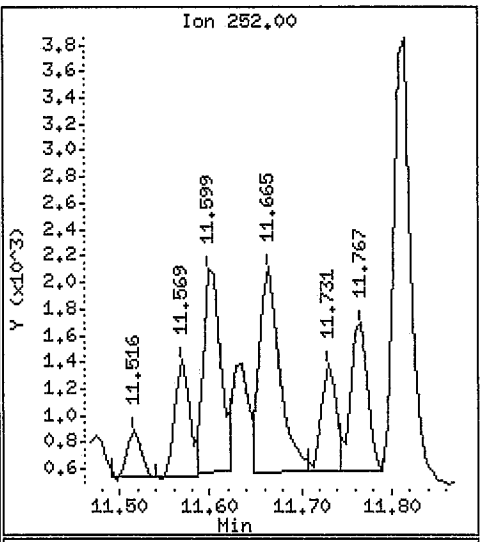
Column phase: Varian: 5MS

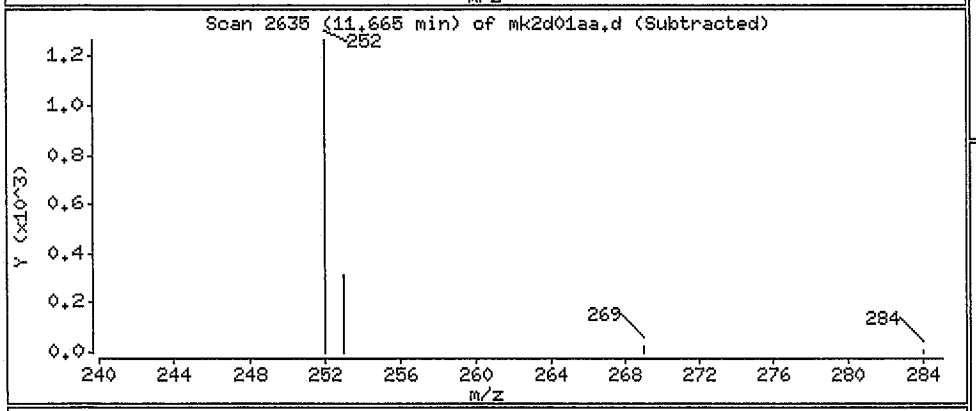
Column diameter: 0.25

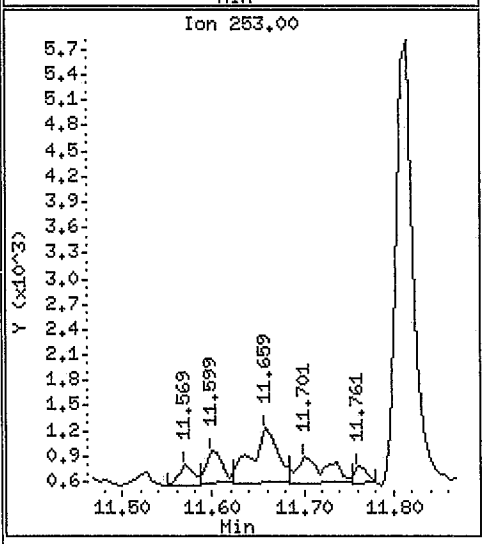
80 Benzo(a)pyrene

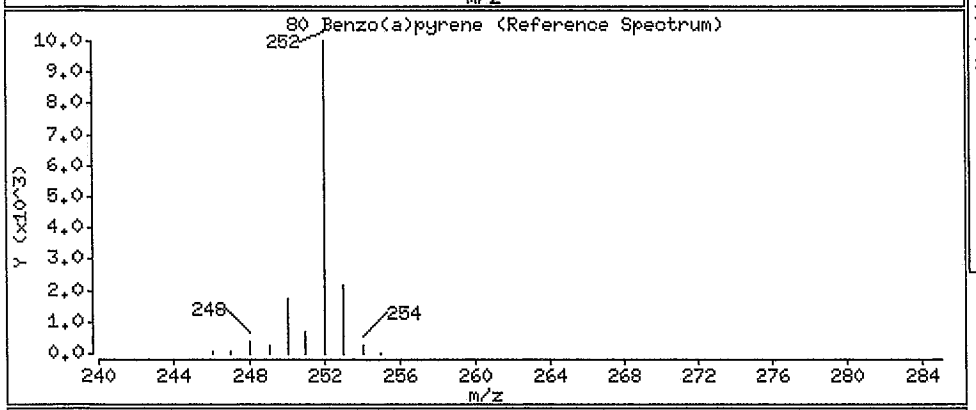
Concentration: 2.84 ng/sample

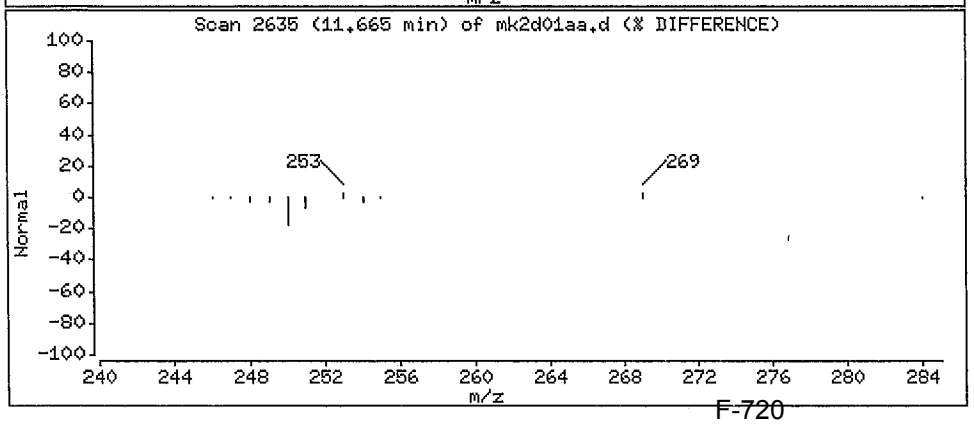












Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

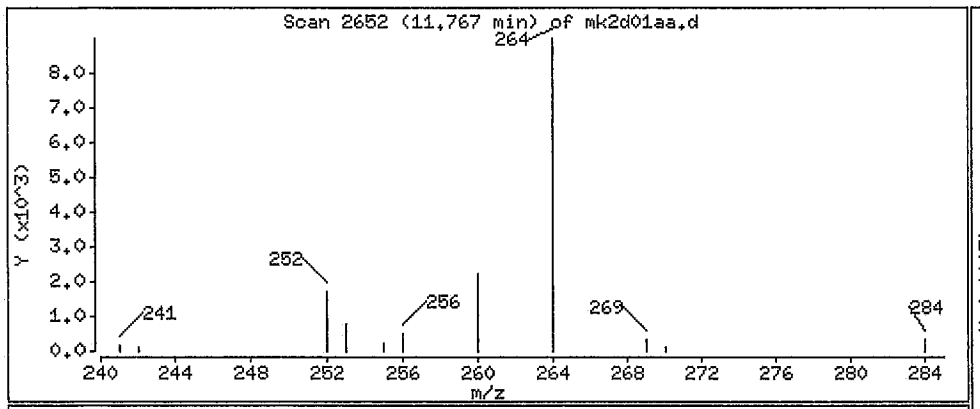
Operator: 11211

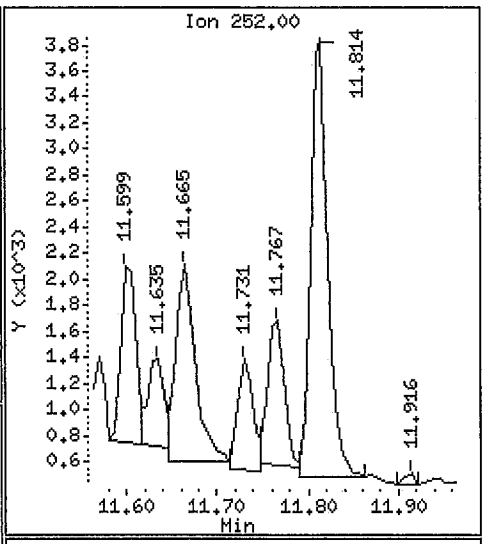
Column phase: Varian: 5MS

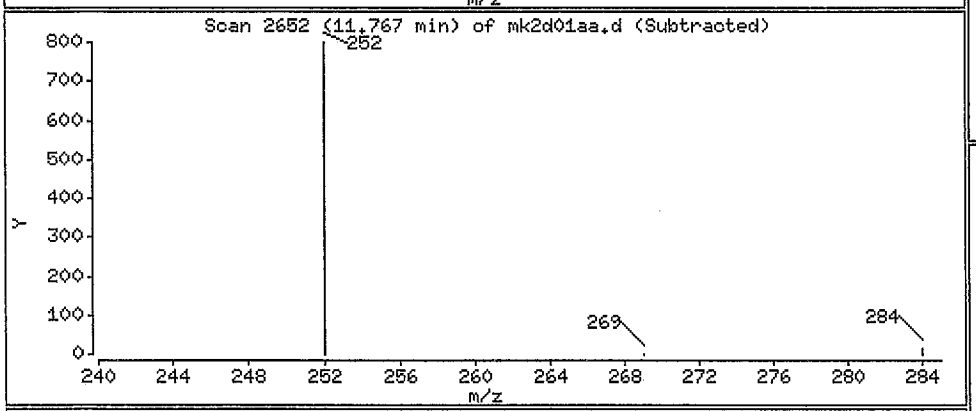
Column diameter: 0.25

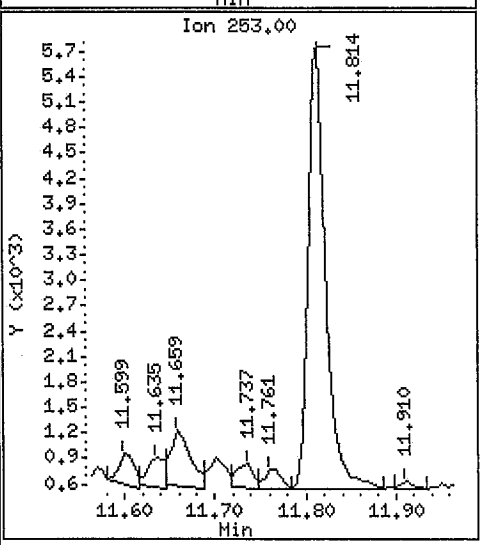
83 Perylene

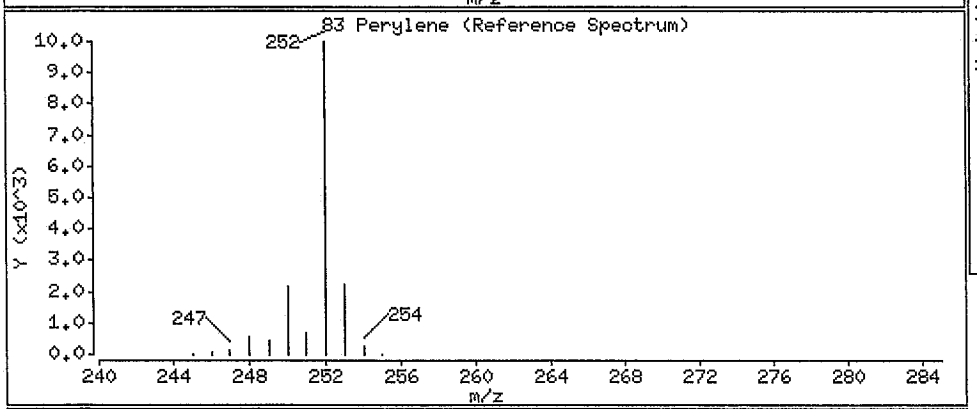
Concentration: 1.63 ng/sample

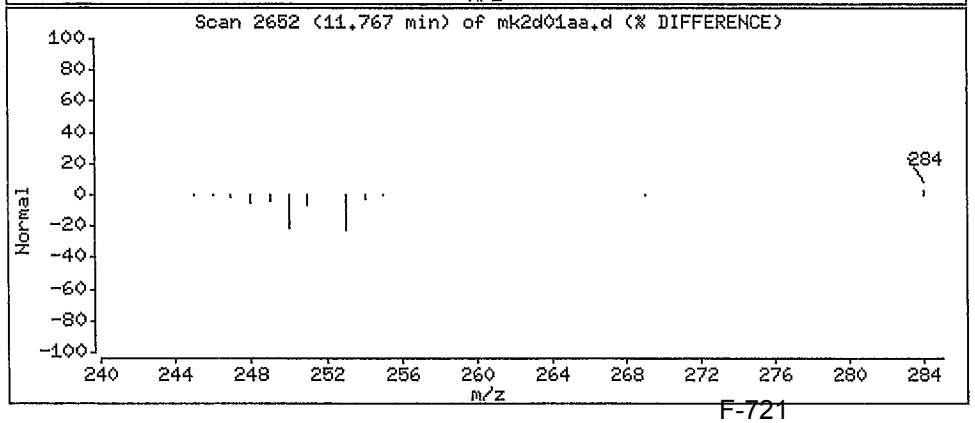












Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

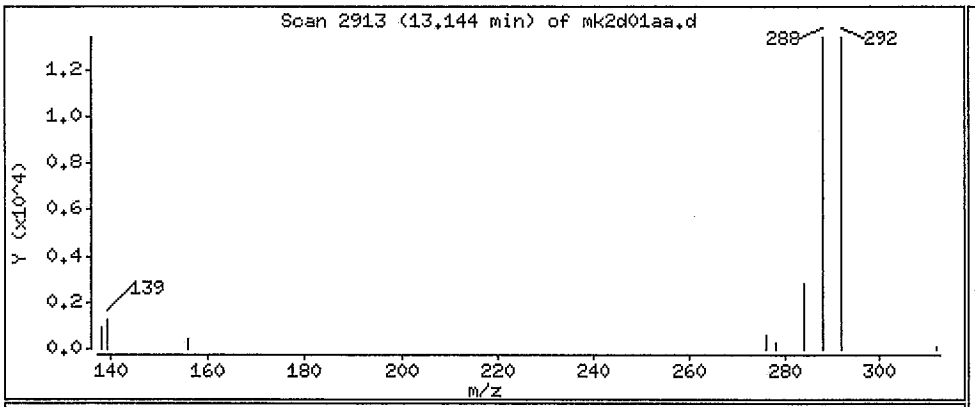
Operator: 11211

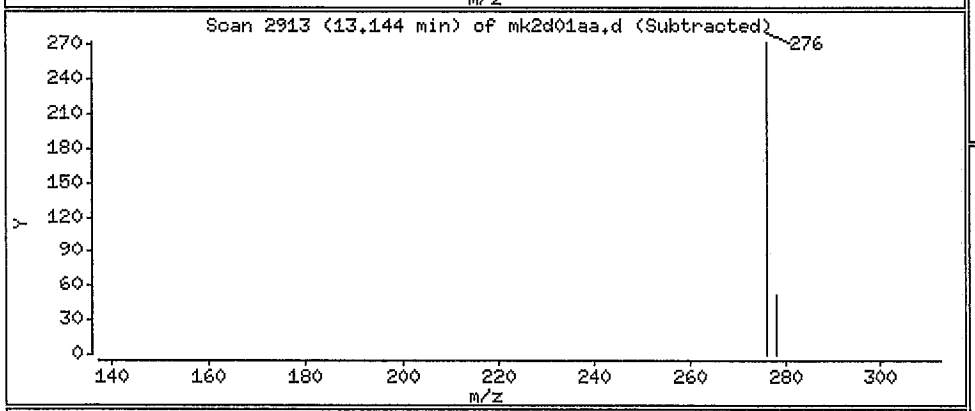
Column phase: Varian: 5MS

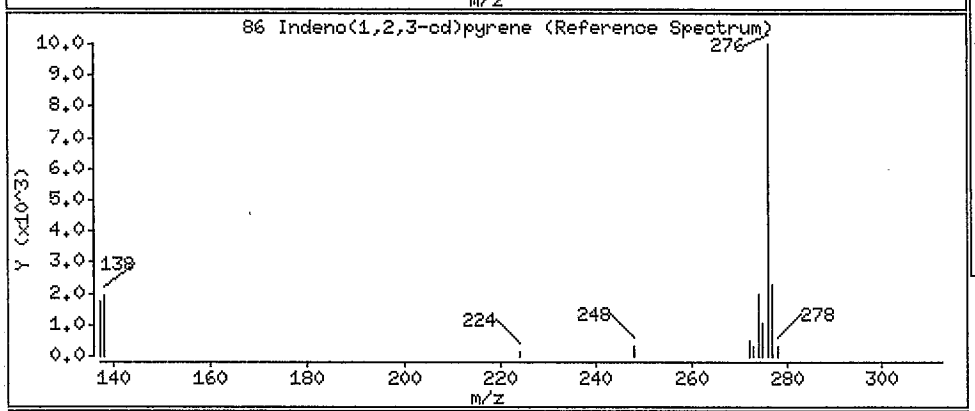
Column diameter: 0.25

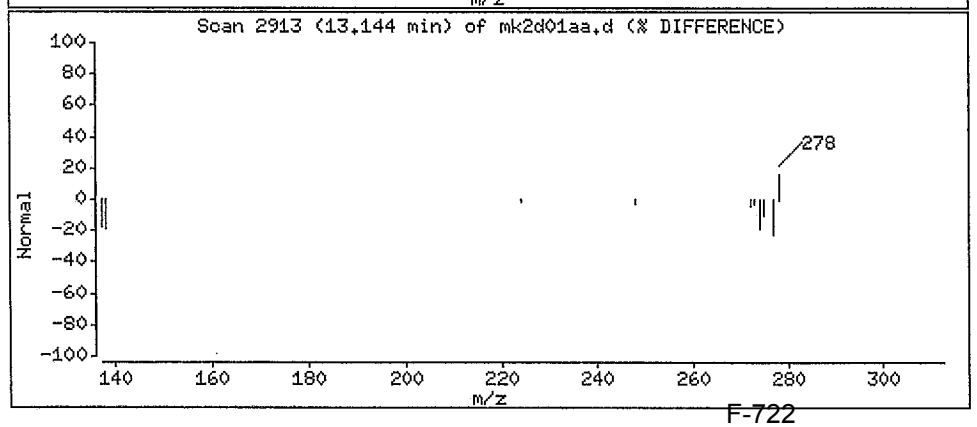
86 Indeno(1,2,3-cd)pyrene

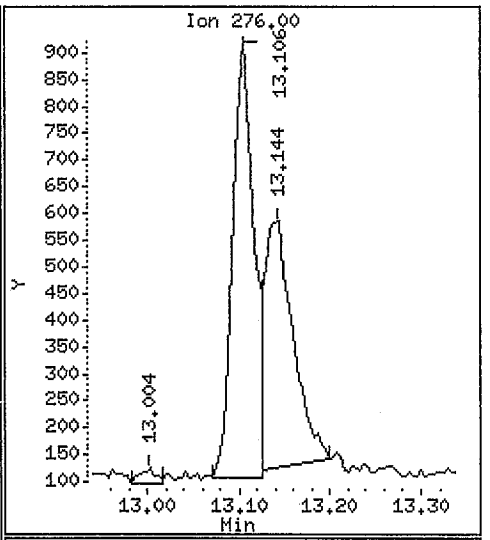
Concentration: 1.00 ng/sample

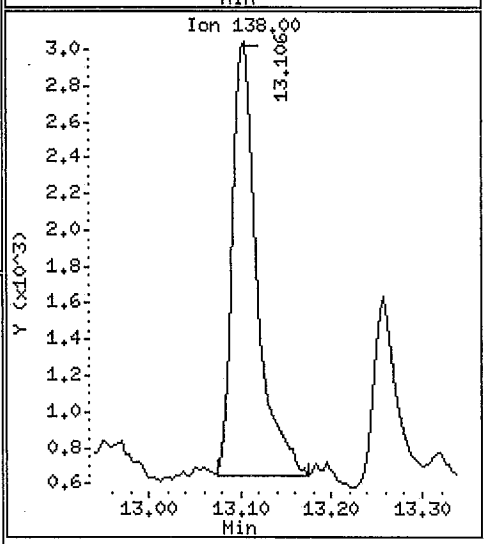












Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

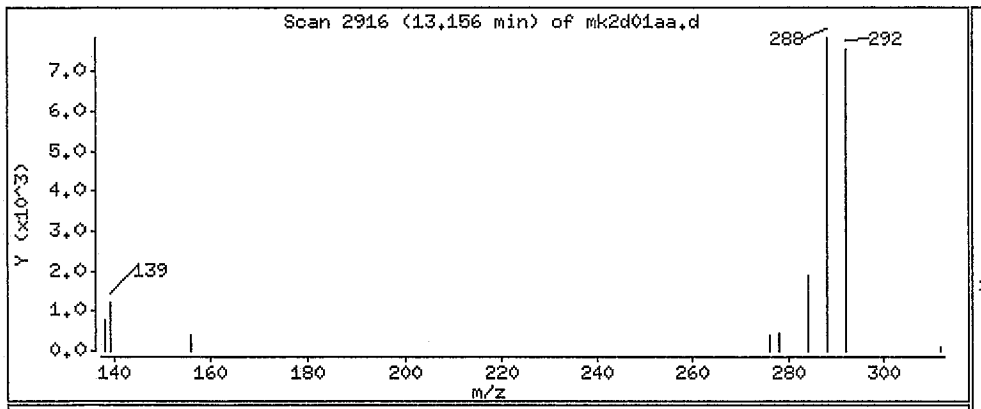
Operator: 11211

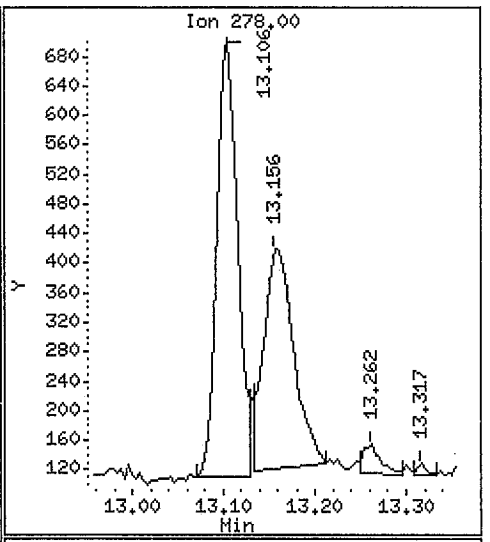
Column phase: Varian: 5MS

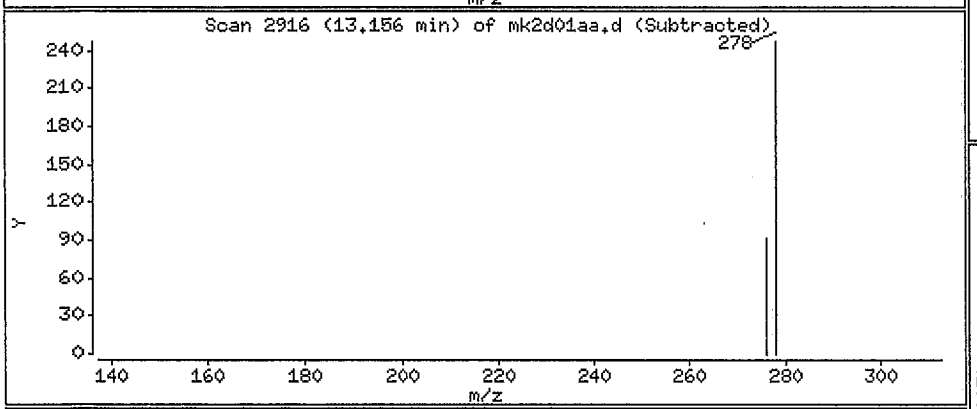
Column diameter: 0.25

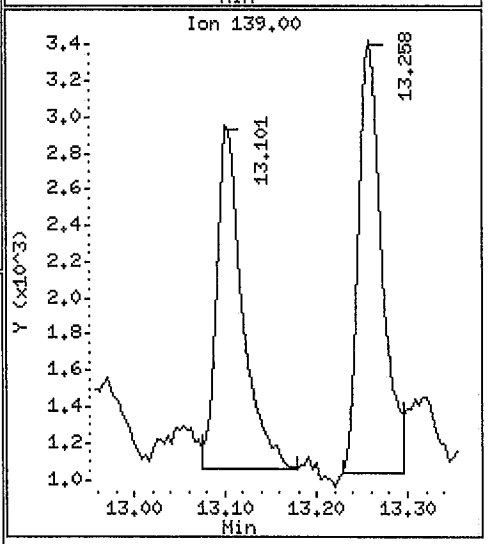
89 Dibenz(a,h)anthracene

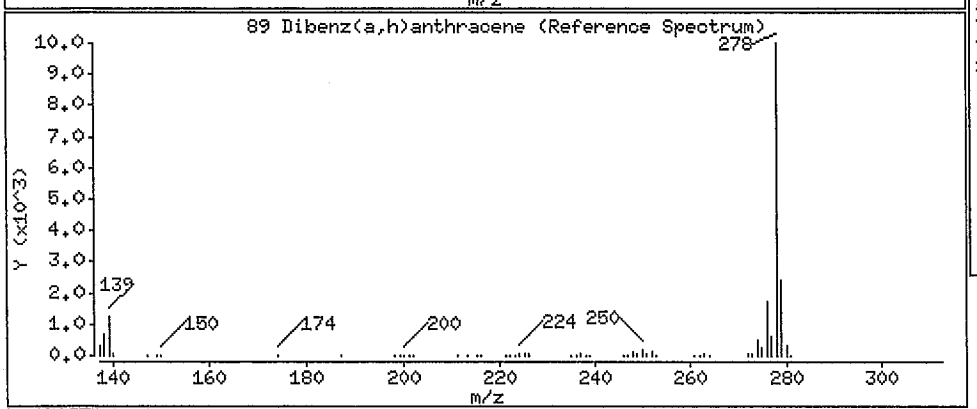
Concentration: 0.903 ng/sample

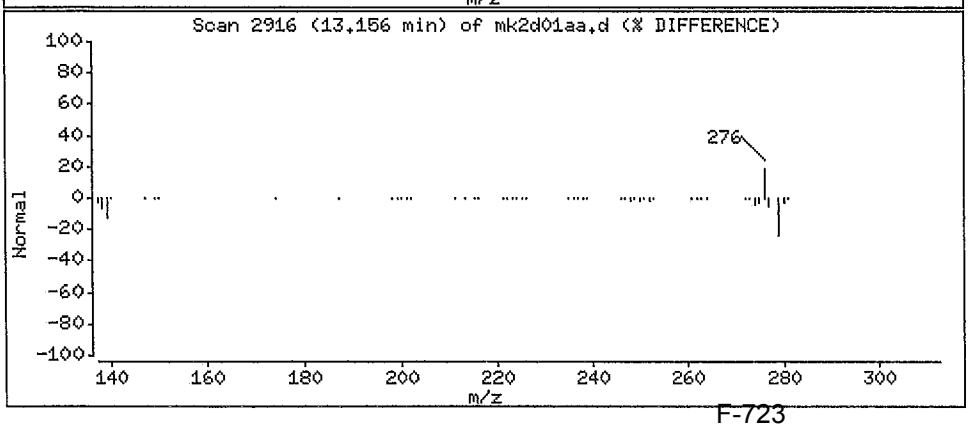












Data File: /var/chem/goms/mp.i/P072911.b/mk2d01aa.d

Date : 29-JUL-2011 11:48

Client ID: INTRA-LAB BLANK

Instrument: mp.i

Sample Info: ,,3,,BLANK

Purge Volume: 1.0

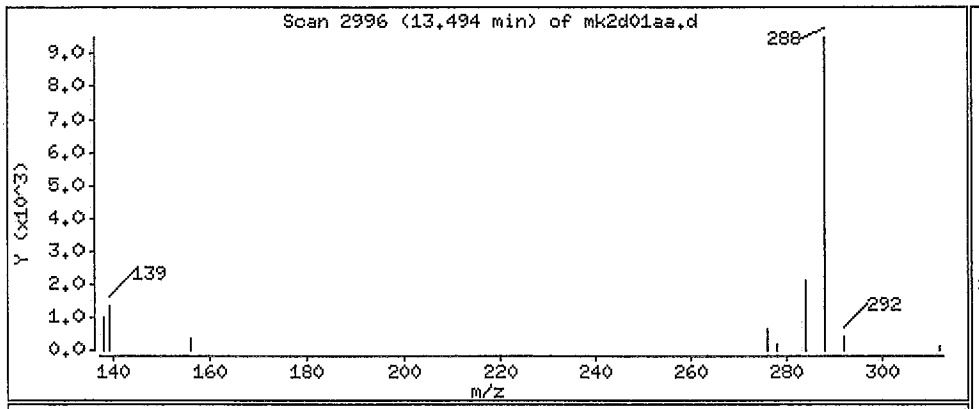
Operator: 11211

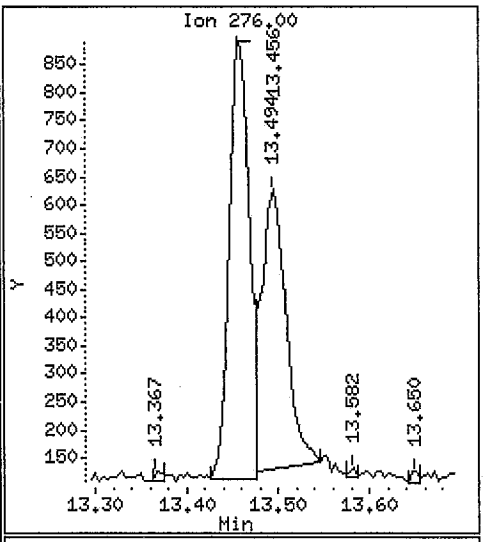
Column phase: Varian: 5MS

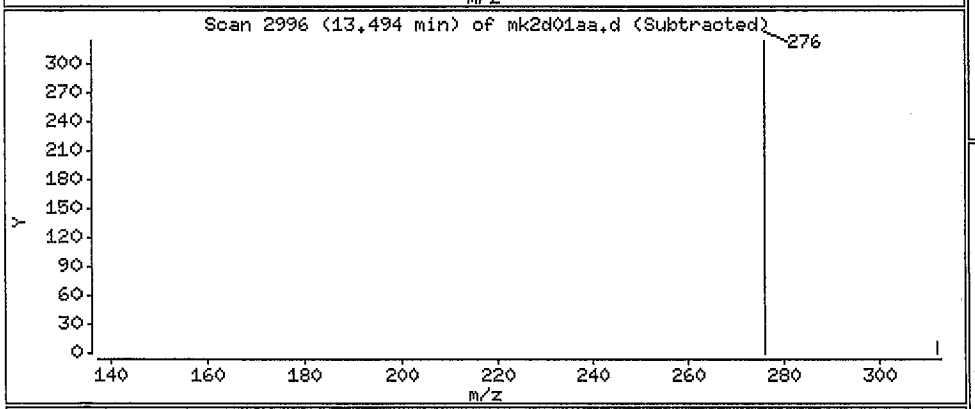
Column diameter: 0.25

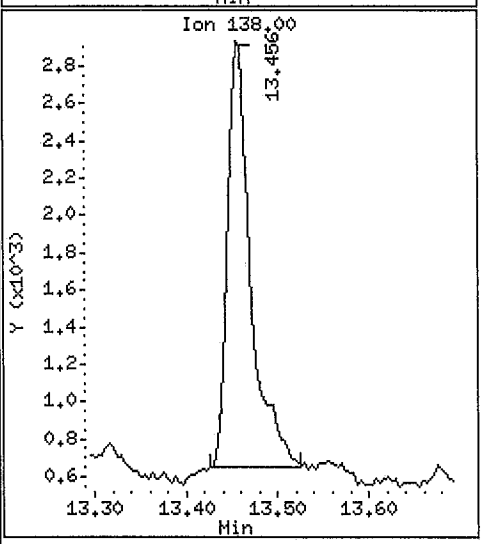
92 Benzo(g,h,i)perylene

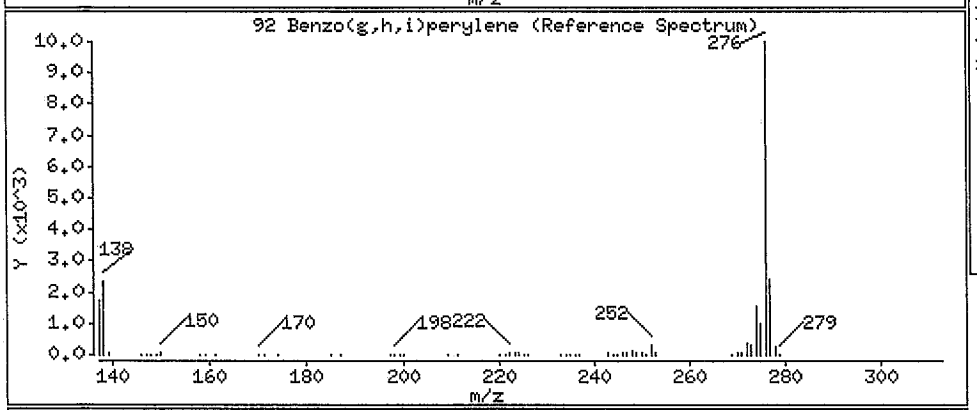
Concentration: 1.17 ng/sample

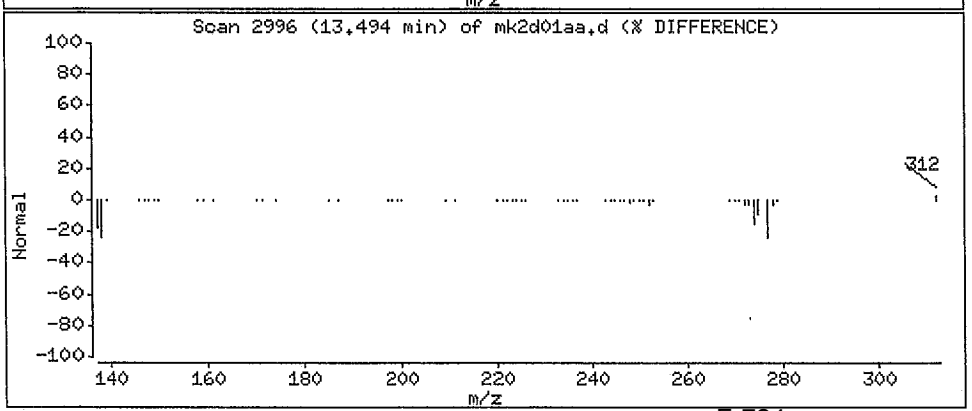












LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H1G200446 Work Order #...: MK2D01AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H1G200000-079 MK2D01AD-LCSD
Prep Date .....: 07/20/11 Analysis Date..: 07/29/11
Prep Batch #...: 1201079
Dilution Factor: 1 Method.....: KNOX ID-0016

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS
Acenaphthene	250	226	ng/sample	90	(60 - 140)		
	250	221	ng/sample	88	(60 - 140)	2.2	(0-25)
Acenaphthylene	250	227	ng/sample	91	(60 - 140)		
	250	227	ng/sample	91	(60 - 140)	0.0	(0-25)
Anthracene	250	215	ng/sample	86	(60 - 140)		
	250	211	ng/sample	84	(60 - 140)	1.9	(0-25)
Benzo(a)anthracene	250	187	ng/sample	75	(60 - 140)		
	250	187	ng/sample	75	(60 - 140)	0.0	(0-25)
Benzo(b)fluoranthene	250	198	ng/sample	79	(60 - 140)		
	250	197	ng/sample	79	(60 - 140)	0.50	(0-25)
Benzo(k)fluoranthene	250	265	ng/sample	106	(60 - 140)		
	250	264	ng/sample	106	(60 - 140)	0.37	(0-25)
Benzo(ghi)perylene	250	239	ng/sample	96	(60 - 140)		
	250	239	ng/sample	96	(60 - 140)	0.0	(0-25)
Benzo(a)pyrene	250	234	ng/sample	94	(60 - 140)		
	250	234	ng/sample	94	(60 - 140)	0.0	(0-25)
Benzo(e)pyrene	250	202	ng/sample	81	(60 - 140)		
	250	202	ng/sample	81	(60 - 140)	0.0	(0-25)
Chrysene	250	261	ng/sample	104	(60 - 140)		
	250	263	ng/sample	105	(60 - 140)	0.76	(0-25)
Dibenz(a,h)anthracene	250	246	ng/sample	98	(60 - 140)		
	250	240	ng/sample	96	(60 - 140)	2.5	(0-25)
Fluoranthene	250	232	ng/sample	93	(60 - 140)		
	250	232	ng/sample	93	(60 - 140)	0.0	(0-25)
Fluorene	250	247	ng/sample	99	(60 - 140)		
	250	248	ng/sample	99	(60 - 140)	0.40	(0-25)
Indeno(1,2,3-cd)pyrene	250	228	ng/sample	91	(60 - 140)		
	250	227	ng/sample	91	(60 - 140)	0.44	(0-25)
2-Methylnaphthalene	250	261	ng/sample	104	(60 - 140)		
	250	258	ng/sample	103	(60 - 140)	1.2	(0-25)
Naphthalene	2000	2180	ng/sample	109	(60 - 140)		
	2000	2180	ng/sample	109	(60 - 140)	0.0	(0-25)
Perylene	250	226	ng/sample	90	(60 - 140)		
	250	227	ng/sample	91	(60 - 140)	0.44	(0-25)
Phenanthrene	250	262	ng/sample	105	(60 - 140)		
	250	258	ng/sample	103	(60 - 140)	1.5	(0-25)
Pyrene	250	226	ng/sample	90	(60 - 140)		
	250	225	ng/sample	90	(60 - 140)	0.44	(0-25)

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
Anthracene-d10	96	(60 - 140)
	100	(60 - 140)
Naphthalene-d8	91	(60 - 140)
	92	(60 - 140)
2-Methylnaphthalene-d10	96	(60 - 140)
	97	(60 - 140)
Acenaphthylene-d8	111	(60 - 140)

(Continued on next Page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H1G200446 Work Order #...: MK2D01AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H1G200000-079 MK2D01AD-LCSD

INTERNAL STANDARD	PERCENT RECOVERY		RECOVERY LIMITS
	114		(60 - 140)
Phenanthrene-d10	82		(60 - 140)
	84		(60 - 140)
Fluoranthene-d10	101		(60 - 140)
	102		(60 - 140)
Benzo(a)anthracene-d12	147	*	(60 - 140)
	150	*	(60 - 140)
Chrysene-d12	88		(60 - 140)
	90		(60 - 140)
Benzo(b)fluoranthene-d12	117		(60 - 140)
	120		(60 - 140)
Benzo(k)fluoranthene-d12	86		(60 - 140)
	88		(60 - 140)
Benzo(a)pyrene-d12	111		(60 - 140)
	114		(60 - 140)
Perylene-d12	101		(60 - 140)
	103		(60 - 140)
Indeno(1,2,3-cd)pyrene-d12	105		(60 - 140)
	109		(60 - 140)
Dibenz(ah)anthracene-d14	100		(60 - 140)
	107		(60 - 140)
Benzo(ghi)perylene-d12	97		(60 - 140)
	101		(60 - 140)

Note(s):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

* Surrogate recovery is outside stated control limits.

Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01ac.d
Report Date: 04-Aug-2011 19:01

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P072911.b/mk2d01ac.d
Lab Smp Id: MK2D01AC Client Smp ID: INTRA-LAB CHECK
Inj Date : 29-JUL-2011 12:12
Operator : 11211 Inst ID: mp.i
Smp Info : ,,3,,LCS
Misc Info : P072911,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Meth Date : 04-Aug-2011 19:00 cochranj Quant Type: ISTD
Cal Date : 26-JUL-2011 20:15 Cal File: pg26ic07.d
Als bottle: 4 QC Sample: METHOD SPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	1.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
* 1 Naphthalene-d8	136	4.865	4.865	(1.000)	675598	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.865	4.865	(0.770)	675598	0.45591	228
3 Naphthalene	128	4.880	4.880	(1.003)	5005130	4.36536	2180
$ 222 13C6-Naphthalene	134	4.865	4.880	(1.000)	61834	0.04983	~~24.9(R)~~
* 10 2-Methylnaphthalene-d10	152	5.424	5.424	(1.000)	382271	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.424	5.424	(0.858)	382271	0.47808	239
12 2-Methylnaphthalene	142	5.450	5.450	(1.005)	401597	0.52147	261
* 13 1-Methylnaphthalene-d10	152	5.503	5.503	(1.000)	370758	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.503	5.503	(0.871)	370758	0.46648	233
15 1-Methylnaphthalene	142	5.533	5.533	(1.005)	369280	0.51335	257
16 Biphenyl	154	5.835	5.835	(1.076)	474316	0.51860	259
* 17 2,6-Dimethylnaphthalene-d12	168	5.935	5.933	(1.000)	331380	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.935	5.933	(0.939)	331380	0.48583	243
19 2,6 Dimethylnaphthalene	156	5.969	5.969	(1.006)	336134	0.50894	254

Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01ac.d
Report Date: 04-Aug-2011 19:01

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
*	20 Acenaphthylene-d8	160	6.194	6.194	(1.000)	616894	0.50000	0.500
$	21 Acenaphthylene-d8(SS)	160	6.194	6.194	(0.980)	616894	0.55335	277
	22 Acenaphthylene	152	6.202	6.202	(1.001)	565885	0.45499	227
*	23 Acenaphthene-d10	164	6.322	6.325	(1.000)	315085	0.50000	0.500
	24 Acenaphthene	154	6.350	6.350	(1.025)	335416	0.45155	226
	25 2,3,5 Trimethylnaphthalene	170	6.669	6.669	(1.124)	302293	0.54872	274
$	26 Fluorene-d10	176	6.758	6.758	(0.892)	218	0.000355	0.178(R)
	27 Fluorene	166	6.783	6.783	(0.895)	393669	0.49414	247
$	28 13C6-Fluorene	171	6.781	6.781	(0.895)	370	0.000538	0.269(R)
*	34 Dibenzothiopene-d8	192	7.474	7.474	(1.000)	559879	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.474	7.474	(0.841)	559879	0.39967	200
	36 Dibenzothiophene	184	7.488	7.489	(1.002)	521355	0.48818	244
*	41 Phenanthrene-d10	188	7.578	7.578	(1.000)	519646	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.578	7.578	(0.853)	519646	0.41116	206
	43 Phenanthrene	178	7.596	7.597	(1.002)	597118	0.52337	262
*	44 Anthracene-d10	188	7.626	7.626	(1.000)	513428	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.626	7.626	(0.858)	513425	0.48108	241
	46 Anthracene	178	7.642	7.642	(1.002)	569372	0.43096	215
$	47 13C6-Anthracene	184	7.640	7.642	(0.860)	473747	0.40953	205
	52 1-Methylphenanthrene	192	8.143	8.143	(1.075)	406453	0.59309	297
*	53 Fluoranthene-d10	212	8.663	8.665	(1.000)	594263	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.663	8.665	(0.975)	594263	0.50484	252
	55 Fluoranthene	202	8.683	8.683	(1.002)	620040	0.46371	232
*	56 Pyrene-d10	212	8.885	8.885	(1.000)	479862	0.50000	0.500
	57 Pyrene	202	8.902	8.904	(1.028)	638629	0.45164	226
$	58 Terphenyl-d14	244	9.045	9.043	(1.044)	123	0.000202	0.101(R)
*	60 Benzo(a)anthracene-d12	240	10.100	10.100	(1.000)	429859	0.50000	0.500
$	61 Benzo(a)anthracene-d12(SS)	240	10.100	10.100	(1.137)	429859	0.73443	367(R)
	62 Benzo(a)anthracene	228	10.121	10.121	(1.002)	513434	0.37359	187
*	63 Chrysene-d12	240	10.133	10.133	(1.000)	454070	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.133	10.133	(1.141)	454070	0.44219	221
	65 Chrysene	228	10.158	10.163	(1.002)	517386	0.52197	261
*	70 Benzo(b)fluoranthene-d12	264	11.253	11.253	(1.000)	422386	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.253	11.253	(0.973)	422386	0.58647	293
	72 Benzo(b)fluoranthene	252	11.277	11.277	(1.002)	490967	0.39563	198
*	73 Benzo(k)fluoranthene-d12	264	11.289	11.289	(1.000)	440356	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.289	11.289	(0.976)	440356	0.42840	214
	75 Benzo(k)fluoranthene	252	11.307	11.307	(1.002)	510164	0.52915	265
*	76 Benzo(e)pyrene-d12	264	11.570	11.570	(1.000)	341524	0.50000	0.500
	77 Benzo(e)pyrene	252	11.599	11.600	(0.997)	450194	0.40461	202
*	78 Benzo(a)pyrene-d12	264	11.635	11.635	(1.000)	409472	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.635	11.635	(1.006)	409472	0.55605	278
	80 Benzo(a)pyrene	252	11.665	11.665	(1.003)	435510	0.46866	234
*	81 Perylene-d12	264	11.731	11.737	(1.000)	369504	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.731	11.737	(1.014)	369504	0.50310	252
	83 Perylene	252	11.761	11.761	(1.003)	420915	0.45208	226
*	84 Indeno(123-cd)pyrene-d12	288	13.106	13.106	(1.000)	442145	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01ac.d
Report Date: 04-Aug-2011 19:01

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.106	13.106	(1.133)	442145	0.52543	263
	86 Indeno(1,2,3-cd)pyrene	276	13.140	13.140	(1.003)	488084	0.45602	228
*	87 Dibenz(ah)anthracene-d14	292	13.110	13.110	(1.000)	322211	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.110	13.110	(1.133)	322211	0.50270	251
	89 Dibenz(a,h)anthracene	278	13.156	13.157	(1.004)	390006	0.49287	246
*	90 Benzo(ghi)perylene-d12	288	13.456	13.460	(1.000)	307404	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.456	13.460	(1.163)	307404	0.48608	243
	92 Benzo(g,h,i)perylene	276	13.494	13.494	(1.003)	407070	0.47838	239

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01ac.d
Report Date: 04-Aug-2011 19:01

TestAmerica Knoxville

RECOVERY REPORT

Client Name: ITSBUR
Sample Matrix: GAS
Lab Smp Id: MK2D01AC
Level: LOW
Data Type: MS DATA
SpikeList File: icv.spk
Sublist File: pah.sub
Method File: /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Misc Info: P072911,SIMPAH3

Client SDG: H1G200000
Fraction: SV
Client Smp ID: INTRA-LAB CHECK
Operator: 11211
SampleType: METHOD SPIKE
Quant Type: ISTD

SPIKE COMPOUND	CONC ADDED ng/sample	CONC RECOVERED ng/sample	% RECOVERED	LIMITS
3 Naphthalene	2000	2180	109.13	70-130
12 2-Methylnaphthalen	250	261	104.29	70-130
15 1-Methylnaphthalen	250	257	102.67	70-130
16 Biphenyl	250	259	103.72	70-130
19 2,6 Dimethylnaphth	250	254	101.79	70-130
22 Acenaphthylene	250	227	91.00	70-130
24 Acenaphthene	250	226	90.31	70-130
25 2,3,5 Trimethylnap	250	274	109.74	70-130
27 Fluorene	250	247	98.83	70-130
36 Dibenzothiophene	250	244	97.64	70-130
43 Phenanthrene	250	262	104.67	70-130
46 Anthracene	250	215	86.19	70-130
52 1-Methylphenanthre	250	297	118.62	70-130
55 Fluoranthene	250	232	92.74	70-130
57 Pyrene	250	226	90.33	70-130
62 Benzo(a)anthracene	250	187	✓ 74.72	70-130
65 Chrysene	250	261	104.39	70-130
72 Benzo(b)fluoranthe	250	198	79.13	70-130
75 Benzo(k)fluoranthe	250	265	105.83	70-130
77 Benzo(e)pyrene	250	202	80.92	70-130
80 Benzo(a)pyrene	250	234	93.73	70-130
83 Perylene	250	226	90.42	70-130
86 Indeno(1,2,3-cd)py	250	228	91.20	70-130
89 Dibenz(a,h)anthrac	250	246	98.57	70-130
92 Benzo(g,h,i)peryle	250	239	95.68	70-130

60-140 JKH

SURROGATE COMPOUND	CONC ADDED ng/sample	CONC RECOVERED ng/sample	% RECOVERED	LIMITS
$ 2 Naphthalene-d8(SS)	250	228	91.18	30-120

60-140 JKH

Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01ac.d
Report Date: 04-Aug-2011 19:01

SURROGATE COMPOUND	CONC ADDED ng/sample	CONC RECOVERED ng/sample	% RECOVERED	LIMITS
$ 222 13C6-Naphthalene	250	24.9	~~9.97*~~	~~50-150~~
$ 11 2-Methylnaphthalen	250	239	95.62	30-120
$ 14 1-Methylnaphthalen	250	233	93.30	30-120
$ 18 2,6-Dimethylnaph-d	250	243	97.17	30-120
$ 21 Acenaphthylene-d8(	250	277	110.67	30-120
$ 26 Fluorene-d10	500	0.178	~~0.04*~~	30-120
$ 28 13C6-Fluorene	500	0.269	0.05*	30-120
$ 35 Dibenzothiopene-d8	250	200	79.93	30-120
$ 42 Phenanthrene-d10(S	250	206	82.23	30-120
$ 45 Anthracene-d10(SS)	250	241	96.22	30-120
$ 47 13C6-Anthracene	250	205	81.91	30-120
$ 54 Fluoranthene-d10(S	250	252	100.97	0-120
$ 58 Terphenyl-d14	500	0.101	~~0.02*~~	30-120
$ 61 Benzo(a)anthracene	250	367	146.89*	30-120 *
$ 64 Chrysene-d12(SS)	250	221	88.44	30-120
$ 71 Benzo(b)fluoranthe	250	293	117.29	30-120
$ 74 Benzo(k)fluoranthe	250	214	85.68	30-120
$ 79 Benzo(a)pyrene-d12	250	278	111.21	30-120
$ 82 Perylene-d12(SS)	250	252	100.62	30-120
$ 85 Indeno(123-cd)pyre	250	263	105.09	30-120
$ 88 Dibenz(ah)anthrace	250	251	100.54	30-120
$ 91 Benzo(ghi)perylene	250	243	97.22	30-120

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60-140
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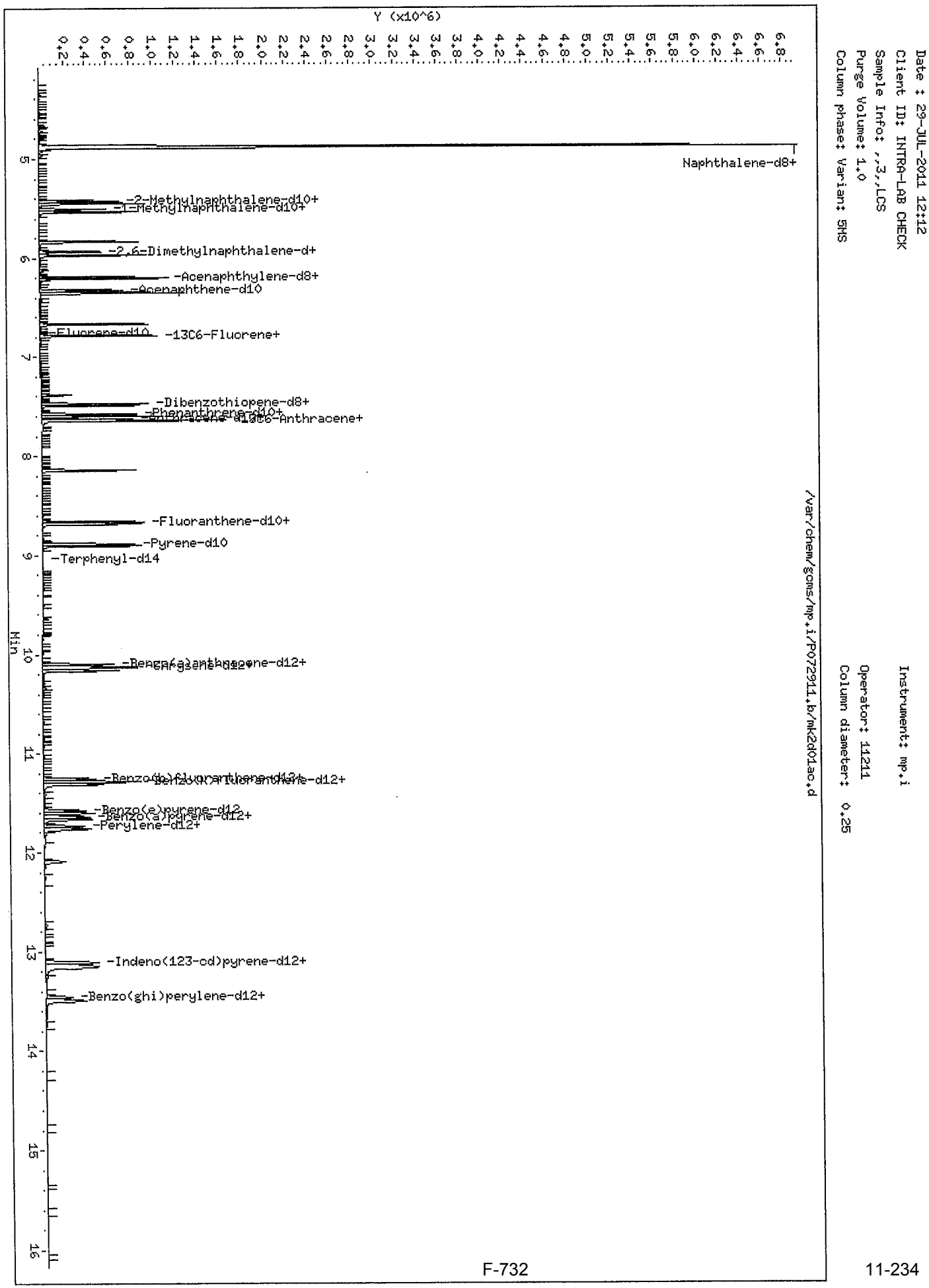
Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01ac.d
Date : 29-JUL-2011 12:12
Client ID: INTRA-LAB CHECK
Sample Info: ,,3,,LCS
Purge Volume: 1.0
Column phase: Varian 5MS
Instrument: mp.i
Operator: 11211
Column diameter: 0.25
Y (x10^6)
Min
Naphthalene-d8+
-2-Methylnaphthalene-d10+
-1-Methylnaphthalene-d10+
-2,6-Dimethylnaphthalene-d+
-Acenaphthylene-d8+
-Acenaphthene-d10
-Fluorene-d10
-13C6-Fluorene+
-Dibenzothiopene-d8+
-Phenanthrene-d10+
-13C6-Anthracene+
-Fluoranthene-d10+
-Pyrene-d10
-Terphenyl-d14
-Benzo(a)anthracene-d12+
-Benzo(b)fluoranthene-d12+
-Benzo(k)fluoranthene-d12+
-Benzo(e)pyrene-d12
-Benzo(a)pyrene-d12+
-Perylene-d12+
-Indeno(123-cd)pyrene-d12+
-Benzo(ghi)perylene-d12+
/var/chem/gcms/mp.i/P072911.b/mk2d01ac.d

Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01ad.d
Report Date: 04-Aug-2011 19:01

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P072911.b/mk2d01ad.d
Lab Smp Id: MK2D01AD Client Smp ID: INTRA-LAB CHECK
Inj Date : 29-JUL-2011 12:37
Operator : 11211 Inst ID: mp.i
Smp Info : ,,3,,LCSD
Misc Info : P072911,SIMPAH3
Comment :
Method : /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Meth Date : 04-Aug-2011 19:00 cochranj Quant Type: ISTD
Cal Date : 26-JUL-2011 20:15 Cal File: pg26ic07.d
Als bottle: 5 QC Sample: METHOD SPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * Sf*Vt/Vo * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Sf	1.00000	Split factor
Vt	500.00000	Volume of final extract (uL)
Vo	1.00000	Volume of sample extracted (sample)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
* 1 Naphthalene-d8	136	4.865	4.865	(1.000)	754963	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.865	4.865	(0.769)	754963	0.46214	231
3 Naphthalene	128	4.880	4.880	(1.003)	5596950	4.36837	2180
$ 222 13C6-Naphthalene	134	4.865	4.880	(1.000)	68900	0.04969	~~24.8(R)~~
* 10 2-Methylnaphthalene-d10	152	5.424	5.424	(1.000)	427839	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.424	5.424	(0.858)	427839	0.48536	243
12 2-Methylnaphthalene	142	5.450	5.450	(1.005)	444400	0.51559	258
* 13 1-Methylnaphthalene-d10	152	5.503	5.503	(1.000)	417030	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.503	5.503	(0.870)	417030	0.47596	238
15 1-Methylnaphthalene	142	5.533	5.533	(1.005)	409364	0.50593	253
16 Biphenyl	154	5.835	5.835	(1.076)	531190	0.51892	259
* 17 2,6-Dimethylnaphthalene-d12	168	5.935	5.933	(1.000)	372877	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	5.935	5.933	(0.938)	372877	0.49589	248
19 2,6 Dimethylnaphthalene	156	5.969	5.969	(1.006)	376091	0.50607	253

Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01ad.d
Report Date: 04-Aug-2011 19:01

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
*	20	Acenaphthylene-d8	160	6.194	6.194	(1.000)	697924	0.50000	0.500
$	21	Acenaphthylene-d8(SS)	160	6.194	6.194	(0.979)	697924	0.56788	284
	22	Acenaphthylene	152	6.202	6.202	(1.001)	639264	0.45432	227
*	23	Acenaphthene-d10	164	6.325	6.325	(1.000)	347352	0.50000	0.500
	24	Acenaphthene	154	6.350	6.350	(1.025)	371524	0.44209	221
	25	2,3,5 Trimethylnaphthalene	170	6.669	6.669	(1.124)	337840	0.54500	272
$	26	Fluorene-d10	176	6.761	6.758	(0.892)	248	0.000361	0.181(R)
	27	Fluorene	166	6.783	6.783	(0.895)	441807	0.49686	248
$	28	13C6-Fluorene	171	6.778	6.781	(0.894)	450	0.000587	0.293(R)
*	34	Dibenzothiopene-d8	192	7.474	7.474	(1.000)	621256	0.50000	0.500
$	35	Dibenzothiopene-d8(SS)	192	7.474	7.474	(0.841)	621256	0.40782	204
	36	Dibenzothiophene	184	7.488	7.489	(1.002)	577022	0.48692	243
*	41	Phenanthrene-d10	188	7.578	7.578	(1.000)	579989	0.50000	0.500
$	42	Phenanthrene-d10(SS)	188	7.578	7.578	(0.853)	579989	0.42200	211
	43	Phenanthrene	178	7.596	7.597	(1.002)	657264	0.51615	258
*	44	Anthracene-d10	188	7.625	7.626	(1.000)	578101	0.50000	0.500
$	45	Anthracene-d10(SS)	188	7.625	7.626	(0.858)	578101	0.49812	249
	46	Anthracene	178	7.642	7.642	(1.002)	627446	0.42178	211
$	47	13C6-Anthracene	184	7.642	7.642	(0.860)	517275	0.41120	206
	52	1-Methylphenanthrene	192	8.143	8.143	(1.075)	453196	0.59249	296
*	53	Fluoranthene-d10	212	8.665	8.665	(1.000)	656169	0.50000	0.500
$	54	Fluoranthene-d10(SS)	212	8.665	8.665	(0.975)	656169	0.51260	256
	55	Fluoranthene	202	8.683	8.683	(1.002)	684455	0.46360	232
*	56	Pyrene-d10	212	8.885	8.885	(1.000)	521826	0.50000	0.500
	57	Pyrene	202	8.904	8.904	(1.028)	704070	0.45095	225
$	58	Terphenyl-d14	244	9.045	9.043	(1.044)	79	0.000119	0.0594(R)
*	60	Benzo(a)anthracene-d12	240	10.100	10.100	(1.000)	476744	0.50000	0.500
$	61	Benzo(a)anthracene-d12(SS)	240	10.100	10.100	(1.137)	476744	0.74903	375(R)
	62	Benzo(a)anthracene	228	10.121	10.121	(1.002)	570275	0.37414	187
*	63	Chrysene-d12	240	10.133	10.133	(1.000)	500242	0.50000	0.500
$	64	Chrysene-d12(SS)	240	10.133	10.133	(1.141)	500242	0.44798	224
	65	Chrysene	228	10.158	10.163	(1.002)	574458	0.52606	263
*	70	Benzo(b)fluoranthene-d12	264	11.253	11.253	(1.000)	469420	0.50000	0.500
$	71	Benzo(b)fluoranthene-d12(SS)	264	11.253	11.253	(0.973)	469420	0.59873	299
	72	Benzo(b)fluoranthene	252	11.277	11.277	(1.002)	543892	0.39436	197
*	73	Benzo(k)fluoranthene-d12	264	11.289	11.289	(1.000)	493327	0.50000	0.500
$	74	Benzo(k)fluoranthene-d12(SS)	264	11.289	11.289	(0.976)	493327	0.44088	220
	75	Benzo(k)fluoranthene	252	11.307	11.307	(1.002)	570516	0.52821	264
*	76	Benzo(e)pyrene-d12	264	11.570	11.570	(1.000)	371782	0.50000	0.500
	77	Benzo(e)pyrene	252	11.599	11.600	(0.997)	504829	0.40496	202
*	78	Benzo(a)pyrene-d12	264	11.635	11.635	(1.000)	458770	0.50000	0.500
$	79	Benzo(a)pyrene-d12(SS)	264	11.635	11.635	(1.006)	458770	0.57229	286
	80	Benzo(a)pyrene	252	11.665	11.665	(1.003)	487635	0.46836	234
*	81	Perylene-d12	264	11.731	11.737	(1.000)	411280	0.50000	0.500
$	82	Perylene-d12(SS)	264	11.731	11.737	(1.014)	411280	0.51440	257
	83	Perylene	252	11.767	11.761	(1.003)	470207	0.45372	227
*	84	Indeno(123-cd)pyrene-d12	288	13.106	13.106	(1.000)	500780	0.50000	0.500

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Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01ad.d
Report Date: 04-Aug-2011 19:01

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/sample)
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.106	13.106	(1.133)	500780	0.54667	273
	86 Indeno(1,2,3-cd)pyrene	276	13.140	13.140	(1.003)	550833	0.45439	227
*	87 Dibenz(ah)anthracene-d14	292	13.110	13.110	(1.000)	374215	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.110	13.110	(1.133)	374215	0.53631	268
	89 Dibenz(a,h)anthracene	278	13.156	13.157	(1.004)	441042	0.47992	240
*	90 Benzo(ghi)perylene-d12	288	13.460	13.460	(1.000)	346736	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.460	13.460	(1.163)	346736	0.50366	252
	92 Benzo(g,h,i)perylene	276	13.494	13.494	(1.002)	459297	0.47853	239

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01ad.d
Report Date: 04-Aug-2011 19:01

TestAmerica Knoxville

RECOVERY REPORT

Client Name: ITSBUR
Sample Matrix: GAS
Lab Smp Id: MK2D01AD
Level: LOW
Data Type: MS DATA
SpikeList File: icv.spk
Sublist File: pah.sub
Method File: /var/chem/gcms/mp.i/P072911.b/SIMPAH3.m
Misc Info: P072911,SIMPAH3

Client SDG: H1G200000
Fraction: SV
Client Smp ID: INTRA-LAB CHECK
Operator: 11211
SampleType: METHOD SPIKE
Quant Type: ISTD

SPIKE COMPOUND	CONC ADDED ng/sample	CONC RECOVERED ng/sample	% RECOVERED	LIMITS
3 Naphthalene	2000	2180	109.21	~~70-130~~
12 2-Methylnaphthalen	250	258	103.12	70-130
15 1-Methylnaphthalen	250	253	101.19	70-130
16 Biphenyl	250	259	103.78	70-130
19 2,6 Dimethylnaphth	250	253	101.21	70-130
22 Acenaphthylene	250	227	90.86	70-130
24 Acenaphthene	250	221	88.42	70-130
25 2,3,5 Trimethylnap	250	272	109.00	70-130
27 Fluorene	250	248	99.37	70-130
36 Dibenzothiophene	250	243	97.38	70-130
43 Phenanthrene	250	258	103.23	70-130
46 Anthracene	250	211	84.36	70-130
52 1-Methylphenanthre	250	296	118.50	70-130
55 Fluoranthene	250	232	92.72	70-130
57 Pyrene	250	225	90.19	70-130
62 Benzo(a)anthracene	250	187	74.83	70-130
65 Chrysene	250	263	105.21	70-130
72 Benzo(b)fluoranthe	250	197	78.87	70-130
75 Benzo(k)fluoranthe	250	264	105.64	70-130
77 Benzo(e)pyrene	250	202	80.99	70-130
80 Benzo(a)pyrene	250	234	93.67	70-130
83 Perylene	250	227	90.74	70-130
86 Indeno(1,2,3-cd)py	250	227	90.88	70-130
89 Dibenz(a,h)anthrac	250	240	95.98	70-130
92 Benzo(g,h,i)peryle	250	239	95.71	~~70-130~~

60-140

SURROGATE COMPOUND	CONC ADDED ng/sample	CONC RECOVERED ng/sample	% RECOVERED	LIMITS
$ 2 Naphthalene-d8(SS)	250	231	92.43	~~30-120~~

60-140

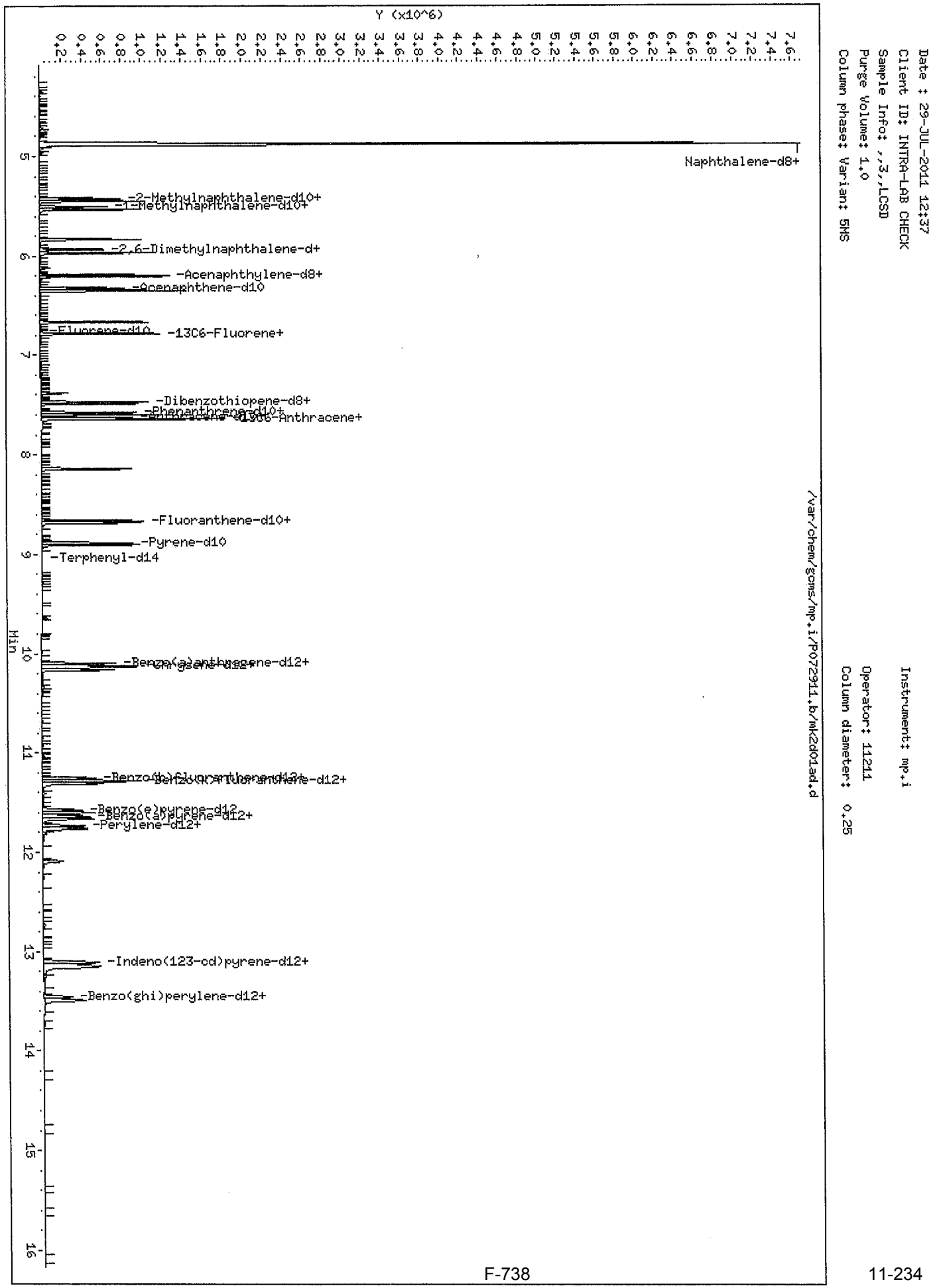
Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01ad.d
Report Date: 04-Aug-2011 19:01

SURROGATE COMPOUND	CONC ADDED ng/sample	CONC RECOVERED ng/sample	% RECOVERED	LIMITS
$ 222 13C6-Naphthalene	250	24.8	~~9.94*~~	~~50-150~~
$ 11 2-Methylnaphthalen	250	243	97.07	30-120
$ 14 1-Methylnaphthalen	250	238	95.19	30-120
$ 18 2,6-Dimethylnaph-d	250	248	99.18	30-120
$ 21 Acenaphthylene-d8(	250	284	113.58	30-120
$ 26 Fluorene-d10	500	0.181	~~0.04*~~	30-120
$ 28 13C6-Fluorene	500	0.293	0.06*	30-120
$ 35 Dibenzothiopene-d8	250	204	81.56	30-120
$ 42 Phenanthrene-d10(S	250	211	84.40	30-120
$ 45 Anthracene-d10(SS)	250	249	99.62	30-120
$ 47 13C6-Anthracene	250	206	82.24	30-120
$ 54 Fluoranthene-d10(S	250	256	102.52	0-120
$ 58 Terphenyl-d14	500	0.0594	~~0.01*~~	30-120
$ 61 Benzo(a)anthracene	250	375	149.81*	30-120 *
$ 64 Chrysene-d12(SS)	250	224	89.60	30-120
$ 71 Benzo(b)fluoranthe	250	299	119.75	30-120
$ 74 Benzo(k)fluoranthe	250	220	88.18	30-120
$ 79 Benzo(a)pyrene-d12	250	286	114.46	30-120
$ 82 Perylene-d12(SS)	250	257	102.88	30-120
$ 85 Indeno(123-cd)pyre	250	273	109.33	30-120
$ 88 Dibenz(ah)anthrace	250	268	107.26	30-120
$ 91 Benzo(ghi)perylene	250	252	100.73	30-120

6/15/11

60-140?

8/4


Data File: /var/chem/gcms/mp.i/P072911.b/mk2d01ad.d
Date : 29-JUL-2011 12:37
Client ID: INTRA-LAB CHECK
Sample Info: ,,3,,LCSD
Purge Volume: 1.0
Column phase: Varian 5HS
Instrument: mp.i
Operator: 11211
Column diameter: 0.25
/var/chem/gcms/mp.i/P072911.b/mk2d01ad.d
Y (x10^6)
Min
Naphthalene-d8+
-2-Methylnaphthalene-d10+
-1-Methylnaphthalene-d10+
-2,6-Dimethylnaphthalene-d+
-Acenaphthylene-d8+
-Acenaphthene-d10
-Fluorene-d10
-13C6-Fluorene+
-Dibenzothiopene-d8+
-Phenanthrene-d10+
-13C6-Anthracene+
-Fluoranthene-d10+
-Pyrene-d10
-Terphenyl-d14
-Benzo(a)anthracene-d12+
-Benzo(b)fluoranthene-d12+
-Benzo(e)pyrene-d12
-Benzo(a)pyrene-d12+
-Perylene-d12+
-Indeno(123-cd)pyrene-d12+
-Benzo(ghi)perylene-d12+

Miscellaneous Data

TestAmerica Knoxville GC/MS-SIM Data Review / Narrative Checklist
Method: LRPAH PAHs and Selected SVOCs - KNOX-ID-0016, Revision 8

Lot Number:	H1G200446		Instrument:	MP	
Scanned Filenames:	P072611E				
	P072911				
	P080111E				
	P080311				

A. Tune / Calibration	N/A	Yes	No	Why is data reportable?	2nd √
1. Were all samples injected within 12 hr of CCAL?		✓			✓
2. Was the correct ICAL used for quantitation? (Check 1 RF per sample/QC sample.)		✓			✓
B. Sample Results	**N/A**	**Yes**	**No**	**Why is data reportable?**	**2nd √**
1. Were all special project requirements met?		✓			✓
2. Were sample preparation and analytical HTs met? If no, list NCM#_____		✓		☐ [ht1] HT expired upon receipt. ☐ [ht2] Client requested analysis after HT expired.* ☐ Re-extraction done after HT expired.	✓
3. Was prep info (sample amount, final vol, split factors, units, prep dates/times) verified?		✓			✓
4. For sediment samples, were the RLs and MDLs adjusted for % moisture using QuantIMS DF?	✓				NA
5. Was date/time of analysis verified between header and logbook?		✓			✓
6. Was header information (WO#, data file, initial wt/vol, extract vol, DF) verified?		✓			✓
7. Were peaks properly identified?		✓			✓
8. Are peak integrations appropriate?		✓			✓
9. Were alkyl group start/end times and patterns verified?	✓				NA
10. Are internal standards & alternate standards (30-120% R), sampling surrogates (50-150% R) within QC limits for samples and matrix spikes? Sample / Reason: MK2D01AA IS1; MK2D01AC; MK2D01AD; MK2HW1AC; MK2H01AC; MK2H11AC Sample / Reason: MK2H21AC IS1 + 2AC; MK2H61AC			✓	☑ [is1] IS above QC limits. ☐ [is2] IS below QC limts. ☐ [sur1] Surrogates outside QC limits.	NO
11. If amount extracted was <80% of nominal amount, were the RLs/MDLs adjusted? List samples:_____		✓		☐ [elev6] Elevated RLs for all analytes due to insufficient sample amount received.	NA
12. For initial analysis that's a dilution, was the largest analyte >20% of calibration range? List dilutated samples and reason (e.g elev1) Sample / Reason: MK2H21AC ELEV1	SAH ✓	✓		☑ [elev1] Elevated RL for (ANALYTE) due to sample matrix interferences. ☐ [elev2] Elevated RL for (ANALYTE) due to interfering analyte. ☐ [elev3] Elevated RLs for all analytes due to difficult sample matrix. ☐ [elev4] Diluted based on screening results. ☐ [elev5] Elevated RLs for all analytes due to presence of non-target compounds.	NO

Lot Number:	IH62004A6				
13. If bench dilutions were required, were results within calibration range? Sample / Reason / Sample / Reason		✓		☐ [E1] 1 g reprep performed. ☐ [E2] 1 g multi-spike reprep performed. ☐ [E3] Post-extraction spike performed. ☐ [E4] E values reported per client.	DK
14. For secondary diluted analyses to bring compounds in calibration range, was the largest analyte targeted to be above 50% of calibration range? List diluted samples and reason (e.g., dil1): Sample / Reason / Sample / Reason MK2H21AC		✓		☐ [dil1] Conc. of (ANALYTE) > calibration range. RLs adjusted accordingly. ☐ [dil2] Conc. of several compounds > calibration range. RLs adjusted accordingly. ☐ [dil3] Conc. of (ANALYTE) > calibration range. Both analyses reported to provide lowest RLs. ☐ [dil4] Conc. of several compounds > calibration range. Both analyses reported to provide lowest RLs. – See narrative & comments	NA NA TMW 8.12.11
15. Was the upper calibration range (UCL) calculated correctly and were hits >UCL flagged with "E"?		✓			✓
16. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?		✓		Reasons: 1) Corrected split peak; 2) Unresolved peak; 3) Tailing; 4) RT shift; 5) Wrong peak selected; 6) Other	✓
17. Have alternate hits and manual integrations been verified as correct?		✓			✓
C. Preparation/Matrix QC Results	**N/A**	**Yes**	**No**	**Why is data reportable?**	**2nd ✓**
1. LCS native analyte %R within QC limits (60-140%)? If no, list NCM#:: _____		✓		☐ [lcs1] Insufficient sample for reanalysis. ☐ [lcs2] Samples consumed during prep. ☐ [lcs3] LCS %R high but analyte <RL in associated samples.	✓
2. LCS IS %R within QC limits (60-140%)?			✓	☑ [is3] IS above QC limits. ☐ [is4] IS below QC limts.	NO
3. Method blank done per prep batch and method blank or instrument blank analyzed with each sequence?		✓			✓
4. Method blank IS %R within QC limits (60-140%)?.			✓	☑ [is5] IS above QC limits. ☐ [is6] IS below QC limts.	NO
5. Are all analytes present in the method blank ≤ RL?		✓		☐ [mb1] Reported blank after client consultation. ☐ [mb3] Analyte < RL in associated samples. ☐ [mb4] Sample results >10x blank. ☐ [mb5] Insufficient sample for reanalysis. ☐ [mb7] Samples consumed during prep.	✓
6. Were MS run #'s assigned correctly?	✓				N/A
7. Are MS/MSD recoveries and RPDs within QC limits?	✓			☐ [ms1] LCS acceptable. High native analyte concentration relative to spike level and/or lack of sample homogeneity.	NA
D. Final Report	**N/A**	**Yes**	**No**	**Why is data reportable?**	**2nd ✓**
1. Final report acceptable? (Results correct, RLs calculated correctly, units correct, IS %R correct, appropriate flags used, dilution factor correct, and extraction/ analysis dates correct.)		✓			✓

Lot Number:	HG 200446				
2. If samples were split, are the dilution factors & prep factors applied properly & MDL/RLs adjusted		✓		☑ [elev7] Elevated RLs for all analytes due to split; list samples: All	✓
3. For alkyl PAHs, are hits fagged with EST?	✓				NA
4. Were all non-associated internal standards turned to 'NA'?		✓			✓
5. Was a narrative prepared and all deviations noted?		✓			✓
6. Are all non-conformances documented appropriately and copy included with deliverable?		✓		-10449	✓
7. Are the correct scanned file names listed?		✓			✓
8. Were all CCALs and window standards scanned?		✓			✓
1st Level Reviewer: [signature]		Date: 6/9/11			

Comments:

All samples in prep batch 1201079 had benzo(b)fluoranthene outside QC limits of 30-120%
NCM# 10449

Sample MK2H210C had matrix interferences for compounds naphthalene - fluorene. The original injection for these compounds is reported "DL" - also internal standards chrysene-d12, indeno(1,2,3-cd)pyrene-d12, dibenz(ah)anthracene-d14, & benzo(ghi)perylene-d12 were outside QC limits - when the sample was analyzed at a dilution, these internal standards were within QC limits - The dilution resolved the matrix effect on the compounds naphthalene - fluorene - these compounds were reported from the dilution.

2nd Level Reviewer: [signature] Date: 8/12/11

Comments:

TestAmerica Knoxville Extraction Sheet

Method 0010 Split/Combined Air Train for Semivolatiles and SIM PAHs - KNOX-OP-0009

SVOC Batch #: 1201076
PAH Batch #: 1201079
Start Date/Time: 7/20/11 1700
Compl Date/Time: 7/21/11 1130

PAH Internal Std ID: PAH0317
PAH Native Spike ID: PAH0297
Naphthalene Spike ID: PAH0354

BNA Surr ID: OP70308
BNA Spike ID: OP70315
$MeCl_2$ Lot #: K07503

Spiker: DWS
Witness: [signature]

Delivered: SDO 7/28/11 16:45 (Initials/Date/Time)
Received: DWS 7/28/11 16:45 (Initials/Date/Time)

Lot Number	Sample Number	Work Order	Suffix	SAC	FH/BH Combined Extraction: Place XAD and particulate filter sample in a med Soxhlet.	FH/BH Combined Extraction: Set up 1 blank per 10 samples, 1 BNA LCS/LCSD & 1 PAH LCS/LCSD per 20 samples with XAD and blank filters.	FH/BH Combined Extraction: Add 1 mL BNA surr & 2 mL PAH IS to samples/blank. (Add 1/2 the vol. to LCS/LCSDs.)	FH/BH Combined Extraction: Add 1 mL BNA spike (100 µg/mL) to BNA LCS/LCSD.	FH/BH Combined Extraction: Add 1 mL PAH spike (0.25 µg/mL) and 0.5 mL Naphthalene spike (3.75 µg/mL) to PAH LCS/LCSD.	FH/BH Combined Extraction: Extract 18-24 hr with $MeCl_2$.	Solvent Rinses: Acetone present in solvent rinses?	Solvent Rinses: Did solvent rinse lose volume during shipment?	Condensate Volume: Condensate 1 Volume (mL)	Condensate 2 Volume (mL)	Condensate 3 Volume (mL)
H1G190403	1	MK09P1AA/MK09P1AC		QL/YA	✓	NA	✓	NA	NA	✓	N	N	210		
H1G190403	2	MK09Q1AA/MK09Q1AC		QL/YA									295		
H1G190403	3	MK09R1AA/MK09R1AC		QL/YA									364		
H1G190403	4	MK09T1AA/MK09T1AC		QL/YA							✓	✓	NA		
H1G190403	5	MK09V1AA/MK09V1AC		QL/YA							NA	NA	↓		
H1G200446	1	MK2HW1AA/MK2HW1AC		QL/YA							Y	N	323		
H1G200446	2	MK2H01AA/MK2H01AC		QL/YA									230		
H1G200446	3	MK2H11AA/MK2H11AC		QL/YA									270		
H1G200446	4	MK2H21AA/MK2H21AC		QL/YA							✓	✓	NA		
H1G200446	8	MK2H61AA/MK2H61AC		QL/YA		✓		✓			NA	NA			
H1G200000	76	MK2DQ1AA	B	QL		✓		NA							
H1G200000	76	MK2DQ1AC	C	QL				✓							
H1G200000	76	MK2DQ1AD	L	QL				↓							
H1G200000	79	MK2D01AA	B	YA				NA	↓						
H1G200000	79	MK2D01AC	C	YA				↓	✓						
H1G200000	79	MK2D01AD	L	YA	✓	✓	✓	✓	↓	✓	✓	✓	✓		
					DWS/[illegible]	DWS/[illegible]	DWS	DWS	DWS	DWS/[illegible]	DWS	DWS	[illegible]		
					7/20	7/20	7/20	7/20	7/20	7/20	7/21	7/21	7/21		
					DWS 7/20/11										

Comments: Added 1.0 mL of EM3061 & 1.0 mL of EM3062 to BNA LCS/LCS Dup.

DWS 7/20/11

TestAmerica Knoxville Extraction Sheet

Method 0010 Split/Combined Air Train for Semivolatiles and SIM PAHs - KNOX-OP-0009

Start Date/Time: 7/21/11 1615
Compl Date/Time: 7/22/11 1115
Start Date/Time: 7/22/11 1400
Compl Date/Time: 7/23/11 08:20

Alternate Surrogate ID: PAH0355
$MeCl_2$ Lot #: K07503
Na_2SO_4 ID: ~~D4285:11~~ DWS 7/22/11 ~ B4285:23

H_2SO_4 ID: A4022:12
NaOH ID: D4285:11

spiker DWS witness [illegible]

Lot Number	Sample Number	Work Order	Suffix	SAC	Pour FH/BH extract into CLLE. Add condensate to CLLE. Pour all rinses thru condensate.	Record sample pH.	Add 2.0 mL (0.25 µg/mL) Alternate Surr to all samples & blank. Add 1.0 mL to PAH LCS/LCSD.	Adjust pH to 0<pH<2 with 1:1 H_2SO_4. Record pH.	Extract 18-24 hr with $MeCl_2$.	Adjust pH to 11<pH<14 with 10N NaOH. Record pH.	Extract 18-24 hr with $MeCl_2$.	Filter extracts thru Na_2SO_4/ Whatman 41 filter paper to 500 mL KD.	Concentrate to 4 to 6 mL in KD.	Split extract 50:50 for SVOCs and SIM PAHs.
H1G190403	1	MK09P1AA/MK09P1AC		QL/YA	✓	7	2.0mL	2	✓	12	✓			Y
H1G190403	2	MK09Q1AA/MK09Q1AC		QL/YA	↓	7	↓	2	↓	12	↓			↓
H1G190403	3	MK09R1AA/MK09R1AC		QL/YA	↓	7	↓	2	↓	12	↓			↓
H1G190403	4	MK09T1AA/MK09T1AC		QL/YA	↓	NA	↓	2	↓	12	↓			↓
H1G190403	5	MK09V1AA/MK09V1AC		QL/YA	NA	↓	NA	NA	NA	NA	NA			↓
H1G200446	1	MK2HW1AA/MK2HW1AC		QL/YA	~~1323~~	6	2.0mL	2	✓	12	✓			↓
H1G200446	2	MK2H01AA/MK2H01AC		QL/YA	1330	6	↓	2	↓	12	↓			↓
H1G200446	3	MK2H11AA/MK2H11AC		QL/YA	↓	6	↓	2	↓	12	↓			↓
H1G200446	4	MK2H21AA/MK2H21AC		QL/YA	↓	NA	↓	2	↓	12	↓			↓
H1G200446	8	MK2H61AA/MK2H61AC		QL/YA	NA	↓	NA	NA	NA	NA	NA			↓
H1G200000	76	MK2DQ1AA	B	QL	✓	↓	DWS 7/21/11 2.0mL	2	✓	12	✓			Y
H1G200000	76	MK2DQ1AC	C	QL	↓	↓	NA	2	↓	12	↓			NA ↓
H1G200000	76	MK2DQ1AD	L	QL	↓	↓	↓	2	↓	12	↓			↓
H1G200000	79	MK2D01AA	B	YA	↓	↓	2.0mL	2	↓	12	↓			Y
H1G200000	79	MK2D01AC	C	YA	↓	↓	1.0mL	2	↓	12	↓			NA ↓
H1G200000	79	MK2D01AD	L	YA	↓	↓	↓	2	↓	12	↓	↓	↓	↓
					DWS/[illegible] 7/21	DWS 7/21	DWS 7/21	DWS/[illegible] 7/21	DWS/[illegible] 7/21	DWS/[illegible] 7/22	DWS/ALS 7/22	[illegible] 7/25	→	[illegible] 7/25
												[illegible] 7/25		

DWS 7/21/11

Comments: All samples had neutral "pH" at approx. 8mL

TestAmerica Knoxville Extraction Sheet
Method 0010 Split/Combined Air Train for Semivolatiles and SIM PAHs - KNOX-OP-0009

Lot Number	Sample Number	Work Order	Suffix	SAC
H1G190403	1	MK09P1AA/MK09P1AC		QL/YA
H1G190403	2	MK09Q1AA/MK09Q1AC		QL/YA
H1G190403	3	MK09R1AA/MK09R1AC		QL/YA
H1G190403	4	MK09T1AA/MK09T1AC		QL/YA
H1G190403	5	MK09V1AA/MK09V1AC		QL/YA
H1G200446	1	MK2HW1AA/MK2HW1AC		QL/YA
H1G200446	2	MK2H01AA/MK2H01AC		QL/YA
H1G200446	3	MK2H11AA/MK2H11AC		QL/YA
H1G200446	4	MK2H21AA/MK2H21AC		QL/YA
H1G200446	8	MK2H61AA/MK2H61AC		QL/YA
H1G200000	76	MK2DQ1AA	B	QL
H1G200000	76	MK2DQ1AC	C	QL
H1G200000	76	MK2DQ1AD	L	QL
H1G200000	79	MK2D01AA	B	YA
H1G200000	79	MK2D01AC	C	YA
H1G200000	79	MK2D01AD	L	YA

F-745

11-234

8270 Extracts

$MeCl_2$ Lot #: NA

Concentrate to <1 mL by N-EVAP.	QC to 1 mL in Class A volumetric. Transfer to 2 mL vial.

SIM PAH Extracts

Recovery Std ID: PAH0293 $MeCl_2$ Lot #: K07503

Spiker: SDO Hexane Lot #: J52E08

Witness: JMM

Concentrate/solvent exchange to hexane by KD to ~4 mL.	Perform silica gel cleanup if needed.	Conc to ~1 mL by N-EVAP.	Add 25 µL recovery std (10 µg/mL) to 2 mL vial. Transfer sample extract to vial.	Conc to 500 µL hexane by N-EVAP.
	✓	✓	25µl	500µl
				1.0 ml 1.5 ml SDO 7/26
NA	N/A	N/A	N/A	N/A
NA				
Y			25µl	500µl
JMM 7/25	SDO 7126	SDO 7128	SDO	SDO

Silica Gel Cleanup Reagents

Silica Gel ID: D4285:17

Na_2SO_4 ID: B4285:28

Hexane Lot #: J52E08

2:3 $MeCl_2$/Hex ID: C4285:11

Comments:

RQC058

TestAmerica Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 8/08/11
Time: 8:00:38

LEV 1	LEV 2		LEV 1	LEV 2	
Y	Y	Blank	Y	Y	Weights/Volumes
Y	Y	Check	Y	Y	Spike & Surrogate Worksheet
–	–	MS/MSD	Y	Y	Vial contains correct volume
			Y	Y	Labels, greenbars, worksheets
					computer batch: correct & all match
			–	–	Anomalies to Extraction Method

Y Expanded Deliverable
Y COC Completed
Y Bench Sheet Copied
Y Package Submitted to AnalyticalGroup
Y Bench Sheet Copied per COC

Extractionist: 403884 David Stout
403899 Joe Maher

Concentrationist: 013451 Susan D. Oxendine
403899 Joe Maher

Reviewer/Date: OXENDINS / 7/28/11

QC BATCH: 1201079

PREP DATE: 7/20/11 17:00
COMP DATE: 7/28/11 16:00

PAHs & Selected SVOCs (HRGC/LRMS)
SOXHLET (NOMINAL), Airtrains: Combined

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION	SOLVENTS VOL	SOLVENTS EXCHANGE	SOLVENTS VOL	SPIKE STANDARD/ SURROGATE ID
7/21/11	8/02/11	H1G190403-001 **MK09P-1-AC**	D	IP	YA	AIR	**1.0Sample** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	PAH0317 2.0ML
COMMENTS:															
7/21/11	8/02/11	H1G190403-001 **MK09P-2-AC**	D	IP	YA	AIR	**1.0Sample** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	PAH0317 2.0ML
COMMENTS:															
7/22/11	8/02/11	H1G190403-002 **MK09Q-1-AC**	D	IP	YA	AIR	**1.0Sample** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	PAH0317 2.0ML
COMMENTS:															
7/22/11	8/02/11	H1G190403-002 **MK09Q-2-AC**	D	IP	YA	AIR	**1.0Sample** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	PAH0317 2.0ML
COMMENTS:															
7/22/11	8/02/11	H1G190403-003 **MK09R-1-AC**	D	IP	YA	AIR	**1.0Sample** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	PAH0317 2.0ML
COMMENTS:															
7/22/11	8/02/11	H1G190403-003 **MK09R-2-AC**	D	IP	YA	AIR	**1.0Sample** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	PAH0317 2.0ML
COMMENTS:															
7/22/11	8/02/11	H1G190403-004 **MK09T-1-AC**	D	IP	YA	AIR	**1.0Sample** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	PAH0317 2.0ML
COMMENTS:															

RQC058

TestAmerica Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 8/08/11
Time: 8:00:38

QC BATCH: 1201079

PREP DATE: 7/20/11 17:00
COMP DATE: 7/28/11 16:00

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION	SOLVENTS VOL	SOLVENTS EXCHANGE	SOLVENTS VOL	SPIKE STANDARD/ SURROGATE ID
7/21/11	8/02/11	H1G190403-005 **MK09V-1-AC**	D	IP	YA	AIR	**1.0Sample** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	PAH0317 2.0ML
COMMENTS:															
7/21/11	0/00/00	H1G200000-079 **MK2D0-1-AAB**		IP	YA	AIR	**1.0Sample** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	PAH0317 2.0ML
COMMENTS:															
7/21/11	0/00/00	H1G200000-079 **MK2D0-1-ACC**		IP	YA	AIR	**1.0Sample** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	PAH0297 1.0ML PAH0317 1.0ML
COMMENTS:															
7/21/11	0/00/00	H1G200000-079 **MK2D0-1-ADL**	R	IP	YA	AIR	**1.0Sample** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	PAH0297 1.0ML PAH0317 1.0ML
COMMENTS:															
7/25/11	8/08/11	H1G200446-001 **MK2HW-1-AC**	D	IP	YA	AIR	**1.0Sample** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	PAH0317 2.0ML
COMMENTS:															
7/26/11	8/08/11	H1G200446-002 **MK2H0-1-AC**	D	IP	YA	AIR	**1.0Sample** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	PAH0317 2.0ML
COMMENTS:															
7/26/11	8/08/11	H1G200446-003 **MK2H1-1-AC**	D	IP	YA	AIR	**1.0Sample** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	PAH0317 2.0ML
COMMENTS:															
7/25/11	8/08/11	H1G200446-004 **MK2H2-1-AC**	D	IP	YA	AIR	**1.0Sample** 1.50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	PAH0317 2.0ML
COMMENTS:															
7/25/11	8/08/11	H1G200446-004 **MK2H2-2-AC**	D	IP	YA	AIR	**1.0Sample** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	PAH0317 2.0ML
COMMENTS:															
7/25/11	8/08/11	H1G200446-008 **MK2H6-1-AC**	D	IP	YA	AIR	**1.0Sample** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	PAH0317 2.0ML
COMMENTS:															

ALL SAMPLES HAD A NEUTRAL PH AT APPROX. 8ML.

NUMBER OF WORK ORDERS IN BATCH: 17

R = RUSH C = CLP
E = EPA 600 D = EXP.DEL)
M = CLIENT REQ MS/MSD
◆

TestAmerica Knoxville Prep Batch Review Checklist

Batch # 1201079

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd Level
1. Were the samples extracted within the required holding times?		✓		If No, NCM #: _____	✓
2. Are the final extracts free of water, precipitates, multiple phases, and for HRMS - color?			✓	MK2H2 is at ~~2.0~~ 1.5 ml would not blow down	✓
3. Were all project specific requirements met as noted on the Lot Checklists (L40) and the Sample List report?		✓			✓
4. Were MS Run numbers assigned properly?	✓				✓
5. Were the correct weights and volumes entered into QuantIMS for all samples and QC?		✓			✓
6. Was the correct completion date entered into QuantIMS?		✓			✓
7. Were the spike IDs and volumes entered correctly into QuantIMS?		✓			✓
8. Were all appropriate notes and observations recorded on the extraction benchsheet and in QuantIMS?		✓			✓
9. Was the extraction batch reviewed in QuantIMS using LIM L21?		✓			✓
10. Does the prep batch paperwork package contain all required documentation which has been properly and completely filled out, including: • Extraction Benchsheet • QuantIMS Benchsheet • Lot Checklists (L40) for all lots in batch • Sample List • Compound List Report • SOG Sample Tracking Sheet		✓			✓
11. Are all nonconformances documented appropriately and copy included with deliverable?	✓			If Yes, NCM#: _____	✓

Analyst: SDO Date: 7/28/11

Comments:

2nd Level Reviewer: DWS Date: 7/28/11

Comments:

XAD Source Sampling Media Request Form

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
865-291-3000

Form Number: 071111-2

-scan completed document and save on the public drive under Media/PDFs; filename should be the form number. **Send a copy to PM.**

Date of Request: July 11, 2011
Company: TRC Solutions
Client Project: ExxonMobil Refinery ICR Testing
Client PO#: Pending HKRALL

Rush Order? Yes
Quantims Quote: 89094
Media Needed By: 7/12/2011
Project Manager: Kevin Woodcock

Quantity	Media Type	Spiked for Method	Media Check ID
7	Spiked XAD	8270C, SIM-PAH, Supelpak 2 SIM Lot: 22593 ID: 042851 Precleaned XAD	A 6486
7	Particulate Filter	82.6mm GFF M0010 (SVOCs & SIM PAHs)	A 6487

[redacted]

[redacted]

Comments:
Rush, needed at the hotel tomorrow.

Method	Color Code	Amt. Spiked	Conc. And Units	Spike Soln ID	Exp. Date	Spiked By/ Date	Verified By
8270C	N/A	N/A					
Dioxin							
1668 mod							
CARB 429	N/A	200 µL	PAH0347	5 µg/mL	5/12/12	EDK 7/11/11	DR
8081A							
TCO/Grav		NA	NA	NA	NA	NA	NA

Shipping *(include blank COCs and Custody Seals with this shipment. Send temperature blanks where applicable)*

Attn: Randy Monson/TRC (Guest)
Company: Comfort Suites
Address 1: 902 South 8th Street
Address 2:
City, State, Zip: La Porte, TX 77571
Phone: (512) 809-8619
Fax:
FedEx Email: RMonson@trcsolutions.com
Lot Number:

Completed/Shipped by: Emily Lantzer
Date Shipped: 7/11/11
Shipping Courier: FedEx
Tracking Number
Invoice #:

Ref: SAMPLING MEDIA
Dep: 140015
Date: 07/11/2011
Wgt: 11.9 LBS
DV: 0.00
Svcs: STANDARD OVERNIGHT
TRCK: 4169 7487 7433

SHIPPING:	37.86
SPECIAL:	5.68
HANDLING:	0.00
TOTAL:	43.54

F-750

11-234

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Sample Receipt Documentation

1716200496

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CHAIN OF CUSTODY RECORD

Page of

Job No.: 11-234
Job Name: Marathon
Location: Garyville LA
Unit: U45 TOX3 Stack

Project Manager: Hutchinson
Project Supervisor: Jones

Method: 0010

SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED: PART	HCL	CL2	SO2	SO3	Semi Volatiles		Recovered by	REMARKS (Specific Compounds/Methods)
Run 2 Filter	7-11-11	1643	1								✓		Will Starkey	Refinery ICR
Run 2 XAD			1								✓			
Run 2 FH A/MeCl2			1								✓		Will Starkey	
Run 2 BH A/MeCl2		↓	1								✓		Will Starkey	
Blank Acetone		1552	1		200ml						✓		Will Starkey	
Blank MeCl2		↓	1		↓						✓		Will Starkey	
Blank Filter		1552	1								✓			
BT Filter		1649	1											

Samples Received for Transport/Shipment by:	J. LaCroix	Date:	7/18/11	Time: 1000
Samples Received for Transport/Shipment by:		Date:		Time:
Samples Received for Transport/Shipment by:		Date:		Time:
Samples Shipped Via:	Fed-Ex	Date:	7/18/11	Time: 1700
Samples Received at Laboratory by:	[signature]	Date:	7/20/11	Time: 1000
Samples Analyzed by:		Date:		Time:
Samples Analyzed by:		Date:		Time:
Data Checked by:		Date:		Time:

1 crate Reid @ 21.4°C
with out custody seal [illegible] 7/20/11
1 crate Fed X # 8757 9921 3860

F-752

VERSION 2
10 MARCH 2003

750

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H1620044G

CHAIN OF CUSTODY RECORD

Page of

Job No.: 11-234	Project Manager: Hutchorson	Method: 0010
Job Name: Marathon	Project Supervisor: Jones	
Location: Garyville LA		
Unit: 445 TOX3 Start		

SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED: PART	HCL	CL2	SO2	SO3	Semi volatiles		Recovered by	REMARKS (Specific Compounds/Methods)
Run 3 Filter	7-12-11	1409	1								✓		[signature]	Refinery ICR
Run 3 XAD	↓	↓	1								✓		↓	
Run 3 FH A/meCl2			1								✓			
Run 3 BH A/meCl2			1								✓		↓	
BT XAD	7-11-11	1649	1								✓		[signature]	
BT FH A/meCl2	↓	↓	1								✓		Will Starks	
BT BH A/meCl2	↓	↓	1								✓		[signature]	

Samples Received for Transport/Shipment by:	J. LaCroix	Date:	7/18/11	Time:	1000
Samples Received for Transport/Shipment by:		Date:		Time:	
Samples Received for Transport/Shipment by:		Date:		Time:	
Samples Shipped Via:	Fed-Ex	Date:	7/18/11	Time:	1700
Samples Received at Laboratory by:	[signature]	Date:	7/20/11	Time:	1000
Samples Analyzed by:		Date:		Time:	
Samples Analyzed by:		Date:		Time:	
Data Checked by:		Date:		Time:	

F-755 11-234

METCO Environmental ©

H16200446

CHAIN OF CUSTODY RECORD

Page of

Job No.: 11-234
Job Name: Marathon
Location: Garyville LA
Unit: 1445 TOX 3 Stack

Project Manager: Hutchinson
Project Supervisor: John Ed

Method: 0010

SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED: PART	HCL	CL2	SO2	SO3	Semi Volatiles		Recovered by	REMARKS (Specific Compounds/Methods)
Run 4 FH/HV	7-12-11	1149	1								✓			Refinery ICR
Run 4 XAD			1								✓			
Run 4 FH A/MeCl2			1								✓			
Run 4 BH A/MeCl2			1								✓			
Run 4 Condensate			1								✓			
Run 2 Condensate	7-11-11	1843	1								✓			
Run 3 Condensate	7-12-11	1409	1								✓			

Samples Received for Transport/Shipment by: J. LeCroix — Date: 7/18/11 — Time: 1040
Samples Received for Transport/Shipment by: — Date: — Time:
Samples Received for Transport/Shipment by: — Date: — Time:
Samples Shipped Via: Fed-Ex — Date: 7/18/11 — Time: 1700
Samples Received at Laboratory by: George P Hancock — Date: 7/20/11 — Time: 1000
Samples Analyzed by: — Date: — Time:
Samples Analyzed by: — Date: — Time:
Data Checked by: — Date: — Time:

F-754

1224

VERSION 2
10 MARCH 2003

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TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: #16200446

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:	2B 4A
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C)		✓		☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = 21.4C ☐ **2c** Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** Sample preservative =	
4. Were custody seals present/intact on cooler and/or containers?		✓		☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:	
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken	
7. Were VOA samples received without headspace?			✓	☐ **7a** Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container	
9. Did you check for residual chlorine, if necessary?			✓	☐ **9a** Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired	
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information	
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information	
19. Was the sampler identified on the COC?		✓			

Quote #: 84197 PM Instructions: NA

Sample Receiving Associate: [signature] Date: 7/20/11

QA026R22.doc, 012811

F-755

11-234

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APPENDIX G

Aldehydes Analytical Data

METCO Environmental

3226 Commander Drive
Carrollton, TX 75006

Marathon
U45 TOX 3 Stack
Garyville, LA

Project # 11-234

Analytical Report
(0611-48)

EPA SW-846 Method 0011

Formaldehyde
Acetaldehyde
Propionaldehyde

Enthalpy Analytical, Inc.
Phone: (919) 850 - 4392 / Fax: (919) 850 - 9012 / www.enthalpy.com
2202 Ellis Road Durham, NC 27703 - 5518

I certify that to the best of my knowledge all analytical data presented in this report:

- Have been checked for completeness
- Are accurate, error-free, and legible
- Have been conducted in accordance with approved protocol, and that all deviations and analytical problems are summarized in the appropriate narrative(s)

This analytical report was prepared in Portable Document Format (.PDF) and contains ??? pages.

Report Issued: xx/xx/xxxx

Summary of Results

Company	METCO Environmental
Analyst	KHB
Parameters	EPA SW-846 Method 0011

Client #	11-234
Job #	0611-48
# Samples	3 Runs, 2 Spikes, 2 Blanks

Compound	Sample ID / Catch Weight (ug)		
	R1-FH-Imp 1-3	***R2-FH-Imp 1-3***	***R3-FH-Imp 1-3***
Formaldehyde	12.9 J	13.2 J	17.6 J
Acetaldehyde	2.13 ND	2.65 ND	1.90 ND
Propionaldehyde	2.10 ND	2.62 ND	1.88 ND
	MS-FH-Imp 1-3	***Field Spike***	
Formaldehyde	813	529	
Acetaldehyde	21.3 J	0.878 ND	
Propionaldehyde	1.54 ND	0.866 ND	
	Blank-DNPH/MeCl2	***Blank-DI Water***	
Formaldehyde	0.377 ND	8.57 J	
Acetaldehyde	0.623 ND	1.28 ND	
Propionaldehyde	0.614 ND	1.26 ND	

Results

Company	METCO Environmental
Analyst	KHB
Parameters	EPA SW-846 Method 0011

Client #	11-234
Job #	0611-48
# Samples	3 Runs, 2 Spikes, 2 Blanks

MDL 0.00271 (ug/mL)
LOQ 0.0747 (ug/mL)
Compound Formaldehyde

Lower Curve Limit 0.0747 (ug/mL)
Upper Curve Limit 15.0 (ug/mL)

Sample ID	Lab ID	Analysis Method	Ret Time (min)	Conc (ug/mL)	Aliquot Factor	Vol (mL)	Catch Weight (ug)	Qual
R1-FH-Imp 1-3	048-1201.D	HPLC54PG120ICR.M	4.97	0.0271	2	238	12.9	J
R1-FH-Imp 1-3 Rep	048-1401.D	HPLC54PG120ICR.M	4.96	0.0268	2	238	12.8	J
						% Difference	1.0%	
LD/R1-FH-Imp 1-3	049-1501.D	HPLC54PG120ICR.M	4.97	0.0318	2	238	15.1	J
						% Difference	17.4%	
R2-FH-Imp 1-3	050-1601.D	HPLC54PG120ICR.M	4.96	0.0223	2	296	13.2	J
R3-FH-Imp 1-3	051-1701.D	HPLC54PG120ICR.M	4.96	0.0414	1	425	17.6	J
MS-FH-Imp 1-3	052-1801.D	HPLC54PG120ICR.M	4.96	2.34	1	348	813	
Field Spike	053-1901.D	HPLC54PG120ICR.M	4.96	2.70	1	196	529	
						Spike Amount (ug)	1,002	
						Spike Recovery (%)	52.8%	
Blank-DNPH/MeCl2	054-2001.D	HPLC54PG120ICR.M	NA	0.00271	1	139	0.377	ND
Blank-DI Water	055-2101.D	HPLC54PG120ICR.M	4.96	0.0301	1	285	8.57	J
MB-1	063-3101.D	HPLC54PG120ICR.M	NA	0.00271	1	132	0.358	ND
MB-2	018-1001.D	HPLC54PG120ICR.M	NA	0.00271	1	139	0.377	ND
RB/100% ACN	008-0901.D	HPLC54PG120ICR.M	NA	0.00271	1	1.00	0.00271	ND
RB/100% ACN	008-0902.D	HPLC54PG120ICR.M	NA	0.00271	1	1.00	0.00271	ND
RB/100% ACN	008-0903.D	HPLC54PG120ICR.M	NA	0.00271	1	1.00	0.00271	ND
RB/100% ACN	002-0301.D	HPLC54PG120ICR.M	NA	0.00271	1	1.00	0.00271	ND
RB/100% ACN	002-0301.D	HPLC54PG120ICR.M	NA	0.00271	1	1.00	0.00271	ND

Company	METCO Environmental
Analyst	KHB
Parameters	EPA SW-846 Method 0011

Client #	11-234
Job #	0611-48
# Samples	3 Runs, 2 Spikes, 2 Blanks

MDL 0.00271 (ug/mL)
LOQ 0.0747 (ug/mL)
Compound Formaldehyde

Lower Curve Limit 0.0747 (ug/mL)
Upper Curve Limit 15.0 (ug/mL)

Sample ID	Lab ID	Analysis Method	Ret Time (min)	Conc (ug/mL)	Aliquot Factor	Vol (mL)	Catch Weight (ug)	Qual
MS/R2-FH-Imp 1-3	014-0601.D	HPLC54PG120ICR.M	4.98	1.51	1	157	236	
						Spike Amount (ug)	301	
						Native Amount (ug)	2.20	
						Spike Recovery (%)	77.9%	
MSD/R2-FH-Imp 1-3	015-0701.D	HPLC54PG120ICR.M	4.99	1.09	1	166	181	
						Spike Amount (ug)	301	
						Native Amount (ug)	2.20	
						Spike Recovery (%)	59.4%	
LCS-1	064-3201.D	HPLC54PG120ICR.M	4.96	5.42	1	141	764	
						Spike Amount (ug)	1,002	
						Spike Recovery (%)	76.3%	
LCS-2	019-1101.D	HPLC54PG120ICR.M	4.98	1.98	1	135	267	
						Spike Amount (ug)	301	
						Spike Recovery (%)	89.0%	
hplc54pg120 #SS	007-0801.D	HPLC54PG120.M	5.06	3.07	1	1.00	3.07	
hplc54pg120 #SS	007-0802.D	HPLC54PG120.M	5.07	3.07	1	1.00	3.07	
hplc54pg120 #SS	007-0803.D	HPLC54PG120.M	5.06	3.06	1	1.00	3.06	
						average	3.07	
						Spike Amount (ug)	2.90	
						Spike Recovery (%)	106%	

Company	METCO Environmental
Analyst	KHB
Parameters	EPA SW-846 Method 0011

Client #	11-234
Job #	0611-48
# Samples	3 Runs, 2 Spikes, 2 Blanks

MDL 0.00448 (ug/mL)
LOQ 0.0747 (ug/mL)
Compound Acetaldehyde

Lower Curve Limit 0.0747 (ug/mL)
Upper Curve Limit 15.0 (ug/mL)

Sample ID	Lab ID	Analysis Method	Ret Time (min)	Conc (ug/mL)	Aliquot Factor	Vol (mL)	Catch Weight (ug)	Qual
R1-FH-Imp 1-3	048-1201.D	HPLC54PG120ICR.M	NA	0.00448	2	238	2.13	ND
R1-FH-Imp 1-3 Rep	048-1401.D	HPLC54PG120ICR.M	NA	0.00448	2	238	2.13	ND
						% Difference	NA	
LD/R1-FH-Imp 1-3	049-1501.D	HPLC54PG120ICR.M	NA	0.00448	2	238	2.13	ND
						% Difference	NA	
R2-FH-Imp 1-3	050-1601.D	HPLC54PG120ICR.M	NA	0.00448	2	296	2.65	ND
R3-FH-Imp 1-3	051-1701.D	HPLC54PG120ICR.M	NA	0.00448	1	425	1.90	ND
MS-FH-Imp 1-3	052-1801.D	HPLC54PG120ICR.M	6.28	0.0613	1	348	21.3	J
Field Spike	053-1901.D	HPLC54PG120ICR.M	NA	0.00448	1	196	0.878	ND
Blank-DNPH/MeCl2	054-2001.D	HPLC54PG120ICR.M	NA	0.00448	1	139	0.623	ND
Blank-DI Water	055-2101.D	HPLC54PG120ICR.M	NA	0.00448	1	285	1.28	ND
MB-1	063-3101.D	HPLC54PG120ICR.M	NA	0.00448	1	132	0.591	ND
MB-2	018-1001.D	HPLC54PG120ICR.M	NA	0.00448	1	139	0.623	ND
RB/100% ACN	008-0901.D	HPLC54PG120ICR.M	NA	0.00448	1	1	0.00448	ND
RB/100% ACN	008-0902.D	HPLC54PG120ICR.M	NA	0.00448	1	1	0.00448	ND
RB/100% ACN	008-0903.D	HPLC54PG120ICR.M	NA	0.00448	1	1	0.00448	ND
RB/100% ACN	002-0301.D	HPLC54PG120ICR.M	NA	0.00448	1	1	0.00448	ND
RB/100% ACN	002-0301.D	HPLC54PG120ICR.M	NA	0.00448	1	1	0.00448	ND

Company	METCO Environmental
Analyst	KHB
Parameters	EPA SW-846 Method 0011

Client #	11-234
Job #	0611-48
# Samples	3 Runs, 2 Spikes, 2 Blanks

MDL 0.00448 (ug/mL)
LOQ 0.0747 (ug/mL)
Compound Acetaldehyde

Lower Curve Limit 0.0747 (ug/mL)
Upper Curve Limit 15.0 (ug/mL)

Sample ID	Lab ID	Analysis Method	Ret Time (min)	Conc (ug/mL)	Aliquot Factor	Vol (mL)	Catch Weight (ug)	Qual
MS/R2-FH-Imp 1-3	014-0601.D	HPLC54PG120ICR.M	6.28	1.39	1	157	218	
						Spike Amount (ug)	293	
						Native Amount (ug)	0.00	
						Spike Recovery (%)	74.4%	
MSD/R2-FH-Imp 1-3	015-0701.D	HPLC54PG120ICR.M	6.31	1.02	1	166	169	
						Spike Amount (ug)	293	
						Native Amount (ug)	0.00	
						Spike Recovery (%)	57.6%	
LCS-1	064-3201.D	HPLC54PG120ICR.M	6.27	5.89	1	141	831	
						Spike Amount (ug)	1,006	
						Spike Recovery (%)	82.6%	
LCS-2	019-1101.D	HPLC54PG120ICR.M	6.28	1.86	1	135	251	
						Spike Amount (ug)	293	
						Spike Recovery (%)	85.5%	
hplc54pg120 #SS	007-0801.D	HPLC54PG120.M	6.39	3.11	1	1	3.11	
hplc54pg120 #SS	007-0802.D	HPLC54PG120.M	6.39	3.11	1	1	3.11	
hplc54pg120 #SS	007-0803.D	HPLC54PG120.M	6.39	3.10	1	1	3.10	
						average	3.11	
						Spike Amount (ug)	2.90	
						Spike Recovery (%)	107%	

Company	METCO Environmental
Analyst	KHB
Parameters	EPA SW-846 Method 0011

Client #	11-234
Job #	0611-48
# Samples	3 Runs, 2 Spikes, 2 Blanks

MDL 0.00442 (ug/mL)
LOQ 0.0746 (ug/mL)
Compound Propionaldehyde

Lower Curve Limit 0.0746 (ug/mL)
Upper Curve Limit 15.0 (ug/mL)

Sample ID	Lab ID	Analysis Method	Ret Time (min)	Conc (ug/mL)	Aliquot Factor	Vol (mL)	Catch Weight (ug)	Qual
R1-FH-Imp 1-3	048-1201.D	HPLC54PG120ICR.M	NA	0.00442	2	238	2.10	ND
R1-FH-Imp 1-3 Rep	048-1401.D	HPLC54PG120ICR.M	NA	0.00442	2	238	2.10	ND
						% Difference	NA	
LD/R1-FH-Imp 1-3	049-1501.D	HPLC54PG120ICR.M	NA	0.00442	2	238	2.10	ND
						% Difference	NA	
R2-FH-Imp 1-3	050-1601.D	HPLC54PG120ICR.M	NA	0.00442	2	296	2.62	ND
R3-FH-Imp 1-3	051-1701.D	HPLC54PG120ICR.M	NA	0.00442	1	425	1.88	ND
MS-FH-Imp 1-3	052-1801.D	HPLC54PG120ICR.M	NA	0.00442	1	348	1.54	ND
Field Spike	053-1901.D	HPLC54PG120ICR.M	NA	0.00442	1	196	0.866	ND
Blank-DNPH/MeCl2	054-2001.D	HPLC54PG120ICR.M	NA	0.00442	1	139	0.614	ND
Blank-DI Water	055-2101.D	HPLC54PG120ICR.M	NA	0.00442	1	285	1.26	ND
MB-1	063-3101.D	HPLC54PG120ICR.M	NA	0.00442	1	132	0.583	ND
MB-2	018-1001.D	HPLC54PG120ICR.M	NA	0.00442	1	139	0.614	ND
RB/100% ACN	008-0901.D	HPLC54PG120ICR.M	NA	0.00442	1	1	0.00442	ND
RB/100% ACN	008-0902.D	HPLC54PG120ICR.M	NA	0.00442	1	1	0.00442	ND
RB/100% ACN	008-0903.D	HPLC54PG120ICR.M	NA	0.00442	1	1	0.00442	ND
RB/100% ACN	002-0301.D	HPLC54PG120ICR.M	NA	0.00442	1	1	0.00442	ND
RB/100% ACN	002-0301.D	HPLC54PG120ICR.M	NA	0.00442	1	1	0.00442	ND

Company	METCO Environmental
Analyst	KHB
Parameters	EPA SW-846 Method 0011

Client #	11-234
Job #	0611-48
# Samples	3 Runs, 2 Spikes, 2 Blanks

MDL 0.00442 (ug/mL)
LOQ 0.0746 (ug/mL)
Compound Propionaldehyde

Lower Curve Limit 0.0746 (ug/mL)
Upper Curve Limit 15.0 (ug/mL)

Sample ID	Lab ID	Analysis Method	Ret Time (min)	Conc (ug/mL)	Aliquot Factor	Vol (mL)	Catch Weight (ug)	Qual
MS/R2-FH-Imp 1-3	014-0601.D	HPLC54PG120ICR.M	8.52	1.48	1	157	233	
						Spike Amount (ug)	289	
						Native Amount (ug)	0.00	
						Spike Recovery (%)	80.7%	
MSD/R2-FH-Imp 1-3	015-0701.D	HPLC54PG120ICR.M	8.55	1.14	1	166	189	
						Spike Amount (ug)	289	
						Native Amount (ug)	0.00	
						Spike Recovery (%)	65.6%	
LCS-1	064-3201.D	HPLC54PG120ICR.M	8.52	6.22	1	141	877	
						Spike Amount (ug)	962	
						Spike Recovery (%)	91.2%	
LCS-2	019-1101.D	HPLC54PG120ICR.M	8.54	1.94	1	135	262	
						Spike Amount (ug)	289	
						Spike Recovery (%)	90.8%	
hplc54pg120 #SS	007-0801.D	HPLC54PG120.M	8.62	3.08	1	1	3.08	
hplc54pg120 #SS	007-0802.D	HPLC54PG120.M	8.61	3.08	1	1	3.08	
hplc54pg120 #SS	007-0803.D	HPLC54PG120.M	8.62	3.07	1	1	3.07	
						average	3.08	
						Spike Amount (ug)	2.90	
						Spike Recovery (%)	106%	

Narrative Summary

Enthalpy Analytical Narrative Summary

Company	METCO Environmental
Analyst	KHB
Parameters	EPA SW-846 Method 0011

Client #	11-234
Job #	0611-48
# Samples	3 Runs, 2 Spikes, 2 Blanks

Custody

Lindsey Chatterton received the samples on 7/1911 after being relinquished by METCO Environmental. The samples were received at 4.0°C in good condition. Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, Inc.

Analysis

The samples were analyzed for formaldehyde, acetaldehyde, and propionaldehyde using the analytical procedures in EPA SW-846 Method 0011, Sampling for Selected Aldehyde and Ketone Emissions from Stationary Sources.

The Agilent Model 1100, High Performance Liquid Chromatograph ("Bart") was equipped with an Ultraviolet (UV) Detector operating at 360 nm and a Restek Ultra C18, 150 x 4 mm column (S/N 100316P).

Calibration

The calibration curves are located in the back of this report and referenced in the Analysis Method column on the Detailed Results page.

The first page of each curve contains all method specific parameters (i.e., curve type, origin, weight, etc.) used to quantify the samples. The calibration curve section also includes a table with the Retention Time (RetTime), Level (Lvl), Amount (corresponding units), Area, Response Factor (Amt/Area) and the analyte Name. The calibration table is used to identify (by retention time) and quantify each target compound.

Chromatographic Conditions

The acquisition method 8315ICR.M is included in the Calibration Curve Chromatograms section of this report.

QC Notes

The target analytes were not identified above the MDL in the analyses of the laboratory method blanks, laboratory acetonitrile blanks, and the client DNPH/MeCl2 blank. Formaldehyde was identified below the LOQ in the client DI water/MeCl2 blank.

During sample preparation, ***R1-FH-Imp 1-3*** was split in two equal halves. The first half was extracted and analyzed as ***R1-FH-Imp 1-3***. The second half was extracted and analyzed as ***LD/R1-FH-Imp 1-3***. To determine the catch weights, this splitting is compensated for by use of the 'Aliquot Factor' (2) shown in the detailed results spreadsheet. The percent difference value of the formaldehyde analysis from the initial result was 17.4%; both results were below the LOQ. The acetaldehyde and propionaldehyde LD and initial results were below the MDL.

Enthalpy Analytical Narrative Summary
(continued)

QC Notes (continued)

A replicate injection was made of the sample ***R1-FH-Imp 1-3*** and the difference between the results of the replicate was 1.0%.

R2-FH-Imp 1-3 was also split in half. The first half was analyzed as the sample, and has an aliquot factor of two. The remaining half was split in thirds for use as the Matrix Spike (MS), Matrix Spike Duplicate (MSD), and an archive fraction. These spikes do not have an aliquot factor, and their results are calculated on the basis of what was prepared. Therefore the native amount of the sample used in determining the spike recovery values was 1/6 the calculated final result for the sample itself. The MS and MSD exhibited recovery values of 77.9% and 59.4% for formaldehyde, 74.4% and 57.6% for acetaldehyde, and 80.7% and 65.6% for propionaldehyde.

Prior to sample collection, five aqueous spikes were prepared from a spike solution; three were shipped to the client. The spikes contained 1,002 µg of formaldehyde. The spike solution and two spikes were retained by the lab for use in preparing LCSs. The recovery values were 76.3% and 89.0% for formaldehyde, 82.6% and 85.5% for acetaldehyde, and 91.2% and 90.8% for propionaldehyde.

The ***Field Spike*** sample collected in the field using an aqueous spike described above was analyzed. The recovery value was 52.8%.

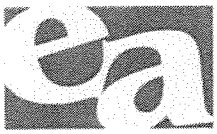
Reporting Notes

The results presented in this report are representative of the samples as provided to the laboratory.

General Reporting Notes

The following are general reporting notes that are applicable to all Enthalpy Analytical, Inc. data reports, unless specifically noted otherwise.

- The acronym ***MDL*** represents the Minimum Detection Limit. Below this value the laboratory cannot determine the presence of the analyte of interest reliably.
- The acronym ***LOQ*** represents the Limit of Quantification. Below this value the laboratory cannot quantitate the analyte of interest within the criteria of the method.
- The acronym ***ND*** following a value indicates a non-detect or analytical result below the MDL.
- The letter ***J*** following a value indicates an analytical result between the MDL and the LOQ. A J flag indicates that the laboratory can positively identify the analyte of interest as present, but the value should be considered an estimate.
- The letter ***E*** following a value indicates an analytical result exceeding 100% of the highest calibration point. The associated value should be considered as an estimate.
- The acronym ***DF*** represents Dilution Factor. This number represents dilution of the sample during the preparation and/or analysis process. The analytical result taken from a laboratory instrument is multiplied by the DF to determine the final undiluted sample results.
- The addition of ***MS*** to the Sample ID represents a Matrix Spike. An aliquot of an actual sample is spiked with a known amount of analyte so that a percent recovery value can be determined. This shows what effect the sample matrix may have on the target analyte, i.e. whether or not anything in the sample matrix interferes with the analysis of the analyte(s).
- The addition of ***MSD*** to the Sample ID represents a Matrix Spike Duplicate. Prepared in the same manner as an MS, the use of duplicate matrix spikes allows further confirmation of laboratory quality by showing the consistency of results gained by performing the same steps multiple times.
- The addition of ***LD*** to the Sample ID represents a Laboratory Duplicate. The analyst prepares an additional aliquot of sample for testing and the results of the duplicate analysis are compared to the initial result. The result should have a difference value of within 10% of the initial result (if the results of the original analysis are greater than the LOQ).
- The addition of ***AD*** to the Sample ID represents an Alternate Dilution. The analyst prepares an additional aliquot at a different dilution factor (usually double the initial factor). This analysis helps confirm that no additional compound is present and coeluting or sharing absorbance with the analyte of interest, as they would have a different response/absorbance than the analyte of interest.
- The Sample ID ***LCS*** represents a Laboratory Control Sample. Clean matrix, similar to the client sample matrix, prepared and analyzed by the laboratory using the same reagents, spiking standards and procedures used for the client samples. The LCS is used to assess the control of the laboratory's analytical system. Whenever spikes are prepared for our client projects, two extra spikes are prepared. The extras (randomly chosen) are labeled with the associated project number and kept in-house at the appropriate temperature conditions. When the project samples are received for analysis, the LCSs are analyzed to confirm that the analyte could be recovered from the media, separate from the samples which were used on the project and which may have been affected by source matrix, sample collection and/or sample transport.



General Reporting Notes

(continued)

- **Significant Figures**: Where the reported value is much greater than unity (1.00) in the units expressed, the number is rounded to a whole number of units, rather than to 3 significant figures. For example, a value of 10,456.45 ug catch is rounded to 10,456 ug. There are five significant digits displayed, but no confidence should be placed on more than two significant digits.
- **Manual Integration**: The data systems used for processing will flag manually integrated peaks with an "M". There are several reasons a peak may be manually integrated. These reasons will be identified by the following two letter designations. The peak was ***not integrated*** by the software **"NI"**, the peak was ***integrated incorrectly*** by the software **"II"** or the ***wrong peak*** was integrated by the software **"WP"**. These codes will accompany the analyst's manual integration stamp placed next to the compound name.

Sample Custody

METCO
Environmental ©

CHAIN OF CUSTODY RECORD

Page of

Job No.: 11-234
Job Name: Marathon
Location: Garyville LA
Unit: U45 TOX 3 Stack

Project Manager: Hutchinson
Project Supervisor: Jones

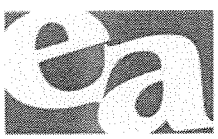
Method: 0011

SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED: PART	HCL	CL2	SO2	SO3	Formaldehyde	Recovered by	REMARKS (Specific Compounds/Methods)
Run1 FH/Imp1-3	7/13-11	1254	1	DNPH	400						✓		
Run2 FH/Imp1-3		1512	1		400						✓		
Run3 FH/Imp1-3		1729	1		400						✓		
MS FH/Imp1-3		1455	1		400						✓		matrix Spike
Blank DNPH/MeCl2		1322	1		200						✓		
Field Spike			1		200						✓		
Blank DI			1		200						✓		
Blank MeCl2			1		200						✓		

Samples Received for Transport/Shipment by:	J. LaCroix	Date:	7/18/11	Time: 1500
Samples Received for Transport/Shipment by:		Date:		Time:
Samples Received for Transport/Shipment by:		Date:		Time:
Samples Shipped Via:	Fed-Ex	Date:	7/18/11	Time: 1700
Samples Received at Laboratory by:	[signature]	Date:	7/19/11	Time: 2:27 pm
Samples Analyzed by:		Date:		Time:
Samples Analyzed by:		Date:		Time:
Data Checked by:		Date:		Time:

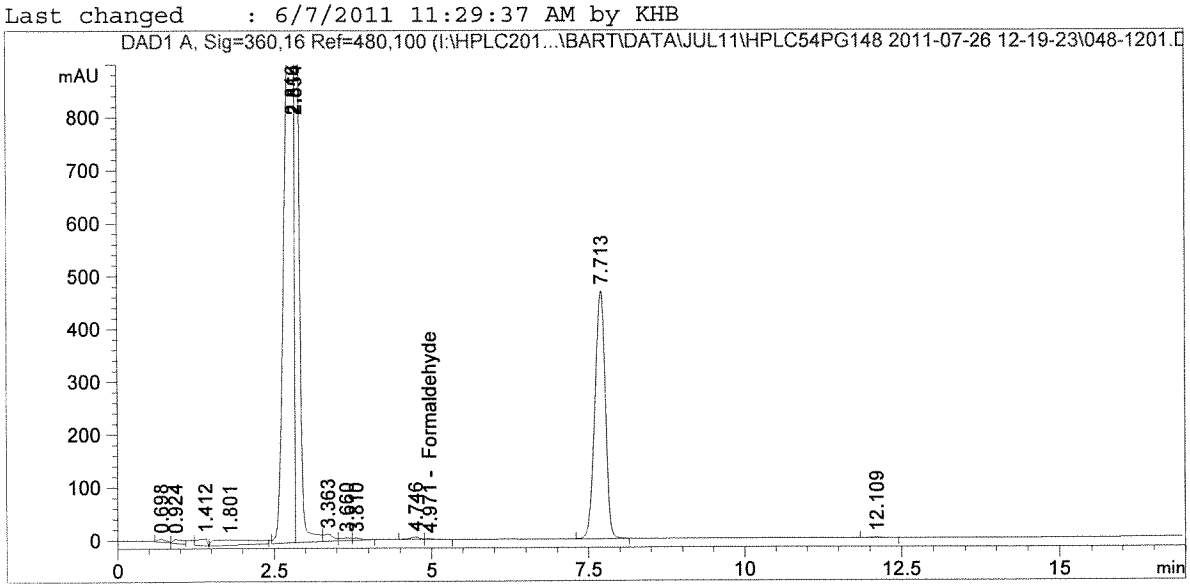
Temp: 4.0°
Raytek Gun #2

Sample Chromatograms



Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG148 2011-07-26 12-19-23\048-1201.D
Sample Name: R1-FH-Imp 1-3 0611-48

```
==========================================================================
Acq. Operator   : Kristen Bounds                  Seq. Line :  12
Acq. Instrument : Bart                            Location : Vial 48
Injection Date  : 7/26/2011 4:17:02 PM                 Inj :  1
                                                 Inj Volume : 15.0 µl
Acq. Method     : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG148 2011-07-26 12-19-23\8315ICR.M
Last changed    : 6/23/2011 6:03:33 PM by System
Analysis Method : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed    : 6/7/2011 11:29:37 AM by KHB
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  4.971 VB       11.15718 2.42472e-3 2.70530e-2    Formaldehyde
  6.380            -          -          -         Acetaldehyde
  8.604            -          -          -         Propionaldehyde

Totals :                              2.70530e-2

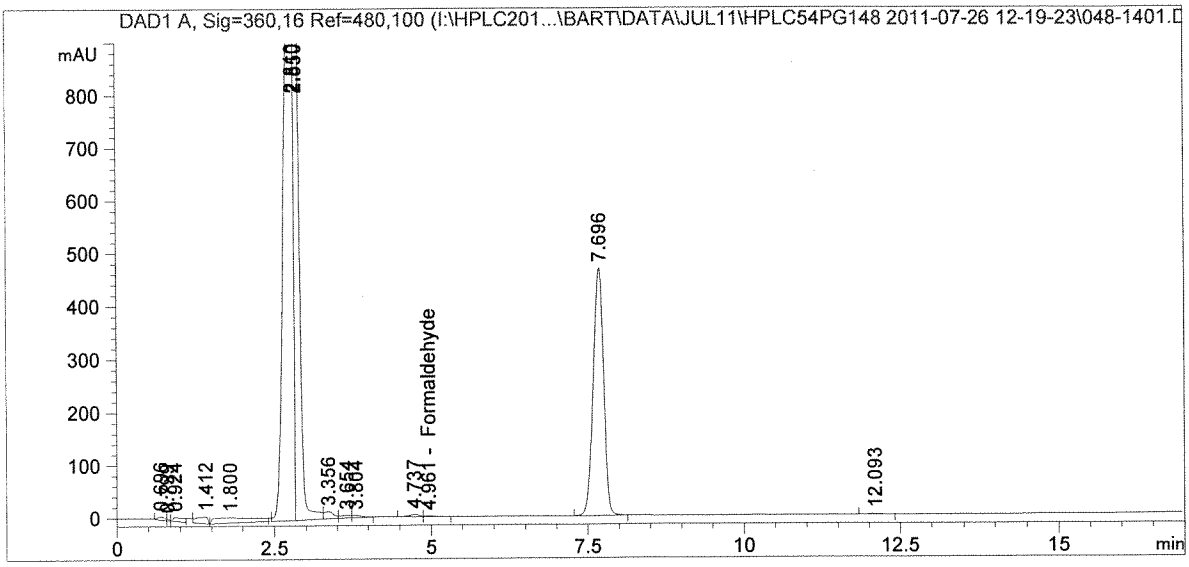

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG148 2011-07-26 12-19-23\048-1401.D
Sample Name: R1-FH-Imp 1-3 0611-48

```
======================================================================
Acq. Operator    : Kristen Bounds                  Seq. Line :  14
Acq. Instrument  : Bart                             Location : Vial 48
Injection Date   : 7/26/2011 5:00:05 PM                  Inj :   1
                                                  Inj Volume : 15.0 µl
Acq. Method      : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG148 2011-07-26 12-19-23\8315ICR.M
Last changed     : 6/23/2011 6:03:33 PM by System
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed     : 6/7/2011 11:29:37 AM by KHB
Sample Info      : Duplicate Injection
```




```
======================================================================
                      External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  4.961 VB       11.04740 2.42472e-3 2.67868e-2    Formaldehyde
  6.380            -          -          -         Acetaldehyde
  8.604            -          -          -         Propionaldehyde

Totals :                              2.67868e-2

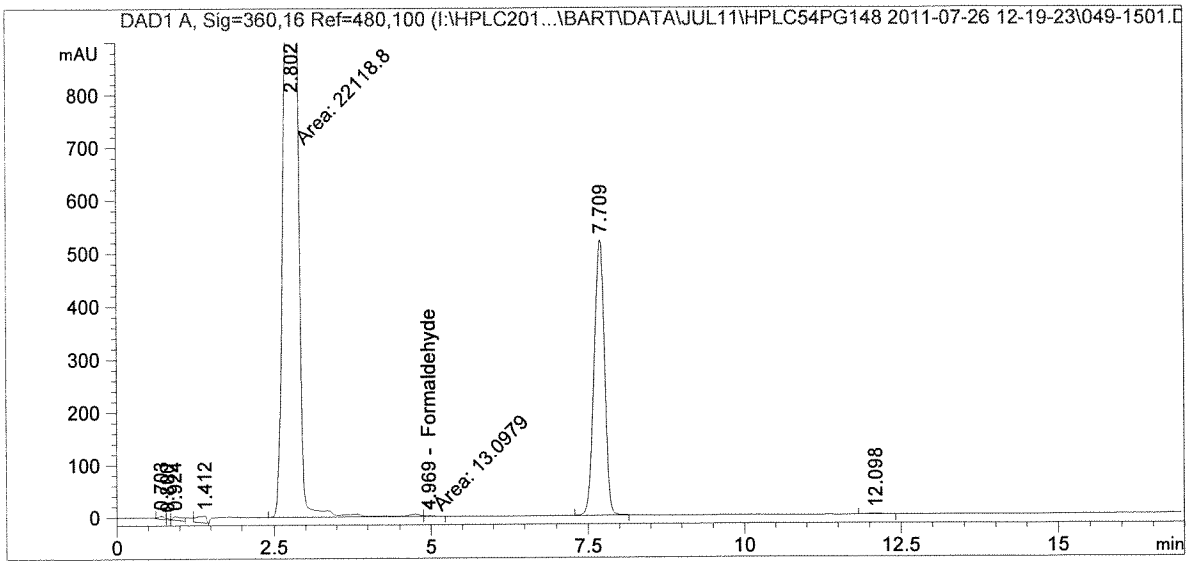

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

======================================================================
                         *** End of Report ***
```

Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG148 2011-07-26 12-19-23\049-1501.D
Sample Name: LD/R1-FH-Imp 1-3 0611-48

```
======================================================================
Acq. Operator   : Kristen Bounds                 Seq. Line :  15
Acq. Instrument : Bart                           Location : Vial 49
Injection Date  : 7/26/2011 5:21:34 PM                Inj :   1
                                                 Inj Volume : 15.0 µl
Acq. Method     : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG148 2011-07-26 12-19-23\8315ICR.M
Last changed    : 6/23/2011 6:03:33 PM by System
Analysis Method : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed    : 6/7/2011 11:29:37 AM by KHB
Sample Info     : Lab Duplicate Sample
```

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======================================================================
                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100
```

RetTime [min]	Type	Area [mAU*s]	Amt/Area	Amount [ug/mL]	Grp	Name
4.969	FM	13.09792	2.42472e-3	3.17588e-2		Formaldehyde
6.380		-	-	-		Acetaldehyde
8.604		-	-	-		Propionaldehyde

Manual Int. "II" (KHB)

```
Totals :                              3.17588e-2

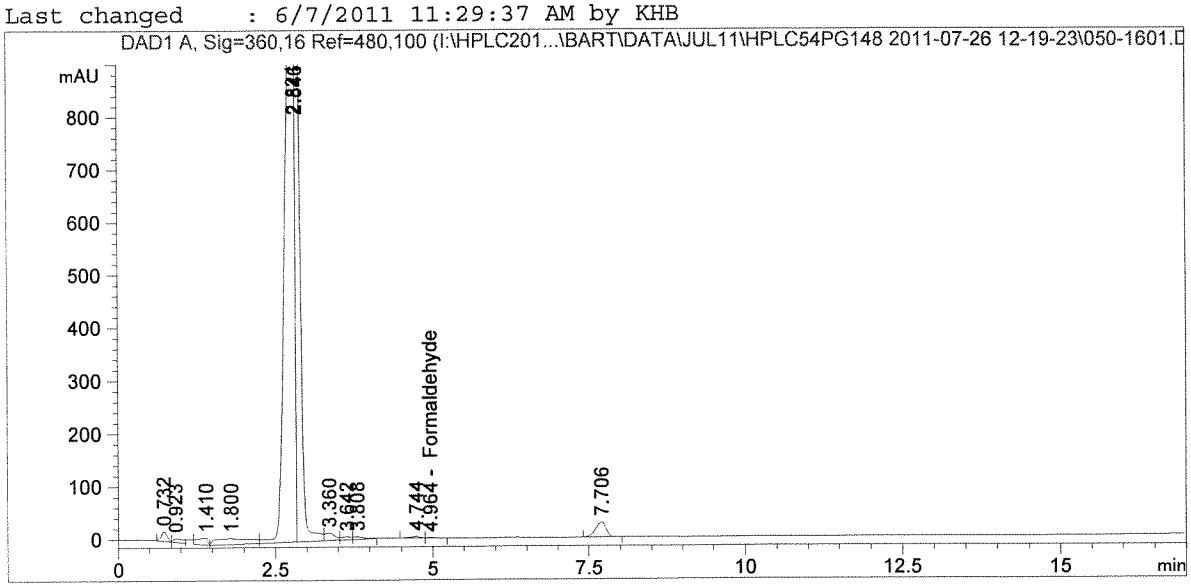

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

======================================================================
                        *** End of Report ***
```

Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG148 2011-07-26 12-19-23\050-1601.D
Sample Name: R2-FH-Imp 1-3 0611-48

```
==========================================================================
Acq. Operator    : Kristen Bounds                    Seq. Line :  16
Acq. Instrument  : Bart                               Location : Vial 50
Injection Date   : 7/26/2011 5:43:00 PM                    Inj :  1
                                                    Inj Volume : 15.0 µl
Acq. Method      : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG148 2011-07-26 12-19-23\8315ICR.M
Last changed     : 6/23/2011 6:03:33 PM by System
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed     : 6/7/2011 11:29:37 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  4.964 VB        9.17800 2.42472e-3 2.22541e-2    Formaldehyde
  6.380            -          -          -         Acetaldehyde
  8.604            -          -          -         Propionaldehyde

Totals :                              2.22541e-2

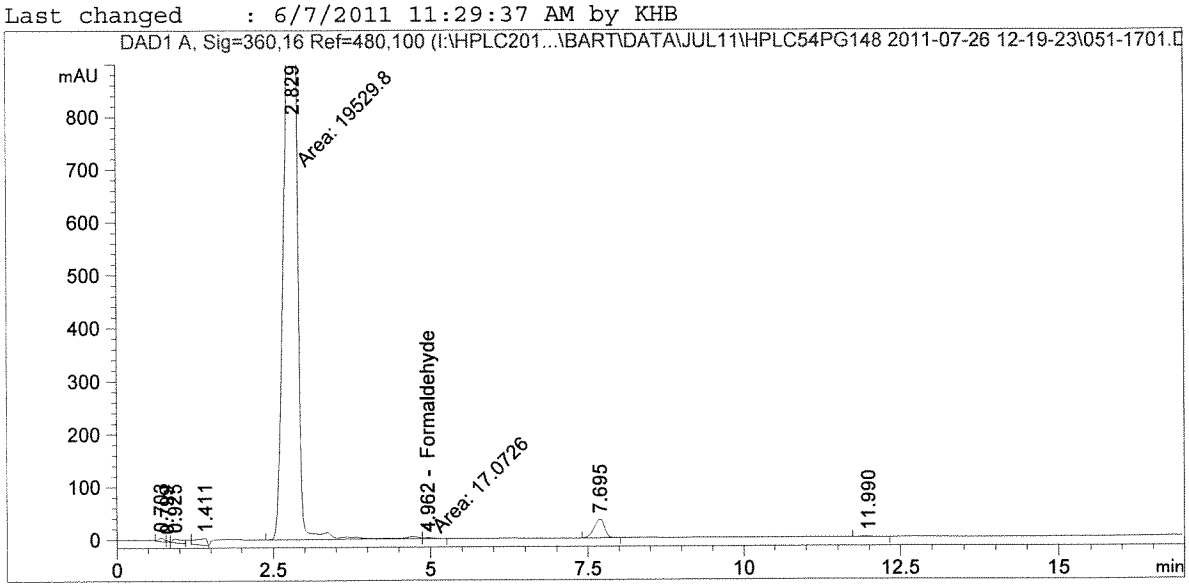

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG148 2011-07-26 12-19-23\051-1701.D
Sample Name: R3-FH-Imp 1-3 0611-48

```
==========================================================================
Acq. Operator    : Kristen Bounds                    Seq. Line :  17
Acq. Instrument  : Bart                               Location : Vial 51
Injection Date   : 7/26/2011 6:04:27 PM                    Inj :   1
                                                   Inj Volume : 15.0 µl
Acq. Method      : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG148 2011-07-26 12-19-23\8315ICR.M
Last changed     : 6/23/2011 6:03:33 PM by System
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed     : 6/7/2011 11:29:37 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  4.962 FM       17.07259 2.42472e-3 4.13962e-2    Formaldehyde
  6.380            -          -          -         Acetaldehyde
  8.604            -          -          -         Propionaldehyde

Totals :                              4.13962e-2


2 Warnings or Errors :

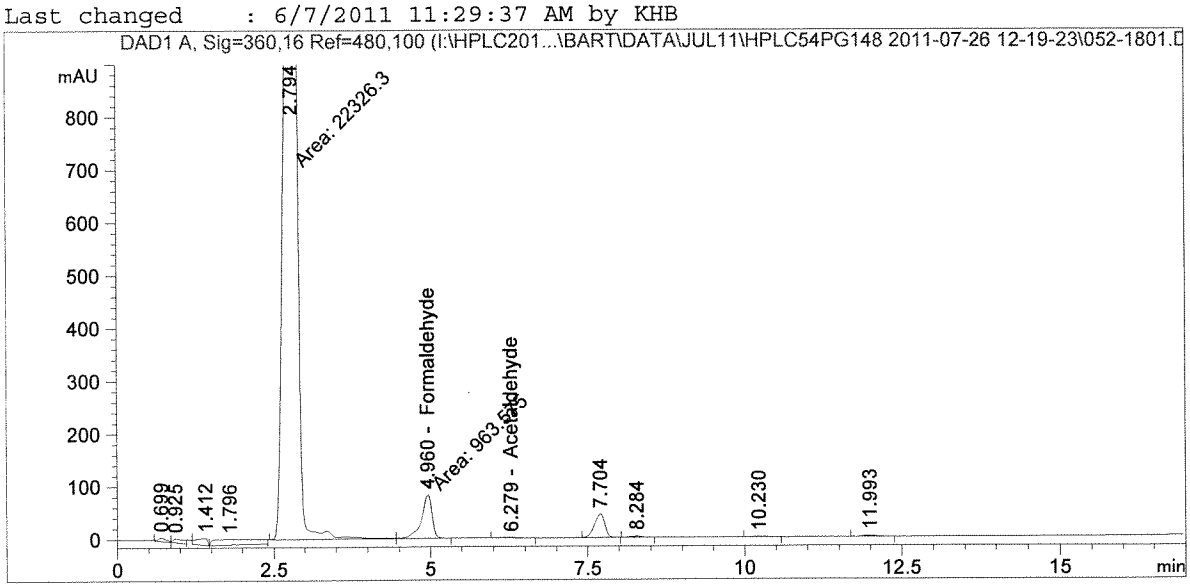
Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========================================================================
                          *** End of Report ***
```

Manual Int. "II" (KHB)

Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG148 2011-07-26 12-19-23\052-1801.D
Sample Name: MS-FH-Imp 1-3 0611-48

```
==========================================================================
Acq. Operator   : Kristen Bounds                    Seq. Line :  18
Acq. Instrument : Bart                              Location : Vial 52
Injection Date  : 7/26/2011 6:25:51 PM                  Inj :  1
                                                  Inj Volume : 15.0 µl
Acq. Method     : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG148 2011-07-26 12-19-23\8315ICR.M
Last changed    : 6/23/2011 6:03:33 PM by System
Analysis Method : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed    : 6/7/2011 11:29:37 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100
```

RetTime [min]	Type	Area [mAU*s]	Amt/Area	Amount [ug/mL]	Grp	Name
4.960	FM	963.57526	2.42472e-3	2.33640		Formaldehyde
6.279	BB	17.95704	3.41603e-3	6.13419e-2		Acetaldehyde
8.604		-	-	-		Propionaldehyde
Totals :				2.39774		

Manual Int. "II" (KHB)

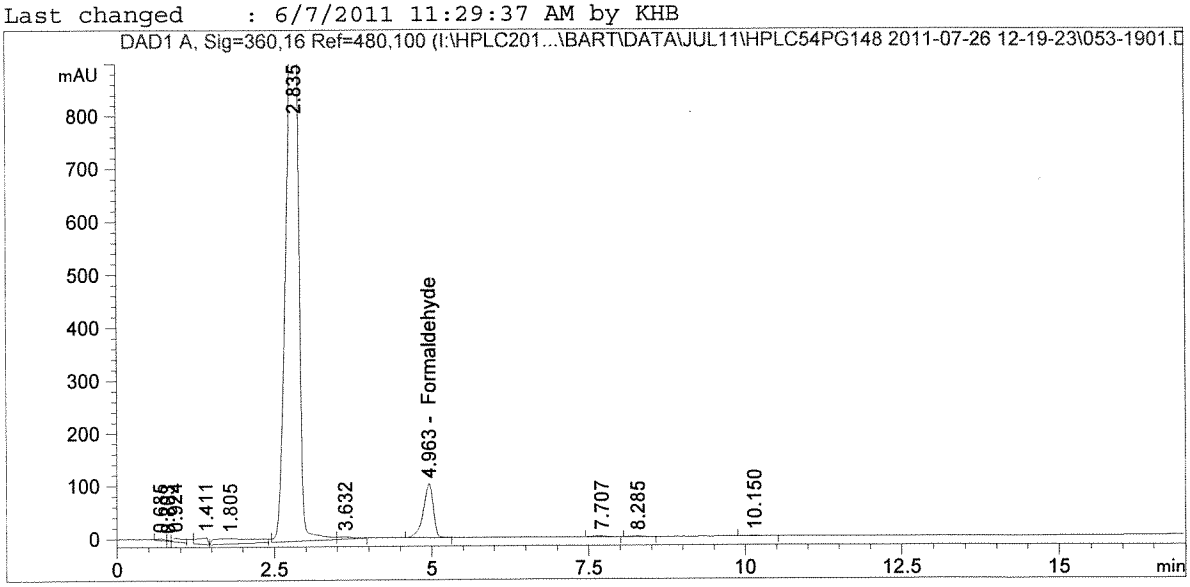
```
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG148 2011-07-26 12-19-23\053-1901.D
Sample Name: Field Spike 0611-48

```
==========================================================================
Acq. Operator    : Kristen Bounds                    Seq. Line :  19
Acq. Instrument  : Bart                               Location : Vial 53
Injection Date   : 7/26/2011 6:47:18 PM                    Inj :  1
                                                   Inj Volume : 15.0 µl
Acq. Method      : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG148 2011-07-26 12-19-23\8315ICR.M
Last changed     : 6/23/2011 6:03:33 PM by System
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed     : 6/7/2011 11:29:37 AM by KHB
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]           [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  4.963 BB     1112.17664 2.42472e-3    2.69672    Formaldehyde
  6.380           -          -           -         Acetaldehyde
  8.604           -          -           -         Propionaldehyde

Totals :                                 2.69672

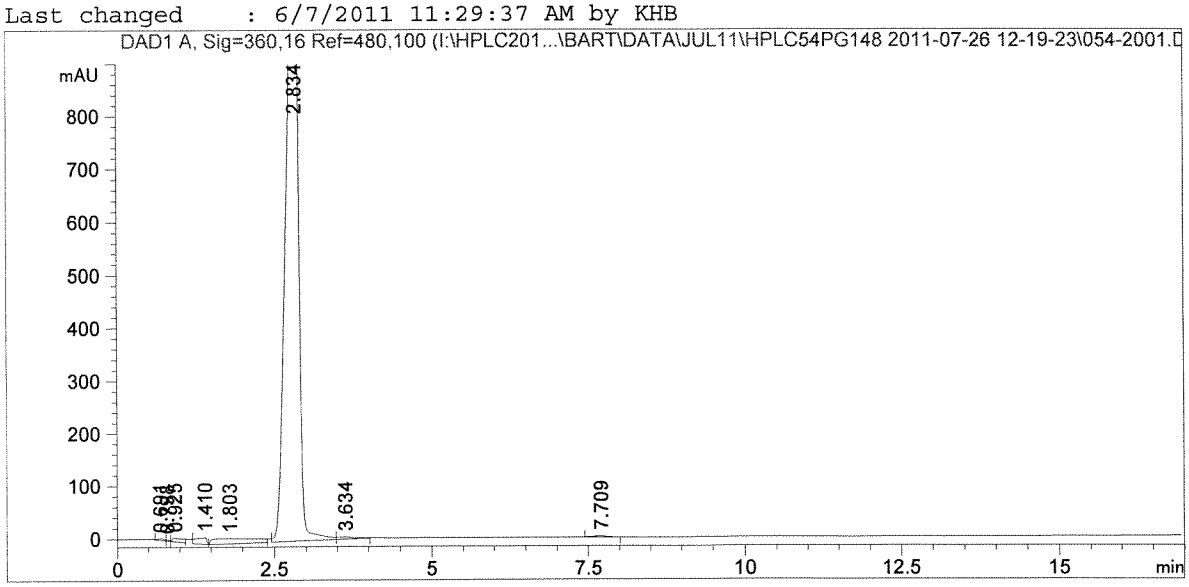

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG148 2011-07-26 12-19-23\054-2001.D
Sample Name: Blank-DNPH/MeCl2 0611-48

```
======================================================================
Acq. Operator   : Kristen Bounds                 Seq. Line :  20
Acq. Instrument : Bart                            Location : Vial 54
Injection Date  : 7/26/2011 7:08:44 PM                 Inj :  1
                                                Inj Volume : 15.0 µl
Acq. Method     : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG148 2011-07-26 12-19-23\8315ICR.M
Last changed    : 6/23/2011 6:03:33 PM by System
Analysis Method : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed    : 6/7/2011 11:29:37 AM by KHB
```




```
======================================================================
                      External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100
```

RetTime [min]	Type	Area [mAU*s]	Amt/Area	Amount [ug/mL]	Grp	Name
5.057		-	-	-		Formaldehyde
6.380		-	-	-		Acetaldehyde
8.604		-	-	-		Propionaldehyde

Totals : 0.00000

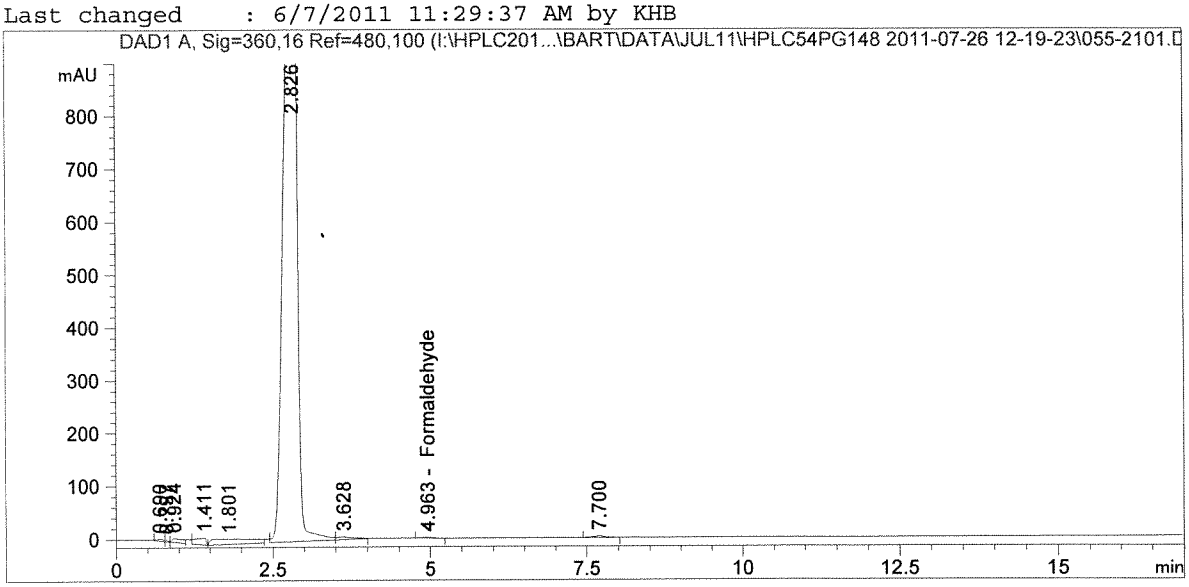
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==

Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG148 2011-07-26 12-19-23\055-2101.D
Sample Name: Blank-DI Water 0611-48

```
======================================================================
Acq. Operator   : Kristen Bounds                 Seq. Line :  21
Acq. Instrument : Bart                           Location : Vial 55
Injection Date  : 7/26/2011 7:30:08 PM                Inj :  1
                                                Inj Volume : 15.0 µl
Acq. Method     : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG148 2011-07-26 12-19-23\8315ICR.M
Last changed    : 6/23/2011 6:03:33 PM by System
Analysis Method : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed    : 6/7/2011 11:29:37 AM by KHB
```




```
======================================================================
                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  4.963 BB       12.40159 2.42472e-3 3.00704e-2    Formaldehyde
  6.380            -          -          -         Acetaldehyde
  8.604            -          -          -         Propionaldehyde

Totals :                              3.00704e-2

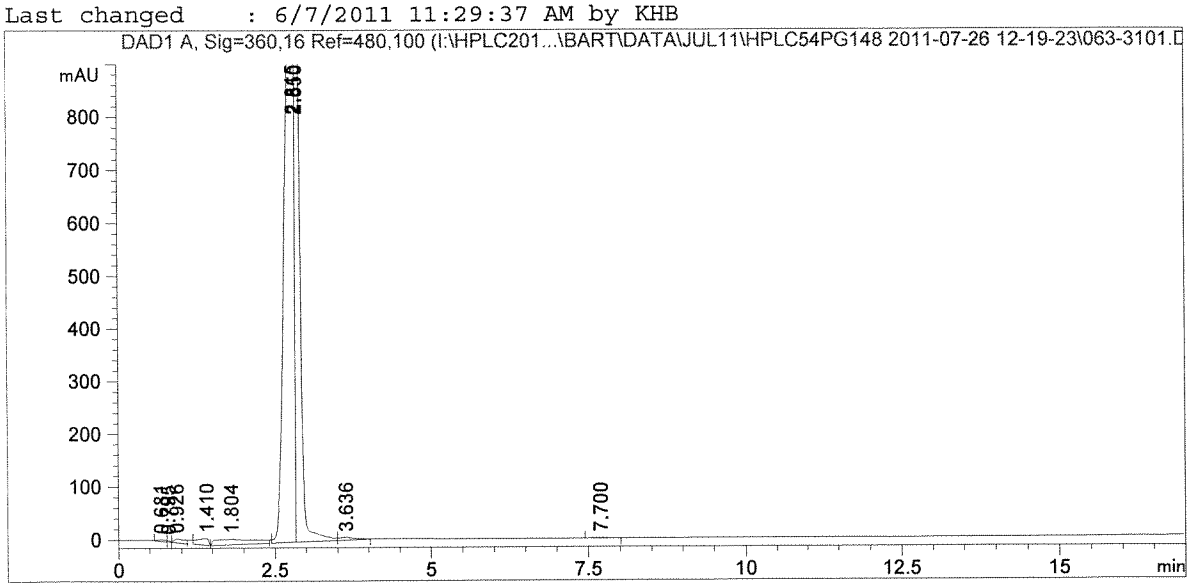

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

======================================================================
                        *** End of Report ***
```

Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG148 2011-07-26 12-19-23\063-3101.D
Sample Name: MB-1

```
==========================================================================
Acq. Operator    : Kristen Bounds                    Seq. Line :  31
Acq. Instrument  : Bart                               Location : Vial 63
Injection Date   : 7/26/2011 11:05:18 PM                  Inj :  1
                                                    Inj Volume : 15.0 µl
Acq. Method      : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG148 2011-07-26 12-19-23\8315ICR.M
Last changed     : 6/23/2011 6:03:33 PM by System
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed     : 6/7/2011 11:29:37 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type      Area      Amt/Area     Amount    Grp   Name
 [min]           [mAU*s]                 [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.057            -           -          -          Formaldehyde
  6.380            -           -          -          Acetaldehyde
  8.604            -           -          -          Propionaldehyde

Totals :                                  0.00000

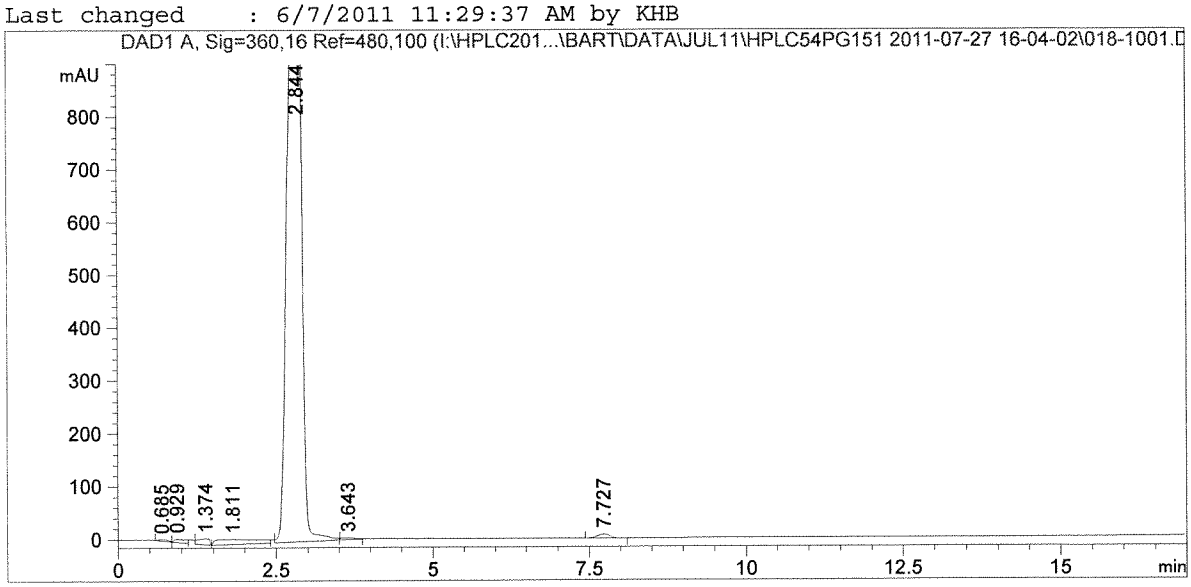

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========================================================================
```

Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG151 2011-07-27 16-04-02\018-1001.D
Sample Name: MB-2

```
==========================================================================
Acq. Operator   : Kristen Bounds                  Seq. Line :  10
Acq. Instrument : Bart                           Location : Vial 18
Injection Date  : 7/27/2011 7:19:02 PM                Inj :  1
                                                 Inj Volume : 15.0 µl
Acq. Method     : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG151 2011-07-27 16-04-02\8315ICR.M
Last changed    : 6/23/2011 6:03:33 PM by System
Analysis Method : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed    : 6/7/2011 11:29:37 AM by KHB
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.057           -          -          -          Formaldehyde
  6.380           -          -          -          Acetaldehyde
  8.604           -          -          -          Propionaldehyde

Totals :                                0.00000

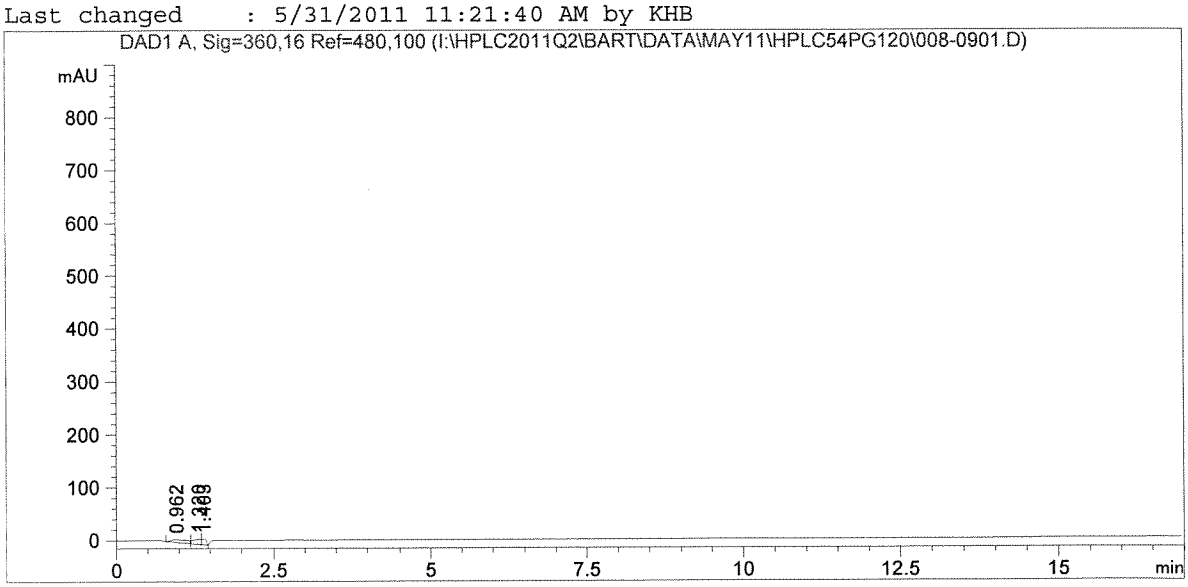

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========================================================================
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\008-0901.D
Sample Name: RB/100% ACN

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   9
Acq. Instrument  : Bart                                  Location : Vial 8
Injection Date   : 5/27/2011 11:24:14 PM                      Inj :   1
                                                       Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]           [mAU*s]               [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.057           -           -          -          Formaldehyde
  6.380           -           -          -          Acetaldehyde
  7.788           -           -          -          Acetone
  8.093           -           -          -          Acrolein
  8.604           -           -          -          Propionaldehyde

Totals :                                 0.00000

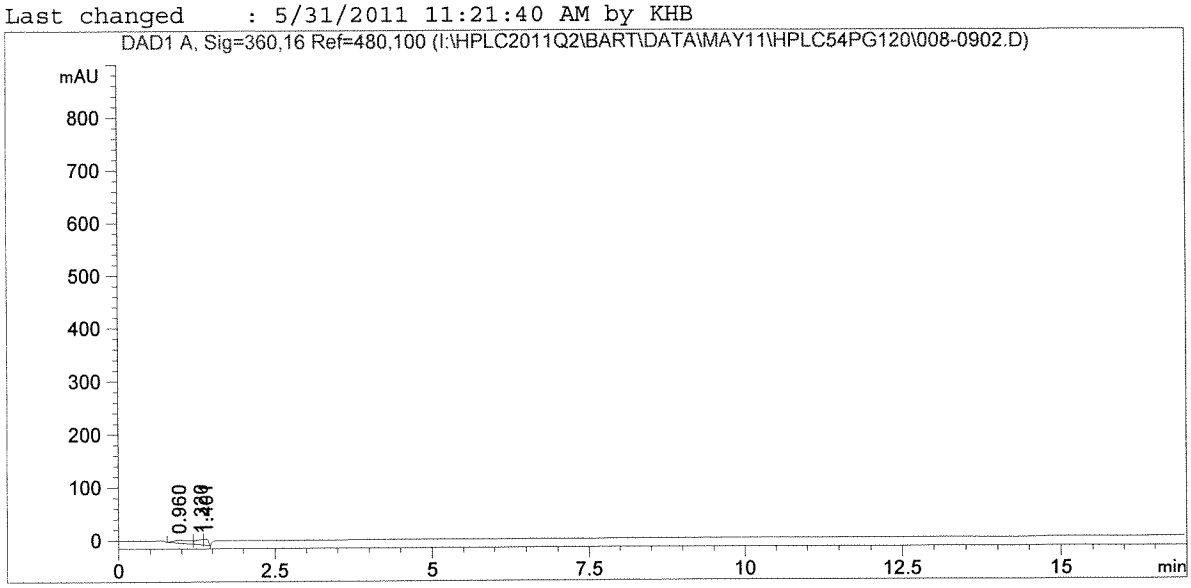

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========================================================================
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\008-0902.D
Sample Name: RB/100% ACN

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   9
Acq. Instrument  : Bart                                  Location : Vial 8
Injection Date   : 5/27/2011 11:45:53 PM                      Inj :   2
                                                       Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.057           -          -          -          Formaldehyde
  6.380           -          -          -          Acetaldehyde
  7.788           -          -          -          Acetone
  8.093           -          -          -          Acrolein
  8.604           -          -          -          Propionaldehyde

Totals :                                 0.00000

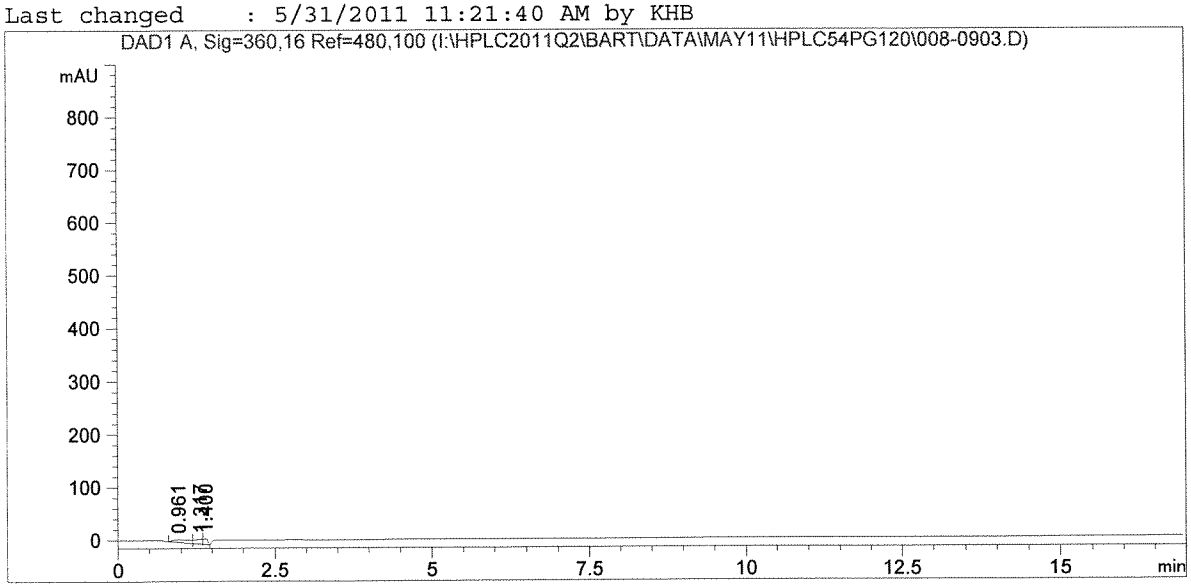

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========================================================================
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\008-0903.D
Sample Name: RB/100% ACN

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   9
Acq. Instrument  : Bart                                  Location : Vial 8
Injection Date   : 5/28/2011 12:07:30 AM                      Inj :   3
                                                      Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.057           -          -          -          Formaldehyde
  6.380           -          -          -          Acetaldehyde
  7.788           -          -          -          Acetone
  8.093           -          -          -          Acrolein
  8.604           -          -          -          Propionaldehyde

Totals :                                 0.00000

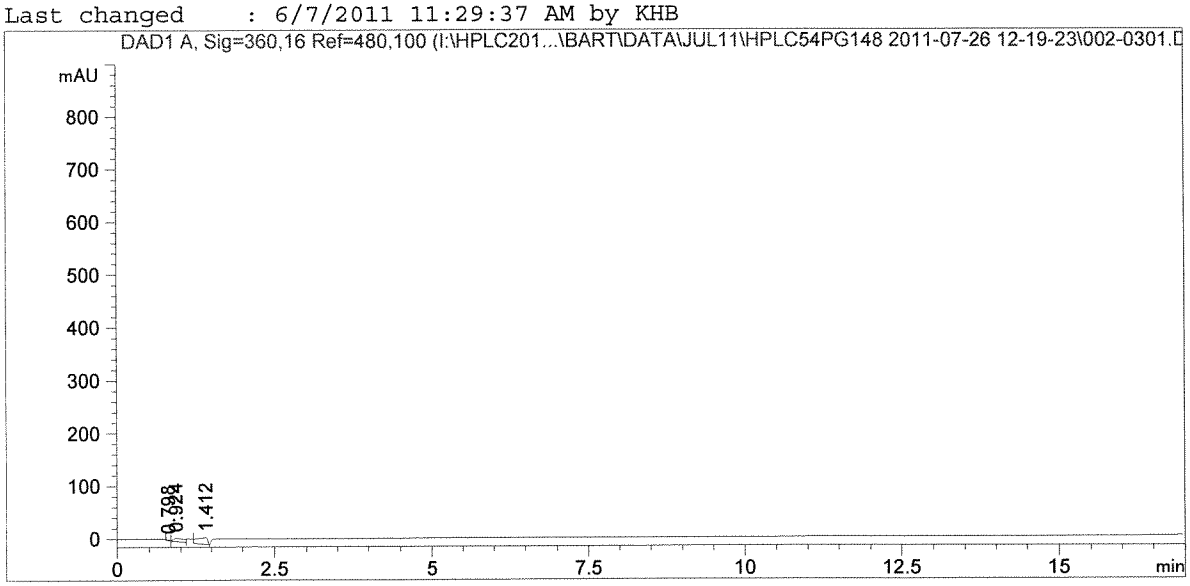

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========================================================================
```

Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG148 2011-07-26 12-19-23\002-0301.D
Sample Name: RB/100% ACN

```
==========================================================================
Acq. Operator    : Kristen Bounds                    Seq. Line :   3
Acq. Instrument  : Bart                               Location : Vial 2
Injection Date   : 7/26/2011 1:03:50 PM                    Inj :   1
                                                    Inj Volume : 15.0 µl
Acq. Method      : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG148 2011-07-26 12-19-23\8315ICR.M
Last changed     : 6/23/2011 6:03:33 PM by System
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed     : 6/7/2011 11:29:37 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.057            -           -          -          Formaldehyde
  6.380            -           -          -          Acetaldehyde
  8.604            -           -          -          Propionaldehyde

Totals :                                  0.00000

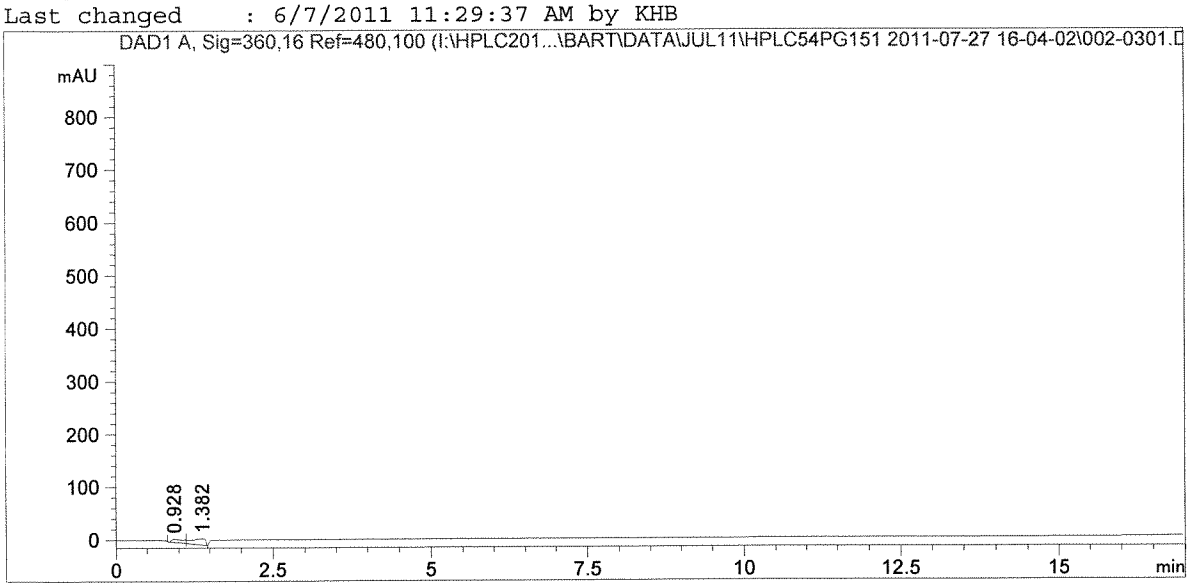

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========================================================================
```

Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG151 2011-07-27 16-04-02\002-0301.D
Sample Name: RB/100% ACN

```
==========================================================================
Acq. Operator    : Kristen Bounds                    Seq. Line :   3
Acq. Instrument  : Bart                               Location : Vial 2
Injection Date   : 7/27/2011 4:48:53 PM                    Inj :   1
                                                    Inj Volume : 15.0 µl
Acq. Method      : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG151 2011-07-27 16-04-02\8315ICR.M
Last changed     : 6/23/2011 6:03:33 PM by System
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed     : 6/7/2011 11:29:37 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type      Area      Amt/Area     Amount    Grp   Name
 [min]           [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.057            -           -          -          Formaldehyde
  6.380            -           -          -          Acetaldehyde
  8.604            -           -          -          Propionaldehyde

Totals :                                  0.00000

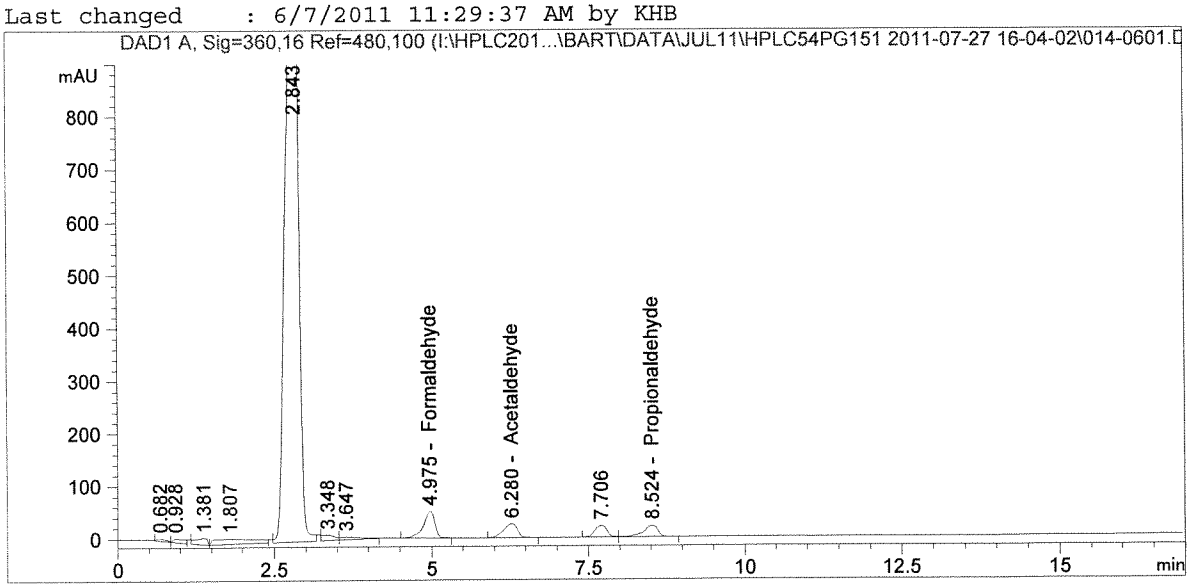

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========================================================================
```

Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG151 2011-07-27 16-04-02\014-0601.D
Sample Name: MS/R2-FH-Imp 1-3 0611-48

```
==========================================================================
Acq. Operator   : Kristen Bounds                    Seq. Line :   6
Acq. Instrument : Bart                              Location : Vial 14
Injection Date  : 7/27/2011 5:53:12 PM                 Inj :   1
                                                   Inj Volume : 15.0 µl
Acq. Method     : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG151 2011-07-27 16-04-02\8315ICR.M
Last changed    : 6/23/2011 6:03:33 PM by System
Analysis Method : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed    : 6/7/2011 11:29:37 AM by KHB
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100
```

RetTime [min]	Type	Area [mAU*s]	Amt/Area	Amount [ug/mL]	Grp	Name
4.975	BB	620.88770	2.42472e-3	1.50548		Formaldehyde
6.280	BB	406.87360	3.41603e-3	1.38989		Acetaldehyde
8.524	VB	335.82751	4.41958e-3	1.48422		Propionaldehyde

```
Totals :                                  4.37959

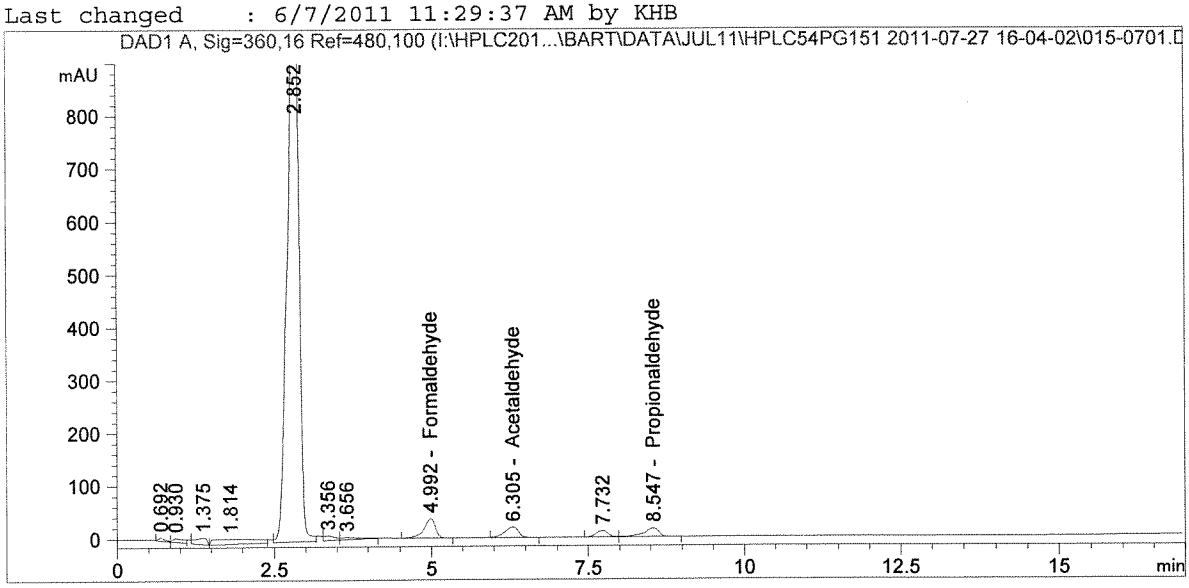

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG151 2011-07-27 16-04-02\015-0701.D
Sample Name: MSD/R2-FH-Imp 1-3 0611-48

```
==========================================================================
Acq. Operator    : Kristen Bounds                    Seq. Line :   7
Acq. Instrument  : Bart                               Location : Vial 15
Injection Date   : 7/27/2011 6:14:39 PM                    Inj :   1
                                                    Inj Volume : 15.0 µl
Acq. Method      : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG151 2011-07-27 16-04-02\8315ICR.M
Last changed     : 6/23/2011 6:03:33 PM by System
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed     : 6/7/2011 11:29:37 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]           [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  4.992 BB      448.81317 2.42472e-3    1.08825    Formaldehyde
  6.305 BB      297.73254 3.41603e-3    1.01706    Acetaldehyde
  8.547 VB      258.23712 4.41958e-3    1.14130    Propionaldehyde

Totals :                                3.24661

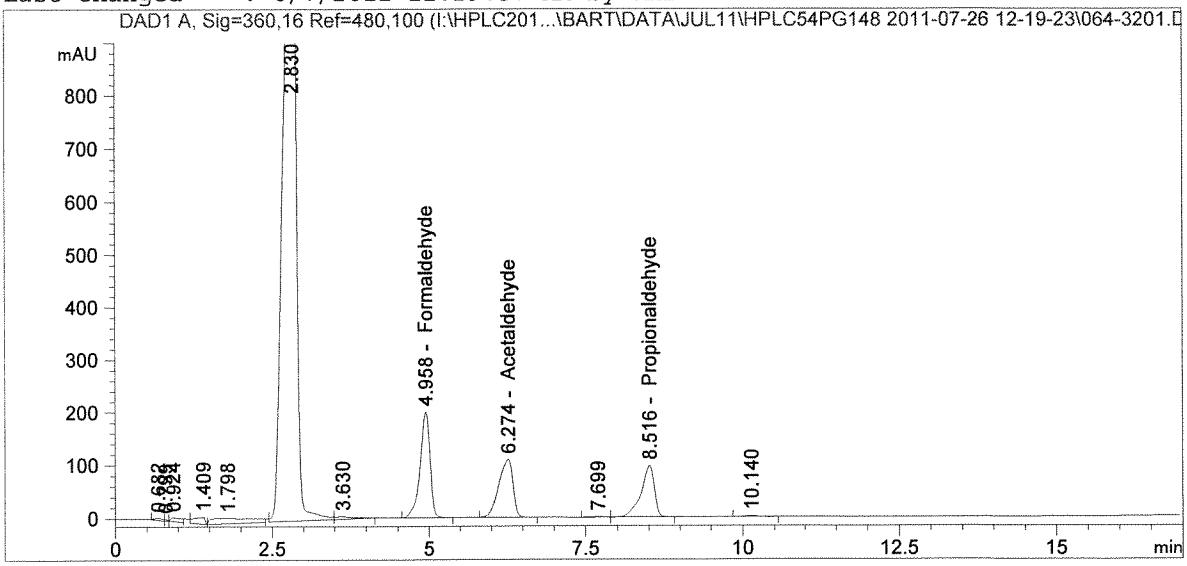

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG148 2011-07-26 12-19-23\064-3201.D
Sample Name: LCS-1

```
======================================================================
Acq. Operator   : Kristen Bounds                 Seq. Line :  32
Acq. Instrument : Bart                           Location : Vial 64
Injection Date  : 7/26/2011 11:26:44 PM               Inj :  1
                                               Inj Volume : 15.0 µl
Acq. Method     : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG148 2011-07-26 12-19-23\8315ICR.M
Last changed    : 6/23/2011 6:03:33 PM by System
Analysis Method : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed    : 6/7/2011 11:29:37 AM by KHB
```




```
======================================================================
                      External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100
```

RetTime [min]	Type	Area [mAU*s]	Amt/Area	Amount [ug/mL]	Grp	Name
4.958	BB	2235.47095	2.42472e-3	5.42039		Formaldehyde
6.274	BB	1725.35754	3.41603e-3	5.89388		Acetaldehyde
8.516	VB	1408.12842	4.41958e-3	6.22334		Propionaldehyde

Totals : 17.53761

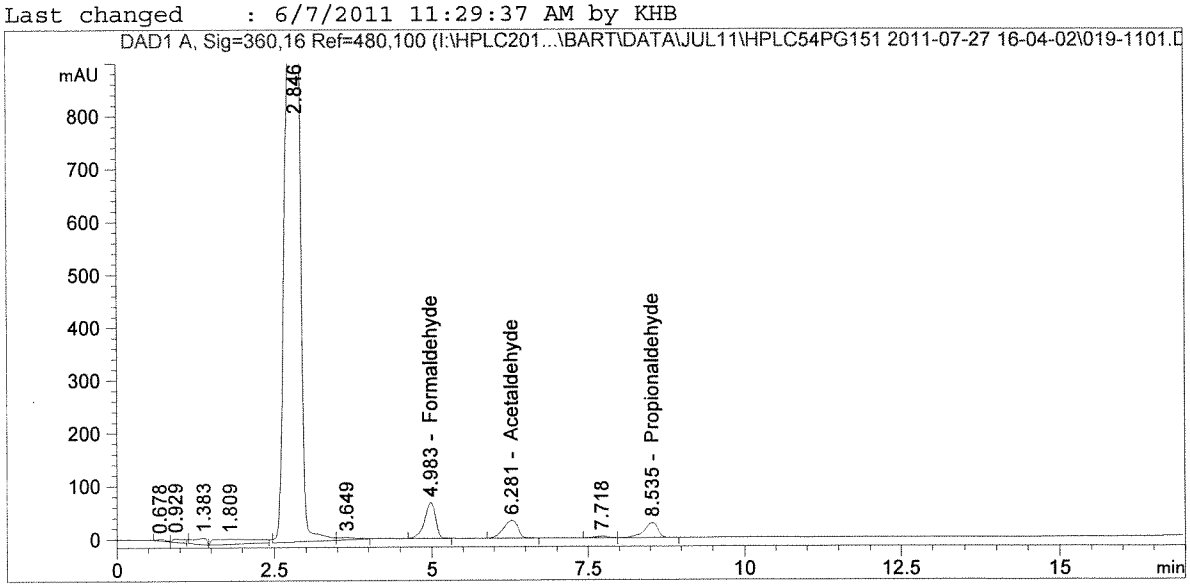
1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

```
======================================================================
                        *** End of Report ***
```

Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG151 2011-07-27 16-04-02\019-1101.D
Sample Name: LCS-2

```
==========================================================================
Acq. Operator   : Kristen Bounds                  Seq. Line :  11
Acq. Instrument : Bart                           Location : Vial 19
Injection Date  : 7/27/2011 7:40:34 PM                Inj :   1
                                                 Inj Volume : 15.0 µl
Acq. Method     : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG151 2011-07-27 16-04-02\8315ICR.M
Last changed    : 6/23/2011 6:03:33 PM by System
Analysis Method : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed    : 6/7/2011 11:29:37 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  4.983 BB      816.83551 2.42472e-3    1.98060    Formaldehyde
  6.281 BB      543.66626 3.41603e-3    1.85718    Acetaldehyde
  8.535 VB      439.23352 4.41958e-3    1.94123    Propionaldehyde

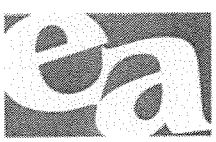
Totals :                                5.77901


1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Calibration Curve Chromatograms



Calibration Table

Calib. Data Modified : Tuesday, May 31, 2011 11:20:41 AM

Rel. Reference Window : 5.000 %
Abs. Reference Window : 0.000 min
Rel. Non-ref. Window : 5.000 %
Abs. Non-ref. Window : 0.000 min
Uncalibrated Peaks : not reported
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Average Response/Amount
Origin : Ignored
Weight : Equal

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime [min]	Sig	Lvl	Amount [ug/mL]	Area	Amt/Area	Ref	Grp	Name
5.057	1	1	7.47000e-2	30.61963	2.43961e-3			Formaldehyde
		2	7.15000e-1	310.99482	2.29907e-3			
		3	2.50000	1000.60588	2.49849e-3			
		4	5.00000	2049.16028	2.44002e-3			
		5	9.01000	3688.39754	2.44280e-3			
		6	15.00000	6153.18799	2.43776e-3			
6.380	1	1	7.47000e-2	21.60617	3.45735e-3			Acetaldehyde
		2	7.15000e-1	220.44158	3.24349e-3			
		3	2.50000	712.11804	3.51065e-3			
		4	5.01000	1458.37695	3.43533e-3			
		5	9.01000	2621.98153	3.43633e-3			
		6	15.00000	4378.88102	3.42553e-3			
7.788	1	1	7.47000e-2	16.62340	4.49366e-3			Acetone
		2	7.15000e-1	165.24312	4.32696e-3			
		3	2.50000	533.17934	4.68885e-3			
		4	5.00000	1092.29525	4.57752e-3			
		5	9.01000	1967.45394	4.57952e-3			
		6	15.00000	3276.86100	4.57755e-3			
8.093	1	1	7.47000e-2	20.19522	3.69889e-3			Acrolein
		2	7.15000e-1	195.41486	3.65888e-3			
		3	2.50000	629.92090	3.96875e-3			
		4	5.01000	1287.60856	3.89093e-3			
		5	9.01000	2315.26774	3.89156e-3			
		6	15.00000	3867.90869	3.87806e-3			
8.604	1	1	7.46000e-2	16.01441	4.65831e-3			Propionaldehyde
		2	7.14000e-1	171.99996	4.15116e-3			
		3	2.50000	553.96212	4.51294e-3			
		4	5.00000	1133.32080	4.41181e-3			

Method I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M

RetTime [min]	Sig	Lvl	Amount [ug/mL]	Area	Amt/Area	Ref	Grp	Name
		5	9.00000	2038.95015	4.41404e-3			
		6	15.00000	3408.43978	4.40084e-3			

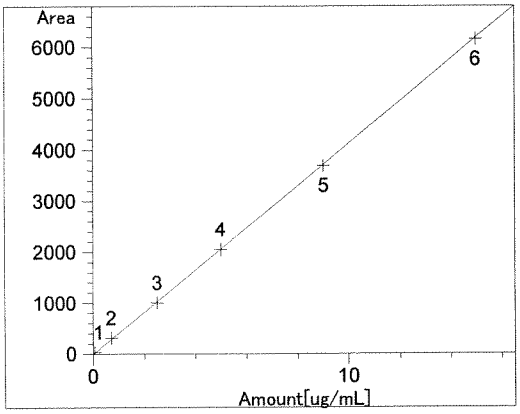
1 Warnings or Errors :

Warning : Overlapping peak time windows at 7.788 min, signal 1

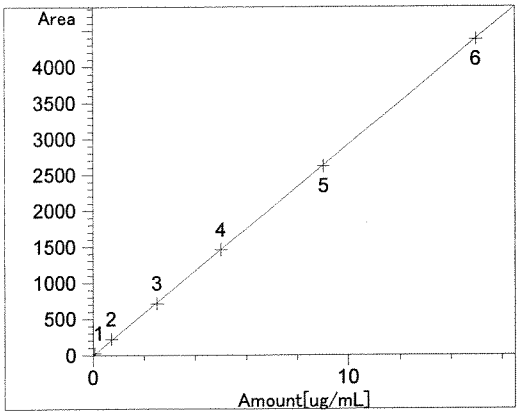
Peak Sum Table

No Entries in table

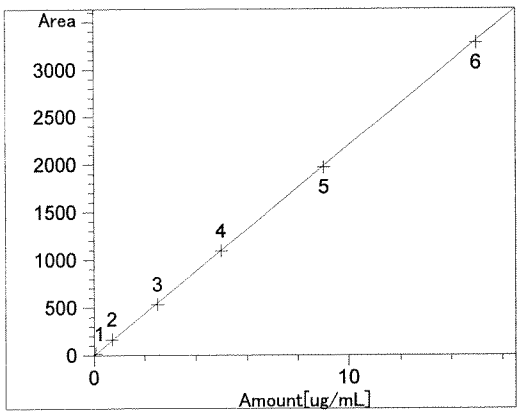
Calibration Curves



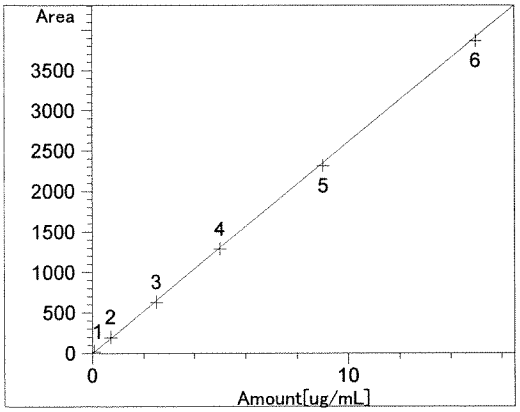
Formaldehyde at exp. RT: 5.057
DAD1 A, Sig=360,16 Ref=480,100
Correlation: 0.99998
Residual Std. Dev.: 28.30642
Formula: y = mx
m: 412.41885
x: Amount
y: Area



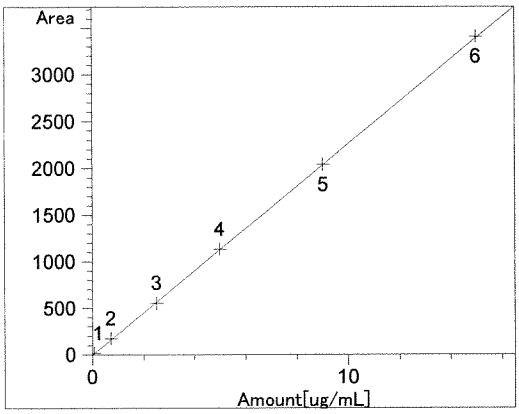
Acetaldehyde at exp. RT: 6.380
DAD1 A, Sig=360,16 Ref=480,100
Correlation: 0.99998
Residual Std. Dev.: 15.58800
Formula: y = mx
m: 292.73714
x: Amount
y: Area



Acetone at exp. RT: 7.788
DAD1 A, Sig=360,16 Ref=480,100
Correlation: 0.99998
Residual Std. Dev.: 20.06094
Formula: y = mx
m: 220.36606
x: Amount
y: Area



Acrolein at exp. RT: 8.093
DAD1 A, Sig=360,16 Ref=480,100
Correlation: 0.99998
Residual Std. Dev.: 35.78804
Formula: y = mx
m: 261.24361
x: Amount
y: Area

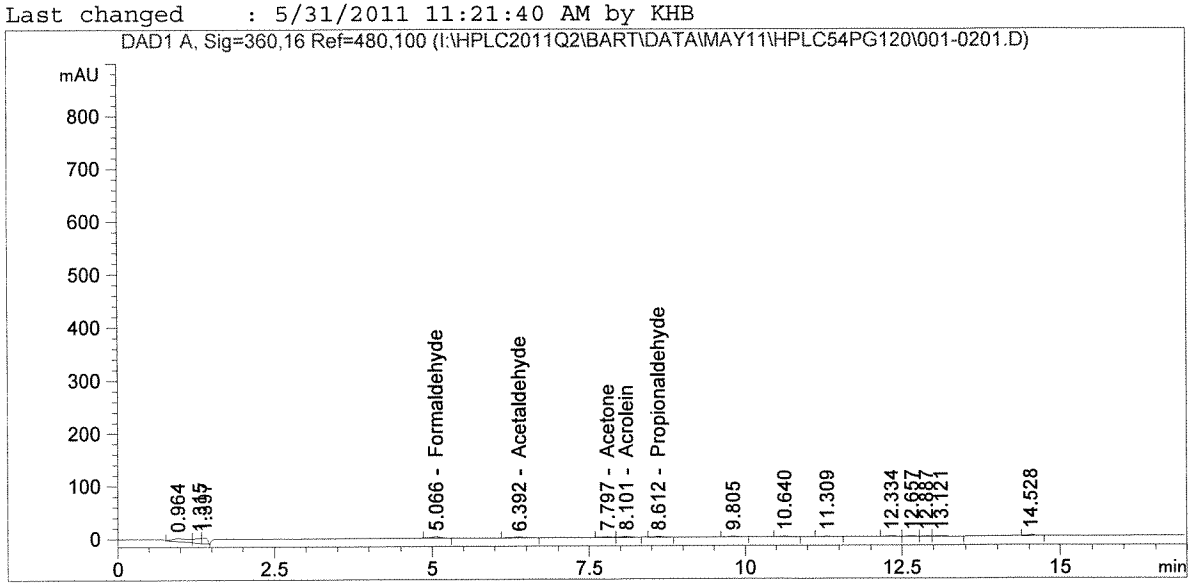


Propionaldehyde at exp. RT: 8.604
DAD1 A, Sig=360,16 Ref=480,100
Correlation: 0.99998
Residual Std. Dev.: 10.79580
Formula: y = mx
m: 226.26583
x: Amount
y: Area

==========

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\001-0201.D
Sample Name: hplc54pg120 #1

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   2
Acq. Instrument  : Bart                                  Location : Vial 1
Injection Date   : 5/27/2011 3:49:47 PM                      Inj :   1
                                                       Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.066 BB       29.63630 2.42472e-3 7.18597e-2    Formaldehyde
  6.392 BB       22.03458 3.41603e-3 7.52709e-2    Acetaldehyde
  7.797 BV       16.60152 4.53790e-3 7.53361e-2    Acetone
  8.101 VB       20.15335 3.82784e-3 7.71439e-2    Acrolein
  8.612 BB       16.10484 4.41958e-3 7.11766e-2    Propionaldehyde

Totals :                              3.70787e-1

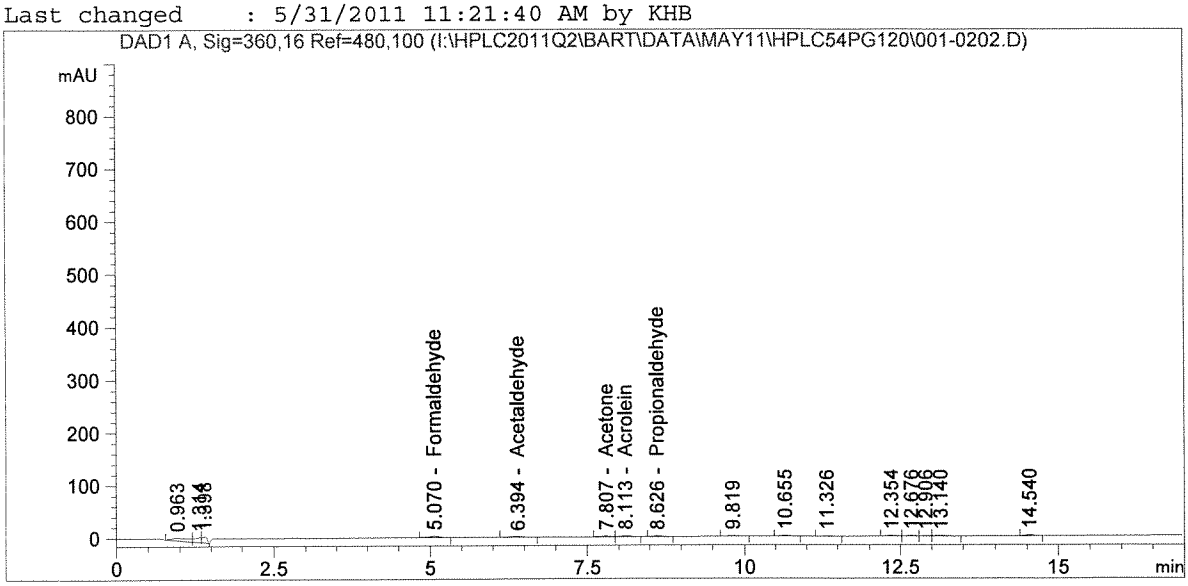

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\001-0202.D
Sample Name: hplc54pg120 #1

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   2
Acq. Instrument  : Bart                                  Location : Vial 1
Injection Date   : 5/27/2011 4:11:25 PM                      Inj :   2
                                                       Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.070 BB       31.00495 2.42472e-3 7.51783e-2    Formaldehyde
  6.394 BB       21.29319 3.41603e-3 7.27383e-2    Acetaldehyde
  7.807 BV       16.89919 4.53790e-3 7.66869e-2    Acetone
  8.113 VB       20.30722 3.82784e-3 7.77329e-2    Acrolein
  8.626 BB       16.01859 4.41958e-3 7.07955e-2    Propionaldehyde

Totals :                              3.73132e-1

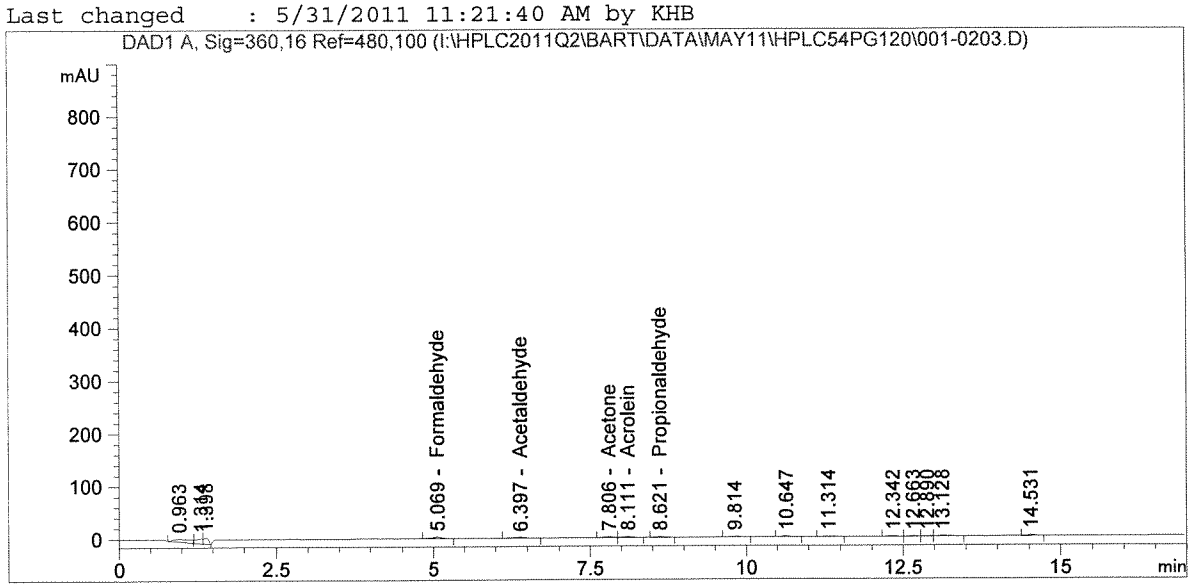

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\001-0203.D
Sample Name: hplc54pg120 #1

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   2
Acq. Instrument  : Bart                                  Location : Vial 1
Injection Date   : 5/27/2011 4:33:05 PM                      Inj :   3
                                                      Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]           [mAU*s]               [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.069 BB       31.21763 2.42472e-3 7.56940e-2    Formaldehyde
  6.397 BB       21.49072 3.41603e-3 7.34130e-2    Acetaldehyde
  7.806 BV       16.36949 4.53790e-3 7.42832e-2    Acetone
  8.111 VB       20.12511 3.82784e-3 7.70358e-2    Acrolein
  8.621 BB       15.91979 4.41958e-3 7.03588e-2    Propionaldehyde

Totals :                              3.70785e-1

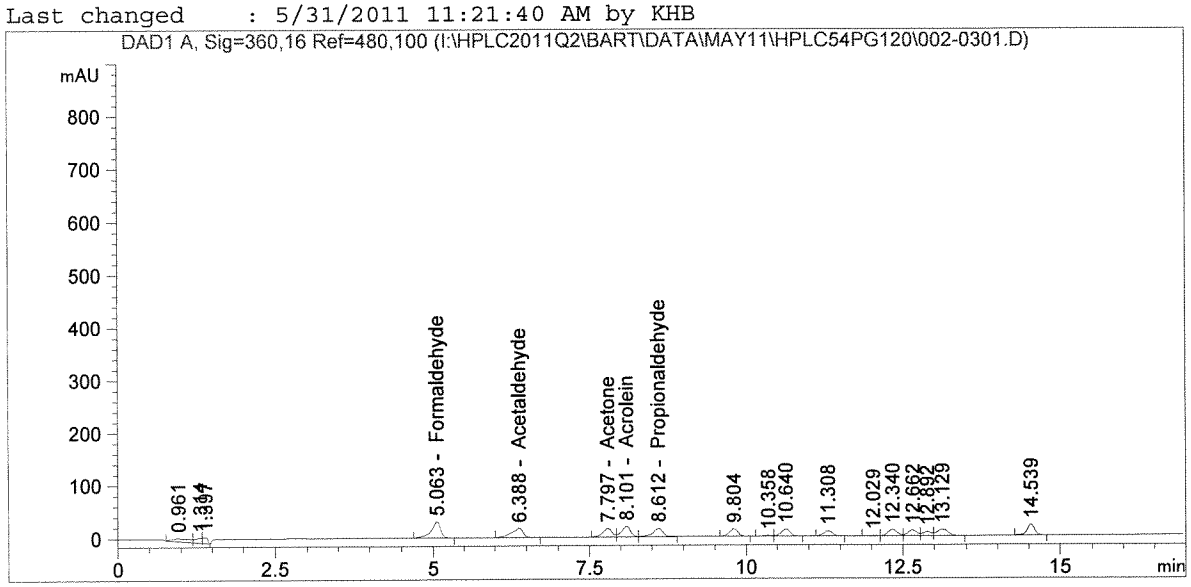

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\002-0301.D
Sample Name: hplc54pg120 #2

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   3
Acq. Instrument  : Bart                                  Location : Vial 2
Injection Date   : 5/27/2011 4:54:43 PM                      Inj :   1
                                                       Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]           [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.063 BB      311.51663 2.42472e-3 7.55340e-1    Formaldehyde
  6.388 BB      221.01292 3.41603e-3 7.54988e-1    Acetaldehyde
  7.797 BV      166.06204 4.53790e-3 7.53574e-1    Acetone
  8.101 VV      195.89969 3.82784e-3 7.49874e-1    Acrolein
  8.612 VB      172.74652 4.41958e-3 7.63467e-1    Propionaldehyde

Totals :                                3.77724

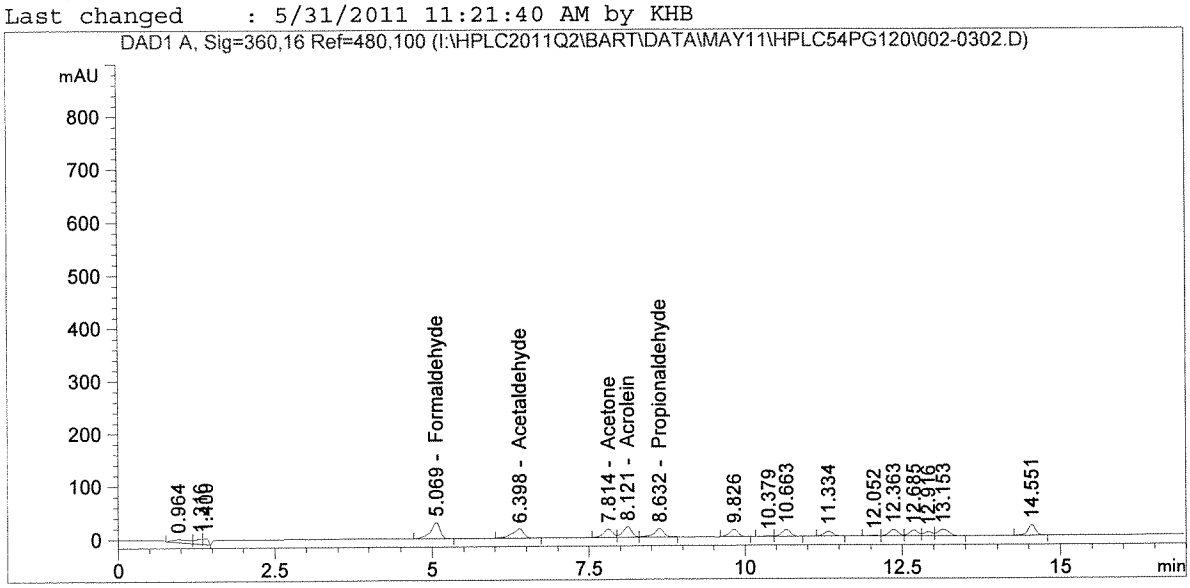

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\002-0302.D
Sample Name: hplc54pg120 #2

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   3
Acq. Instrument  : Bart                                  Location : Vial 2
Injection Date   : 5/27/2011 5:16:23 PM                      Inj :   2
                                                       Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]           [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.069 BB      310.92529 2.42472e-3 7.53907e-1    Formaldehyde
  6.398 BB      220.41605 3.41603e-3 7.52949e-1    Acetaldehyde
  7.814 BV      164.85385 4.53790e-3 7.48091e-1    Acetone
  8.121 VV      195.58609 3.82784e-3 7.48673e-1    Acrolein
  8.632 VB      171.94592 4.41958e-3 7.59929e-1    Propionaldehyde

Totals :                                3.76355

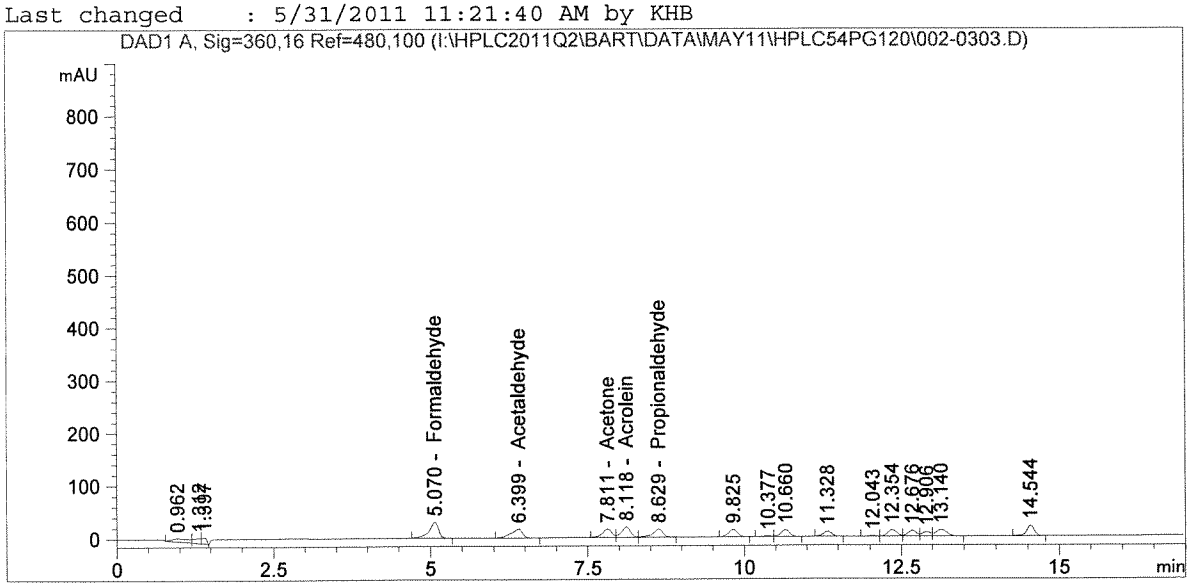

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\002-0303.D
Sample Name: hplc54pg120 #2

```
=====================================================================
Acq. Operator    : KHB                                  Seq. Line :   3
Acq. Instrument  : Bart                                  Location : Vial 2
Injection Date   : 5/27/2011 5:38:01 PM                      Inj :   3
                                                       Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
=====================================================================
                      External Standard Report
=====================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]           [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.070 BB      310.54254 2.42472e-3 7.52979e-1    Formaldehyde
  6.399 BB      219.89577 3.41603e-3 7.51171e-1    Acetaldehyde
  7.811 BV      164.81348 4.53790e-3 7.47908e-1    Acetone
  8.118 VV      194.75879 3.82784e-3 7.45506e-1    Acrolein
  8.629 VB      171.30743 4.41958e-3 7.57107e-1    Propionaldehyde

Totals :                                3.75467

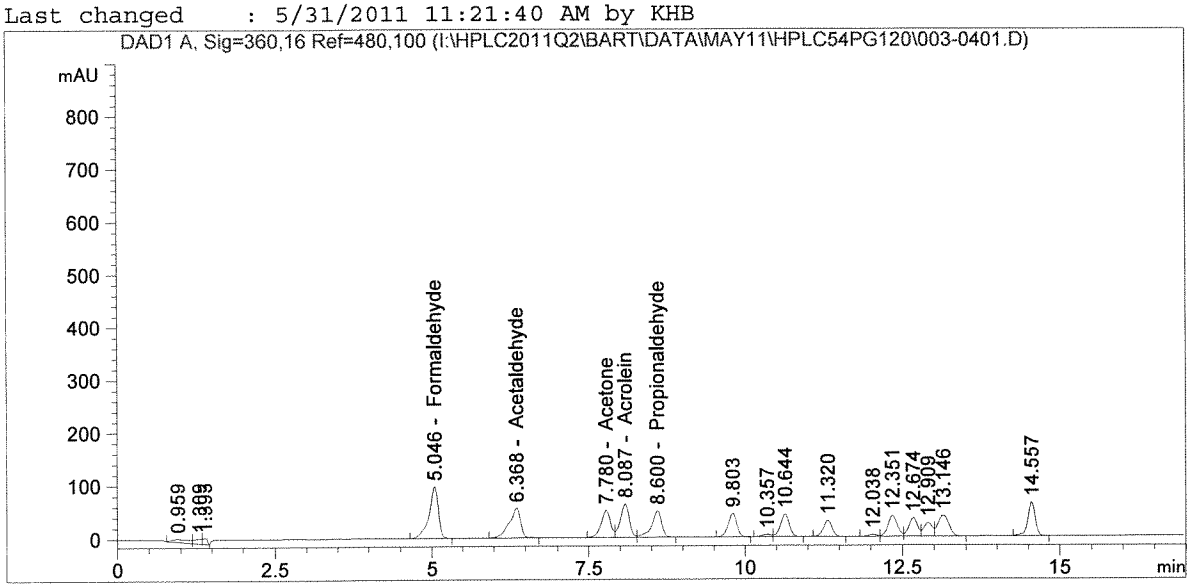

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

=====================================================================
                         *** End of Report ***
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\003-0401.D
Sample Name: hplc54pg120 #3

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   4
Acq. Instrument  : Bart                                  Location : Vial 3
Injection Date   : 5/27/2011 5:59:39 PM                      Inj :   1
                                                       Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]           [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.046 BB      998.41003 2.42472e-3    2.42086    Formaldehyde
  6.368 BB      709.74158 3.41603e-3    2.42450    Acetaldehyde
  7.780 BV      531.52472 4.53790e-3    2.41201    Acetone
  8.087 VV      627.80054 3.82784e-3    2.40312    Acrolein
  8.600 VB      551.54254 4.41958e-3    2.43759    Propionaldehyde

Totals :                                12.09808

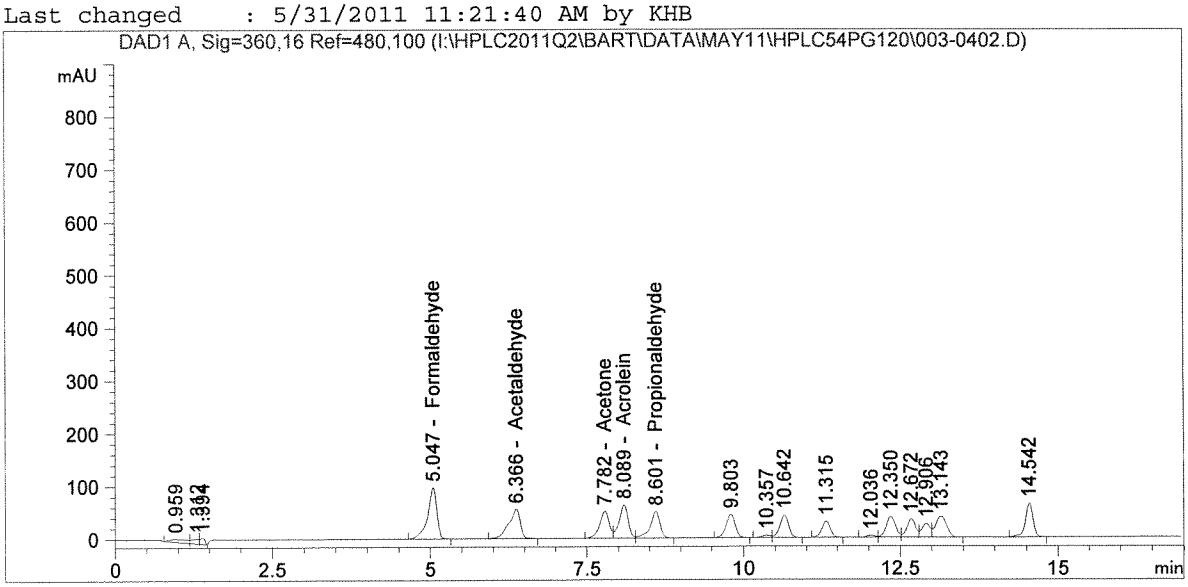

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\003-0402.D
Sample Name: hplc54pg120 #3

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   4
Acq. Instrument  : Bart                                  Location : Vial 3
Injection Date   : 5/27/2011 6:21:18 PM                      Inj :   2
                                                       Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]           [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.047 BB     1000.59607 2.42472e-3    2.42616    Formaldehyde
  6.366 BB      712.76935 3.41603e-3    2.43484    Acetaldehyde
  7.782 BV      534.88556 4.53790e-3    2.42726    Acetone
  8.089 VV      630.79639 3.82784e-3    2.41459    Acrolein
  8.601 VB      555.57050 4.41958e-3    2.45539    Propionaldehyde

Totals :                                12.15825

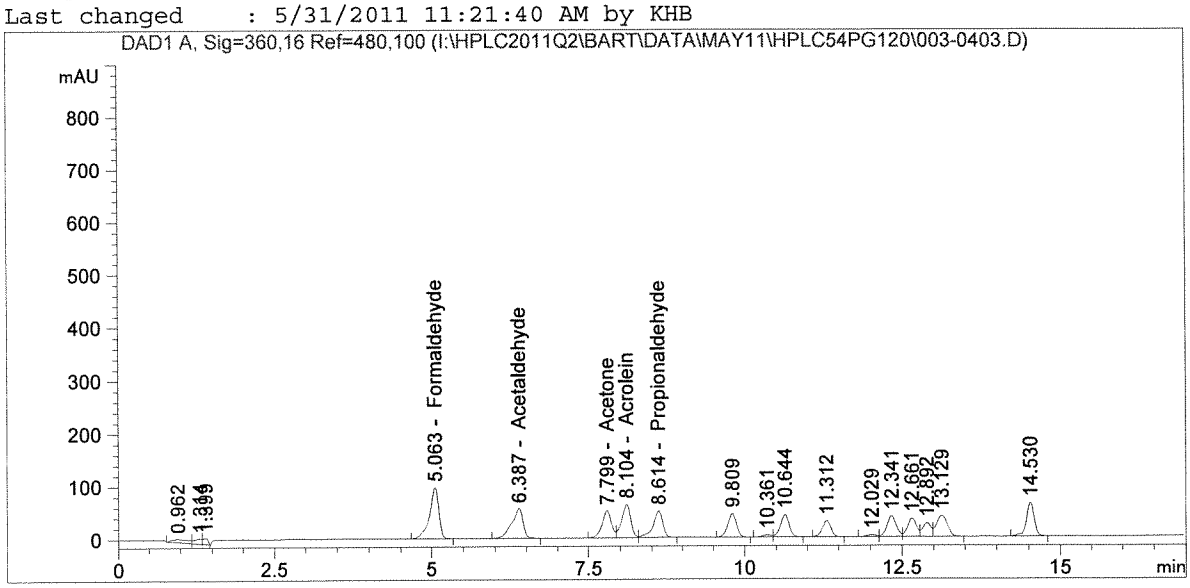

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\003-0403.D
Sample Name: hplc54pg120 #3

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   4
Acq. Instrument  : Bart                                  Location : Vial 3
Injection Date   : 5/27/2011 6:42:57 PM                      Inj :   3
                                                       Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]           [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.063 BB     1002.81152 2.42472e-3    2.43154    Formaldehyde
  6.387 BB      713.84320 3.41603e-3    2.43851    Acetaldehyde
  7.799 BV      533.12775 4.53790e-3    2.41928    Acetone
  8.104 VV      631.16577 3.82784e-3    2.41600    Acrolein
  8.614 VB      554.77332 4.41958e-3    2.45187    Propionaldehyde

Totals :                                12.15720

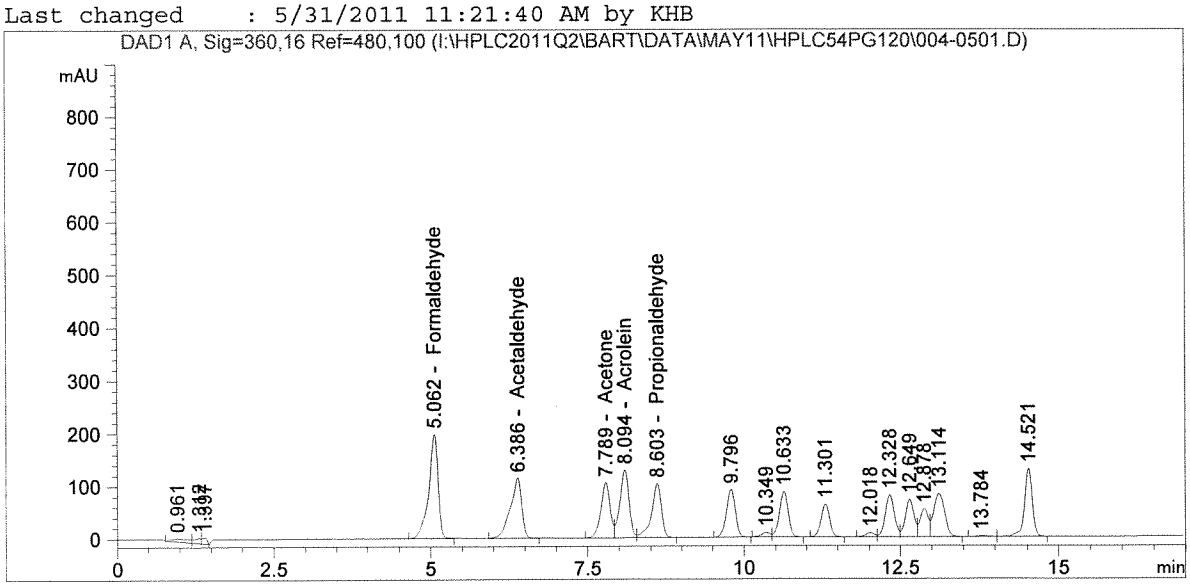

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\004-0501.D
Sample Name: hplc54pg120 #4

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   5
Acq. Instrument  : Bart                                  Location : Vial 4
Injection Date   : 5/27/2011 7:04:36 PM                      Inj :   1
                                                       Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]           [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.062 BB     2044.54797 2.42472e-3    4.95746    Formaldehyde
  6.386 BB     1454.89929 3.41603e-3    4.96999    Acetaldehyde
  7.789 BV     1085.05432 4.53790e-3    4.92387    Acetone
  8.094 VV     1287.47888 3.82784e-3    4.92827    Acrolein
  8.603 VB     1130.24646 4.41958e-3    4.99522    Propionaldehyde

Totals :                                24.77480

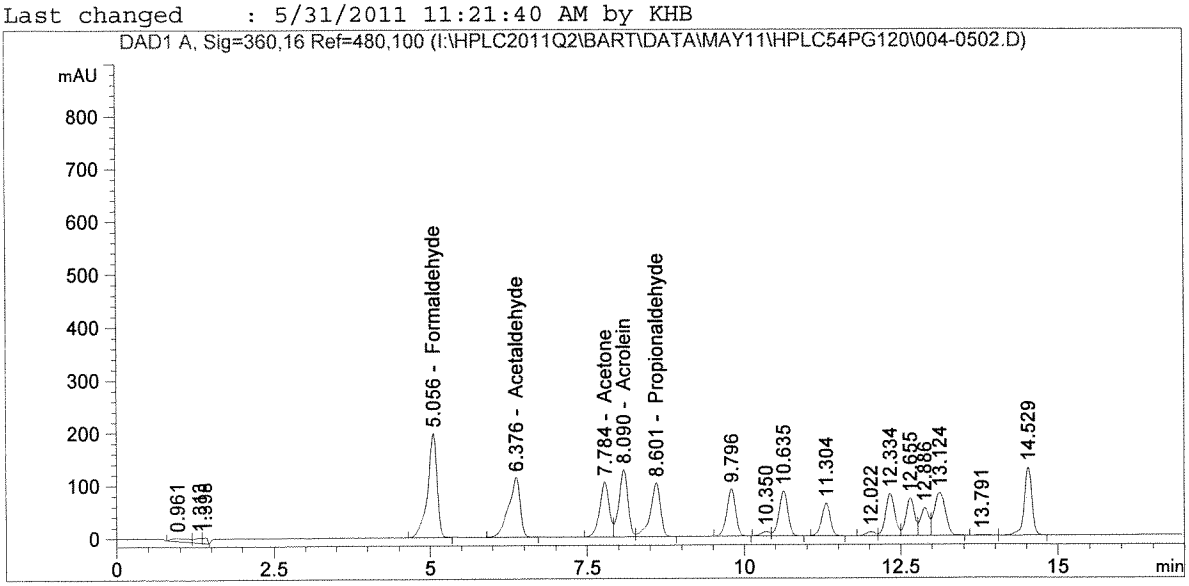

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\004-0502.D
Sample Name: hplc54pg120 #4

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   5
Acq. Instrument  : Bart                                  Location : Vial 4
Injection Date   : 5/27/2011 7:26:13 PM                      Inj :   2
                                                       Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100
```

RetTime [min]	Type	Area [mAU*s]	Amt/Area	Amount [ug/mL]	Grp	Name
5.056	BB	2051.84546	2.42472e-3	4.97515		Formaldehyde
6.376	BB	1460.14539	3.41603e-3	4.98791		Acetaldehyde
7.784	BV	1094.21240	4.53790e-3	4.96543		Acetone
8.090	VV	1288.81555	3.82784e-3	4.93339		Acrolein
8.601	VB	1135.35559	4.41958e-3	5.01780		Propionaldehyde

```
Totals :                                  24.87967

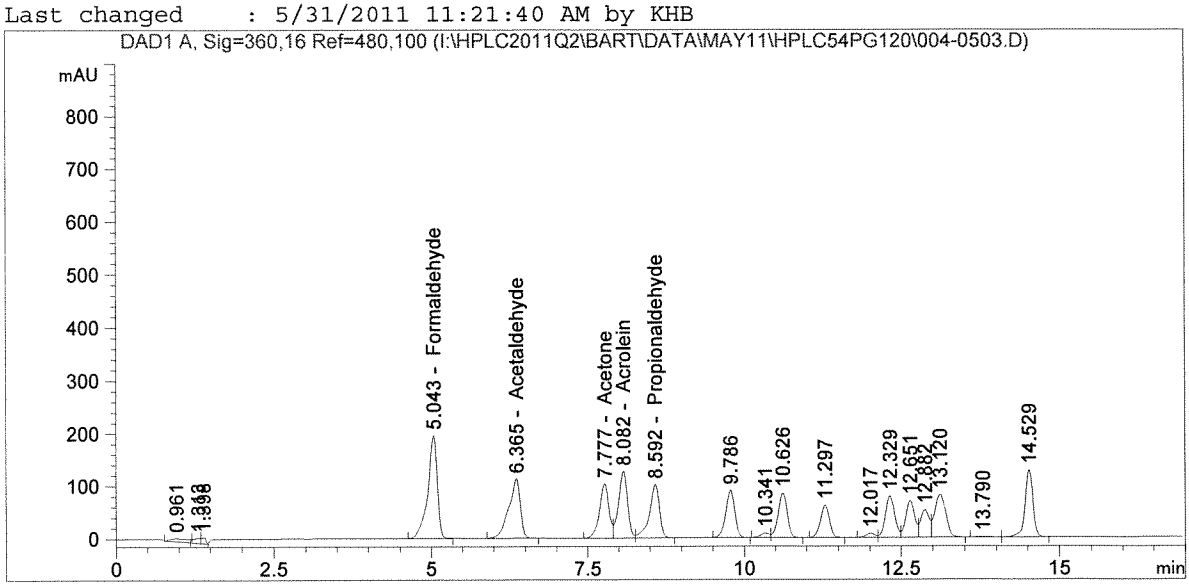

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\004-0503.D
Sample Name: hplc54pg120 #4

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   5
Acq. Instrument  : Bart                                  Location : Vial 4
Injection Date   : 5/27/2011 7:47:52 PM                      Inj :   3
                                                       Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]           [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.043 BB     2051.08740 2.42472e-3    4.97331    Formaldehyde
  6.365 BB     1460.08618 3.41603e-3    4.98770    Acetaldehyde
  7.777 BV     1097.61902 4.53790e-3    4.98089    Acetone
  8.082 VV     1286.53125 3.82784e-3    4.92464    Acrolein
  8.592 VB     1134.36035 4.41958e-3    5.01340    Propionaldehyde

Totals :                                24.87994

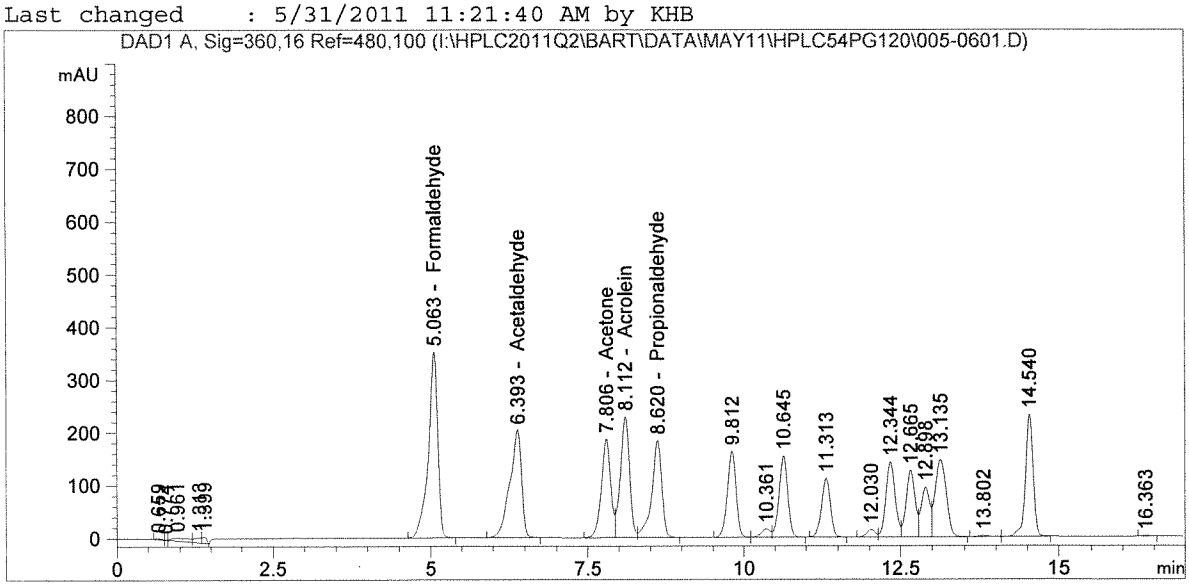

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\005-0601.D
Sample Name: hplc54pg120 #5

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   6
Acq. Instrument  : Bart                                  Location : Vial 5
Injection Date   : 5/27/2011 8:09:31 PM                      Inj :   1
                                                       Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]           [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.063 BB     3694.70972 2.42472e-3    8.95863    Formaldehyde
  6.393 BB     2628.70581 3.41603e-3    8.97975    Acetaldehyde
  7.806 BV     1967.23157 4.53790e-3    8.92711    Acetone
  8.112 VV     2322.37964 3.82784e-3    8.88971    Acrolein
  8.620 VB     2043.09290 4.41958e-3    9.02961    Propionaldehyde

Totals :                                44.78481

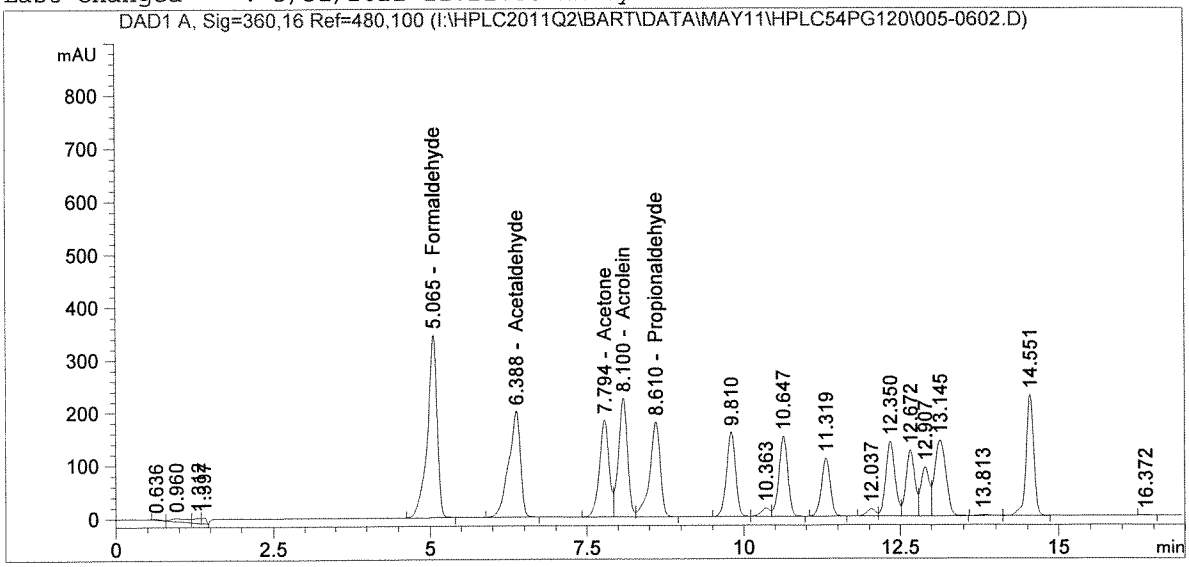

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\005-0602.D
Sample Name: hplc54pg120 #5

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   6
Acq. Instrument  : Bart                                  Location : Vial 5
Injection Date   : 5/27/2011 8:31:10 PM                      Inj :   2
                                                      Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100
```

RetTime [min]	Type	Area [mAU*s]	Amt/Area	Amount [ug/mL]	Grp	Name
5.065	BB	3663.10767	2.42472e-3	8.88201		Formaldehyde
6.388	BB	2602.87476	3.41603e-3	8.89151		Acetaldehyde
7.794	BV	1958.41614	4.53790e-3	8.88710		Acetone
8.100	VV	2293.68091	3.82784e-3	8.77985		Acrolein
8.610	VB	2025.27539	4.41958e-3	8.95087		Propionaldehyde

```
Totals :                                  44.39134

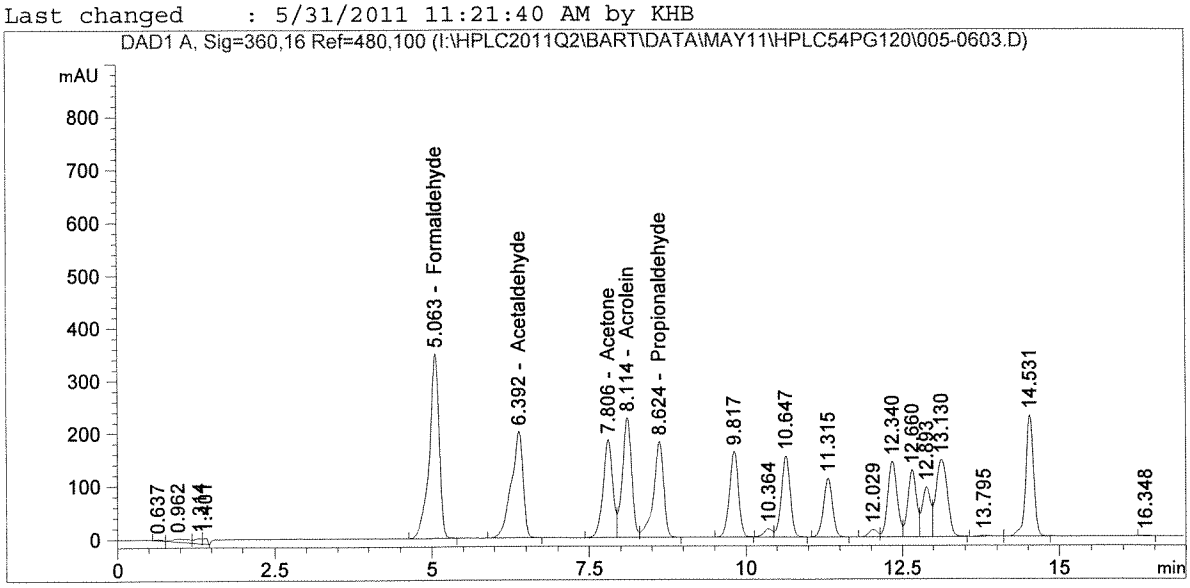

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\005-0603.D
Sample Name: hplc54pg120 #5

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   6
Acq. Instrument  : Bart                                  Location : Vial 5
Injection Date   : 5/27/2011 8:52:48 PM                      Inj :   3
                                                       Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100
```

RetTime [min]	Type	Area [mAU*s]	Amt/Area	Amount [ug/mL]	Grp	Name
5.063	BB	3707.37524	2.42472e-3	8.98934		Formaldehyde
6.392	BB	2634.36401	3.41603e-3	8.99908		Acetaldehyde
7.806	BV	1976.71411	4.53790e-3	8.97014		Acetone
8.114	VV	2329.74268	3.82784e-3	8.91789		Acrolein
8.624	VB	2048.48218	4.41958e-3	9.05343		Propionaldehyde

```
Totals :                                  44.92989

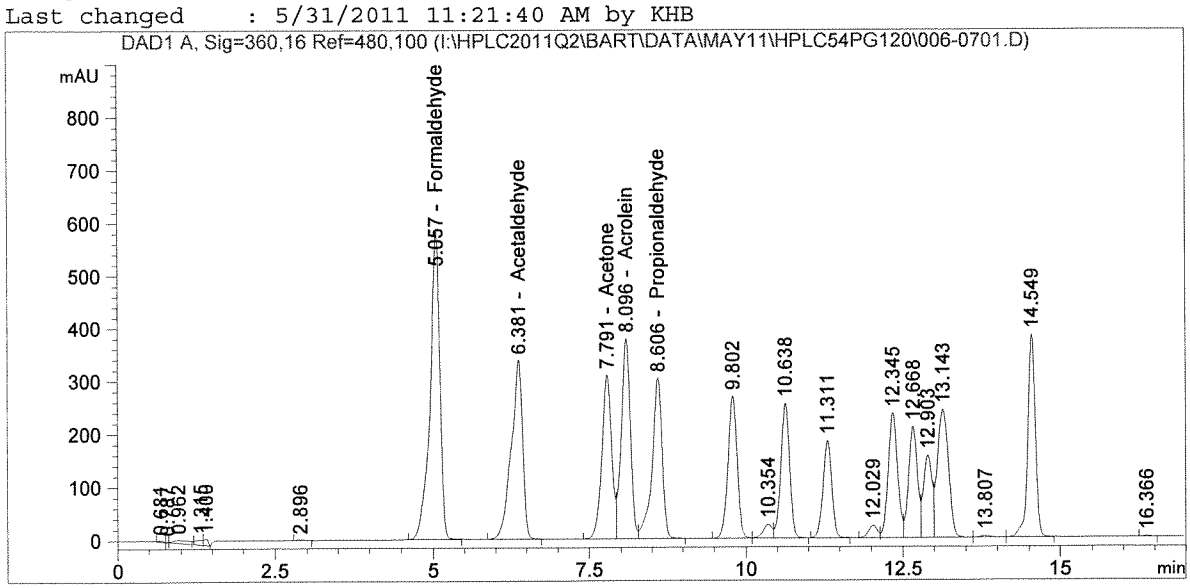

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\006-0701.D
Sample Name: hplc54pg120 #6

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   7
Acq. Instrument  : Bart                                  Location : Vial 6
Injection Date   : 5/27/2011 9:14:25 PM                      Inj :   1
                                                      Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]           [mAU*s]               [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.057 BB     6163.41943 2.42472e-3   14.94456    Formaldehyde
  6.381 BB     4384.52734 3.41603e-3   14.97769    Acetaldehyde
  7.791 BV     3290.95898 4.53790e-3   14.93406    Acetone
  8.096 VV     3868.78564 3.82784e-3   14.80911    Acrolein
  8.606 VB     3406.74805 4.41958e-3   15.05640    Propionaldehyde

Totals :                                74.72182

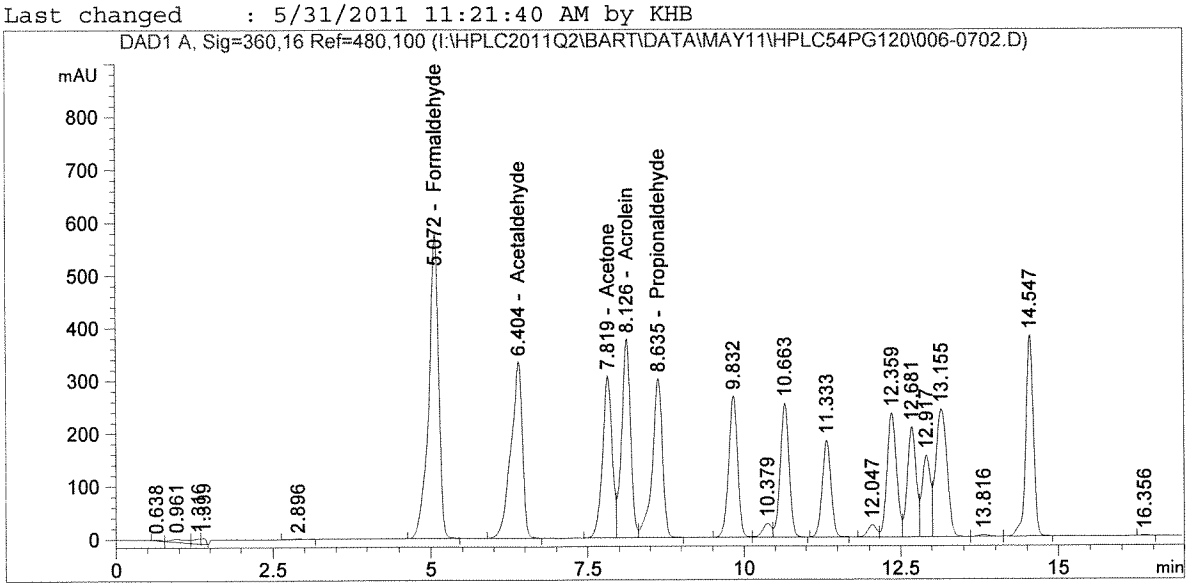

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\006-0702.D
Sample Name: hplc54pg120 #6

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   7
Acq. Instrument  : Bart                                  Location : Vial 6
Injection Date   : 5/27/2011 9:36:05 PM                      Inj :   2
                                                       Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100
```

RetTime [min]	Type	Area [mAU*s]	Amt/Area	Amount [ug/mL]	Grp	Name
5.072	BB	6128.59717	2.42472e-3	14.86013		Formaldehyde
6.404	BB	4362.37842	3.41603e-3	14.90203		Acetaldehyde
7.819	BV	3252.63745	4.53790e-3	14.76016		Acetone
8.126	VV	3856.25903	3.82784e-3	14.76116		Acrolein
8.635	VB	3395.85425	4.41958e-3	15.00825		Propionaldehyde
Totals :				74.29173		

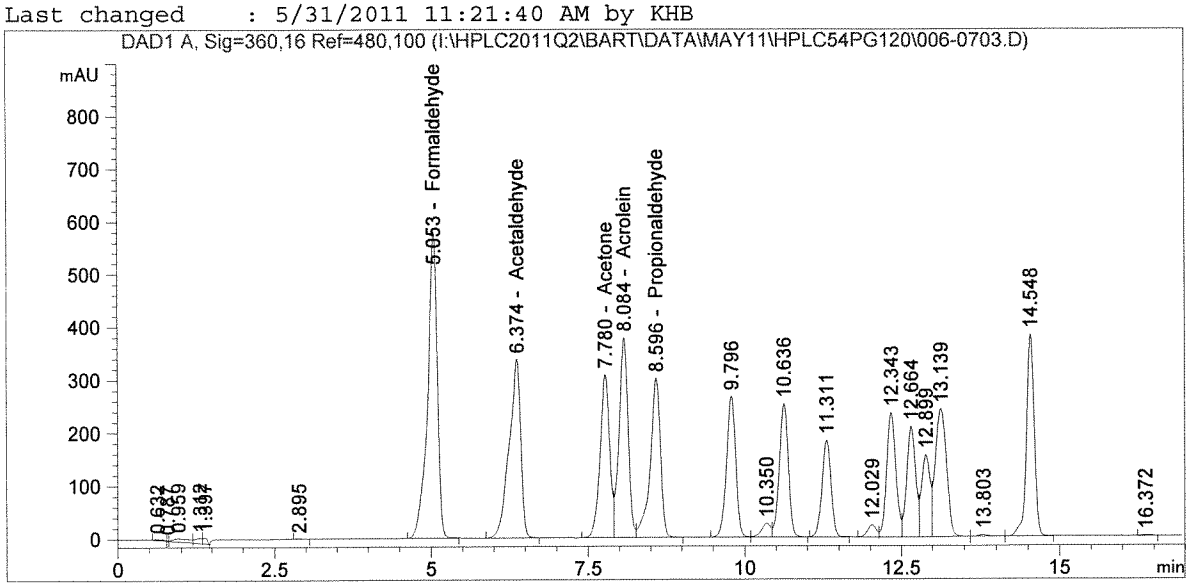
```
1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\006-0703.D
Sample Name: hplc54pg120 #6

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   7
Acq. Instrument  : Bart                                  Location : Vial 6
Injection Date   : 5/27/2011 9:57:44 PM                      Inj :   3
                                                       Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100
```

RetTime [min]	Type	Area [mAU*s]	Amt/Area	Amount [ug/mL]	Grp	Name
5.053	BB	6167.54736	2.42472e-3	14.95457		Formaldehyde
6.374	BB	4389.73730	3.41603e-3	14.99549		Acetaldehyde
7.780	BV	3286.98657	4.53790e-3	14.91603		Acetone
8.084	VV	3878.68140	3.82784e-3	14.84699		Acrolein
8.596	VB	3422.71704	4.41958e-3	15.12697		Propionaldehyde
Totals :				74.84006		

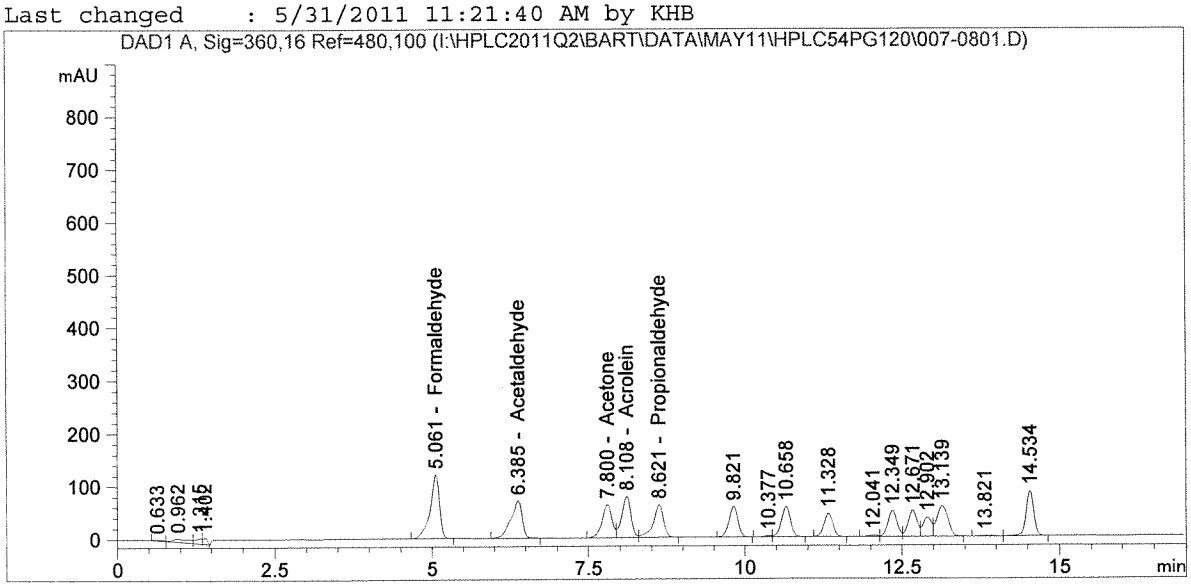
```
1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\007-0801.D
Sample Name: hplc54pg120 #SS

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   8
Acq. Instrument  : Bart                                  Location : Vial 7
Injection Date   : 5/27/2011 10:19:22 PM                      Inj :   1
                                                      Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]           [mAU*s]               [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.061 BB     1265.50842 2.42472e-3    3.06850    Formaldehyde
  6.385 BB      910.46594 3.41603e-3    3.11018    Acetaldehyde
  7.800 BV      673.00220 4.53790e-3    3.05402    Acetone
  8.108 VV      804.38818 3.82784e-3    3.07907    Acrolein
  8.621 VB      697.69531 4.41958e-3    3.08352    Propionaldehyde

Totals :                                15.39530

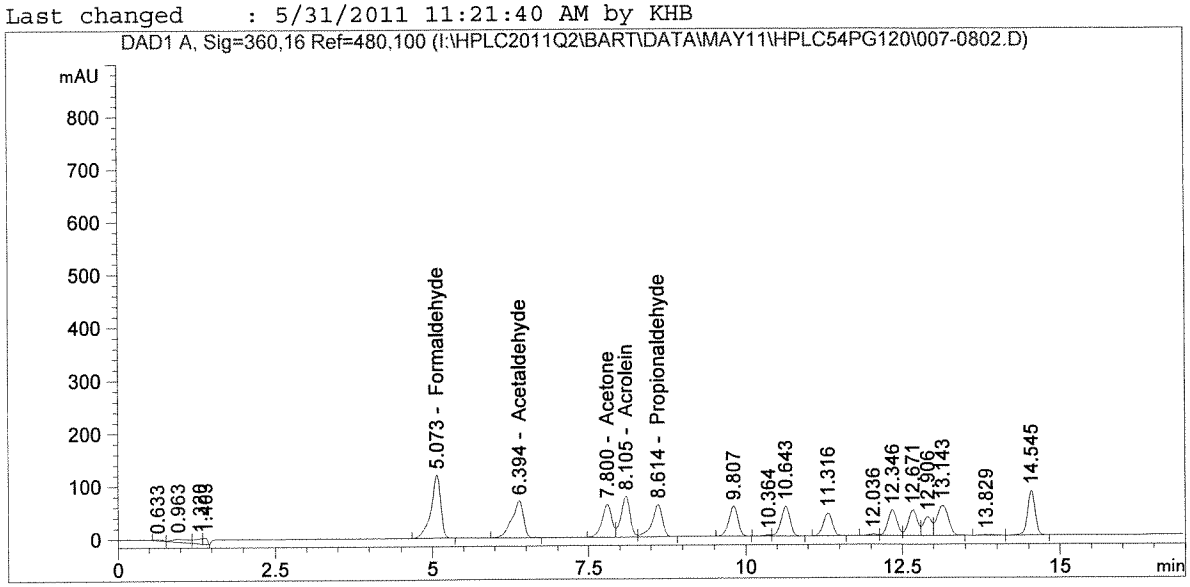

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\007-0802.D
Sample Name: hplc54pg120 #SS

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   8
Acq. Instrument  : Bart                                  Location : Vial 7
Injection Date   : 5/27/2011 10:40:59 PM                      Inj :   2
                                                      Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.073 BB      1264.89819 2.42472e-3    3.06702    Formaldehyde
  6.394 BB       909.70721 3.41603e-3    3.10759    Acetaldehyde
  7.800 BV       676.37134 4.53790e-3    3.06931    Acetone
  8.105 VV       800.74591 3.82784e-3    3.06513    Acrolein
  8.614 VB       697.62158 4.41958e-3    3.08319    Propionaldehyde

Totals :                                 15.39225

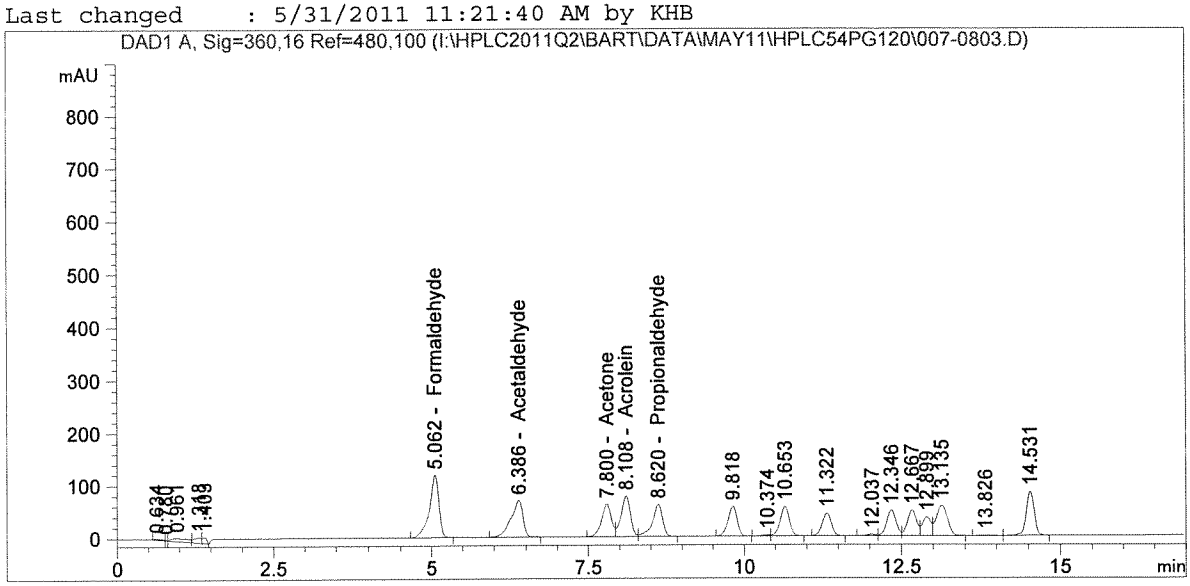

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q2\BART\DATA\MAY11\HPLC54PG120\007-0803.D
Sample Name: hplc54pg120 #SS

```
==========================================================================
Acq. Operator    : KHB                                  Seq. Line :   8
Acq. Instrument  : Bart                                  Location : Vial 7
Injection Date   : 5/27/2011 11:02:36 PM                      Inj :   3
                                                      Inj Volume : 15.000 µl
Acq. Method      : H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Last changed     : 5/27/2011 3:16:54 PM by KHB
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120.M
Last changed     : 5/31/2011 11:21:40 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, May 31, 2011 11:20:41 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.062 BB      1263.88220 2.42472e-3    3.06456    Formaldehyde
  6.386 BB       908.57458 3.41603e-3    3.10372    Acetaldehyde
  7.800 BV       674.59912 4.53790e-3    3.06127    Acetone
  8.108 VV       800.84680 3.82784e-3    3.06552    Acrolein
  8.620 VB       695.49054 4.41958e-3    3.07378    Propionaldehyde

Totals :                                 15.36884

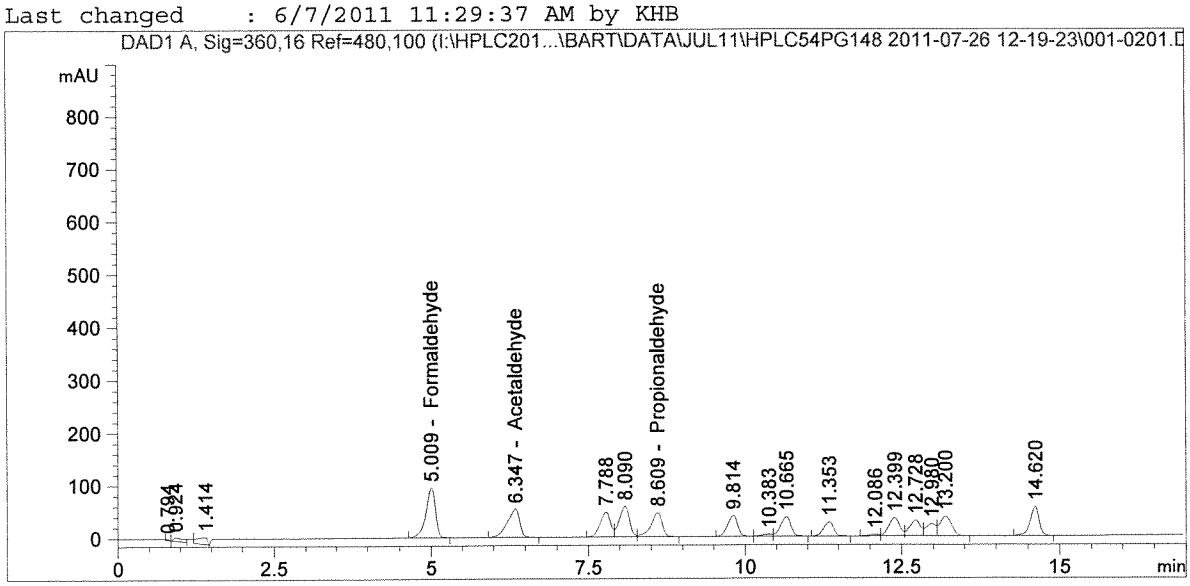

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG148 2011-07-26 12-19-23\001-0201.D
Sample Name: hplc54pg146 #3

```
==========================================================================
Acq. Operator   : Kristen Bounds                    Seq. Line :   2
Acq. Instrument : Bart                             Location : Vial 1
Injection Date  : 7/26/2011 12:42:20 PM                 Inj :   1
                                                  Inj Volume : 15.0 µl
Acq. Method     : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG148 2011-07-26 12-19-23\8315ICR.M
Last changed    : 6/23/2011 6:03:33 PM by System
Analysis Method : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed    : 6/7/2011 11:29:37 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  5.009 BB     1010.12061 2.42472e-3    2.44926    Formaldehyde
  6.347 BB      736.45422 3.41603e-3    2.51575    Acetaldehyde
  8.609 VB      571.26624 4.41958e-3    2.52476    Propionaldehyde

Totals :                                7.48977

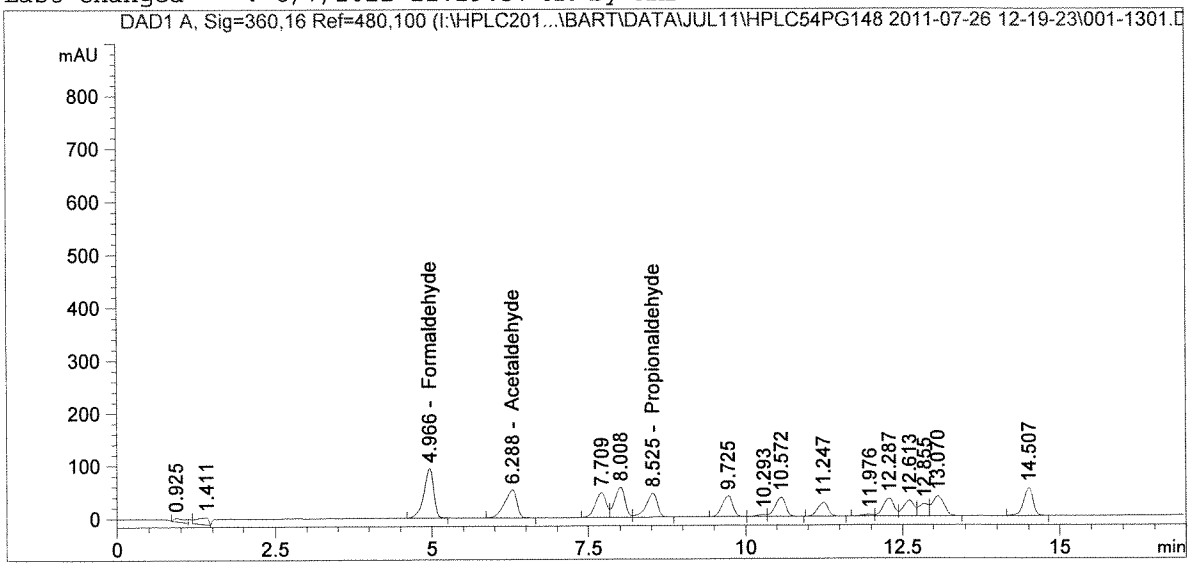

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG148 2011-07-26 12-19-23\001-1301.D
Sample Name: hplc54pg146 #3

```
==========================================================================
Acq. Operator    : Kristen Bounds                    Seq. Line :  13
Acq. Instrument  : Bart                               Location : Vial 1
Injection Date   : 7/26/2011 4:38:36 PM                    Inj :   1
                                                    Inj Volume : 15.0 µl
Acq. Method      : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG148 2011-07-26 12-19-23\8315ICR.M
Last changed     : 6/23/2011 6:03:33 PM by System
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed     : 6/7/2011 11:29:37 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]           [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  4.966 BB     1011.46973 2.42472e-3    2.45253    Formaldehyde
  6.288 BB      735.30280 3.41603e-3    2.51182    Acetaldehyde
  8.525 VB      569.44415 4.41958e-3    2.51670    Propionaldehyde

Totals :                                7.48105

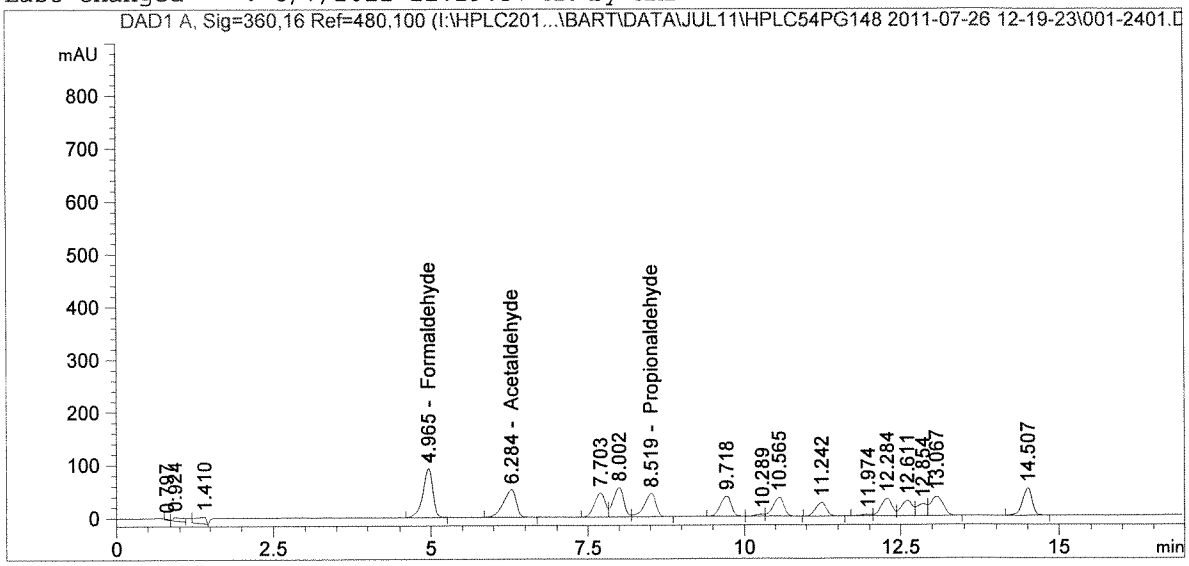

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG148 2011-07-26 12-19-23\001-2401.D
Sample Name: hplc54pg146 #3

```
==========================================================================
Acq. Operator    : Kristen Bounds                    Seq. Line :  24
Acq. Instrument  : Bart                               Location : Vial 1
Injection Date   : 7/26/2011 8:34:57 PM                    Inj :   1
                                                    Inj Volume : 15.0 µl
Acq. Method      : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG148 2011-07-26 12-19-23\8315ICR.M
Last changed     : 6/23/2011 6:03:33 PM by System
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed     : 6/7/2011 11:29:37 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]           [mAU*s]               [ug/mL]
-------|------|----------|----------|----------|--|------------------
  4.965 BB     1011.19934 2.42472e-3    2.45187    Formaldehyde
  6.284 BB      734.68768 3.41603e-3    2.50972    Acetaldehyde
  8.519 VB      568.77008 4.41958e-3    2.51373    Propionaldehyde

Totals :                                7.47532

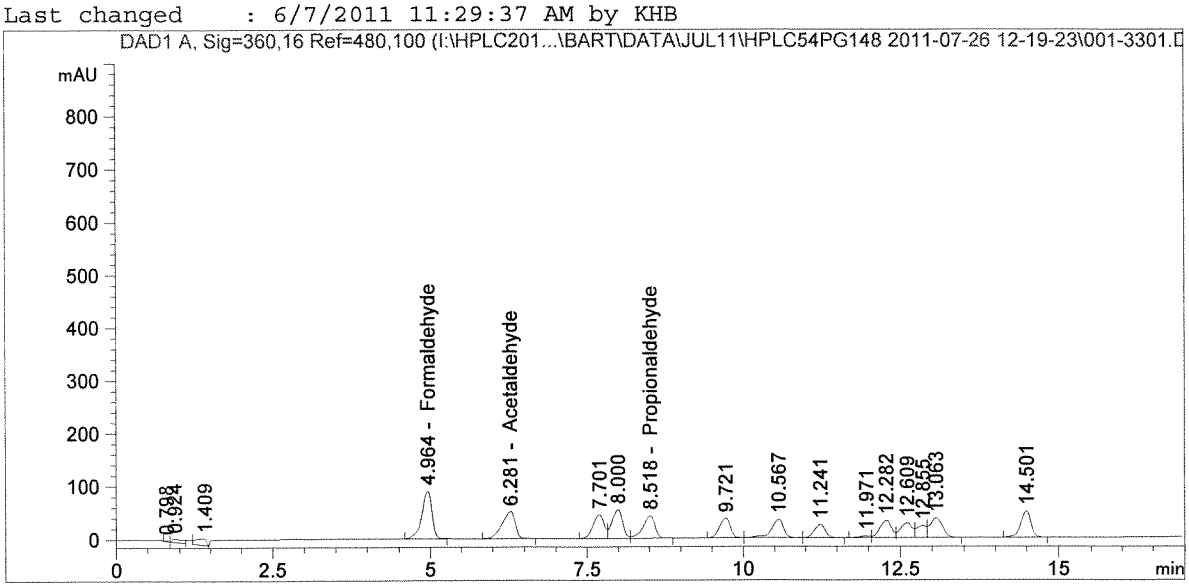

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG148 2011-07-26 12-19-23\001-3301.D
Sample Name: hplc54pg146 #3

```
==========================================================================
Acq. Operator   : Kristen Bounds                  Seq. Line :  33
Acq. Instrument : Bart                           Location : Vial 1
Injection Date  : 7/26/2011 11:48:13 PM               Inj :   1
                                                 Inj Volume : 15.0 µl
Acq. Method     : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG148 2011-07-26 12-19-23\8315ICR.M
Last changed    : 6/23/2011 6:03:33 PM by System
Analysis Method : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed    : 6/7/2011 11:29:37 AM by KHB
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]           [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  4.964 BB     1010.30664 2.42472e-3    2.44971    Formaldehyde
  6.281 BB      733.69464 3.41603e-3    2.50633    Acetaldehyde
  8.518 VB      568.50104 4.41958e-3    2.51254    Propionaldehyde

Totals :                                7.46857

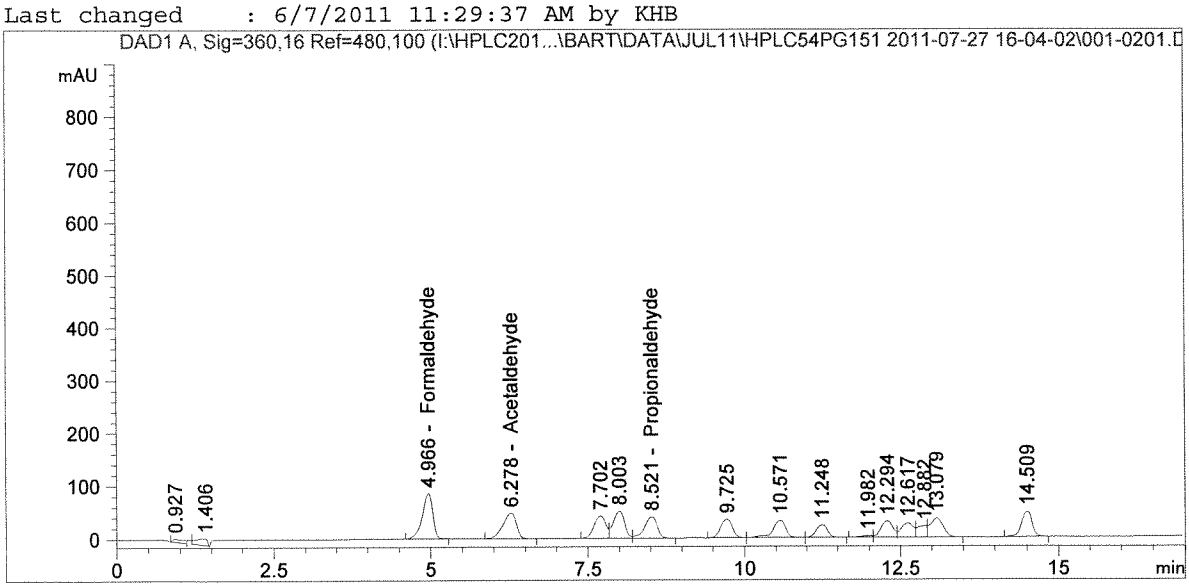

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                         *** End of Report ***
```

Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG151 2011-07-27 16-04-02\001-0201.D
Sample Name: hplc54pg146 #3

```
======================================================================
Acq. Operator   : Kristen Bounds                  Seq. Line :   2
Acq. Instrument : Bart                           Location : Vial 1
Injection Date  : 7/27/2011 4:27:21 PM                Inj :   1
                                                 Inj Volume : 15.0 µl
Acq. Method     : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG151 2011-07-27 16-04-02\8315ICR.M
Last changed    : 6/23/2011 6:03:33 PM by System
Analysis Method : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed    : 6/7/2011 11:29:37 AM by KHB
```




```
======================================================================
                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100
```

RetTime [min]	Type	Area [mAU*s]	Amt/Area	Amount [ug/mL]	Grp	Name
4.966	BB	998.65967	2.42472e-3	2.42147		Formaldehyde
6.278	BB	725.02509	3.41603e-3	2.47671		Acetaldehyde
8.521	VB	562.07263	4.41958e-3	2.48413		Propionaldehyde
Totals :				7.38230		

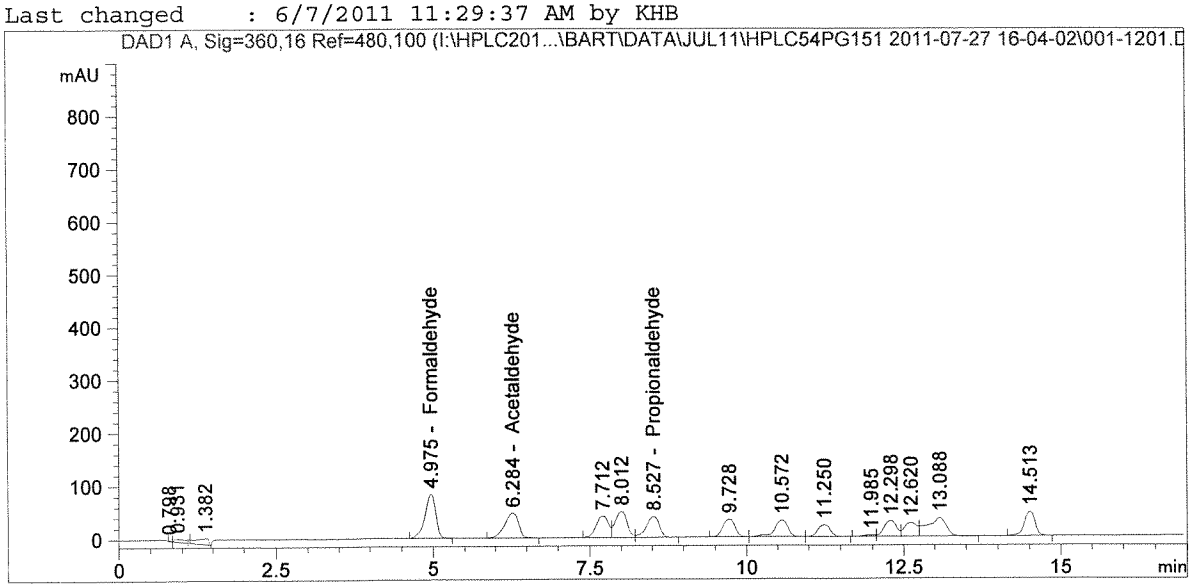
```
1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

======================================================================
                        *** End of Report ***
```

Data File I:\HPLC2011Q3\BART\DATA\JUL11\HPLC54PG151 2011-07-27 16-04-02\001-1201.D
Sample Name: hplc54pg146 #3

```
==========================================================================
Acq. Operator    : Kristen Bounds                    Seq. Line :  12
Acq. Instrument  : Bart                               Location : Vial 1
Injection Date   : 7/27/2011 8:02:05 PM                    Inj :   1
                                                    Inj Volume : 15.0 µl
Acq. Method      : C:\HPLC2011Q2\BART\DATA\JUN11\HPLC54PG151 2011-07-27 16-04-02\8315ICR.M
Last changed     : 6/23/2011 6:03:33 PM by System
Analysis Method  : I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M
Last changed     : 6/7/2011 11:29:37 AM by KHB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/7/2011 11:27:58 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]           [mAU*s]                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  4.975 BB     1005.14062 2.42472e-3    2.43718    Formaldehyde
  6.284 BB      728.22705 3.41603e-3    2.48765    Acetaldehyde
  8.527 VB      564.02472 4.41958e-3    2.49275    Propionaldehyde

Totals :                                7.41758


1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========================================================================
                          *** End of Report ***
```

Method I:\HPLC2011Q2\BART\METHODS\HPLC54PG120ICR.M

Calibration Table

Calib. Data Modified : 6/7/2011 11:27:58 AM

Rel. Reference Window : 5.000 %
Abs. Reference Window : 0.000 min
Rel. Non-ref. Window : 5.000 %
Abs. Non-ref. Window : 0.000 min
Uncalibrated Peaks : not reported
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Average Response/Amount
Origin : Ignored
Weight : Equal

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Signal 1: DAD1 A, Sig=360,16 Ref=480,100

RetTime [min]	Sig	Lvl	Amount [ug/mL]	Area	Amt/Area	Ref	Grp	Name
5.057	1	1	7.47000e-2	30.61963	2.43961e-3			Formaldehyde
		2	7.15000e-1	310.99482	2.29907e-3			
		3	2.50000	1000.60588	2.49849e-3			
		4	5.00000	2049.16028	2.44002e-3			
		5	9.01000	3688.39754	2.44280e-3			
		6	15.00000	6153.18799	2.43776e-3			
6.380	1	1	7.47000e-2	21.60617	3.45735e-3			Acetaldehyde
		2	7.15000e-1	220.44158	3.24349e-3			
		3	2.50000	712.11804	3.51065e-3			
		4	5.01000	1458.37695	3.43533e-3			
		5	9.01000	2621.98153	3.43633e-3			
		6	15.00000	4378.88102	3.42553e-3			
8.604	1	1	7.46000e-2	16.01441	4.65831e-3			Propionaldehyde
		2	7.14000e-1	171.99996	4.15116e-3			
		3	2.50000	553.96212	4.51294e-3			
		4	5.00000	1133.32080	4.41181e-3			
		5	9.00000	2038.95015	4.41404e-3			
		6	15.00000	3408.43978	4.40084e-3			

1 Warnings or Errors :

Warning : Overlapping peak time windows at 8.604 min, signal 1

Peak Sum Table

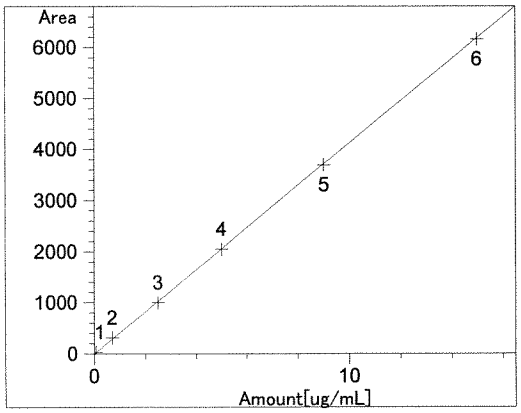
No Entries in table

==========

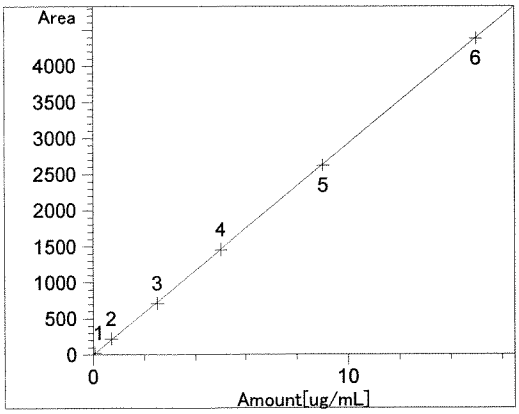
==========

Calibration Curves

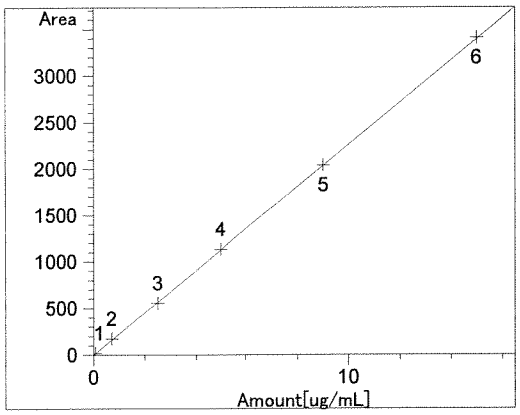
==========



Formaldehyde at exp. RT: 5.057
DAD1 A, Sig=360,16 Ref=480,100
Correlation: 0.99998
Residual Std. Dev.: 28.30642
Formula: y = mx
m: 412.41885
x: Amount
y: Area



Acetaldehyde at exp. RT: 6.380
DAD1 A, Sig=360,16 Ref=480,100
Correlation: 0.99998
Residual Std. Dev.: 15.58800
Formula: y = mx
m: 292.73714
x: Amount
y: Area



Propionaldehyde at exp. RT: 8.604
DAD1 A, Sig=360,16 Ref=480,100
Correlation: 0.99998
Residual Std. Dev.: 10.79580
Formula: y = mx
m: 226.26583
x: Amount
y: Area

==========

Method Information

Method: H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Modified: 5/27/2011 at 3:16:54 PM

Column: Restek Ultra C18, 4*150mm
Mobile Phase: 59:30:10:1 DIUF H2O:ACN:THF:IPA to 100% ACN on a gradient
Flow rate: 1.2 mL/min
UV Detection at 360 nm

method: H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Modified on: 5/27/2011 at 3:16:54 PM

Agilent 1100/1200 Quaternary Pump 1

Control

Column Flow	:	1.200 ml/min
Stoptime	:	17.00 min
Posttime	:	3.00 min

Solvents

Solvent A	:	100.0 % (59:30:10:1 DI:ACN:THF:IPA)
Solvent B	:	0.0 % (100% ACN)
Solvent C	:	Off
Solvent D	:	Off

PressureLimits

Minimum Pressure	:	0 bar
Maximum Pressure	:	400 bar

Auxiliary

Maximal Flow Ramp	:	100.00 ml/min^2
Primary Channel	:	Auto
Compressibility	:	83*10^-6/bar
Minimal Stroke	:	Auto

Store Parameters

Store Ratio A	:	Yes
Store Ratio B	:	Yes
Store Ratio C	:	Yes
Store Ratio D	:	Yes
Store Flow	:	Yes
Store Pressure	:	Yes

Agilent Contacts Option

Contact 1	:	Open
Contact 2	:	Open
Contact 3	:	Open
Contact 4	:	Open

Timetable

Time	Solv.B	Solv.C	Solv.D	Flow	Pressure
0.00	0.0	0.0	0.0		
0.10	0.0	0.0	0.0		
12.00	50.0	0.0	0.0		
17.00	100.0	0.0	0.0		

Agilent Contacts Option Timetable

Timetable is empty

Agilent 1100/1200 Diode Array Detector 1

method: H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Modified on: 5/27/2011 at 3:16:54 PM

Signals

Signal	Store	Signal,Bw	Reference,Bw	[nm]
A:	Yes	360 16	480 100	
B:	No	254 16	360 100	
C:	No	218 8	360 100	
D:	No	230 16	360 100	
E:	No	280 16	360 100	

Spectrum
- Store Spectra : None

Time
- Stoptime : As pump
- Posttime : Off

Required Lamps
- UV lamp required : Yes
- Vis lamp required : Yes

Autobalance
- Prerun balancing : Yes
- Postrun balancing : No
- Margin for negative Absorbance: 100 mAU

Peakwidth : > 0.1 min
Slit : 4 nm

Analog Outputs
- Zero offset ana. out. 1: 5 %
- Zero offset ana. out. 2: 5 %
- Attenuation ana. out. 1: 1000 mAU
- Attenuation ana. out. 2: 1000 mAU

Agilent Contacts Option

- Contact 1 : Open
- Contact 2 : Open
- Contact 3 : Open
- Contact 4 : Open

Agilent 1100 Autosampler 1

Injection
- Injection Mode : Needle Wash
- Injector volume : 15.00 µl
- Wash Vial : 100
- Optimization : Prefetch Sample Vial 8.00 min. after Injection

Auxiliary
- Drawspeed : 100 µl/min
- Ejectspeed : 1000 µl/min
- Draw position : 2.0 mm

Time
- Stoptime : As Pump
- Posttime : Off

method: H:\HPLC2011Q2\BART\METHODS\8315ICR.M
Modified on: 5/27/2011 at 3:16:54 PM

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Agilent 1100/1200 Column Thermostat 1

==========

Temperature settings

Left temperature	:	30.0°C
Right temperature	:	Same as left
Enable analysis	:	When Temp. is within setpoint +/- 0.8°C
Store left temperature	:	No
Store right temperature	:	No

Time

Stoptime	:	As pump
Posttime	:	Off

Column Switching Valve : Column 1

Timetable is empty

Sequence: I:\HPLC2011Q1\BART\SEQUENCE\HPLC54PG120.S

Sequence Table:

Method and Injection Info Part:

Line	Location	SampleName DataFile	Method AutoBalance	Inj LimsID	SampleType	InjVolume
1	Vial 8	RB/100% ACN	8315ICR	1	Sample	
2	Vial 1	hplc54pg120 #1	8315ICR	3	Sample	
3	Vial 2	hplc54pg120 #2	8315ICR	3	Sample	
4	Vial 3	hplc54pg120 #3	8315ICR	3	Sample	
5	Vial 4	hplc54pg120 #4	8315ICR	3	Sample	
6	Vial 5	hplc54pg120 #5	8315ICR	3	Sample	
7	Vial 6	hplc54pg120 #6	8315ICR	3	Sample	
8	Vial 7	hplc54pg120 #SS	8315ICR	3	Sample	
9	Vial 8	RB/100% ACN	8315ICR	3	Sample	
10	Vial 11	052011-0011U-1-1 05 11-68	8315ICR	1	Sample	
11	Vial 11	052011-0011U-1-1 05 11-68	8315ICR	1	Sample	
12	Vial 12	052011-0011U-1-1 LD 0511-68	8315ICR	1	Sample	
13	Vial 13	052011-0011U-1-2 05 11-68	8315ICR	1	Sample	
14	Vial 14	052011-0011U-1-3 05 11-68	8315ICR	1	Sample	
15	Vial 15	052011-0011S-1-1 05 11-68	8315ICR	1	Sample	
16	Vial 16	052011-0011-FieldSpi ke 0511-68	8315ICR	1	Sample	
17	Vial 17	052011-0011-Sample B L 0511-68	8315ICR	1	Sample	
18	Vial 18	052011-0011-DM/H2O B L 0511-68	8315ICR	1	Sample	
19	Vial 19	MB-1 0511-68	8315ICR	1	Sample	
20	Vial 3	hplc54pg120 #3	8315ICR	3	Sample	
21	Vial 20	LCS-1 0511-68	8315ICR	1	Sample	
22	Vial 21	ZRT LCS-1	8315ICR	1	Sample	
23	Vial 22	ZRT LCS-2	8315ICR	1	Sample	

Sequence: I:\HPLC2011Q1\BART\SEQUENCE\HPLC54PG120.S

Line	Location	SampleName DataFile	Method AutoBalance	Inj LimsID	SampleType	InjVolume
24	Vial 23	ZRT LCS-3	8315ICR	1	Sample	
25	Vial 24	ZRT LCS-4	8315ICR	1	Sample	
26	Vial 3	hplc54pg120 #3	8315ICR	3	Sample	
27	Vial 9	hplc54pg120 #MDL 1	8315ICR	8	Sample	
28	Vial 3	hplc54pg120 #3	8315ICR	3	Sample	
29	Vial 9	hplc54pg120 #MDL 1	8315ICR	8	Sample	
30	Vial 10	hplc54pg120 #MDL 2	8315ICR	8	Sample	
31	Vial 3	hplc54pg120 #3	8315ICR	3	Sample	

Sequence: I:\HPLC2011Q1\BART\SEQUENCE\HPLC54PG148.S

Sequence Table:

Method and Injection Info Part:

Line	Location	SampleName DataFile	Method AutoBalance	Inj LimsID	SampleType	InjVolume
1	Vial 2	RB/100% ACN	8315ICR	1	Sample	
2	Vial 1	hplc54pg146 #3	8315ICR	1	Sample	
3	Vial 2	RB/100% ACN	8315ICR	1	Sample	
4	Vial 41	M0011-R1-FHR 0611-102	8315ICR	1	Sample	
5	Vial 41	M0011-R1-FHR 0611-102	8315ICR	1	Sample	
6	Vial 42	LD/M0011-R1-FHR 0611-102	8315ICR	1	Sample	
7	Vial 43	M0011-R2-FHR 0611-102	8315ICR	1	Sample	
8	Vial 44	M0011-R3-FHR 0611-102	8315ICR	1	Sample	
9	Vial 45	M0011-Spike 0611-102	8315ICR	1	Sample	
10	Vial 46	M0011-DNPH RgtBlk 0611-102	8315ICR	1	Sample	
11	Vial 47	M0011-MeCl2 RgtBlk 0611-102	8315ICR	1	Sample	
12	Vial 48	R1-FH-Imp 1-3 0611-48	8315ICR	1	Sample	
13	Vial 1	hplc54pg146 #3	8315ICR	1	Sample	
14	Vial 48	R1-FH-Imp 1-3 0611-48	8315ICR	1	Sample	
15	Vial 49	LD/R1-FH-Imp 1-3 0611-48	8315ICR	1	Sample	
16	Vial 50	R2-FH-Imp 1-3 0611-48	8315ICR	1	Sample	
17	Vial 51	R3-FH-Imp 1-3 0611-48	8315ICR	1	Sample	
18	Vial 52	MS-FH-Imp 1-3 0611-48	8315ICR	1	Sample	
19	Vial 53	Field Spike 0611-48	8315ICR	1	Sample	
20	Vial 54	Blank-DNPH/MeCl2 0611-48	8315ICR	1	Sample	

Sequence: I:\HPLC2011Q1\BART\SEQUENCE\HPLC54PG148.S

Line	Location	SampleName DataFile	Method AutoBalance	Inj LimsID	SampleType	InjVolume
21	Vial 55	Blank-DI Water 0611 -48	8315ICR	1	Sample	
22	Vial 56	1081-1-1001-R1-A&B 0711-25	8315ICR	1	Sample	
23	Vial 56	1081-1-1001-R1-A&B 0711-25	8315ICR	1	Sample	
24	Vial 1	hplc54pg146 #3	8315ICR	1	Sample	
25	Vial 57	LD/1081-1-1001-R1-A& B 0711-25	8315ICR	1	Sample	
26	Vial 58	1081-1-1002-R2-A&B 0711-25	8315ICR	1	Sample	
27	Vial 59	1081-1-1003-R3-A&B 0711-25	8315ICR	1	Sample	
28	Vial 60	1081-0-1001-Recovery Area 0711-25	8315ICR	1	Sample	
29	Vial 61	1081-2-1001-FB1 071 1-25	8315ICR	1	Sample	
30	Vial 62	1081-2-1002-FB2 071 1-25	8315ICR	1	Sample	
31	Vial 63	MB-1	8315ICR	1	Sample	
32	Vial 64	LCS-1	8315ICR	1	Sample	
33	Vial 1	hplc54pg146 #3	8315ICR	1	Sample	

Sequence Table:

Method and Injection Info Part:

Line	Location	SampleName DataFile	Method AutoBalance	Inj LimsID	SampleType	InjVolume
~~1~~	~~Vial 2~~	~~RB/100% ACN~~	~~8315ICR~~	~~1~~	~~Sample~~	
2	Vial 1	hplc54pg146 #3	8315ICR	1	Sample	
3	Vial 2	RB/100% ACN	8315ICR	1	Sample	
~~4~~	~~Vial 12~~	~~MS/M0011-R2-FHR 061-102~~	~~8315ICR~~	~~1~~	~~Sample~~	
~~5~~	~~Vial 13~~	~~MSD/M0011-R2-FHR 06 11-102~~	~~8315ICR~~	~~1~~	~~Sample~~	
6	Vial 14	MS/R2-FH-Imp 1-3 06 11-48	8315ICR	1	Sample	
7	Vial 15	MSD/R2-FH-Imp 1-3 0 611-48	8315ICR	1	Sample	
~~8~~	~~Vial 16~~	~~MS/1081-1-1002-R2-A& B 0711-25~~	~~8315ICR~~	~~1~~	~~Sample~~	
~~9~~	~~Vial 17~~	~~MSD/1081-1-1002-R2-A &B 0711-25~~	~~8315ICR~~	~~1~~	~~Sample~~	
10	Vial 18	MB-2	8315ICR	1	Sample	
11	Vial 19	LCS-2	8315ICR	1	Sample	
12	Vial 1	hplc54pg146 #3	8315ICR	1	Sample	

This Is The Last Page Of This Report.

METCO ENVIRONMENTAL

APPENDIX H

Volatile Organic HAPS Analytical Data

METCO Environmental

3226 Commander Drive
Carrollton, TX 75006

Marathon – U45 TOX 3 Stack
Garyville, LA
Client # 11-234

Analytical Report
(0611-49)

EPA Method 18 (Bags)

Methane, Ethane, 1,3-Butadiene, Acetonitrile, Acrolein, Acetone, Acrylonitrile, Pentane, Dichloromethane (Methylene chloride), Hexane, Benzene, Trichloroethene, Toluene, 1,2-Dibromoethane, Tetrachloroethene, Carbon disulfide

EPA Method 18 (Adsorbents)

Acetonitrile, Acrylonitrile, Methyl-tert-butylether (MTBE), 2-Nitropropane, 2,2,4-Trimethylpentane (Isooctane), Methyl isobutyl ketone (MIBK), Chlorobenzene, Ethylbenzene, m/p-Xylene, Styrene, o-Xylene, Cumene, Nitrobenzene

EPA Method 308

Methanol

Enthalpy Analytical, Inc.
Phone: (919) 850 - 4392 / Fax: (919) 850 - 9012 / www.enthalpy.com
2202 Ellis Road Durham, NC 27703 - 5518

I certify that to the best of my knowledge all analytical data presented in this report:

- Have been checked for completeness
- Are accurate, error-free, and legible
- Have been conducted in accordance with approved protocol, and that all deviations and analytical problems are summarized in the appropriate narrative(s)

This analytical report was prepared in Portable Document Format (.PDF) and contains ??? pages.

Report Issued: xx/xx/xxxx

Summary of Results

Company	METCO Environmental	Client #	11-234
Analyst	MGM	Job #	0611-49
Parameters	EPA Method 18 Bags	# Samples	3 bags

Compound	Sample ID / Collection Date / Sample Concentration (ppm)		
	Run 2 ***7/11/11***	***Run 3*** ***7/12/11***	***Run 4*** ***7/12/11***
Methane	1.265 J	0.332 ND	0.418 J
Ethane	0.250 ND	0.250 ND	0.250 ND

Methane results are adjusted, ethane results are not.

Company	METCO Environmental	Client #	11-234
Analyst	MGM	Job #	0611-49
Parameters	EPA Method 18 Bags	# Samples	3 bags

Compound	Sample ID / Adjusted Concentration (ppm)		
	ICR Run 1	***ICR Run 2***	***ICR Run 3***
1,3-Butadiene	0.333 ND	0.333 ND	0.333 ND
Acrolein	0.323 ND	0.323 ND	0.323 ND
Acetone	0.374 ND	0.374 ND	0.374 ND
Pentane**	0.257 ND	0.257 ND	0.257 ND
Methylene chloride	0.976 ND	0.976 ND	0.976 ND
Hexane	0.225 ND	0.225 ND	0.225 ND
Benzene	0.239 ND	0.239 ND	0.239 ND
Trichloroethene	0.342 ND	0.342 ND	0.342 ND
Toluene	0.235 ND	0.235 ND	0.235 ND
1,2 Dibromoethane**	0.257 ND	0.257 ND	0.257 ND
Tetrachloroethene**	0.291 ND	0.291 ND	0.291 ND

** These compounds were not spiked and their results have not been adjusted. **

Company	METCO Environmental
Analyst	STG
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 bags

Compound	Sample ID / Sample Concentration (ppm)		
	ICR Run 1	***ICR Run 2***	***ICR Run 3***
Carbon disulfide	0.0450 ND	0.198 J	0.0450 ND

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, spikes & blanks

Compound	Sample ID / Adjusted Catch Weight (ug)		
	M18 R1	***M18 R2***	***M18 R3***
Acetonitrile**	1.21 ND	1.21 ND	1.21 ND
Acrylonitrile**	1.46 ND	1.46 ND	1.46 ND
MTBE	1.09 ND	1.09 ND	1.09 ND
2-Nitropropane	1.38 ND	1.38 ND	1.38 ND
Isooctane	0.873 ND	0.873 ND	0.873 ND
MIBK	1.05 ND	1.05 ND	1.05 ND
Chlorobenzene	1.42 ND	1.42 ND	1.42 ND
Ethylbenzene	1.08 ND	1.08 ND	1.08 ND
m/p-Xylene	1.07 ND	1.07 ND	1.07 ND
Styrene	1.15 ND	1.15 ND	1.15 ND
o-Xylene	1.10 ND	1.10 ND	1.10 ND
Cumene	1.06 ND	1.06 ND	1.06 ND
Nitrobenzene	1.43 J	1.44 J	1.35 J

Compound	Sample ID / Catch Weight (ug)			
	M18 H2O FB Ext	***M18 H2O RB Ext***	***XAD FB***	***CT FB***
Acetonitrile	0.972 ND	0.785 ND	0.785 ND	0.785 ND
Acrylonitrile	0.972 ND	0.785 ND	0.785 ND	0.785 ND
MTBE	0.916 ND	0.740 ND	0.740 ND	0.740 ND
2-Nitropropane	1.19 ND	0.965 ND	0.965 ND	0.965 ND
Isooctane	0.854 ND	0.690 ND	0.690 ND	0.690 ND
MIBK	0.984 ND	0.795 ND	0.795 ND	0.795 ND
Chlorobenzene	1.37 ND	1.11 ND	1.11 ND	1.11 ND
Ethylbenzene	1.07 ND	0.865 ND	0.865 ND	0.865 ND
m/p-Xylene	1.06 ND	0.860 ND	0.860 ND	0.860 ND
Styrene	1.12 ND	0.905 ND	0.905 ND	0.905 ND
o-Xylene	1.09 ND	0.880 ND	0.880 ND	0.860 ND
Cumene	1.07 ND	0.865 ND	0.865 ND	0.865 ND
Nitrobenzene	1.49 ND	1.20 ND	1.20 ND	1.20 ND

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blks

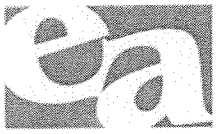
Compound	Sample ID / Adjusted Catch Weight (ug)
	M18 R1 Cond Raff
Acrylonitrile	12.5 ND
Acetonitrile	12.4 ND
2-Nitropropane	11.6 ND
	M18 R2 Cond Raff
Acrylonitrile	12.5 ND
Acetonitrile	12.4 ND
2-Nitropropane	11.6 ND
	M18 R3 Cond Raff
Acrylonitrile	12.5 ND
Acetonitrile	12.4 ND
2-Nitropropane	11.6 ND
	M18 H2O FB Raff
Acrylonitrile	8.36 ND
Acetonitrile	9.90 ND
2-Nitropropane	10.1 ND

* Unspiked Runs' results are 'Adjusted'. Field Blank results are not.

Company	METCO Environmental	Client #	11-234
Analyst	CLD	Job #	0611-49
Parameters	EPA Method 308	# Samples	3 runs & blank

Compound	Sample ID / Catch Weight (ug)		
	R1-m308	***R2-m308***	***R3-m308***
Methanol	6.79 ND	6.79 ND	6.79 ND
	FB-m308		
Methanol	6.79 ND		

Results



Company	METCO Environmental	Client #	11-234
Analyst	MGM	Job #	0611-49

MDL 0.250 (ppm)
LOQ 2.50 (ppm)
Compound Methane

Lower Curve Limit 2.50 (ppm)
Upper Curve Limit 50,200 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj. Sample Conc (ppm)	Qual
Run 2 ME	027B1001.D	027B1002.D	027B1003.D	GC117P73.M	1.28	1.28	1.28	0.0	0.967	0.927	0.962	2.6	0.952	1	75.2	1.26	J
Run 3 ME	026B1101.D	026B1102.D	026B1103.D	GC117P73.M	NA	NA	NA	NA	0.250	0.250	0.250	0.0	0.250	1	75.2	0.332	ND
Run 4 ME	029B1201.D	029B1202.D	029B1203.D	GC117P73.M	1.28	NA	1.28	NA	0.343	0.250	0.351	20.5	0.315	1	75.2	0.418	J
N2 Blank	017B1301.D	017B1302.D	017B1303.D	GC117P73.M	NA	NA	NA	NA	0.250	0.250	0.250	0.0	0.250	1	100	0.250	ND
Run 3 ME S&R	029B0301.D	029B0302.D	023B01303.D	GC117P73.M	1.28	1.28	1.28	0.0	3.89	3.84	3.82	1.0	3.85	1	100	3.85	
gc117p095 #C5 LCS	022B1401.D	022B1402.D	022B1403.D	GC117P73.M	1.28	1.28	1.28	0.1	88.1	88.2	88.3	0.1	88.2	1	100	88.2	
															Tag Value	100	
															Recovery	88.2%	

Company	METCO Environmental	Client #	11-234
Analyst	MGM	Job #	0611-49

MDL 0.250 (ppm)
LOQ 2.50 (ppm)
Compound Ethane

Lower Curve Limit 2.50 (ppm)
Upper Curve Limit 50,200 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Sample Conc (ppm)	Qual
Run 2 ME	027B1001.D	027B1002.D	027B1003.D	GC117P73.M	NA	NA	NA	NA	0.250	0.250	0.250	0.0	0.250	1	0.250	ND
Run 3 ME	026B1101.D	026B1102.D	026B1103.D	GC117P73.M	NA	NA	NA	NA	0.250	0.250	0.250	0.0	0.250	1	0.250	ND
Run 4 ME	029B1201.D	029B1202.D	029B1203.D	GC117P73.M	NA	NA	NA	NA	0.250	0.250	0.250	0.0	0.250	1	0.250	ND
N2 Blank	017B1301.D	017B1302.D	017B1303.D	GC117P73.M	NA	NA	NA	NA	0.250	0.250	0.250	0.0	0.250	1	0.250	ND
Run 3 ME S&R	029B0301.D	029B0302.D	023B01303.D	GC117P73.M	1.41	1.41	1.41	0.0	3.07	3.05	3.01	1.0	3.05	1	3.05	
gc117p095 #C5 LCS	022B1401.D	022B1402.D	022B1403.D	GC117P73.M	1.40	1.40	1.40	0.1	89.4	89.5	89.6	0.1	89.5	1	89.5	
														Tag Value	100	
														Recovery	89.5%	

v 2.13 Validated by MSS 4/14/11

Company	METCO Environmental
Analyst	MGM
Parameters	Bag Spike & Recovery

Client #	11-234
Job #	0611-49
Unspiked Sample ID	Run 2 ME

% Recovery = (T - U) / S x 100

T = after spike concentration U = before spike concentration S = theoretical spike concentration

	Methane MW 16.04			Ethane MW 30.07		
What was the conc of the bag before spiking?	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)
U' (before spiking)	0.967	0.927	0.962	0.00	0.00	0.00
Avg ppm		0.952			0.00	
What was added to the bag?						
	ug/mL	Total ug		ug/mL	Total ug	
Liquid Spike #1	0	0		0	0	
uL Added	0			0		
	ug/mL	Total ug		ug/mL	Total ug	
Liquid Spike #2	0	0		0	0	
uL Added	0			0		
	ug/mL	Total ug		ug/mL	Total ug	
Liquid Spike #3	0	0		0	0	
uL Added	0			0		
	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)
Gas Spike #1	100	29.79	71.0	100	29.79	71.0
Volume Added (mL)	110	Total ug	7.26	110	Total ug	13.6
	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)
Gas Spike #2	0	29.79	71.0	0	29.79	71.0
Volume Added (mL)		Total ug	0.0	0	Total ug	0.0
	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)
Gas Spike #3	0	29.79	71.0	0	29.79	71.0
Volume Added (mL)	0	Total ug	0.0	0	Total ug	0.0
Total Vol (mL) vaporized	0.0			0.0		
Total Vol (mL) added as gas	110			110		
Other volume (mL) Added	0			0		

What volume was in the bag before spiking?

Wedge Volume 1.987 (L)

Sampled	7/11/11 5:00 PM	Hours Delta	192:02:00
Analyzed	7/19/11 5:02 PM		
Spiked	4/6/06 11:00 AM	Hours Delta	#########
Spike Analyzed	7/28/11 11:01 AM		

Total Vol. After Spiking 2,097 (mL)

Spike hold equal to or greater than original hold: YES

Ending Volume in Bag (mL)		2,097	
Original volume in the bag (mL)		1,987	1,987
Total volume added (mL)		110	110
Dilution Factor caused by addition		1.06	1.06
Dilution Adjusted Base Conc (ppm)	"U"	0.902	0.00
Theoretical Spike Conc (ppm)	"S"	**5.19**	**5.19**

What was the conc of the bag after spiking?	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)
	4.12	4.07	4.07	3.34	3.28	3.07
Final Concentration (ppm) "T"	Avg ppm	4.09		Avg ppm	3.23	
RECOVERY %		61.4 %			62.2 %	

v 2.13 Validated by MSS 4/14/11

Company	METCO Environmental
Analyst	MGM
Parameters	Bag Spike & Recovery

Client #	11-234
Job #	0611-49
Unspiked Sample ID	Run 3 ME

% Recovery = (T - U) / S x 100

T = after spike concentration U = before spike concentration S = theoretical spike concentration

	Methane MW 16.04			Ethane MW 30.07		
What was the conc of the bag before spiking?	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)
U' (before spiking)	0.00	0.00	0.00	0.00	0.00	0.00
Avg ppm		0.00			0.00	
What was added to the bag?						
	ug/mL	Total ug		ug/mL	Total ug	
Liquid Spike #1	0	0		0	0	
uL Added	0			0		
	ug/mL	Total ug		ug/mL	Total ug	
Liquid Spike #2	0	0		0	0	
uL Added	0			0		
	ug/mL	Total ug		ug/mL	Total ug	
Liquid Spike #3	0	0		0	0	
uL Added	0			0		
	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)
Gas Spike #1	100	29.88	69.5	100	29.88	69.5
Volume Added (mL)	115	Total ug	7.63	115	Total ug	14.3
	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)
Gas Spike #2	0	29.79	69.5	0	29.79	69.5
Volume Added (mL)		Total ug	0.0	0	Total ug	0.0
	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)
Gas Spike #3	0	29.88	69.5	0	29.88	69.5
Volume Added (mL)	0	Total ug	0.0	0	Total ug	0.0
Total Vol (mL) vaporized	0.0			0.0		
Total Vol (mL) added as gas	115			115		
Other volume (mL) Added	0			0		

What volume was in the bag before spiking?

Wedge Volume 2.122 (L)

Sampled	7/12/11 9:20 AM	Hours Delta	176:37:00
Analyzed	7/19/11 5:57 PM		
Spiked	7/28/11 5:15 PM	Hours Delta	258:58:00
Spike Analyzed	8/8/11 12:13 PM		
Total Vol. After Spiking 2,237 (mL)	Spike hold equal to or greater than original hold		YES

Ending Volume in Bag (mL)		2,237	2,122
Original volume in the bag (mL)		2,122	115
Total volume added (mL)		115	1.05
Dilution Factor caused by addition		1.05	0.00
Dilution Adjusted Base Conc (ppm)	"U"	0.00	
Theoretical Spike Conc (ppm)	"S"	**5.12**	**5.12**

What was the conc of the bag after spiking?	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)
	3.89	3.84	3.82	3.07	3.05	3.01
Final Concentration (ppm) "T"	Avg ppm	3.85		Avg ppm	3.05	
RECOVERY %		75.2 %			59.5 %	

Company	METCO Environmental
Analyst	MGM
Parameters	EPA Method 18 Bags

Client #	11-234
Job #	0611-49
# Samples	3 bags

MDL 0.282 (ppm)
LOQ 2.57 (ppm)
Compound 1,3-Butadiene

Lower Curve Limit 2.57 (ppm)
Upper Curve Limit 257 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
ICR Run 1	018B0101.D	018B0102.D	018B0103.D	GC114P165.M	NA	NA	NA	NA	0.282	0.282	0.282	0.0	0.282	1	84.6	0.333	ND
ICR Run 2	019B0201.D	019B0202.D	019B0203.D	GC114P165.M	NA	NA	NA	NA	0.282	0.282	0.282	0.0	0.282	1	84.6	0.333	ND
ICR Run 3	020B0301.D	020B0302.D	020B0303.D	GC114P165.M	NA	NA	NA	NA	0.282	0.282	0.282	0.0	0.282	1	84.6	0.333	ND
N2 Blank	017B0701.D	017B0702.D	017B0703.D	GC114P165.M	NA	NA	NA	NA	0.282	0.282	0.282	0.0	0.282	1	100	0.282	ND
R1 S&R	018B0101.D	018B0102.D	018B0103.D	GC114P165.M	2.61	2.62	2.62	0.2	4.36	4.30	4.24	1.3	4.30	1	100	4.30	
gc119p176 #I4 LCS	026B0801.D	026B0802.D	026B0803.D	GC114P165.M	2.62	2.62	2.62	0.1	94.5	95.3	94.5	0.6	94.8	1	100	94.8	
															Tag Value	103	
															Recovery	92.2%	

Company	METCO Environmental
Analyst	MGM
Parameters	EPA Method 18 Bags

Client #	11-234
Job #	0611-49
# Samples	3 bags

MDL 0.283 (ppm)
LOQ 2.57 (ppm)
Compound Acrolein

Lower Curve Limit 2.57 (ppm)
Upper Curve Limit 257 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
ICR Run 1	018B0101.D	018B0102.D	018B0103.D	GC114P165.M	NA	NA	NA	NA	0.283	0.283	0.283	0.0	0.283	1	87.7	0.323	ND
ICR Run 2	019B0201.D	019B0202.D	019B0203.D	GC114P165.M	NA	NA	NA	NA	0.283	0.283	0.283	0.0	0.283	1	87.7	0.323	ND
ICR Run 3	020B0301.D	020B0302.D	020B0303.D	GC114P165.M	NA	NA	NA	NA	0.283	0.283	0.283	0.0	0.283	1	87.7	0.323	ND
N2 Blank	017B0701.D	017B0702.D	017B0703.D	GC114P165.M	NA	NA	NA	NA	0.283	0.283	0.283	0.0	0.283	1	100	0.283	ND
R1 S&R	018B0101.D	018B0102.D	018B0103.D	GC114P165.M	3.58	3.59	3.59	0.3	4.50	4.37	4.32	2.3	4.40	1	100	4.40	
gc119p176 #I4 LCS	026B0801.D	026B0802.D	026B0803.D	GC114P165.M	3.60	3.60	3.60	0.0	88.1	88.1	87.8	0.2	88.0	1	100	88.0	
															Tag Value	103	
															Recovery	85.6%	

Company	METCO Environmental
Analyst	MGM
Parameters	EPA Method 18 Bags

Client #	11-234
Job #	0611-49
# Samples	3 bags

MDL 0.415 (ppm)
LOQ 4.99 (ppm)
Compound Acetone

Lower Curve Limit 4.99 (ppm)
Upper Curve Limit 257 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
ICR Run 1	018B0101.D	018B0102.D	018B0103.D	GC114P165.M	NA	NA	NA	NA	0.415	0.415	0.415	0.0	0.415	1	111	0.374	ND
ICR Run 2	019B0201.D	019B0202.D	019B0203.D	GC114P165.M	NA	NA	NA	NA	0.415	0.415	0.415	0.0	0.415	1	111	0.374	ND
ICR Run 3	020B0301.D	020B0302.D	020B0303.D	GC114P165.M	NA	NA	NA	NA	0.415	0.415	0.415	0.0	0.415	1	111	0.374	ND
N2 Blank	017B0701.D	017B0702.D	017B0703.D	GC114P165.M	NA	NA	NA	NA	0.415	0.415	0.415	0.0	0.415	1	100	0.415	ND
R1 S&R	018B0101.D	018B0102.D	018B0103.D	GC114P165.M	3.69	3.70	3.69	0.2	5.60	5.49	5.43	1.7	5.50	1	100	5.50	
gc119p176 #I4 LCS	026B0801.D	026B0802.D	026B0803.D	GC114P165.M	3.70	3.70	3.70	0.0	89.4	89.8	89.2	0.3	89.5	1	100	89.5	
															Tag Value	103	
															Recovery	87.0%	

Company	METCO Environmental
Analyst	MGM
Parameters	EPA Method 18 Bags

Client #	11-234
Job #	0611-49
# Samples	3 bags

MDL 0.257 (ppm)
LOQ 2.57 (ppm)
Compound Pentane

Lower Curve Limit 2.57 (ppm)
Upper Curve Limit 257 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Sample Conc (ppm)	Qual
ICR Run 1	018B0101.D	018B0102.D	018B0103.D	GC114P165.M	NA	NA	NA	NA	0.257	0.257	0.257	0.0	0.257	1	0.257	ND
ICR Run 2	019B0201.D	019B0202.D	019B0203.D	GC114P165.M	NA	NA	NA	NA	0.257	0.257	0.257	0.0	0.257	1	0.257	ND
ICR Run 3	020B0301.D	020B0302.D	020B0303.D	GC114P165.M	NA	NA	NA	NA	0.257	0.257	0.257	0.0	0.257	1	0.257	ND
N2 Blank	017B0701.D	017B0702.D	017B0703.D	GC114P165.M	NA	NA	NA	NA	0.257	0.257	0.257	0.0	0.257	1	0.257	ND
R1 S&R	018B0101.D	018B0102.D	018B0103.D	GC114P165.M	NA	NA	NA	NA	0.257	0.257	0.257	0.0	0.257	1	0.257	ND
gc119p176 #I4 LCS	026B0801.D	026B0802.D	026B0803.D	GC114P165.M	4.20	4.20	4.20	0.0	95.3	96.1	95.4	0.5	95.6	1	95.6	
														Tag Value	103	
														Recovery	93.0%	

Company	METCO Environmental
Analyst	MGM
Parameters	EPA Method 18 Bags

Client #	11-234
Job #	0611-49
# Samples	3 bags

MDL 0.958 (ppm)
LOQ 2.57 (ppm)
Compound Methylene chloride

Lower Curve Limit 2.57 (ppm)
Upper Curve Limit 257 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
ICR Run 1	018B0101.D	018B0102.D	018B0103.D	GC114P165.M	NA	NA	NA	NA	0.958	0.958	0.958	0.0	0.958	1	98.2	0.976	ND
ICR Run 2	019B0201.D	019B0202.D	019B0203.D	GC114P165.M	NA	NA	NA	NA	0.958	0.958	0.958	0.0	0.958	1	98.2	0.976	ND
ICR Run 3	020B0301.D	020B0302.D	020B0303.D	GC114P165.M	NA	NA	NA	NA	0.958	0.958	0.958	0.0	0.958	1	98.2	0.976	ND
N2 Blank	017B0701.D	017B0702.D	017B0703.D	GC114P165.M	NA	NA	NA	NA	0.958	0.958	0.958	0.0	0.958	1	100	0.958	ND
R1 S&R	018B0101.D	018B0102.D	018B0103.D	GC114P165.M	4.49	4.50	4.50	0.1	4.90	4.88	4.97	1.1	4.91	1	100	4.91	
gc119p176 #I4 LCS	026B0801.D	026B0802.D	026B0803.D	GC114P165.M	4.51	4.51	4.51	0.0	91.7	94.2	92.0	1.7	92.6	1	100	92.6	
															Tag Value	103	
															Recovery	90.1%	

Company	METCO Environmental
Analyst	MGM
Parameters	EPA Method 18 Bags

Client #	11-234
Job #	0611-49
# Samples	3 bags

MDL 0.259 (ppm)
LOQ 2.57 (ppm)
Compound Hexane

Lower Curve Limit 2.57 (ppm)
Upper Curve Limit 257 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
ICR Run 1	018B0101.D	018B0102.D	018B0103.D	GC114P165.M	NA	NA	NA	NA	0.259	0.259	0.259	0.0	0.259	1	115	0.225	ND
ICR Run 2	019B0201.D	019B0202.D	019B0203.D	GC114P165.M	NA	NA	NA	NA	0.259	0.259	0.259	0.0	0.259	1	115	0.225	ND
ICR Run 3	020B0301.D	020B0302.D	020B0303.D	GC114P165.M	NA	NA	NA	NA	0.259	0.259	0.259	0.0	0.259	1	115	0.225	ND
N2 Blank	017B0701.D	017B0702.D	017B0703.D	GC114P165.M	NA	NA	NA	NA	0.259	0.259	0.259	0.0	0.259	1	100	0.259	ND
R1 S&R	018B0101.D	018B0102.D	018B0103.D	GC114P165.M	5.77	5.78	5.78	0.1	5.88	5.77	5.66	2.0	5.77	1	100	5.77	
gc119p176 #I4 LCS	026B0801.D	026B0802.D	026B0803.D	GC114P165.M	5.79	5.79	5.79	0.0	95.4	95.2	95.1	0.2	95.2	1	100	95.2	
															Tag Value	103	
															Recovery	92.6%	

Company	METCO Environmental
Analyst	MGM
Parameters	EPA Method 18 Bags

Client #	11-234
Job #	0611-49
# Samples	3 bags

MDL 0.256 (ppm)
LOQ 2.56 (ppm)
Compound Benzene

Lower Curve Limit 2.56 (ppm)
Upper Curve Limit 256 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
ICR Run 1	018B0101.D	018B0102.D	018B0103.D	GC114P165.M	NA	NA	NA	NA	0.256	0.256	0.256	0.0	0.256	1	107	0.239	ND
ICR Run 2	019B0201.D	019B0202.D	019B0203.D	GC114P165.M	NA	NA	NA	NA	0.256	0.256	0.256	0.0	0.256	1	107	0.239	ND
ICR Run 3	020B0301.D	020B0302.D	020B0303.D	GC114P165.M	NA	NA	NA	NA	0.256	0.256	0.256	0.0	0.256	1	107	0.239	ND
N2 Blank	017B0701.D	017B0702.D	017B0703.D	GC114P165.M	NA	NA	NA	NA	0.256	0.256	0.256	0.0	0.256	1	100	0.256	ND
R1 S&R	018B0101.D	018B0102.D	018B0103.D	GC114P165.M	6.49	6.49	6.49	0.0	5.40	5.42	5.40	0.3	5.41	1	100	5.41	
gc119p176 #l4 LCS	026B0801.D	026B0802.D	026B0803.D	GC114P165.M	6.50	6.50	6.50	0.0	93.4	93.7	93.4	0.2	93.5	1	100	93.5	
															Tag Value	102	
															Recovery	91.3%	

Company	METCO Environmental
Analyst	MGM
Parameters	EPA Method 18 Bags

Client #	11-234
Job #	0611-49
# Samples	3 bags

MDL 0.401 (ppm)
LOQ 4.97 (ppm)
Compound Trichloroethene

Lower Curve Limit 4.97 (ppm)
Upper Curve Limit 256 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
ICR Run 1	018B0101.D	018B0102.D	018B0103.D	GC114P165.M	NA	NA	NA	NA	0.401	0.401	0.401	0.0	0.401	1	117	0.342	ND
ICR Run 2	019B0201.D	019B0202.D	019B0203.D	GC114P165.M	NA	NA	NA	NA	0.401	0.401	0.401	0.0	0.401	1	117	0.342	ND
ICR Run 3	020B0301.D	020B0302.D	020B0303.D	GC114P165.M	NA	NA	NA	NA	0.401	0.401	0.401	0.0	0.401	1	117	0.342	ND
N2 Blank	017B0701.D	017B0702.D	017B0703.D	GC114P165.M	NA	NA	NA	NA	0.401	0.401	0.401	0.0	0.401	1	100	0.401	ND
R1 S&R	018B0101.D	018B0102.D	018B0103.D	GC114P165.M	6.88	6.89	6.89	0.0	5.97	5.99	5.90	0.9	5.96	1	100	5.96	
gc119p176 #I4 LCS	026B0801.D	026B0802.D	026B0803.D	GC114P165.M	6.89	6.89	6.89	0.0	89.9	90.3	89.9	0.3	90.1	1	100	90.1	
															Tag Value	102	
															Recovery	87.9%	

Company	METCO Environmental
Analyst	MGM
Parameters	EPA Method 18 Bags

Client #	11-234
Job #	0611-49
# Samples	3 bags

MDL 0.256 (ppm)
LOQ 4.97 (ppm)
Compound Toluene

Lower Curve Limit 4.97 (ppm)
Upper Curve Limit 256 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
ICR Run 1	018B0101.D	018B0102.D	018B0103.D	GC114P165.M	NA	NA	NA	NA	0.256	0.256	0.256	0.0	0.256	1	109	0.235	ND
ICR Run 2	019B0201.D	019B0202.D	019B0203.D	GC114P165.M	NA	NA	NA	NA	0.256	0.256	0.256	0.0	0.256	1	109	0.235	ND
ICR Run 3	020B0301.D	020B0302.D	020B0303.D	GC114P165.M	NA	NA	NA	NA	0.256	0.256	0.256	0.0	0.256	1	109	0.235	ND
N2 Blank	017B0701.D	017B0702.D	017B0703.D	GC114P165.M	NA	NA	NA	NA	0.256	0.256	0.256	0.0	0.256	1	100	0.256	ND
R1 S&R	018B0101.D	018B0102.D	018B0103.D	GC114P165.M	7.56	7.56	7.56	0.0	5.68	5.49	5.43	2.6	5.53	1	100	5.53	
gc119p176 #I4 LCS	026B0801.D	026B0802.D	026B0803.D	GC114P165.M	7.57	7.57	7.57	0.0	88.1	88.4	88.0	0.3	88.2	1	100	88.2	
															Tag Value	102	
															Recovery	86.1%	

Company	METCO Environmental
Analyst	MGM
Parameters	EPA Method 18 Bags

Client #	11-234
Job #	0611-49
# Samples	3 bags

MDL 0.257 (ppm)
LOQ 4.99 (ppm)
Compound 1,2 Dibromoethane

Lower Curve Limit 4.99 (ppm)
Upper Curve Limit 257 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Sample Conc (ppm)	Qual
ICR Run 1	018B0101.D	018B0102.D	018B0103.D	GC114P165.M	NA	NA	NA	NA	0.257	0.257	0.257	0.0	0.257	1	0.257	ND
ICR Run 2	019B0201.D	019B0202.D	019B0203.D	GC114P165.M	NA	NA	NA	NA	0.257	0.257	0.257	0.0	0.257	1	0.257	ND
ICR Run 3	020B0301.D	020B0302.D	020B0303.D	GC114P165.M	NA	NA	NA	NA	0.257	0.257	0.257	0.0	0.257	1	0.257	ND
N2 Blank	017B0701.D	017B0702.D	017B0703.D	GC114P165.M	NA	NA	NA	NA	0.257	0.257	0.257	0.0	0.257	1	0.257	ND
R1 S&R	018B0101.D	018B0102.D	018B0103.D	GC114P165.M	NA	NA	NA	NA	0.257	0.257	0.257	0.0	0.257	1	0.257	ND
gc119p176 #I4 LCS	026B0801.D	026B0802.D	026B0803.D	GC114P165.M	7.84	7.84	7.84	0.0	84.8	85.0	84.4	0.3	84.7	1	84.7	
														Tag Value	103	
														Recovery	82.4%	

Company	METCO Environmental
Analyst	MGM
Parameters	EPA Method 18 Bags

Client #	11-234
Job #	0611-49
# Samples	3 bags

MDL 0.291 (ppm)
LOQ 4.99 (ppm)
Compound Tetrachloroethene

Lower Curve Limit 4.99 (ppm)
Upper Curve Limit 257 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Sample Conc (ppm)	Qual
ICR Run 1	018B0101.D	018B0102.D	018B0103.D	GC114P165.M	NA	NA	NA	NA	0.291	0.291	0.291	0.0	0.291	1	0.291	ND
ICR Run 2	019B0201.D	019B0202.D	019B0203.D	GC114P165.M	NA	NA	NA	NA	0.291	0.291	0.291	0.0	0.291	1	0.291	ND
ICR Run 3	020B0301.D	020B0302.D	020B0303.D	GC114P165.M	NA	NA	NA	NA	0.291	0.291	0.291	0.0	0.291	1	0.291	ND
N2 Blank	017B0701.D	017B0702.D	017B0703.D	GC114P165.M	NA	NA	NA	NA	0.291	0.291	0.291	0.0	0.291	1	0.291	ND
R1 S&R	018B0101.D	018B0102.D	018B0103.D	GC114P165.M	NA	NA	NA	NA	0.291	0.291	0.291	0.0	0.291	1	0.291	ND
gc119p176 #I4 LCS	026B0801.D	026B0802.D	026B0803.D	GC114P165.M	7.98	7.98	7.98	0.0	88.7	89.1	88.6	0.3	88.8	1	88.8	
														Tag Value	103	
														Recovery	86.4%	

v 2.13 Validated by MSS 4/14/11

Company	METCO Environmental
Analyst	MGM
Parameters	Bag Spike & Recovery

Client #	11-234
Job #	0611-49
Unspiked Sample ID	ICR Run 1

% Recovery = (T - U) / S x 100

T = after spike concentration U = before spike concentration S = theoretical spike concentration

	1,3-Butadiene MW 54.09			Acrolein MW 56.06			Acetone MW 58.080		
What was the conc of the bag before spiking?	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)
U' (before spiking)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg ppm		0.00		Avg ppm	0.00		Avg ppm	0.00	
What was added to the bag?									
	ug/mL	Total ug		ug/mL	Total ug		ug/mL	Total ug	
Liquid Spike #1	0	0		0	0		0	0	
uL Added	0			0			0		
	ug/mL	Total ug		ug/mL	Total ug		ug/mL	Total ug	
Liquid Spike #2	0	0		0	0		0	0	
uL Added	0			0			0		
	ug/mL	Total ug		ug/mL	Total ug		ug/mL	Total ug	
Liquid Spike #3	0	0		0	0		0	0	
uL Added	0			0			0		
	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)
Gas Spike #1	508	29.82	71.5	501	29.82	71.5	495	29.82	71.5
Volume Added (mL)	35.0	Total ug	39.6	35.0	Total ug	40.4	35.0	Total ug	41.4
	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)
Gas Spike #2	0	29.82	71.5	0	29.82	71.5	0	29.82	71.5
Volume Added (mL)	0	Total ug	0.0	0	Total ug	0.0	0	Total ug	0.0
	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)
Gas Spike #3	0	29.82	71.5	0	29.82	71.5	0	29.82	71.5
Volume Added (mL)	0	Total ug	0.0	0	Total ug	0.0	0	Total ug	0.0
Total Vol (mL) vaporized	0.0			0.0			0.0		
Total Vol (mL) added as gas	35.0			35.0			35.0		
Other volume (mL) Added	0			0			0		

What volume was in the bag before spiking?

Wedge Volume	3.425	(L)	Sampled	7/13/11 11:35 AM	Hours
			Analyzed	7/19/11 2:04 PM	Delta 146:29:16
			Spiked	7/20/11 12:00 PM	Hours
			Spike Analyzed	7/26/11 4:36 PM	Delta 148:36:39
Total Vol. After Spiking	3,460	(mL)	Spike hold equal to or greater than original hold		YES

Ending Volume in Bag (mL)	3,460	3,460	3,460
Original volume in the bag (mL)	3,425	3,425	3,425
Total volume added (mL)	35.0	35.0	35.0
Dilution Factor caused by addition	1.01	1.01	1.01
Dilution Adjusted Base Conc (ppm) "U"	0.00	0.00	0.00
Theoretical Spike Conc (ppm) "S"	**5.09**	**5.02**	**4.96**

What was the conc of the bag after spiking?	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)
	4.36	4.30	4.24	4.50	4.37	4.32	5.60	5.49	5.43
Final Concentration (ppm) "T"	Avg ppm	4.30		Avg ppm	4.40		Avg ppm	5.50	
RECOVERY %		84.6 %			87.7 %			111 %	

v 2.13 Validated by MSS 4/14/11

Company	METCO Environmental
Analyst	MGM
Parameters	Bag Spike & Recovery

Client #	11-234
Job #	0611-49
Unspiked Sample ID	ICR Run 1

% Recovery = (T - U) / S x 100

T = after spike concentration U = before spike concentration S = theoretical spike concentration

	Methylene chloride MW 84.93			Hexane MW 86.18			Benzene MW 78.11		
What was the conc of the bag before spiking?	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)
U' (before spiking)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Avg ppm	0.00		Avg ppm	0.00		Avg ppm	0.00	
What was added to the bag?									
Liquid Spike #1 uL Added	ug/mL	Total ug		ug/mL	Total ug		ug/mL	Total ug	
	0	0		0	0		0	0	
	0			0			0		
Liquid Spike #2 uL Added	ug/mL	Total ug		ug/mL	Total ug		ug/mL	Total ug	
	0	0		0	0		0	0	
	0			0			0		
Liquid Spike #3 uL Added	ug/mL	Total ug		ug/mL	Total ug		ug/mL	Total ug	
	0	0		0	0		0	0	
	0			0			0		
Gas Spike #1 Volume Added (mL)	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)
	500	29.82	71.5	501	29.82	71.5	505	29.82	71.5
	35.0	Total ug	61.1	35.0	Total ug	62.2	35.0	Total ug	56.8
Gas Spike #2 Volume Added (mL)	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)
	0	29.82	71.5	0	29.82	71.5	0	29.82	71.5
	0	Total ug	0.0	0	Total ug	0.0	0	Total ug	0.0
Gas Spike #3 Volume Added (mL)	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)
	0	29.82	71.5	0	29.82	71.5	0	29.82	71.5
	0	Total ug	0.0	0	Total ug	0.0	0	Total ug	0.0
Total Vol (mL) vaporized	0.0			0.0			0.0		
Total Vol (mL) added as gas	35.0			35.0			35.0		
Other volume (mL) Added	0			0			0		

What volume was in the bag before spiking?

Wedge Volume	3.425	(L)	Sampled	7/13/11 11:35 AM	Hours
			Analyzed	7/19/11 2:04 PM	Delta 146:29:16
			Spiked	7/20/11 12:00 PM	Hours
			Spike Analyzed	7/26/11 4:36 PM	Delta 148:36:39
Total Vol. After Spiking	3,460	(mL)	Spike hold equal to or greater than original hold		YES

	Methylene chloride	Hexane	Benzene
Ending Volume in Bag (mL)	3,425	3,425	3,425
Original volume in the bag (mL)	35.0	35.0	35.0
Total volume added (mL)	1.01	1.01	1.01
Dilution Factor caused by addition	0.00	0.00	0.00
Dilution Adjusted Base Conc (ppm) "U"			
Theoretical Spike Conc (ppm) "S"	**5.01**	**5.02**	**5.06**

What was the conc of the bag after spiking?	Methylene chloride			Hexane			Benzene		
	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)
	4.90	4.88	4.97	5.88	5.77	5.66	5.40	5.42	5.40
Final Concentration (ppm) "T"	Avg ppm	4.91		Avg ppm	5.77		Avg ppm	5.41	
RECOVERY %		98.2	%		115	%		107	%

v 2.13 Validated by MSS 4/14/11

Company	METCO Environmental
Analyst	MGM
Parameters	Bag Spike & Recovery

Client #	11-234
Job #	0611-49
Unspiked Sample ID	ICR Run 1

% Recovery = (T - U) / S x 100

T = after spike concentration U = before spike concentration S = theoretical spike concentration

	Trichloroethene MW 131.39			Toluene MW 92.14		
What was the conc of the bag before spiking?	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)
U' (before spiking)	0.00	0.00	0.00	0.00	0.00	0.00
Avg ppm		0.00			0.00	
What was added to the bag?						
	ug/mL	Total ug		ug/mL	Total ug	
Liquid Spike #1	0	0		0	0	
uL Added	0			0		
	ug/mL	Total ug		ug/mL	Total ug	
Liquid Spike #2	0	0		0	0	
uL Added	0			0		
	ug/mL	Total ug		ug/mL	Total ug	
Liquid Spike #3	0	0		0	0	
uL Added	0			0		
	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)
Gas Spike #1	507	29.82	71.5	508	29.82	71.5
Volume Added (mL)	35.0	Total ug	95.9	35.0	Total ug	67.4
	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)
Gas Spike #2	0	29.82	71.5	0	29.82	71.5
Volume Added (mL)	0	Total ug	0.0	0	Total ug	0.0
	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)
Gas Spike #3	0	29.82	71.5	0	29.82	71.5
Volume Added (mL)	0	Total ug	0.0	0	Total ug	0.0
Total Vol (mL) vaporized	0.0			0.0		
Total Vol (mL) added as gas	35.0			35.0		
Other volume (mL) Added	0			0		

What volume was in the bag before spiking?

Wedge Volume	3.425	(L)	Sampled	7/13/11 11:35 AM	Hours
					Delta 146:29:16
			Analyzed	7/19/11 2:04 PM	
			Spiked	7/20/11 12:00 PM	Hours
					Delta 148:36:39
			Spike Analyzed	7/26/11 4:36 PM	
Total Vol. After Spiking	3,460	(mL)	Spike hold equal to or greater than original hold		YES

Ending Volume in Bag (mL)	3,460	3,425
Original volume in the bag (mL)	3,425	35.0
Total volume added (mL)	35.0	1.01
Dilution Factor caused by addition	1.01	0.00
Dilution Adjusted Base Conc (ppm) "U"	0.00	
Theoretical Spike Conc (ppm) "S"	**5.08**	**5.09**

What was the conc of the bag after spiking?	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)
	5.97	5.99	5.90	5.68	5.49	5.43
Final Concentration (ppm) "T"	Avg ppm	5.96		Avg ppm	5.53	
RECOVERY %		117 %			109 %	

Company	METCO Environmental
Analyst	STG
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 bags

MDL 0.0450 (ppm)
LOQ 0.626 (ppm)
Compound Carbon disulfide

Lower Curve Limit 0.626 (ppm)
Upper Curve Limit 7.80 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Sample Conc (ppm)	Qual
ICR Run 1	007B0101.D	007B0102.D	007B0103.D	FPDTEST2.M	NA	NA	NA	NA	0.0450	0.0450	0.0450	0.0	0.0450	1	0.0450	ND
ICR Run 2	007B1201.D	007B1202.D	007B1203.D	FPDTEST2.M	5.53	5.52	5.50	0.5	0.247	0.197	0.149	25.0	0.198	1	0.198	J
ICR Run 3	007B1301.D	007B1302.D	007B1303.D	FPDTEST2.M	NA	NA	NA	NA	0.0450	0.0450	0.0450	0.0	0.0450	1	0.0450	ND
Blank	007B0803.D	007B0804.D	007B0805.D	FPDTEST2.M	NA	NA	NA	NA	0.0450	0.0450	0.0450	0.0	0.0450	1	0.0450	ND

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.157 (ug/mL)
LOQ 1.57 (ug/mL)
Compound Acetonitrile

Lower Curve Limit 1.57 (ug/mL)
Upper Curve Limit 261 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Catch Weight (ug)	Qual
M18 R1 Cond	003F0301.D	003F0302.D	003F0303.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1.24	5.00	0.972	80.1	1.21	ND
M18 R1 XAD-FH	004F0401.D	004F0402.D	004F0403.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	80.1	0.980	ND
M18 R1 XAD-BH	005F0501.D	005F0502.D	005F0503.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	80.1	0.980	ND
M18 R1 CT-FH	006F0601.D	006F0602.D	006F0603.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	80.1	0.980	ND
M18 R1 CT-BH	007F0701.D	007F0702.D	007F0703.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	80.1	0.980	ND
																		1.21	ND
M18 R1 SPK Cond	008F0801.D	008F0802.D	008F0803.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1.24	5.00	0.972	100	0.972	ND
M18 R1 SPK XAD-FH	010F1001.D	010F1002.D	010F1003.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
M18 R1 SPK XAD-BH	012F1201.D	012F1202.D	012F1203.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
M18 R1 SPK CT-FH	015F1501.D	015F1502.D	015F1503.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
M18 R1 SPK CT-BH	017F1701.D	017F1702.D	017F1703.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
																		0.972	ND
LD / M18 SR1 Cond	009F0901.D	009F0902.D	009F0903.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1.24	5.00	0.972	100	0.972	ND
																	% Difference	0.0%	
LD / M18 SR1 XAD FH	011F1101.D	011F1102.D	011F1103.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
																	% Difference	0.0%	
LD / M18 SR1 CT FH	016F1601.D	016F1602.D	016F1603.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
																	% Difference	0.0%	
M18 R2 Cond	018F1801.D	018F1802.D	018F1803.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1.24	5.00	0.972	80.1	1.21	ND
M18 R2 XAD-FH	019F1901.D	019F1902.D	019F1903.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	80.1	0.980	ND
M18 R2 XAD-BH	020F2001.D	020F2002.D	020F2003.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	80.1	0.980	ND
M18 R2 CT-FH	021F2101.D	021F2102.D	021F2103.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	80.1	0.980	ND
M18 R2 CT-BH	022F2201.D	022F2202.D	022F2203.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	80.1	0.980	ND
																		1.21	ND
M18 R2 SPK Cond	023F2301.D	023F2302.D	023F2303.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1.24	5.00	0.972	100	0.972	ND
M18 R2 SPK XAD-FH	024F2401.D	024F2402.D	024F2403.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
M18 R2 SPK XAD-BH	027F2701.D	027F2702.D	027F2703.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
M18 R2 SPK CT-FH	028F2801.D	028F2802.D	028F2803.D	GC121P078.M	2.68	2.68	2.68	0.0	13.2	12.7	13.1	2.1	13.0	1	5.00	65.0	100	65.0	
M18 R2 SPK CT-BH	029F2901.D	029F2902.D	029F2903.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
																		65.0	

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.157 (ug/mL)
LOQ 1.57 (ug/mL)
Compound Acetonitrile

Lower Curve Limit 1.57 (ug/mL)
Upper Curve Limit 261 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Catch Weight (ug)	Qual
M18 R3 Cond	030F3001.D	030F3002.D	030F3003.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1.24	5.00	0.972	80.1	1.21	ND
M18 R3 XAD-FH	031F3101.D	031F3102.D	031F3103.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	80.1	0.980	ND
M18 R3 XAD-BH	032F3201.D	032F3202.D	032F3203.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	80.1	0.980	ND
M18 R3 CT-FH	033F3301.D	033F3302.D	033F3303.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	80.1	0.980	ND
M18 R3 CT-BH	034F3401.D	034F3402.D	034F3403.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	80.1	0.980	ND
																		1.21	ND
M18 R3 SPK Cond	035F3501.D	035F3502.D	035F3503.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1.24	5.00	0.972	100	0.972	ND
M18 R3 SPK XAD-FH	036F3601.D	036F3602.D	036F3603.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
M18 R3 SPK XAD-BH	039F3901.D	039F3902.D	039F3903.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
M18 R3 SPK CT-FH	040F4001.D	040F4002.D	040F4003.D	GC121P078.M	2.69	2.69	2.69	0.0	8.01	8.58	8.03	4.5	8.21	1	5.00	41.0	100	41.0	
M18 R3 SPK CT-BH	041F4101.D	041F4102.D	041F4103.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
																		41.0	
M18 H2O FB Ext	042F4201.D	042F4202.D	042F4203.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1.24	5.00	0.972	100	0.972	ND
M18 H2O RB Ext	043F4301.D	043F4302.D	043F4303.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
XAD FB	044F4401.D	044F4402.D	044F4403.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
Spiked XAD FB	045F4501.D	045F4502.D	045F4503.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
CT FB	046F4601.D	046F4602.D	046F4603.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
Spiked XAD FB	047F4801.D	047F4802.D	047F4803.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
CT LB	050F5101.D	050F5102.D	050F5103.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
XAD LCS 2	052F0201.D	052F0202.D	052F0203.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
AQ LCS 3	046F5001.D	046F5002.D	046F5003.D	GC121P078B.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	10.0	1.57	100	1.57	ND

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, blanks

MDL 0.238 (ug/mL)
LOQ 1.96 (ug/mL)
Compound Acetonitrile

Lower Curve Limit 1.96 (ug/mL)
Upper Curve Limit 1,965 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec. Eff. (%)	Adj. Catch (ug)	Qual
M18 R1 Cond Raff	022B2301.D	022B2302.D	022B2303.D	GC122P038.M	NA	NA	NA	NA	0.238	0.238	0.238	0.0	0.238	1.24	33.6	9.90	80.1	12.4	ND
M18 SR1 Cond Raff	023B2401.D	023B2402.D	023B2403.D	GC122P038.M	3.90	3.90	3.90	0.0	4.73	4.65	4.66	1.0	4.68	1.24	33.6	195	100	195	
LD / M18 SR1 Cond Raff	024B2501.D	024B2502.D	024B2503.D	GC122P038.M	3.90	3.90	3.90	0.0	4.67	4.67	4.70	0.4	4.68	1.24	33.6	195	100	195	
														% Difference		0.0%			
M18 R2 Cond Raff	025B2601.D	025B2602.D	025B2603.D	GC122P038.M	NA	NA	NA	NA	0.238	0.238	0.238	0.0	0.238	1.24	33.6	9.90	80.1	12.4	ND
M18 SR2 Cond Raff	026B2701.D	026B2702.D	026B2703.D	GC122P038.M	3.90	3.91	3.90	0.1	2.76	2.91	2.76	3.6	2.81	1.24	33.6	117	100	117	
M18 R3 Cond Raff	027B2801.D	027B2802.D	027B2803.D	GC122P038.M	NA	NA	NA	NA	0.238	0.238	0.238	0.0	0.238	1.24	33.6	9.90	80.1	12.4	ND
M18 SR3 Cond Raff	028B2901.D	028B2902.D	028B2903.D	GC122P038.M	3.90	3.90	3.90	0.0	3.51	3.50	3.66	2.9	3.55	1.24	33.6	148	100	148	
M18 H2O FB Raff	029B3001.D	029B3002.D	029B3003.D	GC122P038.M	NA	NA	NA	NA	0.238	0.238	0.238	0.0	0.238	1.24	33.6	9.90	100	9.90	ND
M18 H2O RB Raff	030B3301.D	030B3302.D	030B3303.D	GC122P038.M	NA	NA	NA	NA	0.238	0.238	0.238	0.0	0.238	1	35.0	8.33	100	8.33	ND
M18 LCS 1 Raff	031B3401.D	031B3402.D	031B3403.D	GC122P038.M	3.90	3.90	3.90	0.0	21.2	20.6	20.8	1.6	20.9	1	10.0	209			
																Spike Amount (ug)	253		
																Spike Recovery (%)	82.4%		
M18 LCS 2 Raff	032B3501.D	032B3502.D	032B3503.D	GC122P038.M	3.90	3.90	3.90	0.0	20.7	21.1	21.4	1.8	21.1	1	10.0	211			
																Spike Amount (ug)	253		
																Spike Recovery (%)	83.3%		
gc122p038 #3ss	007B0801.D	007B0802.D	007B0803.D	GC122P038.M	3.90	3.90	3.90	0.0	40.7	40.7	40.2	0.7	40.5	1	1.0	40.5			
																Tag Amount (ug)	39.1		
																Recovery (%)	104%		

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.157 (ug/mL)
LOQ 1.57 (ug/mL)
Compound Acrylonitrile

Lower Curve Limit 1.57 (ug/mL)
Upper Curve Limit 1,571 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Catch Weight (ug)	Qual
M18 R1 Cond	003F0301.D	003F0302.D	003F0303.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1.24	5.00	0.972	66.7	1.46	ND
M18 R1 XAD-FH	004F0401.D	004F0402.D	004F0403.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	66.7	1.18	ND
M18 R1 XAD-BH	005F0501.D	005F0502.D	005F0503.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	66.7	1.18	ND
M18 R1 CT-FH	006F0601.D	006F0602.D	006F0603.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	66.7	1.18	ND
M18 R1 CT-BH	007F0701.D	007F0702.D	007F0703.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	66.7	1.18	ND
																		1.46	ND
M18 R1 SPK Cond	008F0801.D	008F0802.D	008F0803.D	GC121P078.M	3.18	3.18	3.18	0.0	2.25	2.15	2.28	3.5	2.22	1.24	5.00	13.8	100	13.8	
M18 R1 SPK XAD-FH	010F1001.D	010F1002.D	010F1003.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
M18 R1 SPK XAD-BH	012F1201.D	012F1202.D	012F1203.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
M18 R1 SPK CT-FH	015F1501.D	015F1502.D	015F1503.D	GC121P078.M	3.18	3.18	3.18	0.1	0.813	0.781	0.779	2.8	0.791	1	5.00	3.95	100	3.95	J
M18 R1 SPK CT-BH	017F1701.D	017F1702.D	017F1703.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
																		17.7	
LD / M18 SR1 Cond	009F0901.D	009F0902.D	009F0903.D	GC121P078.M	3.18	3.18	3.18	0.0	2.23	2.28	2.27	1.4	2.26	1.24	5.00	14.0	100	14.0	
																	% Difference	1.6%	
LD / M18 SR1 XAD FH	011F1101.D	011F1102.D	011F1103.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
																	% Difference	NA	
LD / M18 SR1 CT FH	016F1601.D	016F1602.D	016F1603.D	GC121P078.M	3.18	3.18	3.18	0.0	0.778	0.681	0.834	10.9	0.764	1	5.00	3.82	100	3.82	J
																	% Difference	3.3%	
M18 R2 Cond	018F1801.D	018F1802.D	018F1803.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1.24	5.00	0.972	66.7	1.46	ND
M18 R2 XAD-FH	019F1901.D	019F1902.D	019F1903.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	66.7	1.18	ND
M18 R2 XAD-BH	020F2001.D	020F2002.D	020F2003.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	66.7	1.18	ND
M18 R2 CT-FH	021F2101.D	021F2102.D	021F2103.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	66.7	1.18	ND
M18 R2 CT-BH	022F2201.D	022F2202.D	022F2203.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	66.7	1.18	ND
																		1.46	ND
M18 R2 SPK Cond	023F2301.D	023F2302.D	023F2303.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1.24	5.00	0.972	100	0.972	ND
M18 R2 SPK XAD-FH	024F2401.D	024F2402.D	024F2403.D	GC121P078.M	3.18	3.18	3.18	0.0	2.45	2.52	2.47	1.7	2.48	1	5.00	12.4	100	12.4	
M18 R2 SPK XAD-BH	027F2701.D	027F2702.D	027F2703.D	GC121P078.M	3.18	3.18	3.18	0.0	1.08	1.06	1.01	3.6	1.05	1	5.00	5.24	100	5.24	J
M18 R2 SPK CT-FH	028F2801.D	028F2802.D	028F2803.D	GC121P078.M	3.17	3.17	3.17	0.0	23.6	22.6	23.1	2.1	23.1	1	5.00	116	100	116	
M18 R2 SPK CT-BH	029F2901.D	029F2902.D	029F2903.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
																		133	

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.157 (ug/mL)
LOQ 1.57 (ug/mL)
Compound Acrylonitrile

Lower Curve Limit 1.57 (ug/mL)
Upper Curve Limit 1,571 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Catch Weight (ug)	Qual
M18 R3 Cond	030F3001.D	030F3002.D	030F3003.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1.24	5.00	0.972	66.7	1.46	ND
M18 R3 XAD-FH	031F3101.D	031F3102.D	031F3103.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	66.7	1.18	ND
M18 R3 XAD-BH	032F3201.D	032F3202.D	032F3203.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	66.7	1.18	ND
M18 R3 CT-FH	033F3301.D	033F3302.D	033F3303.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	66.7	1.18	ND
M18 R3 CT-BH	034F3401.D	034F3402.D	034F3403.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	66.7	1.18	ND
																		1.46	ND
M18 R3 SPK Cond	035F3501.D	035F3502.D	035F3503.D	GC121P078.M	3.18	3.18	3.18	0.1	0.634	0.575	0.662	7.8	0.624	1.24	5.00	3.86	100	3.86	J
M18 R3 SPK XAD-FH	036F3601.D	036F3602.D	036F3603.D	GC121P078.M	3.18	3.18	3.18	0.0	4.71	4.66	4.46	3.2	4.61	1	5.00	23.1	100	23.1	
M18 R3 SPK XAD-BH	039F3901.D	039F3902.D	039F3903.D	GC121P078.M	3.18	3.18	3.18	0.0	1.57	1.58	1.57	0.4	1.57	1	5.00	7.86	100	7.86	
M18 R3 SPK CT-FH	040F4001.D	040F4002.D	040F4003.D	GC121P078.M	3.17	3.17	3.17	0.0	15.3	16.1	15.1	3.7	15.5	1	5.00	77.6	100	77.6	
M18 R3 SPK CT-BH	041F4101.D	041F4102.D	041F4103.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
																		112	
M18 H2O FB Ext	042F4201.D	042F4202.D	042F4203.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1.24	5.00	0.972	100	0.972	ND
M18 H2O RB Ext	043F4301.D	043F4302.D	043F4303.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
XAD FB	044F4401.D	044F4402.D	044F4403.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
Spiked XAD FB	045F4501.D	045F4502.D	045F4503.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
CT FB	046F4601.D	046F4602.D	046F4603.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
Spiked XAD FB	047F4801.D	047F4802.D	047F4803.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
CT LB	050F5101.D	050F5102.D	050F5103.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
XAD LCS 2	052F0201.D	052F0202.D	052F0203.D	GC121P078.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	5.00	0.785	100	0.785	ND
AQ LCS 3	046F5001.D	046F5002.D	046F5003.D	GC121P078B.M	NA	NA	NA	NA	0.157	0.157	0.157	0.0	0.157	1	10.0	1.57	100	1.57	ND

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, blanks

MDL 0.201 (ug/mL)
LOQ 2.01 (ug/mL)
Compound Acrylonitrile

Lower Curve Limit 2.01 (ug/mL)
Upper Curve Limit 2,013 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec. Eff. (%)	Adj. Catch (ug)	Qual
M18 R1 Cond Raff	022B2301.D	022B2302.D	022B2303.D	GC122P038.M	NA	NA	NA	NA	0.201	0.201	0.201	0.0	0.201	1.24	33.6	8.36	66.7	13	ND
M18 SR1 Cond Raff	023B2401.D	023B2402.D	023B2403.D	GC122P038.M	3.78	3.78	3.78	0.0	3.72	3.75	3.78	0.7	3.75	1.24	33.6	156	100	156	
LD / M18 SR1 Cond Raff	024B2501.D	024B2502.D	024B2503.D	GC122P038.M	3.78	3.78	3.78	0.0	3.76	3.74	3.81	1.1	3.77	1.24	33.6	157	100	157	
															% Difference	0.5%			
M18 R2 Cond Raff	025B2601.D	025B2602.D	025B2603.D	GC122P038.M	NA	NA	NA	NA	0.201	0.201	0.201	0.0	0.201	1.24	33.6	8.36	66.7	13	ND
M18 SR2 Cond Raff	026B2701.D	026B2702.D	026B2703.D	GC122P038.M	3.78	3.78	3.79	0.1	0.334	0.324	0.368	7.6	0.342	1.24	33.6	14.2	100	14	J
M18 R3 Cond Raff	027B2801.D	027B2802.D	027B2803.D	GC122P038.M	NA	NA	NA	NA	0.201	0.201	0.201	0.0	0.201	1.24	33.6	8.36	66.7	13	ND
M18 SR3 Cond Raff	028B2901.D	028B2902.D	028B2903.D	GC122P038.M	3.78	3.78	3.78	0.0	0.904	0.918	0.947	2.6	0.923	1.24	33.6	38.4	100	38	J
M18 H2O FB Raff	029B3001.D	029B3002.D	029B3003.D	GC122P038.M	NA	NA	NA	NA	0.201	0.201	0.201	0.0	0.201	1.24	33.6	8.36	100	8.36	ND
M18 H2O RB Raff	030B3301.D	030B3302.D	030B3303.D	GC122P038.M	NA	NA	NA	NA	0.201	0.201	0.201	0.0	0.201	1	35.0	7.04	100	7.04	ND
M18 LCS 1 Raff	031B3401.D	031B3402.D	031B3403.D	GC122P038.M	3.78	3.78	3.78	0.0	18.5	18.1	18.4	1.0	18.3	1	10.0	183			
															Spike Amount (ug)	254			
															Spike Recovery (%)	72.2%			
M18 LCS 2 Raff	032B3501.D	032B3502.D	032B3503.D	GC122P038.M	3.78	3.78	3.78	0.0	17.6	17.8	17.9	0.9	17.8	1	10.0	178			
															Spike Amount (ug)	254			
															Spike Recovery (%)	70.1%			
gc122p038 #3ss	007B0801.D	007B0802.D	007B0803.D	GC122P038.M	3.77	3.77	3.77	0.0	42.4	42.4	42.0	0.7	42.3	1	1.0	42.3			
															Tag Amount (ug)	39.1			
															Recovery (%)	108%			

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.148 (ug/mL)
LOQ 1.48 (ug/mL)
Compound MTBE

Lower Curve Limit 1.48 (ug/mL)
Upper Curve Limit 1,476 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj Catch Weight (ug)	Qual
M18 R1 Cond	003F0301.D	003F0302.D	003F0303.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1.24	5.00	0.916	84.0	1.09	ND
M18 R1 XAD-FH	004F0401.D	004F0402.D	004F0403.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	84.0	0.881	ND
M18 R1 XAD-BH	005F0501.D	005F0502.D	005F0503.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	84.0	0.881	ND
M18 R1 CT-FH	006F0601.D	006F0602.D	006F0603.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	84.0	0.881	ND
M18 R1 CT-BH	007F0701.D	007F0702.D	007F0703.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	84.0	0.881	ND
																		1.09	ND
M18 R1 SPK Cond	008F0801.D	008F0802.D	008F0803.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1.24	5.00	0.916	100	0.916	ND
M18 R1 SPK XAD-FH	010F1001.D	010F1002.D	010F1003.D	GC121P078.M	4.05	4.05	4.05	0.0	3.91	3.83	3.84	1.3	3.86	1	5.00	19.3	100	19.3	
M18 R1 SPK XAD-BH	012F1201.D	012F1202.D	012F1203.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	100	0.740	ND
M18 R1 SPK CT-FH	015F1501.D	015F1502.D	015F1503.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	100	0.740	ND
M18 R1 SPK CT-BH	017F1701.D	017F1702.D	017F1703.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	100	0.740	ND
																		19.3	
LD / M18 SR1 Cond	009F0901.D	009F0902.D	009F0903.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1.24	5.00	0.916	100	0.916	ND
																% Difference		NA	
LD / M18 SR1 XAD FH	011F1101.D	011F1102.D	011F1103.D	GC121P078.M	4.05	4.05	4.05	0.0	3.81	3.79	3.84	0.7	3.81	1	5.00	19.1	100	19.1	
																% Difference		1.2%	
LD / M18 SR1 CT FH	016F1601.D	016F1602.D	016F1603.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	100	0.740	ND
																% Difference		NA	
M18 R2 Cond	018F1801.D	018F1802.D	018F1803.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1.24	5.00	0.916	84.0	1.09	ND
M18 R2 XAD-FH	019F1901.D	019F1902.D	019F1903.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	84.0	0.881	ND
M18 R2 XAD-BH	020F2001.D	020F2002.D	020F2003.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	84.0	0.881	ND
M18 R2 CT-FH	021F2101.D	021F2102.D	021F2103.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	84.0	0.881	ND
M18 R2 CT-BH	022F2201.D	022F2202.D	022F2203.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	84.0	0.881	ND
																		1.09	ND
M18 R2 SPK Cond	023F2301.D	023F2302.D	023F2303.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1.24	5.00	0.916	100	0.916	ND
M18 R2 SPK XAD-FH	024F2401.D	024F2402.D	024F2403.D	GC121P078.M	4.05	4.05	4.05	0.0	3.70	3.50	3.58	3.1	3.59	1	5.00	18.0	100	18.0	
M18 R2 SPK XAD-BH	027F2701.D	027F2702.D	027F2703.D	GC121P078.M	4.05	4.06	4.06	0.3	0.217	0.195	0.213	6.4	0.208	1	5.00	1.04	100	1.04	J
M18 R2 SPK CT-FH	028F2801.D	028F2802.D	028F2803.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	100	0.740	ND
M18 R2 SPK CT-BH	029F2901.D	029F2902.D	029F2903.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	100	0.740	ND
																		19.0	

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.148 (ug/mL)
LOQ 1.48 (ug/mL)
Compound MTBE

Lower Curve Limit 1.48 (ug/mL)
Upper Curve Limit 1,476 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj Catch Weight (ug)	Qual
M18 R3 Cond	030F3001.D	030F3002.D	030F3003.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1.24	5.00	0.916	84.0	1.09	ND
M18 R3 XAD-FH	031F3101.D	031F3102.D	031F3103.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	84.0	0.881	ND
M18 R3 XAD-BH	032F3201.D	032F3202.D	032F3203.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	84.0	0.881	ND
M18 R3 CT-FH	033F3301.D	033F3302.D	033F3303.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	84.0	0.881	ND
M18 R3 CT-BH	034F3401.D	034F3402.D	034F3403.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	84.0	0.881	ND
																		1.09	ND
M18 R3 SPK Cond	035F3501.D	035F3502.D	035F3503.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1.24	5.00	0.916	100	0.916	ND
M18 R3 SPK XAD-FH	036F3601.D	036F3602.D	036F3603.D	GC121P078.M	4.05	4.05	4.05	0.0	3.54	3.55	3.39	3.0	3.49	1	5.00	17.5	100	17.5	
M18 R3 SPK XAD-BH	039F3901.D	039F3902.D	039F3903.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	100	0.740	ND
M18 R3 SPK CT-FH	040F4001.D	040F4002.D	040F4003.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	100	0.740	ND
M18 R3 SPK CT-BH	041F4101.D	041F4102.D	041F4103.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	100	0.740	ND
																		17.5	
M18 H2O FB Ext	042F4201.D	042F4202.D	042F4203.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1.24	5.00	0.916	100	0.916	ND
M18 H2O RB Ext	043F4301.D	043F4302.D	043F4303.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	100	0.740	ND
XAD FB	044F4401.D	044F4402.D	044F4403.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	100	0.740	ND
Spiked XAD FB	045F4501.D	045F4502.D	045F4503.D	GC121P078.M	4.05	4.05	4.05	0.0	4.28	4.24	4.18	1.3	4.23	1	5.00	21.2	100	21.2	
																	Spike Amount (ug)	22.1	
																	Spike Recovery (%)	95.6%	
CT FB	046F4601.D	046F4602.D	046F4603.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	100	0.740	ND
Spiked XAD FB	047F4801.D	047F4802.D	047F4803.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	100	0.740	ND
CT LB	050F5101.D	050F5102.D	050F5103.D	GC121P078.M	NA	NA	NA	NA	0.148	0.148	0.148	0.0	0.148	1	5.00	0.740	100	0.740	ND
XAD LCS 2	052F0201.D	052F0202.D	052F0203.D	GC121P078.M	4.05	4.05	4.05	0.0	4.27	4.40	4.22	2.4	4.30	1	5.00	21.5	100	21.5	
																	Spike Amount (ug)	22.1	
																	Spike Recovery (%)	97.1%	
AQ LCS 3	046F5001.D	046F5002.D	046F5003.D	GC121P078B.M	4.05	4.05	4.05	0.1	16.2	16.3	15.4	3.6	15.9	1	5.0	79.7	100	79.7	
																	Spike Amount (ug)	88.6	
																	Spike Recovery (%)	90.0%	

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.193 (ug/mL)
LOQ 1.93 (ug/mL)
Compound 2-Nitropropane

Lower Curve Limit 1.93 (ug/mL)
Upper Curve Limit 1,936 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj Catch Weight (ug)	Qual
M18 R1 Cond	003F0301.D	003F0302.D	003F0303.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1.24	5.00	1.19	86.4	1.38	ND
M18 R1 XAD-FH	004F0401.D	004F0402.D	004F0403.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	86.4	1.12	ND
M18 R1 XAD-BH	005F0501.D	005F0502.D	005F0503.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	86.4	1.12	ND
M18 R1 CT-FH	006F0601.D	006F0602.D	006F0603.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	86.4	1.12	ND
M18 R1 CT-BH	007F0701.D	007F0702.D	007F0703.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	86.4	1.12	ND
																		1.38	ND
M18 R1 SPK Cond	008F0801.D	008F0802.D	008F0803.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1.24	5.00	1.19	100	1.19	ND
M18 R1 SPK XAD-FH	010F1001.D	010F1002.D	010F1003.D	GC121P078.M	5.28	5.28	5.28	0.0	5.28	5.12	5.11	2.1	5.17	1	5.00	25.9	100	25.9	
M18 R1 SPK XAD-BH	012F1201.D	012F1202.D	012F1203.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	100	0.965	ND
M18 R1 SPK CT-FH	015F1501.D	015F1502.D	015F1503.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	100	0.965	ND
M18 R1 SPK CT-BH	017F1701.D	017F1702.D	017F1703.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	100	0.965	ND
																		25.9	
LD / M18 SR1 Cond	009F0901.D	009F0902.D	009F0903.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1.24	5.00	1.19	100	1.19	ND
																	% Difference	NA	
LD / M18 SR1 XAD FH	011F1101.D	011F1102.D	011F1103.D	GC121P078.M	5.28	5.28	5.28	0.0	5.19	5.07	5.20	1.6	5.15	1	5.00	25.8	100	25.8	
																	% Difference	0.4%	
LD / M18 SR1 CT FH	016F1601.D	016F1602.D	016F1603.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	100	0.965	ND
																	% Difference	NA	
M18 R2 Cond	018F1801.D	018F1802.D	018F1803.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1.24	5.00	1.19	86.4	1.38	ND
M18 R2 XAD-FH	019F1901.D	019F1902.D	019F1903.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	86.4	1.12	ND
M18 R2 XAD-BH	020F2001.D	020F2002.D	020F2003.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	86.4	1.12	ND
M18 R2 CT-FH	021F2101.D	021F2102.D	021F2103.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	86.4	1.12	ND
M18 R2 CT-BH	022F2201.D	022F2202.D	022F2203.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	86.4	1.12	ND
																		1.38	ND
M18 R2 SPK Cond	023F2301.D	023F2302.D	023F2303.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1.24	5.00	1.19	100	1.19	ND
M18 R2 SPK XAD-FH	024F2401.D	024F2402.D	024F2403.D	GC121P078.M	5.28	5.28	5.28	0.0	5.06	4.79	4.98	3.1	4.94	1	5.00	24.7	100	24.7	
M18 R2 SPK XAD-BH	027F2701.D	027F2702.D	027F2703.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	100	0.965	ND
M18 R2 SPK CT-FH	028F2801.D	028F2802.D	028F2803.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	100	0.965	ND
M18 R2 SPK CT-BH	029F2901.D	029F2902.D	029F2903.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	100	0.965	ND
																		24.7	

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.193 (ug/mL)
LOQ 1.93 (ug/mL)
Compound 2-Nitropropane

Lower Curve Limit 1.93 (ug/mL)
Upper Curve Limit 1,936 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj Catch Weight (ug)	Qual
M18 R3 Cond	030F3001.D	030F3002.D	030F3003.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1.24	5.00	1.19	86.4	1.38	ND
M18 R3 XAD-FH	031F3101.D	031F3102.D	031F3103.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	86.4	1.12	ND
M18 R3 XAD-BH	032F3201.D	032F3202.D	032F3203.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	86.4	1.12	ND
M18 R3 CT-FH	033F3301.D	033F3302.D	033F3303.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	86.4	1.12	ND
M18 R3 CT-BH	034F3401.D	034F3402.D	034F3403.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	86.4	1.12	ND
																		1.38	ND
M18 R3 SPK Cond	035F3501.D	035F3502.D	035F3503.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1.24	5.00	1.19	100	1.19	ND
M18 R3 SPK XAD-FH	036F3601.D	036F3602.D	036F3603.D	GC121P078.M	5.28	5.28	5.28	0.0	5.06	4.96	4.84	2.2	4.95	1	5.00	24.8	100	24.8	
M18 R3 SPK XAD-BH	039F3901.D	039F3902.D	039F3903.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	100	0.965	ND
M18 R3 SPK CT-FH	040F4001.D	040F4002.D	040F4003.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	100	0.965	ND
M18 R3 SPK CT-BH	041F4101.D	041F4102.D	041F4103.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	100	0.965	ND
																		24.8	
M18 H2O FB Ext	042F4201.D	042F4202.D	042F4203.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1.24	5.00	1.19	100	1.19	ND
M18 H2O RB Ext	043F4301.D	043F4302.D	043F4303.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	100	0.965	ND
XAD FB	044F4401.D	044F4402.D	044F4403.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	100	0.965	ND
Spiked XAD FB	045F4501.D	045F4502.D	045F4503.D	GC121P078.M	5.28	5.28	5.28	0.0	5.42	5.36	5.34	0.9	5.37	1	5.00	26.9	100	26.9	
																	Spike Amount (ug)	29.1	
																	Spike Recovery (%)	92.5%	
CT FB	046F4601.D	046F4602.D	046F4603.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	100	0.965	ND
Spiked XAD FB	047F4801.D	047F4802.D	047F4803.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	100	0.965	ND
CT LB	050F5101.D	050F5102.D	050F5103.D	GC121P078.M	NA	NA	NA	NA	0.193	0.193	0.193	0.0	0.193	1	5.00	0.965	100	0.965	ND
XAD LCS 2	052F0201.D	052F0202.D	052F0203.D	GC121P078.M	5.28	5.28	5.28	0.0	5.42	5.51	5.44	1.0	5.46	1	5.00	27.3	100	27.3	
																	Spike Amount (ug)	29.1	
																	Spike Recovery (%)	93.9%	
AQ LCS 3	046F5001.D	046F5002.D	046F5003.D	GC121P078B.M	5.28	5.28	5.28	0.0	20.7	20.4	19.4	3.8	20.2	1	5.00	101	100	101	
																	Spike Amount (ug)	116	
																	Spike Recovery (%)	86.9%	

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, blanks

MDL 0.242 (ug/mL)
LOQ 2.42 (ug/mL)
Compound 2-Nitropropane

Lower Curve Limit 2.42 (ug/mL)
Upper Curve Limit 2,420 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj. Catch (ug)	Qual
M18 R1 Cond Raff	022B2301.D	022B2302.D	022B2303.D	GC122P038.M	NA	NA	NA	NA	0.242	0.242	0.242	0.0	0.242	1.24	33.6	10.1	86.4	11.6	ND
M18 SR1 Cond Raff	023B2401.D	023B2402.D	023B2403.D	GC122P038.M	NA	NA	NA	NA	0.242	0.242	0.242	0.0	0.242	1.24	33.6	10.1	100	10.1	ND
LD / M18 SR1 Cond Raff	024B2501.D	024B2502.D	024B2503.D	GC122P038.M	NA	NA	NA	NA	0.242	0.242	0.242	0.0	0.242	1.24	33.6	10.1	100	10.1	ND
														% Difference		NA			
M18 R2 Cond Raff	025B2601.D	025B2602.D	025B2603.D	GC122P038.M	NA	NA	NA	NA	0.242	0.242	0.242	0.0	0.242	1.24	33.6	10.1	86.4	11.6	ND
M18 SR2 Cond Raff	026B2701.D	026B2702.D	026B2703.D	GC122P038.M	NA	NA	NA	NA	0.242	0.242	0.242	0.0	0.242	1.24	33.6	10.1	100	10.1	ND
M18 R3 Cond Raff	027B2801.D	027B2802.D	027B2803.D	GC122P038.M	NA	NA	NA	NA	0.242	0.242	0.242	0.0	0.242	1.24	33.6	10.1	86.4	11.6	ND
M18 SR3 Cond Raff	028B2901.D	028B2902.D	028B2903.D	GC122P038.M	NA	NA	NA	NA	0.242	0.242	0.242	0.0	0.242	1.24	33.6	10.1	100	10.1	ND
M18 H2O FB Raff	029B3001.D	029B3002.D	029B3003.D	GC122P038.M	NA	NA	NA	NA	0.242	0.242	0.242	0.0	0.242	1.24	33.6	10.1	100	10.1	ND
M18 H2O RB Raff	030B3301.D	030B3302.D	030B3303.D	GC122P038.M	NA	NA	NA	NA	0.242	0.242	0.242	0.0	0.242	1	35.0	8.47	100	8.47	ND
gc122p038 #3ss	007B0801.D	007B0802.D	007B0803.D	GC122P038.M	4.78	4.78	4.78	0.0	49.7	49.8	49.4	0.6	49.7	1	1.00	49.7			
																Tag Amount (ug)	48.2		
																Recovery (%)	103%		

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.138 (ug/mL)
LOQ 1.38 (ug/mL)
Compound Isooctane

Lower Curve Limit 1.38 (ug/mL)
Upper Curve Limit 1,377 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj Catch Weight (ug)	Qual
M18 R1 Cond	003F0301.D	003F0302.D	003F0303.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1.24	5.00	0.854	97.9	0.873	ND
M18 R1 XAD-FH	004F0401.D	004F0402.D	004F0403.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	97.9	0.705	ND
M18 R1 XAD-BH	005F0501.D	005F0502.D	005F0503.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	97.9	0.705	ND
M18 R1 CT-FH	006F0601.D	006F0602.D	006F0603.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	97.9	0.705	ND
M18 R1 CT-BH	007F0701.D	007F0702.D	007F0703.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	97.9	0.705	ND
																		0.873	ND
M18 R1 SPK Cond	008F0801.D	008F0802.D	008F0803.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1.24	5.00	0.854	100	0.854	ND
M18 R1 SPK XAD-FH	010F1001.D	010F1002.D	010F1003.D	GC121P078.M	5.49	5.49	5.49	0.0	4.94	4.77	4.77	2.4	4.83	1	5.00	24.1	100	24.1	
M18 R1 SPK XAD-BH	012F1201.D	012F1202.D	012F1203.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	100	0.690	ND
M18 R1 SPK CT-FH	015F1501.D	015F1502.D	015F1503.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	100	0.690	ND
M18 R1 SPK CT-BH	017F1701.D	017F1702.D	017F1703.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	100	0.690	ND
																		24.1	
LD / M18 SR1 Cond	009F0901.D	009F0902.D	009F0903.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1.24	5.00	0.854	100	0.854	ND
																	% Difference	NA	
LD / M18 SR1 XAD FH	011F1101.D	011F1102.D	011F1103.D	GC121P078.M	5.49	5.49	5.49	0.0	4.82	4.79	4.84	0.6	4.82	1	5.00	24.1	100	24.1	
																	% Difference	0.2%	
LD / M18 SR1 CT FH	016F1601.D	016F1602.D	016F1603.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	100	0.690	ND
																	% Difference	NA	
M18 R2 Cond	018F1801.D	018F1802.D	018F1803.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1.24	5.00	0.854	97.9	0.873	ND
M18 R2 XAD-FH	019F1901.D	019F1902.D	019F1903.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	97.9	0.705	ND
M18 R2 XAD-BH	020F2001.D	020F2002.D	020F2003.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	97.9	0.705	ND
M18 R2 CT-FH	021F2101.D	021F2102.D	021F2103.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	97.9	0.705	ND
M18 R2 CT-BH	022F2201.D	022F2202.D	022F2203.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	97.9	0.705	ND
																		0.873	ND
M18 R2 SPK Cond	023F2301.D	023F2302.D	023F2303.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1.24	5.00	0.854	100	0.854	ND
M18 R2 SPK XAD-FH	024F2401.D	024F2402.D	024F2403.D	GC121P078.M	5.49	5.49	5.49	0.0	4.77	4.51	4.69	3.2	4.65	1	5.00	23.3	100	23.3	
M18 R2 SPK XAD-BH	027F2701.D	027F2702.D	027F2703.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	100	0.690	ND
M18 R2 SPK CT-FH	028F2801.D	028F2802.D	028F2803.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	100	0.690	ND
M18 R2 SPK CT-BH	029F2901.D	029F2902.D	029F2903.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	100	0.690	ND
																		23.3	

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.138 (ug/mL)
LOQ 1.38 (ug/mL)
Compound Isooctane

Lower Curve Limit 1.38 (ug/mL)
Upper Curve Limit 1,377 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj Catch Weight (ug)	Qual
M18 R3 Cond	030F3001.D	030F3002.D	030F3003.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1.24	5.00	0.854	97.9	0.873	ND
M18 R3 XAD-FH	031F3101.D	031F3102.D	031F3103.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	97.9	0.705	ND
M18 R3 XAD-BH	032F3201.D	032F3202.D	032F3203.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	97.9	0.705	ND
M18 R3 CT-FH	033F3301.D	033F3302.D	033F3303.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	97.9	0.705	ND
M18 R3 CT-BH	034F3401.D	034F3402.D	034F3403.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	97.9	0.705	ND
																		0.873	ND
M18 R3 SPK Cond	035F3501.D	035F3502.D	035F3503.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1.24	5.00	0.854	100	0.854	ND
M18 R3 SPK XAD-FH	036F3601.D	036F3602.D	036F3603.D	GC121P078.M	5.49	5.49	5.49	0.0	4.73	4.69	4.60	1.5	4.67	1	5.00	23.4	100	23.4	
M18 R3 SPK XAD-BH	039F3901.D	039F3902.D	039F3903.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	100	0.690	ND
M18 R3 SPK CT-FH	040F4001.D	040F4002.D	040F4003.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	100	0.690	ND
M18 R3 SPK CT-BH	041F4101.D	041F4102.D	041F4103.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	100	0.690	ND
																		23.4	
M18 H2O FB Ext	042F4201.D	042F4202.D	042F4203.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1.24	5.00	0.854	100	0.854	ND
M18 H2O RB Ext	043F4301.D	043F4302.D	043F4303.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	100	0.690	ND
XAD FB	044F4401.D	044F4402.D	044F4403.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	100	0.690	ND
Spiked XAD FB	045F4501.D	045F4502.D	045F4503.D	GC121P078.M	5.49	5.49	5.49	0.0	4.88	4.83	4.80	0.9	4.83	1	5.00	24.2	100	24.2	
																	Spike Amount (ug)	24.1	
																	Spike Recovery (%)	100%	
CT FB	046F4601.D	046F4602.D	046F4603.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	100	0.690	ND
Spiked XAD FB	047F4801.D	047F4802.D	047F4803.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	100	0.690	ND
CT LB	050F5101.D	050F5102.D	050F5103.D	GC121P078.M	NA	NA	NA	NA	0.138	0.138	0.138	0.0	0.138	1	5.00	0.690	100	0.690	ND
XAD LCS 2	052F0201.D	052F0202.D	052F0203.D	GC121P078.M	5.49	5.49	5.49	0.0	4.79	4.94	4.86	1.6	4.86	1	5.00	24.3	100	24.3	
																	Spike Amount (ug)	24.1	
																	Spike Recovery (%)	101%	
AQ LCS 3	046F5001.D	046F5002.D	046F5003.D	GC121P078B.M	5.49	5.49	5.49	0.0	18.9	18.6	17.7	3.7	18.4	1	5.00	92.1	100	92.1	
																	Spike Amount (ug)	96.4	
																	Spike Recovery (%)	95.5%	

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.159 (ug/mL)
LOQ 1.59 (ug/mL)
Compound MIBK

Lower Curve Limit 1.59 (ug/mL)
Upper Curve Limit 1,592 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj Catch Weight (ug)	Qual
M18 R1 Cond	003F0301.D	003F0302.D	003F0303.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1.24	5.00	0.984	93.9	1.05	ND
M18 R1 XAD-FH	004F0401.D	004F0402.D	004F0403.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	93.9	0.846	ND
M18 R1 XAD-BH	005F0501.D	005F0502.D	005F0503.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	93.9	0.846	ND
M18 R1 CT-FH	006F0601.D	006F0602.D	006F0603.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	93.9	0.846	ND
M18 R1 CT-BH	007F0701.D	007F0702.D	007F0703.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	93.9	0.846	ND
																		1.05	ND
M18 R1 SPK Cond	008F0801.D	008F0802.D	008F0803.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1.24	5.00	0.984	100	0.984	ND
M18 R1 SPK XAD-FH	010F1001.D	010F1002.D	010F1003.D	GC121P078.M	5.79	5.79	5.79	0.0	4.75	4.55	4.58	2.6	4.63	1	5.00	23.1	100	23.1	
M18 R1 SPK XAD-BH	012F1201.D	012F1202.D	012F1203.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	100	0.795	ND
M18 R1 SPK CT-FH	015F1501.D	015F1502.D	015F1503.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	100	0.795	ND
M18 R1 SPK CT-BH	017F1701.D	017F1702.D	017F1703.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	100	0.795	ND
																		23.1	
LD / M18 SR1 Cond	009F0901.D	009F0902.D	009F0903.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1.24	5.00	0.984	100	0.984	ND
																% Difference		NA	
LD / M18 SR1 XAD FH	011F1101.D	011F1102.D	011F1103.D	GC121P078.M	5.79	5.79	5.79	0.0	4.61	4.56	4.64	0.9	4.60	1	5.00	23.0	100	23.0	
																% Difference		0.5%	
LD / M18 SR1 CT FH	016F1601.D	016F1602.D	016F1603.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	100	0.795	ND
																% Difference		NA	
M18 R2 Cond	018F1801.D	018F1802.D	018F1803.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1.24	5.00	0.984	93.9	1.05	ND
M18 R2 XAD-FH	019F1901.D	019F1902.D	019F1903.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	93.9	0.846	ND
M18 R2 XAD-BH	020F2001.D	020F2002.D	020F2003.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	93.9	0.846	ND
M18 R2 CT-FH	021F2101.D	021F2102.D	021F2103.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	93.9	0.846	ND
M18 R2 CT-BH	022F2201.D	022F2202.D	022F2203.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	93.9	0.846	ND
																		1.05	ND
M18 R2 SPK Cond	023F2301.D	023F2302.D	023F2303.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1.24	5.00	0.984	100	0.984	ND
M18 R2 SPK XAD-FH	024F2401.D	024F2402.D	024F2403.D	GC121P078.M	5.79	5.79	5.79	0.0	4.53	4.24	4.43	3.7	4.40	1	5.00	22.0	100	22.0	
M18 R2 SPK XAD-BH	027F2701.D	027F2702.D	027F2703.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	100	0.795	ND
M18 R2 SPK CT-FH	028F2801.D	028F2802.D	028F2803.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	100	0.795	ND
M18 R2 SPK CT-BH	029F2901.D	029F2902.D	029F2903.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	100	0.795	ND
																		22.0	

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.159 (ug/mL)
LOQ 1.59 (ug/mL)
Compound MIBK

Lower Curve Limit 1.59 (ug/mL)
Upper Curve Limit 1.592 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj Catch Weight (ug)	Qual
M18 R3 Cond	030F3001.D	030F3002.D	030F3003.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1.24	5.00	0.984	93.9	1.05	ND
M18 R3 XAD-FH	031F3101.D	031F3102.D	031F3103.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	93.9	0.846	ND
M18 R3 XAD-BH	032F3201.D	032F3202.D	032F3203.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	93.9	0.846	ND
M18 R3 CT-FH	033F3301.D	033F3302.D	033F3303.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	93.9	0.846	ND
M18 R3 CT-BH	034F3401.D	034F3402.D	034F3403.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	93.9	0.846	ND
																		1.05	ND
M18 R3 SPK Cond	035F3501.D	035F3502.D	035F3503.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1.24	5.00	0.984	100	0.984	ND
M18 R3 SPK XAD-FH	036F3601.D	036F3602.D	036F3603.D	GC121P078.M	5.79	5.79	5.79	0.0	4.48	4.48	4.36	1.8	4.44	1	5.00	22.2	100	22.2	
M18 R3 SPK XAD-BH	039F3901.D	039F3902.D	039F3903.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	100	0.795	ND
M18 R3 SPK CT-FH	040F4001.D	040F4002.D	040F4003.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	100	0.795	ND
M18 R3 SPK CT-BH	041F4101.D	041F4102.D	041F4103.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	100	0.795	ND
																		22.2	
M18 H2O FB Ext	042F4201.D	042F4202.D	042F4203.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1.24	5.00	0.984	100	0.984	ND
M18 H2O RB Ext	043F4301.D	043F4302.D	043F4303.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	100	0.795	ND
XAD FB	044F4401.D	044F4402.D	044F4403.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	100	0.795	ND
Spiked XAD FB	045F4501.D	045F4502.D	045F4503.D	GC121P078.M	5.79	5.79	5.79	0.0	4.66	4.63	4.58	1.0	4.62	1	5.00	23.1	100	23.1	
																	Spike Amount (ug)	23.9	
																	Spike Recovery (%)	96.7%	
CT FB	046F4601.D	046F4602.D	046F4603.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	100	0.795	ND
Spiked XAD FB	047F4801.D	047F4802.D	047F4803.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	100	0.795	ND
CT LB	050F5101.D	050F5102.D	050F5103.D	GC121P078.M	NA	NA	NA	NA	0.159	0.159	0.159	0.0	0.159	1	5.00	0.795	100	0.795	ND
XAD LCS 2	052F0201.D	052F0202.D	052F0203.D	GC121P078.M	5.79	5.79	5.79	0.0	4.57	4.73	4.61	2.1	4.64	1	5.00	23.2	100	23.2	
																	Spike Amount (ug)	23.9	
																	Spike Recovery (%)	97.1%	
AQ LCS 3	046F5001.D	046F5002.D	046F5003.D	GC121P078B.M	5.79	5.79	5.79	0.0	18.7	18.3	17.5	3.7	18.2	1	5.00	90.9	100	90.9	
																	Spike Amount (ug)	95.6	
																	Spike Recovery (%)	95.1%	

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.221 (ug/mL)
LOQ 2.21 (ug/mL)
Compound Chlorobenzene

Lower Curve Limit 2.21 (ug/mL)
Upper Curve Limit 2,212 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj Catch Weight (ug)	Qual
M18 R1 Cond	003F0301.D	003F0302.D	003F0303.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1.24	5.00	1.37	96.1	1.42	ND
M18 R1 XAD-FH	004F0401.D	004F0402.D	004F0403.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	96.1	1.15	ND
M18 R1 XAD-BH	005F0501.D	005F0502.D	005F0503.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	96.1	1.15	ND
M18 R1 CT-FH	006F0601.D	006F0602.D	006F0603.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	96.1	1.15	ND
M18 R1 CT-BH	007F0701.D	007F0702.D	007F0703.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	96.1	1.15	ND
																		1.42	ND
M18 R1 SPK Cond	008F0801.D	008F0802.D	008F0803.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1.24	5.00	1.37	100	1.37	ND
M18 R1 SPK XAD-FH	010F1001.D	010F1002.D	010F1003.D	GC121P078.M	6.92	6.92	6.92	0.0	6.87	6.49	6.53	3.6	6.63	1	5.00	33.1	100	33.1	
M18 R1 SPK XAD-BH	012F1201.D	012F1202.D	012F1203.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	100	1.11	ND
M18 R1 SPK CT-FH	015F1501.D	015F1502.D	015F1503.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	100	1.11	ND
M18 R1 SPK CT-BH	017F1701.D	017F1702.D	017F1703.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	100	1.11	ND
																		33.1	
LD / M18 SR1 Cond	009F0901.D	009F0902.D	009F0903.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1.24	5.00	1.37	100	1.368	ND
																% Difference		NA	
LD / M18 SR1 XAD FH	011F1101.D	011F1102.D	011F1103.D	GC121P078.M	6.92	6.92	6.92	0.0	6.68	6.51	6.70	1.8	6.63	1	5.00	33.1	100	33.1	
																% Difference		0.0%	
LD / M18 SR1 CT FH	016F1601.D	016F1602.D	016F1603.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	100	1.105	ND
																% Difference		NA	
M18 R2 Cond	018F1801.D	018F1802.D	018F1803.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1.24	5.00	1.37	96.1	1.42	ND
M18 R2 XAD-FH	019F1901.D	019F1902.D	019F1903.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	96.1	1.15	ND
M18 R2 XAD-BH	020F2001.D	020F2002.D	020F2003.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	96.1	1.15	ND
M18 R2 CT-FH	021F2101.D	021F2102.D	021F2103.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	96.1	1.15	ND
M18 R2 CT-BH	022F2201.D	022F2202.D	022F2203.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	96.1	1.15	ND
																		1.42	ND
M18 R2 SPK Cond	023F2301.D	023F2302.D	023F2303.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1.24	5.00	1.37	100	1.37	ND
M18 R2 SPK XAD-FH	024F2401.D	024F2402.D	024F2403.D	GC121P078.M	6.92	6.92	6.92	0.0	6.41	5.97	6.31	4.1	6.23	1	5.00	31.1	100	31.1	
M18 R2 SPK XAD-BH	027F2701.D	027F2702.D	027F2703.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	100	1.11	ND
M18 R2 SPK CT-FH	028F2801.D	028F2802.D	028F2803.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	100	1.11	ND
M18 R2 SPK CT-BH	029F2901.D	029F2902.D	029F2903.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	100	1.11	ND
																		31.1	

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.221 (ug/mL)
LOQ 2.21 (ug/mL)
Compound Chlorobenzene

Lower Curve Limit 2.21 (ug/mL)
Upper Curve Limit 2,212 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj Catch Weight (ug)	Qual
M18 R3 Cond	030F3001.D	030F3002.D	030F3003.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1.24	5.00	1.37	96.1	1.42	ND
M18 R3 XAD-FH	031F3101.D	031F3102.D	031F3103.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	96.1	1.15	ND
M18 R3 XAD-BH	032F3201.D	032F3202.D	032F3203.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	96.1	1.15	ND
M18 R3 CT-FH	033F3301.D	033F3302.D	033F3303.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	96.1	1.15	ND
M18 R3 CT-BH	034F3401.D	034F3402.D	034F3403.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	96.1	1.15	ND
																		1.42	ND
M18 R3 SPK Cond	035F3501.D	035F3502.D	035F3503.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1.24	5.00	1.37	100	1.37	ND
M18 R3 SPK XAD-FH	036F3601.D	036F3602.D	036F3603.D	GC121P078.M	6.92	6.92	6.92	0.0	6.27	6.36	6.21	1.3	6.28	1	5.00	31.4	100	31.4	
M18 R3 SPK XAD-BH	039F3901.D	039F3902.D	039F3903.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	100	1.11	ND
M18 R3 SPK CT-FH	040F4001.D	040F4002.D	040F4003.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	100	1.11	ND
M18 R3 SPK CT-BH	041F4101.D	041F4102.D	041F4103.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	100	1.11	ND
																		31.4	
M18 H2O FB Ext	042F4201.D	042F4202.D	042F4203.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1.24	5.00	1.37	100	1.37	ND
M18 H2O RB Ext	043F4301.D	043F4302.D	043F4303.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	100	1.11	ND
XAD FB	044F4401.D	044F4402.D	044F4403.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	100	1.11	ND
Spiked XAD FB	045F4501.D	045F4502.D	045F4503.D	GC121P078.M	6.92	6.92	6.92	0.0	6.61	6.58	6.51	0.9	6.57	1	5.00	32.8	100	32.8	
																	Spike Amount (ug)	33.2	
																	Spike Recovery (%)	98.9%	
CT FB	046F4601.D	046F4602.D	046F4603.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	100	1.11	ND
Spiked XAD FB	047F4801.D	047F4802.D	047F4803.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	100	1.11	ND
CT LB	050F5101.D	050F5102.D	050F5103.D	GC121P078.M	NA	NA	NA	NA	0.221	0.221	0.221	0.0	0.221	1	5.00	1.11	100	1.11	ND
XAD LCS 2	052F0201.D	052F0202.D	052F0203.D	GC121P078.M	6.92	6.92	6.92	0.0	6.24	6.66	6.48	3.4	6.46	1	5.00	32.3	100	32.3	
																	Spike Amount (ug)	33.2	
																	Spike Recovery (%)	97.3%	
AQ LCS 3	046F5001.D	046F5002.D	046F5003.D	GC121P078B.M	6.92	6.92	6.92	0.0	27.4	26.7	25.5	3.8	26.5	1	5.00	133	100	133	
																	Spike Amount (ug)	133	
																	Spike Recovery (%)	99.9%	

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.173 (ug/mL)
LOQ 1.73 (ug/mL)
Compound Ethylbenzene

Lower Curve Limit 1.73 (ug/mL)
Upper Curve Limit 1,731 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj Catch Weight (ug)	Qual
M18 R1 Cond	003F0301.D	003F0302.D	003F0303.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1.24	5.00	1.07	98.8	1.08	ND
M18 R1 XAD-FH	004F0401.D	004F0402.D	004F0403.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	98.8	0.875	ND
M18 R1 XAD-BH	005F0501.D	005F0502.D	005F0503.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	98.8	0.875	ND
M18 R1 CT-FH	006F0601.D	006F0602.D	006F0603.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	98.8	0.875	ND
M18 R1 CT-BH	007F0701.D	007F0702.D	007F0703.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	98.8	0.875	ND
																		1.08	ND
M18 R1 SPK Cond	008F0801.D	008F0802.D	008F0803.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1.24	5.00	1.07	100	1.07	ND
M18 R1 SPK XAD-FH	010F1001.D	010F1002.D	010F1003.D	GC121P078.M	7.05	7.05	7.05	0.0	5.47	5.24	5.24	3.0	5.32	1	5.00	26.6	100	26.6	
M18 R1 SPK XAD-BH	012F1201.D	012F1202.D	012F1203.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
M18 R1 SPK CT-FH	015F1501.D	015F1502.D	015F1503.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
M18 R1 SPK CT-BH	017F1701.D	017F1702.D	017F1703.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
																		26.6	
LD / M18 SR1 Cond	009F0901.D	009F0902.D	009F0903.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1.24	5.00	1.07	100	1.07	ND
																% Difference		NA	
LD / M18 SR1 XAD FH	011F1101.D	011F1102.D	011F1103.D	GC121P078.M	7.05	7.05	7.05	0.0	5.36	5.26	5.39	1.5	5.34	1	5.00	26.7	100	26.7	
																% Difference		0.3%	
LD / M18 SR1 CT FH	016F1601.D	016F1602.D	016F1603.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
																% Difference		NA	
M18 R2 Cond	018F1801.D	018F1802.D	018F1803.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1.24	5.00	1.07	98.8	1.08	ND
M18 R2 XAD-FH	019F1901.D	019F1902.D	019F1903.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	98.8	0.875	ND
M18 R2 XAD-BH	020F2001.D	020F2002.D	020F2003.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	98.8	0.875	ND
M18 R2 CT-FH	021F2101.D	021F2102.D	021F2103.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	98.8	0.875	ND
M18 R2 CT-BH	022F2201.D	022F2202.D	022F2203.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	98.8	0.875	ND
																		1.08	ND
M18 R2 SPK Cond	023F2301.D	023F2302.D	023F2303.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1.24	5.00	1.07	100	1.07	ND
M18 R2 SPK XAD-FH	024F2401.D	024F2402.D	024F2403.D	GC121P078.M	7.05	7.05	7.05	0.0	5.18	4.84	5.07	3.8	5.03	1	5.00	25.1	100	25.1	
M18 R2 SPK XAD-BH	027F2701.D	027F2702.D	027F2703.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
M18 R2 SPK CT-FH	028F2801.D	028F2802.D	028F2803.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
M18 R2 SPK CT-BH	029F2901.D	029F2902.D	029F2903.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
																		25.1	

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.173 (ug/mL)
LOQ 1.73 (ug/mL)
Compound Ethylbenzene

Lower Curve Limit 1.73 (ug/mL)
Upper Curve Limit 1,731 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj Catch Weight (ug)	Qual
M18 R3 Cond	030F3001.D	030F3002.D	030F3003.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1.24	5.00	1.07	98.8	1.08	ND
M18 R3 XAD-FH	031F3101.D	031F3102.D	031F3103.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	98.8	0.875	ND
M18 R3 XAD-BH	032F3201.D	032F3202.D	032F3203.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	98.8	0.875	ND
M18 R3 CT-FH	033F3301.D	033F3302.D	033F3303.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	98.8	0.875	ND
M18 R3 CT-BH	034F3401.D	034F3402.D	034F3403.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	98.8	0.875	ND
																		1.08	ND
M18 R3 SPK Cond	035F3501.D	035F3502.D	035F3503.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1.24	5.00	1.07	100	1.07	ND
M18 R3 SPK XAD-FH	036F3601.D	036F3602.D	036F3603.D	GC121P078.M	7.05	7.05	7.05	0.0	5.01	5.13	5.02	1.5	5.05	1	5.00	25.3	100	25.3	
M18 R3 SPK XAD-BH	039F3901.D	039F3902.D	039F3903.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
M18 R3 SPK CT-FH	040F4001.D	040F4002.D	040F4003.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
M18 R3 SPK CT-BH	041F4101.D	041F4102.D	041F4103.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
																		25.3	
M18 H2O FB Ext	042F4201.D	042F4202.D	042F4203.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1.24	5.00	1.07	100	1.07	ND
M18 H2O RB Ext	043F4301.D	043F4302.D	043F4303.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
XAD FB	044F4401.D	044F4402.D	044F4403.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
Spiked XAD FB	045F4501.D	045F4502.D	045F4503.D	GC121P078.M	7.05	7.04	7.05	0.0	5.26	5.20	5.19	0.8	5.22	1	5.00	26.1	100	26.1	
																		Spike Amount (ug)	26.0
																		Spike Recovery (%)	100%
CT FB	046F4601.D	046F4602.D	046F4603.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
Spiked XAD FB	047F4801.D	047F4802.D	047F4803.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
CT LB	050F5101.D	050F5102.D	050F5103.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
XAD LCS 2	052F0201.D	052F0202.D	052F0203.D	GC121P078.M	7.04	7.04	7.04	0.0	4.93	5.28	5.15	3.8	5.12	1	5.00	25.6	100	25.6	
																		Spike Amount (ug)	26.0
																		Spike Recovery (%)	98.6%
AQ LCS 3	046F5001.D	046F5002.D	046F5003.D	GC121P078B.M	7.05	7.05	7.05	0.0	21.3	20.7	19.8	3.7	20.6	1	5.00	103	100	103	
																		Spike Amount (ug)	104
																		Spike Recovery (%)	99.1%

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.172 (ug/mL)
LOQ 1.72 (ug/mL)
Compound m/p-Xylene

Lower Curve Limit 1.72 (ug/mL)
Upper Curve Limit 1,719 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj Catch Weight (ug)	Qual
M18 R1 Cond	003F0301.D	003F0302.D	003F0303.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1.24	5.00	1.06	99.8	1.07	ND
M18 R1 XAD-FH	004F0401.D	004F0402.D	004F0403.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	99.8	0.862	ND
M18 R1 XAD-BH	005F0501.D	005F0502.D	005F0503.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	99.8	0.862	ND
M18 R1 CT-FH	006F0601.D	006F0602.D	006F0603.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	99.8	0.862	ND
M18 R1 CT-BH	007F0701.D	007F0702.D	007F0703.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	99.8	0.862	ND
																		1.07	ND
M18 R1 SPK Cond	008F0801.D	008F0802.D	008F0803.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1.24	5.00	1.06	100	1.06	ND
M18 R1 SPK XAD-FH	010F1001.D	010F1002.D	010F1003.D	GC121P078.M	7.12	7.12	7.12	0.0	9.10	8.79	8.78	2.3	8.89	1	5.00	44.4	100	44.4	
M18 R1 SPK XAD-BH	012F1201.D	012F1202.D	012F1203.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	100	0.860	ND
M18 R1 SPK CT-FH	015F1501.D	015F1502.D	015F1503.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	100	0.860	ND
M18 R1 SPK CT-BH	017F1701.D	017F1702.D	017F1703.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	100	0.860	ND
																		44.4	
LD / M18 SR1 Cond	009F0901.D	009F0902.D	009F0903.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1.24	5.00	1.06	100	1.06	ND
																	% Difference	NA	
LD / M18 SR1 XAD FH	011F1101.D	011F1102.D	011F1103.D	GC121P078.M	7.12	7.12	7.12	0.0	8.96	8.82	9.04	1.3	8.94	1	5.00	44.7	100	44.7	
																	% Difference	0.5%	
LD / M18 SR1 CT FH	016F1601.D	016F1602.D	016F1603.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	100	0.860	ND
																	% Difference	NA	
M18 R2 Cond	018F1801.D	018F1802.D	018F1803.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1.24	5.00	1.06	99.8	1.07	ND
M18 R2 XAD-FH	019F1901.D	019F1902.D	019F1903.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	99.8	0.862	ND
M18 R2 XAD-BH	020F2001.D	020F2002.D	020F2003.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	99.8	0.862	ND
M18 R2 CT-FH	021F2101.D	021F2102.D	021F2103.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	99.8	0.862	ND
M18 R2 CT-BH	022F2201.D	022F2202.D	022F2203.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	99.8	0.862	ND
																		1.07	ND
M18 R2 SPK Cond	023F2301.D	023F2302.D	023F2303.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1.24	5.00	1.06	100	1.06	ND
M18 R2 SPK XAD-FH	024F2401.D	024F2402.D	024F2403.D	GC121P078.M	7.12	7.12	7.12	0.0	8.60	8.10	8.49	3.5	8.40	1	5.00	42.0	100	42.0	
M18 R2 SPK XAD-BH	027F2701.D	027F2702.D	027F2703.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	100	0.860	ND
M18 R2 SPK CT-FH	028F2801.D	028F2802.D	028F2803.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	100	0.860	ND
M18 R2 SPK CT-BH	029F2901.D	029F2902.D	029F2903.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	100	0.860	ND
																		42.0	

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.172 (ug/mL)
LOQ 1.72 (ug/mL)
Compound m/p-Xylene

Lower Curve Limit 1.72 (ug/mL)
Upper Curve Limit 1,719 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj Catch Weight (ug)	Qual
M18 R3 Cond	030F3001.D	030F3002.D	030F3003.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1.24	5.00	1.06	99.8	1.07	ND
M18 R3 XAD-FH	031F3101.D	031F3102.D	031F3103.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	99.8	0.862	ND
M18 R3 XAD-BH	032F3201.D	032F3202.D	032F3203.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	99.8	0.862	ND
M18 R3 CT-FH	033F3301.D	033F3302.D	033F3303.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	99.8	0.862	ND
M18 R3 CT-BH	034F3401.D	034F3402.D	034F3403.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	99.8	0.862	ND
																		1.07	ND
M18 R3 SPK Cond	035F3501.D	035F3502.D	035F3503.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1.24	5.00	1.06	100	1.06	ND
M18 R3 SPK XAD-FH	036F3601.D	036F3602.D	036F3603.D	GC121P078.M	7.12	7.12	7.12	0.0	8.32	8.56	8.40	1.6	8.43	1	5.00	42.1	100	42.1	
M18 R3 SPK XAD-BH	039F3901.D	039F3902.D	039F3903.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	100	0.860	ND
M18 R3 SPK CT-FH	040F4001.D	040F4002.D	040F4003.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	100	0.860	ND
M18 R3 SPK CT-BH	041F4101.D	041F4102.D	041F4103.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	100	0.860	ND
																		42.1	
M18 H2O FB Ext	042F4201.D	042F4202.D	042F4203.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1.24	5.00	1.06	100	1.06	ND
M18 H2O RB Ext	043F4301.D	043F4302.D	043F4303.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	100	0.860	ND
XAD FB	044F4401.D	044F4402.D	044F4403.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	100	0.860	ND
Spiked XAD FB	045F4501.D	045F4502.D	045F4503.D	GC121P078.M	7.12	7.12	7.12	0.0	8.73	8.67	8.63	0.7	8.68	1	5.00	43.4	100	43.4	
																	Spike Amount (ug)	43.0	
																	Spike Recovery (%)	101%	
CT FB	046F4601.D	046F4602.D	046F4603.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	100	0.860	ND
Spiked XAD FB	047F4801.D	047F4802.D	047F4803.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	100	0.860	ND
CT LB	050F5101.D	050F5102.D	050F5103.D	GC121P078.M	NA	NA	NA	NA	0.172	0.172	0.172	0.0	0.172	1	5.00	0.860	100	0.860	ND
XAD LCS 2	052F0201.D	052F0202.D	052F0203.D	GC121P078.M	7.12	7.12	7.11	0.0	8.18	8.81	8.59	4.1	8.53	1	5.00	42.6	100	42.6	
																	Spike Amount (ug)	43.0	
																	Spike Recovery (%)	99.3%	
AQ LCS 3	046F5001.D	046F5002.D	046F5003.D	GC121P078B.M	7.12	7.12	7.12	0.0	35.4	34.4	33.0	3.8	34.3	1	5.00	171	100	171	
																	Spike Amount (ug)	172	
																	Spike Recovery (%)	99.7%	

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.181 (ug/mL)
LOQ 1.81 (ug/mL)
Compound Styrene

Lower Curve Limit 1.81 (ug/mL)
Upper Curve Limit 1,810 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj Catch Weight (ug)	Qual
M18 R1 Cond	003F0301.D	003F0302.D	003F0303.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1.24	5.00	1.12	97.2	1.15	ND
M18 R1 XAD-FH	004F0401.D	004F0402.D	004F0403.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	97.2	0.931	ND
M18 R1 XAD-BH	005F0501.D	005F0502.D	005F0503.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	97.2	0.931	ND
M18 R1 CT-FH	006F0601.D	006F0602.D	006F0603.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	97.2	0.931	ND
M18 R1 CT-BH	007F0701.D	007F0702.D	007F0703.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	97.2	0.931	ND
																		1.15	ND
M18 R1 SPK Cond	008F0801.D	008F0802.D	008F0803.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1.24	5.00	1.12	100	1.12	ND
M18 R1 SPK XAD-FH	010F1001.D	010F1002.D	010F1003.D	GC121P078.M	7.27	7.27	7.27	0.0	5.63	5.40	5.38	2.9	5.47	1	5.00	27.4	100	27.4	
M18 R1 SPK XAD-BH	012F1201.D	012F1202.D	012F1203.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	100	0.905	ND
M18 R1 SPK CT-FH	015F1501.D	015F1502.D	015F1503.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	100	0.905	ND
M18 R1 SPK CT-BH	017F1701.D	017F1702.D	017F1703.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	100	0.905	ND
																		27.4	
LD / M18 SR1 Cond	009F0901.D	009F0902.D	009F0903.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1.24	5.00	1.12	100	1.12	ND
																% Difference		NA	
LD / M18 SR1 XAD FH	011F1101.D	011F1102.D	011F1103.D	GC121P078.M	7.27	7.27	7.27	0.0	5.54	5.44	5.56	1.3	5.51	1	5.00	27.6	100	27.6	
																% Difference		0.8%	
LD / M18 SR1 CT FH	016F1601.D	016F1602.D	016F1603.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	100	0.905	ND
																% Difference		NA	
M18 R2 Cond	018F1801.D	018F1802.D	018F1803.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1.24	5.00	1.12	97.2	1.15	ND
M18 R2 XAD-FH	019F1901.D	019F1902.D	019F1903.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	97.2	0.931	ND
M18 R2 XAD-BH	020F2001.D	020F2002.D	020F2003.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	97.2	0.931	ND
M18 R2 CT-FH	021F2101.D	021F2102.D	021F2103.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	97.2	0.931	ND
M18 R2 CT-BH	022F2201.D	022F2202.D	022F2203.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	97.2	0.931	ND
																		1.15	ND
M18 R2 SPK Cond	023F2301.D	023F2302.D	023F2303.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1.24	5.00	1.12	100	1.12	ND
M18 R2 SPK XAD-FH	024F2401.D	024F2402.D	024F2403.D	GC121P078.M	7.27	7.27	7.27	0.0	5.33	4.98	5.19	3.6	5.17	1	5.00	25.8	100	25.8	
M18 R2 SPK XAD-BH	027F2701.D	027F2702.D	027F2703.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	100	0.905	ND
M18 R2 SPK CT-FH	028F2801.D	028F2802.D	028F2803.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	100	0.905	ND
M18 R2 SPK CT-BH	029F2901.D	029F2902.D	029F2903.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	100	0.905	ND
																		25.8	

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.181 (ug/mL)
LOQ 1.81 (ug/mL)
Compound Styrene

Lower Curve Limit 1.81 (ug/mL)
Upper Curve Limit 1,810 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj Catch Weight (ug)	Qual
M18 R3 Cond	030F3001.D	030F3002.D	030F3003.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1.24	5.00	1.12	97.2	1.15	ND
M18 R3 XAD-FH	031F3101.D	031F3102.D	031F3103.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	97.2	0.931	ND
M18 R3 XAD-BH	032F3201.D	032F3202.D	032F3203.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	97.2	0.931	ND
M18 R3 CT-FH	033F3301.D	033F3302.D	033F3303.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	97.2	0.931	ND
M18 R3 CT-BH	034F3401.D	034F3402.D	034F3403.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	97.2	0.931	ND
																		1.15	ND
M18 R3 SPK Cond	035F3501.D	035F3502.D	035F3503.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1.24	5.00	1.12	100	1.12	ND
M18 R3 SPK XAD-FH	036F3601.D	036F3602.D	036F3603.D	GC121P078.M	7.27	7.27	7.27	0.0	5.13	5.29	5.15	1.8	5.19	1	5.00	26.0	100	26.0	
M18 R3 SPK XAD-BH	039F3901.D	039F3902.D	039F3903.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	100	0.905	ND
M18 R3 SPK CT-FH	040F4001.D	040F4002.D	040F4003.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	100	0.905	ND
M18 R3 SPK CT-BH	041F4101.D	041F4102.D	041F4103.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	100	0.905	ND
																		26.0	
M18 H2O FB Ext	042F4201.D	042F4202.D	042F4203.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1.24	5.00	1.12	100	1.12	ND
M18 H2O RB Ext	043F4301.D	043F4302.D	043F4303.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	100	0.905	ND
XAD FB	044F4401.D	044F4402.D	044F4403.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	100	0.905	ND
Spiked XAD FB	045F4501.D	045F4502.D	045F4503.D	GC121P078.M	7.27	7.27	7.27	0.0	5.43	5.35	5.35	1.0	5.37	1	5.00	26.9	100	26.9	
																	Spike Amount (ug)	27.2	
																	Spike Recovery (%)	99.0%	
CT FB	046F4601.D	046F4602.D	046F4603.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	100	0.905	ND
Spiked XAD FB	047F4801.D	047F4802.D	047F4803.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	100	0.905	ND
CT LB	050F5101.D	050F5102.D	050F5103.D	GC121P078.M	NA	NA	NA	NA	0.181	0.181	0.181	0.0	0.181	1	5.00	0.905	100	0.905	ND
XAD LCS 2	052F0201.D	052F0202.D	052F0203.D	GC121P078.M	7.27	7.27	7.27	0.0	5.08	5.48	5.33	4.2	5.30	1	5.00	26.5	100	26.5	
																	Spike Amount (ug)	27.2	
																	Spike Recovery (%)	97.6%	
AQ LCS 3	046F5001.D	046F5002.D	046F5003.D	GC121P078B.M	7.27	7.27	7.27	0.0	22.3	21.7	20.8	3.7	21.6	1	5.00	108	100	108	
																	Spike Amount (ug)	109	
																	Spike Recovery (%)	99.4%	

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.176 (ug/mL)
LOQ 1.76 (ug/mL)
Compound o-Xylene

Lower Curve Limit 1.76 (ug/mL)
Upper Curve Limit 1,756 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj Catch Weight (ug)	Qual
M18 R1 Cond	003F0301.D	003F0302.D	003F0303.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1.24	5.00	1.09	99.1	1.10	ND
M18 R1 XAD-FH	004F0401.D	004F0402.D	004F0403.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	99.1	0.888	ND
M18 R1 XAD-BH	005F0501.D	005F0502.D	005F0503.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	99.1	0.888	ND
M18 R1 CT-FH	006F0601.D	006F0602.D	006F0603.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	99.1	0.888	ND
M18 R1 CT-BH	007F0701.D	007F0702.D	007F0703.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	99.1	0.888	ND
																		1.10	ND
M18 R1 SPK Cond	008F0801.D	008F0802.D	008F0803.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1.24	5.00	1.09	100	1.09	ND
M18 R1 SPK XAD-FH	010F1001.D	010F1002.D	010F1003.D	GC121P078.M	7.32	7.32	7.32	0.0	5.59	5.35	5.32	3.1	5.42	1	5.00	27.1	100	27.1	
M18 R1 SPK XAD-BH	012F1201.D	012F1202.D	012F1203.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	100	0.880	ND
M18 R1 SPK CT-FH	015F1501.D	015F1502.D	015F1503.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	100	0.880	ND
M18 R1 SPK CT-BH	017F1701.D	017F1702.D	017F1703.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	100	0.880	ND
																		27.1	
LD / M18 SR1 Cond	009F0901.D	009F0902.D	009F0903.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1.24	5.00	1.09	100	1.09	ND
																% Difference		NA	
LD / M18 SR1 XAD FH	011F1101.D	011F1102.D	011F1103.D	GC121P078.M	7.32	7.32	7.32	0.0	5.44	5.37	5.50	1.2	5.44	1	5.00	27.2	100	27.2	
																% Difference		0.3%	
LD / M18 SR1 CT FH	016F1601.D	016F1602.D	016F1603.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	100	0.880	ND
																% Difference		NA	
M18 R2 Cond	018F1801.D	018F1802.D	018F1803.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1.24	5.00	1.09	99.1	1.10	ND
M18 R2 XAD-FH	019F1901.D	019F1902.D	019F1903.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	99.1	0.888	ND
M18 R2 XAD-BH	020F2001.D	020F2002.D	020F2003.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	99.1	0.888	ND
M18 R2 CT-FH	021F2101.D	021F2102.D	021F2103.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	99.1	0.888	ND
M18 R2 CT-BH	022F2201.D	022F2202.D	022F2203.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	99.1	0.888	ND
																		1.10	ND
M18 R2 SPK Cond	023F2301.D	023F2302.D	023F2303.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1.24	5.00	1.09	100	1.09	ND
M18 R2 SPK XAD-FH	024F2401.D	024F2402.D	024F2403.D	GC121P078.M	7.32	7.32	7.32	0.0	5.28	4.92	5.13	3.8	5.11	1	5.00	25.5	100	25.5	
M18 R2 SPK XAD-BH	027F2701.D	027F2702.D	027F2703.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	100	0.880	ND
M18 R2 SPK CT-FH	028F2801.D	028F2802.D	028F2803.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	100	0.880	ND
M18 R2 SPK CT-BH	029F2901.D	029F2902.D	029F2903.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	100	0.880	ND
																		25.5	

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.176 (ug/mL)
LOQ 1.76 (ug/mL)
Compound o-Xylene

Lower Curve Limit 1.76 (ug/mL)
Upper Curve Limit 1,756 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj Catch Weight (ug)	Qual
M18 R3 Cond	030F3001.D	030F3002.D	030F3003.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1.24	5.00	1.09	99.1	1.10	ND
M18 R3 XAD-FH	031F3101.D	031F3102.D	031F3103.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	99.1	0.888	ND
M18 R3 XAD-BH	032F3201.D	032F3202.D	032F3203.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	99.1	0.888	ND
M18 R3 CT-FH	033F3301.D	033F3302.D	033F3303.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	99.1	0.888	ND
M18 R3 CT-BH	034F3401.D	034F3402.D	034F3403.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	99.1	0.888	ND
																		1.10	ND
M18 R3 SPK Cond	035F3501.D	035F3502.D	035F3503.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1.24	5.00	1.09	100	1.09	ND
M18 R3 SPK XAD-FH	036F3601.D	036F3602.D	036F3603.D	GC121P078.M	7.32	7.32	7.32	0.0	5.07	5.25	5.11	2.1	5.14	1	5.00	25.7	100	25.7	
M18 R3 SPK XAD-BH	039F3901.D	039F3902.D	039F3903.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	100	0.880	ND
M18 R3 SPK CT-FH	040F4001.D	040F4002.D	040F4003.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	100	0.880	ND
M18 R3 SPK CT-BH	041F4101.D	041F4102.D	041F4103.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	100	0.880	ND
																		25.7	
M18 H2O FB Ext	042F4201.D	042F4202.D	042F4203.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1.24	5.00	1.09	100	1.09	ND
M18 H2O RB Ext	043F4301.D	043F4302.D	043F4303.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	100	0.880	ND
XAD FB	044F4401.D	044F4402.D	044F4403.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	100	0.880	ND
Spiked XAD FB	045F4501.D	045F4502.D	045F4503.D	GC121P078.M	7.32	7.32	7.32	0.0	5.37	5.28	5.27	1.2	5.31	1	5.00	26.5	100	26.5	
																	Spike Amount (ug)	26.4	
																	Spike Recovery (%)	101%	
CT FB	046F4601.D	046F4602.D	046F4603.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	100	0.880	ND
Spiked XAD FB	047F4801.D	047F4802.D	047F4803.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	100	0.880	ND
CT LB	050F5101.D	050F5102.D	050F5103.D	GC121P078.M	NA	NA	NA	NA	0.176	0.176	0.176	0.0	0.176	1	5.00	0.880	100	0.880	ND
XAD LCS 2	052F0201.D	052F0202.D	052F0203.D	GC121P078.M	7.32	7.32	7.32	0.0	4.96	5.37	5.24	4.5	5.19	1	5.00	25.9	100	25.9	
																	Spike Amount (ug)	26.4	
																	Spike Recovery (%)	98.5%	
AQ LCS 3	046F5001.D	046F5002.D	046F5003.D	GC121P078B.M	7.32	7.32	7.32	0.0	21.7	21.1	20.2	3.8	21.0	1	5.00	105	100	105	
																	Spike Amount (ug)	105	
																	Spike Recovery (%)	99.6%	

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.173 (ug/mL)
LOQ 1.73 (ug/mL)
Compound Cumene

Lower Curve Limit 1.73 (ug/mL)
Upper Curve Limit 1,733 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj Catch Weight (ug)	Qual
M18 R1 Cond	003F0301.D	003F0302.D	003F0303.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1.24	5.00	1.07	100.9	1.06	ND
M18 R1 XAD-FH	004F0401.D	004F0402.D	004F0403.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100.9	0.857	ND
M18 R1 XAD-BH	005F0501.D	005F0502.D	005F0503.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100.9	0.857	ND
M18 R1 CT-FH	006F0601.D	006F0602.D	006F0603.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100.9	0.857	ND
M18 R1 CT-BH	007F0701.D	007F0702.D	007F0703.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100.9	0.857	ND
																		1.06	ND
M18 R1 SPK Cond	008F0801.D	008F0802.D	008F0803.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1.24	5.00	1.07	100	1.07	ND
M18 R1 SPK XAD-FH	010F1001.D	010F1002.D	010F1003.D	GC121P078.M	7.56	7.56	7.56	0.0	5.54	5.38	5.38	2.0	5.44	1	5.00	27.2	100	27.2	
M18 R1 SPK XAD-BH	012F1201.D	012F1202.D	012F1203.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
M18 R1 SPK CT-FH	015F1501.D	015F1502.D	015F1503.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
M18 R1 SPK CT-BH	017F1701.D	017F1702.D	017F1703.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
																		27.2	
LD / M18 SR1 Cond	009F0901.D	009F0902.D	009F0903.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1.24	5.00	1.07	100	1.07	ND
																% Difference		NA	
LD / M18 SR1 XAD FH	011F1101.D	011F1102.D	011F1103.D	GC121P078.M	7.56	7.56	7.56	0.0	5.50	5.42	5.55	1.4	5.49	1	5.00	27.5	100	27.5	
																% Difference		1.0%	
LD / M18 SR1 CT FH	016F1601.D	016F1602.D	016F1603.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
																% Difference		NA	
M18 R2 Cond	018F1801.D	018F1802.D	018F1803.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1.24	5.00	1.07	100.9	1.06	ND
M18 R2 XAD-FH	019F1901.D	019F1902.D	019F1903.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100.9	0.857	ND
M18 R2 XAD-BH	020F2001.D	020F2002.D	020F2003.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100.9	0.857	ND
M18 R2 CT-FH	021F2101.D	021F2102.D	021F2103.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100.9	0.857	ND
M18 R2 CT-BH	022F2201.D	022F2202.D	022F2203.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100.9	0.857	ND
																		1.06	ND
M18 R2 SPK Cond	023F2301.D	023F2302.D	023F2303.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1.24	5.00	1.07	100	1.07	ND
M18 R2 SPK XAD-FH	024F2401.D	024F2402.D	024F2403.D	GC121P078.M	7.56	7.56	7.56	0.0	5.26	4.99	5.18	3.0	5.14	1	5.00	25.7	100	25.7	
M18 R2 SPK XAD-BH	027F2701.D	027F2702.D	027F2703.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
M18 R2 SPK CT-FH	028F2801.D	028F2802.D	028F2803.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
M18 R2 SPK CT-BH	029F2901.D	029F2902.D	029F2903.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
																		25.7	

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.173 (ug/mL)
LOQ 1.73 (ug/mL)
Compound Cumene

Lower Curve Limit 1.73 (ug/mL)
Upper Curve Limit 1,733 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj Catch Weight (ug)	Qual
M18 R3 Cond	030F3001.D	030F3002.D	030F3003.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1.24	5.00	1.07	100.9	1.06	ND
M18 R3 XAD-FH	031F3101.D	031F3102.D	031F3103.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100.9	0.857	ND
M18 R3 XAD-BH	032F3201.D	032F3202.D	032F3203.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100.9	0.857	ND
M18 R3 CT-FH	033F3301.D	033F3302.D	033F3303.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100.9	0.857	ND
M18 R3 CT-BH	034F3401.D	034F3402.D	034F3403.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100.9	0.857	ND
																		1.06	ND
M18 R3 SPK Cond	035F3501.D	035F3502.D	035F3503.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1.24	5.00	1.07	100	1.07	ND
M18 R3 SPK XAD-FH	036F3601.D	036F3602.D	036F3603.D	GC121P078.M	7.56	7.56	7.56	0.0	5.08	5.29	5.14	2.3	5.17	1	5.00	25.8	100	25.8	
M18 R3 SPK XAD-BH	039F3901.D	039F3902.D	039F3903.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
M18 R3 SPK CT-FH	040F4001.D	040F4002.D	040F4003.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
M18 R3 SPK CT-BH	041F4101.D	041F4102.D	041F4103.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
																		25.8	
M18 H2O FB Ext	042F4201.D	042F4202.D	042F4203.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1.24	5.00	1.07	100	1.07	ND
M18 H2O RB Ext	043F4301.D	043F4302.D	043F4303.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
XAD FB	044F4401.D	044F4402.D	044F4403.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
Spiked XAD FB	045F4501.D	045F4502.D	045F4503.D	GC121P078.M	7.56	7.56	7.56	0.0	5.35	5.31	5.27	0.7	5.31	1	5.00	26.5	100	26.5	
																		Spike Amount (ug)	26.0
																		Spike Recovery (%)	102%
CT FB	046F4601.D	046F4602.D	046F4603.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
Spiked XAD FB	047F4801.D	047F4802.D	047F4803.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
CT LB	050F5101.D	050F5102.D	050F5103.D	GC121P078.M	NA	NA	NA	NA	0.173	0.173	0.173	0.0	0.173	1	5.00	0.865	100	0.865	ND
XAD LCS 2	052F0201.D	052F0202.D	052F0203.D	GC121P078.M	7.56	7.56	7.56	0.0	4.92	5.37	5.24	4.9	5.18	1	5.00	25.9	100	25.9	
																		Spike Amount (ug)	26.0
																		Spike Recovery (%)	99.6%
AQ LCS 3	046F5001.D	046F5002.D	046F5003.D	GC121P078B.M	7.56	7.56	7.56	0.0	21.4	20.7	19.9	3.7	20.7	1	5.00	103	100	103	
																		Spike Amount (ug)	104
																		Spike Recovery (%)	99.5%

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.240 (ug/mL)
LOQ 2.40 (ug/mL)
Compound Nitrobenzene

Lower Curve Limit 2.40 (ug/mL)
Upper Curve Limit 2,404 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj Catch Weight (ug)	Qual
M18 R1 Cond	003F0301.D	003F0302.D	003F0303.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1.24	5.00	1.49	90.1	1.65	ND
M18 R1 XAD-FH	004F0401.D	004F0402.D	004F0403.D	GC121P078.M	NA	NA	8.72	NA	0.240	0.240	0.294	14.0	0.258	1	5.00	1.29	90.1	1.43	J
M18 R1 XAD-BH	005F0501.D	005F0502.D	005F0503.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	90.1	1.33	ND
M18 R1 CT-FH	006F0601.D	006F0602.D	006F0603.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	90.1	1.33	ND
M18 R1 CT-BH	007F0701.D	007F0702.D	007F0703.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	90.1	1.33	ND
																		1.43	J
M18 R1 SPK Cond	008F0801.D	008F0802.D	008F0803.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1.24	5.00	1.49	100	1.49	ND
M18 R1 SPK XAD-FH	010F1001.D	010F1002.D	010F1003.D	GC121P078.M	8.71	8.71	8.71	0.0	7.14	6.93	6.99	1.7	7.02	1	5.00	35.1	100	35.1	
M18 R1 SPK XAD-BH	012F1201.D	012F1202.D	012F1203.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	100	1.20	ND
M18 R1 SPK CT-FH	015F1501.D	015F1502.D	015F1503.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	100	1.20	ND
M18 R1 SPK CT-BH	017F1701.D	017F1702.D	017F1703.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	100	1.20	ND
																		35.1	
LD / M18 SR1 Cond	009F0901.D	009F0902.D	009F0903.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1.24	5.00	1.49	100	1.49	ND
																% Difference		0.0%	
LD / M18 SR1 XAD FH	011F1101.D	011F1102.D	011F1103.D	GC121P078.M	8.71	8.71	8.71	0.0	7.10	7.03	7.15	0.9	7.09	1	5.00	35.5	100	35.5	
																% Difference		1.1%	
LD / M18 SR1 CT FH	016F1601.D	016F1602.D	016F1603.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	100	1.20	ND
																% Difference		0.0%	
M18 R2 Cond	018F1801.D	018F1802.D	018F1803.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1.24	5.00	1.49	90.1	1.65	ND
M18 R2 XAD-FH	019F1901.D	019F1902.D	019F1903.D	GC121P078.M	8.72	8.72	8.72	0.0	0.267	0.252	0.256	3.3	0.259	1	5.00	1.29	90.1	1.44	J
M18 R2 XAD-BH	020F2001.D	020F2002.D	020F2003.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	90.1	1.33	ND
M18 R2 CT-FH	021F2101.D	021F2102.D	021F2103.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	90.1	1.33	ND
M18 R2 CT-BH	022F2201.D	022F2202.D	022F2203.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	90.1	1.33	ND
																		1.44	J
M18 R2 SPK Cond	023F2301.D	023F2302.D	023F2303.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1.24	5.00	1.49	100	1.49	ND
M18 R2 SPK XAD-FH	024F2401.D	024F2402.D	024F2403.D	GC121P078.M	8.71	8.71	8.71	0.0	6.77	6.34	6.52	3.4	6.54	1	5.00	32.7	100	32.7	
M18 R2 SPK XAD-BH	027F2701.D	027F2702.D	027F2703.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	100	1.20	ND
M18 R2 SPK CT-FH	028F2801.D	028F2802.D	028F2803.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	100	1.20	ND
M18 R2 SPK CT-BH	029F2901.D	029F2902.D	029F2903.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	100	1.20	ND
																		32.7	

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18

Client #	11-234
Job #	0611-49
# Samples	3 runs, 3 spks, & blanks

MDL 0.240 (ug/mL)
LOQ 2.40 (ug/mL)
Compound Nitrobenzene

Lower Curve Limit 2.40 (ug/mL)
Upper Curve Limit 2,404 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	AF +/or DF	Vol (mL)	Catch Weight (ug)	Rec Eff (%)	Adj Catch Weight (ug)	Qual
M18 R3 Cond	030F3001.D	030F3002.D	030F3003.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1.24	5.00	1.49	90.1	1.65	ND
M18 R3 XAD-FH	031F3101.D	031F3102.D	031F3103.D	GC121P078.M	8.73	NA	NA	NA	0.248	0.240	0.240	2.3	0.243	1	5.00	1.21	90.1	1.35	J
M18 R3 XAD-BH	032F3201.D	032F3202.D	032F3203.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	90.1	1.33	ND
M18 R3 CT-FH	033F3301.D	033F3302.D	033F3303.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	90.1	1.33	ND
M18 R3 CT-BH	034F3401.D	034F3402.D	034F3403.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	90.1	1.33	ND
																		1.35	J
M18 R3 SPK Cond	035F3501.D	035F3502.D	035F3503.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1.24	5.00	1.49	100	1.49	ND
M18 R3 SPK XAD-FH	036F3601.D	036F3602.D	036F3603.D	GC121P078.M	8.71	8.71	8.71	0.0	6.54	6.83	6.70	2.2	6.69	1	5.00	33.4	100	33.4	
M18 R3 SPK XAD-BH	039F3901.D	039F3902.D	039F3903.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	100	1.20	ND
M18 R3 SPK CT-FH	040F4001.D	040F4002.D	040F4003.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	100	1.20	ND
M18 R3 SPK CT-BH	041F4101.D	041F4102.D	041F4103.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	100	1.20	ND
																		33.4	
M18 H2O FB Ext	042F4201.D	042F4202.D	042F4203.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1.24	5.00	1.49	100	1.49	ND
M18 H2O RB Ext	043F4301.D	043F4302.D	043F4303.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	100	1.20	ND
XAD FB	044F4401.D	044F4402.D	044F4403.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	100	1.20	ND
Spiked XAD FB	045F4501.D	045F4502.D	045F4503.D	GC121P078.M	8.71	8.71	8.71	0.0	7.02	6.96	6.94	0.7	6.97	1	5.00	34.9	100	34.9	
																	Spike Amount (ug)	36.1	
																	Spike Recovery (%)	96.7%	
CT FB	046F4601.D	046F4602.D	046F4603.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	100	1.20	ND
Spiked XAD FB	047F4801.D	047F4802.D	047F4803.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	100	1.20	ND
CT LB	050F5101.D	050F5102.D	050F5103.D	GC121P078.M	NA	NA	NA	NA	0.240	0.240	0.240	0.0	0.240	1	5.00	1.20	100	1.20	ND
XAD LCS 2	052F0201.D	052F0202.D	052F0203.D	GC121P078.M	8.71	8.71	8.71	0.0	6.46	7.07	6.89	5.1	6.81	1	5.00	34.0	100	34.0	
																	Spike Amount (ug)	36.1	
																	Spike Recovery (%)	94.4%	
AQ LCS 3	046F5001.D	046F5002.D	046F5003.D	GC121P078B.M	8.71	8.71	8.71	0.0	29.3	28.5	27.7	2.8	28.5	1	5.00	143	100	143	
																	Spike Amount (ug)	144	
																	Spike Recovery (%)	98.9%	

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18 collocated

Client #	11-234
Job #	0611-49
# Samples	3 collocated pairs

Analyte **Acetonitrile**

Sample ID	Type	Catch (ug)	Spike AMT (ug)	Sample Vol (L)	Rec. (%)
M18 R1	Sample	0.00	235	15.845	82.7
M18 R1 SPK	Spike	195		15.730	
M18 R2	Sample	0.00	235	15.731	77.3
M18 R2 SPK	Spike	182		15.648	
M18 R3	Sample	0.00	235	15.525	80.3
M18 R3 Spk	Spike	189		15.825	

Average Recovery Value 80.1

Analyte **Acrylonitrile**

Sample ID	Type	Catch (ug)	Spike AMT (ug)	Sample Vol (L)	Rec. (%)
M18 R1	Sample	0.00	236	15.845	73.7
M18 R1 SPK	Spike	174		15.730	
M18 R2	Sample	0.00	236	15.731	62.5
M18 R2 SPK	Spike	147		15.648	
M18 R3	Sample	0.00	236	15.525	64.0
M18 R3 Spk	Spike	151		15.825	

Average Recovery Value 66.7

Analyte **MTBE**

Sample ID	Type	Catch (ug)	Spike AMT (ug)	Sample Vol (L)	Rec. (%)
M18 R1	Sample	0.00	22.1	15.845	87.2
M18 R1 SPK	Spike	19.3		15.730	
M18 R2	Sample	0.00	22.1	15.731	85.9
M18 R2 SPK	Spike	19.0		15.648	
M18 R3	Sample	0.00	22.1	15.525	78.9
M18 R3 Spk	Spike	17.5		15.825	

Average Recovery Value 84.0

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18 collocated

Client #	11-234
Job #	0611-49
# Samples	3 collocated pairs

Analyte **2-Nitropropane**

Sample ID	Type	Catch (ug)	Spike AMT (ug)	Sample Vol (L)	Rec. (%)
M18 R1	Sample	0.00	29.1	15.845	89.0
M18 R1 SPK	Spike	25.9		15.730	
M18 R2	Sample	0.00	29.1	15.731	85.0
M18 R2 SPK	Spike	24.7		15.648	
M18 R3	Sample	0.00	29.1	15.525	85.2
M18 R3 Spk	Spike	24.8		15.825	

Average Recovery Value 86.4

Analyte **Isooctane**

Sample ID	Type	Catch (ug)	Spike AMT (ug)	Sample Vol (L)	Rec. (%)
M18 R1	Sample	0.00	24.1	15.845	100.2
M18 R1 SPK	Spike	24.1		15.730	
M18 R2	Sample	0.00	24.1	15.731	96.6
M18 R2 SPK	Spike	23.3		15.648	
M18 R3	Sample	0.00	24.1	15.525	97.0
M18 R3 Spk	Spike	23.4		15.825	

Average Recovery Value 97.9

Analyte **MIBK**

Sample ID	Type	Catch (ug)	Spike AMT (ug)	Sample Vol (L)	Rec. (%)
M18 R1	Sample	0.00	23.9	15.845	96.8
M18 R1 SPK	Spike	23.1		15.730	
M18 R2	Sample	0.00	23.9	15.731	92.1
M18 R2 SPK	Spike	22.0		15.648	
M18 R3	Sample	0.00	23.9	15.525	92.9
M18 R3 Spk	Spike	22.2		15.825	

Average Recovery Value 93.9

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18 collocated

Client #	11-234
Job #	0611-49
# Samples	3 collocated pairs

Analyte **Chlorobenzene**

Sample ID	Type	Catch (ug)	Spike AMT (ug)	Sample Vol (L)	Rec. (%)
M18 R1	Sample	0.00	33.2	15.845	99.9
M18 R1 SPK	Spike	33.1		15.730	
M18 R2	Sample	0.00	33.2	15.731	93.9
M18 R2 SPK	Spike	31.1		15.648	
M18 R3	Sample	0.00	33.2	15.525	94.6
M18 R3 Spk	Spike	31.4		15.825	

Average Recovery Value 96.1

Analyte **Ethylbenzene**

Sample ID	Type	Catch (ug)	Spike AMT (ug)	Sample Vol (L)	Rec. (%)
M18 R1	Sample	0.00	26.0	15.845	102
M18 R1 SPK	Spike	26.6		15.730	
M18 R2	Sample	0.00	26.0	15.731	96.8
M18 R2 SPK	Spike	25.1		15.648	
M18 R3	Sample	0.00	26.0	15.525	97.3
M18 R3 Spk	Spike	25.3		15.825	

Average Recovery Value 98.8

Analyte **m/p-xylene**

Sample ID	Type	Catch (ug)	Spike AMT (ug)	Sample Vol (L)	Rec. (%)
M18 R1	Sample	0.00	43.0	15.845	103
M18 R1 SPK	Spike	44.4		15.730	
M18 R2	Sample	0.00	43.0	15.731	97.7
M18 R2 SPK	Spike	42.0		15.648	
M18 R3	Sample	0.00	43.0	15.525	98.1
M18 R3 Spk	Spike	42.1		15.825	

Average Recovery Value 99.8

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18 collocated

Client #	11-234
Job #	0611-49
# Samples	3 collocated pairs

Analyte **Styrene**

Sample ID	Type	Catch (ug)	Spike AMT (ug)	Sample Vol (L)	Rec. (%)
M18 R1	Sample	0.00	27.2	15.845	101
M18 R1 SPK	Spike	27.4		15.730	
M18 R2	Sample	0.00	27.2	15.731	95.1
M18 R2 SPK	Spike	25.8		15.648	
M18 R3	Sample	0.00	27.2	15.525	95.6
M18 R3 Spk	Spike	26.0		15.825	

Average Recovery Value 97.2

Analyte **o-xylene**

Sample ID	Type	Catch (ug)	Spike AMT (ug)	Sample Vol (L)	Rec. (%)
M18 R1	Sample	0.00	26.4	15.845	103
M18 R1 SPK	Spike	27.1		15.730	
M18 R2	Sample	0.00	26.4	15.731	97.0
M18 R2 SPK	Spike	25.5		15.648	
M18 R3	Sample	0.00	26.4	15.525	97.6
M18 R3 Spk	Spike	25.7		15.825	

Average Recovery Value 99.1

Analyte **Cumene**

Sample ID	Type	Catch (ug)	Spike AMT (ug)	Sample Vol (L)	Rec. (%)
M18 R1	Sample	0.00	26.0	15.845	105
M18 R1 SPK	Spike	27.2		15.730	
M18 R2	Sample	0.00	26.0	15.731	98.9
M18 R2 SPK	Spike	25.7		15.648	
M18 R3	Sample	0.00	26.0	15.525	99.4
M18 R3 Spk	Spike	25.8		15.825	

Average Recovery Value 101

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18 collocated

Client #	11-234
Job #	0611-49
# Samples	3 collocated pairs

Analyte **Nitrobenzene**

Sample ID	Type	Catch (ug)	Spike AMT (ug)	Sample Vol (L)	Rec. (%)
M18 R1	Sample	1.29	36.1	15.845	93.8
M18 R1 SPK	Spike	35.1		15.730	
M18 R2	Sample	1.29	36.1	15.731	87.2
M18 R2 SPK	Spike	32.7		15.648	
M18 R3	Sample	1.21	36.1	15.525	89.3
M18 R3 Spk	Spike	33.4		15.825	

Average Recovery Value 90.1

Company	METCO Environmental
Analyst	CLD
Parameters	EPA Method 308

Client #	11-234
Job #	0611-49
# Samples	3 runs & 2 blanks

MDL 0.158 (ug/mL)
LOQ 1.58 (ug/mL)
Compound Methanol

Lower Curve Limit 1.58 (ug/mL)
Upper Curve Limit 3,161 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Analysis Method	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	DF	Vol (mL)	Catch Weight (ug)	Qual
R1-m308 Cond	035F3901.D	035F3902.D	GC120P139.M	NA	NA	NA	0.158	0.158	0.0	0.158	1	43.0	6.79	ND
R1-m308 SG-FH	098B0801.D	098B0802.D	GC120P141R.M	NA	NA	NA	0.158	0.158	0.0	0.158	1	5.00	0.790	ND
R1-m308 SG-BH	100B1001.D	100B1002.D	GC120P141R.M	NA	NA	NA	0.158	0.158	0.0	0.158	1	5.00	0.790	ND
													6.79	ND
R2-m308 Cond	037B4101.D	037B4102.D	GC120P139.M	NA	NA	NA	0.158	0.158	0.0	0.158	1	43.0	6.79	ND
R2-m308 SG-FH	041B1101.D	041B1102.D	GC120P141R.M	NA	NA	NA	0.158	0.158	0.0	0.158	1	5.00	0.790	ND
R2-m308 SG-BH	042B1401.D	042B1402.D	GC120P141R.M	NA	NA	NA	0.158	0.158	0.0	0.158	1	5.00	0.790	ND
													6.79	ND
R3-m308 Cond	038B4401.D	038B4402.D	GC120P139.M	NA	NA	NA	0.158	0.158	0.0	0.158	1	43.0	6.79	ND
R3-m308 SG-FH	043B1501.D	043B1502.D	GC120P141R.M	NA	NA	NA	0.158	0.158	0.0	0.158	1	5.00	0.790	ND
R3-m308 SG-BH	044B1601.D	044B1602.D	GC120P141R.M	NA	NA	NA	0.158	0.158	0.0	0.158	1	5.00	0.790	ND
													6.79	ND
FB-m308 Cond	039B4501.D	039B4502.D	GC120P139.M	NA	NA	NA	0.158	0.158	0.0	0.158	1	43.0	6.79	ND
FB-m308 SG	045B1701.D	045B1702.D	GC120P141R.M	NA	NA	NA	0.158	0.158	0.0	0.158	1	5.00	0.790	ND
													6.79	ND

Company	METCO Environmental
Analyst	CLD
Parameters	EPA Method 308

Client #	11-234
Job #	0611-49
# Samples	3 runs & 2 blanks

MDL 0.158 (ug/mL)
LOQ 1.58 (ug/mL)
Compound Methanol

Lower Curve Limit 1.58 (ug/mL)
Upper Curve Limit 3,161 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Analysis Method	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	DF	Vol (mL)	Catch Weight (ug)	Qual
LCS-m308 SG	046B1801.D	046B1802.D	GC120P141R.M	3.38	3.39	0.1	37.7	39.3	2.1	38.5	1	5.00	193	
												Spike Amount (ug)	197	
												Spike Recovery (%)	97.7%	
LB SG	047B1901.D	047B1902.D	GC120P141R.M	3.39	3.37	0.4	0.536	0.349	21.1	0.443	1	5.00	2.21	J
RB H2O	040F4601.D	040F4602.D	GC120P139.M	NA	NA	NA	0.158	0.158	0.0	0.158	1	43.0	6.79	ND
LD / R1-m308 Cond	036F4001.D	036F4002.D	GC120P139.M	NA	NA	NA	0.158	0.158	0.0	0.158	1	43.0	6.79	ND
												% Difference	NA	
LD / R1-m308 SG-FH	099B0901.D	099B0902.D	GC120P141R.M	NA	NA	NA	0.158	0.158	0.0	0.158	1	5.00	0.790	ND
												% Difference	NA	

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11-234

Narrative Summary

Enthalpy Analytical Narrative Summary

Company	METCO Environmental
Analyst	MGM
Parameters	EPA Method 18 Bags

Client #	11-234
Job #	0611-49
# Samples	3 bags

Custody

Lindsey Chatterton received the samples on 7/19/11 after being relinquished by METCO Environmental. The samples were received at ambient temperature in good condition. Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, Inc.

Analysis

The samples were analyzed for methane and ethane using the analytical procedures in EPA Method 18, Measurement of Gaseous Organic Compound Emissions by Gas Chromatography (40 CFR Part 60, Appendix A).

The standards and samples were analyzed following the procedures specified in section 8.2.1, Integrated Bag Sampling and Analysis.

All samples and standards were introduced directly to the column using an automated multi-port Valco gas sampling valve equipped with a stainless steel loop. Methane and ethane were referenced to certified gas phase standards.

The Agilent Technologies Model 7890A, Gas Chromatograph ("Edith" CN10722006) was equipped with two Flame Ionization Detectors and two Restek Rtx-1 30 m x 0.32 mm x 4.0 um columns (serial numbers 806941 and 920171).

Calibration

The calibration curves are available upon request, but have been removed from this report to provide a smaller data package oper the client's request.

Chromatographic Conditions

The acquisition method (GC117P177.M) is also available upon request, as described above.

QC Notes

As required by section 8.4.2, Recovery Study for Bag Sampling, a recovery study is performed on a bag sample. Initially ***Run 2 ME*** was spiked, held and reanalyzed. neither analyte met the method's 70-130% recovery criterion. The bag sample ***Run 3 ME*** was spiked at 5:15 PM on 7/28/11. The recovery efficiency value for methane did meet the method-required limit, though ethane fell below the lower control limit. The recovery efficiency value is used to adjust the methane results following equation 18-7 from section 12.8, and the ethane results are reported as measured (i.e. unadjusted). The probable cause for the spike failures were leaks in the bags.

Enthalpy Analytical Narrative Summary
(continued)

QC Notes (Continued)

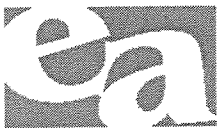
All sample preparation and analytical holding times specified in the method were met.

Reporting Notes

These analytical results are reported on a wet basis. The user of this report should determine the % moisture in the sample and correct the reported value to ppmvd as appropriate.

These analyses met the requirements of the NELAC Standard. Any deviations from the requirements of the reference method or NELAC Standard have been previously noted in the report narrative.

The results presented in this report are representative of the samples as provided to the laboratory.



Enthalpy Analytical Narrative Summary

Company	METCO Environmental
Analyst	MGM
Parameters	EPA Method 18 Bags

Client #	11-234
Job #	0611-49
# Samples	3 bags

Custody

Lindsey Chatterton received the samples on 7/19/11 after being relinquished by METCO Environmental. All samples were received at ambient temperature in good condition. Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, Inc.

Analysis

The samples were analyzed for 1,3-butadiene, acrolein, acetone, pentane, dichloromethane (methylene chloride), hexane, benzene, trichloroethene, toluene, 1,2-dibromoethane, and tetrachloroethene using the analytical procedures in EPA Method 18, Measurement of Gaseous Organic Compound Emissions by Gas Chromatography (40 CFR Part 60, Appendix A).

The standards and samples were analyzed following the procedures specified in section 8.2.1, Integrated Bag Sampling and Analysis.

All samples and standards were introduced directly to the column using an automated multi-port Valco gas sampling valve equipped with a stainless steel loop. All target analytes were referenced to certified gas phase standards.

The Agilent Technologies Model 6890, Gas Chromatograph ("Gummo" S/N US00028451) was equipped with a Flame Ionization Detector and a Restek Rtx-1 30 m x 0.32 mm x 4.0 um (S/N 869999) column for these analyses.

Calibration

The calibration curves are available upon request, but have been removed from this report to provide a smaller data package oper the client's request.

Chromatographic Conditions

The acquisition method (GC114P165.M) is also available upon request, as described above.

QC Notes

As required by section 8.4.2, Recovery Study for Bag Sampling, a recovery study is performed on a bag sample. The bag sample ***ICR Run 1*** was spiked at 12:00 PM on 7/20/11. The recovery efficiency values met the method-required limit of between 70 and 130%, for all compounds that were spiked. The recovery efficiency values are used to adjust the sample results following equation 18-7 from section 12.8 for all these compounds.

Enthalpy Analytical Narrative Summary
(continued)

QC Notes (continued)

A recovery study was not performed for the following compounds: pentane, 1,2-dibromoethane, and tetrachloroethene. The sample results for these compounds were not adjusted, but are reported as measured.

Reporting Notes

These analytical results are reported on a wet basis. The user of this report should determine the % moisture in the sample and correct the reported value to ppmvd as appropriate.

These analyses met the requirements of the NELAC Standard. Any deviations from the requirements of the reference method or NELAC Standard have been previously noted in the report narrative.

The results presented in this report are representative of the samples as provided to the laboratory.

Enthalpy Analytical Narrative Summary

Company	METCO Environmental
Analyst	STG
Parameters	EPA Method 18 Bags

Client #	11-234
7Job #	0611-49
# Samples	3 bags

Custody

Lindsey Chatterton received samples on 7/19/11 after being relinquished by METCO Environmental. All samples were received at ambient temperature in good condition. Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, Inc.

Analysis

The sample was analyzed for carbon disulfide using the analytical procedures in EPA Method 18, Measurement of Gaseous Organic Compound Emissions by Gas Chromatography (40 CFR Part 60, Appendix A).

The standards and samples were analyzed following the procedures specified in section 8.2.1, Integrated Bag Sampling and Analysis.

All samples and standards were introduced directly to the column using an automated multi-port Valco gas sampling valve equipped with a stainless steel loop. Carbon disulfide was referenced to certified permeation devices.

The Hewlett Packard Model 5890, Series II Plus Gas Chromatograph ("Zeppo" S/N 3235A4448X) was equipped with a Flame Photometric Detector and a Restek Rtx-1 60 m x 0.53 mm x 5.0 um (S/N 663119) column.

Calibration

The calibration curves are available upon request, but have been removed from this report to provide a smaller data package oper the client's request.

Chromatographic Conditions

The acquisition method (FPDTEST2.M) is also available upon request, as described above.

QC Notes

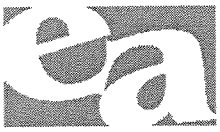
A spike and recovery study was not performed for carbon disulfide.

Reporting Notes

These analytical results are reported on a wet basis. The user of this report should determine the % moisture in the sample and correct the reported value to ppmvd as appropriate.

These analyses met the requirements of the NELAC Standard. Any deviations from the requirements of the reference method or NELAC Standard have been previously noted in the report narrative.

The results presented in this report are representative of the samples as provided to the laboratory.



Enthalpy Analytical Narrative Summary

Company	METCO Environmental
Analyst	KMT
Parameters	EPA Method 18 Adsorbents

Client #	11-234
Job #	0611-49
# Samples	3 Runs, 3 Spikes, 4 Blanks

Custody

Lindsey Chatterton received the samples on 7/19/11 after being relinquished by METCO Environmental. The samples were received at 4.0°C in good condition. Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, Inc.

Analysis

The samples were analyzed for acetonitrile, acrylonitrile, methyl tert-butyl ether (MTBE), 2-nitropropane, 2,2,4-trimethylpentane (isooctane), methyl isobutyl ketone (MIBK), chlorobenzene, ethylbenzene, m/p-xylene, styrene, o-xylene, cumene, and nitrobenzene using the analytical procedures in EPA Method 18, Measurement of Gaseous Organic Compound Emissions by Gas Chromatography (40 CFR Part 60, Appendix A). The raffinates were only analyzed for acrylonitrile, acetonitrile, and 2-nitropropane.

The standards and samples were analyzed following the procedures specified in section 8.2.4, Adsorption Tube Procedure.

The sampling train consisted of 1 impinger, 2 XAD-4 tubes, and 1 charcoal tube. The impinger fraction of each sample was measured for volume. An 8-ml aliquot was removed and the remaining volume was extracted with 5 mL of carbon disulfide (CS_2). The SKC XAD-4 tubes (Cat# 226-175) were desorbed in two fractions: front half (FH) and back half (BH). The single SKC Charcoal (Cat# 226-16) tube per run was desorbed in two fractions: front half (FH) and back half (BH). All fractions were desorbed using 5 mL of carbon disulfide.

For the tubes and condensate: a Hewlett Packard Model 6890, Gas Chromatograph ("Lucy" S/N US00039147) was equipped with a Flame Ionization Detectors a Restek Rtx-1, 30 m x 0.32 mm x 4.0 um (S/N 450928) column, for these analyses.

For the raffinates: a Hewlett Packard Model 5890, Series II Gas Chromatograph ("Teller" S/N 3033A31174) was equipped with a Flame Ionization Detector a Restek Stabilwax, 30 m x 0.32 mm x 0.5 um (S/N 964070) column, for these analyses.

Calibration

The calibration curves are available upon request, but have been removed from this report to provide a smaller data package oper the client's request.

Enthalpy Analytical Narrative Summary
(continued)

Chromatographic Conditions

The acquisition method (FPDTEST2.M) is also available upon request, as described above.

QC Notes

All sample preparation and analytical holding times specified in the method were met.

A spike recovery study was performed for the compounds of interest during the field test. The laboratory prepared seven aqueous spikes for acetonitrile and acrylonitrile, at 235 µg and 236 µg respectively. Five were provided to the client, and two retained by the laboratory. Seven XAD-2 tubes were also spiked. Five of the tube spikes were provided to the client, and the other two were retained by the laboratory. Each tube had been spiked with: 22.1 µg of MTBE, 29.1 µg of 2-nitropropane, 24.1 µg of isooctane, 23.9 µg of MIBK, 33.2 µg of chlorobenzene, 26.0 µg of ethylbenzene, 43.0 µg of p-xylene, 27.2 µg of styrene, 26.4 µg of o-xylene, 26.0 µg of cumene, and 36.1 µg of nitrobenzene.

With the exception of acrylonitrile, all collocated spike runs exhibited passing recovery efficiency values (i.e. values between 70 - 130%). Acrylonitrile's recovery efficiency value was 66.7%. All the sample results have been adjusted using the compounds spike recovery efficiency, including the acrylonitrile results.

One of the retained spiked-XAD tubes was desorbed and analyzed in the same manner as the samples. It was reported as ***XAD LCS 2*** and exhibited recovery values ranging from 93.9% to 101%.

The analyst also prepared an aqueous spike (***AQ LCS 3***) by bringing 100 µL of the tube spiking solution to 10 mL in R.O. water, and then extracting with 5 mL of CS_2. This LCS exhibited recovery values ranging from 86.9% to 99.9%.

The analytes were not identified above the MDL in the analyses of the method blanks.

Reporting Notes

The m- and p- xylene isomers are inseparable and indistinguishable using the equipment and conditions present in the laboratory. The two isomers have virtually the same response factor, so any measured results can be considered an accurate value for the total of the two isomers, though we cannot give a specific value for either isomer individually. The laboratory calibrates the instrument using the p-xylene isomer and anything labeled as p-xylene should be considered as m- and/or p- xylene.

Enthalpy Analytical Narrative Summary
(continued)

Reporting Notes (continued)

These analyses met the requirements of the NELAC Standard. Any deviations from the requirements of the reference method or NELAC Standard have been previously noted in the report narrative.

The results presented in this report are representative of the samples as provided to the laboratory.

Enthalpy Analytical Narrative Summary

Company	METCO Environmental
Analyst	CLD
Parameters	EPA Method 308

Client #	11-234
Job #	0611-49
# Samples	3 runs and 2 blanks

Custody

Lindsey Chatterton received the samples on 7/19/11 after being relinquished by METCO Environmental. The samples were received at 4.0°C in good condition. Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, Inc.

Analysis

The samples were analyzed for methanol using the analytical procedures in EPA Method 308, Procedure for Determination of Methanol Emission from Stationary Sources (40 CFR Part 63, Appendix A).

The samples were analyzed following the procedures in Section 11.0 Analytical Procedures. All silica gel tubes were desorbed using 5.00 mL of a 3% n-propanol in deionized water solution.

The Hewlett Packard Model 5890, Series II Gas Chromatograph ("Penn" S/N 2750A17269) was equipped with two Flame Ionization Detectors and two Restek Stabilwax 30 m x 0.53 mm x 2.0 um columns (S/N 810087 and S/N 808560).

Calibration

The calibration curves are available upon request, but have been removed from this report to provide a smaller data package oper the client's request.

Chromatographic Conditions

The acquisition method (GC120P139.M) is also available upon request, as described above.

QC Notes

All sample preparation and analytical holding times specified in the method were met.

Reporting Notes

These analyses met the requirements of the NELAC Standard. Any deviations from the requirements of the reference method or NELAC Standard have been previously noted in the report narrative.

The results presented in this report are representative of the samples as provided to the laboratory.

General Reporting Notes

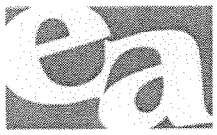
The following are general reporting notes that are applicable to all Enthalpy Analytical, Inc. data reports, unless specifically noted otherwise.

- The acronym ***MDL*** represents the Minimum Detection Limit. Below this value the laboratory cannot determine the presence of the analyte of interest reliably.
- The acronym ***LOQ*** represents the Limit of Quantification. Below this value the laboratory cannot quantitate the analyte of interest within the criteria of the method.
- The acronym ***ND*** following a value indicates a non-detect or analytical result below the MDL.
- The letter ***J*** following a value indicates an analytical result between the MDL and the LOQ. A J flag indicates that the laboratory can positively identify the analyte of interest as present, but the value should be considered an estimate.
- The letter ***E*** following a value indicates an analytical result exceeding 100% of the highest calibration point. The associated value should be considered as an estimate.
- The acronym ***DF*** represents Dilution Factor. This number represents dilution of the sample during the preparation and/or analysis process. The analytical result taken from a laboratory instrument is multiplied by the DF to determine the final undiluted sample results.
- The addition of ***MS*** to the Sample ID represents a Matrix Spike. An aliquot of an actual sample is spiked with a known amount of analyte so that a percent recovery value can be determined. This shows what effect the sample matrix may have on the target analyte, i.e. whether or not anything in the sample matrix interferes with the analysis of the analyte(s).
- The addition of ***MSD*** to the Sample ID represents a Matrix Spike Duplicate. Prepared in the same manner as an MS, the use of duplicate matrix spikes allows further confirmation of laboratory quality by showing the consistency of results gained by performing the same steps multiple times.
- The addition of ***LD*** to the Sample ID represents a Laboratory Duplicate. The analyst prepares an additional aliquot of sample for testing and the results of the duplicate analysis are compared to the initial result. The result should have a difference value of within 10% of the initial result (if the results of the original analysis are greater than the LOQ).
- The addition of ***AD*** to the Sample ID represents an Alternate Dilution. The analyst prepares an additional aliquot at a different dilution factor (usually double the initial factor). This analysis helps confirm that no additional compound is present and coeluting or sharing absorbance with the analyte of interest, as they would have a different response/absorbance than the analyte of interest.
- The Sample ID ***LCS*** represents a Laboratory Control Sample. Clean matrix, similar to the client sample matrix, prepared and analyzed by the laboratory using the same reagents, spiking standards and procedures used for the client samples. The LCS is used to assess the control of the laboratory's analytical system. Whenever spikes are prepared for our client projects, two extra spikes are prepared. The extras (randomly chosen) are labeled with the associated project number and kept in-house at the appropriate temperature conditions. When the project samples are received for analysis, the LCSs are analyzed to confirm that the analyte could be recovered from the media, separate from the samples which were used on the project and which may have been affected by source matrix, sample collection and/or sample transport.

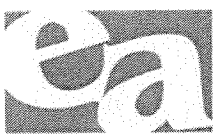
General Reporting Notes

(continued)

- **Significant Figures**: Where the reported value is much greater than unity (1.00) in the units expressed, the number is rounded to a whole number of units, rather than to 3 significant figures. For example, a value of 10,456.45 ug catch is rounded to 10,456 ug. There are five significant digits displayed, but no confidence should be placed on more than two significant digits.
- **Manual Integration**: The data systems used for processing will flag manually integrated peaks with an "M". There are several reasons a peak may be manually integrated. These reasons will be identified by the following two letter designations. The peak was ***not integrated*** by the software **"NI"**, the peak was ***integrated incorrectly*** by the software **"II"** or the ***wrong peak*** was integrated by the software **"WP"**. These codes will accompany the analyst's manual integration stamp placed next to the compound name.



Sample Custody



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CHAIN OF CUSTODY RECORD

Page of

Job No.: 11-234
Job Name: McArthur
Location: Garyville LA
Unit: 145 TDX 3 Stack

Project Manager: Hutchinson
Project Supervisor: Johns

Method: 18

SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED: PART	HCL	Cl_2	SO_2	SO_3	metals	Recovered by	REMARKS (Specific Compounds/Methods)
Run 2	7-11-11	1810	1								✓		
Run 3	7-12-11	920	1								✓		
Run 4	7-12-11	1405	1								✓		

Samples Received for Transport/Shipment by:		Date:	Time:
Samples Received for Transport/Shipment by:		Date:	Time:
Samples Received for Transport/Shipment by:		Date:	Time:
Samples Shipped Via:		Date:	Time:
Samples Received at Laboratory by:	[signature]	Date: 7/19/11	Time: 1:12 pm
Samples Analyzed by:		Date:	Time:
Samples Analyzed by:		Date:	Time:
Data Checked by:		Date:	Time:

Temp: ambient

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CHAIN OF CUSTODY RECORD

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Job No.: 11-234
Job Name: Mercator
Location: Gonzalez LA
Unit: U45 TOX 3 Stack

Project Manager: Hutchison
Project Supervisor: Jones

Method: 18

SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED: PART	HCL	CL2	SO2	SO3	ICP Volatiles	BDT	Recovered by 7/15/11	REMARKS (Specific Compounds/Methods)
Run 1	7-13-11	1135	1								X			
Run 2	↓	1342	1								X			
Run 3	↓	1548	1								X			

Samples Received for Transport/Shipment by: _____ Date: _____ Time: _____
Samples Received for Transport/Shipment by: _____ Date: _____ Time: _____
Samples Received for Transport/Shipment by: _____ Date: _____ Time: _____
Samples Shipped Via: _____ Date: _____ Time: _____
Samples Received at Laboratory by: [signature] Date: 7/19/11 Time: 1:16 pm Temp=ambient
Samples Analyzed by: _____ Date: _____ Time: _____
Samples Analyzed by: _____ Date: _____ Time: _____
Data Checked by: _____ Date: _____ Time: _____

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CHAIN OF CUSTODY RECORD

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Job No.: 11-234
Job Name: Monsanto
Location: Garyville LA
Unit: U45 TOX 3 Stack

Project Manager: Hutchinson
Project Supervisor: JohnJ

Method: 18 unspiked

SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED: PART	HCL	CL2	SO2	SO3	HAP		Recovered by	REMARKS (Specific Compounds/Methods)
Run1 Tube 1	7-13-11	1135	1								✓		Will Starks	Refinery ICR
Run1 Tube 2			1								✓			
Run1 Tube 3		↓	1								✓			
Run1 Condensate			1								✓			
Run2 Tube 1		1342	1								✓			
Run2 Tube 2			1								✓			
Run2 Tube 3		↓	1								✓			
Run2 Condensate			1								✓			
Run3 Tube 1		1549	1								✓			
Run3 Tube 2			1								✓			
Run3 Tube 3		↓	1								✓			
Run3 Condensate			1								✓			
Blank Tube 1		1637	1								✓			
Blank Tube 2			1								✓			
Blank Tube 3			1								✓			
~~Blank~~ OE														

Samples Received for Transport/Shipment by:	J.LaCroix	Date:	7/18/11	Time: 1500
Samples Received for Transport/Shipment by:		Date:		Time:
Samples Received for Transport/Shipment by:		Date:		Time:
Samples Shipped Via:	Fed-Ex	Date:	7/18/11	Time: 1700
Samples Received at Laboratory by:	Liz M.	Date:	7/19/11	Time: 1:42 pm
Samples Analyzed by:		Date:		Time:
Samples Analyzed by:		Date:		Time:
Data Checked by:		Date:		Time:

Temp: 4.0°
Raytek Gun #2

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CHAIN OF CUSTODY RECORD

Page of

Job No.: 11-234
Job Name: Marathon
Location: Garyville, LA
Unit: V45 ToX 3 Stack

Project Manager: Hutcherson
Project Supervisor: Jones

Method: Method 18 Spiked

SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED: PART	HCL	CL2	SO2	SO3	HHP		Recovered by	REMARKS (Specific Compounds/Methods)
Run 1 Tube S1 Run 1 Tube S2 Run 1 Tube S3	7/13/11	1135	1								✓✓		Will Starkey	Refinery ICR
Run 1 Condensate Run 2 Tube S1 Run 2 Tube S2		1342	1								✓✓			
Run 2 Tube S3 Run 2 Condensate Run 3 Tube S1		1548	1								✓✓			
Run 3 Tube S2 Run 3 Tube S3 Run 3 Condensate			1								✓✓			
Blank Tube S1 Blank Tube S2		1637	1								✓			
Blank Tube S3 Blank ~~Stack~~ Condensate			1								✓			

Samples Received for Transport/Shipment by:	J. LeCruise	Date:	7/18/11	Time: 1500
Samples Received for Transport/Shipment by:		Date:		Time:
Samples Received for Transport/Shipment by:		Date:		Time:
Samples Shipped Via:	Fed-EX	Date:	7/18/11	Time: 1700
Samples Received at Laboratory by:	[illegible]	Date:	7/19/11	Time: 1:43 pm
Samples Analyzed by:		Date:		Time:
Samples Analyzed by:		Date:		Time:
Data Checked by:		Date:		Time:

Temp = 4.0°
Raytek Gun #2

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10 MARCH 2003

METCO Environmental ©

CHAIN OF CUSTODY RECORD

Page of

Job No.: 11-234
Job Name: Marathon
Location: Garyville LA
Unit: 445 TOX 3 Stack

Project Manager: Hutchinson
Project Supervisor: Jones

Method: 308

SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED: PART	HCL	Cl2	SO2	SO3	308	Methanol / Hexane	Recovered by	REMARKS (Specific Compounds/Methods)
Run 1 Tube	7-13-11	1135	1								✓		BDT 7/19/11	Refinery ICR
Run 1 Condensate		↓	1								✓			
Run 2 Tube		1342	1								✓			
Run 2 Condensate		↓	1								✓			
Run 3 Tube		1548	1								✓			
Run 3 Condensate		↓	1								✓			
Blank ~~Tube~~	↓	1637	1								✓		↓	
Blank ~~PE~~ OI		↓	1								✓			

		Date	Time	
Samples Received for Transport/Shipment by:	J. LaCroix	7/18/11	1506	
Samples Received for Transport/Shipment by:				
Samples Received for Transport/Shipment by:				
Samples Shipped Via:	FedEx	7/18/11	1700	
Samples Received at Laboratory by:	~~Liz M Ct~~	7/19/11	1:43 pm	Temp = 4.0° Raytek Gun #2
Samples Analyzed by:				
Samples Analyzed by:				
Data Checked by:				

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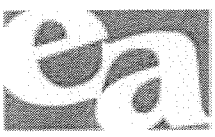

APPENDIX I

Reference Method Monitors Data

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Carbon Monoxide
Concentration

Run Number	Measured (ppm)	Adjusted (ppm*)
1	14.95	15.00
2	5.49	5.60
3	22.63	22.97

*Calculated according to equation 7E-5.

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Total Hydrocarbons
Concentration

Run Number	Measured (ppm)
1	-0.22
2	0.34
3	0.76

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Oxygen
Concentration
6/22/2011

Run Number	Measured (%)	Adjusted (%*)
1	4.80	4.69
2	4.96	4.85

*Calculated according to equation 7E-5.

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Oxygen
Concentration
6/23/2011

Run Number	Measured (%)	Adjusted (%*)
1	5.34	5.27

*Calculated according to equation 7E-5.

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Oxygen
Concentration
7/11/2011

Run Number	Measured (%)	Adjusted (%*)
1	7.50	7.40

*Calculated according to equation 7E-5.

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Oxygen
Concentration
7/12/2011

Run Number	Measured (%)	Adjusted (%*)
1	6.82	6.70
2	7.19	7.11

*Calculated according to equation 7E-5.

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Oxygen
Concentration
7/13/2011

Run Number	Measured (%)	Adjusted (%*)
1	6.67	6.60
2	6.55	6.57
3	6.88	6.92
4	7.10	7.15

*Calculated according to equation 7E-5.

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Carbon Dioxide
Concentration
6/22/2011

Run Number	Measured (%)	Adjusted (%*)
1	3.52	3.47
2	3.50	3.46

*Calculated according to equation 7E-5.

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Carbon Dioxide
Concentration
6/23/2011

Run Number	Measured (%)	Adjusted (%*)
1	3.46	3.42

*Calculated according to equation 7E-5.

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Carbon Dioxide
Concentration
7/11/2011

Run Number	Measured (%)	Adjusted (%*)
1	3.39	3.28

*Calculated according to equation 7E-5.

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Carbon Dioxide
Concentration
7/12/2011

Run Number	Measured (%)	Adjusted (%*)
1	3.23	3.20
2	3.25	3.24

*Calculated according to equation 7E-5.

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Carbon Dioxide
Concentration
7/13/2011

Run Number	Measured (%)	Adjusted (%*)
1	3.47	3.37
2	3.46	3.36
3	3.37	3.29
4	3.33	3.23

*Calculated according to equation 7E-5.

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Calibration Summary
Carbon Monoxide

Run Number	CO Calibration Initial Drift Check (ppm)	CO Calibration Final Drift Check (ppm)	CO Calibration Average (ppm)	CO Zero Initial Drift Check (ppm)	CO Zero Final Drift Check (ppm)	CO Zero Average (ppm)	Actual CO Calibration Value (ppm)	Actual CO Zero Value (ppm)
1	41.27	41.92	41.60	-0.17	-0.11	-0.14	41.50	0.00
2	41.28	41.19	41.24	-0.14	-0.03	-0.09	41.50	0.00
3	41.19	40.72	40.96	-0.03	-0.15	-0.09	41.50	0.00

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Calibration Summary
Oxygen
6/22/2011

Run Number	O_2 Calibration Initial Drift Check (%)	O_2 Calibration Final Drift Check (%)	O_2 Calibration Average (%)	O_2 Zero Initial Drift Check (%)	O_2 Zero Final Drift Check (%)	O_2 Zero Average (%)	Actual O_2 Calibration Value (%)	Actual O_2 Zero Value (%)
1	11.24	11.19	11.22	0.15	0.06	0.11	11.10	0.00
2	11.19	11.26	11.23	0.06	0.12	0.09	11.10	0.00

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Calibration Summary
Oxygen
6/23/2011

Run Number	O_2 Calibration Initial Drift Check (%)	O_2 Calibration Final Drift Check (%)	O_2 Calibration Average (%)	O_2 Zero Initial Drift Check (%)	O_2 Zero Final Drift Check (%)	O_2 Zero Average (%)	Actual O_2 Calibration Value (%)	Actual O_2 Zero Value (%)
1	11.19	11.13	11.16	0.10	0.06	0.08	11.10	0.00

METCO ENVIRONMENTAL

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Calibration Summary
Oxygen
7/11/2011

Run Number	O_2 Calibration Initial Drift Check (%)	O_2 Calibration Final Drift Check (%)	O_2 Calibration Average (%)	O_2 Zero Initial Drift Check (%)	O_2 Zero Final Drift Check (%)	O_2 Zero Average (%)	Actual O_2 Calibration Value (%)	Actual O_2 Zero Value (%)
1	11.21	11.11	11.16	0.20	0.16	0.18	11.10	0.00

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Calibration Summary
Oxygen
7/12/2011

Run Number	O_2 Calibration Initial Drift Check (%)	O_2 Calibration Final Drift Check (%)	O_2 Calibration Average (%)	O_2 Zero Initial Drift Check (%)	O_2 Zero Final Drift Check (%)	O_2 Zero Average (%)	Actual O_2 Calibration Value (%)	Actual O_2 Zero Value (%)
1	11.22	11.14	11.18	0.20	0.15	0.18	11.10	0.00
2	11.14	11.14	11.14	0.13	0.15	0.14	11.10	0.00

METCO ENVIRONMENTAL

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Calibration Summary
Oxygen
7/13/2011

Run Number	O_2 Calibration Initial Drift Check (%)	O_2 Calibration Final Drift Check (%)	O_2 Calibration Average (%)	O_2 Zero Initial Drift Check (%)	O_2 Zero Final Drift Check (%)	O_2 Zero Average (%)	Actual O_2 Calibration Value (%)	Actual O_2 Zero Value (%)
1	11.20	10.99	11.10	0.24	0.11	0.18	11.10	0.00
2	10.99	10.98	10.99	0.11	0.13	0.12	11.10	0.00
3	10.98	10.94	10.96	0.13	0.11	0.12	11.10	0.00
4	10.94	10.93	10.94	0.11	0.19	0.15	11.10	0.00

METCO ENVIRONMENTAL

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Calibration Summary
Carbon Dioxide
6/22/2011

Run Number	CO_2 Calibration Initial Drift Check (%)	CO_2 Calibration Final Drift Check (%)	CO_2 Calibration Average (%)	CO_2 Zero Initial Drift Check (%)	CO_2 Zero Final Drift Check (%)	CO_2 Zero Average (%)	Actual CO_2 Calibration Value (%)	Actual CO_2 Zero Value (%)
1	10.99	10.99	10.99	0.12	0.04	0.08	11.00	0.00
2	10.99	10.93	10.96	0.04	0.11	0.08	11.00	0.00

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Calibration Summary
Carbon Dioxide
6/23/2011

Run Number	CO_2 Calibration Initial Drift Check (%)	CO_2 Calibration Final Drift Check (%)	CO_2 Calibration Average (%)	CO_2 Zero Initial Drift Check (%)	CO_2 Zero Final Drift Check (%)	CO_2 Zero Average (%)	Actual CO_2 Calibration Value (%)	Actual CO_2 Zero Value (%)
1	10.96	10.93	10.95	0.10	0.05	0.08	11.00	0.00

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Calibration Summary
Carbon Dioxide
7/11/2011

Run Number	CO_2 Calibration Initial Drift Check (%)	CO_2 Calibration Final Drift Check (%)	CO_2 Calibration Average (%)	CO_2 Zero Initial Drift Check (%)	CO_2 Zero Final Drift Check (%)	CO_2 Zero Average (%)	Actual CO_2 Calibration Value (%)	Actual CO_2 Zero Value (%)
1	11.00	11.04	11.02	0.19	0.11	0.15	11.00	0.00

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Calibration Summary
Carbon Dioxide
7/12/2011

Run Number	CO_2 Calibration Initial Drift Check (%)	CO_2 Calibration Final Drift Check (%)	CO_2 Calibration Average (%)	CO_2 Zero Initial Drift Check (%)	CO_2 Zero Final Drift Check (%)	CO_2 Zero Average (%)	Actual CO_2 Calibration Value (%)	Actual CO_2 Zero Value (%)
1	10.88	10.89	10.89	0.13	0.04	0.09	11.00	0.00
2	10.89	10.84	10.87	0.04	0.10	0.07	11.00	0.00

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Calibration Summary
Carbon Dioxide
7/13/2011

Run Number	CO_2 Calibration Initial Drift Check (%)	CO_2 Calibration Final Drift Check (%)	CO_2 Calibration Average (%)	CO_2 Zero Initial Drift Check (%)	CO_2 Zero Final Drift Check (%)	CO_2 Zero Average (%)	Actual CO_2 Calibration Value (%)	Actual CO_2 Zero Value (%)
1	10.92	11.08	11.00	0.21	0.09	0.15	11.00	0.00
2	11.08	11.03	11.06	0.09	0.15	0.12	11.00	0.00
3	11.03	10.95	10.99	0.15	0.08	0.12	11.00	0.00
4	10.95	11.02	10.99	0.08	0.22	0.15	11.00	0.00

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
System Calibration Bias and Drift Data
Carbon Monoxide
Calibration Span = 87.50 ppm

Run Number	CO Calibration Initial Response (ppm)	CO Calibration Initial Bias (%*)	CO Calibration Final Response (ppm)	CO Calibration Final Bias (%*)	CO Calibration Drift (%*)	CO Zero Initial Response (ppm)	CO Zero Initial Bias (%*)	CO Zero Final Response (ppm)	CO Zero Final Bias (%*)	CO Zero Drift (%*)	Actual CO Calibration Value (ppm)	Actual CO Zero Value (ppm)
1	41.27	1.53	41.92	0.79	0.74	-0.17	0.34	-0.11	0.27	0.07	42.61	0.13
2	41.28	0.87	41.19	0.97	0.10	-0.14	0.10	-0.03	0.02	0.13	42.04	-0.05
3	41.19	0.97	40.72	1.51	0.54	-0.03	0.02	-0.15	0.11	0.14	42.04	-0.05

* Percent of Calibration Span

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
System Calibration Bias and Drift Data
Oxygen
Calibration Span = 20.10 percent
6/22/2011

	O_2 Calibration					O_2 Zero					Actual	Actual
Run Number	Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Drift (%*)	Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Drift (%*)	O_2 Calibration Value (%)	O_2 Zero Value (%)
1	11.24	0.55	11.19	0.30	0.25	0.15	0.60	0.06	0.15	0.45	11.13	0.03
2	11.19	0.30	11.26	0.65	0.35	0.06	0.15	0.12	0.45	0.30	11.13	0.03

* Percent of Calibration Span

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
System Calibration Bias and Drift Data
Oxygen
Calibration Span = 20.10 percent
6/23/2011

	O_2 Calibration					O_2 Zero					Actual	Actual
Run Number	Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Drift (%*)	Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Drift (%*)	O_2 Calibration Value (%)	O_2 Zero Value (%)
1	11.19	0.20	11.13	0.10	0.30	0.10	0.30	0.06	0.10	0.20	11.15	0.04

* Percent of Calibration Span

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
System Calibration Bias and Drift Data
Oxygen
Calibration Span = 20.10 percent
7/11/2011

	O_2 Calibration					O_2 Zero					Actual	Actual
Run Number	Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Drift (%*)	Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Drift (%*)	O_2 Calibration Value (%)	O_2 Zero Value (%)
1	11.21	0.05	11.11	0.45	0.50	0.20	0.95	0.16	0.75	0.20	11.20	0.01

* Percent of Calibration Span

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
System Calibration Bias and Drift Data
Oxygen
Calibration Span = 20.10 percent
7/12/2011

	O_2 Calibration					O_2 Zero					Actual	Actual
Run Number	Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Drift (%*)	Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Drift (%*)	O_2 Calibration Value (%)	O_2 Zero Value (%)
1	11.22	1.04	11.14	0.65	0.40	0.20	0.90	0.15	0.65	0.25	11.01	0.02
2	11.14	0.65	11.14	0.65	0.00	0.13	0.55	0.15	0.65	0.10	11.01	0.02

* Percent of Calibration Span

METCO ENVIRONMENTAL

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
System Calibration Bias and Drift Data
Oxygen
Calibration Span = 20.10 percent
7/13/2011

Run Number	O_2 Calibration Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Drift (%*)	O_2 Zero Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Drift (%*)	Actual O_2 Calibration Value (%)	Actual O_2 Zero Value (%)
1	11.20	0.25	10.99	0.80	1.04	0.24	1.00	0.11	0.35	0.65	11.15	0.04
2	10.99	0.80	10.98	0.85	0.05	0.11	0.35	0.13	0.45	0.10	11.15	0.04
3	10.98	0.85	10.94	1.04	0.20	0.13	0.45	0.11	0.35	0.10	11.15	0.04
4	10.94	1.04	10.93	1.09	0.05	0.11	0.35	0.19	0.75	0.40	11.15	0.04

* Percent of Calibration Span

METCO ENVIRONMENTAL

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
System Calibration Bias and Drift Data
Carbon Dioxide
Calibration Span = 20.10 percent
6/22/2011

	CO_2 Calibration					CO_2 Zero					Actual	Actual
Run Number	Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Drift (%*)	Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Drift (%*)	CO_2 Calibration Value (%)	CO_2 Zero Value (%)
1	10.99	0.25	10.99	0.25	0.00	0.12	0.40	0.04	0.00	0.40	11.04	0.04
2	10.99	0.25	10.93	0.55	0.30	0.04	0.00	0.11	0.35	0.35	11.04	0.04

* Percent of Calibration Span

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
System Calibration Bias and Drift Data
Carbon Dioxide
Calibration Span = 20.10 percent
6/23/2011

	CO_2 Calibration					CO_2 Zero					Actual	Actual
Run Number	Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Drift (%*)	Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Drift (%*)	CO_2 Calibration Value (%)	CO_2 Zero Value (%)
1	10.96	0.50	10.93	0.65	0.15	0.10	0.30	0.05	0.05	0.25	11.06	0.04

* Percent of Calibration Span

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
System Calibration Bias and Drift Data
Carbon Dioxide
Calibration Span = 20.10 percent
7/11/2011

	CO_2 Calibration					CO_2 Zero					Actual	Actual
Run Number	Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Drift (%*)	Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Drift (%*)	CO_2 Calibration Value (%)	CO_2 Zero Value (%)
1	11.00	0.15	11.04	0.05	0.20	0.19	0.80	0.11	0.40	0.40	11.03	0.03

* Percent of Calibration Span

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
System Calibration Bias and Drift Data
Carbon Dioxide
Calibration Span = 20.10 percent
7/12/2011

	CO_2 Calibration					CO_2 Zero					Actual	Actual
Run Number	Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Drift (%*)	Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Drift (%*)	CO_2 Calibration Value (%)	CO_2 Zero Value (%)
1	10.88	0.70	10.89	0.65	0.05	0.13	0.45	0.04	0.00	0.45	11.02	0.04
2	10.89	0.65	10.84	0.90	0.25	0.04	0.00	0.10	0.30	0.30	11.02	0.04

* Percent of Calibration Span

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
System Calibration Bias and Drift Data
Carbon Dioxide
Calibration Span = 20.10 percent
7/13/2011

Run Number	CO_2 Calibration Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Drift (%*)	CO_2 Zero Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Drift (%*)	Actual CO_2 Calibration Value (%)	Actual CO_2 Zero Value (%)
1	10.92	0.95	11.08	0.15	0.80	0.21	0.85	0.09	0.25	0.60	11.11	0.04
2	11.08	0.15	11.03	0.40	0.25	0.09	0.25	0.15	0.55	0.30	11.11	0.04
3	11.03	0.40	10.95	0.80	0.40	0.15	0.55	0.08	0.20	0.35	11.11	0.04
4	10.95	0.80	11.02	0.45	0.35	0.08	0.20	0.22	0.90	0.70	11.11	0.04

* Percent of Calibration Span

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Analyzer Calibration Data
Carbon Monoxide

Date 7/11/11
Run 1
Calibration Span = 87.50 ppm

Gas Range	Actual Calibration Value (ppm)	Analyzer Calibration Response (ppm)	Absolute Difference (ppm)	Difference (%*)
Low	0.00	0.13	0.13	0.15
Mid	41.50	42.61	1.11	1.27
High	87.50	87.31	0.19	0.22

* Percent of Calibration Span

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Analyzer Calibration Data
Carbon Monoxide

Date 07/12/11
Runs 2 - 3
Calibration Span = 87.50 ppm

Gas Range	Actual Calibration Value (ppm)	Analyzer Calibration Response (ppm)	Absolute Difference (ppm)	Difference (%*)
Low	0.00	-0.05	0.05	0.06
Mid	41.50	42.04	0.54	0.62
High	87.50	86.12	1.38	1.58

* Percent of Calibration Span

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Analyzer Calibration Data
Total Hydrocarbons

Date 07/11/11
Run 1

Calibration Span = 50 ppm

Gas Range	Actual Calibration Value (ppm)	Analyzer Calibration Response (ppm)	Absolute Difference (ppm)	Difference (%*)
Zero	0.00	0.02	0.02	----
Low	14.20	14.08	0.12	0.85
Mid	27.20	26.90	0.30	1.10
High	42.80	42.74	0.06	----

* Percent of calibration gas

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Analyzer Calibration Data
Total Hydrocarbons

Date 07/12/11
Runs 2- 3

Calibration Span = 50 ppm

Gas Range	Actual Calibration Value (ppm)	Analyzer Calibration Response (ppm)	Absolute Difference (ppm)	Difference (%*)
Zero	0.00	-0.01	0.01	----
Low	14.20	14.09	0.11	0.77
Mid	27.20	26.73	0.47	1.73
High	42.80	42.91	0.11	----

* Percent of calibration gas

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Analyzer Calibration Data
Oxygen

Date 06/22/11
Runs 1 - 2
Calibration Span = 20.10 %

Gas Range	Actual Calibration Value (%)	Analyzer Calibration Response (%)	Absolute Difference (%)	Difference (%*)
Low	0.00	0.03	0.03	0.15
Mid	11.10	11.13	0.03	0.15
High	20.10	20.20	0.10	0.50

* Percent of Calibration Span

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Analyzer Calibration Data
Oxygen

Date 06/23/11
Run 1
Calibration Span = 20.10 %

Gas Range	Actual Calibration Value (%)	Analyzer Calibration Response (%)	Absolute Difference (%)	Difference (%*)
Low	0.00	0.04	0.04	0.20
Mid	11.10	11.15	0.05	0.25
High	20.10	20.18	0.08	0.40

* Percent of Calibration Span

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Analyzer Calibration Data
Oxygen

Date 07/11/11
Run 1
Calibration Span = 20.10 %

Gas Range	Actual Calibration Value (%)	Analyzer Calibration Response (%)	Absolute Difference (%)	Difference (%*)
Low	0.00	0.01	0.01	0.05
Mid	11.10	11.20	0.10	0.50
High	20.10	20.20	0.10	0.50

* Percent of Calibration Span

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Analyzer Calibration Data
Oxygen

Date 07/12/11
Runs 1 - 2
Calibration Span = 20.10 %

Gas Range	Actual Calibration Value (%)	Analyzer Calibration Response (%)	Absolute Difference (%)	Difference (%*)
Low	0.00	0.02	0.02	0.10
Mid	11.10	11.01	0.09	0.45
High	20.10	20.20	0.10	0.50

* Percent of Calibration Span

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Analyzer Calibration Data
Oxygen

Date 07/13/11
Runs 1 - 4
Calibration Span = 20.10 %

Gas Range	Actual Calibration Value (%)	Analyzer Calibration Response (%)	Absolute Difference (%)	Difference (%*)
Low	0.00	0.04	0.04	0.20
Mid	11.10	11.15	0.05	0.25
High	20.10	20.23	0.13	0.65

* Percent of Calibration Span

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Analyzer Calibration Data
Carbon Dioxide

Date 06/22/2011
Runs 1 - 2
Calibration Span = 20.10 %

Gas Range	Actual Calibration Value (%)	Analyzer Calibration Response (%)	Absolute Difference (%)	Difference (%*)
Low	0.00	0.04	0.04	0.20
Mid	11.00	11.04	0.04	0.20
High	20.10	20.08	0.02	0.10

* Percent of Calibration Span

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Analyzer Calibration Data
Carbon Dioxide

Date 06/23/2011
Run 1
Calibration Span = 20.10 %

Gas Range	Actual Calibration Value (%)	Analyzer Calibration Response (%)	Absolute Difference (%)	Difference (%*)
Low	0.00	0.04	0.04	0.20
Mid	11.00	11.06	0.06	0.30
High	20.10	20.12	0.02	0.10

* Percent of Calibration Span

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Analyzer Calibration Data
Carbon Dioxide

Date 07/11/2011
Run 1
Calibration Span = 20.10 %

Gas Range	Actual Calibration Value (%)	Analyzer Calibration Response (%)	Absolute Difference (%)	Difference (%*)
Low	0.00	0.03	0.03	0.15
Mid	11.00	11.03	0.03	0.15
High	20.10	20.09	0.01	0.05

* Percent of Calibration Span

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Analyzer Calibration Data
Carbon Dioxide

Date 07/12/2011
Runs 1 - 2
Calibration Span = 20.10 %

Gas Range	Actual Calibration Value (%)	Analyzer Calibration Response (%)	Absolute Difference (%)	Difference (%*)
Low	0.00	0.04	0.04	0.20
Mid	11.00	11.02	0.02	0.10
High	20.10	20.09	0.01	0.05

* Percent of Calibration Span

Unit 45 Thermal Oxidizer Number 3 Stack (EQT 174)
Analyzer Calibration Data
Carbon Dioxide

Date 07/13/2011
Runs 1 - 4
Calibration Span = 20.10 %

Gas Range	Actual Calibration Value (%)	Analyzer Calibration Response (%)	Absolute Difference (%)	Difference (%*)
Low	0.00	0.04	0.04	0.20
Mid	11.00	11.11	0.11	0.55
High	20.10	20.09	0.01	0.05

* Percent of Calibration Span

filename	6/21/2011	12:20:40	C:\Program Files\RM Plus\DATA\11-234 Marathon U45 ICR.csv						
testby1	Metco Environmental								
testby2	Baton Rouge							leak check	
testby3	M-30							0.0 @ 16.0"	
testby4	Ryan Jones							probe 257	
testfor1	Marathon							oven 246	
testfor2	*								
testfor3	Unit 45 Thermal Oxidizer No. 3 Stack								
testfor4	Garyville, LA								
name			1 O2	2 CO2					
sn			G0400AL9	G0400AL9					
offset			0	0					
fullscale			25	25					
train			1	1					
gastype			o2 3a	co2 3a					
dcg1	6/22/2011	7:48:00	17.16	0.16	EB0010155/cg1	N2	0		0
dcg1	6/22/2011	7:48:15	6.20	0.15	EB0010155/cg1	N2	0		0
dcg1	6/22/2011	7:48:30	0.74	0.13	EB0010155/cg1	N2	0		0
dcg1	6/22/2011	7:48:45	0.14	0.13	EB0010155/cg1	N2	0		0
dcg1	6/22/2011	7:49:00	0.11	0.13	EB0010155/cg1	N2	0		0
dcg1	6/22/2011	7:49:15	0.05	0.05	EB0010155/cg1	N2	0		0
dcg1	6/22/2011	7:49:30	0.03	0.04	EB0010155/cg1	N2	0		0
o2ezero1	6/22/2011	7:49:30	0.03	0.04	EB0010155/cg1	N2	0		0
co2ezero1	6/22/2011	7:49:30	0.03	0.04	EB0010155/cg1	N2	0		0
dcg10	6/22/2011	7:49:45	0.03	0.04	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	6/22/2011	7:50:00	7.47	2.52	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	6/22/2011	7:50:15	18.80	16.57	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	6/22/2011	7:50:30	19.93	20.20	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	6/22/2011	7:50:45	19.96	20.20	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	6/22/2011	7:51:00	20.23	20.14	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	6/22/2011	7:51:15	20.22	20.09	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	6/22/2011	7:51:30	20.20	20.08	CC149987/cg10	CO2	20.1	O2	20.1
o2high1	6/22/2011	7:51:30	20.20	20.08	CC149987/cg10	CO2	20.1	O2	20.1
co2high1	6/22/2011	7:51:30	20.20	20.08	CC149987/cg10	CO2	20.1	O2	20.1
dcg9	6/22/2011	7:51:45	20.15	19.40	CC133782/cg9	CO2	11	O2	11.1
dcg9	6/22/2011	7:52:00	16.74	12.93	CC133782/cg9	CO2	11	O2	11.1
dcg9	6/22/2011	7:52:15	11.47	11.02	CC133782/cg9	CO2	11	O2	11.1
dcg9	6/22/2011	7:52:30	11.16	11.04	CC133782/cg9	CO2	11	O2	11.1
dcg9	6/22/2011	7:52:45	11.14	11.04	CC133782/cg9	CO2	11	O2	11.1
dcg9	6/22/2011	7:53:00	11.13	11.04	CC133782/cg9	CO2	11	O2	11.1
dcg9	6/22/2011	7:53:15	11.13	11.04	CC133782/cg9	CO2	11	O2	11.1
o2mid1	6/22/2011	7:53:15	11.13	11.04	CC133782/cg9	CO2	11	O2	11.1
co2mid1	6/22/2011	7:53:15	11.13	11.04	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	8:20:15	20.88	0.09	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	8:20:30	20.87	0.09	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	8:20:45	20.97	0.09	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	8:21:00	20.82	0.25	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	8:21:15	18.15	3.19	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	8:21:30	13.93	8.17	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	8:21:45	11.98	10.27	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	8:22:00	11.49	10.73	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	8:22:15	11.35	10.87	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	8:22:30	11.30	10.93	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	8:22:45	11.27	10.96	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	8:23:00	11.25	10.97	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	8:23:15	11.24	10.98	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	8:23:30	11.25	10.98	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	8:23:45	11.23	10.98	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	8:24:00	11.24	10.99	CC133782/cg9	CO2	11	O2	11.1

name			1 O2	2 CO2					
o2span1	6/22/2011	8:24:00	11.24	10.99	CC133782/cg9	CO2	11	O2	11.1
co2span1	6/22/2011	8:24:00	11.24	10.99	CC133782/cg9	CO2	11	O2	11.1
scg5	6/22/2011	8:24:30	11.23	10.98	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	8:24:45	11.21	10.98	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	8:25:00	11.51	10.47	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	8:25:15	13.23	7.74	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	8:25:30	8.75	4.47	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	8:25:45	2.47	1.41	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	8:26:00	0.73	0.48	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	8:26:15	0.37	0.28	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	8:26:30	0.27	0.21	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	8:26:45	0.21	0.17	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	8:27:00	0.18	0.15	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	8:27:15	0.17	0.13	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	8:27:30	0.15	0.12	ALM066457/cg5	CO	41.5		0
o2zero1	6/22/2011	8:27:30	0.15	0.12	ALM066457/cg5	CO	41.5		0
co2zero1	6/22/2011	8:27:30	0.15	0.12	ALM066457/cg5	CO	41.5		0
run1	6/22/2011	9:10:00	4.86	3.50					
run1	6/22/2011	9:10:15	4.88	3.49					
run1	6/22/2011	9:10:30	5.00	3.46					
run1	6/22/2011	9:10:45	5.08	3.45					
run1	6/22/2011	9:11:00	5.07	3.44					
run1	6/22/2011	9:11:15	5.06	3.44					
run1	6/22/2011	9:11:30	5.09	3.43					
run1	6/22/2011	9:11:45	5.12	3.44					
run1	6/22/2011	9:12:00	5.11	3.43					
run1	6/22/2011	9:12:15	5.10	3.44					
run1	6/22/2011	9:12:30	5.14	3.45					
run1	6/22/2011	9:12:45	5.15	3.45					
run1	6/22/2011	9:13:00	5.10	3.46					
run1	6/22/2011	9:13:15	5.05	3.47					
run1	6/22/2011	9:13:30	5.03	3.49					
run1	6/22/2011	9:13:45	4.98	3.47					
run1	6/22/2011	9:14:00	4.95	3.47					
run1	6/22/2011	9:14:15	4.98	3.47					
run1	6/22/2011	9:14:30	4.97	3.49					
run1	6/22/2011	9:14:45	4.87	3.51					
run1	6/22/2011	9:15:00	4.82	3.53					
run1	6/22/2011	9:15:15	4.79	3.53					
run1	6/22/2011	9:15:30	4.79	3.55					
run1	6/22/2011	9:15:45	4.81	3.58					
run1	6/22/2011	9:16:00	4.78	3.57					
run1	6/22/2011	9:16:15	4.71	3.57					
run1	6/22/2011	9:16:30	4.67	3.58					
run1	6/22/2011	9:16:45	4.67	3.57					
run1	6/22/2011	9:17:00	4.70	3.56					
run1	6/22/2011	9:17:15	4.75	3.54					
run1	6/22/2011	9:17:30	4.80	3.52					
run1	6/22/2011	9:17:45	4.87	3.49					
run1	6/22/2011	9:18:00	4.91	3.47					
run1	6/22/2011	9:18:15	4.95	3.47					
run1	6/22/2011	9:18:30	4.99	3.47					
run1	6/22/2011	9:18:45	5.00	3.47					
run1	6/22/2011	9:19:00	5.00	3.46					
run1	6/22/2011	9:19:15	5.04	3.45					
run1	6/22/2011	9:19:30	5.01	3.44					
run1	6/22/2011	9:19:45	4.99	3.46					
run1	6/22/2011	9:20:00	4.95	3.48					

name			1 O2	2 CO2
run1	6/22/2011	9:20:15	4.93	3.48
run1	6/22/2011	9:20:30	4.91	3.50
run1	6/22/2011	9:20:45	4.87	3.48
run1	6/22/2011	9:21:00	4.87	3.46
run1	6/22/2011	9:21:15	4.90	3.46
run1	6/22/2011	9:21:30	4.86	3.47
run1	6/22/2011	9:21:45	4.84	3.47
run1	6/22/2011	9:22:00	4.84	3.48
run1	6/22/2011	9:22:15	4.80	3.48
run1	6/22/2011	9:22:30	4.77	3.49
run1	6/22/2011	9:22:45	4.79	3.48
run1	6/22/2011	9:23:00	4.80	3.49
run1	6/22/2011	9:23:15	4.77	3.50
run1	6/22/2011	9:23:30	4.77	3.51
run1	6/22/2011	9:23:45	4.78	3.51
run1	6/22/2011	9:24:00	4.82	3.52
run1	6/22/2011	9:24:15	4.81	3.53
run1	6/22/2011	9:24:30	4.75	3.54
run1	6/22/2011	9:24:45	4.70	3.55
run1	6/22/2011	9:25:00	4.77	3.54
run1	6/22/2011	9:25:15	4.76	3.55
run1	6/22/2011	9:25:30	4.68	3.55
run1	6/22/2011	9:25:45	4.68	3.54
run1	6/22/2011	9:26:00	4.69	3.55
run1	6/22/2011	9:26:15	4.66	3.54
run1	6/22/2011	9:26:30	4.65	3.54
run1	6/22/2011	9:26:45	4.66	3.54
run1	6/22/2011	9:27:00	4.67	3.52
run1	6/22/2011	9:27:15	4.71	3.53
run1	6/22/2011	9:27:30	4.76	3.54
run1	6/22/2011	9:27:45	4.79	3.52
run1	6/22/2011	9:28:00	4.86	3.50
run1	6/22/2011	9:28:15	4.87	3.48
run1	6/22/2011	9:28:30	4.94	3.49
run1	6/22/2011	9:28:45	4.97	3.48
run1	6/22/2011	9:29:00	4.97	3.48
run1	6/22/2011	9:29:15	4.97	3.47
run1	6/22/2011	9:29:30	4.93	3.50
run1	6/22/2011	9:29:45	4.87	3.51
run1	6/22/2011	9:30:00	4.89	3.51
run1	6/22/2011	9:30:15	4.94	3.50
run1	6/22/2011	9:30:30	4.93	3.48
run1	6/22/2011	9:30:45	4.96	3.48
run1	6/22/2011	9:31:00	5.00	3.48
run1	6/22/2011	9:31:15	4.99	3.47
run1	6/22/2011	9:31:30	4.99	3.48
run1	6/22/2011	9:31:45	4.98	3.50
run1	6/22/2011	9:32:00	4.92	3.51
run1	6/22/2011	9:32:15	4.88	3.50
run1	6/22/2011	9:32:30	4.88	3.49
run1	6/22/2011	9:32:45	4.85	3.51
run1	6/22/2011	9:33:00	4.77	3.53
run1	6/22/2011	9:33:15	4.77	3.55
run1	6/22/2011	9:33:30	4.80	3.56
run1	6/22/2011	9:33:45	4.81	3.56
run1	6/22/2011	9:34:00	4.85	3.55
run1	6/22/2011	9:34:15	4.87	3.56
run1	6/22/2011	9:34:30	4.83	3.59

name			1 O2	2 CO2
run1	6/22/2011	9:34:45	4.83	3.61
run1	6/22/2011	9:35:00	4.83	3.58
run1	6/22/2011	9:35:15	4.87	3.58
run1	6/22/2011	9:35:30	4.92	3.60
run1	6/22/2011	9:35:45	4.96	3.58
run1	6/22/2011	9:36:00	4.90	3.58
run1	6/22/2011	9:36:15	4.86	3.58
run1	6/22/2011	9:36:30	4.89	3.58
run1	6/22/2011	9:36:45	4.91	3.59
run1	6/22/2011	9:37:00	4.87	3.60
run1	6/22/2011	9:37:15	4.87	3.60
run1	6/22/2011	9:37:30	4.92	3.57
run1	6/22/2011	9:37:45	4.95	3.57
run1	6/22/2011	9:38:00	4.97	3.58
run1	6/22/2011	9:38:15	4.98	3.58
run1	6/22/2011	9:38:30	4.97	3.58
run1	6/22/2011	9:38:45	4.90	3.60
run1	6/22/2011	9:39:00	4.86	3.61
run1	6/22/2011	9:39:15	4.84	3.62
run1	6/22/2011	9:39:30	4.76	3.62
run1	6/22/2011	9:39:45	4.70	3.62
run1	6/22/2011	9:40:00	4.74	3.60
run1	6/22/2011	9:40:15	4.81	3.61
run1	6/22/2011	9:40:30	4.77	3.62
run1	6/22/2011	9:40:45	4.62	3.63
run1	6/22/2011	9:41:00	4.53	3.63
run1	6/22/2011	9:41:15	4.69	3.61
run1	6/22/2011	9:41:30	4.82	3.60
run1	6/22/2011	9:41:45	4.79	3.57
run1	6/22/2011	9:42:00	4.82	3.56
run1	6/22/2011	9:42:15	4.82	3.56
run1	6/22/2011	9:42:30	4.77	3.57
run1	6/22/2011	9:42:45	4.82	3.56
run1	6/22/2011	9:43:00	4.86	3.55
run1	6/22/2011	9:43:15	4.80	3.57
run1	6/22/2011	9:43:30	4.73	3.58
run1	6/22/2011	9:43:45	4.78	3.57
run1	6/22/2011	9:44:00	4.77	3.55
run1	6/22/2011	9:44:15	4.75	3.55
run1	6/22/2011	9:44:30	4.75	3.55
run1	6/22/2011	9:44:45	4.66	3.54
run1	6/22/2011	9:45:00	4.69	3.51
run1	6/22/2011	9:45:15	4.78	3.50
run1	6/22/2011	9:45:30	4.80	3.50
run1	6/22/2011	9:45:45	4.76	3.50
run1	6/22/2011	9:46:00	4.75	3.48
run1	6/22/2011	9:46:15	4.81	3.47
run1	6/22/2011	9:46:30	4.82	3.47
run1	6/22/2011	9:46:45	4.79	3.47
run1	6/22/2011	9:47:00	4.82	3.47
run1	6/22/2011	9:47:15	4.81	3.48
run1	6/22/2011	9:47:30	4.86	3.48
run1	6/22/2011	9:47:45	4.97	3.46
run1	6/22/2011	9:48:00	4.99	3.47
run1	6/22/2011	9:48:15	4.98	3.48
run1	6/22/2011	9:48:30	4.92	3.47
run1	6/22/2011	9:48:45	4.89	3.47
run1	6/22/2011	9:49:00	4.87	3.46

name			1 O2	2 CO2
run1	6/22/2011	9:49:15	4.87	3.46
run1	6/22/2011	9:49:30	4.79	3.47
run1	6/22/2011	9:49:45	4.74	3.47
run1	6/22/2011	9:50:00	4.81	3.45
run1	6/22/2011	9:50:15	4.83	3.44
run1	6/22/2011	9:50:30	4.80	3.45
run1	6/22/2011	9:50:45	4.80	3.44
run1	6/22/2011	9:51:00	4.88	3.45
run1	6/22/2011	9:51:15	4.88	3.46
run1	6/22/2011	9:51:30	4.85	3.46
run1	6/22/2011	9:51:45	4.88	3.46
run1	6/22/2011	9:52:00	4.84	3.44
run1	6/22/2011	9:52:15	4.88	3.43
run1	6/22/2011	9:52:30	4.94	3.45
run1	6/22/2011	9:52:45	4.89	3.44
run1	6/22/2011	9:53:00	4.87	3.45
run1	6/22/2011	9:53:15	4.91	3.44
run1	6/22/2011	9:53:30	4.93	3.43
run1	6/22/2011	9:53:45	4.89	3.44
run1	6/22/2011	9:54:00	4.79	3.46
run1	6/22/2011	9:54:15	4.77	3.46
run1	6/22/2011	9:54:30	4.84	3.44
run1	6/22/2011	9:54:45	4.88	3.44
run1	6/22/2011	9:55:00	4.83	3.45
run1	6/22/2011	9:55:15	4.83	3.45
run1	6/22/2011	9:55:30	4.86	3.42
run1	6/22/2011	9:55:45	4.81	3.43
run1	6/22/2011	9:56:00	4.77	3.45
run1	6/22/2011	9:56:15	4.78	3.46
run1	6/22/2011	9:56:30	4.76	3.45
run1	6/22/2011	9:56:45	4.81	3.45
run1	6/22/2011	9:57:00	4.82	3.47
run1	6/22/2011	9:57:15	4.74	3.48
run1	6/22/2011	9:57:30	4.66	3.50
run1	6/22/2011	9:57:45	4.63	3.49
run1	6/22/2011	9:58:00	4.66	3.49
run1	6/22/2011	9:58:15	4.74	3.47
run1	6/22/2011	9:58:30	4.81	3.45
run1	6/22/2011	9:58:45	4.84	3.45
run1	6/22/2011	9:59:00	4.81	3.45
run1	6/22/2011	9:59:15	4.77	3.45
run1	6/22/2011	9:59:30	4.76	3.45
run1	6/22/2011	9:59:45	4.72	3.44
run1	6/22/2011	10:00:00	4.67	3.45
run1	6/22/2011	10:00:15	4.61	3.46
run1	6/22/2011	10:00:30	4.59	3.46
run1	6/22/2011	10:00:45	4.65	3.44
run1	6/22/2011	10:01:00	4.74	3.44
run1	6/22/2011	10:01:15	4.71	3.44
run1	6/22/2011	10:01:30	4.68	3.44
run1	6/22/2011	10:01:45	4.70	3.44
run1	6/22/2011	10:02:00	4.71	3.45
run1	6/22/2011	10:02:15	4.67	3.46
run1	6/22/2011	10:02:30	4.64	3.46
run1	6/22/2011	10:02:45	4.66	3.46
run1	6/22/2011	10:03:00	4.72	3.45
run1	6/22/2011	10:03:15	4.73	3.46
run1	6/22/2011	10:03:30	4.71	3.48

name			1 O2	2 CO2
run1	6/22/2011	10:03:45	4.63	3.49
run1	6/22/2011	10:04:00	4.61	3.48
run1	6/22/2011	10:04:15	4.62	3.48
run1	6/22/2011	10:04:30	4.68	3.47
run1	6/22/2011	10:04:45	4.76	3.45
run1	6/22/2011	10:05:00	4.83	3.45
run1	6/22/2011	10:05:15	4.86	3.46
run1	6/22/2011	10:05:30	4.88	3.46
run1	6/22/2011	10:05:45	4.88	3.47
run1	6/22/2011	10:06:00	4.84	3.47
run1	6/22/2011	10:06:15	4.77	3.47
run1	6/22/2011	10:06:30	4.73	3.47
run1	6/22/2011	10:06:45	4.71	3.49
run1	6/22/2011	10:07:00	4.69	3.50
run1	6/22/2011	10:07:15	4.71	3.50
run1	6/22/2011	10:07:30	4.76	3.47
run1	6/22/2011	10:07:45	4.75	3.47
run1	6/22/2011	10:08:00	4.76	3.48
run1	6/22/2011	10:08:15	4.80	3.47
run1	6/22/2011	10:08:30	4.79	3.47
run1	6/22/2011	10:08:45	4.79	3.48
run1	6/22/2011	10:09:00	4.80	3.49
run1	6/22/2011	10:09:15	4.78	3.49
run1	6/22/2011	10:09:30	4.75	3.48
run1	6/22/2011	10:09:45	4.73	3.48
run1	6/22/2011	10:10:00	4.73	3.48
run1	6/22/2011	10:10:15	4.77	3.47
run1	6/22/2011	10:10:30	4.87	3.49
run1	6/22/2011	10:10:45	4.82	3.50
run1	6/22/2011	10:11:00	4.72	3.51
run1	6/22/2011	10:11:15	4.74	3.53
run1	6/22/2011	10:11:30	4.75	3.55
run1	6/22/2011	10:11:45	4.66	3.55
run1	6/22/2011	10:12:00	4.66	3.54
run1	6/22/2011	10:12:15	4.69	3.54
run1	6/22/2011	10:12:30	4.64	3.53
run1	6/22/2011	10:12:45	4.61	3.51
run1	6/22/2011	10:13:00	4.69	3.51
run1	6/22/2011	10:13:15	4.70	3.51
run1	6/22/2011	10:13:30	4.64	3.52
run1	6/22/2011	10:13:45	4.58	3.53
run1	6/22/2011	10:14:00	4.64	3.52
run1	6/22/2011	10:14:15	4.73	3.47
run1	6/22/2011	10:14:30	4.82	3.46
run1	6/22/2011	10:14:45	4.84	3.46
run1	6/22/2011	10:15:00	4.76	3.49
run1	6/22/2011	10:15:15	4.72	3.49
run1	6/22/2011	10:15:30	4.71	3.47
run1	6/22/2011	10:15:45	4.74	3.48
run1	6/22/2011	10:16:00	4.70	3.47
run1	6/22/2011	10:16:15	4.69	3.46
run1	6/22/2011	10:16:30	4.77	3.45
run1	6/22/2011	10:16:45	4.82	3.45
run1	6/22/2011	10:17:00	4.89	3.47
run1	6/22/2011	10:17:15	4.86	3.46
run1	6/22/2011	10:17:30	4.78	3.46
run1	6/22/2011	10:17:45	4.80	3.48
run1	6/22/2011	10:18:00	4.79	3.48

name			1 O2	2 CO2
run1	6/22/2011	10:18:15	4.78	3.47
run1	6/22/2011	10:18:30	4.80	3.49
run1	6/22/2011	10:18:45	4.80	3.50
run1	6/22/2011	10:19:00	4.82	3.50
run1	6/22/2011	10:19:15	4.83	3.51
run1	6/22/2011	10:19:30	4.82	3.51
run1	6/22/2011	10:19:45	4.84	3.49
run1	6/22/2011	10:20:00	4.90	3.48
run1	6/22/2011	10:20:15	4.91	3.49
run1	6/22/2011	10:20:30	4.94	3.50
run1	6/22/2011	10:20:45	4.94	3.50
run1	6/22/2011	10:21:00	4.89	3.50
run1	6/22/2011	10:21:15	4.83	3.51
run1	6/22/2011	10:21:30	4.76	3.52
run1	6/22/2011	10:21:45	4.69	3.54
run1	6/22/2011	10:22:00	4.61	3.55
run1	6/22/2011	10:22:15	4.58	3.55
run1	6/22/2011	10:22:30	4.61	3.55
run1	6/22/2011	10:22:45	4.62	3.55
run1	6/22/2011	10:23:00	4.62	3.55
run1	6/22/2011	10:23:15	4.66	3.54
run1	6/22/2011	10:23:30	4.68	3.53
run1	6/22/2011	10:23:45	4.62	3.51
run1	6/22/2011	10:24:00	4.65	3.52
run1	6/22/2011	10:24:15	4.68	3.51
run1	6/22/2011	10:24:30	4.75	3.49
run1	6/22/2011	10:24:45	4.83	3.47
run1	6/22/2011	10:25:00	4.89	3.45
run1	6/22/2011	10:25:15	4.87	3.45
run1	6/22/2011	10:25:30	4.88	3.46
run1	6/22/2011	10:25:45	4.88	3.46
run1	6/22/2011	10:26:00	4.88	3.47
run1	6/22/2011	10:26:15	4.82	3.48
run1	6/22/2011	10:26:30	4.80	3.48
run1	6/22/2011	10:26:45	4.77	3.47
run1	6/22/2011	10:27:00	4.75	3.46
run1	6/22/2011	10:27:15	4.84	3.47
run1	6/22/2011	10:27:30	4.88	3.47
run1	6/22/2011	10:27:45	4.82	3.47
run1	6/22/2011	10:28:00	4.84	3.47
run1	6/22/2011	10:28:15	4.86	3.47
run1	6/22/2011	10:28:30	4.76	3.49
run1	6/22/2011	10:28:45	4.67	3.51
run1	6/22/2011	10:29:00	4.70	3.49
run1	6/22/2011	10:29:15	4.82	3.47
run1	6/22/2011	10:29:30	4.88	3.48
run1	6/22/2011	10:29:45	4.87	3.48
run1	6/22/2011	10:30:00	4.90	3.48
run1	6/22/2011	10:30:15	4.89	3.48
run1	6/22/2011	10:30:30	4.82	3.47
run1	6/22/2011	10:30:45	4.84	3.47
run1	6/22/2011	10:31:00	4.86	3.49
run1	6/22/2011	10:31:15	4.84	3.48
run1	6/22/2011	10:31:30	4.84	3.47
run1	6/22/2011	10:31:45	4.82	3.49
run1	6/22/2011	10:32:00	4.80	3.50
run1	6/22/2011	10:32:15	4.84	3.50
run1	6/22/2011	10:32:30	4.87	3.50

name			1 O2	2 CO2
run1	6/22/2011	10:32:45	4.83	3.50
run1	6/22/2011	10:33:00	4.82	3.50
run1	6/22/2011	10:33:15	4.84	3.50
run1	6/22/2011	10:33:30	4.86	3.51
run1	6/22/2011	10:33:45	4.81	3.51
run1	6/22/2011	10:34:00	4.77	3.51
run1	6/22/2011	10:34:15	4.71	3.50
run1	6/22/2011	10:34:30	4.72	3.50
run1	6/22/2011	10:34:45	4.74	3.51
run1	6/22/2011	10:35:00	4.73	3.51
run1	6/22/2011	10:35:15	4.77	3.51
run1	6/22/2011	10:35:30	4.81	3.50
run1	6/22/2011	10:35:45	4.74	3.51
run1	6/22/2011	10:36:00	4.74	3.50
run1	6/22/2011	10:36:15	4.79	3.48
run1	6/22/2011	10:36:30	4.75	3.49
run1	6/22/2011	10:36:45	4.71	3.51
run1	6/22/2011	10:37:00	4.67	3.51
run1	6/22/2011	10:37:15	4.70	3.51
run1	6/22/2011	10:37:30	4.72	3.51
run1	6/22/2011	10:37:45	4.70	3.51
run1	6/22/2011	10:38:00	4.71	3.51
run1	6/22/2011	10:38:15	4.73	3.53
run1	6/22/2011	10:38:30	4.74	3.52
run1	6/22/2011	10:38:45	4.74	3.52
run1	6/22/2011	10:39:00	4.70	3.54
run1	6/22/2011	10:39:15	4.66	3.53
run1	6/22/2011	10:39:30	4.62	3.52
run1	6/22/2011	10:39:45	4.71	3.52
run1	6/22/2011	10:40:00	4.75	3.53
run1	6/22/2011	10:40:15	4.79	3.52
run1	6/22/2011	10:40:30	4.81	3.51
run1	6/22/2011	10:40:45	4.85	3.52
run1	6/22/2011	10:41:00	4.80	3.51
run1	6/22/2011	10:41:15	4.82	3.51
run1	6/22/2011	10:41:30	4.89	3.49
run1	6/22/2011	10:41:45	4.85	3.50
run1	6/22/2011	10:42:00	4.77	3.52
run1	6/22/2011	10:42:15	4.76	3.53
run1	6/22/2011	10:42:30	4.77	3.51
run1	6/22/2011	10:42:45	4.80	3.50
run1	6/22/2011	10:43:00	4.83	3.50
run1	6/22/2011	10:43:15	4.85	3.50
run1	6/22/2011	10:43:30	4.79	3.49
run1	6/22/2011	10:43:45	4.79	3.50
run1	6/22/2011	10:44:00	4.83	3.51
run1	6/22/2011	10:44:15	4.82	3.51
run1	6/22/2011	10:44:30	4.81	3.51
run1	6/22/2011	10:44:45	4.85	3.51
run1	6/22/2011	10:45:00	4.88	3.51
run1	6/22/2011	10:45:15	4.89	3.51
run1	6/22/2011	10:45:30	4.82	3.51
run1	6/22/2011	10:45:45	4.77	3.52
run1	6/22/2011	10:46:00	4.86	3.52
run1	6/22/2011	10:46:15	4.91	3.52
run1	6/22/2011	10:46:30	4.82	3.51
run1	6/22/2011	10:46:45	4.81	3.51
run1	6/22/2011	10:47:00	4.81	3.51

name			1 O2	2 CO2
run1	6/22/2011	10:47:15	4.78	3.48
run1	6/22/2011	10:47:30	4.81	3.48
run1	6/22/2011	10:47:45	4.88	3.50
run1	6/22/2011	10:48:00	4.92	3.52
run1	6/22/2011	10:48:15	4.92	3.52
run1	6/22/2011	10:48:30	4.87	3.52
run1	6/22/2011	10:48:45	4.73	3.53
run1	6/22/2011	10:49:00	4.72	3.54
run1	6/22/2011	10:49:15	4.77	3.54
run1	6/22/2011	10:49:30	4.79	3.55
run1	6/22/2011	10:49:45	4.74	3.55
run1	6/22/2011	10:50:00	4.72	3.53
run1	6/22/2011	10:50:15	4.77	3.54
run1	6/22/2011	10:50:30	4.79	3.54
run1	6/22/2011	10:50:45	4.72	3.54
run1	6/22/2011	10:51:00	4.70	3.55
run1	6/22/2011	10:51:15	4.72	3.55
run1	6/22/2011	10:51:30	4.67	3.57
run1	6/22/2011	10:51:45	4.64	3.58
run1	6/22/2011	10:52:00	4.64	3.58
run1	6/22/2011	10:52:15	4.70	3.58
run1	6/22/2011	10:52:30	4.69	3.57
run1	6/22/2011	10:52:45	4.71	3.57
run1	6/22/2011	10:53:00	4.73	3.55
run1	6/22/2011	10:53:15	4.83	3.54
run1	6/22/2011	10:53:30	4.91	3.54
run1	6/22/2011	10:53:45	4.92	3.55
run1	6/22/2011	10:54:00	4.91	3.55
run1	6/22/2011	10:54:15	4.91	3.54
run1	6/22/2011	10:54:30	4.86	3.53
run1	6/22/2011	10:54:45	4.79	3.52
run1	6/22/2011	10:55:00	4.80	3.53
run1	6/22/2011	10:55:15	4.77	3.54
run1	6/22/2011	10:55:30	4.72	3.56
run1	6/22/2011	10:55:45	4.64	3.57
run1	6/22/2011	10:56:00	4.59	3.57
run1	6/22/2011	10:56:15	4.61	3.57
run1	6/22/2011	10:56:30	4.67	3.56
run1	6/22/2011	10:56:45	4.67	3.53
run1	6/22/2011	10:57:00	4.65	3.52
run1	6/22/2011	10:57:15	4.74	3.50
run1	6/22/2011	10:57:30	4.83	3.47
run1	6/22/2011	10:57:45	4.86	3.47
run1	6/22/2011	10:58:00	4.79	3.47
run1	6/22/2011	10:58:15	4.69	3.48
run1	6/22/2011	10:58:30	4.72	3.48
run1	6/22/2011	10:58:45	4.77	3.47
run1	6/22/2011	10:59:00	4.87	3.46
run1	6/22/2011	10:59:15	4.93	3.47
run1	6/22/2011	10:59:30	4.97	3.47
run1	6/22/2011	10:59:45	4.96	3.48
run1	6/22/2011	11:00:00	4.92	3.47
run1	6/22/2011	11:00:15	4.94	3.46
run1	6/22/2011	11:00:30	4.95	3.47
run1	6/22/2011	11:00:45	4.93	3.46
run1	6/22/2011	11:01:00	4.93	3.47
run1	6/22/2011	11:01:15	4.86	3.48
run1	6/22/2011	11:01:30	4.78	3.50

name			1 O2	2 CO2
run1	6/22/2011	11:01:45	4.72	3.54
run1	6/22/2011	11:02:00	4.69	3.54
run1	6/22/2011	11:02:15	4.75	3.55
run1	6/22/2011	11:02:30	4.76	3.55
run1	6/22/2011	11:02:45	4.68	3.57
run1	6/22/2011	11:03:00	4.64	3.57
run1	6/22/2011	11:03:15	4.66	3.56
run1	6/22/2011	11:03:30	4.68	3.56
run1	6/22/2011	11:03:45	4.62	3.57
run1	6/22/2011	11:04:00	4.60	3.58
run1	6/22/2011	11:04:15	4.61	3.59
run1	6/22/2011	11:04:30	4.62	3.59
run1	6/22/2011	11:04:45	4.64	3.57
run1	6/22/2011	11:05:00	4.70	3.57
run1	6/22/2011	11:05:15	4.74	3.55
run1	6/22/2011	11:05:30	4.82	3.53
run1	6/22/2011	11:05:45	4.91	3.53
run1	6/22/2011	11:06:00	4.93	3.50
run1	6/22/2011	11:06:15	4.95	3.51
run1	6/22/2011	11:06:30	4.92	3.52
run1	6/22/2011	11:06:45	4.86	3.52
run1	6/22/2011	11:07:00	4.83	3.53
run1	6/22/2011	11:07:15	4.83	3.54
run1	6/22/2011	11:07:30	4.80	3.54
run1	6/22/2011	11:07:45	4.74	3.55
run1	6/22/2011	11:08:00	4.69	3.55
run1	6/22/2011	11:08:15	4.65	3.56
run1	6/22/2011	11:08:30	4.61	3.56
run1	6/22/2011	11:08:45	4.59	3.56
run1	6/22/2011	11:09:00	4.56	3.55
run1	6/22/2011	11:09:15	4.57	3.54
run1	6/22/2011	11:09:30	4.61	3.55
run1	6/22/2011	11:09:45	4.67	3.55
run1	6/22/2011	11:10:00	4.74	3.52
run1	6/22/2011	11:10:15	4.82	3.51
run1	6/22/2011	11:10:30	4.88	3.52
run1	6/22/2011	11:10:45	4.87	3.53
run1	6/22/2011	11:11:00	4.90	3.53
run1	6/22/2011	11:11:15	4.89	3.52
run1	6/22/2011	11:11:30	4.87	3.52
run1	6/22/2011	11:11:45	4.89	3.52
run1	6/22/2011	11:12:00	4.82	3.52
run1	6/22/2011	11:12:15	4.79	3.54
run1	6/22/2011	11:12:30	4.75	3.54
run1	6/22/2011	11:12:45	4.73	3.52
run1	6/22/2011	11:13:00	4.75	3.51
run1	6/22/2011	11:13:15	4.76	3.52
run1	6/22/2011	11:13:30	4.76	3.52
run1	6/22/2011	11:13:45	4.72	3.54
run1	6/22/2011	11:14:00	4.72	3.55
run1	6/22/2011	11:14:15	4.65	3.54
run1	6/22/2011	11:14:30	4.63	3.53
run1	6/22/2011	11:14:45	4.72	3.52
run1	6/22/2011	11:15:00	4.76	3.50
run1	6/22/2011	11:15:15	4.73	3.51
run1	6/22/2011	11:15:30	4.72	3.52
run1	6/22/2011	11:15:45	4.73	3.53
run1	6/22/2011	11:16:00	4.75	3.54

name			1 O2	2 CO2
run1	6/22/2011	11:16:15	4.70	3.54
run1	6/22/2011	11:16:30	4.67	3.53
run1	6/22/2011	11:16:45	4.77	3.52
run1	6/22/2011	11:17:00	4.80	3.51
run1	6/22/2011	11:17:15	4.81	3.50
run1	6/22/2011	11:17:30	4.77	3.50
run1	6/22/2011	11:17:45	4.70	3.50
run1	6/22/2011	11:18:00	4.67	3.51
run1	6/22/2011	11:18:15	4.67	3.54
run1	6/22/2011	11:18:30	4.64	3.54
run1	6/22/2011	11:18:45	4.61	3.53
run1	6/22/2011	11:19:00	4.67	3.53
run1	6/22/2011	11:19:15	4.77	3.51
run1	6/22/2011	11:19:30	4.82	3.49
run1	6/22/2011	11:19:45	4.83	3.50
run1	6/22/2011	11:20:00	4.81	3.50
run1	6/22/2011	11:20:15	4.81	3.50
run1	6/22/2011	11:20:30	4.83	3.50
run1	6/22/2011	11:20:45	4.89	3.50
run1	6/22/2011	11:21:00	4.92	3.49
run1	6/22/2011	11:21:15	4.91	3.49
run1	6/22/2011	11:21:30	4.95	3.50
run1	6/22/2011	11:21:45	4.99	3.49
run1	6/22/2011	11:22:00	4.97	3.50
run1	6/22/2011	11:22:15	4.94	3.51
run1	6/22/2011	11:22:30	5.00	3.50
run1	6/22/2011	11:22:45	4.96	3.50
run1	6/22/2011	11:23:00	4.96	3.50
run1	6/22/2011	11:23:15	4.98	3.51
run1	6/22/2011	11:23:30	4.92	3.49
run1	6/22/2011	11:23:45	4.90	3.49
run1	6/22/2011	11:24:00	4.97	3.51
run1	6/22/2011	11:24:15	4.91	3.51
run1	6/22/2011	11:24:30	4.83	3.55
run1	6/22/2011	11:24:45	4.76	3.57
run1	6/22/2011	11:25:00	4.69	3.58
run1	6/22/2011	11:25:15	4.67	3.61
run1	6/22/2011	11:25:30	4.63	3.62
run1	6/22/2011	11:25:45	4.66	3.62
run1	6/22/2011	11:26:00	4.70	3.61
run1	6/22/2011	11:26:15	4.70	3.60
run1	6/22/2011	11:26:30	4.68	3.60
run1	6/22/2011	11:26:45	4.70	3.59
run1	6/22/2011	11:27:00	4.71	3.58
run1	6/22/2011	11:27:15	4.74	3.57
run1	6/22/2011	11:27:30	4.77	3.55
run1	6/22/2011	11:27:45	4.81	3.53
run1	6/22/2011	11:28:00	4.84	3.52
run1	6/22/2011	11:28:15	4.90	3.53
run1	6/22/2011	11:28:30	4.92	3.52
run1	6/22/2011	11:28:45	4.88	3.51
run1	6/22/2011	11:29:00	4.91	3.51
run1	6/22/2011	11:29:15	4.96	3.53
run1	6/22/2011	11:29:30	5.00	3.53
run1	6/22/2011	11:29:45	4.99	3.54
run1	6/22/2011	11:30:00	4.92	3.53
run1	6/22/2011	11:30:15	4.94	3.53
run1	6/22/2011	11:30:30	4.95	3.52

name			1 O2	2 CO2
run1	6/22/2011	11:30:45	4.90	3.51
run1	6/22/2011	11:31:00	4.87	3.52
run1	6/22/2011	11:31:15	4.87	3.54
run1	6/22/2011	11:31:30	4.86	3.57
run1	6/22/2011	11:31:45	4.81	3.54
run1	6/22/2011	11:32:00	4.75	3.55
run1	6/22/2011	11:32:15	4.70	3.57
run1	6/22/2011	11:32:30	4.67	3.57
run1	6/22/2011	11:32:45	4.74	3.54
run1	6/22/2011	11:33:00	4.77	3.54
run1	6/22/2011	11:33:15	4.75	3.57
run1	6/22/2011	11:33:30	4.68	3.56
run1	6/22/2011	11:33:45	4.69	3.55
run1	6/22/2011	11:34:00	4.73	3.53
run1	6/22/2011	11:34:15	4.78	3.53
run1	6/22/2011	11:34:30	4.80	3.52
run1	6/22/2011	11:34:45	4.80	3.53
run1	6/22/2011	11:35:00	4.79	3.53
run1	6/22/2011	11:35:15	4.72	3.54
run1	6/22/2011	11:35:30	4.70	3.53
run1	6/22/2011	11:35:45	4.70	3.53
run1	6/22/2011	11:36:00	4.80	3.53
run1	6/22/2011	11:36:15	4.86	3.52
run1	6/22/2011	11:36:30	4.88	3.52
run1	6/22/2011	11:36:45	4.90	3.52
run1	6/22/2011	11:37:00	4.94	3.51
run1	6/22/2011	11:37:15	4.94	3.52
run1	6/22/2011	11:37:30	4.88	3.55
run1	6/22/2011	11:37:45	4.75	3.55
run1	6/22/2011	11:38:00	4.72	3.54
run1	6/22/2011	11:38:15	4.77	3.53
run1	6/22/2011	11:38:30	4.74	3.53
run1	6/22/2011	11:38:45	4.68	3.52
run1	6/22/2011	11:39:00	4.65	3.53
run1	6/22/2011	11:39:15	4.68	3.53
run1	6/22/2011	11:39:30	4.75	3.51
run1	6/22/2011	11:39:45	4.76	3.51
run1	6/22/2011	11:40:00	4.79	3.51
run1	6/22/2011	11:40:15	4.84	3.49
run1	6/22/2011	11:40:30	4.83	3.48
run1	6/22/2011	11:40:45	4.86	3.47
run1	6/22/2011	11:41:00	4.88	3.45
run1	6/22/2011	11:41:15	4.91	3.45
run1	6/22/2011	11:41:30	4.95	3.47
run1	6/22/2011	11:41:45	4.94	3.46
run1	6/22/2011	11:42:00	4.92	3.46
run1	6/22/2011	11:42:15	4.91	3.48
run1	6/22/2011	11:42:30	4.84	3.49
run1	6/22/2011	11:42:45	4.78	3.50
run1	6/22/2011	11:43:00	4.78	3.50
run1	6/22/2011	11:43:15	4.80	3.48
run1	6/22/2011	11:43:30	4.84	3.48
run1	6/22/2011	11:43:45	4.87	3.48
run1	6/22/2011	11:44:00	4.87	3.48
run1	6/22/2011	11:44:15	4.88	3.50
run1	6/22/2011	11:44:30	4.79	3.52
run1	6/22/2011	11:44:45	4.72	3.49
run1	6/22/2011	11:45:00	4.76	3.49

name			1 O2	2 CO2
run1	6/22/2011	11:45:15	4.84	3.51
run1	6/22/2011	11:45:30	4.81	3.50
run1	6/22/2011	11:45:45	4.81	3.51
run1	6/22/2011	11:46:00	4.79	3.53
run1	6/22/2011	11:46:15	4.75	3.54
run1	6/22/2011	11:46:30	4.78	3.55
run1	6/22/2011	11:46:45	4.81	3.55
run1	6/22/2011	11:47:00	4.84	3.56
run1	6/22/2011	11:47:15	4.86	3.56
run1	6/22/2011	11:47:30	4.88	3.58
run1	6/22/2011	11:47:45	4.91	3.60
run1	6/22/2011	11:48:00	4.92	3.60
run1	6/22/2011	11:48:15	4.92	3.60
run1	6/22/2011	11:48:30	4.88	3.60
run1	6/22/2011	11:48:45	4.80	3.61
run1	6/22/2011	11:49:00	4.69	3.64
run1	6/22/2011	11:49:15	4.68	3.66
run1	6/22/2011	11:49:30	4.69	3.66
run1	6/22/2011	11:49:45	4.64	3.66
run1	6/22/2011	11:50:00	4.63	3.66
run1	6/22/2011	11:50:15	4.66	3.66
run1	6/22/2011	11:50:30	4.64	3.67
run1	6/22/2011	11:50:45	4.58	3.68
run1	6/22/2011	11:51:00	4.58	3.69
run1	6/22/2011	11:51:15	4.62	3.64
run1	6/22/2011	11:51:30	4.69	3.62
run1	6/22/2011	11:51:45	4.72	3.62
run1	6/22/2011	11:52:00	4.81	3.60
run1	6/22/2011	11:52:15	4.86	3.59
run1	6/22/2011	11:52:30	4.87	3.58
run1	6/22/2011	11:52:45	4.86	3.58
run1	6/22/2011	11:53:00	4.89	3.57
run1	6/22/2011	11:53:15	4.93	3.57
run1	6/22/2011	11:53:30	4.93	3.58
run1	6/22/2011	11:53:45	4.89	3.57
run1	6/22/2011	11:54:00	4.85	3.57
run1	6/22/2011	11:54:15	4.87	3.59
run1	6/22/2011	11:54:30	4.85	3.59
run1	6/22/2011	11:54:45	4.91	3.58
run1	6/22/2011	11:55:00	4.97	3.57
run1	6/22/2011	11:55:15	4.96	3.57
run1	6/22/2011	11:55:30	4.90	3.57
run1	6/22/2011	11:55:45	4.86	3.57
run1	6/22/2011	11:56:00	4.83	3.57
run1	6/22/2011	11:56:15	4.81	3.60
run1	6/22/2011	11:56:30	4.78	3.59
run1	6/22/2011	11:56:45	4.77	3.58
run1	6/22/2011	11:57:00	4.72	3.60
run1	6/22/2011	11:57:15	4.66	3.60
run1	6/22/2011	11:57:30	4.72	3.60
run1	6/22/2011	11:57:45	4.80	3.59
run1	6/22/2011	11:58:00	4.83	3.59
run1	6/22/2011	11:58:15	4.82	3.60
run1	6/22/2011	11:58:30	4.81	3.61
run1	6/22/2011	11:58:45	4.75	3.61
run1	6/22/2011	11:59:00	4.76	3.59
run1	6/22/2011	11:59:15	4.83	3.59
run1	6/22/2011	11:59:30	4.86	3.58

name			1 O2	2 CO2					
run1	6/22/2011	11:59:45	4.84	3.59					
run1	6/22/2011	12:00:00	4.77	3.58					
run1	6/22/2011	12:00:15	4.68	3.60					
run1	6/22/2011	12:00:30	4.68	3.60					
run1	6/22/2011	12:00:45	4.63	3.60					
run1	6/22/2011	12:01:00	4.57	3.60					
run1	6/22/2011	12:01:15	4.58	3.58					
run1	6/22/2011	12:01:30	4.64	3.56					
run1	6/22/2011	12:01:45	4.71	3.55					
run1	6/22/2011	12:02:00	4.69	3.53					
run1	6/22/2011	12:02:15	4.72	3.52					
run1	6/22/2011	12:02:30	4.73	3.51					
run1	6/22/2011	12:02:45	4.72	3.50					
run1	6/22/2011	12:03:00	4.73	3.51					
run1	6/22/2011	12:03:15	4.71	3.51					
run1	6/22/2011	12:03:30	4.68	3.52					
run1	6/22/2011	12:03:45	4.68	3.51					
run1	6/22/2011	12:04:00	4.68	3.50					
run1	6/22/2011	12:04:15	4.72	3.49					
run1	6/22/2011	12:04:30	4.84	3.46					
run1	6/22/2011	12:04:45	4.91	3.45					
run1	6/22/2011	12:05:00	4.93	3.47					
run1	6/22/2011	12:05:15	4.90	3.48					
run1	6/22/2011	12:05:30	4.81	3.49					
run1	6/22/2011	12:05:45	4.83	3.49					
run1	6/22/2011	12:06:00	4.89	3.47					
run1	6/22/2011	12:06:15	4.90	3.46					
run1	6/22/2011	12:06:30	4.93	3.46					
run1	6/22/2011	12:06:45	4.88	3.48					
run1	6/22/2011	12:07:00	4.85	3.50					
run1	6/22/2011	12:07:15	4.84	3.50					
run1	6/22/2011	12:07:30	4.79	3.49					
run1	6/22/2011	12:07:45	4.84	3.48					
run1	6/22/2011	12:08:00	4.85	3.48					
run1	6/22/2011	12:08:15	4.90	3.47					
run1	6/22/2011	12:08:30	4.94	3.47					
run1	6/22/2011	12:08:45	4.92	3.49					
run1	6/22/2011	12:09:00	4.90	3.50					
run1	6/22/2011	12:09:15	4.87	3.53					
run1	6/22/2011	12:09:30	4.80	3.54					
run1	6/22/2011	12:09:45	4.70	3.57					
averun1	6/22/2011	9:10:00	4.80	3.52	180				
scg5	6/22/2011	12:10:00	4.68	3.60	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	12:10:15	4.67	3.63	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	12:10:30	4.62	3.49	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	12:10:45	3.58	2.15	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	12:11:00	1.51	0.67	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	12:11:15	0.41	0.19	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	12:11:30	0.17	0.10	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	12:11:45	0.11	0.07	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	12:12:00	0.09	0.06	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	12:12:15	0.07	0.04	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	12:12:30	0.06	0.04	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	12:12:45	0.07	0.04	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	12:13:00	0.07	0.04	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	12:13:15	0.06	0.04	ALM066457/cg5	CO	41.5		0
o2zero1	6/22/2011	12:13:15	0.06	0.04	ALM066457/cg5	CO	41.5		0
co2zero1	6/22/2011	12:13:15	0.06	0.04	ALM066457/cg5	CO	41.5		0

name			1 O2	2 CO2				
scg9	6/22/2011	12:13:30	0.06	0.04	CC133782/cg9	CO2	11 O2	11.1
scg9	6/22/2011	12:13:45	0.06	0.04	CC133782/cg9	CO2	11 O2	11.1
scg9	6/22/2011	12:14:00	0.04	0.04	CC133782/cg9	CO2	11 O2	11.1
scg9	6/22/2011	12:14:15	0.25	0.36	CC133782/cg9	CO2	11 O2	11.1
scg9	6/22/2011	12:14:30	3.62	4.13	CC133782/cg9	CO2	11 O2	11.1
scg9	6/22/2011	12:14:45	8.71	8.91	CC133782/cg9	CO2	11 O2	11.1
scg9	6/22/2011	12:15:00	10.55	10.44	CC133782/cg9	CO2	11 O2	11.1
scg9	6/22/2011	12:15:15	10.97	10.79	CC133782/cg9	CO2	11 O2	11.1
scg9	6/22/2011	12:15:30	11.09	10.89	CC133782/cg9	CO2	11 O2	11.1
scg9	6/22/2011	12:15:45	11.13	10.95	CC133782/cg9	CO2	11 O2	11.1
scg9	6/22/2011	12:16:00	11.16	10.97	CC133782/cg9	CO2	11 O2	11.1
scg9	6/22/2011	12:16:15	11.19	10.98	CC133782/cg9	CO2	11 O2	11.1
scg9	6/22/2011	12:16:30	11.19	10.99	CC133782/cg9	CO2	11 O2	11.1
o2span1	6/22/2011	12:16:30	11.19	10.99	CC133782/cg9	CO2	11 O2	11.1
co2span1	6/22/2011	12:16:30	11.19	10.99	CC133782/cg9	CO2	11 O2	11.1
run2	6/22/2011	14:15:00	5.04	3.50				
run2	6/22/2011	14:15:15	5.05	3.49				
run2	6/22/2011	14:15:30	5.06	3.48				
run2	6/22/2011	14:15:45	5.10	3.48				
run2	6/22/2011	14:16:00	5.10	3.48				
run2	6/22/2011	14:16:15	5.08	3.48				
run2	6/22/2011	14:16:30	5.13	3.48				
run2	6/22/2011	14:16:45	5.16	3.47				
run2	6/22/2011	14:17:00	5.12	3.45				
run2	6/22/2011	14:17:15	5.15	3.46				
run2	6/22/2011	14:17:30	5.20	3.46				
run2	6/22/2011	14:17:45	5.18	3.45				
run2	6/22/2011	14:18:00	5.14	3.45				
run2	6/22/2011	14:18:15	5.12	3.46				
run2	6/22/2011	14:18:30	5.09	3.46				
run2	6/22/2011	14:18:45	5.00	3.45				
run2	6/22/2011	14:19:00	4.91	3.47				
run2	6/22/2011	14:19:15	4.91	3.48				
run2	6/22/2011	14:19:30	4.93	3.48				
run2	6/22/2011	14:19:45	4.93	3.48				
run2	6/22/2011	14:20:00	4.92	3.45				
run2	6/22/2011	14:20:15	4.99	3.44				
run2	6/22/2011	14:20:30	5.02	3.43				
run2	6/22/2011	14:20:45	5.01	3.43				
run2	6/22/2011	14:21:00	5.05	3.42				
run2	6/22/2011	14:21:15	5.11	3.41				
run2	6/22/2011	14:21:30	5.14	3.41				
run2	6/22/2011	14:21:45	5.15	3.40				
run2	6/22/2011	14:22:00	5.14	3.40				
run2	6/22/2011	14:22:15	5.20	3.41				
run2	6/22/2011	14:22:30	5.22	3.41				
run2	6/22/2011	14:22:45	5.24	3.42				
run2	6/22/2011	14:23:00	5.27	3.42				
run2	6/22/2011	14:23:15	5.26	3.42				
run2	6/22/2011	14:23:30	5.23	3.43				
run2	6/22/2011	14:23:45	5.20	3.43				
run2	6/22/2011	14:24:00	5.13	3.42				
run2	6/22/2011	14:24:15	5.12	3.43				
run2	6/22/2011	14:24:30	5.05	3.44				
run2	6/22/2011	14:24:45	5.00	3.43				
run2	6/22/2011	14:25:00	5.05	3.43				
run2	6/22/2011	14:25:15	5.09	3.42				
run2	6/22/2011	14:25:30	5.09	3.42				

name			1 O2	2 CO2
run2	6/22/2011	14:25:45	5.09	3.43
run2	6/22/2011	14:26:00	5.16	3.43
run2	6/22/2011	14:26:15	5.11	3.43
run2	6/22/2011	14:26:30	5.10	3.44
run2	6/22/2011	14:26:45	5.14	3.44
run2	6/22/2011	14:27:00	5.16	3.46
run2	6/22/2011	14:27:15	5.17	3.48
run2	6/22/2011	14:27:30	5.19	3.50
run2	6/22/2011	14:27:45	5.16	3.51
run2	6/22/2011	14:28:00	5.13	3.51
run2	6/22/2011	14:28:15	5.10	3.51
run2	6/22/2011	14:28:30	5.05	3.51
run2	6/22/2011	14:28:45	5.01	3.51
run2	6/22/2011	14:29:00	4.99	3.53
run2	6/22/2011	14:29:15	4.95	3.53
run2	6/22/2011	14:29:30	4.99	3.52
run2	6/22/2011	14:29:45	5.04	3.52
run2	6/22/2011	14:30:00	5.10	3.52
run2	6/22/2011	14:30:15	5.11	3.51
run2	6/22/2011	14:30:30	5.11	3.52
run2	6/22/2011	14:30:45	5.16	3.52
run2	6/22/2011	14:31:00	5.21	3.52
run2	6/22/2011	14:31:15	5.22	3.51
run2	6/22/2011	14:31:30	5.24	3.51
run2	6/22/2011	14:31:45	5.26	3.52
run2	6/22/2011	14:32:00	5.27	3.51
run2	6/22/2011	14:32:15	5.27	3.51
run2	6/22/2011	14:32:30	5.24	3.51
run2	6/22/2011	14:32:45	5.23	3.51
run2	6/22/2011	14:33:00	5.24	3.51
run2	6/22/2011	14:33:15	5.25	3.51
run2	6/22/2011	14:33:30	5.25	3.52
run2	6/22/2011	14:33:45	5.19	3.54
run2	6/22/2011	14:34:00	5.11	3.57
run2	6/22/2011	14:34:15	5.06	3.59
run2	6/22/2011	14:34:30	5.05	3.61
run2	6/22/2011	14:34:45	5.04	3.62
run2	6/22/2011	14:35:00	4.98	3.62
run2	6/22/2011	14:35:15	4.99	3.63
run2	6/22/2011	14:35:30	5.01	3.63
run2	6/22/2011	14:35:45	5.02	3.62
run2	6/22/2011	14:36:00	5.05	3.62
run2	6/22/2011	14:36:15	5.03	3.63
run2	6/22/2011	14:36:30	5.01	3.62
run2	6/22/2011	14:36:45	5.03	3.61
run2	6/22/2011	14:37:00	5.02	3.60
run2	6/22/2011	14:37:15	4.99	3.60
run2	6/22/2011	14:37:30	4.98	3.60
run2	6/22/2011	14:37:45	4.99	3.58
run2	6/22/2011	14:38:00	5.01	3.57
run2	6/22/2011	14:38:15	5.03	3.58
run2	6/22/2011	14:38:30	5.01	3.57
run2	6/22/2011	14:38:45	5.01	3.55
run2	6/22/2011	14:39:00	5.06	3.54
run2	6/22/2011	14:39:15	5.03	3.52
run2	6/22/2011	14:39:30	4.94	3.52
run2	6/22/2011	14:39:45	4.99	3.52
run2	6/22/2011	14:40:00	5.08	3.49

name			1 O2	2 CO2
run2	6/22/2011	14:40:15	5.11	3.48
run2	6/22/2011	14:40:30	5.10	3.46
run2	6/22/2011	14:40:45	5.09	3.46
run2	6/22/2011	14:41:00	5.12	3.46
run2	6/22/2011	14:41:15	5.11	3.45
run2	6/22/2011	14:41:30	5.10	3.45
run2	6/22/2011	14:41:45	5.08	3.45
run2	6/22/2011	14:42:00	5.08	3.43
run2	6/22/2011	14:42:15	5.10	3.44
run2	6/22/2011	14:42:30	5.16	3.43
run2	6/22/2011	14:42:45	5.22	3.43
run2	6/22/2011	14:43:00	5.24	3.44
run2	6/22/2011	14:43:15	5.23	3.44
run2	6/22/2011	14:43:30	5.21	3.44
run2	6/22/2011	14:43:45	5.22	3.45
run2	6/22/2011	14:44:00	5.21	3.44
run2	6/22/2011	14:44:15	5.11	3.43
run2	6/22/2011	14:44:30	5.15	3.44
run2	6/22/2011	14:44:45	5.17	3.43
run2	6/22/2011	14:45:00	5.19	3.43
run2	6/22/2011	14:45:15	5.18	3.43
run2	6/22/2011	14:45:30	5.15	3.44
run2	6/22/2011	14:45:45	5.14	3.44
run2	6/22/2011	14:46:00	5.12	3.43
run2	6/22/2011	14:46:15	5.13	3.43
run2	6/22/2011	14:46:30	5.14	3.43
run2	6/22/2011	14:46:45	5.11	3.44
run2	6/22/2011	14:47:00	5.08	3.45
run2	6/22/2011	14:47:15	5.10	3.47
run2	6/22/2011	14:47:30	5.07	3.47
run2	6/22/2011	14:47:45	5.06	3.48
run2	6/22/2011	14:48:00	5.05	3.48
run2	6/22/2011	14:48:15	5.06	3.49
run2	6/22/2011	14:48:30	5.05	3.49
run2	6/22/2011	14:48:45	5.04	3.48
run2	6/22/2011	14:49:00	5.05	3.50
run2	6/22/2011	14:49:15	5.02	3.50
run2	6/22/2011	14:49:30	5.00	3.48
run2	6/22/2011	14:49:45	5.03	3.48
run2	6/22/2011	14:50:00	4.99	3.49
run2	6/22/2011	14:50:15	4.94	3.50
run2	6/22/2011	14:50:30	4.97	3.52
run2	6/22/2011	14:50:45	4.94	3.51
run2	6/22/2011	14:51:00	4.97	3.50
run2	6/22/2011	14:51:15	5.00	3.50
run2	6/22/2011	14:51:30	4.97	3.50
run2	6/22/2011	14:51:45	4.92	3.50
run2	6/22/2011	14:52:00	4.90	3.50
run2	6/22/2011	14:52:15	4.90	3.49
run2	6/22/2011	14:52:30	4.90	3.48
run2	6/22/2011	14:52:45	4.86	3.48
run2	6/22/2011	14:53:00	4.89	3.48
run2	6/22/2011	14:53:15	4.94	3.47
run2	6/22/2011	14:53:30	4.97	3.46
run2	6/22/2011	14:53:45	4.99	3.45
run2	6/22/2011	14:54:00	4.99	3.45
run2	6/22/2011	14:54:15	5.01	3.46
run2	6/22/2011	14:54:30	5.04	3.45

name			1 O2	2 CO2
run2	6/22/2011	14:54:45	5.05	3.44
run2	6/22/2011	14:55:00	5.03	3.44
run2	6/22/2011	14:55:15	5.07	3.45
run2	6/22/2011	14:55:30	5.08	3.46
run2	6/22/2011	14:55:45	5.08	3.46
run2	6/22/2011	14:56:00	5.11	3.46
run2	6/22/2011	14:56:15	5.11	3.46
run2	6/22/2011	14:56:30	5.12	3.47
run2	6/22/2011	14:56:45	5.13	3.46
run2	6/22/2011	14:57:00	5.08	3.45
run2	6/22/2011	14:57:15	5.06	3.45
run2	6/22/2011	14:57:30	5.06	3.46
run2	6/22/2011	14:57:45	5.06	3.48
run2	6/22/2011	14:58:00	5.04	3.51
run2	6/22/2011	14:58:15	4.95	3.53
run2	6/22/2011	14:58:30	4.94	3.55
run2	6/22/2011	14:58:45	4.90	3.57
run2	6/22/2011	14:59:00	4.86	3.59
run2	6/22/2011	14:59:15	4.86	3.60
run2	6/22/2011	14:59:30	4.89	3.60
run2	6/22/2011	14:59:45	4.89	3.59
run2	6/22/2011	15:00:00	4.88	3.58
run2	6/22/2011	15:00:15	4.92	3.58
run2	6/22/2011	15:00:30	4.97	3.57
run2	6/22/2011	15:00:45	4.96	3.58
run2	6/22/2011	15:01:00	4.93	3.57
run2	6/22/2011	15:01:15	4.95	3.57
run2	6/22/2011	15:01:30	4.96	3.56
run2	6/22/2011	15:01:45	4.98	3.56
run2	6/22/2011	15:02:00	4.98	3.55
run2	6/22/2011	15:02:15	4.99	3.56
run2	6/22/2011	15:02:30	4.99	3.57
run2	6/22/2011	15:02:45	5.00	3.58
run2	6/22/2011	15:03:00	4.95	3.57
run2	6/22/2011	15:03:15	4.92	3.57
run2	6/22/2011	15:03:30	4.92	3.57
run2	6/22/2011	15:03:45	4.94	3.57
run2	6/22/2011	15:04:00	4.91	3.57
run2	6/22/2011	15:04:15	4.89	3.58
run2	6/22/2011	15:04:30	4.88	3.57
run2	6/22/2011	15:04:45	4.89	3.58
run2	6/22/2011	15:05:00	4.83	3.57
run2	6/22/2011	15:05:15	4.80	3.59
run2	6/22/2011	15:05:30	4.79	3.59
run2	6/22/2011	15:05:45	4.79	3.56
run2	6/22/2011	15:06:00	4.84	3.54
run2	6/22/2011	15:06:15	4.86	3.52
run2	6/22/2011	15:06:30	4.86	3.50
run2	6/22/2011	15:06:45	4.87	3.51
run2	6/22/2011	15:07:00	4.85	3.52
run2	6/22/2011	15:07:15	4.85	3.51
run2	6/22/2011	15:07:30	4.89	3.51
run2	6/22/2011	15:07:45	4.96	3.51
run2	6/22/2011	15:08:00	4.98	3.52
run2	6/22/2011	15:08:15	4.97	3.51
run2	6/22/2011	15:08:30	4.96	3.51
run2	6/22/2011	15:08:45	4.93	3.51
run2	6/22/2011	15:09:00	4.95	3.52

name			1 O2	2 CO2
run2	6/22/2011	15:09:15	5.01	3.53
run2	6/22/2011	15:09:30	4.97	3.51
run2	6/22/2011	15:09:45	4.97	3.51
run2	6/22/2011	15:10:00	4.93	3.52
run2	6/22/2011	15:10:15	4.96	3.53
run2	6/22/2011	15:10:30	4.99	3.52
run2	6/22/2011	15:10:45	4.99	3.51
run2	6/22/2011	15:11:00	4.99	3.51
run2	6/22/2011	15:11:15	4.97	3.52
run2	6/22/2011	15:11:30	4.98	3.52
run2	6/22/2011	15:11:45	5.00	3.53
run2	6/22/2011	15:12:00	4.99	3.54
run2	6/22/2011	15:12:15	4.96	3.55
run2	6/22/2011	15:12:30	4.87	3.57
run2	6/22/2011	15:12:45	4.78	3.60
run2	6/22/2011	15:13:00	4.76	3.61
run2	6/22/2011	15:13:15	4.75	3.63
run2	6/22/2011	15:13:30	4.75	3.64
run2	6/22/2011	15:13:45	4.76	3.64
run2	6/22/2011	15:14:00	4.79	3.63
run2	6/22/2011	15:14:15	4.77	3.64
run2	6/22/2011	15:14:30	4.72	3.64
run2	6/22/2011	15:14:45	4.74	3.65
run2	6/22/2011	15:15:00	4.69	3.64
run2	6/22/2011	15:15:15	4.65	3.63
run2	6/22/2011	15:15:30	4.66	3.62
run2	6/22/2011	15:15:45	4.73	3.60
run2	6/22/2011	15:16:00	4.75	3.59
run2	6/22/2011	15:16:15	4.78	3.58
run2	6/22/2011	15:16:30	4.78	3.58
run2	6/22/2011	15:16:45	4.75	3.57
run2	6/22/2011	15:17:00	4.75	3.55
run2	6/22/2011	15:17:15	4.75	3.53
run2	6/22/2011	15:17:30	4.76	3.53
run2	6/22/2011	15:17:45	4.79	3.52
run2	6/22/2011	15:18:00	4.82	3.52
run2	6/22/2011	15:18:15	4.80	3.52
run2	6/22/2011	15:18:30	4.78	3.52
run2	6/22/2011	15:18:45	4.82	3.52
run2	6/22/2011	15:19:00	4.78	3.52
run2	6/22/2011	15:19:15	4.73	3.51
run2	6/22/2011	15:19:30	4.72	3.51
run2	6/22/2011	15:19:45	4.69	3.52
run2	6/22/2011	15:20:00	4.73	3.52
run2	6/22/2011	15:20:15	4.77	3.52
run2	6/22/2011	15:20:30	4.72	3.52
run2	6/22/2011	15:20:45	4.71	3.51
run2	6/22/2011	15:21:00	4.75	3.51
run2	6/22/2011	15:21:15	4.76	3.51
run2	6/22/2011	15:21:30	4.79	3.51
run2	6/22/2011	15:21:45	4.81	3.51
run2	6/22/2011	15:22:00	4.82	3.51
run2	6/22/2011	15:22:15	4.85	3.51
run2	6/22/2011	15:22:30	4.92	3.52
run2	6/22/2011	15:22:45	4.97	3.51
run2	6/22/2011	15:23:00	4.92	3.51
run2	6/22/2011	15:23:15	4.88	3.50
run2	6/22/2011	15:23:30	4.87	3.51

name			1 O2	2 CO2
run2	6/22/2011	15:23:45	4.85	3.51
run2	6/22/2011	15:24:00	4.87	3.52
run2	6/22/2011	15:24:15	4.80	3.52
run2	6/22/2011	15:24:30	4.82	3.53
run2	6/22/2011	15:24:45	4.83	3.54
run2	6/22/2011	15:25:00	4.75	3.54
run2	6/22/2011	15:25:15	4.66	3.55
run2	6/22/2011	15:25:30	4.67	3.58
run2	6/22/2011	15:25:45	4.68	3.59
run2	6/22/2011	15:26:00	4.67	3.60
run2	6/22/2011	15:26:15	4.68	3.61
run2	6/22/2011	15:26:30	4.68	3.62
run2	6/22/2011	15:26:45	4.68	3.61
run2	6/22/2011	15:27:00	4.69	3.60
run2	6/22/2011	15:27:15	4.68	3.61
run2	6/22/2011	15:27:30	4.66	3.62
run2	6/22/2011	15:27:45	4.61	3.60
run2	6/22/2011	15:28:00	4.61	3.60
run2	6/22/2011	15:28:15	4.62	3.60
run2	6/22/2011	15:28:30	4.61	3.59
run2	6/22/2011	15:28:45	4.57	3.59
run2	6/22/2011	15:29:00	4.53	3.58
run2	6/22/2011	15:29:15	4.56	3.55
run2	6/22/2011	15:29:30	4.62	3.54
run2	6/22/2011	15:29:45	4.68	3.51
run2	6/22/2011	15:30:00	4.69	3.50
run2	6/22/2011	15:30:15	4.73	3.49
run2	6/22/2011	15:30:30	4.77	3.48
run2	6/22/2011	15:30:45	4.76	3.47
run2	6/22/2011	15:31:00	4.79	3.48
run2	6/22/2011	15:31:15	4.83	3.47
run2	6/22/2011	15:31:30	4.87	3.47
run2	6/22/2011	15:31:45	4.90	3.46
run2	6/22/2011	15:32:00	4.92	3.46
run2	6/22/2011	15:32:15	4.88	3.45
run2	6/22/2011	15:32:30	4.84	3.46
run2	6/22/2011	15:32:45	4.80	3.48
run2	6/22/2011	15:33:00	4.82	3.48
run2	6/22/2011	15:33:15	4.84	3.47
run2	6/22/2011	15:33:30	4.82	3.46
run2	6/22/2011	15:33:45	4.78	3.47
run2	6/22/2011	15:34:00	4.77	3.47
run2	6/22/2011	15:34:15	4.76	3.46
run2	6/22/2011	15:34:30	4.77	3.47
run2	6/22/2011	15:34:45	4.71	3.49
run2	6/22/2011	15:35:00	4.63	3.50
run2	6/22/2011	15:35:15	4.60	3.53
run2	6/22/2011	15:35:30	4.57	3.53
run2	6/22/2011	15:35:45	4.57	3.54
run2	6/22/2011	15:36:00	4.55	3.55
run2	6/22/2011	15:36:15	4.59	3.56
run2	6/22/2011	15:36:30	4.64	3.56
run2	6/22/2011	15:36:45	4.60	3.56
run2	6/22/2011	15:37:00	4.61	3.54
run2	6/22/2011	15:37:15	4.64	3.54
run2	6/22/2011	15:37:30	4.66	3.55
run2	6/22/2011	15:37:45	4.70	3.53
run2	6/22/2011	15:38:00	4.69	3.51

name			1 O2	2 CO2
run2	6/22/2011	15:38:15	4.72	3.51
run2	6/22/2011	15:38:30	4.75	3.50
run2	6/22/2011	15:38:45	4.74	3.51
run2	6/22/2011	15:39:00	4.76	3.52
run2	6/22/2011	15:39:15	4.79	3.51
run2	6/22/2011	15:39:30	4.80	3.51
run2	6/22/2011	15:39:45	4.77	3.52
run2	6/22/2011	15:40:00	4.74	3.51
run2	6/22/2011	15:40:15	4.72	3.51
run2	6/22/2011	15:40:30	4.70	3.51
run2	6/22/2011	15:40:45	4.76	3.51
run2	6/22/2011	15:41:00	4.76	3.51
run2	6/22/2011	15:41:15	4.71	3.50
run2	6/22/2011	15:41:30	4.66	3.51
run2	6/22/2011	15:41:45	4.62	3.52
run2	6/22/2011	15:42:00	4.65	3.52
run2	6/22/2011	15:42:15	4.69	3.51
run2	6/22/2011	15:42:30	4.67	3.51
run2	6/22/2011	15:42:45	4.65	3.51
run2	6/22/2011	15:43:00	4.65	3.52
run2	6/22/2011	15:43:15	4.61	3.55
run2	6/22/2011	15:43:30	4.54	3.56
run2	6/22/2011	15:43:45	4.50	3.56
run2	6/22/2011	15:44:00	4.50	3.55
run2	6/22/2011	15:44:15	4.51	3.57
run2	6/22/2011	15:44:30	4.58	3.57
run2	6/22/2011	15:44:45	4.64	3.55
run2	6/22/2011	15:45:00	4.64	3.53
run2	6/22/2011	15:45:15	4.67	3.54
run2	6/22/2011	15:45:30	4.65	3.54
run2	6/22/2011	15:45:45	4.63	3.54
run2	6/22/2011	15:46:00	4.68	3.53
run2	6/22/2011	15:46:15	4.62	3.52
run2	6/22/2011	15:46:30	4.61	3.52
run2	6/22/2011	15:46:45	4.65	3.52
run2	6/22/2011	15:47:00	4.66	3.52
run2	6/22/2011	15:47:15	4.63	3.51
run2	6/22/2011	15:47:30	4.65	3.52
run2	6/22/2011	15:47:45	4.69	3.51
run2	6/22/2011	15:48:00	4.68	3.50
run2	6/22/2011	15:48:15	4.71	3.50
run2	6/22/2011	15:48:30	4.71	3.49
run2	6/22/2011	15:48:45	4.69	3.50
run2	6/22/2011	15:49:00	4.74	3.51
run2	6/22/2011	15:49:15	4.77	3.50
run2	6/22/2011	15:49:30	4.75	3.50
run2	6/22/2011	15:49:45	4.74	3.51
run2	6/22/2011	15:50:00	4.76	3.50
run2	6/22/2011	15:50:15	4.72	3.49
run2	6/22/2011	15:50:30	4.72	3.51
run2	6/22/2011	15:50:45	4.71	3.50
run2	6/22/2011	15:51:00	4.69	3.48
run2	6/22/2011	15:51:15	4.69	3.48
run2	6/22/2011	15:51:30	4.67	3.48
run2	6/22/2011	15:51:45	4.69	3.47
run2	6/22/2011	15:52:00	4.75	3.47
run2	6/22/2011	15:52:15	4.80	3.48
run2	6/22/2011	15:52:30	4.86	3.49

name			1 O2	2 CO2
run2	6/22/2011	15:52:45	4.87	3.48
run2	6/22/2011	15:53:00	4.84	3.48
run2	6/22/2011	15:53:15	4.83	3.49
run2	6/22/2011	15:53:30	4.85	3.50
run2	6/22/2011	15:53:45	4.85	3.49
run2	6/22/2011	15:54:00	4.83	3.49
run2	6/22/2011	15:54:15	4.77	3.49
run2	6/22/2011	15:54:30	4.72	3.49
run2	6/22/2011	15:54:45	4.71	3.51
run2	6/22/2011	15:55:00	4.70	3.54
run2	6/22/2011	15:55:15	4.65	3.55
run2	6/22/2011	15:55:30	4.59	3.57
run2	6/22/2011	15:55:45	4.49	3.59
run2	6/22/2011	15:56:00	4.46	3.61
run2	6/22/2011	15:56:15	4.45	3.61
run2	6/22/2011	15:56:30	4.46	3.60
run2	6/22/2011	15:56:45	4.50	3.58
run2	6/22/2011	15:57:00	4.53	3.57
run2	6/22/2011	15:57:15	4.58	3.55
run2	6/22/2011	15:57:30	4.61	3.52
run2	6/22/2011	15:57:45	4.63	3.51
run2	6/22/2011	15:58:00	4.70	3.50
run2	6/22/2011	15:58:15	4.70	3.48
run2	6/22/2011	15:58:30	4.72	3.48
run2	6/22/2011	15:58:45	4.73	3.48
run2	6/22/2011	15:59:00	4.74	3.48
run2	6/22/2011	15:59:15	4.72	3.48
run2	6/22/2011	15:59:30	4.70	3.48
run2	6/22/2011	15:59:45	4.65	3.47
run2	6/22/2011	16:00:00	4.67	3.48
run2	6/22/2011	16:00:15	4.68	3.49
run2	6/22/2011	16:00:30	4.65	3.48
run2	6/22/2011	16:00:45	4.64	3.48
run2	6/22/2011	16:01:00	4.66	3.49
run2	6/22/2011	16:01:15	4.69	3.50
run2	6/22/2011	16:01:30	4.70	3.49
run2	6/22/2011	16:01:45	4.71	3.49
run2	6/22/2011	16:02:00	4.71	3.49
run2	6/22/2011	16:02:15	4.69	3.49
run2	6/22/2011	16:02:30	4.68	3.49
run2	6/22/2011	16:02:45	4.71	3.49
run2	6/22/2011	16:03:00	4.72	3.49
run2	6/22/2011	16:03:15	4.68	3.50
run2	6/22/2011	16:03:30	4.69	3.50
run2	6/22/2011	16:03:45	4.74	3.50
run2	6/22/2011	16:04:00	4.72	3.49
run2	6/22/2011	16:04:15	4.68	3.49
run2	6/22/2011	16:04:30	4.69	3.51
run2	6/22/2011	16:04:45	4.65	3.51
run2	6/22/2011	16:05:00	4.60	3.51
run2	6/22/2011	16:05:15	4.64	3.51
run2	6/22/2011	16:05:30	4.69	3.51
run2	6/22/2011	16:05:45	4.71	3.51
run2	6/22/2011	16:06:00	4.72	3.52
run2	6/22/2011	16:06:15	4.77	3.54
run2	6/22/2011	16:06:30	4.76	3.52
run2	6/22/2011	16:06:45	4.82	3.51
run2	6/22/2011	16:07:00	4.87	3.50

name			1 O2	2 CO2
run2	6/22/2011	16:07:15	4.88	3.51
run2	6/22/2011	16:07:30	4.90	3.51
run2	6/22/2011	16:07:45	4.94	3.49
run2	6/22/2011	16:08:00	5.00	3.47
run2	6/22/2011	16:08:15	5.07	3.47
run2	6/22/2011	16:08:30	5.04	3.48
run2	6/22/2011	16:08:45	4.97	3.50
run2	6/22/2011	16:09:00	4.96	3.50
run2	6/22/2011	16:09:15	4.96	3.49
run2	6/22/2011	16:09:30	5.00	3.49
run2	6/22/2011	16:09:45	5.00	3.49
run2	6/22/2011	17:00:00	5.47	3.44
run2	6/22/2011	17:00:15	5.49	3.44
run2	6/22/2011	17:00:30	5.53	3.45
run2	6/22/2011	17:00:45	5.57	3.48
run2	6/22/2011	17:01:00	5.60	3.50
run2	6/22/2011	17:01:15	5.56	3.51
run2	6/22/2011	17:01:30	5.52	3.53
run2	6/22/2011	17:01:45	5.45	3.54
run2	6/22/2011	17:02:00	5.39	3.55
run2	6/22/2011	17:02:15	5.34	3.57
run2	6/22/2011	17:02:30	5.33	3.56
run2	6/22/2011	17:02:45	5.36	3.56
run2	6/22/2011	17:03:00	5.36	3.57
run2	6/22/2011	17:03:15	5.37	3.56
run2	6/22/2011	17:03:30	5.39	3.56
run2	6/22/2011	17:03:45	5.44	3.54
run2	6/22/2011	17:04:00	5.53	3.53
run2	6/22/2011	17:04:15	5.58	3.51
run2	6/22/2011	17:04:30	5.62	3.51
run2	6/22/2011	17:04:45	5.63	3.51
run2	6/22/2011	17:05:00	5.60	3.50
run2	6/22/2011	17:05:15	5.64	3.49
run2	6/22/2011	17:05:30	5.71	3.49
run2	6/22/2011	17:05:45	5.73	3.48
run2	6/22/2011	17:06:00	5.71	3.48
run2	6/22/2011	17:06:15	5.69	3.47
run2	6/22/2011	17:06:30	5.67	3.47
run2	6/22/2011	17:06:45	5.64	3.47
run2	6/22/2011	17:07:00	5.64	3.46
run2	6/22/2011	17:07:15	5.68	3.46
run2	6/22/2011	17:07:30	5.70	3.45
run2	6/22/2011	17:07:45	5.74	3.44
run2	6/22/2011	17:08:00	5.83	3.43
run2	6/22/2011	17:08:15	5.82	3.44
run2	6/22/2011	17:08:30	5.82	3.44
run2	6/22/2011	17:08:45	5.78	3.44
run2	6/22/2011	17:09:00	5.77	3.44
run2	6/22/2011	17:09:15	5.77	3.44
run2	6/22/2011	17:09:30	5.73	3.44
run2	6/22/2011	17:09:45	5.67	3.44
run2	6/22/2011	17:10:00	5.75	3.44
run2	6/22/2011	17:10:15	5.81	3.42
run2	6/22/2011	17:10:30	5.82	3.42
run2	6/22/2011	17:10:45	5.81	3.41
run2	6/22/2011	17:11:00	5.82	3.41
run2	6/22/2011	17:11:15	5.79	3.41
run2	6/22/2011	17:11:30	5.76	3.41

name			1 O2	2 CO2
run2	6/22/2011	17:11:45	5.74	3.41
run2	6/22/2011	17:12:00	5.72	3.42
run2	6/22/2011	17:12:15	5.70	3.43
run2	6/22/2011	17:12:30	5.75	3.41
run2	6/22/2011	17:12:45	5.72	3.41
run2	6/22/2011	17:13:00	5.66	3.42
run2	6/22/2011	17:13:15	5.60	3.43
run2	6/22/2011	17:13:30	5.57	3.45
run2	6/22/2011	17:13:45	5.56	3.47
run2	6/22/2011	17:14:00	5.54	3.48
run2	6/22/2011	17:14:15	5.49	3.49
run2	6/22/2011	17:14:30	5.47	3.49
run2	6/22/2011	17:14:45	5.56	3.49
run2	6/22/2011	17:15:00	5.55	3.48
run2	6/22/2011	17:15:15	5.50	3.50
run2	6/22/2011	17:15:30	5.45	3.51
run2	6/22/2011	17:15:45	5.39	3.50
run2	6/22/2011	17:16:00	5.37	3.48
run2	6/22/2011	17:16:15	5.37	3.47
run2	6/22/2011	17:16:30	5.34	3.48
run2	6/22/2011	17:16:45	5.31	3.48
run2	6/22/2011	17:17:00	5.28	3.49
run2	6/22/2011	17:17:15	5.23	3.48
run2	6/22/2011	17:17:30	5.21	3.48
run2	6/22/2011	17:17:45	5.15	3.47
run2	6/22/2011	17:18:00	5.09	3.47
run2	6/22/2011	17:18:15	5.08	3.45
run2	6/22/2011	17:18:30	5.08	3.45
run2	6/22/2011	17:18:45	5.10	3.43
run2	6/22/2011	17:19:00	5.12	3.40
run2	6/22/2011	17:19:15	5.10	3.38
run2	6/22/2011	17:19:30	5.12	3.37
run2	6/22/2011	17:19:45	5.14	3.36
run2	6/22/2011	17:20:00	5.14	3.34
run2	6/22/2011	17:20:15	5.16	3.33
run2	6/22/2011	17:20:30	5.20	3.32
run2	6/22/2011	17:20:45	5.19	3.31
run2	6/22/2011	17:21:00	5.17	3.30
run2	6/22/2011	17:21:15	5.27	3.29
run2	6/22/2011	17:21:30	5.27	3.27
run2	6/22/2011	17:21:45	5.29	3.27
run2	6/22/2011	17:22:00	5.25	3.27
run2	6/22/2011	17:22:15	5.23	3.29
run2	6/22/2011	17:22:30	5.25	3.32
run2	6/22/2011	17:22:45	5.22	3.34
run2	6/22/2011	17:23:00	5.04	3.38
run2	6/22/2011	17:23:15	4.92	3.42
run2	6/22/2011	17:23:30	4.86	3.44
run2	6/22/2011	17:23:45	4.81	3.45
run2	6/22/2011	17:24:00	4.73	3.47
run2	6/22/2011	17:24:15	4.72	3.50
run2	6/22/2011	17:24:30	4.65	3.51
run2	6/22/2011	17:24:45	4.68	3.52
run2	6/22/2011	17:25:00	4.68	3.52
run2	6/22/2011	17:25:15	4.67	3.52
run2	6/22/2011	17:25:30	4.67	3.52
run2	6/22/2011	17:25:45	4.62	3.52
run2	6/22/2011	17:26:00	4.62	3.53

name			1 O2	2 CO2
run2	6/22/2011	17:26:15	4.63	3.53
run2	6/22/2011	17:26:30	4.64	3.52
run2	6/22/2011	17:26:45	4.66	3.51
run2	6/22/2011	17:27:00	4.71	3.51
run2	6/22/2011	17:27:15	4.76	3.51
run2	6/22/2011	17:27:30	4.74	3.49
run2	6/22/2011	17:27:45	4.76	3.50
run2	6/22/2011	17:28:00	4.76	3.51
run2	6/22/2011	17:28:15	4.74	3.51
run2	6/22/2011	17:28:30	4.71	3.51
run2	6/22/2011	17:28:45	4.72	3.53
run2	6/22/2011	17:29:00	4.74	3.54
run2	6/22/2011	17:29:15	4.70	3.54
run2	6/22/2011	17:29:30	4.65	3.54
run2	6/22/2011	17:29:45	4.62	3.55
run2	6/22/2011	17:30:00	4.58	3.58
run2	6/22/2011	17:30:15	4.56	3.59
run2	6/22/2011	17:30:30	4.53	3.60
run2	6/22/2011	17:30:45	4.49	3.62
run2	6/22/2011	17:31:00	4.44	3.64
run2	6/22/2011	17:31:15	4.47	3.64
run2	6/22/2011	17:31:30	4.58	3.63
run2	6/22/2011	17:31:45	4.67	3.63
run2	6/22/2011	17:32:00	4.70	3.62
run2	6/22/2011	17:32:15	4.73	3.62
run2	6/22/2011	17:32:30	4.78	3.63
run2	6/22/2011	17:32:45	4.71	3.61
run2	6/22/2011	17:33:00	4.67	3.60
run2	6/22/2011	17:33:15	4.67	3.62
run2	6/22/2011	17:33:30	4.60	3.63
run2	6/22/2011	17:33:45	4.59	3.64
run2	6/22/2011	17:34:00	4.55	3.65
run2	6/22/2011	17:34:15	4.47	3.67
run2	6/22/2011	17:34:30	4.42	3.67
run2	6/22/2011	17:34:45	4.39	3.66
run2	6/22/2011	17:35:00	4.49	3.65
run2	6/22/2011	17:35:15	4.56	3.64
run2	6/22/2011	17:35:30	4.49	3.63
run2	6/22/2011	17:35:45	4.47	3.63
run2	6/22/2011	17:36:00	4.55	3.61
run2	6/22/2011	17:36:15	4.57	3.59
run2	6/22/2011	17:36:30	4.59	3.60
run2	6/22/2011	17:36:45	4.58	3.60
run2	6/22/2011	17:37:00	4.60	3.59
run2	6/22/2011	17:37:15	4.65	3.57
run2	6/22/2011	17:37:30	4.64	3.55
run2	6/22/2011	17:37:45	4.63	3.57
run2	6/22/2011	17:38:00	4.65	3.57
run2	6/22/2011	17:38:15	4.69	3.58
run2	6/22/2011	17:38:30	4.72	3.56
run2	6/22/2011	17:38:45	4.74	3.55
run2	6/22/2011	17:39:00	4.68	3.57
run2	6/22/2011	17:39:15	4.66	3.58
run2	6/22/2011	17:39:30	4.66	3.59
run2	6/22/2011	17:39:45	4.59	3.58
run2	6/22/2011	17:40:00	4.63	3.57
run2	6/22/2011	17:40:15	4.65	3.58
run2	6/22/2011	17:40:30	4.70	3.56

name			1 O2	2 CO2
run2	6/22/2011	17:40:45	4.70	3.53
run2	6/22/2011	17:41:00	4.75	3.51
run2	6/22/2011	17:41:15	4.86	3.51
run2	6/22/2011	17:41:30	4.85	3.50
run2	6/22/2011	17:41:45	4.81	3.49
run2	6/22/2011	17:42:00	4.80	3.49
run2	6/22/2011	17:42:15	4.83	3.49
run2	6/22/2011	17:42:30	4.78	3.50
run2	6/22/2011	17:42:45	4.81	3.51
run2	6/22/2011	17:43:00	4.89	3.48
run2	6/22/2011	17:43:15	4.89	3.48
run2	6/22/2011	17:43:30	4.85	3.49
run2	6/22/2011	17:43:45	4.85	3.49
run2	6/22/2011	17:44:00	4.87	3.49
run2	6/22/2011	17:44:15	4.86	3.48
run2	6/22/2011	17:44:30	4.85	3.49
run2	6/22/2011	17:44:45	4.88	3.49
run2	6/22/2011	17:45:00	4.90	3.49
run2	6/22/2011	17:45:15	4.89	3.50
run2	6/22/2011	17:45:30	4.89	3.48
run2	6/22/2011	17:45:45	4.90	3.48
run2	6/22/2011	17:46:00	4.84	3.48
run2	6/22/2011	17:46:15	4.84	3.49
run2	6/22/2011	17:46:30	4.88	3.48
run2	6/22/2011	17:46:45	4.87	3.45
run2	6/22/2011	17:47:00	4.88	3.46
run2	6/22/2011	17:47:15	4.92	3.47
run2	6/22/2011	17:47:30	4.89	3.45
run2	6/22/2011	17:47:45	4.86	3.44
run2	6/22/2011	17:48:00	4.90	3.42
run2	6/22/2011	17:48:15	4.95	3.40
run2	6/22/2011	17:48:30	4.97	3.41
run2	6/22/2011	17:48:45	4.96	3.39
run2	6/22/2011	17:49:00	5.04	3.37
run2	6/22/2011	17:49:15	5.08	3.37
run2	6/22/2011	17:49:30	5.07	3.36
run2	6/22/2011	17:49:45	5.09	3.36
run2	6/22/2011	17:50:00	5.11	3.35
run2	6/22/2011	17:50:15	5.08	3.35
run2	6/22/2011	17:50:30	5.03	3.33
run2	6/22/2011	17:50:45	5.03	3.33
run2	6/22/2011	17:51:00	5.05	3.34
run2	6/22/2011	17:51:15	5.11	3.35
run2	6/22/2011	17:51:30	5.11	3.36
run2	6/22/2011	17:51:45	5.08	3.36
run2	6/22/2011	17:52:00	5.11	3.37
run2	6/22/2011	17:52:15	5.14	3.37
run2	6/22/2011	17:52:30	5.14	3.37
run2	6/22/2011	17:52:45	5.12	3.36
run2	6/22/2011	17:53:00	5.13	3.36
run2	6/22/2011	17:53:15	5.16	3.35
run2	6/22/2011	17:53:30	5.19	3.35
run2	6/22/2011	17:53:45	5.19	3.35
run2	6/22/2011	17:54:00	5.20	3.36
run2	6/22/2011	17:54:15	5.19	3.35
run2	6/22/2011	17:54:30	5.20	3.36
run2	6/22/2011	17:54:45	5.24	3.38
run2	6/22/2011	17:55:00	5.22	3.39

name			1 O2	2 CO2					
run2	6/22/2011	17:55:15	5.18	3.40					
run2	6/22/2011	17:55:30	5.18	3.41					
run2	6/22/2011	17:55:45	5.14	3.43					
run2	6/22/2011	17:56:00	5.10	3.45					
run2	6/22/2011	17:56:15	5.06	3.46					
run2	6/22/2011	17:56:30	5.03	3.48					
run2	6/22/2011	17:56:45	5.00	3.49					
run2	6/22/2011	17:57:00	5.01	3.49					
run2	6/22/2011	17:57:15	4.99	3.48					
run2	6/22/2011	17:57:30	4.96	3.49					
run2	6/22/2011	17:57:45	4.90	3.49					
run2	6/22/2011	17:58:00	4.87	3.49					
run2	6/22/2011	17:58:15	4.82	3.48					
run2	6/22/2011	17:58:30	4.82	3.46					
run2	6/22/2011	17:58:45	4.91	3.43					
run2	6/22/2011	17:59:00	5.00	3.41					
run2	6/22/2011	17:59:15	5.07	3.39					
run2	6/22/2011	17:59:30	5.12	3.36					
run2	6/22/2011	17:59:45	5.13	3.36					
run2	6/22/2011	18:00:00	5.17	3.35					
run2	6/22/2011	18:00:15	5.22	3.35					
run2	6/22/2011	18:00:30	5.19	3.35					
run2	6/22/2011	18:00:45	5.20	3.34					
run2	6/22/2011	18:01:00	5.21	3.35					
run2	6/22/2011	18:01:15	5.25	3.34					
run2	6/22/2011	18:01:30	5.24	3.33					
run2	6/22/2011	18:01:45	5.18	3.33					
run2	6/22/2011	18:02:00	5.16	3.35					
run2	6/22/2011	18:02:15	5.15	3.36					
run2	6/22/2011	18:02:30	5.16	3.36					
run2	6/22/2011	18:02:45	5.19	3.36					
run2	6/22/2011	18:03:00	5.15	3.37					
run2	6/22/2011	18:03:15	5.14	3.38					
run2	6/22/2011	18:03:30	5.24	3.37					
run2	6/22/2011	18:03:45	5.27	3.36					
run2	6/22/2011	18:04:00	5.30	3.36					
run2	6/22/2011	18:04:15	5.34	3.38					
run2	6/22/2011	18:04:30	5.35	3.39					
run2	6/22/2011	18:04:45	5.30	3.40					
averun2	6/22/2011	14:15:00	4.96	3.50		180			
scg9	6/22/2011	18:05:00	5.29	3.41	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	18:05:15	5.24	3.43	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	18:05:30	5.33	3.56	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	18:05:45	7.07	5.16	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	18:06:00	9.95	8.32	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	18:06:15	10.98	10.28	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	18:06:30	11.21	10.73	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	18:06:45	11.24	10.81	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	18:07:00	11.26	10.84	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	18:07:15	11.27	10.88	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	18:07:30	11.27	10.91	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	18:07:45	11.27	10.93	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	18:08:00	11.27	10.94	CC133782/cg9	CO2	11	O2	11.1
scg9	6/22/2011	18:08:15	11.26	10.93	CC133782/cg9	CO2	11	O2	11.1
o2span1	6/22/2011	18:08:15	11.26	10.93	CC133782/cg9	CO2	11	O2	11.1
co2span1	6/22/2011	18:08:15	11.26	10.93	CC133782/cg9	CO2	11	O2	11.1
scg5	6/22/2011	18:08:30	11.27	10.93	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	18:08:45	11.24	10.91	ALM066457/cg5	CO	41.5		0

name			1 O2	2 CO2					
scg5	6/22/2011	18:09:00	11.22	10.92	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	18:09:15	11.22	10.84	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	18:09:30	9.15	8.08	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	18:09:45	3.36	2.65	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	18:10:00	0.80	0.71	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	18:10:15	0.41	0.42	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	18:10:30	0.27	0.28	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	18:10:45	0.21	0.21	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	18:11:00	0.18	0.19	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	18:11:15	0.14	0.16	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	18:11:30	0.13	0.15	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	18:11:45	0.13	0.14	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	18:12:00	0.12	0.12	ALM066457/cg5	CO	41.5		0
scg5	6/22/2011	18:12:15	0.12	0.11	ALM066457/cg5	CO	41.5		0
o2zero1	6/22/2011	18:12:15	0.12	0.11	ALM066457/cg5	CO	41.5		0
co2zero1	6/22/2011	18:12:15	0.12	0.11	ALM066457/cg5	CO	41.5		0
dcg1	6/23/2011	7:53:15	20.42	0.11	EB0010155/cg1	N2	0		0
dcg1	6/23/2011	7:53:30	9.33	0.07	EB0010155/cg1	N2	0		0
dcg1	6/23/2011	7:53:45	0.28	0.04	EB0010155/cg1	N2	0		0
dcg1	6/23/2011	7:54:00	0.07	0.04	EB0010155/cg1	N2	0		0
dcg1	6/23/2011	7:54:15	0.05	0.03	EB0010155/cg1	N2	0		0
dcg1	6/23/2011	7:54:30	0.05	0.04	EB0010155/cg1	N2	0		0
dcg1	6/23/2011	7:54:45	0.04	0.04	EB0010155/cg1	N2	0		0
dcg1	6/23/2011	7:55:00	0.04	0.04	EB0010155/cg1	N2	0		0
o2ezero1	6/23/2011	7:55:00	0.04	0.04	EB0010155/cg1	N2	0		0
co2ezero1	6/23/2011	7:55:00	0.04	0.04	EB0010155/cg1	N2	0		0
dcg10	6/23/2011	7:55:15	0.04	0.03	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	6/23/2011	7:55:30	6.56	5.15	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	6/23/2011	7:55:45	19.24	18.82	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	6/23/2011	7:56:00	20.34	20.13	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	6/23/2011	7:56:15	20.33	20.13	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	6/23/2011	7:56:30	20.33	20.13	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	6/23/2011	7:56:45	20.31	20.12	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	6/23/2011	7:57:00	20.30	20.11	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	6/23/2011	7:57:15	20.20	20.08	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	6/23/2011	7:57:30	20.20	20.05	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	6/23/2011	7:57:45	20.19	20.03	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	6/23/2011	7:58:00	20.19	20.10	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	6/23/2011	7:58:15	20.18	20.12	CC149987/cg10	CO2	20.1	O2	20.1
o2high1	6/23/2011	7:58:15	20.18	20.12	CC149987/cg10	CO2	20.1	O2	20.1
co2high1	6/23/2011	7:58:15	20.18	20.12	CC149987/cg10	CO2	20.1	O2	20.1
dcg9	6/23/2011	7:58:30	20.16	19.64	CC133782/cg9	CO2	11	O2	11.1
dcg9	6/23/2011	7:58:45	17.02	13.45	CC133782/cg9	CO2	11	O2	11.1
dcg9	6/23/2011	7:59:00	11.59	11.05	CC133782/cg9	CO2	11	O2	11.1
dcg9	6/23/2011	7:59:15	11.19	11.08	CC133782/cg9	CO2	11	O2	11.1
dcg9	6/23/2011	7:59:30	11.16	11.08	CC133782/cg9	CO2	11	O2	11.1
dcg9	6/23/2011	7:59:45	11.15	11.08	CC133782/cg9	CO2	11	O2	11.1
dcg9	6/23/2011	8:00:00	11.15	11.07	CC133782/cg9	CO2	11	O2	11.1
dcg9	6/23/2011	8:00:15	11.14	11.06	CC133782/cg9	CO2	11	O2	11.1
dcg9	6/23/2011	8:00:30	11.15	11.06	CC133782/cg9	CO2	11	O2	11.1
o2mid1	6/23/2011	8:00:30	11.15	11.06	CC133782/cg9	CO2	11	O2	11.1
co2mid1	6/23/2011	8:00:30	11.15	11.06	CC133782/cg9	CO2	11	O2	11.1
scg9	6/23/2011	8:41:15	20.86	0.09	CC133782/cg9	CO2	11	O2	11.1
scg9	6/23/2011	8:41:30	20.90	0.09	CC133782/cg9	CO2	11	O2	11.1
scg9	6/23/2011	8:41:45	20.86	0.10	CC133782/cg9	CO2	11	O2	11.1
scg9	6/23/2011	8:42:00	16.93	1.02	CC133782/cg9	CO2	11	O2	11.1
scg9	6/23/2011	8:42:15	11.95	5.44	CC133782/cg9	CO2	11	O2	11.1
scg9	6/23/2011	8:42:30	11.55	9.41	CC133782/cg9	CO2	11	O2	11.1

name			1 O2	2 CO2				
scg9	6/23/2011	8:42:45	11.30	10.63	CC133782/cg9	CO2	11 O2	11.1
scg9	6/23/2011	8:43:00	11.22	10.86	CC133782/cg9	CO2	11 O2	11.1
scg9	6/23/2011	8:43:15	11.21	10.92	CC133782/cg9	CO2	11 O2	11.1
scg9	6/23/2011	8:43:30	11.21	10.94	CC133782/cg9	CO2	11 O2	11.1
scg9	6/23/2011	8:43:45	11.21	10.95	CC133782/cg9	CO2	11 O2	11.1
scg9	6/23/2011	8:44:00	11.21	10.96	CC133782/cg9	CO2	11 O2	11.1
scg9	6/23/2011	8:44:15	11.21	10.96	CC133782/cg9	CO2	11 O2	11.1
scg9	6/23/2011	8:44:30	11.19	10.96	CC133782/cg9	CO2	11 O2	11.1
o2span1	6/23/2011	8:44:30	11.19	10.96	CC133782/cg9	CO2	11 O2	11.1
co2span1	6/23/2011	8:44:30	11.19	10.96	CC133782/cg9	CO2	11 O2	11.1
scg5	6/23/2011	8:44:45	11.20	10.96	ALM066457/cg5	CO	41.5	0
scg5	6/23/2011	8:45:00	11.20	10.96	ALM066457/cg5	CO	41.5	0
scg5	6/23/2011	8:45:15	11.21	10.96	ALM066457/cg5	CO	41.5	0
scg5	6/23/2011	8:45:30	10.93	10.45	ALM066457/cg5	CO	41.5	0
scg5	6/23/2011	8:45:45	7.24	6.18	ALM066457/cg5	CO	41.5	0
scg5	6/23/2011	8:46:00	2.37	1.91	ALM066457/cg5	CO	41.5	0
scg5	6/23/2011	8:46:15	0.73	0.63	ALM066457/cg5	CO	41.5	0
scg5	6/23/2011	8:46:30	0.39	0.36	ALM066457/cg5	CO	41.5	0
scg5	6/23/2011	8:46:45	0.28	0.25	ALM066457/cg5	CO	41.5	0
scg5	6/23/2011	8:47:00	0.22	0.20	ALM066457/cg5	CO	41.5	0
scg5	6/23/2011	8:47:15	0.18	0.17	ALM066457/cg5	CO	41.5	0
scg5	6/23/2011	8:47:30	0.17	0.15	ALM066457/cg5	CO	41.5	0
scg5	6/23/2011	8:47:45	0.15	0.13	ALM066457/cg5	CO	41.5	0
scg5	6/23/2011	8:48:00	0.12	0.12	ALM066457/cg5	CO	41.5	0
scg5	6/23/2011	8:48:15	0.10	0.10	ALM066457/cg5	CO	41.5	0
o2zero1	6/23/2011	8:48:15	0.10	0.10	ALM066457/cg5	CO	41.5	0
co2zero1	6/23/2011	8:48:15	0.10	0.10	ALM066457/cg5	CO	41.5	0
run3	6/23/2011	9:25:00	5.20	3.63				
run3	6/23/2011	9:25:15	5.19	3.62				
run3	6/23/2011	9:25:30	5.21	3.62				
run3	6/23/2011	9:25:45	5.23	3.62				
run3	6/23/2011	9:26:00	5.24	3.60				
run3	6/23/2011	9:26:15	5.25	3.60				
run3	6/23/2011	9:26:30	5.28	3.58				
run3	6/23/2011	9:26:45	5.30	3.56				
run3	6/23/2011	9:27:00	5.31	3.54				
run3	6/23/2011	9:27:15	5.31	3.53				
run3	6/23/2011	9:27:30	5.34	3.52				
run3	6/23/2011	9:27:45	5.36	3.51				
run3	6/23/2011	9:28:00	5.36	3.50				
run3	6/23/2011	9:28:15	5.38	3.49				
run3	6/23/2011	9:28:30	5.39	3.48				
run3	6/23/2011	9:28:45	5.36	3.47				
run3	6/23/2011	9:29:00	5.35	3.46				
run3	6/23/2011	9:29:15	5.36	3.46				
run3	6/23/2011	9:29:30	5.41	3.45				
run3	6/23/2011	9:29:45	5.40	3.44				
run3	6/23/2011	9:30:00	5.36	3.44				
run3	6/23/2011	9:30:15	5.38	3.44				
run3	6/23/2011	9:30:30	5.40	3.44				
run3	6/23/2011	9:30:45	5.42	3.43				
run3	6/23/2011	9:31:00	5.43	3.42				
run3	6/23/2011	9:31:15	5.49	3.43				
run3	6/23/2011	9:31:30	5.49	3.43				
run3	6/23/2011	9:31:45	5.50	3.42				
run3	6/23/2011	9:32:00	5.52	3.41				
run3	6/23/2011	9:32:15	5.56	3.41				
run3	6/23/2011	9:32:30	5.57	3.41				

name			1 O2	2 CO2
run3	6/23/2011	9:32:45	5.58	3.41
run3	6/23/2011	9:33:00	5.55	3.42
run3	6/23/2011	9:33:15	5.50	3.42
run3	6/23/2011	9:33:30	5.47	3.42
run3	6/23/2011	9:33:45	5.46	3.42
run3	6/23/2011	9:34:00	5.45	3.41
run3	6/23/2011	9:34:15	5.52	3.41
run3	6/23/2011	9:34:30	5.55	3.41
run3	6/23/2011	9:34:45	5.56	3.42
run3	6/23/2011	9:35:00	5.57	3.42
run3	6/23/2011	9:35:15	5.55	3.42
run3	6/23/2011	9:35:30	5.59	3.43
run3	6/23/2011	9:35:45	5.56	3.44
run3	6/23/2011	9:36:00	5.55	3.44
run3	6/23/2011	9:36:15	5.54	3.44
run3	6/23/2011	9:36:30	5.52	3.45
run3	6/23/2011	9:36:45	5.52	3.45
run3	6/23/2011	9:37:00	5.51	3.45
run3	6/23/2011	9:37:15	5.53	3.45
run3	6/23/2011	9:37:30	5.56	3.45
run3	6/23/2011	9:37:45	5.61	3.45
run3	6/23/2011	9:38:00	5.64	3.45
run3	6/23/2011	9:38:15	5.67	3.44
run3	6/23/2011	9:38:30	5.69	3.44
run3	6/23/2011	9:38:45	5.70	3.43
run3	6/23/2011	9:39:00	5.69	3.43
run3	6/23/2011	9:39:15	5.66	3.44
run3	6/23/2011	9:39:30	5.64	3.43
run3	6/23/2011	9:39:45	5.62	3.44
run3	6/23/2011	9:40:00	5.62	3.44
run3	6/23/2011	9:40:15	5.61	3.44
run3	6/23/2011	9:40:30	5.56	3.44
run3	6/23/2011	9:40:45	5.53	3.44
run3	6/23/2011	9:41:00	5.60	3.44
run3	6/23/2011	9:41:15	5.68	3.43
run3	6/23/2011	9:41:30	5.71	3.42
run3	6/23/2011	9:41:45	5.70	3.43
run3	6/23/2011	9:42:00	5.72	3.42
run3	6/23/2011	9:42:15	5.75	3.42
run3	6/23/2011	9:42:30	5.75	3.42
run3	6/23/2011	9:42:45	5.71	3.42
run3	6/23/2011	9:43:00	5.65	3.42
run3	6/23/2011	9:43:15	5.62	3.43
run3	6/23/2011	9:43:30	5.59	3.44
run3	6/23/2011	9:43:45	5.57	3.44
run3	6/23/2011	9:44:00	5.58	3.44
run3	6/23/2011	9:44:15	5.60	3.45
run3	6/23/2011	9:44:30	5.60	3.45
run3	6/23/2011	9:44:45	5.58	3.45
run3	6/23/2011	9:45:00	5.63	3.46
run3	6/23/2011	9:45:15	5.67	3.46
run3	6/23/2011	9:45:30	5.67	3.46
run3	6/23/2011	9:45:45	5.67	3.45
run3	6/23/2011	9:46:00	5.66	3.45
run3	6/23/2011	9:46:15	5.63	3.45
run3	6/23/2011	9:46:30	5.61	3.44
run3	6/23/2011	9:46:45	5.56	3.44
run3	6/23/2011	9:47:00	5.57	3.45

name			1 O2	2 CO2
run3	6/23/2011	9:47:15	5.57	3.44
run3	6/23/2011	9:47:30	5.62	3.44
run3	6/23/2011	9:47:45	5.64	3.44
run3	6/23/2011	9:48:00	5.64	3.43
run3	6/23/2011	9:48:15	5.63	3.42
run3	6/23/2011	9:48:30	5.69	3.42
run3	6/23/2011	9:48:45	5.75	3.42
run3	6/23/2011	9:49:00	5.74	3.42
run3	6/23/2011	9:49:15	5.74	3.41
run3	6/23/2011	9:49:30	5.76	3.40
run3	6/23/2011	9:49:45	5.73	3.39
run3	6/23/2011	9:50:00	5.72	3.41
run3	6/23/2011	9:50:15	5.72	3.42
run3	6/23/2011	9:50:30	5.70	3.42
run3	6/23/2011	9:50:45	5.65	3.41
run3	6/23/2011	9:51:00	5.64	3.40
run3	6/23/2011	9:51:15	5.64	3.38
run3	6/23/2011	9:51:30	5.65	3.39
run3	6/23/2011	9:51:45	5.68	3.42
run3	6/23/2011	9:52:00	5.67	3.42
run3	6/23/2011	9:52:15	5.65	3.42
run3	6/23/2011	9:52:30	5.68	3.39
run3	6/23/2011	9:52:45	6.15	3.26
run3	6/23/2011	9:53:00	6.24	3.28
run3	6/23/2011	9:53:15	5.85	3.38
run3	6/23/2011	9:53:30	5.70	3.41
run3	6/23/2011	9:53:45	5.67	3.43
run3	6/23/2011	9:54:00	5.63	3.44
run3	6/23/2011	9:54:15	5.63	3.45
run3	6/23/2011	9:54:30	5.64	3.46
run3	6/23/2011	9:54:45	5.62	3.46
run3	6/23/2011	9:55:00	5.60	3.45
run3	6/23/2011	9:55:15	5.61	3.46
run3	6/23/2011	9:55:30	5.59	3.46
run3	6/23/2011	9:55:45	5.59	3.47
run3	6/23/2011	9:56:00	5.57	3.47
run3	6/23/2011	9:56:15	5.58	3.47
run3	6/23/2011	9:56:30	5.58	3.47
run3	6/23/2011	9:56:45	5.55	3.47
run3	6/23/2011	9:57:00	5.56	3.48
run3	6/23/2011	9:57:15	5.59	3.47
run3	6/23/2011	9:57:30	5.61	3.47
run3	6/23/2011	9:57:45	5.64	3.47
run3	6/23/2011	9:58:00	5.66	3.47
run3	6/23/2011	9:58:15	5.67	3.48
run3	6/23/2011	9:58:30	5.66	3.48
run3	6/23/2011	9:58:45	5.65	3.48
run3	6/23/2011	9:59:00	5.68	3.48
run3	6/23/2011	9:59:15	5.68	3.48
run3	6/23/2011	9:59:30	5.64	3.49
run3	6/23/2011	9:59:45	5.65	3.49
run3	6/23/2011	10:00:00	5.67	3.49
run3	6/23/2011	10:00:15	5.64	3.49
run3	6/23/2011	10:00:30	5.61	3.48
run3	6/23/2011	10:00:45	5.63	3.48
run3	6/23/2011	10:01:00	5.66	3.49
run3	6/23/2011	10:01:15	5.68	3.49
run3	6/23/2011	10:01:30	5.71	3.49

name			1 O2	2 CO2
run3	6/23/2011	10:01:45	5.71	3.49
run3	6/23/2011	10:02:00	5.70	3.49
run3	6/23/2011	10:02:15	5.72	3.49
run3	6/23/2011	10:02:30	5.72	3.48
run3	6/23/2011	10:02:45	5.76	3.48
run3	6/23/2011	10:03:00	5.77	3.48
run3	6/23/2011	10:03:15	5.77	3.48
run3	6/23/2011	10:03:30	5.76	3.48
run3	6/23/2011	10:03:45	5.73	3.48
run3	6/23/2011	10:04:00	5.69	3.51
run3	6/23/2011	10:04:15	5.63	3.53
run3	6/23/2011	10:04:30	5.62	3.55
run3	6/23/2011	10:04:45	5.57	3.57
run3	6/23/2011	10:05:00	5.51	3.58
run3	6/23/2011	10:05:15	5.48	3.59
run3	6/23/2011	10:05:30	5.44	3.59
run3	6/23/2011	10:05:45	5.40	3.59
run3	6/23/2011	10:06:00	5.37	3.60
run3	6/23/2011	10:06:15	5.33	3.60
run3	6/23/2011	10:06:30	5.39	3.59
run3	6/23/2011	10:06:45	5.42	3.58
run3	6/23/2011	10:07:00	5.44	3.57
run3	6/23/2011	10:07:15	5.49	3.55
run3	6/23/2011	10:07:30	5.56	3.54
run3	6/23/2011	10:07:45	5.57	3.52
run3	6/23/2011	10:08:00	5.56	3.52
run3	6/23/2011	10:08:15	5.50	3.51
run3	6/23/2011	10:08:30	5.45	3.51
run3	6/23/2011	10:08:45	5.43	3.50
run3	6/23/2011	10:09:00	5.43	3.51
run3	6/23/2011	10:09:15	5.41	3.51
run3	6/23/2011	10:09:30	5.42	3.52
run3	6/23/2011	10:09:45	5.45	3.52
run3	6/23/2011	10:10:00	5.47	3.51
run3	6/23/2011	10:10:15	5.49	3.51
run3	6/23/2011	10:10:30	5.52	3.51
run3	6/23/2011	10:10:45	5.55	3.51
run3	6/23/2011	10:11:00	5.55	3.51
run3	6/23/2011	10:11:15	5.56	3.51
run3	6/23/2011	10:11:30	5.56	3.50
run3	6/23/2011	10:11:45	5.56	3.50
run3	6/23/2011	10:12:00	5.55	3.49
run3	6/23/2011	10:12:15	5.52	3.50
run3	6/23/2011	10:12:30	5.52	3.50
run3	6/23/2011	10:12:45	5.56	3.50
run3	6/23/2011	10:13:00	5.56	3.48
run3	6/23/2011	10:13:15	5.52	3.49
run3	6/23/2011	10:13:30	5.52	3.49
run3	6/23/2011	10:13:45	5.56	3.49
run3	6/23/2011	10:14:00	5.60	3.50
run3	6/23/2011	10:14:15	5.63	3.51
run3	6/23/2011	10:14:30	5.64	3.51
run3	6/23/2011	10:14:45	5.61	3.51
run3	6/23/2011	10:15:00	5.57	3.51
run3	6/23/2011	10:15:15	5.55	3.52
run3	6/23/2011	10:15:30	5.55	3.52
run3	6/23/2011	10:15:45	5.58	3.52
run3	6/23/2011	10:16:00	5.56	3.54

name			1 O2	2 CO2
run3	6/23/2011	10:16:15	5.49	3.56
run3	6/23/2011	10:16:30	5.44	3.58
run3	6/23/2011	10:16:45	5.46	3.60
run3	6/23/2011	10:17:00	5.43	3.60
run3	6/23/2011	10:17:15	5.42	3.61
run3	6/23/2011	10:17:30	5.46	3.62
run3	6/23/2011	10:17:45	5.47	3.61
run3	6/23/2011	10:18:00	5.51	3.60
run3	6/23/2011	10:18:15	5.57	3.57
run3	6/23/2011	10:18:30	5.60	3.55
run3	6/23/2011	10:18:45	5.62	3.53
run3	6/23/2011	10:19:00	5.60	3.52
run3	6/23/2011	10:19:15	5.56	3.52
run3	6/23/2011	10:19:30	5.60	3.52
run3	6/23/2011	10:19:45	5.59	3.52
run3	6/23/2011	10:20:00	5.55	3.52
run3	6/23/2011	10:20:15	5.59	3.51
run3	6/23/2011	10:20:30	5.62	3.51
run3	6/23/2011	10:20:45	5.58	3.52
run3	6/23/2011	10:21:00	5.59	3.51
run3	6/23/2011	10:21:15	5.66	3.51
run3	6/23/2011	10:21:30	5.69	3.50
run3	6/23/2011	10:21:45	5.64	3.50
run3	6/23/2011	10:22:00	5.59	3.51
run3	6/23/2011	10:22:15	5.56	3.51
run3	6/23/2011	10:22:30	5.60	3.51
run3	6/23/2011	10:22:45	5.65	3.49
run3	6/23/2011	10:23:00	5.69	3.48
run3	6/23/2011	10:23:15	5.70	3.47
run3	6/23/2011	10:23:30	5.71	3.47
run3	6/23/2011	10:23:45	5.75	3.46
run3	6/23/2011	10:24:00	5.74	3.47
run3	6/23/2011	10:24:15	5.65	3.47
run3	6/23/2011	10:24:30	5.61	3.46
run3	6/23/2011	10:24:45	5.61	3.45
run3	6/23/2011	10:25:00	5.62	3.45
run3	6/23/2011	10:25:15	5.62	3.46
run3	6/23/2011	10:25:30	5.62	3.47
run3	6/23/2011	10:25:45	5.57	3.47
run3	6/23/2011	10:26:00	5.57	3.48
run3	6/23/2011	10:26:15	5.62	3.49
run3	6/23/2011	10:26:30	5.62	3.49
run3	6/23/2011	10:26:45	5.63	3.50
run3	6/23/2011	10:27:00	5.67	3.50
run3	6/23/2011	10:27:15	5.67	3.50
run3	6/23/2011	10:27:30	5.66	3.49
run3	6/23/2011	10:27:45	5.66	3.50
run3	6/23/2011	10:28:00	5.62	3.51
run3	6/23/2011	10:28:15	5.55	3.52
run3	6/23/2011	10:28:30	5.46	3.55
run3	6/23/2011	10:28:45	5.44	3.57
run3	6/23/2011	10:29:00	5.48	3.59
run3	6/23/2011	10:29:15	5.47	3.58
run3	6/23/2011	10:29:30	5.47	3.60
run3	6/23/2011	10:29:45	5.49	3.59
run3	6/23/2011	10:30:00	5.52	3.57
run3	6/23/2011	10:30:15	5.56	3.55
run3	6/23/2011	10:30:30	5.59	3.55

name			1 O2	2 CO2
run3	6/23/2011	10:30:45	5.61	3.54
run3	6/23/2011	10:31:00	5.63	3.52
run3	6/23/2011	10:31:15	5.65	3.51
run3	6/23/2011	10:31:30	5.63	3.52
run3	6/23/2011	10:31:45	5.64	3.52
run3	6/23/2011	10:32:00	5.64	3.52
run3	6/23/2011	10:32:15	5.63	3.51
run3	6/23/2011	10:32:30	5.62	3.52
run3	6/23/2011	10:32:45	5.62	3.53
run3	6/23/2011	10:33:00	5.61	3.53
run3	6/23/2011	10:33:15	5.62	3.53
run3	6/23/2011	10:33:30	5.64	3.53
run3	6/23/2011	10:33:45	5.64	3.52
run3	6/23/2011	10:34:00	5.66	3.52
run3	6/23/2011	10:34:15	5.69	3.52
run3	6/23/2011	10:34:30	5.69	3.51
run3	6/23/2011	10:34:45	5.70	3.51
run3	6/23/2011	10:35:00	5.70	3.50
run3	6/23/2011	10:35:15	5.72	3.50
run3	6/23/2011	10:35:30	5.73	3.49
run3	6/23/2011	10:35:45	5.70	3.49
run3	6/23/2011	10:36:00	5.72	3.49
run3	6/23/2011	10:36:15	5.73	3.48
run3	6/23/2011	10:36:30	5.70	3.47
run3	6/23/2011	10:36:45	5.70	3.47
run3	6/23/2011	10:37:00	5.70	3.47
run3	6/23/2011	10:37:15	5.66	3.47
run3	6/23/2011	10:37:30	5.65	3.48
run3	6/23/2011	10:37:45	5.67	3.49
run3	6/23/2011	10:38:00	5.67	3.49
run3	6/23/2011	10:38:15	5.66	3.49
run3	6/23/2011	10:38:30	5.70	3.50
run3	6/23/2011	10:38:45	5.73	3.50
run3	6/23/2011	10:39:00	5.72	3.51
run3	6/23/2011	10:39:15	5.66	3.52
run3	6/23/2011	10:39:30	5.62	3.54
run3	6/23/2011	10:39:45	5.58	3.56
run3	6/23/2011	10:40:00	5.53	3.56
run3	6/23/2011	10:40:15	5.49	3.56
run3	6/23/2011	10:40:30	5.49	3.56
run3	6/23/2011	10:40:45	5.51	3.56
run3	6/23/2011	10:41:00	5.52	3.56
run3	6/23/2011	10:41:15	5.55	3.57
run3	6/23/2011	10:41:30	5.59	3.58
run3	6/23/2011	10:41:45	5.59	3.56
run3	6/23/2011	10:42:00	5.61	3.54
run3	6/23/2011	10:42:15	5.59	3.53
run3	6/23/2011	10:42:30	5.60	3.51
run3	6/23/2011	10:42:45	5.62	3.51
run3	6/23/2011	10:43:00	5.63	3.50
run3	6/23/2011	10:43:15	5.63	3.50
run3	6/23/2011	10:43:30	5.65	3.49
run3	6/23/2011	10:43:45	5.67	3.48
run3	6/23/2011	10:44:00	5.67	3.47
run3	6/23/2011	10:44:15	5.71	3.47
run3	6/23/2011	10:44:30	5.68	3.47
run3	6/23/2011	10:44:45	5.66	3.47
run3	6/23/2011	10:45:00	5.69	3.47

name			1 O2	2 CO2
run3	6/23/2011	10:45:15	5.72	3.48
run3	6/23/2011	10:45:30	5.73	3.47
run3	6/23/2011	10:45:45	5.72	3.47
run3	6/23/2011	10:46:00	5.72	3.47
run3	6/23/2011	10:46:15	5.69	3.48
run3	6/23/2011	10:46:30	5.70	3.48
run3	6/23/2011	10:46:45	5.71	3.48
run3	6/23/2011	10:47:00	5.74	3.47
run3	6/23/2011	10:47:15	5.70	3.47
run3	6/23/2011	10:47:30	5.72	3.47
run3	6/23/2011	10:47:45	5.74	3.48
run3	6/23/2011	10:48:00	5.70	3.48
run3	6/23/2011	10:48:15	5.69	3.49
run3	6/23/2011	10:48:30	5.67	3.49
run3	6/23/2011	10:48:45	5.64	3.50
run3	6/23/2011	10:49:00	5.58	3.50
run3	6/23/2011	10:49:15	5.51	3.52
run3	6/23/2011	10:49:30	5.46	3.54
run3	6/23/2011	10:49:45	5.44	3.54
run3	6/23/2011	10:50:00	5.42	3.54
run3	6/23/2011	10:50:15	5.40	3.55
run3	6/23/2011	10:50:30	5.48	3.53
run3	6/23/2011	10:50:45	5.55	3.51
run3	6/23/2011	10:51:00	5.58	3.50
run3	6/23/2011	10:51:15	5.61	3.48
run3	6/23/2011	10:51:30	5.62	3.47
run3	6/23/2011	10:51:45	5.57	3.45
run3	6/23/2011	10:52:00	5.56	3.46
run3	6/23/2011	10:52:15	5.58	3.47
run3	6/23/2011	10:52:30	5.54	3.47
run3	6/23/2011	10:52:45	5.49	3.47
run3	6/23/2011	10:53:00	5.49	3.47
run3	6/23/2011	10:53:15	5.49	3.48
run3	6/23/2011	10:53:30	5.50	3.49
run3	6/23/2011	10:53:45	5.49	3.48
run3	6/23/2011	10:54:00	5.52	3.49
run3	6/23/2011	10:54:15	5.58	3.48
run3	6/23/2011	10:54:30	5.60	3.48
run3	6/23/2011	10:54:45	5.62	3.48
run3	6/23/2011	10:55:00	5.64	3.48
run3	6/23/2011	10:55:15	5.66	3.47
run3	6/23/2011	10:55:30	5.65	3.46
run3	6/23/2011	10:55:45	5.64	3.46
run3	6/23/2011	10:56:00	5.64	3.46
run3	6/23/2011	10:56:15	5.66	3.47
run3	6/23/2011	10:56:30	5.69	3.47
run3	6/23/2011	10:56:45	5.70	3.47
run3	6/23/2011	10:57:00	5.68	3.46
run3	6/23/2011	10:57:15	5.67	3.45
run3	6/23/2011	10:57:30	5.66	3.44
run3	6/23/2011	10:57:45	5.65	3.44
run3	6/23/2011	10:58:00	5.65	3.43
run3	6/23/2011	10:58:15	5.70	3.43
run3	6/23/2011	10:58:30	5.69	3.44
run3	6/23/2011	10:58:45	5.67	3.44
run3	6/23/2011	10:59:00	5.64	3.44
run3	6/23/2011	10:59:15	5.63	3.44
run3	6/23/2011	10:59:30	5.62	3.44

name			1 O2	2 CO2
run3	6/23/2011	10:59:45	5.57	3.45
run3	6/23/2011	11:00:00	5.50	3.47
run3	6/23/2011	11:00:15	5.43	3.50
run3	6/23/2011	11:00:30	5.38	3.52
run3	6/23/2011	11:00:45	5.34	3.53
run3	6/23/2011	11:01:00	5.36	3.54
run3	6/23/2011	11:01:15	5.40	3.54
run3	6/23/2011	11:01:30	5.41	3.55
run3	6/23/2011	11:01:45	5.39	3.54
run3	6/23/2011	11:02:00	5.37	3.53
run3	6/23/2011	11:02:15	5.36	3.54
run3	6/23/2011	11:02:30	5.35	3.54
run3	6/23/2011	11:02:45	5.30	3.53
run3	6/23/2011	11:03:00	5.31	3.52
run3	6/23/2011	11:03:15	5.32	3.52
run3	6/23/2011	11:03:30	5.31	3.52
run3	6/23/2011	11:03:45	5.30	3.52
run3	6/23/2011	11:04:00	5.34	3.52
run3	6/23/2011	11:04:15	5.33	3.51
run3	6/23/2011	11:04:30	5.30	3.49
run3	6/23/2011	11:04:45	5.28	3.49
run3	6/23/2011	11:05:00	5.28	3.48
run3	6/23/2011	11:05:15	5.29	3.47
run3	6/23/2011	11:05:30	5.29	3.47
run3	6/23/2011	11:05:45	5.27	3.46
run3	6/23/2011	11:06:00	5.28	3.46
run3	6/23/2011	11:06:15	5.27	3.46
run3	6/23/2011	11:06:30	5.27	3.46
run3	6/23/2011	11:06:45	5.31	3.46
run3	6/23/2011	11:07:00	5.33	3.45
run3	6/23/2011	11:07:15	5.34	3.44
run3	6/23/2011	11:07:30	5.37	3.44
run3	6/23/2011	11:07:45	5.36	3.44
run3	6/23/2011	11:08:00	5.34	3.44
run3	6/23/2011	11:08:15	5.35	3.43
run3	6/23/2011	11:08:30	5.35	3.43
run3	6/23/2011	11:08:45	5.31	3.42
run3	6/23/2011	11:09:00	5.32	3.42
run3	6/23/2011	11:09:15	5.36	3.42
run3	6/23/2011	11:09:30	5.37	3.42
run3	6/23/2011	11:09:45	5.35	3.43
run3	6/23/2011	11:10:00	5.35	3.44
run3	6/23/2011	11:10:15	5.40	3.43
run3	6/23/2011	11:10:30	5.45	3.43
run3	6/23/2011	11:10:45	5.48	3.44
run3	6/23/2011	11:11:00	5.46	3.44
run3	6/23/2011	11:11:15	5.39	3.45
run3	6/23/2011	11:11:30	5.30	3.49
run3	6/23/2011	11:11:45	5.21	3.52
run3	6/23/2011	11:12:00	5.09	3.52
run3	6/23/2011	11:12:15	5.02	3.54
run3	6/23/2011	11:12:30	4.99	3.58
run3	6/23/2011	11:12:45	4.97	3.60
run3	6/23/2011	11:13:00	4.97	3.61
run3	6/23/2011	11:13:15	4.96	3.61
run3	6/23/2011	11:13:30	4.95	3.60
run3	6/23/2011	11:13:45	5.02	3.58
run3	6/23/2011	11:14:00	5.05	3.58

name			1 O2	2 CO2
run3	6/23/2011	11:14:15	5.11	3.55
run3	6/23/2011	11:14:30	5.16	3.53
run3	6/23/2011	11:14:45	5.16	3.52
run3	6/23/2011	11:15:00	5.17	3.52
run3	6/23/2011	11:15:15	5.18	3.52
run3	6/23/2011	11:15:30	5.18	3.52
run3	6/23/2011	11:15:45	5.18	3.51
run3	6/23/2011	11:16:00	5.14	3.50
run3	6/23/2011	11:16:15	5.11	3.50
run3	6/23/2011	11:16:30	5.12	3.50
run3	6/23/2011	11:16:45	5.11	3.51
run3	6/23/2011	11:17:00	5.08	3.50
run3	6/23/2011	11:17:15	5.11	3.50
run3	6/23/2011	11:17:30	5.09	3.51
run3	6/23/2011	11:17:45	5.07	3.50
run3	6/23/2011	11:18:00	5.10	3.50
run3	6/23/2011	11:18:15	5.14	3.48
run3	6/23/2011	11:18:30	5.17	3.46
run3	6/23/2011	11:18:45	5.21	3.47
run3	6/23/2011	11:19:00	5.23	3.47
run3	6/23/2011	11:19:15	5.23	3.47
run3	6/23/2011	11:19:30	5.21	3.47
run3	6/23/2011	11:19:45	5.21	3.47
run3	6/23/2011	11:20:00	5.19	3.47
run3	6/23/2011	11:20:15	5.16	3.48
run3	6/23/2011	11:20:30	5.14	3.47
run3	6/23/2011	11:20:45	5.11	3.48
run3	6/23/2011	11:21:00	5.11	3.49
run3	6/23/2011	11:21:15	5.12	3.49
run3	6/23/2011	11:21:30	5.16	3.49
run3	6/23/2011	11:21:45	5.21	3.48
run3	6/23/2011	11:22:00	5.23	3.48
run3	6/23/2011	11:22:15	5.22	3.47
run3	6/23/2011	11:22:30	5.24	3.47
run3	6/23/2011	11:22:45	5.26	3.47
run3	6/23/2011	11:23:00	5.23	3.47
run3	6/23/2011	11:23:15	5.21	3.47
run3	6/23/2011	11:23:30	5.19	3.47
run3	6/23/2011	11:23:45	5.22	3.47
run3	6/23/2011	11:24:00	5.21	3.46
run3	6/23/2011	11:24:15	5.19	3.47
run3	6/23/2011	11:24:30	5.21	3.47
run3	6/23/2011	11:24:45	5.18	3.47
run3	6/23/2011	11:25:00	5.16	3.46
run3	6/23/2011	11:25:15	5.14	3.48
run3	6/23/2011	11:25:30	5.17	3.48
run3	6/23/2011	11:25:45	5.21	3.49
run3	6/23/2011	11:26:00	5.24	3.48
run3	6/23/2011	11:26:15	5.25	3.47
run3	6/23/2011	11:26:30	5.29	3.47
run3	6/23/2011	11:26:45	5.32	3.46
run3	6/23/2011	11:27:00	5.33	3.46
run3	6/23/2011	11:27:15	5.31	3.47
run3	6/23/2011	11:27:30	5.26	3.48
run3	6/23/2011	11:27:45	5.22	3.46
run3	6/23/2011	11:28:00	5.20	3.45
run3	6/23/2011	11:28:15	5.23	3.45
run3	6/23/2011	11:28:30	5.22	3.44

name			1 O2	2 CO2
run3	6/23/2011	11:28:45	5.23	3.43
run3	6/23/2011	11:29:00	5.23	3.43
run3	6/23/2011	11:29:15	5.28	3.43
run3	6/23/2011	11:29:30	5.29	3.44
run3	6/23/2011	11:29:45	5.27	3.44
run3	6/23/2011	11:30:00	5.25	3.44
run3	6/23/2011	11:30:15	5.26	3.44
run3	6/23/2011	11:30:30	5.25	3.44
run3	6/23/2011	11:30:45	5.20	3.44
run3	6/23/2011	11:31:00	5.18	3.44
run3	6/23/2011	11:31:15	5.18	3.45
run3	6/23/2011	11:31:30	5.15	3.45
run3	6/23/2011	11:31:45	5.09	3.45
run3	6/23/2011	11:32:00	5.04	3.45
run3	6/23/2011	11:32:15	5.02	3.46
run3	6/23/2011	11:32:30	5.03	3.47
run3	6/23/2011	11:32:45	5.06	3.47
run3	6/23/2011	11:33:00	5.05	3.46
run3	6/23/2011	11:33:15	5.04	3.46
run3	6/23/2011	11:33:30	5.09	3.46
run3	6/23/2011	11:33:45	5.09	3.44
run3	6/23/2011	11:34:00	5.08	3.44
run3	6/23/2011	11:34:15	5.08	3.43
run3	6/23/2011	11:34:30	5.10	3.43
run3	6/23/2011	11:34:45	5.12	3.43
run3	6/23/2011	11:35:00	5.12	3.43
run3	6/23/2011	11:35:15	5.13	3.41
run3	6/23/2011	11:35:30	5.16	3.41
run3	6/23/2011	11:35:45	5.15	3.41
run3	6/23/2011	11:36:00	5.13	3.41
run3	6/23/2011	11:36:15	5.13	3.42
run3	6/23/2011	11:36:30	5.16	3.42
run3	6/23/2011	11:36:45	5.15	3.41
run3	6/23/2011	11:37:00	5.19	3.41
run3	6/23/2011	11:37:15	5.22	3.40
run3	6/23/2011	11:37:30	5.24	3.39
run3	6/23/2011	11:37:45	5.23	3.36
run3	6/23/2011	11:38:00	5.21	3.34
run3	6/23/2011	11:38:15	5.21	3.36
run3	6/23/2011	11:38:30	5.21	3.39
run3	6/23/2011	11:38:45	5.22	3.39
run3	6/23/2011	11:39:00	5.21	3.39
run3	6/23/2011	11:39:15	5.18	3.38
run3	6/23/2011	11:39:30	5.21	3.38
run3	6/23/2011	11:39:45	5.21	3.39
run3	6/23/2011	11:40:00	5.17	3.36
run3	6/23/2011	11:40:15	5.19	3.37
run3	6/23/2011	11:40:30	5.22	3.39
run3	6/23/2011	11:40:45	5.17	3.38
run3	6/23/2011	11:41:00	5.15	3.39
run3	6/23/2011	11:41:15	5.14	3.39
run3	6/23/2011	11:41:30	5.10	3.38
run3	6/23/2011	11:41:45	5.09	3.39
run3	6/23/2011	11:42:00	5.07	3.38
run3	6/23/2011	11:42:15	5.01	3.37
run3	6/23/2011	11:42:30	5.00	3.41
run3	6/23/2011	11:42:45	4.98	3.44
run3	6/23/2011	11:43:00	4.93	3.45

name			1 O2	2 CO2
run3	6/23/2011	11:43:15	4.89	3.46
run3	6/23/2011	11:43:30	4.94	3.46
run3	6/23/2011	11:43:45	4.96	3.45
run3	6/23/2011	11:44:00	4.92	3.44
run3	6/23/2011	11:44:15	4.91	3.44
run3	6/23/2011	11:44:30	4.90	3.45
run3	6/23/2011	11:44:45	4.87	3.46
run3	6/23/2011	11:45:00	4.86	3.46
run3	6/23/2011	11:45:15	4.86	3.44
run3	6/23/2011	11:45:30	4.91	3.42
run3	6/23/2011	11:45:45	4.96	3.40
run3	6/23/2011	11:46:00	4.96	3.38
run3	6/23/2011	11:46:15	4.98	3.38
run3	6/23/2011	11:46:30	5.03	3.39
run3	6/23/2011	11:46:45	5.05	3.39
run3	6/23/2011	11:47:00	5.03	3.37
run3	6/23/2011	11:47:15	4.99	3.37
run3	6/23/2011	11:47:30	5.00	3.36
run3	6/23/2011	11:47:45	5.05	3.34
run3	6/23/2011	11:48:00	5.08	3.33
run3	6/23/2011	11:48:15	5.04	3.33
run3	6/23/2011	11:48:30	5.02	3.33
run3	6/23/2011	11:48:45	5.03	3.33
run3	6/23/2011	11:49:00	4.99	3.33
run3	6/23/2011	11:49:15	5.01	3.34
run3	6/23/2011	11:49:30	5.02	3.35
run3	6/23/2011	11:49:45	5.02	3.37
run3	6/23/2011	11:50:00	5.02	3.38
run3	6/23/2011	11:50:15	4.98	3.38
run3	6/23/2011	11:50:30	5.04	3.33
run3	6/23/2011	11:50:45	5.11	3.32
run3	6/23/2011	11:51:00	4.98	3.36
run3	6/23/2011	11:51:15	4.92	3.37
run3	6/23/2011	11:51:30	4.90	3.37
run3	6/23/2011	11:51:45	4.89	3.37
run3	6/23/2011	11:52:00	4.89	3.38
run3	6/23/2011	11:52:15	4.89	3.38
run3	6/23/2011	11:52:30	4.91	3.40
run3	6/23/2011	11:52:45	4.93	3.40
run3	6/23/2011	11:53:00	4.91	3.40
run3	6/23/2011	11:53:15	4.88	3.39
run3	6/23/2011	11:53:30	4.84	3.39
run3	6/23/2011	11:53:45	4.87	3.40
run3	6/23/2011	11:54:00	4.89	3.40
run3	6/23/2011	11:54:15	4.88	3.39
run3	6/23/2011	11:54:30	4.89	3.40
run3	6/23/2011	11:54:45	4.91	3.41
run3	6/23/2011	11:55:00	4.90	3.41
run3	6/23/2011	11:55:15	4.92	3.41
run3	6/23/2011	11:55:30	4.91	3.41
run3	6/23/2011	11:55:45	4.87	3.40
run3	6/23/2011	11:56:00	4.86	3.41
run3	6/23/2011	11:56:15	4.82	3.40
run3	6/23/2011	11:56:30	4.85	3.42
run3	6/23/2011	11:56:45	4.85	3.42
run3	6/23/2011	11:57:00	4.82	3.41
run3	6/23/2011	11:57:15	4.76	3.41
run3	6/23/2011	11:57:30	4.76	3.42

name			1 O2	2 CO2
run3	6/23/2011	11:57:45	4.75	3.43
run3	6/23/2011	11:58:00	4.78	3.44
run3	6/23/2011	11:58:15	4.78	3.44
run3	6/23/2011	11:58:30	4.77	3.45
run3	6/23/2011	11:58:45	4.74	3.44
run3	6/23/2011	11:59:00	4.77	3.44
run3	6/23/2011	11:59:15	4.81	3.43
run3	6/23/2011	11:59:30	4.77	3.43
run3	6/23/2011	11:59:45	4.78	3.43
run3	6/23/2011	12:00:00	4.79	3.43
run3	6/23/2011	12:00:15	4.81	3.42
run3	6/23/2011	12:00:30	4.84	3.42
run3	6/23/2011	12:00:45	4.92	3.42
run3	6/23/2011	12:01:00	4.98	3.41
run3	6/23/2011	12:01:15	4.98	3.41
run3	6/23/2011	12:01:30	4.99	3.40
run3	6/23/2011	12:01:45	4.99	3.39
run3	6/23/2011	12:02:00	4.96	3.38
run3	6/23/2011	12:02:15	4.94	3.39
run3	6/23/2011	12:02:30	4.96	3.40
run3	6/23/2011	12:02:45	4.96	3.39
run3	6/23/2011	12:03:00	4.97	3.40
run3	6/23/2011	12:03:15	5.00	3.38
run3	6/23/2011	12:03:30	5.05	3.38
run3	6/23/2011	12:03:45	5.02	3.38
run3	6/23/2011	12:04:00	5.03	3.38
run3	6/23/2011	12:04:15	5.07	3.38
run3	6/23/2011	12:04:30	5.08	3.38
run3	6/23/2011	12:04:45	5.07	3.39
run3	6/23/2011	12:05:00	5.01	3.41
run3	6/23/2011	12:05:15	4.95	3.42
run3	6/23/2011	12:05:30	4.88	3.45
run3	6/23/2011	12:05:45	4.86	3.48
run3	6/23/2011	12:06:00	4.80	3.49
run3	6/23/2011	12:06:15	4.75	3.51
run3	6/23/2011	12:06:30	4.77	3.52
run3	6/23/2011	12:06:45	4.81	3.53
run3	6/23/2011	12:07:00	4.84	3.54
run3	6/23/2011	12:07:15	4.82	3.54
run3	6/23/2011	12:07:30	4.77	3.53
run3	6/23/2011	12:07:45	4.76	3.53
run3	6/23/2011	12:08:00	4.78	3.53
run3	6/23/2011	12:08:15	4.81	3.54
run3	6/23/2011	12:08:30	4.84	3.54
run3	6/23/2011	12:08:45	4.83	3.52
run3	6/23/2011	12:09:00	4.82	3.51
run3	6/23/2011	12:09:15	4.79	3.49
run3	6/23/2011	12:09:30	4.81	3.49
run3	6/23/2011	12:09:45	4.86	3.48
run3	6/23/2011	12:10:00	4.89	3.47
run3	6/23/2011	12:10:15	4.92	3.46
run3	6/23/2011	12:10:30	4.93	3.45
run3	6/23/2011	12:10:45	4.89	3.44
run3	6/23/2011	12:11:00	4.86	3.45
run3	6/23/2011	12:11:15	4.80	3.44
run3	6/23/2011	12:11:30	4.80	3.44
run3	6/23/2011	12:11:45	4.81	3.44
run3	6/23/2011	12:12:00	4.82	3.44

name			1 O2	2 CO2
run3	6/23/2011	12:12:15	4.85	3.43
run3	6/23/2011	12:12:30	4.93	3.40
run3	6/23/2011	12:12:45	4.99	3.38
run3	6/23/2011	12:13:00	4.98	3.38
run3	6/23/2011	12:13:15	4.99	3.38
run3	6/23/2011	12:13:30	5.09	3.38
run3	6/23/2011	12:13:45	5.12	3.37
run3	6/23/2011	12:14:00	5.05	3.34
run3	6/23/2011	12:14:15	5.02	3.35
run3	6/23/2011	12:14:30	5.03	3.35
run3	6/23/2011	12:14:45	5.06	3.35
run3	6/23/2011	12:15:00	5.06	3.34
run3	6/23/2011	12:15:15	5.06	3.33
run3	6/23/2011	12:15:30	5.09	3.32
run3	6/23/2011	12:15:45	5.07	3.32
run3	6/23/2011	12:16:00	5.07	3.31
run3	6/23/2011	12:16:15	5.08	3.31
run3	6/23/2011	12:16:30	5.11	3.32
run3	6/23/2011	12:16:45	5.13	3.32
run3	6/23/2011	12:17:00	5.07	3.32
run3	6/23/2011	12:17:15	5.05	3.32
run3	6/23/2011	12:17:30	5.09	3.33
run3	6/23/2011	12:17:45	5.13	3.33
run3	6/23/2011	12:18:00	5.15	3.33
run3	6/23/2011	12:18:15	5.20	3.34
run3	6/23/2011	12:18:30	5.23	3.30
run3	6/23/2011	12:18:45	5.22	3.29
run3	6/23/2011	12:19:00	5.24	3.29
run3	6/23/2011	12:19:15	5.24	3.29
run3	6/23/2011	12:19:30	5.17	3.29
run3	6/23/2011	12:19:45	5.19	3.30
run3	6/23/2011	12:20:00	5.23	3.32
run3	6/23/2011	12:20:15	5.25	3.34
run3	6/23/2011	12:20:30	5.21	3.34
run3	6/23/2011	12:20:45	5.20	3.36
run3	6/23/2011	12:21:00	5.15	3.39
run3	6/23/2011	12:21:15	5.12	3.42
run3	6/23/2011	12:21:30	5.06	3.45
run3	6/23/2011	12:21:45	5.03	3.47
run3	6/23/2011	12:22:00	5.00	3.47
run3	6/23/2011	12:22:15	4.98	3.48
run3	6/23/2011	12:22:30	4.93	3.49
run3	6/23/2011	12:22:45	4.89	3.50
run3	6/23/2011	12:23:00	4.85	3.49
run3	6/23/2011	12:23:15	4.83	3.49
run3	6/23/2011	12:23:30	4.87	3.48
run3	6/23/2011	12:23:45	4.90	3.48
run3	6/23/2011	12:24:00	4.94	3.47
run3	6/23/2011	12:24:15	4.95	3.46
run3	6/23/2011	12:24:30	5.00	3.46
run3	6/23/2011	12:24:45	5.02	3.45
run3	6/23/2011	12:25:00	5.04	3.44
run3	6/23/2011	12:25:15	5.08	3.44
run3	6/23/2011	12:25:30	5.03	3.43
run3	6/23/2011	12:25:45	5.01	3.44
run3	6/23/2011	12:26:00	5.01	3.44
run3	6/23/2011	12:26:15	4.94	3.42
run3	6/23/2011	12:26:30	4.93	3.42

name			1 O2	2 CO2					
run3	6/23/2011	12:26:45	4.94	3.43					
run3	6/23/2011	12:27:00	5.00	3.44					
run3	6/23/2011	12:27:15	5.00	3.43					
run3	6/23/2011	12:27:30	5.04	3.43					
run3	6/23/2011	12:27:45	5.09	3.42					
run3	6/23/2011	12:28:00	5.11	3.41					
run3	6/23/2011	12:28:15	5.10	3.41					
run3	6/23/2011	12:28:30	5.05	3.41					
run3	6/23/2011	12:28:45	5.03	3.41					
run3	6/23/2011	12:29:00	5.02	3.40					
run3	6/23/2011	12:29:15	4.99	3.40					
run3	6/23/2011	12:29:30	5.03	3.41					
run3	6/23/2011	12:29:45	5.02	3.42					
averun3	6/23/2011	9:25:00	5.34	3.46	185				
scg5	6/23/2011	12:30:00	5.03	3.42	ALM066457/cg5	CO	41.5		0
scg5	6/23/2011	12:30:15	5.05	3.44	ALM066457/cg5	CO	41.5		0
scg5	6/23/2011	12:30:30	5.05	3.34	ALM066457/cg5	CO	41.5		0
scg5	6/23/2011	12:30:45	3.88	2.22	ALM066457/cg5	CO	41.5		0
scg5	6/23/2011	12:31:00	1.52	0.73	ALM066457/cg5	CO	41.5		0
scg5	6/23/2011	12:31:15	0.44	0.23	ALM066457/cg5	CO	41.5		0
scg5	6/23/2011	12:31:30	0.22	0.14	ALM066457/cg5	CO	41.5		0
scg5	6/23/2011	12:31:45	0.15	0.11	ALM066457/cg5	CO	41.5		0
scg5	6/23/2011	12:32:00	0.12	0.09	ALM066457/cg5	CO	41.5		0
scg5	6/23/2011	12:32:15	0.10	0.07	ALM066457/cg5	CO	41.5		0
scg5	6/23/2011	12:32:30	0.08	0.06	ALM066457/cg5	CO	41.5		0
scg5	6/23/2011	12:32:45	0.06	0.05	ALM066457/cg5	CO	41.5		0
o2zero1	6/23/2011	12:32:45	0.06	0.05	ALM066457/cg5	CO	41.5		0
co2zero1	6/23/2011	12:32:45	0.06	0.05	ALM066457/cg5	CO	41.5		0
scg9	6/23/2011	12:33:00	0.05	0.05	CC133782/cg9	CO2	11	O2	11.1
scg9	6/23/2011	12:33:15	0.05	0.05	CC133782/cg9	CO2	11	O2	11.1
scg9	6/23/2011	12:33:30	0.04	0.04	CC133782/cg9	CO2	11	O2	11.1
scg9	6/23/2011	12:33:45	0.26	0.42	CC133782/cg9	CO2	11	O2	11.1
scg9	6/23/2011	12:34:00	3.75	4.30	CC133782/cg9	CO2	11	O2	11.1
scg9	6/23/2011	12:34:15	8.79	8.98	CC133782/cg9	CO2	11	O2	11.1
scg9	6/23/2011	12:34:30	10.59	10.47	CC133782/cg9	CO2	11	O2	11.1
scg9	6/23/2011	12:34:45	10.99	10.80	CC133782/cg9	CO2	11	O2	11.1
scg9	6/23/2011	12:35:00	11.09	10.89	CC133782/cg9	CO2	11	O2	11.1
scg9	6/23/2011	12:35:15	11.11	10.91	CC133782/cg9	CO2	11	O2	11.1
scg9	6/23/2011	12:35:30	11.13	10.93	CC133782/cg9	CO2	11	O2	11.1
o2span1	6/23/2011	12:35:30	11.13	10.93	CC133782/cg9	CO2	11	O2	11.1
co2span1	6/23/2011	12:35:30	11.13	10.93	CC133782/cg9	CO2	11	O2	11.1

filename	6/23/2011	12:47:14	C:\Program Files\RM Plus\DATA\11-234 Marathon U45 ICR gruop 2.csv									
testby1	Metco Environmental											
testby2	Baton Rouge									probe	253	
testby3	M-30									oven	247	
testby4	Ryan Jones									leak check	0.0	
testfor1	Marathon									15.5"		
testfor2	*									HL	255	
testfor3	Unit 45 Thermal Oxidizer No. 3 Stack											
testfor4	Garyville, LA											
name			1 O2	2 CO2	4 CO	6 THC						
sn			G0400AL9	G0400AL9	618717294	4420710						
offset			0	0	0	0						
fullscale			25	25	100	50						
train			1	1	1	2						
gastype			o2 3a	co2 3a	co 10	thc 25a						
dcg1	7/11/2011	12:19:15	20.11	0.00	0.92	-0.18	EB0010155/cg1	N2	0		0	
dcg1	7/11/2011	12:19:30	8.37	-0.02	1.07	-0.23	EB0010155/cg1	N2	0		0	
dcg1	7/11/2011	12:19:45	0.13	-0.04	0.91	0.09	EB0010155/cg1	N2	0		0	
dcg1	7/11/2011	12:20:00	-0.02	-0.04	0.53	0.06	EB0010155/cg1	N2	0		0	
dcg1	7/11/2011	12:20:15	-0.04	-0.05	0.42	-0.02	EB0010155/cg1	N2	0		0	
dcg1	7/11/2011	12:20:30	0.01	0.02	0.65	-0.15	EB0010155/cg1	N2	0		0	
dcg1	7/11/2011	12:20:45	0.02	0.03	0.04	0.26	EB0010155/cg1	N2	0		0	
dcg1	7/11/2011	12:21:00	0.01	0.03	-0.03	0.57	EB0010155/cg1	N2	0		0	
dcg1	7/11/2011	12:21:15	0.01	0.03	0.10	0.35	EB0010155/cg1	N2	0		0	
dcg1	7/11/2011	12:21:30	0.01	0.03	0.13	0.12	EB0010155/cg1	N2	0		0	
o2ezero1	7/11/2011	12:21:30	0.01	0.03	0.13	0.12	EB0010155/cg1	N2	0		0	
co2ezero1	7/11/2011	12:21:30	0.01	0.03	0.13	0.12	EB0010155/cg1	N2	0		0	
coezero1	7/11/2011	12:21:30	0.01	0.03	0.13	0.12	EB0010155/cg1	N2	0		0	
dcg6	7/11/2011	12:22:00	3.36	0.03	0.10	0.15	BLM001864/cg6	CO	87.5		0	
dcg6	7/11/2011	12:22:15	4.07	0.05	17.63	-0.18	BLM001864/cg6	CO	87.5		0	
dcg6	7/11/2011	12:22:30	0.06	0.03	55.09	-0.30	BLM001864/cg6	CO	87.5		0	
dcg6	7/11/2011	12:22:45	0.01	0.03	80.33	-0.37	BLM001864/cg6	CO	87.5		0	
dcg6	7/11/2011	12:23:00	0.00	0.03	86.13	-0.41	BLM001864/cg6	CO	87.5		0	
dcg6	7/11/2011	12:23:15	0.01	0.03	87.34	-0.46	BLM001864/cg6	CO	87.5		0	
dcg6	7/11/2011	12:23:30	0.00	0.03	87.08	-0.50	BLM001864/cg6	CO	87.5		0	
dcg6	7/11/2011	12:23:45	0.01	0.03	87.52	-0.54	BLM001864/cg6	CO	87.5		0	
dcg6	7/11/2011	12:24:00	0.01	0.03	86.68	-0.56	BLM001864/cg6	CO	87.5		0	
dcg6	7/11/2011	12:24:15	0.01	0.03	87.31	-0.58	BLM001864/cg6	CO	87.5		0	
cohigh1	7/11/2011	12:24:15	0.01	0.03	87.31	-0.58	BLM001864/cg6	CO	87.5		0	
dcg5	7/11/2011	12:24:30	0.32	0.03	86.60	-0.63	ALM066457/cg5	CO	41.5		0	
dcg5	7/11/2011	12:24:45	1.57	0.03	77.87	-0.64	ALM066457/cg5	CO	41.5		0	
dcg5	7/11/2011	12:25:00	0.16	0.03	58.72	-0.68	ALM066457/cg5	CO	41.5		0	
dcg5	7/11/2011	12:25:15	0.02	0.03	46.11	-0.72	ALM066457/cg5	CO	41.5		0	
dcg5	7/11/2011	12:25:30	0.02	0.03	42.81	-0.73	ALM066457/cg5	CO	41.5		0	
dcg5	7/11/2011	12:25:45	0.01	0.03	42.59	-0.76	ALM066457/cg5	CO	41.5		0	
dcg5	7/11/2011	12:26:00	0.01	0.03	42.51	-0.78	ALM066457/cg5	CO	41.5		0	
dcg5	7/11/2011	12:26:15	0.01	0.03	41.93	-0.79	ALM066457/cg5	CO	41.5		0	
dcg5	7/11/2011	12:26:30	0.00	0.03	42.73	-0.81	ALM066457/cg5	CO	41.5		0	
dcg5	7/11/2011	12:26:45	0.00	0.03	42.61	-0.14	ALM066457/cg5	CO	41.5		0	
comid1	7/11/2011	12:26:45	0.00	0.03	42.61	-0.14	ALM066457/cg5	CO	41.5		0	
dcg10	7/11/2011	12:27:15	14.11	0.20	35.50	0.00	CC149987/cg10	CO2	20.1	O2	20.1	
dcg10	7/11/2011	12:27:30	20.68	9.51	17.55	0.00	CC149987/cg10	CO2	20.1	O2	20.1	
dcg10	7/11/2011	12:27:45	20.41	20.07	5.11	-0.02	CC149987/cg10	CO2	20.1	O2	20.1	
dcg10	7/11/2011	12:28:00	20.39	20.19	1.07	-0.04	CC149987/cg10	CO2	20.1	O2	20.1	
dcg10	7/11/2011	12:28:15	20.30	20.17	-0.20	-0.04	CC149987/cg10	CO2	20.1	O2	20.1	
dcg10	7/11/2011	12:28:30	20.20	20.10	-0.40	-0.07	CC149987/cg10	CO2	20.1	O2	20.1	
dcg10	7/11/2011	12:28:45	20.20	20.09	-0.68	-0.09	CC149987/cg10	CO2	20.1	O2	20.1	
o2high1	7/11/2011	12:28:45	20.20	20.09	-0.68	-0.09	CC149987/cg10	CO2	20.1	O2	20.1	
co2high1	7/11/2011	12:28:45	20.20	20.09	-0.68	-0.09	CC149987/cg10	CO2	20.1	O2	20.1	
dcg9	7/11/2011	12:29:00	19.95	19.53	-0.50	-0.11	CC133782/cg9	CO2	11	O2	11.1	
dcg9	7/11/2011	12:29:15	15.91	13.22	-0.41	-0.12	CC133782/cg9	CO2	11	O2	11.1	
dcg9	7/11/2011	12:29:30	11.51	11.01	-0.39	-0.12	CC133782/cg9	CO2	11	O2	11.1	
dcg9	7/11/2011	12:29:45	11.20	11.03	-0.36	-0.15	CC133782/cg9	CO2	11	O2	11.1	
dcg9	7/11/2011	12:30:00	11.20	11.03	-0.17	-0.11	CC133782/cg9	CO2	11	O2	11.1	
o2mid1	7/11/2011	12:30:00	11.20	11.03	-0.17	-0.11	CC133782/cg9	CO2	11	O2	11.1	
co2mid1	7/11/2011	12:30:00	11.20	11.03	-0.17	-0.11	CC133782/cg9	CO2	11	O2	11.1	
dcg11	7/11/2011	12:30:15	11.17	11.03	-0.09	0.00	EB0011363/cg11	O2	21		0	
dcg11	7/11/2011	12:30:30	7.74	7.80	-0.04	-0.01	EB0011363/cg11	O2	21		0	
dcg11	7/11/2011	12:30:45	2.52	3.94	0.00	-0.01	EB0011363/cg11	O2	21		0	
dcg11	7/11/2011	12:31:00	1.59	5.63	-0.04	-0.02	EB0011363/cg11	O2	21		0	
dcg11	7/11/2011	12:31:15	0.91	5.14	0.17	-0.02	EB0011363/cg11	O2	21		0	
dcg11	7/11/2011	12:31:30	0.50	4.44	0.21	0.03	EB0011363/cg11	O2	21		0	
dcg11	7/11/2011	12:31:45	0.31	3.86	0.06	0.02	EB0011363/cg11	O2	21		0	
thcezero2	7/11/2011	12:31:45	0.31	3.86	0.06	0.02	EB0011363/cg11	O2	21		0	

name			1 O2	2 CO2	4 CO	6 THC					
dcg14	7/11/2011	12:32:30	20.17	0.09	0.01	0.00	BAL5228/cg14	THC	42.8		0
dcg14	7/11/2011	12:32:45	9.16	0.21	-0.34	-0.02	BAL5228/cg14	THC	42.8		0
dcg14	7/11/2011	12:33:00	3.32	0.61	0.17	-0.02	BAL5228/cg14	THC	42.8		0
dcg14	7/11/2011	12:33:15	1.76	0.47	-0.11	-0.02	BAL5228/cg14	THC	42.8		0
dcg14	7/11/2011	12:33:30	0.80	0.38	0.16	-0.05	BAL5228/cg14	THC	42.8		0
dcg14	7/11/2011	12:33:45	0.40	0.49	0.19	-0.07	BAL5228/cg14	THC	42.8		0
dcg14	7/11/2011	12:34:00	0.24	0.49	0.28	-0.10	BAL5228/cg14	THC	42.8		0
dcg14	7/11/2011	12:34:15	0.18	0.40	0.28	-0.13	BAL5228/cg14	THC	42.8		0
dcg14	7/11/2011	12:34:30	0.15	0.38	0.24	7.67	BAL5228/cg14	THC	42.8		0
dcg14	7/11/2011	12:34:45	0.15	0.40	0.24	42.32	BAL5228/cg14	THC	42.8		0
dcg14	7/11/2011	12:35:00	0.14	0.38	0.28	43.87	BAL5228/cg14	THC	42.8		0
dcg14	7/11/2011	12:35:15	0.15	0.34	0.38	44.05	BAL5228/cg14	THC	42.8		0
dcg14	7/11/2011	12:35:30	0.14	0.34	0.34	44.12	BAL5228/cg14	THC	42.8		0
dcg14	7/11/2011	12:35:45	0.14	0.34	0.31	44.17	BAL5228/cg14	THC	42.8		0
dcg14	7/11/2011	12:36:00	0.14	0.32	0.38	44.22	BAL5228/cg14	THC	42.8		0
dcg14	7/11/2011	12:36:15	0.13	0.31	0.26	43.92	BAL5228/cg14	THC	42.8		0
dcg14	7/11/2011	12:36:30	0.13	0.30	0.29	42.88	BAL5228/cg14	THC	42.8		0
dcg14	7/11/2011	12:36:45	0.13	0.29	0.13	42.72	BAL5228/cg14	THC	42.8		0
dcg14	7/11/2011	12:37:00	0.14	0.28	0.38	42.74	BAL5228/cg14	THC	42.8		0
thchigh2	7/11/2011	12:37:00	0.14	0.28	0.38	42.74	BAL5228/cg14	THC	42.8		0
dcg12	7/11/2011	12:37:45	20.95	0.09	0.31	42.60	BLM002221/cg12	THC	14.2		0
dcg12	7/11/2011	12:38:00	11.88	0.09	-0.12	42.51	BLM002221/cg12	THC	14.2		0
dcg12	7/11/2011	12:38:15	3.45	0.11	0.20	42.32	BLM002221/cg12	THC	14.2		0
dcg12	7/11/2011	12:38:30	2.09	0.13	0.21	42.23	BLM002221/cg12	THC	14.2		0
dcg12	7/11/2011	12:38:45	1.06	0.13	0.07	42.23	BLM002221/cg12	THC	14.2		0
dcg12	7/11/2011	12:39:00	0.53	0.14	0.20	42.21	BLM002221/cg12	THC	14.2		0
dcg12	7/11/2011	12:39:15	0.31	0.15	0.22	42.20	BLM002221/cg12	THC	14.2		0
dcg12	7/11/2011	12:39:30	0.21	0.15	0.24	16.48	BLM002221/cg12	THC	14.2		0
dcg12	7/11/2011	12:39:45	0.17	0.14	0.22	22.74	BLM002221/cg12	THC	14.2		0
dcg12	7/11/2011	12:40:00	0.16	0.16	-0.09	14.62	BLM002221/cg12	THC	14.2		0
dcg12	7/11/2011	12:40:15	0.15	0.16	-0.04	14.21	BLM002221/cg12	THC	14.2		0
dcg12	7/11/2011	12:40:30	0.14	0.16	0.06	14.12	BLM002221/cg12	THC	14.2		0
dcg12	7/11/2011	12:40:45	0.14	0.16	0.05	14.08	BLM002221/cg12	THC	14.2		0
thclow2	7/11/2011	12:40:45	0.14	0.16	0.05	14.08	BLM002221/cg12	THC	14.2		0
dcg13	7/11/2011	12:41:15	15.47	0.11	0.13	13.95	BLM001976/cg13	THC	27.2		0
dcg13	7/11/2011	12:41:30	11.39	0.10	0.18	14.03	BLM001976/cg13	THC	27.2		0
dcg13	7/11/2011	12:41:45	3.61	0.13	-0.41	14.02	BLM001976/cg13	THC	27.2		0
dcg13	7/11/2011	12:42:00	2.03	0.13	0.07	14.02	BLM001976/cg13	THC	27.2		0
dcg13	7/11/2011	12:42:15	0.93	0.13	0.31	14.01	BLM001976/cg13	THC	27.2		0
dcg13	7/11/2011	12:42:30	0.43	0.13	0.15	14.00	BLM001976/cg13	THC	27.2		0
dcg13	7/11/2011	12:42:45	0.25	0.14	-1.17	14.00	BLM001976/cg13	THC	27.2		0
dcg13	7/11/2011	12:43:00	0.19	0.14	-0.90	13.89	BLM001976/cg13	THC	27.2		0
dcg13	7/11/2011	12:43:15	0.16	0.14	0.00	7.62	BLM001976/cg13	THC	27.2		0
dcg13	7/11/2011	12:43:30	0.15	0.14	0.09	23.69	BLM001976/cg13	THC	27.2		0
dcg13	7/11/2011	12:43:45	0.15	0.14	0.26	26.51	BLM001976/cg13	THC	27.2		0
dcg13	7/11/2011	12:44:00	0.13	0.14	0.18	26.63	BLM001976/cg13	THC	27.2		0
dcg13	7/11/2011	12:44:15	0.13	0.14	0.15	26.72	BLM001976/cg13	THC	27.2		0
dcg13	7/11/2011	12:44:30	0.13	0.14	0.19	26.85	BLM001976/cg13	THC	27.2		0
dcg13	7/11/2011	12:44:45	0.13	0.14	0.28	26.87	BLM001976/cg13	THC	27.2		0
dcg13	7/11/2011	12:45:00	0.13	0.14	0.25	26.89	BLM001976/cg13	THC	27.2		0
dcg13	7/11/2011	12:45:15	0.13	0.14	-0.05	26.90	BLM001976/cg13	THC	27.2		0
thcmid2	7/11/2011	12:45:15	0.13	0.14	-0.05	26.90	BLM001976/cg13	THC	27.2		0
scg9	7/11/2011	13:00:30	18.66	2.79	-0.15	-0.67	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	13:00:45	19.39	1.47	-0.06	-0.67	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	13:01:00	20.63	0.45	-0.03	-0.66	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	13:01:15	20.65	0.71	-0.41	-0.67	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	13:01:30	17.28	5.01	-0.35	-0.68	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	13:01:45	12.98	9.37	-0.39	-0.67	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	13:02:00	11.78	10.48	-0.27	-0.68	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	13:02:15	11.49	10.75	-0.04	-0.68	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	13:02:30	11.34	10.85	-0.19	-0.69	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	13:02:45	11.28	10.90	-0.05	-0.70	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	13:03:00	11.25	10.93	-0.15	-0.72	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	13:03:15	11.23	10.96	-0.04	-0.72	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	13:03:30	11.22	10.99	-0.23	-0.74	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	13:03:45	11.21	11.00	-0.17	-0.74	CC133782/cg9	CO2	11	O2	11.1
cozero1	7/11/2011	13:03:45	11.21	11.00	-0.17	-0.74	CC133782/cg9	CO2	11	O2	11.1
o2span1	7/11/2011	13:03:45	11.21	11.00	-0.17	-0.74	CC133782/cg9	CO2	11	O2	11.1
co2span1	7/11/2011	13:03:45	11.21	11.00	-0.17	-0.74	CC133782/cg9	CO2	11	O2	11.1
scg5	7/11/2011	13:04:00	11.22	11.01	-0.15	-0.75	ALM066457/cg5	CO	41.5		0
scg5	7/11/2011	13:04:15	11.21	11.01	-0.38	-0.24	ALM066457/cg5	CO	41.5		0
scg5	7/11/2011	13:04:30	11.20	11.01	-0.06	0.02	ALM066457/cg5	CO	41.5		0
scg5	7/11/2011	13:04:45	11.09	10.77	-0.04	0.02	ALM066457/cg5	CO	41.5		0

name			1 O2	2 CO2	4 CO	6 THC				
scg5	7/11/2011	13:05:00	8.23	7.21	2.76	0.01	ALM066457/cg5	CO	41.5	0
scg5	7/11/2011	13:05:15	3.03	2.46	14.70	0.01	ALM066457/cg5	CO	41.5	0
scg5	7/11/2011	13:05:30	0.88	0.74	28.48	0.01	ALM066457/cg5	CO	41.5	0
scg5	7/11/2011	13:05:45	0.41	0.36	37.04	-0.01	ALM066457/cg5	CO	41.5	0
scg5	7/11/2011	13:06:00	0.29	0.27	40.18	-0.01	ALM066457/cg5	CO	41.5	0
scg5	7/11/2011	13:06:15	0.23	0.22	41.06	-0.02	ALM066457/cg5	CO	41.5	0
scg5	7/11/2011	13:06:30	0.21	0.20	41.40	-0.04	ALM066457/cg5	CO	41.5	0
scg5	7/11/2011	13:06:45	0.20	0.19	41.27	-0.04	ALM066457/cg5	CO	41.5	0
o2zero1	7/11/2011	13:06:45	0.20	0.19	41.27	-0.04	ALM066457/cg5	CO	41.5	0
co2zero1	7/11/2011	13:06:45	0.20	0.19	41.27	-0.04	ALM066457/cg5	CO	41.5	0
cospan1	7/11/2011	13:06:45	0.20	0.19	41.27	-0.04	ALM066457/cg5	CO	41.5	0
scg11	7/11/2011	13:07:00	0.20	0.18	41.31	-0.04	EB0011363/cg11	O2	21	0
scg11	7/11/2011	13:07:15	0.19	0.17	41.98	-0.04	EB0011363/cg11	O2	21	0
scg11	7/11/2011	13:07:30	0.19	0.17	42.15	-0.04	EB0011363/cg11	O2	21	0
scg11	7/11/2011	13:07:45	1.59	0.18	41.27	-0.05	EB0011363/cg11	O2	21	0
scg11	7/11/2011	13:08:00	10.74	0.24	34.89	-0.06	EB0011363/cg11	O2	21	0
scg11	7/11/2011	13:08:15	17.85	0.26	19.03	-0.07	EB0011363/cg11	O2	21	0
scg11	7/11/2011	13:08:30	19.39	0.25	8.01	-0.07	EB0011363/cg11	O2	21	0
scg11	7/11/2011	13:08:45	19.67	0.23	3.79	-0.08	EB0011363/cg11	O2	21	0
thczero2	7/11/2011	13:08:45	19.67	0.23	3.79	-0.08	EB0011363/cg11	O2	21	0
scg13	7/11/2011	13:09:45	20.07	0.16	1.89	-0.12	BLM001976/cg13	THC	27.2	0
scg13	7/11/2011	13:10:00	20.49	0.15	1.60	-0.12	BLM001976/cg13	THC	27.2	0
scg13	7/11/2011	13:10:15	20.71	0.14	0.80	-0.13	BLM001976/cg13	THC	27.2	0
scg13	7/11/2011	13:10:30	20.75	0.13	0.58	-0.13	BLM001976/cg13	THC	27.2	0
scg13	7/11/2011	13:10:45	20.80	0.12	0.31	-0.13	BLM001976/cg13	THC	27.2	0
scg13	7/11/2011	13:11:00	20.83	0.12	0.33	-0.13	BLM001976/cg13	THC	27.2	0
scg13	7/11/2011	13:11:15	20.84	0.12	0.14	-0.11	BLM001976/cg13	THC	27.2	0
scg13	7/11/2011	13:11:30	20.85	0.11	0.31	0.20	BLM001976/cg13	THC	27.2	0
scg13	7/11/2011	13:11:45	20.86	0.11	0.20	3.22	BLM001976/cg13	THC	27.2	0
scg13	7/11/2011	13:12:00	20.87	0.11	-0.15	25.98	BLM001976/cg13	THC	27.2	0
scg13	7/11/2011	13:12:15	20.86	0.10	0.20	27.43	BLM001976/cg13	THC	27.2	0
scg13	7/11/2011	13:12:30	20.82	0.14	0.26	27.48	BLM001976/cg13	THC	27.2	0
scg13	7/11/2011	13:12:45	18.17	1.00	3.23	27.51	BLM001976/cg13	THC	27.2	0
thcspan2	7/11/2011	13:12:45	18.17	1.00	3.23	27.51	BLM001976/cg13	THC	27.2	0
strat chk	7/11/2011	13:18:00	7.54	3.32	5.00	27.78				
strat chk	7/11/2011	13:18:15	7.54	3.32	4.64	27.77				
strat chk	7/11/2011	13:18:30	7.54	3.32	4.75	27.76				
strat chk	7/11/2011	13:18:45	7.55	3.32	5.03	27.76				
strat chk	7/11/2011	13:19:00	7.59	3.31	5.35	27.78				
strat chk	7/11/2011	13:19:15	7.64	3.30	5.92	27.76				
strat chk	7/11/2011	13:19:30	7.66	3.30	6.40	27.76				
strat chk	7/11/2011	13:19:45	7.65	3.30	6.61	27.75				
strat chk	7/11/2011	13:20:00	7.65	3.29	6.74	27.75				
strat chk	7/11/2011	13:20:15	7.65	3.29	6.92	27.77				
strat chk	7/11/2011	13:20:30	7.68	3.30	7.03	27.77				
strat chk	7/11/2011	13:20:45	7.66	3.30	6.70	27.75				
strat chk	7/11/2011	13:21:00	7.63	3.30	6.12	27.75				
strat chk	7/11/2011	13:21:15	7.64	3.30	6.09	27.75				
strat chk	7/11/2011	13:21:30	7.72	3.29	6.40	27.74				
strat chk	7/11/2011	13:21:45	7.73	3.28	6.85	27.75				
strat chk	7/11/2011	13:22:00	7.70	3.29	7.26	27.73				
strat chk	7/11/2011	13:22:15	7.71	3.30	7.08	27.74				
strat chk	7/11/2011	13:22:30	7.72	3.31	7.11	27.74				
strat chk	7/11/2011	13:22:45	7.69	3.33	6.64	27.75				
strat chk	7/11/2011	13:23:00	7.71	3.33	6.07	27.78				
strat chk	7/11/2011	13:23:15	7.72	3.33	5.80	27.77				
strat chk	7/11/2011	13:23:30	7.71	3.33	5.54	27.74				
strat chk	7/11/2011	13:23:45	7.71	3.33	5.29	27.72				
strat chk	7/11/2011	13:24:00	7.71	3.33	4.90	27.73				
strat chk	7/11/2011	13:24:15	7.67	3.34	4.60	27.75				
strat chk	7/11/2011	13:24:30	7.65	3.35	4.34	27.76				
strat chk	7/11/2011	13:24:45	7.63	3.35	3.90	27.76				
strat chk	7/11/2011	13:25:00	7.59	3.36	3.63	27.76				
strat chk	7/11/2011	13:25:15	7.54	3.36	3.20	27.74				
strat chk	7/11/2011	13:25:30	7.50	3.35	2.84	27.73				
strat chk	7/11/2011	13:25:45	7.51	3.35	2.82	27.74				
strat chk	7/11/2011	13:26:00	7.52	3.35	2.65	27.75				
strat chk	7/11/2011	13:26:15	7.49	3.35	2.50	27.76				
strat chk	7/11/2011	13:26:30	7.52	3.34	2.53	27.76				
strat chk	7/11/2011	13:26:45	7.57	3.34	2.69	27.75				
strat chk	7/11/2011	13:27:00	7.59	3.32	2.96	27.75				
strat chk	7/11/2011	13:27:15	7.61	3.31	3.18	27.76				
strat chk	7/11/2011	13:27:30	7.63	3.31	3.70	27.76				

name			1 O2	2 CO2	4 CO	6 THC
strat chk	7/11/2011	13:27:45	7.65	3.31	4.31	27.75
strat chk	7/11/2011	13:28:00	7.70	3.31	4.66	27.75
strat chk	7/11/2011	13:28:15	7.72	3.30	5.53	27.76
strat chk	7/11/2011	13:28:30	7.76	3.31	6.52	27.78
strat chk	7/11/2011	13:28:45	7.77	3.31	7.76	27.82
strat chk	7/11/2011	13:29:00	7.75	3.31	8.70	27.83
strat chk	7/11/2011	13:29:15	7.75	3.31	9.48	27.81
strat chk	7/11/2011	13:29:30	7.79	3.31	8.98	27.79
strat chk	7/11/2011	13:29:45	7.80	3.32	7.81	27.77
strat chk	7/11/2011	13:30:00	7.81	3.32	7.82	27.79
strat chk	7/11/2011	13:30:15	7.75	3.32	8.13	27.79
strat chk	7/11/2011	13:30:30	7.74	3.33	7.55	27.80
strat chk	7/11/2011	13:30:45	7.73	3.33	5.87	27.80
strat chk	7/11/2011	13:31:00	7.73	3.32	6.20	27.78
strat chk	7/11/2011	13:31:15	7.70	3.33	6.82	27.78
strat chk	7/11/2011	13:31:30	7.65	3.34	6.70	27.80
strat chk	7/11/2011	13:31:45	7.61	3.35	5.30	27.79
strat chk	7/11/2011	13:32:00	7.57	3.36	4.55	27.80
strat chk	7/11/2011	13:32:15	7.52	3.36	3.52	27.81
strat chk	7/11/2011	13:32:30	7.49	3.36	3.53	27.82
strat chk	7/11/2011	13:32:45	7.51	3.36	3.50	27.83
strat chk	7/11/2011	13:33:00	7.53	3.36	3.48	27.81
strat chk	7/11/2011	13:33:15	7.54	3.36	3.47	27.80
strat chk	7/11/2011	13:33:30	7.54	3.36	3.28	27.80
strat chk	7/11/2011	13:33:45	7.59	3.34	3.56	27.82
strat chk	7/11/2011	13:34:00	7.61	3.33	4.11	27.83
strat chk	7/11/2011	13:34:15	7.61	3.33	4.56	27.81
strat chk	7/11/2011	13:34:30	7.62	3.33	5.22	27.82
strat chk	7/11/2011	13:34:45	7.65	3.32	6.20	27.82
strat chk	7/11/2011	13:35:00	7.73	3.30	7.27	27.80
strat chk	7/11/2011	13:35:15	7.74	3.30	8.45	27.82
strat chk	7/11/2011	13:35:30	7.71	3.31	8.85	27.84
strat chk	7/11/2011	13:35:45	7.71	3.30	9.39	27.85
strat chkl	7/11/2011	13:36:00	7.73	3.31	9.77	27.82
strat chkl	7/11/2011	13:36:15	7.74	3.32	9.83	27.80
strat chkl	7/11/2011	13:36:30	7.76	3.32	9.77	27.79
strat chkl	7/11/2011	13:36:45	7.79	3.32	10.11	27.80
strat chkl	7/11/2011	13:37:00	8.22	3.12	10.46	27.83
strat chkl	7/11/2011	13:37:15	11.71	2.24	10.45	27.81
strat chkl	7/11/2011	13:37:30	11.20	2.61	16.11	27.81
strat chkl	7/11/2011	13:37:45	8.48	3.19	29.96	27.79
strat chkl	7/11/2011	13:38:00	7.92	3.30	37.99	27.78
strat chkl	7/11/2011	13:38:15	7.81	3.33	33.67	27.78
strat chkl	7/11/2011	13:38:30	7.75	3.34	25.57	27.78
strat chkl	7/11/2011	13:38:45	7.62	3.37	17.77	27.79
strat chk	7/11/2011	13:39:00	7.53	3.39	12.08	27.79
strat chk	7/11/2011	13:39:15	7.50	3.40	8.09	27.78
strat chk	7/11/2011	13:39:30	7.50	3.41	6.00	27.78
strat chk	7/11/2011	13:39:45	7.46	3.41	4.41	27.79
strat chk	7/11/2011	13:40:00	7.45	3.41	4.25	27.77
strat chk	7/11/2011	13:40:15	7.45	3.40	4.15	27.76
strat chk	7/11/2011	13:40:30	7.51	3.39	3.98	27.76
strat chk	7/11/2011	13:40:45	7.55	3.37	5.22	27.75
strat chk	7/11/2011	13:41:00	7.56	3.36	6.24	27.74
strat chk	7/11/2011	13:41:15	7.57	3.34	7.12	27.73
strat chk	7/11/2011	13:41:30	7.63	3.33	8.15	27.73
strat chk	7/11/2011	13:41:45	7.67	3.30	10.91	27.74
strat chk	7/11/2011	13:42:00	7.70	3.30	14.11	27.72
strat chk	7/11/2011	13:42:15	7.74	3.30	16.12	27.71
strat chk	7/11/2011	13:42:30	7.74	3.30	16.46	27.70
strat chk	7/11/2011	13:42:45	7.75	3.30	16.49	27.71
strat chk	7/11/2011	13:43:00	7.72	3.29	16.66	27.73
strat chk	7/11/2011	13:43:15	7.73	3.28	19.60	27.73
strat chk	7/11/2011	13:43:30	7.77	3.29	22.74	27.73
strat chk	7/11/2011	13:43:45	7.77	3.28	25.11	27.72
strat chk	7/11/2011	13:44:00	7.75	3.29	24.95	27.71
strat chk	7/11/2011	13:44:15	7.76	3.29	23.37	27.70
strat chk	7/11/2011	13:44:30	7.76	3.29	21.90	27.72
strat chk	7/11/2011	13:44:45	7.79	3.29	20.52	27.72
strat chk	7/11/2011	13:45:00	7.76	3.28	20.59	27.72
strat chk	7/11/2011	13:45:15	7.79	3.29	22.60	27.70
strat chk	7/11/2011	13:45:30	7.75	3.29	25.05	27.70
strat chk	7/11/2011	13:45:45	7.75	3.30	25.49	27.70

name			1 O2	2 CO2	4 CO	6 THC
strat chk	7/11/2011	13:46:00	7.77	3.29	23.72	27.70
strat chk	7/11/2011	13:46:15	7.75	3.29	23.26	27.71
strat chk	7/11/2011	13:46:30	7.75	3.30	21.47	27.70
strat chk	7/11/2011	13:46:45	7.74	3.32	19.44	27.48
strat chk	7/11/2011	13:47:00	7.71	3.34	17.57	27.23
strat chk	7/11/2011	13:47:15	7.67	3.34	15.56	27.23
strat chk	7/11/2011	13:47:30	7.71	3.33	14.24	27.21
strat chk	7/11/2011	13:47:45	7.76	3.33	13.55	27.20
strat chk	7/11/2011	13:48:00	7.71	3.34	12.18	27.20
strat chk	7/11/2011	13:48:15	7.63	3.35	10.34	27.22
strat chk	7/11/2011	13:48:30	7.65	3.35	9.01	27.21
strat chk	7/11/2011	13:48:45	7.66	3.35	8.31	26.88
strat chk	7/11/2011	13:49:00	7.63	3.34	8.17	5.62
strat chk	7/11/2011	13:49:15	7.57	3.34	7.94	0.75
strat chk	7/11/2011	13:49:30	7.54	3.33	8.30	1.28
strat chk	7/11/2011	13:49:45	7.54	3.33	9.26	1.23
strat chk	7/11/2011	13:50:00	7.54	3.33	10.41	0.90
strat chk	7/11/2011	13:50:15	7.54	3.32	11.24	0.68
strat chk	7/11/2011	13:50:30	7.58	3.31	11.85	0.53
strat chk	7/11/2011	13:50:45	7.60	3.31	12.19	0.44
strat chk	7/11/2011	13:51:00	7.58	3.31	11.28	0.35
strat chk	7/11/2011	13:51:15	7.59	3.31	10.37	0.30
strat chk	7/11/2011	13:51:30	7.65	3.29	11.27	0.26
strat chk	7/11/2011	13:51:45	7.67	3.28	14.35	0.24
strat chk	7/11/2011	13:52:00	7.69	3.28	16.46	0.23
strat chk	7/11/2011	13:52:15	7.70	3.28	17.34	0.32
strat chk	7/11/2011	13:52:30	7.72	3.28	18.34	1.60
strat chk	7/11/2011	13:52:45	7.73	3.27	20.70	4.61
strat chk	7/11/2011	13:53:00	7.73	3.28	22.69	2.11
strat chk	7/11/2011	13:53:15	7.66	3.29	23.37	0.80
strat chk	7/11/2011	13:53:30	7.61	3.30	21.74	0.54
strat chk	7/11/2011	13:53:45	7.61	3.30	18.89	0.49
strat chk	7/11/2011	13:54:00	7.61	3.29	16.44	0.46
strat chk	7/11/2011	13:54:15	7.58	3.30	15.42	0.44
strat chk	7/11/2011	13:54:30	7.51	3.30	15.58	0.40
strat chk	7/11/2011	13:54:45	7.53	3.29	15.94	0.36
strat chk	7/11/2011	13:55:00	7.54	3.29	16.13	0.34
strat chk	7/11/2011	13:55:15	7.50	3.29	15.94	0.32
strat chk	7/11/2011	13:55:30	7.48	3.30	14.85	0.31
strat chk	7/11/2011	13:55:45	7.45	3.31	13.48	0.30
strat chk	7/11/2011	13:56:00	7.45	3.32	11.60	0.28
strat chk	7/11/2011	13:56:15	7.46	3.32	9.92	0.26
strat chk	7/11/2011	13:56:30	7.45	3.33	8.57	0.23
strat chk	7/11/2011	13:56:45	7.42	3.34	8.47	0.20
run2	7/11/2011	14:00:00	7.59	3.36	16.37	0.02
run2	7/11/2011	14:00:15	7.59	3.35	17.48	0.00
run2	7/11/2011	14:00:30	7.64	3.34	19.60	-0.01
run2	7/11/2011	14:00:45	7.64	3.35	21.67	-0.01
run2	7/11/2011	14:01:00	7.58	3.36	21.08	-0.01
run2	7/11/2011	14:01:15	7.54	3.38	19.24	-0.02
run2	7/11/2011	14:01:30	7.50	3.38	16.64	-0.03
run2	7/11/2011	14:01:45	7.52	3.36	15.63	-0.06
run2	7/11/2011	14:02:00	7.43	3.36	15.52	-0.07
run2	7/11/2011	14:02:15	7.39	3.37	15.70	-0.07
run2	7/11/2011	14:02:30	7.37	3.39	15.43	-0.08
run2	7/11/2011	14:02:45	7.33	3.42	12.69	-0.07
run2	7/11/2011	14:03:00	7.31	3.43	9.62	-0.11
run2	7/11/2011	14:03:15	7.31	3.43	7.22	-0.11
run2	7/11/2011	14:03:30	7.30	3.43	6.08	-0.12
run2	7/11/2011	14:03:45	7.29	3.42	5.53	-0.11
run2	7/11/2011	14:04:00	7.35	3.43	4.90	-0.12
run2	7/11/2011	14:04:15	7.42	3.42	4.98	-0.13
run2	7/11/2011	14:04:30	7.48	3.41	5.80	-0.11
run2	7/11/2011	14:04:45	7.52	3.41	7.08	-0.15
run2	7/11/2011	14:05:00	7.60	3.39	8.90	-0.14
run2	7/11/2011	14:05:15	7.62	3.39	12.14	-0.14
run2	7/11/2011	14:05:30	7.64	3.40	15.45	-0.19
run2	7/11/2011	14:05:45	7.68	3.40	18.25	-0.18
run2	7/11/2011	14:06:00	7.70	3.39	22.34	-0.19
run2	7/11/2011	14:06:15	7.75	3.39	28.91	-0.19
run2	7/11/2011	14:06:30	7.75	3.39	32.09	-0.20
run2	7/11/2011	14:06:45	7.74	3.39	31.54	-0.20
run2	7/11/2011	14:07:00	7.77	3.40	29.45	-0.22

name			1 O2	2 CO2	4 CO	6 THC
run2	7/11/2011	14:07:15	7.75	3.40	25.79	-0.21
run2	7/11/2011	14:07:30	7.70	3.41	22.01	-0.22
run2	7/11/2011	14:07:45	7.68	3.40	19.22	-0.21
run2	7/11/2011	14:08:00	7.70	3.42	18.41	-0.20
run2	7/11/2011	14:08:15	7.70	3.42	17.32	-0.20
run2	7/11/2011	14:08:30	7.67	3.42	15.95	-0.22
run2	7/11/2011	14:08:45	7.65	3.44	13.90	-0.20
run2	7/11/2011	14:09:00	7.56	3.47	10.58	-0.24
run2	7/11/2011	14:09:15	7.45	3.51	6.58	-0.21
run2	7/11/2011	14:09:30	7.39	3.54	4.37	-0.22
run2	7/11/2011	14:09:45	7.36	3.55	3.15	-0.19
run2	7/11/2011	14:10:00	7.34	3.55	2.39	-0.20
run2	7/11/2011	14:10:15	7.32	3.54	1.92	-0.20
run2	7/11/2011	14:10:30	7.39	3.53	1.99	-0.22
run2	7/11/2011	14:10:45	7.48	3.50	2.26	-0.20
run2	7/11/2011	14:11:00	7.54	3.47	2.90	-0.21
run2	7/11/2011	14:11:15	7.57	3.45	3.95	-0.21
run2	7/11/2011	14:11:30	7.59	3.44	4.68	-0.20
run2	7/11/2011	14:11:45	7.60	3.43	5.34	-0.21
run2	7/11/2011	14:12:00	7.62	3.42	6.06	-0.22
run2	7/11/2011	14:12:15	7.59	3.42	6.73	-0.22
run2	7/11/2011	14:12:30	7.48	3.43	6.63	-0.20
run2	7/11/2011	14:12:45	7.43	3.43	5.58	-0.22
run2	7/11/2011	14:13:00	7.45	3.42	5.11	-0.24
run2	7/11/2011	14:13:15	7.46	3.42	5.58	-0.22
run2	7/11/2011	14:13:30	7.48	3.42	6.01	-0.24
run2	7/11/2011	14:13:45	7.51	3.41	7.45	-0.26
run2	7/11/2011	14:14:00	7.52	3.41	7.81	-0.25
run2	7/11/2011	14:14:15	7.53	3.41	7.86	-0.28
run2	7/11/2011	14:14:30	7.55	3.39	8.13	-0.25
run2	7/11/2011	14:14:45	7.61	3.39	8.16	-0.28
run2	7/11/2011	14:15:00	7.56	3.41	7.85	-0.26
run2	7/11/2011	14:15:15	7.54	3.43	8.07	-0.27
run2	7/11/2011	14:15:30	7.60	3.42	8.19	-0.27
run2	7/11/2011	14:15:45	7.70	3.38	9.62	-0.27
run2	7/11/2011	14:16:00	7.75	3.38	12.34	-0.28
run2	7/11/2011	14:16:15	7.75	3.38	13.87	-0.28
run2	7/11/2011	14:16:30	7.78	3.37	13.91	-0.28
run2	7/11/2011	14:16:45	7.79	3.37	14.23	-0.27
run2	7/11/2011	14:17:00	7.73	3.37	15.72	-0.29
run2	7/11/2011	14:17:15	7.70	3.38	17.59	-0.29
run2	7/11/2011	14:17:30	7.67	3.38	18.05	-0.30
run2	7/11/2011	14:17:45	7.67	3.39	17.15	-0.32
run2	7/11/2011	14:18:00	7.63	3.39	14.05	-0.33
run2	7/11/2011	14:18:15	7.56	3.39	10.45	-0.32
run2	7/11/2011	14:18:30	7.50	3.39	8.99	-0.32
run2	7/11/2011	14:18:45	7.46	3.40	8.16	-0.32
run2	7/11/2011	14:19:00	7.43	3.41	7.96	-0.31
run2	7/11/2011	14:19:15	7.46	3.39	7.93	-0.35
run2	7/11/2011	14:19:30	7.52	3.38	8.61	-0.32
run2	7/11/2011	14:19:45	7.50	3.39	9.00	-0.34
run2	7/11/2011	14:20:00	7.47	3.38	8.16	-0.33
run2	7/11/2011	14:20:15	7.45	3.39	6.73	-0.30
run2	7/11/2011	14:20:30	7.45	3.40	6.40	-0.33
run2	7/11/2011	14:20:45	7.44	3.40	7.32	-0.34
run2	7/11/2011	14:21:00	7.42	3.39	8.18	-0.33
run2	7/11/2011	14:21:15	7.50	3.37	10.12	-0.33
run2	7/11/2011	14:21:30	7.64	3.35	13.42	-0.33
run2	7/11/2011	14:21:45	7.65	3.36	15.50	-0.31
run2	7/11/2011	14:22:00	7.63	3.36	14.81	-0.35
run2	7/11/2011	14:22:15	7.66	3.35	14.39	-0.34
run2	7/11/2011	14:22:30	7.72	3.34	15.90	-0.35
run2	7/11/2011	14:22:45	7.70	3.35	18.34	-0.35
run2	7/11/2011	14:23:00	7.61	3.38	19.88	-0.34
run2	7/11/2011	14:23:15	7.61	3.37	21.62	-0.33
run2	7/11/2011	14:23:30	7.64	3.36	23.88	-0.35
run2	7/11/2011	14:23:45	7.62	3.37	22.78	-0.37
run2	7/11/2011	14:24:00	7.61	3.36	19.27	-0.36
run2	7/11/2011	14:24:15	7.58	3.38	17.92	-0.34
run2	7/11/2011	14:24:30	7.53	3.40	16.31	-0.35
run2	7/11/2011	14:24:45	7.45	3.40	13.02	-0.37
run2	7/11/2011	14:25:00	7.42	3.39	10.92	-0.36
run2	7/11/2011	14:25:15	7.42	3.37	10.61	-0.39

name			1 O2	2 CO2	4 CO	6 THC
run2	7/11/2011	14:25:30	7.42	3.38	10.49	-0.38
run2	7/11/2011	14:25:45	7.41	3.39	10.44	-0.37
run2	7/11/2011	14:26:00	7.40	3.39	10.25	-0.35
run2	7/11/2011	14:26:15	7.47	3.38	10.38	-0.36
run2	7/11/2011	14:26:30	7.57	3.38	11.02	-0.36
run2	7/11/2011	14:26:45	7.65	3.38	11.61	-0.35
run2	7/11/2011	14:27:00	7.65	3.38	11.61	-0.34
run2	7/11/2011	14:27:15	7.58	3.40	10.78	-0.32
run2	7/11/2011	14:27:30	7.53	3.41	10.20	-0.34
run2	7/11/2011	14:27:45	7.52	3.43	11.01	-0.34
run2	7/11/2011	14:28:00	7.51	3.44	11.87	-0.33
run2	7/11/2011	14:28:15	7.51	3.44	12.69	-0.35
run2	7/11/2011	14:28:30	7.53	3.44	13.66	-0.34
run2	7/11/2011	14:28:45	7.55	3.42	15.13	-0.33
run2	7/11/2011	14:29:00	7.55	3.42	15.76	-0.30
run2	7/11/2011	14:29:15	7.58	3.41	14.17	-0.28
run2	7/11/2011	14:29:30	7.56	3.41	11.06	-0.26
run2	7/11/2011	14:29:45	7.52	3.42	8.39	-0.27
run2	7/11/2011	14:30:00	7.43	3.43	6.66	-0.26
run2	7/11/2011	14:30:15	7.39	3.44	5.64	-0.29
run2	7/11/2011	14:30:30	7.39	3.44	5.37	-0.28
run2	7/11/2011	14:30:45	7.42	3.44	5.35	-0.28
run2	7/11/2011	14:31:00	7.42	3.44	5.32	-0.29
run2	7/11/2011	14:31:15	7.39	3.44	5.22	-0.27
run2	7/11/2011	14:31:30	7.37	3.43	4.93	-0.26
run2	7/11/2011	14:31:45	7.39	3.41	5.37	-0.24
run2	7/11/2011	14:32:00	7.41	3.40	5.86	-0.25
run2	7/11/2011	14:32:15	7.42	3.38	6.76	-0.20
run2	7/11/2011	14:32:30	7.41	3.38	8.61	-0.19
run2	7/11/2011	14:32:45	7.41	3.38	9.51	-0.21
run2	7/11/2011	14:33:00	7.45	3.36	10.43	-0.25
run2	7/11/2011	14:33:15	7.49	3.35	12.94	-0.23
run2	7/11/2011	14:33:30	7.49	3.36	15.60	-0.24
run2	7/11/2011	14:33:45	7.53	3.36	17.78	-0.22
run2	7/11/2011	14:34:00	7.60	3.35	20.67	-0.21
run2	7/11/2011	14:34:15	7.63	3.35	24.41	-0.21
run2	7/11/2011	14:34:30	7.64	3.34	27.49	-0.21
run2	7/11/2011	14:34:45	7.68	3.34	29.07	-0.20
run2	7/11/2011	14:35:00	7.64	3.35	29.13	-0.20
run2	7/11/2011	14:35:15	7.61	3.34	30.00	-0.21
run2	7/11/2011	14:35:30	7.67	3.33	32.97	-0.21
run2	7/11/2011	14:35:45	7.69	3.33	36.07	-0.23
run2	7/11/2011	14:36:00	7.63	3.34	35.95	-0.22
run2	7/11/2011	14:36:15	7.55	3.36	30.93	-0.20
run2	7/11/2011	14:36:30	7.43	3.38	23.62	-0.20
run2	7/11/2011	14:36:45	7.35	3.39	17.46	-0.18
run2	7/11/2011	14:37:00	7.32	3.38	14.10	-0.18
run2	7/11/2011	14:37:15	7.37	3.35	13.42	-0.18
run2	7/11/2011	14:37:30	7.42	3.35	14.63	-0.18
run2	7/11/2011	14:37:45	7.37	3.37	14.64	-0.16
run2	7/11/2011	14:38:00	7.30	3.40	12.33	-0.16
run2	7/11/2011	14:38:15	7.21	3.43	8.64	-0.16
run2	7/11/2011	14:38:30	7.18	3.44	5.71	-0.18
run2	7/11/2011	14:38:45	7.19	3.45	4.47	-0.17
run2	7/11/2011	14:39:00	7.20	3.44	4.14	-0.16
run2	7/11/2011	14:39:15	7.24	3.42	4.51	-0.16
run2	7/11/2011	14:39:30	7.27	3.39	5.77	-0.15
run2	7/11/2011	14:39:45	7.28	3.39	7.46	-0.18
run2	7/11/2011	14:40:00	7.33	3.38	9.54	-0.16
run2	7/11/2011	14:40:15	7.35	3.38	11.88	-0.18
run2	7/11/2011	14:40:30	7.37	3.37	14.00	-0.17
run2	7/11/2011	14:40:45	7.43	3.37	16.89	-0.15
run2	7/11/2011	14:41:00	7.46	3.36	19.35	-0.15
run2	7/11/2011	14:41:15	7.48	3.36	20.57	-0.16
run2	7/11/2011	14:41:30	7.46	3.37	20.00	-0.18
run2	7/11/2011	14:41:45	7.44	3.37	17.50	-0.16
run2	7/11/2011	14:42:00	7.44	3.37	15.53	-0.18
run2	7/11/2011	14:42:15	7.39	3.37	15.19	-0.20
run2	7/11/2011	14:42:30	7.41	3.37	16.27	-0.19
run2	7/11/2011	14:42:45	7.42	3.37	17.50	-0.18
run2	7/11/2011	14:43:00	7.42	3.38	17.26	-0.19
run2	7/11/2011	14:43:15	7.41	3.36	16.87	-0.20
run2	7/11/2011	14:43:30	7.38	3.36	16.74	-0.18

name			1 O2	2 CO2	4 CO	6 THC				
run2	7/11/2011	14:43:45	7.36	3.36	16.26	-0.19				
run2	7/11/2011	14:44:00	7.33	3.36	15.49	-0.21				
run2	7/11/2011	14:44:15	7.30	3.36	14.54	-0.21				
run2	7/11/2011	14:44:30	7.30	3.36	13.93	-0.21				
run2	7/11/2011	14:44:45	7.34	3.36	13.27	-0.23				
run2	7/11/2011	14:45:00	7.35	3.35	12.90	-0.21				
run2	7/11/2011	14:45:15	7.36	3.35	13.51	-0.23				
run2	7/11/2011	14:45:30	7.37	3.36	13.77	-0.21				
run2	7/11/2011	14:45:45	7.36	3.36	13.50	-0.22				
run2	7/11/2011	14:46:00	7.39	3.36	13.96	-0.22				
run2	7/11/2011	14:46:15	7.43	3.35	16.25	-0.20				
run2	7/11/2011	14:46:30	7.48	3.34	19.54	-0.22				
run2	7/11/2011	14:46:45	7.52	3.34	23.11	-0.21				
run2	7/11/2011	14:47:00	7.53	3.35	26.27	-0.21				
run2	7/11/2011	14:47:15	7.54	3.34	29.13	-0.21				
run2	7/11/2011	14:47:30	7.53	3.33	31.54	-0.20				
run2	7/11/2011	14:47:45	7.57	3.33	34.15	-0.19				
run2	7/11/2011	14:48:00	7.57	3.34	36.34	-0.22				
run2	7/11/2011	14:48:15	7.55	3.37	34.53	-0.22				
run2	7/11/2011	14:48:30	7.52	3.39	30.15	-0.22				
run2	7/11/2011	14:48:45	7.50	3.40	25.65	-0.22				
run2	7/11/2011	14:49:00	7.51	3.41	22.99	-0.22				
run2	7/11/2011	14:49:15	7.50	3.42	20.81	-0.22				
run2	7/11/2011	14:49:30	7.47	3.43	18.27	-0.21				
run2	7/11/2011	14:49:45	7.46	3.43	15.73	-0.19				
run2	7/11/2011	14:50:00	7.42	3.43	13.65	-0.20				
run2	7/11/2011	14:50:15	7.44	3.43	12.58	-0.20				
run2	7/11/2011	14:50:30	7.44	3.44	11.94	-0.22				
run2	7/11/2011	14:50:45	7.43	3.43	10.85	-0.19				
run2	7/11/2011	14:51:00	7.43	3.43	9.89	-0.19				
run2	7/11/2011	14:51:15	7.43	3.43	9.23	-0.17				
run2	7/11/2011	14:51:30	7.38	3.43	8.46	-0.17				
run2	7/11/2011	14:51:45	7.31	3.44	7.48	-0.19				
run2	7/11/2011	14:52:00	7.30	3.42	7.00	-0.18				
run2	7/11/2011	14:52:15	7.31	3.41	7.55	-0.19				
run2	7/11/2011	14:52:30	7.31	3.41	8.62	-0.19				
run2	7/11/2011	14:52:45	7.35	3.40	9.60	-0.19				
run2	7/11/2011	14:53:00	7.38	3.38	10.68	-0.18				
run2	7/11/2011	14:53:15	7.42	3.37	12.58	-0.19				
run2	7/11/2011	14:53:30	7.45	3.35	14.87	-0.19				
run2	7/11/2011	14:53:45	7.46	3.34	16.65	-0.18				
run2	7/11/2011	14:54:00	7.50	3.33	18.03	-0.17				
run2	7/11/2011	14:54:15	7.52	3.33	20.64	-0.18				
run2	7/11/2011	14:54:30	7.55	3.33	24.02	-0.18				
run2	7/11/2011	14:54:45	7.54	3.33	27.64	-0.17				
run2	7/11/2011	14:55:00	7.55	3.33	29.87	-0.18				
run2	7/11/2011	14:55:15	7.51	3.33	29.94	-0.18				
run2	7/11/2011	14:55:30	7.50	3.34	29.11	-0.18				
run2	7/11/2011	14:55:45	7.50	3.33	29.17	-0.20				
run2	7/11/2011	14:56:00	7.52	3.33	29.38	-0.21				
run2	7/11/2011	14:56:15	7.53	3.33	28.46	-0.20				
run2	7/11/2011	14:56:30	7.51	3.32	28.38	-0.18				
run2	7/11/2011	14:56:45	7.51	3.33	28.50	-0.17				
run2	7/11/2011	14:57:00	7.55	3.33	28.63	-0.18				
run2	7/11/2011	14:57:15	7.52	3.33	28.17	-0.19				
run2	7/11/2011	14:57:30	7.47	3.33	26.92	-0.20				
run2	7/11/2011	14:57:45	7.48	3.33	25.59	-0.20				
run2	7/11/2011	14:58:00	7.48	3.34	24.22	-0.20				
run2	7/11/2011	14:58:15	7.43	3.35	22.34	-0.19				
run2	7/11/2011	14:58:30	7.43	3.35	20.61	-0.18				
run2	7/11/2011	14:58:45	7.52	3.33	20.11	-0.19				
run2	7/11/2011	14:59:00	7.51	3.34	19.57	-0.20				
run2	7/11/2011	14:59:15	7.49	3.36	18.01	-0.20				
run2	7/11/2011	14:59:30	7.46	3.36	16.31	-0.19				
run2	7/11/2011	14:59:45	7.46	3.36	14.91	-0.18				
averun2	7/11/2011	14:00:00	7.50	3.39	14.95	-0.22	60			
scg5	7/11/2011	15:09:00	7.75	3.29	38.78	-0.23	ALM066457/cg5	CO	41.5	0
scg5	7/11/2011	15:09:15	7.75	3.30	39.67	-0.22	ALM066457/cg5	CO	41.5	0
scg5	7/11/2011	15:09:30	7.80	3.32	38.83	-0.23	ALM066457/cg5	CO	41.5	0
scg5	7/11/2011	15:09:45	7.43	2.88	38.12	-0.24	ALM066457/cg5	CO	41.5	0
scg5	7/11/2011	15:10:00	5.44	1.31	38.29	-0.26	ALM066457/cg5	CO	41.5	0
scg5	7/11/2011	15:10:15	2.04	0.39	38.38	-0.25	ALM066457/cg5	CO	41.5	0
scg5	7/11/2011	15:10:30	0.59	0.20	39.71	-0.25	ALM066457/cg5	CO	41.5	0

name			1 O2	2 CO2	4 CO	6 THC					
scg5	7/11/2011	15:10:45	0.32	0.16	41.01	-0.25	ALM066457/cg5	CO	41.5		0
scg5	7/11/2011	15:11:00	0.26	0.14	41.81	-0.27	ALM066457/cg5	CO	41.5		0
scg5	7/11/2011	15:11:15	0.21	0.13	41.89	1.11	ALM066457/cg5	CO	41.5		0
scg5	7/11/2011	15:11:30	0.18	0.12	41.86	6.05	ALM066457/cg5	CO	41.5		0
scg5	7/11/2011	15:11:45	0.16	0.11	41.92	7.51	ALM066457/cg5	CO	41.5		0
o2zero1	7/11/2011	15:11:45	0.16	0.11	41.92	7.51	ALM066457/cg5	CO	41.5		0
co2zero1	7/11/2011	15:11:45	0.16	0.11	41.92	7.51	ALM066457/cg5	CO	41.5		0
cospan1	7/11/2011	15:11:45	0.16	0.11	41.92	7.51	ALM066457/cg5	CO	41.5		0
scg9	7/11/2011	15:12:00	0.15	0.11	41.88	0.44	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	15:12:15	0.15	0.11	41.87	0.21	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	15:12:30	0.15	0.10	41.93	0.07	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	15:12:45	0.42	0.55	41.72	0.00	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	15:13:00	4.36	4.91	37.27	-0.04	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	15:13:15	9.22	9.36	23.51	-0.06	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	15:13:30	10.61	10.54	10.68	-0.08	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	15:13:45	10.88	10.79	3.49	-0.10	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	15:14:00	10.98	10.86	1.16	-0.12	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	15:14:15	11.03	10.94	0.59	-0.12	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	15:14:30	11.05	10.98	0.34	-0.12	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	15:14:45	11.08	11.00	0.18	-0.14	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	15:15:00	11.10	11.02	0.07	-0.15	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	15:15:15	11.10	11.03	-0.04	-0.17	CC133782/cg9	CO2	11	O2	11.1
scg9	7/11/2011	15:15:30	11.11	11.04	-0.11	-0.18	CC133782/cg9	CO2	11	O2	11.1
cozero1	7/11/2011	15:15:30	11.11	11.04	-0.11	-0.18	CC133782/cg9	CO2	11	O2	11.1
o2span1	7/11/2011	15:15:30	11.11	11.04	-0.11	-0.18	CC133782/cg9	CO2	11	O2	11.1
co2span1	7/11/2011	15:15:30	11.11	11.04	-0.11	-0.18	CC133782/cg9	CO2	11	O2	11.1
scg11	7/11/2011	15:15:45	11.12	11.05	-0.13	-0.19	EB0011363/cg11	O2	21		0
scg11	7/11/2011	15:16:00	11.10	11.04	-0.17	-0.20	EB0011363/cg11	O2	21		0
scg11	7/11/2011	15:16:15	11.06	11.01	-0.17	-0.20	EB0011363/cg11	O2	21		0
scg11	7/11/2011	15:16:30	10.67	9.67	0.37	-0.21	EB0011363/cg11	O2	21		0
scg11	7/11/2011	15:16:45	9.14	5.99	6.31	-0.22	EB0011363/cg11	O2	21		0
scg11	7/11/2011	15:17:00	8.27	4.30	16.59	-0.22	EB0011363/cg11	O2	21		0
thczero2	7/11/2011	15:17:00	8.27	4.30	16.59	-0.22	EB0011363/cg11	O2	21		0
scg13	7/11/2011	15:18:00	7.93	3.67	27.58	-0.22	BLM001976/cg13	THC	27.2		0
scg13	7/11/2011	15:18:15	7.83	3.46	27.94	-0.21	BLM001976/cg13	THC	27.2		0
scg13	7/11/2011	15:18:30	7.77	3.40	26.59	-0.23	BLM001976/cg13	THC	27.2		0
scg13	7/11/2011	15:18:45	7.69	3.38	23.65	-0.23	BLM001976/cg13	THC	27.2		0
scg13	7/11/2011	15:19:00	7.65	3.38	21.50	-0.22	BLM001976/cg13	THC	27.2		0
scg13	7/11/2011	15:19:15	7.66	3.37	20.38	-0.22	BLM001976/cg13	THC	27.2		0
scg13	7/11/2011	15:19:30	7.68	3.34	21.16	-0.28	BLM001976/cg13	THC	27.2		0
scg13	7/11/2011	15:19:45	7.71	3.33	23.14	-0.35	BLM001976/cg13	THC	27.2		0
scg13	7/11/2011	15:20:00	7.79	3.32	24.75	18.94	BLM001976/cg13	THC	27.2		0
scg13	7/11/2011	15:20:15	7.83	3.30	26.10	32.15	BLM001976/cg13	THC	27.2		0
scg13	7/11/2011	15:20:30	7.82	3.29	27.39	29.08	BLM001976/cg13	THC	27.2		0
scg13	7/11/2011	15:20:45	7.84	3.28	30.00	27.52	BLM001976/cg13	THC	27.2		0
scg13	7/11/2011	15:21:00	7.89	3.26	34.77	27.54	BLM001976/cg13	THC	27.2		0
scg13	7/11/2011	15:21:15	7.91	3.24	40.90	27.59	BLM001976/cg13	THC	27.2		0
scg13	7/11/2011	15:21:30	7.90	3.26	44.88	27.61	BLM001976/cg13	THC	27.2		0
thcspan2	7/11/2011	15:21:30	7.90	3.26	44.88	27.61	BLM001976/cg13	THC	27.2		0
dcg1	7/12/2011	7:31:45	20.86	0.17	-0.37	-0.56	EB0010155/cg1	N2	0		0
dcg1	7/12/2011	7:32:00	12.33	0.15	-0.39	-0.13	EB0010155/cg1	N2	0		0
dcg1	7/12/2011	7:32:15	0.68	0.13	-0.43	-0.07	EB0010155/cg1	N2	0		0
dcg1	7/12/2011	7:32:30	0.11	0.13	-0.44	0.30	EB0010155/cg1	N2	0		0
dcg1	7/12/2011	7:32:45	0.09	0.13	-0.35	0.32	EB0010155/cg1	N2	0		0
dcg1	7/12/2011	7:33:00	0.08	0.13	0.03	0.35	EB0010155/cg1	N2	0		0
dcg1	7/12/2011	7:33:15	0.07	0.13	0.02	0.65	EB0010155/cg1	N2	0		0
dcg1	7/12/2011	7:33:30	0.07	0.13	-0.02	1.02	EB0010155/cg1	N2	0		0
dcg1	7/12/2011	7:33:45	0.07	0.13	-0.04	0.58	EB0010155/cg1	N2	0		0
dcg1	7/12/2011	7:34:00	0.07	0.13	-0.01	1.23	EB0010155/cg1	N2	0		0
dcg1	7/12/2011	7:34:15	0.07	0.13	0.00	2.73	EB0010155/cg1	N2	0		0
dcg1	7/12/2011	7:34:30	0.05	0.09	-0.02	3.27	EB0010155/cg1	N2	0		0
dcg1	7/12/2011	7:34:45	0.02	0.04	-0.06	1.99	EB0010155/cg1	N2	0		0
dcg1	7/12/2011	7:35:00	0.02	0.04	-0.05	2.33	EB0010155/cg1	N2	0		0
o2ezero1	7/12/2011	7:35:00	0.02	0.04	-0.05	2.33	EB0010155/cg1	N2	0		0
co2ezero1	7/12/2011	7:35:00	0.02	0.04	-0.05	2.33	EB0010155/cg1	N2	0		0
coezero1	7/12/2011	7:35:00	0.02	0.04	-0.05	2.33	EB0010155/cg1	N2	0		0
dcg6	7/12/2011	7:35:15	0.02	0.04	-0.01	1.50	BLM001864/cg6	CO	87.5		0
dcg6	7/12/2011	7:35:30	1.69	0.04	3.83	2.17	BLM001864/cg6	CO	87.5		0
dcg6	7/12/2011	7:35:45	0.92	0.04	33.74	2.04	BLM001864/cg6	CO	87.5		0
dcg6	7/12/2011	7:36:00	0.04	0.04	70.80	2.91	BLM001864/cg6	CO	87.5		0
dcg6	7/12/2011	7:36:15	0.03	0.04	85.99	1.87	BLM001864/cg6	CO	87.5		0
dcg6	7/12/2011	7:36:30	0.03	0.04	88.37	1.08	BLM001864/cg6	CO	87.5		0
dcg6	7/12/2011	7:36:45	0.03	0.04	88.29	0.44	BLM001864/cg6	CO	87.5		0

name			1 O2	2 CO2	4 CO	6 THC				
dcg6	7/12/2011	7:37:00	0.02	0.04	88.58	0.05	BLM001864/cg6	CO	87.5	0
dcg6	7/12/2011	7:37:15	0.02	0.04	87.07	-0.20	BLM001864/cg6	CO	87.5	0
dcg6	7/12/2011	7:37:30	0.02	0.04	86.09	-0.40	BLM001864/cg6	CO	87.5	0
dcg6	7/12/2011	7:37:45	0.02	0.04	86.01	-0.53	BLM001864/cg6	CO	87.5	0
dcg6	7/12/2011	7:38:00	0.02	0.04	86.13	0.04	BLM001864/cg6	CO	87.5	0
dcg6	7/12/2011	7:38:15	0.02	0.04	85.99	0.08	BLM001864/cg6	CO	87.5	0
dcg6	7/12/2011	7:38:30	0.02	0.04	86.12	-0.01	BLM001864/cg6	CO	87.5	0
cohigh1	7/12/2011	7:38:30	0.02	0.04	86.12	-0.01	BLM001864/cg6	CO	87.5	0
dcg5	7/12/2011	7:38:45	0.02	0.04	86.11	-0.09	ALM066457/cg5	CO	41.5	0
dcg5	7/12/2011	7:39:00	0.88	0.04	81.65	-0.17	ALM066457/cg5	CO	41.5	0
dcg5	7/12/2011	7:39:15	0.43	0.04	64.54	-0.25	ALM066457/cg5	CO	41.5	0
dcg5	7/12/2011	7:39:30	0.03	0.04	47.69	-0.36	ALM066457/cg5	CO	41.5	0
dcg5	7/12/2011	7:39:45	0.02	0.04	42.73	-0.45	ALM066457/cg5	CO	41.5	0
dcg5	7/12/2011	7:40:00	0.02	0.04	42.03	-0.54	ALM066457/cg5	CO	41.5	0
dcg5	7/12/2011	7:40:15	0.01	0.04	42.09	-0.60	ALM066457/cg5	CO	41.5	0
dcg5	7/12/2011	7:40:30	0.01	0.04	42.13	-0.66	ALM066457/cg5	CO	41.5	0
dcg5	7/12/2011	7:40:45	0.02	0.04	42.08	-0.71	ALM066457/cg5	CO	41.5	0
dcg5	7/12/2011	7:41:00	0.03	0.04	42.00	-0.76	ALM066457/cg5	CO	41.5	0
dcg5	7/12/2011	7:41:15	0.03	0.04	42.04	-0.80	ALM066457/cg5	CO	41.5	0
comid1	7/12/2011	7:41:15	0.03	0.04	42.04	-0.80	ALM066457/cg5	CO	41.5	0
dcg10	7/12/2011	7:41:45	11.71	0.22	35.75	-0.83	CC149987/cg10	CO2	20.1 O2	20.1
dcg10	7/12/2011	7:42:00	20.16	9.42	17.79	-0.84	CC149987/cg10	CO2	20.1 O2	20.1
dcg10	7/12/2011	7:42:15	20.20	20.12	5.64	-0.87	CC149987/cg10	CO2	20.1 O2	20.1
dcg10	7/12/2011	7:42:30	20.25	20.27	1.10	-0.25	CC149987/cg10	CO2	20.1 O2	20.1
dcg10	7/12/2011	7:42:45	20.26	20.26	-0.13	0.21	CC149987/cg10	CO2	20.1 O2	20.1
dcg10	7/12/2011	7:43:00	20.20	20.11	-0.49	0.19	CC149987/cg10	CO2	20.1 O2	20.1
dcg10	7/12/2011	7:43:15	20.20	20.09	-0.54	0.17	CC149987/cg10	CO2	20.1 O2	20.1
o2high1	7/12/2011	7:43:15	20.20	20.09	-0.54	0.17	CC149987/cg10	CO2	20.1 O2	20.1
co2high1	7/12/2011	7:43:15	20.20	20.09	-0.54	0.17	CC149987/cg10	CO2	20.1 O2	20.1
dcg9	7/12/2011	7:43:30	20.12	19.12	-0.55	0.15	CC133782/cg9	CO2	11 O2	11.1
dcg9	7/12/2011	7:43:45	16.26	12.60	-0.46	0.16	CC133782/cg9	CO2	11 O2	11.1
dcg9	7/12/2011	7:44:00	11.33	11.00	-0.41	0.16	CC133782/cg9	CO2	11 O2	11.1
dcg9	7/12/2011	7:44:15	11.03	11.02	-0.26	0.14	CC133782/cg9	CO2	11 O2	11.1
dcg9	7/12/2011	7:44:30	11.01	11.02	-0.15	0.11	CC133782/cg9	CO2	11 O2	11.1
o2mid1	7/12/2011	7:44:30	11.01	11.02	-0.15	0.11	CC133782/cg9	CO2	11 O2	11.1
co2mid1	7/12/2011	7:44:30	11.01	11.02	-0.15	0.11	CC133782/cg9	CO2	11 O2	11.1
dcg11	7/12/2011	7:44:45	10.88	10.93	-0.13	0.10	EB0011363/cg11	O2	21	0
dcg11	7/12/2011	7:45:00	6.14	8.47	-0.14	0.07	EB0011363/cg11	O2	21	0
dcg11	7/12/2011	7:45:15	1.79	7.39	-0.21	0.03	EB0011363/cg11	O2	21	0
dcg11	7/12/2011	7:45:30	1.19	6.37	-0.13	0.00	EB0011363/cg11	O2	21	0
dcg11	7/12/2011	7:45:45	0.70	5.29	-0.07	-0.01	EB0011363/cg11	O2	21	0
dcg11	7/12/2011	7:46:00	0.39	4.56	-0.04	-0.01	EB0011363/cg11	O2	21	0
thcezero2	7/12/2011	7:46:00	0.39	4.56	-0.04	-0.01	EB0011363/cg11	O2	21	0
dcg14	7/12/2011	7:46:15	0.62	3.93	0.01	-0.01	BAL5228/cg14	THC	42.8	0
dcg14	7/12/2011	7:46:30	1.79	2.96	0.00	-0.01	BAL5228/cg14	THC	42.8	0
dcg14	7/12/2011	7:46:45	0.85	3.19	0.01	-0.01	BAL5228/cg14	THC	42.8	0
dcg14	7/12/2011	7:47:00	0.32	2.93	0.11	-0.01	BAL5228/cg14	THC	42.8	0
dcg14	7/12/2011	7:47:15	0.18	2.58	0.11	-0.02	BAL5228/cg14	THC	42.8	0
dcg14	7/12/2011	7:47:30	0.13	2.29	0.10	-0.03	BAL5228/cg14	THC	42.8	0
dcg14	7/12/2011	7:47:45	0.11	2.09	0.10	-0.03	BAL5228/cg14	THC	42.8	0
dcg14	7/12/2011	7:48:00	0.11	1.92	0.17	-0.02	BAL5228/cg14	THC	42.8	0
dcg14	7/12/2011	7:48:15	0.11	1.76	0.19	-0.03	BAL5228/cg14	THC	42.8	0
dcg14	7/12/2011	7:48:30	0.10	1.65	0.13	-0.02	BAL5228/cg14	THC	42.8	0
dcg14	7/12/2011	7:48:45	0.09	1.54	0.15	22.07	BAL5228/cg14	THC	42.8	0
dcg14	7/12/2011	7:49:00	0.09	1.44	0.18	38.28	BAL5228/cg14	THC	42.8	0
dcg14	7/12/2011	7:49:15	0.09	1.37	0.20	39.53	BAL5228/cg14	THC	42.8	0
dcg14	7/12/2011	7:49:30	0.10	1.27	0.25	42.77	BAL5228/cg14	THC	42.8	0
dcg14	7/12/2011	7:49:45	0.09	1.18	0.28	42.90	BAL5228/cg14	THC	42.8	0
dcg14	7/12/2011	7:50:00	0.09	1.11	0.25	42.91	BAL5228/cg14	THC	42.8	0
thchigh2	7/12/2011	7:50:00	0.09	1.11	0.25	42.91	BAL5228/cg14	THC	42.8	0
dcg12	7/12/2011	7:50:45	19.24	0.15	0.19	42.49	BLM002221/cg12	THC	14.2	0
dcg12	7/12/2011	7:51:00	9.34	0.09	0.12	42.74	BLM002221/cg12	THC	14.2	0
dcg12	7/12/2011	7:51:15	2.57	0.10	0.11	42.70	BLM002221/cg12	THC	14.2	0
dcg12	7/12/2011	7:51:30	1.63	0.12	0.18	42.70	BLM002221/cg12	THC	14.2	0
dcg12	7/12/2011	7:51:45	0.94	0.32	0.20	42.73	BLM002221/cg12	THC	14.2	0
dcg12	7/12/2011	7:52:00	0.53	0.37	0.17	42.69	BLM002221/cg12	THC	14.2	0
dcg12	7/12/2011	7:52:15	0.32	0.26	0.13	42.62	BLM002221/cg12	THC	14.2	0
dcg12	7/12/2011	7:52:30	0.22	0.28	0.16	42.20	BLM002221/cg12	THC	14.2	0
dcg12	7/12/2011	7:52:45	0.16	0.32	0.22	14.78	BLM002221/cg12	THC	14.2	0
dcg12	7/12/2011	7:53:00	0.14	0.29	0.22	24.22	BLM002221/cg12	THC	14.2	0
dcg12	7/12/2011	7:53:15	0.12	0.25	0.25	14.57	BLM002221/cg12	THC	14.2	0
dcg12	7/12/2011	7:53:30	0.11	0.25	0.17	14.31	BLM002221/cg12	THC	14.2	0
dcg12	7/12/2011	7:53:45	0.10	0.25	0.20	14.20	BLM002221/cg12	THC	14.2	0

name			1 O2	2 CO2	4 CO	6 THC					
dcg12	7/12/2011	7:54:00	0.10	0.24	0.25	14.14	BLM002221/cg12	THC	14.2		0
dcg12	7/12/2011	7:54:15	0.09	0.22	0.27	14.09	BLM002221/cg12	THC	14.2		0
thclow2	7/12/2011	7:54:15	0.09	0.22	0.27	14.09	BLM002221/cg12	THC	14.2		0
dcg13	7/12/2011	7:55:00	18.93	0.08	0.12	14.08	BLM001976/cg13	THC	27.2		0
dcg13	7/12/2011	7:55:15	7.12	0.09	0.15	14.07	BLM001976/cg13	THC	27.2		0
dcg13	7/12/2011	7:55:30	2.82	0.12	0.17	14.07	BLM001976/cg13	THC	27.2		0
dcg13	7/12/2011	7:55:45	1.60	0.12	0.14	14.07	BLM001976/cg13	THC	27.2		0
dcg13	7/12/2011	7:56:00	0.77	0.12	0.11	14.05	BLM001976/cg13	THC	27.2		0
dcg13	7/12/2011	7:56:15	0.39	0.13	0.14	14.05	BLM001976/cg13	THC	27.2		0
dcg13	7/12/2011	7:56:30	0.22	0.13	0.18	14.03	BLM001976/cg13	THC	27.2		0
dcg13	7/12/2011	7:56:45	0.15	0.13	0.20	6.22	BLM001976/cg13	THC	27.2		0
dcg13	7/12/2011	7:57:00	0.12	0.13	0.17	7.87	BLM001976/cg13	THC	27.2		0
dcg13	7/12/2011	7:57:15	0.11	0.14	0.17	25.16	BLM001976/cg13	THC	27.2		0
dcg13	7/12/2011	7:57:30	0.10	0.14	0.17	26.46	BLM001976/cg13	THC	27.2		0
dcg13	7/12/2011	7:57:45	0.10	0.14	0.24	26.52	BLM001976/cg13	THC	27.2		0
dcg13	7/12/2011	7:58:00	0.10	0.14	0.21	26.58	BLM001976/cg13	THC	27.2		0
dcg13	7/12/2011	7:58:15	0.09	0.14	0.14	26.62	BLM001976/cg13	THC	27.2		0
dcg13	7/12/2011	7:58:30	0.09	0.14	0.18	26.64	BLM001976/cg13	THC	27.2		0
dcg13	7/12/2011	7:58:45	0.10	0.14	0.22	26.64	BLM001976/cg13	THC	27.2		0
dcg13	7/12/2011	7:59:00	0.09	0.14	0.23	26.66	BLM001976/cg13	THC	27.2		0
dcg13	7/12/2011	7:59:15	0.09	0.14	0.27	26.69	BLM001976/cg13	THC	27.2		0
dcg13	7/12/2011	7:59:30	0.09	0.14	0.22	26.71	BLM001976/cg13	THC	27.2		0
dcg13	7/12/2011	7:59:45	0.09	0.14	0.27	26.73	BLM001976/cg13	THC	27.2		0
thcmid2	7/12/2011	7:59:45	0.09	0.14	0.27	26.73	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	8:04:15	20.83	0.08	0.11	26.83	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	8:04:30	20.85	0.08	0.11	26.83	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	8:04:45	20.85	0.08	0.10	26.85	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	8:05:00	20.84	0.08	0.05	26.85	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	8:05:15	20.83	0.08	0.06	26.85	BLM001976/cg13	THC	27.2		0
thcspan2	7/12/2011	8:05:15	20.83	0.08	0.06	26.85	BLM001976/cg13	THC	27.2		0
scg9	7/12/2011	8:05:30	20.83	0.08	0.06	26.84	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	8:05:45	20.88	0.08	0.09	26.55	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	8:06:00	20.91	0.15	0.11	26.78	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	8:06:15	19.53	1.77	0.23	26.79	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	8:06:30	15.68	6.17	0.53	26.81	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	8:06:45	12.80	9.28	0.46	26.80	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	8:07:00	11.86	10.22	0.17	26.80	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	8:07:15	11.55	10.55	-0.02	26.79	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	8:07:30	11.40	10.71	-0.06	26.79	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	8:07:45	11.32	10.79	-0.13	23.61	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	8:08:00	11.28	10.83	-0.12	13.95	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	8:08:15	11.26	10.85	-0.07	1.37	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	8:08:30	11.24	10.87	-0.08	0.50	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	8:08:45	11.22	10.88	-0.14	0.37	CC133782/cg9	CO2	11	O2	11.1
cozero1	7/12/2011	8:08:45	11.22	10.88	-0.14	0.37	CC133782/cg9	CO2	11	O2	11.1
o2span1	7/12/2011	8:08:45	11.22	10.88	-0.14	0.37	CC133782/cg9	CO2	11	O2	11.1
co2span1	7/12/2011	8:08:45	11.22	10.88	-0.14	0.37	CC133782/cg9	CO2	11	O2	11.1
scg11	7/12/2011	8:09:00	11.21	10.89	-0.13	0.30	EB0011363/cg11	O2	21		0
scg11	7/12/2011	8:09:15	11.19	10.88	-0.13	0.25	EB0011363/cg11	O2	21		0
scg11	7/12/2011	8:09:30	11.13	10.85	-0.11	0.23	EB0011363/cg11	O2	21		0
scg11	7/12/2011	8:09:45	10.83	10.03	0.00	0.20	EB0011363/cg11	O2	21		0
scg11	7/12/2011	8:10:00	9.11	6.66	0.70	0.19	EB0011363/cg11	O2	21		0
thczero2	7/12/2011	8:10:00	9.11	6.66	0.70	0.19	EB0011363/cg11	O2	21		0
scg5	7/12/2011	8:10:15	7.71	4.55	1.96	0.18	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	8:10:30	7.35	4.03	3.00	0.16	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	8:10:45	7.28	3.96	3.17	0.15	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	8:11:00	7.73	4.54	3.38	0.16	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	8:11:15	5.86	3.02	8.07	0.14	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	8:11:30	2.06	0.99	20.96	0.12	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	8:11:45	0.73	0.39	32.48	0.12	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	8:12:00	0.44	0.27	38.67	0.10	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	8:12:15	0.36	0.22	40.18	0.09	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	8:12:30	0.31	0.20	40.61	0.08	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	8:12:45	0.30	0.19	40.77	0.65	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	8:13:00	0.28	0.17	40.98	1.17	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	8:13:15	0.27	0.18	40.98	1.69	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	8:13:30	0.26	0.17	41.11	1.63	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	8:13:45	0.24	0.15	41.07	1.44	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	8:14:00	0.22	0.14	41.18	1.29	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	8:14:15	0.22	0.13	41.26	1.03	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	8:14:30	0.20	0.13	41.28	1.39	ALM066457/cg5	CO	41.5		0
o2zero1	7/12/2011	8:14:30	0.20	0.13	41.28	1.39	ALM066457/cg5	CO	41.5		0
co2zero1	7/12/2011	8:14:30	0.20	0.13	41.28	1.39	ALM066457/cg5	CO	41.5		0

name			1 O2	2 CO2	4 CO	6 THC				
cospan1	7/12/2011	8:14:30	0.20	0.13	41.28	1.39	ALM066457/cg5	CO	41.5	0
run3	7/12/2011	8:20:00	6.87	3.24	7.02	0.32				
run3	7/12/2011	8:20:15	6.81	3.26	5.91	0.31				
run3	7/12/2011	8:20:30	6.78	3.29	4.79	0.31				
run3	7/12/2011	8:20:45	6.75	3.30	3.93	0.32				
run3	7/12/2011	8:21:00	6.73	3.32	3.34	0.32				
run3	7/12/2011	8:21:15	6.77	3.30	3.14	0.31				
run3	7/12/2011	8:21:30	6.82	3.28	3.63	0.29				
run3	7/12/2011	8:21:45	6.85	3.29	4.17	0.30				
run3	7/12/2011	8:22:00	6.89	3.29	4.09	0.29				
run3	7/12/2011	8:22:15	6.94	3.27	4.14	0.30				
run3	7/12/2011	8:22:30	6.96	3.27	5.03	0.29				
run3	7/12/2011	8:22:45	6.98	3.28	5.53	0.28				
run3	7/12/2011	8:23:00	6.97	3.28	5.35	0.26				
run3	7/12/2011	8:23:15	6.90	3.29	4.97	0.26				
run3	7/12/2011	8:23:30	6.90	3.29	4.59	0.26				
run3	7/12/2011	8:23:45	6.87	3.28	4.40	0.27				
run3	7/12/2011	8:24:00	6.80	3.28	4.25	0.28				
run3	7/12/2011	8:24:15	6.77	3.27	3.94	0.28				
run3	7/12/2011	8:24:30	6.82	3.26	3.64	0.28				
run3	7/12/2011	8:24:45	6.81	3.26	3.37	0.28				
run3	7/12/2011	8:25:00	6.77	3.26	3.07	0.29				
run3	7/12/2011	8:25:15	6.76	3.27	2.78	0.28				
run3	7/12/2011	8:25:30	6.80	3.25	2.66	0.29				
run3	7/12/2011	8:25:45	6.91	3.23	3.07	0.28				
run3	7/12/2011	8:26:00	6.99	3.21	3.89	0.27				
run3	7/12/2011	8:26:15	7.02	3.20	4.72	0.27				
run3	7/12/2011	8:26:30	7.07	3.19	6.32	0.27				
run3	7/12/2011	8:26:45	7.07	3.20	8.10	0.29				
run3	7/12/2011	8:27:00	7.03	3.21	8.67	0.27				
run3	7/12/2011	8:27:15	7.01	3.22	8.42	0.27				
run3	7/12/2011	8:27:30	7.06	3.21	8.74	0.26				
run3	7/12/2011	8:27:45	7.06	3.21	9.30	0.28				
run3	7/12/2011	8:28:00	6.95	3.22	8.82	0.28				
run3	7/12/2011	8:28:15	6.87	3.23	7.38	0.27				
run3	7/12/2011	8:28:30	6.88	3.22	5.87	0.26				
run3	7/12/2011	8:28:45	6.93	3.21	5.48	0.28				
run3	7/12/2011	8:29:00	6.90	3.21	5.58	0.29				
run3	7/12/2011	8:29:15	6.89	3.20	5.51	0.28				
run3	7/12/2011	8:29:30	6.87	3.20	5.39	0.28				
run3	7/12/2011	8:29:45	6.89	3.20	5.11	0.27				
run3	7/12/2011	8:30:00	6.91	3.20	4.90	0.27				
run3	7/12/2011	8:30:15	6.87	3.20	5.01	0.27				
run3	7/12/2011	8:30:30	6.86	3.21	5.03	0.27				
run3	7/12/2011	8:30:45	6.87	3.20	5.12	0.30				
run3	7/12/2011	8:31:00	6.88	3.20	5.55	0.32				
run3	7/12/2011	8:31:15	6.85	3.21	5.81	0.32				
run3	7/12/2011	8:31:30	6.86	3.20	6.06	0.32				
run3	7/12/2011	8:31:45	6.91	3.20	6.71	0.32				
run3	7/12/2011	8:32:00	6.94	3.22	7.18	0.31				
run3	7/12/2011	8:32:15	6.94	3.22	6.86	0.32				
run3	7/12/2011	8:32:30	7.01	3.20	7.22	0.32				
run3	7/12/2011	8:32:45	7.04	3.21	8.15	0.31				
run3	7/12/2011	8:33:00	7.01	3.21	8.45	0.31				
run3	7/12/2011	8:33:15	6.98	3.22	7.99	0.33				
run3	7/12/2011	8:33:30	6.96	3.22	7.05	0.32				
run3	7/12/2011	8:33:45	6.93	3.23	6.28	0.32				
run3	7/12/2011	8:34:00	6.89	3.23	5.62	0.32				
run3	7/12/2011	8:34:15	6.87	3.23	5.01	0.34				
run3	7/12/2011	8:34:30	6.79	3.25	4.18	0.33				
run3	7/12/2011	8:34:45	6.76	3.25	3.20	0.32				
run3	7/12/2011	8:35:00	6.79	3.24	2.49	0.31				
run3	7/12/2011	8:35:15	6.76	3.24	2.26	0.30				
run3	7/12/2011	8:35:30	6.75	3.25	2.07	0.31				
run3	7/12/2011	8:35:45	6.73	3.24	2.02	0.32				
run3	7/12/2011	8:36:00	6.75	3.23	2.35	0.32				
run3	7/12/2011	8:36:15	6.87	3.20	3.38	0.32				
run3	7/12/2011	8:36:30	7.02	3.18	5.22	0.31				
run3	7/12/2011	8:36:45	7.07	3.16	7.09	0.32				
run3	7/12/2011	8:37:00	7.05	3.16	8.57	0.32				
run3	7/12/2011	8:37:15	6.98	3.17	8.90	0.31				
run3	7/12/2011	8:37:30	6.91	3.19	8.06	0.31				
run3	7/12/2011	8:37:45	6.89	3.19	7.04	0.31				

name			1 O2	2 CO2	4 CO	6 THC
run3	7/12/2011	8:38:00	6.92	3.19	7.01	0.31
run3	7/12/2011	8:38:15	6.93	3.19	7.41	0.30
run3	7/12/2011	8:38:30	6.92	3.19	7.53	0.30
run3	7/12/2011	8:38:45	6.93	3.18	7.51	0.31
run3	7/12/2011	8:39:00	6.95	3.18	7.92	0.31
run3	7/12/2011	8:39:15	6.94	3.18	8.57	0.34
run3	7/12/2011	8:39:30	6.90	3.19	8.45	0.38
run3	7/12/2011	8:39:45	6.89	3.19	7.71	0.42
run3	7/12/2011	8:40:00	6.87	3.20	6.93	0.39
run3	7/12/2011	8:40:15	6.84	3.20	6.31	0.39
run3	7/12/2011	8:40:30	6.82	3.21	5.65	0.39
run3	7/12/2011	8:40:45	6.80	3.21	5.00	0.38
run3	7/12/2011	8:41:00	6.81	3.21	4.76	0.37
run3	7/12/2011	8:41:15	6.83	3.21	5.03	0.37
run3	7/12/2011	8:41:30	6.79	3.22	4.82	0.37
run3	7/12/2011	8:41:45	6.80	3.22	4.37	0.37
run3	7/12/2011	8:42:00	6.78	3.23	3.85	0.37
run3	7/12/2011	8:42:15	6.80	3.22	3.50	0.38
run3	7/12/2011	8:42:30	6.78	3.23	3.20	0.41
run3	7/12/2011	8:42:45	6.71	3.24	2.77	0.41
run3	7/12/2011	8:43:00	6.67	3.23	2.47	0.40
run3	7/12/2011	8:43:15	6.70	3.23	2.44	0.40
run3	7/12/2011	8:43:30	6.74	3.22	2.59	0.40
run3	7/12/2011	8:43:45	6.76	3.21	2.77	0.39
run3	7/12/2011	8:44:00	6.77	3.21	2.94	0.38
run3	7/12/2011	8:44:15	6.80	3.20	3.29	0.37
run3	7/12/2011	8:44:30	6.79	3.19	3.83	0.37
run3	7/12/2011	8:44:45	6.79	3.19	4.34	0.38
run3	7/12/2011	8:45:00	6.81	3.19	4.96	0.37
run3	7/12/2011	8:45:15	6.91	3.18	6.14	0.37
run3	7/12/2011	8:45:30	6.99	3.16	8.21	0.36
run3	7/12/2011	8:45:45	7.04	3.16	10.59	0.37
run3	7/12/2011	8:46:00	7.04	3.16	12.55	0.36
run3	7/12/2011	8:46:15	7.00	3.17	12.74	0.36
run3	7/12/2011	8:46:30	6.95	3.17	12.05	0.35
run3	7/12/2011	8:46:45	6.91	3.17	12.08	0.36
run3	7/12/2011	8:47:00	6.85	3.17	11.97	0.36
run3	7/12/2011	8:47:15	6.82	3.18	10.93	0.36
run3	7/12/2011	8:47:30	6.78	3.18	9.43	0.35
run3	7/12/2011	8:47:45	6.83	3.18	8.82	0.34
run3	7/12/2011	8:48:00	6.79	3.18	8.27	0.35
run3	7/12/2011	8:48:15	6.71	3.18	7.39	0.35
run3	7/12/2011	8:48:30	6.76	3.16	7.29	0.34
run3	7/12/2011	8:48:45	6.88	3.14	9.17	0.37
run3	7/12/2011	8:49:00	6.88	3.14	11.55	0.36
run3	7/12/2011	8:49:15	6.87	3.16	11.90	0.37
run3	7/12/2011	8:49:30	6.86	3.18	11.03	0.37
run3	7/12/2011	8:49:45	6.78	3.21	9.23	0.37
run3	7/12/2011	8:50:00	6.64	3.24	6.60	0.36
run3	7/12/2011	8:50:15	6.62	3.26	4.68	0.36
run3	7/12/2011	8:50:30	6.71	3.26	3.75	0.36
run3	7/12/2011	8:50:45	6.76	3.26	3.59	0.35
run3	7/12/2011	8:51:00	6.74	3.27	3.47	0.35
run3	7/12/2011	8:51:15	6.71	3.29	3.28	0.36
run3	7/12/2011	8:51:30	6.67	3.30	3.05	0.37
run3	7/12/2011	8:51:45	6.67	3.30	3.01	0.36
run3	7/12/2011	8:52:00	6.74	3.28	3.40	0.35
run3	7/12/2011	8:52:15	6.79	3.27	3.99	0.34
run3	7/12/2011	8:52:30	6.80	3.25	4.19	0.34
run3	7/12/2011	8:52:45	6.77	3.24	3.99	0.34
run3	7/12/2011	8:53:00	6.69	3.25	3.60	0.34
run3	7/12/2011	8:53:15	6.65	3.27	2.97	0.33
run3	7/12/2011	8:53:30	6.67	3.25	2.46	0.33
run3	7/12/2011	8:53:45	6.64	3.24	2.30	0.36
run3	7/12/2011	8:54:00	6.63	3.24	2.22	0.35
run3	7/12/2011	8:54:15	6.64	3.24	2.25	0.35
run3	7/12/2011	8:54:30	6.65	3.23	2.28	0.35
run3	7/12/2011	8:54:45	6.70	3.22	2.46	0.34
run3	7/12/2011	8:55:00	6.80	3.22	3.11	0.35
run3	7/12/2011	8:55:15	6.87	3.21	3.94	0.35
run3	7/12/2011	8:55:30	6.98	3.20	5.44	0.35
run3	7/12/2011	8:55:45	7.04	3.18	8.01	0.36
run3	7/12/2011	8:56:00	7.00	3.19	10.17	0.36

name			1 O2	2 CO2	4 CO	6 THC
run3	7/12/2011	8:56:15	6.94	3.20	10.15	0.36
run3	7/12/2011	8:56:30	6.99	3.20	9.74	0.35
run3	7/12/2011	8:56:45	7.04	3.19	10.41	0.35
run3	7/12/2011	8:57:00	7.03	3.19	11.32	0.35
run3	7/12/2011	8:57:15	6.94	3.20	10.91	0.35
run3	7/12/2011	8:57:30	6.86	3.21	8.79	0.35
run3	7/12/2011	8:57:45	6.83	3.20	6.71	0.35
run3	7/12/2011	8:58:00	6.83	3.20	5.57	0.34
run3	7/12/2011	8:58:15	6.80	3.19	5.20	0.33
run3	7/12/2011	8:58:30	6.78	3.19	5.01	0.34
run3	7/12/2011	8:58:45	6.79	3.19	5.04	0.36
run3	7/12/2011	8:59:00	6.83	3.18	5.35	0.36
run3	7/12/2011	8:59:15	6.86	3.17	5.53	0.36
run3	7/12/2011	8:59:30	6.86	3.19	5.27	0.36
run3	7/12/2011	8:59:45	6.82	3.19	4.60	0.35
run3	7/12/2011	9:00:00	6.74	3.21	3.96	0.36
run3	7/12/2011	9:00:15	6.68	3.25	3.30	0.35
run3	7/12/2011	9:00:30	6.63	3.27	2.51	0.36
run3	7/12/2011	9:00:45	6.60	3.28	2.04	0.36
run3	7/12/2011	9:01:00	6.60	3.28	1.87	0.36
run3	7/12/2011	9:01:15	6.64	3.28	1.89	0.38
run3	7/12/2011	9:01:30	6.67	3.27	2.02	0.38
run3	7/12/2011	9:01:45	6.70	3.26	2.19	0.39
run3	7/12/2011	9:02:00	6.76	3.25	2.45	0.40
run3	7/12/2011	9:02:15	6.83	3.23	2.90	0.38
run3	7/12/2011	9:02:30	6.81	3.22	3.66	0.38
run3	7/12/2011	9:02:45	6.79	3.21	4.26	0.39
run3	7/12/2011	9:03:00	6.78	3.20	4.62	0.40
run3	7/12/2011	9:03:15	6.77	3.20	4.75	0.39
run3	7/12/2011	9:03:30	6.73	3.20	4.33	0.39
run3	7/12/2011	9:03:45	6.70	3.20	3.86	0.40
run3	7/12/2011	9:04:00	6.71	3.20	3.55	0.40
run3	7/12/2011	9:04:15	6.72	3.20	3.38	0.41
run3	7/12/2011	9:04:30	6.77	3.20	3.46	0.38
run3	7/12/2011	9:04:45	6.81	3.20	3.79	0.38
run3	7/12/2011	9:05:00	6.87	3.19	4.61	0.37
run3	7/12/2011	9:05:15	6.93	3.18	5.75	0.36
run3	7/12/2011	9:05:30	6.92	3.19	6.92	0.38
run3	7/12/2011	9:05:45	6.91	3.20	7.56	0.40
run3	7/12/2011	9:06:00	6.91	3.21	7.72	0.39
run3	7/12/2011	9:06:15	6.96	3.20	8.33	0.38
run3	7/12/2011	9:06:30	6.97	3.19	9.44	0.40
run3	7/12/2011	9:06:45	6.98	3.18	10.00	0.40
run3	7/12/2011	9:07:00	6.98	3.18	10.31	0.39
run3	7/12/2011	9:07:15	6.98	3.19	10.07	0.40
run3	7/12/2011	9:07:30	6.95	3.20	9.56	0.40
run3	7/12/2011	9:07:45	6.98	3.18	9.44	0.39
run3	7/12/2011	9:08:00	6.94	3.19	9.92	0.38
run3	7/12/2011	9:08:15	6.85	3.21	8.92	0.39
run3	7/12/2011	9:08:30	6.83	3.21	7.13	0.37
run3	7/12/2011	9:08:45	6.83	3.20	6.19	0.39
run3	7/12/2011	9:09:00	6.85	3.19	5.81	0.38
run3	7/12/2011	9:09:15	6.81	3.20	5.47	0.38
run3	7/12/2011	9:09:30	6.73	3.21	4.91	0.37
run3	7/12/2011	9:09:45	6.67	3.24	4.05	0.36
run3	7/12/2011	9:10:00	6.63	3.27	3.01	0.36
run3	7/12/2011	9:10:15	6.57	3.29	2.14	0.36
run3	7/12/2011	9:10:30	6.56	3.29	1.70	0.37
run3	7/12/2011	9:10:45	6.59	3.28	1.70	0.36
run3	7/12/2011	9:11:00	6.67	3.29	1.90	0.36
run3	7/12/2011	9:11:15	6.71	3.28	2.13	0.36
run3	7/12/2011	9:11:30	6.71	3.26	2.57	0.36
run3	7/12/2011	9:11:45	6.77	3.25	3.34	0.36
run3	7/12/2011	9:12:00	6.81	3.25	4.41	0.35
run3	7/12/2011	9:12:15	6.82	3.25	5.39	0.34
run3	7/12/2011	9:12:30	6.86	3.25	6.58	0.35
run3	7/12/2011	9:12:45	6.87	3.25	7.97	0.34
run3	7/12/2011	9:13:00	6.83	3.26	8.46	0.33
run3	7/12/2011	9:13:15	6.79	3.26	7.83	0.36
run3	7/12/2011	9:13:30	6.77	3.25	7.19	0.35
run3	7/12/2011	9:13:45	6.77	3.24	6.83	0.36
run3	7/12/2011	9:14:00	6.75	3.24	6.38	0.35
run3	7/12/2011	9:14:15	6.74	3.24	6.21	0.36

name			1 O2	2 CO2	4 CO	6 THC					
run3	7/12/2011	9:14:30	6.73	3.24	6.16	0.36					
run3	7/12/2011	9:14:45	6.73	3.24	6.14	0.37					
run3	7/12/2011	9:15:00	6.74	3.25	5.95	0.36					
run3	7/12/2011	9:15:15	6.68	3.26	5.42	0.36					
run3	7/12/2011	9:15:30	6.64	3.26	4.71	0.35					
run3	7/12/2011	9:15:45	6.65	3.27	4.39	0.34					
run3	7/12/2011	9:16:00	6.68	3.26	4.49	0.34					
run3	7/12/2011	9:16:15	6.74	3.27	4.89	0.36					
run3	7/12/2011	9:16:30	6.73	3.28	4.83	0.35					
run3	7/12/2011	9:16:45	6.70	3.30	4.51	0.35					
run3	7/12/2011	9:17:00	6.65	3.32	4.00	0.36					
run3	7/12/2011	9:17:15	6.63	3.36	3.42	0.35					
run3	7/12/2011	9:17:30	6.56	3.39	2.67	0.36					
run3	7/12/2011	9:17:45	6.54	3.39	2.23	0.36					
run3	7/12/2011	9:18:00	6.56	3.40	1.95	0.35					
run3	7/12/2011	9:18:15	6.56	3.40	1.85	0.34					
run3	7/12/2011	9:18:30	6.53	3.41	1.72	0.33					
run3	7/12/2011	9:18:45	6.50	3.40	1.58	0.35					
run3	7/12/2011	9:19:00	6.54	3.39	1.56	0.35					
run3	7/12/2011	9:19:15	6.59	3.38	1.64	0.35					
run3	7/12/2011	9:19:30	6.61	3.38	1.83	0.34					
run3	7/12/2011	9:19:45	6.64	3.37	1.97	0.34					
averun3	7/12/2011	8:20:00	6.82	3.23	5.49	0.34		60			
scg5	7/12/2011	9:20:00	6.65	3.35	2.22	0.34	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	9:20:15	6.69	3.36	2.42	0.34	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	9:20:30	6.69	3.30	2.61	0.34	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	9:20:45	5.13	2.35	5.43	0.34	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	9:21:00	2.01	0.84	16.50	0.36	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	9:21:15	0.68	0.28	29.34	0.35	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	9:21:30	0.34	0.14	37.54	0.35	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	9:21:45	0.25	0.10	39.83	0.35	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	9:22:00	0.21	0.09	40.57	0.37	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	9:22:15	0.21	0.08	40.79	1.35	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	9:22:30	0.20	0.08	40.76	1.01	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	9:22:45	0.18	0.07	40.84	0.67	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	9:23:00	0.19	0.07	40.94	0.53	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	9:23:15	0.16	0.06	41.05	0.52	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	9:23:30	0.15	0.05	41.19	0.53	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	9:23:45	0.15	0.04	41.19	0.50	ALM066457/cg5	CO	41.5		0
o2zero1	7/12/2011	9:23:45	0.15	0.04	41.19	0.50	ALM066457/cg5	CO	41.5		0
co2zero1	7/12/2011	9:23:45	0.15	0.04	41.19	0.50	ALM066457/cg5	CO	41.5		0
cospan1	7/12/2011	9:23:45	0.15	0.04	41.19	0.50	ALM066457/cg5	CO	41.5		0
scg9	7/12/2011	9:24:00	0.13	0.04	41.23	0.48	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	9:24:15	0.12	0.04	41.26	0.48	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	9:24:30	0.12	0.04	41.30	0.49	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	9:24:45	0.43	0.54	41.13	0.48	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	9:25:00	3.99	4.50	36.84	0.47	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	9:25:15	8.64	8.78	24.19	0.47	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	9:25:30	10.35	10.21	11.01	0.47	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	9:25:45	10.82	10.62	4.42	0.46	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	9:26:00	10.99	10.77	1.45	0.46	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	9:26:15	11.05	10.83	0.60	0.45	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	9:26:30	11.10	10.85	0.23	0.45	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	9:26:45	11.12	10.87	0.06	0.45	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	9:27:00	11.14	10.88	-0.01	0.44	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	9:27:15	11.14	10.89	-0.03	0.44	CC133782/cg9	CO2	11	O2	11.1
cozero1	7/12/2011	9:27:15	11.14	10.89	-0.03	0.44	CC133782/cg9	CO2	11	O2	11.1
o2span1	7/12/2011	9:27:15	11.14	10.89	-0.03	0.44	CC133782/cg9	CO2	11	O2	11.1
co2span1	7/12/2011	9:27:15	11.14	10.89	-0.03	0.44	CC133782/cg9	CO2	11	O2	11.1
scg11	7/12/2011	9:27:30	11.14	10.89	-0.04	0.44	EB0011363/cg11	O2	21		0
scg11	7/12/2011	9:27:45	11.11	10.88	-0.07	0.44	EB0011363/cg11	O2	21		0
scg11	7/12/2011	9:28:00	11.06	10.85	-0.06	0.44	EB0011363/cg11	O2	21		0
scg11	7/12/2011	9:28:15	10.62	9.74	-0.07	0.44	EB0011363/cg11	O2	21		0
scg11	7/12/2011	9:28:30	8.75	6.37	0.52	0.42	EB0011363/cg11	O2	21		0
scg11	7/12/2011	9:28:45	7.52	4.51	1.93	0.42	EB0011363/cg11	O2	21		0
scg11	7/12/2011	9:29:00	7.23	4.03	3.83	0.43	EB0011363/cg11	O2	21		0
scg11	7/12/2011	9:29:15	7.19	3.89	5.14	0.43	EB0011363/cg11	O2	21		0
scg11	7/12/2011	9:29:30	7.21	3.87	5.88	0.43	EB0011363/cg11	O2	21		0
thczero2	7/12/2011	9:29:30	7.21	3.87	5.88	0.43	EB0011363/cg11	O2	21		0
scg13	7/12/2011	9:30:15	7.15	3.86	6.89	0.42	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	9:30:30	7.09	3.72	7.26	0.41	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	9:30:45	6.98	3.52	7.79	0.41	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	9:31:00	6.94	3.44	8.66	0.42	BLM001976/cg13	THC	27.2		0

name			1 O2	2 CO2	4 CO	6 THC					
scg13	7/12/2011	9:31:15	6.90	3.41	8.99	0.41	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	9:31:30	6.87	3.40	8.64	0.41	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	9:31:45	6.80	3.39	7.88	0.40	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	9:32:00	6.75	3.41	6.53	0.39	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	9:32:15	6.73	3.42	4.98	0.66	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	9:32:30	6.74	3.40	3.90	16.57	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	9:32:45	6.74	3.40	3.42	24.93	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	9:33:00	6.74	3.39	3.09	25.12	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	9:33:15	6.76	3.38	3.16	25.50	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	9:33:30	6.75	3.38	3.27	26.38	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	9:33:45	6.68	3.38	2.95	26.51	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	9:34:00	6.65	3.38	2.52	26.55	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	9:34:15	6.60	3.40	2.27	26.58	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	9:34:30	6.63	3.39	2.25	26.64	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	9:34:45	6.70	3.36	2.67	26.70	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	9:35:00	6.74	3.35	3.28	26.75	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	9:35:15	6.75	3.34	3.65	26.80	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	9:35:30	6.73	3.35	3.77	26.81	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	9:35:45	6.73	3.34	3.87	26.83	BLM001976/cg13	THC	27.2		0
thcspan2	7/12/2011	9:35:45	6.73	3.34	3.87	26.83	BLM001976/cg13	THC	27.2		0
scg5	7/12/2011	12:44:45	7.16	3.28	13.14	0.83	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	12:45:00	7.12	3.29	13.27	0.82	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	12:45:15	7.17	3.31	13.16	0.85	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	12:45:30	7.74	3.59	12.04	0.93	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	12:45:45	7.63	2.48	11.94	0.88	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	12:46:00	3.03	0.75	20.00	0.87	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	12:46:15	0.84	0.25	30.49	0.86	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	12:46:30	0.41	0.15	37.88	0.94	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	12:46:45	0.28	0.11	39.82	1.08	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	12:47:00	0.22	0.09	40.43	13.68	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	12:47:15	0.20	0.08	40.61	28.33	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	12:47:30	0.19	0.07	40.75	28.83	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	12:47:45	0.17	0.06	40.69	27.31	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	12:48:00	0.15	0.05	40.86	26.98	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	12:48:15	0.15	0.04	40.92	27.06	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	12:48:30	0.14	0.04	40.98	27.13	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	12:48:45	0.13	0.04	40.94	27.16	ALM066457/cg5	CO	41.5		0
o2zero1	7/12/2011	12:48:45	0.13	0.04	40.94	27.16	ALM066457/cg5	CO	41.5		0
co2zero1	7/12/2011	12:48:45	0.13	0.04	40.94	27.16	ALM066457/cg5	CO	41.5		0
cospan1	7/12/2011	12:48:45	0.13	0.04	40.94	27.16	ALM066457/cg5	CO	41.5		0
scg9	7/12/2011	12:49:00	0.12	0.04	41.06	27.22	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	12:49:15	0.11	0.03	41.00	27.18	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	12:49:30	0.11	0.03	40.97	27.21	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	12:49:45	0.41	0.50	40.95	27.25	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	12:50:00	4.10	4.58	36.55	27.25	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	12:50:15	8.82	9.00	24.22	27.29	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	12:50:30	10.51	10.43	10.62	27.30	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	12:50:45	10.95	10.80	3.80	27.33	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	12:51:00	11.09	10.92	0.89	27.34	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	12:51:15	11.12	10.97	0.20	27.26	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	12:51:30	11.14	11.00	-0.02	27.24	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	12:51:45	11.14	11.01	-0.07	27.25	CC133782/cg9	CO2	11	O2	11.1
cozero1	7/12/2011	12:51:45	11.14	11.01	-0.07	27.25	CC133782/cg9	CO2	11	O2	11.1
o2span1	7/12/2011	12:51:45	11.14	11.01	-0.07	27.25	CC133782/cg9	CO2	11	O2	11.1
co2span1	7/12/2011	12:51:45	11.14	11.01	-0.07	27.25	CC133782/cg9	CO2	11	O2	11.1
scg13	7/12/2011	12:52:00	11.15	11.02	-0.14	27.27	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	12:52:15	11.13	11.01	-0.21	27.28	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	12:52:30	11.04	10.97	-0.21	27.28	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	12:52:45	10.79	10.18	-0.20	27.28	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	12:53:00	9.06	6.59	0.55	27.28	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	12:53:15	7.53	4.17	2.08	27.29	BLM001976/cg13	THC	27.2		0
thcspan2	7/12/2011	12:53:15	7.53	4.17	2.08	27.29	BLM001976/cg13	THC	27.2		0
scg11	7/12/2011	12:53:45	7.04	3.51	4.99	27.04	EB0011363/cg11	O2	21		0
scg11	7/12/2011	12:54:00	7.05	3.45	6.20	27.25	EB0011363/cg11	O2	21		0
scg11	7/12/2011	12:54:15	7.11	3.41	8.30	27.23	EB0011363/cg11	O2	21		0
scg11	7/12/2011	12:54:30	7.15	3.39	11.40	27.23	EB0011363/cg11	O2	21		0
scg11	7/12/2011	12:54:45	7.15	3.39	12.74	27.23	EB0011363/cg11	O2	21		0
scg11	7/12/2011	12:55:00	7.12	3.38	12.51	27.24	EB0011363/cg11	O2	21		0
scg11	7/12/2011	12:55:15	7.07	3.39	11.45	27.25	EB0011363/cg11	O2	21		0
scg11	7/12/2011	12:55:30	7.07	3.38	11.23	27.23	EB0011363/cg11	O2	21		0
scg11	7/12/2011	12:55:45	7.08	3.37	11.44	18.69	EB0011363/cg11	O2	21		0
scg11	7/12/2011	12:56:00	7.02	3.38	10.18	13.84	EB0011363/cg11	O2	21		0
scg11	7/12/2011	12:56:15	6.97	3.37	8.52	2.24	EB0011363/cg11	O2	21		0

name			1 O2	2 CO2	4 CO	6 THC				
scg11	7/12/2011	12:56:30	7.01	3.41	7.69	0.83	EB0011363/cg11	O2	21	0
scg11	7/12/2011	12:56:45	7.13	3.60	7.66	0.68	EB0011363/cg11	O2	21	0
scg11	7/12/2011	12:57:00	7.24	3.71	8.33	0.59	EB0011363/cg11	O2	21	0
scg11	7/12/2011	12:57:15	7.20	3.73	8.66	0.51	EB0011363/cg11	O2	21	0
scg11	7/12/2011	12:57:30	7.15	3.73	7.76	0.46	EB0011363/cg11	O2	21	0
scg11	7/12/2011	12:57:45	7.22	3.72	7.51	0.45	EB0011363/cg11	O2	21	0
scg11	7/12/2011	12:58:00	7.27	3.70	9.42	0.42	EB0011363/cg11	O2	21	0
thczero2	7/12/2011	12:58:00	7.27	3.70	9.42	0.42	EB0011363/cg11	O2	21	0
run4	7/12/2011	13:05:00	7.14	3.37	9.74	0.59				
run4	7/12/2011	13:05:15	7.11	3.37	10.00	0.75				
run4	7/12/2011	13:05:30	7.14	3.37	10.40	0.80				
run4	7/12/2011	13:05:45	7.15	3.38	11.63	0.68				
run4	7/12/2011	13:06:00	7.14	3.37	12.37	0.71				
run4	7/12/2011	13:06:15	7.14	3.38	11.82	0.72				
run4	7/12/2011	13:06:30	7.10	3.38	10.23	0.62				
run4	7/12/2011	13:06:45	7.08	3.38	8.85	0.62				
run4	7/12/2011	13:07:00	7.04	3.38	7.57	0.60				
run4	7/12/2011	13:07:15	7.03	3.37	6.50	0.61				
run4	7/12/2011	13:07:30	6.97	3.38	5.62	0.60				
run4	7/12/2011	13:07:45	6.86	3.39	4.60	0.64				
run4	7/12/2011	13:08:00	6.88	3.39	3.70	0.68				
run4	7/12/2011	13:08:15	6.96	3.37	3.68	0.90				
run4	7/12/2011	13:08:30	7.01	3.36	4.14	1.03				
run4	7/12/2011	13:08:45	7.05	3.36	4.62	0.81				
run4	7/12/2011	13:09:00	7.09	3.35	5.30	0.73				
run4	7/12/2011	13:09:15	7.10	3.35	6.06	0.71				
run4	7/12/2011	13:09:30	7.09	3.34	7.23	0.75				
run4	7/12/2011	13:09:45	7.10	3.35	8.40	0.71				
run4	7/12/2011	13:10:00	7.11	3.35	9.10	0.58				
run4	7/12/2011	13:10:15	7.13	3.34	9.66	0.61				
run4	7/12/2011	13:10:30	7.16	3.34	10.96	0.65				
run4	7/12/2011	13:10:45	7.15	3.33	12.37	0.66				
run4	7/12/2011	13:11:00	7.08	3.33	12.83	0.65				
run4	7/12/2011	13:11:15	7.06	3.32	12.02	0.75				
run4	7/12/2011	13:11:30	7.05	3.32	11.07	0.79				
run4	7/12/2011	13:11:45	7.00	3.33	9.92	0.68				
run4	7/12/2011	13:12:00	7.00	3.33	8.38	0.64				
run4	7/12/2011	13:12:15	6.95	3.34	7.13	0.66				
run4	7/12/2011	13:12:30	6.96	3.33	6.63	0.73				
run4	7/12/2011	13:12:45	7.01	3.31	7.63	0.81				
run4	7/12/2011	13:13:00	7.03	3.30	9.06	0.75				
run4	7/12/2011	13:13:15	7.08	3.29	11.31	0.83				
run4	7/12/2011	13:13:30	7.08	3.29	13.51	0.72				
run4	7/12/2011	13:13:45	7.09	3.29	14.50	0.64				
run4	7/12/2011	13:14:00	7.08	3.29	14.92	0.63				
run4	7/12/2011	13:14:15	7.06	3.30	14.68	0.57				
run4	7/12/2011	13:14:30	7.06	3.30	14.29	0.58				
run4	7/12/2011	13:14:45	7.05	3.31	14.28	0.59				
run4	7/12/2011	13:15:00	7.08	3.31	15.56	0.59				
run4	7/12/2011	13:15:15	7.07	3.32	16.23	0.60				
run4	7/12/2011	13:15:30	7.07	3.31	15.90	0.59				
run4	7/12/2011	13:15:45	7.13	3.31	16.55	0.66				
run4	7/12/2011	13:16:00	7.15	3.31	18.45	0.64				
run4	7/12/2011	13:16:15	7.14	3.31	19.59	0.58				
run4	7/12/2011	13:16:30	7.11	3.33	18.38	0.59				
run4	7/12/2011	13:16:45	7.04	3.34	15.12	0.58				
run4	7/12/2011	13:17:00	7.08	3.33	13.02	0.61				
run4	7/12/2011	13:17:15	7.07	3.32	13.84	0.61				
run4	7/12/2011	13:17:30	6.97	3.33	13.17	0.64				
run4	7/12/2011	13:17:45	6.92	3.34	11.09	0.63				
run4	7/12/2011	13:18:00	6.90	3.34	9.60	0.64				
run4	7/12/2011	13:18:15	6.91	3.34	9.26	0.65				
run4	7/12/2011	13:18:30	6.95	3.34	8.83	0.72				
run4	7/12/2011	13:18:45	6.96	3.35	8.74	0.75				
run4	7/12/2011	13:19:00	6.99	3.35	8.67	0.84				
run4	7/12/2011	13:19:15	7.07	3.35	8.45	0.90				
run4	7/12/2011	13:19:30	7.09	3.33	8.69	1.31				
run4	7/12/2011	13:19:45	7.14	3.33	9.61	0.97				
run4	7/12/2011	13:20:00	7.16	3.33	10.43	0.75				
run4	7/12/2011	13:20:15	7.13	3.33	11.19	0.78				
run4	7/12/2011	13:20:30	7.12	3.34	12.72	0.66				
run4	7/12/2011	13:20:45	7.11	3.36	13.66	0.66				
run4	7/12/2011	13:21:00	7.09	3.36	13.27	0.71				

name			1 O2	2 CO2	4 CO	6 THC
run4	7/12/2011	13:21:15	7.14	3.34	13.32	0.65
run4	7/12/2011	13:21:30	7.20	3.33	15.10	0.67
run4	7/12/2011	13:21:45	7.19	3.33	15.60	0.64
run4	7/12/2011	13:22:00	7.13	3.33	14.00	0.65
run4	7/12/2011	13:22:15	7.06	3.33	11.69	0.69
run4	7/12/2011	13:22:30	7.02	3.34	9.49	0.68
run4	7/12/2011	13:22:45	6.98	3.34	7.84	0.66
run4	7/12/2011	13:23:00	6.96	3.33	6.84	0.61
run4	7/12/2011	13:23:15	6.95	3.32	6.59	0.62
run4	7/12/2011	13:23:30	6.94	3.32	6.78	0.69
run4	7/12/2011	13:23:45	6.97	3.32	7.03	0.73
run4	7/12/2011	13:24:00	6.99	3.31	7.34	0.69
run4	7/12/2011	13:24:15	7.01	3.28	7.79	0.64
run4	7/12/2011	13:24:30	7.06	3.26	9.17	0.65
run4	7/12/2011	13:24:45	7.09	3.25	10.93	0.65
run4	7/12/2011	13:25:00	7.11	3.24	12.22	0.66
run4	7/12/2011	13:25:15	7.17	3.24	13.73	0.63
run4	7/12/2011	13:25:30	7.22	3.23	15.87	0.59
run4	7/12/2011	13:25:45	7.21	3.22	18.00	0.61
run4	7/12/2011	13:26:00	7.22	3.24	18.54	0.63
run4	7/12/2011	13:26:15	7.21	3.23	17.97	0.63
run4	7/12/2011	13:26:30	7.24	3.22	18.95	0.60
run4	7/12/2011	13:26:45	7.24	3.25	20.87	0.66
run4	7/12/2011	13:27:00	7.17	3.25	20.98	0.70
run4	7/12/2011	13:27:15	7.13	3.24	19.35	0.69
run4	7/12/2011	13:27:30	7.10	3.26	17.14	0.67
run4	7/12/2011	13:27:45	7.04	3.28	14.47	0.69
run4	7/12/2011	13:28:00	6.99	3.27	11.98	0.71
run4	7/12/2011	13:28:15	6.98	3.25	11.27	0.71
run4	7/12/2011	13:28:30	7.03	3.24	12.01	0.70
run4	7/12/2011	13:28:45	7.00	3.26	12.43	0.68
run4	7/12/2011	13:29:00	7.00	3.26	11.74	0.69
run4	7/12/2011	13:29:15	7.07	3.25	11.78	0.65
run4	7/12/2011	13:29:30	7.11	3.25	12.57	0.67
run4	7/12/2011	13:29:45	7.15	3.24	14.25	0.68
run4	7/12/2011	13:30:00	7.16	3.25	16.50	0.70
run4	7/12/2011	13:30:15	7.13	3.27	17.95	0.73
run4	7/12/2011	13:30:30	7.08	3.28	18.38	0.76
run4	7/12/2011	13:30:45	7.10	3.27	18.40	0.74
run4	7/12/2011	13:31:00	7.15	3.27	19.45	0.73
run4	7/12/2011	13:31:15	7.15	3.27	21.79	0.73
run4	7/12/2011	13:31:30	7.15	3.27	23.09	0.77
run4	7/12/2011	13:31:45	7.15	3.26	22.40	0.81
run4	7/12/2011	13:32:00	7.19	3.23	22.35	0.82
run4	7/12/2011	13:32:15	7.21	3.23	23.38	0.83
run4	7/12/2011	13:32:30	7.20	3.21	23.76	0.86
run4	7/12/2011	13:32:45	7.19	3.21	23.29	0.89
run4	7/12/2011	13:33:00	7.15	3.21	21.75	0.91
run4	7/12/2011	13:33:15	7.13	3.21	20.02	0.88
run4	7/12/2011	13:33:30	7.15	3.20	18.48	0.82
run4	7/12/2011	13:33:45	7.17	3.20	18.41	0.87
run4	7/12/2011	13:34:00	7.15	3.19	17.77	0.92
run4	7/12/2011	13:34:15	7.12	3.19	17.09	0.89
run4	7/12/2011	13:34:30	7.11	3.19	17.30	0.88
run4	7/12/2011	13:34:45	7.15	3.18	18.57	0.89
run4	7/12/2011	13:35:00	7.28	3.15	23.01	0.93
run4	7/12/2011	13:35:15	7.31	3.13	27.43	0.90
run4	7/12/2011	13:35:30	7.29	3.13	29.77	0.86
run4	7/12/2011	13:35:45	7.32	3.12	32.84	0.79
run4	7/12/2011	13:36:00	7.34	3.12	39.89	0.82
run4	7/12/2011	13:36:15	7.28	3.12	45.14	0.84
run4	7/12/2011	13:36:30	7.24	3.12	49.49	0.86
run4	7/12/2011	13:36:45	7.14	3.14	48.97	0.82
run4	7/12/2011	13:37:00	7.09	3.17	43.85	0.81
run4	7/12/2011	13:37:15	7.05	3.19	38.20	0.82
run4	7/12/2011	13:37:30	7.06	3.19	33.95	0.78
run4	7/12/2011	13:37:45	7.14	3.19	33.27	0.77
run4	7/12/2011	13:38:00	7.30	3.16	39.21	0.80
run4	7/12/2011	13:38:15	7.38	3.13	51.04	0.81
run4	7/12/2011	13:38:30	7.29	3.15	60.21	0.74
run4	7/12/2011	13:38:45	7.20	3.18	56.86	0.73
run4	7/12/2011	13:39:00	7.24	3.18	50.68	0.75
run4	7/12/2011	13:39:15	7.23	3.17	47.68	0.69

name			1 O2	2 CO2	4 CO	6 THC
run4	7/12/2011	13:39:30	7.20	3.19	46.10	0.74
run4	7/12/2011	13:39:45	7.18	3.19	43.37	0.73
run4	7/12/2011	13:40:00	7.13	3.19	38.50	0.74
run4	7/12/2011	13:40:15	7.12	3.20	33.09	0.78
run4	7/12/2011	13:40:30	7.15	3.19	28.95	0.77
run4	7/12/2011	13:40:45	7.18	3.17	29.62	0.78
run4	7/12/2011	13:41:00	7.18	3.17	32.77	0.78
run4	7/12/2011	13:41:15	7.19	3.17	35.00	0.76
run4	7/12/2011	13:41:30	7.22	3.16	37.96	0.76
run4	7/12/2011	13:41:45	7.19	3.19	38.79	0.79
run4	7/12/2011	13:42:00	7.13	3.21	35.08	0.75
run4	7/12/2011	13:42:15	7.12	3.21	31.14	0.73
run4	7/12/2011	13:42:30	7.13	3.21	28.80	0.74
run4	7/12/2011	13:42:45	7.13	3.20	28.21	0.72
run4	7/12/2011	13:43:00	7.14	3.20	29.15	0.74
run4	7/12/2011	13:43:15	7.18	3.20	31.49	0.74
run4	7/12/2011	13:43:30	7.19	3.22	34.77	0.74
run4	7/12/2011	13:43:45	7.13	3.25	34.77	0.78
run4	7/12/2011	13:44:00	7.05	3.27	30.65	0.80
run4	7/12/2011	13:44:15	7.10	3.26	28.06	0.78
run4	7/12/2011	13:44:30	7.15	3.25	29.63	0.79
run4	7/12/2011	13:44:45	7.10	3.27	30.84	0.78
run4	7/12/2011	13:45:00	7.07	3.28	29.00	0.79
run4	7/12/2011	13:45:15	7.04	3.29	24.13	0.77
run4	7/12/2011	13:45:30	7.04	3.30	19.37	0.77
run4	7/12/2011	13:45:45	7.13	3.28	18.70	0.74
run4	7/12/2011	13:46:00	7.24	3.22	22.61	0.76
run4	7/12/2011	13:46:15	7.17	3.24	23.62	0.76
run4	7/12/2011	13:46:30	7.12	3.27	19.77	0.72
run4	7/12/2011	13:46:45	7.13	3.28	16.67	0.71
run4	7/12/2011	13:47:00	7.12	3.28	16.04	0.72
run4	7/12/2011	13:47:15	7.16	3.27	15.83	0.71
run4	7/12/2011	13:47:30	7.17	3.27	15.78	0.75
run4	7/12/2011	13:47:45	7.14	3.27	15.63	0.76
run4	7/12/2011	13:48:00	7.17	3.27	16.67	0.72
run4	7/12/2011	13:48:15	7.22	3.27	19.27	0.76
run4	7/12/2011	13:48:30	7.31	3.24	24.21	0.76
run4	7/12/2011	13:48:45	7.41	3.20	33.71	0.79
run4	7/12/2011	13:49:00	7.39	3.22	39.84	0.81
run4	7/12/2011	13:49:15	7.33	3.27	38.36	0.78
run4	7/12/2011	13:49:30	7.31	3.26	35.45	0.74
run4	7/12/2011	13:49:45	7.35	3.24	34.70	0.73
run4	7/12/2011	13:50:00	7.39	3.23	36.01	0.77
run4	7/12/2011	13:50:15	7.47	3.20	40.78	0.79
run4	7/12/2011	13:50:30	7.50	3.19	45.93	0.78
run4	7/12/2011	13:50:45	7.40	3.22	43.35	0.78
run4	7/12/2011	13:51:00	7.34	3.24	36.65	0.80
run4	7/12/2011	13:51:15	7.38	3.23	33.79	0.82
run4	7/12/2011	13:51:30	7.30	3.24	31.37	0.82
run4	7/12/2011	13:51:45	7.25	3.24	26.65	0.80
run4	7/12/2011	13:52:00	7.22	3.24	23.30	0.84
run4	7/12/2011	13:52:15	7.19	3.26	20.97	0.82
run4	7/12/2011	13:52:30	7.22	3.25	18.77	0.76
run4	7/12/2011	13:52:45	7.24	3.23	18.89	0.81
run4	7/12/2011	13:53:00	7.25	3.23	21.01	0.86
run4	7/12/2011	13:53:15	7.12	3.27	19.90	0.83
run4	7/12/2011	13:53:30	7.06	3.28	15.53	0.85
run4	7/12/2011	13:53:45	7.17	3.25	13.49	0.85
run4	7/12/2011	13:54:00	7.31	3.21	15.37	0.82
run4	7/12/2011	13:54:15	7.41	3.19	19.66	0.82
run4	7/12/2011	13:54:30	7.45	3.18	24.80	0.80
run4	7/12/2011	13:54:45	7.47	3.17	31.49	0.79
run4	7/12/2011	13:55:00	7.47	3.17	39.13	0.81
run4	7/12/2011	13:55:15	7.44	3.19	43.32	0.83
run4	7/12/2011	13:55:30	7.43	3.19	46.03	0.83
run4	7/12/2011	13:55:45	7.43	3.18	49.20	0.85
run4	7/12/2011	13:56:00	7.47	3.18	52.39	0.83
run4	7/12/2011	13:56:15	7.48	3.17	53.64	0.83
run4	7/12/2011	13:56:30	7.45	3.17	51.07	0.84
run4	7/12/2011	13:56:45	7.41	3.17	45.80	0.83
run4	7/12/2011	13:57:00	7.42	3.17	40.81	0.84
run4	7/12/2011	13:57:15	7.45	3.17	37.66	0.85
run4	7/12/2011	13:57:30	7.44	3.17	35.29	0.85

name			1 O2	2 CO2	4 CO	6 THC					
run4	7/12/2011	13:57:45	7.42	3.17	33.20	0.86					
run4	7/12/2011	13:58:00	7.42	3.17	32.17	0.86					
run4	7/12/2011	13:58:15	7.41	3.16	30.52	0.88					
run4	7/12/2011	13:58:30	7.40	3.15	29.05	0.90					
run4	7/12/2011	13:58:45	7.36	3.15	28.42	0.91					
run4	7/12/2011	13:59:00	7.37	3.15	26.92	0.90					
run4	7/12/2011	13:59:15	7.48	3.12	28.01	0.92					
run4	7/12/2011	13:59:30	7.47	3.13	28.80	0.93					
run4	7/12/2011	13:59:45	7.39	3.15	26.20	0.86					
run4	7/12/2011	14:00:00	7.40	3.14	23.49	0.89					
run4	7/12/2011	14:00:15	7.45	3.13	23.90	0.90					
run4	7/12/2011	14:00:30	7.41	3.13	24.02	0.90					
run4	7/12/2011	14:00:45	7.41	3.12	25.64	0.90					
run4	7/12/2011	14:01:00	7.47	3.11	33.81	0.89					
run4	7/12/2011	14:01:15	7.51	3.11	41.13	0.88					
run4	7/12/2011	14:01:30	7.51	3.12	44.28	0.89					
run4	7/12/2011	14:01:45	7.54	3.12	43.24	0.93					
run4	7/12/2011	14:02:00	7.50	3.12	40.84	0.93					
run4	7/12/2011	14:02:15	7.43	3.12	36.95	0.91					
run4	7/12/2011	14:02:30	7.47	3.12	33.12	0.96					
run4	7/12/2011	14:02:45	7.48	3.11	33.36	1.00					
run4	7/12/2011	14:03:00	7.42	3.12	34.05	0.98					
run4	7/12/2011	14:03:15	7.35	3.12	31.45	1.00					
run4	7/12/2011	14:03:30	7.34	3.11	27.78	0.97					
run4	7/12/2011	14:03:45	7.37	3.12	24.70	0.98					
run4	7/12/2011	14:04:00	7.39	3.11	22.20	0.96					
run4	7/12/2011	14:04:15	7.43	3.09	22.41	0.94					
run4	7/12/2011	14:04:30	7.46	3.09	23.65	0.95					
run4	7/12/2011	14:04:45	7.48	3.08	24.97	0.92					
averun4	7/12/2011	13:05:00	7.19	3.25	22.63	0.76		60			
scg9	7/12/2011	14:05:00	7.47	3.07	28.24	0.95	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	14:05:15	7.46	3.07	32.10	0.94	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	14:05:30	7.53	3.11	35.56	0.91	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	14:05:45	8.57	3.80	37.79	0.94	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	14:06:00	11.29	6.21	31.94	0.87	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	14:06:15	11.37	9.19	18.99	0.90	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	14:06:30	11.16	10.36	7.59	0.94	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	14:06:45	11.13	10.66	2.79	0.95	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	14:07:00	11.12	10.75	0.79	0.95	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	14:07:15	11.13	10.79	0.26	1.01	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	14:07:30	11.13	10.82	0.00	3.23	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	14:07:45	11.13	10.83	-0.08	1.15	CC133782/cg9	CO2	11	O2	11.1
scg9	7/12/2011	14:08:00	11.14	10.84	-0.15	0.70	CC133782/cg9	CO2	11	O2	11.1
cozero1	7/12/2011	14:08:00	11.14	10.84	-0.15	0.70	CC133782/cg9	CO2	11	O2	11.1
o2span1	7/12/2011	14:08:00	11.14	10.84	-0.15	0.70	CC133782/cg9	CO2	11	O2	11.1
co2span1	7/12/2011	14:08:00	11.14	10.84	-0.15	0.70	CC133782/cg9	CO2	11	O2	11.1
scg5	7/12/2011	14:08:15	11.13	10.85	-0.15	0.61	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	14:08:30	11.13	10.85	-0.20	0.56	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	14:08:45	11.14	10.85	-0.22	0.54	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	14:09:00	10.97	10.53	-0.17	0.53	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	14:09:15	7.70	6.67	3.15	0.52	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	14:09:30	2.75	2.21	14.64	0.53	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	14:09:45	0.83	0.69	27.84	0.53	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	14:10:00	0.39	0.32	36.26	0.51	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	14:10:15	0.28	0.22	39.34	0.51	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	14:10:30	0.22	0.18	40.27	0.51	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	14:10:45	0.19	0.16	40.47	0.50	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	14:11:00	0.18	0.13	40.65	0.50	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	14:11:15	0.16	0.11	40.67	0.50	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	14:11:30	0.15	0.11	40.72	0.49	ALM066457/cg5	CO	41.5		0
scg5	7/12/2011	14:11:45	0.15	0.10	40.72	0.49	ALM066457/cg5	CO	41.5		0
o2zero1	7/12/2011	14:11:45	0.15	0.10	40.72	0.49	ALM066457/cg5	CO	41.5		0
co2zero1	7/12/2011	14:11:45	0.15	0.10	40.72	0.49	ALM066457/cg5	CO	41.5		0
cospan1	7/12/2011	14:11:45	0.15	0.10	40.72	0.49	ALM066457/cg5	CO	41.5		0
scg11	7/12/2011	14:12:00	0.14	0.10	40.80	0.50	EB0011363/cg11	O2	21		0
scg11	7/12/2011	14:12:15	0.13	0.09	40.76	0.49	EB0011363/cg11	O2	21		0
scg11	7/12/2011	14:12:30	0.15	0.09	40.78	0.48	EB0011363/cg11	O2	21		0
scg11	7/12/2011	14:12:45	0.87	0.55	40.42	0.49	EB0011363/cg11	O2	21		0
scg11	7/12/2011	14:13:00	4.18	2.05	36.72	0.50	EB0011363/cg11	O2	21		0
scg11	7/12/2011	14:13:15	6.16	2.76	31.73	0.50	EB0011363/cg11	O2	21		0
thczero2	7/12/2011	14:13:15	6.16	2.76	31.73	0.50	EB0011363/cg11	O2	21		0
scg13	7/12/2011	14:14:15	7.01	3.00	36.73	0.49	BLM001976/cg13	THC	27.2		0
scg13	7/12/2011	14:14:30	7.21	3.06	38.76	0.48	BLM001976/cg13	THC	27.2		0

name			1 O2	2 CO2	4 CO	6 THC				
scg13	7/12/2011	14:14:45	7.25	3.08	39.82	0.49	BLM001976/cg13	THC	27.2	0
scg13	7/12/2011	14:15:00	7.30	3.08	41.66	0.49	BLM001976/cg13	THC	27.2	0
scg13	7/12/2011	14:15:15	7.34	3.09	42.92	0.47	BLM001976/cg13	THC	27.2	0
scg13	7/12/2011	14:15:30	7.30	3.09	41.62	0.48	BLM001976/cg13	THC	27.2	0
scg13	7/12/2011	14:15:45	7.24	3.10	38.90	0.51	BLM001976/cg13	THC	27.2	0
scg13	7/12/2011	14:16:00	7.19	3.11	34.21	5.55	BLM001976/cg13	THC	27.2	0
scg13	7/12/2011	14:16:15	7.18	3.11	30.79	26.23	BLM001976/cg13	THC	27.2	0
scg13	7/12/2011	14:16:30	7.21	3.10	30.72	27.28	BLM001976/cg13	THC	27.2	0
scg13	7/12/2011	14:16:45	7.26	3.08	34.01	27.44	BLM001976/cg13	THC	27.2	0
scg13	7/12/2011	14:17:00	7.34	3.07	41.78	27.53	BLM001976/cg13	THC	27.2	0
scg13	7/12/2011	14:17:15	7.37	3.07	47.31	27.59	BLM001976/cg13	THC	27.2	0
scg13	7/12/2011	14:17:30	7.40	3.07	49.63	27.63	BLM001976/cg13	THC	27.2	0
thcspan2	7/12/2011	14:17:30	7.40	3.07	49.63	27.63	BLM001976/cg13	THC	27.2	0

filename	7/12/2011	15:02:00	C:\Program Files\RM Plus\DATA\11-234 Marathon U45 ICR gruop 3.csv						
testby1	Metco Environmental								
testby2	Baton Rouge							probe	253
testby3	M-30							oven	246
testby4	Ryan Jones							leak check @ 15.0"	
testfor1	Marathon								0.0
testfor2	*								
testfor3	Unit 45 TOX #3 Stack								
testfor4	Garyville, LA								
name			1 O2	2 CO2					
sn			G0400AL9	G0400AL9					
offset			0	0					
fullscale			25	25					
train			1	1					
gastype			o2 3a	co2 3a					
dcg1	7/13/2011	8:33:45	20.76	0.09	EB0010155/cg1	N2	0		0
dcg1	7/13/2011	8:34:00	11.53	0.07	EB0010155/cg1	N2	0		0
dcg1	7/13/2011	8:34:15	0.63	0.04	EB0010155/cg1	N2	0		0
dcg1	7/13/2011	8:34:30	0.08	0.04	EB0010155/cg1	N2	0		0
dcg1	7/13/2011	8:34:45	0.05	0.04	EB0010155/cg1	N2	0		0
dcg1	7/13/2011	8:35:00	0.04	0.04	EB0010155/cg1	N2	0		0
dcg1	7/13/2011	8:35:15	0.04	0.04	EB0010155/cg1	N2	0		0
dcg1	7/13/2011	8:35:30	0.05	0.04	EB0010155/cg1	N2	0		0
dcg1	7/13/2011	8:35:45	0.04	0.04	EB0010155/cg1	N2	0		0
dcg1	7/13/2011	8:36:00	0.03	0.04	EB0010155/cg1	N2	0		0
dcg1	7/13/2011	8:36:15	0.03	0.04	EB0010155/cg1	N2	0		0
dcg1	7/13/2011	8:36:30	0.04	0.04	EB0010155/cg1	N2	0		0
dcg1	7/13/2011	8:36:45	0.03	0.04	EB0010155/cg1	N2	0		0
dcg1	7/13/2011	8:37:00	0.04	0.04	EB0010155/cg1	N2	0		0
dcg1	7/13/2011	8:37:15	0.03	0.04	EB0010155/cg1	N2	0		0
dcg1	7/13/2011	8:37:30	0.04	0.04	EB0010155/cg1	N2	0		0
dcg1	7/13/2011	8:37:45	0.04	0.04	EB0010155/cg1	N2	0		0
dcg1	7/13/2011	8:38:00	0.04	0.04	EB0010155/cg1	N2	0		0
o2ezero1	7/13/2011	8:38:00	0.04	0.04	EB0010155/cg1	N2	0		0
co2ezero1	7/13/2011	8:38:00	0.04	0.04	EB0010155/cg1	N2	0		0
dcg10	7/13/2011	8:38:15	0.04	0.04	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	7/13/2011	8:38:30	6.82	5.27	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	7/13/2011	8:38:45	18.85	18.54	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	7/13/2011	8:39:00	20.08	19.93	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	7/13/2011	8:39:15	20.06	19.95	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	7/13/2011	8:39:30	20.04	19.95	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	7/13/2011	8:39:45	20.04	19.96	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	7/13/2011	8:40:00	20.02	19.95	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	7/13/2011	8:40:15	20.10	19.96	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	7/13/2011	8:40:30	20.23	20.10	CC149987/cg10	CO2	20.1	O2	20.1
dcg10	7/13/2011	8:40:45	20.23	20.09	CC149987/cg10	CO2	20.1	O2	20.1
o2high1	7/13/2011	8:40:45	20.23	20.09	CC149987/cg10	CO2	20.1	O2	20.1
co2high1	7/13/2011	8:40:45	20.23	20.09	CC149987/cg10	CO2	20.1	O2	20.1
dcg9	7/13/2011	8:41:00	20.22	20.02	CC133782/cg9	CO2	11	O2	11.1
dcg9	7/13/2011	8:41:15	18.57	14.94	CC133782/cg9	CO2	11	O2	11.1
dcg9	7/13/2011	8:41:30	12.44	10.95	CC133782/cg9	CO2	11	O2	11.1
dcg9	7/13/2011	8:41:45	11.18	11.11	CC133782/cg9	CO2	11	O2	11.1
dcg9	7/13/2011	8:42:00	11.16	11.11	CC133782/cg9	CO2	11	O2	11.1
dcg9	7/13/2011	8:42:15	11.15	11.11	CC133782/cg9	CO2	11	O2	11.1
dcg9	7/13/2011	8:42:30	11.15	11.11	CC133782/cg9	CO2	11	O2	11.1
o2mid1	7/13/2011	8:42:30	11.15	11.11	CC133782/cg9	CO2	11	O2	11.1
co2mid1	7/13/2011	8:42:30	11.15	11.11	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	8:43:00	14.98	5.30	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	8:43:15	20.75	0.22	CC133782/cg9	CO2	11	O2	11.1

name			1 O2	2 CO2					
scg9	7/13/2011	8:43:30	21.11	0.11	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	8:43:45	20.85	0.13	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	8:44:00	18.12	1.11	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	8:44:15	14.83	4.97	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	8:44:30	12.87	8.57	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	8:44:45	11.99	10.04	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	8:45:00	11.70	10.49	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	8:45:15	11.56	10.69	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	8:45:30	11.48	10.80	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	8:45:45	11.41	10.87	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	8:46:00	11.34	10.90	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	8:46:15	11.21	10.90	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	8:46:30	11.20	10.92	CC133782/cg9	CO2	11	O2	11.1
o2span1	7/13/2011	8:46:30	11.20	10.92	CC133782/cg9	CO2	11	O2	11.1
co2span1	7/13/2011	8:46:30	11.20	10.92	CC133782/cg9	CO2	11	O2	11.1
scg1	7/13/2011	8:46:45	11.19	10.94	EB0010155/cg1	N2	0		0
scg1	7/13/2011	8:47:00	11.19	10.94	EB0010155/cg1	N2	0		0
scg1	7/13/2011	8:47:15	11.19	10.95	EB0010155/cg1	N2	0		0
scg1	7/13/2011	8:47:30	11.17	10.98	EB0010155/cg1	N2	0		0
scg1	7/13/2011	8:47:45	11.00	10.71	EB0010155/cg1	N2	0		0
scg1	7/13/2011	8:48:00	8.85	8.18	EB0010155/cg1	N2	0		0
scg1	7/13/2011	8:48:15	5.23	4.70	EB0010155/cg1	N2	0		0
scg1	7/13/2011	8:48:30	2.64	2.33	EB0010155/cg1	N2	0		0
scg1	7/13/2011	8:48:45	1.29	1.12	EB0010155/cg1	N2	0		0
scg1	7/13/2011	8:49:00	0.74	0.65	EB0010155/cg1	N2	0		0
scg1	7/13/2011	8:49:15	0.52	0.46	EB0010155/cg1	N2	0		0
scg1	7/13/2011	8:49:30	0.41	0.36	EB0010155/cg1	N2	0		0
scg1	7/13/2011	8:49:45	0.35	0.32	EB0010155/cg1	N2	0		0
scg1	7/13/2011	8:50:00	0.32	0.29	EB0010155/cg1	N2	0		0
scg1	7/13/2011	8:50:15	0.29	0.26	EB0010155/cg1	N2	0		0
scg1	7/13/2011	8:50:30	0.27	0.24	EB0010155/cg1	N2	0		0
scg1	7/13/2011	8:50:45	0.24	0.23	EB0010155/cg1	N2	0		0
scg1	7/13/2011	8:51:00	0.24	0.21	EB0010155/cg1	N2	0		0
o2zero1	7/13/2011	8:51:00	0.24	0.21	EB0010155/cg1	N2	0		0
co2zero1	7/13/2011	8:51:00	0.24	0.21	EB0010155/cg1	N2	0		0
run1	7/13/2011	10:35:00	6.81	3.43					
run1	7/13/2011	10:35:15	6.82	3.42					
run1	7/13/2011	10:35:30	6.84	3.42					
run1	7/13/2011	10:35:45	6.87	3.42					
run1	7/13/2011	10:36:00	6.90	3.42					
run1	7/13/2011	10:36:15	6.91	3.42					
run1	7/13/2011	10:36:30	6.96	3.42					
run1	7/13/2011	10:36:45	6.97	3.42					
run1	7/13/2011	10:37:00	6.97	3.42					
run1	7/13/2011	10:37:15	6.96	3.42					
run1	7/13/2011	10:37:30	6.93	3.42					
run1	7/13/2011	10:37:45	6.88	3.42					
run1	7/13/2011	10:38:00	6.85	3.42					
run1	7/13/2011	10:38:15	6.81	3.42					
run1	7/13/2011	10:38:30	6.80	3.42					
run1	7/13/2011	10:38:45	6.79	3.42					
run1	7/13/2011	10:39:00	6.79	3.41					
run1	7/13/2011	10:39:15	6.78	3.42					
run1	7/13/2011	10:39:30	6.76	3.44					
run1	7/13/2011	10:39:45	6.69	3.46					
run1	7/13/2011	10:40:00	6.63	3.49					
run1	7/13/2011	10:40:15	6.61	3.51					
run1	7/13/2011	10:40:30	6.61	3.51					

name			1 O2	2 CO2
run1	7/13/2011	10:40:45	6.60	3.52
run1	7/13/2011	10:41:00	6.60	3.51
run1	7/13/2011	10:41:15	6.64	3.51
run1	7/13/2011	10:41:30	6.66	3.52
run1	7/13/2011	10:41:45	6.66	3.52
run1	7/13/2011	10:42:00	6.66	3.52
run1	7/13/2011	10:42:15	6.69	3.51
run1	7/13/2011	10:42:30	6.71	3.51
run1	7/13/2011	10:42:45	6.71	3.51
run1	7/13/2011	10:43:00	6.71	3.50
run1	7/13/2011	10:43:15	6.69	3.50
run1	7/13/2011	10:43:30	6.67	3.49
run1	7/13/2011	10:43:45	6.61	3.50
run1	7/13/2011	10:44:00	6.57	3.49
run1	7/13/2011	10:44:15	6.57	3.49
run1	7/13/2011	10:44:30	6.58	3.48
run1	7/13/2011	10:44:45	6.58	3.49
run1	7/13/2011	10:45:00	6.57	3.49
run1	7/13/2011	10:45:15	6.57	3.48
run1	7/13/2011	10:45:30	6.58	3.48
run1	7/13/2011	10:45:45	6.63	3.47
run1	7/13/2011	10:46:00	6.68	3.46
run1	7/13/2011	10:46:15	6.77	3.45
run1	7/13/2011	10:46:30	6.85	3.45
run1	7/13/2011	10:46:45	6.88	3.44
run1	7/13/2011	10:47:00	6.92	3.44
run1	7/13/2011	10:47:15	6.93	3.44
run1	7/13/2011	10:47:30	6.93	3.44
run1	7/13/2011	10:47:45	6.92	3.45
run1	7/13/2011	10:48:00	6.91	3.44
run1	7/13/2011	10:48:15	6.91	3.44
run1	7/13/2011	10:48:30	6.90	3.44
run1	7/13/2011	10:48:45	6.90	3.43
run1	7/13/2011	10:49:00	6.87	3.44
run1	7/13/2011	10:49:15	6.84	3.44
run1	7/13/2011	10:49:30	6.83	3.44
run1	7/13/2011	10:49:45	6.80	3.45
run1	7/13/2011	10:50:00	6.74	3.45
run1	7/13/2011	10:50:15	6.67	3.48
run1	7/13/2011	10:50:30	6.57	3.50
run1	7/13/2011	10:50:45	6.48	3.52
run1	7/13/2011	10:51:00	6.47	3.52
run1	7/13/2011	10:51:15	6.53	3.52
run1	7/13/2011	10:51:30	6.59	3.52
run1	7/13/2011	10:51:45	6.62	3.51
run1	7/13/2011	10:52:00	6.67	3.51
run1	7/13/2011	10:52:15	6.72	3.50
run1	7/13/2011	10:52:30	6.77	3.50
run1	7/13/2011	10:52:45	6.81	3.49
run1	7/13/2011	10:53:00	6.81	3.49
run1	7/13/2011	10:53:15	6.82	3.49
run1	7/13/2011	10:53:30	6.82	3.50
run1	7/13/2011	10:53:45	6.79	3.49
run1	7/13/2011	10:54:00	6.76	3.50
run1	7/13/2011	10:54:15	6.74	3.51
run1	7/13/2011	10:54:30	6.70	3.50
run1	7/13/2011	10:54:45	6.70	3.50
run1	7/13/2011	10:55:00	6.69	3.48

name			1 O2	2 CO2
run1	7/13/2011	10:55:15	6.68	3.48
run1	7/13/2011	10:55:30	6.68	3.48
run1	7/13/2011	10:55:45	6.66	3.48
run1	7/13/2011	10:56:00	6.61	3.48
run1	7/13/2011	10:56:15	6.59	3.48
run1	7/13/2011	10:56:30	6.57	3.48
run1	7/13/2011	10:56:45	6.56	3.50
run1	7/13/2011	10:57:00	6.54	3.50
run1	7/13/2011	10:57:15	6.55	3.50
run1	7/13/2011	10:57:30	6.62	3.49
run1	7/13/2011	10:57:45	6.67	3.48
run1	7/13/2011	10:58:00	6.74	3.47
run1	7/13/2011	10:58:15	6.77	3.47
run1	7/13/2011	10:58:30	6.77	3.47
run1	7/13/2011	10:58:45	6.74	3.48
run1	7/13/2011	10:59:00	6.73	3.48
run1	7/13/2011	10:59:15	6.74	3.47
run1	7/13/2011	10:59:30	6.73	3.46
run1	7/13/2011	10:59:45	6.69	3.46
run1	7/13/2011	11:00:00	6.65	3.46
run1	7/13/2011	11:00:15	6.66	3.46
run1	7/13/2011	11:00:30	6.64	3.46
run1	7/13/2011	11:00:45	6.64	3.46
run1	7/13/2011	11:01:00	6.64	3.46
run1	7/13/2011	11:01:15	6.62	3.46
run1	7/13/2011	11:01:30	6.61	3.46
run1	7/13/2011	11:01:45	6.63	3.46
run1	7/13/2011	11:02:00	6.68	3.46
run1	7/13/2011	11:02:15	6.72	3.45
run1	7/13/2011	11:02:30	6.75	3.45
run1	7/13/2011	11:02:45	6.78	3.46
run1	7/13/2011	11:03:00	6.78	3.46
run1	7/13/2011	11:03:15	6.77	3.47
run1	7/13/2011	11:03:30	6.77	3.48
run1	7/13/2011	11:03:45	6.75	3.48
run1	7/13/2011	11:04:00	6.74	3.48
run1	7/13/2011	11:04:15	6.74	3.48
run1	7/13/2011	11:04:30	6.77	3.48
run1	7/13/2011	11:04:45	6.80	3.47
run1	7/13/2011	11:05:00	6.73	3.47
run1	7/13/2011	11:05:15	6.62	3.49
run1	7/13/2011	11:05:30	6.57	3.49
run1	7/13/2011	11:05:45	6.58	3.49
run1	7/13/2011	11:06:00	6.60	3.48
run1	7/13/2011	11:06:15	6.61	3.48
run1	7/13/2011	11:06:30	6.65	3.48
run1	7/13/2011	11:06:45	6.67	3.48
run1	7/13/2011	11:07:00	6.70	3.47
run1	7/13/2011	11:07:15	6.72	3.47
run1	7/13/2011	11:07:30	6.77	3.46
run1	7/13/2011	11:07:45	6.80	3.46
run1	7/13/2011	11:08:00	6.78	3.46
run1	7/13/2011	11:08:15	6.80	3.47
run1	7/13/2011	11:08:30	6.81	3.47
run1	7/13/2011	11:08:45	6.77	3.47
run1	7/13/2011	11:09:00	6.73	3.47
run1	7/13/2011	11:09:15	6.70	3.47
run1	7/13/2011	11:09:30	6.70	3.45

name			1 O2	2 CO2
run1	7/13/2011	11:09:45	6.68	3.45
run1	7/13/2011	11:10:00	6.65	3.45
run1	7/13/2011	11:10:15	6.63	3.45
run1	7/13/2011	11:10:30	6.62	3.46
run1	7/13/2011	11:10:45	6.60	3.46
run1	7/13/2011	11:11:00	6.57	3.47
run1	7/13/2011	11:11:15	6.56	3.47
run1	7/13/2011	11:11:30	6.54	3.48
run1	7/13/2011	11:11:45	6.55	3.48
run1	7/13/2011	11:12:00	6.59	3.49
run1	7/13/2011	11:12:15	6.63	3.50
run1	7/13/2011	11:12:30	6.65	3.50
run1	7/13/2011	11:12:45	6.65	3.50
run1	7/13/2011	11:13:00	6.69	3.49
run1	7/13/2011	11:13:15	6.71	3.49
run1	7/13/2011	11:13:30	6.72	3.50
run1	7/13/2011	11:13:45	6.70	3.50
run1	7/13/2011	11:14:00	6.67	3.51
run1	7/13/2011	11:14:15	6.69	3.50
run1	7/13/2011	11:14:30	6.71	3.49
run1	7/13/2011	11:14:45	6.71	3.49
run1	7/13/2011	11:15:00	6.65	3.51
run1	7/13/2011	11:15:15	6.55	3.52
run1	7/13/2011	11:15:30	6.49	3.52
run1	7/13/2011	11:15:45	6.46	3.52
run1	7/13/2011	11:16:00	6.45	3.51
run1	7/13/2011	11:16:15	6.50	3.49
run1	7/13/2011	11:16:30	6.54	3.48
run1	7/13/2011	11:16:45	6.54	3.48
run1	7/13/2011	11:17:00	6.57	3.47
run1	7/13/2011	11:17:15	6.62	3.46
run1	7/13/2011	11:17:30	6.68	3.45
run1	7/13/2011	11:17:45	6.73	3.44
run1	7/13/2011	11:18:00	6.80	3.43
run1	7/13/2011	11:18:15	6.83	3.43
run1	7/13/2011	11:18:30	6.80	3.44
run1	7/13/2011	11:18:45	6.78	3.44
run1	7/13/2011	11:19:00	6.79	3.44
run1	7/13/2011	11:19:15	6.76	3.44
run1	7/13/2011	11:19:30	6.74	3.45
run1	7/13/2011	11:19:45	6.75	3.45
run1	7/13/2011	11:20:00	6.75	3.45
run1	7/13/2011	11:20:15	6.73	3.44
run1	7/13/2011	11:20:30	6.68	3.45
run1	7/13/2011	11:20:45	6.60	3.46
run1	7/13/2011	11:21:00	6.54	3.48
run1	7/13/2011	11:21:15	6.52	3.48
run1	7/13/2011	11:21:30	6.53	3.48
run1	7/13/2011	11:21:45	6.54	3.48
run1	7/13/2011	11:22:00	6.54	3.49
run1	7/13/2011	11:22:15	6.56	3.48
run1	7/13/2011	11:22:30	6.59	3.48
run1	7/13/2011	11:22:45	6.62	3.47
run1	7/13/2011	11:32:00	6.56	3.49
run1	7/13/2011	11:32:15	6.57	3.50
run1	7/13/2011	11:32:30	6.58	3.49
run1	7/13/2011	11:32:45	6.61	3.49
run1	7/13/2011	11:33:00	6.62	3.49

name			1 O2	2 CO2
run1	7/13/2011	11:33:15	6.63	3.49
run1	7/13/2011	11:33:30	6.66	3.48
run1	7/13/2011	11:33:45	6.70	3.47
run1	7/13/2011	11:34:00	6.75	3.47
run1	7/13/2011	11:34:15	6.79	3.46
run1	7/13/2011	11:34:30	6.82	3.47
run1	7/13/2011	11:34:45	6.84	3.47
run1	7/13/2011	11:35:00	6.84	3.47
run1	7/13/2011	11:35:15	6.84	3.47
run1	7/13/2011	11:35:30	6.83	3.47
run1	7/13/2011	11:35:45	6.82	3.47
run1	7/13/2011	11:36:00	6.78	3.47
run1	7/13/2011	11:36:15	6.75	3.48
run1	7/13/2011	11:36:30	6.73	3.48
run1	7/13/2011	11:36:45	6.71	3.48
run1	7/13/2011	11:37:00	6.68	3.48
run1	7/13/2011	11:37:15	6.64	3.48
run1	7/13/2011	11:37:30	6.61	3.48
run1	7/13/2011	11:37:45	6.64	3.48
run1	7/13/2011	11:38:00	6.69	3.47
run1	7/13/2011	11:38:15	6.71	3.46
run1	7/13/2011	11:38:30	6.69	3.46
run1	7/13/2011	11:38:45	6.69	3.46
run1	7/13/2011	11:39:00	6.67	3.47
run1	7/13/2011	11:39:15	6.64	3.48
run1	7/13/2011	11:39:30	6.63	3.48
run1	7/13/2011	11:39:45	6.60	3.48
run1	7/13/2011	11:40:00	6.59	3.49
run1	7/13/2011	11:40:15	6.56	3.50
run1	7/13/2011	11:40:30	6.57	3.50
run1	7/13/2011	11:40:45	6.62	3.48
run1	7/13/2011	11:41:00	6.69	3.47
run1	7/13/2011	11:41:15	6.74	3.47
run1	7/13/2011	11:41:30	6.77	3.47
run1	7/13/2011	11:41:45	6.75	3.48
run1	7/13/2011	11:42:00	6.72	3.48
run1	7/13/2011	11:42:15	6.70	3.48
run1	7/13/2011	11:42:30	6.71	3.48
run1	7/13/2011	11:42:45	6.72	3.48
run1	7/13/2011	11:43:00	6.68	3.48
run1	7/13/2011	11:43:15	6.63	3.48
run1	7/13/2011	11:43:30	6.61	3.48
run1	7/13/2011	11:43:45	6.61	3.48
run1	7/13/2011	11:44:00	6.63	3.47
run1	7/13/2011	11:44:15	6.64	3.46
run1	7/13/2011	11:44:30	6.66	3.46
run1	7/13/2011	11:44:45	6.69	3.45
run1	7/13/2011	11:45:00	6.70	3.45
run1	7/13/2011	11:45:15	6.70	3.45
run1	7/13/2011	11:45:30	6.70	3.45
run1	7/13/2011	11:45:45	6.70	3.46
run1	7/13/2011	11:46:00	6.71	3.47
run1	7/13/2011	11:46:15	6.70	3.48
run1	7/13/2011	11:46:30	6.69	3.48
run1	7/13/2011	11:46:45	6.72	3.48
run1	7/13/2011	11:47:00	6.71	3.48
run1	7/13/2011	11:47:15	6.69	3.48
run1	7/13/2011	11:47:30	6.71	3.48

name			1 O2	2 CO2
run1	7/13/2011	11:47:45	6.71	3.46
run1	7/13/2011	11:48:00	6.68	3.46
run1	7/13/2011	11:48:15	6.62	3.47
run1	7/13/2011	11:48:30	6.57	3.48
run1	7/13/2011	11:48:45	6.56	3.48
run1	7/13/2011	11:49:00	6.58	3.48
run1	7/13/2011	11:49:15	6.58	3.49
run1	7/13/2011	11:49:30	6.61	3.49
run1	7/13/2011	11:49:45	6.67	3.47
run1	7/13/2011	11:50:00	6.66	3.48
run1	7/13/2011	11:50:15	6.61	3.49
run1	7/13/2011	11:50:30	6.62	3.49
run1	7/13/2011	11:50:45	6.60	3.49
run1	7/13/2011	11:51:00	6.58	3.49
run1	7/13/2011	11:51:15	6.61	3.48
run1	7/13/2011	11:51:30	6.63	3.48
run1	7/13/2011	11:51:45	6.61	3.47
run1	7/13/2011	11:52:00	6.59	3.46
run1	7/13/2011	11:52:15	6.54	3.46
run1	7/13/2011	11:52:30	6.54	3.46
run1	7/13/2011	11:52:45	6.54	3.46
run1	7/13/2011	11:53:00	6.56	3.45
run1	7/13/2011	11:53:15	6.62	3.44
run1	7/13/2011	11:53:30	6.68	3.43
run1	7/13/2011	11:53:45	6.74	3.41
run1	7/13/2011	11:54:00	6.77	3.40
run1	7/13/2011	11:54:15	6.79	3.39
run1	7/13/2011	11:54:30	6.81	3.40
run1	7/13/2011	11:54:45	6.81	3.40
run1	7/13/2011	11:55:00	6.78	3.41
run1	7/13/2011	11:55:15	6.76	3.42
run1	7/13/2011	11:55:30	6.80	3.42
run1	7/13/2011	11:55:45	6.83	3.41
run1	7/13/2011	11:56:00	6.82	3.41
run1	7/13/2011	11:56:15	6.82	3.41
run1	7/13/2011	11:56:30	6.84	3.42
run1	7/13/2011	11:56:45	6.84	3.42
run1	7/13/2011	11:57:00	6.81	3.42
run1	7/13/2011	11:57:15	6.75	3.43
run1	7/13/2011	11:57:30	6.68	3.45
run1	7/13/2011	11:57:45	6.62	3.47
run1	7/13/2011	11:58:00	6.55	3.48
run1	7/13/2011	11:58:15	6.54	3.49
run1	7/13/2011	11:58:30	6.54	3.49
run1	7/13/2011	11:58:45	6.55	3.49
run1	7/13/2011	11:59:00	6.53	3.48
run1	7/13/2011	11:59:15	6.57	3.47
run1	7/13/2011	11:59:30	6.61	3.46
run1	7/13/2011	11:59:45	6.64	3.45
run1	7/13/2011	12:00:00	6.61	3.45
run1	7/13/2011	12:00:15	6.56	3.46
run1	7/13/2011	12:00:30	6.52	3.46
run1	7/13/2011	12:00:45	6.49	3.46
run1	7/13/2011	12:01:00	6.48	3.46
run1	7/13/2011	12:01:15	6.46	3.47
run1	7/13/2011	12:01:30	6.47	3.47
run1	7/13/2011	12:01:45	6.46	3.47
run1	7/13/2011	12:02:00	6.46	3.46

name			1 O2	2 CO2
run1	7/13/2011	12:02:15	6.49	3.45
run1	7/13/2011	12:02:30	6.53	3.45
run1	7/13/2011	12:02:45	6.54	3.45
run1	7/13/2011	12:03:00	6.51	3.46
run1	7/13/2011	12:03:15	6.48	3.47
run1	7/13/2011	12:03:30	6.52	3.46
run1	7/13/2011	12:03:45	6.56	3.45
run1	7/13/2011	12:04:00	6.61	3.44
run1	7/13/2011	12:04:15	6.63	3.43
run1	7/13/2011	12:04:30	6.64	3.43
run1	7/13/2011	12:04:45	6.63	3.43
run1	7/13/2011	12:05:00	6.63	3.43
run1	7/13/2011	12:05:15	6.65	3.42
run1	7/13/2011	12:05:30	6.66	3.42
run1	7/13/2011	12:05:45	6.66	3.42
run1	7/13/2011	12:06:00	6.66	3.42
run1	7/13/2011	12:06:15	6.67	3.42
run1	7/13/2011	12:06:30	6.68	3.43
run1	7/13/2011	12:06:45	6.69	3.42
run1	7/13/2011	12:07:00	6.70	3.42
run1	7/13/2011	12:07:15	6.72	3.42
run1	7/13/2011	12:07:30	6.74	3.43
run1	7/13/2011	12:07:45	6.74	3.44
run1	7/13/2011	12:08:00	6.74	3.45
run1	7/13/2011	12:08:15	6.73	3.45
run1	7/13/2011	12:08:30	6.68	3.46
run1	7/13/2011	12:08:45	6.64	3.48
run1	7/13/2011	12:09:00	6.60	3.49
run1	7/13/2011	12:09:15	6.55	3.50
run1	7/13/2011	12:09:30	6.53	3.51
run1	7/13/2011	12:09:45	6.50	3.51
run1	7/13/2011	12:10:00	6.47	3.51
run1	7/13/2011	12:10:15	6.45	3.50
run1	7/13/2011	12:10:30	6.47	3.51
run1	7/13/2011	12:10:45	6.51	3.50
run1	7/13/2011	12:11:00	6.56	3.49
run1	7/13/2011	12:11:15	6.61	3.48
run1	7/13/2011	12:11:30	6.64	3.47
run1	7/13/2011	12:11:45	6.69	3.46
run1	7/13/2011	12:12:00	6.70	3.46
run1	7/13/2011	12:12:15	6.67	3.48
run1	7/13/2011	12:12:30	6.66	3.49
run1	7/13/2011	12:12:45	6.68	3.48
run1	7/13/2011	12:13:00	6.71	3.47
run1	7/13/2011	12:13:15	6.69	3.48
run1	7/13/2011	12:13:30	6.62	3.49
run1	7/13/2011	12:13:45	6.52	3.51
run1	7/13/2011	12:14:00	6.50	3.51
run1	7/13/2011	12:14:15	6.52	3.50
run1	7/13/2011	12:14:30	6.52	3.50
run1	7/13/2011	12:14:45	6.49	3.50
run1	7/13/2011	12:15:00	6.49	3.50
run1	7/13/2011	12:15:15	6.49	3.50
run1	7/13/2011	12:15:30	6.51	3.48
run1	7/13/2011	12:15:45	6.55	3.47
run1	7/13/2011	12:16:00	6.54	3.47
run1	7/13/2011	12:16:15	6.51	3.47
run1	7/13/2011	12:16:30	6.52	3.47

name			1 O2	2 CO2					
run1	7/13/2011	12:16:45	6.54	3.46					
run1	7/13/2011	12:17:00	6.54	3.45					
run1	7/13/2011	12:17:15	6.56	3.45					
run1	7/13/2011	12:17:30	6.59	3.45					
run1	7/13/2011	12:17:45	6.63	3.44					
run1	7/13/2011	12:18:00	6.63	3.44					
run1	7/13/2011	12:18:15	6.59	3.45					
run1	7/13/2011	12:18:30	6.59	3.45					
run1	7/13/2011	12:18:45	6.57	3.45					
run1	7/13/2011	12:19:00	6.55	3.46					
run1	7/13/2011	12:19:15	6.53	3.45					
run1	7/13/2011	12:19:30	6.50	3.47					
run1	7/13/2011	12:19:45	6.51	3.47					
averun1	7/13/2011	10:35:00	6.67	3.47		96			
scg1	7/13/2011	12:20:00	6.56	3.46	EB0010155/cg1	N2	0		0
scg1	7/13/2011	12:20:15	6.61	3.46	EB0010155/cg1	N2	0		0
scg1	7/13/2011	12:20:30	6.66	3.46	EB0010155/cg1	N2	0		0
scg1	7/13/2011	12:20:45	6.66	3.42	EB0010155/cg1	N2	0		0
scg1	7/13/2011	12:21:00	5.66	2.72	EB0010155/cg1	N2	0		0
scg1	7/13/2011	12:21:15	3.30	1.43	EB0010155/cg1	N2	0		0
scg1	7/13/2011	12:21:30	1.44	0.61	EB0010155/cg1	N2	0		0
scg1	7/13/2011	12:21:45	0.61	0.28	EB0010155/cg1	N2	0		0
scg1	7/13/2011	12:22:00	0.33	0.18	EB0010155/cg1	N2	0		0
scg1	7/13/2011	12:22:15	0.23	0.14	EB0010155/cg1	N2	0		0
scg1	7/13/2011	12:22:30	0.17	0.12	EB0010155/cg1	N2	0		0
scg1	7/13/2011	12:22:45	0.12	0.10	EB0010155/cg1	N2	0		0
scg1	7/13/2011	12:23:00	0.11	0.09	EB0010155/cg1	N2	0		0
o2zero1	7/13/2011	12:23:00	0.11	0.09	EB0010155/cg1	N2	0		0
co2zero1	7/13/2011	12:23:00	0.11	0.09	EB0010155/cg1	N2	0		0
scg9	7/13/2011	12:23:15	0.10	0.08	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	12:23:30	0.09	0.08	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	12:23:45	0.09	0.08	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	12:24:00	0.08	0.08	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	12:24:15	0.08	0.08	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	12:24:30	0.72	0.92	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	12:24:45	4.32	4.78	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	12:25:00	8.42	8.64	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	12:25:15	10.09	10.13	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	12:25:30	10.62	10.65	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	12:25:45	10.81	10.86	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	12:26:00	10.91	10.96	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	12:26:15	10.94	11.01	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	12:26:30	10.96	11.04	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	12:26:45	10.99	11.07	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	12:27:00	10.99	11.08	CC133782/cg9	CO2	11	O2	11.1
o2span1	7/13/2011	12:27:00	10.99	11.08	CC133782/cg9	CO2	11	O2	11.1
co2span1	7/13/2011	12:27:00	10.99	11.08	CC133782/cg9	CO2	11	O2	11.1
run2	7/13/2011	12:42:00	6.62	3.44					
run2	7/13/2011	12:42:15	6.63	3.44					
run2	7/13/2011	12:42:30	6.63	3.44					
run2	7/13/2011	12:42:45	6.64	3.46					
run2	7/13/2011	12:43:00	6.62	3.47					
run2	7/13/2011	12:43:15	6.61	3.49					
run2	7/13/2011	12:43:30	6.63	3.50					
run2	7/13/2011	12:43:45	6.69	3.50					
run2	7/13/2011	12:44:00	6.70	3.49					
run2	7/13/2011	12:44:15	6.65	3.50					
run2	7/13/2011	12:44:30	6.60	3.52					

name			1 O2	2 CO2
run2	7/13/2011	12:44:45	6.57	3.54
run2	7/13/2011	12:45:00	6.58	3.52
run2	7/13/2011	12:45:15	6.58	3.52
run2	7/13/2011	12:45:30	6.56	3.54
run2	7/13/2011	12:45:45	6.57	3.54
run2	7/13/2011	12:46:00	6.57	3.54
run2	7/13/2011	12:46:15	6.59	3.53
run2	7/13/2011	12:46:30	6.60	3.51
run2	7/13/2011	12:46:45	6.62	3.50
run2	7/13/2011	12:47:00	6.62	3.50
run2	7/13/2011	12:47:15	6.63	3.50
run2	7/13/2011	12:47:30	6.62	3.49
run2	7/13/2011	12:47:45	6.63	3.47
run2	7/13/2011	12:48:00	6.65	3.46
run2	7/13/2011	12:48:15	6.64	3.46
run2	7/13/2011	12:48:30	6.62	3.48
run2	7/13/2011	12:48:45	6.56	3.50
run2	7/13/2011	12:49:00	6.52	3.50
run2	7/13/2011	12:49:15	6.56	3.50
run2	7/13/2011	12:49:30	6.60	3.48
run2	7/13/2011	12:49:45	6.63	3.47
run2	7/13/2011	12:50:00	6.67	3.46
run2	7/13/2011	12:50:15	6.67	3.46
run2	7/13/2011	12:50:30	6.65	3.46
run2	7/13/2011	12:50:45	6.63	3.47
run2	7/13/2011	12:51:00	6.62	3.46
run2	7/13/2011	12:51:15	6.58	3.47
run2	7/13/2011	12:51:30	6.54	3.46
run2	7/13/2011	12:51:45	6.55	3.46
run2	7/13/2011	12:52:00	6.55	3.46
run2	7/13/2011	12:52:15	6.52	3.47
run2	7/13/2011	12:52:30	6.46	3.50
run2	7/13/2011	12:52:45	6.46	3.48
run2	7/13/2011	12:53:00	6.55	3.44
run2	7/13/2011	12:53:15	6.63	3.43
run2	7/13/2011	12:53:30	6.70	3.43
run2	7/13/2011	12:53:45	6.74	3.43
run2	7/13/2011	12:54:00	6.76	3.43
run2	7/13/2011	12:54:15	6.78	3.43
run2	7/13/2011	12:54:30	6.79	3.43
run2	7/13/2011	12:54:45	6.79	3.43
run2	7/13/2011	12:55:00	6.82	3.43
run2	7/13/2011	12:55:15	6.80	3.43
run2	7/13/2011	12:55:30	6.76	3.43
run2	7/13/2011	12:55:45	6.71	3.43
run2	7/13/2011	12:56:00	6.68	3.43
run2	7/13/2011	12:56:15	6.63	3.43
run2	7/13/2011	12:56:30	6.59	3.43
run2	7/13/2011	12:56:45	6.51	3.46
run2	7/13/2011	12:57:00	6.44	3.49
run2	7/13/2011	12:57:15	6.40	3.50
run2	7/13/2011	12:57:30	6.38	3.51
run2	7/13/2011	12:57:45	6.40	3.50
run2	7/13/2011	12:58:00	6.47	3.49
run2	7/13/2011	12:58:15	6.50	3.48
run2	7/13/2011	12:58:30	6.50	3.48
run2	7/13/2011	12:58:45	6.56	3.48
run2	7/13/2011	12:59:00	6.62	3.47

name			1 O2	2 CO2
run2	7/13/2011	12:59:15	6.67	3.45
run2	7/13/2011	12:59:30	6.70	3.45
run2	7/13/2011	12:59:45	6.70	3.45
run2	7/13/2011	13:00:00	6.69	3.45
run2	7/13/2011	13:00:15	6.67	3.47
run2	7/13/2011	13:00:30	6.68	3.47
run2	7/13/2011	13:00:45	6.69	3.47
run2	7/13/2011	13:01:00	6.66	3.46
run2	7/13/2011	13:01:15	6.66	3.46
run2	7/13/2011	13:01:30	6.63	3.47
run2	7/13/2011	13:01:45	6.60	3.46
run2	7/13/2011	13:02:00	6.60	3.47
run2	7/13/2011	13:02:15	6.59	3.47
run2	7/13/2011	13:02:30	6.60	3.47
run2	7/13/2011	13:02:45	6.61	3.46
run2	7/13/2011	13:03:00	6.61	3.46
run2	7/13/2011	13:03:15	6.61	3.46
run2	7/13/2011	13:03:30	6.59	3.46
run2	7/13/2011	13:03:45	6.55	3.47
run2	7/13/2011	13:04:00	6.54	3.48
run2	7/13/2011	13:04:15	6.54	3.49
run2	7/13/2011	13:04:30	6.50	3.50
run2	7/13/2011	13:04:45	6.53	3.49
run2	7/13/2011	13:05:00	6.59	3.47
run2	7/13/2011	13:05:15	6.59	3.47
run2	7/13/2011	13:05:30	6.61	3.46
run2	7/13/2011	13:05:45	6.60	3.46
run2	7/13/2011	13:06:00	6.57	3.46
run2	7/13/2011	13:06:15	6.55	3.46
run2	7/13/2011	13:06:30	6.50	3.47
run2	7/13/2011	13:06:45	6.47	3.46
run2	7/13/2011	13:07:00	6.44	3.46
run2	7/13/2011	13:07:15	6.44	3.45
run2	7/13/2011	13:07:30	6.42	3.45
run2	7/13/2011	13:07:45	6.41	3.46
run2	7/13/2011	13:08:00	6.41	3.45
run2	7/13/2011	13:08:15	6.46	3.43
run2	7/13/2011	13:08:30	6.53	3.42
run2	7/13/2011	13:08:45	6.58	3.41
run2	7/13/2011	13:09:00	6.58	3.41
run2	7/13/2011	13:09:15	6.59	3.41
run2	7/13/2011	13:09:30	6.64	3.41
run2	7/13/2011	13:09:45	6.66	3.40
run2	7/13/2011	13:10:00	6.67	3.40
run2	7/13/2011	13:10:15	6.67	3.40
run2	7/13/2011	13:10:30	6.71	3.39
run2	7/13/2011	13:10:45	6.75	3.39
run2	7/13/2011	13:11:00	6.76	3.39
run2	7/13/2011	13:11:15	6.75	3.39
run2	7/13/2011	13:11:30	6.71	3.39
run2	7/13/2011	13:11:45	6.66	3.38
run2	7/13/2011	13:12:00	6.64	3.38
run2	7/13/2011	13:12:15	6.62	3.39
run2	7/13/2011	13:12:30	6.57	3.40
run2	7/13/2011	13:12:45	6.55	3.41
run2	7/13/2011	13:13:00	6.55	3.41
run2	7/13/2011	13:13:15	6.53	3.42
run2	7/13/2011	13:13:30	6.51	3.42

name			1 O2	2 CO2
run2	7/13/2011	13:13:45	6.52	3.42
run2	7/13/2011	13:14:00	6.54	3.42
run2	7/13/2011	13:14:15	6.58	3.42
run2	7/13/2011	13:14:30	6.63	3.42
run2	7/13/2011	13:14:45	6.68	3.42
run2	7/13/2011	13:15:00	6.72	3.42
run2	7/13/2011	13:15:15	6.72	3.42
run2	7/13/2011	13:15:30	6.71	3.42
run2	7/13/2011	13:15:45	6.71	3.43
run2	7/13/2011	13:16:00	6.71	3.42
run2	7/13/2011	13:16:15	6.68	3.42
run2	7/13/2011	13:16:30	6.64	3.43
run2	7/13/2011	13:16:45	6.59	3.44
run2	7/13/2011	13:17:00	6.55	3.45
run2	7/13/2011	13:17:15	6.50	3.47
run2	7/13/2011	13:17:30	6.48	3.49
run2	7/13/2011	13:17:45	6.44	3.49
run2	7/13/2011	13:18:00	6.44	3.49
run2	7/13/2011	13:18:15	6.46	3.50
run2	7/13/2011	13:18:30	6.45	3.50
run2	7/13/2011	13:18:45	6.45	3.50
run2	7/13/2011	13:19:00	6.50	3.49
run2	7/13/2011	13:19:15	6.53	3.49
run2	7/13/2011	13:19:30	6.54	3.49
run2	7/13/2011	13:19:45	6.56	3.49
run2	7/13/2011	13:20:00	6.53	3.49
run2	7/13/2011	13:20:15	6.49	3.50
run2	7/13/2011	13:20:30	6.48	3.50
run2	7/13/2011	13:20:45	6.49	3.49
run2	7/13/2011	13:21:00	6.48	3.50
run2	7/13/2011	13:21:15	6.46	3.50
run2	7/13/2011	13:21:30	6.36	3.52
run2	7/13/2011	13:21:45	6.28	3.55
run2	7/13/2011	13:22:00	6.26	3.54
run2	7/13/2011	13:22:15	6.27	3.52
run2	7/13/2011	13:22:30	6.27	3.50
run2	7/13/2011	13:22:45	6.27	3.50
run2	7/13/2011	13:23:00	6.30	3.49
run2	7/13/2011	13:23:15	6.35	3.46
run2	7/13/2011	13:23:30	6.40	3.44
run2	7/13/2011	13:23:45	6.47	3.43
run2	7/13/2011	13:24:00	6.61	3.41
run2	7/13/2011	13:24:15	6.68	3.40
run2	7/13/2011	13:24:30	6.70	3.41
run2	7/13/2011	13:24:45	6.66	3.42
run2	7/13/2011	13:25:00	6.64	3.42
run2	7/13/2011	13:25:15	6.65	3.42
run2	7/13/2011	13:25:30	6.64	3.42
run2	7/13/2011	13:25:45	6.62	3.43
run2	7/13/2011	13:26:00	6.58	3.43
run2	7/13/2011	13:26:15	6.57	3.43
run2	7/13/2011	13:26:30	6.59	3.42
run2	7/13/2011	13:26:45	6.56	3.43
run2	7/13/2011	13:27:00	6.51	3.47
run2	7/13/2011	13:27:15	6.48	3.50
run2	7/13/2011	13:27:30	6.43	3.54
run2	7/13/2011	13:27:45	6.44	3.54
run2	7/13/2011	13:28:00	6.48	3.54

name			1 O2	2 CO2
run2	7/13/2011	13:28:15	6.51	3.53
run2	7/13/2011	13:28:30	6.53	3.51
run2	7/13/2011	13:28:45	6.58	3.50
run2	7/13/2011	13:29:00	6.63	3.50
run2	7/13/2011	13:29:15	6.67	3.50
run2	7/13/2011	13:29:30	6.67	3.49
run2	7/13/2011	13:29:45	6.69	3.48
run2	7/13/2011	13:38:00	6.59	3.56
run2	7/13/2011	13:38:15	6.57	3.56
run2	7/13/2011	13:38:30	6.48	3.56
run2	7/13/2011	13:38:45	6.43	3.57
run2	7/13/2011	13:39:00	6.42	3.56
run2	7/13/2011	13:39:15	6.44	3.54
run2	7/13/2011	13:39:30	6.50	3.50
run2	7/13/2011	13:39:45	6.52	3.49
run2	7/13/2011	13:40:00	6.55	3.46
run2	7/13/2011	13:40:15	6.57	3.44
run2	7/13/2011	13:40:30	6.60	3.43
run2	7/13/2011	13:40:45	6.59	3.44
run2	7/13/2011	13:41:00	6.59	3.43
run2	7/13/2011	13:41:15	6.65	3.42
run2	7/13/2011	13:41:30	6.68	3.41
run2	7/13/2011	13:41:45	6.65	3.42
run2	7/13/2011	13:42:00	6.59	3.43
run2	7/13/2011	13:42:15	6.56	3.43
run2	7/13/2011	13:42:30	6.55	3.43
run2	7/13/2011	13:42:45	6.54	3.44
run2	7/13/2011	13:43:00	6.54	3.44
run2	7/13/2011	13:43:15	6.55	3.43
run2	7/13/2011	13:43:30	6.56	3.42
run2	7/13/2011	13:43:45	6.59	3.41
run2	7/13/2011	13:44:00	6.60	3.42
run2	7/13/2011	13:44:15	6.58	3.42
run2	7/13/2011	13:44:30	6.58	3.41
run2	7/13/2011	13:44:45	6.60	3.41
run2	7/13/2011	13:45:00	6.59	3.41
run2	7/13/2011	13:45:15	6.63	3.41
run2	7/13/2011	13:45:30	6.65	3.41
run2	7/13/2011	13:45:45	6.65	3.41
run2	7/13/2011	13:46:00	6.68	3.40
run2	7/13/2011	13:46:15	6.71	3.39
run2	7/13/2011	13:46:30	6.72	3.39
run2	7/13/2011	13:46:45	6.68	3.39
run2	7/13/2011	13:47:00	6.62	3.40
run2	7/13/2011	13:47:15	6.58	3.41
run2	7/13/2011	13:47:30	6.55	3.42
run2	7/13/2011	13:47:45	6.50	3.42
run2	7/13/2011	13:48:00	6.49	3.43
run2	7/13/2011	13:48:15	6.53	3.42
run2	7/13/2011	13:48:30	6.56	3.42
run2	7/13/2011	13:48:45	6.61	3.41
run2	7/13/2011	13:49:00	6.61	3.41
run2	7/13/2011	13:49:15	6.57	3.41
run2	7/13/2011	13:49:30	6.54	3.41
run2	7/13/2011	13:49:45	6.57	3.41
run2	7/13/2011	13:50:00	6.62	3.41
run2	7/13/2011	13:50:15	6.67	3.41
run2	7/13/2011	13:50:30	6.72	3.42

name			1 O2	2 CO2
run2	7/13/2011	13:50:45	6.74	3.43
run2	7/13/2011	13:51:00	6.69	3.44
run2	7/13/2011	13:51:15	6.69	3.45
run2	7/13/2011	13:51:30	6.70	3.44
run2	7/13/2011	13:51:45	6.67	3.45
run2	7/13/2011	13:52:00	6.60	3.46
run2	7/13/2011	13:52:15	6.55	3.47
run2	7/13/2011	13:52:30	6.51	3.47
run2	7/13/2011	13:52:45	6.49	3.49
run2	7/13/2011	13:53:00	6.41	3.50
run2	7/13/2011	13:53:15	6.33	3.51
run2	7/13/2011	13:53:30	6.32	3.52
run2	7/13/2011	13:53:45	6.31	3.51
run2	7/13/2011	13:54:00	6.30	3.51
run2	7/13/2011	13:54:15	6.33	3.50
run2	7/13/2011	13:54:30	6.39	3.49
run2	7/13/2011	13:54:45	6.43	3.47
run2	7/13/2011	13:55:00	6.43	3.46
run2	7/13/2011	13:55:15	6.45	3.44
run2	7/13/2011	13:55:30	6.48	3.44
run2	7/13/2011	13:55:45	6.50	3.44
run2	7/13/2011	13:56:00	6.54	3.44
run2	7/13/2011	13:56:15	6.59	3.43
run2	7/13/2011	13:56:30	6.64	3.43
run2	7/13/2011	13:56:45	6.68	3.42
run2	7/13/2011	13:57:00	6.71	3.42
run2	7/13/2011	13:57:15	6.75	3.42
run2	7/13/2011	13:57:30	6.76	3.42
run2	7/13/2011	13:57:45	6.75	3.43
run2	7/13/2011	13:58:00	6.71	3.43
run2	7/13/2011	13:58:15	6.67	3.43
run2	7/13/2011	13:58:30	6.63	3.43
run2	7/13/2011	13:58:45	6.58	3.43
run2	7/13/2011	13:59:00	6.52	3.44
run2	7/13/2011	13:59:15	6.48	3.44
run2	7/13/2011	13:59:30	6.45	3.46
run2	7/13/2011	13:59:45	6.40	3.49
run2	7/13/2011	14:00:00	6.31	3.53
run2	7/13/2011	14:00:15	6.28	3.55
run2	7/13/2011	14:00:30	6.30	3.55
run2	7/13/2011	14:00:45	6.32	3.54
run2	7/13/2011	14:01:00	6.35	3.51
run2	7/13/2011	14:01:15	6.36	3.49
run2	7/13/2011	14:01:30	6.37	3.48
run2	7/13/2011	14:01:45	6.36	3.49
run2	7/13/2011	14:02:00	6.34	3.48
run2	7/13/2011	14:02:15	6.34	3.47
run2	7/13/2011	14:02:30	6.38	3.45
run2	7/13/2011	14:02:45	6.44	3.44
run2	7/13/2011	14:03:00	6.50	3.43
run2	7/13/2011	14:03:15	6.52	3.43
run2	7/13/2011	14:03:30	6.56	3.43
run2	7/13/2011	14:03:45	6.60	3.43
run2	7/13/2011	14:04:00	6.65	3.42
run2	7/13/2011	14:04:15	6.66	3.42
run2	7/13/2011	14:04:30	6.66	3.42
run2	7/13/2011	14:04:45	6.65	3.43
run2	7/13/2011	14:05:00	6.64	3.43

name			1 O2	2 CO2
run2	7/13/2011	14:05:15	6.58	3.44
run2	7/13/2011	14:05:30	6.54	3.45
run2	7/13/2011	14:05:45	6.52	3.45
run2	7/13/2011	14:06:00	6.53	3.44
run2	7/13/2011	14:06:15	6.52	3.44
run2	7/13/2011	14:06:30	6.48	3.45
run2	7/13/2011	14:06:45	6.44	3.46
run2	7/13/2011	14:07:00	6.38	3.48
run2	7/13/2011	14:07:15	6.34	3.50
run2	7/13/2011	14:07:30	6.30	3.53
run2	7/13/2011	14:07:45	6.27	3.54
run2	7/13/2011	14:08:00	6.26	3.54
run2	7/13/2011	14:08:15	6.28	3.52
run2	7/13/2011	14:08:30	6.31	3.50
run2	7/13/2011	14:08:45	6.32	3.49
run2	7/13/2011	14:09:00	6.33	3.48
run2	7/13/2011	14:09:15	6.37	3.45
run2	7/13/2011	14:09:30	6.43	3.43
run2	7/13/2011	14:09:45	6.47	3.42
run2	7/13/2011	14:10:00	6.50	3.41
run2	7/13/2011	14:10:15	6.46	3.41
run2	7/13/2011	14:10:30	6.43	3.41
run2	7/13/2011	14:10:45	6.46	3.42
run2	7/13/2011	14:11:00	6.44	3.41
run2	7/13/2011	14:11:15	6.41	3.41
run2	7/13/2011	14:11:30	6.41	3.41
run2	7/13/2011	14:11:45	6.43	3.41
run2	7/13/2011	14:12:00	6.45	3.41
run2	7/13/2011	14:12:15	6.44	3.41
run2	7/13/2011	14:12:30	6.43	3.40
run2	7/13/2011	14:12:45	6.46	3.40
run2	7/13/2011	14:13:00	6.49	3.38
run2	7/13/2011	14:13:15	6.53	3.38
run2	7/13/2011	14:13:30	6.54	3.38
run2	7/13/2011	14:13:45	6.58	3.38
run2	7/13/2011	14:14:00	6.60	3.38
run2	7/13/2011	14:14:15	6.61	3.39
run2	7/13/2011	14:14:30	6.66	3.38
run2	7/13/2011	14:14:45	6.71	3.38
run2	7/13/2011	14:15:00	6.68	3.39
run2	7/13/2011	14:15:15	6.64	3.40
run2	7/13/2011	14:15:30	6.56	3.41
run2	7/13/2011	14:15:45	6.52	3.41
run2	7/13/2011	14:16:00	6.49	3.42
run2	7/13/2011	14:16:15	6.43	3.42
run2	7/13/2011	14:16:30	6.41	3.43
run2	7/13/2011	14:16:45	6.41	3.44
run2	7/13/2011	14:17:00	6.37	3.47
run2	7/13/2011	14:17:15	6.31	3.50
run2	7/13/2011	14:17:30	6.29	3.50
run2	7/13/2011	14:17:45	6.30	3.54
run2	7/13/2011	14:18:00	6.29	3.55
run2	7/13/2011	14:18:15	6.28	3.55
run2	7/13/2011	14:18:30	6.28	3.55
run2	7/13/2011	14:18:45	6.27	3.55
run2	7/13/2011	14:19:00	6.27	3.55
run2	7/13/2011	14:19:15	6.30	3.54
run2	7/13/2011	14:19:30	6.34	3.51

name			1 O2	2 CO2					
run2	7/13/2011	14:19:45	6.40	3.49					
run2	7/13/2011	14:20:00	6.45	3.47					
run2	7/13/2011	14:20:15	6.46	3.46					
run2	7/13/2011	14:20:30	6.50	3.45					
run2	7/13/2011	14:20:45	6.53	3.44					
run2	7/13/2011	14:21:00	6.52	3.43					
run2	7/13/2011	14:21:15	6.50	3.44					
run2	7/13/2011	14:21:30	6.48	3.45					
run2	7/13/2011	14:21:45	6.52	3.44					
run2	7/13/2011	14:22:00	6.58	3.42					
run2	7/13/2011	14:22:15	6.62	3.42					
run2	7/13/2011	14:22:30	6.64	3.41					
run2	7/13/2011	14:22:45	6.62	3.42					
run2	7/13/2011	14:23:00	6.59	3.42					
run2	7/13/2011	14:23:15	6.58	3.42					
run2	7/13/2011	14:23:30	6.60	3.42					
run2	7/13/2011	14:23:45	6.63	3.43					
run2	7/13/2011	14:24:00	6.66	3.43					
run2	7/13/2011	14:24:15	6.66	3.43					
run2	7/13/2011	14:24:30	6.65	3.44					
run2	7/13/2011	14:24:45	6.62	3.46					
run2	7/13/2011	14:25:00	6.55	3.49					
run2	7/13/2011	14:25:15	6.51	3.50					
run2	7/13/2011	14:25:30	6.57	3.49					
run2	7/13/2011	14:25:45	6.62	3.49					
averun2	7/13/2011	12:42:00	6.55	3.46		96			
scg9	7/13/2011	14:26:00	6.61	3.49	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	14:26:15	6.63	3.50	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	14:26:30	6.61	3.53	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	14:26:45	6.55	3.59	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	14:27:00	7.11	4.62	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	14:27:15	8.86	7.29	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	14:27:30	10.16	9.49	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	14:27:45	10.67	10.43	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	14:28:00	10.84	10.78	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	14:28:15	10.92	10.91	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	14:28:30	10.95	10.98	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	14:28:45	10.96	11.01	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	14:29:00	10.98	11.03	CC133782/cg9	CO2	11	O2	11.1
o2span1	7/13/2011	14:29:00	10.98	11.03	CC133782/cg9	CO2	11	O2	11.1
co2span1	7/13/2011	14:29:00	10.98	11.03	CC133782/cg9	CO2	11	O2	11.1
scg1	7/13/2011	14:29:15	10.99	11.05	EB0010155/cg1	N2	0		0
scg1	7/13/2011	14:29:30	10.99	11.06	EB0010155/cg1	N2	0		0
scg1	7/13/2011	14:29:45	11.00	11.07	EB0010155/cg1	N2	0		0
scg1	7/13/2011	14:30:00	11.00	11.07	EB0010155/cg1	N2	0		0
scg1	7/13/2011	14:30:15	10.80	10.73	EB0010155/cg1	N2	0		0
scg1	7/13/2011	14:30:30	8.44	7.90	EB0010155/cg1	N2	0		0
scg1	7/13/2011	14:30:45	4.50	4.08	EB0010155/cg1	N2	0		0
scg1	7/13/2011	14:31:00	1.92	1.77	EB0010155/cg1	N2	0		0
scg1	7/13/2011	14:31:15	0.86	0.82	EB0010155/cg1	N2	0		0
scg1	7/13/2011	14:31:30	0.49	0.49	EB0010155/cg1	N2	0		0
scg1	7/13/2011	14:31:45	0.35	0.36	EB0010155/cg1	N2	0		0
scg1	7/13/2011	14:32:00	0.26	0.29	EB0010155/cg1	N2	0		0
scg1	7/13/2011	14:32:15	0.21	0.24	EB0010155/cg1	N2	0		0
scg1	7/13/2011	14:32:30	0.16	0.19	EB0010155/cg1	N2	0		0
scg1	7/13/2011	14:32:45	0.15	0.17	EB0010155/cg1	N2	0		0
scg1	7/13/2011	14:33:00	0.14	0.16	EB0010155/cg1	N2	0		0
scg1	7/13/2011	14:33:15	0.13	0.15	EB0010155/cg1	N2	0		0

name			1 O2	2 CO2				
o2zero1	7/13/2011	14:33:15	0.13	0.15	EB0010155/cg1	N2	0	0
co2zero1	7/13/2011	14:33:15	0.13	0.15	EB0010155/cg1	N2	0	0
run3	7/13/2011	14:48:00	6.37	3.49				
run3	7/13/2011	14:48:15	6.40	3.49				
run3	7/13/2011	14:48:30	6.44	3.49				
run3	7/13/2011	14:48:45	6.46	3.47				
run3	7/13/2011	14:49:00	6.46	3.46				
run3	7/13/2011	14:49:15	6.49	3.46				
run3	7/13/2011	14:49:30	6.50	3.47				
run3	7/13/2011	14:49:45	6.48	3.48				
run3	7/13/2011	14:50:00	6.49	3.47				
run3	7/13/2011	14:50:15	6.52	3.45				
run3	7/13/2011	14:50:30	6.48	3.48				
run3	7/13/2011	14:50:45	6.42	3.46				
run3	7/13/2011	14:51:00	6.41	3.45				
run3	7/13/2011	14:51:15	6.38	3.48				
run3	7/13/2011	14:51:30	6.33	3.49				
run3	7/13/2011	14:51:45	6.27	3.49				
run3	7/13/2011	14:52:00	6.25	3.50				
run3	7/13/2011	14:52:15	6.27	3.49				
run3	7/13/2011	14:52:30	6.30	3.49				
run3	7/13/2011	14:52:45	6.32	3.49				
run3	7/13/2011	14:53:00	6.34	3.49				
run3	7/13/2011	14:53:15	6.40	3.46				
run3	7/13/2011	14:53:30	6.50	3.45				
run3	7/13/2011	14:53:45	6.53	3.46				
run3	7/13/2011	14:54:00	6.51	3.48				
run3	7/13/2011	14:54:15	6.52	3.49				
run3	7/13/2011	14:54:30	6.54	3.47				
run3	7/13/2011	14:54:45	6.56	3.47				
run3	7/13/2011	14:55:00	6.59	3.47				
run3	7/13/2011	14:55:15	6.61	3.46				
run3	7/13/2011	14:55:30	6.62	3.46				
run3	7/13/2011	14:55:45	6.61	3.47				
run3	7/13/2011	14:56:00	6.60	3.47				
run3	7/13/2011	14:56:15	6.60	3.46				
run3	7/13/2011	14:56:30	6.61	3.46				
run3	7/13/2011	14:56:45	6.57	3.47				
run3	7/13/2011	14:57:00	6.49	3.49				
run3	7/13/2011	14:57:15	6.46	3.50				
run3	7/13/2011	14:57:30	6.46	3.50				
run3	7/13/2011	14:57:45	6.43	3.53				
run3	7/13/2011	14:58:00	6.31	3.56				
run3	7/13/2011	14:58:15	6.23	3.58				
run3	7/13/2011	14:58:30	6.20	3.58				
run3	7/13/2011	14:58:45	6.22	3.57				
run3	7/13/2011	14:59:00	6.24	3.55				
run3	7/13/2011	14:59:15	6.26	3.54				
run3	7/13/2011	14:59:30	6.29	3.51				
run3	7/13/2011	14:59:45	6.38	3.48				
run3	7/13/2011	15:00:00	6.47	3.44				
run3	7/13/2011	15:00:15	6.52	3.43				
run3	7/13/2011	15:00:30	6.54	3.42				
run3	7/13/2011	15:00:45	6.59	3.42				
run3	7/13/2011	15:01:00	6.60	3.42				
run3	7/13/2011	15:01:15	6.61	3.42				
run3	7/13/2011	15:01:30	6.66	3.41				
run3	7/13/2011	15:01:45	6.74	3.40				

name			1 O2	2 CO2
run3	7/13/2011	15:02:00	6.76	3.41
run3	7/13/2011	15:02:15	6.74	3.42
run3	7/13/2011	15:02:30	6.70	3.42
run3	7/13/2011	15:02:45	6.70	3.43
run3	7/13/2011	15:03:00	6.71	3.43
run3	7/13/2011	15:03:15	6.72	3.43
run3	7/13/2011	15:03:30	6.74	3.42
run3	7/13/2011	15:03:45	6.77	3.42
run3	7/13/2011	15:04:00	6.78	3.42
run3	7/13/2011	15:04:15	6.79	3.42
run3	7/13/2011	15:04:30	6.77	3.44
run3	7/13/2011	15:04:45	6.71	3.47
run3	7/13/2011	15:05:00	6.65	3.51
run3	7/13/2011	15:05:15	6.60	3.55
run3	7/13/2011	15:05:30	6.58	3.56
run3	7/13/2011	15:05:45	6.60	3.56
run3	7/13/2011	15:06:00	6.61	3.55
run3	7/13/2011	15:06:15	6.62	3.54
run3	7/13/2011	15:06:30	6.62	3.52
run3	7/13/2011	15:06:45	6.60	3.50
run3	7/13/2011	15:07:00	6.61	3.48
run3	7/13/2011	15:07:15	6.64	3.44
run3	7/13/2011	15:07:30	6.68	3.43
run3	7/13/2011	15:07:45	6.69	3.42
run3	7/13/2011	15:08:00	6.67	3.42
run3	7/13/2011	15:08:15	6.68	3.43
run3	7/13/2011	15:08:30	6.62	3.45
run3	7/13/2011	15:08:45	6.57	3.47
run3	7/13/2011	15:09:00	6.58	3.48
run3	7/13/2011	15:09:15	6.60	3.47
run3	7/13/2011	15:09:30	6.62	3.47
run3	7/13/2011	15:09:45	6.66	3.47
run3	7/13/2011	15:10:00	6.70	3.46
run3	7/13/2011	15:10:15	6.75	3.45
run3	7/13/2011	15:10:30	6.78	3.43
run3	7/13/2011	15:10:45	6.79	3.42
run3	7/13/2011	15:11:00	6.78	3.42
run3	7/13/2011	15:11:15	6.77	3.43
run3	7/13/2011	15:11:30	6.74	3.44
run3	7/13/2011	15:11:45	6.74	3.44
run3	7/13/2011	15:12:00	6.77	3.43
run3	7/13/2011	15:12:15	6.78	3.42
run3	7/13/2011	15:12:30	6.79	3.42
run3	7/13/2011	15:12:45	6.80	3.41
run3	7/13/2011	15:13:00	6.81	3.41
run3	7/13/2011	15:13:15	6.81	3.41
run3	7/13/2011	15:13:30	6.79	3.41
run3	7/13/2011	15:13:45	6.75	3.42
run3	7/13/2011	15:14:00	6.75	3.42
run3	7/13/2011	15:14:15	6.77	3.42
run3	7/13/2011	15:14:30	6.79	3.41
run3	7/13/2011	15:14:45	6.81	3.40
run3	7/13/2011	15:15:00	6.82	3.40
run3	7/13/2011	15:15:15	6.78	3.40
run3	7/13/2011	15:15:30	6.77	3.40
run3	7/13/2011	15:15:45	6.80	3.40
run3	7/13/2011	15:16:00	6.76	3.41
run3	7/13/2011	15:16:15	6.73	3.42

name			1 O2	2 CO2
run3	7/13/2011	15:16:30	6.78	3.41
run3	7/13/2011	15:16:45	6.86	3.40
run3	7/13/2011	15:17:00	6.90	3.40
run3	7/13/2011	15:17:15	6.88	3.39
run3	7/13/2011	15:17:30	6.83	3.39
run3	7/13/2011	15:17:45	6.76	3.40
run3	7/13/2011	15:18:00	6.74	3.39
run3	7/13/2011	15:18:15	6.71	3.39
run3	7/13/2011	15:18:30	6.66	3.41
run3	7/13/2011	15:18:45	6.60	3.41
run3	7/13/2011	15:19:00	6.61	3.42
run3	7/13/2011	15:19:15	6.63	3.41
run3	7/13/2011	15:19:30	6.65	3.41
run3	7/13/2011	15:19:45	6.69	3.40
run3	7/13/2011	15:20:00	6.70	3.40
run3	7/13/2011	15:20:15	6.72	3.40
run3	7/13/2011	15:20:30	6.69	3.41
run3	7/13/2011	15:20:45	6.67	3.41
run3	7/13/2011	15:21:00	6.68	3.41
run3	7/13/2011	15:21:15	6.69	3.41
run3	7/13/2011	15:21:30	6.66	3.41
run3	7/13/2011	15:21:45	6.62	3.41
run3	7/13/2011	15:22:00	6.57	3.42
run3	7/13/2011	15:22:15	6.58	3.43
run3	7/13/2011	15:22:30	6.63	3.42
run3	7/13/2011	15:22:45	6.69	3.42
run3	7/13/2011	15:23:00	6.67	3.43
run3	7/13/2011	15:23:15	6.65	3.43
run3	7/13/2011	15:23:30	6.60	3.45
run3	7/13/2011	15:23:45	6.57	3.45
run3	7/13/2011	15:24:00	6.59	3.45
run3	7/13/2011	15:24:15	6.59	3.46
run3	7/13/2011	15:24:30	6.58	3.45
run3	7/13/2011	15:24:45	6.58	3.44
run3	7/13/2011	15:25:00	6.57	3.43
run3	7/13/2011	15:25:15	6.56	3.43
run3	7/13/2011	15:25:30	6.55	3.43
run3	7/13/2011	15:25:45	6.59	3.42
run3	7/13/2011	15:26:00	6.60	3.42
run3	7/13/2011	15:26:15	6.61	3.41
run3	7/13/2011	15:26:30	6.60	3.40
run3	7/13/2011	15:26:45	6.58	3.40
run3	7/13/2011	15:27:00	6.54	3.41
run3	7/13/2011	15:27:15	6.48	3.41
run3	7/13/2011	15:27:30	6.47	3.41
run3	7/13/2011	15:27:45	6.49	3.41
run3	7/13/2011	15:28:00	6.51	3.41
run3	7/13/2011	15:28:15	6.56	3.41
run3	7/13/2011	15:28:30	6.58	3.40
run3	7/13/2011	15:28:45	6.63	3.40
run3	7/13/2011	15:29:00	6.72	3.39
run3	7/13/2011	15:29:15	6.77	3.39
run3	7/13/2011	15:29:30	6.78	3.40
run3	7/13/2011	15:29:45	6.81	3.41
run3	7/13/2011	15:30:00	6.80	3.41
run3	7/13/2011	15:30:15	6.75	3.42
run3	7/13/2011	15:30:30	6.74	3.41
run3	7/13/2011	15:30:45	6.77	3.41

name			1 O2	2 CO2
run3	7/13/2011	15:31:00	6.72	3.41
run3	7/13/2011	15:31:15	6.70	3.41
run3	7/13/2011	15:31:30	6.71	3.42
run3	7/13/2011	15:31:45	6.70	3.42
run3	7/13/2011	15:32:00	6.66	3.42
run3	7/13/2011	15:32:15	6.65	3.42
run3	7/13/2011	15:32:30	6.65	3.44
run3	7/13/2011	15:32:45	6.64	3.45
run3	7/13/2011	15:33:00	6.61	3.47
run3	7/13/2011	15:33:15	6.60	3.48
run3	7/13/2011	15:33:30	6.60	3.48
run3	7/13/2011	15:33:45	6.57	3.49
run3	7/13/2011	15:34:00	6.51	3.49
run3	7/13/2011	15:34:15	6.50	3.49
run3	7/13/2011	15:34:30	6.52	3.48
run3	7/13/2011	15:34:45	6.55	3.44
run3	7/13/2011	15:35:00	6.55	3.42
run3	7/13/2011	15:35:15	6.60	3.40
run3	7/13/2011	15:35:30	6.64	3.38
run3	7/13/2011	15:35:45	6.60	3.38
run3	7/13/2011	15:44:00	6.90	3.38
run3	7/13/2011	15:44:15	7.00	3.36
run3	7/13/2011	15:44:30	7.08	3.33
run3	7/13/2011	15:44:45	7.07	3.32
run3	7/13/2011	15:45:00	6.97	3.34
run3	7/13/2011	15:45:15	6.92	3.37
run3	7/13/2011	15:45:30	6.89	3.37
run3	7/13/2011	15:45:45	6.88	3.37
run3	7/13/2011	15:46:00	6.90	3.36
run3	7/13/2011	15:46:15	7.02	3.33
run3	7/13/2011	15:46:30	7.06	3.32
run3	7/13/2011	15:46:45	7.02	3.34
run3	7/13/2011	15:47:00	6.97	3.35
run3	7/13/2011	15:47:15	6.94	3.36
run3	7/13/2011	15:47:30	6.86	3.39
run3	7/13/2011	15:47:45	6.77	3.41
run3	7/13/2011	15:48:00	6.76	3.43
run3	7/13/2011	15:48:15	6.77	3.44
run3	7/13/2011	15:48:30	6.75	3.48
run3	7/13/2011	15:48:45	6.73	3.49
run3	7/13/2011	15:49:00	6.72	3.50
run3	7/13/2011	15:49:15	6.66	3.52
run3	7/13/2011	15:49:30	6.65	3.50
run3	7/13/2011	15:49:45	6.73	3.50
run3	7/13/2011	15:50:00	6.78	3.50
run3	7/13/2011	15:50:15	6.81	3.49
run3	7/13/2011	15:50:30	6.85	3.45
run3	7/13/2011	15:50:45	6.82	3.45
run3	7/13/2011	15:51:00	6.81	3.48
run3	7/13/2011	15:51:15	6.82	3.44
run3	7/13/2011	15:51:30	6.88	3.42
run3	7/13/2011	15:51:45	6.94	3.41
run3	7/13/2011	15:52:00	6.96	3.41
run3	7/13/2011	15:52:15	6.97	3.41
run3	7/13/2011	15:52:30	6.97	3.41
run3	7/13/2011	15:52:45	6.96	3.42
run3	7/13/2011	15:53:00	6.95	3.42
run3	7/13/2011	15:53:15	6.94	3.42

name			1 O2	2 CO2
run3	7/13/2011	15:53:30	6.87	3.43
run3	7/13/2011	15:53:45	6.86	3.43
run3	7/13/2011	15:54:00	6.92	3.41
run3	7/13/2011	15:54:15	6.95	3.41
run3	7/13/2011	15:54:30	6.90	3.41
run3	7/13/2011	15:54:45	6.84	3.42
run3	7/13/2011	15:55:00	6.80	3.41
run3	7/13/2011	15:55:15	6.83	3.39
run3	7/13/2011	15:55:30	6.95	3.37
run3	7/13/2011	15:55:45	6.96	3.37
run3	7/13/2011	15:56:00	6.93	3.37
run3	7/13/2011	15:56:15	6.90	3.37
run3	7/13/2011	15:56:30	6.94	3.36
run3	7/13/2011	15:56:45	6.99	3.35
run3	7/13/2011	15:57:00	7.03	3.33
run3	7/13/2011	15:57:15	7.07	3.33
run3	7/13/2011	15:57:30	7.11	3.32
run3	7/13/2011	15:57:45	7.12	3.32
run3	7/13/2011	15:58:00	7.13	3.32
run3	7/13/2011	15:58:15	7.13	3.32
run3	7/13/2011	15:58:30	7.13	3.32
run3	7/13/2011	15:58:45	7.15	3.32
run3	7/13/2011	15:59:00	7.15	3.33
run3	7/13/2011	15:59:15	7.18	3.33
run3	7/13/2011	15:59:30	7.19	3.32
run3	7/13/2011	15:59:45	7.15	3.32
run3	7/13/2011	16:00:00	7.14	3.32
run3	7/13/2011	16:00:15	7.17	3.32
run3	7/13/2011	16:00:30	7.17	3.32
run3	7/13/2011	16:00:45	7.14	3.33
run3	7/13/2011	16:01:00	7.14	3.35
run3	7/13/2011	16:01:15	7.13	3.36
run3	7/13/2011	16:01:30	7.16	3.35
run3	7/13/2011	16:01:45	7.16	3.35
run3	7/13/2011	16:02:00	7.10	3.37
run3	7/13/2011	16:02:15	7.06	3.38
run3	7/13/2011	16:02:30	7.04	3.38
run3	7/13/2011	16:02:45	7.04	3.39
run3	7/13/2011	16:03:00	7.04	3.39
run3	7/13/2011	16:03:15	7.03	3.38
run3	7/13/2011	16:03:30	6.98	3.37
run3	7/13/2011	16:03:45	6.91	3.37
run3	7/13/2011	16:04:00	6.89	3.37
run3	7/13/2011	16:04:15	6.91	3.37
run3	7/13/2011	16:04:30	6.94	3.36
run3	7/13/2011	16:04:45	6.96	3.34
run3	7/13/2011	16:05:00	6.99	3.33
run3	7/13/2011	16:05:15	7.03	3.31
run3	7/13/2011	16:05:30	7.05	3.30
run3	7/13/2011	16:05:45	7.12	3.28
run3	7/13/2011	16:06:00	7.22	3.27
run3	7/13/2011	16:06:15	7.37	3.24
run3	7/13/2011	16:06:30	7.38	3.24
run3	7/13/2011	16:06:45	7.37	3.25
run3	7/13/2011	16:07:00	7.38	3.25
run3	7/13/2011	16:07:15	7.40	3.24
run3	7/13/2011	16:07:30	7.39	3.25
run3	7/13/2011	16:07:45	7.36	3.27

name			1 O2	2 CO2
run3	7/13/2011	16:08:00	7.32	3.28
run3	7/13/2011	16:08:15	7.25	3.29
run3	7/13/2011	16:08:30	7.23	3.28
run3	7/13/2011	16:08:45	7.31	3.26
run3	7/13/2011	16:09:00	7.43	3.23
run3	7/13/2011	16:09:15	7.49	3.21
run3	7/13/2011	16:09:30	7.48	3.21
run3	7/13/2011	16:09:45	7.43	3.22
run3	7/13/2011	16:10:00	7.37	3.24
run3	7/13/2011	16:10:15	7.33	3.25
run3	7/13/2011	16:10:30	7.33	3.26
run3	7/13/2011	16:10:45	7.32	3.27
run3	7/13/2011	16:11:00	7.28	3.28
run3	7/13/2011	16:11:15	7.24	3.29
run3	7/13/2011	16:11:30	7.19	3.30
run3	7/13/2011	16:11:45	7.21	3.29
run3	7/13/2011	16:12:00	7.23	3.28
run3	7/13/2011	16:12:15	7.21	3.29
run3	7/13/2011	16:12:30	7.17	3.29
run3	7/13/2011	16:12:45	7.14	3.29
run3	7/13/2011	16:13:00	7.17	3.29
run3	7/13/2011	16:13:15	7.19	3.29
run3	7/13/2011	16:13:30	7.19	3.29
run3	7/13/2011	16:13:45	7.20	3.28
run3	7/13/2011	16:14:00	7.18	3.28
run3	7/13/2011	16:14:15	7.20	3.27
run3	7/13/2011	16:14:30	7.24	3.25
run3	7/13/2011	16:14:45	7.26	3.25
run3	7/13/2011	16:15:00	7.26	3.25
run3	7/13/2011	16:15:15	7.26	3.24
run3	7/13/2011	16:15:30	7.31	3.22
run3	7/13/2011	16:15:45	7.35	3.22
run3	7/13/2011	16:16:00	7.31	3.23
run3	7/13/2011	16:16:15	7.31	3.23
run3	7/13/2011	16:16:30	7.37	3.21
run3	7/13/2011	16:16:45	7.34	3.21
run3	7/13/2011	16:17:00	7.28	3.22
run3	7/13/2011	16:17:15	7.27	3.22
run3	7/13/2011	16:17:30	7.30	3.21
run3	7/13/2011	16:17:45	7.31	3.21
run3	7/13/2011	16:18:00	7.33	3.21
run3	7/13/2011	16:18:15	7.31	3.21
run3	7/13/2011	16:18:30	7.32	3.21
run3	7/13/2011	16:18:45	7.36	3.19
run3	7/13/2011	16:19:00	7.36	3.19
run3	7/13/2011	16:19:15	7.33	3.20
run3	7/13/2011	16:19:30	7.36	3.21
run3	7/13/2011	16:19:45	7.34	3.21
run3	7/13/2011	16:20:00	7.32	3.21
run3	7/13/2011	16:20:15	7.33	3.21
run3	7/13/2011	16:20:30	7.31	3.22
run3	7/13/2011	16:20:45	7.30	3.24
run3	7/13/2011	16:21:00	7.28	3.26
run3	7/13/2011	16:21:15	7.24	3.28
run3	7/13/2011	16:21:30	7.18	3.29
run3	7/13/2011	16:21:45	7.17	3.29
run3	7/13/2011	16:22:00	7.18	3.29
run3	7/13/2011	16:22:15	7.19	3.28

name			1 O2	2 CO2					
run3	7/13/2011	16:22:30	7.18	3.28					
run3	7/13/2011	16:22:45	7.15	3.28					
run3	7/13/2011	16:23:00	7.17	3.28					
run3	7/13/2011	16:23:15	7.22	3.25					
run3	7/13/2011	16:23:30	7.20	3.24					
run3	7/13/2011	16:23:45	7.20	3.23					
run3	7/13/2011	16:24:00	7.22	3.21					
run3	7/13/2011	16:24:15	7.26	3.19					
run3	7/13/2011	16:24:30	7.33	3.17					
run3	7/13/2011	16:24:45	7.36	3.16					
run3	7/13/2011	16:25:00	7.36	3.17					
run3	7/13/2011	16:25:15	7.35	3.18					
run3	7/13/2011	16:25:30	7.36	3.19					
run3	7/13/2011	16:25:45	7.36	3.19					
run3	7/13/2011	16:26:00	7.36	3.19					
run3	7/13/2011	16:26:15	7.37	3.19					
run3	7/13/2011	16:26:30	7.36	3.18					
run3	7/13/2011	16:26:45	7.33	3.18					
run3	7/13/2011	16:27:00	7.31	3.17					
run3	7/13/2011	16:27:15	7.33	3.16					
run3	7/13/2011	16:27:30	7.31	3.16					
run3	7/13/2011	16:27:45	7.31	3.16					
run3	7/13/2011	16:28:00	7.30	3.17					
run3	7/13/2011	16:28:15	7.27	3.18					
run3	7/13/2011	16:28:30	7.26	3.17					
run3	7/13/2011	16:28:45	7.30	3.16					
run3	7/13/2011	16:29:00	7.25	3.18					
run3	7/13/2011	16:29:15	7.19	3.21					
run3	7/13/2011	16:29:30	7.18	3.24					
run3	7/13/2011	16:29:45	7.19	3.25					
run3	7/13/2011	16:30:00	7.21	3.25					
run3	7/13/2011	16:30:15	7.24	3.24					
run3	7/13/2011	16:30:30	7.31	3.24					
run3	7/13/2011	16:30:45	7.32	3.25					
run3	7/13/2011	16:31:00	7.31	3.25					
run3	7/13/2011	16:31:15	7.26	3.25					
run3	7/13/2011	16:31:30	7.23	3.26					
run3	7/13/2011	16:31:45	7.23	3.27					
averun3	7/13/2011	14:48:00	6.88	3.37		96			
scg1	7/13/2011	16:32:15	7.14	3.29	EB0010155/cg1	N2	0		0
scg1	7/13/2011	16:32:30	7.18	3.29	EB0010155/cg1	N2	0		0
scg1	7/13/2011	16:32:45	7.24	3.29	EB0010155/cg1	N2	0		0
scg1	7/13/2011	16:33:00	7.16	3.25	EB0010155/cg1	N2	0		0
scg1	7/13/2011	16:33:15	5.96	2.65	EB0010155/cg1	N2	0		0
scg1	7/13/2011	16:33:30	3.34	1.49	EB0010155/cg1	N2	0		0
scg1	7/13/2011	16:33:45	1.46	0.66	EB0010155/cg1	N2	0		0
scg1	7/13/2011	16:34:00	0.64	0.31	EB0010155/cg1	N2	0		0
scg1	7/13/2011	16:34:15	0.37	0.19	EB0010155/cg1	N2	0		0
scg1	7/13/2011	16:34:30	0.24	0.14	EB0010155/cg1	N2	0		0
scg1	7/13/2011	16:34:45	0.17	0.11	EB0010155/cg1	N2	0		0
scg1	7/13/2011	16:35:00	0.14	0.09	EB0010155/cg1	N2	0		0
scg1	7/13/2011	16:35:15	0.12	0.08	EB0010155/cg1	N2	0		0
scg1	7/13/2011	16:35:30	0.11	0.08	EB0010155/cg1	N2	0		0
o2zero1	7/13/2011	16:35:30	0.11	0.08	EB0010155/cg1	N2	0		0
co2zero1	7/13/2011	16:35:30	0.11	0.08	EB0010155/cg1	N2	0		0
scg9	7/13/2011	16:35:45	0.09	0.07	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	16:36:00	0.09	0.07	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	16:36:15	0.09	0.07	CC133782/cg9	CO2	11	O2	11.1

name			1 O2	2 CO2				
scg9	7/13/2011	16:36:30	0.08	0.06	CC133782/cg9	CO2	11 O2	11.1
scg9	7/13/2011	16:36:45	0.31	0.40	CC133782/cg9	CO2	11 O2	11.1
scg9	7/13/2011	16:37:00	2.87	3.29	CC133782/cg9	CO2	11 O2	11.1
scg9	7/13/2011	16:37:15	7.23	7.57	CC133782/cg9	CO2	11 O2	11.1
scg9	7/13/2011	16:37:30	9.73	9.82	CC133782/cg9	CO2	11 O2	11.1
scg9	7/13/2011	16:37:45	10.54	10.57	CC133782/cg9	CO2	11 O2	11.1
scg9	7/13/2011	16:38:00	10.79	10.81	CC133782/cg9	CO2	11 O2	11.1
scg9	7/13/2011	16:38:15	10.89	10.89	CC133782/cg9	CO2	11 O2	11.1
scg9	7/13/2011	16:38:30	10.93	10.92	CC133782/cg9	CO2	11 O2	11.1
scg9	7/13/2011	16:38:45	10.94	10.94	CC133782/cg9	CO2	11 O2	11.1
scg9	7/13/2011	16:39:00	10.94	10.95	CC133782/cg9	CO2	11 O2	11.1
o2span1	7/13/2011	16:39:00	10.94	10.95	CC133782/cg9	CO2	11 O2	11.1
co2span1	7/13/2011	16:39:00	10.94	10.95	CC133782/cg9	CO2	11 O2	11.1
run4	7/13/2011	16:46:00	7.11	3.36				
run4	7/13/2011	16:46:15	7.14	3.36				
run4	7/13/2011	16:46:30	7.17	3.35				
run4	7/13/2011	16:46:45	7.17	3.33				
run4	7/13/2011	16:47:00	7.16	3.33				
run4	7/13/2011	16:47:15	7.16	3.32				
run4	7/13/2011	16:47:30	7.14	3.32				
run4	7/13/2011	16:47:45	7.09	3.33				
run4	7/13/2011	16:48:00	7.04	3.33				
run4	7/13/2011	16:48:15	7.01	3.33				
run4	7/13/2011	16:48:30	6.97	3.35				
run4	7/13/2011	16:48:45	6.90	3.37				
run4	7/13/2011	16:49:00	6.81	3.39				
run4	7/13/2011	16:49:15	6.81	3.40				
run4	7/13/2011	16:49:30	6.84	3.40				
run4	7/13/2011	16:49:45	6.87	3.40				
run4	7/13/2011	16:50:00	6.88	3.41				
run4	7/13/2011	16:50:15	6.88	3.41				
run4	7/13/2011	16:50:30	6.91	3.40				
run4	7/13/2011	16:50:45	6.97	3.39				
run4	7/13/2011	16:51:00	7.02	3.38				
run4	7/13/2011	16:51:15	7.05	3.38				
run4	7/13/2011	16:51:30	7.01	3.38				
run4	7/13/2011	16:51:45	7.00	3.39				
run4	7/13/2011	16:52:00	7.01	3.39				
run4	7/13/2011	16:52:15	7.03	3.38				
run4	7/13/2011	16:52:30	7.04	3.38				
run4	7/13/2011	16:52:45	7.03	3.38				
run4	7/13/2011	16:53:00	7.03	3.38				
run4	7/13/2011	16:53:15	7.01	3.38				
run4	7/13/2011	16:53:30	6.95	3.39				
run4	7/13/2011	16:53:45	6.93	3.39				
run4	7/13/2011	16:54:00	6.93	3.39				
run4	7/13/2011	16:54:15	6.93	3.39				
run4	7/13/2011	16:54:30	6.92	3.39				
run4	7/13/2011	16:54:45	6.94	3.39				
run4	7/13/2011	16:55:00	6.95	3.38				
run4	7/13/2011	16:55:15	6.97	3.38				
run4	7/13/2011	16:55:30	6.98	3.37				
run4	7/13/2011	16:55:45	6.97	3.37				
run4	7/13/2011	16:56:00	6.96	3.37				
run4	7/13/2011	16:56:15	6.94	3.36				
run4	7/13/2011	16:56:30	6.97	3.37				
run4	7/13/2011	16:56:45	7.01	3.36				
run4	7/13/2011	16:57:00	7.03	3.35				

name			1 O2	2 CO2
run4	7/13/2011	16:57:15	7.01	3.36
run4	7/13/2011	16:57:30	6.97	3.36
run4	7/13/2011	16:57:45	6.97	3.37
run4	7/13/2011	16:58:00	6.99	3.37
run4	7/13/2011	16:58:15	7.00	3.36
run4	7/13/2011	16:58:30	6.99	3.36
run4	7/13/2011	16:58:45	6.99	3.37
run4	7/13/2011	16:59:00	7.00	3.36
run4	7/13/2011	16:59:15	7.02	3.36
run4	7/13/2011	16:59:30	7.04	3.35
run4	7/13/2011	16:59:45	7.07	3.36
run4	7/13/2011	17:00:00	7.04	3.36
run4	7/13/2011	17:00:15	6.99	3.36
run4	7/13/2011	17:00:30	6.94	3.37
run4	7/13/2011	17:00:45	6.94	3.36
run4	7/13/2011	17:01:00	6.94	3.37
run4	7/13/2011	17:01:15	6.92	3.37
run4	7/13/2011	17:01:30	6.94	3.36
run4	7/13/2011	17:01:45	6.99	3.34
run4	7/13/2011	17:02:00	6.98	3.34
run4	7/13/2011	17:02:15	6.99	3.35
run4	7/13/2011	17:02:30	6.95	3.35
run4	7/13/2011	17:02:45	6.98	3.35
run4	7/13/2011	17:03:00	7.02	3.35
run4	7/13/2011	17:03:15	7.03	3.35
run4	7/13/2011	17:03:30	7.09	3.35
run4	7/13/2011	17:03:45	7.13	3.35
run4	7/13/2011	17:04:00	7.13	3.36
run4	7/13/2011	17:04:15	7.10	3.36
run4	7/13/2011	17:04:30	7.10	3.36
run4	7/13/2011	17:04:45	7.09	3.36
run4	7/13/2011	17:05:00	7.08	3.35
run4	7/13/2011	17:05:15	7.10	3.36
run4	7/13/2011	17:05:30	7.08	3.36
run4	7/13/2011	17:05:45	7.01	3.36
run4	7/13/2011	17:06:00	6.91	3.38
run4	7/13/2011	17:06:15	6.84	3.41
run4	7/13/2011	17:06:30	6.78	3.44
run4	7/13/2011	17:06:45	6.71	3.47
run4	7/13/2011	17:07:00	6.70	3.48
run4	7/13/2011	17:07:15	6.69	3.49
run4	7/13/2011	17:07:30	6.65	3.48
run4	7/13/2011	17:07:45	6.65	3.45
run4	7/13/2011	17:08:00	6.74	3.42
run4	7/13/2011	17:08:15	6.83	3.40
run4	7/13/2011	17:08:30	6.88	3.38
run4	7/13/2011	17:08:45	6.93	3.38
run4	7/13/2011	17:09:00	6.96	3.38
run4	7/13/2011	17:09:15	6.95	3.38
run4	7/13/2011	17:09:30	6.99	3.37
run4	7/13/2011	17:09:45	7.04	3.37
run4	7/13/2011	17:10:00	7.03	3.37
run4	7/13/2011	17:10:15	7.00	3.38
run4	7/13/2011	17:10:30	6.98	3.39
run4	7/13/2011	17:10:45	6.99	3.39
run4	7/13/2011	17:11:00	7.00	3.38
run4	7/13/2011	17:11:15	7.01	3.37
run4	7/13/2011	17:11:30	6.98	3.38

name			1 O2	2 CO2
run4	7/13/2011	17:11:45	6.97	3.38
run4	7/13/2011	17:12:00	6.95	3.38
run4	7/13/2011	17:12:15	6.92	3.38
run4	7/13/2011	17:12:30	6.88	3.38
run4	7/13/2011	17:12:45	6.89	3.38
run4	7/13/2011	17:13:00	6.91	3.39
run4	7/13/2011	17:13:15	6.86	3.39
run4	7/13/2011	17:13:30	6.82	3.40
run4	7/13/2011	17:13:45	6.81	3.41
run4	7/13/2011	17:14:00	6.78	3.41
run4	7/13/2011	17:14:15	6.78	3.41
run4	7/13/2011	17:14:30	6.81	3.41
run4	7/13/2011	17:14:45	6.83	3.39
run4	7/13/2011	17:15:00	6.90	3.37
run4	7/13/2011	17:15:15	6.96	3.38
run4	7/13/2011	17:15:30	6.99	3.37
run4	7/13/2011	17:15:45	7.02	3.38
run4	7/13/2011	17:16:00	7.00	3.38
run4	7/13/2011	17:16:15	6.99	3.38
run4	7/13/2011	17:16:30	7.03	3.37
run4	7/13/2011	17:16:45	7.13	3.36
run4	7/13/2011	17:17:00	7.20	3.34
run4	7/13/2011	17:17:15	7.22	3.34
run4	7/13/2011	17:17:30	7.15	3.34
run4	7/13/2011	17:17:45	7.03	3.37
run4	7/13/2011	17:18:00	6.93	3.39
run4	7/13/2011	17:18:15	6.89	3.39
run4	7/13/2011	17:18:30	6.87	3.39
run4	7/13/2011	17:18:45	6.83	3.38
run4	7/13/2011	17:19:00	6.82	3.37
run4	7/13/2011	17:19:15	6.85	3.37
run4	7/13/2011	17:19:30	6.87	3.36
run4	7/13/2011	17:19:45	6.86	3.36
run4	7/13/2011	17:20:00	6.88	3.36
run4	7/13/2011	17:20:15	6.89	3.36
run4	7/13/2011	17:20:30	6.94	3.36
run4	7/13/2011	17:20:45	6.97	3.36
run4	7/13/2011	17:21:00	6.97	3.36
run4	7/13/2011	17:21:15	6.98	3.37
run4	7/13/2011	17:21:30	7.00	3.37
run4	7/13/2011	17:21:45	7.00	3.37
run4	7/13/2011	17:22:00	7.03	3.36
run4	7/13/2011	17:22:15	7.06	3.36
run4	7/13/2011	17:22:30	7.04	3.37
run4	7/13/2011	17:22:45	7.02	3.37
run4	7/13/2011	17:23:00	7.00	3.37
run4	7/13/2011	17:23:15	6.96	3.37
run4	7/13/2011	17:23:30	6.93	3.38
run4	7/13/2011	17:23:45	6.92	3.38
run4	7/13/2011	17:24:00	6.90	3.38
run4	7/13/2011	17:24:15	6.87	3.39
run4	7/13/2011	17:24:30	6.89	3.38
run4	7/13/2011	17:24:45	6.93	3.38
run4	7/13/2011	17:25:00	6.94	3.38
run4	7/13/2011	17:25:15	6.98	3.37
run4	7/13/2011	17:25:30	7.02	3.36
run4	7/13/2011	17:25:45	7.02	3.36
run4	7/13/2011	17:26:00	7.05	3.36

name			1 O2	2 CO2
run4	7/13/2011	17:26:15	7.08	3.35
run4	7/13/2011	17:26:30	7.10	3.35
run4	7/13/2011	17:26:45	7.10	3.35
run4	7/13/2011	17:27:00	7.10	3.35
run4	7/13/2011	17:27:15	7.13	3.35
run4	7/13/2011	17:27:30	7.12	3.35
run4	7/13/2011	17:27:45	7.09	3.36
run4	7/13/2011	17:28:00	7.08	3.35
run4	7/13/2011	17:28:15	7.07	3.35
run4	7/13/2011	17:28:30	7.06	3.35
run4	7/13/2011	17:28:45	7.07	3.36
run4	7/13/2011	17:29:00	7.08	3.36
run4	7/13/2011	17:29:15	7.08	3.36
run4	7/13/2011	17:29:30	7.07	3.36
run4	7/13/2011	17:29:45	7.06	3.35
run4	7/13/2011	17:30:00	7.05	3.35
run4	7/13/2011	17:30:15	7.04	3.36
run4	7/13/2011	17:30:30	7.03	3.36
run4	7/13/2011	17:30:45	7.03	3.35
run4	7/13/2011	17:31:00	7.04	3.35
run4	7/13/2011	17:31:15	7.07	3.34
run4	7/13/2011	17:31:30	7.12	3.33
run4	7/13/2011	17:31:45	7.15	3.33
run4	7/13/2011	17:32:00	7.16	3.33
run4	7/13/2011	17:32:15	7.26	3.31
run4	7/13/2011	17:32:30	7.30	3.29
run4	7/13/2011	17:32:45	7.25	3.31
run4	7/13/2011	17:33:00	7.20	3.33
run4	7/13/2011	17:33:15	7.19	3.33
run4	7/13/2011	17:33:30	7.21	3.33
run4	7/13/2011	17:33:45	7.17	3.34
run4	7/13/2011	17:38:00	7.20	3.27
run4	7/13/2011	17:38:15	7.27	3.26
run4	7/13/2011	17:38:30	7.32	3.26
run4	7/13/2011	17:38:45	7.36	3.26
run4	7/13/2011	17:39:00	7.38	3.26
run4	7/13/2011	17:39:15	7.36	3.26
run4	7/13/2011	17:39:30	7.35	3.27
run4	7/13/2011	17:39:45	7.32	3.28
run4	7/13/2011	17:40:00	7.31	3.29
run4	7/13/2011	17:40:15	7.29	3.29
run4	7/13/2011	17:40:30	7.26	3.29
run4	7/13/2011	17:40:45	7.22	3.30
run4	7/13/2011	17:41:00	7.15	3.30
run4	7/13/2011	17:41:15	7.10	3.31
run4	7/13/2011	17:41:30	7.08	3.32
run4	7/13/2011	17:41:45	7.07	3.33
run4	7/13/2011	17:42:00	7.04	3.34
run4	7/13/2011	17:42:15	7.03	3.34
run4	7/13/2011	17:42:30	7.03	3.35
run4	7/13/2011	17:42:45	7.07	3.35
run4	7/13/2011	17:43:00	7.11	3.35
run4	7/13/2011	17:43:15	7.13	3.36
run4	7/13/2011	17:43:30	7.14	3.36
run4	7/13/2011	17:43:45	7.20	3.35
run4	7/13/2011	17:44:00	7.26	3.34
run4	7/13/2011	17:44:15	7.30	3.33
run4	7/13/2011	17:44:30	7.34	3.32

name			1 O2	2 CO2
run4	7/13/2011	17:44:45	7.37	3.33
run4	7/13/2011	17:45:00	7.39	3.33
run4	7/13/2011	17:45:15	7.39	3.33
run4	7/13/2011	17:45:30	7.36	3.33
run4	7/13/2011	17:45:45	7.34	3.33
run4	7/13/2011	17:46:00	7.31	3.33
run4	7/13/2011	17:46:15	7.27	3.32
run4	7/13/2011	17:46:30	7.24	3.33
run4	7/13/2011	17:46:45	7.22	3.33
run4	7/13/2011	17:47:00	7.17	3.35
run4	7/13/2011	17:47:15	7.18	3.34
run4	7/13/2011	17:47:30	7.18	3.33
run4	7/13/2011	17:47:45	7.18	3.33
run4	7/13/2011	17:48:00	7.17	3.33
run4	7/13/2011	17:48:15	7.13	3.34
run4	7/13/2011	17:48:30	7.11	3.35
run4	7/13/2011	17:48:45	7.13	3.34
run4	7/13/2011	17:49:00	7.17	3.33
run4	7/13/2011	17:49:15	7.19	3.32
run4	7/13/2011	17:49:30	7.18	3.31
run4	7/13/2011	17:49:45	7.19	3.30
run4	7/13/2011	17:50:00	7.20	3.29
run4	7/13/2011	17:50:15	7.21	3.29
run4	7/13/2011	17:50:30	7.24	3.28
run4	7/13/2011	17:50:45	7.27	3.28
run4	7/13/2011	17:51:00	7.28	3.27
run4	7/13/2011	17:51:15	7.26	3.27
run4	7/13/2011	17:51:30	7.26	3.27
run4	7/13/2011	17:51:45	7.26	3.26
run4	7/13/2011	17:52:00	7.27	3.26
run4	7/13/2011	17:52:15	7.33	3.25
run4	7/13/2011	17:52:30	7.34	3.24
run4	7/13/2011	17:52:45	7.30	3.25
run4	7/13/2011	17:53:00	7.28	3.26
run4	7/13/2011	17:53:15	7.28	3.28
run4	7/13/2011	17:53:30	7.25	3.29
run4	7/13/2011	17:53:45	7.26	3.30
run4	7/13/2011	17:54:00	7.27	3.29
run4	7/13/2011	17:54:15	7.29	3.28
run4	7/13/2011	17:54:30	7.32	3.28
run4	7/13/2011	17:54:45	7.31	3.30
run4	7/13/2011	17:55:00	7.27	3.31
run4	7/13/2011	17:55:15	7.20	3.31
run4	7/13/2011	17:55:30	7.17	3.31
run4	7/13/2011	17:55:45	7.20	3.30
run4	7/13/2011	17:56:00	7.22	3.30
run4	7/13/2011	17:56:15	7.18	3.31
run4	7/13/2011	17:56:30	7.11	3.33
run4	7/13/2011	17:56:45	7.10	3.34
run4	7/13/2011	17:57:00	7.18	3.31
run4	7/13/2011	17:57:15	7.27	3.29
run4	7/13/2011	17:57:30	7.25	3.28
run4	7/13/2011	17:57:45	7.24	3.28
run4	7/13/2011	17:58:00	7.28	3.27
run4	7/13/2011	17:58:15	7.28	3.27
run4	7/13/2011	17:58:30	7.23	3.28
run4	7/13/2011	17:58:45	7.20	3.28
run4	7/13/2011	17:59:00	7.16	3.29

name			1 O2	2 CO2
run4	7/13/2011	17:59:15	7.19	3.28
run4	7/13/2011	17:59:30	7.22	3.28
run4	7/13/2011	17:59:45	7.24	3.28
run4	7/13/2011	18:00:00	7.25	3.27
run4	7/13/2011	18:00:15	7.28	3.28
run4	7/13/2011	18:00:30	7.28	3.29
run4	7/13/2011	18:00:45	7.28	3.28
run4	7/13/2011	18:01:00	7.32	3.28
run4	7/13/2011	18:01:15	7.39	3.27
run4	7/13/2011	18:01:30	7.37	3.27
run4	7/13/2011	18:01:45	7.31	3.28
run4	7/13/2011	18:02:00	7.24	3.28
run4	7/13/2011	18:02:15	7.22	3.29
run4	7/13/2011	18:02:30	7.21	3.29
run4	7/13/2011	18:02:45	7.17	3.29
run4	7/13/2011	18:03:00	7.15	3.30
run4	7/13/2011	18:03:15	7.17	3.30
run4	7/13/2011	18:03:30	7.16	3.31
run4	7/13/2011	18:03:45	7.16	3.30
run4	7/13/2011	18:04:00	7.17	3.30
run4	7/13/2011	18:04:15	7.19	3.29
run4	7/13/2011	18:04:30	7.19	3.29
run4	7/13/2011	18:04:45	7.21	3.29
run4	7/13/2011	18:05:00	7.30	3.27
run4	7/13/2011	18:05:15	7.39	3.24
run4	7/13/2011	18:05:30	7.41	3.24
run4	7/13/2011	18:05:45	7.37	3.26
run4	7/13/2011	18:06:00	7.35	3.27
run4	7/13/2011	18:06:15	7.33	3.27
run4	7/13/2011	18:06:30	7.34	3.27
run4	7/13/2011	18:06:45	7.34	3.27
run4	7/13/2011	18:07:00	7.35	3.27
run4	7/13/2011	18:07:15	7.36	3.27
run4	7/13/2011	18:07:30	7.31	3.27
run4	7/13/2011	18:07:45	7.24	3.27
run4	7/13/2011	18:08:00	7.19	3.28
run4	7/13/2011	18:08:15	7.14	3.29
run4	7/13/2011	18:08:30	7.10	3.30
run4	7/13/2011	18:08:45	7.05	3.30
run4	7/13/2011	18:09:00	7.02	3.30
run4	7/13/2011	18:09:15	7.02	3.30
run4	7/13/2011	18:09:30	7.03	3.29
run4	7/13/2011	18:09:45	7.07	3.27
run4	7/13/2011	18:10:00	7.12	3.26
run4	7/13/2011	18:10:15	7.16	3.25
run4	7/13/2011	18:10:30	7.21	3.24
run4	7/13/2011	18:10:45	7.22	3.24
run4	7/13/2011	18:11:00	7.21	3.24
run4	7/13/2011	18:11:15	7.21	3.24
run4	7/13/2011	18:11:30	7.21	3.24
run4	7/13/2011	18:11:45	7.25	3.25
run4	7/13/2011	18:12:00	7.27	3.26
run4	7/13/2011	18:12:15	7.28	3.26
run4	7/13/2011	18:12:30	7.29	3.28
run4	7/13/2011	18:12:45	7.39	3.25
run4	7/13/2011	18:13:00	7.49	3.23
run4	7/13/2011	18:13:15	7.54	3.21
run4	7/13/2011	18:13:30	7.58	3.21

name			1 O2	2 CO2					
run4	7/13/2011	18:13:45	7.60	3.21					
run4	7/13/2011	18:14:00	7.59	3.21					
run4	7/13/2011	18:14:15	7.47	3.25					
run4	7/13/2011	18:14:30	7.43	3.26					
run4	7/13/2011	18:14:45	7.39	3.27					
run4	7/13/2011	18:15:00	7.26	3.30					
run4	7/13/2011	18:15:15	7.17	3.32					
run4	7/13/2011	18:15:30	7.14	3.32					
run4	7/13/2011	18:15:45	7.11	3.33					
run4	7/13/2011	18:16:00	7.06	3.35					
run4	7/13/2011	18:16:15	7.03	3.35					
run4	7/13/2011	18:16:30	7.04	3.34					
run4	7/13/2011	18:16:45	7.06	3.35					
run4	7/13/2011	18:17:00	7.04	3.34					
run4	7/13/2011	18:17:15	7.06	3.33					
run4	7/13/2011	18:17:30	7.07	3.33					
run4	7/13/2011	18:17:45	7.07	3.33					
run4	7/13/2011	18:18:00	7.09	3.32					
run4	7/13/2011	18:18:15	7.13	3.31					
run4	7/13/2011	18:18:30	7.18	3.30					
run4	7/13/2011	18:18:45	7.21	3.30					
run4	7/13/2011	18:19:00	7.20	3.30					
run4	7/13/2011	18:19:15	7.18	3.30					
run4	7/13/2011	18:19:30	7.15	3.30					
run4	7/13/2011	18:19:45	7.15	3.31					
run4	7/13/2011	18:20:00	7.09	3.32					
run4	7/13/2011	18:20:15	7.09	3.32					
run4	7/13/2011	18:20:30	7.12	3.31					
run4	7/13/2011	18:20:45	7.12	3.32					
run4	7/13/2011	18:21:00	7.09	3.33					
run4	7/13/2011	18:21:15	7.08	3.33					
run4	7/13/2011	18:21:30	7.12	3.31					
run4	7/13/2011	18:21:45	7.12	3.32					
run4	7/13/2011	18:22:00	7.06	3.32					
run4	7/13/2011	18:22:15	7.07	3.32					
run4	7/13/2011	18:22:30	7.09	3.32					
run4	7/13/2011	18:22:45	7.09	3.33					
run4	7/13/2011	18:23:00	7.08	3.34					
run4	7/13/2011	18:23:15	7.12	3.33					
run4	7/13/2011	18:23:30	7.17	3.32					
run4	7/13/2011	18:23:45	7.18	3.32					
run4	7/13/2011	18:24:00	7.16	3.33					
run4	7/13/2011	18:24:15	7.14	3.33					
run4	7/13/2011	18:24:30	7.11	3.33					
run4	7/13/2011	18:24:45	7.11	3.32					
run4	7/13/2011	18:25:00	7.09	3.32					
run4	7/13/2011	18:25:15	7.06	3.32					
run4	7/13/2011	18:25:30	7.07	3.32					
run4	7/13/2011	18:25:45	7.09	3.31					
averun4	7/13/2011	16:46:00	7.10	3.33		96			
scg9	7/13/2011	18:26:15	7.13	3.30	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	18:26:30	7.13	3.31	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	18:26:45	7.18	3.32	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	18:27:00	7.26	3.37	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	18:27:15	7.84	4.52	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	18:27:30	9.12	7.08	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	18:27:45	10.16	9.33	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	18:28:00	10.63	10.37	CC133782/cg9	CO2	11	O2	11.1

name			1 O2	2 CO2					
scg9	7/13/2011	18:28:15	10.81	10.77	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	18:28:30	10.87	10.93	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	18:28:45	10.91	10.99	CC133782/cg9	CO2	11	O2	11.1
scg9	7/13/2011	18:29:00	10.93	11.02	CC133782/cg9	CO2	11	O2	11.1
o2span1	7/13/2011	18:29:00	10.93	11.02	CC133782/cg9	CO2	11	O2	11.1
co2span1	7/13/2011	18:29:00	10.93	11.02	CC133782/cg9	CO2	11	O2	11.1
scg1	7/13/2011	18:29:15	10.93	11.03	EB0010155/cg1	N2	0		0
scg1	7/13/2011	18:29:30	10.93	11.04	EB0010155/cg1	N2	0		0
scg1	7/13/2011	18:29:45	10.94	11.06	EB0010155/cg1	N2	0		0
scg1	7/13/2011	18:30:00	10.93	11.05	EB0010155/cg1	N2	0		0
scg1	7/13/2011	18:30:15	10.46	10.28	EB0010155/cg1	N2	0		0
scg1	7/13/2011	18:30:30	7.31	6.76	EB0010155/cg1	N2	0		0
scg1	7/13/2011	18:30:45	3.84	3.58	EB0010155/cg1	N2	0		0
scg1	7/13/2011	18:31:00	1.93	1.85	EB0010155/cg1	N2	0		0
scg1	7/13/2011	18:31:15	0.97	0.98	EB0010155/cg1	N2	0		0
scg1	7/13/2011	18:31:30	0.58	0.61	EB0010155/cg1	N2	0		0
scg1	7/13/2011	18:31:45	0.41	0.44	EB0010155/cg1	N2	0		0
scg1	7/13/2011	18:32:00	0.31	0.34	EB0010155/cg1	N2	0		0
scg1	7/13/2011	18:32:15	0.24	0.28	EB0010155/cg1	N2	0		0
scg1	7/13/2011	18:32:30	0.22	0.24	EB0010155/cg1	N2	0		0
scg1	7/13/2011	18:32:45	0.19	0.22	EB0010155/cg1	N2	0		0
o2zero1	7/13/2011	18:32:45	0.19	0.22	EB0010155/cg1	N2	0		0
co2zero1	7/13/2011	18:32:45	0.19	0.22	EB0010155/cg1	N2	0		0

APPENDIX J

Chain of Custody

1716200446

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CHAIN OF CUSTODY RECORD

Page of

Job No.: 11-234	Project Manager: Hutchinson	Method: 0010	
Job Name: Marathon	Project Supervisor: Jones		
Location: Garyville LA			
Unit: U45 TDX 3 Stack			

SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED: PART	HCL	CL2	SO2	SO3	Semi Volatiles	Recovered by	REMARKS (Specific Compounds/Methods)
Run 2 Filter	7-11-11	1843	1								✓	Will Starkey	Refinery ICR
Run 2 XAD			1								✓		
Run 2 Flt A/MeCl2			1								✓	Will Starkey	
Run 2 Blt A/MeCl2		↓	1								✓	Will Starkey	
Blank Acetone		1552	1		200ml						✓	Will Starkey	
Blank MeCl2		↓	1		↓						✓	Will Starkey	
Blank Filter		1552	1								✓		
BT Filter	↓	1649	1										

Samples Received for Transport/Shipment by:	J. LaCroix	Date: 7/18/11	Time: 1000
Samples Received for Transport/Shipment by:		Date:	Time:
Samples Received for Transport/Shipment by:		Date:	Time:
Samples Shipped Via:	FedEx	Date: 7/18/11	Time: 1700
Samples Received at Laboratory by:	[signature]	Date: 7/20/11	Time: 1000
Samples Analyzed by:		Date:	Time:
Samples Analyzed by:		Date:	Time:
Data Checked by:		Date: 08/24/11	Time: 1015

I create Recid @ 21.4°C
with out custody seal [illegible] 7/20/11
I create Fed X # 8757 9921 3840

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METCO
Environmental

H162004446

CHAIN OF CUSTODY RECORD

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Job No.: 11-234
Job Name: Marathon
Location: Garyville LA
Unit: 445 TO#3 Stack

Project Manager: Hutchinson
Project Supervisor: Jones

Method: 0010

SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED: PART	HCL	CL2	SO2	SO3	2am Volatiles	Recovered by	REMARKS (Specific Compounds/Methods)
Run 3 Filter	7-12-11	1409	1								✓		Refinery ICR
Run3 XAD	↓	↓	1								✓		
Run3 FH A/MeCl2			1								✓		
Run3 BH A/MeCl2			1								✓	↓	
BT XAD	7-14-11	1649	1								✓		
BT FH A/MeCl2	↓	↓	1								✓	Will Starkey	
BT BH A/MeCl2	↓	↓	1								✓	Will Starkey	

Samples Received for Transport/Shipment by:	J. LaCroix	Date: 7/18/11	Time: 1000
Samples Received for Transport/Shipment by:		Date:	Time:
Samples Received for Transport/Shipment by:		Date:	Time:
Samples Shipped Via:	Fed-Ex	Date: 7/18/11	Time: 1700
Samples Received at Laboratory by:	George Hancock	Date: 7/20/11	Time: 1000
Samples Analyzed by:		Date:	Time:
Samples Analyzed by:		Date:	Time:
Data Checked by:		Date: 08/24/11	Time: 1015

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CHAIN OF CUSTODY RECORD

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Job No.: 11-234
Job Name: Marathon
Location: Garyville LA
Unit: 11/15 TOX 3 Stack

Project Manager: Hutchinson
Project Supervisor: John B

Method: 0010

SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED: PART	HCL	CL2	SO2	SO3	Semi Volatiles	Recovered by	REMARKS (Specific Compounds/Methods)
Run 4 Filter	7-12-11	1749	1								✓		Refinery ICR
Run 4 XAD			1								✓		
Run 4 FH Acetone			1								✓		
Run 4 BH Acetone			1								✓		
Run 4 Condensate			1								✓		
Run 2 Condensate	7-11-11	1843	1								✓		
Run 3 Condensate	7-12-11	1409	1								✓		

Samples Received for Transport/Shipment by:	J. LeCroix	Date: 7/18/11	Time: 1040
Samples Received for Transport/Shipment by:		Date:	Time:
~~Samples Received for Transport/Shipment by:~~		~~Date:~~	~~Time:~~
Samples Shipped Via:	Fed-Ex	Date: 7/18/11	Time: 1700
Samples Received at Laboratory by:	George H Hancock	Date: 7/20/11	Time: 1000
Samples Analyzed by:		Date:	Time:
Samples Analyzed by:		Date:	Time:
Data Checked by:		Date: 08/24/11	Time: 1045

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10 MARCH 2003

METCO
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CHAIN OF CUSTODY RECORD

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Job No.: 11-234
Job Name: Marathon
Location: Garyville LA
Unit: U45 TOX 3 Stack

Project Manager: Hutchinson
Project Supervisor: Jones

Method: 0011

SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED: PART	HCL	CL2	SO2	SO3	Formaldehyde	Recovered by	REMARKS (Specific Compounds/Methods)
Run1 FH/Imp 1-3	7/13-11	1254	1	ONPH	400						✓		
Run2 FH/Imp 1-3		1512	1		400						✓		
Run3 FH/Imp 1-3		1729	1		400						✓		
MS FH/Imp 1-3		1455	1		400						✓		matrix Spike
Blank ONPH/MeCl2		1322	1		200						✓		
Field Spike			1		200						✓		
Blank DI Blank MeCl2			1 1		200 200						✓ ✓		

Samples Received for Transport/Shipment by:	J. LaCroix	Date:	7/18/11	Time:	1500
Samples Received for Transport/Shipment by:		Date:		Time:	
Samples Received for Transport/Shipment by:		Date:		Time:	
Samples Shipped Via:	Fed-Ex	Date:	7/18/11	Time:	1700
Samples Received at Laboratory by:	[signature]	Date:	7/19/11	Time:	2:27 pm
Samples Analyzed by:		Date:		Time:	
Samples Analyzed by:		Date:		Time:	
Data Checked by:	[signature]	Date:	08/24/11	Time:	0945

Temp: 4.0°
Raytek Gun #2

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11-234

METCO
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CHAIN OF CUSTODY RECORD

Page of

Job No.: 11-234
Job Name: Marathon
Location: Garyville LA
Unit: U45 Tbx 3 Stack

Project Manager: Hutchinson
Project Supervisor: John

Method: 18

SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED: PART	HCL	CL2	SO2	SO3	METAL		Recovered by	REMARKS (Specific Compounds/Methods)
Run 2	7-11-11	1810	1								✓			
Run 3	7-12-11	920	1								✓			
Run 4	7-12-11	1405	1								✓			

Samples Received for Transport/Shipment by:		Date:	Time:
Samples Received for Transport/Shipment by:		Date:	Time:
Samples Received for Transport/Shipment by:		Date:	Time:
Samples Shipped Via:		Date:	Time:
Samples Received at Laboratory by:	Liz M Cox	Date: 7/19/11	Time: 1:12 pm
Samples Analyzed by:		Date:	Time:
Samples Analyzed by:		Date:	Time:
Data Checked by:		Date:	Time:

Temp: ambient

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CHAIN OF CUSTODY RECORD

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Job No.: 11-234
Job Name: Mercator
Location: Gonzales LA
Unit: U45 TOX 3 Stack

Project Manager: Hutchinson
Project Supervisor: Jones

Method: 18

SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED: PART	HCL	CL2	SO2	SO3	ICP Voltage	BDT	7/15/11 Recovered by	REMARKS (Specific Compounds/Methods)
Run 1	7-13-11	1135	1								X			
Run 2	↓	1342	1								X		↓	
Run 3	↓	1548	1								X			

Samples Received for Transport/Shipment by:		Date:		Time:
Samples Received for Transport/Shipment by:		Date:		Time:
Samples Received for Transport/Shipment by:		Date:		Time:
Samples Shipped Via:		Date:		Time:
Samples Received at Laboratory by:	Liz M Cox	Date:	7/19/11	Time: 1:16 pm Temp=ambient
Samples Analyzed by:		Date:		Time:
Samples Analyzed by:		Date:		Time:
Data Checked by:		Date:		Time:

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10 MARCH 2003

METCO Environmental ©

CHAIN OF CUSTODY RECORD

Page of

Job No.: 11-234
Job Name: Monarch LL
Location: Gary Ville LA
Unit: U45 TOX 3 Stack

Project Manager: Hutcherson
Project Supervisor: JoLaJ

Method: 18 unspiked

SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED: PART	HCL	CL2	SO2	SO3	H2O		Recovered by	REMARKS (Specific Compounds/Methods)
Run1 Tube1	7-13-11	1135	1								✓		Will Starks	Refinery ICR
Run1 Tube 2			1								✓			
Run1 Tube 3		↓	1								✓			
Run1 Condensate			1								✓			
Run2 Tube1		1342	1								✓			
Run2 Tube2		↓	1								✓			
Run2 Tube 3			1								✓			
Run2 Condensate			1								✓			
Run3 Tube1		1546	1								✓			
Run3 Tube 2		↓	1								✓			
Run3 Tube 3			1								✓			
Run3 Condensate			1								✓			
Blank Tube1		1637	1								✓			
Blank Tube2			1								✓			
Blank Tube3			1								✓			
~~Blank~~ OR														

Samples Received for Transport/Shipment by: J.LaCroix — Date: 7/18/11 — Time: 1506
Samples Received for Transport/Shipment by: — Date: — Time:
Samples Received for Transport/Shipment by: — Date: — Time:
Samples Shipped Via: Fed-Ex — Date: 7/18/11 — Time: 1700
Samples Received at Laboratory by: Liz McBee — Date: 7/19/11 — Time: 1:42 pm — Temp: 4.0° Raytek Gun #2
Samples Analyzed by: — Date: — Time:
Samples Analyzed by: — Date: — Time:
Data Checked by: — Date: — Time:

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11-234

VERSION 2
10 MARCH 2003

METCO
Environmental ©

CHAIN OF CUSTODY RECORD

Page of

Job No.: 11-234
Job Name: Marathon
Location: Garyville, LA
Unit: V45 ToX 3 Stack

Project Manager: Hutcherson
Project Supervisor: Jones

Method: Method 18 Spiked

SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED: PART	HCL	CL2	SO2	SO3	HHP		Recovered by	REMARKS (Specific Compounds/Methods)
Run 1 Tube S1 Run 1 Tube S2 Run 1 Tube S3	7/13/11	1135	1 1 1								✓✓		Will Starkey	Refinery ICR
Run 1 Condensate Run 2 Tubes1 Run 2 Tubes2		1342	1 1 1								✓✓			
Run 2 Tube S3 Run 2 Condensate Run 3 Tubes1		1548	1 1 1								✓✓			
Run 3 Tubes2 Run 3 Tubes3 Run 3 Condensate			1 1 1								✓✓			
Blank Tubes1 Blank Tubes2		1637	1 1								✓			
Blank Tubes3 Blank ~~Blan~~ Condensate			1 1								✓			

Samples Received for Transport/Shipment by:	J. LeCruy	Date:	7/18/11	Time: 1500
Samples Received for Transport/Shipment by:		Date:		Time:
Samples Received for Transport/Shipment by:		Date:		Time:
Samples Shipped Via:	Fed-Ex	Date:	7/18/11	Time: 1700
Samples Received at Laboratory by:	[illegible]	Date:	7/19/11	Time: 1:43 pm
Samples Analyzed by:		Date:		Time:
Samples Analyzed by:		Date:		Time:
Data Checked by:		Date:		Time:

Temp = 4.0°
Raytek Gun #2

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11-234

VERSION 2
10 MARCH 2003

METCO
Environmental ©

CHAIN OF CUSTODY RECORD

Page of

Job No.: 11-234
Job Name: Marathon
Location: Garyville LA
Unit: 445 TOX 3 Stack

Project Manager: Hutchinson
Project Supervisor: Johns

Method: 308

SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED: PART	HCL	CL2	SO2	SO3	#1508 Methanol / Aq	Recovered by	REMARKS (Specific Compounds/Methods)
Run 1 Tube	7-13-11	1135	1								✓		Refinery ICR
Run 1 Condensate		↓	1								✓		
Run 2 Tube		1342	1								✓		
Run 2 Condensate		↓	1								✓		
Run 3 Tube		1548	1								✓		
Run 3 Condensate		↓	1								✓		
Blank Tube		1637	1								✓		
Blank ~~DE~~ DI		↓	1								✓		

Samples Received for Transport/Shipment by:	J. LaCroix	Date: 7/18/11	Time: 1506
Samples Received for Transport/Shipment by:		Date:	Time:
Samples Received for Transport/Shipment by:		Date:	Time:
Samples Shipped Via:	FedEx	Date: 7/18/11	Time: 1700
Samples Received at Laboratory by:	[illegible]	Date: 7/19/11	Time: 1:43 pm
Samples Analyzed by:		Date:	Time:
Samples Analyzed by:		Date:	Time:
Data Checked by:		Date:	Time:

Temp = 4.0°
Raytek Gun #2

J-10

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10 MARCH 2003

APPENDIX K

Resumes of Test Personnel

ROBERT M. PATTERSON; President

Education	B. S. 1983, Central Michigan University; Mt. Pleasant, Michigan, in Geology and Earth Science-Meteorology.
Professional Training Courses	Attended a two-day short course, "Performing and Observing Source Sampling" in Dallas, Texas. Attended a one-day short course on basic supervision. Attended a four-week management course presented by the American Management Association, 1991-1992.
Certification	Certified Visible Emissions Evaluator Certified Cabot Full-Face Respirator Fit Tester
Professional Memberships	Source Evaluation Society American Management Association
Technical Experience	Participated in the sampling of over 1,000 sources, including several of which were sampled simultaneously using more than one sampling train. Thoroughly trained in all EPA testing procedures, 1986-present. Over twenty-six years experience with EPA and Texas Air Control Board methods of sampling - both stationary sources and ambient air. CFR, Title 40, Chapter I, Part 60, EPA Methods 1 through 25, and 101 through 110. Performance Specifications 1 through 5. CFR, Title 40, Chapter I, Part 50, Appendix A through F. "Sampling Procedures Manual, Texas Air Control Board, January 1983." Parts 1-1 through 14-6, Appendix B through Appendix M. Experienced with sampling Method 0010, Modified Method 5 Sampling Train; Method 0030, Volatile Organic Sampling Train; and various EPA and "Site Specific" multiple metal and acid gas sampling trains.

(continued)

PATTERSON, Rob (cont'd)

Technical Experience (cont'd)

Over twenty-six years experience with EPA and Texas Air Control Board methods of analysis of both stationary and ambient air samples. Particulate matter, SO_3, SO_2, H_2SO_4, NO_x, CO, CO_2, O_2, H_2S, F, TRS, HCl, Cl_2, NH_3, VOC, C_1-C_7, and other organics. Both laboratory and on-site analyses were performed.

Experienced in the sampling and analysis of commercial calibration gas cylinders for sulfur dioxide, oxides of nitrogen, carbon dioxide, oxygen, carbon monoxide, and C_1-C_7 hydrocarbons.

Thoroughly trained in the operation and routine maintenance of the following:

- MSA LIRA Model 202S Infrared Analyzer
- Analytical Instrument Development, Inc. Model 340A Calibration System
- Shimadzu GC-Mini 2 Gas Chromatograph
- Thermo Environmental Model 10AR Oxides of Nitrogen Analyzer
- Thermo Oxygen Analyzer
- Teledyne Model 326 Oxygen Analyzer
- Thermo Environmental Model 48 Carbon Monoxide Analyzer
- Thermo Environmental Model 40 Sulfur Dioxide Analyzer
- Ratfisch Model RS 100 Total Hydrocarbon Analyzer
- Western Research Model 721AT Sulfur Dioxide Analyzer
- Horiba Model PIR 2000 Carbon Dioxide Analyzer
- Ratfisch Model RS 55 Total Hydrocarbon Analyzer
- J.U.M. Model VE-7 Total Hydrocarbon Analyzer

JAMES R. MONFRIES; Senior Quality Assurance Manager

Education	B. S. 1975, University of Texas at Arlington; Arlington, Texas, in Biology with a minor in Chemistry. Graduate work at the University of Texas at Dallas in the Environmental Science Department.
Professional Training Courses	Attended a two-day short course, "Performing and Observing Source Sampling" in Dallas, Texas, July 1976.
Certification	Qualified Individual (Groups I, II, III, and IV) Certified Visible Emissions Evaluator
Professional Memberships	Air and Waste Management Association Source Evaluation Society - Past President
Technical Experience	Participated in the sampling of over 700 sources, serving in the supervisory capacity on over 500 sources. Many of the sources were sampled simultaneously using more than one sampling train at several points in the flue gas stream, 1976-present. Also supervised several ambient air monitoring studies, including a permanent five-station high volume air sampling network in South Texas, a permanent four-station high volume air sampling network in Pennsylvania, and a permanent seven-station sulfur dioxide sampling network in East Texas. Was Quality Assurance Manager for several ambient air monitoring studies; including a four-station high volume air sampling network for TSP and PM10 in Midlothian, Texas; a single-station high volume air sampling network for PM10 in South Texas, a two-station high volume air sampling network for TSP in Wichita Falls, Texas, and a four-station continuous air sampling network for TSP and PM10 in Jewett, Texas using Thermo Andersen FH 62 C14 Beta Gauge Dust Monitors.

(continued)

MONFRIES, James (cont'd)

Thirty years experience with EPA and Texas Commission on Environmental Quality methods of analysis of both source and ambient air samples for particulates, SO_2, SO_3, H_2SO_4, H_2S, HCl, Cl_2, NO_x, Hydrocarbons, and TRS.

Experienced in the analysis of commercial calibration gas cylinders for sulfur dioxide and oxides of nitrogen.

Experienced with VOST and Modified Method 5 Sampling Procedures.

Thoroughly trained in the operation and routine maintenance of the following:

- Lear Siegler, Inc. SM800 Stack Gas Monitor
- Du Pont Model 460/1 Photometric Analyzer System
- Lear Siegler, Inc. SM1000 Ambient SO_2 Monitor
- Calibrated Instruments Ultragas SO_2 Monitor
- Meloy 285E SO_2 Analyzer
- Meloy SA-700 Fluorescent SO_2 Analyzer
- MSA LIRA Model 202S Infrared Analyzer
- Analytical Instrument Development, Inc. Model 340A Calibration System
- Shimadzu GC-Mini 2 Gas Chromatograph
- Thermo Environmental Model 10S NO_x Analyzer
- Thermo Oxygen Analyzer
- Teledyne Model 326 Oxygen Analyzer
- Thermo Environmental Model 48 Carbon Monoxide Analyzer
- Thermo Environmental Model 40 Sulfur Dioxide Analyzer
- Ratfisch Model RS 103 Total Hydrocarbon Analyzer
- Western Research Model 721AT Sulfur Dioxide Analyzer
- Horiba Model PIR 2000 Carbon Dioxide Analyzer
- Ratfisch Model RS 55 Total Hydrocarbon Analyzer
- J.U.M. Model VE-7 Total Hydrocarbon Analyzer
- Thermo Andersen Model FH 62 C14 Dust Monitor

RYAN JONES; Project Supervisor II

Education	B. A. Earth Science, December 1999; University of Northern Iowa, Cedar Falls, Iowa.
Certifications	HAZMAT certified Adult CPR certified Standard First Aid certified
Technical Experience	Participated in the sampling of over 200 sources, including several of which were sampled simultaneously using more than one sampling train. Thoroughly trained in all EPA testing procedures, 2004-present.

ROBERT E. ADAMS, Ph.D.; Project Manager

Education	Ph.D. Analytical Chemistry, 1977; University of Georgia, Athens, Georgia. B.S. Chemistry, 1971; University of North Carolina, Chapel Hill, North Carolina.
Professional Memberships	American Chemical Society, Analytical Division Air and Waste Management Association Alpha Chi Sigma
Technical Experience	Participated in the sampling of multiple sources, including several of which were sampled simultaneously using more than one sampling train, from 1990-present. As a Quality Assurance Director, conducted quality audits, implemented new methods, and improved laboratory operations for several environmental laboratories. Also, worked to develop proposals and review reports. Supervised the development and reviewed, under stringent quality assurance/ quality control (QA/QC), generalized GC, HPLC, and GC/MS methods for the analysis of hazardous waste incinerator effluents. QA/QC plans were developed to control these experiments. Developed procedures for the analysis of volatile and semi-volatile organic compounds as an Organic Lab Manager. Managed the analysis of hazardous waste samples for EPA's Superfund program (2 contracts). This program involved the determination of volatiles and base/neutral/acid fractions by GC/MS and pesticides by GC/ECD.

(continued)

ADAMS, Robert E., Ph.D.; (continued)

Technical Experience (cont'd)

Thoroughly trained in the operation and routine maintenance of the following:

- Agilent 1090 HPLC
- Agilent 5971 GC/MS
- Agilent 5972 GC/MS
- Agilent 5973 GC/MS
- Agilent 5890 GC/FID/ECD/FPD
- Extractive FTIR
- Shimadzu GC 17 FID
- Shimadzu GC 14 FID/FPD
- Perkin-Elmer A Analyst Graphite Furnace AA
- Leeman Labs DRE ICP-AES
- Dionex 100 Ion Chromatograph

Professional Training Courses

Attended 40-hour Hazardous Waste Operations and Emergency Response in accordance with 29 CFR 1910.120, Dallas, Texas in February 2004. Also attended 8-hour HAZWOPER refresher course from 2005.

Certifications

Qualified Individual (Groups I and IV)
Adult CPR certified
Standard First Aid certified
HAZWOPER certified

Publications and Presentations

Adams, R.E.; Caudle, M.D. *The Use of Portable FTIR for Industrial Gas Analysis and Process Optimization*. Paper presented at the Air and Waste Management Association—Southern Section 2002 Annual Meeting and Technical Conference, Orange Beach, AL; 2002 September 15-18.

Weinberg, D.S.; Adams, R.E.; Manier, M.L. *Software Programs for Processing PCDF/PCDD GC/MS Data*. Paper presented at the 39th ASMA Conference on Mass Spectrometry and Allied Topics, Nashville, TN; 1991 May 19-24.

(continued)

ADAMS, Robert E., Ph.D.; (continued)

Publications and Presentations (cont'd)

Weinberg, D.S.; Adams, R.E.; Manier, M.L. *Evaluation of a Particle-Beam Liquid Chromatograph/Mass Spectrometer.* Paper presented at the 39th ASMA Conference on Mass Spectrometry and Allied Topics, Nashville, TN; 1991 May 19-24.

Adams, R.E.; Hass, J.R.; Smith, W.S.; Wong, T. *Sampling and Analysis for Volatile and Semivolatile POHC During RCRA Trial Burns: Techniques and Problems.* Proceedings of the 80th annual meeting of the Air Pollution Control Association, New York, NY; 1987, June 21-26.

Adams, R.E.; James, R.H.; Burford, L.A.; Miller, H.C.; Johnson, L.D. *Analytical Methods for Determination of POHC in Combustion Products.* Environ. Sci. Technol. 20: 761-769; 1986. Paper presented at the Symposium on Organic Emission from Combustion, 187th ACS national meeting; 1984 April; St. Louis, MO.

Adams, R.E.;, Thomason, M.M.; Strother, D.L.; James, R.H.; Miller, H.C. *The Determination of PCDDs and PCDFs in PCB Oil From a Hazardous Waste Site.* Paper presented at the 5th International Symposium on Chlorinated Dioxins and Related Compounds. Bayreuth, Federal Republic of Germany; 1985, September 16-19. Chemosphere 15: 1113-1121; 1986.

James, R.H.; Adams, R.E.; Johnson, L.D. *A Simplified Sampling and Analysis System for the Determination of Volatile Organic Compounds in Combustion Effluents.* Proceedings of the 79th Annual Meeting of the Air Pollution Control Association. Minneapolis, MN; 1986, June 22-27.

James, R.H.; Adams, R.E.; Finkel, J.M.; Miller, H.C.; Johnson, L.D. *Evaluation of Analytical Methods for the Determination of POHC in Combustion Products.* J. Air Pollut. Control Assoc. 35: 959-989; 1985.

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ADAMS, Robert E., Ph.D.; (continued)

Publications and Presentations (cont'd)

James, R.H.; Adams, R.E.; Thomason, M.M.; Johnson, L.D. *Measuring Products of Combustion-Analytical Methods for POHCs and PICs*. Proceedings of the Fifth Annual National Symposium on Recent Advances in the Measurement of Air Pollutants. Raleigh, NC; 1985, May 14-16.

Thomason, M.M.; James, R.H.; Adams, R.E.; Johnson, L.D. *Products of Incomplete Combustion-Analytical Methods.* Proceedings of the Eleventh Annual Research Symposium on Land Disposal, Remedial Action, Incineration, and Treatment of Hazardous Waste. Cincinnati, OH; 1985, April 29-May 1.

Adams, R.E. *Positive and Negative Chemical Ionization Pyrolysis Mass Spectrometry of Polymers*. Anal. Chem. 55: 414-416; 1983. Paper presented at the 33rd Southeast regional ACS meeting. Lexington, KY; 1981 November.

Adams, R.E. *Pyrolysis Mass Spectrometry of Terephthalate Based Polyesters Using Chemical Ionization and Negative Ion Detection.* J. Polym. Sci. 20: 119-129; 1982. Paper presented at the Southeast-Southwest regional ACS meeting. New Orleans, LA; 1980 December.

Adams, R.E.; Carr, P.W. *Coulometric Flow Analyzer for Use With Immobilized Enzyme Reactors*. Anal. Chem. 50: 944-950; 1978. Invited paper at the 11th Great Lakes regional ACS meeting. Stevens Point, WI; 1977 June.

Adams, R.E.; Betso, S.R.; Carr, P.W. *Electrochemical pH-stat and Controlled Current Acid-Base Analyzer*. Anal. Chem. 48: 1989-1996; 1976. Paper presented at the 27th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy. Cleveland, OH; 1976 March.

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ADAMS, Robert E., Ph.D.; (continued)

Publications and Presentations (cont'd)

Klatt, L.N.; Connell, D.R.; Adams, R.E.; Honigberg, I.L.; Price, J.C. *Voltametric Characterization of a Graphite-Teflon Electrode.* Analy. Chem. 47: 2470-2472; 1975.

Adams, R.E. *Development and Application of a Totally Electrochemical pH-stat and Controlled Current Acid-Base Analyzer for Bidogical Studies.* Athens, GA; University of Georgia; 1977. 151 p. Dissertation.

DANIEL MOORE; Project Supervisor II

Education	Process Technician, October 2000; Louisiana Technical College, River Parishes Campus.
Certifications	Certified Visible Emissions Evaluator HAZMAT certified Adult CPR certified Standard First Aid certified
Technical Experience	Participated in the sampling of over 200 sources, including several of which were sampled simultaneously using more than one sampling train. Thoroughly trained in all EPA testing procedures, 2001-present.

NEAL PIERCE; Environmental Scientist I

Education	B.S. Bioenvironmental Science, December 2007; Texas A&M University; College Station, Texas.
Technical Experience	Participated in the sampling of over 25 sources, including several of which were sampled simultaneously using more than one sampling train. Thoroughly trained in all EPA testing procedures, 2010-present.

WILLIAM W. STARKEY; Environmental Scientist II

Education	Computer Science, May 2003 – Albany, Louisiana. 1-1/2 years of testing experience
Technical Experience	Participated in the sampling of over 50 sources, including several of which were sampled simultaneously using more than one sampling train. Thoroughly trained in all EPA testing procedures, 2007-present.

DUSTIN REID; Environmental Scientist I

Education	Environmental Management Systems, May 21, 2010; Louisiana State University, Baton Rouge, Louisiana.
Technical Experience	Participated in the sampling of over 25 sources, including several of which were sampled simultaneously using more than one sampling train. Thoroughly trained in all EPA testing procedures, 2010-present.

CHARLES WAHRMUND; Environmental Scientist I

Education	Marine Biology, August 2010; Texas A&M University, Galveston, Texas.
Technical Experience	Participated in the sampling of over 25 sources, including several of which were sampled simultaneously using more than one sampling train. Thoroughly trained in all EPA testing procedures, 2011-present.