10054589

Third Five-Year Review Report

for the

Alpha Chemical Corporation Superfund Site

Kathleen, Polk County, Florida

May 2003

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Date: 7/22/03

Five-Year Review Report

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List of Acronyms

CERCLA	Comprehensive environmental Response, Compensation and Liability Act of 1980
EPA	Environmental Protection Agency
FDER	Florida Department of Environmental Regulation
FDEP	Florida Department of Environmental Protection (formerly FDER)
NPL	National Priorities List
NCP	National Contingency Plan
PAH	Polynuclear Aromatic Hydrocarbons
POP	Project Operations Plan
RI/FS	Remedial Investigation/Feasibility Study
RD/RA	Remedial Design/Remedial Action
ROD	Record of Decision
SARA	Superfund Amendments and Preauthorization Act of 1986
VOC	Volatile Organic Compounds
WasteLAN	EPA's electronic database of potential hazardous waste sites

Executive Summary

EPA conducted the third statutory review of the Alpha Chemical Corporation Superfund Site in April 2003. The review included a site visit, interviews, data review and groundwater monitoring. The remedy, completed in 1989, was placement of a low permeability cap and surface and ground water monitoring. Concentrations of the three contaminants of concern have significantly decreased since the remedy was installed and they have remained below MCLs.

Because the remedial actions at all OUs are protective, the Site is protective of human health and the environment. No issues have been identified in any of the three Five-Year Reviews. Reviewers consistently note the conscientious attitude of AOC personnel in performing O&M activities at the site. AOC personnel continue to demonstrate their recognition of the importance of the remedy. Based on the results of the groundwater samples collected in the past 15 years, EPA believes that the Alpha Chemical Corporation Site no longer poses a risk to human health. The evidence presented in this report and the other Five-Year Review Reports strongly support the elimination of future groundwater monitoring. O&M of the cap should continue on a weekly basis, with special attention given to maintenance of the drainage swales.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name *(from WasteLAN)*: Alpha Chemical Corporation		
EPA ID *(from WasteLAN)*: FLD041495441		
Region: 4	**State:** Florida	**City/County:** Kathleen, Polk

SITE STATUS	
NPL status: ☐ Final ☒ Deleted ☐ Other (specify)	
Remediation status (choose all that apply): ☐ Under Construction ☐ Operating ☒ Complete	
Multiple OUs?* ☐ YES ☒ NO	**Construction completion date:** 09 /21 /1990
Has site been put into reuse? ☒ YES ☐ NO	

REVIEW STATUS	
Lead agency: ☒ EPA ☐ State ☐ Tribe ☐ Other Federal Agency	
Author name: Barbara S. Dick	
Author title: RPM	**Author affiliation:** US EPA
Review period:** 1 / 20 / 2003 to 7 / 22 / 2003	
Date(s) of site inspection: 04/09/2003	
Type of review: Statutory ☒ Post-SARA ☐ Pre-SARA ☐ NPL-Removal only ☐ Non-NPL Remedial Action Site ☐ NPL State/Tribe-lead ☐ Regional Discretion	
Review number: ☐ 1 (first) ☐ 2 (second) ☒ 3 (third) ☐ Other (specify)	
Triggering action: ☐ Actual RA Onsite Construction at OU #____ ☐ Actual RA Start at OU#____ ☐ Construction Completion ☒ Previous Five-Year Review Report ☐ Other (specify)	
Triggering action date *(from WasteLAN)*: 9 / 04 / 1998	
Due date *(five Years after triggering action date)*: 9 / 04 / 2003	

* ["OU" refers to operable unit.]
** [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

Five-Year Review Summary Form, cont'd.

Issues:

No Issues Identified

Recommendations and Follow-up Actions:

Based on the results of the groundwater samples collected in the past 15 Years, AOC should be allowed to discontinue groundwater monitoring at the site. Concentrations of the three contaminants have significantly decreased sine the remedy was installed and they have remained below MCLs, This evidence presented in this report and the other Five-Year Review Reports strongly support the elimination of future groundwater monitoring. O&M of the cap should continue on a weekly basis, with special attention given to maintenance of the drainage swales.

Protectiveness Statement(s):

Because the remedial actions at all OUs are protective, the Site is protective of human health and the environment

Other Comments

None

Five-Year Review Report

I. Introduction

The Purpose of the Review,

The purpose of five-Year reviews is to determine whether the remedy at a site is protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in Five-Year Review reports. In addition, Five-Year Review reports identify issues found during the review, if any, and recommendations to address them.

Authority for Conducting the Five-Year Review

The United States Environmental Protection Agency (EPA) is preparing this five-Year review pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Preauthorization Act of 1986 (SARA). CERCLA §121 states:

> *If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five Years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.*

The Agency interpreted this requirement further in the National Contingency Plan (NCP); 40 CFR §300,430(f)(4)(ii) states:

> *If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five Years after the initiation of the selected remedial action.*

Who Conducted the Five-Year Review

An EPA Region 4, Atlanta, Remedial Project Manager in the South Site Management Branch conducted the five-Year review of the remedial actions implemented at the Alpha Chemical Corporation Site in Kathleen, Florida. This review was conducted in April 2003. This

report documents the results of the review. AOC (a.k.a. Alpha Resins Corporation and Alpha Corporation) personnel assisted with this review by conducting the groundwater sampling. CompuChem laboratories conducted the chemical analysis of the groundwater.

Other Review Characteristics

This is the third Five-Year review for the Alpha Chemical Corporation Site. The triggering action for this review is the date of the second five-Year review, as shown in EPA's WasteLAN database: September 4, 1998. This review is statutorily required because hazardous substances, pollutants, or contaminants were left onsite above levels that allow for unlimited use and unrestricted exposure.

II. Site Chronology

Table 1: Chronology of Site Events

Event	Date
Alpha Corporation builds a manufacturing plant in Galloway Florida and starts producing unsaturated polyester resins	1967
Two waste water ponds were built & permitted as percolation basins for natural biodegradation of organics	1967
Thermal oxidizer installed for treating waste stream; replaces use of the two ponds	1976
One waste water pond used as solid waste landfill for 1 Year	1977
Alpha Chemical Corporation Site is one of the first sites proposed for the NPL	1981
EPA finds groundwater contamination during site investigation	1982
FDER sampling verifies organic contamination of the surficial aquifer	1983
Alpha Chemical Corporation Site is placed on the first listing of NPL	September 1983
Alpha Resins Corporation starts the Remedial Investigation	1984
Alpha Resins Corporation's Endangerment Assessment concludes that contamination is confined to onsite	1986
Resampling of groundwater monitoring wells shows trend of decreasing contaminant levels	1987
Remedial Investigation/Feasibility Study made available to the public	February 1988

Table 1: Chronology of Site Events

Event	Date
R1/RS finalized and Record of Decision selecting the remedy signed	May 1988
Consent Decree finalizing settlement for responsible party performance of the remedy entered into federal court	May 1989
EPA and FDEP approve final Project Operations Plan and construction of the cap over the unlined pond	September 1989
Final onsite inspection conducted	October 1989
Fact Sheet informing public of remedial construction completion	January 1990
EPA signs Interim Close Out Report	September 1990
EPA conducts first Five-Year Review showing remedy functions as designed and remains protective	May 1994
EPA amends Close Out Report (final)	March 1995
EPA publishes notice of the Intent to Delete the Site form the NPL	May 1995
EPA deletes the Site from the NPL	June 1995
Second Five-Year review completed	September 1998

III. Background

The Alpha Chemical Corporation Site is located three miles north of Lakeland, Florida, at 4620 N. Galloway Road. Figures 1 and 2 provide the geographical location and Site layout. Currently, the Site boundaries encompass 32 acres of land in the SE 1/4, Section 28, Township 27 S, Range 23 E of Polk County, Florida.

Land and Resource Use

Prior to the plant construction in 1967, the land was used primarily for agricultural purposes. No previous industrial practices are known to have taken place. Since 1967, the plant on the Site has produced unsaturated polyester resins for other manufacturers who produce fiberglass boats, shower stalls and other construction and recreation products.

The Site lies on a ridge in the Hillsborough River drainage basin. Surface water from the Site drains into a swampy, low-lying wetland area at the property's southeastern corner. Water drains from the swamp in a east-northeast direction to a bayhead east of Galloway Road.

There are two aquifers of concern at the Alpha site: the surficial aquifer and the deeper, artesian Floridan aquifer. The surficial aquifer exists in the varying layers of clayey sand and sandy clay underlying the Site at depths between 2 feet and 16 feet below the surface. Groundwater in the surficial aquifer flows toward the south-southeast. Ground water flow in the surficial aquifer is limited to down gradient and lateral flow with only minor vertical percolation downward due to the confining, impermeable clays and marls of the Hawthorn formation.

The Floridan aquifer begins at depths from 95 feet to 100 feet below the ground surface. This aquifer serves as the area's main groundwater supply. A well inventory in the immediate area determined groundwater flow toward the south. The Floridan aquifer is an artesian system due to the confining nature of the overlying, relatively impermeable sediments.

History of Contamination

During the plant's manufacturing process, unsaturated polyester resins form from the esterification reaction of various difunctional organic alcohols and acids, which yields ester salts and corresponding water (wastewater). Within this wastewater stream exist small amounts of volatile organic compounds (VOCs). From 1967 until 1976, the wastewater was discharged to an onsite unlined surface impoundment. In 1976 a thermal oxidizer was installed to treat the wastewater. Alpha Chemical Corporation used one of the wastewater ponds as a solid waste landfill for a Year, and subsequently covered it with two feet of soil. The other pond, was divided in half by a dam and water and sludge were pumped from one half to the other. The drained half was lined with concrete to store and evaporate caustic floor wash waste from the plant. The other half was identified as a source of contamination in several investigations by the State and EPA between 1982 and 1984. Contaminants identified in soil and ground water were the same VOCs found in the wastewater. EPA placed the Site on the National Priorities List (NPL) in 1983.

Initial Response

There were no interim or removal actions at the site.

Basis for Taking Action

Ethylbenzene was identified as the most prevalent contaminant at the site, both in concentration and in the number of samples in which it was detected. It, along with xylene and styrene exceeded drinking water standards. Other organic priority pollutants included phthalates, halogenated and non-halogenated VOCs, phenols, polynuclear aromatic hydrocarbons (PAHs), and non-priority pollutants such as benzyl alcohol and benzoic acid. Contamination was identified in the onsite surficial aquifer and EPA concluded that there was the potential for off-site migration of contaminants. The pathway of greatest concern was the groundwater migration of contaminants via the surficial aquifer.

IV. Remedial Actions

Remedy Selection

The ROD for the Alpha Chemical Corporation Site was signed on May 18, 1988. The selected remedy placed a low-permeability cap over the unlined pond area to reduce percolation of atmospheric precipitation into the unlined pond, vertical migration of water through the remaining pond sediments, and leachate production into the surficial aquifer. In addition, long-term monitoring of the surficial aquifer assures that the remedy remains effective and that contaminant levels in the ground water meet Applicable and Relevant or Appropriate Requirements (ARARs). Three of the five contaminants of concern were identified in the ROD for periodic groundwater monitoring: xylene, styrene and ethylbenzene. ARARs for these three contaminants of concern in groundwater were the Recommended Maximum Contaminant Levels (MCLs). The ROD also required surface water monitoring to be conducted to confirm surface water ARARs were being attained and specified surface water values for ambient criteria for protection of fresh water life for five contaminants. The contaminants were the three mentioned above and benzoic acid and 1,2-dichloropropane. A Contingency Plan assures that in the unlikely event that conditions worsen, the situation will be addressed in an effective and appropriate manner based on the results of an additional focused evaluation of all remedial alternatives

Regulatory Actions

A consent decree between EPA and Alpha Resins Corporation was entered into court in May 1989 requiring Alpha Resins Corporation to perform the remedial design/remedial action under EPA oversight. Four months later, EPA and FDER approved the final Project Operation Plan submitted by Alpha which detailed the RD/RA. The POP described the capping of the unlined pond with a synthetic low permeability cap and the monitoring of groundwater and surface water.

Remedy Implementation

Alpha Resins Corporation followed the procedure detailed in the RD/RA POP. Cap construction was designed to meet the goals of the selected remedy and closely paralleled. Resource Conservation and Recovery Act (RCRA) guidance. The unlined pond was dewatered and then filled with clean clay soil. Soil was placed in lifts of approximately 6 inches prior to compaction. A synthetic low-permeability liner was placed over the compacted fill material. Layers of drainage material, filter fabric, and topsoil were placed over the synthetic liner. Perimetrical drainage swales were installed about the cap and two drainage ditches excavated to accept drainage from the swales; these drained to the south into the swamp.

The cap surface was seeded and drainage ditches were sodded to immediately preclude erosional damage to the cap. Shortly thereafter, the cap was sodded as additional protection from possible hurricane damage.

The POP contained an outline for the quarterly surface water and groundwater sampling starting immediately after the capping action. Eight surficial aquifer wells and one deep Floridan well downgradient from the source of contamination were to be monitored for groundwater quality. The marsh and the culvert were also identified for surface water quality sampling. All samples are collected onsite. When the ROD was issued in May 1988, the Agency had established Recommended MCLs for the three contaminants of concern identified for monitoring. The Recommended MCLs were defied in the proposed National Primary Drinking Water Regulation of 1985. The Recommended MCLS were also used as cleanup goals in the POP. Since then EPA has established MCL Goals and MCLs for these contaminants. Table 2 shows the change in the protective groundwater values for the contaminants.

Table 2: Contaminants of Concern and Protectiveness Values

Contaminant	Recommended MCL (ug/l)	MCL Goal (ug/l)	MCL (ug/l)
Xylene	440	10,000	10,000
Styrene	140	100	100
Ethylbenzene	680	700	700

Surface water monitoring for the five contaminants was conducted to confirm surface water ARARs were being attained, as specified by each contaminant's surface water values for ambient criteria for protection of fresh water life.

Operations & Maintenance (O & M)

The consent decree contains a requirement for deed restrictions prohibiting disturbing the integrity of the cap or the function of the monitoring system. Further O & M activities were detailed in the July 1989, O & M Plan, and the Revised August 22, 1989, POP/ QAPP. These activities include routine inspections of the monitoring wells and the cap. The cap inspections continue to ensure the integrity of the cap and drainage construction. The cap is also inspected for evidence of erosion,. Alpha is responsible for designing, conducting, and funding O&M activities. O&M checklists, completed by Alpha's Regulatory Affairs Coordinator describe the condition of the cap and actions taken to address any problem. Checklists are submitted to EPA and have shown the cap to be performing as designed. Currently, AOC submits these checklists semi-annually.

Close Out for Long-Term Response Action

A 1990 Interim Close Out Report and a subsequent 1995 Amended Close Out report for Long-Term Response action at the Alpha Chemical Corporation Site provided information to satisfy final completion requirements. The three contaminants that were required to be monitored had decreased significantly since the remedial action. Styrene levels in the groundwater were below MCLs and the other two contaminants of concern, xylene and ethylbenzene, had attained their respective Recommended MCLs.

In the surface water, all five contaminants were confirmed to be below the surface water values cited in the ROD. ARARs at the time of Close Out were Florida Surface Water Quality Criteria and the Federal Ambient Quality Criteria; however, no state or federal criteria values had been designated for any of the five contaminants. Freshwater quality screening values for 1,2-dichloropropane and ethylbenzene had been established by Region IV Waste Management Division and neither of those two contaminants had been found in surface water above the screening values. The data reviewed for Close Out demonstrated the effectiveness of the source control remedy and the decreasing trend of surface and groundwater contaminants to levels below health-based levels.

V. Previous Five-Year Reviews

Both of the two Five-Year Reviews, in 1993 and 1998, confirmed that the remedy remained protective of human health and the environment, and that ARARs were being met. The cap's integrity had not been comprised and the groundwater and surface water contaminants were below, or nearly below cleanup levels. Overall, by the time of the second Five-Year Review all contaminants of concern remained well below their designated MCLs.

VI. Third Five-Year Review Process

Administrative Components

Five-Year Reviews are mandatory for this Site due to the fact that waste was left in place beneath the cover. In January 2003, EPA's Project Manager, Barbara Dick, contacted Martin McLeod, Regulatory Procurement Supervisor at AOC, to notify him of the upcoming Five-Year Review. AOC is the current name of the company located on the Alpha Chemical Corporation Site. The company was originally called Alpha Resins and then Alpha Chemical, both of which were owned by Alpha Corporation. Then in 1994 when Owens Coming bought Alpha Corporation, the company was referred to as AOC. In 1998, Alpha Corporation purchased the former Alpha Corporation portion of the Alpha Owens Coming Corporation back and the AOC name remains to this day. Mr. McLeod has been working at the company since the time of the ROD and was the responsible party representative during the second Five-Year Review. The onsite visit, interview, and annual monitoring was scheduled for April 9, 2003.

Community Involvement

EPA published an announcement in the local paper, "The Ledger". The announcement stated the purpose of the review, the schedule for the review, and the location of site documents. It also solicited comments relative to the Site and provided the EPA project manager's name and contact information. EPA also verified the availability of current Site information at the designated public repository, Lakeland Library, Lakeland, Florida. No comments were received.

Document Review

This Five-Year Review consisted of a review of relevant documents, including O&M records and monitoring data and a review of all applicable surface water and groundwater ARARs for the five contaminants of concern. Table 3 shows the reviewed items.

Table 3: Reviewed Documents

Document Name	**Date**
Record of Decision	May 1988
RD/RA Project Operations Plan	September 1989
Interim Close Out Report for Long-Term Response Action	September 1990
Five-Year Review Report	February 1994
Amended Close Out Report	March 1995
Five-Yew Review	September 1998
Groundwater sampling data - Letter from Martin McLeod, AOC, to EPA	August 3, 2000
National Primary Drinking Water Standards	
Semi-Annual O&M Site Reports	August 22, 2002 February 24, 2003

Data Review

EPA reviewed sampling data from November 1984 to present. Since the last Five-Year Review in 1998, AOC has collected samples once in July 2000 and in April 2003. All three contaminants of concern monitored in the groundwater were below their respective EPA National Primary Drinking Water Standards. This is consistent with previous data at the site. Groundwater concentrations of xylene have been below its Recommended MCL and MCL for over 10 Years in all monitoring wells being monitored. Since one detection at 100 ug/l in 1990, styrene has been below both its Recommended MCL and MCL. Concentrations of ethylbenzene in the groundwater have been below the Recommended MCL and MCL since 1991, with the exception of a detection of 690 ug/l in December 1992 and 1200 ug/l in June 1994. Clearly, this indicates that the remedy is acting according to design.

Groundwater monitoring has been conducted at the Alpha Chemical Corporation Site since the middle 1980s. See Table 4 for the concentrations of the three monitored groundwater contaminants over the past 10 years. A sample of groundwater was collected and analyzed from each of the monitoring wells at the Site on April 8 and 9, 2003 by AOC personnel. No contaminants exceeded their guidance levels. Monitoring has shown the decreasing trend of the contaminants of concern and the attainment of the drinking water standards. The drop in concentration was likely a result of the source control remedy and natural attenuation processes.

Table 4: Results of Groundwater Monitoring
E: Ethylbenzene, S: Styrene, X; Xylene

	Dec 1993	June 1994	Nov 1994	July 2000	April 2003
AC 105	E: -* S: -* X: -*	E: -* S: -* X: -*	E: -* S: -* X: -*	E: 1 U S: 1 U X: 1 U	E: 0.50 U S: 0.50 U X: 0.50 U
AC 106	E: 29 S: 10 U X: 8 J	E: 1200 S: 100 U X: 100 U	E: 55.94 ER S: 1.00 U X: 7.8	E: 240 ER S: 5 U X: 5U	E: 16 B S: 0.16 J X: 1.2 B
AC 106Dup	E: -* S: - * X: - *	E: -* S: -* X: -*	E: -* S: -* X: -*	E: 230 D S: 13 U X: 13 U	E: -* S: -* X: -*
AC 107	E: 10 U S: 10 U X: 2 J	E: 10 U S: 10 U X: 3 J	E: 1.00 U S: 1.00 U X: 0.60	E: 0.2 J S: 1 U X: 0.8 J	E: 0.047 J S: 0.50 U X: 0.066 J

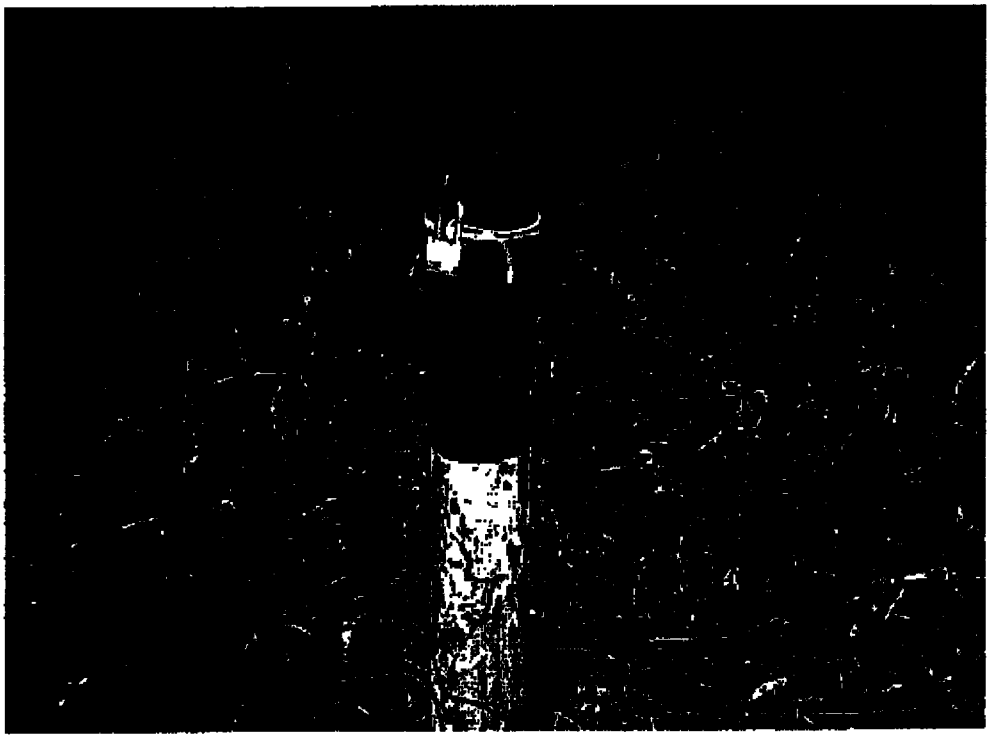
All results in ug/l
-* Not Sampled
D Identified at a Secondary Dilution Factor
U Compound Not Detected at Detection Limit
ER Identified Concentration Exceeding the Calibration Range, Diluted & Re-Analyzed
J Estimated Value
B Compound found in the blank as well

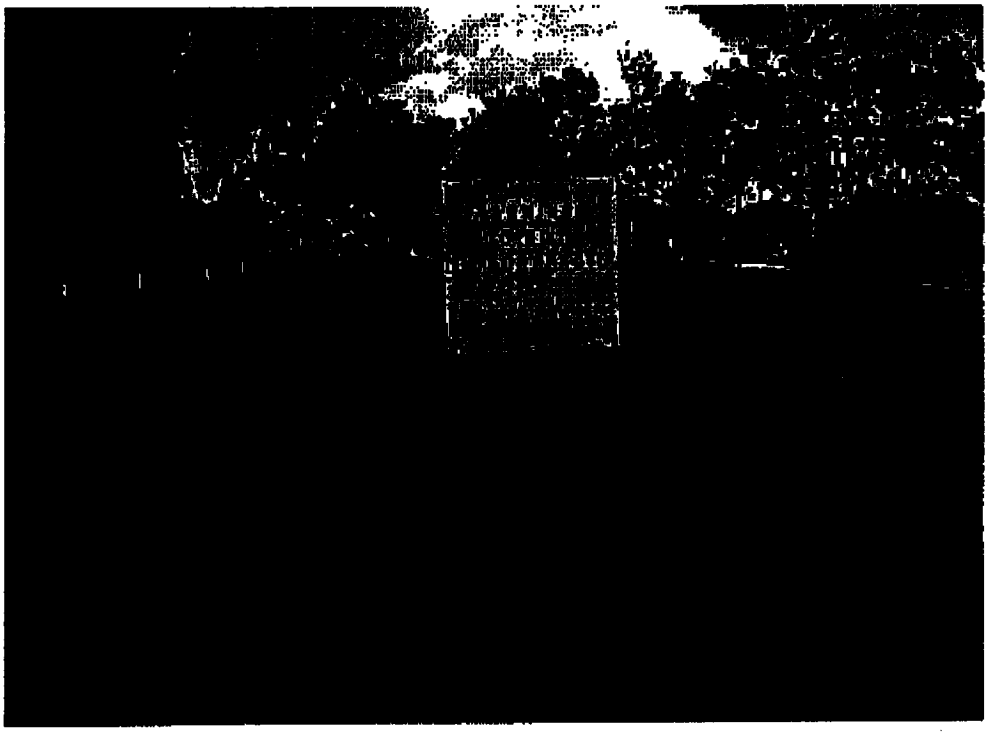
Site Inspection

The EPA Project Manager, Barbara Dick, conducted the Site inspection on April 9, 2003. Participants included the AOC representative mentioned above, Martin McLeod. During the Site visit, EPA and AOC made a careful inspection of the landfill cap. The cap is covered with grass that is mowed and watered regularly. There is no evidence of erosion on the cap and areas around the drainage swales and discharge pipes showed no signs of deterioration due to erosion. Signs reading "Do Not Disturb the Soil" are also clearly posted around the landfill cap area. Monitoring wells are securely locked and remain in good repair. The identification markings on the well casings are clearly visible and correspond with map locations. (See photos on page 10.)

Interviews

The EPA Project Manager interviewed Mr. McLeod during the Site visit on April 9, 2003. He verified that no major problems have occurred at the Site during the third Five-Year Review period. Mr. McLeod explained the steps AOC takes to maintain the cap as an effective





remedial barrier action. These steps include re-seeding bare spots on the cap when necessary, controlling fire-ant mounds on the cap and keeping all monitoring wells accessible.

VII. Technical Assessment

Whether the Remedy Is Effective and Functioning as Designed

The review of documents and ARARs, and the results of the Site inspection indicate that the remedy is functioning as intended by the ROD. The capping of the unlined pond and construction of the drainage system has achieved the remedial objectives to minimize the migration of contaminants to groundwater and surface water. The groundwater monitoring verifies that the groundwater migration pathway is no longer a pathway of concern. The institutional controls for deed restriction will preserve the effectiveness of the remedy in the future. Operations and maintenance of the cap and drainage structures has been effective and monitoring wells have maintained their integrity.

Whether the Exposure Assumptions, Toxicity Data, Cleanup Levels, and Remedial Action Objectives (RAOs) used at the time of the Remedy Selection are Still Valid

There have been no changes in the physical conditions of the Site that would affect the protectiveness of the cap. The First Five-Year Review noted the change in one of the ARARs mentioned in the ROD, the National Safe Drinking Water Act. The Act provides the MCLs for which water samples are judged for compliance. The ROD cited Recommended MCLs for the three contaminants of concern that were available at that time. Since that time, EPA has established MCLs and MCL Goals for each of the contaminants. While the MCL modifications for ethylbenzene and styrene have been slight (680 ug/l to 700 ug/l and 140 ug/l to 100 ug/l, respectively), the Recommended MCL of xylene was 440 ug/l and the current xylene MCL is 10,000 ug/l.

The Second Five-Year Review noted the change in another ARAR listed in the ROD, Chapter 17-3 of the Florida Administrative Code. According to the Florida DEP. Water Quality Standards, previously included in Chapter 17-3, now are listed in Chapter 62-520. Relevant standards are also listed in 62-550, - 770, - 785. The changes of interest applicable to the Site are the addition of secondary MCL standards within the Florida Drinking Water Standards. Two of the three contaminants of concern have secondary standards: ethylbenzene (30 ug/l) and xylene (20 ug/l).

These changes in ARARs do not affect the protectiveness of the remedy. The primary standards determine protectiveness of human health and the environment. Groundwater sampling at the Site continues to demonstrate that levels of contaminants are below primary MCLs.

Lastly, there has been no change to the exposure assumptions or other factors that would

affect the risk assessment methodology used at the time of the ROD. The remedy is acting as designed and the groundwater is no longer contaminated.

Other Information Affecting the Protectiveness of the Remedy

There is no other information that calls into question the protectiveness of the remedy.

Technical Assessment Summary

According to the data reviewed, the Site inspection, and the interviews, the remedy is functioning as intended by the ROD. There have been no changes in the physical conditions of the Site that would affect the protectiveness of the remedy. ARARs cited in the ROD have been met. There have been no changes, in the factors used in the risk assessment methodology that could affect the protectiveness of the remedy. There is no other information that calls into question the protectiveness of the remedy.

VIII. Issues

No issues were identified during the technical assessment or the other Five-Year Reviews. Reviewers consistently note the conscientious attitude of AOC personnel in performing O&M activities at the site. AQC personnel continue to demonstrate their recognition of the importance of the remedy.

IX. Recommendations and Follow-up Actions

Based on the results of the groundwater samples collected in the past 15 Years, AOC should be allowed to discontinue groundwater monitoring at the site. Concentrations of the three contaminants have significantly decreased sine the remedy was installed and they have remained below MCLs. The evidence presented in this report and the other Five-Year Review Reports strongly support the elimination of future groundwater monitoring. O&M of the cap should continue, with attention given to maintenance of the drainage swales.

X. Protectiveness Statement(s)

The remedy for the Alpha Chemical Corporation Site is protective of human health and the environment. Exposure pathways that could result in unacceptable risks are being controlled.

XI. Next Review

Because of the remedy selection in the ROD, the Five-Year Review is a statutory requirement. The next Five-Year Review for the Alpha Chemical Corporation Site is due in five years or by July 2008.

COMPUCHEM

a division of Liberty Analytical Corp.

April 21, 2003

MARTY MCLEOD
AOC
4620 NORTH GALLAWAY STREET
LAKELAND, FL 33810

Subject:
Report of Data – Project: AOC Quote #: Q1438 SDG #: R1438

Attn.: MARTY MCLEOD

Enclosed are the results of analytical work performed in accordance with the referenced account number.

This report covers sample(s) appearing on the attached listing.

Thank you for selecting CompuChem for your sample analysis. If you should have questions or require additional analytical services, please contact your representative at 1-800-833-5097.

Sincerely,

Marlene J. Swift

CompuChem
A Division of Liberty Analytical

Attachment

TOTAL NUMBER
OF PAGES 289

501 Madison Avenue □ Cary, N.C. 27513 □ Tel: 919-379-4100 □ Fax: 919-379-4050

SAMPLENUM	CLIENTID	QUOTENUMREF	LOGINNUM	MATNUM	ACCTNUM	PROJECTNUM	RECEIVEDATE
R1438-11	AC-102	Q1438	R1438	WA	AOC	AOC	4/10/03
R1438-6	AC 105	Q1438	R1438	WA	AOC	AOC	4/9/03
R1438-12	AC 106	Q1438	R1438	WA	AOC	AOC	4/10/03
R1438-7	AC-107	Q1438	R1438	WA	AOC	AOC	4/9/03
R1438-8	EQUIP BLANK	Q1438	R1438	WA	AOC	AOC	4/9/03
R1438-13	EQUIP BLANK04-09	Q1438	R1438	WA	AOC	AOC	4/10/03
R1438-14	FIELD BLANK	Q1438	R1438	WA	AOC	AOC	4/10/03
R1438-9	FIELD BLANK	Q1438	R1438	WA	AOC	AOC	4/9/03
R1438-5	SP-2	Q1438	R1438	WA	AOC	AOC	4/9/03
R1438-4	SP-6	Q1438	R1438	WA	AOC	AOC	4/9/03
R1438-3	SP-7	Q1438	R1438	WA	AOC	AOC	4/9/03
R1438-2	SP-8	Q1438	R1438	WA	AOC	AOC	4/9/03
R1438-1	SP-9	Q1438	R1438	WA	AOC	AOC	4/9/03
R1438-10	TRIP BLANK	Q1438	R1438	WA	AOC	AOC	4/9/03
R1438-15	TRIP BLANK04-09	Q1438	R1438	WA	AOC	AOC	4/10/03

CompuChem, a Division of Liberty Analytical Corporation

I. SAMPLE DATA PACKAGE

DOCUMENT OLC03.2

The sample data package shall include data for all analyses of all samples in one Sample Delivery Group (SDG), including field samples, dilutions, reanalyses, and Laboratory Control Samples. The sample data package consists of the following:

A. SDG Narrative

B. Traffic Reports

C. Volatiles Data

D. Semivolatiles Data

E. Pesticide / Aroclor Data

LAB CODE : LIBRTY

CONTRACT # : 68W01043 - OLC03-Rev5

CASE # : _____

SDG # : R1438

A. SDG Narrative

CompuChem
a division of Liberty Analytical Corporation
501 Madison Avenue
Cary, N.C. 27513
Tel: 919/379-4100 Fax: 919/379-4050

SDG NARRATIVE
SDG #R1438
CONTRACT # OLC03-REVS

SAMPLE IDENTIFICATIONS: SP-9 SP-8 SP-7 SP-6 SP-2 AC-105 AC-107 EQUIP BLANK FIELD BLANK TRIP BLANK AC-102 AC-106 EQUIP BLANK04-09 FIELD BLANK(received 4-10) TRIP BLANK04-09

The fifteen water samples listed above were received intact, at 2.2, and 2.0, degrees C, with proper documentation, in sealed shipping containers on April 09, and 10, 2003. All samples were submitted for volatile only analysis, and were prepared and analyzed following Contract Laboratory Program(CLP) Statement of Work(SOW), document OLC03.2. All pertinent Quality Assurance Notices are included in the narrative section, and all pertinent Laboratory Notices for SDG # R1438 are included in the sample data sections. All pH values were measured at less than 2.0, and a copy of the pH results are included in the narrative section. Analysis holding time requirements were met for all samples.

The example calculation with all relavent formulae are found in a sheet immediately following this narrative.

Target Compound List(TCL) analytes were only identified above the Contract Required Quantitation Limit(CRQL) in AC-106(ethylbenzene, and xylenes).

No Tentatively Identified Compounds(TICs) were searched at the request of the client.

All Bromofluorobenzene (BFB) abundance criteria were met for tunes associated to this SDG. Overall QC criteria were met for the initial, and continuing calibration standard(s) associated to this SDG

The deuterated monitoring compounds (DMCs) met recovery criteria in the analyses of these samples with minimal allowable failures, and all of the internal standards met retention time and response criteria in the analyses of these samples.

The associated method blanks, and storage blank met all quality control criteria, and did not contain any target analytes above the CRQL.

The duplicate matrix spikes generated from AC-105 met the majority of QC precision, and accuracy criteria.

Manual quantitations were performed on some of the process files in the associated initial and continuing calibrations, and in sample AC-105MS. The reasons have been coded with explanations provided in the notice included in the narrative section of this SDG.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Roy Sutton
Case Reviewer
April 21, 2003

SDG #R1438

Example Calculation for the Volatile Fraction

Calculation of RRF

RRF=(Ax*Cis)/Ais *Cx)

Where: Ax=Area of the characteristic ion(EICP) for the compound to be measured
Ais= Area of the chracteristic ion(EICP) for the specific internal standard
Cis= Concentration of the internal standard
Cx=Concentration of the compound to be measured

Example: m-p xylene RRF from CT030409A73(13:57)

Ax=123489
Ais=96165
Cis=125
Cx=125

RRF=(123489*125)/(96165*250)
= 0.6421

Calculation of Concentration:

Concentration(ug/L)= (Ax*Is*Df)/(Ais*RRF*Vo)

Where: Ax= Area of the characteristic ion(EICP) for the compound to be measured
Ais=Area of the characteristic ion(EICP) for the internal standard
Is=Amount of the internal standard added in nanograms
RRF= The relative response factor from the continuing calibration standard
Vo=Total volume of water purged, in milliliters
Df=Dilution factor

Example: Concentration of m-p xylenes in AC-107

Ax= 523
Ais= 70288
Is= 125
RRF= 0.6421
Vo= 25
Df= 1.0

Concentration = (523*125*1.0)/(70288*0.6421*25)
= 0.0579
= 0.058

CompuChem
a Division of Liberty Analytical Corp.

GC/MS VOA Batch Sheet - Water

IP 250/460/462/475/480B/483

Method: OLC3

Batch #: _____

5

SAMPLENUM	CLIENTID	LOGINNUM	pH	Time	Date	INST #	Operator	H/T	Volume	Bottle #	Report	Comments
R1438-2	SP-8	R1438										
R1438-1	SP-9	R1438										
R1438-3	SP-7	R1438										
R1438-4	SP-6	R1438										
R1438-5	SP-2	R1438										
R1438-6	AC-105	R1438										
R1438-7	AC-107	R1438										
R1438-8	EQUIP BLANK	R1438										
R1438-9	FIELD BLANK	R1438										
R1438-10	TRIP BLANK	R1438										
WG23648-1	VBLKZX											
WG23648-2	VBLKZY											
WG23648-3	VBLKZZ											
WG23648-4	PICK											
WG23648-5	PICK											
WG23648-6	VHBLKZX		1	1132	4-17-03	73	2537		25 ml	1		
R1438-11	AC-102	R1438	1	2304	4-16	73	25.3		25 ml	1	~~DI~~ ✓	carbon Dioxide & Non-Target
R1438-12	AC-106	R1438	1	2330						1	~~CS~~ ✓	
R1438-13	EQUIP BLANK04-09	R1438	1	2359						1	~~CS~~ ✓	
R1438-14	FIELD BLANK	R1438	1	0018	4-17					1	✓	
R1438-15	TRIP BLANK04-09	R1438	1	0041						1	✓	
~~110~~	PH								~~3 ml~~			Not NEEDED
~~12~~	4/17/03								~~25 ml~~	PH 4-22-03		
~~1312~~									~~25 ml~~			

MC 4/18/03

HT 4/20/03

Due 4/21/03

Closed
(ethylbenzene, xylene, styrene only)

6/27/01.rmh

CompuChem
a Division of Liberty Analytical Corp

GC/MS VOA Batch Sheet - Water

IP 250/460/462/475/480B/483

Method: 8260

Batch #: __ _____

SAMPLENUM	CLIENTID	LOGINNUM	pH	Time	Date	INST #	Operator	H/T	Volume	Bottle #	Report	Comments
R1438-2	SP-8	R1438		1152	4/10	73	2537		25ml	1	SH	
R1438-1	SP-9	R1438		1132						1	SH	
R1438-3	SP-7	R1438		1220								
R1438-4	SP-6	R1438		1244						1	SH	
R1438-5	SP-2	R1438		[illegible]	4-9	73	2537		25ml	1		
R1438-6	AC-105	R1438		[illegible]						1		
R1438-7	AC-107	R1438		[illegible]								
R1438-8	EQUIP BLANK	R1438		[illegible]								
R1438-9	FIELD BLANK	R1438		[illegible]								
R1438-10	TRIP BLANK	R1438		[illegible]	4-9	73	2537		25ml	1		
WG23648-1	VBLKZX											
WG23648-2	VBLKZY											
WG23648-3	VBLKZZ											
WG23648-4	PICK AC-105MS			1044	4-10	73	2537		25ml	2		
WG23648-5	PICK AC-105MSD			1108	1	1	1		1	3		
WG23648-6	WAIT											
R1438-11				1303	4-10	73	2537		25ml	2		
-12				1316	4-10	73	2537		25ml	2		

HT 4/19/03

Due 4/21/03

6/27/01.mh

COMPUCHEM

Work Group Report (wk02)

09-APR-03 04:59 PM

Work Group: WG23648

Department: 435 MS/VOA ANALYSIS **Created:** 09-APR-03

Sample	Client ID	Product	Matrix	RecvDate	Bottle#	Lab Information
R1438-1	SP-9	VOA-OLC03.2	Water	09-APR-03		
R1438-10	TRIP BLANK	VOA-OLC03.2	Water	09-APR-03		
R1438-2	SP-8	VOA-OLC03.2	Water	09-APR-03		
R1438-3	SP-7	VOA-OLC03.2	Water	09-APR-03		
R1438-4	SP-6	VOA-OLC03.2	Water	09-APR-03		
R1438-5	SP-2	VOA-OLC03.2	Water	09-APR-03		
R1438-6	AC-105	VOA-OLC03.2	Water	09-APR-03		
R1438-7	AC-107	VOA-OLC03.2	Water	09-APR-03		
R1438-8	EQUIP BLANK	VOA-OLC03.2	Water	09-APR-03		
R1438-9	FIELD BLANK	VOA-OLC03.2	Water	09-APR-03		
WG23648-1	VBLKZX	VOA-OLC03.2	Water	09-APR-03		
WG23648-2	VBLKZY	VOA-OLC03.2	Water	09-APR-03		
WG23648-3	VBLKZZ	VOA-OLC03.2	Water	09-APR-03		
WG23648-4	PICK	VOA-OLC03.2	Water	09-APR-03		
WG23648-5	PICK	VOA-OLC03.2	Water	09-APR-03		
WG23648-6	WAIT	VOA-OLC03.2	Water	09-APR-03		

Comments:

R1438-1	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-10	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-2	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-3	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-4	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-5	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-6	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-7	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-8	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-9	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**

Internal Chain of Custody

Relinquished By	[illegible]	Date		Received By		Date		Reason	
Relinquished By		Date		Received By	[illegible]	Date		Reason	
Relinquished By	[illegible]	Date	4-10-03	Received By	[illegible]	Date	11 45	Reason	[illegible]
Relinquished By	[illegible]	Date	1	Received By	[illegible]	Date	1600	Reason	[illegible]
Relinquished By		Date		Received By		Date		Reason	
Relinquished By		Date		Received By		Date		Reason	
Relinquished By		Date		Received By		Date		Reason	
Relinquished By		Date		Received By		Date		Reason	

[illegible]

[illegible]

COMPUCHEM

Work Group Report (wk02)

11-APR-03 05:08 PM

Work Group: WG23648

Department: 435 MS/VOA ANALYSIS **Created:** 09-APR-03

Sample	Client ID	Product	Matrix	RecvDate	Bottle#	Lab Information
R1438-1	SP-9	VOA-OLC03.2	Water	09-APR-03		
R1438-10	TRIP BLANK	VOA-OLC03.2	Water	09-APR-03		
R1438-11	AC-102	VOA-OLC03.2	Water	10-APR-03		
R1438-12	AC-106	VOA-OLC03.2	Water	10-APR-03		
R1438-13	EQUIP BLANK04-09	VOA-OLC03.2	Water	10-APR-03		
R1438-14	FIELD BLANK	VOA-OLC03.2	Water	10-APR-03		
R1438-15	TRIP BLANK04-09	VOA-OLC03.2	Water	10-APR-03		
R1438-2	SP-8	VOA-OLC03.2	Water	09-APR-03		
R1438-3	SP-7	VOA-OLC03.2	Water	09-APR-03		
R1438-4	SP-6	VOA-OLC03.2	Water	09-APR-03		
R1438-5	SP-2	VOA-OLC03.2	Water	09-APR-03		
R1438-6	AC-105	VOA-OLC03.2	Water	09-APR-03		
R1438-7	AC-107	VOA-OLC03.2	Water	09-APR-03		
R1438-8	EQUIP BLANK	VOA-OLC03.2	Water	09-APR-03		
R1438-9	FIELD BLANK	VOA-OLC03.2	Water	09-APR-03		
WG23648-1	VBLKZX	VOA-OLC03.2	Water	09-APR-03		
WG23648-2	VBLKZY	VOA-OLC03.2	Water	09-APR-03		
WG23648-3	VBLKZZ	VOA-OLC03.2	Water	09-APR-03		
WG23648-4	PICK	VOA-OLC03.2	Water	09-APR-03		
WG23648-5	PICK	VOA-OLC03.2	Water	09-APR-03		
WG23648-6	VHBLKZX	VOA-OLC03.2	Water	09-APR-03		

Comments:

R1438-1	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-10	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-11	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-12	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-13	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-14	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-15	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-2	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-3	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-4	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-5	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-6	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-7	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-8	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
R1438-9	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**

COMPUCHEM

Work Group Report (wk02)

11-APR-03 05:08 PM

Work Group: WG23648

Department: 435 MS/VOA ANALYSIS

Created: 09-APR-03

Sample	Client ID	Product	Matrix	RecvDate	Bottle#	Lab Information

Internal Chain of Custody

Relinquished By	[illegible]	Date 4-7-6	Received By	KC	Date [illegible]	Reason [illegible]
Relinquished By	KC	Date 4-7-6	Received By	[illegible]	Date [illegible]	Reason [illegible]
Relinquished By	[illegible]	Date 4-11-03	Received By	[illegible]	Date 1100	Reason
Relinquished By	[illegible]	Date —	Received By	[illegible]	Date 1120	Reason
Relinquished By		Date	Received By		Date	Reason
Relinquished By		Date	Received By		Date	Reason
Relinquished By		Date	Received By		Date	Reason
Relinquished By		Date	Received By		Date	Reason

7N

GC and GC/MS Column and Trap Specifications Table

COLUMNS

Brand Name	Coating Material	ID (mm)	Film Thickness (um)	Length (m)
GC Laboratory				
Restek	RTX-1701	0.53	0.5	30
J & W	DB-608	0.53	0.83	30
Restek	CLPesticides	0.53	0.5	30
Restek	CLPesticides II	0.53	0.42	30
GC Volatiles Laboratory				
Restek	RTX-1	0.53	0.5	105
Restek	RTX-502.2	0.53	0.5	105
GC/MS Volatiles Laboratory				
J & W	DB-624	0.53	3.0	30/75
J & W	DB-624	0.25	1.4	60
J & W	DB-624	0.32	1.8	60
Restek	RTX-624	0.32	1.8	60
Restek	RTX-VMS*	0.18	1.0	20
Supelco	SPB-624	0.32	1.4	60
Supelco	Equity™-624	0.53	3.0	75
Zebron	ZB-624	0.32	1.8	60
GC/MS Semivolatiles Laboratory				
Restek	RTX-5MS	0.25	0.25	30
Restek	RTX-5MS	0.32	0.25	30
HPLC Laboratory				
Supelco	Supelcosil LC-PAH	4.6	5.0	15 cm
Supelco	Discovery RP Amide C16	4.6	5.0	25 cm
Restek	Pinnacle Cyano	4.6	5.0	25 cm
Restek	Allure C18	4.6	5.0	25 cm

*Note: The RTX-VMS column is currently not used for EPA CLP analyses.

TRAPS

GC and GC/MS Volatiles Laboratory	
Tekmar 3	* 8 cm of 2,6-diphenylene oxide polymer (Tenax) * 8 cm of silica gel * 7 cm of coconut charcoal * 0.5 cm of silanized glass wool at each end
Tekmar 5	* 1 cm of methyl silicone packing (OV-1 coating) * 8 cm of 2,6-diphenylene oxide polymer (Tenax) * 8 cm of silica gel * 7 cm of coconut charcoal * 0.5 cm of silanized glass wool at each end
Supelco K (Vocarb3000)	* 10 cm of Carbopack B (Graphitized Carbons) * 5 cm of Carboxen 1000 (Carbon molecular sieves) * 1 cm of Carboxen 1001 (Carbon molecular sieves)

Notification Regarding Manual Editing/Integration Flags

In some instances, manual adjustments to the software output are necessary to provide accurate data. These manual integrations are performed by the data reviewers, GC/MS operators, or GC chemists. An Extracted Ion Current Profile (EICP) or a GC chromatographic peak has been provided for the manual integration performed on each compound to demonstrate the accuracy of that process. The manual integrations are flagged on the quantitation report in the far right column beyond the FINAL concentration for GC/MS analysis, and in the "Flags" column for GC analysis. The manual editing/integration flags are:

M - Denotes that a manual integration has been performed for this compound. The manual integration was performed in order to provide the most accurate area count possible for the peak.

H - Denotes that the data reviewer, GC/MS operator, or GC Chemist has chosen an alternate peak within the retention time window from that chosen by the software for that compound. No manual integration is performed in choosing an alternate peak. The software still performs the integration.

MH - Denotes that an alternate peak has been chosen within the retention time window from that chosen by the software for that compound and also a manual integration of the chosen peak has been performed. The manual integration was performed in order to provide the most accurate area count possible for the peak.

L - Denotes that a data reviewer or GC/MS operator has selected an alternate library search. This is typically done when an additional tentatively identified compound (TIC) has been added to the number of peaks searched. No manual integration is performed in choosing an alternate peak. The software still performs the integration.

ML - Denotes that an alternate library search has been selected and a manual integration has also been performed. This is typically done when an additional TIC has been added and the TIC peak also required a manual integration.

The EPA CLP SOW documents require additional explanations for manual editing/integration. In the accompanying raw data packages, additional codes have been applied to the "M" flag and carry the following meanings:

M1 - The compound was not found by the automatic integration routine.

M2 - The compound was incorrectly integrated by the automatic integration routine.

M3 - The co-eluting compounds were incorrectly integrated by the automatic integration routine.

These codes will appear in the GC/MS and GC data packages.

Robert E. Meierer

Robert E. Meierer
Vice President

DATA REPORTING QUALIFIERS

On the Form I, under the column labeled "Q" for qualifier, each result is flagged with the specific data reporting qualifiers listed below, as appropriate. Up to five qualifiers may be reported on Form I for each compound. The qualifiers used are:

U : This flag indicates the compound was analyzed for but not detected. The Contract Required Quantitation Limit (CRQL), or reporting limit, will be adjusted to reflect any dilution and, for soils, the percent moisture.

J : This flag indicates an estimated value. The flag is used as detailed below:

1. When estimating a concentration for tentatively identified compounds (TICs) where a response factor of 1.0 is assumed for the TIC analyte,

2. When the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the CRQL (or Reporting Limit) but greater than zero, and

3. When the retention time data indicate the presence of a compound that meets the pesticide/Aroclor or other GC or HPLC identification criteria, and the result is less than the CRQL (or Reporting Limit) but greater than zero. For example, if the CRQL (or Reporting Limit) is 10 µg/L, but a concentration of 3 µg/L is calculated, it is reported as 3J.

N : This flag indicates presumptive evidence of a compound. This flag is only used for TICs, where the identification is based on a mass spectral library search. For generic characterization of a TIC such as 'chlorinated hydrocarbon', the N flag is not used.

P : In the EPA's Contract Laboratory Program (CLP), this flag is used for a pesticide/Aroclor target analyte, when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a P.
For SW-846 GC and HPLC analyses, when the Relative Percent Difference (RPD) is greater than 40% and there is no evidence of chromatographic anomalies or interferences, then the higher of the two values is reported and flagged with a P. When the RPD is equal to or less than 40%, our policy is to also report the higher of the two values, although the choice could be a project specific issue. For certain HPLC analyses, if one of the HPLC columns displays co-elution of target analytes, all results are reported from a primary column displaying no co-elution. Results are still flagged with a P if the RPD between columns is greater than 40%.

DATA REPORTING QUALIFIERS (continued)

C : This flag applies to GC or HPLC results where the identification has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, this flag is not applied; a laboratory-defined flag is used instead (see the X/Y/Z qualifier.)

B : This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. This flag is used for a TIC as well as for a positively identified target compound. The combination of flags BU or UB is not an allowable policy. Blank contaminants are flagged B only when they are detected in the sample.

E : This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of the calibration range, the sample or extract will be diluted and reanalyzed. All such compounds with a response greater than the upper level of the calibration range will have the concentration flagged with an E on Form I for the original analysis.

D : If a sample or extract is reanalyzed at a higher dilution factor, for example when the concentration of an analyte exceeds the upper calibration range, the DL suffix is appended to the sample number on Form I for the more diluted sample, and **all** reported concentrations on that Form I are flagged with the D flag. This flag alerts data users that any discrepancies between the reported concentrations may be due to dilution of the sample or extract.

NOTE 1: The D flag is not applied to compounds which are not detected in the sample analysis i.e. compounds reported with the CRQL (or Reporting Limit) and the U flag.

NOTE 2: Separate Form Is are used for reporting the original analysis (Client Sample No. XXXXX) and the more diluted sample analysis (Client Sample No. XXXXXDL) i.e. the results from both analyses <u>are not combined</u> on a single Form I.

A : This flag indicates that a TIC is a suspected aldol-condensation product.

X/Y/Z : Other specific flags may be required to properly define the results. If used, the flags will be fully described in the SDG Narrative. The laboratory-defined flags are limited to X, Y and Z.

B. Traffic Reports

The laboratory shall include a copy of the Traffic Reports for all of the samples in the SDG. The Traffic Reports shall be arranged in increasing EPA Sample ID number order, considering both letters and numbers.

COMPUCHEM a Divison of Liberty Analytical
COMMERCIAL RECEIVING LOG

Page 1 of 1

Client: alpha chemical	Rec'd Date: 4/9/03	RPS/RFA
Project: ADC	Courier: UPS	Lab Instructions
Quote: Q1438	Airbill No. A552 129 920 8	1309 Report Styrene, Xylene & Ethylbenzene only.
Login No: R1438		
Subcontract? Y / (N)		
TAT Verbal Report 12-Day		

Cooler Rec'd By: E. Spiller
Sample Login By: Marlene J. Smith
Temperature: 2.2 °C
Cyanide Samples checked for sulfide & chlorine? Y / (NA)
Phenol Samples checked for chlorine? Y / (NA)
Received in Good Condition? (Y) / N
If no, explain:

CompuChem ID	Client ID	QC	Matrix	Date 20 03	Military Time	Parameters: No. & Type (VOA)	pH	No. & Type	pH	No. & Type	pH	No. & Type	pH	No. & Type	pH	No. & Type	pH	No. & Type	pH	No. & Type	pH
QR1438-1	SB-9		WA	04/08	10 42	3:40ml															
2	8				10 23																
3	7				11 20																
4	6				11 48																
5	2				15 55																
6	AC-105				14 55																
7	AC-107				15 20																
8	EQUIP BLANK				09 25																
9	FIELD BLANK				09 35																
10	TRIP BLANK				16 30	1:40ml															

MJS 4.9.03

Container Type Abbreviations: 40ml (40ml Vial) AL(Amber Liter) PL(Plastic Liter) 500P(500mL Plastic) 250P(250mL Plastic) OTHER

rll - 6/28/01 dcc

CompuChem
a division of Liberty Analytical Corp.
501 Madison Avenue
Cary, NC 27513
1-800-833-5097

CHAIN-OF-CUSTODY RECORD

No. 066582

Project Name: AOC (Alpha Chemical)	Client Address: AOC	Point-of-Contact: Martin McLeod
Carrier: UPS	4620 North Galloway Rd	Telephone No.: 863-815-5027
Airbill No.: A1R111	Lakeland, FL 33810	Sampling complete? Y or (N) (see Note 1)
Sampler Name: Martin McLeod	Sampler Signature: [signature]	Project-specific (PS) or Batch (B) QC ? ____

BOX #1	BOX #2	BOX #3	Box #4	Box #5
1. Surface Water	A. HCl + Ice	F. Filtered	H. High	C. CLP 3/90
2. Ground Water	B. HNO3 + Ice	U. Unfiltered	M. Medium	T. TCLP
3. Leachate	C. NaOH + Ice		L. Low	S. SW-846
4. Rinsate	D. H2SO4 + Ice			W. CWA 600-series
5. Soil / Sediment / Sludge	E. Unpreserved			O. Other OLCC.3
6. Trip Blank	F. Ice Only			
7. Oil	G. Other ____			
8. Waste	H. NaHSO4 + Ice			
9. Other Blank	I. ZnAc+NaOH + Ice			

Sample ID (9 characters maximum)	Date: Year 2003	Time	Box #1 Matrix	Box #2 Preservative	Box #3 Filtered / Unfiltered	Box #4 Expected Conc.	Box #5 Method	No. of Bottles	Use for Lab QC (MS or DUP)	VOA	SVOC	Pesticide	PCB	Herbicide	Metals / Mercury	Cyanide	TOC / TOX	O&G / TPH	Remarks / Comments (see Notes 2 & 3)
SP-9	4/8	10:42	2	A	U	L	O	3		✓									Lowest concentration
SP-8	4/8	10:23	2	A	U	L	O	3		✓									Styrene
SP-7	4/8	11:20	2	A	U	L	O	3		✓									Xylene
SP-6	4/8	11:48	2	A	U	L	O	3		✓									Ethylbenzene
SP-2	4/8	15:55	2	A	U	L	O	3		✓									
AC-105	4/8	14:55	2	A	U	L	O	3		✓									
AC-107	4/8	15:20	2	A	U	L	O	3		✓									Marlene Swift
Equip Blank	4/8	9:25	9	A	U	L	O	3		✓									Customer Rep.
Field Blank	4/8	9:35	9	A	U	L	O	3		✓									
Trip Blank	4/8	16:30	6	A	U	L	O	1		✓									

Clients Special Instructions:

Temperature 2.2 °C

Lab: Received in Good Condition? Y or N Describe Problems, If any:

#1 Relinquished By: (Sig) [signature]	Date: 4-8-03	#2 Relinquished By: (Sig)	Date:	#3 Relinquished By: (Sig)	Date:
Company Name: AOC	Time: 17:00	Company Name:	Time:	Company Name:	Time:
#1 Received By: (Sig) UPS	Date: 4-8-03	#2 Received By: (Sig) [signature]	Date: 4/9/03	#3 Received By: (Sig)	Date:
Company Name: UPS	Time: 17:00	Company Name: CompuChem	Time: 0740	Company Name:	Time:

Note (1): If "N" lab will hold samples to await remainder of project-maximizing batch size and minimizing QC ratio; if "Y" lab will begin processing batches now.
Note (2): Samples stored 60 days after date report mailed at no extra charge. Note (3): All lab copies of data destroyed after three years.

COMPUCHEM

Login Chain of Custody Report (In01)

Apr. 09, 2003 *11:48 AM*

Login Number: R1438

Account: AOC AOC

Project: AOC

Case: Q1438

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	PR	Due Date	Comments
R1438-1	SP-9	08-APR-03	09-APR-03	9	21-APR-03	PPS~~XXXX~~ 1309 **REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 19-APR-03	40ml vial	3	Bottles	
R1438-2	SP-8	08-APR-03	09-APR-03	9	21-APR-03	PPS~~XXXX~~ 1309 **REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 19-APR-03	40ml vial	3	Bottles	
R1438-3	SP-7	08-APR-03	09-APR-03	9	21-APR-03	PPS~~XXXX~~ 1309 **REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 19-APR-03	40ml vial	3	Bottles	
R1438-4	SP-6	08-APR-03	09-APR-03	9	21-APR-03	PPS~~XXXX~~ 1309 **REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 19-APR-03	40ml vial	3	Bottles	
R1438-5	SP-2	08-APR-03	09-APR-03	9	21-APR-03	PPS~~XXXX~~ 1309 **REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 19-APR-03	40ml vial	3	Bottles	
R1438-6	AC-105	08-APR-03	09-APR-03	9	21-APR-03	PPS~~XXXX~~ 1309 **REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 19-APR-03	40ml vial	3	Bottles	
R1438-7	AC-107	08-APR-03	09-APR-03	9	21-APR-03	PPS~~XXXX~~ 1309 **REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 19-APR-03	40ml vial	3	Bottles	
R1438-8	EQUIP BLANK	08-APR-03	09-APR-03	9	21-APR-03	PPS~~XXXX~~ 1309 **REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 19-APR-03	40ml vial	3	Bottles	

Signature : Marlene D. Smith

Date : 4.9.03

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COMPUCHEM

Login Chain of Custody Report (In01)

Apr. 09, 2003 *11:48 AM*

Login Number: R1438

Account: AOC AOC

Project: AOC

Q1438

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	PR	Due Date	Comments
R1438-9	FIELD BLANK	08-APR-03	09-APR-03	9	21-APR-03	PPS~~XXXX~~1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 19-APR-03	40ml vial	3	Bottles	
R1438-10	TRIP BLANK	08-APR-03	09-APR-03	9	21-APR-03	PPS~~XXXX~~1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 19-APR-03	40ml vial	1	Bottles	

Signature : Marlene J. Smith

Date : 4.9.03

COMPUCHEM a Divison of Liberty Analytical
COMMERCIAL RECEIVING LOG

Client: ADC	Rec'd Date: 4/10/03	PPS/RFA	
Project: alpha Chemical	Courier: UPS	Lab Instructions	
Quote: Q1438	Airbill No. A552129.922 6	1309 Report only Silyrene, Xylene, Ethylbenzene	
Login No. R1438			
Subcontract? Y / N			
TAT Verbal Report 12-Day			

Cooler Rec'd By: D. Schiller	
Sample Login By: Marlene D. Swift	
Temperature: 2.0 °C	
Cyanide Samples checked for sulfide & chlorine? Y / NA	
Phenol Samples checked for chlorine? Y / NA	
Received in Good Condition? Y / N	
If no, explain:	

Parameters

CompuChem ID	Client ID	QC	Matrix	Date 20 03	Military Time	VOA No. & Type	pH	No. & Type	pH	No. & Type	pH	No. & Type	pH	No. & Type	pH	No. & Type	pH	No. & Type	pH	No. & Type	pH
R1438-11	AC-102		WA	04/09	0853	3:40ml															
12	AC-106				0910																
13	EQUIP BLANK				0810																
14	FIELD BLANK				0820																
15	TRIP BLANK				0930	1.40ml															

mjs 4-10-03

Container Type Abbreviations: 40mL(40mL vial) AL(Amber Liter) PL(Plastic Liter) 500P(500mL Plastic) 250P(250mL Plastic) OTHER

rl - 6/28/01 dcc

CompuChem
a division of Liberty Analytical Corp.
501 Madison Avenue
Cary, NC 27513
1-800-833-5097

CHAIN-OF-CUSTODY RECORD

No. 066583

Project Name: Alpha Chemical	Client Address: ACC	Point-of-Contact: Martin McLeod
Carrier: UPS	4620 North Galloway Rd.	Telephone No.: 863-815-5027
Airbill No.: AIR III	Lakeland, FL 33810	Sampling complete? Y or N (see Note 1)
Sampler Name: Martin McLeod	Sampler Signature: [signature]	Project-specific (PS) or Batch (B) QC ?

BOX #1	BOX #2	BOX #3	Box #4	Box #5
1. Surface Water	A. HCl + Ice	F. Filtered	H. High	C. CLP 3/90
2. Ground Water	B. HNO3 + Ice	U. Unfiltered	M. Medium	T. TCLP
3. Leachate	C. NaOH + Ice		L. Low	S. SW-846
4. Rinsate	D. H2SO4 + Ice			W. CWA 600-series
5. Soil / Sediment / Sludge	E. Unpreserved			O. Other OLCO3
6. Trip Blank	F. Ice Only			
7. Oil	G. Other			
8. Waste	H. NaHSO4 + Ice			
9. Other Blank	I. ZnAc+NaOH + Ice			

Sample ID (9 characters maximum)	Date: Year 2003	Time	Box #1 Matrix	Box #2 Preservative	Box #3 Filtered / Unfiltered	Box #4 Expected Conc.	Box #5 Method	No. of Bottles	Use for Lab QC (MS or DUP)	VOA	SVOC	Pesticide	PCB	Herbicide	Metals / Mercury	Cyanide	TOC / TOX	O&G / TPH	Remarks / Comments (see Notes 2 & 3)
AC-102	4/9	8:53	2	A	U	L	O	3		✓									Lowest concentration
AC-106	4/9	9:10	2	A	U	L	O	3		✓									Styrene
Equip Blank	4/9	8:10	9	A	U	L	O	3		✓									Xylene
Field Blank	4/9	8:20	9	A	U	L	O	3		✓									Ethylbenzene
Trip Blank	4/9	9:30	6	A	U	L	O	1		✓									
	/	:																	
	/	:																	
	/	:																	Marlene Swift
	/	:																	Customer rep.
	/	:																	
	/	:																	

Clients Special Instructions: Temperature 2.0 °C

Lab: Received in Good Condition? Y or N Describe Problems, if any:

#1 Relinquished By: (Sig) [signature]	Date: 4-9-03	#2 Relinquished By: (Sig)	Date:	#3 Relinquished By: (Sig)	Date:
Company Name: ACC	Time: 1:PM	Company Name:	Time:	Company Name:	Time:
#1 Received By: (Sig) UPS	Date: 4-9-03	#2 Received By: (Sig) [signature]	Date: 4/10/03	#3 Received By: (Sig)	Date:
Company Name: UPS	Time: 1:PM	Company Name: CompuChem	Time: 0715	Company Name:	Time:

Note (1): If "N" lab will hold samples to await remainder of project-maximizing batch size and minimizing QC ratio; if "Y" lab will begin processing batches now. Has custody seals on cooler
Note (2): Samples stored 60 days after date report mailed at no extra charge. Note (3): All lab copies of data destroyed after three years.

COMPUCHEM

Login Chain of Custody Report (In01)

Apr. 10, 2003 *09:35 AM*

Login Number: R1438

Account: AOC AOC

Project: AOC

Case: Q1438

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	PR	Due Date	Comments
R1438-1	SP-9	08-APR-03	09-APR-03	9	21-APR-03	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 19-APR-03	40ml vial	3	Bottles	
R1438-2	SP-8	08-APR-03	09-APR-03	9	21-APR-03	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 19-APR-03	40ml vial	3	Bottles	
R1438-3	SP-7	08-APR-03	09-APR-03	9	21-APR-03	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 19-APR-03	40ml vial	3	Bottles	
R1438-4	SP-6	08-APR-03	09-APR-03	9	21-APR-03	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 19-APR-03	40ml vial	3	Bottles	
R1438-5	SP-2	08-APR-03	09-APR-03	9	21-APR-03	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 19-APR-03	40ml vial	3	Bottles	
R1438-6	AC-105	08-APR-03	09-APR-03	9	21-APR-03	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 19-APR-03	40ml vial	3	Bottles	
R1438-7	AC-107	08-APR-03	09-APR-03	9	21-APR-03	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 19-APR-03	40ml vial	3	Bottles	
R1438-8	EQUIP BLANK	08-APR-03	09-APR-03	9	21-APR-03	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 19-APR-03	40ml vial	3	Bottles	

Signature : Marlene L. Smith

Date : 4.10.03

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COMPUCHEM

Login Chain of Custody Report (ln01)

Apr. 10, 2003 *09:35 AM*

Login Number: R1438

Account: AOC AOC

Project: AOC

Q1438

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	PR	Due Date	Comments
R1438-9	FIELD BLANK	08-APR-03	09-APR-03	9	21-APR-03	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 19-APR-03	40ml vial	3	Bottles	
R1438-10	TRIP BLANK	08-APR-03	09-APR-03	9	21-APR-03	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 19-APR-03	40ml vial	1	Bottles	
R1438-11	AC-102	09-APR-03	10-APR-03	9	22-APR-03	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 20 APR-03	40ml vial	3	Bottles	
R1438-12	AC-106	09-APR-03	10-APR-03	9	22-APR-03	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 20-APR-03	40ml vial	3	Bottles	
R1438-13	EQUIP BLANK04-09	09-APR-03	10-APR-03	9	22-APR-03	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 20-APR-03	40ml vial	3	Bottles	
R1438-14	FIELD BLANK	09-APR-03	10-APR-03	9	22-APR-03	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 20-APR-03	40ml vial	3	Bottles	
R1438-15	TRIP BLANK04-09	09-APR-03	10-APR-03	9	22-APR-03	PPS1309**REPORT STYRENE XYLENE AND ETHYLBENZENE ONLY BY OLC03**OK TO PICK QC**
Water	S VOA-OLC03.2	Hold: 20-APR-03	40ml vial	1	Bottles	

Signature : Marlene J. Smith

Date : 4-10-03 20

C. Volatiles Data

1. Q C Summary
2. Sample Data
3. Standards Data
4. Raw Q C Data

LAB CODE : LIBRTY

CONTRACT # : 68W01063 OCC03.RQS

CASE # : _____

SDG # : R1438

1. Volatiles Q C Summary

a. Deuterated Monitoring Compound Recovery
(Form II LCV-1, LCV-2)

b. Matrix Spike/Matrix Spike Duplicate Recovery
(Form III LCV)

c. Method Blank Summary
(Form IV LCV)

d. GC/MS Instrument Performance Check
(Form V LCV)

e. Internal Standard Area and RT Summary
(Form VIII LCV)

a. Deuterated Monitoring Compound Recovery
(Form II LCV-1, LCV-2)

2LCA

LOW CONCENTRATION WATER VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

	EPA SAMPLE NO.	VDMC1 (VCL)#	VDMC2 (CLA)#	VDMC3 (DCE)#	VDMC4 (BUT)#	VDMC5 (CLF)#	VDMC6 (DCA)#	VDMC7 (BEN)#
01	VBLKXP	90	96	76	94	92	96	104
02	TRIP BLANK	76	96	68	56	102	102	106
03	FIELD BLANK	68	92	64*	90	98	108	96
04	EQUIP BLANK	74	102	70	102	102	118	96
05	AC-107	36*	70	50*	82	90	98	82
06	AC-105	34*	62	46*	86	94	102	82
07	SP-2	36*	66	48*	96	96	114	82
08	VBLKZX	90	94	74	86	92	94	96
09	AC-105MS	98	106	118	64	96	96	104
10	AC-105MSD	94	108	116	76	98	104	94
11	SP-8	102	106	84	80	100	102	96
12	SP-7	114	116	82	98	106	114	102
13	SP-9	108	106	80	76	96	98	96
14	SP-6	118	118	84	72	98	98	94
15	VBLKBW	98	98	82	78	96	98	110
16	AC-102	110	102	84	82	100	100	108
17	AC-106	112	102	78	78	98	102	116
18	EQUIP BLANK04-0	118	104	86	84	102	106	122*
19	FIELD BLANK	108	106	80	86	104	108	112
20	TRIP BLANK04-09	104	98	80	82	102	100	104
21	VBLKCO	96	104	84	80	98	94	102
22	VHBLKZO	92	92	80	80	92	90	102
23								
24								
25								
26								
27								
28								
29								
30								

			QC LIMITS
VDMC1	(VCL)	= Vinyl Chloride-d3	(49-138)
VDMC2	(CLA)	= Chloroethane-d5	(60-126)
VDMC3	(DCE)	= 1,1-Dichloroethene-d2	(65-130)
VDMC4	(BUT)	= 2-Butanone-d5	(42-171)
VDMC5	(CLF)	= Chloroform-d	(80-123)
VDMC6	(DCA)	= 1,2-dichloroethane-d4	(78-129)
VDMC7	(BEN)	= Benzene-d6	(78-121)

Column to be used to flag recovery values
* Values outside of contract required QC limits

2LCB

LOW CONCENTRATION WATER VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

	EPA SAMPLE NO.	VDMC8 (DPA) #	VDMC9 (TOL) #	VDMC10 (TDP) #	VDMC11 (HEX) #	VDMC12 (BRF) #	VDMC13 (TCA) #	VDMC14 (DCZ) #	TOT OUT
01	VBLKXP	90	98	90	80	92	92	98	0
02	TRIP BLANK	96	96	80	9*	82	78	102	1
03	FIELD BLANK	96	90	82	36*	98	110	106	2
04	EQUIP BLANK	102	90	96	56	100	114	104	0
05	AC-107	88	88	82	42	90	98	100	2
06	AC-105	90	80	88	62	88	114	94	2
07	SP-2	86	84	88	58	106	110	108	2
08	VBLKZX	88	96	86	68	86	86	102	0
09	AC-105MS	92	100	82	30*	82	78	100	1
10	AC-105MSD	90	90	90	36*	84	92	104	1
11	SP-8	92	94	82	54	78	84	98	0
12	SP-7	100	94	94	58	92	96	100	0
13	SP-9	94	82	78*	46	84	84	96	1
14	SP-6	92	86	74*	32*	78	80	90	2
15	VBLKBW	100	110	92	58	94	94	108	0
16	AC-102	108	116	108	58	112	114	108	0
17	AC-106	114	120	116	88	112	116	114	0
18	EQUIP BLANK04-0	110	122*	104	56	106	116	112	2
19	FIELD BLANK	102	114	108	70	104	110	106	0
20	TRIP BLANK04-09	104	110	110	66	104	114	110	0
21	VBLKCO	94	104	94	66	92	92	102	0
22	VHBLKZO	94	108	94	76	90	92	108	0
23									
24									
25									
26									
27									
28									
29									
30									

			QC LIMITS
VDMC8	(DPA)	= 1,2-Dichloropropane-d6	(84-123)
VDMC9	(TOL)	= Toluene d8	(77-120)
VDMC10	(TDP)	= trans-1,3-Dichloropropene d4	(80-128)
VDMC11	(HEX)	= 2-Hexanone-d5	(37-169)
VDMC12	(BRF)	= Bromoform-d	(76-135)
VDMC13	(TCA)	= 1,1,2,2-Tetrachloroethane-d2	(75-131)
VDMC14	(DCZ)	= 1,2-Dichlorobenzene-d4	(50-150)

Column to be used to flag recovery values
* Values outside of contract required QC limits

b. Matrix Spike/Matrix Spike Duplicate Recovery (Form III LCV)

BLCA
LOW CONCENTRATION WATER VOLATILE
MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Matrix Spike - EPA Sample No.: AC-105

COMPOUND	SPIKE ADDED (UG/L)	SAMPLE CONCENTRATION (UG/L)	MS CONCENTRATION (UG/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	5.0	0.0	6.7	134	61-145
Benzene	5.0	0.0	6.0	120	76-127
Trichloroethene	5.0	0.087	6.5	128*	71-120
Toluene	5.0	0.26	5.8	111	76-125
Chlorobenzene	5.0	0.0	5.3	106	75-130

COMPOUND	SPIKE ADDED (UG/L)	MSD CONCENTRATION (UG/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	5.0	6.7	134	0	14	61-145
Benzene	5.0	5.8	116	3	11	76-127
Trichloroethene	5.0	6.0	118	8	14	71-120
Toluene	5.0	5.2	99	11	13	76-125
Chlorobenzene	5.0	5.2	104	2	13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 1 out of 10 outside limits

COMMENTS:

c. Method Blank Summary (Form IV LCV)

If more than a single form is necessary, forms shall be arranged in chronological order by date of analysis of the blanks and by instrument.

4LCA
LOW CONCENTRATION WATER
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKXP

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: WG23594-1 Date Analyzed: 04/09/2003

Lab File ID: WG23594-1A73 Time Analyzed: 1433

Instrument ID: 5972HP73

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLE ANALYSES:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	TRIP BLANK	R1483-10	R1438-10A73	2054
02	FIELD BLANK	R1483-9	R1438-9A73	2118
03	EQUIP BLANK	R1483-8	R1438-8A73	2142
04	AC-107	R1483-7	R1438-7A73	2206
05	AC-105	R1483-6	R1438-6A73	2230
06	SP-2	R1483-5	R1438-5A73	2254
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COMMENTS:

4LCA
LOW CONCENTRATION WATER
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKZX

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: WG23648-1 Date Analyzed: 04/10/2003

Lab File ID: WG23648-1A73 Time Analyzed: 0900

Instrument ID: 5972HP73

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLE ANALYSES:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	AC-105MS	WG23648-4	WG23648-4A73	1044
02	AC-105MSD	WG23648-5	WG23648-5A73	1108
03	SP-8	R1438-2	R1438-2A73	1156
04	SP-7	R1438-3	R1438-3A73	1220
05	SP-9	R1438-1	R1438-1RA73	1308
06	SP-6	R1438-4	R1438-4RA73	1516
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COMMENTS:

FORM IV LCV OLC03.2

4LCA
LOW CONCENTRATION WATER
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKBW

Lab Name: COMPUCHEM Contract: OLC03 REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: WG23726-1 Date Analyzed: 04/16/2003

Lab File ID: WG23726-1B73R Time Analyzed: 2031

Instrument ID: 5972HP73

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLE ANALYSES:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	AC-102	R1438-11	R1438-11B73	2307
02	AC-106	R1438-12	R1438-12B73	2330
03	EQUIP BLANK0	R1438-13	R1438-13B73	2354
04	FIELD BLANK	R1438-14	R1438-14B73	0018
05	TRIP BLANK04	R1438-15	R1438-15B73	0041
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COMMENTS:

FORM IV LCV OLC03.2

4LCA
LOW CONCENTRATION WATER
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKCO

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: WG23737-1 Date Analyzed: 04/17/2003

Lab File ID: WG23737-1A73R Time Analyzed: 0859

Instrument ID: 5972HP73

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLE ANALYSES:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VHBLKZO	WG23631-6	WG23631-6R2A	1132
02				
03				
04				
05				
06				
07				
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COMMENTS:

d. GC/MS Instrument Performance Check (Form V LCV)

If more than a single form is necessary, forms shall be arranged in chronological order, by instrument.

5LCA

LOW CONCENTRATION WATER VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab File ID: BF030408A73 BFB Injection Date: 04/08/2003

Instrument ID: 5972HP73 BFB Injection Time: 0750

GC Column: ZB-624 ID: 0.32(MM) Column Length: 60.0

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	14.9
75	30.0 - 66.0% of mass 95	38.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	84.4
175	4.0 - 9.0% of mass 174	5.8 (6.9)1
176	93.0 - 101.0% of mass 174	84.8 (100.5)1
177	5.0 - 9.0% of mass 176	5.7 (6.7)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD005FA	VSTD005FA	CS030408A73	04/08/2003	0825
02	VSTD001FA	VSTD001FA	CT030408A73	04/08/2003	0905
03	VSTD0.5FA	VSTD0.5FA	CU030408A73	04/08/2003	0941
04	VSTD010FA	VSTD010FA	CW030408A73	04/08/2003	1045
05	VSTD025FA	VSTD025FA	CX030408A73	04/08/2003	1108
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5LCA
LOW CONCENTRATION WATER VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab File ID: BF030409A73 BFB Injection Date: 04/09/2003

Instrument ID: 5972HP73 BFB Injection Time: 1226

GC Column: ZB-624 ID: 0.32(MM) Column Length: 60.0

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	19.2
75	30.0 - 66.0% of mass 95	44.0
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.0
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	78.1
175	4.0 - 9.0% of mass 174	5.4 (7.0)1
176	93.0 - 101.0% of mass 174	75.5 (96.7)1
177	5.0 - 9.0% of mass 176	4.9 (6.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD005FF	VSTD005FF	CT030409A73	04/09/2003	1357
02	VBLKXP	WG23594-1	WG23594-1A73	04/09/2003	1433
03	TRIP BLANK	R1483-10	R1438-10A73	04/09/2003	2054
04	FIELD BLANK	R1483-9	R1438-9A73	04/09/2003	2118
05	EQUIP BLANK	R1483-8	R1438-8A73	04/09/2003	2142
06	AC-107	R1483-7	R1438-7A73	04/09/2003	2206
07	AC-105	R1483-6	R1438-6A73	04/09/2003	2230
08	SP-2	R1483-5	R1438-5A73	04/09/2003	2254
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FORM V LCV OLC03.2

5LCA
LOW CONCENTRATION WATER VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab File ID: BF030410A73 BFB Injection Date: 04/10/2003

Instrument ID: 5972HP73 BFB Injection Time: 0753

GC Column: ZB-624 ID: 0.32(MM) Column Length: 60.0

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	17.6
75	30.0 - 66.0% of mass 95	42.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	80.3
175	4.0 - 9.0% of mass 174	5.6 (7.0)1
176	93.0 - 101.0% of mass 174	77.5 (96.5)1
177	5.0 - 9.0% of mass 176	5.1 (6.6)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD005FH	VSTD005FH	CS030410A73	04/10/2003	0821
02	VBLKZX	WG23648-1	WG23648-1A73	04/10/2003	0900
03	AC-105MS	WG23648-4	WG23648-4A73	04/10/2003	1044
04	AC-105MSD	WG23648-5	WG23648-5A73	04/10/2003	1108
05	SP-8	R1438-2	R1438-2A73	04/10/2003	1156
06	SP-7	R1438-3	R1438-3A73	04/10/2003	1220
07	SP-9	R1438-1	R1438-1RA73	04/10/2003	1308
08	SP-6	R1438-4	R1438-4RA73	04/10/2003	1516
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FORM V LCV OLC03.2

5LCA
LOW CONCENTRATION WATER VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab File ID: BF030416A73 BFB Injection Date: 04/16/2003

Instrument ID: 5972HP73 BFB Injection Time: 0834

GC Column: ZB-624 ID: 0.32(MM) Column Length: 60.0

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	11.2
75	30.0 - 66.0% of mass 95	36.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	73.9
175	4.0 - 9.0% of mass 174	5.4 (7.3)1
176	93.0 - 101.0% of mass 174	71.2 (96.4)1
177	5.0 9.0% of mass 176	4.5 (6.3)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0.5FV	VSTD0.5FV	CS030416A73	04/16/2003	0918
02	VSTD005FV	VSTD005FV	CV030416A73	04/16/2003	1052
03	VSTD010FV	VSTD010FV	CW030416A73	04/16/2003	1122
04	VSTD025FV	VSTD025FV	CX030416A73	04/16/2003	1155
05	VSTD001FV	VSTD001FV	CY030416A73	04/16/2003	1300
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FORM V LCV OLC03.2

5LCA
LOW CONCENTRATION WATER VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab File ID: BF030416B73 BFB Injection Date: 04/16/2003

Instrument ID: 5972HP73 BFB Injection Time: 1942

GC Column: ZB-624 ID: 0.32(MM) Column Length: 60.0

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	10.8
75	30.0 - 66.0% of mass 95	36.1
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	78.1
175	4.0 - 9.0% of mass 174	5.5 (7.0)1
176	93.0 - 101.0% of mass 174	75.4 (96.6)1
177	5.0 - 9.0% of mass 176	4.9 (6.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD005FX	VSTD005FX	CS030416B73	04/16/2003	1958
02	VBLKBW	WG23726-1	WG23726-1B73R	04/16/2003	2031
03	AC-102	R1438-11	R1438-11B73	04/16/2003	2307
04	AC-106	R1438-12	R1438-12B73	04/16/2003	2330
05	EQUIP BLANK0	R1438-13	R1438-13B73	04/16/2003	2354
06	FIELD BLANK	R1438-14	R1438-14B73	04/17/2003	0018
07	TRIP BLANK04	R1438-15	R1438-15B73	04/17/2003	0041
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5LCA
LOW CONCENTRATION WATER VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab File ID: BF030417A73 BFB Injection Date: 04/17/2003

Instrument ID: 5972HP73 BFB Injection Time: 0753

GC Column: ZB-624 ID: 0.32(MM) Column Length: 60.0

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	10.8
75	30.0 - 66.0% of mass 95	35.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	79.1
175	4.0 - 9.0% of mass 174	5.6 (7.0)1
176	93.0 - 101.0% of mass 174	76.5 (96.7)1
177	5.0 - 9.0% of mass 176	5.0 (6.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD005FW	VSTD005FW	CS030417A73	04/17/2003	0823
02	VBLKCO	WG23737-1	WG23737-1A73R	04/17/2003	0859
03	VHBLKZO	WG23631-6	WG23631-6R2A73	04/17/2003	1132
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FORM V LCV OLC03.2

e. Internal Standard Area and RT Summary (Form VIII LCV)

Internal standard area and retention time data for the initial calibration standards, the continuing calibration standard(s), and the associated sample(s).

Forms shall be arranged in chronological order, by instrument.

SLCA

LOW CONCENTRATION WATER VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

EPA Sample No. (VSTD005##): VSTD005FF Date Analyzed: 04/09/2003

Lab File ID (Standard): CT030409A73 Time Analyzed: 1357

Instrument ID: 5972HP73

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

		IS1(CBZ) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	96165	11.11	115540	8.99	44646	12.59
	UPPER LIMIT	134631	11.44	161756	9.32	62504	12.92
	LOWER LIMIT	57699	10.78	69324	8.66	26788	12.26
	EPA SAMPLE						
01	VBLKXP	90259	11.11	115616	8.99	40600	12.60
02	TRIP BLANK	67249	11.11	84203	8.99	26943	12.60
03	FIELD BLANK	74030	11.11	90073	9.00	30968	12.60
04	EQUIP BLANK	69796	11.11	82432	9.00	29460	12.60
05	AC-107	70288	11.11	86562	9.00	28423	12.60
06	AC-105	77296	11.11	91230	9.00	34668	12.60
07	SP-2	78355	11.11	86762	8.99	30653	12.60
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IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = + 40% of internal standard area
AREA LOWER LIMIT = - 40% of internal standard area
RT UPPER LIMIT = + 0.33 minutes of internal standard RT
RT LOWER LIMIT = - 0.33 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits

8LCA

LOW CONCENTRATION WATER VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

EPA Sample No. (VSTD005##): VSTD005FH Date Analyzed: 04/10/2003

Lab File ID (Standard): CS030410A73 Time Analyzed: 0823

Instrument ID: 5972HP73

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

		IS1(CBZ) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	111900	11.12	143942	9.00	53669	12.61
	UPPER LIMIT	156660	11.45	201519	9.33	75137	12.94
	LOWER LIMIT	67140	10.79	86365	8.67	32201	12.28
	EPA SAMPLE						
01	VBLKZX	106084	11.12	132589	9.00	45168	12.62
02	AC 105MS	97282	11.12	123716	9.00	39163	12.62
03	AC-105MSD	98975	11.12	117828	9.01	41517	12.61
04	SP 8	91367	11.12	108945	9.00	37411	12.62
05	SP-7	86835	11.13	104952	9.01	36862	12.61
06	SP-9	85762	11.12	108517	9.01	34116	12.61
07	SP-6	85064	11.12	104500	9.00	34198	12.62
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IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = + 40% of internal standard area
AREA LOWER LIMIT = - 40% of internal standard area
RT UPPER LIMIT = + 0.33 minutes of internal standard RT
RT LOWER LIMIT = - 0.33 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits

FORM VIII LCV OLC03.2

8LCA

LOW CONCENTRATION WATER VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

EPA Sample No. (VSTD005##): VSTD005FX Date Analyzed: 04/16/2003

Lab File ID (Standard): CS030416B73 Time Analyzed: 1958

Instrument ID: 5972HP73

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

		IS1(CBZ) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	183077	11.08	203760	8.96	84201	12.57
	UPPER LIMIT	256308	11.41	285264	9.29	117881	12.90
	LOWER LIMIT	109846	10.75	122256	8.63	50521	12.24
	EPA SAMPLE						
01	VBLKBW	163220	11.09	190461	8.96	74908	12.57
02	AC-102	159846	11.08	192571	8.96	73876	12.57
03	AC-106	155306	11.08	200294	8.95	75878	12.57
04	EQUIP BLANK0	153192	11.08	192295	8.96	74394	12.56
05	FIELD BLANK	162434	11.08	184532	8.96	77648	12.57
06	TRIP BLANK04	170407	11.08	197733	8.96	79759	12.57
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22							

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = + 40% of internal standard area
AREA LOWER LIMIT - 40% of internal standard area
RT UPPER LIMIT = + 0.33 minutes of internal standard RT
RT LOWER LIMIT = - 0.33 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits

8LCA

LOW CONCENTRATION WATER VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

EPA Sample No. (VSTD005##): VSTD005FW Date Analyzed: 04/17/2003

Lab File ID (Standard): CS030417A73 Time Analyzed: 0823

Instrument ID: 5972HP73

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

		IS1(CBZ) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	219840	11.08	262434	8.95	98835	12.57
	UPPER LIMIT	307776	11.41	367408	9.28	138369	12.90
	LOWER LIMIT	131904	10.75	157460	8.62	59301	12.24
	EPA SAMPLE						
01	VBLKCO	188579	11.08	236645	8.96	81541	12.57
02	VHBLKZO	185829	11.08	243290	8.96	81522	12.56
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = + 40% of internal standard area
AREA LOWER LIMIT = - 40% of internal standard area
RT UPPER LIMIT = + 0.33 minutes of internal standard RT
RT LOWER LIMIT = - 0.33 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits

2. Volatiles Sample Data

Sample data shall be arranged in packets with the Organic Analysis Data Sheet (Form I LCV-1, LCV-2 and LCV-TIC), followed by the raw data for volatile samples. These sample packets shall be placed in increasing EPA sample number order, considering both letters and numbers.

a. Target Compound List (TCL) Analyte Results (Form I LCV-1 and LCV-2)
Tabulated results (identification and quantitation) shall be included.

b. Tentatively Identified Compounds (Form I LCV-TIC)
Lists up to 30 organic compounds that are not the deuterated monitoring compounds or internal standard compounds, and are not listed on the target compound list. This form shall be included even if no compounds are found.

c. Reconstructed total Ion Chromatograms (RICs)
Include for each sample or sample extract, including dilutions and reanalyses. The RIC shall contain the following header information: EPA sample number, date and time of analysis, GC/MS instrument identifier, lab file identifier, and analyst ID.

d. Quantitation Report showing calculations for TCL analytes
- Include a printout of the EICP for all manual changes to all compounds, internal standards, and the deuterated monitoring compounds.

e. Copies of raw spectra and copies of background-subtracted mass spectra of TCL analytes identified in the sample.
- The spectra shall include the following information: EPA sample number, Lab file ID, date and time of analysis, and instrument ID.
- The compound name must be clearly marked.

f. Quantitation Report showing calculations for TICs

g. Copies of mass spectra of organic compounds not listed on the target compound list, Tentatively Identified Compounds (TICs), with associated best-match spectra.
Spectra shall be labeled as follows: EPA sample number, lab file ID, date and time of analysis, and instrument ID. The compound name must be clearly marked.

1LCA
LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

AC-102

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: R1438-11 Date Received: 04/10/2003

Lab File ID: R1438-11B73 Date Analyzed: 04/16/2003

Purge Volume: 25.0(ML) Dilution Factor: 1.0

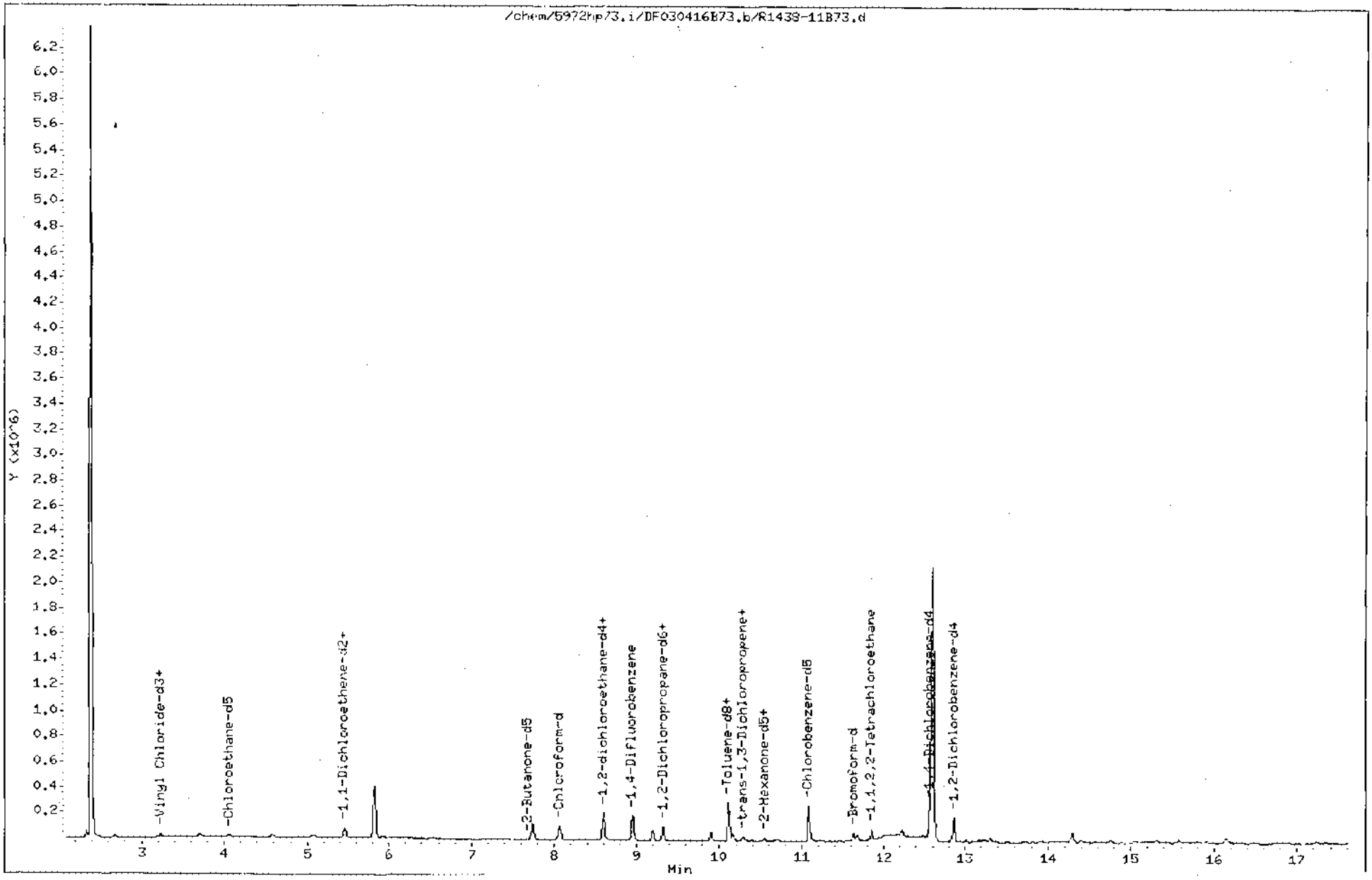
GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
100-41-4	Ethylbenzene	0.097	JB
1330-20-7	Xylene (Total)	0.15	JB
100-42-5	Styrene	0.046	J

Data File: /chem/5972hp73.i/DF030416B73.b/R1438-11B73.d
Date : 16-APR-2003 23:07
Client ID: AC-102
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i

Operator: 2513
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030416B73.b/R1438-11B73.d
Report Date: 18-Apr-2003 09:54

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030416B73.b/R1438-11B73.d
Lab Smp Id: R1438-11 Client Smp ID: AC-102
Inj Date : 16-APR-2003 23:07
Operator : 2513 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030416B73.b/OLC03v3.m
Meth Date : 18-Apr-2003 09:37 curtis Quant Type: ISTD
Cal Date : 16-APR-2003 19:58 Cal File: CS030416B73.d
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: EXS.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
1 1,4-Difluorobenzene	114	8.963	8.958	(1.000)	192571	125.000	
2 Chlorobenzene-d5	117	11.079	11.084	(1.000)	159846	125.000	
3 1,4-Dichlorobenzene-d4	152	12.566	12.570	(1.000)	73876	125.000	
4 Vinyl Chloride-d3	65	3.235	3.239	(0.361)	26048	137.395	5.5
5 Chloroethane-d5	69	4.062	4.056	(0.453)	22929	128.350	5.1
6 1,1-Dichloroethene-d2	63	5.459	5.463	(0.609)	68013	104.466	4.2
7 2-Butanone-d5	46	7.684	7.678	(0.857)	5234	103.477	4.1
8 Chloroform-d	84	8.058	8.062	(0.899)	139258	124.183	5.0
9 1,2 dichloroethane-d4	65	8.599	8.603	(0.959)	38158	133.929	5.0
10 Benzene-d6	84	8.599	8.603	(0.776)	192658	134.648	5.4
11 1,2-Dichloropropane-d6	67	9.327	9.322	(0.842)	51591	134.467	5.4
12 Toluene-d8	98	10.115	10.119	(0.913)	186083	145.602	5.8
13 trans-1,3-Dichloropropene-d4	79	10.292	10.296	(0.929)	11000	134.475	5.4
14 2-Hexanone-d5	63	10.558	10.532	(0.953)	3378	71.3384	2.9
15 1,1,2,2-Tetrachloroethane-d2	84	11.847	11.851	(1.069)	35925	142.224	5.7
16 Bromoform-d	174	11.621	11.625	(0.925)	27265	139.347	5.6

MC 4/18/03

Data File: /chem/5972hp73.i/DF030416B73.b/R1438-11B73.d
Report Date: 18-Apr-2003 09:54

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
55 17 1,2-Dichlorobenzene-d4	152	12.861	12.865	(1.023)	61402	136.153	5.4
56 Ethylbenzene	91	11.139	11.133	(1.005)	4672	2.41929	0.097(a)
57 m,p-Xylene	106	11.198	11.192	(1.011)	1378	1.89560	0.076(a)
58 o Xylene	106	11.453	11.448	(1.034)	1312	1.88270	0.075(a)
59 Styrene	104	11.473	11.458	(1.036)	1201	1.15369	0.046(a)
4 69 Xylene (Total)	106				2690	3.86010	0.15(a)

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: /chem/5972hp73.i/DF030416B73.b/R1438-11B73.d

Date : 16-APR-2003 23:07

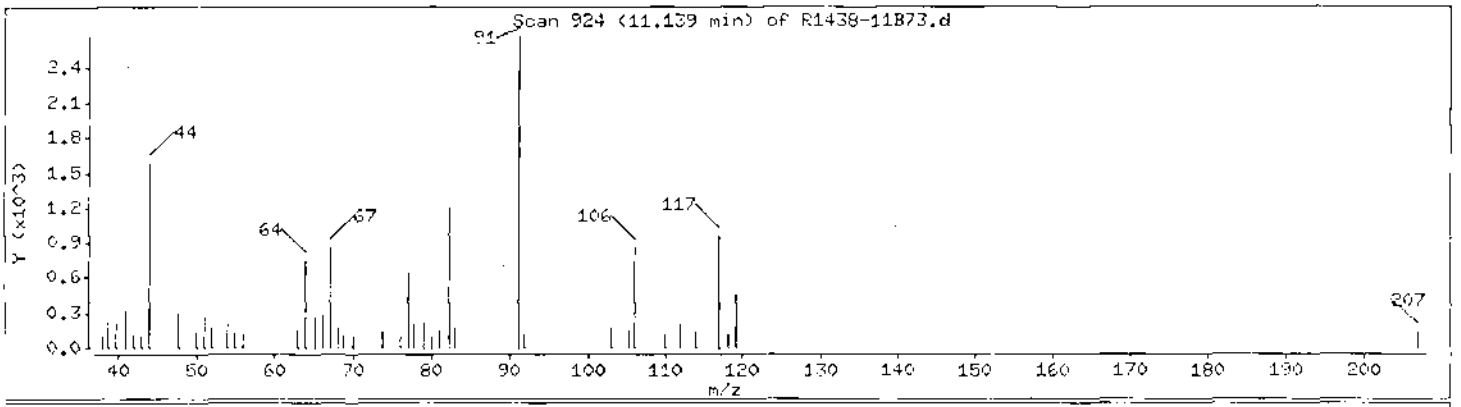
Client ID: AC-102 Instrument: 5972hp73.i

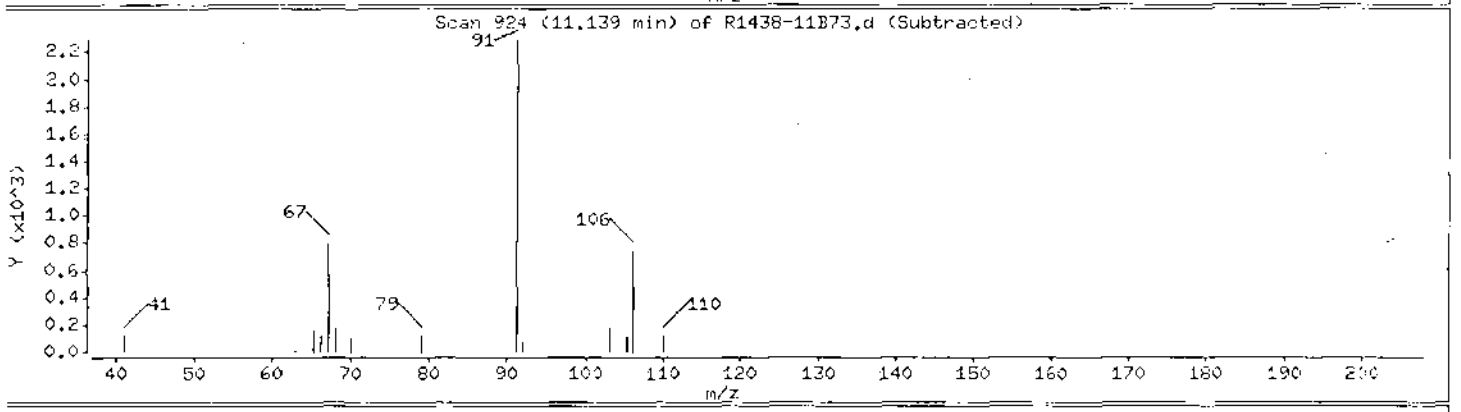
Sample Info:

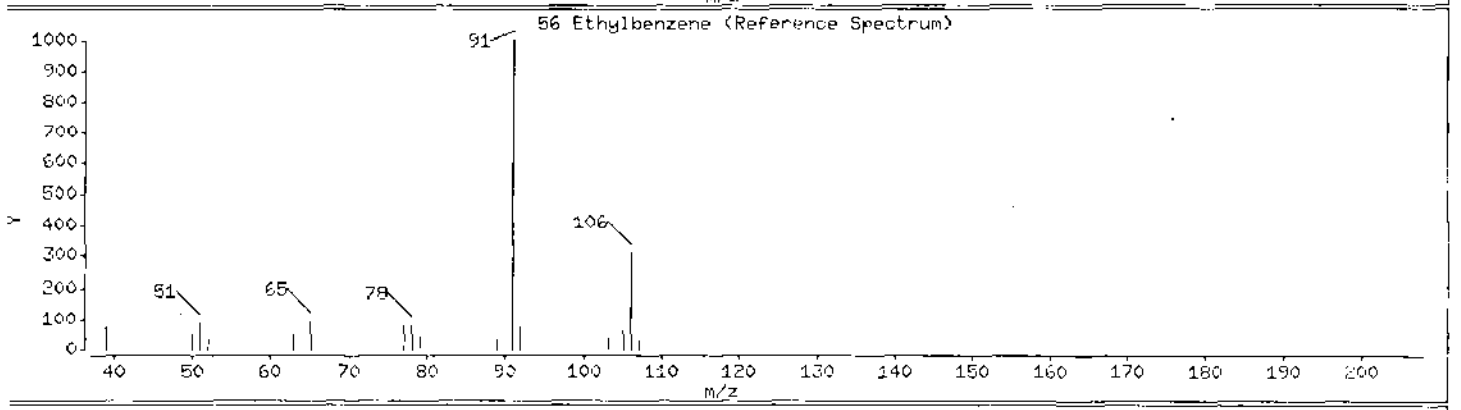
Purge Volume: 25.0 Operator: 2513

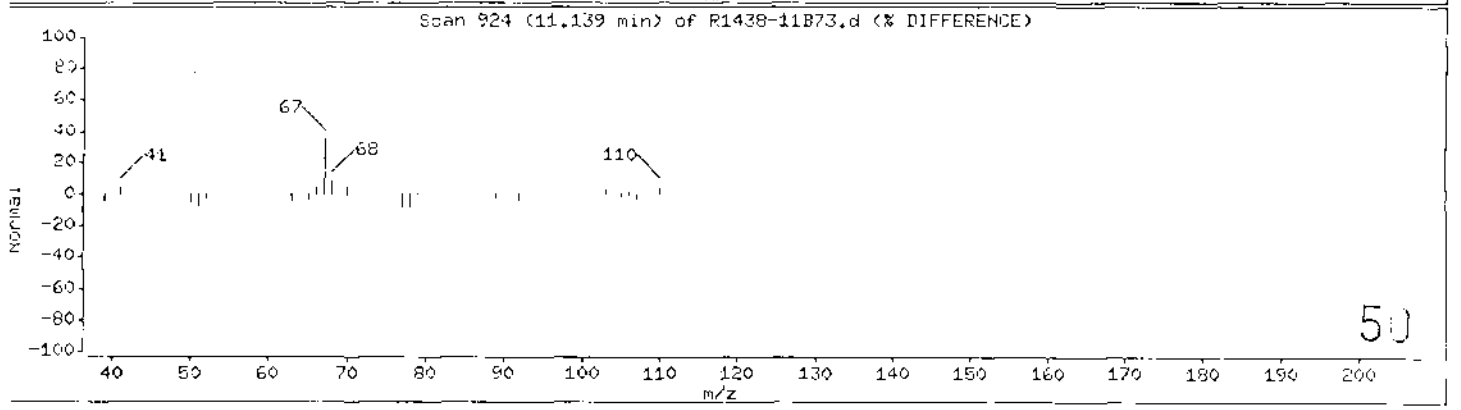
Column phase: ZB624 Column diameter: 0.32

56 Ethylbenzene Concentration: 0.097 ug/L









50

Data File: /chem/5972hp73.i/DF030416B73.b/R1438-11B73.d

Date : 16-APR-2003 23:07

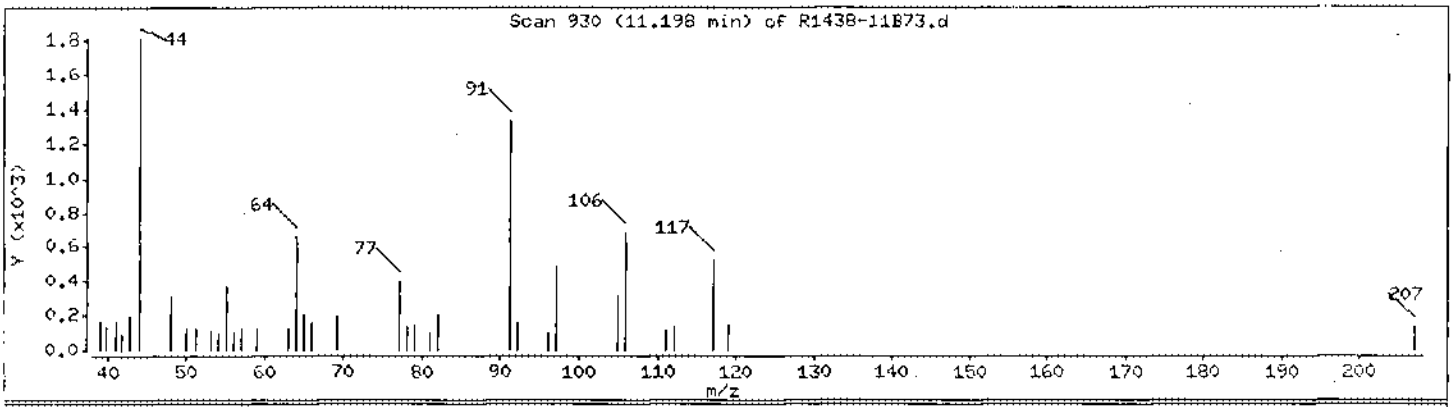
Client ID: AC-102 Instrument: 5972hp73.i

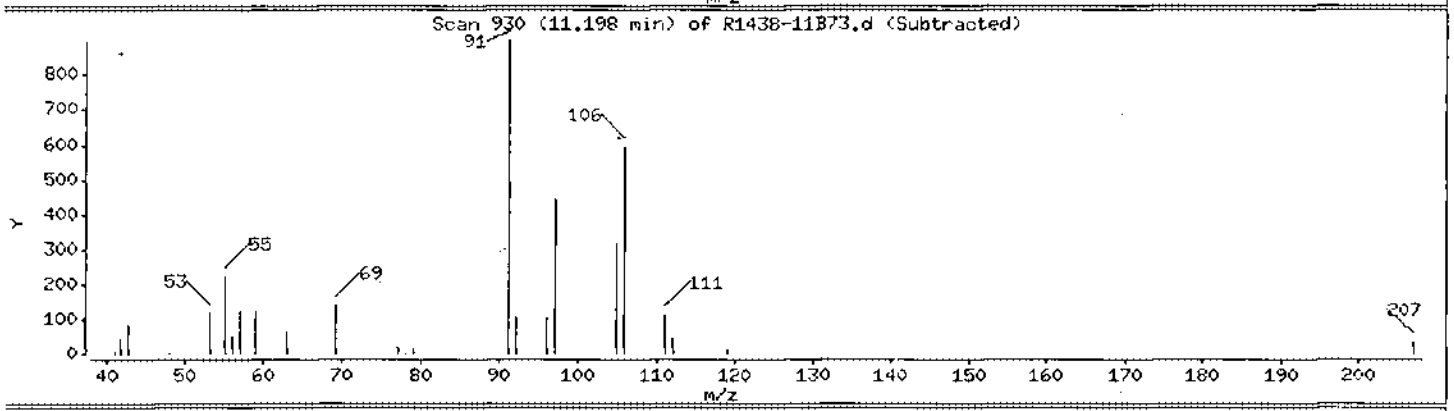
Sample Info:

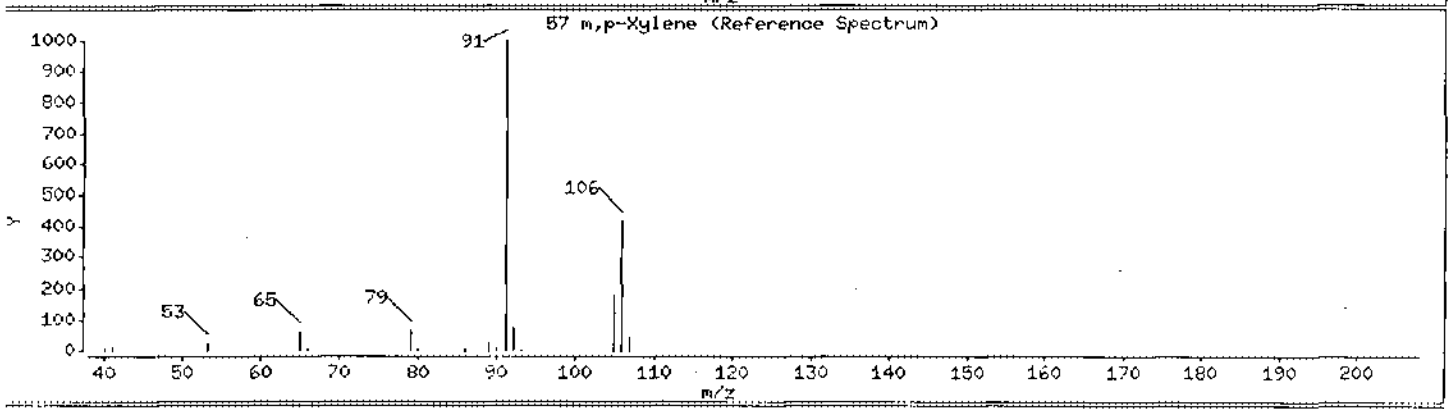
Purge Volume: 25.0 Operator: 2513

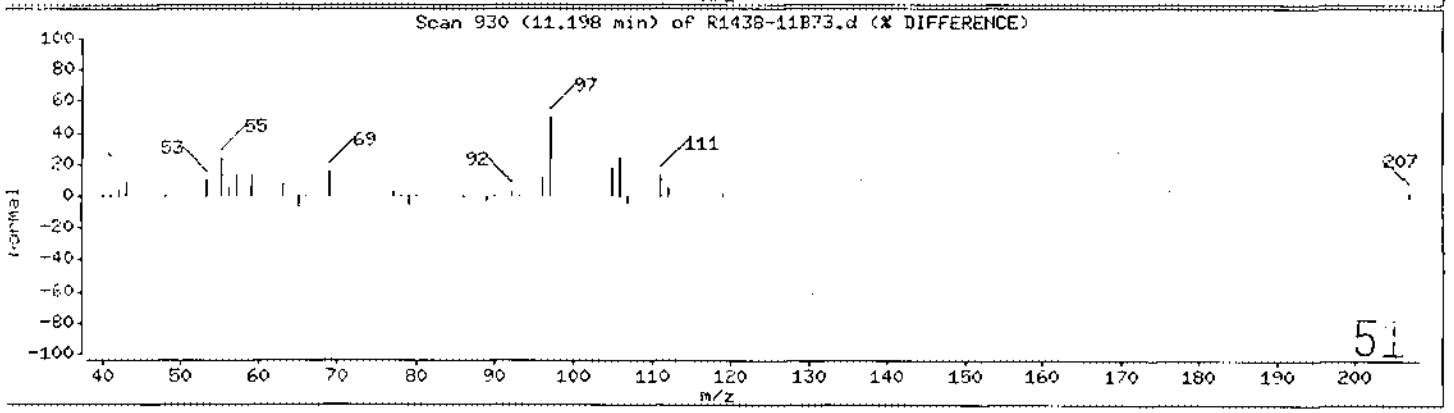
Column phase: ZB624 Column diameter: 0.32

57 m,p-Xylene Concentration: 0.076 ug/L









51

Data File: /chem/5972hp73.i/DF030416B73.b/R1438-11B73.d

Date : 16-APR-2003 23:07

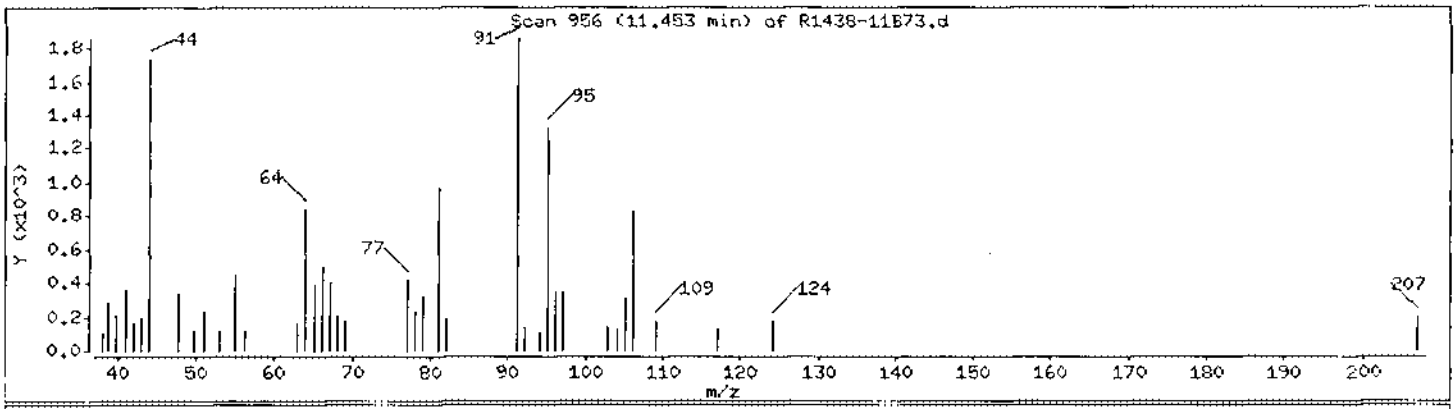
Client ID: AC-102 Instrument: 5972hp73.i

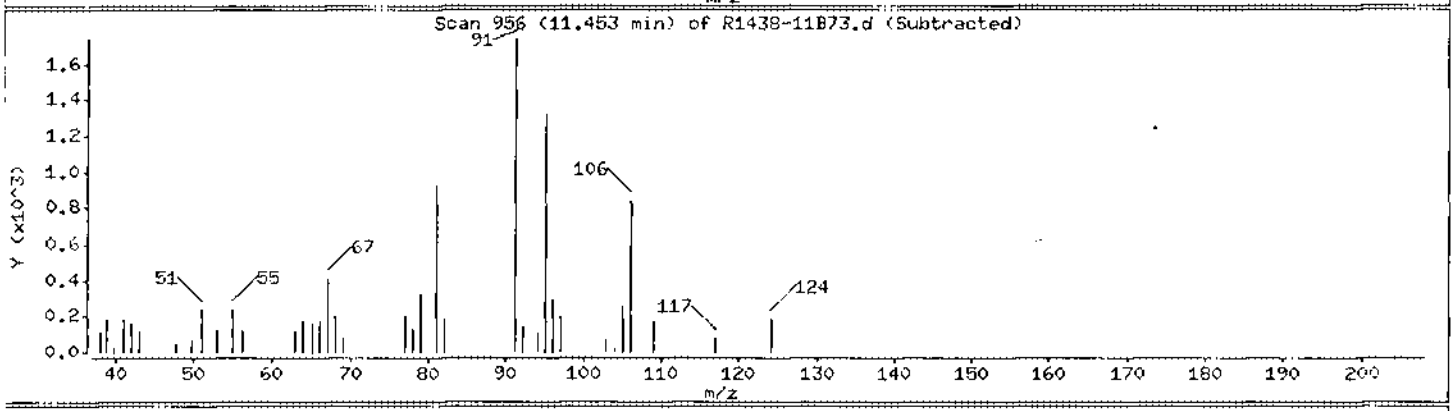
Sample Info:

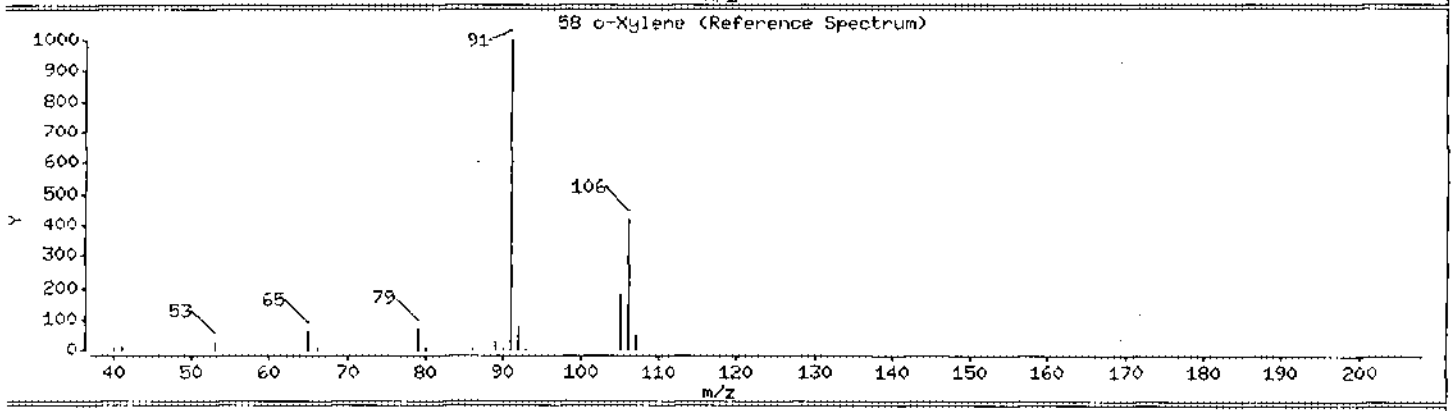
Purge Volume: 25.0 Operator: 2513

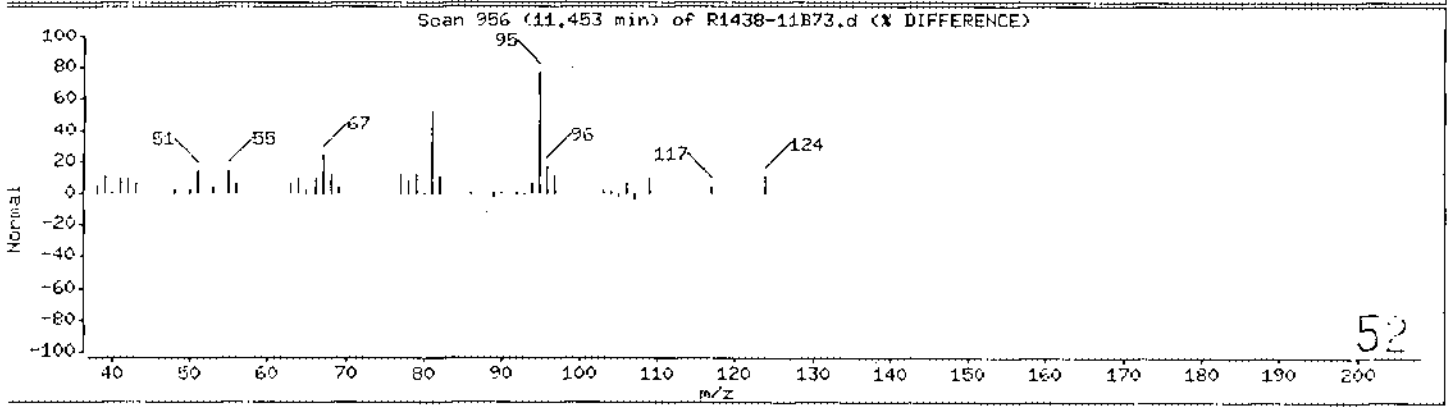
Column phase: ZB624 Column diameter: 0.32

58 o-Xylene Concentration: 0.075 ug/L









Data File: /chem/5972hp73.i/DF030416B73.b/R1438-11B73.d

Date : 16-APR-2003 23:07

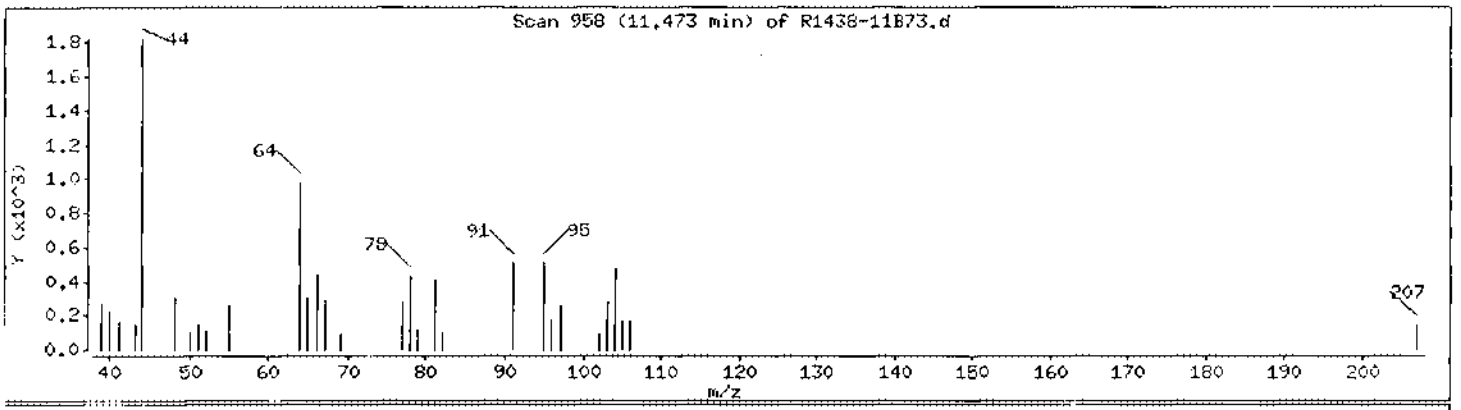
Client ID: AC-102 Instrument: 5972hp73.i

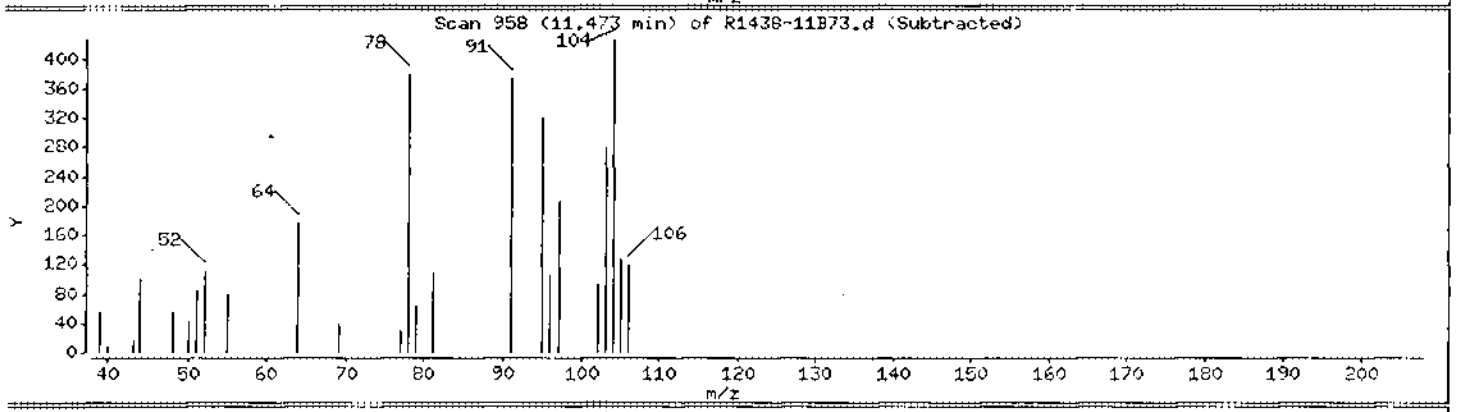
Sample Info:

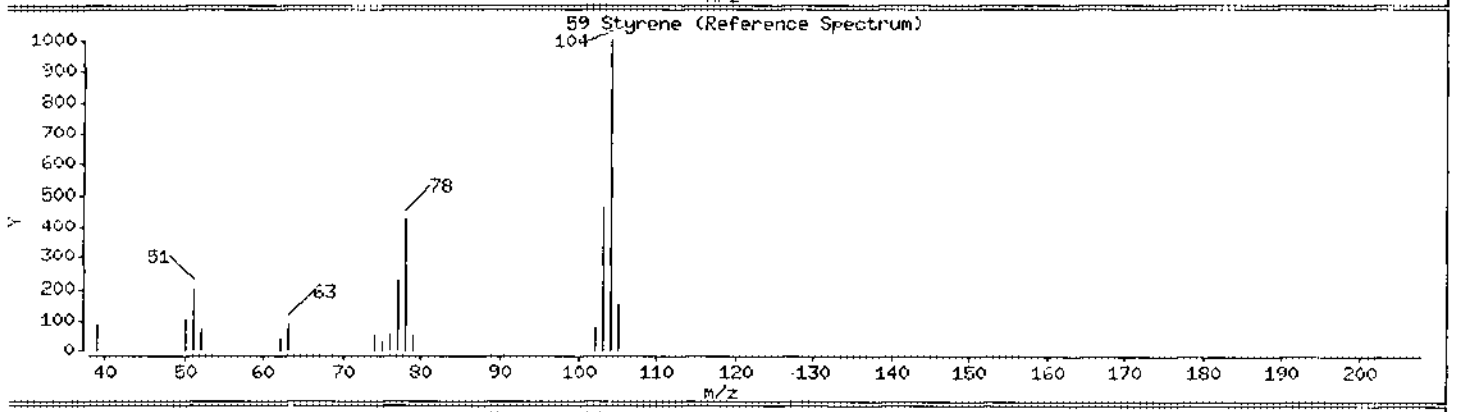
Purge Volume: 25.0 Operator: 2513

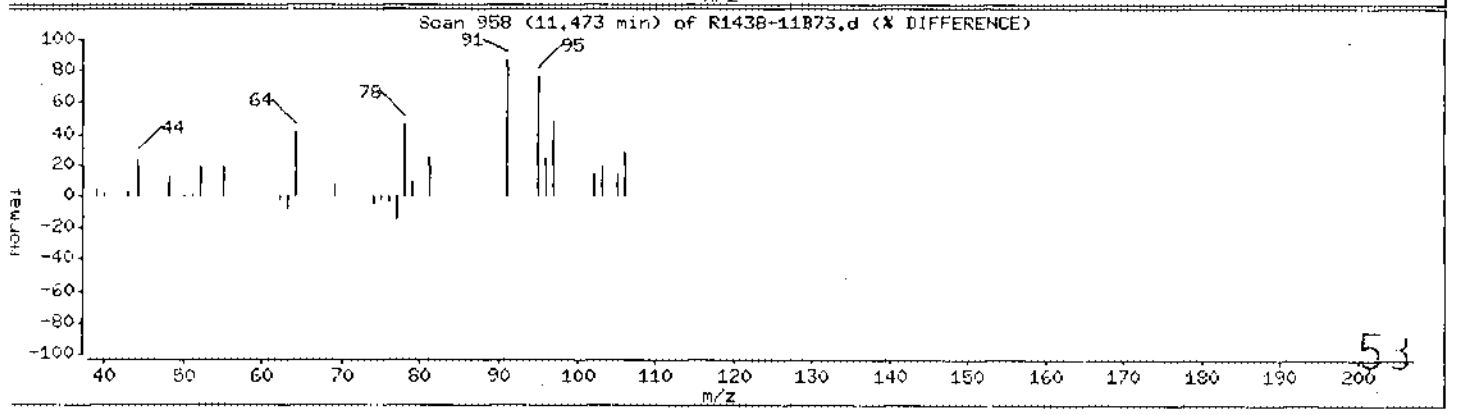
Column phase: ZB624 Column diameter: 0.32

59 Styrene Concentration: 0.046 ug/L









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1LCA
LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

AC-105

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: R1483-6 Date Received: 04/09/2003

Lab File ID: R1438-6A73 Date Analyzed: 04/09/2003

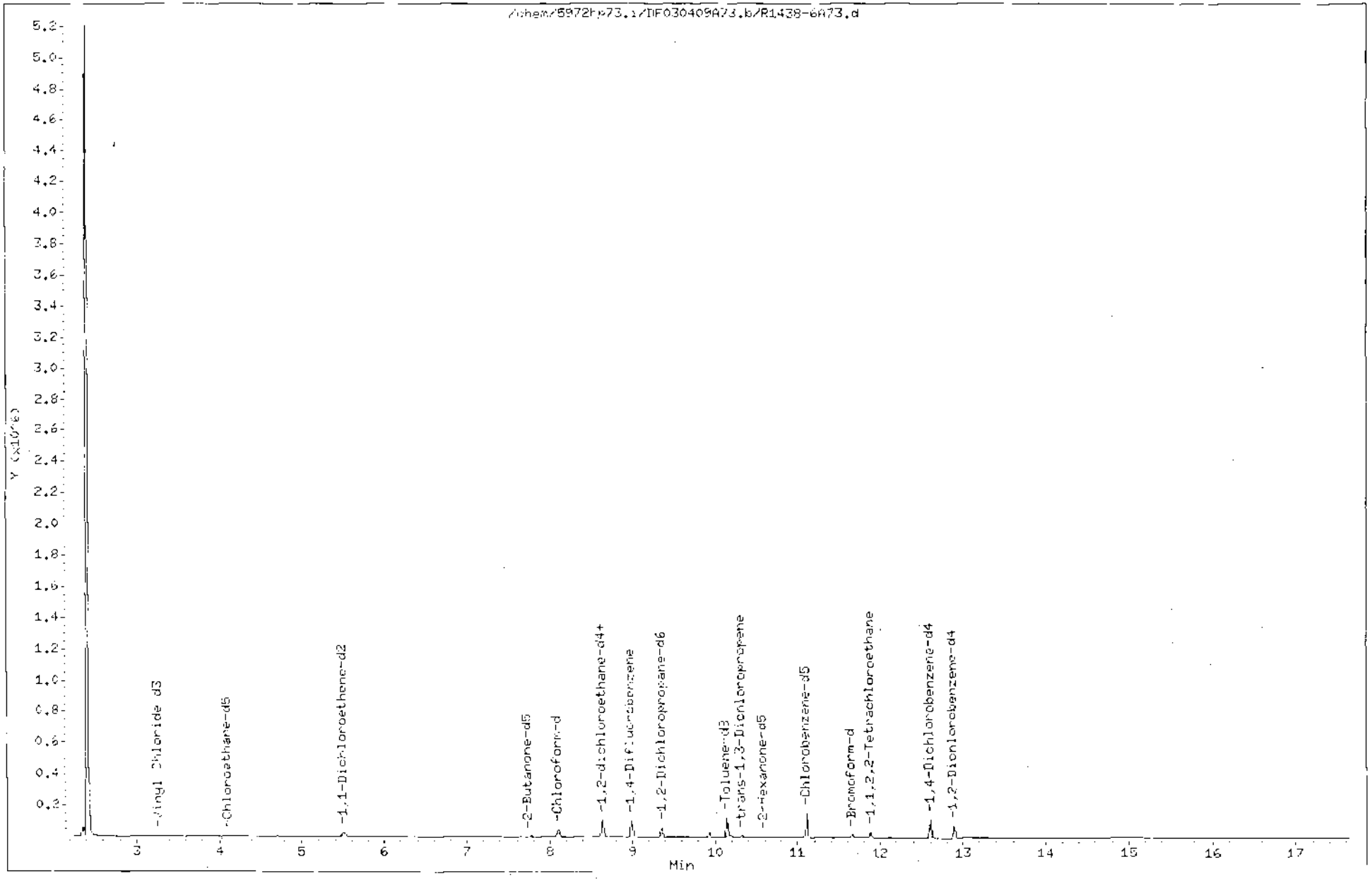
Purge Volume: 25.0(ML) Dilution Factor: 1.0

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylene (Total)	0.50	U
100-42-5	Styrene	0.50	U

Data File: /chem/5972hp73.i/DF030409A73.b/R1438-6A73.d
Date : 09-APR-2003 22:30
Client ID: AC-105
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2513
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030409A73.b/R1438-6A73.d
Report Date: 14-Apr-2003 15:48

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030409A73.b/R1438-6A73.d
Lab Smp Id: R1483-6 Client Smp ID: AC-105
Inj Date : 09-APR-2003 22:30
Operator : 2513 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030409A73.b/OLC03v3.m
Meth Date : 14-Apr-2003 15:44 curtis Quant Type: ISTD
Cal Date : 09-APR-2003 13:57 Cal File: CT030409A73.d
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: EXS.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
1 1,4-Difluorobenzene	114	8.995	8.991	(1.000)	91230	125.000	
2 Chlorobenzene-d5	117	11.110	11.107	(1.000)	77296	125.000	
3 1,4-Dichlorobenzene-d4	152	12.596	12.592	(1.000)	34668	125.000	
4 Vinyl Chloride-d3	65	3.269	3.265	(0.363)	2828	41.7005	1.7(R)
5 Chloroethane-d5	69	4.105	4.101	(0.456)	3088	78.4179	3.1
6 1,1-Dichloroethene-d2	63	5.512	5.508	(0.613)	21498	56.9870	2.3(R)
7 2-Butanone-d5	46	7.736	7.712	(0.860)	3098	106.990	4.3
8 Chloroform-d	84	8.100	8.096	(0.900)	44397	116.829	4.7
9 1,2-dichloroethane-d4	65	8.641	8.637	(0.961)	16065	126.277	5.1
10 Benzene-d6	84	8.641	8.637	(0.778)	83565	103.516	4.1
11 1,2-Dichloropropane-d6	67	9.359	9.355	(0.842)	28285	113.691	4.5
12 Toluene-d8	98	10.146	10.142	(0.913)	71246	101.242	4.0
13 trans-1,3-Dichloropropene-d4	79	10.323	10.320	(0.929)	3590	109.127	4.4
14 2-Hexanone-d5	63	10.589	10.556	(0.953)	1726	77.9015	3.1
15 1,1,2,2-Tetrachloroethane-d2	84	11.878	11.874	(1.069)	18930	142.265	5.7
16 Bromoform-d	174	11.652	11.648	(0.925)	8537	109.337	4.4

MMC 4/14/03

Data File: /chem/5972hp73.i/DF030409A73.b/R1438-6A73.d
Report Date: 14-Apr-2003 15:48

		QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
Compounds								
$ 17	1,2-Dichlorobenzene-d4	152	12.891	12.897	(1.023)	25136	116.844	4.7
56	Ethylbenzene	91	Compound Not Detected.					
57	m,p-Xylene	106	Compound Not Detected.					
58	o-Xylene	106	Compound Not Detected.					
59	Styrene	104	Compound Not Detected.					
M 69	Xylene (Total)	106	Compound Not Detected.					

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ILCA
LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

AC-106

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: R1438-12 Date Received: 04/10/2003

Lab File ID: R1438-12B73 Date Analyzed: 04/16/2003

Purge Volume: 25.0(ML) Dilution Factor: 1.0

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

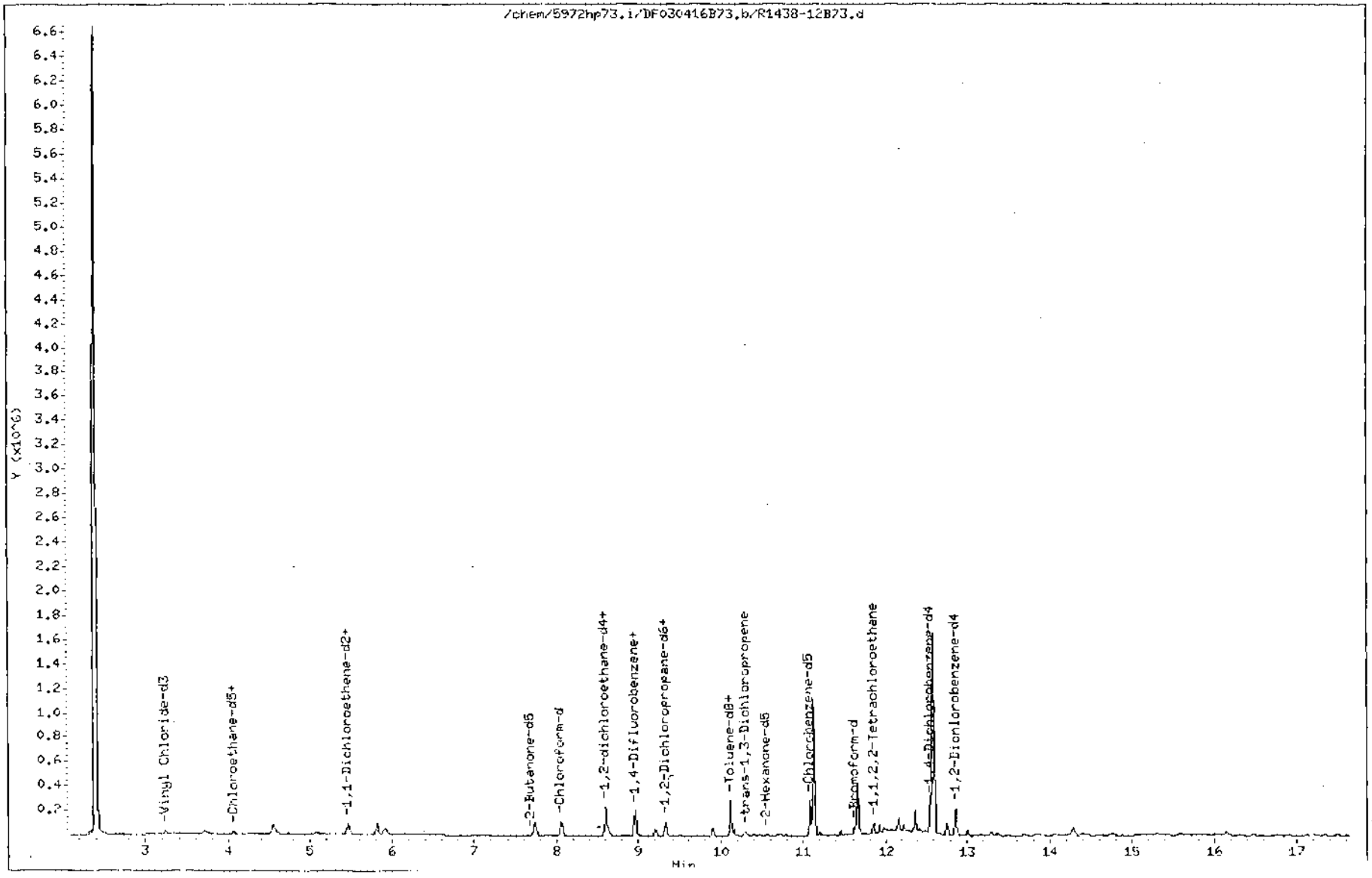
CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
100-41-4	Ethylbenzene	16	B
1330-20-7	Xylene (Total)	1.2	B
100-42-5	Styrene	0.16	J

FORM I LCV-1 OLC03.2

Data File: /chem/5972hp73.i/DF030416B73.b/R1438-12B73.d
Date : 16-APR-2003 23:30
Client ID: AC-106
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i

Operator: 2513
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030416B73.b/R1438-12B73.d
Report Date: 18-Apr-2003 09:54

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030416B73.b/R1438-12B73.d
Lab Smp Id: R1438-12 Client Smp ID: AC-106
Inj Date : 16-APR-2003 23:30
Operator : 2513 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030416B73.b/OLC03v3.m
Meth Date : 18-Apr-2003 09:37 curtis Quant Type: ISTD
Cal Date : 16-APR-2003 19:58 Cal File: CS030416B73.d
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: EXS.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
1 1,4-Difluorobenzene	114	8.954	8.958	(1.000)	200294	125.000	
2 Chlorobenzene-d5	117	11.080	11.084	(1.000)	155306	125.000	
3 1,4-Dichlorobenzene-d4	152	12.567	12.570	(1.000)	75878	125.000	
4 Vinyl Chloride-d3	65	3.236	3.239	(0.361)	27647	140.206	5.6
5 Chloroethane-d5	69	4.063	4.056	(0.454)	23833	128.266	5.1
6 1,1-Dichloroethene-d2	63	5.460	5.463	(0.610)	66792	98.6352	3.9
7 2-Butanone-d5	46	7.685	7.678	(0.858)	5105	97.0355	3.9
8 Chloroform-d	84	8.059	8.062	(0.900)	112690	123.145	4.9
9 1,2-dichloroethane-d4	65	8.600	8.603	(0.960)	40914	127.756	5.1
10 Benzene-d6	84	8.600	8.603	(0.776)	203042	146.053	5.8
11 1,2-Dichloropropane-d6	67	9.319	9.322	(0.841)	53039	142.282	5.7
12 Toluene-d8	98	10.116	10.119	(0.913)	186747	150.393	6.0
13 trans-1,3-Dichloropropene-d4	79	10.293	10.296	(0.929)	11516	144.898	5.8
14 2-Hexanone-d5	63	10.549	10.532	(0.952)	5097	110.788	4.4
15 1,1,2,2-Tetrachloroethane-d2	84	11.848	11.851	(1.069)	35748	145.661	5.8
16 Bromoform-d	174	11.622	11.625	(0.925)	27983	139.244	5.6

Data File: /chem/5972hp73.i/DF030416B73.b/R1438-12B73.d
Report Date: 18-Apr-2003 09:54

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
$ 17 1,2-Dichlorobenzene-d4	152	12.862	12.865	(1.023)	66563	143.703	5.7
56 Ethylbenzene	91	11.130	11.133	(1.004)	757919	403.944	16
57 m,p-Xylene	106	11.199	11.192	(1.011)	10749	15.2188	0.61(a)
58 o-Xylene	106	11.454	11.448	(1.034)	9550	14.1047	0.56
59 Styrene	104	11.464	11.458	(1.035)	3961	3.91621	0.16(a)
M 69 Xylene (Total)	106				20299	29.9802	1.2

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: /chem/5972hp73.i/DF030416B73.b/R1438-12B73.d

Date : 16-APR-2003 23:30

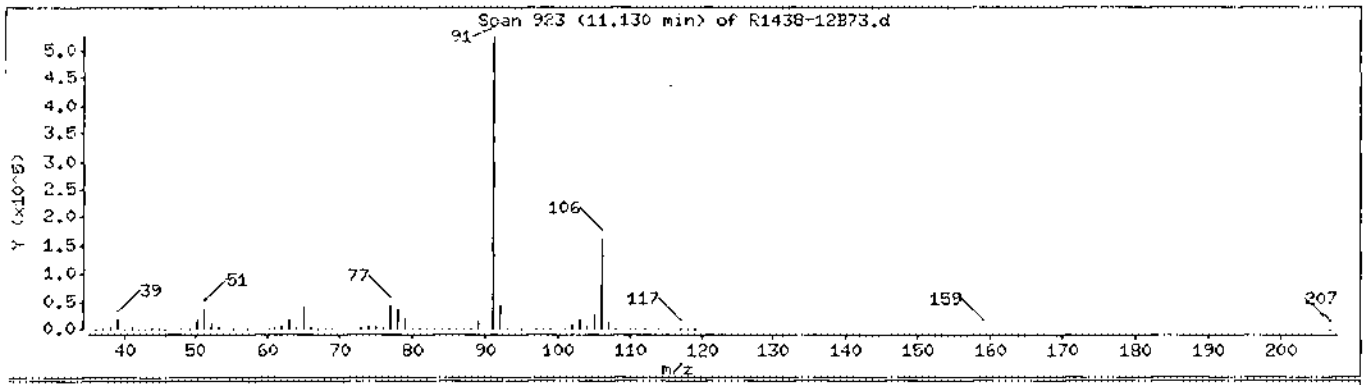
Client ID: AC-106 Instrument: 5972hp73.i

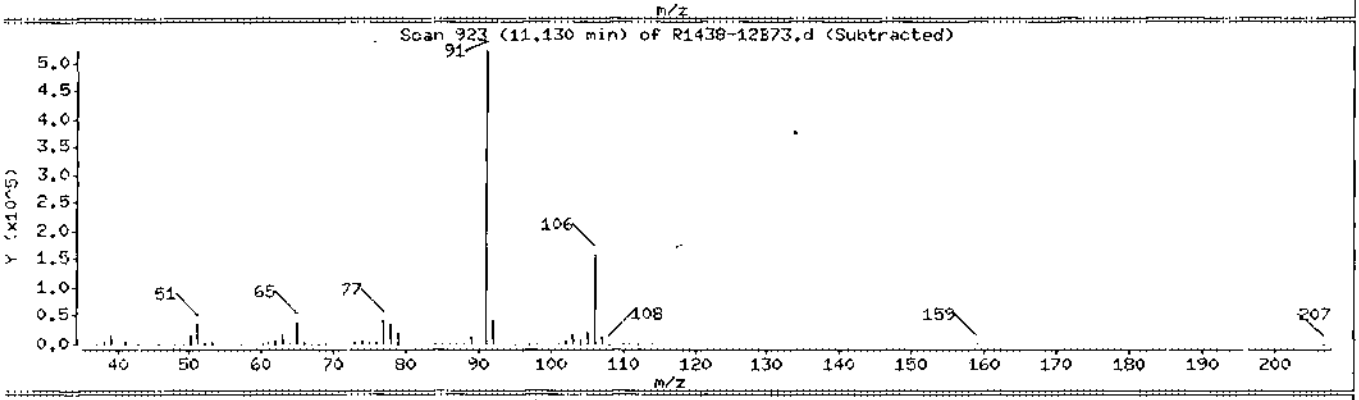
Sample Info:

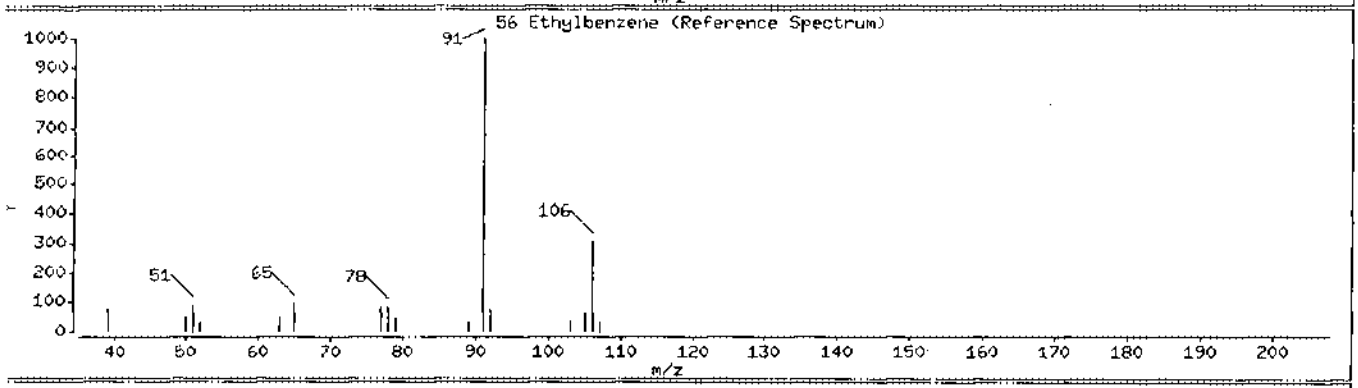
Purge Volume: 25.0 Operator: 2513

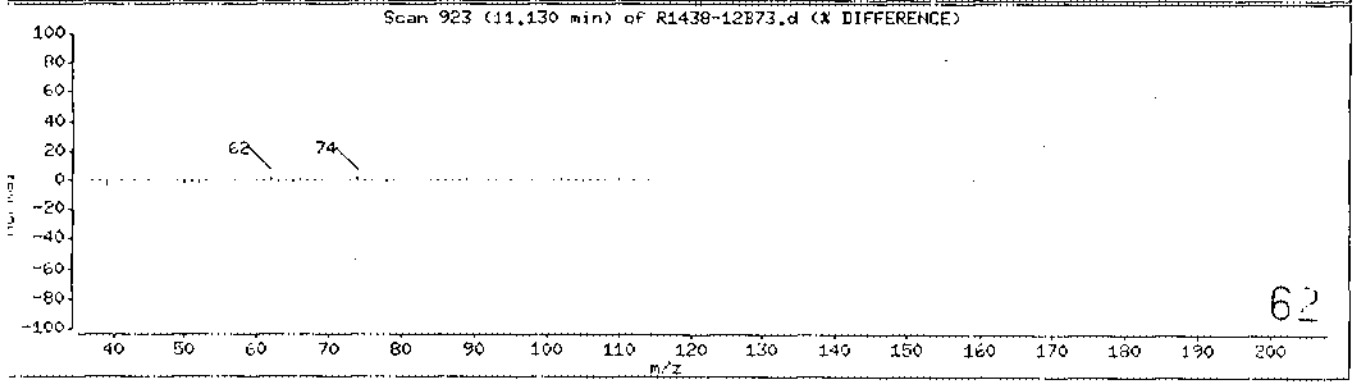
Column phase: ZB624 Column diameter: 0.32

56 Ethylbenzene Concentration: 16 ug/L









Data File: /chem/5972hp73.i/DF030416B73.b/R1438-12B73.d

Date : 16-APR-2003 23:30

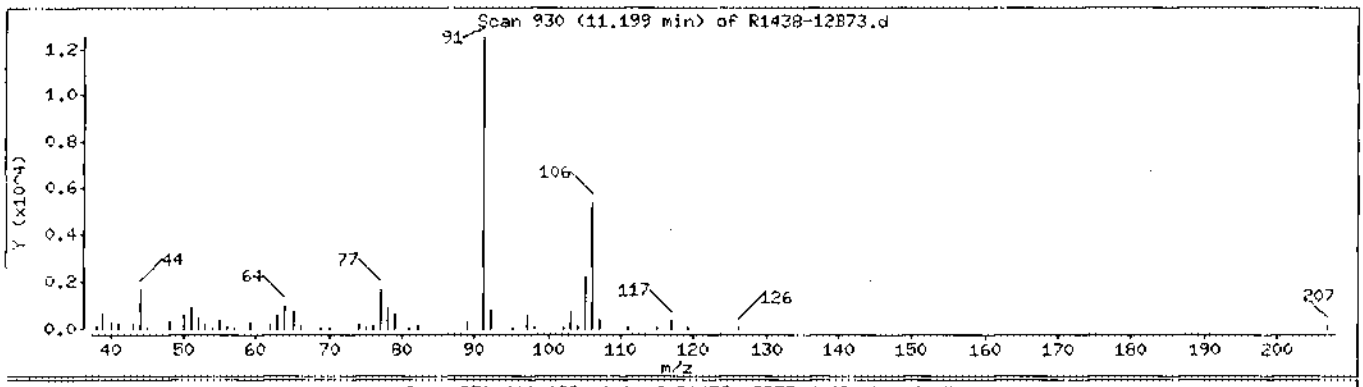
Client ID: AC-106 | Instrument: 5972hp73.i

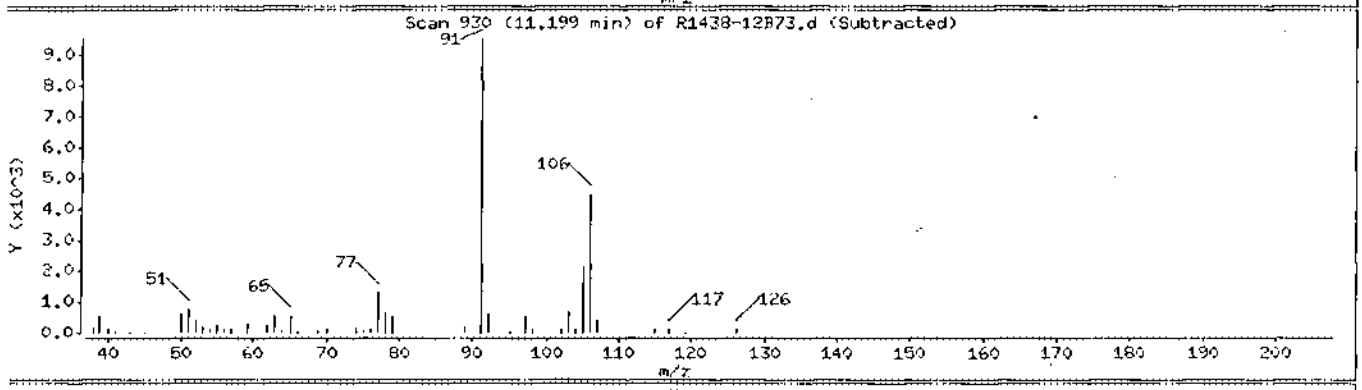
Sample Info:

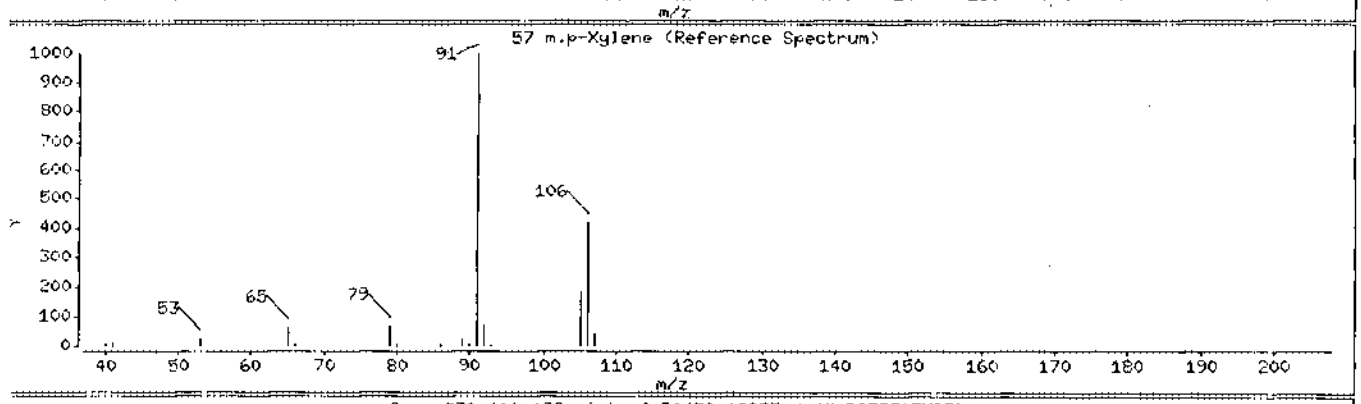
Purge Volume: 25.0 | Operator: 2513

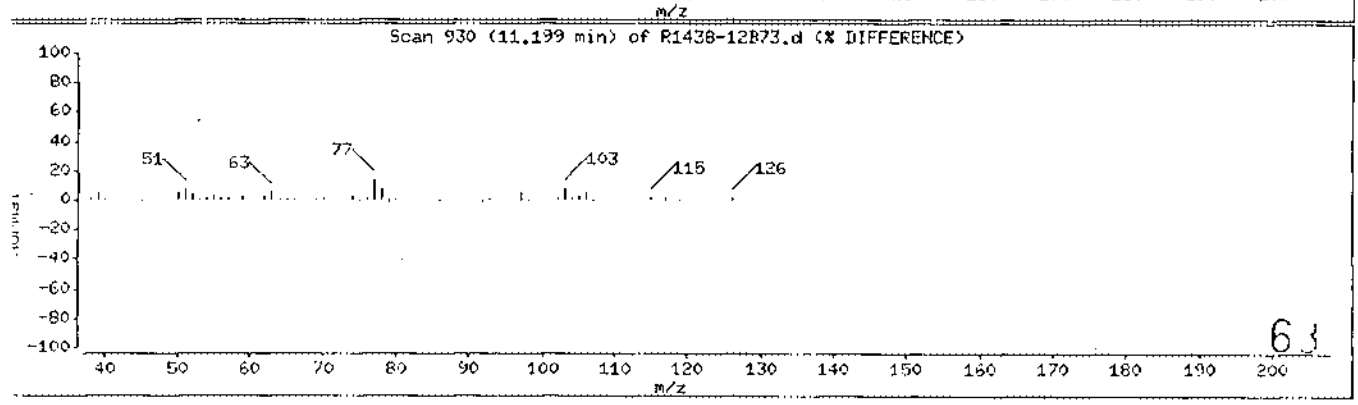
Column phase: ZB624 | Column diameter: 0.32

57 m,p-Xylene | Concentration: 0.61 ug/L









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Data File: /chem/5972hp73.i/DF030416B73.b/R1438-12B73.d

Date : 16-APR-2003 23:30

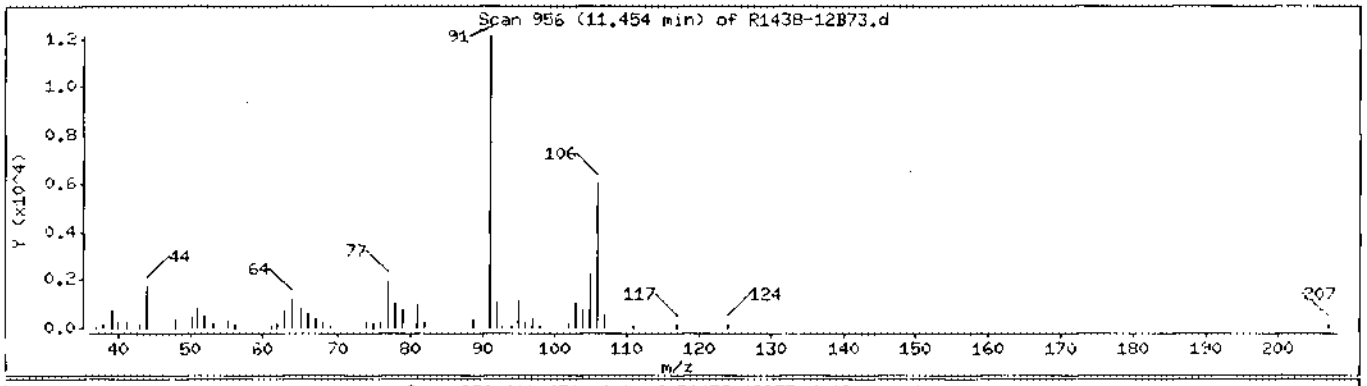
Client ID: AC-106 Instrument: 5972hp73.i

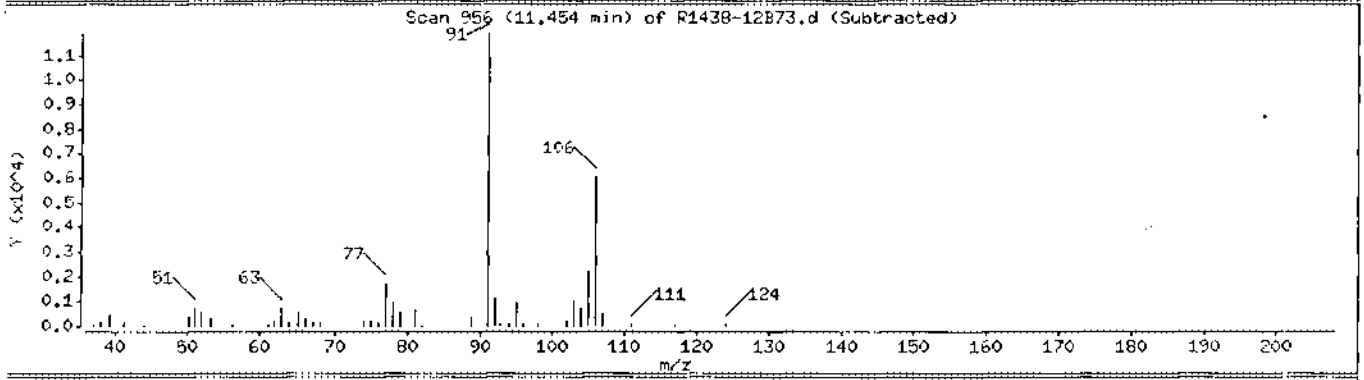
Sample Info:

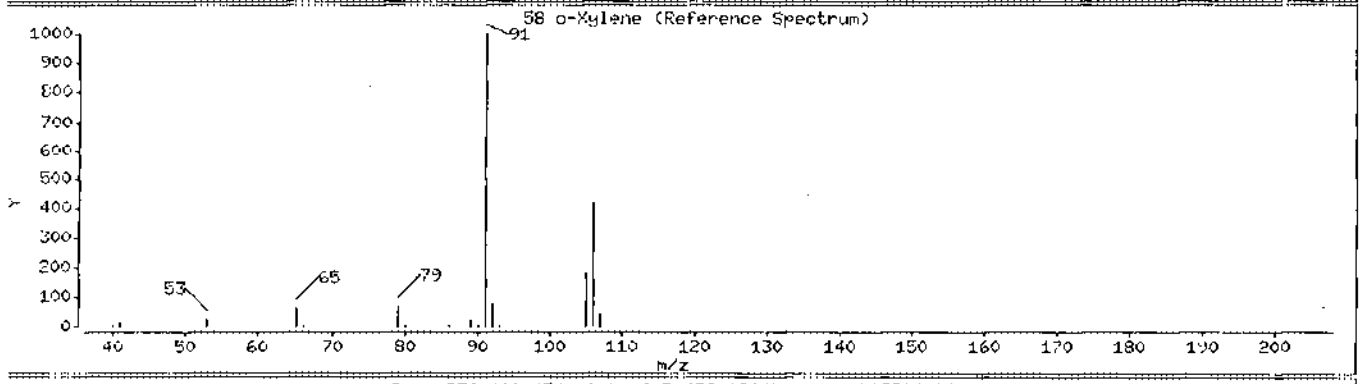
Purge Volume: 25.0 Operator: 2513

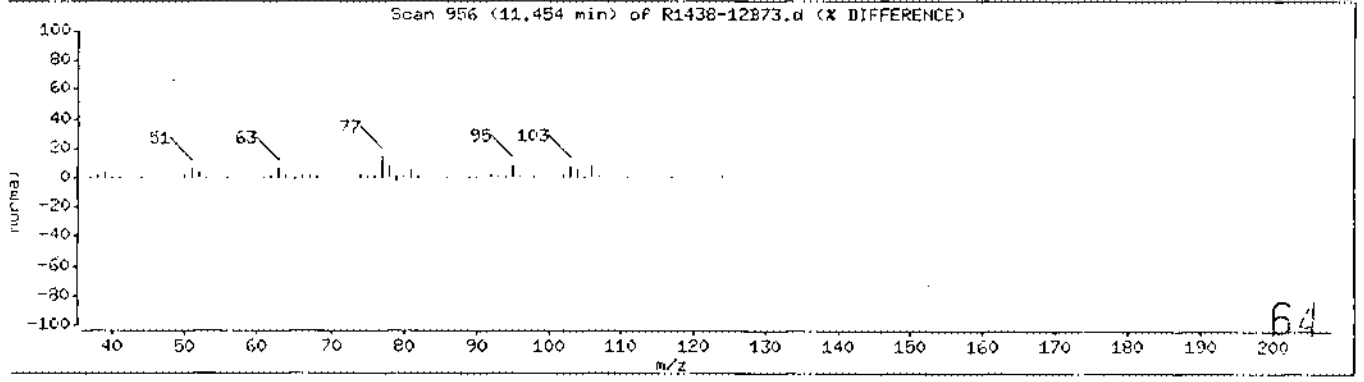
Column phase: ZB624 Column diameter: 0.32

58 o-Xylene Concentration: 0.56 ug/L









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Data File: /chem/5972hp73.i/DF030416B73.b/R1438-12B73.d

Date : 16-APR-2003 23:30

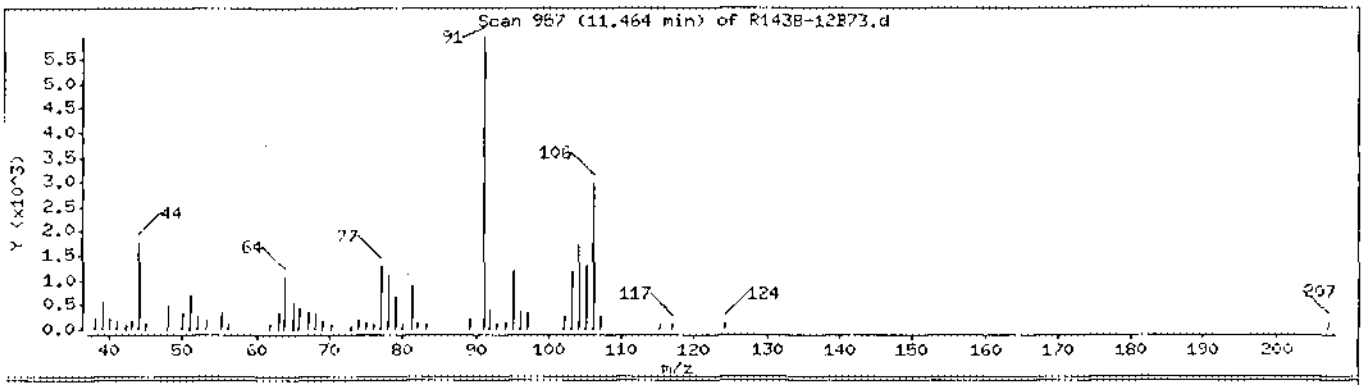
Client ID: AC-106 | Instrument: 5972hp73.i

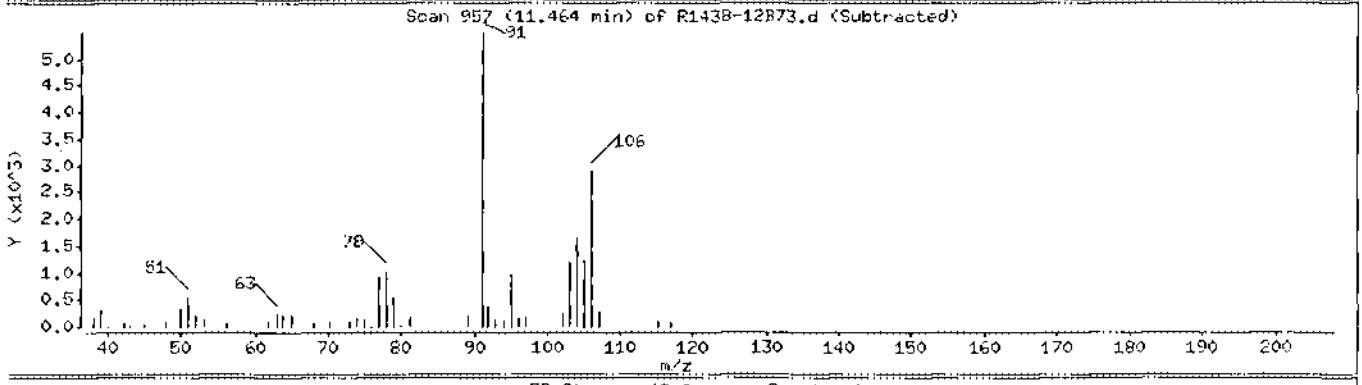
Sample Info:

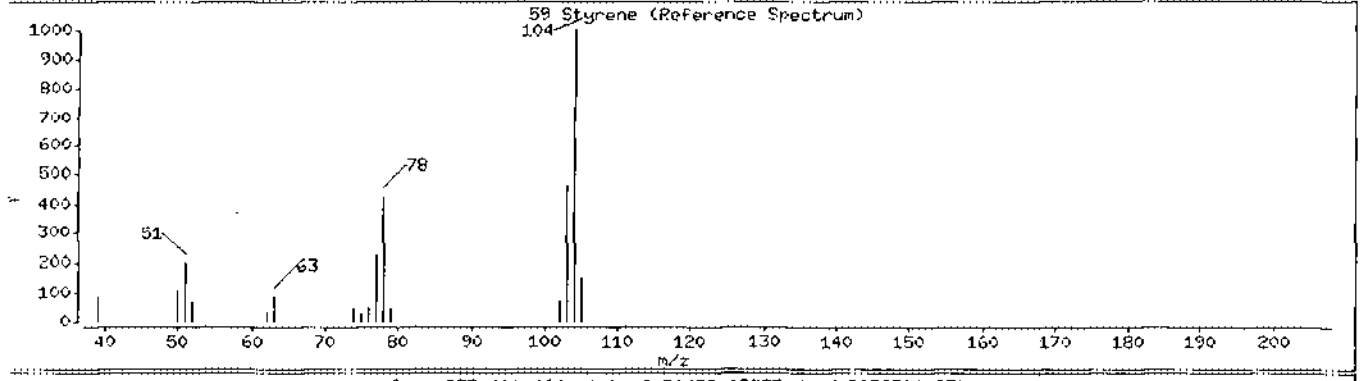
Purge Volume: 25.0 | Operator: 2513

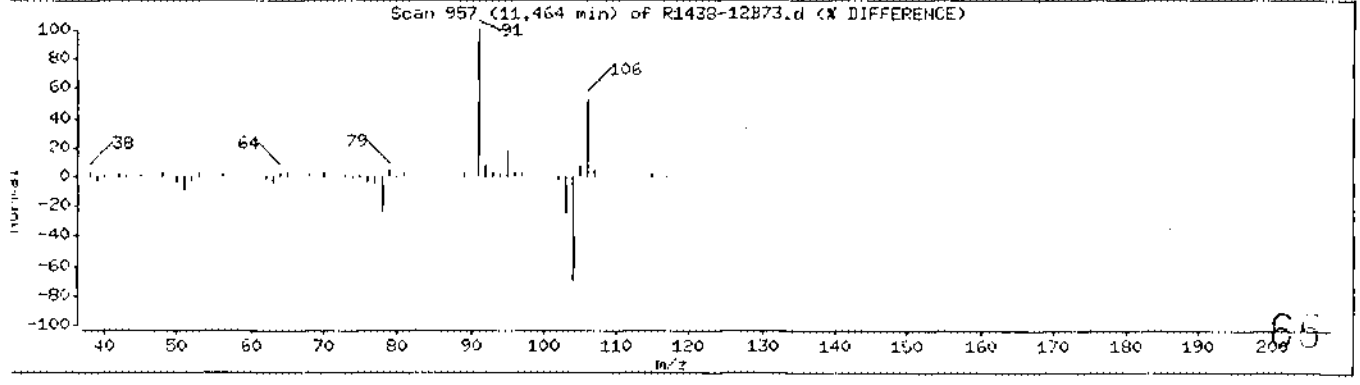
Column phase: ZB624 | Column diameter: 0.32

59 Styrene | Concentration: 0.16 ug/L









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1LCA
LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

AC 107

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: R1483-7 Date Received: 04/09/2003

Lab File ID: R1438-7A73 Date Analyzed: 04/09/2003

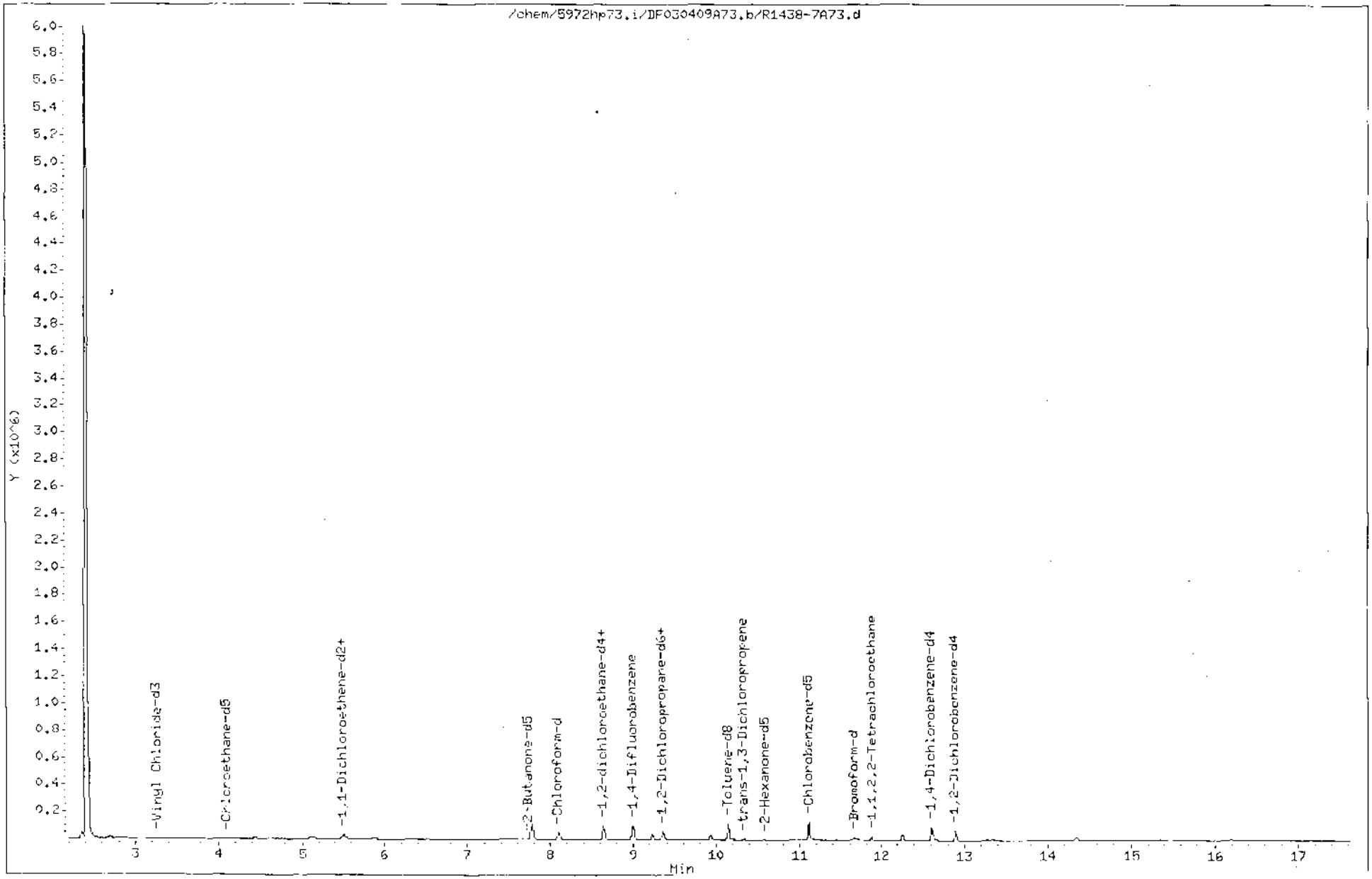
Purge Volume: 25.0(ML) Dilution Factor: 1.0

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
100-41-4	Ethylbenzene	0.047	U
1330-20-7	Xylene (Total)	0.066	U
100-42-5	Styrene	0.50	U

Data File: /chem/5972hp73.i/DF030409A73.b/R1438-7A73.d
Date : 09-APR-2003 22:06
Client ID: AC-107
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2513
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030409A73.b/R1438-7A73.d
Report Date: 14-Apr-2003 15:48

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030409A73.b/R1438-7A73.d
Lab Smp Id: R1483-7 Client Smp ID: AC-107
Inj Date : 09-APR-2003 22:06
Operator : 2513 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030409A73.b/OLC03v3.m
Meth Date : 14-Apr-2003 15:44 curtis Quant Type: ISTD
Cal Date : 09-APR-2003 13:57 Cal File: CT030409A73.d
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: EXS.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
1 1,4-Difluorobenzene	114	8.997	8.991	(1.000)	86562	125.000	
2 Chlorobenzene-d5	117	11.112	11.107	(1.000)	70288	125.000	
3 1,4-Dichlorobenzene-d4	152	12.598	12.592	(1.000)	28423	125.000	
4 Vinyl Chloride-d3	65	3.271	3.265	(0.364)	2932	45.5655	1.8(R)
5 Chloroethane d5	69	4.097	4.101	(0.455)	3238	86.6613	3.5
6 1,1-Dichloroethene d2	63	5.504	5.508	(0.612)	22485	62.8175	2.5(R)
7 2-Butanone-d5	46	7.728	7.712	(0.859)	2799	101.876	4.1
8 Chloroform-d	84	8.102	8.096	(0.900)	40429	112.124	4.5
9 1,2-dichloroethane-d4	65	8.633	8.637	(0.960)	14696	121.746	4.9
10 Benzene-d6	84	8.643	8.637	(0.778)	75596	102.981	4.1
11 1,2-Dichloropropane-d6	67	9.361	9.355	(0.842)	25037	110.670	4.4
12 Toluene-d8	98	10.148	10.142	(0.913)	70279	109.826	4.4
13 trans-1,3-Dichloropropene-d4	79	10.325	10.320	(0.929)	3083	103.060	4.1
14 2-Hexanone-d5	63	10.591	10.556	(0.953)	1051	52.1655	2.1
15 1,1,2,2-Tetrachloroethane-d2	84	11.880	11.874	(1.069)	14889	123.052	4.9
16 Bromoform-d	174	11.653	11.648	(0.925)	7184	112.225	4.5

MK 4/11/03

Data File: /chem/5972hp73.i/DF030409A73.b/R1438-7A73.d
Report Date: 14-Apr-2003 15:48

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
$ 17 1,2-Dichlorobenzene-d4	152	12.893	12.897	(1.023)	21903	134.186	5.0
56 Ethylbenzene	91	11.161	11.156	(1.004)	986	1.17837	0.047(a)
57 m,p-Xylene	106	11.230	11.215	(1.011)	523	1.44860	0.058(a)
58 o-Xylene	106	Compound Not Detected.					
59 Styrene	104	Compound Not Detected.					
M 69 Xylene (Total)	106				523	1.63755	0.066(a)

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.

Data File: /chem/5972hp73.i/DF030409A73.b/R1438-7A73.d

Date : 09-APR-2003 22:06

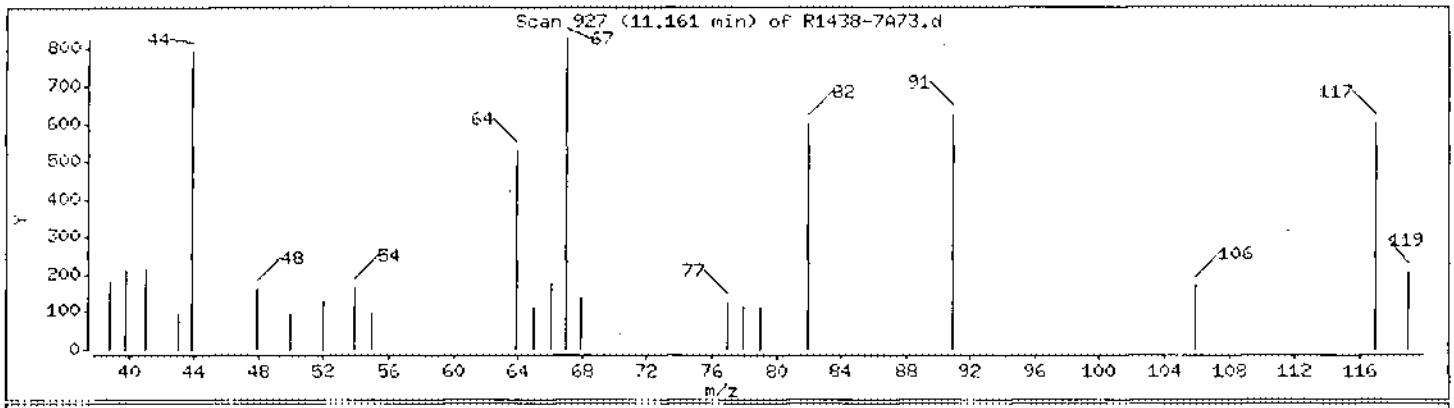
Client ID: AC-107 Instrument: 5972hp73.i

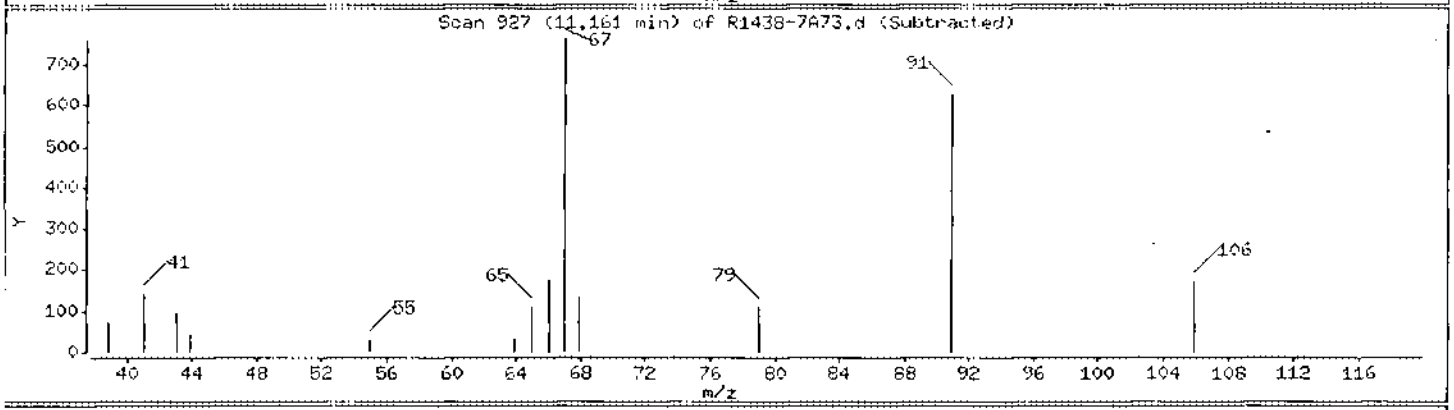
Sample Info:

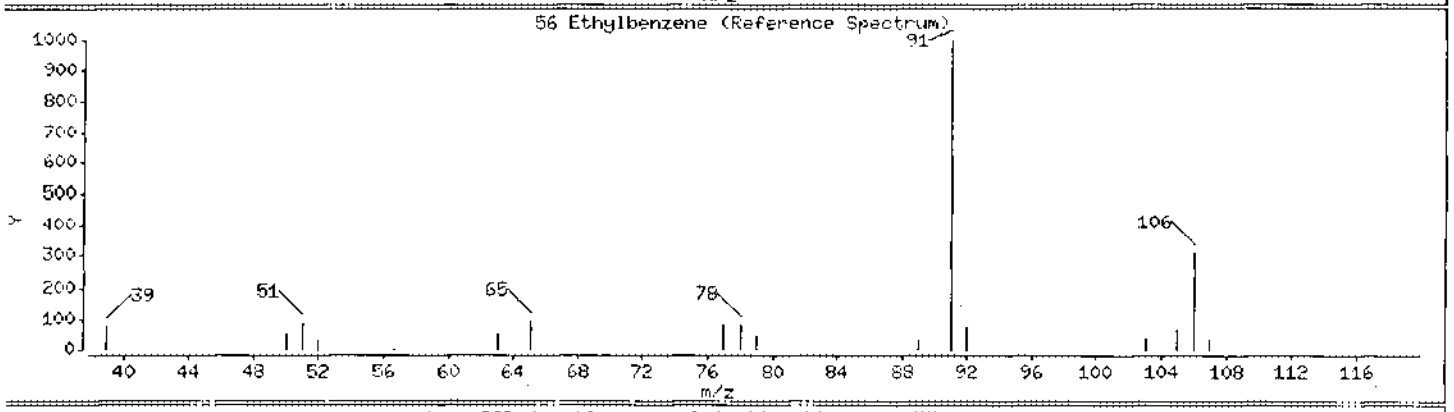
Purge Volume: 25.0 Operator: 2513

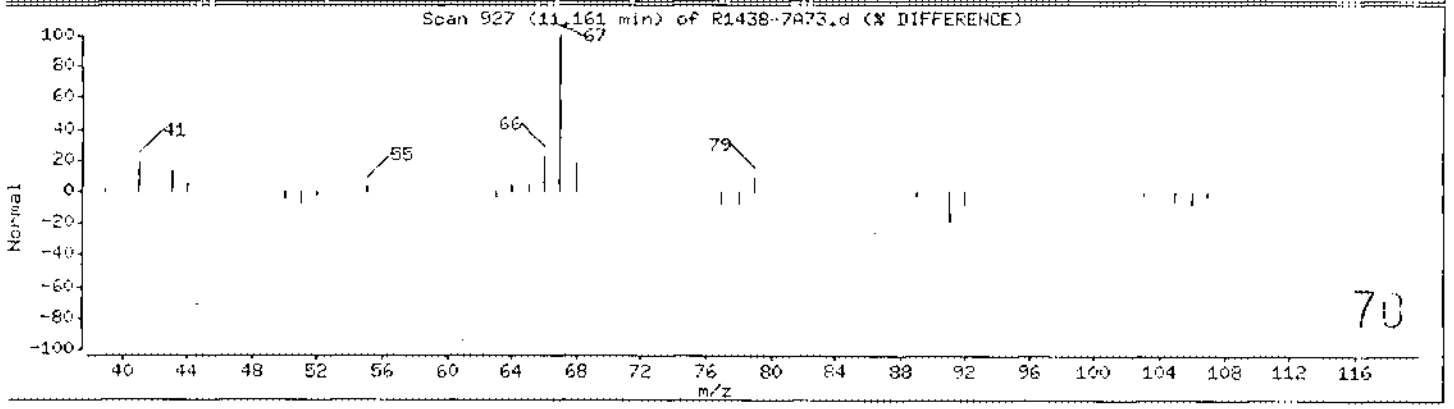
Column phase: ZB624 Column diameter: 0.32

56 Ethylbenzene Concentration: 0.047 ug/L









70

Data File: /chem/5972hp73.i/DF030409A73.b/R1438-7A73.d

Date : 09-APR-2003 22:06

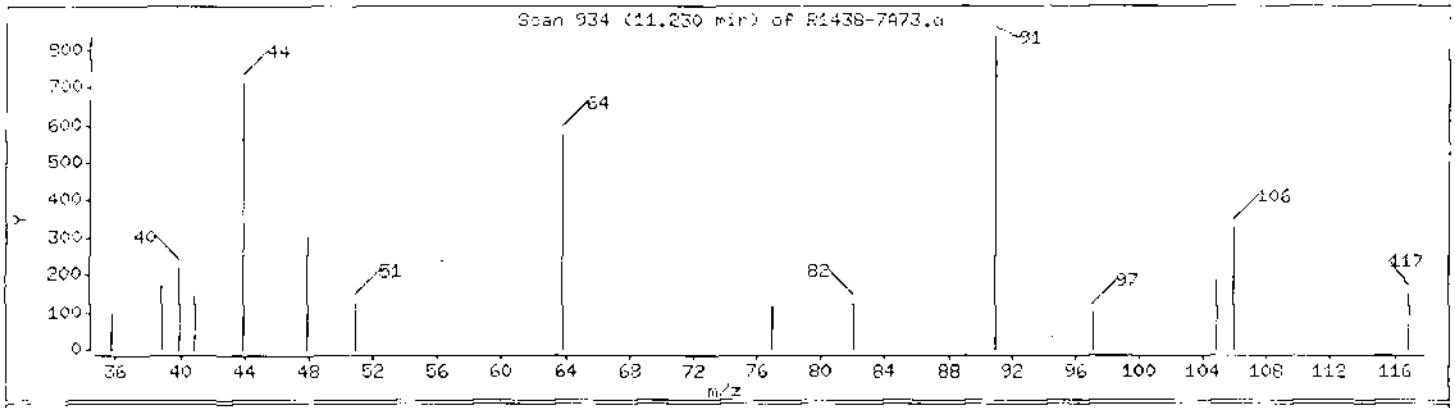
Client ID: AC-107 | Instrument: 5972hp73.i

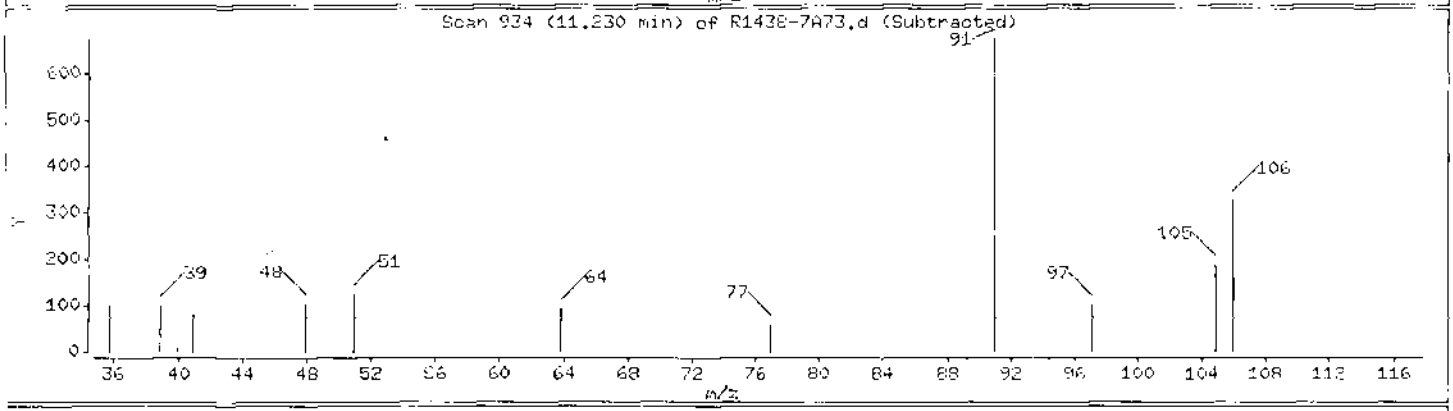
Sample Info:

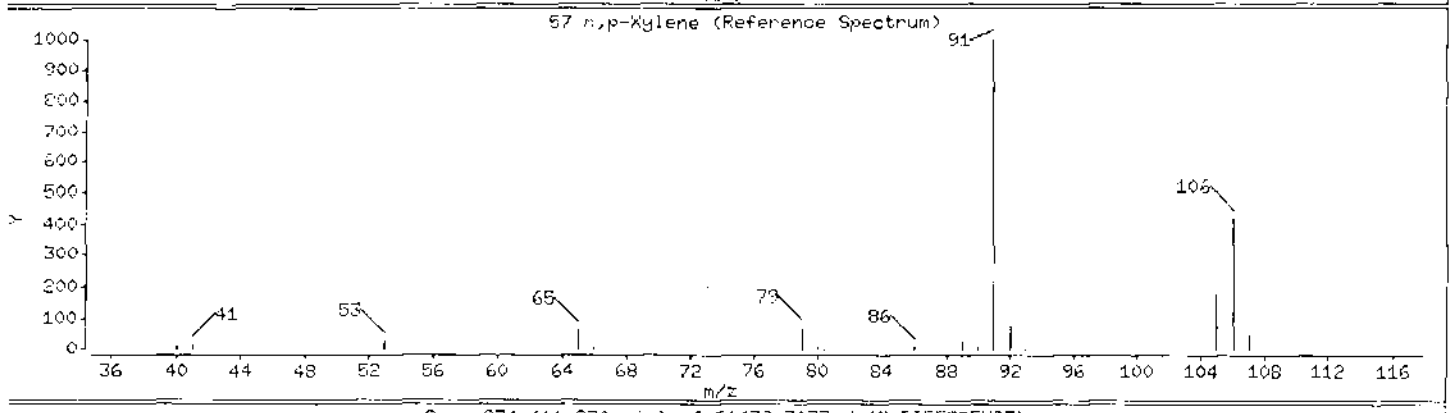
Purge Volume: 25.0 | Operator: 2513

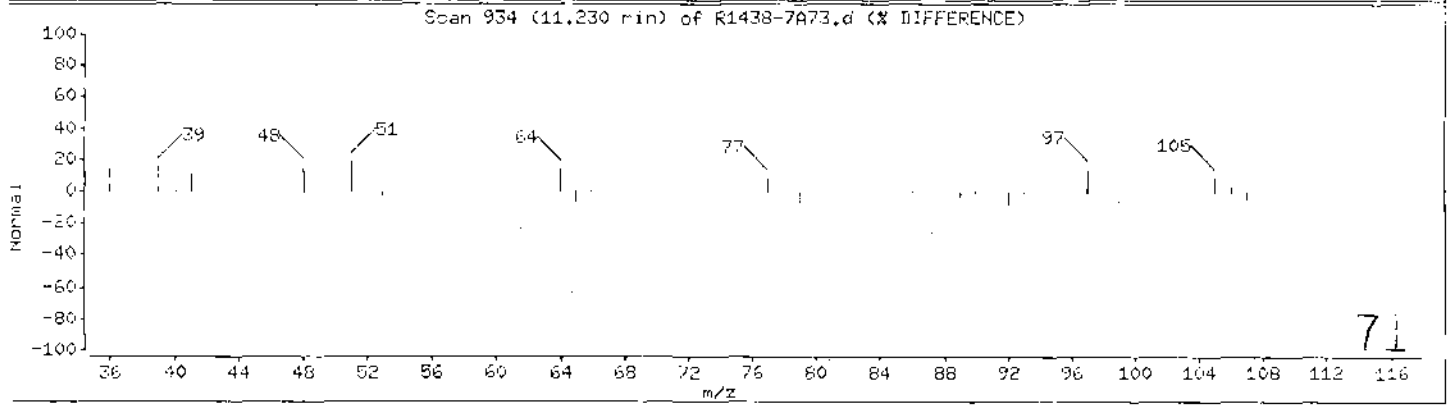
Column phase: ZB624 | Column diameter: 0.32

57 m,p-Xylene | Concentration: 0.058 ug/L









1LCA
LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

EQUIP BLANK

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: R1483-8 Date Received: 04/09/2003

Lab File ID: R1438-8A73 Date Analyzed: 04/09/2003

Purge Volume: 25.0(ML) Dilution Factor: 1.0

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

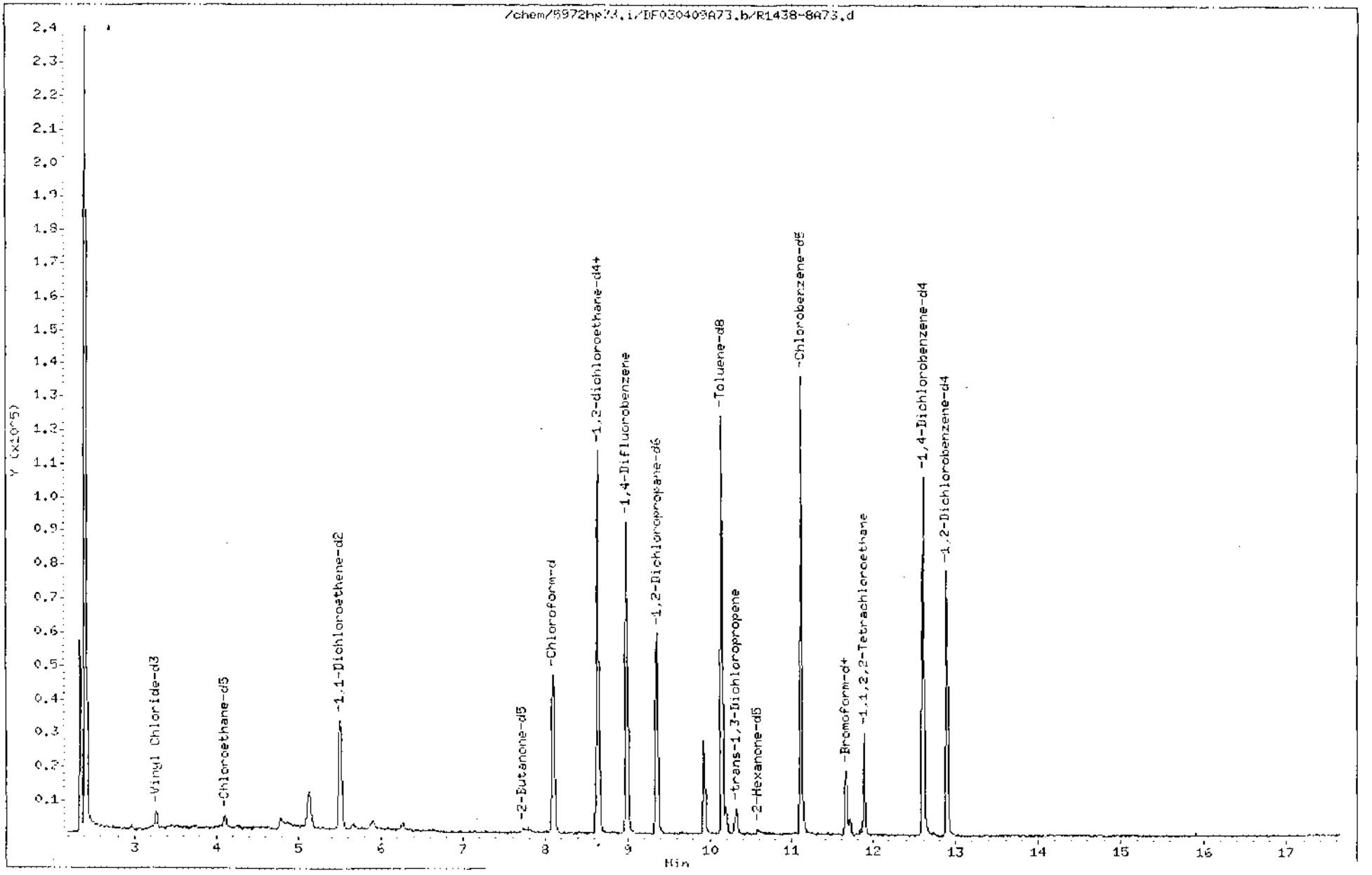
CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylene (Total)	0.50	U
100-42-5	Styrene	0.50	U

Data File: /chem/5972hp73.i/DF030409A73.b/R1438-8A73.d
Date : 09-APR-2003 21:42
Client ID: EQUIP BLANK
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i

Operator: 2513
Column diameter: 0.32

73



Data File: /chem/5972hp73.i/DF030409A73.b/R1438-8A73.d
Report Date: 14-Apr-2003 15:48

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030409A73.b/R1438-8A73.d
Lab Smp Id: R1483-8 Client Smp ID: EQUIP BLANK
Inj Date : 09-APR-2003 21:42
Operator : 2513 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030409A73.b/OLC03v3.m
Meth Date : 14-Apr-2003 15:44 curtis Quant Type: ISTD
Cal Date : 09-APR-2003 13:57 Cal File: CT030409A73.d
Als bottle: 19 QC Sample: FIELDBLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: EXS.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
1 1,4-Difluorobenzene	114	8.996	8.991	(1.000)	82432	125.000	
2 Chlorobenzene-d5	117	11.111	11.107	(1.000)	69796	125.000	
3 1,4-Dichlorobenzene-d4	152	12.597	12.592	(1.000)	39460	125.000	
4 Vinyl Chloride-d3	65	3.269	3.265	(0.363)	5718	93.3143	3.7
5 Chloroethane-d5	69	4.106	4.101	(0.456)	4561	128.186	5.1
6 1,1-Dichloroethene-d2	63	5.503	5.508	(0.612)	39464	86.4393	3.5
7 2-Butanone-d5	46	7.727	7.712	(0.859)	3367	128.690	5.1
8 Chloroform-d	84	8.100	8.096	(0.900)	43697	127.260	5.1
9 1,2-dichloroethane-d4	65	8.632	8.637	(0.960)	17031	148.159	5.9
10 Benzene-d6	84	8.643	8.637	(0.778)	87843	120.509	4.8
11 1,2-Dichloropropane-d6	67	9.360	9.355	(0.842)	28644	127.506	5.1
12 Toluene-d8	98	10.147	10.142	(0.913)	71431	112.413	4.5
13 trans-1,3-Dichloropropene-d4	79	10.324	10.320	(0.929)	3570	120.181	4.8
14 2-Hexanone-d5	63	10.580	10.556	(0.952)	1392	69.5778	2.8
15 1,1,2,2-Tetrachloroethane-d2	84	11.879	11.874	(1.069)	17075	142.113	5.7
16 Bromoform-d	174	11.652	11.648	(0.925)	8275	124.717	5.0

MMC 4/14/03

Data File: /chem/5972hp73.i/DF030409A73.b/R1438-8A73.d
Report Date: 14-Apr-2003 15:48

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
$	17 1,2-Dichlorobenzene-d4	152	12.892	12.897	(1.023)	23588	129.032	5.2
	56 Ethylbenzene	91	Compound Not Detected.					
	57 m,p-Xylene	106	Compound Not Detected.					
	58 o-Xylene	106	Compound Not Detected.					
	59 Styrene	104	Compound Not Detected.					
M	69 Xylene (Total)	106	Compound Not Detected.					

1LCA
LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

EQUIP BL
ANK04-09

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: R1438-13 Date Received: 04/10/2003

Lab File ID: R1438-13B73 Date Analyzed: 04/16/2003

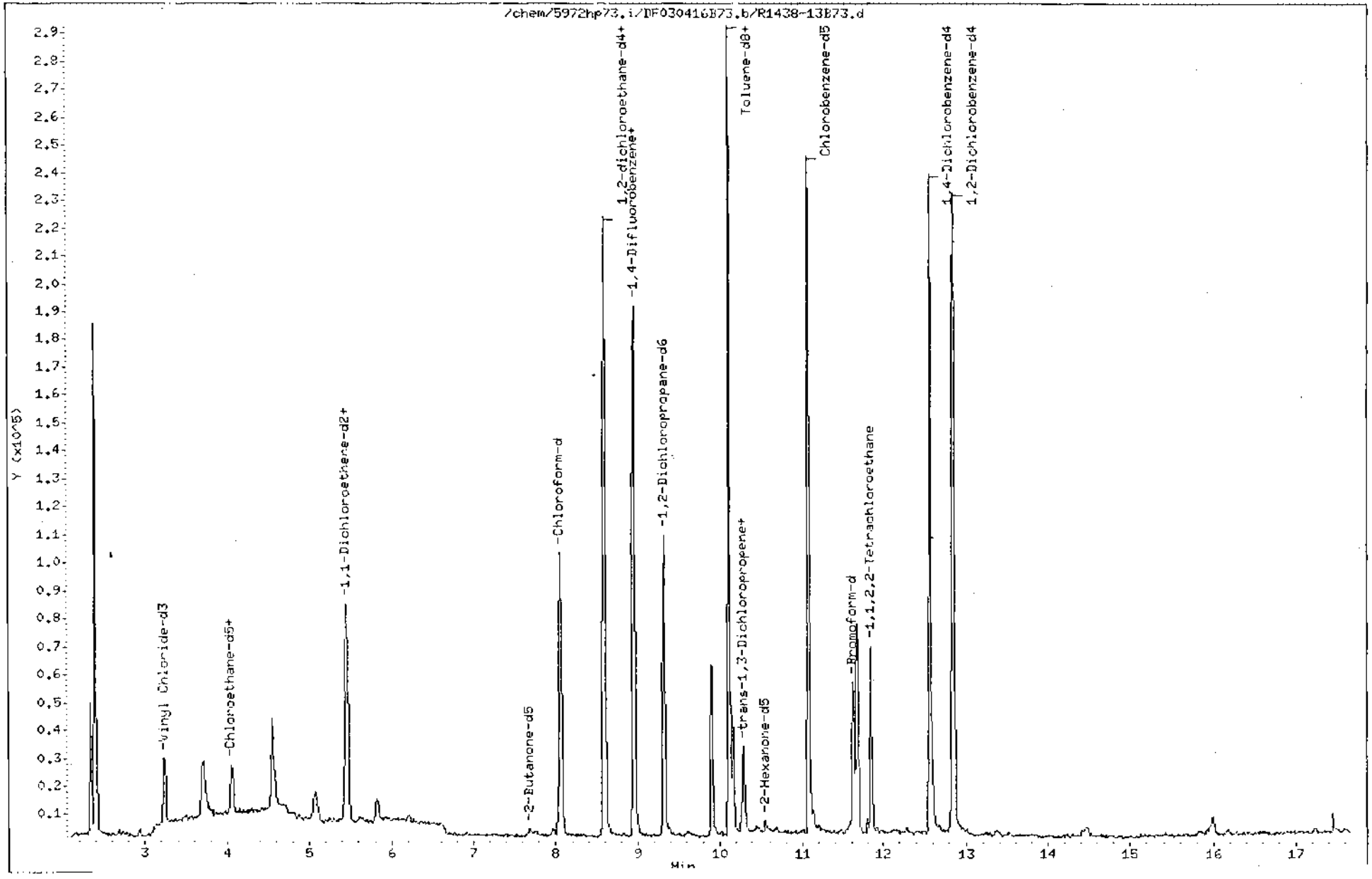
Purge Volume: 25.0(ML) Dilution Factor: 1.0

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
100-41-4	Ethylbenzene	0.079	JB
1330-20-7	Xylene (Total)	0.50	U
100-42-5	Styrene	0.50	U

Data File: /chem/5972hp73.i/DF030416B73.b/R1438-13B73.d
Date : 16-APR-2003 23:54
Client ID: EQUIP BLANK04-09
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2513
Column diameter: 0.32



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Data File: /chem/5972hp73.i/DF030416B73.b/R1438-13B73.d
Report Date: 18-Apr-2003 09:54

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030416B73.b/R1438-13B73.d
Lab Smp Id: R1438-13 Client Smp ID: EQUIP BLANK04-09
Inj Date : 16-APR-2003 23:54
Operator : 2513 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030416B73.b/OLC03v3.m
Meth Date : 18-Apr-2003 09:37 curtis Quant Type: ISTD
Cal Date : 16-APR-2003 19:58 Cal File: CS030416B73.d
Als bottle: 11 QC Sample: FIELDBLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: EXS.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
1 1,4-Difluorobenzene	114	8.961	8.958	(1.000)	192295	125.000	
2 Chlorobenzene-d5	117	11.077	11.084	(1.000)	153192	125.000	
3 1,4-Dichlorobenzene-d4	152	12.564	12.570	(1.000)	74394	125.000	
4 Vinyl Chloride-d3	65	3.233	3.239	(0.361)	27921	147.486	5.9
5 Chloroethane-d5	69	4.060	4.056	(0.453)	22989	128.871	5.2
6 1,1-Dichloroethene-d2	63	5.457	5.463	(0.609)	69375	106.711	4.3
7 2-Butanone-d5	46	7.692	7.678	(0.858)	5334	105.606	4.2
8 Chloroform-d	84	8.066	8.062	(0.900)	112304	127.828	5.1
9 1,2-dichloroethane-d4	65	8.597	8.603	(0.959)	40781	132.638	5.3
10 Benzene-d6	84	8.607	8.603	(0.777)	207972	151.664	6.1(R)
11 1,2-Dichloropropane-d6	67	9.325	9.322	(0.842)	50326	136.867	5.5
12 Toluene-d8	98	10.113	10.119	(0.913)	187845	153.365	6.1(R)
13 trans-1,3-Dichloropropene d4	79	10.300	10.296	(0.930)	10113	129.001	5.2
14 2-Hexanone-d5	63	10.556	10.532	(0.953)	3225	71.0655	2.8
15 1,1,2,2-Tetrachloroethane-d2	84	11.845	11.851	(1.069)	35077	144.899	5.8
16 Bromoform-d	174	11.619	11.625	(0.925)	26261	133.282	5.3

Data File: /chem/5972hp73.i/DF030416B73.b/R1438-13B73.d
Report Date: 18-Apr-2003 09:54

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
3 17 1,2-Dichlorobenzene-d4	152	12.859	12.865	(1.024)	63103	138.950	5.6
56 Ethylbenzene	91	11.136	11.133	(1.005)	3653	1.97379	0.079(a)
57 m,p-Xylene	106	Compound Not Detected.					
58 o-Xylene	106	Compound Not Detected.					
59 Styrene	104	Compound Not Detected.					
4 69 Xylene (Total)	106	Compound Not Detected.					

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.

Data File: /chem/5972hp73.i/DF030416B73.b/R1438-13B73.d

Date : 16-APR-2003 23:54

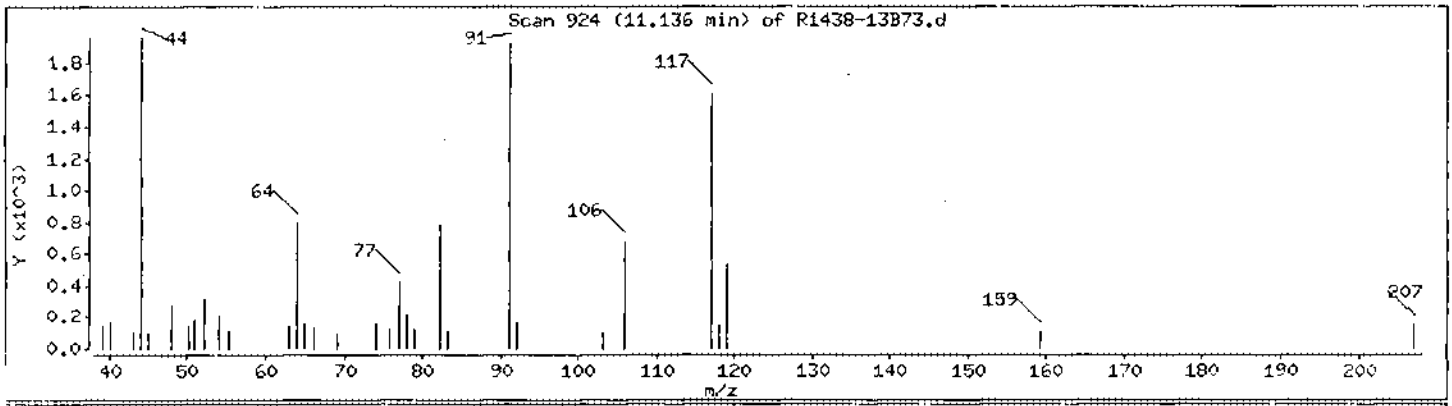
Client ID: EQUIP BLANK04-09 | Instrument: 5972hp73.i

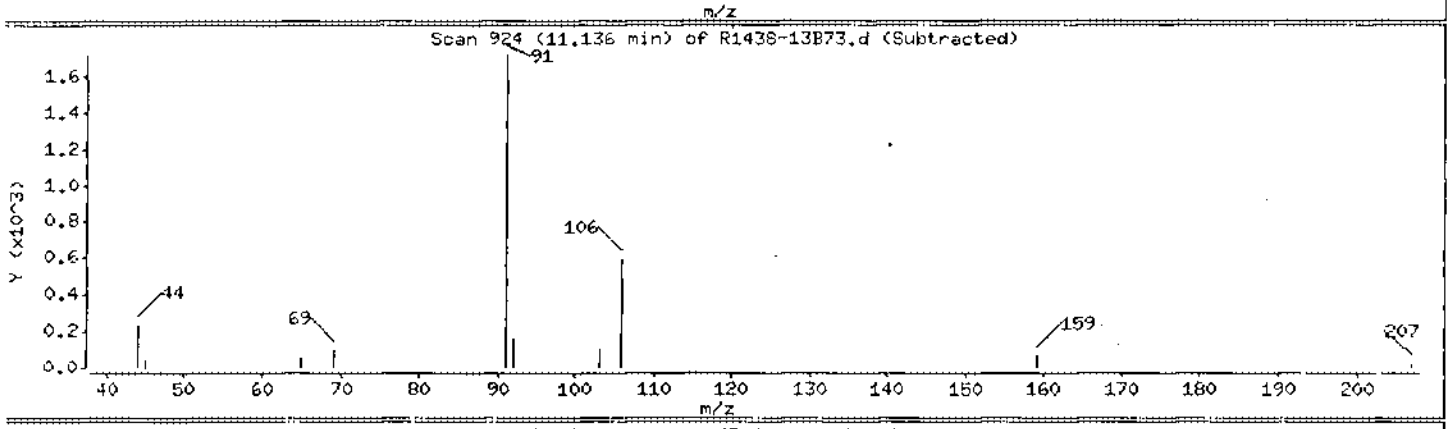
Sample Info:

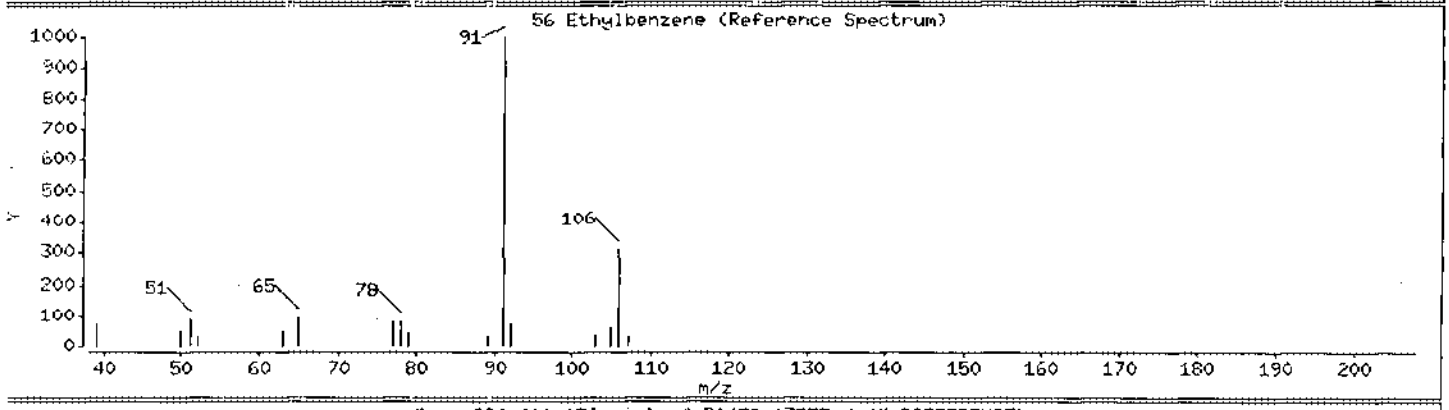
Purge Volume: 25.0 | Operator: 2513

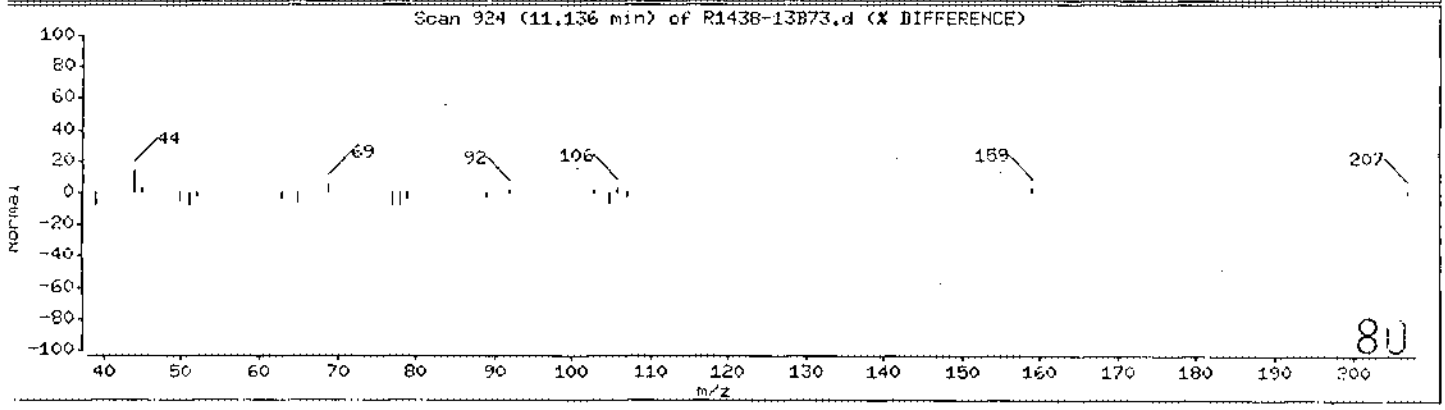
Column phase: ZB624 | Column diameter: 0.32

56 Ethylbenzene | Concentration: 0.079 ug/L









8U

1LCA
LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

FIELD BLANK

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: R1483-9 Date Received: 04/09/2003

Lab File ID: R1438-9A73 Date Analyzed: 04/09/2003

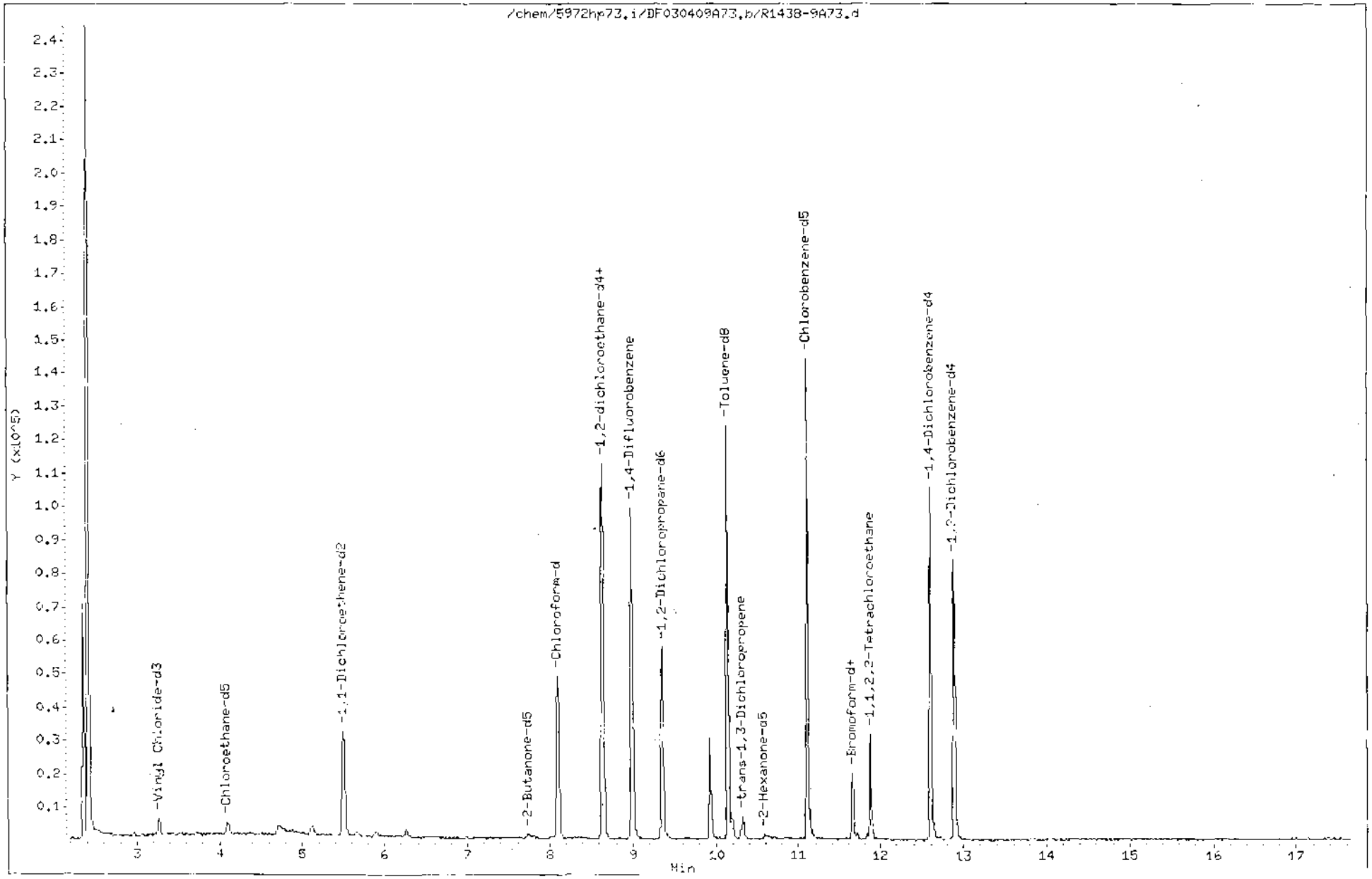
Purge Volume: 25.0(ML) Dilution Factor: 1.0

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylene (Total)	0.50	U
100-42-5	Styrene	0.50	U

Data File: /chem/5972hp73.i/DF030409A73.b/R1438-9A73.d
Date : 09-APR-2003 21:18
Client ID: FIELD BLANK
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2513
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030409A73.b/R1438-9A73.d
Report Date: 14-Apr-2003 15:48

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030409A73.b/R1438-9A73.d
Lab Smp Id: R1483-9 Client Smp ID: FIELD BLANK
Inj Date : 09-APR-2003 21:18
Operator : 2513 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030409A73.b/OLC03v3.m
Meth Date : 14-Apr-2003 15:44 curtis Quant Type: ISTD
Cal Date : 09-APR-2003 13:57 Cal File: CT030409A73.d
Als bottle: 18 QC Sample: FIELDBLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: EXS.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
1 1,4-Difluorobenzene	114	8.996	8.991	(1.000)	90073	125.000	
2 Chlorobenzene-d5	117	11.111	11.107	(1.000)	74030	125.000	
3 1,4-Dichlorobenzene-d4	152	12.597	12.592	(1.000)	30958	125.000	
4 Vinyl Chloride-d3	65	3.270	3.265	(0.363)	5615	83.8600	3.4
5 Chloroethane-d5	69	4.106	4.101	(0.456)	4440	114.199	4.6
6 1,1-Dichloroethene-d2	63	5.503	5.508	(0.612)	30233	81.1712	3.2(R)
7 2-Butanone-d5	46	7.727	7.712	(0.859)	3242	113.401	4.5
8 Chloroform-d	84	8.101	8.096	(0.900)	45704	121.813	4.9
9 1,2-dichloroethane-d4	65	8.632	8.637	(0.960)	16894	134.500	5.4
10 Benzene-d6	84	8.642	8.637	(0.778)	92525	119.672	4.8
11 1,2-Dichloropropane-d6	67	9.360	9.355	(0.842)	28725	120.554	4.8
12 Toluene-d8	98	10.147	10.142	(0.913)	76219	113.087	4.5
13 trans-1,3-Dichloropropene-d4	79	10.324	10.320	(0.929)	3201	101.595	4.1
14 2-Hexanone-d5	63	10.590	10.556	(0.953)	955	45.0047	1.8(R)
15 1,1,2,2-Tetrachloroethane-d2	84	11.879	11.874	(1.069)	17483	137.187	5.5
16 Bromoform-d	174	11.653	11.648	(0.925)	8629	123.720	4.9

MC 4/14/03

Data File: /chem/5972hp73.i/DF030409A73.b/R1438-9A73.d
Report Date: 14-Apr-2003 15:48

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
$ 17 1,2-Dichlorobenzene-d4	152	12.892	12.897	(1.023)	25633	133.391	5.3
56 Ethylbenzene	91	Compound Not Detected.					
57 m,p-Xylene	106	Compound Not Detected.					
58 o-Xylene	106	Compound Not Detected.					
59 Styrene	104	Compound Not Detected.					
M 69 Xylene (Total)	106	Compound Not Detected.					

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ILCA
LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

FIELD BLANK

Lab Name: COMPUCHEM Contract: OLC03 REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: R1438-14 Date Received: 04/10/2003

Lab File ID: R1438-14B73 Date Analyzed: 04/17/2003

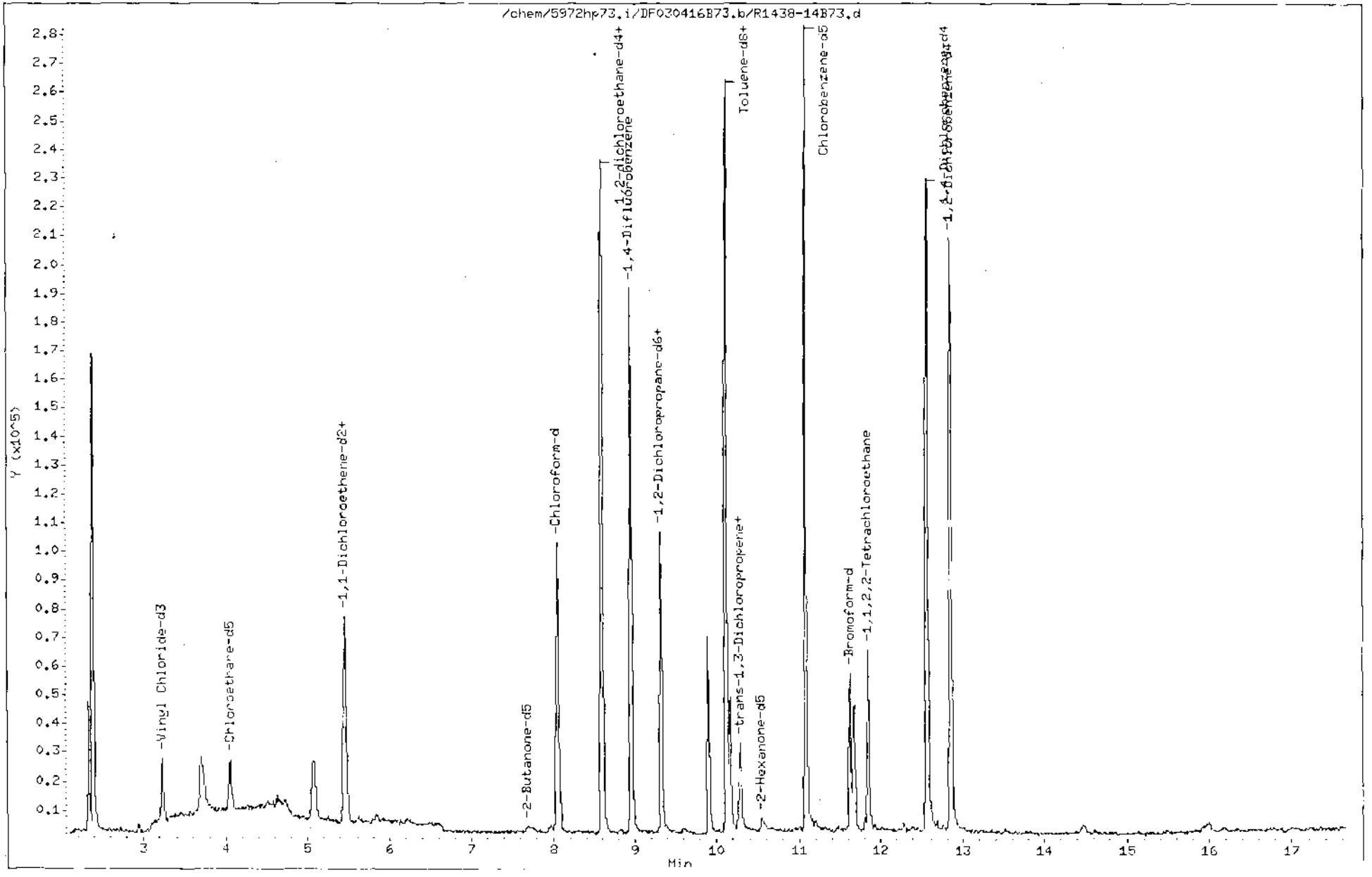
Purge Volume: 25.0(ML) Dilution Factor: 1.0

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
100-41-4	Ethylbenzene	0.030	JB
1330-20-7	Xylene (Total)	0.50	U
100-42-5	Styrene	0.50	U

Data File: /chem/5972hp73.i/DF030416B73.b/R1438-14B73.d
Date : 17-APR-2003 00:18
Client ID: FIELD BLANK
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2513
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030416B73.b/R1438-14B73.d
Report Date: 18-Apr-2003 09:54

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030416B73.b/R1438-14B73.d
Lab Smp Id: R1438-14 Client Smp ID: FIELD BLANK
Inj Date : 17-APR-2003 00:18
Operator : 2513 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030416B73.b/OLC03v3.m
Meth Date : 18-Apr-2003 09:37 curtis Quant Type: ISTD
Cal Date : 16-APR-2003 19:58 Cal File: CS030416B73.d
Als bottle: 12 QC Sample: FIELDBLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: EXS.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
1 1,4-Difluorobenzene	114	8.957	8.958	(1.000)	184532	125.000	
2 Chlorobenzene-d5	117	11.083	11.084	(1.000)	162434	125.000	
3 1,4 Dichlorobenzene-d4	152	12.570	12.570	(1.000)	77648	125.000	
4 Vinyl Chloride-d3	65	3.239	3.239	(0.362)	24689	135.900	5.4
5 Chloroethane d5	69	4.066	4.056	(0.454)	22474	131.284	5.3
6 1,1-Dichloroethene-d2	63	5.463	5.463	(0.610)	62667	100.448	4.0
7 2-Butanone-d5	46	7.698	7.678	(0.859)	5216	107.614	4.3
8 Chloroform-d	84	8.062	8.062	(0.900)	108913	129.184	5.2
9 1,2-dichloroethane-d4	65	8.603	8.603	(0.960)	39810	134.927	5.4
10 Benzene-d6	84	8.603	8.603	(0.776)	202868	139.525	5.6
11 1,2-Dichloropropane-d6	67	9.322	9.322	(0.841)	49765	127.641	5.1
12 Toluene-d8	98	10.119	10.119	(0.913)	186250	143.410	5.7
13 trans-1,3 Dichloropropene-d4	79	10.296	10.296	(0.929)	11244	135.268	5.4
14 2-Hexanone-d5	63	10.562	10.532	(0.953)	4269	88.7186	3.5
15 1,1,2,2-Tetrachloroethane-d2	84	11.851	11.851	(1.069)	35125	136.842	5.5
16 Bromoform d	174	11.625	11.625	(0.935)	26734	129.996	5.2

MC 4/18/03

Data File: /chem/5972hp73.i/DF030416B73.b/R1438-14B73.d
Report Date: 18-Apr-2003 09:54

	Compounds	QUANT SIG* MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
$	17 1,2-Dichlorobenzene-d4	152	12.855	12.865	(1.023)	63250	133.477	5.3
	56 Ethylbenzene	91	11.133	11.133	(1.004)	1467	0.74755	0.030(a)
	57 m,p-Xylene	106	Compound Not Detected.					
	58 o-Xylene	106	Compound Not Detected.					
	59 Styrene	104	Compound Not Detected.					
M	69 Xylene (Total)	106	Compound Not Detected.					

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: /chem/5972hp73.i/DF030416B73.b/R1438-14B73.d

Date : 17-APR-2003 00:18

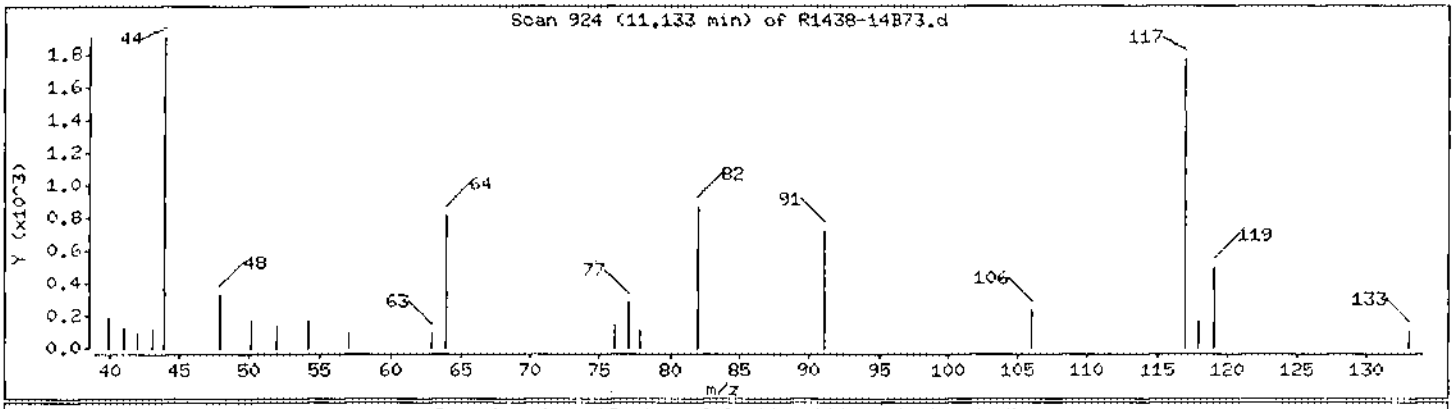
Client ID: FIELD BLANK | Instrument: 5972hp73.i

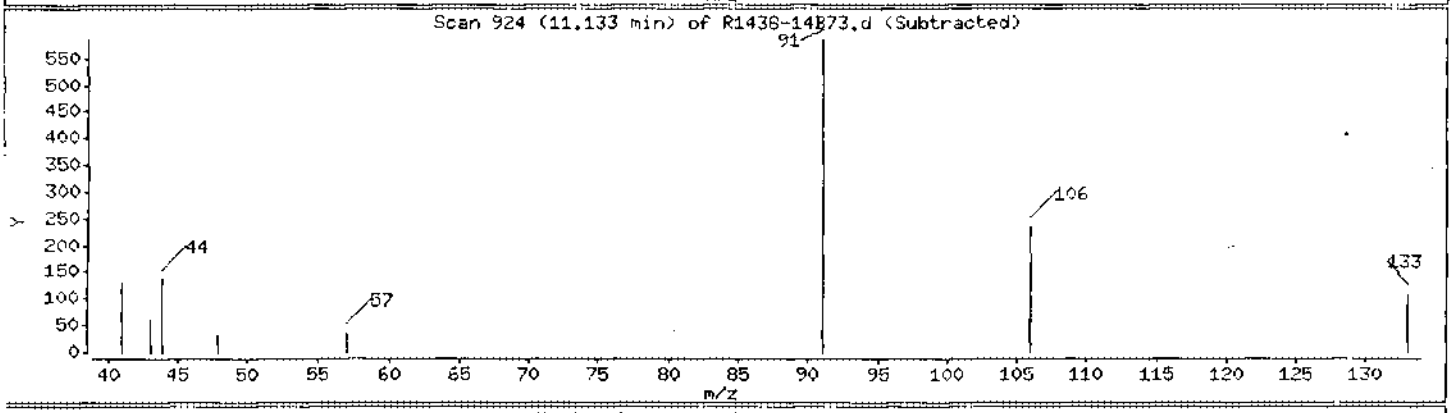
Sample Info:

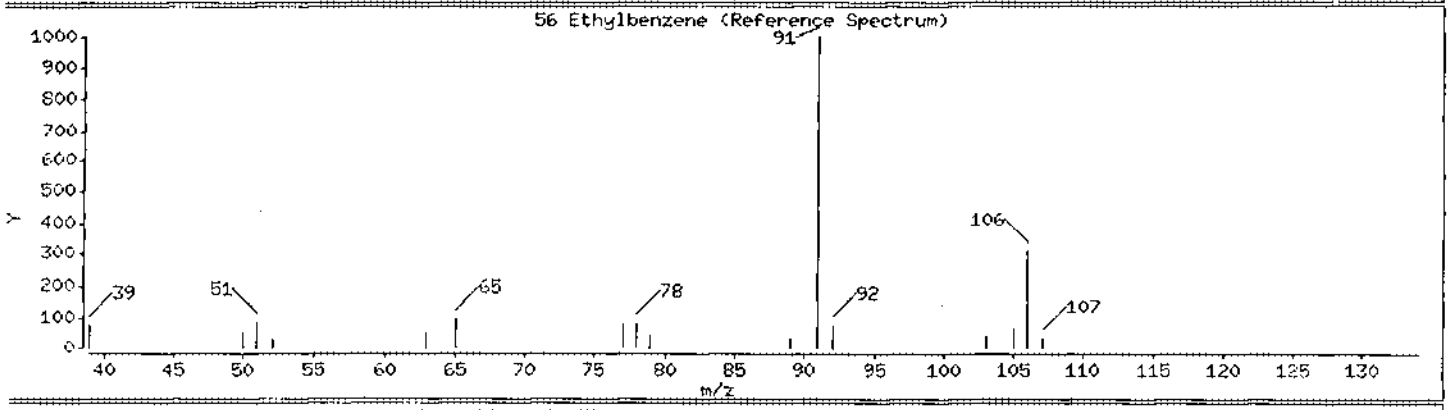
Purge Volume: 35.0 | Operator: 2513

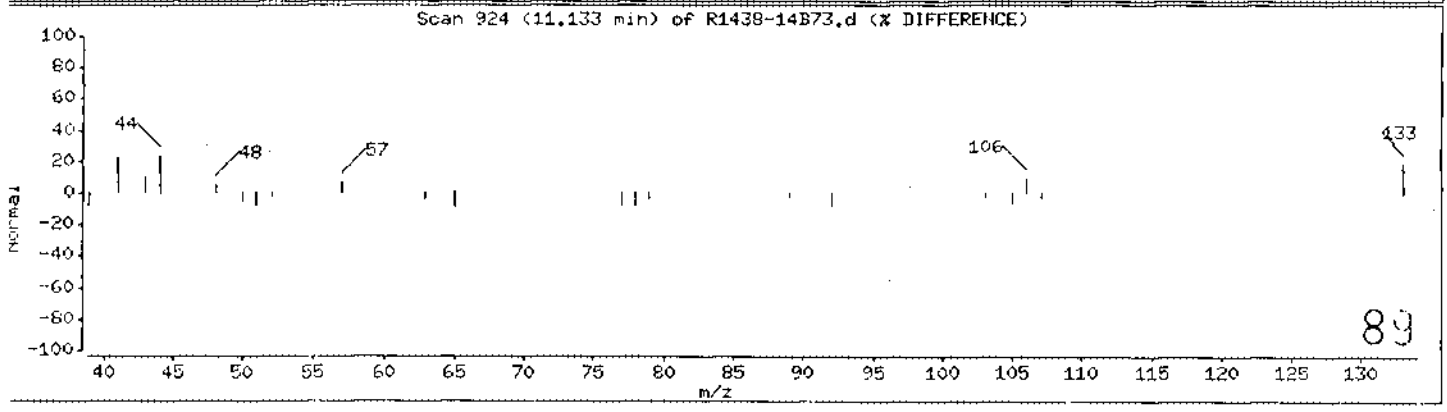
Column phase: ZB624 | Column diameter: 0.32

56 Ethylbenzene | Concentration: 0.030 ug/L









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1LCA
LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

SP-2

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: R1483-5 Date Received: 04/09/2003

Lab File ID: R1438-5A73 Date Analyzed: 04/09/2003

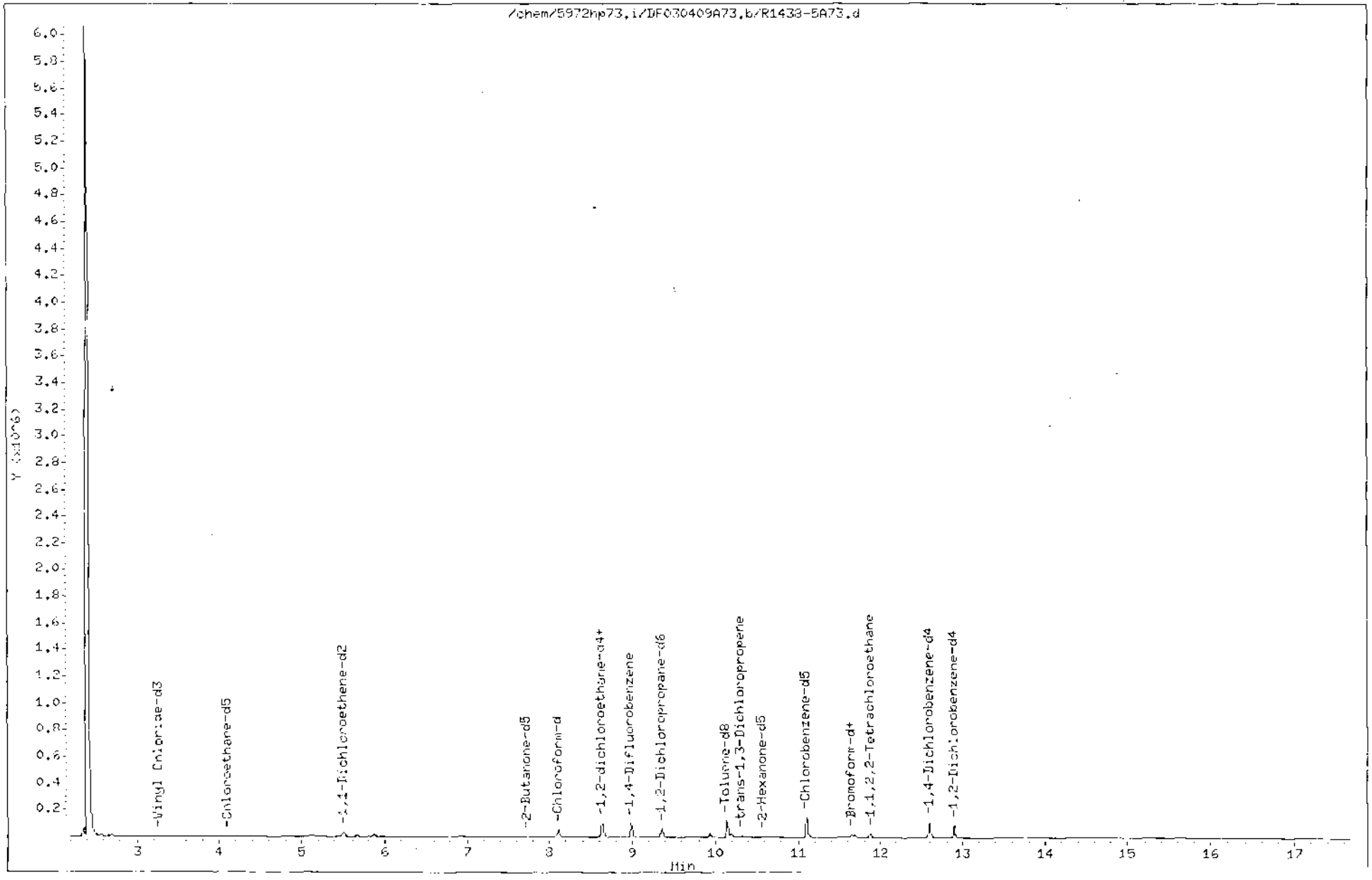
Purge Volume: 25.0(ML) Dilution Factor: 1.0

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
100-41-4	Ethylbenzene	0.091	J
1330-20-7	Xylene (Total)	0.50	U
100-42-5	Styrene	0.50	U

Data File: /chem/5972hp73.i/DF030409A73.b/R1438-5A73.d
Date : 09-APR-2003 22:54
Client ID: SP-2
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2513
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030409A73.b/R1438-5A73.d
Report Date: 14-Apr-2003 15:48

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030409A73.b/R1438-5A73.d
Lab Smp Id: R1483-5 Client Smp ID: SP-2
Inj Date : 09-APR-2003 22:54
Operator : 2513 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030409A73.b/OLC03v3.m
Meth Date : 14-Apr-2003 15:44 curtis Quant Type: ISTD
Cal Date : 09-APR-2003 13:57 Cal File: CT030409A73.d
Als bottle: 22
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: EXS.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
1 1,4-Difluorobenzene	114	8.991	8.991	(1.000)	86762	125.000	
2 Chlorobenzene-d5	117	11.106	11.107	(1.000)	78355	125.000	
3 1,4-Dichlorobenzene-d4	152	12.602	12.592	(1.000)	30653	125.000	
4 Vinyl Chloride-d3	65	3.265	3.265	(0.363)	2938	45.5535	1.8(R)
5 Chloroethane-d5	69	4.101	4.101	(0.456)	3132	83.6311	3.3
6 1,1-Dichloroethene-d2	63	5.508	5.508	(0.613)	21599	60.2032	2.4(R)
7 2-Butanone-d5	46	7.732	7.712	(0.860)	3296	119.689	4.8
8 Chloroform-d	84	8.106	8.096	(0.902)	43239	119.641	4.8
9 1,2-dichloroethane-d4	65	8.637	8.637	(0.961)	17181	142.004	5.7
10 Benzene-d6	84	8.647	8.637	(0.779)	83048	101.485	4.1
11 1,2-Dichloropropane-d6	67	9.355	9.355	(0.842)	27167	107.722	4.3
12 Toluene-d8	98	10.142	10.142	(0.913)	74100	103.875	4.2
13 trans-1,3-Dichloropropene-d4	79	10.329	10.320	(0.930)	3633	108.942	4.4
14 2-Hexanone-d5	63	10.575	10.556	(0.952)	1648	73.3758	2.9
15 1,1,2,2-Tetrachloroethane-d2	84	11.874	11.874	(1.069)	18651	138.274	5.5
16 Bromoform-d	174	11.648	11.648	(0.924)	9073	131.423	5.3

MC 1193

Data File: /chem/5972hp73.i/DF030409A73.b/R1438-5A73.d
Report Date: 14-Apr-2003 15:48

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
$ 17 1,2-Dichlorobenzene-d4	152	12.897	12.897	(1.023)	25614	134.662	5.4
56 Ethylbenzene	91	11.165	11.156	(1.005)	2129	2.28241	0.091(a)
57 m,p-Xylene	106	Compound Not Detected.					
58 o-Xylene	106	Compound Not Detected.					
59 Styrene	104	Compound Not Detected.					
M 69 Xylene (Total)	106	Compound Not Detected.					

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.

Data File: /chem/5972hp73.i/DF030409A73.b/R1438-5A73.d

Date : 09-APR-2003 22:54

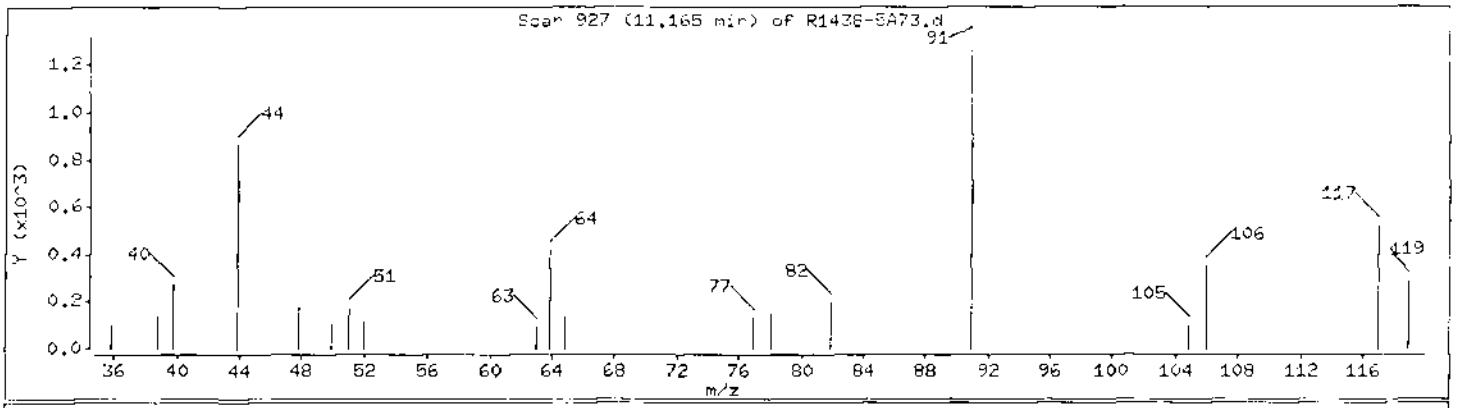
Client ID: SP-2 | Instrument: 5972hp73.i

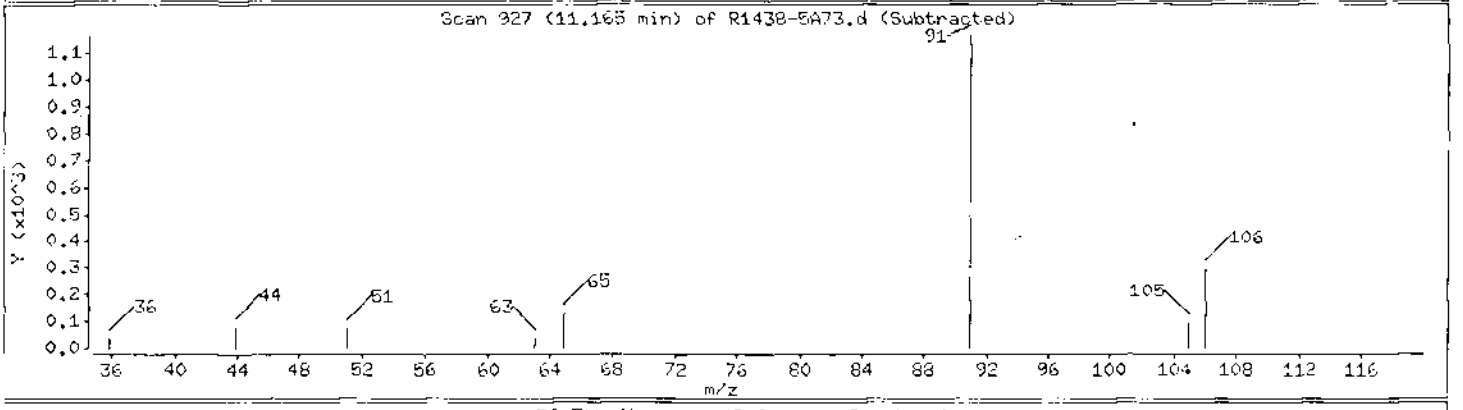
Sample Info:

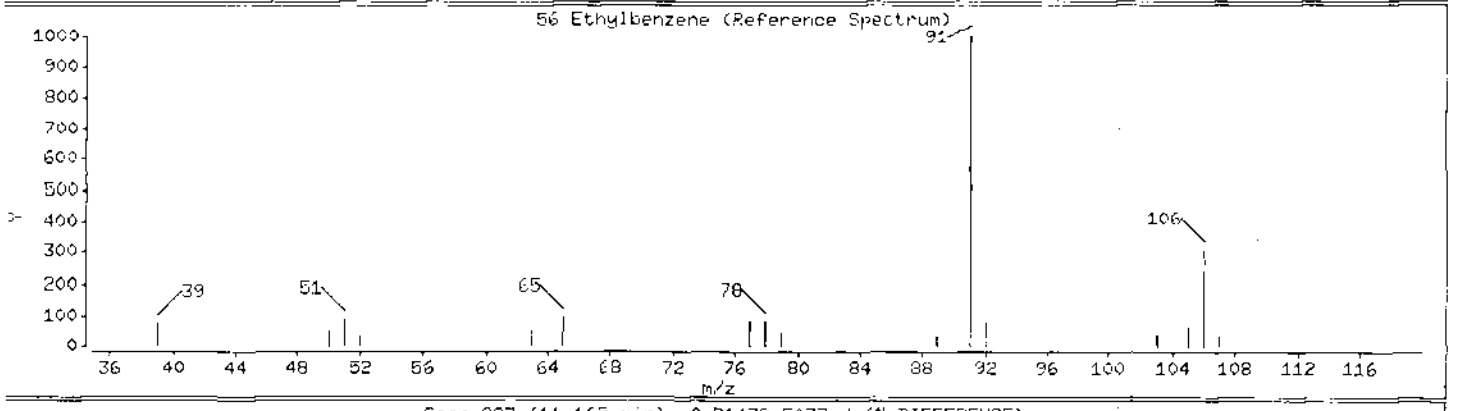
Purge Volume: 25.0 | Operator: 2513

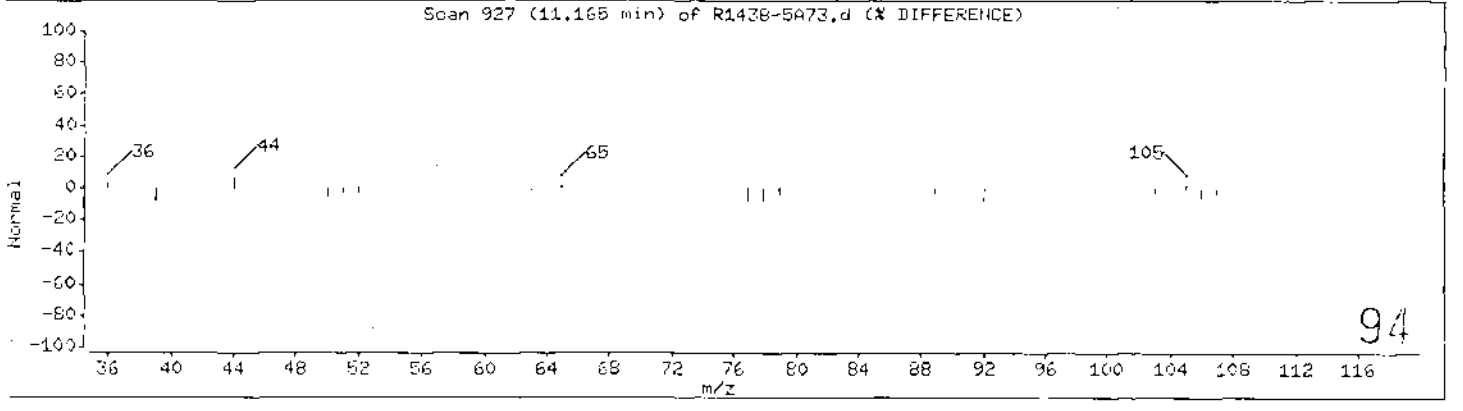
Column phase: ZB624 | Column diameter: 0.32

56 Ethylbenzene | Concentration: 0.091 ug/L









1LCA
LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

SP-6

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: R1438-4 Date Received: 04/09/2003

Lab File ID: R1438-4RA73 Date Analyzed: 04/10/2003

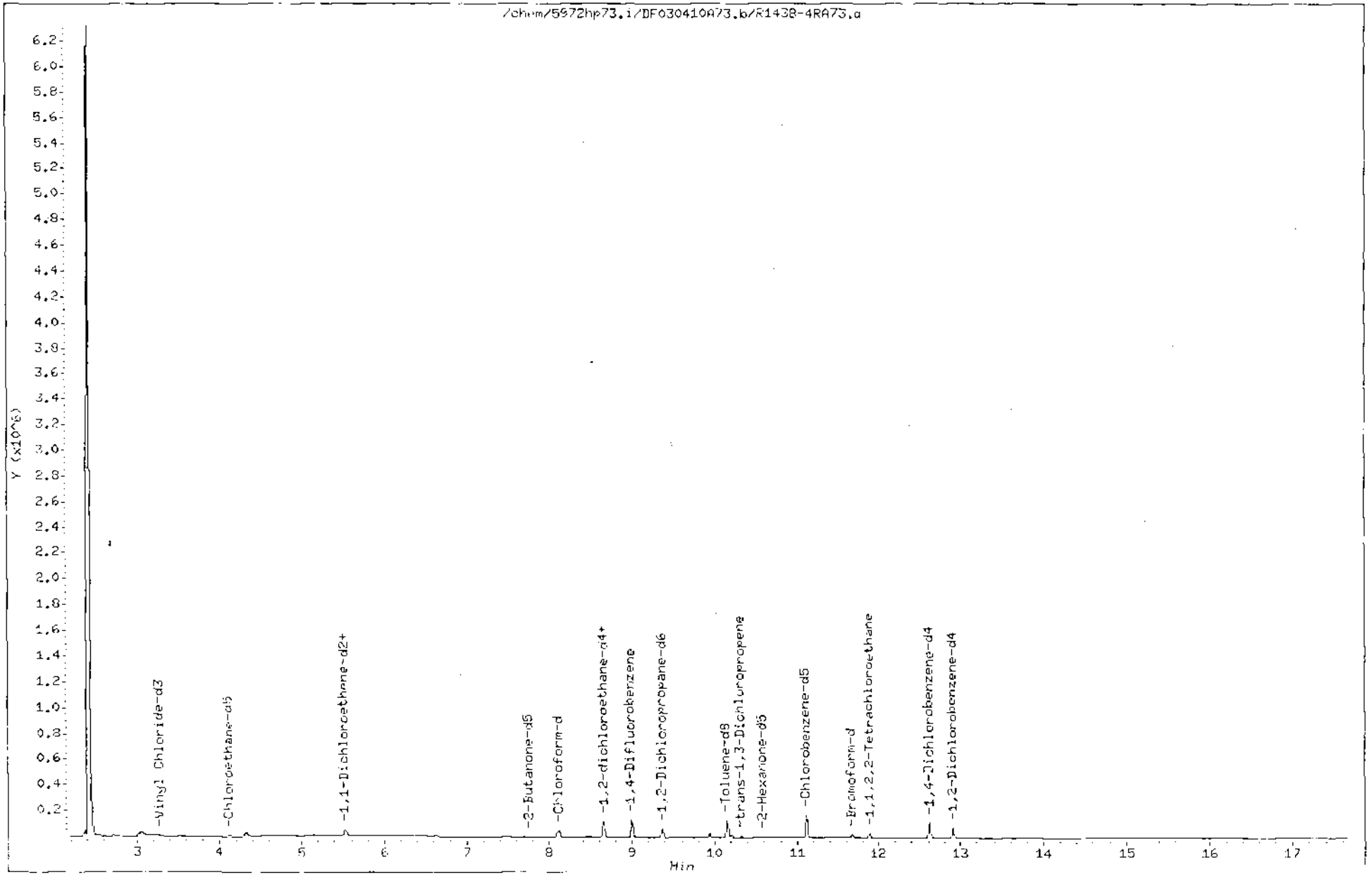
Purge Volume: 25.0(ML) Dilution Factor: 1.0

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylene (Total)	0.50	U
100-42-5	Styrene	0.50	U

Data File: /chem/5972hp73.i/DF030410A73.b/R1438-4RA73.d
Date : 10-APR-2003 15:16
Client ID: SP-6
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2537
Column diameter: 0.32



96

Data File: /chem/5972hp73.i/DF030410A73.b/R1438-4RA73.d
Report Date: 14-Apr-2003 16:19

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030410A73.b/R1438-4RA73.d
Lab Smp Id: R1438-4 Client Smp ID: SP-6
Inj Date : 10-APR-2003 15:16
Operator : 2537 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030410A73.b/OLC03v3.m
Meth Date : 14-Apr-2003 16:01 curtis Quant Type: ISTD
Cal Date : 10-APR-2003 08:21 Cal File: CS030410A73.d
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: EXS.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
1 1,4-Difluorobenzene	114	9.005	9.005	(1.000)	104500	125.000	
2 Chlorobenzene-d5	117	11.120	11.120	(1.000)	85064	125.000	
3 1,4-Dichlorobenzene-d4	152	12.616	12.606	(1.000)	34198	125.000	
4 Vinyl Chloride-d3	65	3.288	3.279	(0.365)	9198	146.830	5.9
5 Chloroethane-d5	69	4.125	4.115	(0.458)	6031	146.441	5.9
6 1,1-Dichloroethene d2	63	5.532	5.522	(0.614)	38555	104.352	4.2
7 2-Butanone-d5	46	7.755	7.736	(0.861)	2991	89.1786	3.6
8 Chloroform-d	84	8.119	8.119	(0.902)	50281	121.818	4.9
9 1,2-dichloroethane-d4	65	8.651	8.651	(0.961)	17501	121.829	4.9
10 Benzene-d6	84	8.661	8.651	(0.779)	99747	118.684	4.7
11 1,2-Dichloropropane-d6	67	9.369	9.369	(0.842)	29621	115.248	4.6
12 Toluene-d8	98	10.156	10.156	(0.913)	79683	108.667	4.3
13 trans-1,3-Dichloropropene-d4	79	10.333	10.333	(0.929)	3417	91.8996	3.7(R)
14 2-Hexanone-d5	63	10.599	10.569	(0.953)	1113	41.0221	1.6(R)
15 1,1,2,2-Tetrachloroethane-d2	84	11.888	11.888	(1.069)	15063	101.097	4.0
16 Bromoform-d	174	11.661	11.661	(0.924)	7661	96.7838	3.9

MC 4/14/03

Data File: /chem/5972hp73.i/DF030410A73.b/R1438-4RA73.d
Report Date: 14-Apr-2003 16:19

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
$ 17 1,2-Dichlorobenzene-d4	152	12.911	12.911	(1.033)	22157	113.291	4.5
56 Ethylbenzene	91	Compound Not Detected.					
57 m,p-Xylene	106	Compound Not Detected.					
58 o-Xylene	106	Compound Not Detected.					
59 Styrene	104	Compound Not Detected.					
M 69 Xylene (Total)	106	Compound Not Detected.					

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

1LCA
LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

SP-7

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: R1438-3 Date Received: 04/09/2003

Lab File ID: R1438-3A73 Date Analyzed: 04/10/2003

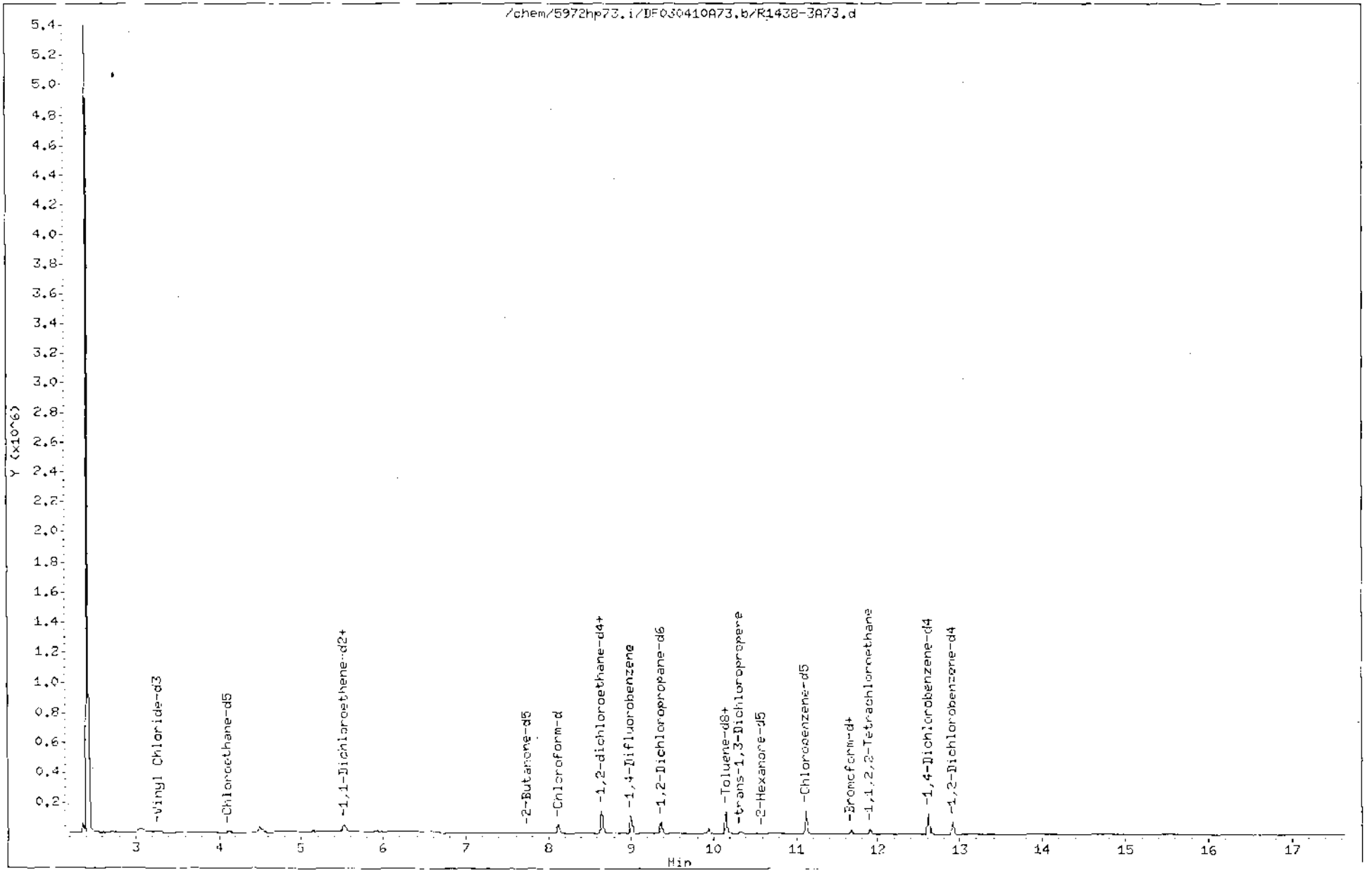
Purge Volume: 25.0(ML) Dilution Factor: 1.0

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylene (Total)	0.50	U
100-42-5	Styrene	0.50	U

Data File: /chem/5972hp73.i/DF030410A73.b/R1438-3A73.d
Date : 10-APR-2003 12:20
Client ID: SP-7
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2537
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030410A73.b/R1438-3A73.d
Report Date: 14-Apr-2003 16:19

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030410A73.b/R1438-3A73.d
Lab Smp Id: R1438-3 Client Smp ID: SP-7
Inj Date : 10-APR-2003 12:20
Operator : 2537 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030410A73.b/OLC03v3.m
Meth Date : 14-Apr-2003 16:01 curtis Quant Type: ISTD
Cal Date : 10-APR-2003 08:21 Cal File: CS030410A73.d
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: EXS.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
1 1,4-Difluorobenzene	114	9.011	9.005	(1.000)	104952	125.000	
2 Chlorobenzene-d5	117	11.126	11.120	(1.000)	86835	125.000	
3 1,4-Dichlorobenzene-d4	152	12.612	12.606	(1.000)	36862	125.000	
4 Vinyl Chloride-d3	65	3.284	3.279	(0.364)	8983	142.780	5.7
5 Chloroethane-d5	69	4.121	4.115	(0.457)	5989	144.795	5.8
6 1,1-Dichloroethene-d2	63	5.528	5.522	(0.613)	37801	102.871	4.1
7 2-Butanone-d5	46	7.751	7.736	(0.860)	4160	123.499	4.9
8 Chloroform-d	84	8.125	8.119	(0.902)	54537	131.536	5.3
9 1,2-dichloroethane-d4	65	8.656	8.651	(0.961)	20727	143.664	5.7
10 Benzene-d6	84	8.656	8.651	(0.778)	110313	128.579	5.1
11 1,2-Dichloropropane d6	67	9.375	9.369	(0.843)	32525	123.966	5.0
12 Toluene-d8	98	10.162	10.156	(0.913)	88421	118.124	4.7
13 trans 1,3-Dichloropropene-d4	79	10.339	10.333	(0.929)	4428	116.661	4.7
14 2-Hexanone-d5	63	10.585	10.569	(0.951)	2039	73.6192	2.9
15 1,1,2,2-Tetrachloroethane-d2	84	11.884	11.888	(1.068)	18439	121.232	4.8
16 Bromoform-d	174	11.667	11.661	(0.925)	9908	116.125	4.6

MC 4/14/03

Data File: /chem/5972hp73.i/DF030410A73.b/R1438-3A73.d
Report Date: 14-Apr-2003 16:19

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
$ 17 1,2-Dichlorobenzene-d4	152	12.907	12.911	(1.023)	26163	124.107	5.0
56 Ethylbenzene	91	Compound Not Detected.					
57 m,p-Xylene	106	Compound Not Detected.					
58 o-Xylene	106	Compound Not Detected.					
59 Styrene	104	Compound Not Detected.					
M 69 Xylene (Total)	106	Compound Not Detected.					

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LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

- SP-8

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: R1438-2 Date Received: 04/09/2003

Lab File ID: R1438-2A73 Date Analyzed: 04/10/2003

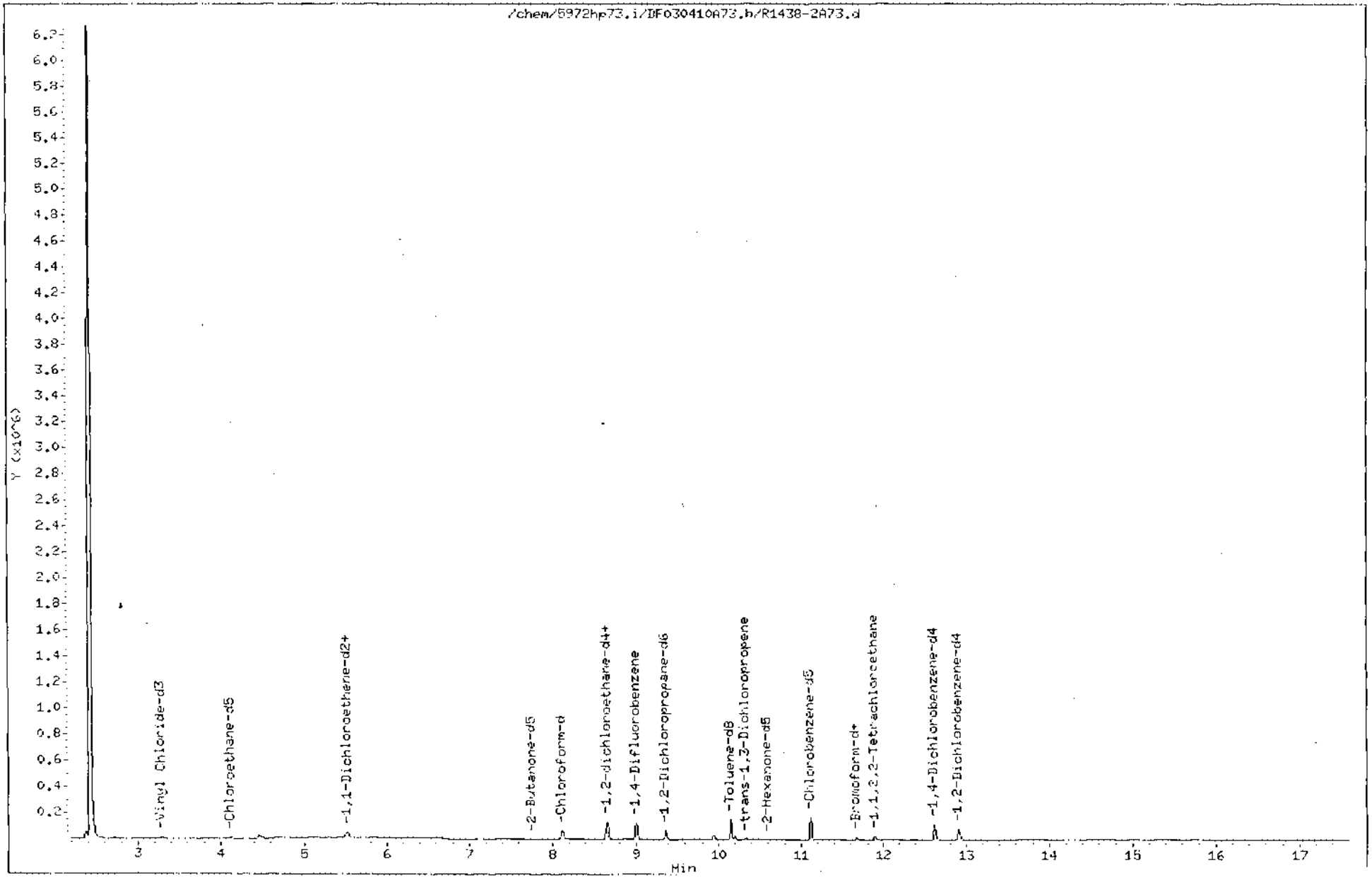
Purge Volume: 25.0(ML) Dilution Factor: 1.0

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylene (Total)	0.50	U
100-42-5	Styrene	0.50	U

Data File: /chem/5972hp73.i/DF030410A73.b/R1438-2A73.d
Date : 10-APR-2003 11:56
Client ID: SP-8
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2537
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030410A73.b/R1438-2A73.d
Report Date: 14-Apr-2003 16:19

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030410A73.b/R1438-2A73.d
Lab Smp Id: R1438-2 Client Smp ID: SP-8
Inj Date : 10-APR-2003 11:56
Operator : 2537 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030410A73.b/OLC03v3.m
Meth Date : 14-Apr-2003 16:01 curtis Quant Type: ISTD
Cal Date : 10-APR-2003 08:21 Cal File: CS030410A73.d
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: EXS.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
1 1,4-Difluorobenzene	114	9.005	9.005	(1.000)	108945	125.000	
2 Chlorobenzene-d5	117	11.120	11.120	(1.000)	91367	125.000	
3 1,4-Dichlorobenzene-d4	152	12.616	12.606	(1.000)	37411	125.000	
4 Vinyl Chloride d3	65	3.288	3.279	(0.365)	8281	126.798	5.1
5 Chloroethane-d5	69	4.124	4.115	(0.458)	5642	131.406	5.3
6 1,1-Dichloroethene-d2	63	5.522	5.522	(0.613)	40594	105.388	4.2
7 2-Butanone-d5	46	7.755	7.736	(0.861)	3507	100.297	4.0
8 Chloroform-d	84	8.119	8.119	(0.902)	53616	124.598	5.0
9 1,2-dichloroethane-d4	65	8.650	8.651	(0.961)	19024	127.027	5.1
10 Benzene-d6	84	8.660	8.651	(0.779)	109284	121.061	4.8
11 1,2-Dichloropropane-d6	67	9.369	9.369	(0.842)	31572	114.365	4.6
12 Toluene-d8	98	10.156	10.156	(0.913)	92860	117.901	4.7
13 trans-1,3-Dichloropropene-d4	79	10.333	10.333	(0.929)	4114	103.012	4.1
14 2-Hexanone-d5	63	10.599	10.569	(0.953)	2000	68.6293	2.7
15 1,1,2,2-Tetrachloroethane-d2	84	11.887	11.888	(1.069)	16854	105.314	4.2
16 Bromoform-d	174	11.661	11.661	(0.924)	8520	98.3917	3.9

MC 4/14/03

Data File: /chem/5972hp73.i/DF030410A73.b/R1438-2A73.d
Report Date: 14-Apr-2003 16:19

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
$	17 1,2-Dichlorobenzene-d4	152	12.911	12.911	(1.023)	26139	122.173	4.9
	56 Ethylbenzene	91	Compound Not Detected.					
	57 m,p-Xylene	106	Compound Not Detected.					
	58 o-Xylene	106	Compound Not Detected.					
	59 Styrene	104	Compound Not Detected.					
M	69 Xylene (Total)	106	Compound Not Detected.					

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LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

SP-9

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: R1438-1 Date Received: 04/09/2003

Lab File ID: R1438-1RA73 Date Analyzed: 04/10/2003

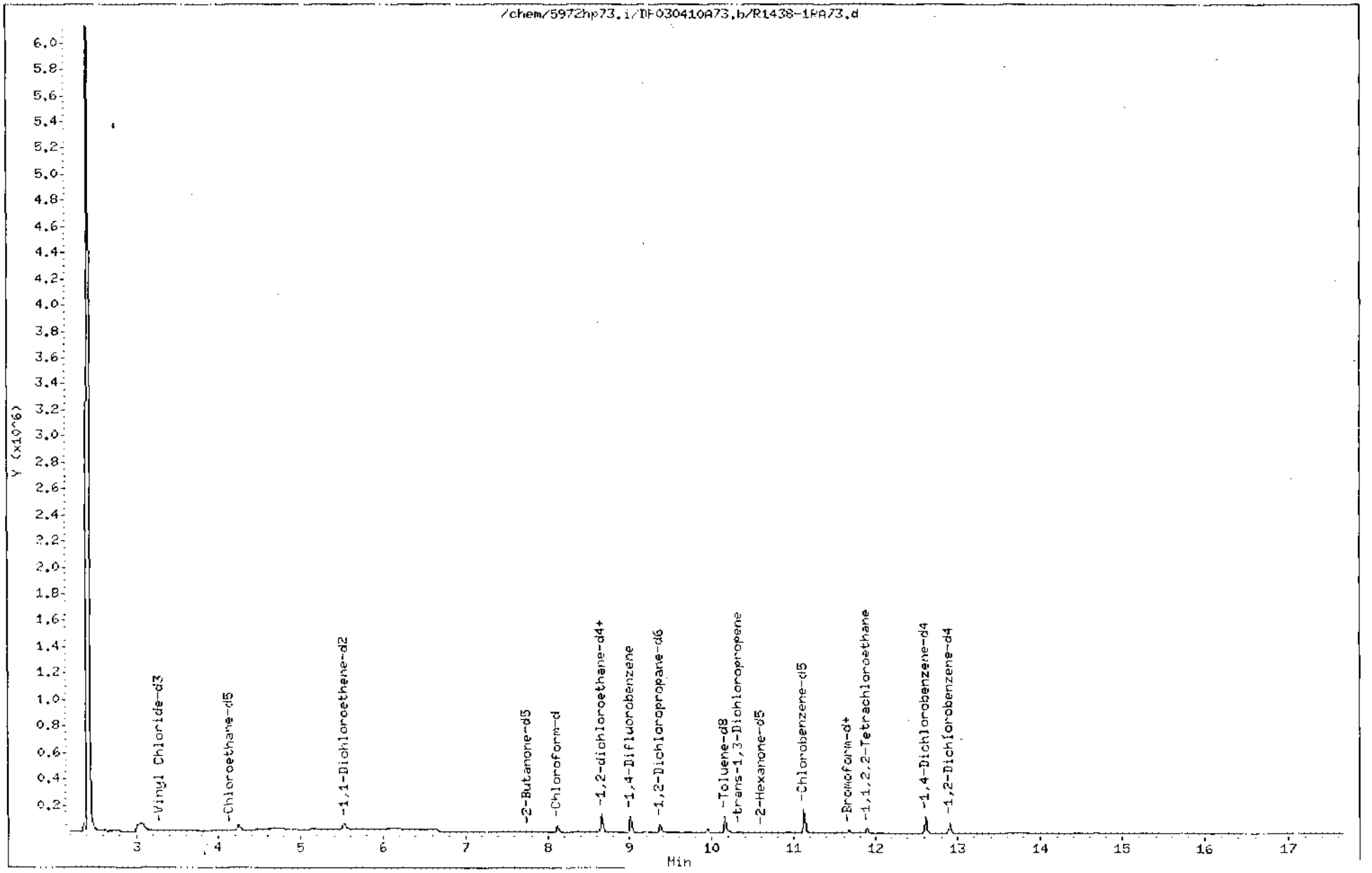
Purge Volume: 25.0(ML) Dilution Factor: 1.0

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylene (Total)	0.50	U
100-42-5	Styrene	0.50	U

Data File: /chem/5972hp73.i/DF030410A73.b/R1438-1RA73.d
Date : 10-APR-2003 13:08
Client ID: SP-9
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2537
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030410A73.b/R1438-1RA73.d
Report Date: 14-Apr-2003 16:19

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030410A73.b/R1438-1RA73.d
Lab Smp Id: R1438-1 Client Smp ID: SP-9
Inj Date : 10-APR-2003 13:08
Operator : 2537 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030410A73.b/OLC03v3.m
Meth Date : 14-Apr-2003 16:01 curtis Quant Type: ISTD
Cal Date : 10-APR-2003 08:21 Cal File: CS030410A73.d
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: EXS.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
1 1,4-Difluorobenzene	114	9.014	9.005	(1.000)	108517	125.000	
2 Chlorobenzene-d5	117	11.119	11.120	(1.000)	85762	125.000	
3 1,4-Dichlorobenzene-d4	152	12.615	12.606	(1.000)	34116	125.000	
4 Vinyl Chloride-d3	65	3.287	3.279	(0.365)	8754	134.569	5.4
5 Chloroethane-d5	69	4.124	4.115	(0.457)	5673	132.649	5.3
6 1,1-Dichloroethene-d2	63	5.531	5.522	(0.614)	38567	100.521	4.0
7 2-Butanone-d5	46	7.754	7.736	(0.860)	3352	96.2425	3.8
8 Chloroform-d	84	8.118	8.119	(0.901)	50919	118.797	4.8
9 1,2-dichloroethane-d4	65	8.659	8.651	(0.961)	18226	122.179	4.9
10 Benzene-d6	84	8.659	8.651	(0.779)	102120	120.519	4.8
11 1,2-Dichloropropane-d6	67	9.368	9.369	(0.842)	30628	118.196	4.7
12 Toluene-d8	98	10.165	10.156	(0.914)	76667	103.703	4.1
13 trans-1,3-Dichloropropene-d4	79	10.342	10.333	(0.930)	3639	97.0738	3.9(R)
14 2-Hexanone-d5	63	10.607	10.569	(0.954)	1547	56.5541	2.3(M)
15 1,1,2,2-Tetrachloroethane-d2	84	11.886	11.888	(1.069)	15853	105.534	4.2
16 Bromoform-d	174	11.670	11.661	(0.925)	8214	104.019	4.2

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MM 4/14/03

Data File: /chem/5972hp73.i/DF030410A73.b/R1438-1RA73.d
Report Date: 14-Apr-2003 16:19

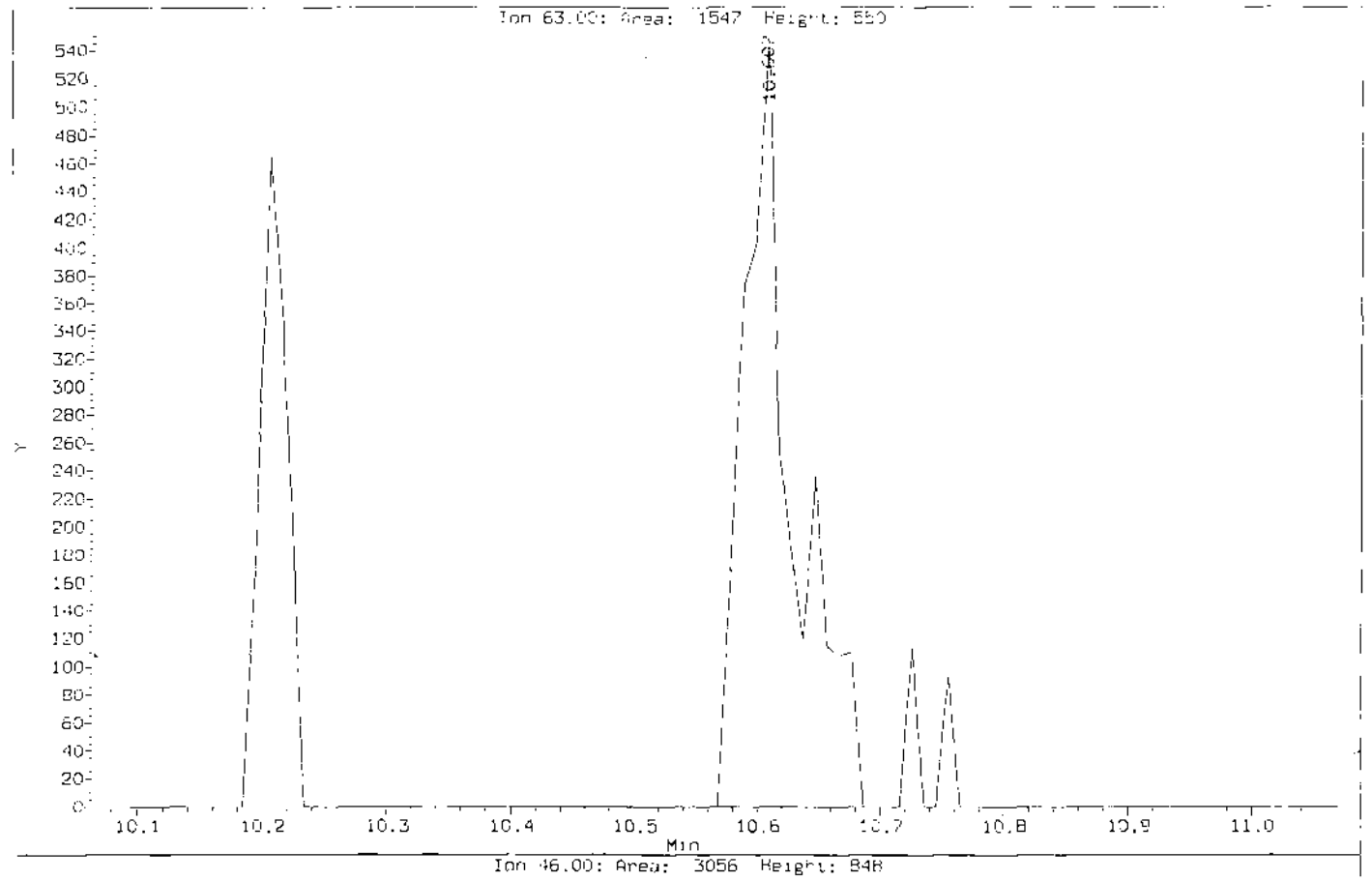
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
$ 17 1,2-Dichlorobenzene-d4	152	12.910	12.911	(1.023)	23398	119.924	4.8
56 Ethylbenzene	91	Compound Not Detected.					
57 m,p-Xylene	106	Compound Not Detected.					
58 o-Xylene	106	Compound Not Detected.					
59 Styrene	104	Compound Not Detected.					
M 69 Xylene (Total)	106	Compound Not Detected.					

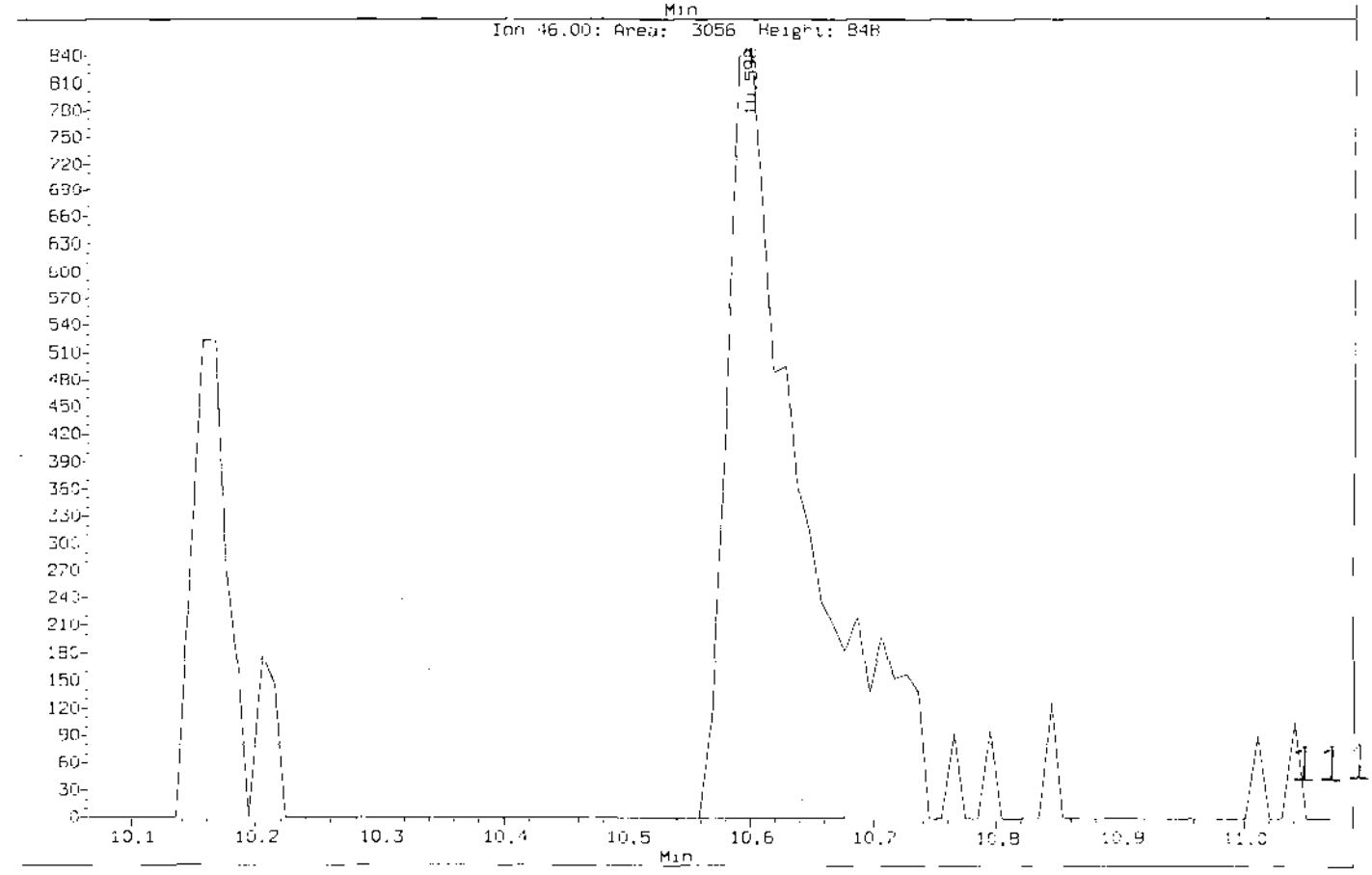
QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/5972hp73.i/DF030410473.b/R143B-18473.d
Injection Date: 10-APR 2003 13:06
Instrument: 5972hp73.i
Client Sample ID: SP-9

Compound: 2-Hexanone-d5
CAS Number: 4840-82 8





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1LCA
LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

TRIP BLANK

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: R1483-10 Date Received: 04/09/2003

Lab File ID: R1438-10A73 Date Analyzed: 04/09/2003

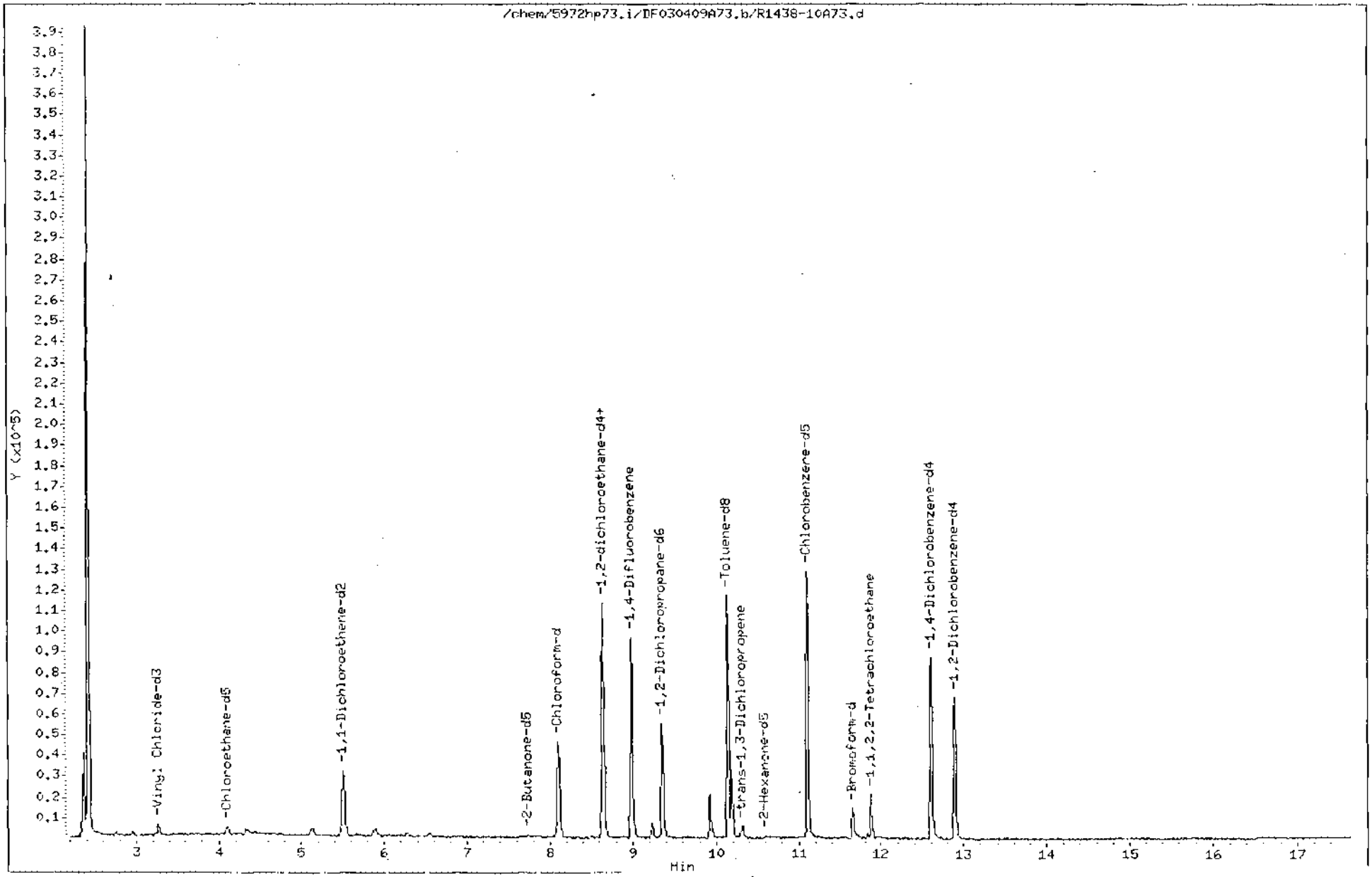
Purge Volume: 25.0(ML) Dilution Factor: 1.0

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylene (Total)	0.50	U
100-42-5	Styrene	0.50	U

Data File: /chem/5972hp73.i/DF030409A73.b/R1438-10A73.d
Date : 09-APR-2003 20:54
Client ID: TRIP BLANK
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2513
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030409A73.b/R1438-10A73.d
Report Date: 14-Apr-2003 15:49

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030409A73.b/R1438-10A73.d
Lab Smp Id: R1483-10 Client Smp ID: TRIP BLANK
Inj Date : 09-APR-2003 20:54
Operator : 2513 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030409A73.b/OLC03v3.m
Meth Date : 14-Apr-2003 15:44 curtis Quant Type: ISTD
Cal Date : 09-APR-2003 13:57 Cal File: CT030409A73.d
Als bottle: 17 QC Sample: FIELDBLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: EXS.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
1 1,4-Difluorobenzene	114	8.991	8.991	(1.000)	84203	125.000	
2 Chlorobenzene-d5	117	11.106	11.107	(1.000)	67249	125.000	
3 1,4-Dichlorobenzene-d4	152	12.602	12.592	(1.000)	26943	125.000	
4 Vinyl Chloride-d3	65	3.275	3.265	(0.364)	5919	94.5629	3.8
5 Chloroethane-d5	69	4.101	4.101	(0.456)	4394	120.895	4.8
6 1,1 Dichloroethene-d2	63	5.508	5.508	(0.613)	29892	85.8525	3.4
7 2-Butanone-d5	46	7.742	7.712	(0.861)	1850	69.2216	2.8
8 Chloroform-d	84	8.106	8.096	(0.902)	44799	127.725	5.1
9 1,2-dichloroethane-d4	65	8.637	8.637	(0.961)	14856	126.519	5.1
10 Benzene-d6	84	8.637	8.637	(0.778)	93403	132.989	5.3
11 1,2-Dichloropropane-d6	67	9.355	9.355	(0.842)	25953	119.903	4.8
12 Toluene d8	98	10.142	10.142	(0.913)	72908	119.083	4.8
13 trans-1,3-Dichloropropene-d4	79	10.329	10.320	(0.930)	2831	98.9124	4.0
14 2-Hexanone-d5	63	10.595	10.556	(0.954)	218	11.3092	0.45(aR)
15 1,1,2,2-Tetrachloroethane-d2	84	11.874	11.874	(1.069)	11317	97.7573	3.9
16 Bromoform-d	174	11.648	11.648	(0.924)	6216	102.437	4.1

MC 4/11/03

Data File: /chem/5972hp73.i/DF030409A73.b/R1438-10A73.d
Report Date: 14-Apr-2003 15:49

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
$ 17 1,2-Dichlorobenzene-d4	152	12.897	12.897	(1.023)	21515	128.687	5.1
56 Ethylbenzene	91	Compound Not Detected.					
57 m,p-Xylene	106	Compound Not Detected.					
58 o-Xylene	106	Compound Not Detected.					
59 Styrene	104	Compound Not Detected.					
M 69 Xylene (Total)	106	Compound Not Detected.					

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.

1LCA
LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

TRIP BLANK04-09

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: R1438-15 Date Received: 04/10/2003

Lab File ID: R1438-15B73 Date Analyzed: 04/17/2003

Purge Volume: 25.0(ML) Dilution Factor: 1.0

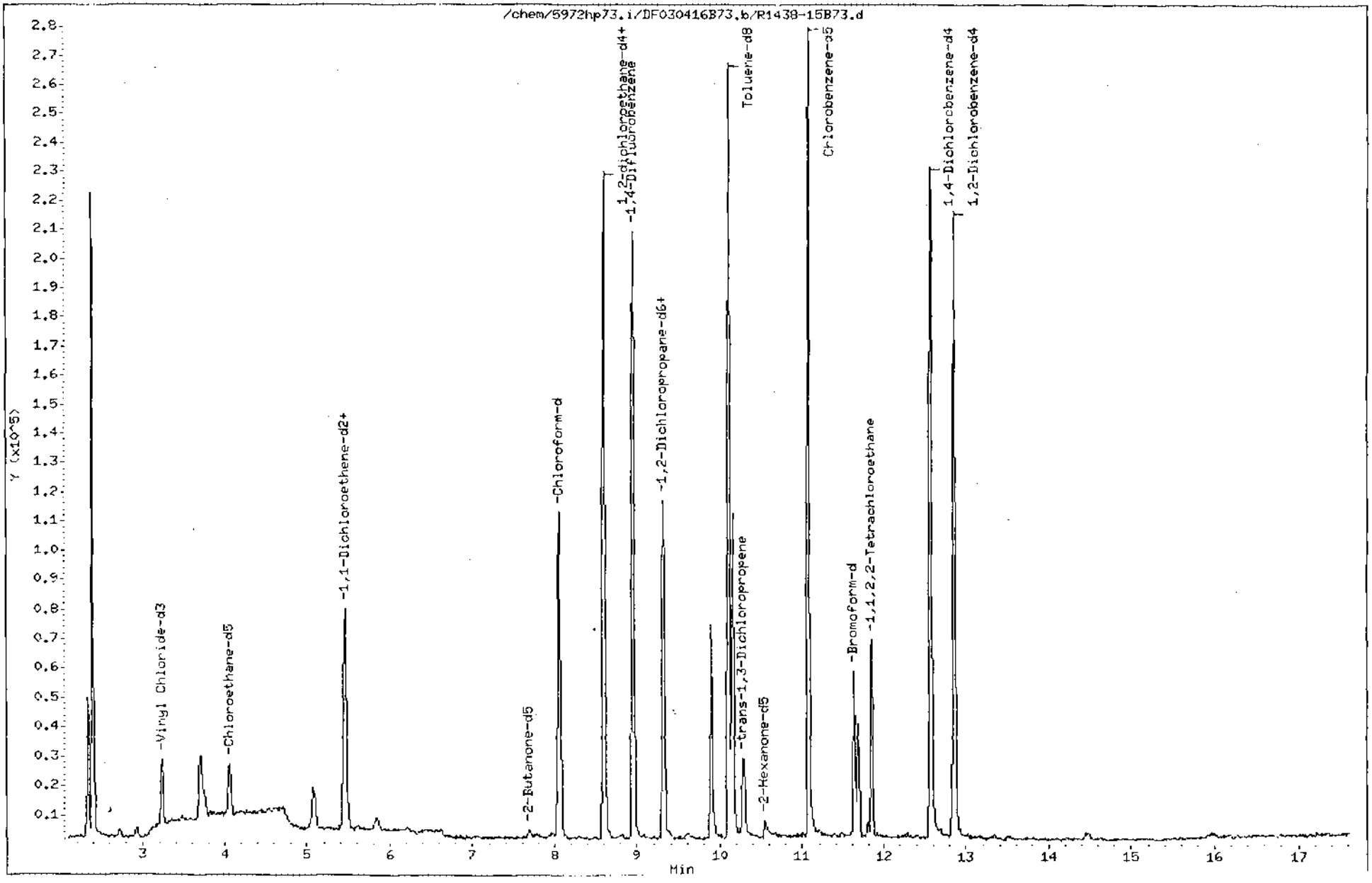
GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylene (Total)	0.50	U
100-42-5	Styrene	0.50	U

FORM I LCV-1 OLC03.2

Data File: /chem/5972hp73.i/DF030416B73.b/R1438-15B73.d
Date : 17-APR-2003 00:41
Client ID: TRIP BLANK04-09
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2513
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030416B73.b/R1438-15B73.d
Report Date: 18-Apr-2003 09:54

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030416B73.b/R1438-15B73.d
Lab Smp Id: R1438-15 Client Smp ID: TRIP BLANK04-09
Inj Date : 17-APR-2003 00:41
Operator : 2513 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030416B73.b/OLC03v3.m
Meth Date : 18-Apr-2003 09:37 curtis Quant Type: ISTD
Cal Date : 16-APR-2003 19:58 Cal File: CS030416B73.d
Als bottle: 13 QC Sample: FIELDBLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: EXS.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
1 1,4-Difluorobenzene	114	8.958	8.958	(1.000)	197733	125.000	
2 Chlorobenzene-d5	117	11.084	11.084	(1.000)	170407	125.000	
3 1,4-Dichlorobenzene-d4	152	12.571	12.570	(1.000)	79759	125.000	
4 Vinyl Chloride-d3	65	3.240	3.239	(0.362)	25462	130.798	5.2
5 Chloroethane-d5	69	4.067	4.056	(0.454)	22554	122.955	4.9
6 1,1-Dichloroethene-d2	63	5.464	5.463	(0.610)	66179	98.9957	4.0
7 2-Butanone-d5	46	7.689	7.678	(0.858)	5283	101.720	4.1
8 Chloroform-d	84	8.063	8.062	(0.900)	114774	127.047	5.1
9 1,2-dichloroethane-d4	65	8.604	8.603	(0.960)	39723	125.644	5.0
10 Benzene-d6	84	8.604	8.603	(0.776)	198980	130.448	5.2
11 1,2-Dichloropropane-d6	67	9.322	9.322	(0.841)	53052	129.705	5.2
12 Toluene-d8	98	10.110	10.119	(0.912)	186802	137.106	5.5
13 trans-1,3-Dichloropropene-d4	79	10.297	10.296	(0.929)	12021	137.849	5.5
14 2-Hexanone-d5	63	10.563	10.532	(0.953)	4213	83.4583	3.3
15 1,1,2,2-Tetrachloroethane-d2	84	11.852	11.851	(1.069)	38447	142.776	5.7
16 Bromoform-d	174	11.626	11.625	(0.925)	27712	131.185	5.2

MMC 4/18/03

Data File: /chem/5972hp73.i/DF030416B73.b/R1438-15B73.d
Report Date: 18-Apr-2003 09:54

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
$ 17 1,2-Dichlorobenzene-d4	152	12.856	12.865	(1.023)	67517	138.669	5.5
56 Ethylbenzene	91	Compound Not Detected.					
57 m,p-Xylene	106	Compound Not Detected.					
58 o-Xylene	106	Compound Not Detected.					
59 Styrene	104	Compound Not Detected.					
M 69 Xylene (Total)	106	Compound Not Detected.					

3. Volatiles Standards Data

a. Initial Calibration Data
(Form VI LCV-1, LCV-2, and LCV-3)

b. Continuing Calibration Data
(Form VII LCV-1, LCV-2, and LCV-3)

a. Initial Calibration Data
(Form VI LCV-1, LCV-2, and LCV-3)

If more than one instrument is used, forms shall be arranged in order by instrument. Multiple initial calibrations from the same instrument shall be in chronological order. Data shall be included for initial calibrations pertaining to samples in the Case, regardless of when they were performed and for which Case.

(1) Reconstructed Ion Chromatograms and quantitation reports for the initial (five-point) calibration. Spectra not required.

(2) EICPs displaying each manual integration.

6LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: RI438

Instrument ID: 5972HP73 Calibration Date(s): 04/08/2003 04/08/2003

Calibration Time(s): 0825 1108

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

LAB FILE ID: RRF0.5= CU030408A73 RRF1 = CT030408A73
RRF5 = CS030408A73 RRF10 = CW030408A73 RRF25 = CX030408A73

COMPOUND	RRF0.5	RRF1	RRF5	RRF10	RRF25	$\overline{RRF}$	% RSD
Ethylbenzene *	1.632	1.525	1.423	1.520	1.415	1.503	5.9*
Xylene (Total) *	0.561	0.530	0.520	0.527	0.507	0.529	3.8*
Styrene *	0.692	0.689	0.702	0.761	0.728	0.714	4.2*
Vinyl Chloride-d3	0.125	0.115	0.097	0.094	0.089	0.104	14.7
Chloroethane-d5	0.087	0.073	0.062	0.069	0.064	0.071	14.0
1,1-Dichloroethene-d2	0.664	0.585	0.542	0.557	0.535	0.577	9.1
2-Butanone-d5	0.039	0.032	0.035	0.044	0.036	0.037	12.3
Chloroform-d	0.698	0.594	0.534	0.607	0.552	0.597	10.7
1,2-dichloroethane-d4	0.244	0.205	0.183	0.218	0.186	0.207	12.1
Benzene-d6	1.407	1.272	1.217	1.188	1.145	1.246	8.1
1,2-Dichloropropane-d6	0.419	0.379	0.364	0.357	0.354	0.375	7.1
Toluene-d8	1.261	1.128	1.107	1.098	1.038	1.126	7.3
trans-1,3-Dichloropropene-d4	0.065	0.052	0.055	0.065	0.057	0.059	10.1
2-Hexanone-d5	0.034	0.029	0.032	0.039	0.035	0.034	10.9
Bromoform-d	0.301	0.259	0.292	0.311	0.287	0.290	6.8
1,1,2,2-Tetrachloroethane-d2	0.235	0.180	0.189	0.205	0.178	0.197	12.0
1,2-Dichlorobenzene-d4	0.944	0.811	0.795	0.728	0.711	0.798	11.5

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

FORM VI LCV-2 OLC03.2

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

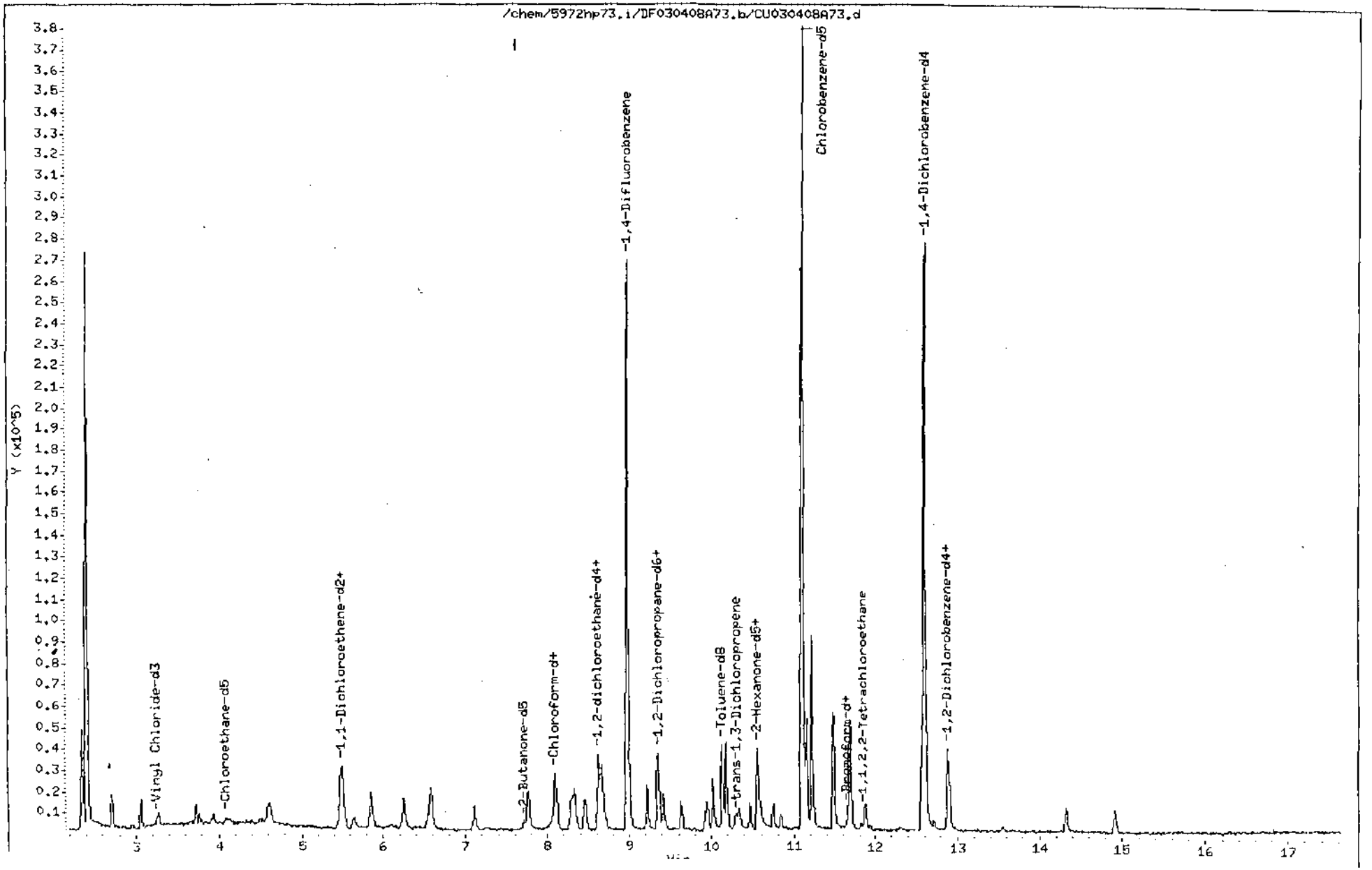
FORM VI LCV-3 OLC03.2

Data File: /chem/5972hp73.i/DF030408A73.b/CU030408A73.d
Date : 08-APR-2003 09:41
Client ID: VSTD0.5FA
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i

Operator: 2537
Column diameter: 0.32

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF Col 83554
SIGNATURE NNC DATE 4/4/3



Data File: /chem/5972hp73.i/DF030408A73.b/CU030408A73.d
Report Date: 09-Apr-2003 08:12

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030408A73.b/CU030408A73.d
Lab Smp Id: VSTD0.5FA Client Smp ID: VSTD0.5FA
Inj Date : 08-APR-2003 09:41
Operator : 2537 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030408A73.b/OLC03v3.m
Meth Date : 09-Apr-2003 08:12 curtis Quant Type: ISTD
Cal Date : 08-APR-2003 08:25 Cal File: CS030408A73.d
Als bottle: 4 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
1 1,4-Difluorobenzene	114	8.978	8.977	(1.000)	237781	125.000	
2 Chlorobenzene-d5	117	11.094	11.093	(1.000)	195958	125.000	
3 1,4-Dichlorobenzene-d4	152	12.590	12.589	(1.000)	85893	125.000	
4 Vinyl Chloride-d3	65	3.250	3.249	(0.362)	2967	12.5000	14
5 Chloroethane-d5	69	4.087	4.066	(0.455)	2062	12.5000	15
6 1,1-Dichloroethene-d2	63	5.494	5.483	(0.612)	15791	12.5000	14
7 2-Butanone-d5	46	7.718	7.688	(0.860)	9337	125.000	140
8 Chloroform-d	84	8.083	8.081	(0.900)	16601	12.5000	14
9 1,2-dichloroethane-d4	65	8.624	8.613	(0.961)	5805	12.5000	14
10 Benzene-d6	84	8.624	8.623	(0.777)	27581	12.5000	14
11 1,2-Dichloropropane-d6	67	9.342	9.341	(0.842)	8207	12.5000	14
12 Toluene-d8	98	10.130	10.129	(0.913)	24720	12.5000	14
13 trans-1,3-Dichloropropene-d4	79	10.317	10.306	(0.930)	1264	12.5000	14
14 2-Hexanone-d5	63	10.563	10.542	(0.952)	6722	125.000	130(M) ?
15 1,1,2,2-Tetrachloroethane-d2	84	11.862	11.861	(1.069)	4597	12.5000	15
16 Bromoform-d	174	11.646	11.635	(0.925)	2584	12.5000	13

MMC 4/9/03

Data File: /chem/5972hp73.i/DF030408A73.b/CU030408A73.d
Report Date: 09-Apr-2003 08:12

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
$ 17 1,2-Dichlorobenzene-d4	152	12.886	12.885	(1.023)	8112	12.5000	14
18 Dichlorodifluoromethane	85	2.709	2.707	(0.302)	13536	12.5000	13
19 Chloromethane	50	3.063	3.052	(0.341)	12099	12.5000	13
20 Vinyl Chloride	62	3.270	3.259	(0.364)	4413	12.5000	14
21 Bromomethane	94	3.929	3.898	(0.438)	3044	12.5000	13(M)
22 Chloroethane	64	4.136	4.125	(0.461)	1546	12.5000	13
23 Trichlorofluoromethane	101	4.608	4.597	(0.513)	14360	12.5000	13
24 1,1-Dichloroethene	96	5.504	5.503	(0.613)	6527	12.5000	13
25 1,1,2-Trichloro-1,2,2-trifluo	101	5.474	5.473	(0.610)	9196	12.5000	14
26 Acetone	43	5.632	5.631	(0.627)	8543	125.000	140
27 Carbon Disulfide	76	5.848	5.837	(0.651)	25690	12.5000	14
28 Methyl Acetate	43	6.094	6.083	(0.679)	3030	12.5000	18(M)
29 Bromochloromethane	128	8.033	8.032	(0.895)	990	12.5000	13
30 Methylene Chloride	84	6.252	6.241	(0.696)	7674	12.5000	15
31 trans-1,2-Dichloroethene	96	6.587	6.576	(0.734)	8464	12.5000	14
32 Methyl tert-Butyl Ether	73	6.557	6.546	(0.730)	10692	12.5000	15
33 1,1-Dichloroethane	63	7.108	7.097	(0.792)	13735	12.5000	14
34 cis-1,2-Dichloroethene	96	7.768	7.757	(0.865)	7886	12.5000	14
35 2-Butanone	43	7.768	7.757	(0.865)	10310	125.000	150
36 Chloroform	83	8.102	8.101	(0.902)	14189	12.5000	14
37 1,1,1-Trichloroethane	97	8.289	8.288	(0.747)	12234	12.5000	14
38 Cyclohexane	56	8.329	8.328	(0.751)	9345	12.5000	13
39 Carbon Tetrachloride	117	8.447	8.446	(0.761)	10980	12.5000	13
40 Benzene	78	8.663	8.652	(0.781)	28742	12.5000	14
41 1,2-Dichloroethane	62	8.693	8.692	(0.968)	6883	12.5000	15
42 Trichloroethene	95	9.214	9.213	(0.831)	7752	12.5000	14
43 Methylcyclohexane	83	9.352	9.351	(0.843)	12236	12.5000	13
44 1,2-Dichloropropane	63	9.411	9.410	(0.848)	6369	12.5000	14(M)
45 Bromodichloromethane	83	9.628	9.627	(0.868)	8078	12.5000	14
46 cis-1,3-Dichloropropene	75	9.953	9.942	(0.897)	8500	12.5000	13
47 4-Methyl-2-Pentanone	43	10.022	10.011	(0.903)	20166	125.000	140
48 Toluene	91	10.179	10.178	(0.917)	27781	12.5000	14
49 trans-1,3-Dichloropropene	75	10.337	10.326	(0.932)	6530	12.5000	14
50 1,1,2-Trichloroethane	97	10.464	10.463	(0.943)	3707	12.5000	14
51 Tetrachloroethene	164	10.563	10.552	(0.952)	6760	12.5000	13
52 2-Hexanone	43	10.592	10.572	(0.955)	10940	125.000	120
53 Dibromochloromethane	129	10.750	10.749	(0.969)	5619	12.5000	14(M)
54 1,2-Dibromoethane	107	10.838	10.837	(0.977)	3907	12.5000	14(M)
55 Chlorobenzene	112	11.114	11.113	(1.002)	19198	12.5000	13
56 Ethylbenzene	91	11.144	11.142	(1.004)	31988	12.5000	13
57 m,p-Xylene	106	11.213	11.211	(1.011)	23727	25.0000	26
58 o-Xylene	106	11.468	11.467	(1.034)	10991	12.5000	13
59 Styrene	104	11.478	11.477	(1.035)	13563	12.5000	12
60 Bromoform	173	11.655	11.654	(0.926)	2608	12.5000	14(M)
61 Isopropylbenzene	105	11.675	11.674	(1.052)	29822	12.5000	13
62 1,1,2,2-Tetrachloroethane	83	11.882	11.881	(1.071)	4200	12.5000	14
63 1,3-Dichlorobenzene	146	12.551	12.540	(0.997)	13346	12.5000	14

2

Data File: /chem/5972hp73.i/DF030408A73.b/CU030408A73.d
Report Date: 09-Apr-2003 08:12

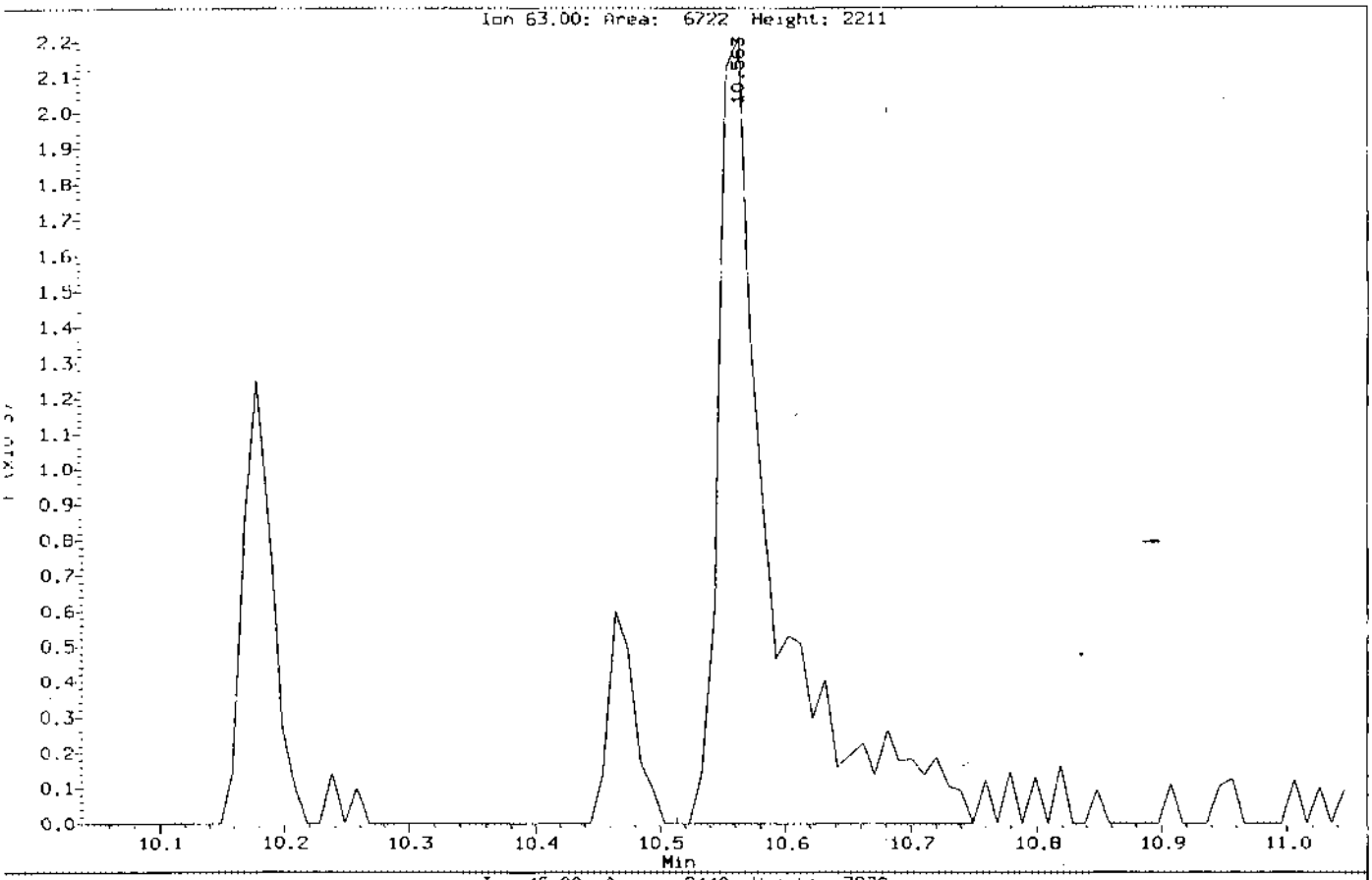
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
	64 1,4-Dichlorobenzene	146	12.610	12.599	(1.002)	14442	12.5000	14
	65 1,2-Dichlorobenzene	146	12.905	12.894	(1.025)	11240	12.5000	13
	66 1,2-Dibromo-3-Chloropropane	75	13.535	13.534	(1.075)	399	12.5000	14
	67 1,2,4-Trichlorobenzene	180	14.313	14.312	(1.137)	6263	12.5000	12
	68 1,2,3-Trichlorobenzene	180	14.913	14.912	(1.184)	5584	12.5000	13
M	69 Xylene (Total)	106				34718	12.5000	41

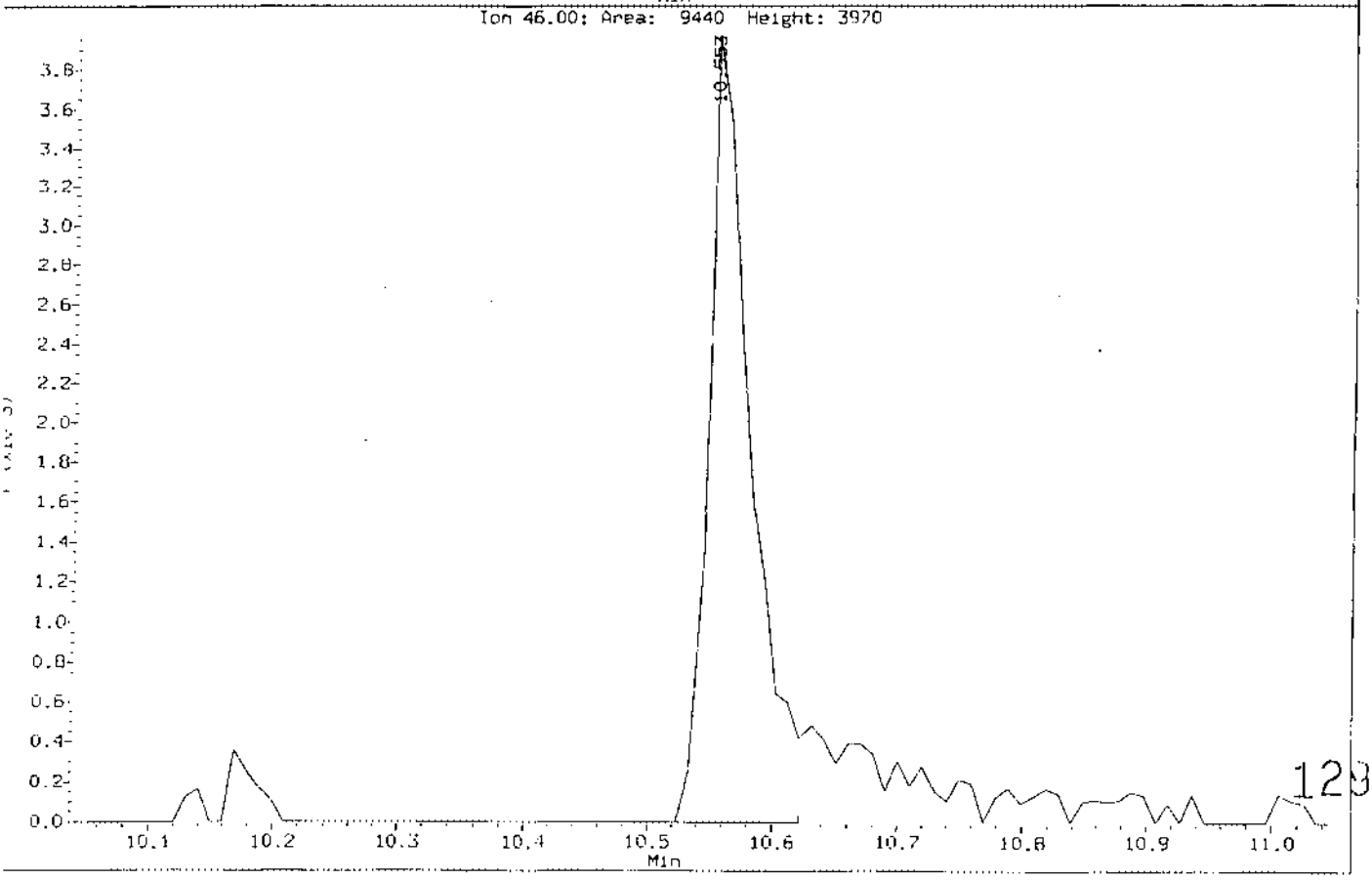
QC Flag Legend

M - Compound response manually integrated.

ata File: /chem/5972hp73.1/DF030408A73.b/CU030408A73.d
njection Date: 08-APR-2003 09:41
nstrument: 5972hp73.1
lient Sample ID: VSTD0.5FA

ompound: 2-Hexanone-d5
AS Number: 4840-82-8





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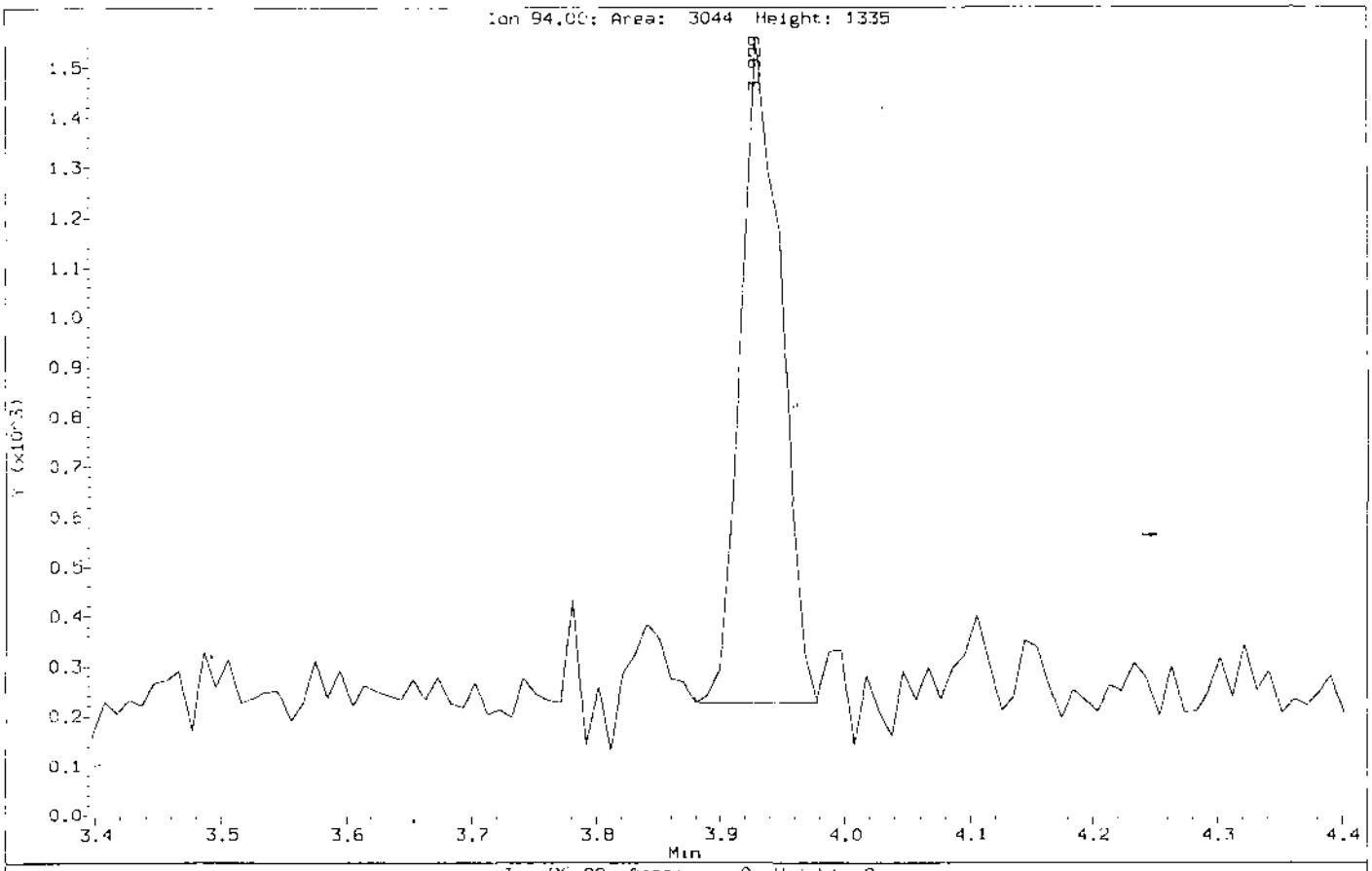
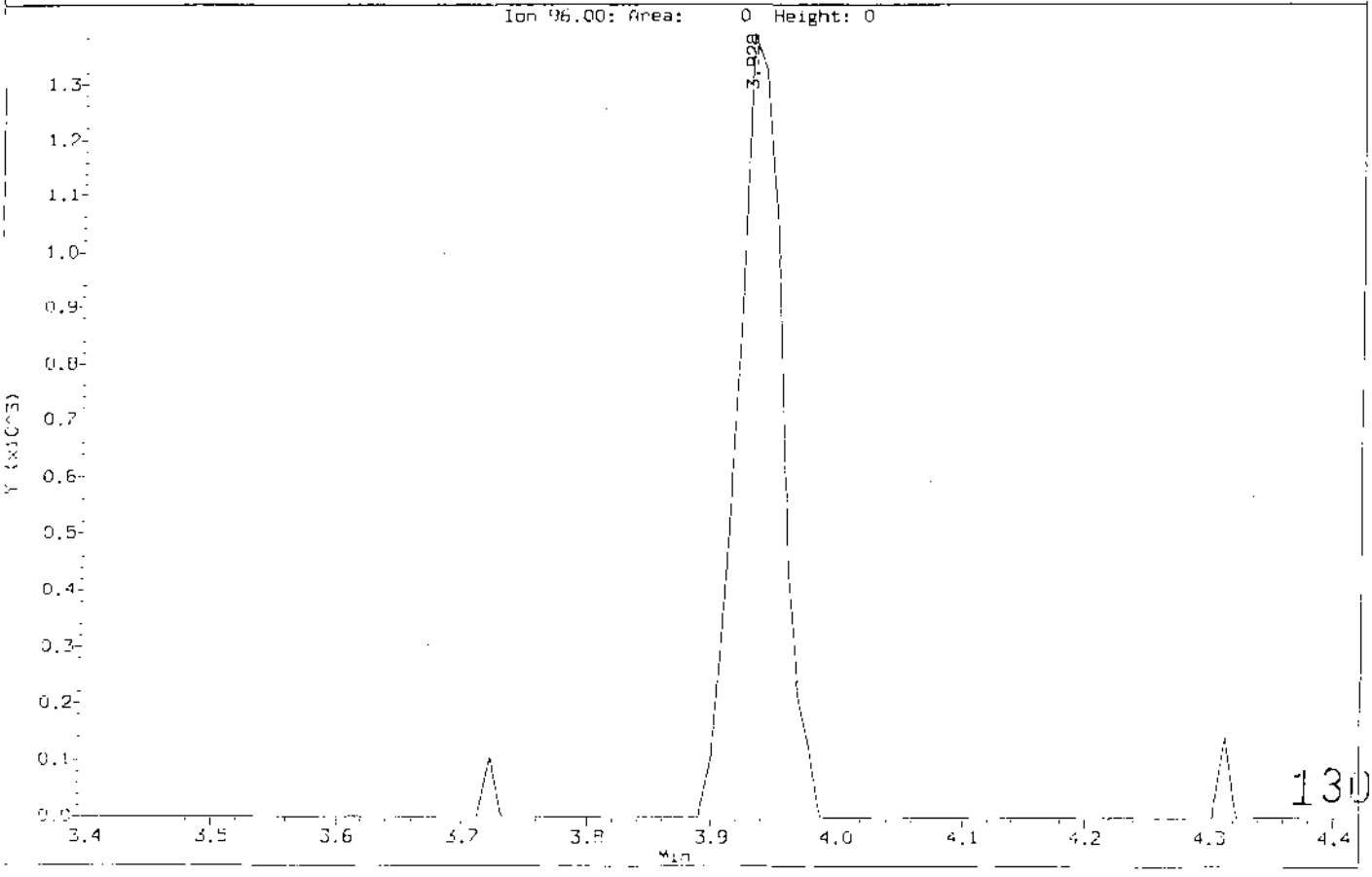
Injection Date: 08-APR-2003 09:41
Instrument: 5972hp73.i
Client Sample ID: VSTD0.5FA

Compound: Bromomethane
CAS Number: 74-83-9





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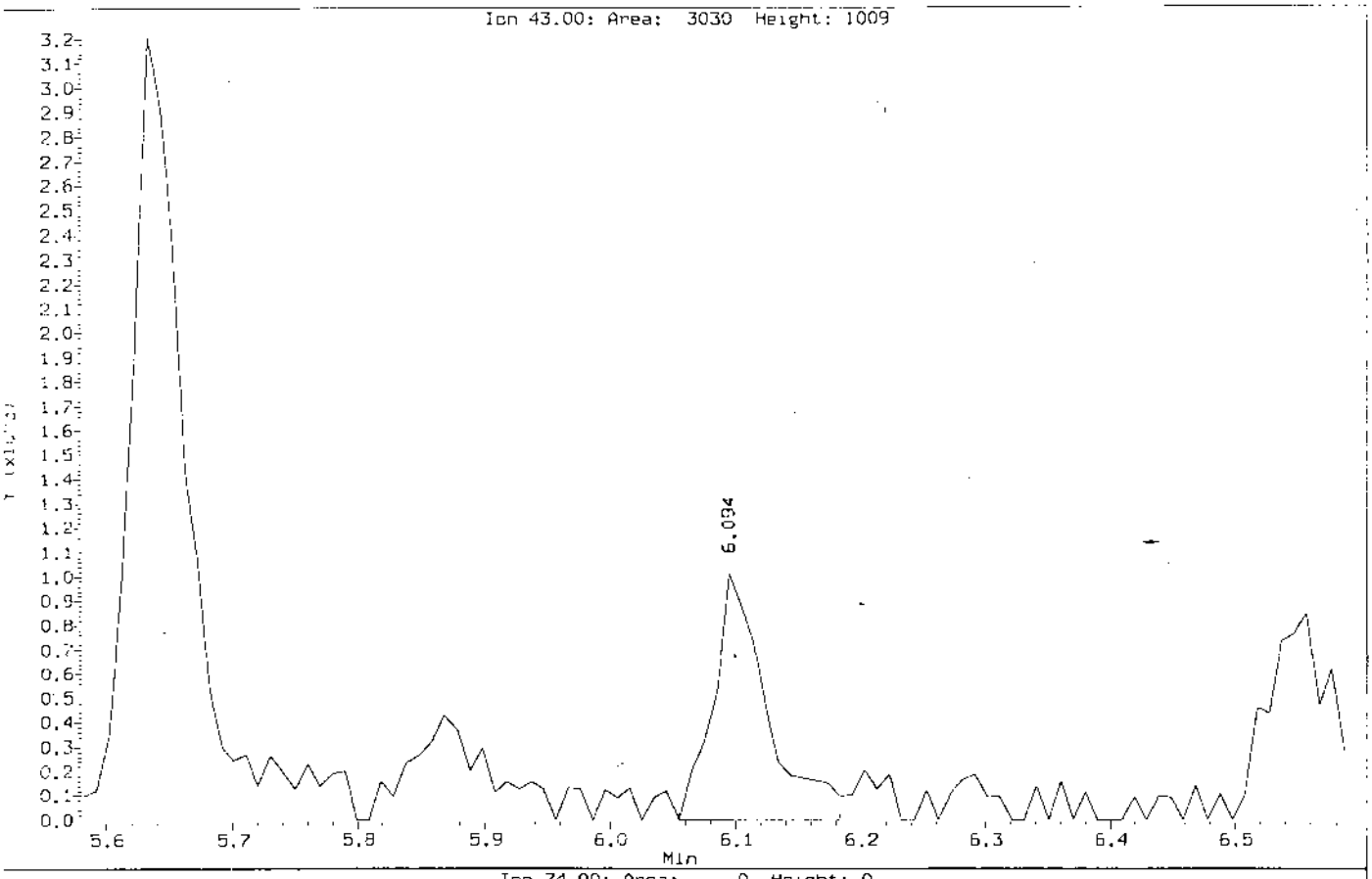
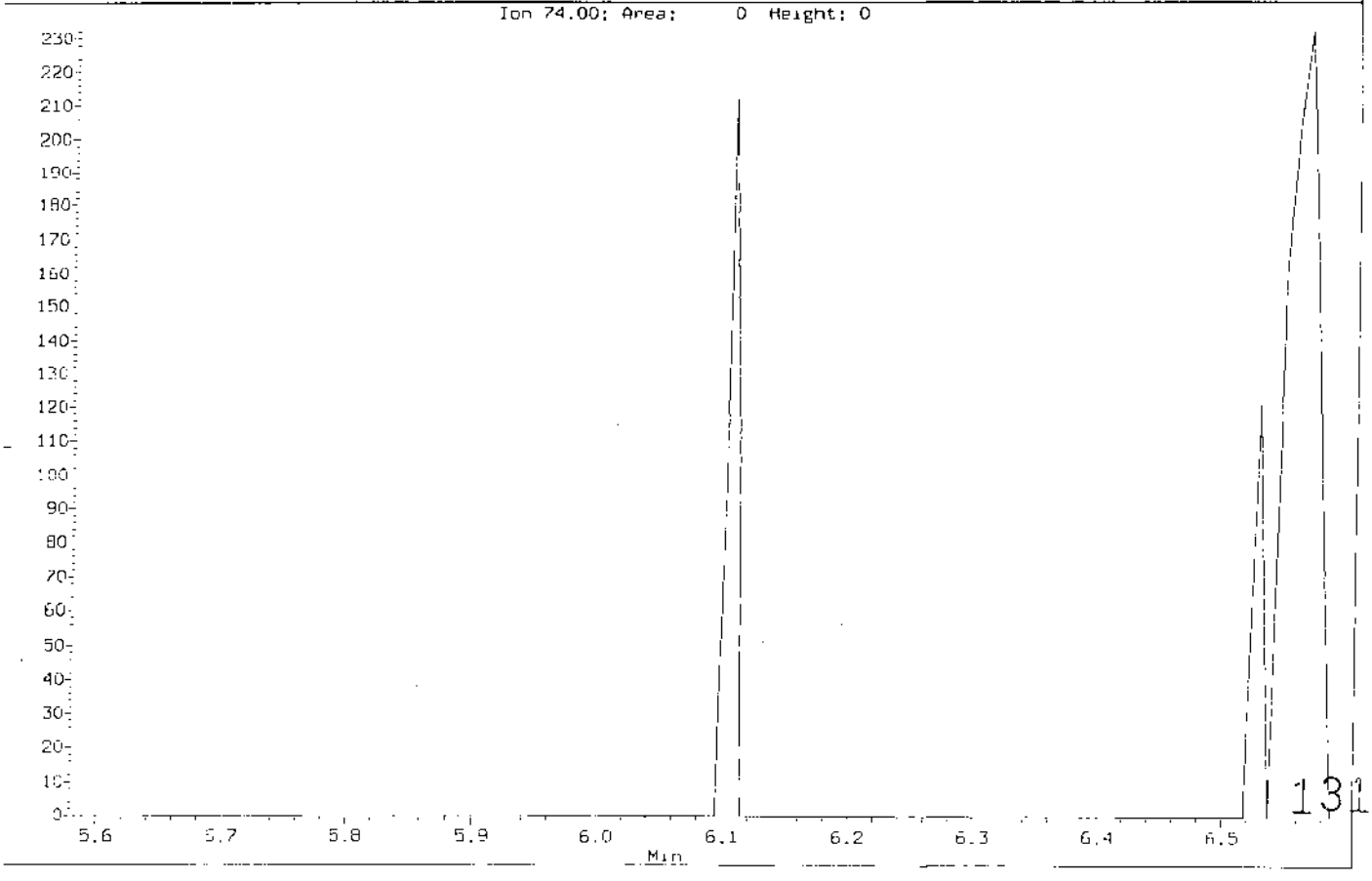
Instrument: 5972hp73.1
Client Sample ID: VSTD0.5PA

Compound: Methyl Acetate
CAS Number: 79-20-9





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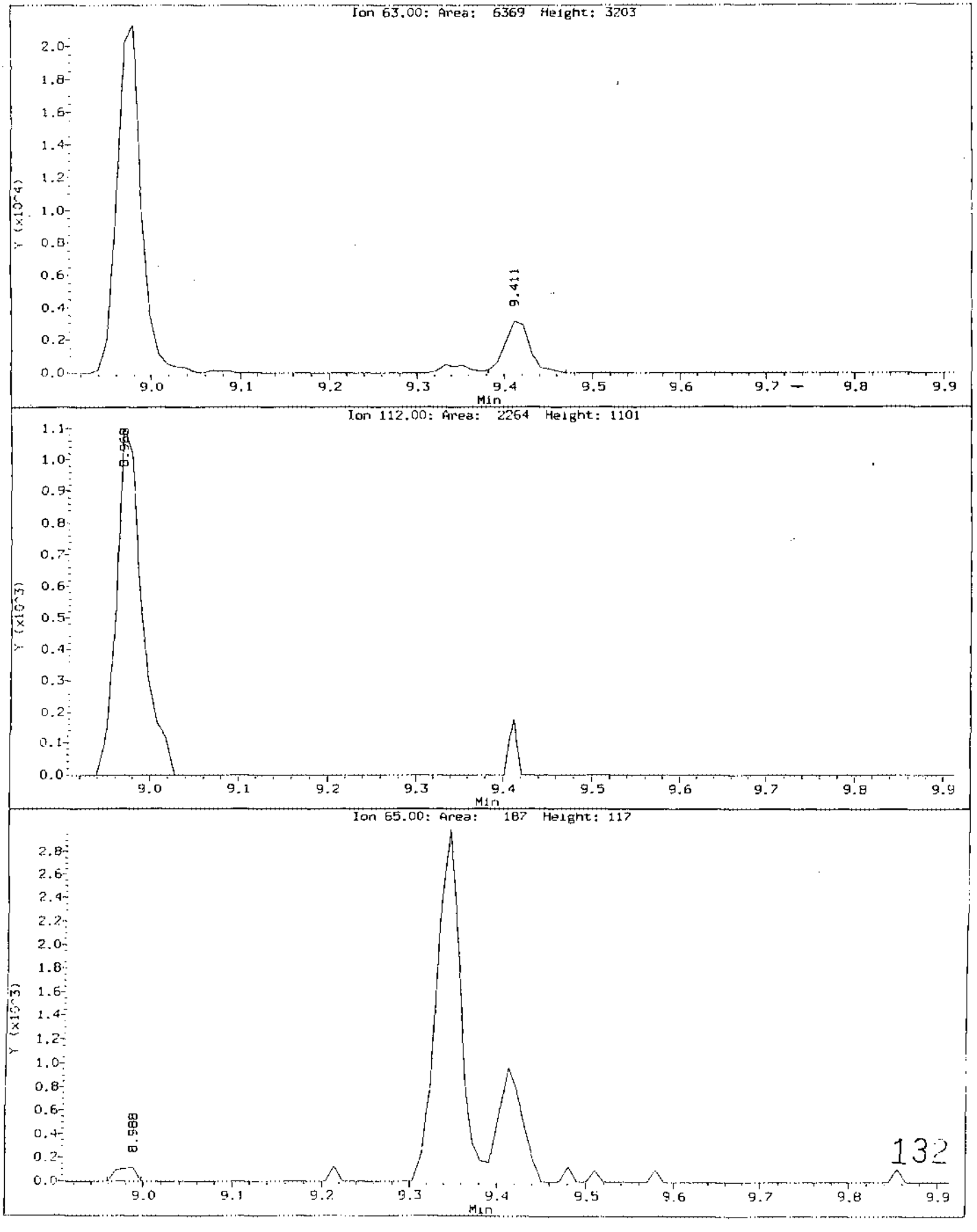
Instrument: 5972hp73.1
Client Sample ID: VSTD0.5FA

Compound: 1.2-Dichloropropane
CAS Number: 78-87-5



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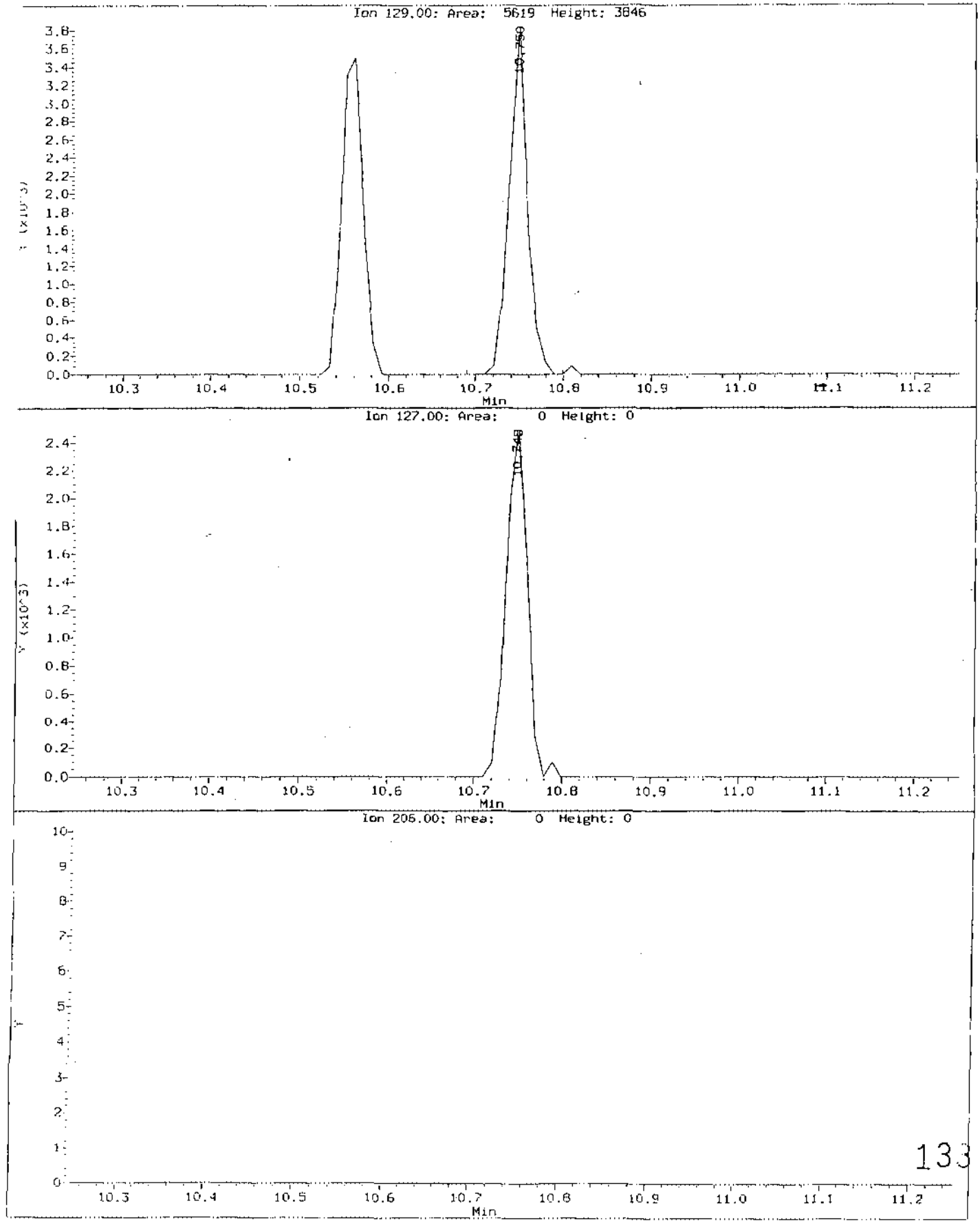
njection Date: 08-APR-2003 09:41
nstrument: 5972hp73.i
lient Sample ID: VSTD0.5FA

ompound: Dibromochloromethane
AS Number: 124-48-1



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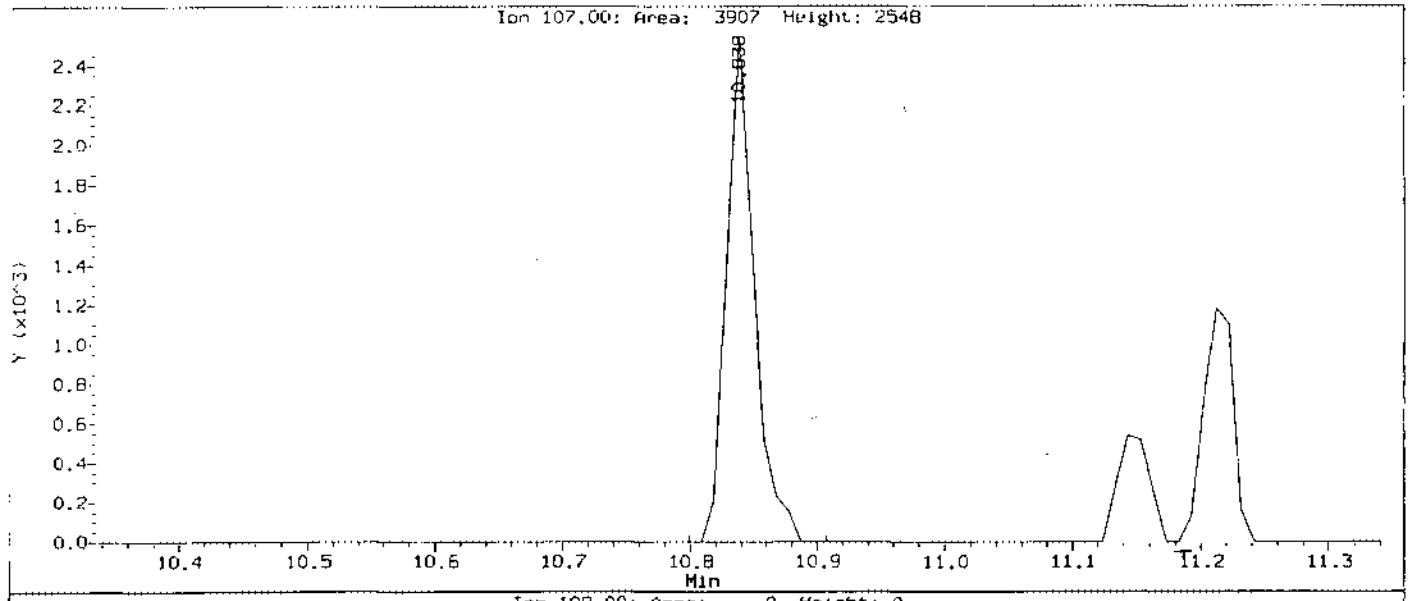
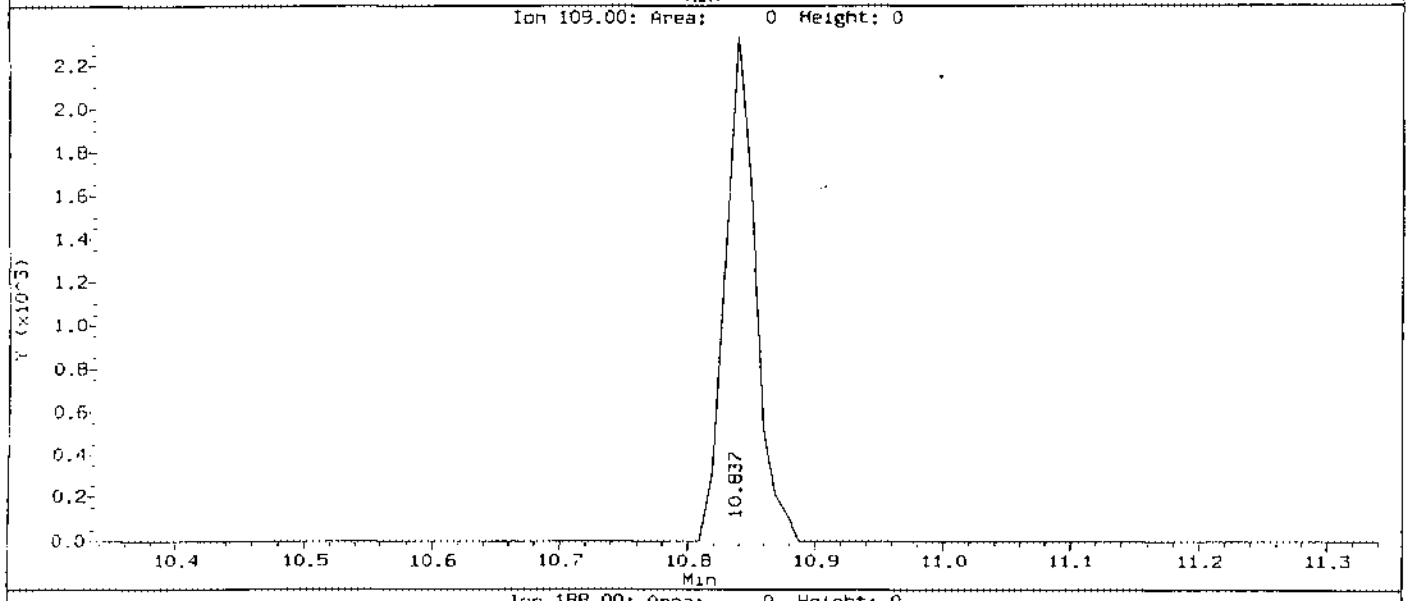
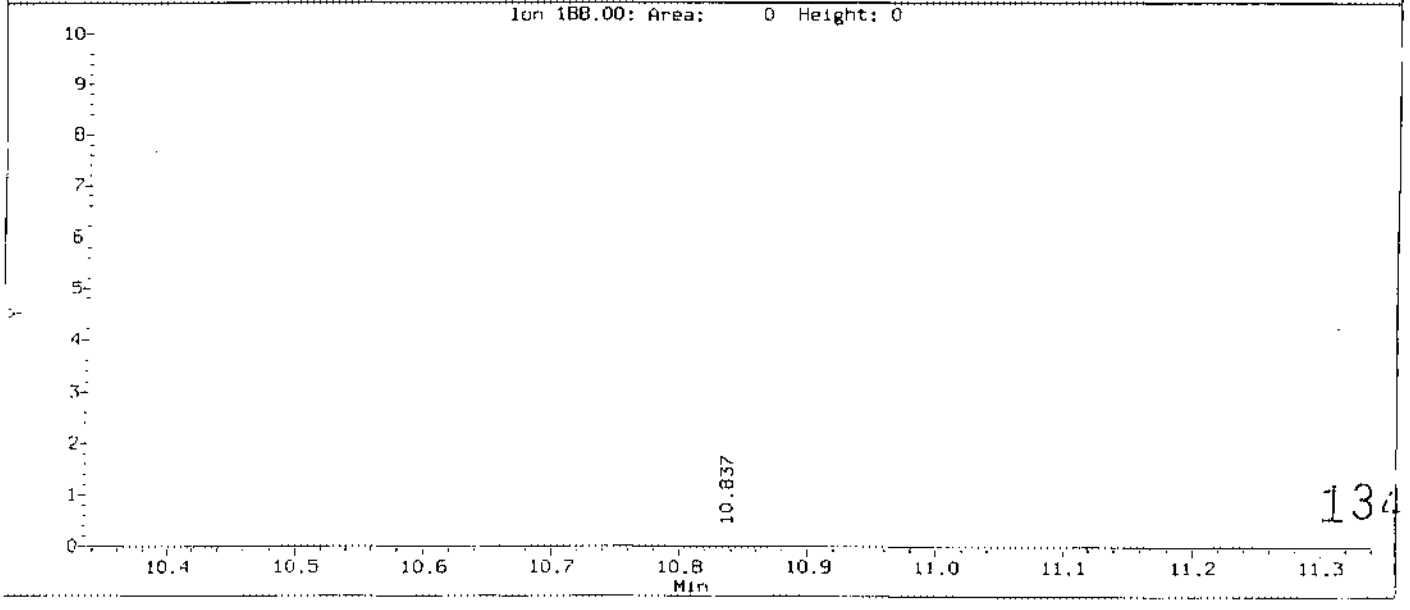
Instrument: 5972hp73.1
Client Sample ID: VSTD0.5FA

Compound: 1,2-Dibromoethane
CAS Number: 106-93-4

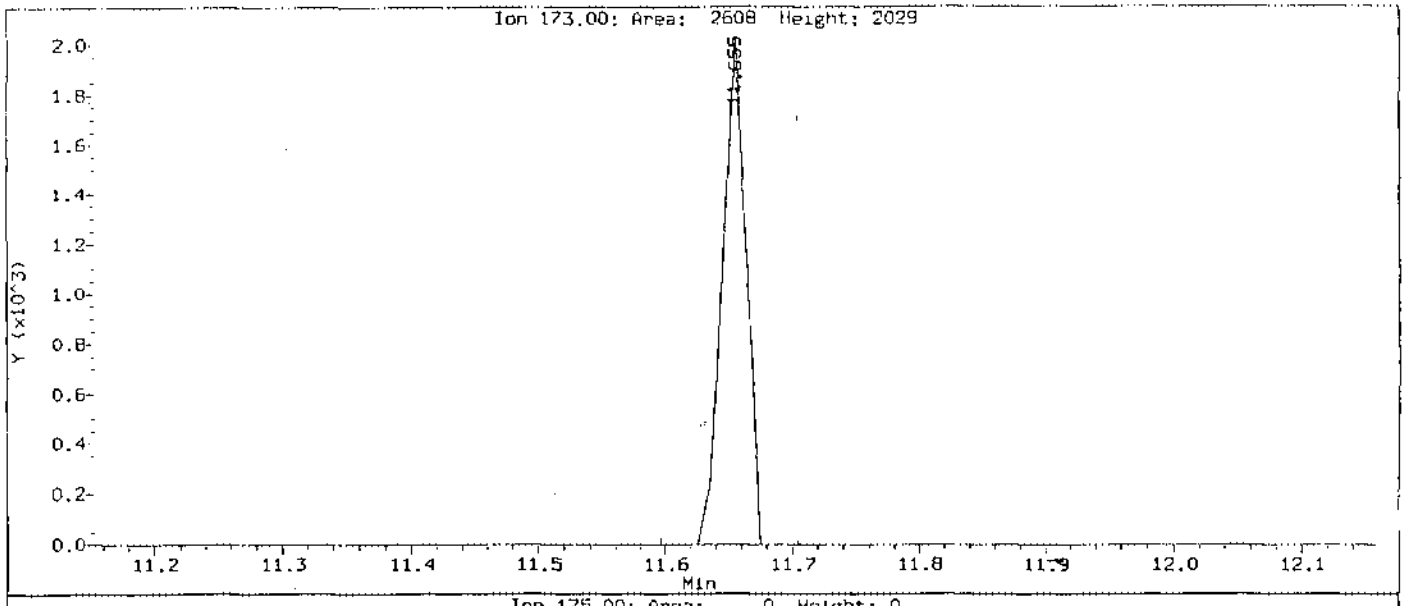


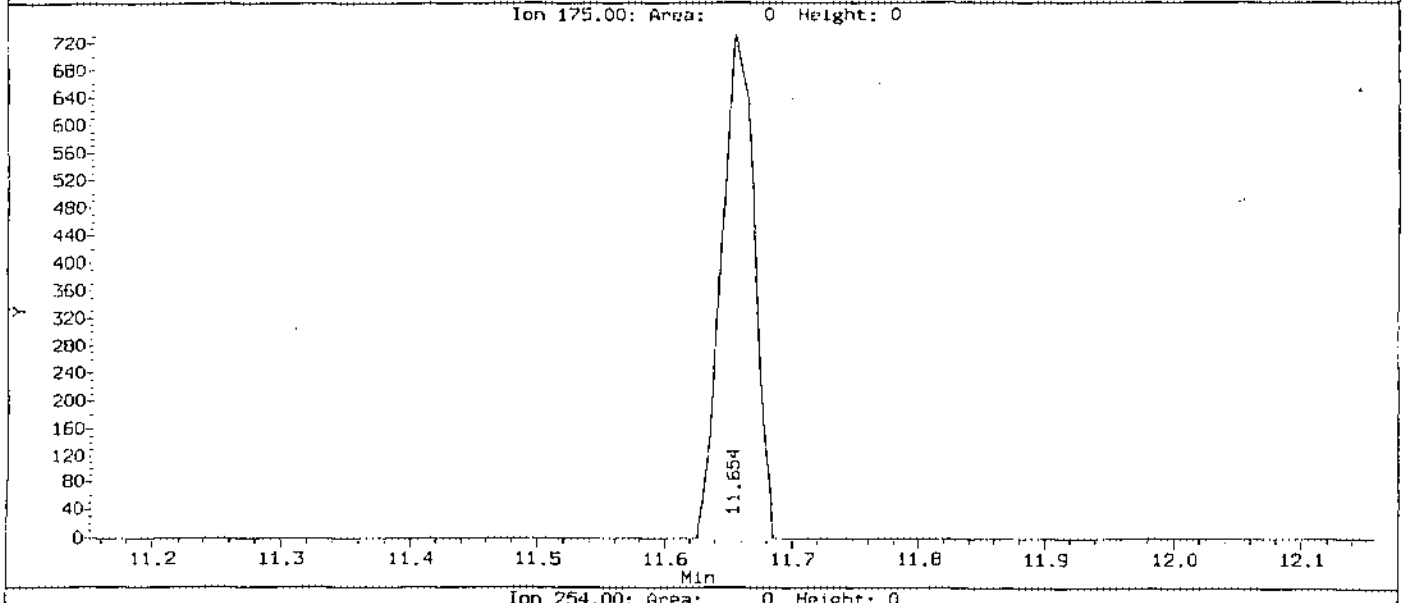


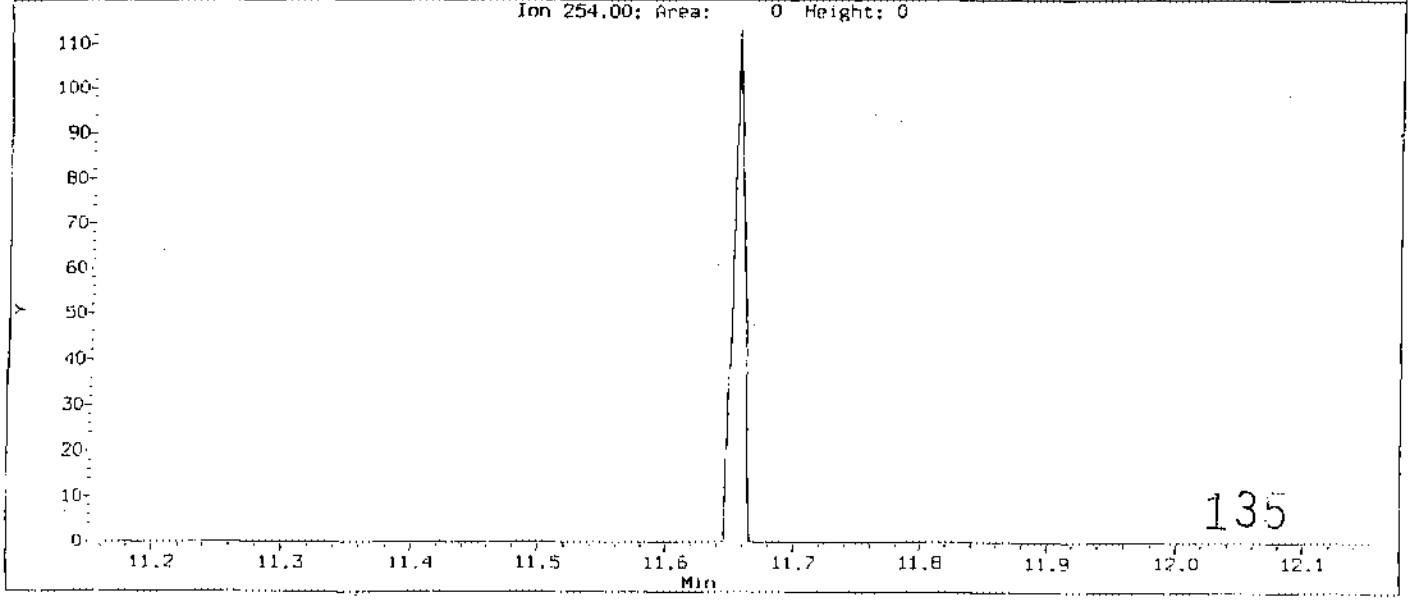


Data File: /chem/5972hp73.i/DF030408A73.b/CU030408A73.d
Injection Date: 08-APR-2003 09:41
Instrument: 5972Hp73.i
Client Sample ID: VSTD0.5FA

Compound: Bromoform
CAS Number: 75-25-2







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Date : 08-APR-2003 09:05
Client ID: VSTD001FA
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2537
Column diameter: 0.32

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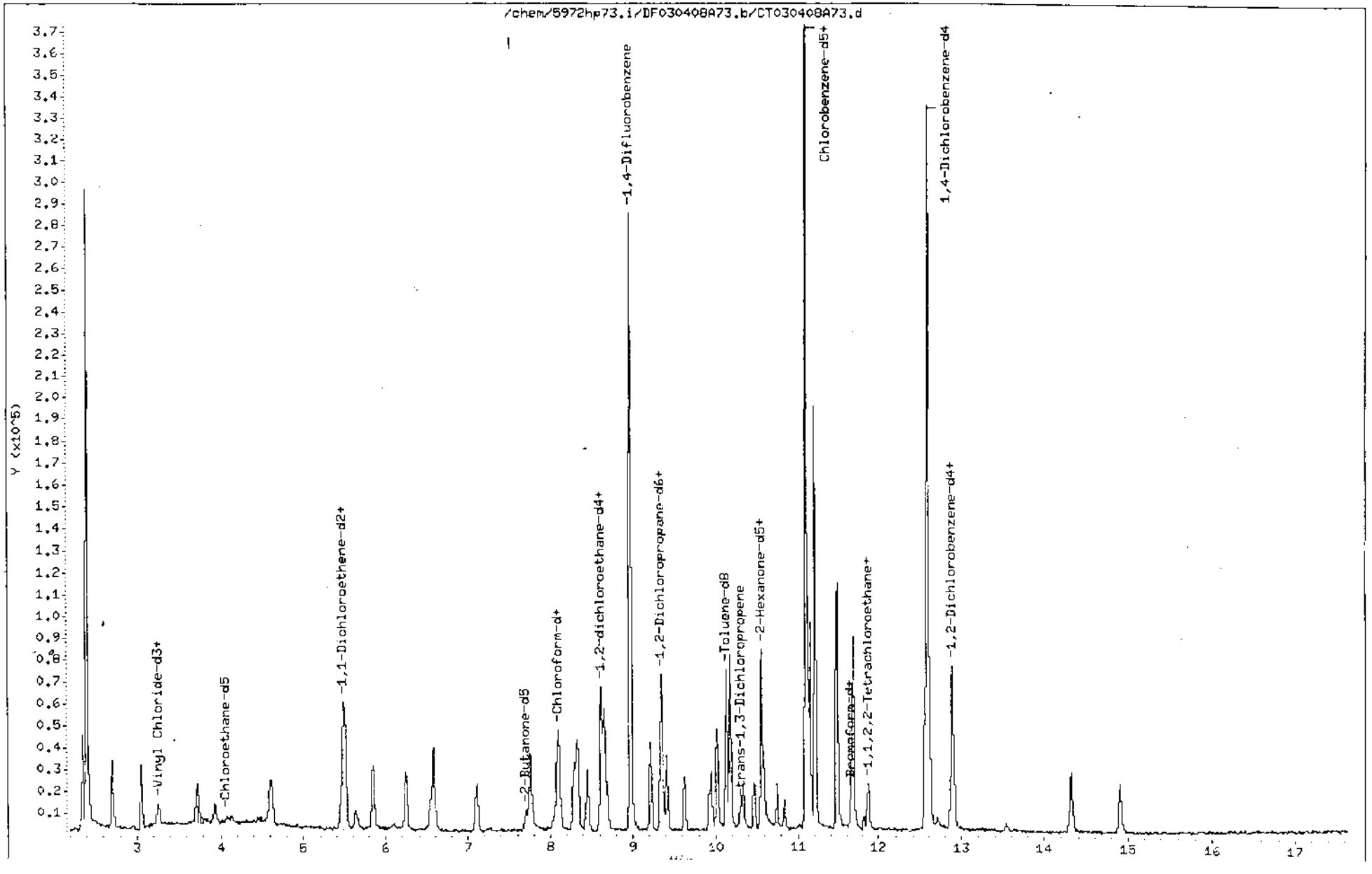
ORIGINAL DOCUMENTS INCLUDED IN CSF- C0118 3554
SIGNATURE AMC DATE 4/9/3



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!eport Date: 09-Apr-2003 08:12

CompuChem

OLC03 QUANT AND RATIO REPORT

)ata file : /chem/5972hp73.i/DF030408A73.b/CT030408A73.d
ab Smp Id: VSTD001FA Client Smp ID: VSTD001FA
nj Date : 08-APR-2003 09:05
)perator : 2537 Inst ID: 5972hp73.i
mp Info :
lisc Info :
omment :
lethod : /chem/5972hp73.i/DF030408A73.b/OLC03v3.m
leth Date : 09-Apr-2003 08:12 curtis Quant Type: ISTD
al Date : 08-APR-2003 08:25 Cal File: CS030408A73.d
ls bottle: 3 Calibration Sample, Level: 2
)il Factor: 1.00000
ntegrator: HP RTE Compound Sublist: all.sub
arget Version: 3.50

oncentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

pnd Variable Local Compound Variable

ompounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
1 1,4-Difluorobenzene	114	8.977	8.977	(1.000)	255021	125.000	
2 Chlorobenzene-d5	117	11.103	11.093	(1.000)	208960	125.000	
3 1,4-Dichlorobenzene-d4	152	12.589	12.589	(1.000)	93368	125.000	
4 Vinyl Chloride-d3	65	3.258	3.249	(0.363)	5879	25.0000	27
5 Chloroethane-d5	69	4.075	4.066	(0.454)	3730	25.0000	27
6 1,1-Dichloroethene-d2	63	5.483	5.483	(0.611)	29845	25.0000	26
7 2-Butanone-d5	46	7.697	7.688	(0.857)	16485	250.000	240
8 Chloroform-d	84	8.081	8.081	(0.900)	30305	25.0000	26
9 1,2-dichloroethane-d4	65	8.623	8.613	(0.961)	10440	25.0000	26
10 Benzene-d6	84	8.623	8.623	(0.777)	53157	25.0000	26
11 1,2-Dichloropropane-d6	67	9.341	9.341	(0.841)	15853	25.0000	26
12 Toluene-d8	98	10.128	10.129	(0.912)	47149	25.0000	25
13 trans-1,3-Dichloropropene-d4	79	10.315	10.306	(0.929)	2157	25.0000	24
14 2-Hexanone-d5	63	10.552	10.542	(0.950)	12260	250.000	240
15 1,1,2,2-Tetrachloroethane-d2	84	11.871	11.861	(1.069)	7534	25.0000	24
16 Bromoform-d	174	11.644	11.635	(0.925)	4839	25.0000	24

MM 4/9/03

Data File: /chem/5972hp73.i/DF030408A73.b/CT030408A73.d
Report Date: 09-Apr-2003 08:12

Compounds	QUANT SIG MASS	RT	EXP RT	RBL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
17 1,2-Dichlorobenzene-d4	152	12.884	12.885	(1.023)	15151	25.0000	25
18 Dichlorodifluoromethane	85	2.707	2.707	(0.302)	28453	25.0000	26
19 Chloromethane	50	3.062	3.052	(0.341)	24481	25.0000	26
20 Vinyl Chloride	62	3.268	3.259	(0.364)	7892	25.0000	24
21 Bromomethane	94	3.928	3.898	(0.438)	6457	25.0000	26(M)
22 Chloroethane	64	4.144	4.125	(0.462)	3493	25.0000	27
23 Trichlorofluoromethane	101	4.607	4.597	(0.513)	29562	25.0000	27
24 1,1-Dichloroethene	96	5.502	5.503	(0.613)	13007	25.0000	25
25 1,1,2-Trichloro-1,2,2-trifluo	101	5.483	5.473	(0.611)	18006	25.0000	26
26 Acetone	43	5.640	5.631	(0.628)	15845	250.000	270
27 Carbon Disulfide	76	5.847	5.837	(0.651)	48192	25.0000	26
28 Methyl Acetate	43	6.093	6.083	(0.679)	3811	25.0000	28
29 Bromochloromethane	128	8.042	8.032	(0.896)	2111	25.0000	26
30 Methylene Chloride	84	6.241	6.241	(0.695)	13172	25.0000	26
31 trans-1,2-Dichloroethene	96	6.585	6.576	(0.734)	16070	25.0000	26
32 Methyl tert-Butyl Ether	73	6.556	6.546	(0.730)	17781	25.0000	25
33 1,1-Dichloroethane	63	7.107	7.097	(0.792)	25580	25.0000	26
34 cis-1,2-Dichloroethene	96	7.756	7.757	(0.864)	14596	25.0000	26
35 2-Butanone	43	7.776	7.757	(0.866)	17554	250.000	260
36 Chloroform	83	8.101	8.101	(0.902)	27500	25.0000	26
37 1,1,1-Trichloroethane	97	8.288	8.288	(0.746)	24394	25.0000	26
38 Cyclohexane	56	8.327	8.328	(0.750)	20433	25.0000	26
39 Carbon Tetrachloride	117	8.455	8.446	(0.762)	21645	25.0000	26
40 Benzene	78	8.662	8.652	(0.780)	52225	25.0000	25
41 1,2-Dichloroethane	62	8.691	8.692	(0.968)	11872	25.0000	26
42 Trichloroethene	95	9.213	9.213	(0.830)	14613	25.0000	26
43 Methylcyclohexane	83	9.351	9.351	(0.842)	24198	25.0000	25
44 1,2-Dichloropropane	63	9.410	9.410	(0.848)	12247	25.0000	27
45 Bromodichloromethane	83	9.626	9.627	(0.867)	14200	25.0000	25
46 cis-1,3-Dichloropropene	75	9.951	9.942	(0.896)	16702	25.0000	25
47 4-Methyl-2-Pentanone	43	10.020	10.011	(0.902)	36574	250.000	250
48 Toluene	91	10.178	10.178	(0.917)	53669	25.0000	26
49 trans-1,3-Dichloropropene	75	10.335	10.326	(0.931)	12457	25.0000	26
50 1,1,2 Trichloroethane	97	10.473	10.463	(0.943)	7132	25.0000	26
51 Tetrachloroethene	164	10.561	10.552	(0.951)	13215	25.0000	25
52 2-Hexanone	43	10.581	10.572	(0.953)	25216	250.000	240
53 Dibromochloromethane	129	10.748	10.749	(0.968)	9418	25.0000	24(M)
54 1,2-Dibromoethane	107	10.837	10.837	(0.976)	6688	25.0000	23
55 Chlorobenzene	112	11.113	11.113	(1.001)	38527	25.0000	26
56 Ethylbenzene	91	11.152	11.142	(1.004)	63732	25.0000	26
57 m,p-Xylene	106	11.211	11.211	(1.010)	51035	50.0000	53
58 o-Xylene	106	11.467	11.467	(1.033)	22146	25.0000	25
59 Styrene	104	11.477	11.477	(1.034)	28790	25.0000	25
60 Bromoform	173	11.654	11.654	(0.926)	4280	25.0000	21(M)
61 Isopropylbenzene	105	11.674	11.674	(1.051)	58388	25.0000	25
62 1,1,2,2-Tetrachloroethane	83	11.880	11.881	(1.070)	7394	25.0000	24
63 1,3-Dichlorobenzene	146	12.550	12.540	(0.997)	26118	25.0000	25

Data File: /chem/5972hp73.i/DF030408A73.b/CT030408A73.d
Report Date: 09-Apr-2003 08:12

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
	64 1,4-Dichlorobenzene	146	12.609	12.599	(1.002)	29185	25.0000	27(M)
	65 1,2-Dichlorobenzene	146	12.904	12.894	(1.025)	22310	25.0000	25
	66 1,2-Dibromo-3-Chloropropane	75	13.534	13.534	(1.075)	770	25.0000	25
	67 1,2,4-Trichlorobenzene	180	14.321	14.312	(1.138)	14328	25.0000	26
	68 1,2,3-Trichlorobenzene	180	14.912	14.912	(1.185)	11526	25.0000	26
M	69 Xylene (Total)	106				73181	25.0000	83

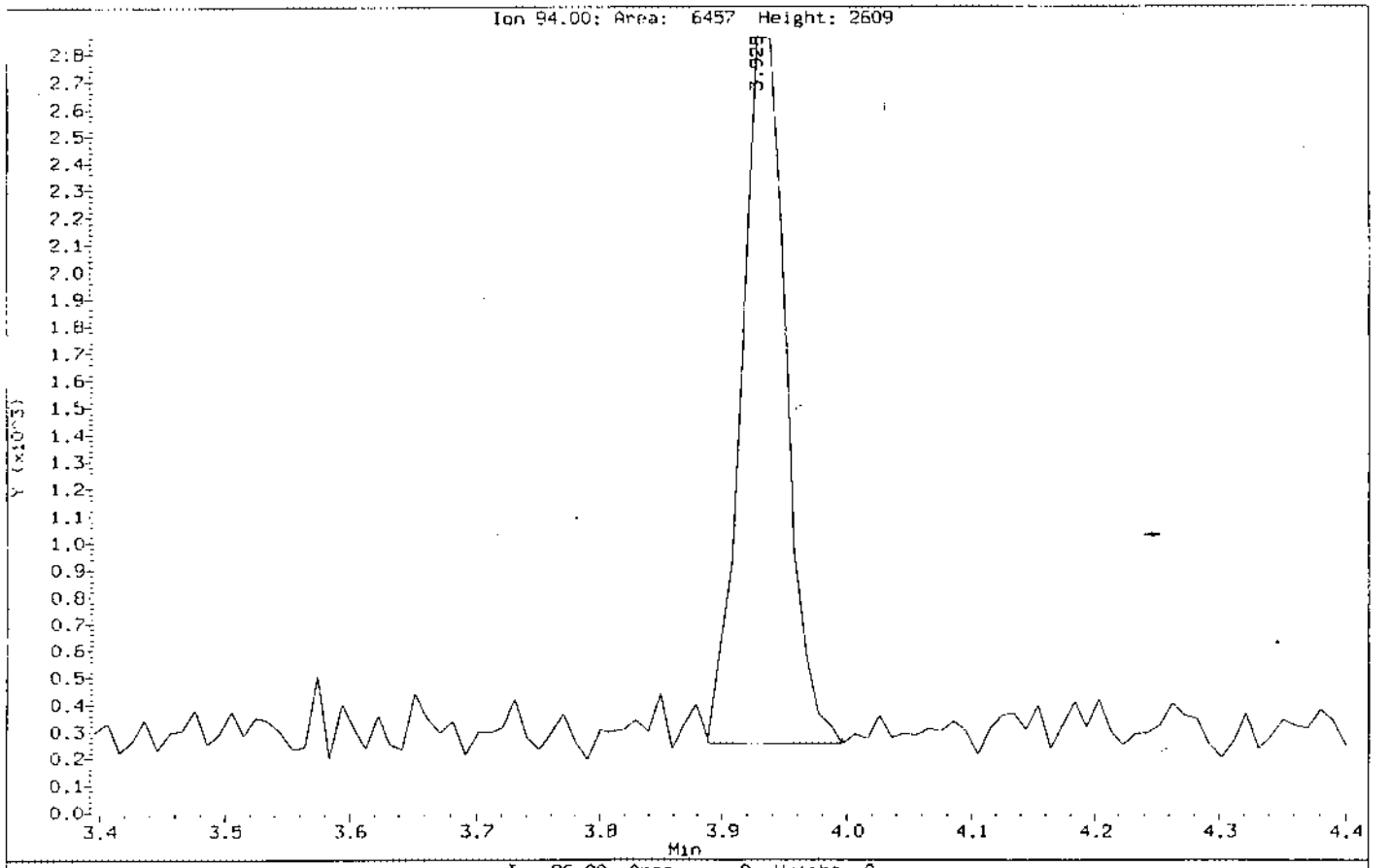
QC Flag Legend

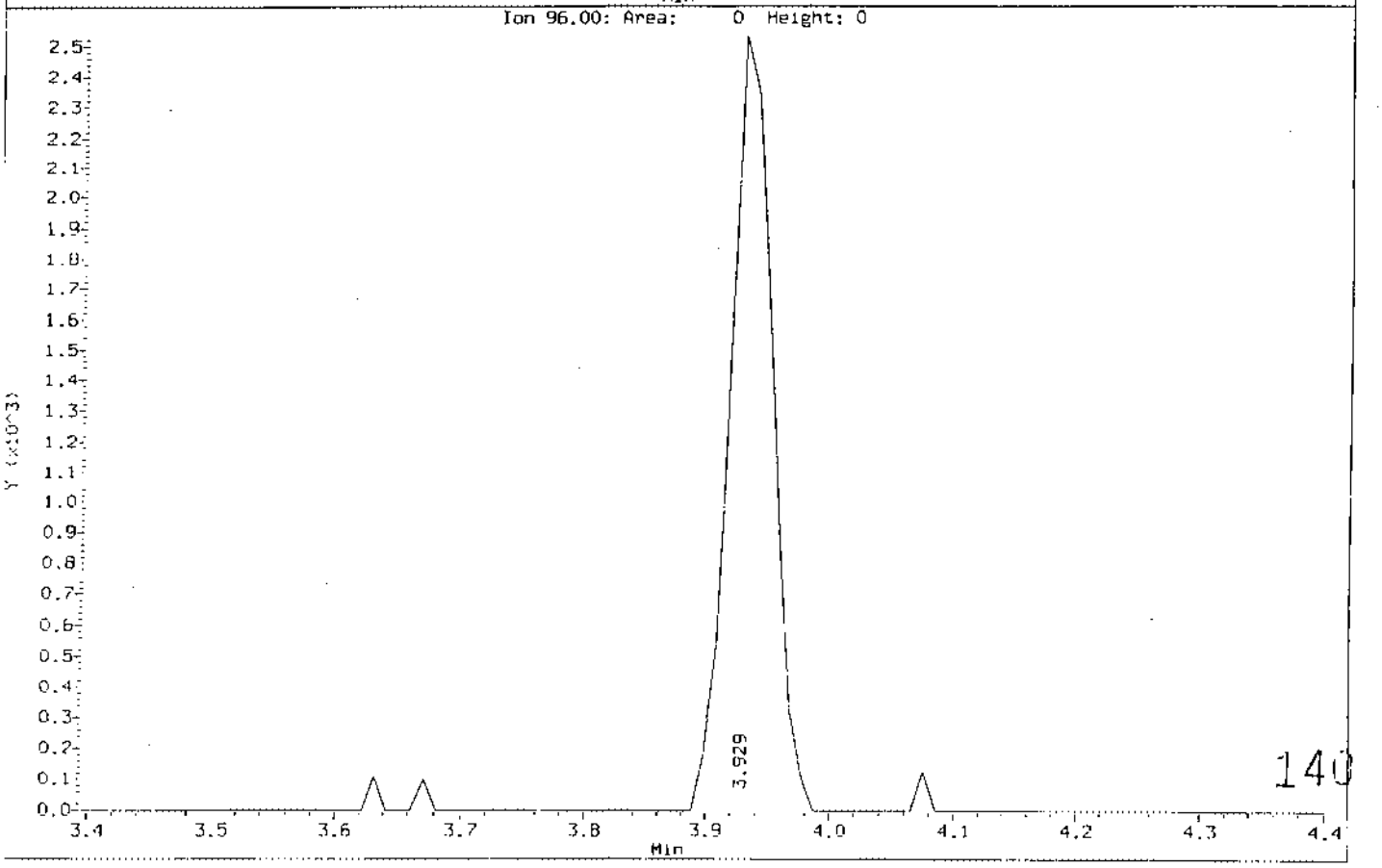
M - Compound response manually integrated.

MMC 4/9/03

Data File: /chem/5972hp73.i/DF030408A73.b/DT030408A73.d
Injection Date: 08-APR-2003 09:05
Instrument: 5972hp73.i
Client Sample ID: VSTD001FA

Compound: Bromomethane
CAS Number: 74-83-9





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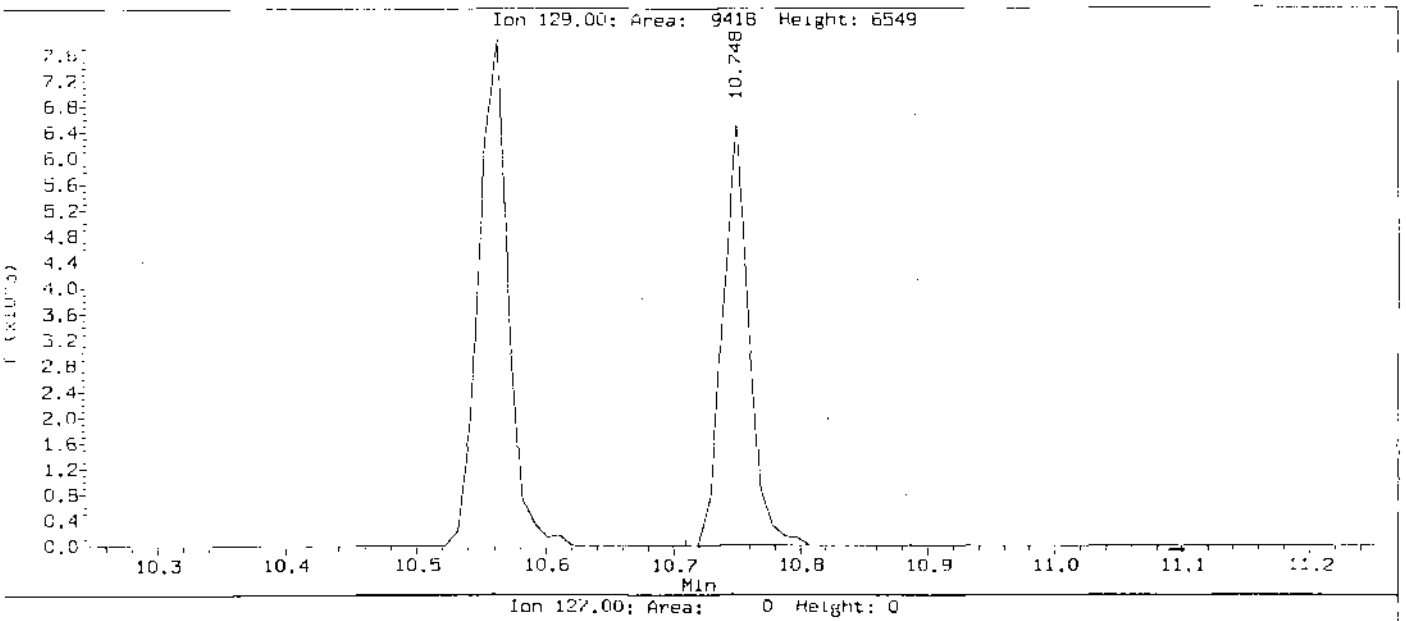
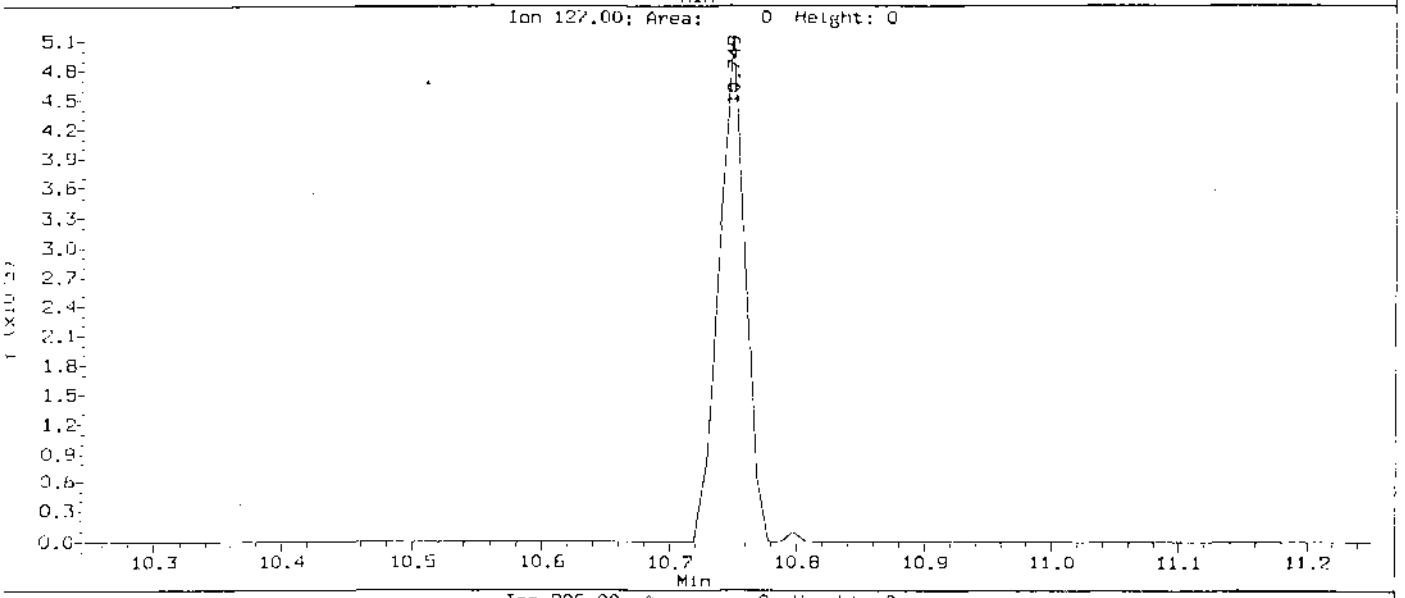
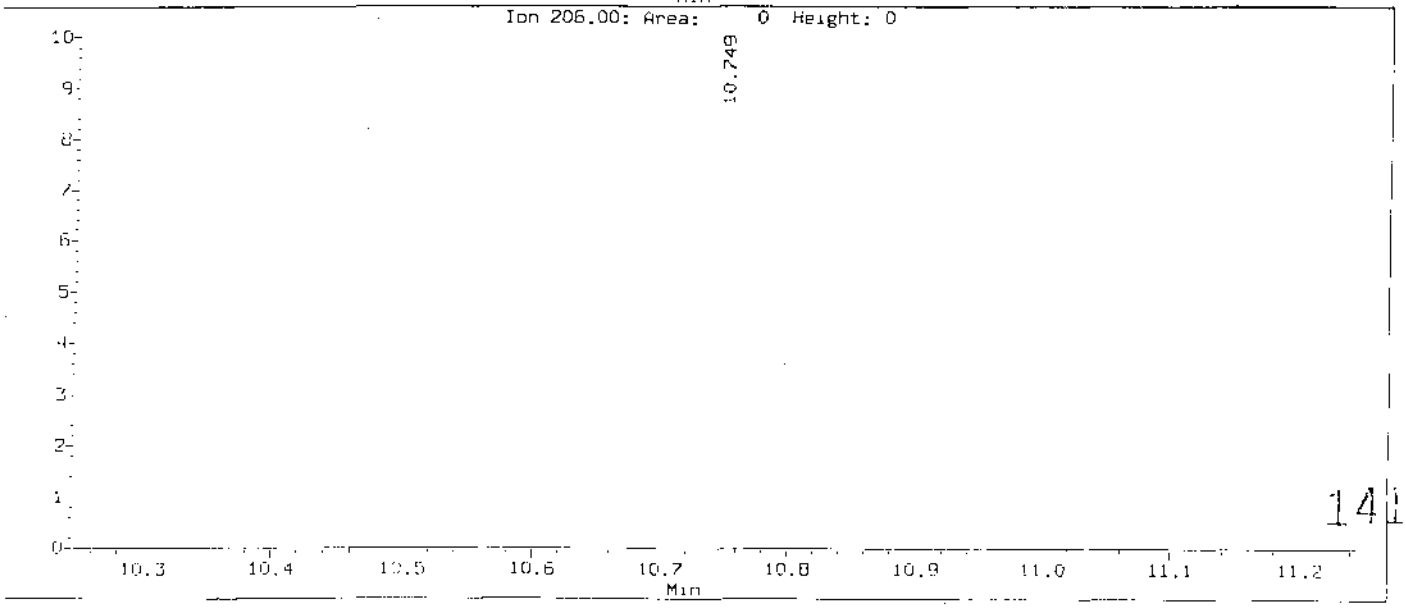
Instrument: 5972hp73.i
Client Sample ID: VSTD001FA

Compound: Dibromochloromethane
CAS Number: 124-48-1







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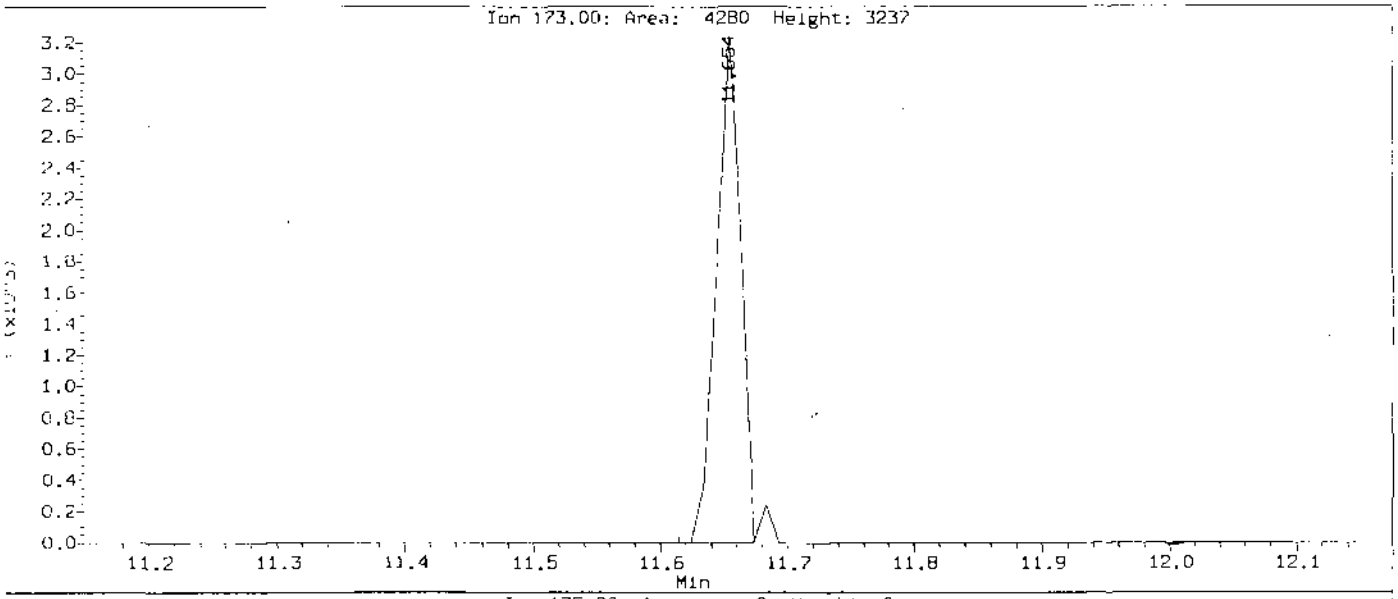
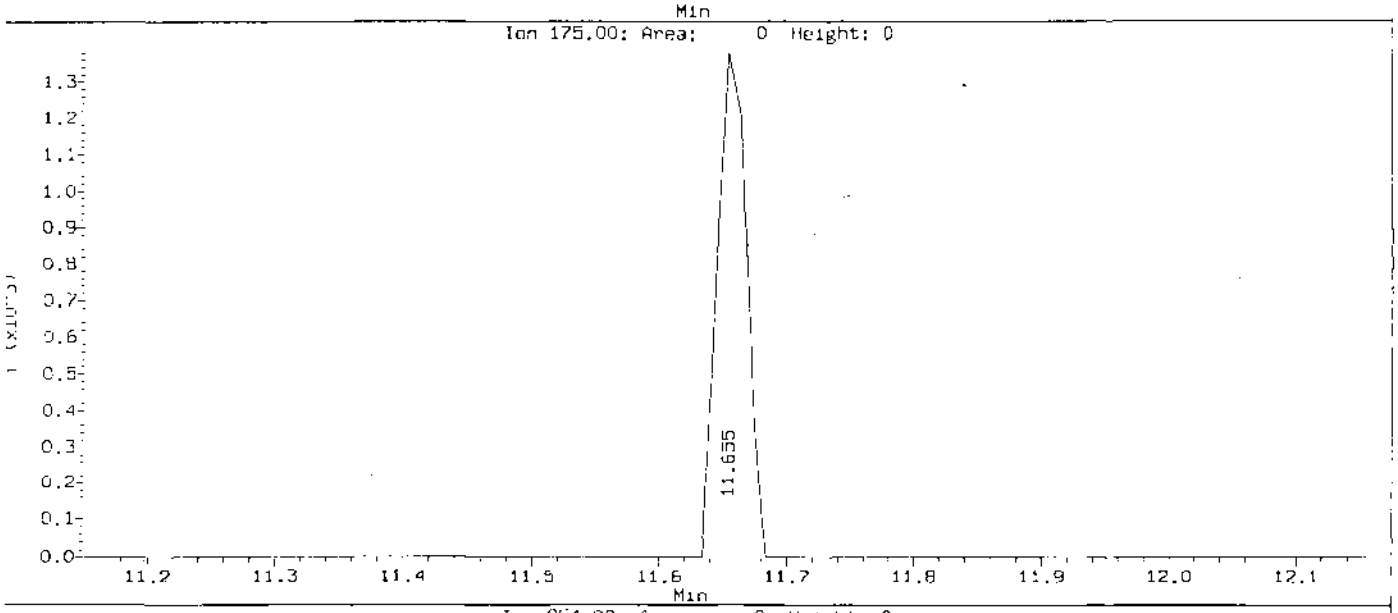
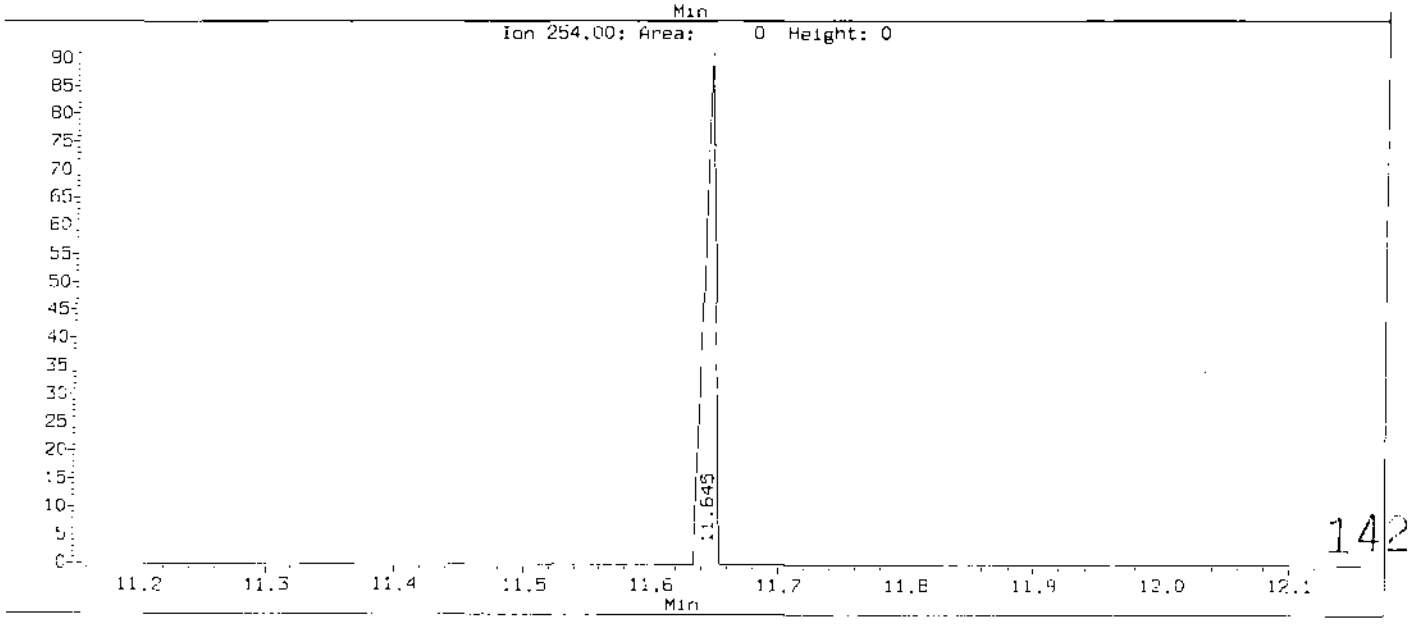
Injection Date: 08-APR-2003 09:05
Instrument: 5972hp73.i
Client Sample ID: VSTD001FA

Compound: Bromoform
CAS Number: 75-25-2







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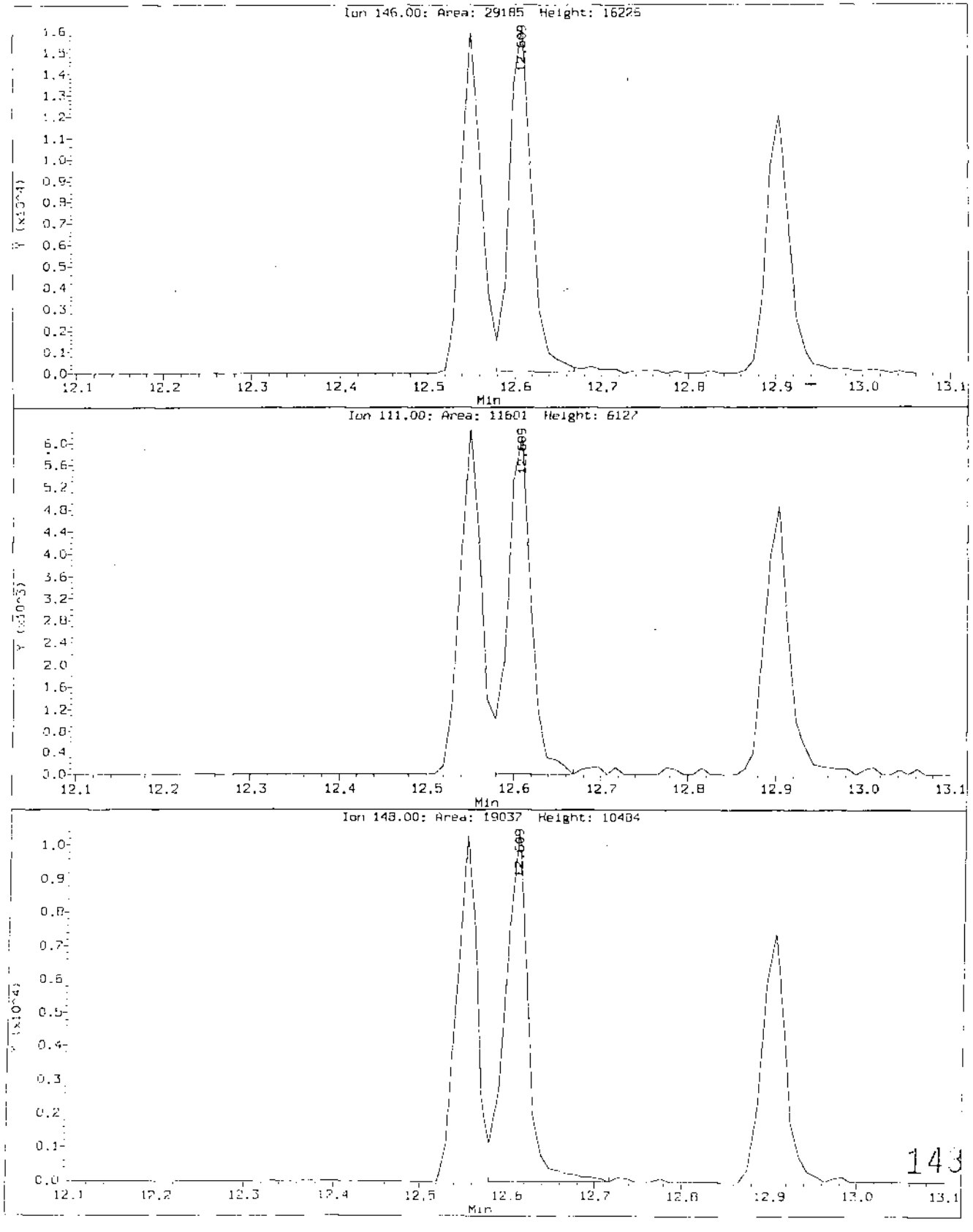
Injection Date: 08-APR-2003 09:05
Instrument: 5972hp73.i
Client Sample ID: VSTD001FA

Compound: 1,4-Dichlorobenzene
CAS Number: 106-46-7



Data File: /chem/5972hp73.i/DF030408A73.b/CS030408A73.d
Date : 08-APR-2003 08:25
Client ID: VSTD005FA
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i

Operator: 2537
Column diameter: 0.32

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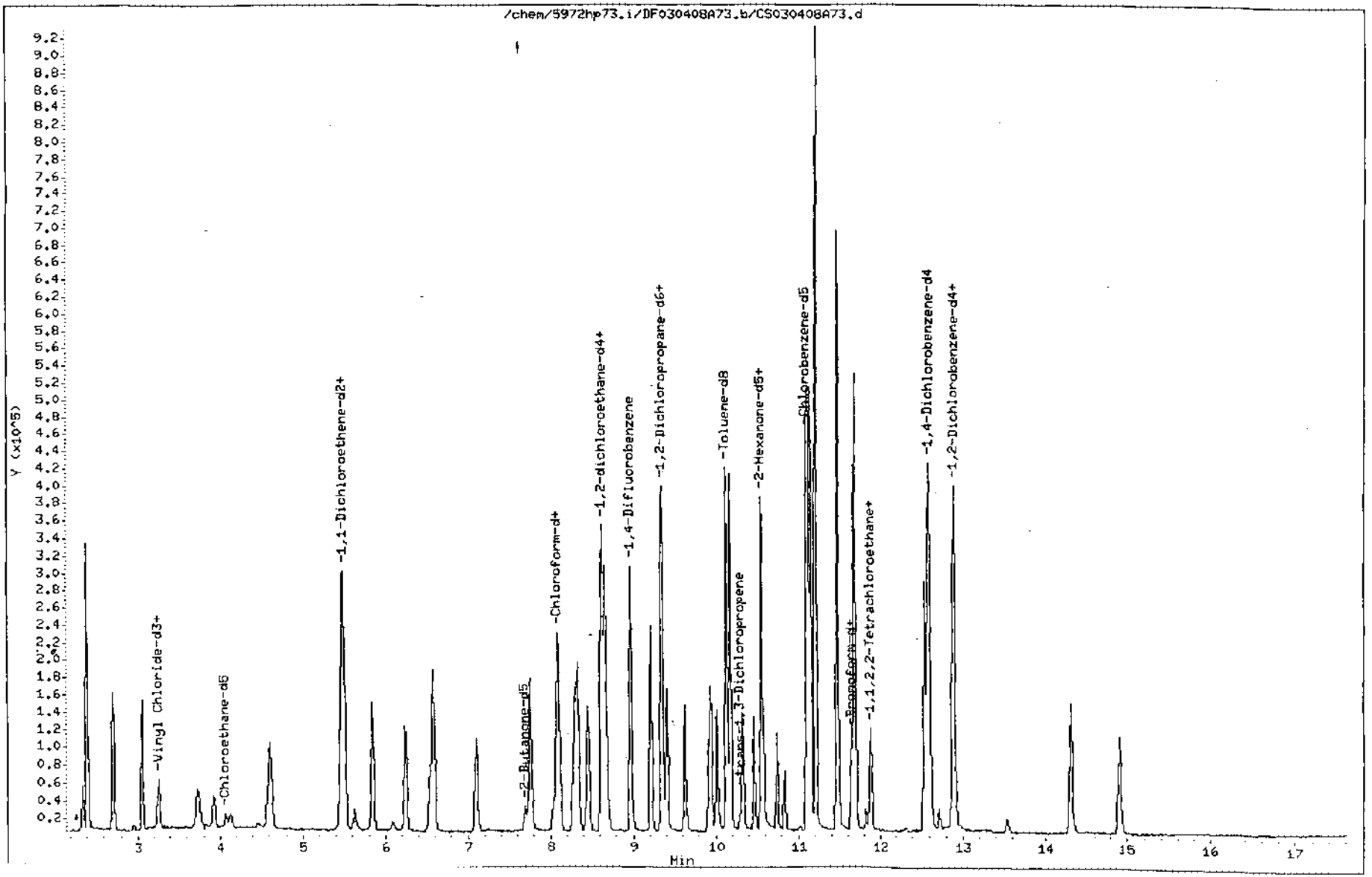
SIGNATURE MNC DATE 4/9/3



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CompuChem

OLC03 QUANT AND RATIO REPORT

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nj Date : 08-APR-2003 08:25
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mp Info :
isc Info :
omment :
ethod : /chem/5972hp73.i/DF030408A73.b/OLC03v3.m
eth Date : 09-Apr-2003 08:12 curtis Quant Type: ISTD
al Date : 08-APR-2003 08:25 Cal File: CS030408A73.d
ls bottle: 2 Calibration Sample, Level: 3
il Factor: 1.00000
ntegrator: HP RTE Compound Sublist: all.sub
arget Version: 3.50

oncentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

pnd Variable Local Compound Variable

		QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)
1	1,4-Difluorobenzene	114	8.978	8.977	(1.000)	285116	125.000	
2	Chlorobenzene-d5	117	11.094	11.093	(1.000)	229241	125.000	
3	1,4-Dichlorobenzene-d4	152	12.590	12.589	(1.000)	98375	125.000	
4	Vinyl Chloride-d3	65	3.249	3.249	(0.362)	27627	125.000	130
5	Chloroethane-d5	69	4.076	4.066	(0.454)	17637	125.000	130
6	1,1 Dichloroethene d2	63	5.484	5.483	(0.611)	154569	125.000	130
7	2-Butanone-d5	46	7.698	7.688	(0.857)	50587	625.000	630
8	Chloroform-d	84	8.082	8.081	(0.900)	152351	125.000	130
9	1,2-dichloroethane-d4	65	8.614	8.613	(0.959)	52268	125.000	130
10	Benzene-d6	84	8.623	8.623	(0.777)	278991	125.000	130
11	1,2-Dichloropropane-d6	67	9.342	9.341	(0.842)	83538	125.000	130
12	Toluene-d8	98	10.129	10.129	(0.913)	253786	125.000	130
13	trans-1,3-Dichloropropene-d4	79	10.306	10.306	(0.929)	12668	125.000	130
14	2-Hexanone-d5	63	10.553	10.542	(0.951)	36512	625.000	630
15	1,1,2,2-Tetrachloroethane-d2	84	11.862	11.861	(1.069)	43399	125.000	130
16	Bromoform-d	174	11.645	11.635	(0.925)	28712	125.000	130

MMS 4/9/03

Data File: /chem/5972hp73.i/DF030408A73.b/CS030408A73.d
Report Date: 09-Apr-2003 08:13

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
17 1,2-Dichlorobenzene-d4	152	12.885	12.885	(1.023)	78191	125.000	130
18 Dichlorodifluoromethane	85	2.708	2.707	(0.302)	145301	125.000	130
19 Chloromethane	50	3.062	3.052	(0.341)	129297	125.000	130
20 Vinyl Chloride	62	3.269	3.259	(0.364)	46344	125.000	130
21 Bromomethane	94	3.929	3.898	(0.438)	34448	125.000	130
22 Chloroethane	64	4.135	4.125	(0.461)	16242	125.000	130
23 Trichlorofluoromethane	101	4.608	4.597	(0.513)	146101	125.000	130
24 1,1-Dichloroethene	96	5.513	5.503	(0.614)	74736	125.000	130
25 1,1,2-Trichloro-1,2,2-trifluo	101	5.484	5.473	(0.611)	94181	125.000	130
26 Acetone	43	5.631	5.631	(0.627)	37988	625.000	630
27 Carbon Disulfide	76	5.848	5.837	(0.651)	248550	125.000	130
28 Methyl Acetate	43	6.094	6.083	(0.679)	16937	125.000	130
29 Bromochloromethane	128	8.043	8.032	(0.896)	10725	125.000	130
30 Methylene Chloride	84	6.242	6.241	(0.695)	68583	125.000	130
31 trans-1,2-Dichloroethene	96	6.586	6.576	(0.734)	83813	125.000	130
32 Methyl tert-Butyl Ether	73	6.547	6.546	(0.729)	98472	125.000	130
33 1,1-Dichloroethane	63	7.108	7.097	(0.792)	128868	125.000	130
34 cis-1,2-Dichloroethene	96	7.757	7.757	(0.864)	77340	125.000	130
35 2-Butanone	43	7.767	7.757	(0.865)	45793	625.000	630
36 Chloroform	83	8.102	8.101	(0.902)	138631	125.000	130
37 1,1,1-Trichloroethane	97	8.289	8.288	(0.747)	119394	125.000	130
38 Cyclohexane	56	8.328	8.328	(0.751)	105944	125.000	130
39 Carbon Tetrachloride	117	8.456	8.446	(0.762)	110398	125.000	130
40 Benzene	78	8.663	8.652	(0.781)	286006	125.000	130
41 1,2-Dichloroethane	62	8.692	8.692	(0.968)	61824	125.000	130
42 Trichloroethene	95	9.214	9.213	(0.831)	74558	125.000	130
43 Methylcyclohexane	83	9.352	9.351	(0.843)	137514	125.000	130
44 1,2-Dichloropropane	63	9.411	9.410	(0.848)	58186	125.000	130
45 Bromodichloromethane	83	9.627	9.627	(0.868)	80926	125.000	130
46 cis 1,3-Dichloropropene	75	9.942	9.942	(0.896)	92219	125.000	130
47 4-Methyl-2-Pentanone	43	10.021	10.011	(0.903)	103842	625.000	630
48 Toluene	91	10.179	10.178	(0.917)	272046	125.000	130
49 trans-1,3-Dichloropropene	75	10.326	10.326	(0.931)	63945	125.000	130
50 1,1,2-Trichloroethane	97	10.464	10.463	(0.943)	37064	125.000	130
51 Tetrachloroethene	164	10.562	10.552	(0.952)	69726	125.000	130
52 2-Hexanone	43	10.582	10.572	(0.954)	72516	625.000	630
53 Dibromochloromethane	129	10.749	10.749	(0.969)	55292	125.000	130
54 1,2-Dibromoethane	107	10.838	10.837	(0.977)	41374	125.000	130
55 Chlorobenzene	112	11.114	11.113	(1.002)	189716	125.000	130
56 Ethylbenzene	91	11.143	11.142	(1.004)	326308	125.000	130
57 m,p-Xylene	106	11.212	11.211	(1.011)	249115	250.000	250
58 o-Xylene	106	11.468	11.467	(1.034)	119168	125.000	130
59 Styrene	104	11.478	11.477	(1.035)	160994	125.000	130
60 Bromoform	173	11.655	11.654	(0.926)	30290	125.000	130
61 Isopropylbenzene	105	11.675	11.674	(1.052)	318932	125.000	130
62 1,1,2,2-Tetrachloroethane	83	11.881	11.881	(1.071)	42691	125.000	130
63 1,3-Dichlorobenzene	146	12.551	12.540	(0.997)	133581	125.000	130

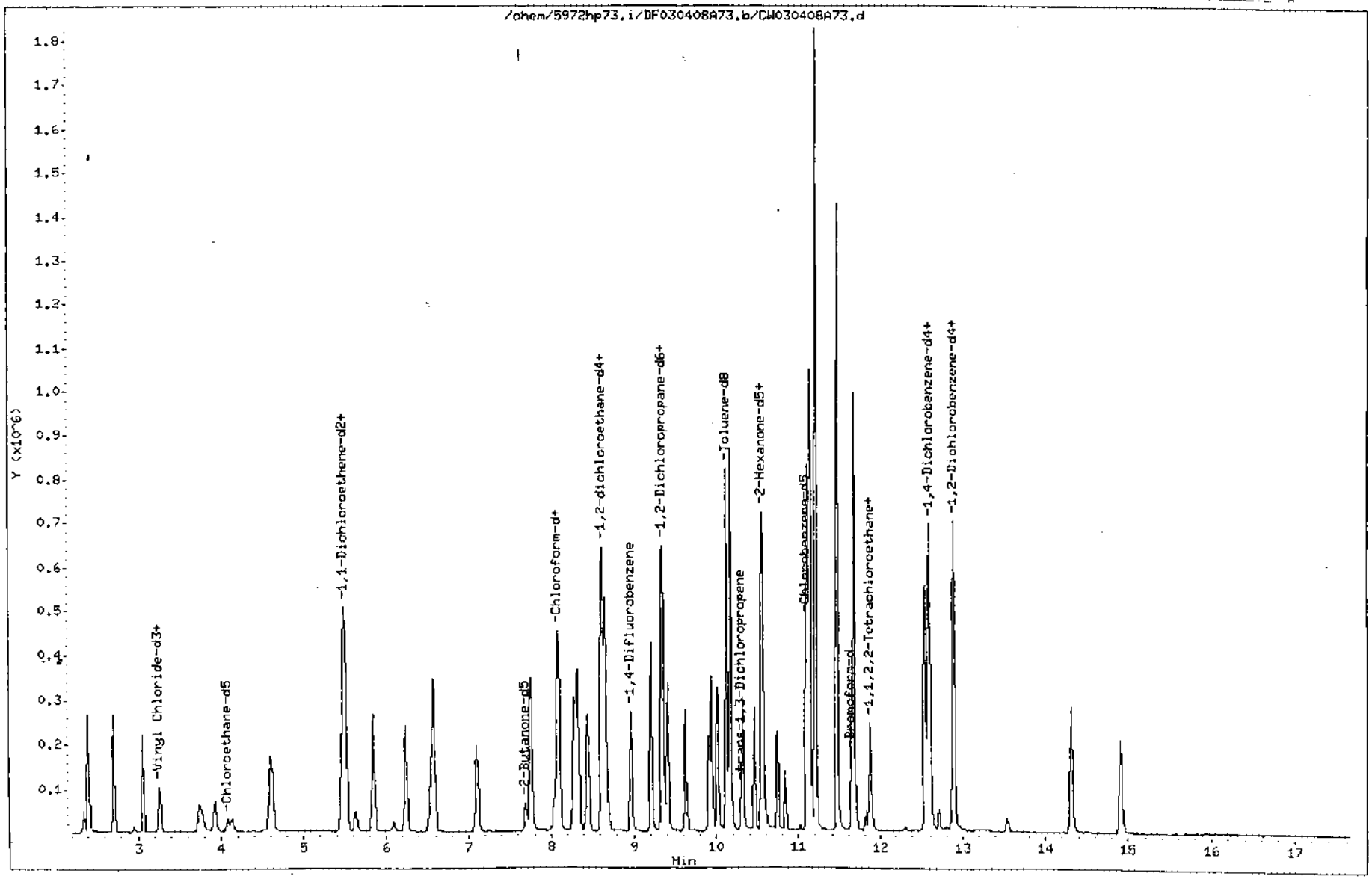
Data File: /chem/5972hp73.i/DF030408A73.b/CS030408A73.d
Report Date: 09-Apr-2003 08:13

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
64 1,4-Dichlorobenzene	146	12.610	12.599	(1.002)	134041	125.000	130
65 1,2-Dichlorobenzene	146	12.895	12.894	(1.024)	115540	125.000	130
66 1,2-Dibromo-3-Chloropropane	75	13.535	13.534	(1.075)	4067	125.000	130
67 1,2,4-Trichlorobenzene	180	14.312	14.312	(1.137)	72467	125.000	130
68 1,2,3-Trichlorobenzene	180	14.913	14.912	(1.184)	56379	125.000	130
* 69 Xylene (Total)	106				368283	125.000	390

Data File: /chem/5972hp73.i/DF030408A73.b/CW030408A73.d
Date : 08-APR-2003 10:45
Client ID: VSTD010FA
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2537
Column diameter: 0.32

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF- CC183554
SIGNATURE VMV DATE 4/9/03



Data File: /chem/5972hp73.i/DF030408A73.b/CW030408A73.d
Report Date: 09-Apr-2003 08:13

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030408A73.b/CW030408A73.d
Lab Smp Id: VSTD010FA Client Smp ID: VSTD010FA
Inj Date : 08-APR-2003 10:45
Operator : 2537 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030408A73.b/OLC03v3.m
Meth Date : 09-Apr-2003 08:12 curtis Quant Type: ISTD
Cal Date : 08-APR-2003 08:25 Cal File: CS030408A73.d
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
* 1 1,4-Difluorobenzene	114	8.978	8.977	(1.000)	244611	125.000	
* 2 Chlorobenzene-d5	117	11.094	11.093	(1.000)	212453	125.000	
* 3 1,4-Dichlorobenzene-d4	152	12.590	12.589	(1.000)	98001	125.000	
$ 4 Vinyl Chloride-d3	65	3.249	3.249	(0.362)	45751	250.000	220
$ 5 Chloroethane-d5	69	4.076	4.066	(0.454)	33585	250.000	240
$ 6 1,1-Dichloroethene-d2	63	5.484	5.483	(0.611)	272430	250.000	240
$ 7 2-Butanone-d5	46	7.688	7.688	(0.856)	106509	1250.00	1400
$ 8 Chloroform-d	84	8.082	8.081	(0.900)	297017	250.000	250
$ 9 1,2-dichloroethane-d4	65	8.614	8.613	(0.959)	106463	250.000	260
$ 10 Benzene-d6	84	8.623	8.623	(0.777)	504662	250.000	230
$ 11 1,2-Dichloropropane-d6	67	9.342	9.341	(0.842)	151722	250.000	230
$ 12 Toluene-d8	98	10.129	10.129	(0.913)	466438	250.000	240
$ 13 trans-1,3-Dichloropropene-d4	79	10.306	10.306	(0.929)	27634	250.000	280
$ 14 2-Hexanone-d5	63	10.543	10.542	(0.950)	82779	1250.00	1400
$ 15 1,1,2,2-Tetrachloroethane-d2	84	11.862	11.861	(1.069)	86994	250.000	250
$ 16 Bromoform-d	174	11.635	11.635	(0.924)	61023	250.000	270

NNG 4/9/03 149

Data File: /chem/5972hp73.i/DF030408A73.b/CW030408A73.d
Report Date: 09-Apr-2003 08:13

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
17 1,2-Dichlorobenzene-d4	152	12.885	12.885	(1.023)	142763	250.000	220
18 Dichlorodifluoromethane	85	2.708	2.707	(0.302)	244306	250.000	230
19 Chloromethane	50	3.062	3.052	(0.341)	201518	250.000	220
20 Vinyl Chloride	62	3.269	3.259	(0.364)	78712	250.000	240
21 Bromomethane	94	3.919	3.898	(0.436)	57407	250.000	240
22 Chloroethane	64	4.135	4.125	(0.461)	29947	250.000	240
23 Trichlorofluoromethane	101	4.608	4.597	(0.513)	264865	250.000	240
24 1,1-Dichloroethene	96	5.503	5.503	(0.613)	125611	250.000	240
25 1,1,2-Trichloro-1,2,2-trifluo	101	5.474	5.473	(0.610)	158093	250.000	230
26 Acetone	43	5.631	5.631	(0.627)	70680	1250.00	1200
27 Carbon Disulfide	76	5.848	5.837	(0.651)	454951	250.000	240
28 Methyl Acetate	43	6.094	6.083	(0.679)	34633	250.000	210
29 Bromochloromethane	128	8.043	8.032	(0.896)	19969	250.000	250
30 Methylene Chloride	84	6.241	6.241	(0.695)	131798	250.000	250
31 trans-1,2-Dichloroethene	96	6.576	6.576	(0.732)	143310	250.000	230
32 Methyl tert-Butyl Ether	73	6.547	6.546	(0.729)	200195	250.000	260
33 1,1-Dichloroethane	63	7.098	7.097	(0.791)	244633	250.000	250
34 cis-1,2-Dichloroethene	96	7.757	7.757	(0.864)	145554	250.000	250
35 2-Butanone	43	7.757	7.757	(0.864)	101179	1250.00	1400
36 Chloroform	83	8.102	8.101	(0.902)	273627	250.000	260
37 1,1,1-Trichloroethane	97	8.289	8.288	(0.747)	228169	250.000	240
38 Cyclohexane	56	8.328	8.328	(0.751)	197901	250.000	250
39 Carbon Tetrachloride	117	8.456	8.446	(0.762)	203129	250.000	240
40 Benzene	78	8.663	8.652	(0.781)	508076	250.000	230
41 1,2-Dichloroethane	62	8.692	8.692	(0.968)	127414	250.000	260
42 Trichloroethene	95	9.214	9.213	(0.831)	132823	250.000	230
43 Methylcyclohexane	83	9.352	9.351	(0.843)	227590	250.000	230
44 1,2-Dichloropropane	63	9.411	9.410	(0.848)	114967	250.000	240
45 Bromodichloromethane	83	9.627	9.627	(0.868)	161815	250.000	260
46 cis-1,3-Dichloropropene	75	9.942	9.942	(0.896)	184309	250.000	260
47 4-Methyl-2-Pentanone	43	10.011	10.011	(0.902)	235996	1250.00	1400
48 Toluene	91	10.178	10.178	(0.917)	539846	250.000	250
49 trans-1,3-Dichloropropene	75	10.326	10.326	(0.931)	143093	250.000	270
50 1,1,2-Trichloroethane	97	10.464	10.463	(0.943)	75582	250.000	250
51 Tetrachloroethene	164	10.562	10.552	(0.952)	125639	250.000	230
52 2-Hexanone	43	10.572	10.572	(0.953)	170811	1250.00	1500
53 Dibromochloromethane	129	10.749	10.749	(0.969)	112296	250.000	260
54 1,2-Dibromoethane	107	10.838	10.837	(0.977)	80969	250.000	260
55 Chlorobenzene	112	11.114	11.113	(1.002)	359459	250.000	240
56 Ethylbenzene	91	11.143	11.142	(1.004)	645662	250.000	250
57 m,p-Xylene	106	11.212	11.211	(1.011)	477434	500.000	480
58 o-Xylene	106	11.468	11.467	(1.034)	224025	250.000	250
59 Styrene	104	11.478	11.477	(1.035)	323242	250.000	270
60 Bromoform	173	11.655	11.654	(0.926)	64245	250.000	280
61 Isopropylbenzene	105	11.675	11.674	(1.052)	604071	250.000	250
62 1,1,2,2-Tetrachloroethane	83	11.881	11.881	(1.071)	86091	250.000	260
63 1,3-Dichlorobenzene	146	12.551	12.540	(0.997)	272205	250.000	240

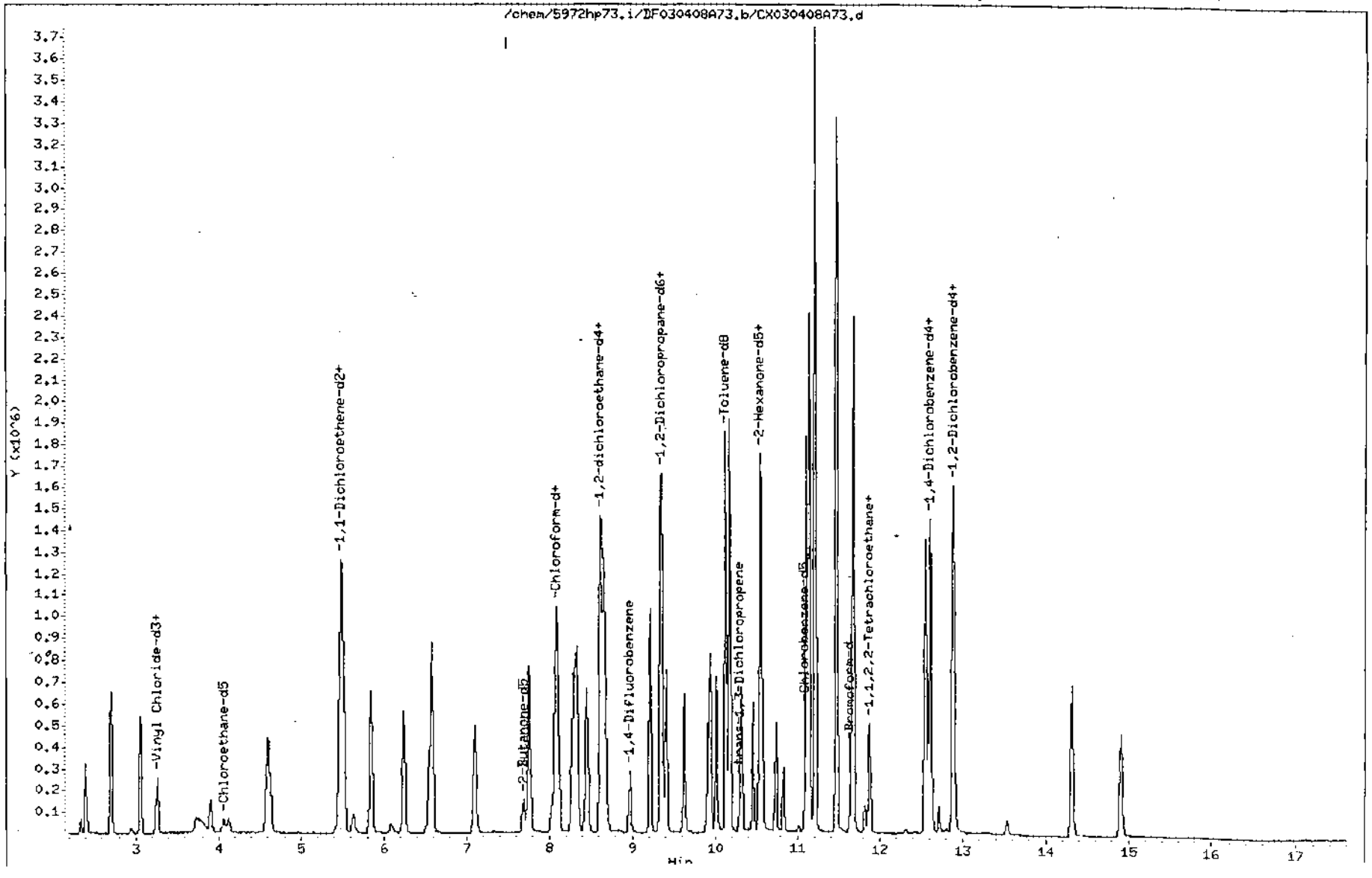
Data File: /chem/5972hp73.i/DF030408A73.b/CW030408A73.d
Report Date: 09-Apr-2003 08:13

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
64 1,4-Dichlorobenzene	146	12.610	12.599	(1.002)	265827	250.000	230
65 1,2-Dichlorobenzene	146	12.895	12.894	(1.024)	322800	250.000	240
66 1,2-Dibromo-3-Chloropropane	75	13.535	13.534	(1.075)	8390	250.000	250
67 1,2,4 Trichlorobenzene	180	14.312	14.312	(1.137)	130504	250.000	230
68 1,2,3-Trichlorobenzene	180	14.913	14.912	(1.184)	108066	250.000	230
69 Xylene (Total)	106				701459	250.000	770

Data File: /chem/5972hp73.i/DF030408A73.b/CX030408A73.d
Date : 08-APR-2003 11:08
Client ID: VSTD025FA
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2537
Column diameter: 0.32

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF- C0118313 34
SIGNATURE VAC DATE 4/9/03



Data File: /chem/5972hp73.i/DF030408A73.b/CX030408A73.d
Report Date: 09-Apr-2003 08:13

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030408A73.b/CX030408A73.d
Lab Smp Id: VSTD025FA Client Smp ID: VSTD025FA
Inj Date : 08-APR-2003 11:08
Operator : 2537 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030408A73.b/OLC03v3.m
Meth Date : 09-Apr-2003 08:12 curtis Quant Type: ISTD
Cal Date : 08-APR-2003 08:25 Cal File: CS030408A73.d
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	RSL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)
1 1,4-Difluorobenzene	114	8.977	8.977	(1.000)	252300	125.000	
2 Chlorobenzene-d5	117	11.093	11.093	(1.000)	211139	125.000	
3 1,4-Dichlorobenzene-d4	152	12.589	12.589	(1.000)	93637	125.000	
4 Vinyl Chloride-d3	65	3.249	3.249	(0.362)	112013	625.000	530
5 Chloroethane-d5	69	4.066	4.066	(0.453)	80151	625.000	560
6 1,1-Dichloroethene-d2	63	5.483	5.483	(0.611)	675114	625.000	580
7 2-Butanone-d5	46	7.688	7.688	(0.856)	226394	3125.00	3000
8 Chloroform-d	84	8.081	8.081	(0.900)	656192	625.000	580
9 1,2-dichloroethane-d4	65	8.613	8.613	(0.959)	234633	625.000	560
10 Benzene-d6	84	8.623	8.623	(0.777)	1208879	625.000	570
11 1,2-Dichloropropane-d6	67	9.341	9.341	(0.842)	374056	625.000	590
12 Toluene-d8	98	10.129	10.129	(0.913)	1095822	625.000	580
13 trans 1,3-Dichloropropene-d4	79	10.306	10.306	(0.929)	60594	625.000	610
14 2-Hexanone-d5	63	10.542	10.542	(0.950)	185456	3125.00	3200
15 1,1,2,2-Tetrachloroethane d2	84	11.861	11.861	(1.069)	187835	625.000	560
16 Bromoform-d	174	11.635	11.635	(0.924)	134541	625.000	620

MW 4/10/03 153

)ata File: /chem/5972hp73.i/DF030408A73.b/CX030408A73.d
:eport Date: 09-Apr-2003 08:13

						AMOUNTS	
	QUANT SIG					CAL-AMT	ON-COL
ompounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ng)	(ng)
17 1,2-Dichlorobenzene-d4	152	12.885	12.885	(1.023)	332882	625.000	560
18 Dichlorodifluoromethane	85	2.707	2.707	(0.302)	598791	625.000	570
19 Chloromethane	50	3.052	3.052	(0.340)	499125	625.000	550
20 Vinyl Chloride	62	3.259	3.259	(0.363)	195883	625.000	590
21 Bromomethane	94	3.898	3.898	(0.434)	106653	625.000	460
22 Chloroethane	64	4.125	4.125	(0.459)	71335	625.000	570
23 Trichlorofluoromethane	101	4.597	4.597	(0.512)	675214	625.000	600
24 1,1-Dichloroethene	96	5.503	5.503	(0.613)	314918	625.000	600
25 1,1,2-Trichloro-1,2,2-trifluo	101	5.473	5.473	(0.610)	396629	625.000	580
26 Acetone	43	5.631	5.631	(0.627)	146476	3125.00	2500
27 Carbon Disulfide	76	5.837	5.837	(0.650)	1152986	625.000	600
28 Methyl Acetate	43	6.083	6.083	(0.678)	74041	625.000	470
29 Bromochloromethane	128	8.032	8.032	(0.895)	44553	625.000	560
30 Methylene Chloride	84	6.241	6.241	(0.695)	308864	625.000	570
31 trans-1,2-Dichloroethene	96	6.576	6.576	(0.732)	368528	625.000	590
32 Methyl tert-Butyl Ether	73	6.546	6.546	(0.729)	430559	625.000	560
33 1,1-Dichloroethane	63	7.097	7.097	(0.791)	600203	625.000	590
34 cis-1,2-Dichloroethene	96	7.757	7.757	(0.864)	350772	625.000	590
35 2-Butanone	43	7.757	7.757	(0.864)	210902	3125.00	2800
36 Chloroform	83	8.101	8.101	(0.902)	634509	625.000	590
37 1,1,1-Trichloroethane	97	8.288	8.288	(0.747)	571830	625.000	600
38 Cyclohexane	56	8.328	8.328	(0.751)	480949	625.000	610
39 Carbon Tetrachloride	117	8.446	8.446	(0.761)	524934	625.000	610
40 Benzene	78	8.652	8.652	(0.780)	1237737	625.000	580
41 1,2-Dichloroethane	62	8.692	8.692	(0.968)	286494	625.000	580
42 Trichloroethene	95	9.213	9.213	(0.831)	330381	625.000	580
43 Methylcyclohexane	83	9.351	9.351	(0.843)	603517	625.000	610
44 1,2-Dichloropropane	63	9.410	9.410	(0.848)	266014	625.000	560
45 Bromodichloromethane	83	9.627	9.627	(0.868)	385577	625.000	620
46 cis-1,3-Dichloropropene	75	9.942	9.942	(0.896)	426862	625.000	610
47 4-Methyl-2-Pentanone	43	10.011	10.011	(0.902)	501355	3125.00	3000
48 Toluene	91	10.178	10.178	(0.917)	1252761	625.000	580
49 trans-1,3-Dichloropropene	75	10.326	10.326	(0.931)	325870	625.000	620
50 1,1,2-Trichloroethane	97	10.463	10.463	(0.943)	168890	625.000	580
51 Tetrachloroethene	164	10.552	10.552	(0.951)	318410	625.000	600
52 2-Hexanone	43	10.572	10.572	(0.953)	353501	3125.00	3200(A)
53 Dibromochloromethane	129	10.749	10.749	(0.969)	259853	625.000	610
54 1,2-Dibromoethane	107	10.837	10.837	(0.977)	183726	625.000	600
55 Chlorobenzene	112	11.113	11.113	(1.002)	860494	625.000	580
56 Ethylbenzene	91	11.142	11.142	(1.004)	1493784	625.000	590
57 m,p-Xylene	106	11.211	11.211	(1.011)	1057927	1250.00	1100
58 o-Xylene	106	11.467	11.467	(1.034)	535684	625.000	600
59 Styrene	104	11.477	11.477	(1.035)	768246	625.000	640(A)
60 Bromoform	173	11.654	11.654	(0.926)	140587	625.000	640(A)
61 Isopropylbenzene	105	11.674	11.674	(1.052)	1511564	625.000	620
62 1,1,2,2-Tetrachloroethane	83	11.881	11.881	(1.071)	184227	625.000	570
63 1,3-Dichlorobenzene	146	12.540	12.540	(0.996)	656894	625.000	620

Data File: /chem/5972hp73.i/DF030408A73.b/CX030408A73.d
Report Date: 09-Apr-2003 08:13

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
64 1,4-Dichlorobenzene	146	12.599	12.599	(1.001)	617445	625.000	570
65 1,2-Dichlorobenzene	146	12.894	12.894	(1.024)	502151	625.000	570
66 1,2-Dibromo-3-Chloropropane	75	13.534	13.534	(1.075)	19543	625.000	610
67 1,2,4-Trichlorobenzene	180	14.312	14.312	(1.137)	320775	625.000	600
68 1,2,3-Trichlorobenzene	180	14.912	14.912	(1.185)	251739	625.000	580
69 Xylene (Total)	106				1593611	625.000	1800

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

COMPUCHEM a division of Liberty Analytical Corp DATE 4 / 8 /03 INITIAL TIME OF TUNE 0750 SHIFT/S(A) ✓ (B) ___ (C) ___

GC/MS VOLATILE RUN LOG TIME TUNE EXPIRES 1950 LINKER /METHOD Au 32+ Flow 0.2 PPB

COMPUCHEM LOGBOOK 11 ZZZ 8 (5972hp73)

PREVENTIVE MAINTENANCE NONE

		FILE NAME		DATE	TIME	CLIENT ID#	CASE/SDG#	SAMPLE VOLUME	CHEMIST	COMMENTS(ETC.)/DISPOSITION
1		BFB0408A73	✓	4 / 8 / 03	0750	BFB	–	2ml	2537	Calibration
2		C3	✓	/ /	0825	VSTD005 FA	–	25ml		
3		C7	✓	/ /	0905	VSTD001 FA	–			
4		C4	✓	/ /	0944	VSTD 05 FA	–			
5		C5	✓	/ /	1010	VSTD 02 FA	–			
6		C6	✓	/ /	1045	VSTD 10 FA	–			
7		C8	✓	/ /	1108	VSTD 25 FA	–			
8		C9	✓	/ /	1136	VTBLKFF	–			
9		W023567-1 A73	✓	/ /	1204	VBLK ZC	VARIOUS			
10	✓	YORD7-1 A73	DT	/ /	1246	YORD7	YORD7			Matrix Spike, Tune 5.0
11	✓	W023567-6 A73	CS	/ /	1309	VHBLKXA	FOF61			(TIC)
12	✓	YORD7-2 A73	CS	/ /	1400	YORD8	YORD7			(TIC)
13	✓	-3	CS DT	/ /	1424	YORD9				TIC 200
14	✓	-4	CS	/ /	1448	YORE0				(TIC)
15	✓	-5	CS	/ /	1512	1				(TIC)
16	✓	-6	CS	/ /	1536	2				(TIC)
17		-7	✓	/ /	1600	3				
18		-8	✓	/ /	1624	4				
19		-9	✓	/ /	1648	5				
20	✓	W023567-6RA73	CS	/ /	1334	VHBLKXA	FOF61	25ml		(TIC)
21		C0118-32 RA73	✓	/ /	1718	C0132	C0118	25ml		
22		-33	✓	/ /	1736	131				
23		-34	✓	/ /	1759	132				
24	✓	-35	DT	/ /	—	133				File Cont

SUPERVISOR APPROVAL [signature] Date 4-8-03

Tune (ID #7008) Lot No. 54307

Calibration Group Code / Lot No. ~~DC10~~ 0190 (4-5-03)

The presence of the Chemist's employee ID number, or signature, on this run log attests that strict compliance with the method's SOP has occurred. Any SOP deviations require documentation by the responsible chemist together with the chemist's initials and the initials of the lab supervisor and a QA department representative, signifying approval of the deviation.

2/20/03 dc

6LCA

LOW CONCENTRATION WATER VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Instrument ID: 5972HP73 Calibration Date(s): 04/16/2003 04/16/2003

Calibration Time(s): 0918 1300

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

LAB FILE ID: RRF0.5= CS030416A73 RRF1 = CY030416A73
RRF5 = CV030416A73 RRF10 = CW030416A73 RRF25 = CX030416A73

COMPOUND	RRF0.5	RRF1	RRF5	RRF10	RRF25	$\overline{RRF}$	% RSD
Ethylbenzene *	1.918	1.716	1.615	1.641	1.535	1.685	8.6*
Xylene (Total) *	0.726	0.631	0.571	0.575	0.530	0.607	12.5*
Styrene *	1.040	0.921	0.849	0.854	0.788	0.890	10.8*
Vinyl Chloride-d3	0.147	0.141	0.132	0.126	0.127	0.135	6.8
Chloroethane-d5	0.163	0.112	0.111	0.107	0.108	0.120	20.0
1,1-Dichloroethene-d2	0.504	0.442	0.429	0.420	0.421	0.443	7.9
2-Butanone-d5	0.030	0.027	0.027	0.027	0.026	0.027	5.6
Chloroform-d	0.648	0.597	0.582	0.558	0.553	0.588	6.5
1,2-dichloroethane-d4	0.233	0.214	0.190	0.184	0.178	0.200	11.5
Benzene-d6	1.508	1.325	1.219	1.240	1.099	1.278	11.9
1,2-Dichloropropane-d6	0.403	0.313	0.329	0.333	0.308	0.337	11.4
Toluene-d8	1.556	1.188	1.147	1.160	1.068	1.224	15.6
trans-1,3-Dichloropropene-d4	0.089	0.068	0.068	0.065	0.063	0.071	14.8
2-Hexanone-d5	0.040	0.034	0.037	0.034	0.033	0.036	8.0
Bromoform-d	0.428	0.316	0.339	0.328	0.314	0.345	13.8
1,1,2,2-Tetrachloroethane-d2	0.260	0.201	0.204	0.190	0.184	0.208	14.6
1,2-Dichlorobenzene-d4	0.995	0.915	0.799	0.769	0.719	0.839	13.5

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

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All other compounds must meet a minimum RRF of 0.010.

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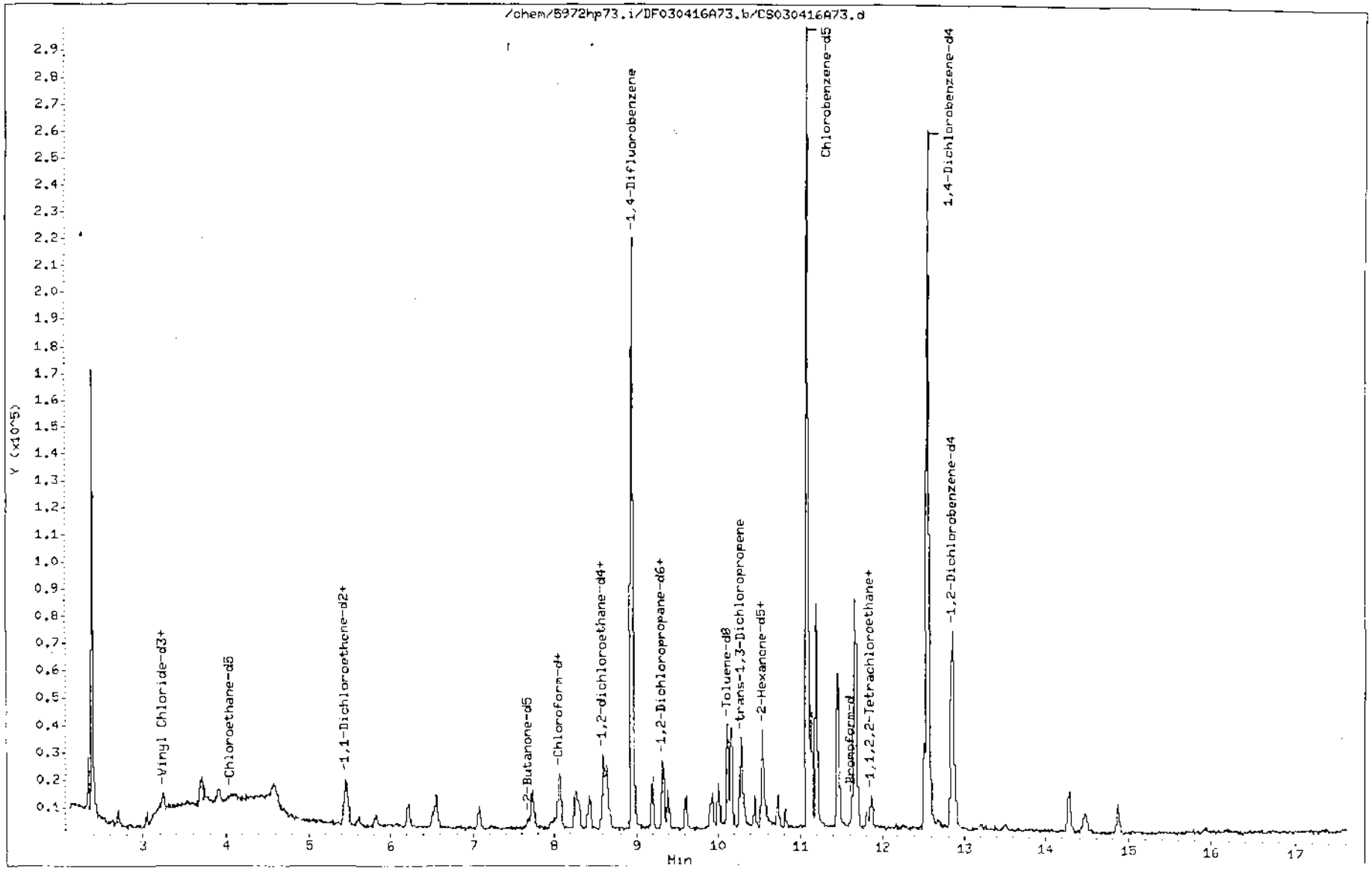
All other compounds must meet a minimum RRF of 0.010.

Data File: /chem/5972hp73.i/DF030416A73.b/CS030416A73.d
Date : 16-APR-2003 09:18
Client ID: VSTD0.5FV
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2537
Column diameter: 0.32

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF C0137.Y554
SIGNATURE NDC DATE 9/17/03



Data File: /chem/5972hp73.i/DF030416A73.b/CS030416A73.d
Report Date: 17-Apr-2003 13:34

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030416A73.b/CS030416A73.d
Lab Smp Id: VSTD0.5FV Client Smp ID: VSTD0.5FV
Inj Date : 16-APR-2003 09:18
Operator : 2537 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030416A73.b/OLC03v3.m
Meth Date : 17-Apr-2003 13:34 curtis Quant Type: ISTD
Cal Date : 16-APR-2003 09:18 Cal File: CS030416A73.d
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
1	1,4-Difluorobenzene	114	8.950	8.953	(1.000)	203406	125.000	
2	Chlorobenzene d5	117	11.076	11.079	(1.000)	160810	125.000	
3	1,4-Dichlorobenzene-d4	152	12.562	12.565	(1.000)	76489	125.000	
4	Vinyl Chloride-d3	65	3.232	3.235	(0.361)	2998	12.5000	13(M) 2
5	Chloroethane-d5	69	4.049	4.061	(0.452)	3322	12.5000	13
6	1,1-Dichloroethene-d2	63	5.456	5.459	(0.610)	10253	12.5000	13
7	2-Butanone-d5	46	7.681	7.683	(0.858)	6064	125.000	130
8	Chloroform-d	84	8.055	8.057	(0.900)	13175	12.5000	13
9	1,2-dichloroethane-d4	65	8.596	8.599	(0.960)	4737	12.5000	13
10	Benzene-d6	84	8.596	8.599	(0.776)	24247	12.5000	13
11	1,2-Dichloropropane-d6	67	9.314	9.327	(0.841)	6487	12.5000	13
12	Toluene-d8	98	10.112	10.114	(0.913)	25022	12.5000	13
13	trans-1,3-Dichloropropene-d4	79	10.289	10.292	(0.929)	1435	12.5000	13
14	2-Hexanone-d5	63	10.535	10.538	(0.951)	6357	125.000	130(M) 2
15	1,1,2,2-Tetrachloroethane-d2	84	11.844	11.847	(1.069)	4178	12.5000	13
16	Bromoform-d	174	11.618	11.620	(0.925)	3276	12.5000	13

MW 4/17/03

Data File: /chem/5972hp73.i/DF030416A73.b/CS030416A73.d
Report Date: 17-Apr-2003 13:34

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (pg)
$ 17 1,2-Dichlorobenzene-d4	152	12.858	12.860	(1.024)	7607	12.5000	13
18 Dichlorodifluoromethane	85	2.690	2.693	(0.301)	5039	12.5000	13
19 Chloromethane	50	3.035	3.038	(0.339)	4999	12.5000	13
20 Vinyl Chloride	62	3.242	3.254	(0.362)	4473	12.5000	13
21 Bromomethane	94	3.901	3.904	(0.436)	3176	12.5000	13(M)
22 Chloroethane	64	4.108	4.110	(0.459)	2571	12.5000	13
23 Trichlorofluoromethane	101	4.580	4.593	(0.512)	5881	12.5000	13
24 1,1-Dichloroethene	96	5.486	5.479	(0.613)	3062	12.5000	13
25 1,1,2-Trichloro-1,2,2-trifluo	101	5.456	5.459	(0.610)	4592	12.5000	13
26 Acetone	43	5.614	5.607	(0.627)	5565	125.000	130
27 Carbon Disulfide	76	5.820	5.823	(0.650)	5189	12.5000	13
28 Methyl Acetate	43	6.066	6.069	(0.678)	640	12.5000	13
29 Bromochloromethane	128	8.015	8.018	(0.896)	840	12.5000	13
30 Methylene Chloride	84	6.224	6.227	(0.695)	5134	12.5000	13
31 trans-1,2-Dichloroethene	96	6.559	6.561	(0.733)	5593	12.5000	13
32 Methyl tert-Butyl Ether	73	6.519	6.522	(0.728)	9256	12.5000	13
33 1,1-Dichloroethane	63	7.080	7.083	(0.791)	8684	12.5000	13
34 cis 1,2-Dichloroethene	96	7.730	7.733	(0.864)	6830	12.5000	13
35 2-Butanone	43	7.749	7.742	(0.866)	5521	125.000	130(M)
36 Chloroform	83	8.074	8.077	(0.902)	12060	12.5000	13
37 1,1,1-Trichloroethane	97	8.261	8.264	(0.746)	10711	12.5000	13
38 Cyclohexane	56	8.301	8.303	(0.749)	5204	12.5000	13
39 Carbon Tetrachloride	117	8.429	8.431	(0.761)	8901	12.5000	13
40 Benzene	78	8.635	8.638	(0.780)	22301	12.5000	13
41 1,2-Dichloroethane	62	8.665	8.677	(0.968)	5100	12.5000	13
42 Trichloroethene	95	9.196	9.199	(0.830)	6237	12.5000	13
43 Methylcyclohexane	83	9.334	9.327	(0.843)	9912	12.5000	13
44 1,2-Dichloropropane	63	9.393	9.396	(0.848)	4828	12.5000	13
45 Bromodichloromethane	83	9.610	9.612	(0.868)	7977	12.5000	13
46 cis-1,3-Dichloropropene	75	9.925	9.927	(0.896)	8683	12.5000	13
47 4-Methyl-2-Pentanone	43	10.003	10.006	(0.903)	12460	125.000	130
48 Toluene	91	10.161	10.164	(0.917)	26795	12.5000	13
49 trans-1,3-Dichloropropene	75	10.318	10.311	(0.932)	6914	12.5000	13
50 1,1,2-Trichloroethane	97	10.446	10.449	(0.943)	3958	12.5000	13
51 Tetrachloroethene	164	10.535	10.547	(0.951)	6357	12.5000	13
52 2-Hexanone	43	10.564	10.567	(0.954)	7773	125.000	130
53 Dibromochloromethane	129	10.732	10.735	(0.969)	6165	12.5000	13(M)
54 1,2-Dibromoethane	107	10.820	10.823	(0.977)	4128	12.5000	13(M)
55 Chlorobenzene	112	11.096	11.099	(1.002)	18069	12.5000	13
56 Ethylbenzene	91	11.125	11.128	(1.004)	30843	12.5000	13
57 m,p-Xylene	106	11.194	11.197	(1.011)	25367	25.0000	25
58 o-Xylene	106	11.450	11.453	(1.034)	11677	12.5000	13
59 Styrene	104	11.460	11.463	(1.035)	16730	12.5000	13
60 Bromoform	173	11.637	11.640	(0.926)	3208	12.5000	13(M)
61 Isopropylbenzene	105	11.657	11.660	(1.052)	30042	12.5000	13
62 1,1,2,2-Tetrachloroethane	83	11.864	11.866	(1.071)	4533	12.5000	13
63 1,3-Dichlorobenzene	146	12.523	12.526	(0.997)	14091	12.5000	13

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Data File: /chem/5972hp73.i/DF030416A73.b/CS030416A73.d
Report Date: 17-Apr-2003 13:34

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
	64 1,4-Dichlorobenzene	146	12.582	12.585	(1.002)	15483	12.5000	13(M)
	65 1,2-Dichlorobenzene	146	12.877	12.880	(1.025)	12182	12.5000	13
	66 1,2-Dibromo-3-Chloropropane	75	13.497	13.510	(1.074)	470	12.5000	13
	67 1,2,4-Trichlorobenzene	180	14.275	14.288	(1.136)	8361	12.5000	13
	68 1,2,3-Trichlorobenzene	180	14.866	14.868	(1.183)	5673	12.5000	13
M	69 Xylene (Total)	106				37044	12.5000	40

?

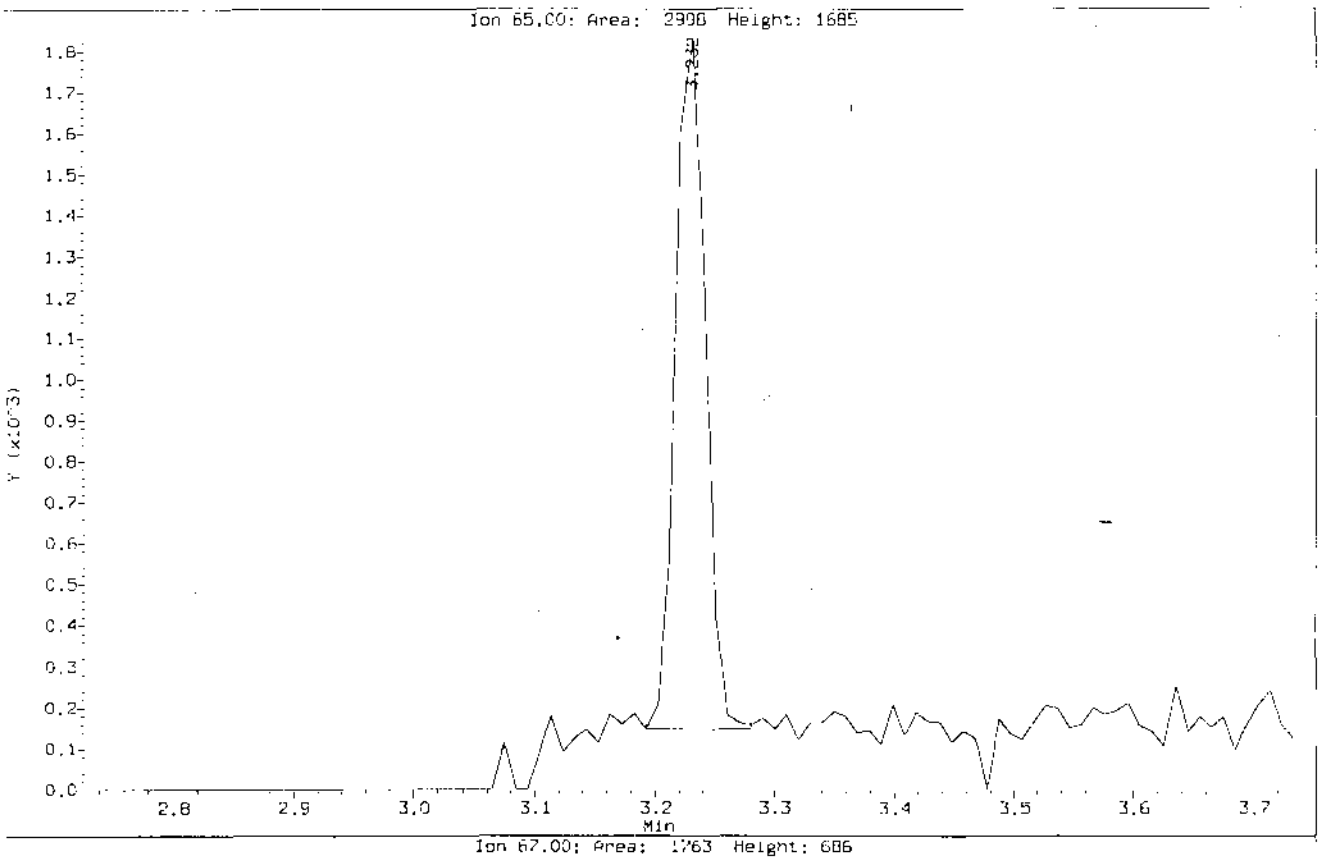
QC Flag Legend

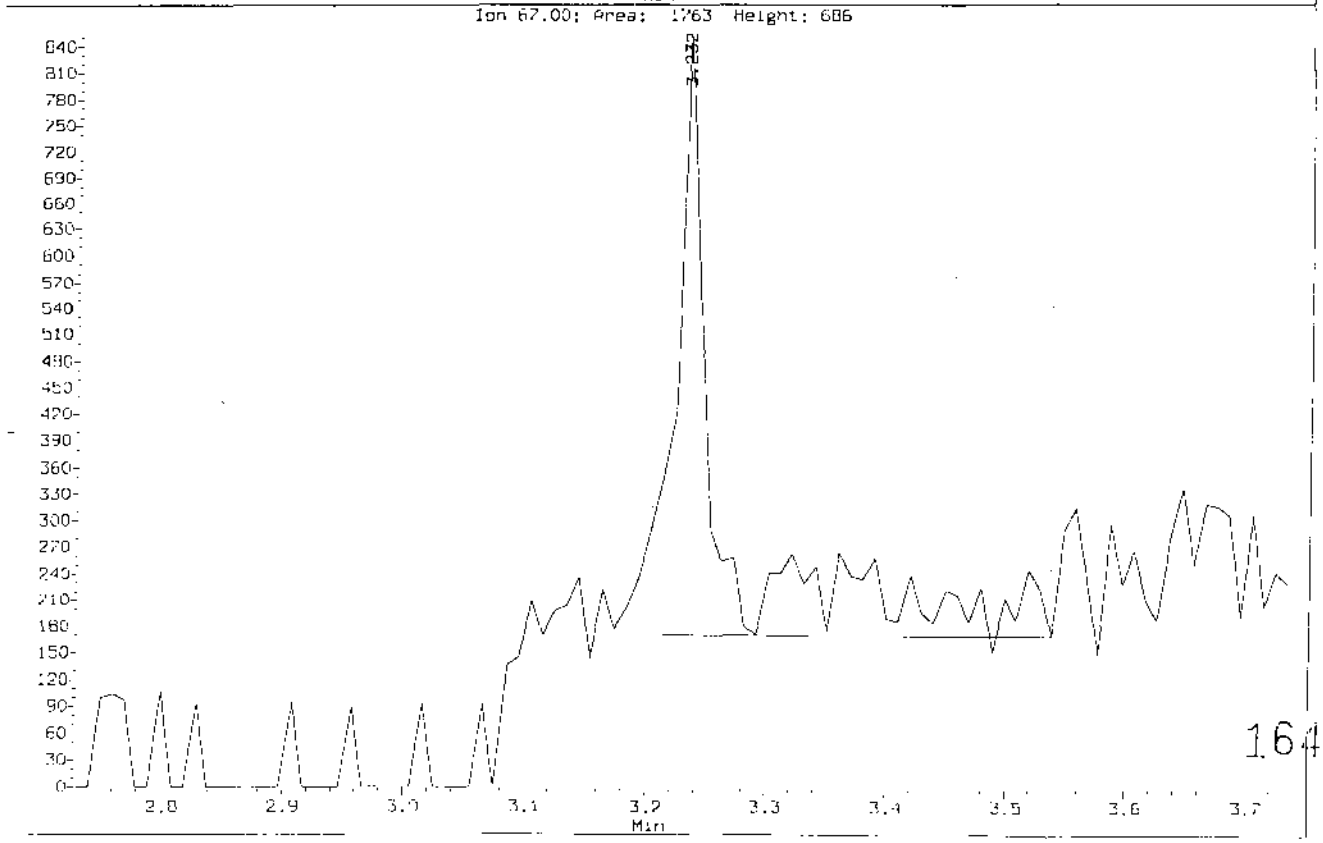
M - Compound response manually integrated.

MDC
4/17B

Data File: /chem/5972hp73.1/0F030416A73.b/CS030416073.d
Injection Date: 16-APR-2003 09:18
Instrument: 5972hp73.1
Client Sample ID: VSTD0.5PV

Compound: Vinyl Chloride-d3
CAS Number: 6745-35-3

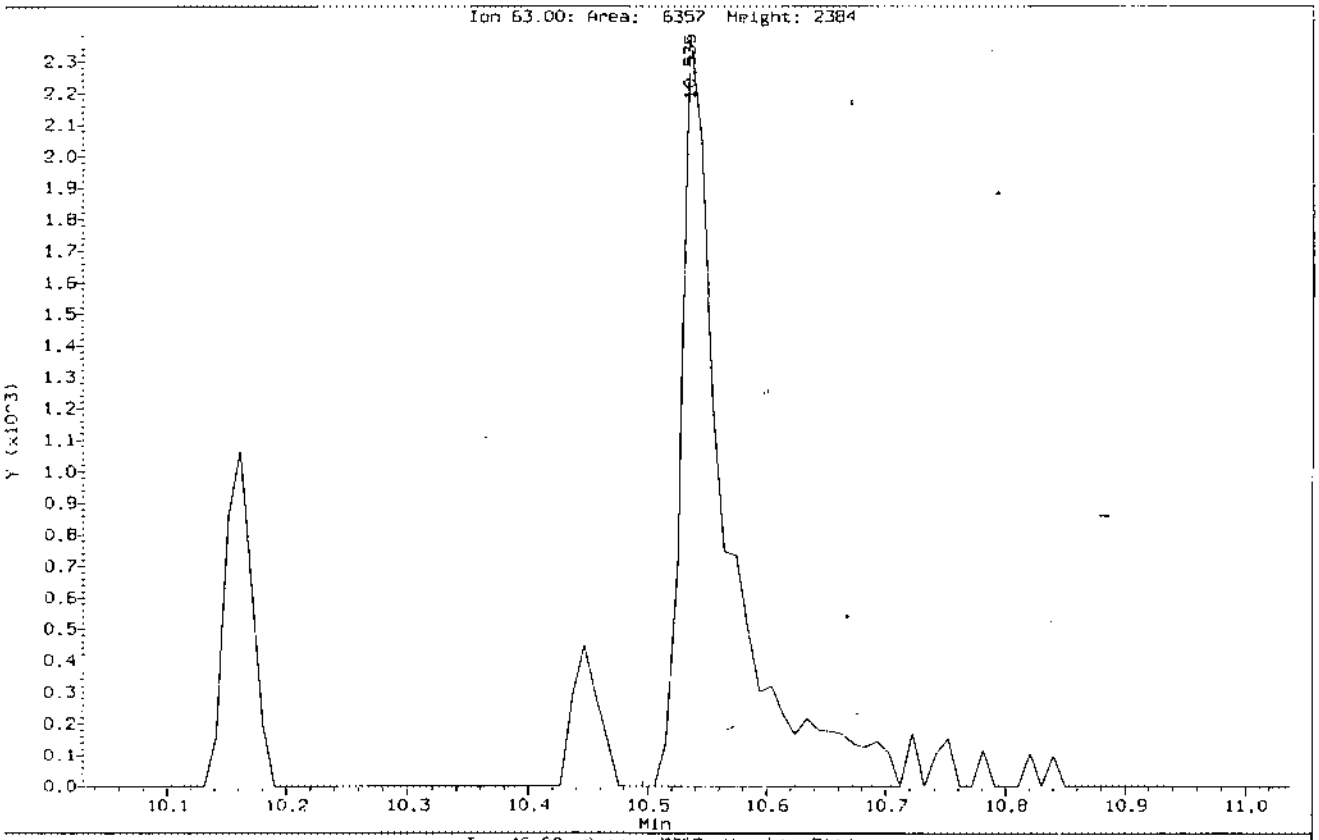


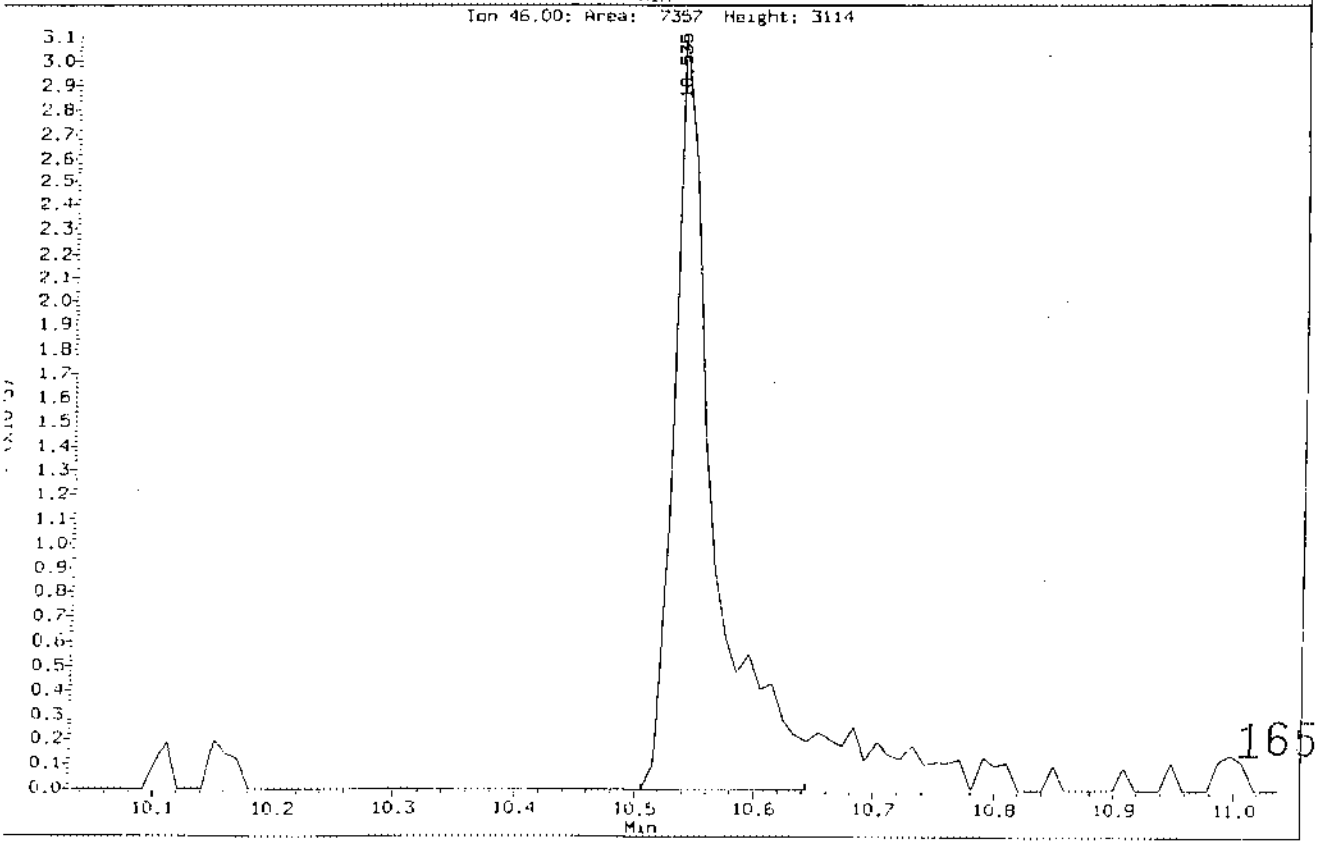


164

Data File: /chem/5972hp73.i/DF030416A73.b/CS030416A73.d
Injection Date: 16-APR-2003 09:18
Instrument: 5972hp73.i
Client Sample ID: VSTD0.5FV

Compound: 2-Hexanone-d5
CAS Number: 4840-82-8





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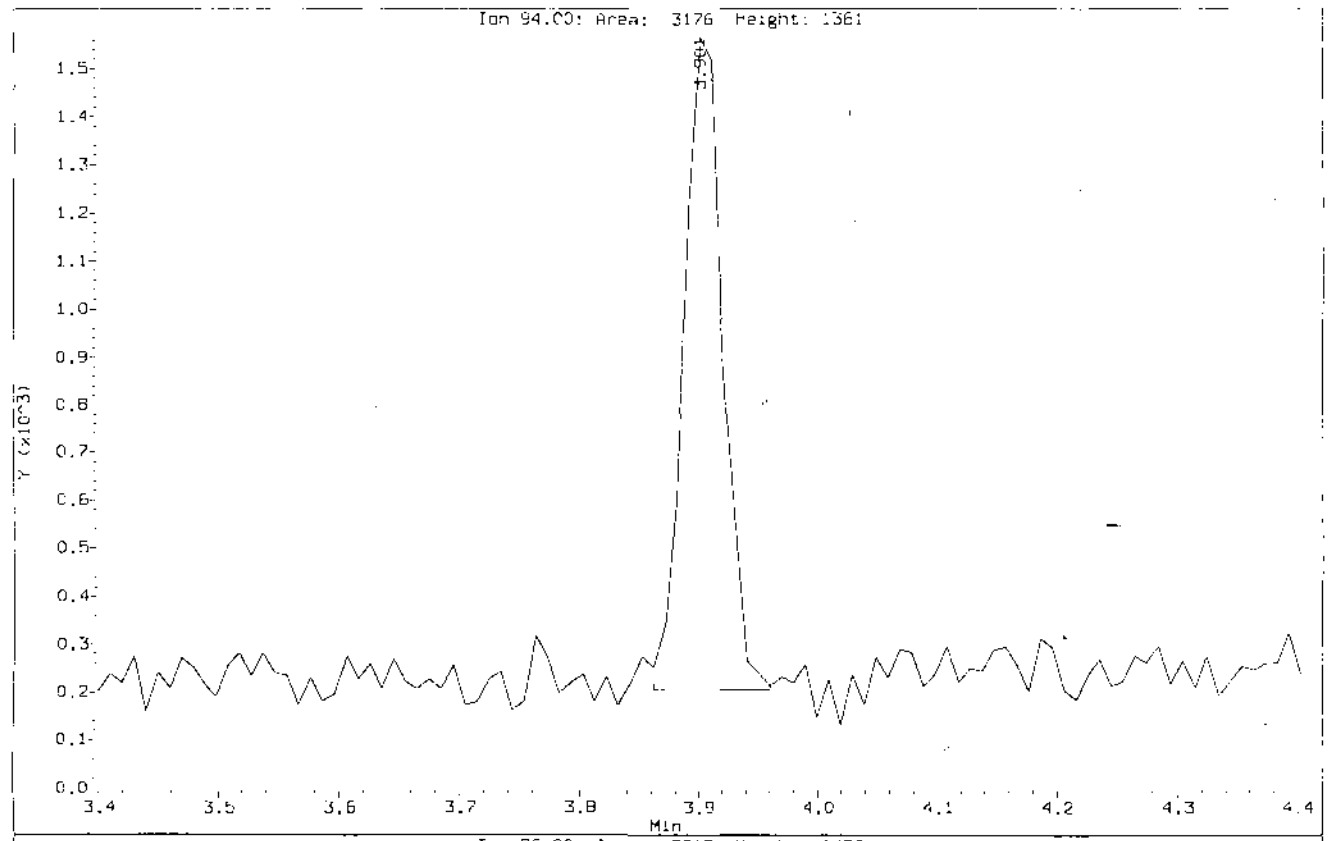
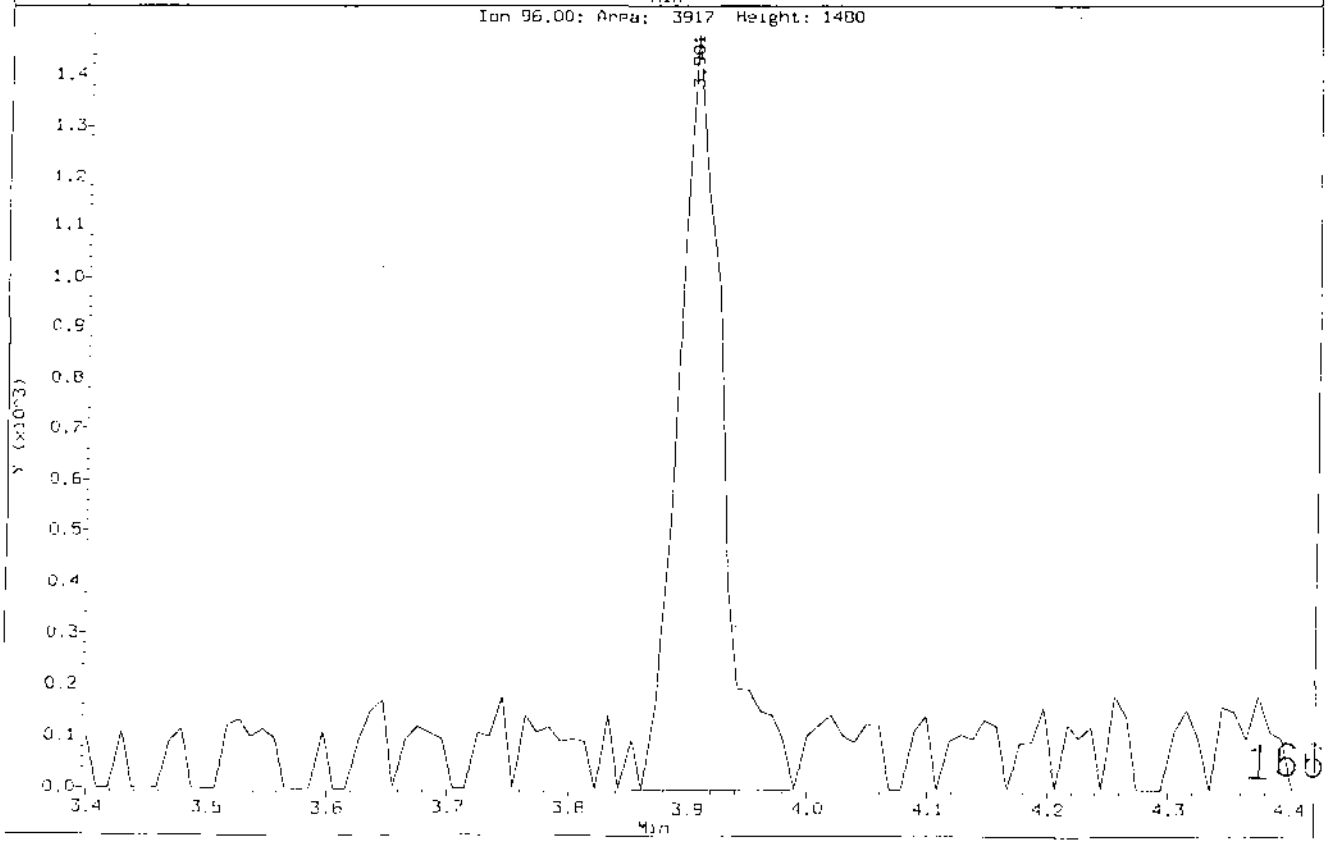
Injection Date: 16-APR-2003 09:18
Instrument: 5972hp73.1
Client Sample ID: VS-DO.5FV

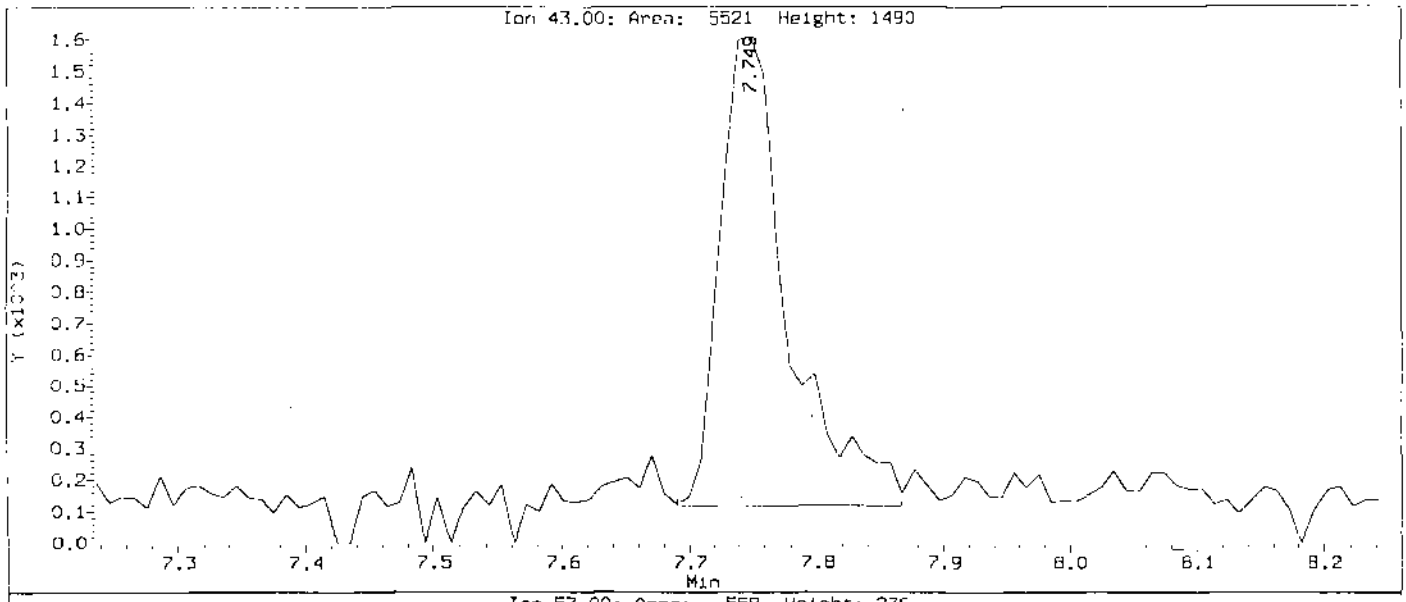
Compound: Bromomethane
CAS Number: 74-83-9

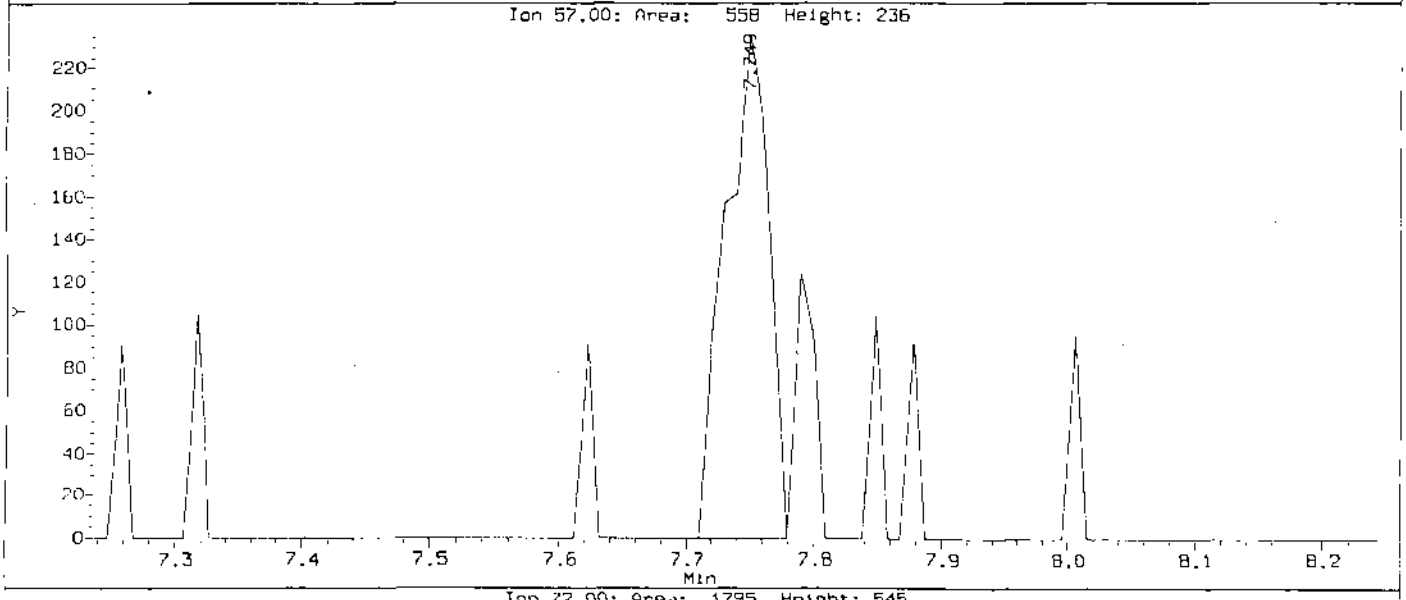


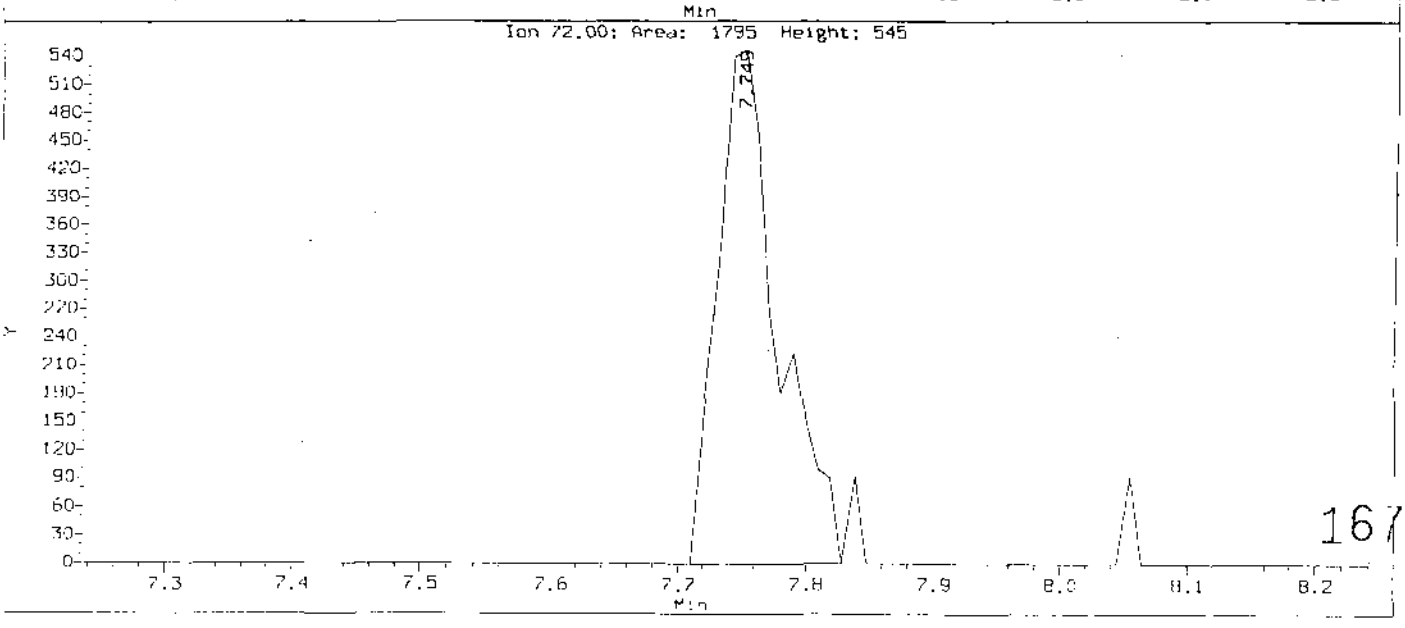


Data File: /chem/5972hp73.i/DF030416A73.b/CS030416A73.d
Injection Date: 16-APR-2003 09:18
Instrument: 5972hp73.i
Client Sample ID: VSTD0.5FV

Compound: 2-Butanone
CAS Number: 78-93-3







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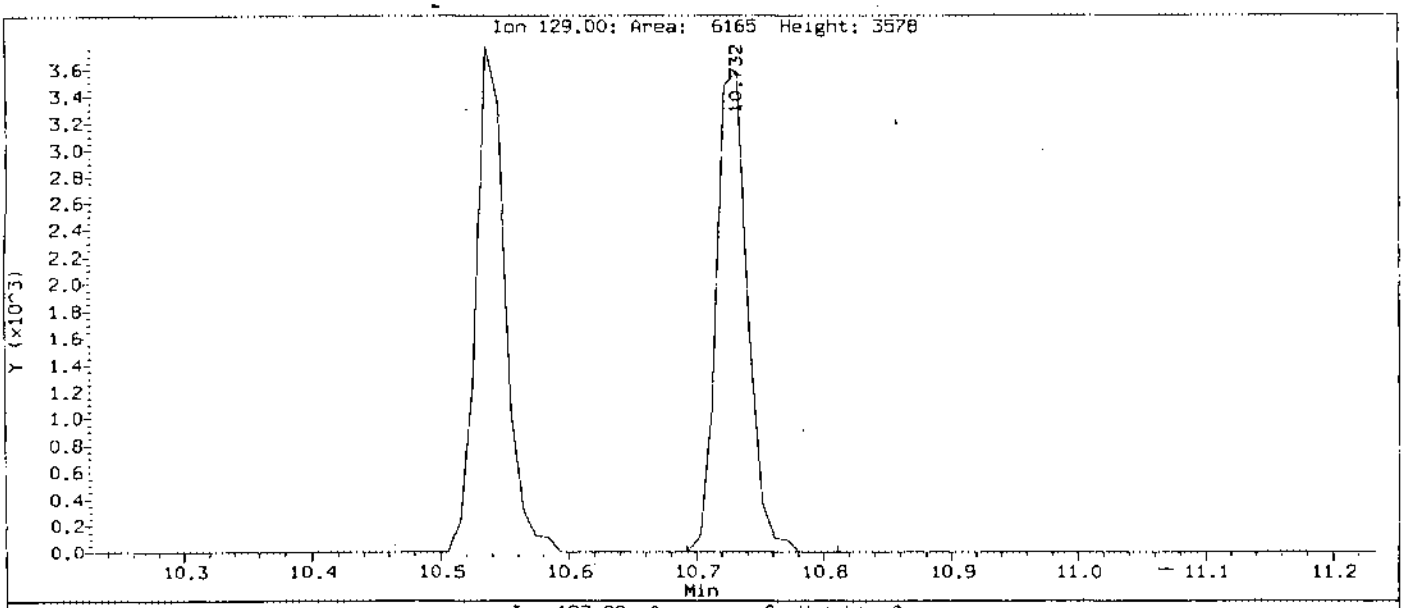
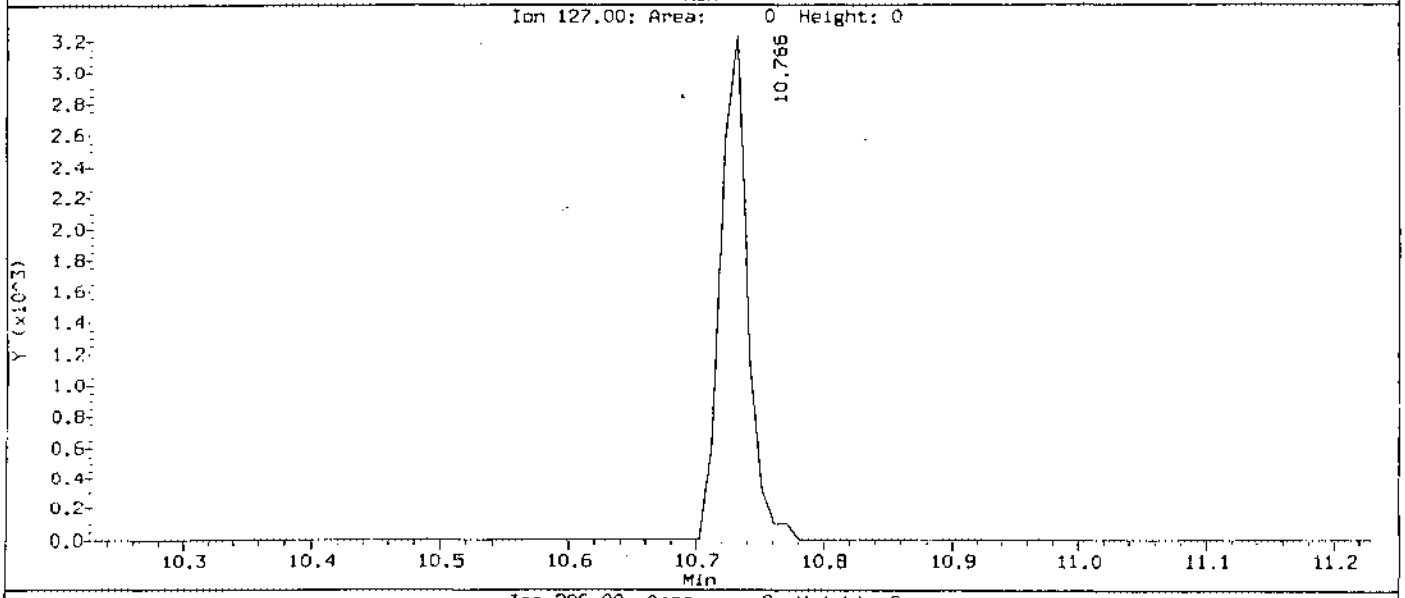
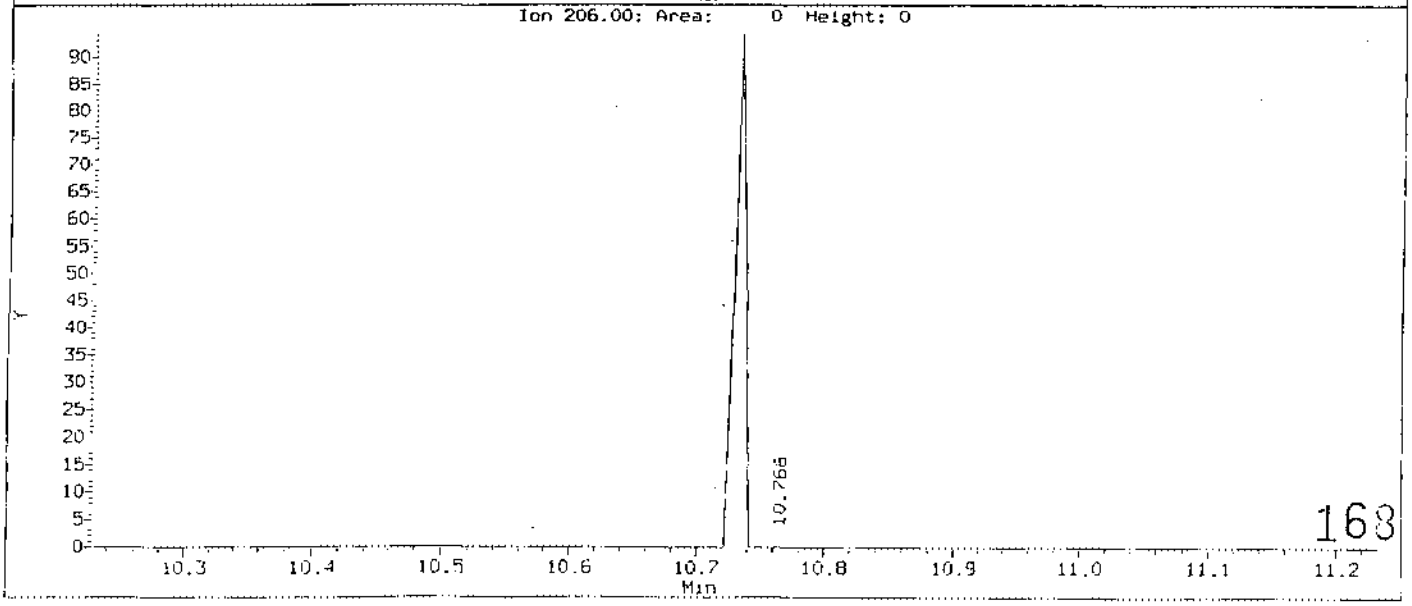
Injection Date: 16-APR-2003 09:18
Instrument: 5972hp73.i
Client Sample ID: VSTD0.5FV

Compound: Dibromochloromethane
CAS Number: 124-48-1

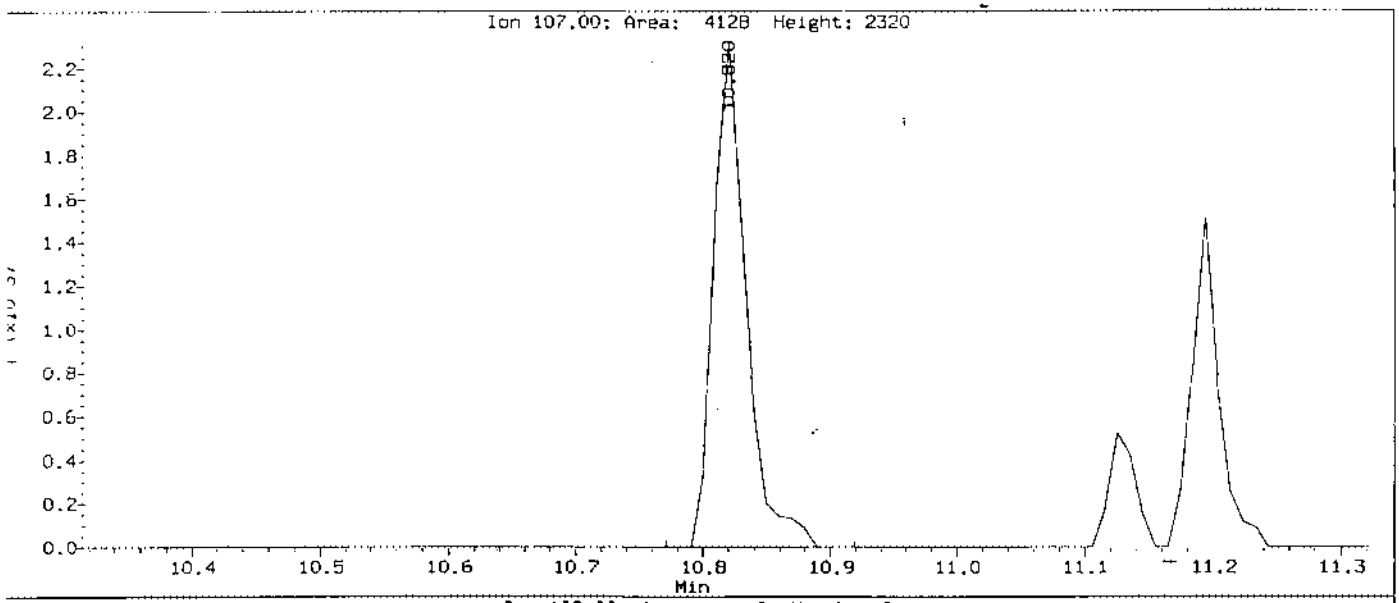


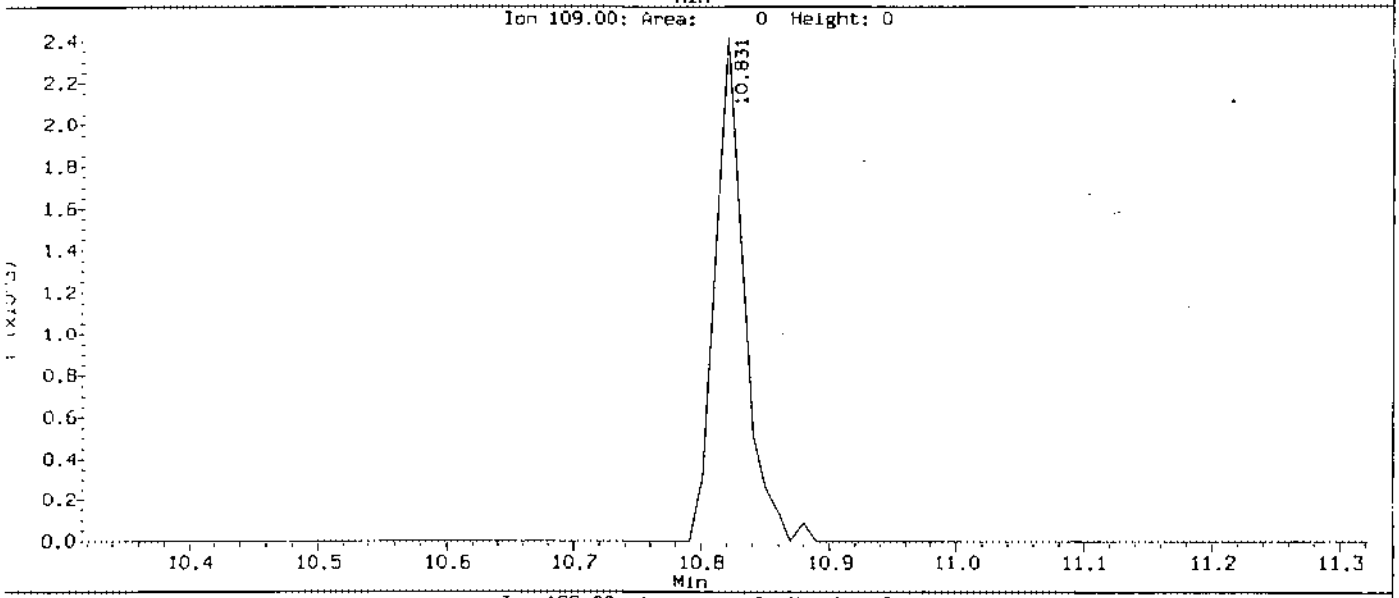


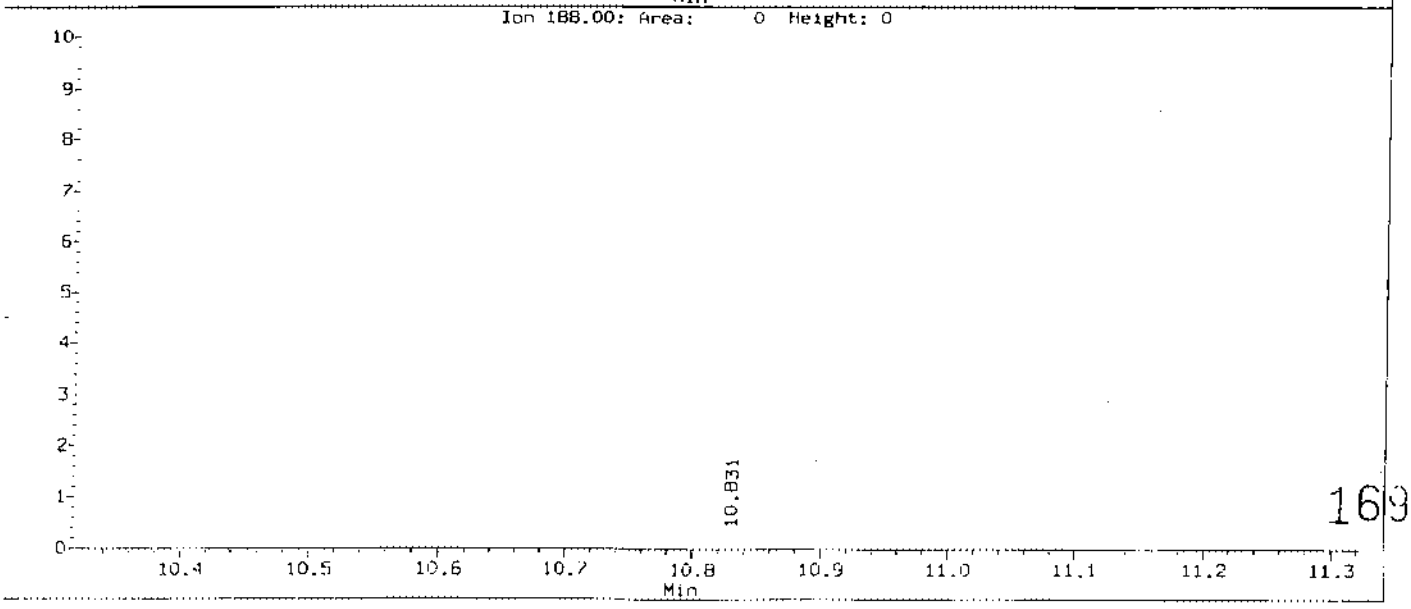


Data File: /chem/5972hp73.1/DF030416A73.b/CS030416A73.d
Injection Date: 16-APR-2003 09:18
Instrument: 5972hp73.1
Client Sample ID: VSTD0.5FV

Compound: 1,2-Dibromoethane
CAS Number: 106-93-4

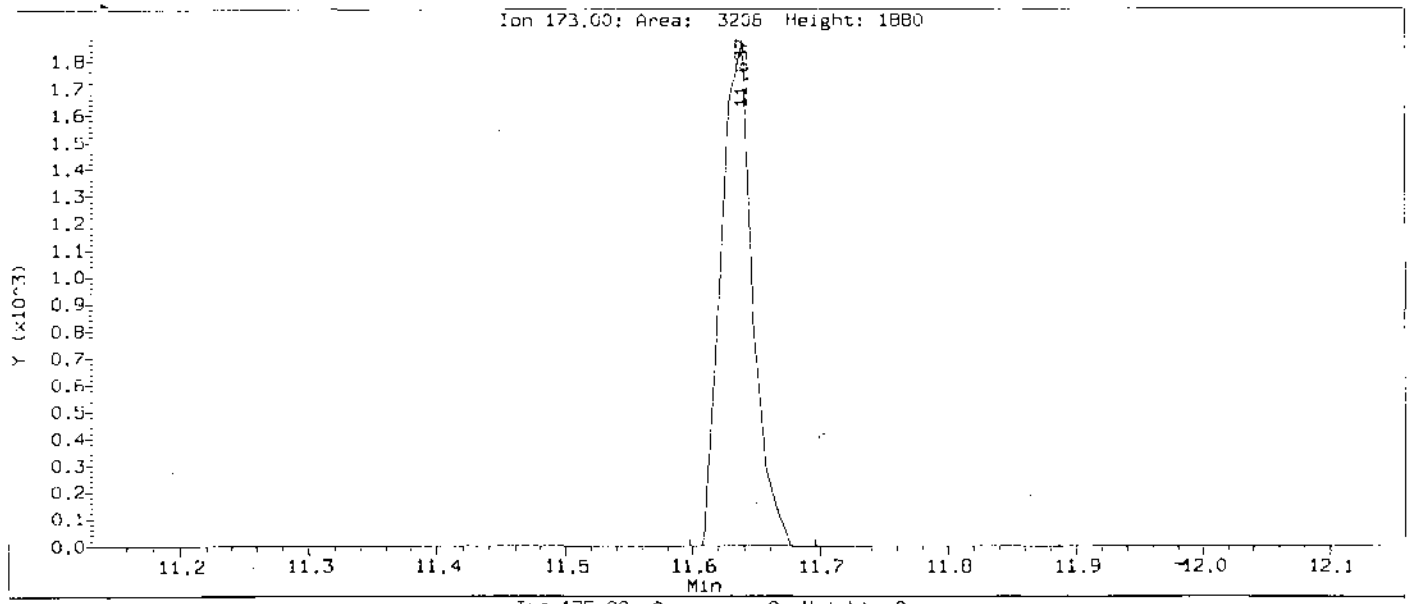


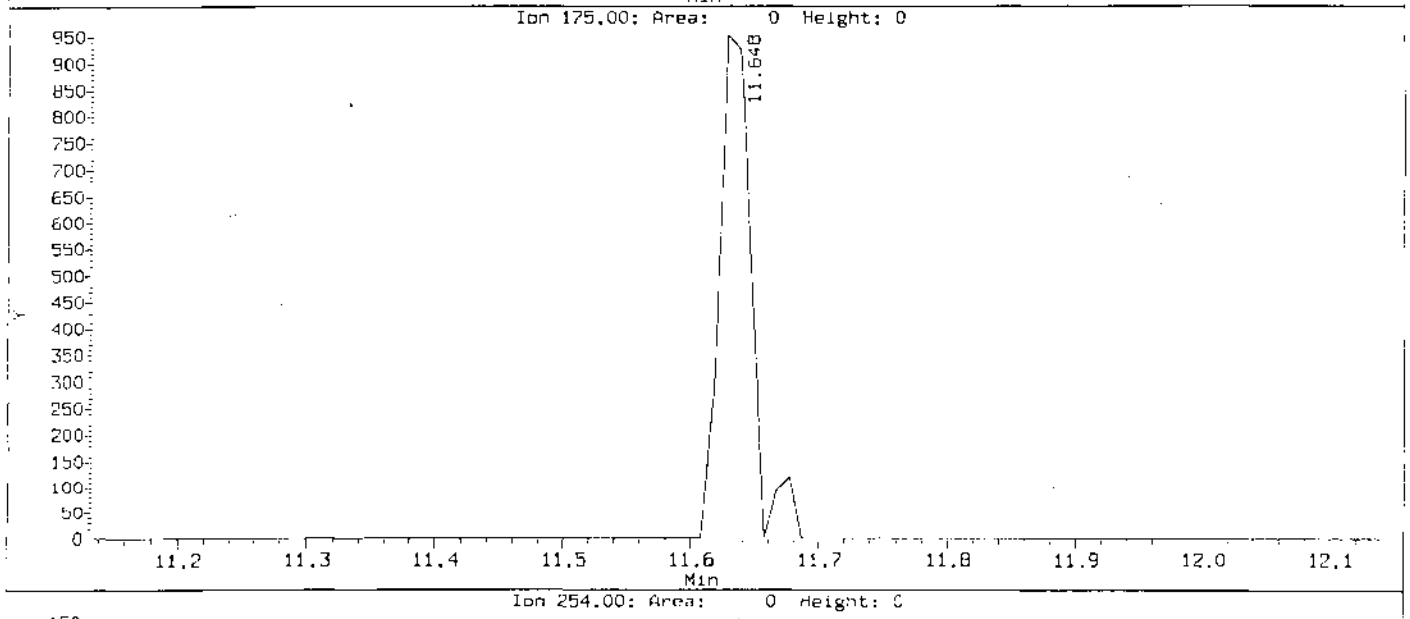


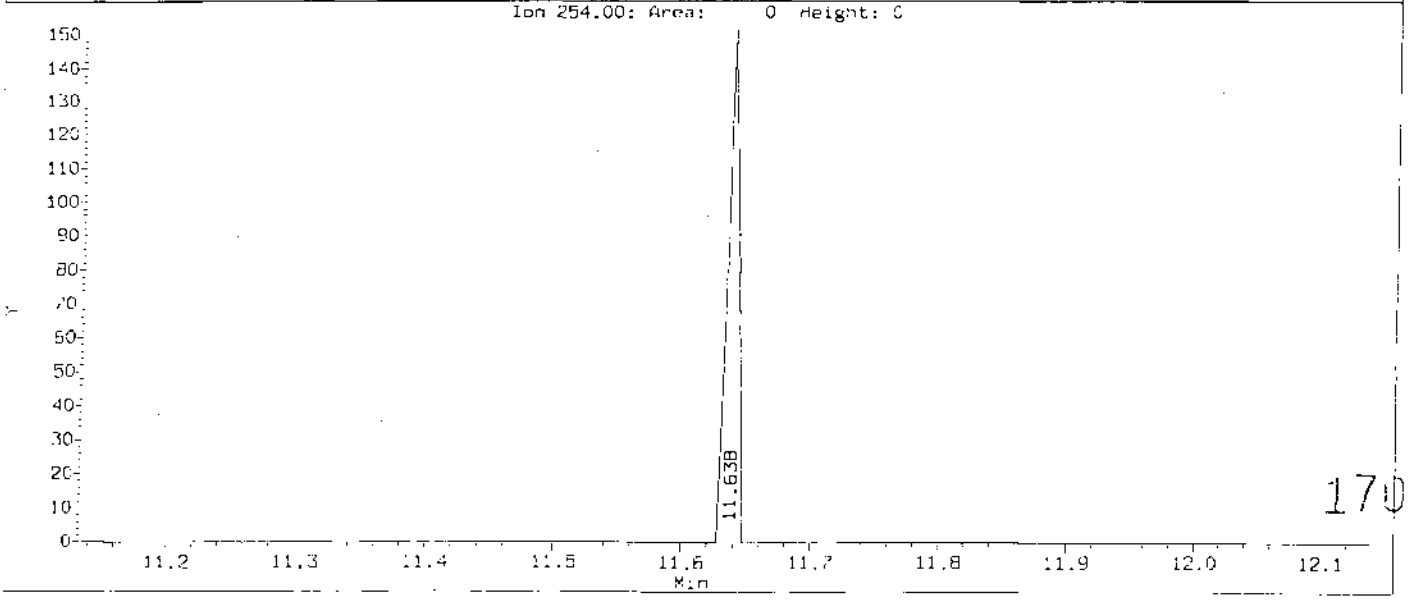


Data File: /chem/5972hp73.i/DF030416A73.b/CS030416A73.d
Injection Date: 16-APR-2003 09:18
Instrument: 5972hp73.i
Client Sample ID: VSTD0.5PV

Compound: Bromoform
CAS Number: 75-25-2







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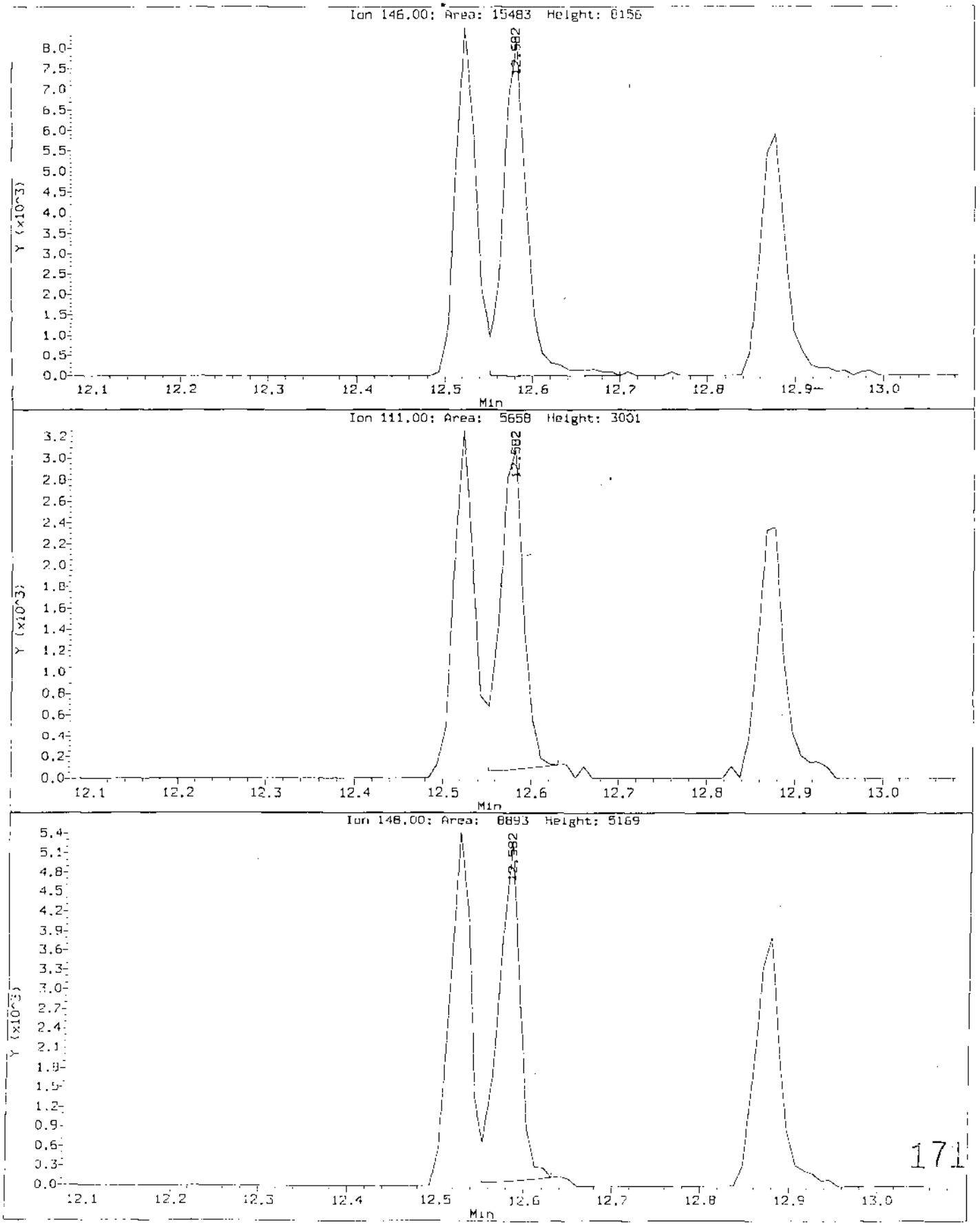
Data File: /chrm/5972hp73.i/DF030416A73.b/CS030416A73.d
Injection Date: 16-APR-2003 09:18
Instrument: 5972hp73.i
Client Sample ID: VSTD0.5FV

Compound: 1,4-Dichlorobenzene
CAS Number: 106-46-7

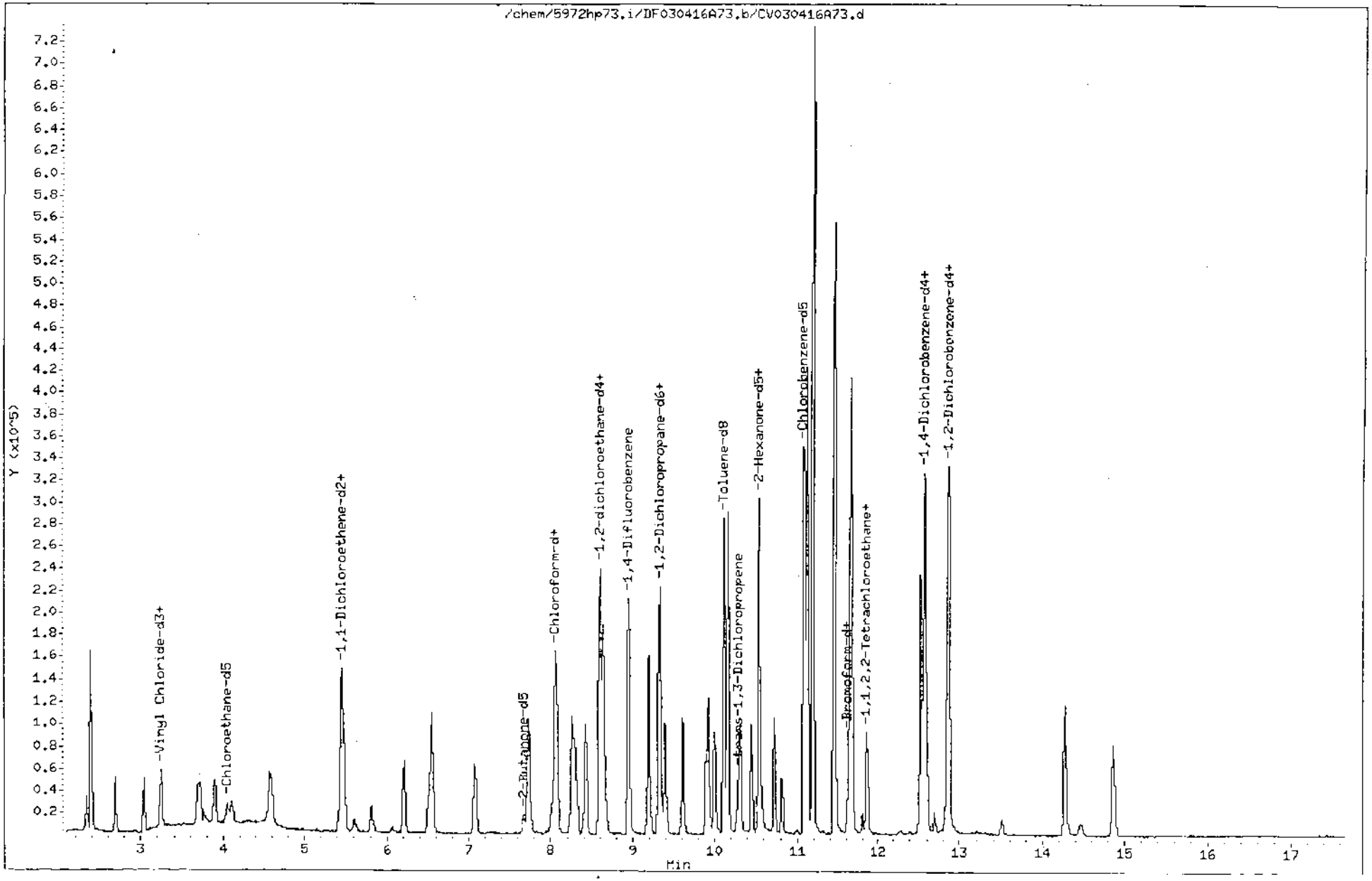


Data File: /chem/5972hp73.i/DF030416A73.b/CV030416A73.d
Date : 16-APR-2003 10:52
Client ID: VSTD005FV
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

COPY
ORIGINAL DOCUMENTS INCLUDED IN QC

Instrument: 5972hp73.i
Operator: 2537
Column diameter: 0.32

SIGNATURE ADC DATE 4/16/03



Data File: /chem/5972hp73.i/DF030416A73.b/CV030416A73.d
Report Date: 17-Apr-2003 13:51

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030416A73.b/CV030416A73.d
Lab Smp Id: VSTD005FV Client Smp ID: VSTD005FV
Inj Date : 16-APR-2003 10:52
Operator : 2537 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030416A73.b/OLC03v3.m
Meth Date : 17-Apr-2003 13:34 curtis Quant Type: ISTD
Cal Date : 16-APR-2003 10:52 Cal File: CV030416A73.d
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
* 1 1,4-Difluorobenzene	114	8.953	8.953	(1.000)	201032	125.000	
* 2 Chlorobenzene-d5	117	11.079	11.079	(1.000)	167430	125.000	
* 3 1,4-Dichlorobenzene-d4	152	12.565	12.565	(1.000)	73318	125.000	
; 4 Vinyl Chloride-d3	65	3.234	3.235	(0.361)	26451	125.000	120
; 5 Chloroethane-d5	69	4.051	4.061	(0.452)	22275	125.000	100
; 6 1,1-Dichloroethene-d2	63	5.459	5.459	(0.610)	86329	125.000	120
; 7 2-Butanone-d5	46	7.673	7.683	(0.857)	27557	625.000	600
; 8 Chloroform-d	84	8.057	8.057	(0.900)	116949	125.000	120
; 9 1,2-dichloroethane-d4	65	8.598	8.599	(0.960)	38174	125.000	110
; 10 Benzene-d6	84	8.598	8.599	(0.776)	204147	125.000	110
; 11 1,2-Dichloropropane-d6	67	9.317	9.327	(0.841)	55039	125.000	110
; 12 Toluene-d8	98	10.114	10.114	(0.913)	192056	125.000	110
; 13 trans-1,3-Dichloropropene-d4	79	10.291	10.292	(0.929)	11376	125.000	110
; 14 2-Hexanone-d5	63	10.528	10.538	(0.950)	30794	625.000	600(M)
; 15 1,1,2,2-Tetrachloroethane-d2	84	11.847	11.847	(1.069)	34141	125.000	110
; 16 Bromoform-d	174	11.620	11.620	(0.925)	24821	125.000	110

Data File: /chem/5972hp73.i/DF030416A73.b/CV030416A73.d
Report Date: 17-Apr-2003 13:51

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
$ 17 1,2-Dichlorobenzene-d4	152	12.850	12.860	(1.023)	58572	125.000	110
18 Dichlorodifluoromethane	85	2.693	2.693	(0.301)	46819	125.000	120
19 Chloromethane	50	3.037	3.038	(0.339)	39456	125.000	110
20 Vinyl Chloride	62	3.244	3.254	(0.362)	39896	125.000	120
21 Bromomethane	94	3.904	3.904	(0.436)	33114	125.000	130(M)
22 Chloroethane	64	4.100	4.110	(0.458)	21067	125.000	110
23 Trichlorofluoromethane	101	4.583	4.593	(0.512)	67529	125.000	130
24 1,1-Dichloroethene	96	5.478	5.479	(0.612)	25788	125.000	120
25 1,1,2-Trichloro-1,2,2-trifluo	101	5.459	5.459	(0.610)	36827	125.000	110
26 Acetone	43	5.606	5.607	(0.626)	17481	625.000	490
27 Carbon Disulfide	76	5.813	5.823	(0.649)	39790	125.000	110
28 Methyl Acetate	43	6.069	6.069	(0.678)	6762	125.000	130
29 Bromochloromethane	128	8.018	8.018	(0.896)	7303	125.000	120
30 Methylene Chloride	84	6.217	6.227	(0.694)	41917	125.000	110
31 trans-1,2-Dichloroethene	96	6.551	6.561	(0.732)	49933	125.000	120
32 Methyl tert-Butyl Ether	73	6.522	6.522	(0.728)	77755	125.000	110
33 1,1-Dichloroethane	63	7.073	7.083	(0.790)	74192	125.000	120
34 cis-1,2-Dichloroethene	96	7.732	7.733	(0.864)	55642	125.000	110
35 2-Butanone	43	7.742	7.742	(0.865)	25883	625.000	610
36 Chloroform	83	8.077	8.077	(0.902)	101721	125.000	120
37 1,1,1-Trichloroethane	97	8.264	8.264	(0.746)	90235	125.000	110
38 Cyclohexane	56	8.303	8.303	(0.749)	41147	125.000	110
39 Carbon Tetrachloride	117	8.431	8.431	(0.761)	82168	125.000	120
40 Benzene	78	8.638	8.638	(0.780)	185510	125.000	110
41 1,2-Dichloroethane	62	8.667	8.677	(0.968)	42493	125.000	110
42 Trichloroethene	95	9.189	9.199	(0.829)	57005	125.000	120
43 Methylcyclohexane	83	9.327	9.327	(0.842)	89454	125.000	120
44 1,2-Dichloropropane	63	9.386	9.396	(0.847)	39194	125.000	110
45 Bromodichloromethane	83	9.602	9.612	(0.867)	68034	125.000	110
46 cis-1,3-Dichloropropene	75	9.927	9.927	(0.896)	74984	125.000	110
47 4-Methyl-2-Pentanone	43	9.996	10.006	(0.902)	56321	625.000	580
48 Toluene	91	10.163	10.164	(0.917)	221194	125.000	110
49 trans-1,3-Dichloropropene	75	10.311	10.311	(0.931)	58727	125.000	110
50 1,1,2-Trichloroethane	97	10.449	10.449	(0.943)	32233	125.000	110
51 Tetrachloroethene	164	10.537	10.547	(0.951)	53098	125.000	110
52 2-Hexanone	43	10.557	10.567	(0.953)	38893	625.000	610
53 Dibromochloromethane	129	10.724	10.735	(0.968)	51408	125.000	110
54 1,2-Dibromoethane	107	10.813	10.823	(0.976)	34380	125.000	110
55 Chlorobenzene	112	11.098	11.099	(1.002)	153897	125.000	110
56 Ethylbenzene	91	11.128	11.128	(1.004)	270326	125.000	110
57 m,p-Xylene	106	11.187	11.197	(1.010)	205222	250.000	220
58 o-Xylene	106	11.443	11.453	(1.033)	95656	125.000	110
59 Styrene	104	11.453	11.463	(1.034)	142110	125.000	110
60 Bromoform	173	11.630	11.640	(0.926)	26488	125.000	120
61 Isopropylbenzene	105	11.660	11.660	(1.052)	263131	125.000	110
62 1,1,2,2-Tetrachloroethane	83	11.856	11.866	(1.070)	34698	125.000	110
63 1,3-Dichlorobenzene	146	12.526	12.526	(0.997)	117551	125.000	120

Data File: /chem/5972hp73.i/DF030416A73.b/CV030416A73.d
Report Date: 17-Apr-2003 13:51

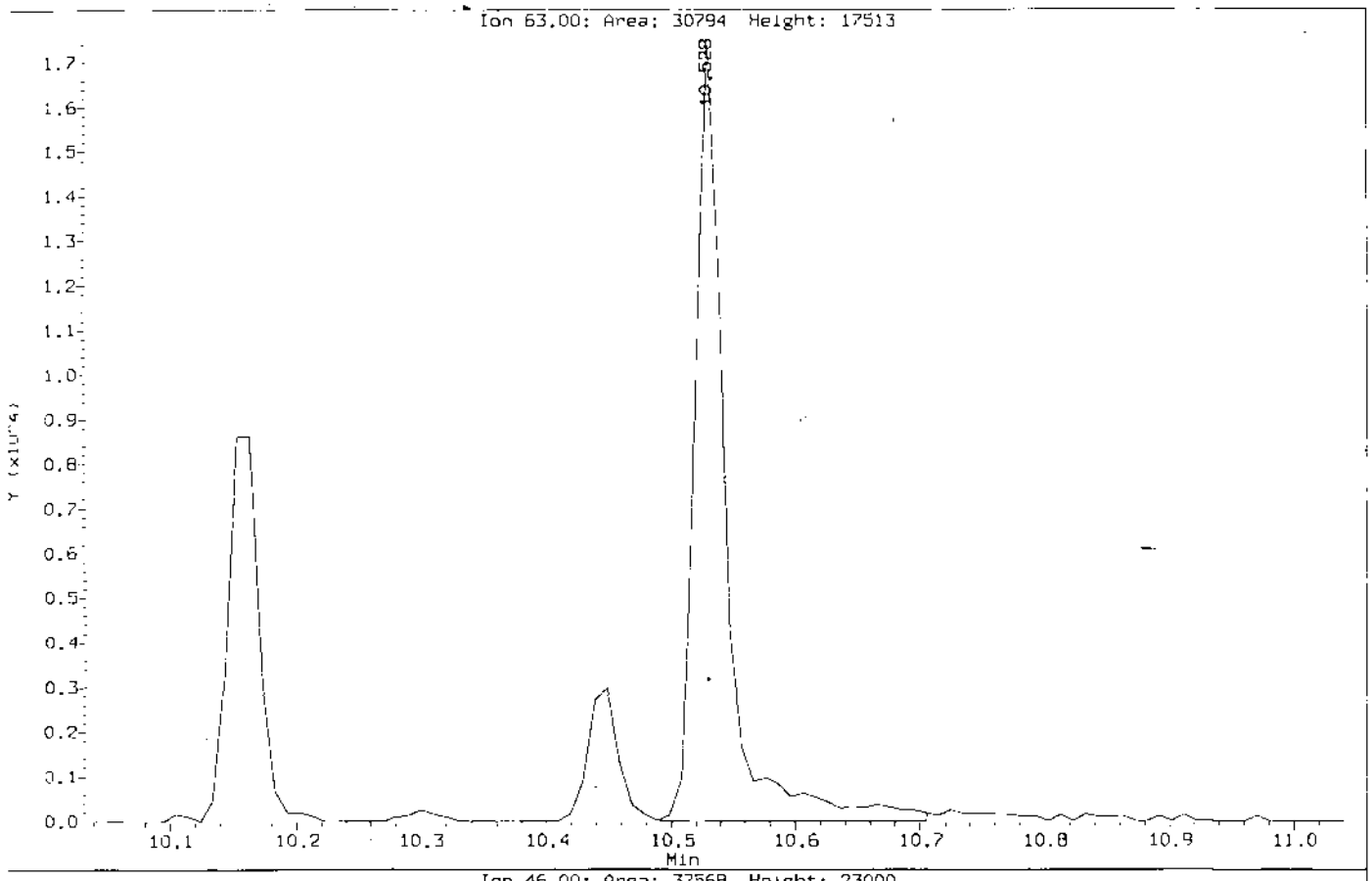
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)
	64 1,4-Dichlorobenzene	146	12.575	12.585	(1.001)	113880	125.000	110
	65 1,2-Dichlorobenzene	146	12.870	12.880	(1.024)	94550	125.000	110
	66 1,2-Dibromo-3-Chloropropane	75	13.500	13.510	(1.074)	3971	125.000	120
	67 1,2,4-Trichlorobenzene	180	14.278	14.288	(1.136)	55825	125.000	100
	68 1,2,3-Trichlorobenzene	180	14.868	14.868	(1.183)	42563	125.000	110
M	69 Xylene (Total)	106				300878	125.000	350

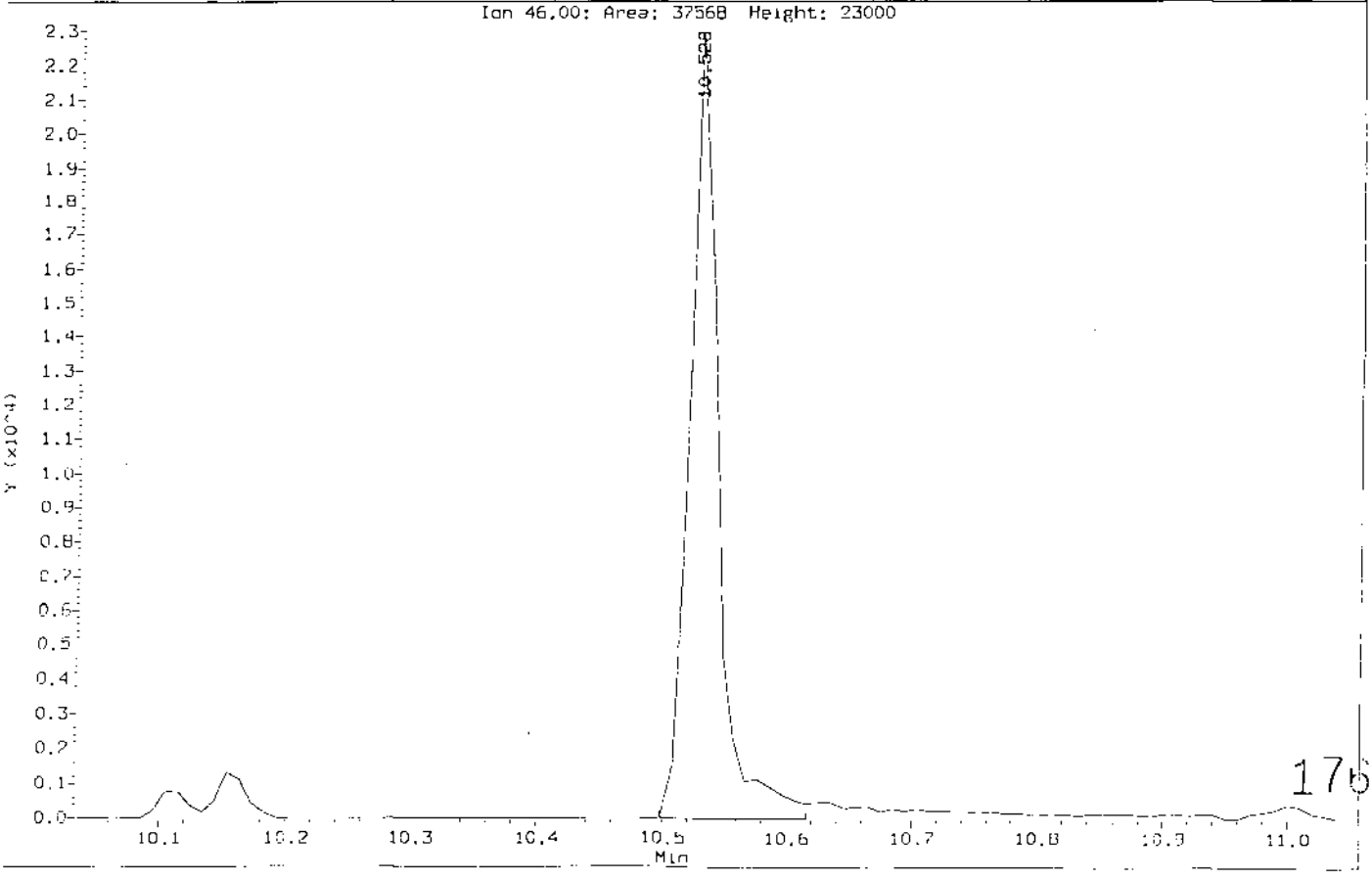
QC Flag Legend

M - Compound response manually integrated.

ata File: /chem/5972hp73.1/0T030416A73.b/CV030416A73.d
njection Date: 16-APR-2003 10:52
nstrument: 5972hp73.i
lient Sample ID: VSTD005FV

ompound: 2-Hexanone-d5
AS Number: 4840-82-8





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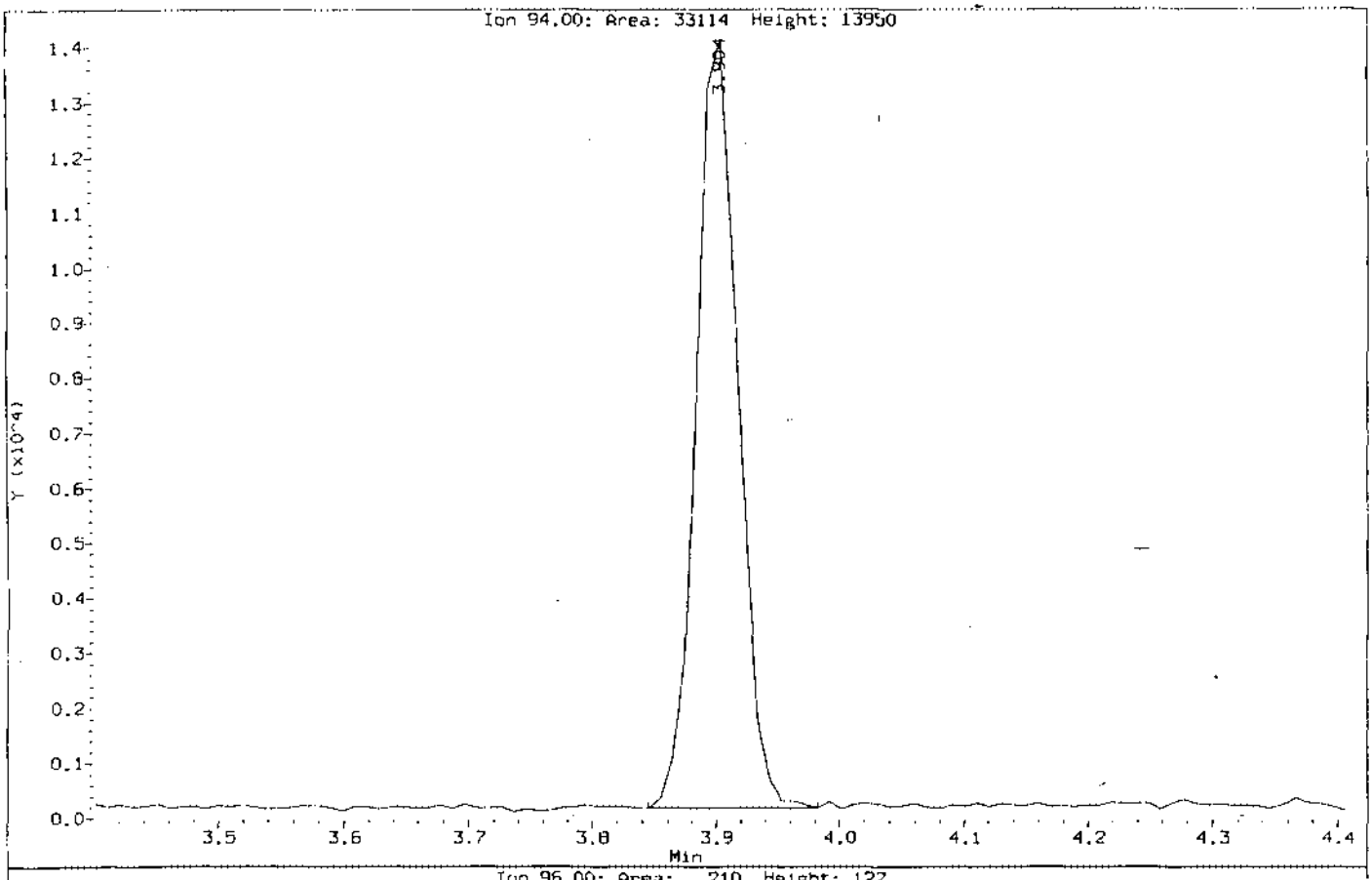
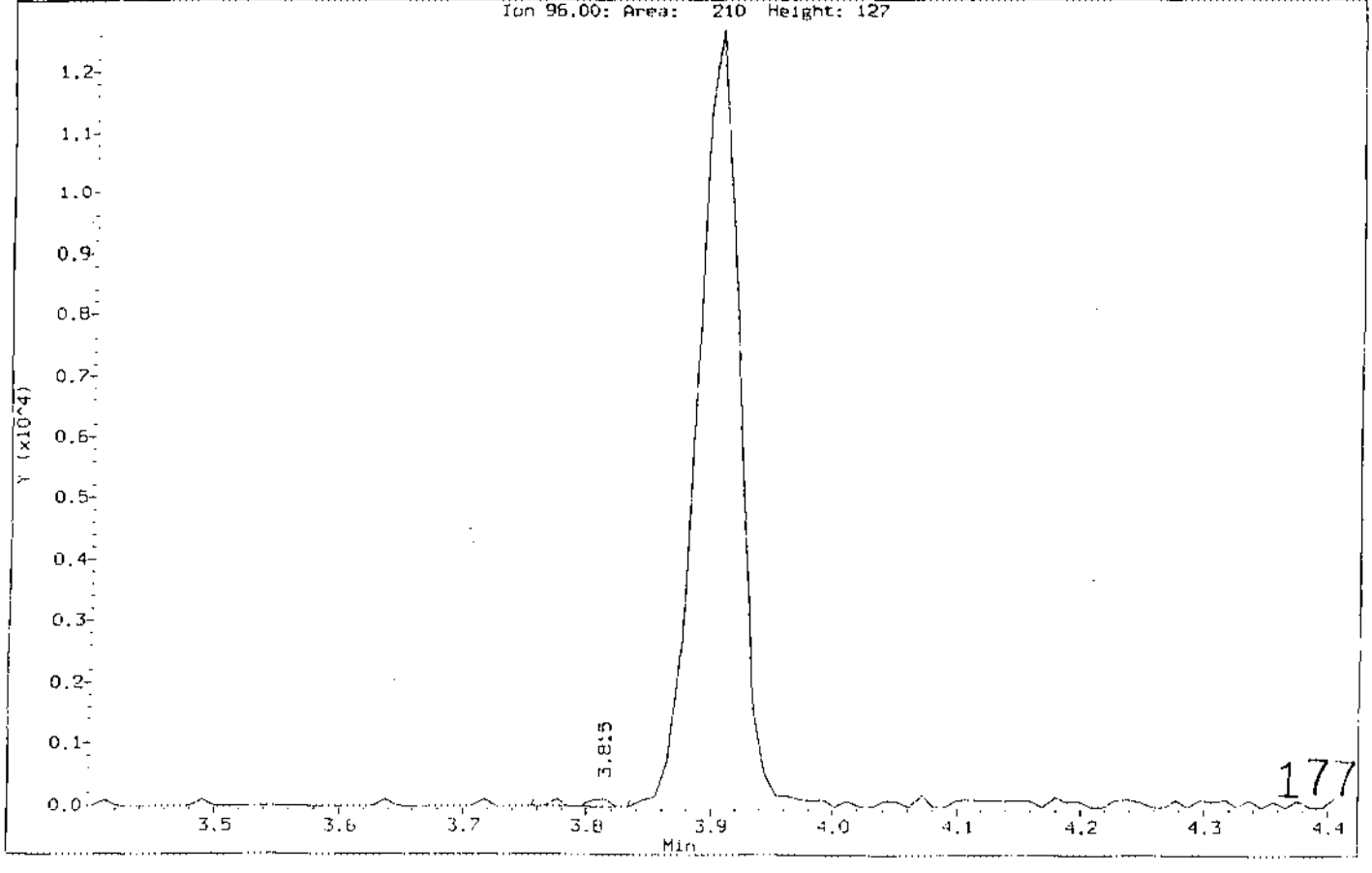
Data File: /chem/5972hp73.i/DF030416A73.b/CV030416A73.d
Injection Date: 16-APR-2003 10:52
Instrument: 5972hp73.i
Client Sample ID: VSTD005FV

Compound: Bromomethane
CAS Number: 74-83-9

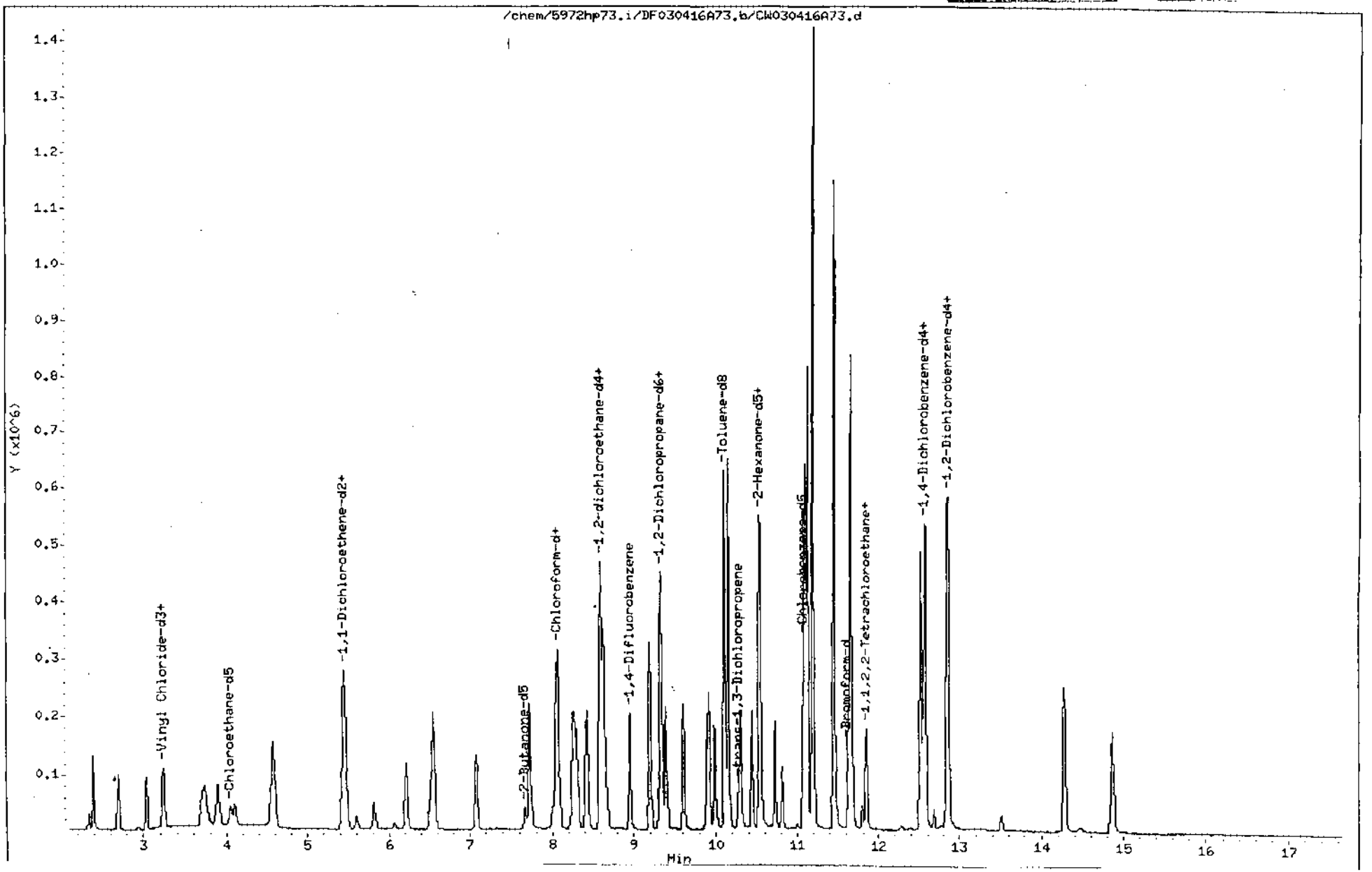




Data File: /chem/5972hp73.i/DF030416A73.b/CW030416A73.d
Date : 16-APR-2003 11:22
Client ID: WSTD010FV
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2537
Column diameter: 0.32

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF C0373554
SIGNATURE NDC DATE 4/17/03



Data File: /chem/5972hp73.i/DF030416A73.b/CW030416A73.d
Report Date: 17-Apr-2003 13:35

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030416A73.b/CW030416A73.d
Lab Smp Id: VSTD010FV Client Smp ID: VSTD010FV
Inj Date : 16-APR-2003 11:22
Operator : 2537 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030416A73.b/OLC03v3.m
Meth Date : 17-Apr-2003 13:34 curtis Quant Type: ISTD
Cal Date : 16-APR-2003 10:52 Cal File: CV030416A73.d
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
* 1 1,4-Difluorobenzene	114	8.959	8.953	(1.000)	203001	125.000	
* 2 Chlorobenzene-d5	117	11.075	11.079	(1.000)	166108	125.000	
* 3 1,4-Dichlorobenzene-d4	152	12.561	12.565	(1.000)	75348	125.000	
; 4 Vinyl Chloride-d3	65	3.230	3.235	(0.361)	51252	250.000	230
; 5 Chloroethane-d5	69	4.047	4.061	(0.452)	43546	250.000	210
; 6 1,1-Dichloroethene-d2	63	5.455	5.459	(0.609)	170708	250.000	230
; 7 2-Butanone-d5	46	7.669	7.683	(0.856)	55094	1250.00	1200
; 8 Chloroform-d	84	8.053	8.057	(0.899)	226402	250.000	230
; 9 1,2-dichloroethane-d4	65	8.594	8.599	(0.959)	74670	250.000	230
; 10 Benzene-d6	84	8.594	8.599	(0.776)	412021	250.000	230
; 11 1,2-Dichloropropane-d6	67	9.323	9.327	(0.842)	110589	250.000	230
; 12 Toluene-d8	98	10.110	10.114	(0.913)	385516	250.000	230
; 13 trans-1,3-Dichloropropene-d4	79	10.287	10.292	(0.929)	21687	250.000	220
; 14 2-Hexanone-d5	63	10.524	10.538	(0.950)	56490	1250.00	1200
; 15 1,1,2,2-Tetrachloroethane-d2	84	11.842	11.847	(1.069)	63012	250.000	220
; 16 Bromoform-d	174	11.616	11.620	(0.925)	49488	250.000	220

MC 4/17/03

Data File: /chem/5972hp73.i/DF030416A73.b/CW030416A73.d
Report Date: 17-Apr-2003 13:35

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
17 1,2-Dichlorobenzene-d4	152	12.856	12.860	(1.024)	115923	250.000	230
18 Dichlorodifluoromethane	85	2.689	2.693	(0.300)	93869	250.000	240
19 Chloromethane	50	3.043	3.038	(0.340)	83454	250.000	240
20 Vinyl Chloride	62	3.250	3.254	(0.363)	79227	250.000	240
21 Bromomethane	94	3.900	3.904	(0.435)	63703	250.000	250
22 Chloroethane	64	4.106	4.110	(0.458)	41378	250.000	230
23 Trichlorofluoromethane	101	4.579	4.593	(0.511)	222855	250.000	350
24 1,1-Dichloroethene	96	5.474	5.479	(0.611)	50938	250.000	230
25 1,1,2-Trichloro-1,2,2-trifluo	101	5.455	5.459	(0.609)	75444	250.000	230
26 Acetone	43	5.602	5.607	(0.625)	33728	1250.00	1000
27 Carbon Disulfide	76	5.819	5.823	(0.650)	81591	250.000	230
28 Methyl Acetate	43	6.065	6.069	(0.677)	14841	250.000	270
29 Bromochloromethane	128	8.014	8.018	(0.895)	14251	250.000	230
30 Methylene Chloride	84	6.222	6.227	(0.695)	79349	250.000	220
31 trans-1,2-Dichloroethene	96	6.557	6.561	(0.732)	96771	250.000	230
32 Methyl tert-Butyl Ether	73	6.527	6.522	(0.729)	139785	250.000	220
33 1,1-Dichloroethane	63	7.079	7.083	(0.790)	149879	250.000	240
34 cis-1,2-Dichloroethene	96	7.728	7.733	(0.863)	112189	250.000	230
35 2-Butanone	43	7.738	7.742	(0.864)	45864	1250.00	1100
36 Chloroform	83	8.073	8.077	(0.901)	202126	250.000	230
37 1,1,1-Trichloroethane	97	8.260	8.264	(0.746)	178370	250.000	230
38 Cyclohexane	56	8.299	8.303	(0.749)	86089	250.000	230
39 Carbon Tetrachloride	117	8.427	8.431	(0.761)	165027	250.000	240
40 Benzene	78	8.634	8.638	(0.780)	349202	250.000	220
41 1,2-Dichloroethane	62	8.663	8.677	(0.967)	82035	250.000	230
42 Trichloroethene	95	9.195	9.199	(0.830)	108348	250.000	230
43 Methylcyclohexane	83	9.333	9.327	(0.843)	178372	250.000	240
44 1,2-Dichloropropane	63	9.392	9.396	(0.848)	78269	250.000	230
45 Bromodichloromethane	83	9.608	9.612	(0.868)	133008	250.000	230
46 cis-1,3-Dichloropropene	75	9.923	9.927	(0.896)	145929	250.000	230
47 4-Methyl-2-Pentanone	43	9.992	10.006	(0.902)	109572	1250.00	1200
48 Toluene	91	10.159	10.164	(0.917)	439295	250.000	230
49 trans-1,3-Dichloropropene	75	10.307	10.311	(0.931)	113453	250.000	230
50 1,1,2-Trichloroethane	97	10.445	10.449	(0.943)	62803	250.000	220
51 Tetrachloroethene	164	10.543	10.547	(0.952)	107421	250.000	230
52 2-Hexanone	43	10.563	10.567	(0.954)	81169	1250.00	1300
53 Dibromochloromethane	129	10.730	10.735	(0.969)	97409	250.000	220
54 1,2-Dibromoethane	107	10.819	10.823	(0.977)	68869	250.000	230
55 Chlorobenzene	112	11.094	11.099	(1.002)	311145	250.000	240
56 Ethylbenzene	91	11.124	11.128	(1.004)	545040	250.000	240
57 m,p-Xylene	106	11.193	11.197	(1.011)	392388	500.000	440
58 o-Xylene	106	11.449	11.453	(1.034)	191160	250.000	230
59 Styrene	104	11.459	11.463	(1.035)	283621	250.000	230
60 Bromoform	173	11.636	11.640	(0.926)	52978	250.000	230
61 Isopropylbenzene	105	11.655	11.660	(1.052)	522915	250.000	240
62 1,1,2,2-Tetrachloroethane	83	11.862	11.866	(1.071)	64474	250.000	210
63 1,3-Dichlorobenzene	146	12.522	12.526	(0.997)	226964	250.000	230

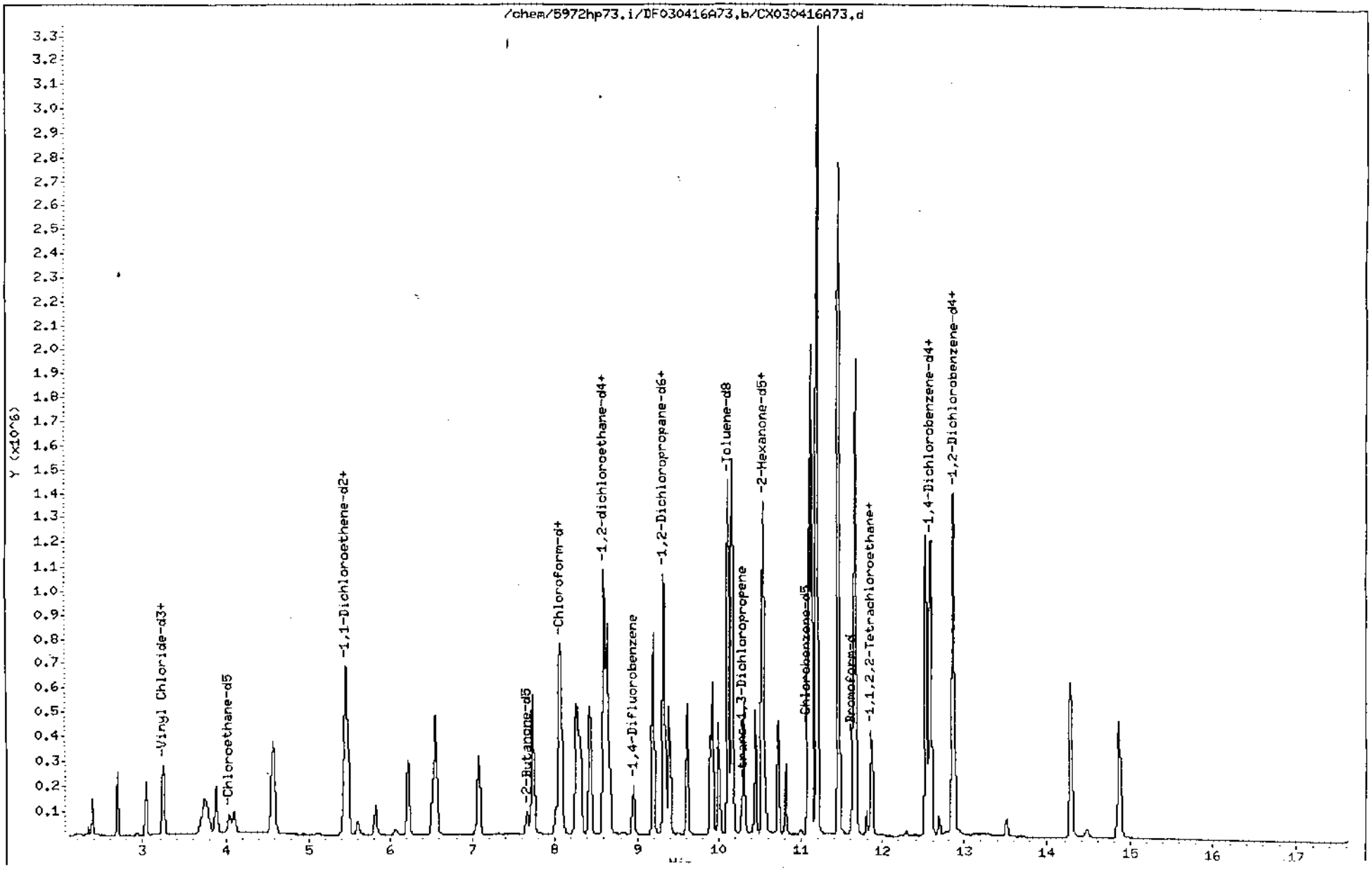
Data File: /chem/5972hp73.i/DF030416A73.b/CW030416A73.d
Report Date: 17-Apr-2003 13:35

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
64 1,4-Dichlorobenzene	146	12.581	12.585	(1.002)	239301	250.000	230
65 1,2-Dichlorobenzene	146	12.866	12.880	(1.024)	183830	250.000	220
66 1,2-Dibromo-3-Chloropropane	75	13.506	13.510	(1.075)	7638	250.000	230
67 1,2,4-Trichlorobenzene	180	14.274	14.288	(1.136)	120478	250.000	230
68 1,2,3-Trichlorobenzene	180	14.864	14.868	(1.183)	91674	250.000	240
1 69 Xylene (Total)	106				583548	250.000	700

Data File: /chem/5972hp73.i/DF030416A73.b/CX030416A73.d
Date : 16-APR-2003 11:55
Client ID: VSTD025FV
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2537
Column diameter: 0.

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF Cd37 39354
SIGNATURE WMC DATE 9/1/03



Data File: /chem/5972hp73.i/DF030416A73.b/CX030416A73.d
Report Date: 17-Apr-2003 13:36

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030416A73.b/CX030416A73.d
Lab Smp Id: VSTD025FV Client Smp ID: VSTD025FV
Inj Date : 16-APR-2003 11:55
Operator : 2537 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030416A73.b/OLC03v3.m
Meth Date : 17-Apr-2003 13:34 curtis Quant Type: ISTD
Cal Date : 16-APR-2003 10:52 Cal File: CV030416A73.d
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
1 1,4-Difluorobenzene	114	8.959	8.953	(1.000)	201065	125.000	
2 Chlorobenzene-d5	117	11.075	11.079	(1.000)	169422	125.000	
3 1,4-Dichlorobenzene-d4	152	12.562	12.565	(1.000)	77647	125.000	
4 Vinyl Chloride-d3	65	3.231	3.235	(0.361)	127447	625.000	600
5 Chloroethane-d5	69	4.038	4.061	(0.451)	108199	625.000	550
6 1,1-Dichloroethane-d2	63	5.455	5.459	(0.609)	423403	625.000	590
7 2-Butanone-d5	46	7.660	7.683	(0.855)	133066	3125.00	3000
8 Chloroform-d	84	8.054	8.057	(0.899)	556057	625.000	590
9 1,2-dichloroethane-d4	65	8.595	8.599	(0.959)	178853	625.000	570
10 Benzene-d6	84	8.595	8.599	(0.776)	930600	625.000	540
11 1,2-Dichloropropane-d6	67	9.314	9.327	(0.841)	260972	625.000	560
12 Toluene-d8	98	10.111	10.114	(0.913)	904892	625.000	540
13 trans-1,3-Dichloropropene-d4	79	10.288	10.292	(0.929)	53123	625.000	550
14 2-Hexanone-d5	63	10.524	10.538	(0.950)	140668	3125.00	2900
15 1,1,2,2-Tetrachloroethane-d2	84	11.843	11.847	(1.069)	155738	625.000	550
16 Bromoform-d	174	11.617	11.620	(0.925)	122033	625.000	560

Data File: /chem/5972hp73.i/DF030416A73.b/CX030416A73.d
Report Date: 17-Apr-2003 13:36

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
$ 17 1,2-Dichlorobenzene-d4	152	12.857	12.860	(1.024)	279183	625.000	550
18 Dichlorodifluoromethane	85	2.690	2.693	(0.300)	235812	625.000	620
19 Chloromethane	50	3.034	3.038	(0.339)	206879	625.000	600
20 Vinyl Chloride	62	3.241	3.254	(0.362)	202556	625.000	620
21 Bromomethane	94	3.881	3.904	(0.433)	140161	625.000	560(M)
22 Chloroethane	64	4.097	4.110	(0.457)	105472	625.000	600
23 Trichlorofluoromethane	101	4.579	4.593	(0.511)	570625	625.000	810(A)
24 1,1-Dichloroethene	96	5.475	5.479	(0.611)	129353	625.000	600
25 1,1,2-Trichloro-1,2,2-trifluo	101	5.455	5.459	(0.609)	186835	625.000	600
26 Acetone	43	5.603	5.607	(0.625)	83140	3125.00	2700
27 Carbon Disulfide	76	5.820	5.823	(0.650)	209013	625.000	600
28 Methyl Acetate	43	6.066	6.069	(0.677)	33428	625.000	620
29 Bromochloromethane	128	8.014	8.018	(0.895)	34675	625.000	590
30 Methylene Chloride	84	6.213	6.227	(0.693)	196414	625.000	570
31 trans-1,2-Dichloroethene	96	6.558	6.561	(0.732)	238328	625.000	590
32 Methyl tert-Butyl Ether	73	6.528	6.522	(0.729)	334495	625.000	550
33 1,1-Dichloroethane	63	7.079	7.083	(0.790)	368507	625.000	600
34 cis-1,2-Dichloroethene	96	7.729	7.733	(0.863)	273437	625.000	590
35 2-Butanone	43	7.729	7.742	(0.863)	110716	3125.00	2800
36 Chloroform	83	8.074	8.077	(0.901)	495763	625.000	590
37 1,1,1-Trichloroethane	97	8.261	8.264	(0.746)	458804	625.000	590
38 Cyclohexane	56	8.300	8.303	(0.749)	217352	625.000	590
39 Carbon Tetrachloride	117	8.428	8.431	(0.761)	417348	625.000	610
40 Benzene	78	8.635	8.638	(0.780)	830523	625.000	540
41 1,2-Dichloroethane	62	8.664	8.677	(0.967)	205795	625.000	590
42 Trichloroethene	95	9.196	9.199	(0.830)	275141	625.000	590
43 Methylcyclohexane	83	9.333	9.327	(0.843)	435114	625.000	580
44 1,2-Dichloropropane	63	9.392	9.396	(0.848)	190819	625.000	570
45 Bromodichloromethane	83	9.609	9.612	(0.868)	323898	625.000	570
46 cis-1,3-Dichloropropene	75	9.924	9.927	(0.896)	355470	625.000	570
47 4-Methyl-2-Pentanone	43	9.993	10.006	(0.902)	261506	3125.00	2800
48 Toluene	91	10.160	10.164	(0.917)	1052593	625.000	560
49 trans-1,3-Dichloropropene	75	10.308	10.311	(0.931)	276901	625.000	560
50 1,1,2-Trichloroethane	97	10.446	10.449	(0.943)	152381	625.000	560
51 Tetrachloroethene	164	10.544	10.547	(0.952)	258992	625.000	570
52 2-Hexanone	43	10.554	10.567	(0.953)	196227	3125.00	3000
53 Dibromochloromethane	129	10.731	10.735	(0.969)	246174	625.000	570
54 1,2-Dibromoethane	107	10.820	10.823	(0.977)	170457	625.000	580
55 Chlorobenzene	112	11.095	11.099	(1.002)	761579	625.000	580
56 Ethylbenzene	91	11.125	11.128	(1.004)	1299985	625.000	570
57 m,p-Xylene	106	11.194	11.197	(1.011)	942613	1250.00	1100
58 o-Xylene	106	11.449	11.453	(1.034)	448869	625.000	550
59 Styrene	104	11.459	11.463	(1.035)	667712	625.000	560
60 Bromoform	173	11.636	11.640	(0.926)	131809	625.000	580
61 Isopropylbenzene	105	11.656	11.660	(1.052)	1286527	625.000	580
62 1,1,2,2-Tetrachloroethane	83	11.863	11.866	(1.071)	158550	625.000	540
63 1,3-Dichlorobenzene	146	12.522	12.526	(0.997)	569447	625.000	570

MDC 4/17/03

MDC 4/17/03

Data File: /chem/5972hp73.i/DF030416A73.b/CX030416A73.d
Report Date: 17-Apr-2003 13:36

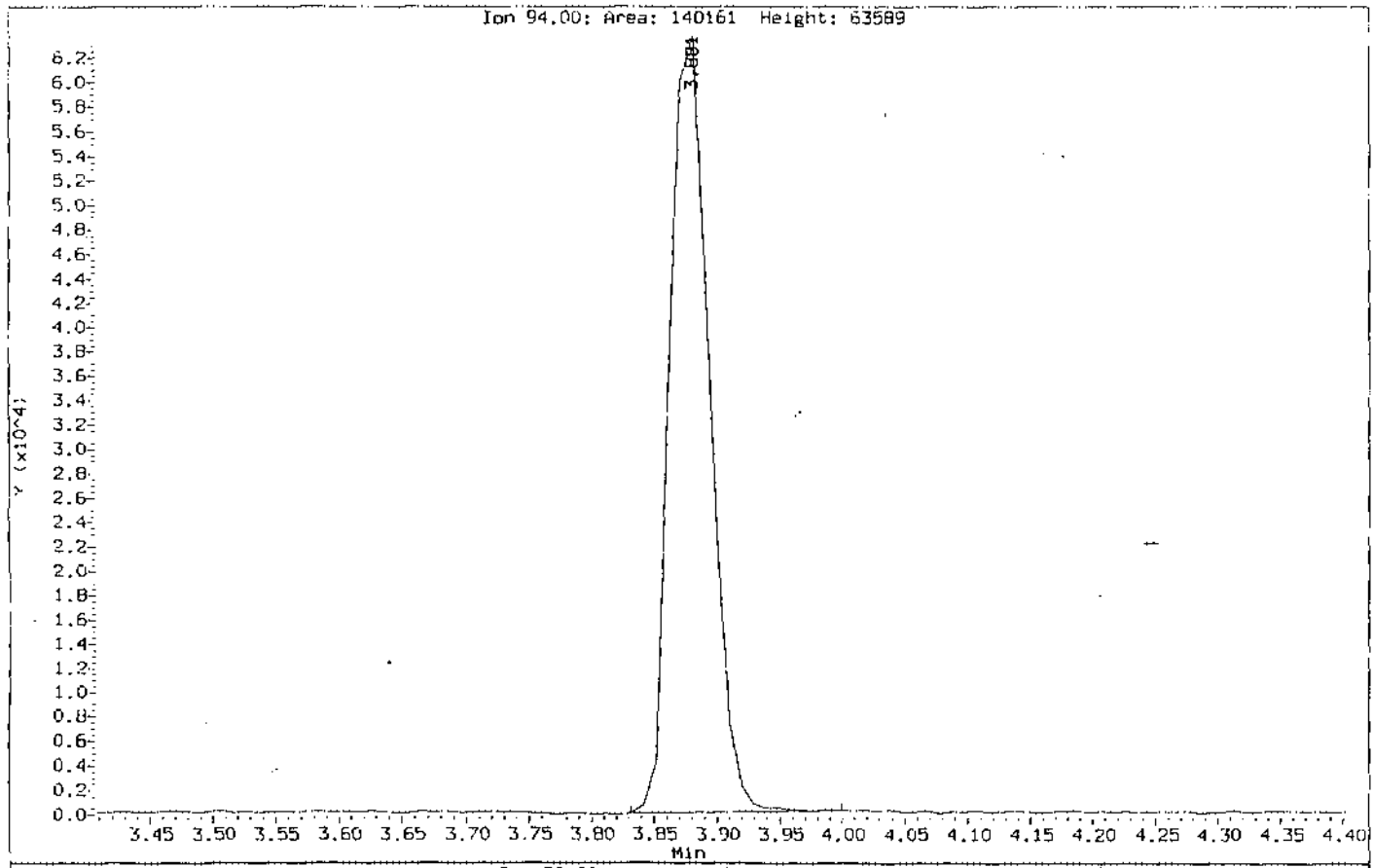
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
64 1,4-Dichlorobenzene	146	12.581	12.585	(1.002)	583444	625.000	560
65 1,2-Dichlorobenzene	146	12.867	12.880	(1.024)	456371	625.000	560
66 1,2-Dibromo-3-Chloropropane	75	13.507	13.510	(1.075)	19799	625.000	590
67 1,2,4-Trichlorobenzene	180	14.274	14.288	(1.136)	300203	625.000	560
68 1,2,3-Trichlorobenzene	180	14.865	14.868	(1.183)	240627	625.000	610
4 69 Xylene (Total)	106				1391482	625.000	1700

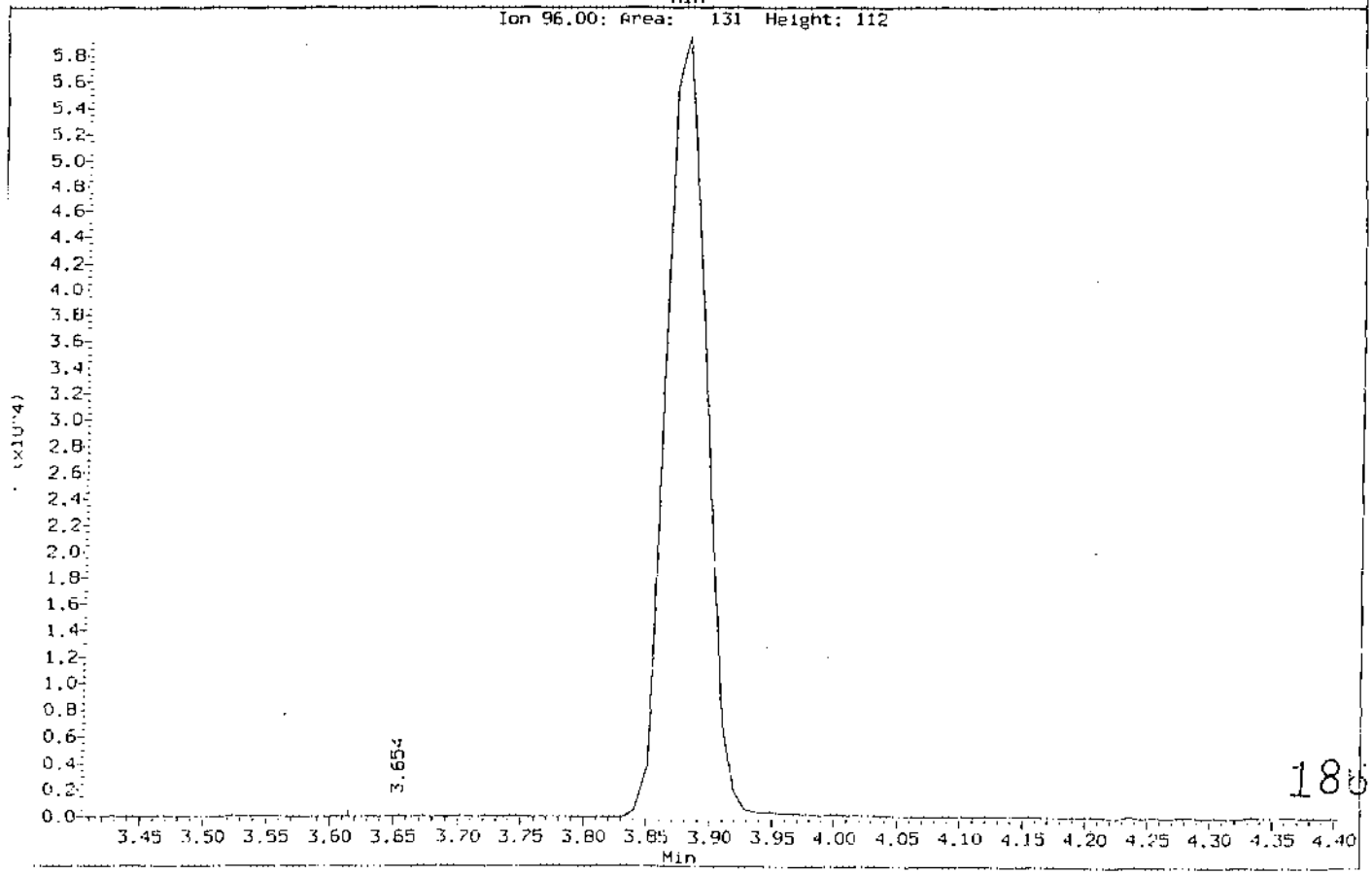
QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

Data File: /chem/5972hp73.i/DF030416A73.b/CX030416A73.d
Injection Date: 16-APR-2003 11:55
Instrument: 5972hp73.i
Client Sample ID: V5TD025FV

Compound: Bromomethane
CAS Number: 74-83-9





186

Data File: /chem/5972hp73.i/DF030416A73.b/CY030416A73.d
Date : 16-APR-2003 13:00
Client ID: VSTD001FV
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2537
Column diameter: 0.32

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ORIGINAL DOCUMENTS INCLUDED IN CSF- C0137 3554
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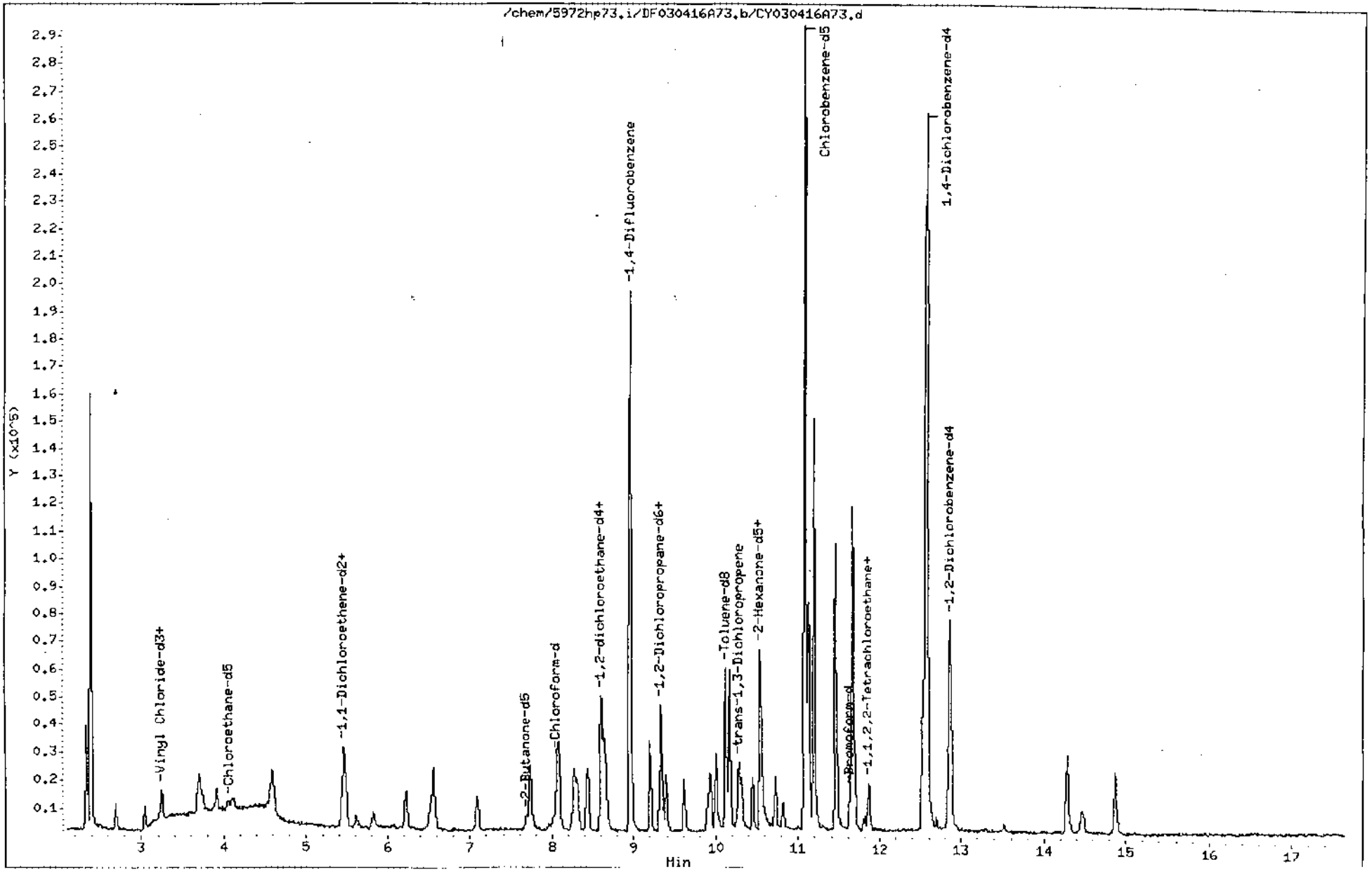


Data File: /chem/5972hp73.i/DF030416A73.b/CY030416A73.d
Report Date: 17-Apr-2003 13:36

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030416A73.b/CY030416A73.d
Lab Smp Id: VSTD001FV Client Smp ID: VSTD001FV
Inj Date : 16-APR-2003 13:00
Operator : 2537 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030416A73.b/OLC03v3.m
Meth Date : 17-Apr-2003 13:34 curtis Quant Type: ISTD
Cal Date : 16-APR-2003 10:52 Cal File: CV030416A73.d
Als bottle: 9 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
* 1 1,4-Difluorobenzene	114	8.953	8.953	(1.000)	190399	125.000	
* 2 Chlorobenzene-d5	117	11.079	11.079	(1.000)	161325	125.000	
* 3 1,4-Dichlorobenzene-d4	152	12.565	12.565	(1.000)	75726	125.000	
$ 4 Vinyl Chloride-d3	65	3.235	3.235	(0.361)	5358	25.0000	26
$ 5 Chloroethane-d5	69	4.061	4.061	(0.454)	4255	25.0000	23
$ 6 1,1-Dichloroethene-d2	63	5.459	5.459	(0.610)	16818	25.0000	25
$ 7 2-Butanone-d5	46	7.683	7.683	(0.858)	10238	250.000	240(M) 2
$ 8 Chloroform-d	84	8.057	8.057	(0.900)	22717	25.0000	25
$ 9 1,2-dichloroethane-d4	65	8.599	8.599	(0.960)	8165	25.0000	27
$ 10 Benzene-d6	84	8.599	8.599	(0.776)	42748	25.0000	26
$ 11 1,2-Dichloropropane-d6	67	9.327	9.327	(0.842)	10096	25.0000	23
$ 12 Toluene-d8	98	10.114	10.114	(0.913)	38315	25.0000	24
$ 13 trans-1,3-Dichloropropene-d4	79	10.292	10.292	(0.929)	2200	25.0000	24 2
$ 14 2-Hexanone-d5	63	10.538	10.538	(0.951)	11002	250.000	240(M)
$ 15 1,1,2,2-Tetrachloroethane-d2	84	11.847	11.847	(1.069)	6484	25.0000	24
$ 16 Bromoform-d	174	11.620	11.620	(0.925)	4782	25.0000	23

Data File: /chem/5972hp73.i/DF030416A73.b/CY030416A73.d
Report Date: 17-Apr-2003 13:36

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
17 1,2-Dichlorobenzene-d4	152	12.860	12.860	(1.024)	13862	25.0000	27
18 Dichlorodifluoromethane	85	2.693	2.693	(0.301)	9005	25.0000	25
19 Chloromethane	50	3.038	3.038	(0.339)	8097	25.0000	25
20 Vinyl Chloride	62	3.254	3.254	(0.363)	7131	25.0000	23
21 Bromomethane	94	3.904	3.904	(0.436)	6239	25.0000	26(M)
22 Chloroethane	64	4.110	4.110	(0.459)	4441	25.0000	26
23 Trichlorofluoromethane	101	4.593	4.593	(0.513)	18062	25.0000	27
24 1,1-Dichloroethene	96	5.479	5.479	(0.612)	5438	25.0000	26
25 1,1,2-Trichloro-1,2,2-trifluo	101	5.459	5.459	(0.610)	7848	25.0000	26
26 Acetone	43	5.607	5.607	(0.626)	8097	250.000	270
27 Carbon Disulfide	76	5.823	5.823	(0.650)	8135	25.0000	25
28 Methyl Acetate	43	6.069	6.069	(0.678)	1710	25.0000	31
29 Bromochloromethane	128	8.018	8.018	(0.896)	1482	25.0000	26
30 Methylene Chloride	84	6.227	6.227	(0.695)	8476	25.0000	26
31 trans-1,2-Dichloroethene	96	6.561	6.561	(0.733)	10614	25.0000	27
32 Methyl tert-Butyl Ether	73	6.522	6.522	(0.728)	14823	25.0000	26
33 1,1-Dichloroethane	63	7.083	7.083	(0.791)	14439	25.0000	25
34 cis-1,2-Dichloroethene	96	7.733	7.733	(0.864)	11653	25.0000	26
35 2-Butanone	43	7.742	7.742	(0.865)	9084	250.000	250
36 Chloroform	83	8.077	8.077	(0.902)	20960	25.0000	26
37 1,1,1-Trichloroethane	97	8.264	8.264	(0.746)	18024	25.0000	25
38 Cyclohexane	56	8.303	8.303	(0.749)	9340	25.0000	26
39 Carbon Tetrachloride	117	8.431	8.431	(0.761)	17013	25.0000	26
40 Benzene	78	8.638	8.638	(0.780)	36352	25.0000	25
41 1,2-Dichloroethane	62	8.677	8.677	(0.969)	7992	25.0000	24
42 Trichloroethene	95	9.199	9.199	(0.830)	10757	25.0000	24
43 Methylcyclohexane	83	9.327	9.327	(0.842)	17531	25.0000	25
44 1,2-Dichloropropane	63	9.396	9.396	(0.848)	7927	25.0000	25
45 Bromodichloromethane	83	9.612	9.612	(0.868)	13030	25.0000	24
46 cis-1,3-Dichloropropene	75	9.927	9.927	(0.896)	13914	25.0000	24
47 4-Methyl-2-Pentanone	43	10.006	10.006	(0.903)	19806	250.000	230
48 Toluene	91	10.164	10.164	(0.917)	42332	25.0000	24
49 trans-1,3-Dichloropropene	75	10.311	10.311	(0.931)	11363	25.0000	24
50 1,1,2-Trichloroethane	97	10.449	10.449	(0.943)	6598	25.0000	25
51 Tetrachloroethene	164	10.547	10.547	(0.952)	10728	25.0000	25
52 2-Hexanone	43	10.567	10.567	(0.954)	16381	250.000	260
53 Dibromochloromethane	129	10.735	10.735	(0.969)	9709	25.0000	24(M)
54 1,2-Dibromoethane	107	10.823	10.823	(0.977)	6993	25.0000	25(M)
55 Chlorobenzene	112	11.099	11.099	(1.002)	32579	25.0000	26
56 Ethylbenzene	91	11.128	11.128	(1.004)	55363	25.0000	25
57 m,p-Xylene	106	11.197	11.197	(1.011)	43471	50.0000	52
58 o-Xylene	106	11.453	11.453	(1.034)	20361	25.0000	26
59 Styrene	104	11.463	11.463	(1.035)	29701	25.0000	26
60 Bromoform	173	11.640	11.640	(0.926)	4980	25.0000	23
61 Isopropylbenzene	105	11.660	11.660	(1.052)	55736	25.0000	26
62 1,1,2,2-Tetrachloroethane	83	11.866	11.866	(1.071)	6597	25.0000	24
63 1,3-Dichlorobenzene	146	12.526	12.526	(0.997)	23269	25.0000	24

NK 4/17/03

Data File: /chem/5972hp73.i/DF030416A73.b/CY030416A73.d
Report Date: 17-Apr-2003 13:36

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
	64 1,4-Dichlorobenzene	146	12.585	12.585	(1.002)	28411	25.0000	27(M)
	65 1,2-Dichlorobenzene	146	12.880	12.880	(1.025)	21061	25.0000	26
	66 1,2-Dibromo-3-Chloropropane	75	13.510	13.510	(1.075)	608	25.0000	19
	67 1,2,4-Trichlorobenzene	180	14.288	14.288	(1.137)	14487	25.0000	27
	68 1,2,3-Trichlorobenzene	180	14.868	14.868	(1.183)	11692	25.0000	29
M	69 Xylene (Total)	106				63832	25.0000	82

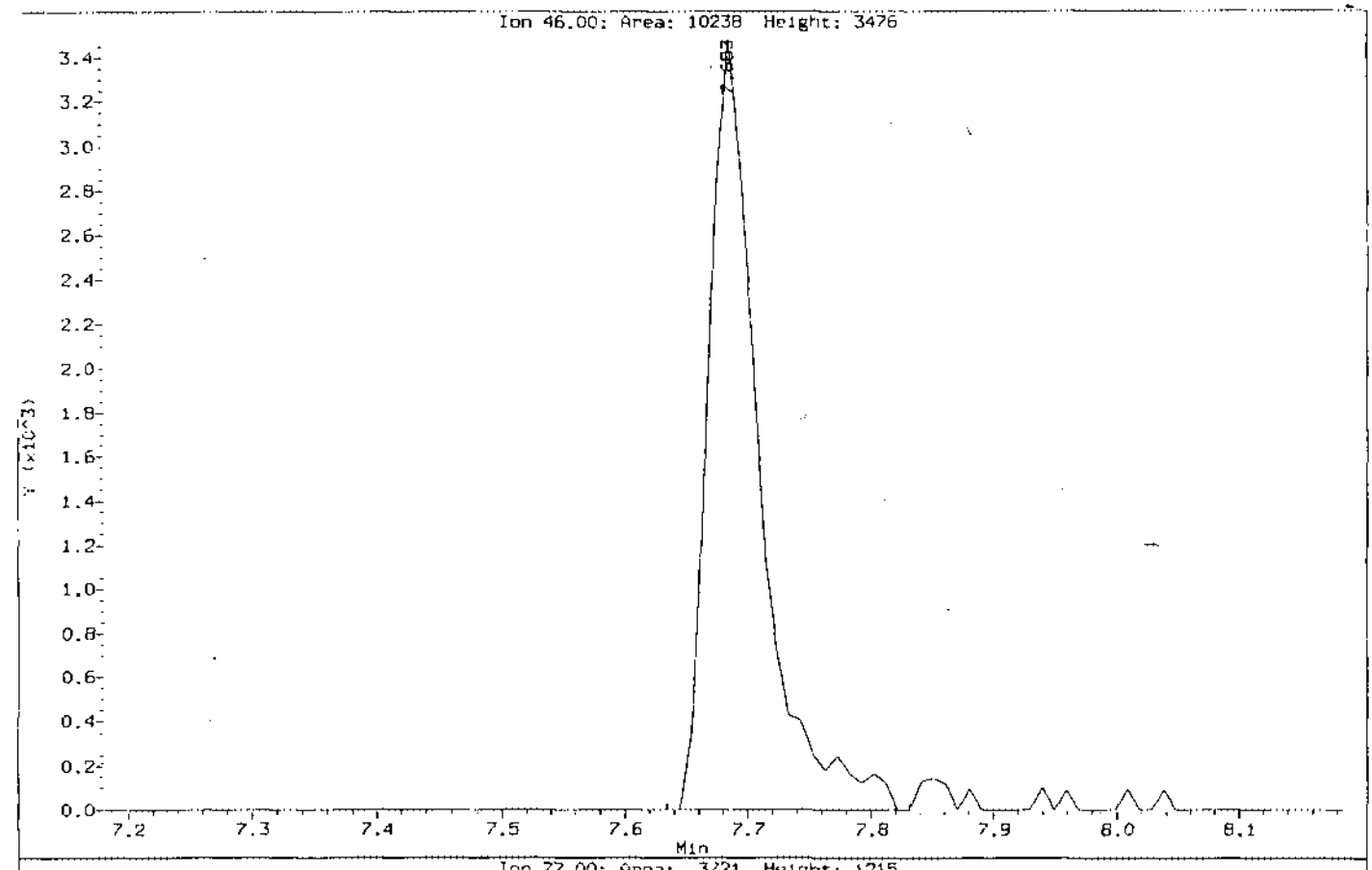
QC Flag Legend

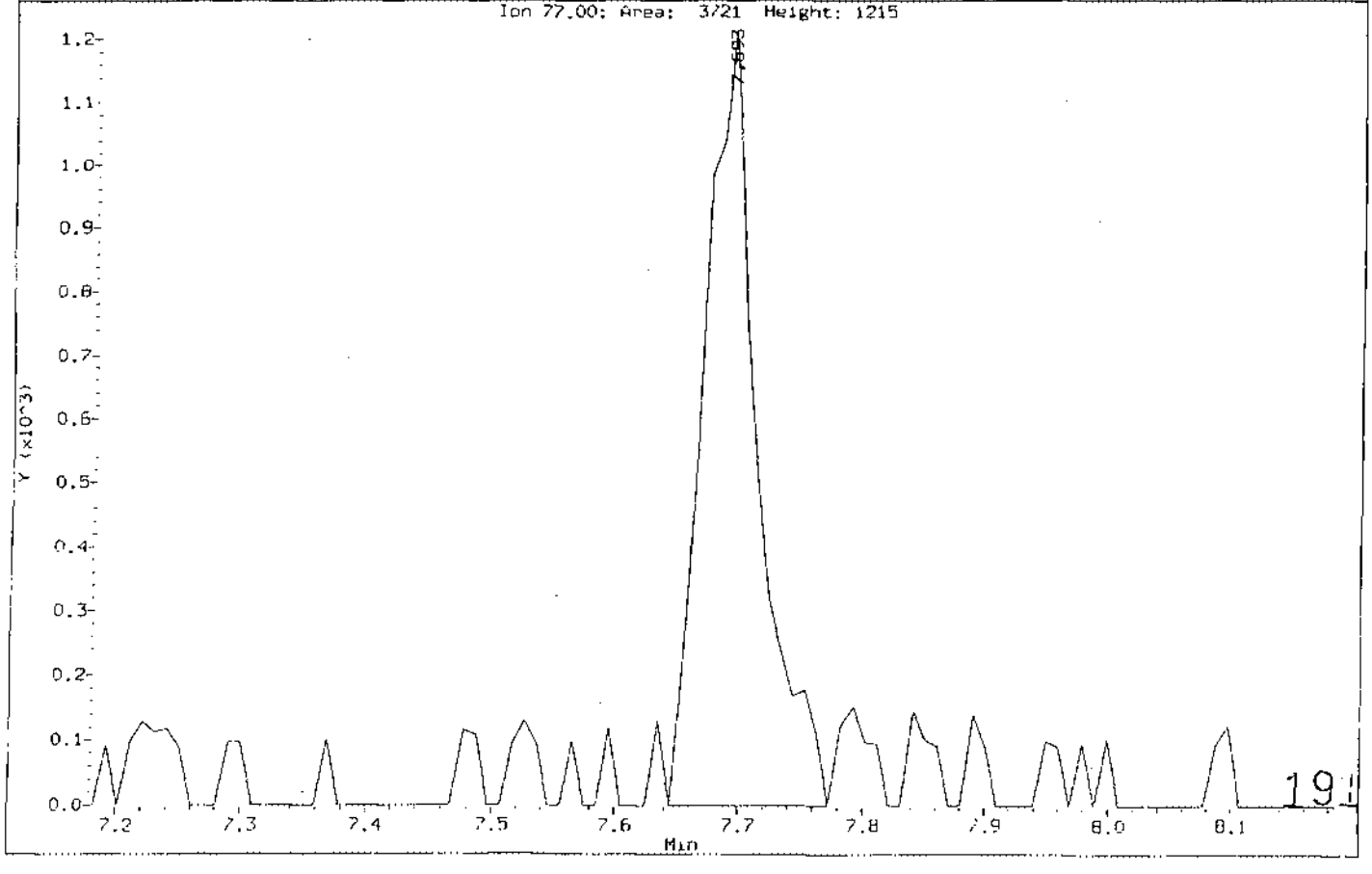
M - Compound response manually integrated.

MRC 4/17/03

Data File: /chem/5972hp73.1/DF030416A73.b/CY030416A73.d
Injection Date: 16-APR-2003 13:00
Instrument: 5972hp73.1
Client Sample ID: VSTD001FV

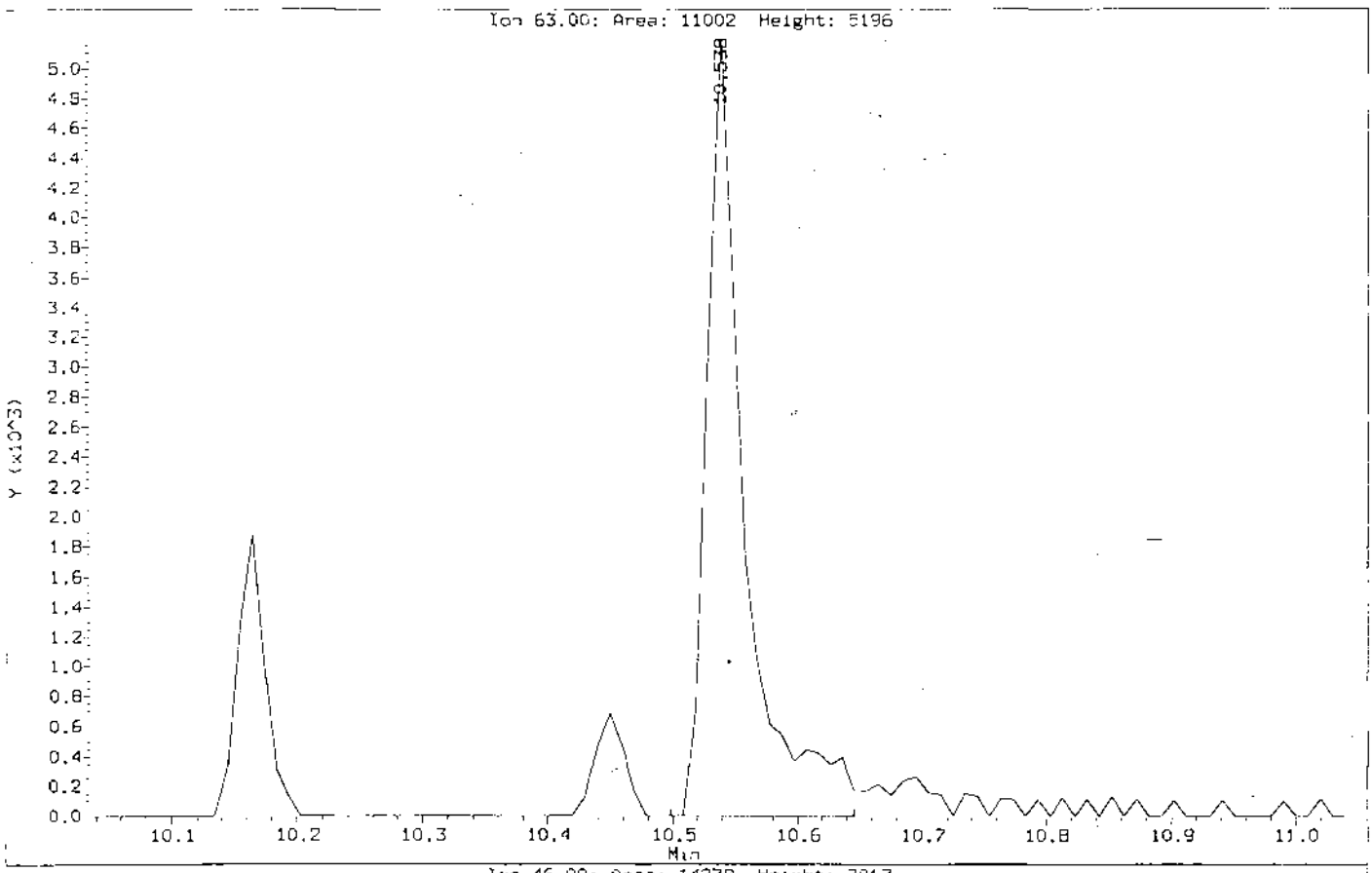
Compound: 2-Butanone-d5
CAS Number: 24313-50-6

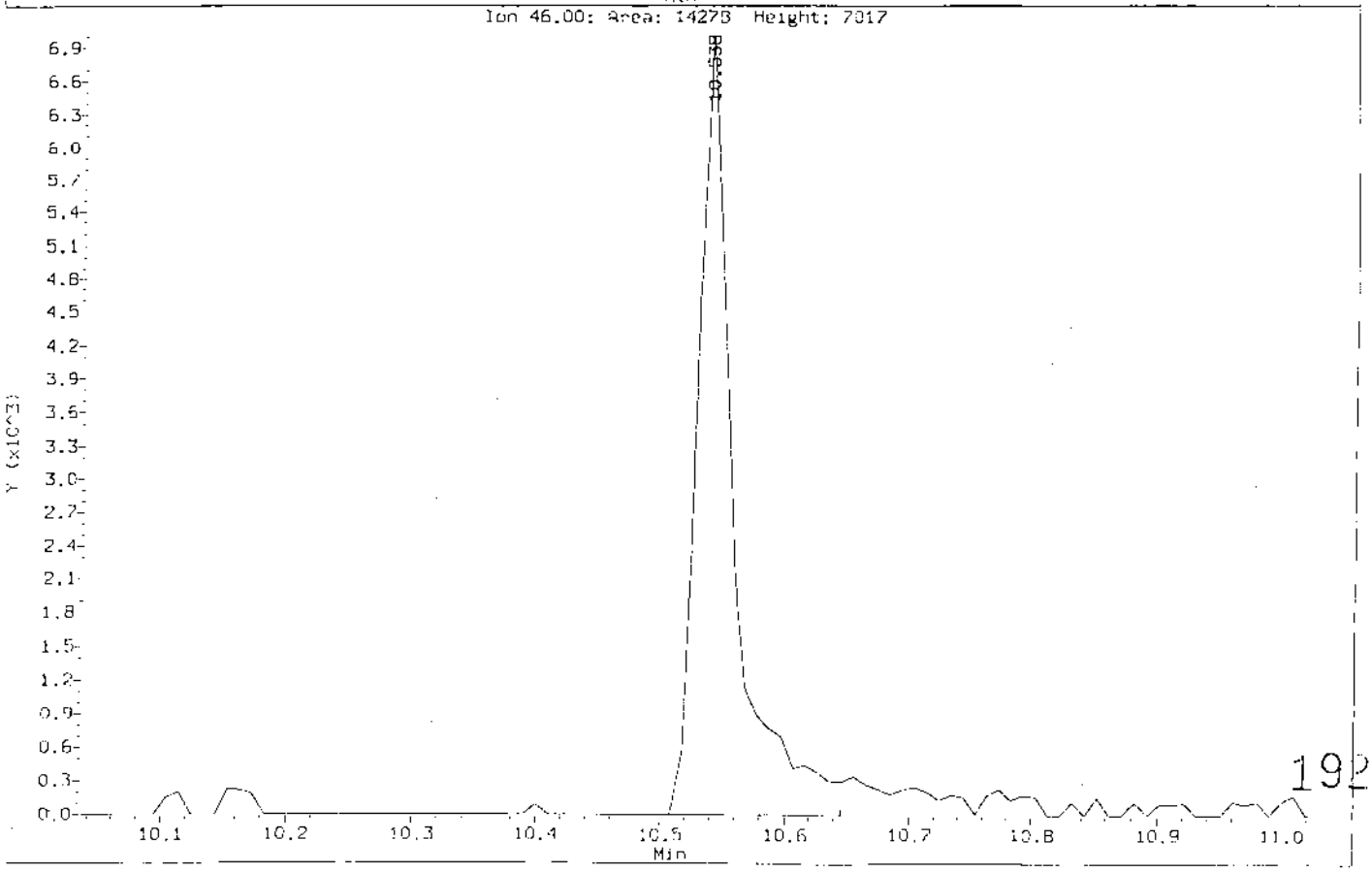




Data File: /chem/5972hp73.1/DF030416A73.b/CY030416A73.d
Injection Date: 16-APR-2003 13:00
Instrument: 5972hp73.1
Client Sample ID: VSTD001FV

Compound: 2-Hexanone-d5
CAS Number: 4840-82-8





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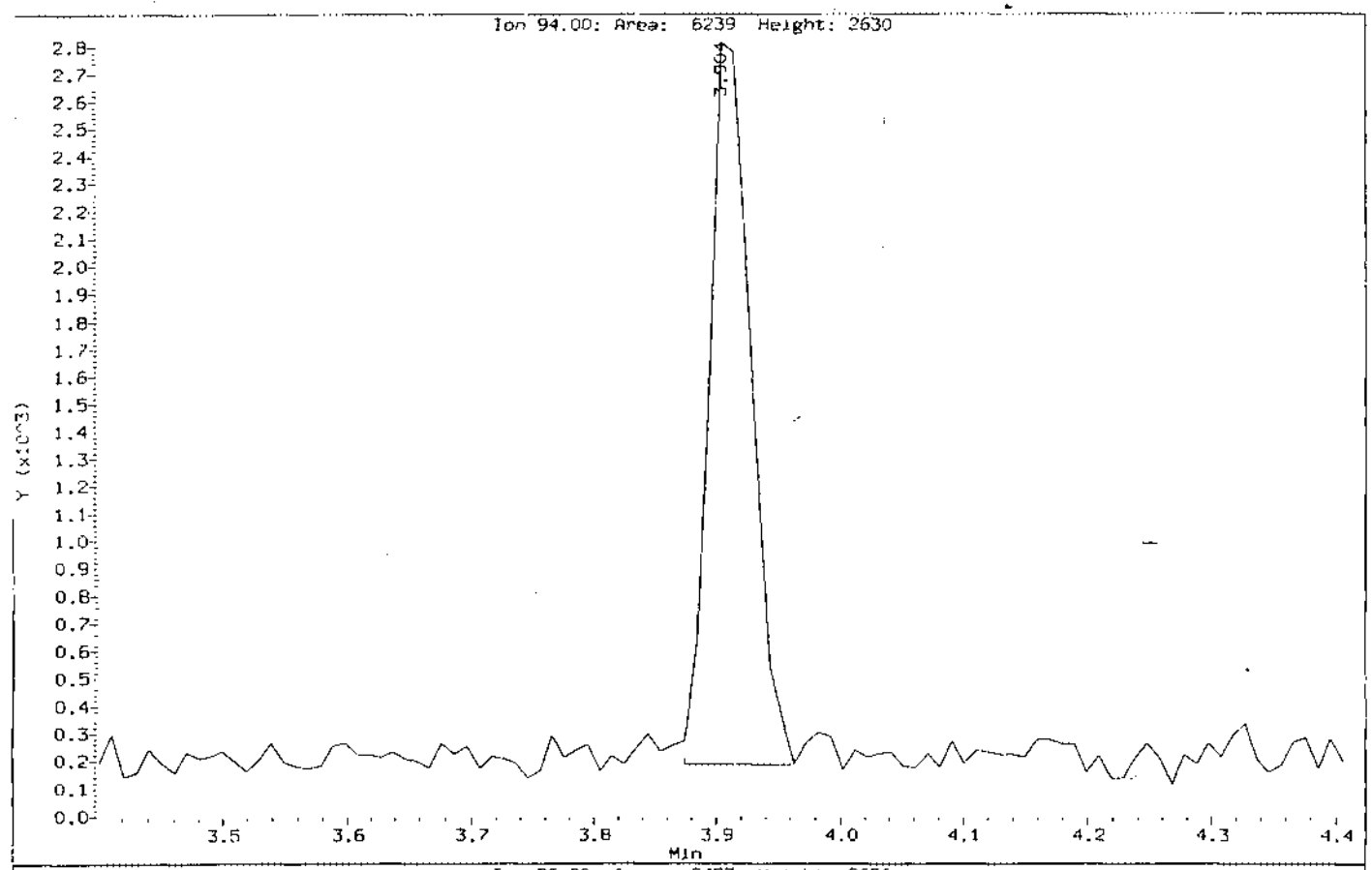
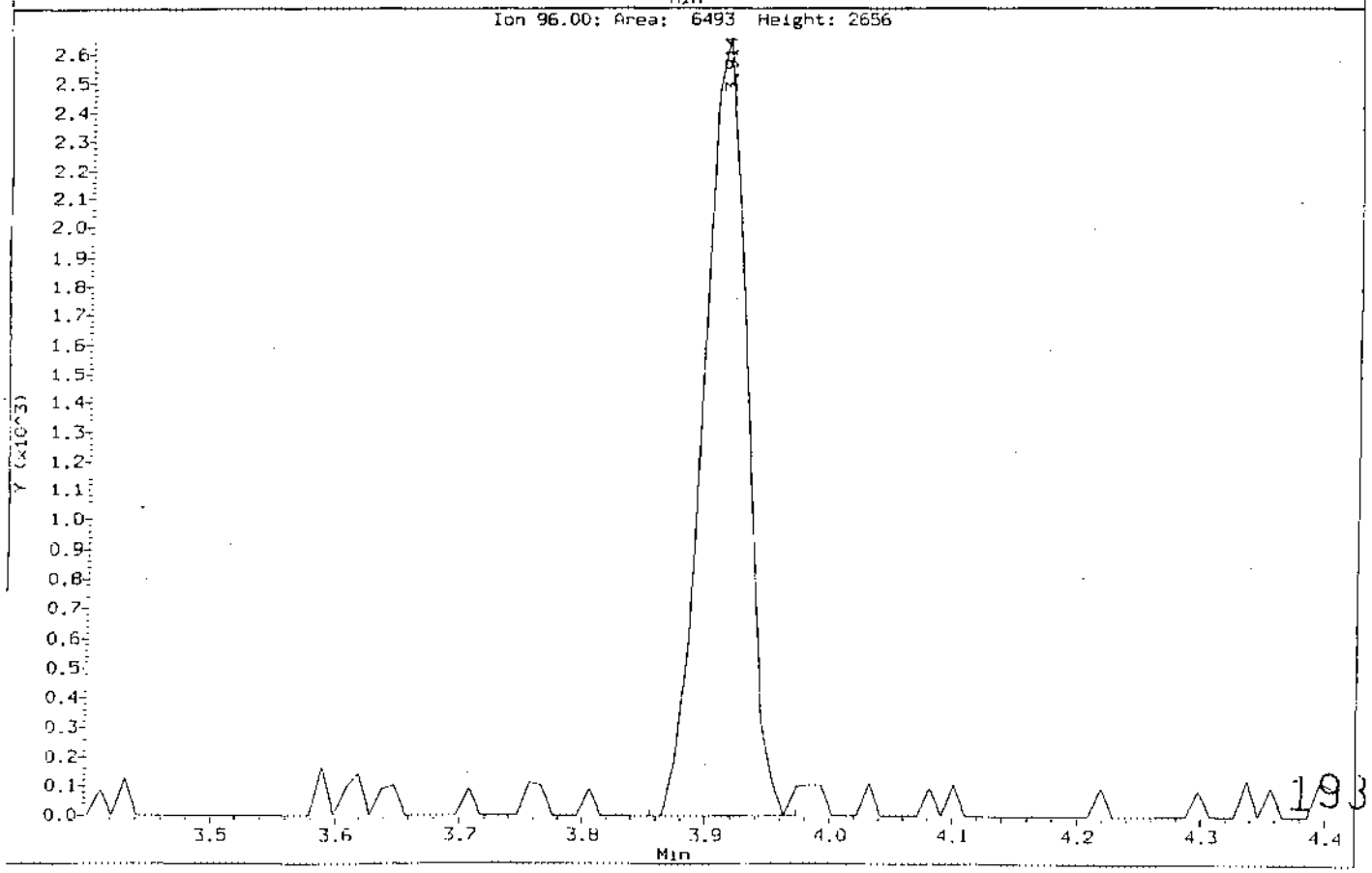
Injection Date: 16-APR-2003 13:00
Instrument: 5972hp73.i
Client Sample ID: VSTD001FV

Compound: Bromomethane
CAS Number: 74-83-9





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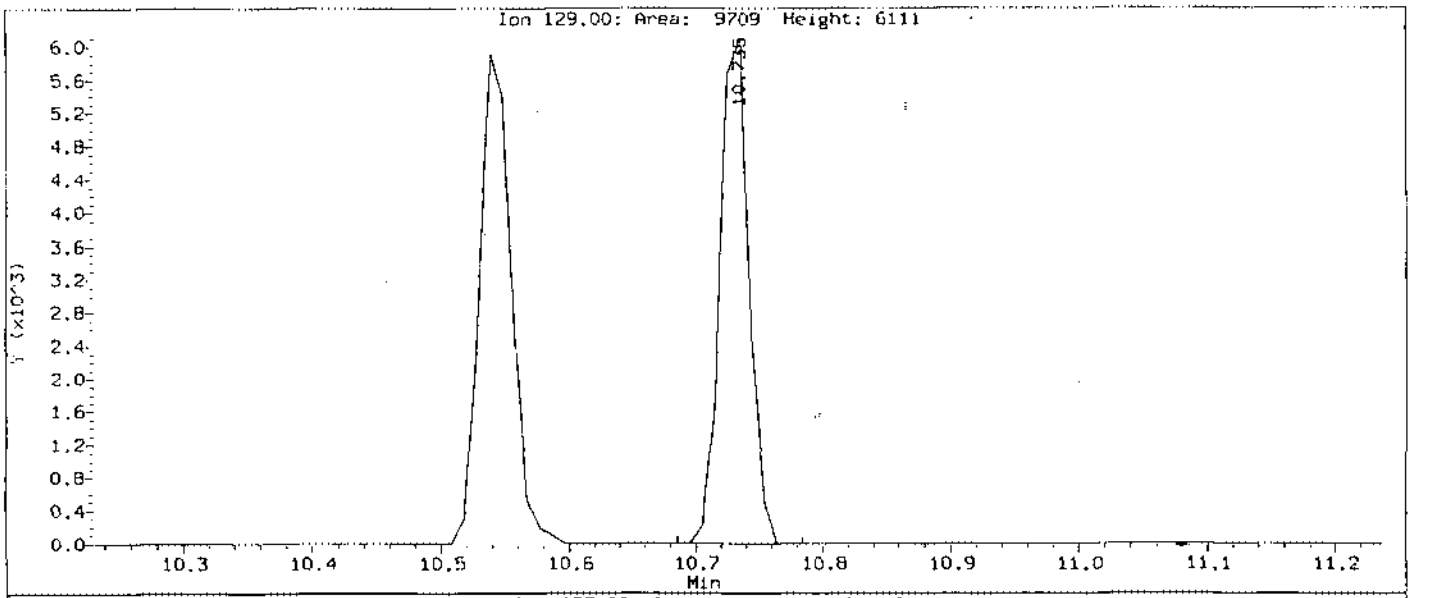
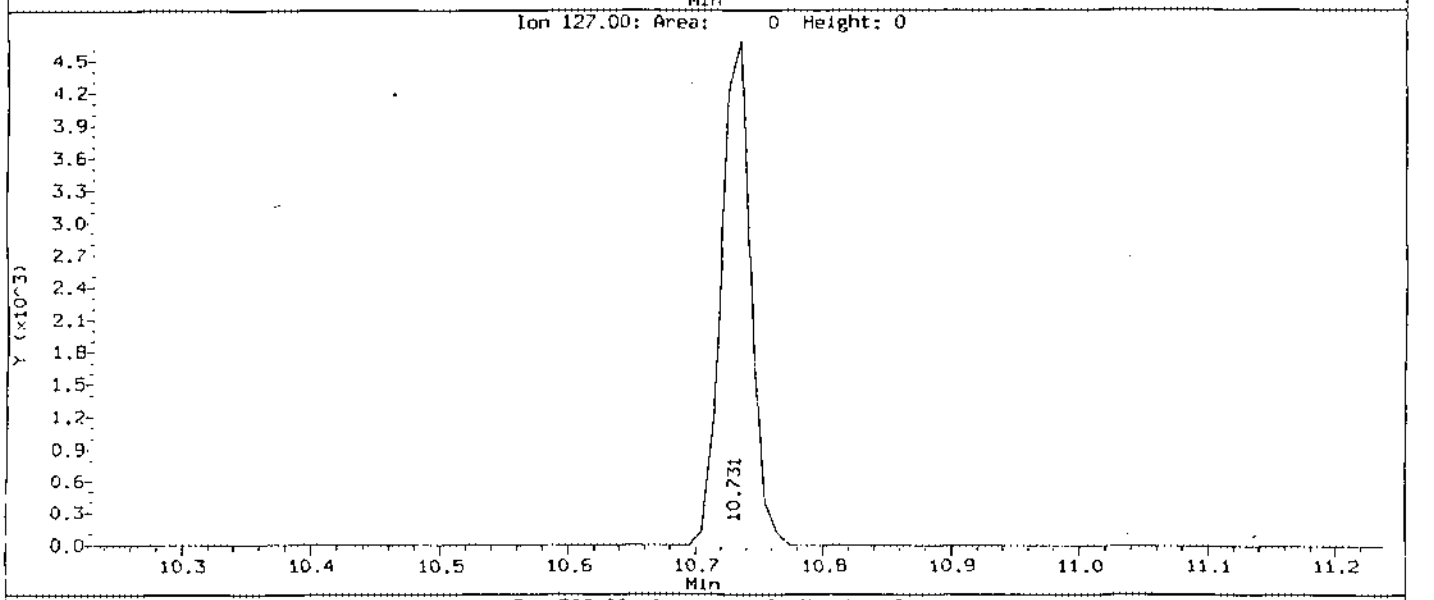
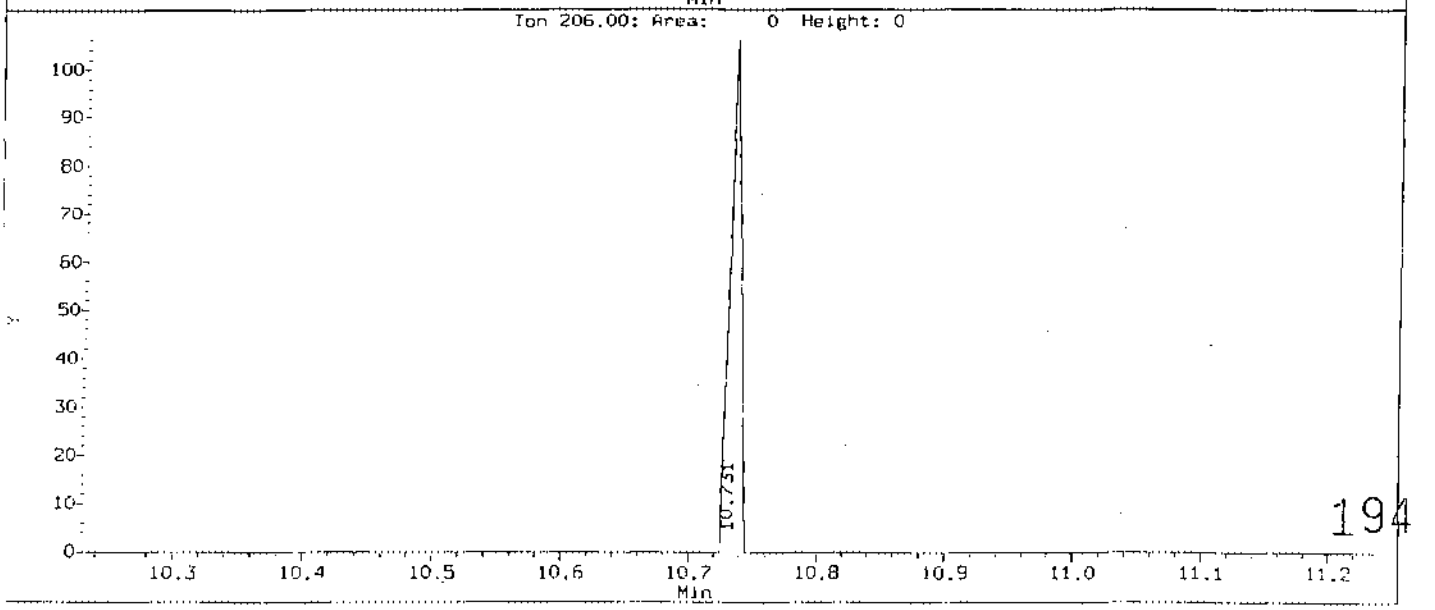
Injection Date: 16-APR-2003 13:00
Instrument: 5972hp73.1
Client Sample ID: VSTD001FV

Compound: Dibromochloromethane
CAS Number: 124-48-1







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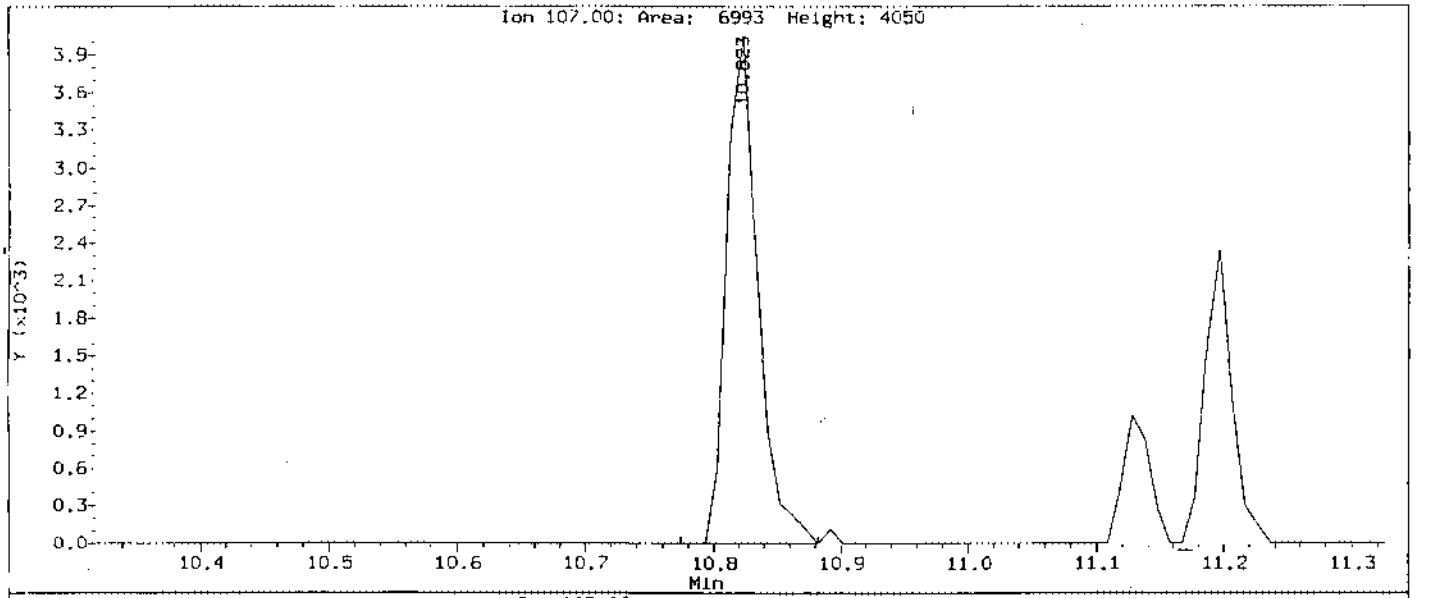
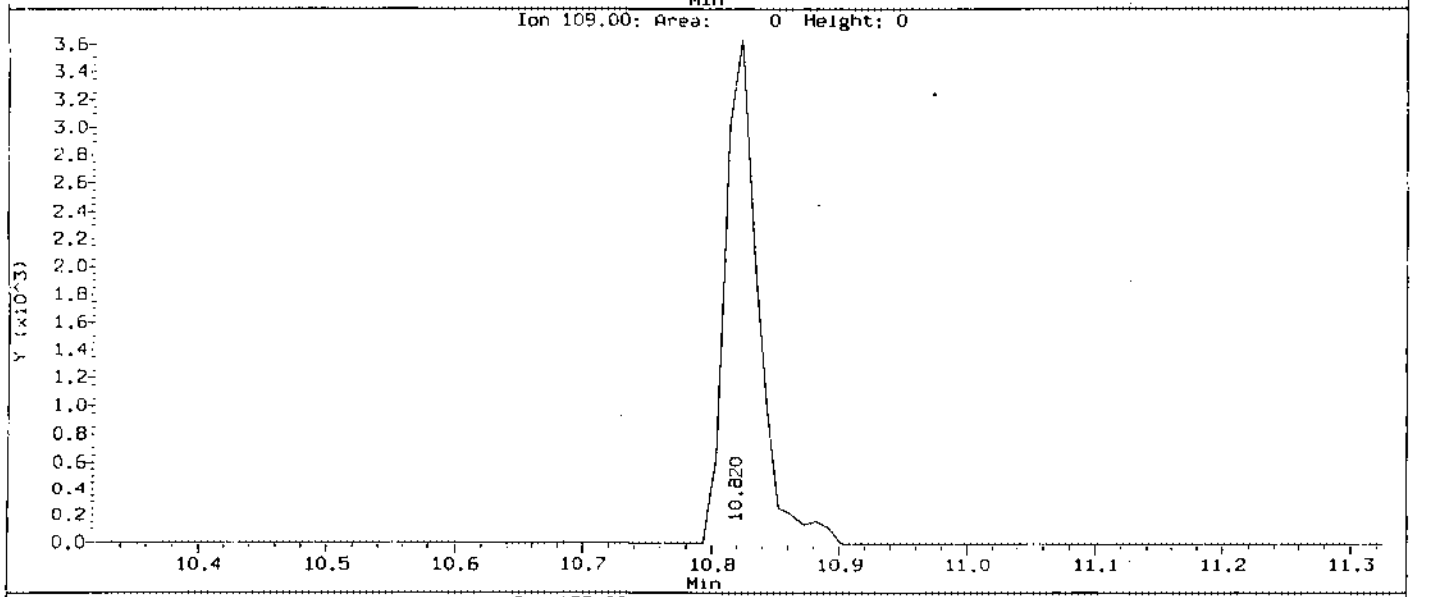
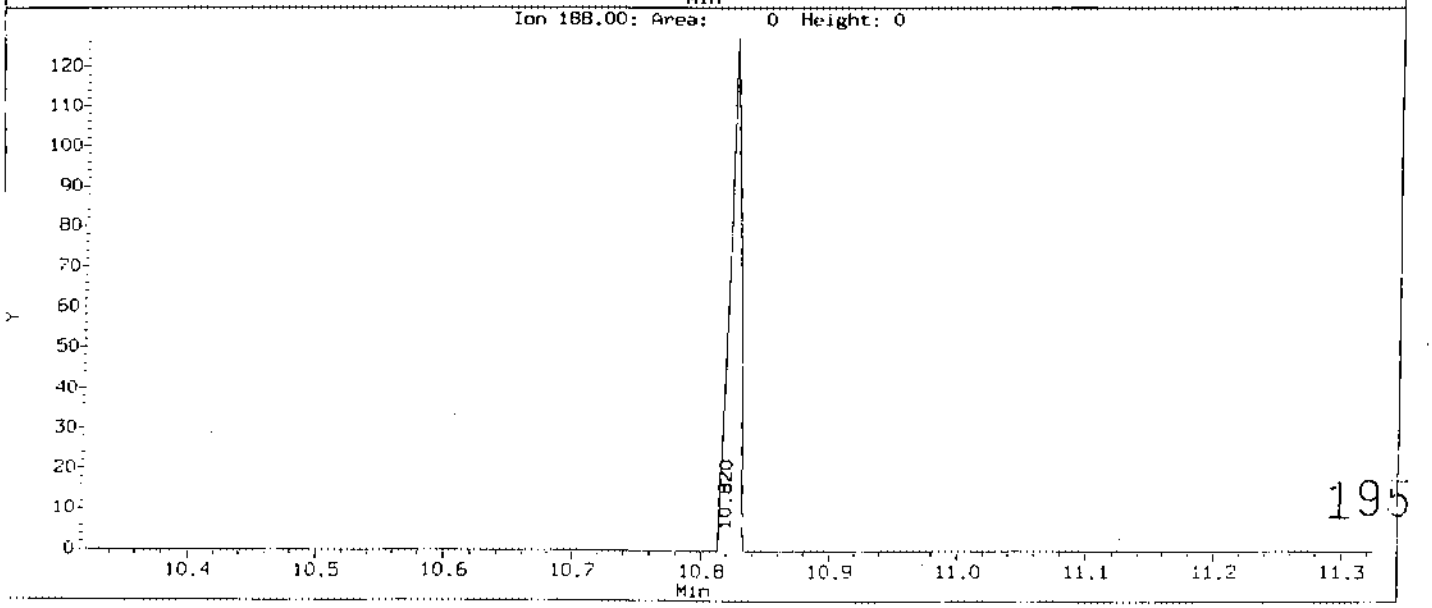
Injection Date: 16-APR-2003 13:00
Instrument: 5972hp73.i
Client Sample ID: VSTD001FV

Compound: 1,2-Dibromoethane
CAS Number: 106-93-4







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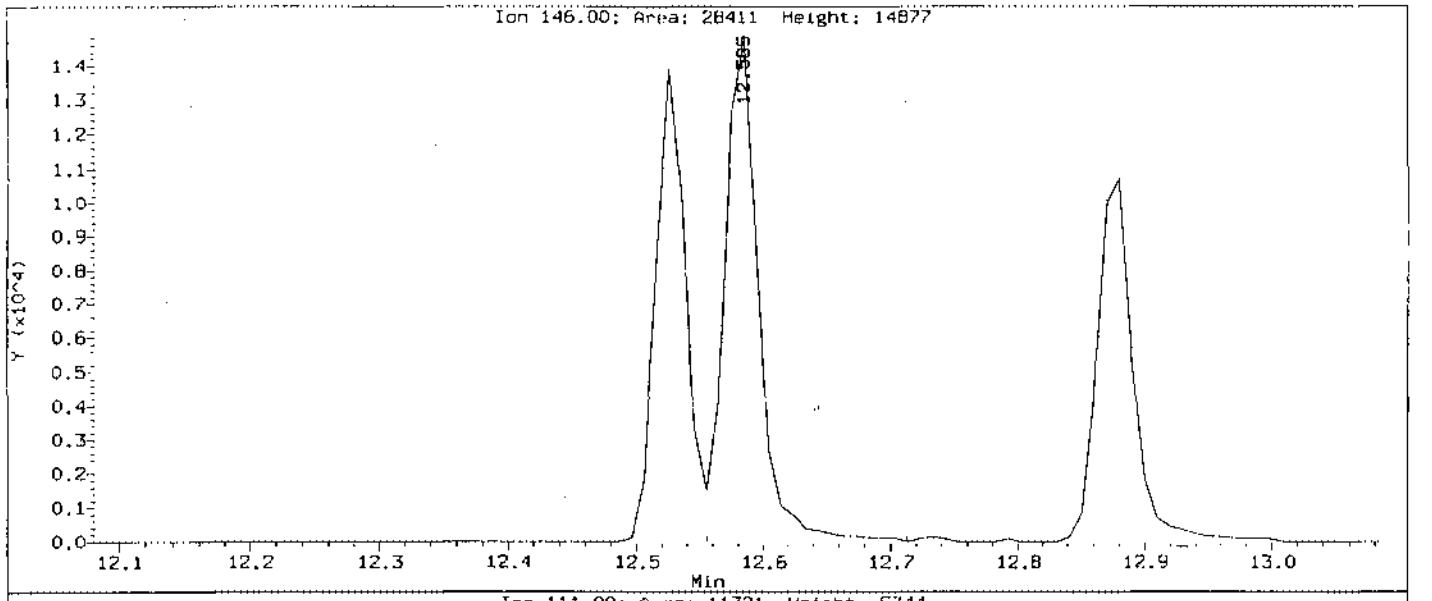
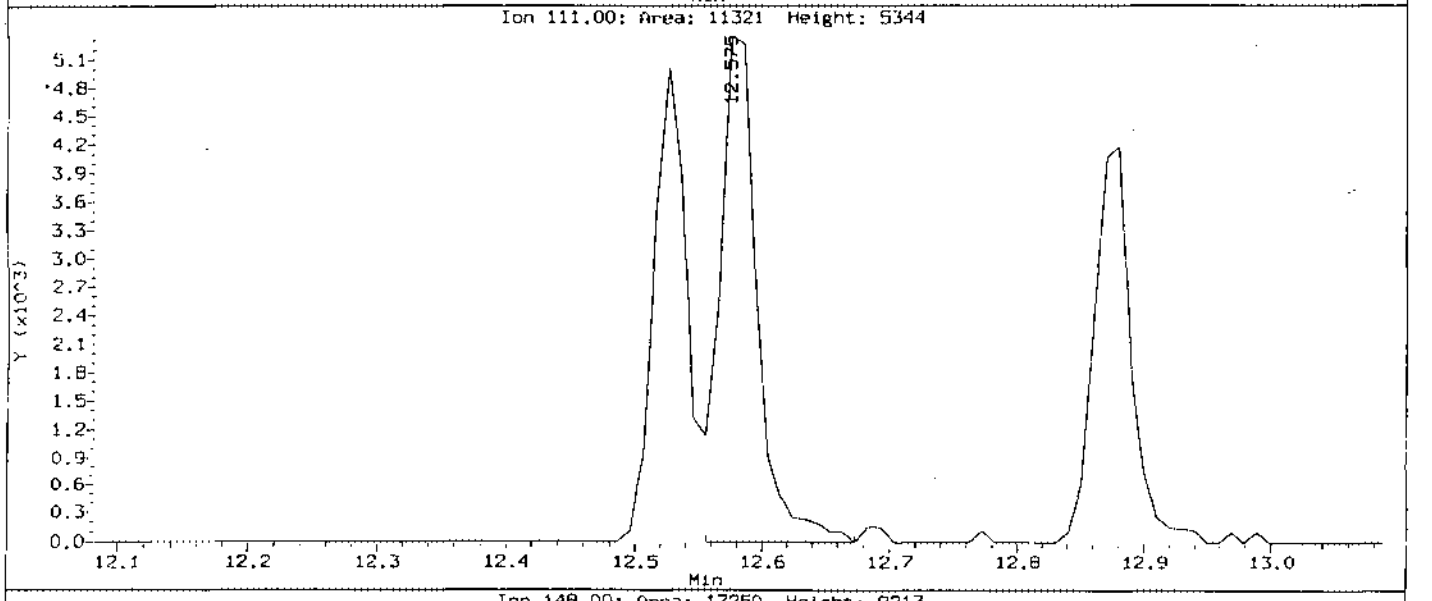
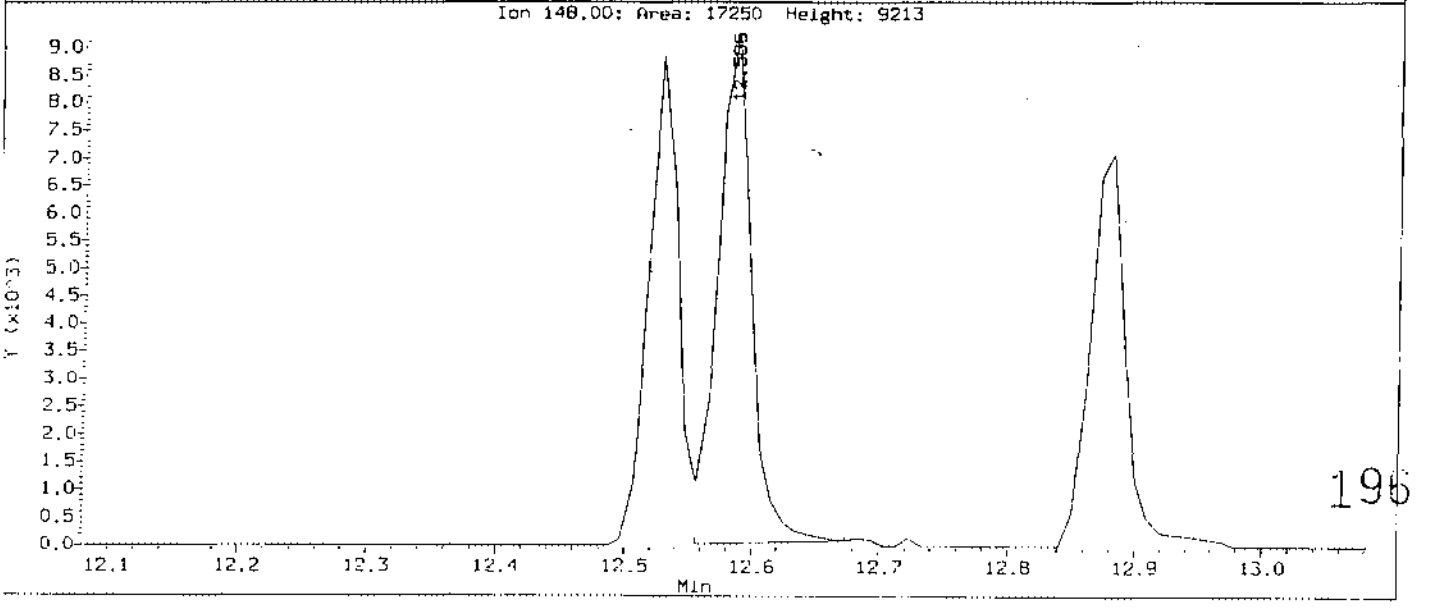
Injection Date: 16-APR-2003 13:00
Instrument: 5972hp73.i
Client Sample ID: VSTD001FV

Compound: 1,4-Dichlorobenzene
CAS Number: 106-46-7







COMPUCHEM a division of Liberty Analytical Corp DATE 4/16/03 INITIAL TIME OF TUNE 0834 SHIFT/S(A) ✓ (B) ____ (C) ____

GC/MS VOLATILE RUN LOG TIME TUNE EXPIRES 2034 LINKER /METHOD OLC3 + Flood [illegible]

COMPUCHEM LOGBOOK 11 ZZZ 8 (5972hp73)

PREVENTIVE MAINTENANCE None

	REJECTED	FILE NAME	REPORTED	DATE	TIME	CLIENT ID#	CASE/SDG#	SAMPLE VOLUME	CHEMIST	COMMENTS(ETC.)/DISPOSITION
1		BFD30416 A73	/	4/16/03	0834	BFB	-	2 l	2537	
2		CS	/	/ /	0918	VSTD0.5FV	-	2.5 l		
3		CT	/	/ /	0957	02	-			
4	/	CU	US	/ /	1021	001	-			
5		CV	/	/ /	1052	005	-			I cal
6		CW	/	/ /	1122	010	-			
7		CX	/	/ /	1155	025	-			
8		CB	/	/ /	1237	VIBLKRI	-			
9		CY	/	/ /	1300	VSTD0.1FV	-			
10		WG23596-2 A73	/	/ /	1344	VBLKXT	VARIOUS			
11		WG23617-4 A73	/	/ /	1425	VHBLKYZ				
12		FOEH9-4 A73	/	/ /	1535	FOEJ1	FOEH9			
13		1 -3 1	/	/ /	1555	FOEJ2				
14		WG23636-4 A73	/	/ /	1641	VHBLKZR				
15		FOE77-6 A73	/	/ /	1704	FOEL6	FOE77			
16	/	-7	KI	/ /	1728	71				Is [illegible]
17		-8	/	/ /	1751	80				
18		-9	/	/ /	1814	81				
19		-10	/	/ /	1837	95				
20		-11	/	/ /	1901	~~FOFA3~~ FOFA3				
21		WG23631-6 A73		/ /		VHBLKZO	FOE77			Remains
22				/ /						
23				/ /						
24				/ /						

SUPERVISOR APPROVAL [signature] Date 4-16-03

Tune (ID #7008) Lot No. 54301

Calibration Group Code / Lot No. OL92

The presence of the Chemist's employee ID number, or signature, on this run log attests that strict compliance with the method's SOP has occurred. Any SOP deviations require documentation by the responsible chemist together with the chemist's initials and the initials of the lab supervisor and a QA department representative, signifying approval of the deviation.

7/20/03

b. Continuing Calibration Data
(Form VII LCV-1, LCV-2, and LCV-3)

If more than one instrument is used, forms shall be arranged in order by instrument. If multiple continuing calibration standards from the same instrument are used, they shall be in chronological order.

(1) Reconstructed Ion Chromatograms and quantitation reports for all continuing (12-hour) calibrations. Spectra not required.

(2) EICPs displaying each manual integration.

7LCA

LOW CONCENTRATION WATER VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Instrument ID: 5972HP73 Calibration Date: 04/09/2003 Time: 1357

Lab File ID: CT030409A73 Init. Calib. Date(s): 04/08/2003 04/08/2003

EPA Sample No.(VSTD005##): VSTD005FF Init. Calib. Times: 0825 1108

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

COMPOUND	$\overline{RRF}$	RRF5	MIN RRF	%D	MAX %D
Ethylbenzene	1.503	1.488	0.100	-1.0	30.0
Xylene (Total)	0.529	0.568	0.300	7.4	30.0
Styrene	0.714	0.819	0.300	14.7	30.0
Vinyl Chloride-d3	0.104	0.093		-10.6	
Chloroethane-d5	0.071	0.054		-23.9	
1,1-Dichloroethene-d2	0.577	0.517		-10.4	
2-Butanone-d5	0.037	0.040		8.1	
Chloroform-d	0.597	0.521		-12.7	
1,2-dichloroethane-d4	0.207	0.174		-15.9	
Benzene-d6	1.246	1.305		4.7	
1,2-Dichloropropane-d6	0.375	0.402		7.2	
Toluene-d8	1.126	1.138		1.1	
trans-1,3-Dichloropropene-d4	0.059	0.053		-10.2	
2-Hexanone-d5	0.034	0.036		5.9	
Bromoform-d	0.290	0.282		-2.8	
1,1,2,2-Tetrachloroethane-d2	0.197	0.215		9.1	
1,2-Dichlorobenzene-d4	0.798	0.776		-2.8	

All other compounds must meet a minimum RRF of 0.010.

COPY

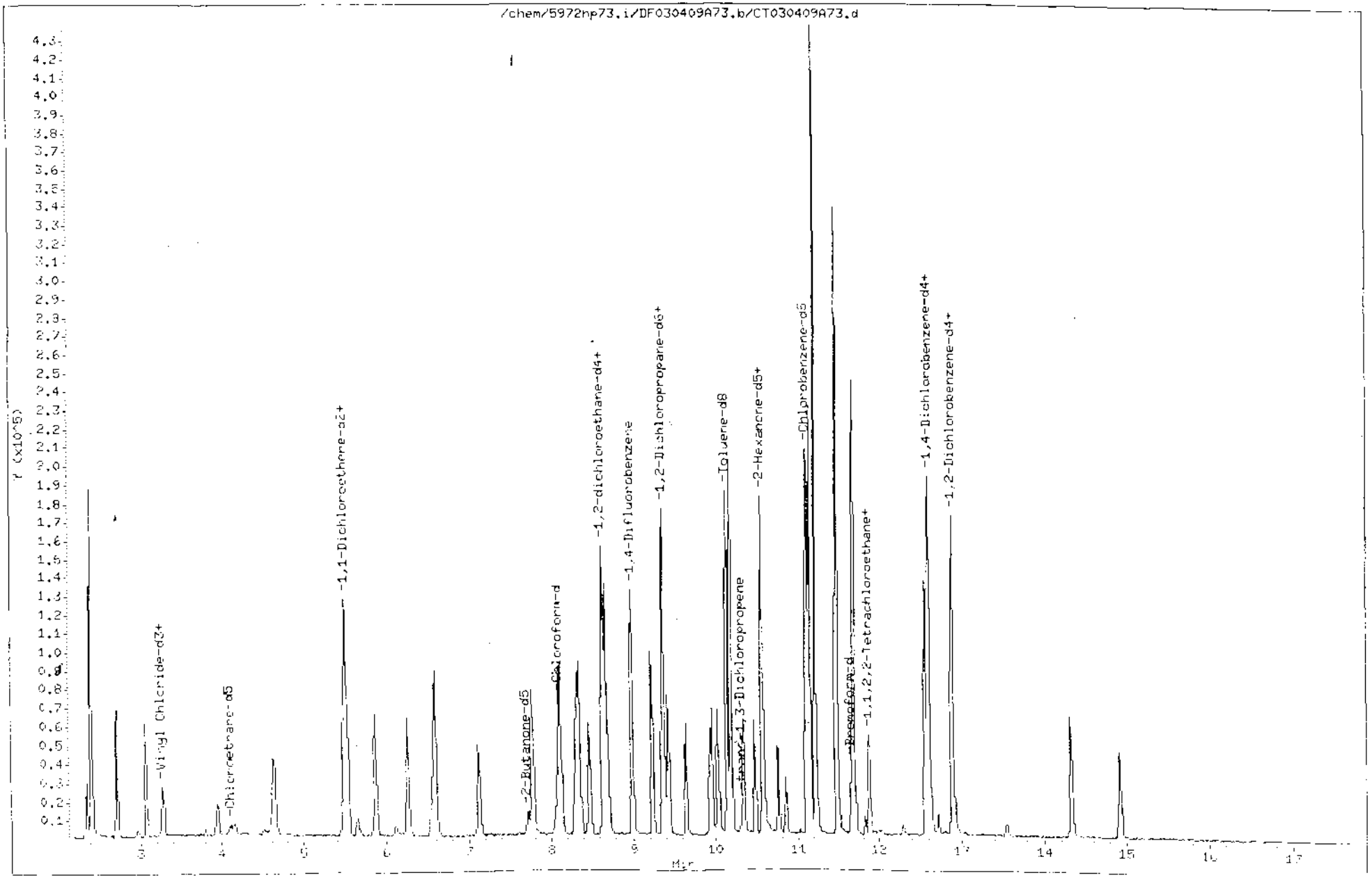
ORIGINAL DOCUMENTS INCLUDED IN CSF- 31374

SIGNATURE _____ DATE 4/[illegible]

Data File: /chem/5972hp73.i/DF030409A73.b/CT030409A73.d
Date : 09-APR-2003 13:57
Client ID: VSTD005FF
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i

Operator: 2537
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030409A73.b/CT030409A73.d
Report Date: 11-Apr-2003 11:23

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030409A73.b/CT030409A73.d
Lab Smp Id: VSTD005FF Client Smp ID: VSTD005FF
Inj Date : 09-APR-2003 13:57
Operator : 2537 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030409A73.b/OLC03v3.m
Meth Date : 11 Apr-2003 11:23 walker Quant Type: ISTD
Cal Date : 09-APR-2003 13:57 Cal File: CT030409A73.d
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50
Processing Host: dante

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON COL (ng)
*	1 1,4-Difluorobenzene	114	8.991	8.991	(1.000)	115540	125.000	
*	2 Chlorobenzene-d5	117	11.107	11.107	(1.000)	96165	125.000	
*	3 1,4-Dichlorobenzene-d4	152	12.592	12.592	(1.000)	44646	125.000	
S	4 Vinyl Chloride-d3	65	3.365	3.365	(0.343)	10736	125.000	110
S	5 Chloroethane d5	69	4.101	4.101	(0.456)	6234	125.000	95
S	6 1,1-Dichloroethene d2	63	5.508	5.508	(0.613)	59721	125.000	110
S	7 2-Butanone-d5	46	7.712	7.712	(0.858)	22920	625.000	660
S	8 Chloroform-d	84	8.096	8.096	(0.900)	60160	125.000	110
S	9 1,2-dichloroethane-d4	65	8.637	8.637	(0.961)	20140	125.000	110
S	10 Benzene-d6	84	8.637	8.637	(0.778)	125541	125.000	130
S	11 1,2-Dichloropropane d6	67	9.355	9.355	(0.842)	38690	125.000	130
S	12 Toluene d8	98	10.142	10.142	(0.913)	109438	125.000	130
S	13 trans-1,3 Dichloropropene d4	79	10.320	10.320	(0.929)	5115	125.000	110
S	14 2-Hexanone d5	63	10.556	10.556	(0.950)	17228	625.000	660
	15 1,1,2,2-Tetrachloroethane-d2	84	11.874	11.874	(1.069)	20697	125.000	140

4/11/03

Data File: /chem/5972hp73.i/DF030409A73.b/CT030409A73.d
Report Date: 11-Apr-2003 11:23

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL AMT (ng)	AMOUNTS ON-COL (ng)
S 16 Bromoform-d	174	11.648	11.648	(0.925)	12569	125.000	120
S 17 1,2-Dichlorobenzene-d4	152	12.897	12.897	(1.024)	34630	125.000	130
18 Dichlorodifluoromethane	85	2.724	2.724	(0.303)	63856	125.000	130
19 Chloromethane	50	3.078	3.078	(0.342)	59664	125.000	140
20 Vinyl Chloride	62	3.285	3.285	(0.365)	20452	125.000	140
21 Bromomethane	94	3.944	3.944	(0.439)	13593	125.000	130
22 Chloroethane	64	4.151	4.151	(0.462)	6398	125.000	110
23 Trichlorofluoromethane	101	4.633	4.633	(0.515)	60052	125.000	120
24 1,1-Dichloroethene	96	5.528	5.528	(0.615)	32037	125.000	130
25 1,1,2-Trichloro-1,2,2-trifluo	101	5.498	5.498	(0.612)	40319	125.000	130
26 Acetone	43	5.656	5.656	(0.629)	14257	625.000	600
27 Carbon Disulfide	76	5.863	5.863	(0.652)	110995	125.000	130
28 Methyl Acetate	43	6.118	6.118	(0.680)	9507	125.000	120
29 Bromochloromethane	128	8.057	8.057	(0.896)	4705	125.000	130
30 Methylene Chloride	84	6.266	6.266	(0.697)	33823	125.000	140
31 trans-1,2-Dichloroethene	96	6.600	6.600	(0.734)	39365	125.000	140
32 Methyl tert-Butyl Ether	73	6.571	6.571	(0.731)	43067	125.000	120
33 1,1-Dichloroethane	63	7.122	7.122	(0.792)	56458	125.000	120
34 cis-1,2-Dichloroethene	96	7.771	7.771	(0.864)	38022	125.000	140
35 2-Butanone	43	7.781	7.781	(0.865)	25065	625.000	730
36 Chloroform	83	8.125	8.125	(0.904)	55863	125.000	110
37 1,1,1-Trichloroethane	97	8.303	8.303	(0.748)	47335	125.000	110
38 Cyclohexane	56	8.342	8.342	(0.751)	51738	125.000	140
39 Carbon Tetrachloride	117	8.470	8.470	(0.763)	42939	125.000	110
40 Benzene	78	8.676	8.676	(0.781)	128398	125.000	130
41 1,2-Dichloroethane	62	8.706	8.706	(0.968)	24613	125.000	110
42 Trichloroethene	95	9.227	9.227	(0.831)	32413	125.000	120
43 Methylcyclohexane	83	9.365	9.365	(0.843)	61815	125.000	140
44 1,2-Dichloropropane	63	9.424	9.424	(0.849)	28158	125.000	130
45 Bromodichloromethane	83	9.641	9.641	(0.868)	34472	125.000	120
46 cis-1,3-Dichloropropene	75	9.956	9.956	(0.896)	38802	125.000	120
47 4-Methyl-2-Pentanone	43	10.024	10.024	(0.903)	54154	625.000	720
48 Toluene	91	10.192	10.192	(0.918)	131976	125.000	140
49 trans-1,3-Dichloropropene	75	10.339	10.339	(0.931)	30533	125.000	130
50 1,1,2-Trichloroethane	97	10.477	10.477	(0.943)	18276	125.000	140
51 Tetrachloroethene	164	10.566	10.566	(0.952)	32604	125.000	140
52 2-Hexanone	43	10.595	10.595	(0.954)	38278	625.000	760
53 Dibromochloromethane	129	10.762	10.762	(0.969)	23908	125.000	120(M)
54 1,2-Dibromoethane	107	10.851	10.851	(0.977)	19395	125.000	140
55 Chlorobenzene	112	11.126	11.126	(1.002)	86296	125.000	130
56 Ethylbenzene	91	11.156	11.156	(1.004)	143101	125.000	120
57 m,p-Xylene	106	11.215	11.215	(1.010)	123489	250.000	260
58 o-Xylene	106	11.481	11.481	(1.034)	54620	125.000	130
59 Styrene	104	11.490	11.490	(1.035)	78739	125.000	140
60 Bromoform	173	11.668	11.668	(0.927)	13681	125.000	130
61 Isopropylbenzene	105	11.687	11.687	(1.052)	149654	125.000	140
62 1,1,2,2-Tetrachloroethane	83	11.894	11.894	(1.071)	19783	125.000	130

4/11/03

Data File: /chem/5972hp73.i/DF030409A73.b/CT030409A73.d
Report Date: 11-Apr-2003 11:23

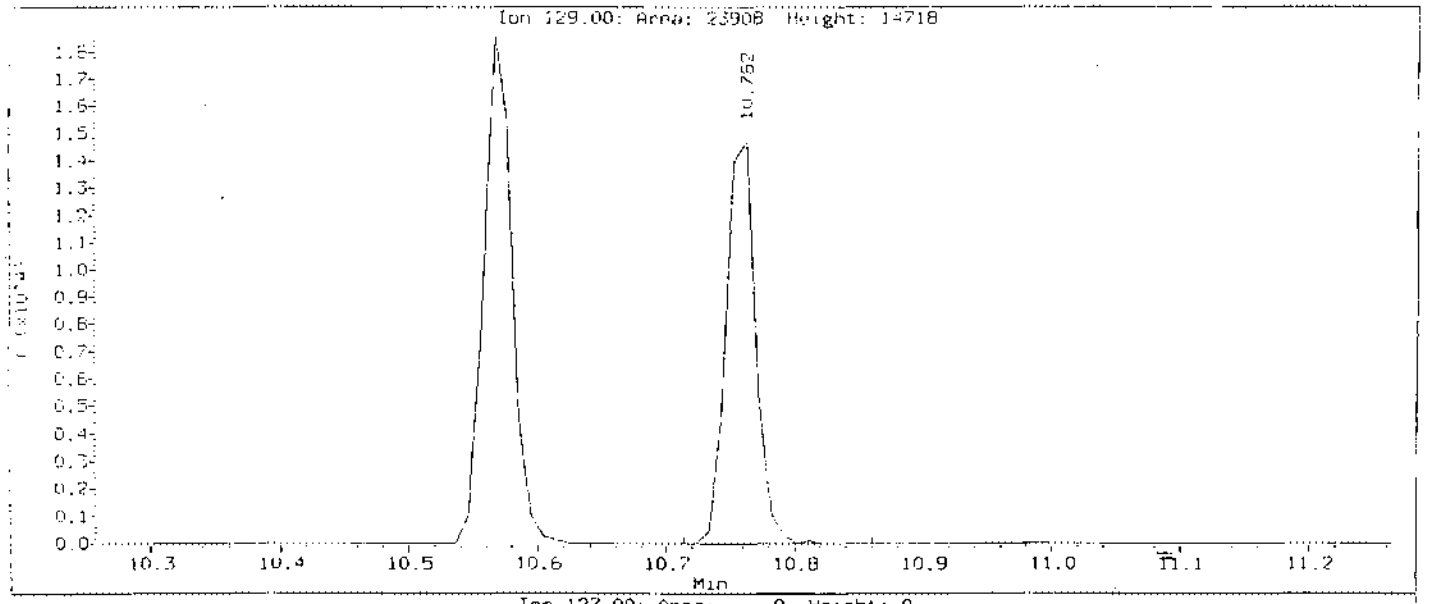
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
	63 1,3-Dichlorobenzene	146	12.553	12.553	(0.997)	62296	125.000	120
	64 1,4-Dichlorobenzene	146	12.612	12.612	(1.002)	69226	125.000	130
	65 1,2-Dichlorobenzene	146	12.907	12.907	(1.025)	53410	125.000	130
	66 1,2-Dibromo-3-Chloropropane	75	13.537	13.537	(1.075)	1662	125.000	110
	67 1,2,4-Trichlorobenzene	180	14.324	14.324	(1.138)	30653	125.000	120
	68 1,2,3-Trichlorobenzene	180	14.924	14.924	(1.185)	24240	125.000	120
M	69 Xylene (Total)	106				178109	125.000	440

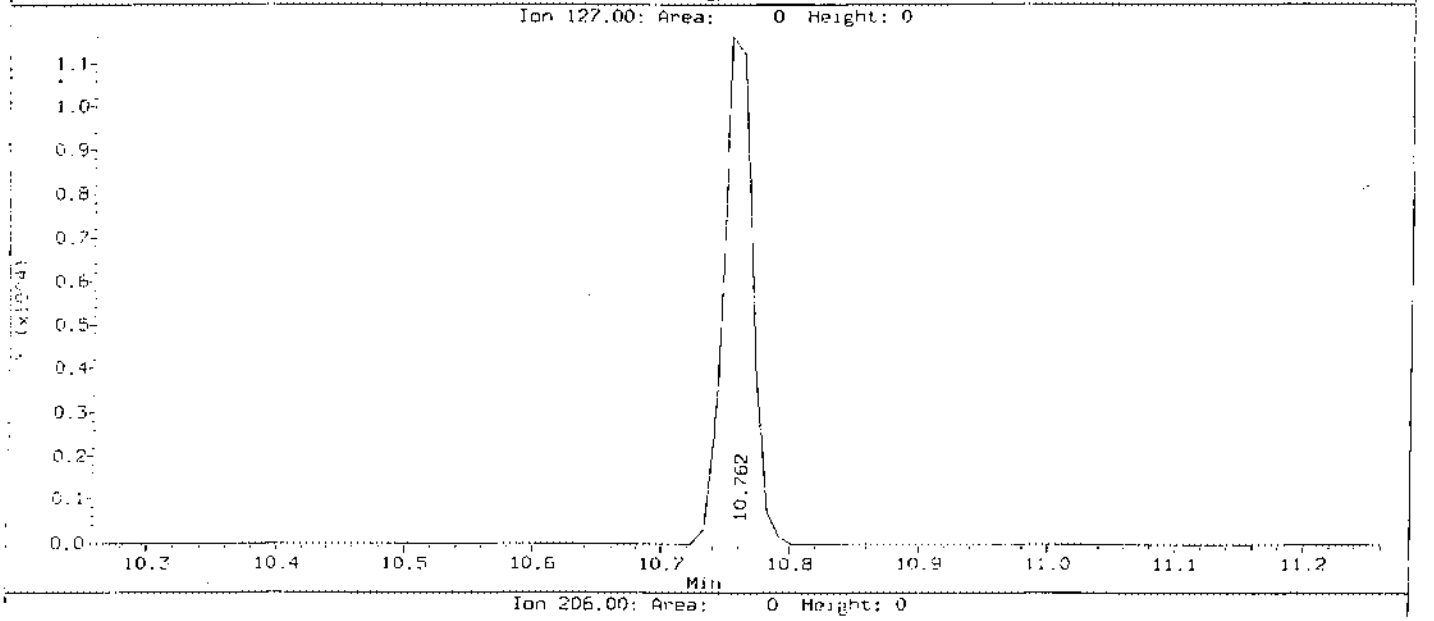
QC Flag Legend

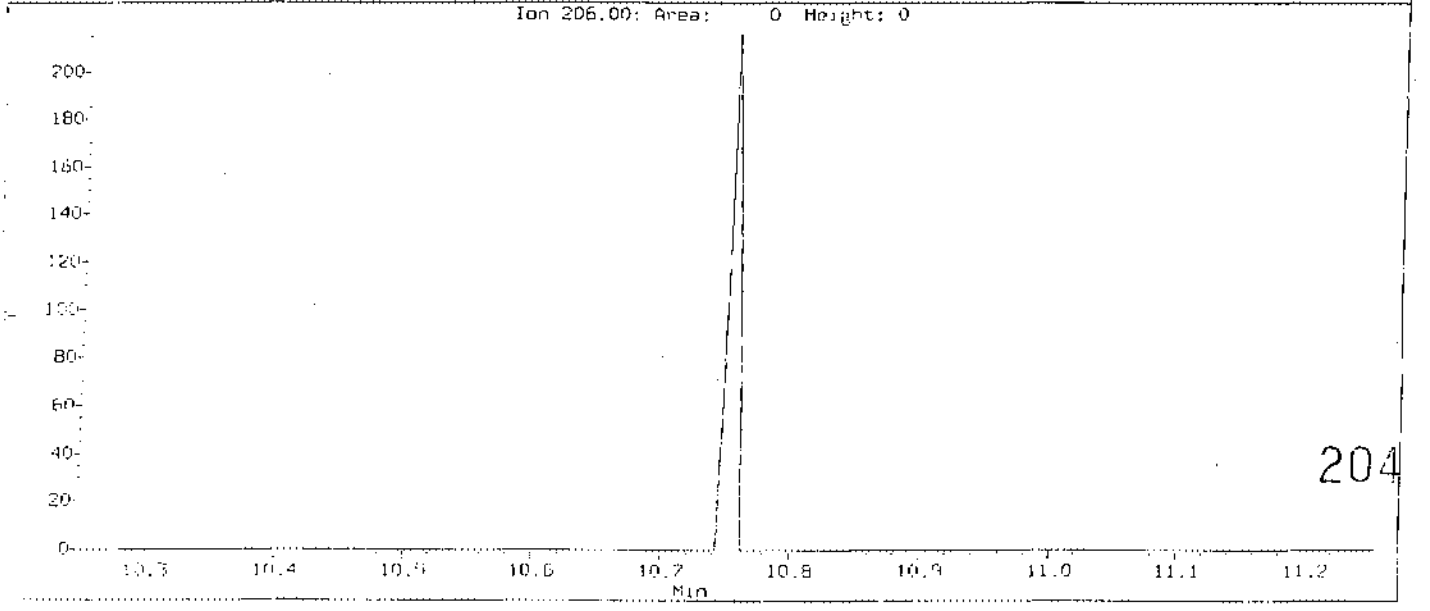
M - Compound response manually integrated.

Data File: /chem/5972hp73.i/M030409A73.b/CI030409A73.d
Injection Date: 09-APR-2003 13:57
Instrument: 5972hp73.i
Client Sample ID: VSTD005FF

Compound: Dibromochloromethane
CAS Number: 124-48-1







COMPUCHEM a division of Liberty Analytical Corp DATE 4 / 9 / 03 INITIAL TIME OF TUNE 1226 SHIFT/S(A) ✓ (B) ___ (C) ___

GC/MS VOLATILE RUN LOG TIME TUNE EXPIRES 0226 LINKER /METHOD Ovn3

COMPUCHEM LOGBOOK 11 ZZZ 8 (5972hp73)

PREVENTIVE MAINTENANCE None

	REJECTED	FILE NAME	REPORTED	DATE	TIME	CLIENT ID#	CASE/SDG#	SAMPLE VOLUME	CHEMIST	COMMENTS(ETC.)/DISPOSITION
1		BF030409A73	✓	4 / 9 / 03	1226	BFB	—	2ml	2037	CLOSED
2		CS	RP	/ /	1316	VSTDOUTF	—	2ml		↑40%
3		CT	✓	/ /	1357	↓	—			
4		WG23074-1A73	✓	/ /	1433	VBLKXP	VARIOUS			
5		YORD3-1RA73	RP	/ /	1513	YORD3	YORD3			
6		YORE7-1A73	✓	/ /	1537	YORE7	YORE7			
7		-2	✓	/ /	1601	YORE9	↓			
8		↓ -3 ↓	✓	/ /	1625	YORE0	↓			
9		FOF98-3 A73	✓	/ /	1649	FOEH5	FOF98			
10		-4 ↓	✓	/ /	1713	↓ B	↓			
11		WG23070-1A73	✓	/ /	1737	VABLKXD	FOF8Y			
12		FOEH9-1A73	✓	/ /	1801	FOEH9	FOEH9			
13		FOF77-1 ↓	✓	/ /	1825	FOF77	FOF77			
14		↓ -2 ↓	✓	/ /	1850	FOFX3	↓			
15		WG23431-4A73	✓	/ /	1916	↓ MS	↓			
16		↓ -5 ↓	✓	/ /	1940	↓ MSD	↓			
17		YORD3 2	✓	/ /	2004	YORE6	YORD3			
18		↓ -3	✓	/ /	2028	YORE9	↓			
19		RH458-10	✓	/ /	2054	TRPBLOCK	RH458		2513	
20		9	✓	/ /	2118	FLUIDBLOCK				
21		8	✓	/ /	2142	FLUIDBLOCK				
22		7	✓	/ /	2206	AC-107				
23		6	✓	/ /	2230	AC105				
24		5	✓	/ /	2254	SP-8				

SUPERVISOR APPROVAL [signature] Date 4-9-03

Tune (ID #7008) Lot No. 54304

Calibration Group Code / Lot No. OL91

The presence of the Chemist's employee ID number, or signature, on this run log attests that strict compliance with the method's SOP has occurred. Any SOP deviations require documentation by the responsible chemist together with the chemist's initials and the initials of the lab supervisor and a QA department representative, signifying approval of the deviation.

7LCA

LOW CONCENTRATION WATER VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Instrument ID: 5972HP73 Calibration Date: 04/10/2003 Time: 0821

Lab File ID: CS030410A73 Init. Calib. Date(s): 04/08/2003 04/08/2003

EPA Sample No.(VSTD005##): VSTD005FH Init. Calib. Times: 0825 1108

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

COMPOUND	$\overline{RRF}$	RRF5	MIN RRF	%D	MAX %D
Ethylbenzene	1.503	1.604	0.100	6.7	30.0
Xylene (Total)	0.529	0.599	0.300	13.2	30.0
Styrene	0.714	0.840	0.300	17.6	30.0
Vinyl Chloride-d3	0.104	0.075		-27.9	
Chloroethane-d5	0.071	0.049		-31.0	
1,1-Dichloroethene-d2	0.577	0.442		-23.4	
2-Butanone-d5	0.037	0.040		8.1	
Chloroform-d	0.597	0.494		-17.3	
1,2-dichloroethane-d4	0.207	0.172		-16.9	
Benzene-d6	1.246	1.235		-0.9	
1,2-Dichloropropane-d6	0.375	0.378		0.8	
Toluene-d8	1.126	1.078		-4.3	
trans-1,3-Dichloropropene-d4	0.059	0.055		-6.8	
2-Hexanone-d5	0.034	0.040		17.6	
Bromoform-d	0.290	0.289		-0.3	
1,1,2,2-Tetrachloroethane-d2	0.197	0.219		11.2	
1,2-Dichlorobenzene-d4	0.798	0.715		-10.4	

All other compounds must meet a minimum RRF of 0.010.

COPY

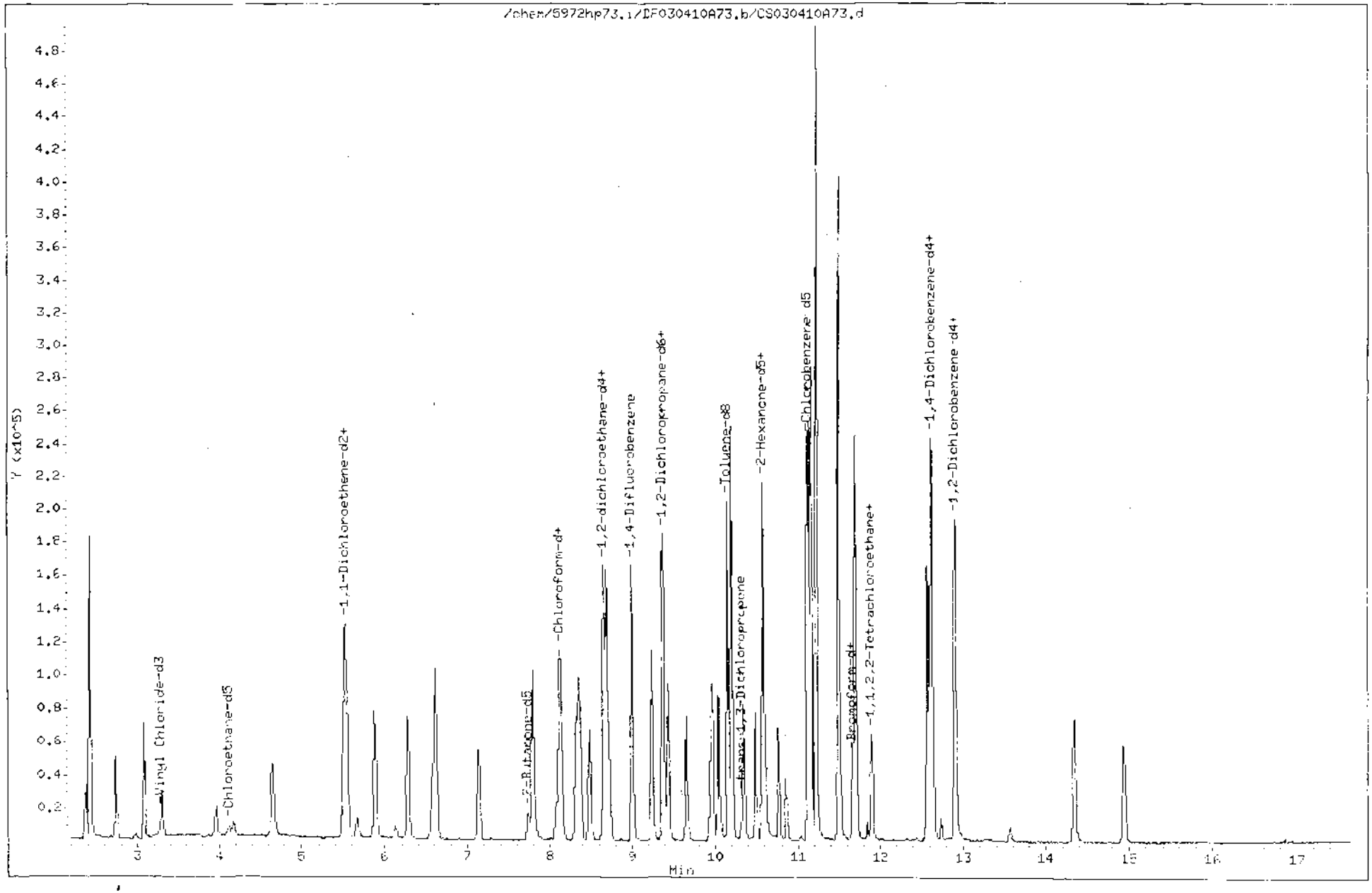
ORIGINAL DOCUMENTS INCLUDED IN CSF 3/374

SIGNATURE _____ DATE 4/11/03

207

Data File: /chem/5972hp73.i/DF030410A73.b/CS030410A73.d
Date : 10-APR-2003 08:21
Client ID: VSTD005FH
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2537
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030410A73.b/CS030410A73.d
Report Date: 11-Apr-2003 09:39

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030410A73.b/CS030410A73.d
Lab Smp Id: VSTD005FH Client Smp ID: VSTD005FH
Inj Date : 10-APR-2003 08:21
Operator : 2537 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030410A73.b/OLC03v3.m
Meth Date : 11-Apr-2003 09:39 walker Quant Type: ISTD
Cal Date : 10-APR-2003 08:21 Cal File: CS030410A73.d
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50
Processing Host: dante

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT [ng]	AMOUNTS ON-COL (ng]
* 1 1,4-Difluorobenzene	114	9.005	9.005	(1.000)	143942	125.000	
* 2 Chlorobenzene d5	117	11.120	11.120	(1.000)	111900	125.000	
* 3 1,4-Dichlorobenzene-d4	152	12.606	12.606	(1.000)	53669	125.000	
$ 4 Vinyl Chloride-d3	65	3.279	3.279	(0.364)	10786	125.000	90
$ 5 Chloroethane-d5	69	4.115	4.115	(0.457)	7091	125.000	87
$ 6 1,1-Dichloroethene-d2	63	5.522	5.522	(0.613)	63615	125.000	96
$ 7 2-Butanone-d5	46	7.736	7.736	(0.859)	28874	625.000	670
$ 8 Chloroform-d	84	8.119	8.119	(0.902)	71068	125.000	100
$ 9 1,2-dichloroethane-d4	65	8.651	8.651	(0.961)	24734	125.000	100
$ 10 Benzene-d6	84	8.651	8.651	(0.778)	138198	125.000	120
$ 11 1,2-Dichloropropane-d6	67	9.369	9.369	(0.842)	42263	125.000	130
$ 12 Toluene-d8	98	10.156	10.156	(0.913)	120576	125.000	120
$ 13 trans-1,3-Dichloropropene-d4	79	10.333	10.333	(0.929)	6114	125.000	120
$ 14 2-Hexanone-d5	63	10.569	10.569	(0.950)	22307	625.000	730
$ 15 1,1,2,2-Tetrachloroethane-d2	84	11.888	11.888	(1.069)	24500	125.000	140

4/11/03 208

Data File: /chem/5972hp73.i/DF030410A73.b/CS030410A73.d
Report Date: 11-Apr-2003 09:39

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON COL (ng)
S 15 Bromoform-d	174	11.661	11.661	(0.925)	15528	125.000	120
S 17 1,2-Dichlorobenzene-d4	152	12.911	12.911	(1.024)	38366	125.000	110
18 Dichlorodifluoromethane	85	2.737	2.737	(0.304)	49554	125.000	82
19 Chloromethane	50	3.092	3.092	(0.343)	61724	125.000	120
20 Vinyl Chloride	62	3.298	3.298	(0.366)	21837	125.000	120
21 Bromomethane	94	3.967	3.967	(0.441)	13849	125.000	100(M)
22 Chloroethane	64	4.174	4.174	(0.464)	7819	125.000	110
23 Trichlorofluoromethane	101	4.646	4.646	(0.516)	49672	125.000	78
24 1,1-Dichloroethene	96	5.551	5.551	(0.616)	35492	125.000	120
25 1,1,2-Trichloro-1,2,2-trifluo	101	5.522	5.522	(0.613)	43115	125.000	110
26 Acetone	43	5.669	5.669	(0.630)	21145	625.000	630
27 Carbon Disulfide	76	5.886	5.886	(0.654)	127558	125.000	120
28 Methyl Acetate	43	6.132	6.132	(0.681)	11676	125.000	130
29 Bromochloromethane	128	8.080	8.080	(0.897)	6407	125.000	140
30 Methylene Chloride	84	6.279	6.279	(0.697)	42070	125.000	140
31 trans 1,2-Dichloroethene	96	6.624	6.624	(0.736)	45444	125.000	130
32 Methyl tert Butyl Ether	73	6.584	6.584	(0.731)	56516	125.000	130
33 1,1 Dichloroethane	63	7.135	7.135	(0.792)	67479	125.000	120
34 cis-1,2-Dichloroethene	96	7.795	7.795	(0.866)	46326	125.000	140
35 2-Butanone	43	7.795	7.795	(0.866)	31393	625.000	740
36 Chloroform	83	8.139	8.139	(0.904)	70627	125.000	110
37 1,1,1-Trichloroethane	97	8.326	8.326	(0.749)	56419	125.000	110
38 Cyclohexane	56	8.365	8.365	(0.752)	53116	125.000	130
39 Carbon Tetrachloride	117	8.483	8.483	(0.763)	48720	125.000	110
40 Benzene	78	8.690	8.690	(0.781)	153297	125.000	140
41 1,2-Dichloroethane	62	8.720	8.720	(0.968)	32156	125.000	110
42 Trichloroethene	95	9.241	9.241	(0.831)	39675	125.000	130
43 Methylcyclohexane	83	9.379	9.379	(0.843)	64056	125.000	120
44 1,2-Dichloropropane	63	9.438	9.438	(0.849)	35470	125.000	140
45 Bromodichloromethane	83	9.654	9.654	(0.868)	43362	125.000	130
46 cis-1,3-Dichloropropene	75	9.969	9.969	(0.896)	49863	125.000	130
47 4-Methyl-2 Pentanone	43	10.038	10.038	(0.903)	68774	625.000	790
48 Toluene	91	10.205	10.205	(0.918)	163792	125.000	140
49 trans-1,3-Dichloropropene	75	10.353	10.353	(0.931)	37769	125.000	140
50 1,1,2 Trichloroethane	97	10.491	10.491	(0.943)	23373	125.000	150
51 Tetrachloroethene	164	10.579	10.579	(0.951)	37097	125.000	130
52 2-Hexanone	43	10.599	10.599	(0.953)	47069	625.000	800
53 Dibromochloromethane	129	10.766	10.766	(0.968)	31877	125.000	140(M)
54 1,2-Dibromoethane	107	10.864	10.864	(0.977)	24969	125.000	150
55 Chlorobenzene	112	11.140	11.140	(1.002)	108776	125.000	140
56 Ethylbenzene	91	11.169	11.169	(1.004)	179500	125.000	130
57 m,p Xylene	106	11.228	11.228	(1.010)	136104	250.000	270
58 o-Xylene	106	11.494	11.494	(1.034)	67047	125.000	140
59 Styrene	104	11.494	11.494	(1.034)	93549	125.000	150
60 Bromoform	173	11.671	11.671	(0.926)	18571	125.000	150
61 Isopropylbenzene	105	11.701	11.701	(1.052)	168882	125.000	130
62 1,1,2,2-Tetrachloroethane	83	11.907	11.907	(1.071)	26197	125.000	150

2

4/11/03

209

Data File: /chem/5972hp73.i/DF030410A73.b/CS030410A73.d
Report Date: 11-Apr-2003 09:39

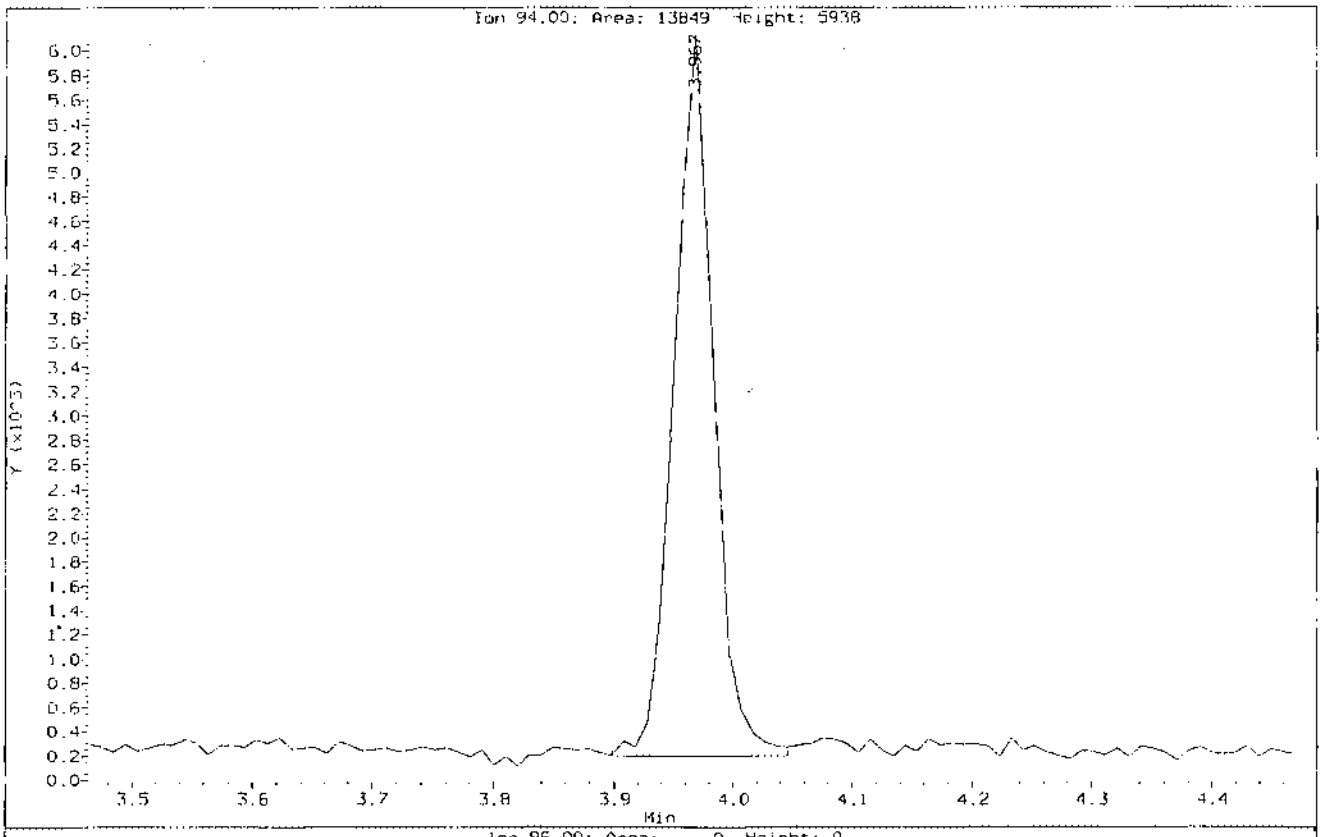
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
63 1,3 Dichlorobenzene	146	12.567	12.567	(0.997)	78403	125.000	130
64 1,4-Dichlorobenzene	146	12.626	12.626	(1.002)	84111	125.000	130
65 1,2 Dichlorobenzene	146	12.921	12.921	(1.025)	65605	125.000	130
66 1,2 Dibromo-3-Chloropropane	75	13.560	13.560	(1.076)	2240	125.000	120
67 1,2,4 Trichlorobenzene	180	14.347	14.347	(1.138)	36346	125.000	120
68 1,2,3-Trichlorobenzene	180	14.948	14.948	(1.186)	30745	125.000	120
M 69 Xylene (Total)	106				203151	125.000	430

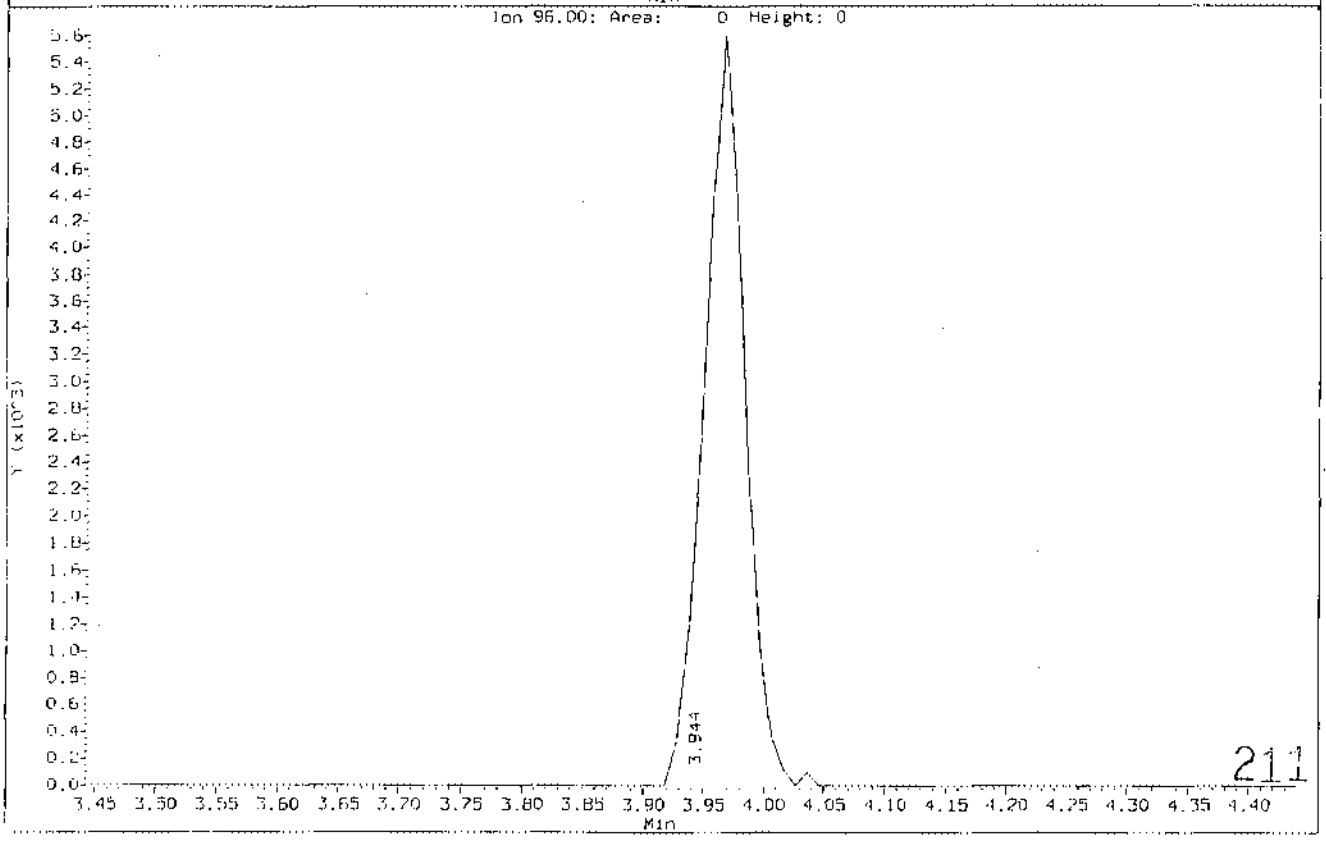
QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/5972hp73.i/DF030410A73.b/CS030410A73.d
Injection Date: 10-APR-2003 08:21
Instrument: 5972hp73.i
Client Sample ID: VSTD005IH

Compound: Bromomethane
CAS Number: 74-83-9





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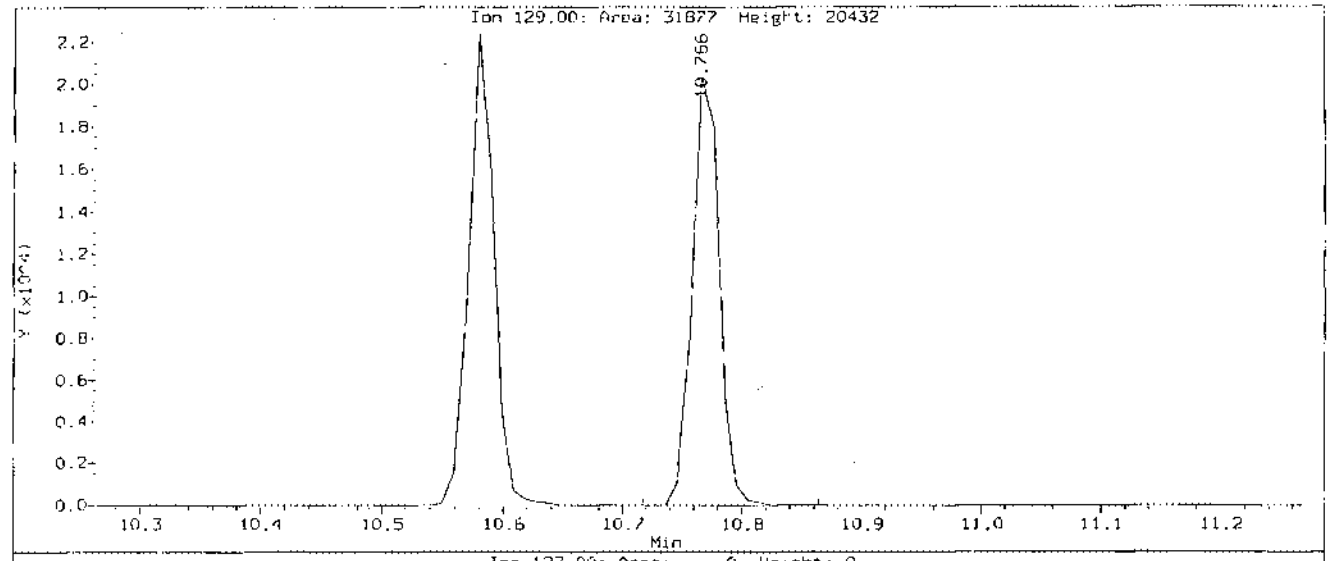
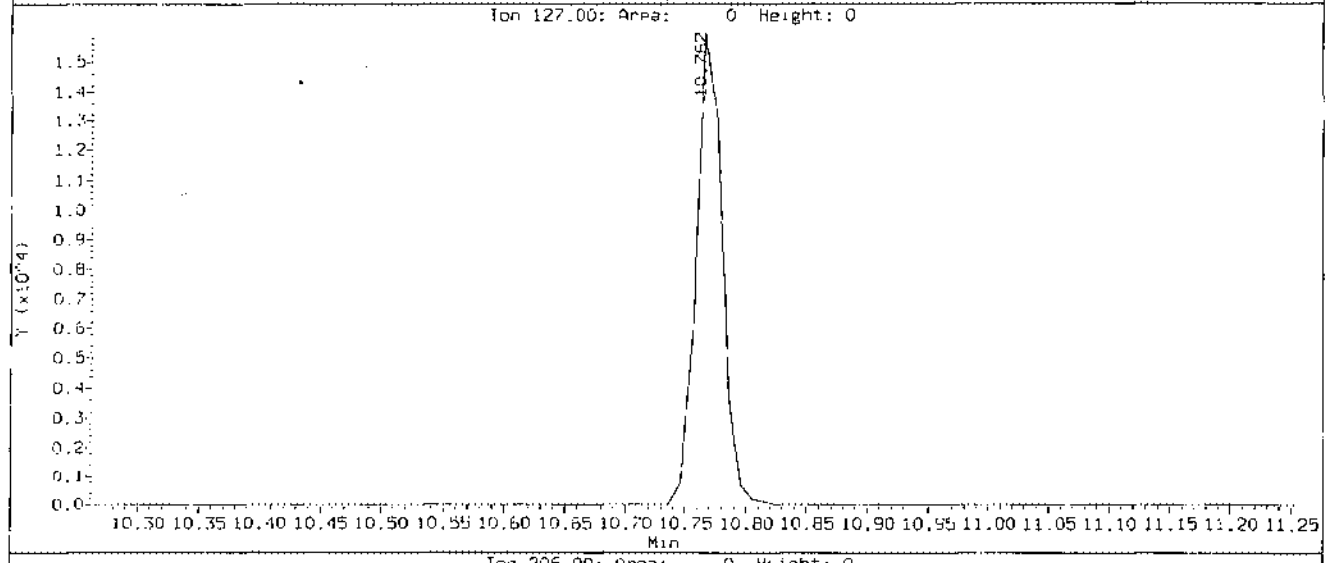
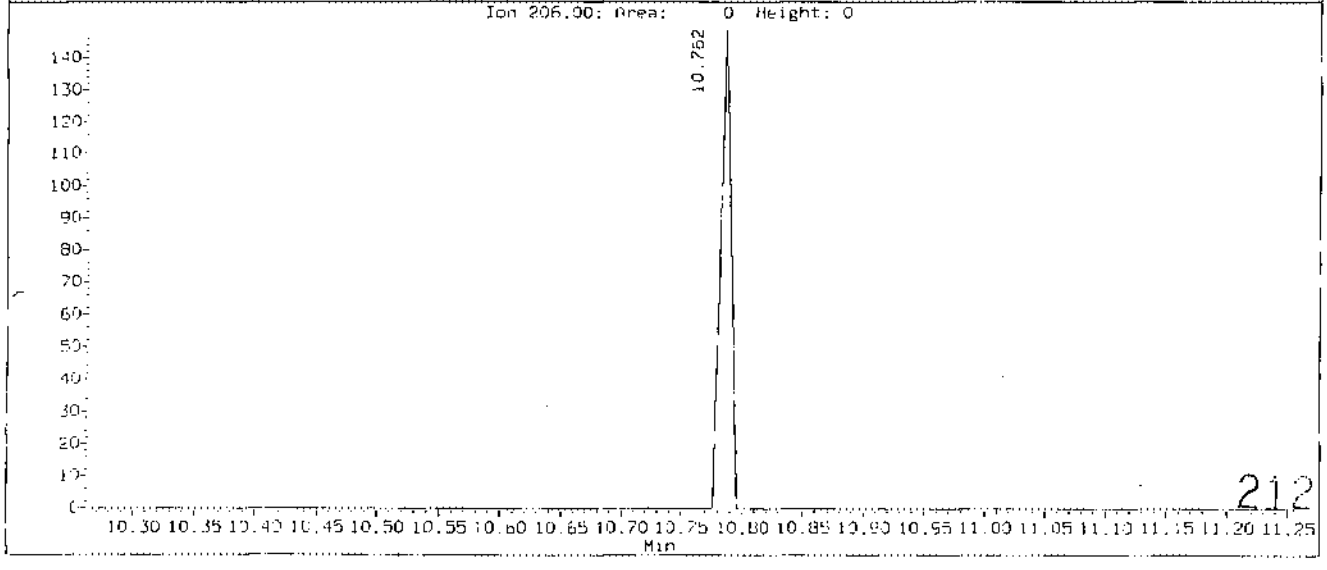
Injection Date: 10-APR-2003 08:21
Instrument: 5972hp73.i
Client Sample ID: V5TD005FH

Compound: Dibromochloromethane
CAS Number: 124-48-1







Data File: /chem/5972hp73.i/DF030417A73.b/WG23737-1A73R.d

Date : 17-APR-2003 08:59

Client ID: VB_KCO

Instrument: 5972hp73.i

Sample Info:

Purge Volume: 25.0

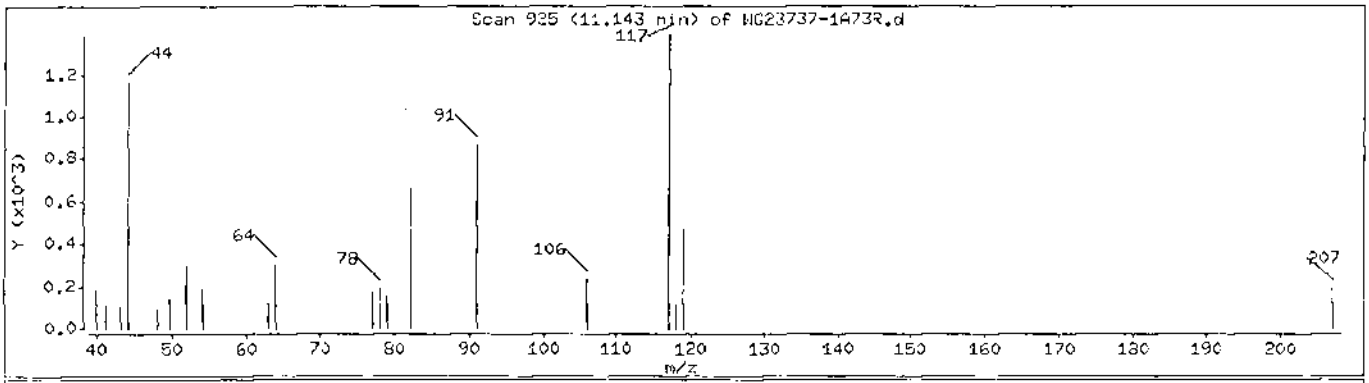
Operator: 2b37

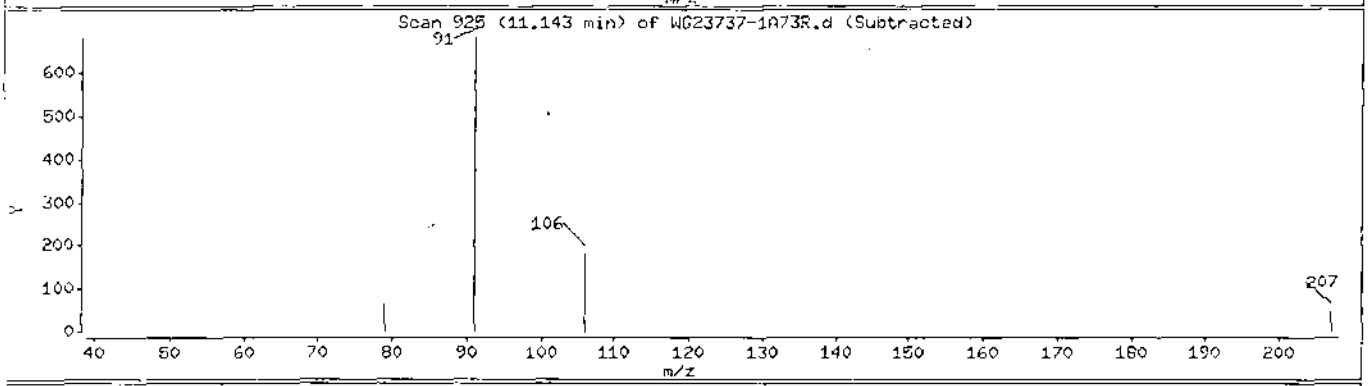
Column phase: ZB624

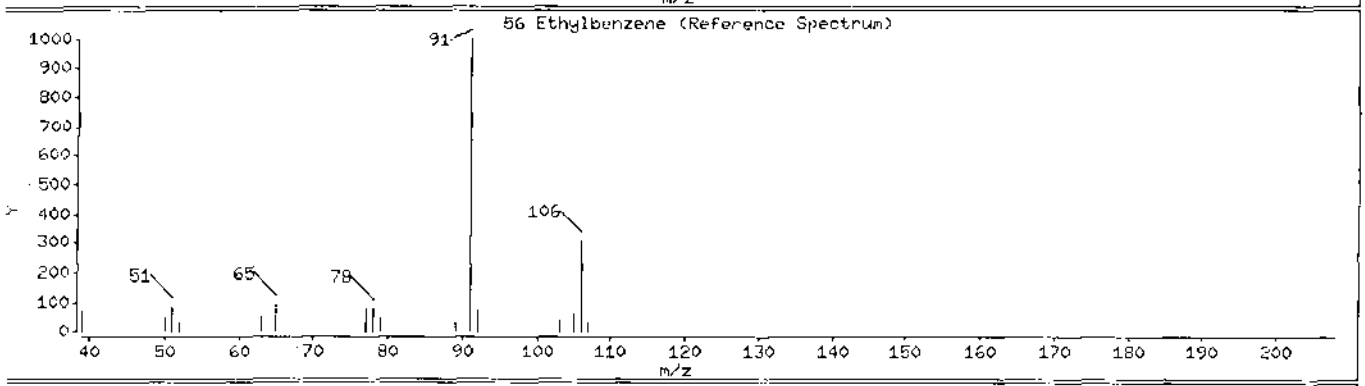
Column diameter: 0.32

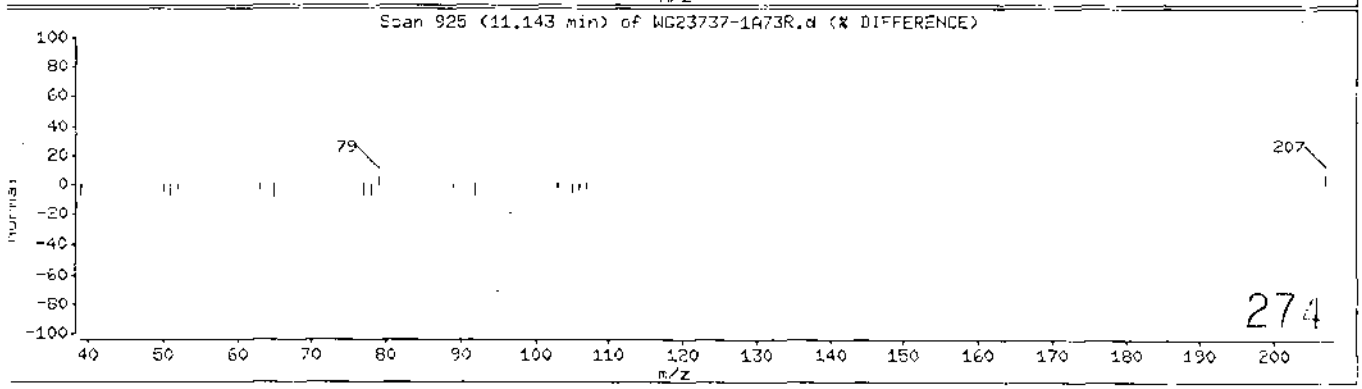
56 Ethylbenzene

Concentration: 0.030 ug/L









1LCA
LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

VHBLKZO

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: WG23631-6 Date Received: _____

Lab File ID: WG23631-6R2A73R Date Analyzed: 04/17/2003

Purge Volume: 25.0(ML) Dilution Factor: 1.0

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

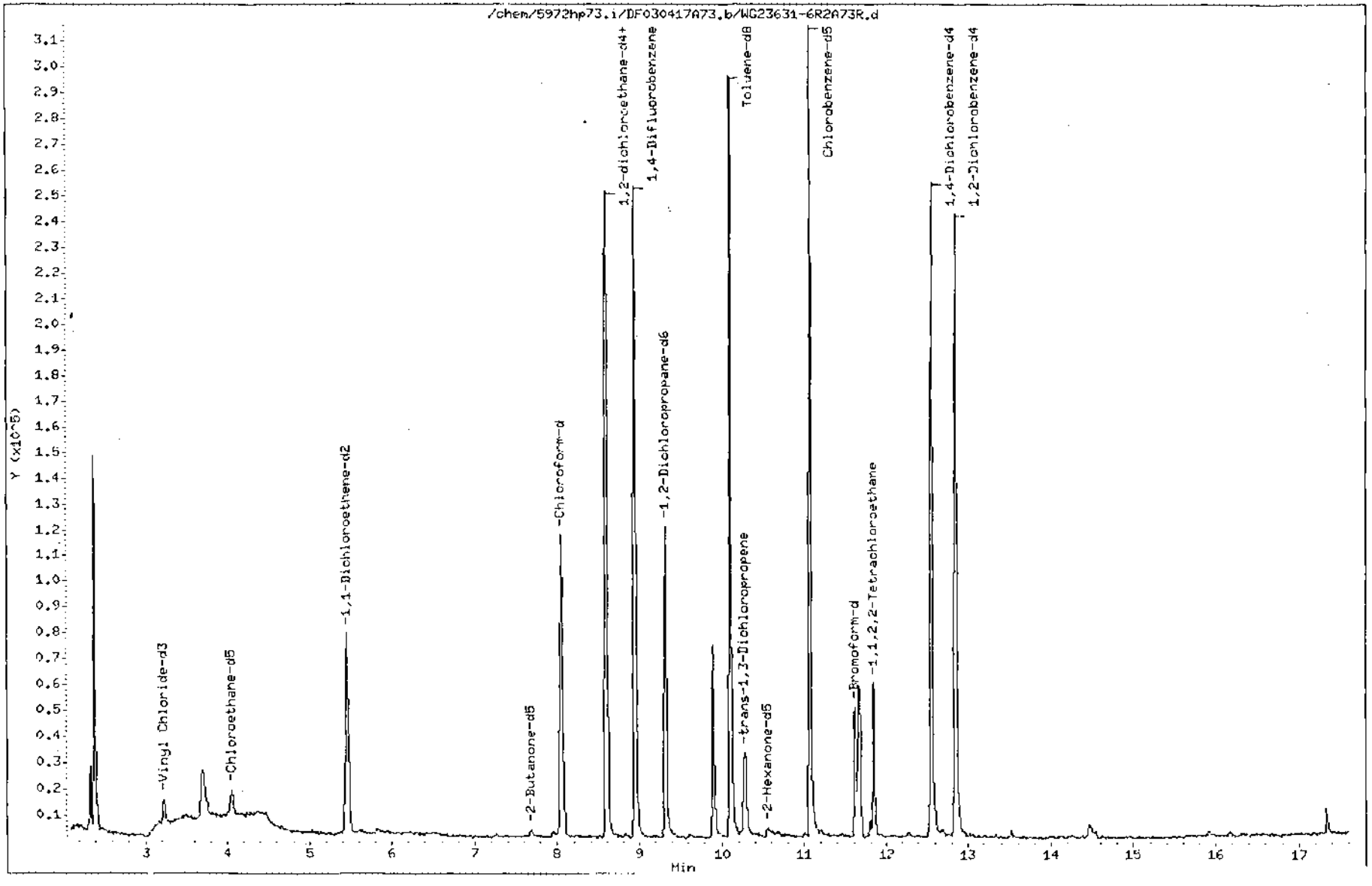
CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylene (Total)	0.50	U
100-42-5	Styrene	0.50	U

Data File: /chem/5972hp73.i/DF030417A73.b/WG23631-6R2A73R.d
Date : 17-APR-2003 11:32
Client ID: VHBLKZD
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i

Operator: 2537
Column diameter: 0.32

27b



Data File: /chem/5972hp73.i/DF030417A73.b/WG23631-6R2A73R.d
Report Date: 18-Apr-2003 11:37

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030417A73.b/WG23631-6R2A73R.d
Lab Smp Id: WG23631-6 Client Smp ID: VHBLKZO
Inj Date : 17-APR-2003 11:32
Operator : 2537 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030417A73.b/OLC03v3.m
Meth Date : 18-Apr-2003 11:06 curtis Quant Type: ISTD
Cal Date : 17-APR-2003 08:23 Cal File: CS030417A73.d
Als bottle: 8 QC Sample: STORAGEBLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: EXS.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
1 1,4-Difluorobenzene	114	8.958	8.954	(1.000)	243290	125.000	
2 Chlorobenzene d5	117	11.084	11.080	(1.000)	185829	125.000	
3 1,4-Dichlorobenzene-d4	152	12.561	12.566	(1.000)	81532	125.000	
4 Vinyl Chloride-d3	65	3.240	3.235	(0.362)	9931	115.946	4.6
5 Chloroethane-d5	69	4.057	4.052	(0.453)	14415	115.310	4.6
6 1,1-Dichloroethene-d2	63	5.464	5.469	(0.610)	65291	99.6319	4.0
7 2-Butanone-d5	46	7.689	7.674	(0.858)	5126	99.9869	4.0
8 Chloroform-d	84	8.063	8.058	(0.900)	122144	115.127	4.6
9 1,2-dichloroethane-d4	65	8.604	8.599	(0.960)	39673	111.673	4.5
10 Benzene-d6	84	8.604	8.599	(0.776)	224267	126.251	5.1
11 1,2-Dichloropropane-d6	67	9.322	9.328	(0.841)	55739	117.032	4.7
12 Toluene-d8	98	10.120	10.115	(0.913)	213816	134.054	5.4
13 trans-1,3-Dichloropropene d4	79	10.297	10.292	(0.929)	10991	117.471	4.7
14 2-Hexanone-d5	63	10.563	10.528	(0.953)	4507	95.2443	3.8(M)
15 1,1,2,2-Tetrachloroethane-d2	84	11.842	11.847	(1.068)	34311	114.454	4.6
16 Bromoform-d	174	11.626	11.621	(0.926)	24309	112.257	4.5

2

Data File: /chem/5972hp73.i/DF030417A73.b/WG23631-6R2A73R.d
Report Date: 18-Apr-2003 11:37

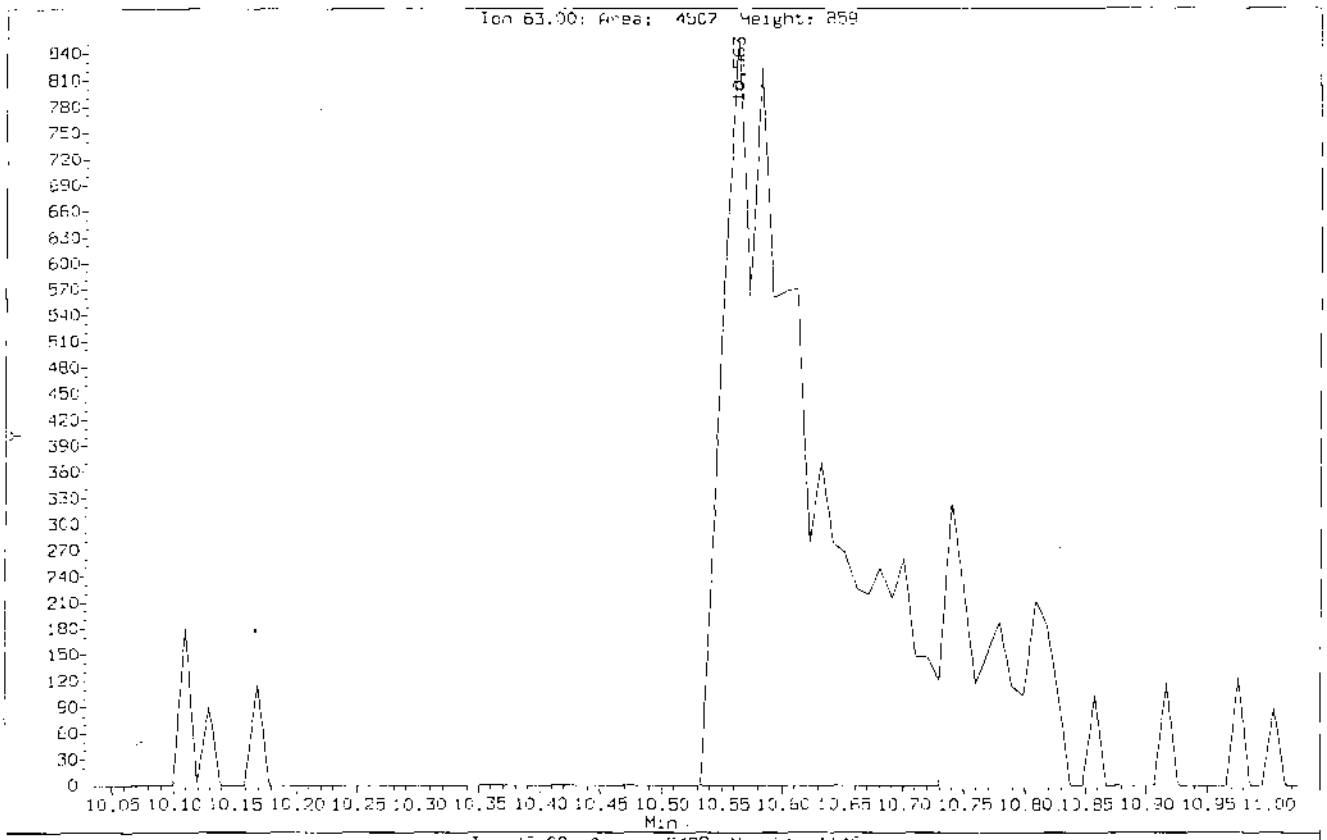
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
$	17 1,2-Dichlorobenzene-d4	152	12.856	12.861	(1.024)	68406	135.960	5.4
	56 Ethylbenzene	91	Compound Not Detected.					
	57 m,p-Xylene	106	Compound Not Detected.					
	58 o-Xylene	106	Compound Not Detected.					
	59 Styrene	104	Compound Not Detected.					
M	69 Xylene (Total)	106	Compound Not Detected.					

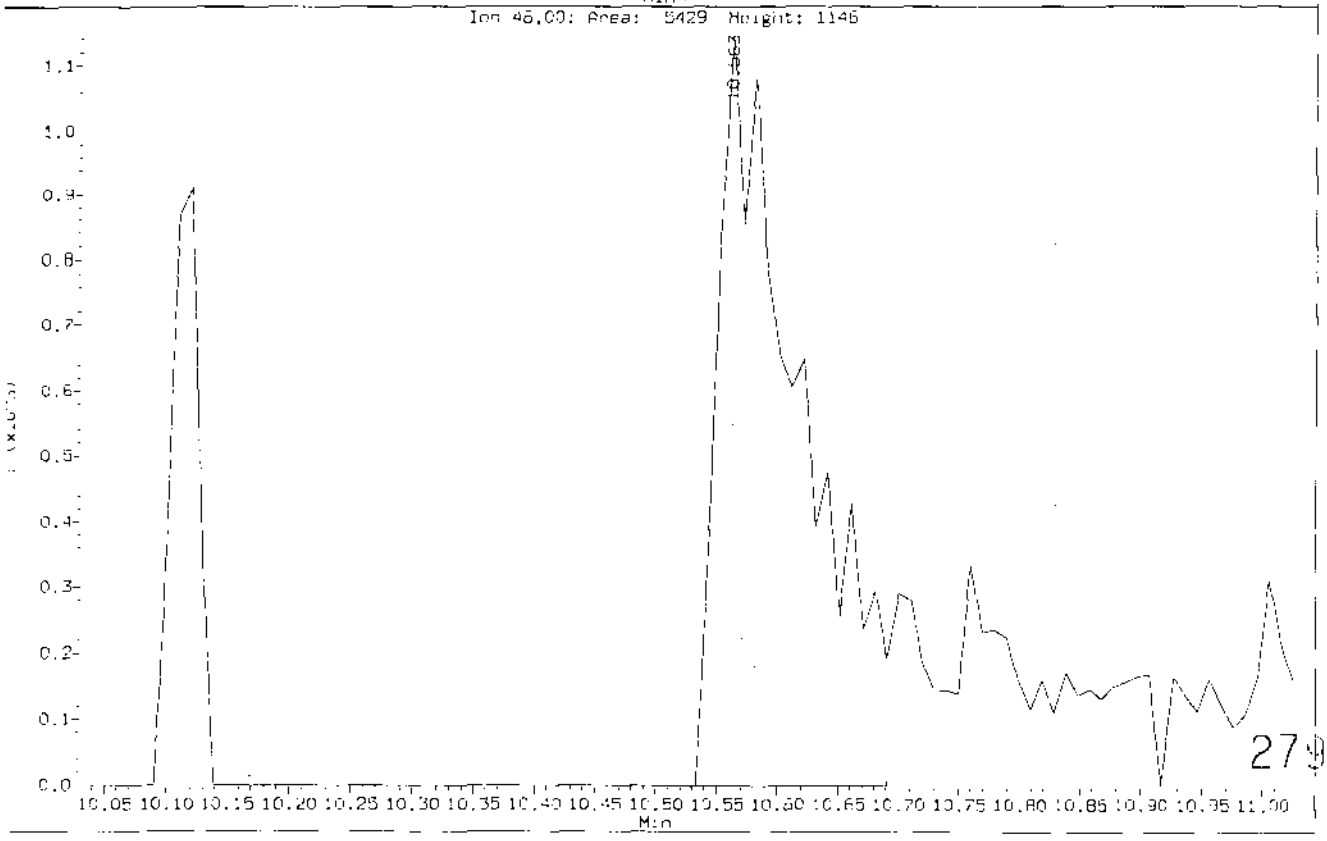
QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/5972hp73.1/DF030417A73.b/WS23631-6R2A73R.d
Injection Date: 17-APR-2003 11:32
Instrument: 5972hp73.1
Client Sample ID: VHBLKZC

Compound: 2-Hexanone-d5
CAS Number: 4840-82-8





c. Matrix Spike Data

- Tabulated Results (Form I LCV-1 and LCV-2) (LCV-TIC not required)

- Reconstructed Ion Chromatogram and quantitation report. Spectra not required.

1LCA
LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

AC-105MS

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: WG23648-4 Date Received: 04/09/2003

Lab File ID: WG23648-4A73 Date Analyzed: 04/10/2003

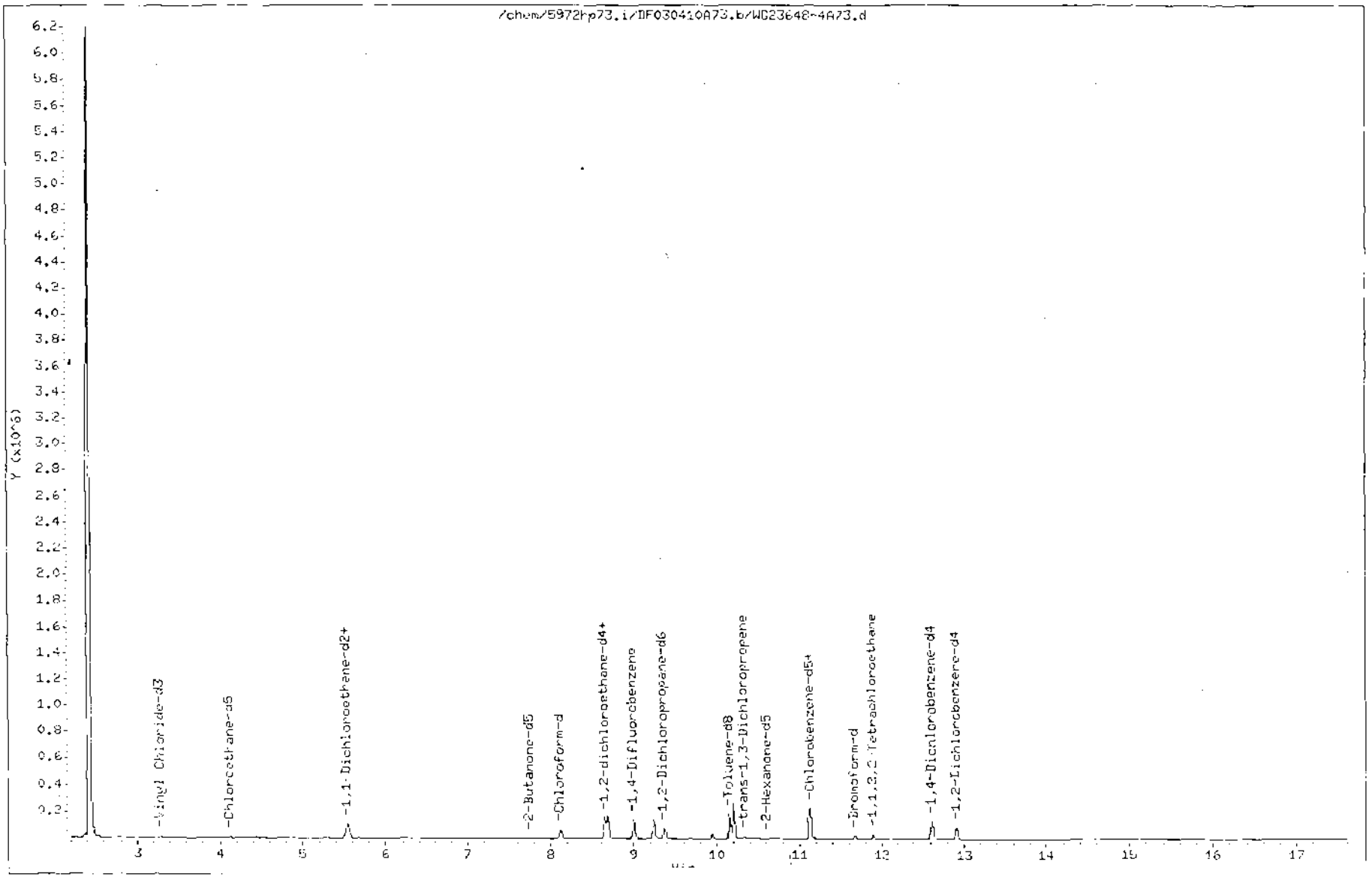
Purge Volume: 25.0(ML) Dilution Factor: 1.0

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-35-4	1,1-Dichloroethene	6.7	
71-43-2	Benzene	6.0	
79-01-6	Trichloroethene	6.5	
108-88-3	Toluene	5.8	B
108-90-7	Chlorobenzene	5.3	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylene (Total)	0.50	U
100-42-5	Styrene	0.11	J

Data File: /chem/5972hp73.i/DF030410A73.b/WC23648-4A73.d
Date : 10-APR-2003 10:44
Client ID: AC-105MS
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2537
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030410A73:b/WG23648-4A73.d
Report Date: 21-Apr-2003 10:10

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030410A73.b/WG23648-4A73.d
Lab Smp Id: WG23648-4 Client Smp ID: AC-105MS
Inj Date : 10-APR-2003 10:44
Operator : 2537 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030410A73.b/OLC03v3.m
Meth Date : 21-Apr-2003 10:10 sutton Quant Type: ISTD
Cal Date : 10-APR-2003 08:21 Cal File: CS030410A73.d
Als bottle: 6 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: EXSSPIKE.sub
Target Version: 3.50
Processing Host: dante

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

By 04/21/03

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON COLUMN (ng)	FINAL (ug/L)
1 1,4-Difluorobenzene	114	9.005	9.005	(1.000)	123716	125.000	
24 1,1-Dichloroethene	96	5.551	5.551	(0.616)	40989	167.961	6.7
42 Trichloroethene	95	9.251	9.241	(0.832)	44875	162.628	6.5(R)
40 Benzene	78	8.690	8.690	(0.781)	159524	149.624	6.0
48 Toluene	91	10.205	10.205	(0.918)	165815	145.559	5.8
55 Chlorobenzene	112	11.140	11.140	(1.002)	100368	132.669	5.3
2 Chlorobenzene-d5	117	11.120	11.120	(1.000)	97282	125.000	
3 1,4-Dichlorobenzene-d4	152	12.616	12.606	(1.000)	39163	125.000	
4 Vinyl Chloride-d3	65	3.288	3.279	(0.365)	9072	122.325	4.9
5 Chloroethane-d5	69	4.124	4.115	(0.458)	6513	133.581	5.3
6 1,1-Dichloroethene-d2	63	5.531	5.522	(0.614)	65036	148.685	5.9
7 2-Butanone-d5	46	7.755	7.736	(0.861)	3162	79.6336	3.2
8 Chloroform-d	84	8.119	8.119	(0.902)	58781	120.291	4.8
9 1,2-dichloroethane-d4	65	8.650	8.651	(0.961)	20318	119.470	4.8
10 Benzene-d6	84	8.660	8.651	(0.779)	125266	130.328	5.2

Data File: /chem/5972hp73.i/DF030410A73.b/WG23648-4A73.d
Report Date: 21-Apr-2003 10:10

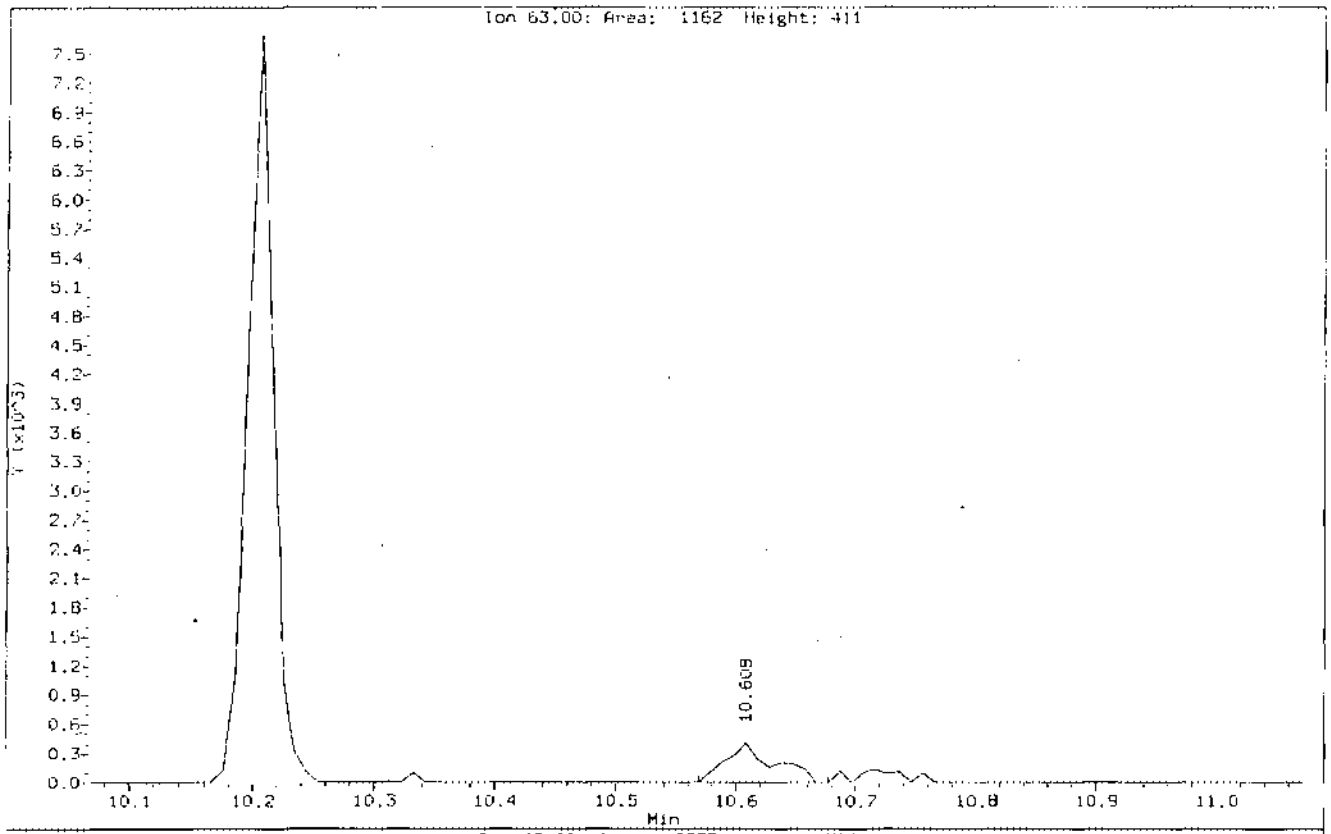
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
$	11 1,2-Dichloropropane-d6	67	9.369	9.369	(0.842)	33891	115.301	4.6
$	12 Toluene-d8	98	10.156	10.156	(0.913)	105606	125.932	5.0
$	13 trans-1,3-Dichloropropene-d4	79	10.333	10.333	(0.929)	4349	102.275	4.1
$	14 2-Hexanone-d5	63	10.608	10.569	(0.954)	1162	37.4492	1.5(RM)
$	15 1,1,2,2-Tetrachloroethane-d2	84	11.887	11.888	(1.069)	16674	97.8546	3.9
$	16 Bromoform-d	174	11.661	11.661	(0.924)	9212	101.624	4.1
$	17 1,2-Dichlorobenzene-d4	152	12.911	12.911	(1.023)	27873	124.450	5.0
	56 Ethylbenzene	91	Compound Not Detected.					
	57 m,p-Xylene	106	Compound Not Detected.					
	58 o-Xylene	106	Compound Not Detected.					
	59 Styrene	104	11.514	11.494	(1.035)	1751	2.67980	0.11(a)
M	69 Xylene (Total)	106	Compound Not Detected.					

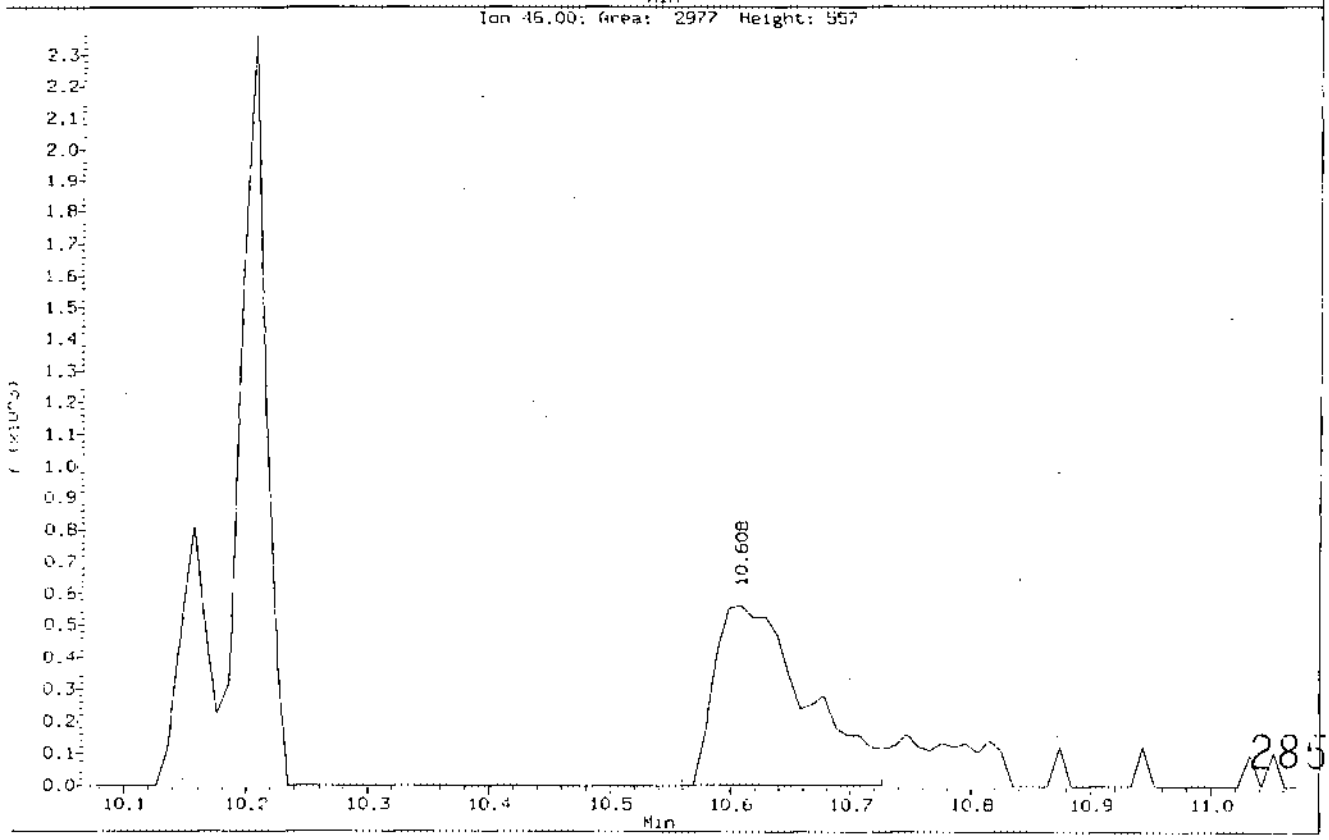
QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/5972hp73.1/DF030410A73.b/WG23648-4A/3.d
Injection Date: 10-APR-2003 10:44
Instrument: 5972hp73.1
Client Sample ID: AC-105MS

Compound: 2-Hexanone-d5
CAS Number: 4840-82-8





d. Matrix Spike Duplicate Data

- Tabulated Results (Form I LCV-1 and LCV-2)
  (LCV-TIC not required)

- Reconstructed Ion Chromatogram and
  quantitation report. Spectra not required.

1LCA
LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

AC-105MSD

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: WG23648-5 Date Received: 04/09/2003

Lab File ID: WG23648-5A73 Date Analyzed: 04/10/2003

Purge Volume: 25.0(ML) Dilution Factor: 1.0

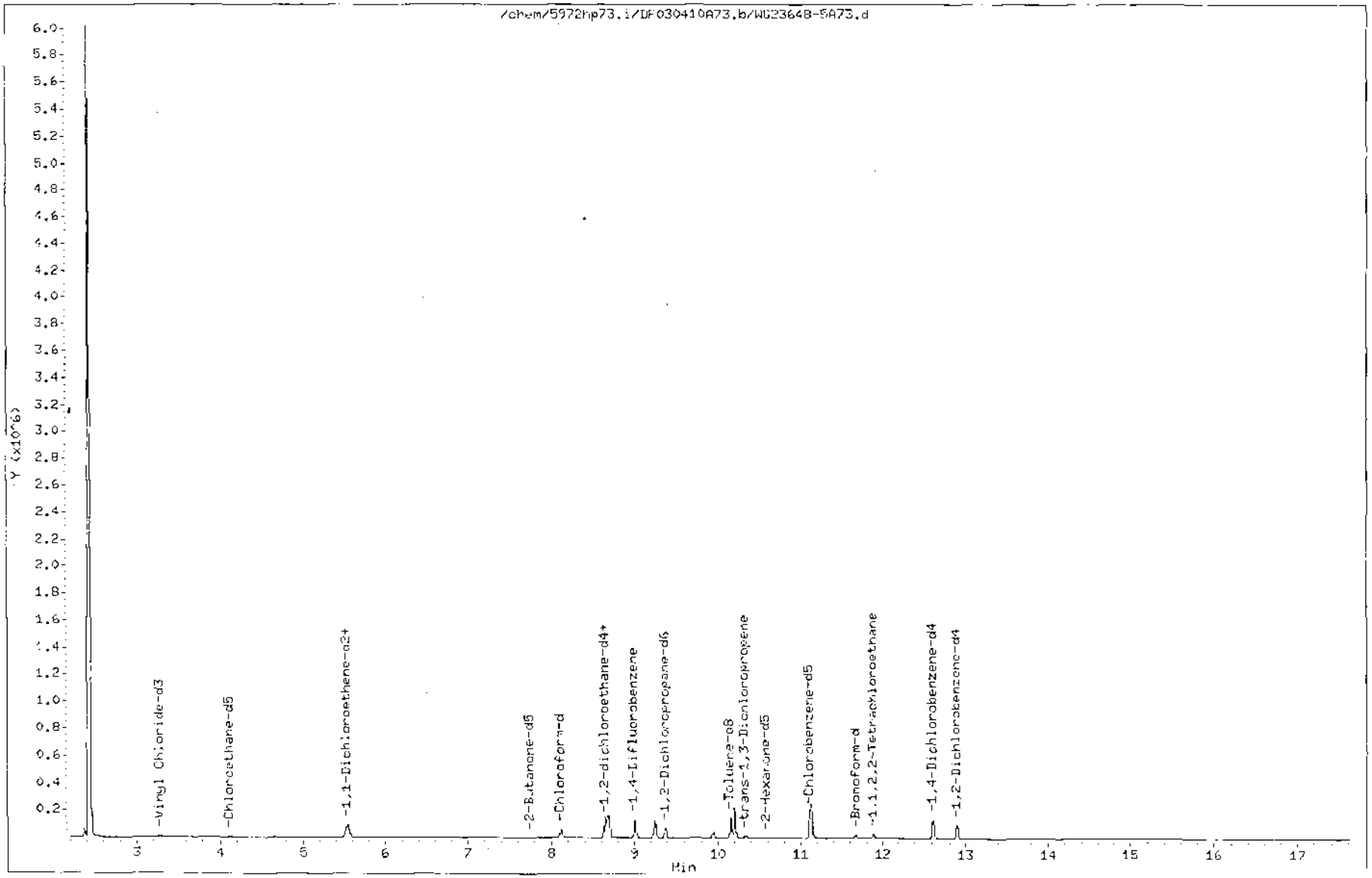
GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
75-35-4	1,1-Dichloroethene	6.7	
71-43-2	Benzene	5.8	
79-01-6	Trichloroethene	6.0	
108-88-3	Toluene	5.2	B
108-90-7	Chlorobenzene	5.2	
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylene (Total)	0.50	U
100-42-5	Styrene	0.50	U

Data File: /chem/5972hp73.i/DF030410A73.b/WG23648-5A73.d
Date : 10-APR-2003 11:08
Client ID: AC-105MSD
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i

Operator: 2537
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030410A73.b/WG23648-5A73.d
Report Date: 21-Apr-2003 10:10

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030410A73.b/WG23648-5A73.d
Lab Smp Id: WG23648-5 Client Smp ID: AC-105MSD
Inj Date : 10-APR-2003 11:08
Operator : 2537 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030410A73.b/OLC03v3.m
Meth Date : 21-Apr-2003 10:10 sutton Quant Type: ISTD
Cal Date : 10-APR-2003 08:21 Cal File: CS030410A73.d
Als bottle: 7 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: EXSSPIKE.sub
Target Version: 3.50
Processing Host: dante

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

KB 04/21/03

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
* 1 1,4-Difluorobenzene	114	9.011	9.005	(1.000)	117828	125.000	
24 1,1-Dichloroethene	96	5.547	5.551	(0.616)	38940	167.538	6.7
42 Trichloroethene	95	9.247	9.241	(0.832)	42400	151.030	6.0
40 Benzene	78	8.696	8.690	(0.782)	156422	144.204	5.8
48 Toluene	91	10.201	10.205	(0.918)	151973	131.126	5.2
55 Chlorobenzene	112	11.136	11.140	(1.002)	100344	130.369	5.2
* 2 Chlorobenzene-d5	117	11.116	11.120	(1.000)	98975	125.000	
* 3 1,4-Dichlorobenzene-d4	152	12.612	12.606	(1.000)	41517	125.000	
$ 4 Vinyl Chloride-d3	65	3.284	3.279	(0.364)	8336	118.017	4.7
$ 5 Chloroethane-d5	69	4.130	4.115	(0.458)	6227	134.097	5.4
$ 6 1,1-Dichloroethene-d2	63	5.528	5.522	(0.613)	60136	144.352	5.8
$ 7 2-Butanone-d5	46	7.751	7.736	(0.860)	3576	94.5605	3.8
$ 8 Chloroform-d	84	8.115	8.119	(0.901)	56476	121.350	4.9
$ 9 1,2-dichloroethane-d4	65	8.647	8.651	(0.960)	21194	130.848	5.2
$ 10 Benzene-d6	84	8.656	8.651	(0.779)	115662	118.278	4.7

Data File: /chem/5972hp73.i/DF030410A73.b/WG23648-5A73.d
Report Date: 21-Apr-2003 10:10

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
$	11	1,2-Dichloropropane-d6	67	9.375	9.369	(0.843)	33987	113.649	4.5
$	12	Toluene-d8	98	10.152	10.156	(0.913)	95935	112.443	4.5
$	13	trans-1,3-Dichloropropene-d4	79	10.339	10.333	(0.930)	4900	113.262	4.5
$	14	2-Hexanone-d5	63	10.595	10.569	(0.953)	1404	44.4744	1.8(R)
$	15	1,1,2,2-Tetrachloroethane-d2	84	11.884	11.888	(1.069)	20015	115.453	4.6
$	16	Bromoform-d	174	11.667	11.661	(0.925)	10133	105.446	4.2
$	17	1,2-Dichlorobenzene-d4	152	12.907	12.911	(1.023)	30990	130.522	5.2
	56	Ethylbenzene	91	Compound Not Detected.					
	57	m,p-Xylene	106	Compound Not Detected.					
	58	o-Xylene	106	Compound Not Detected.					
	59	Styrene	104	Compound Not Detected.					
M	69	Xylene (Total)	106	Compound Not Detected.					

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

289A

Data File: /chem/5972hp73.i/DF030409A73.b/WG23594-1A73.d
Report Date: 11-Apr-2003 11:27

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON COLUMN (ug)	FINAL (ug/L)
$ 17 1,2-Dichlorobenzene-d4	152	12.991	12.897	(1.073)	30901	122.655	4.9
18 Dichlorodifluoromethane	85	Compound Not Detected.					
19 Chloromethane	50	Compound Not Detected.					
20 Vinyl Chloride	62	Compound Not Detected.					
21 Bromomethane	94	Compound Not Detected.					
22 Chloroethane	64	Compound Not Detected.					
23 Trichlorofluoromethane	101	Compound Not Detected					
24 1,1-Dichloroethene	96	Compound Not Detected.					
25 1,1,2-Trichloro-1,2,2-trifluo	101	Compound Not Detected					
26 Acetone	43	Compound Not Detected.					
27 Carbon Disulfide	76	Compound Not Detected.					
28 Methyl Acetate	43	Compound Not Detected.					
29 Bromochloromethane	128	Compound Not Detected.					
30 Methylene Chloride	84	Compound Not Detected.					
31 trans-1,2-Dichloroethene	96	Compound Not Detected					
32 Methyl tert Butyl Ether	73	Compound Not Detected.					
33 1,1-Dichloroethane	63	Compound Not Detected.					
34 cis-1,2 Dichloroethene	96	Compound Not Detected.					
35 2-Butanone	43	Compound Not Detected.					
36 Chloroform	83	Compound Not Detected.					
37 1,1,1 Trichloroethane	97	Compound Not Detected.					
38 Cyclohexane	56	Compound Not Detected.					
39 Carbon Tetrachloride	117	Compound Not Detected.					
40 Benzene	78	Compound Not Detected.					
41 1,2-Dichloroethane	62	Compound Not Detected.					
42 Trichloroethene	95	Compound Not Detected.					
43 Methylcyclohexane	83	Compound Not Detected.					
44 1,2-Dichloropropane	63	Compound Not Detected.					
45 Bromodichloromethane	83	Compound Not Detected.					
46 cis-1,3 Dichloropropene	75	Compound Not Detected.					
47 4 Methyl-2-Pentanone	43	Compound Not Detected.					
48 Toluene	91	Compound Not Detected					
49 trans-1,3-Dichloropropene	75	Compound Not Detected.					
50 1,1,2-Trichloroethane	97	Compound Not Detected.					
51 Tetrachloroethene	164	Compound Not Detected.					
52 2-Hexanone	43	Compound Not Detected.					
53 Dibromochloromethane	129	Compound Not Detected.					
54 1,2 Dibromoethane	107	Compound Not Detected.					
55 Chlorobenzene	112	Compound Not Detected.					
56 Ethylbenzene	91	Compound Not Detected.					
57 m,p-Xylene	106	Compound Not Detected.					
58 o Xylene	106	Compound Not Detected.					
59 Styrene	104	Compound Not Detected					
60 Bromoform	173	Compound Not Detected.					
61 Isopropylbenzene	105	Compound Not Detected.					
62 1,1,2,2-Tetrachloroethane	83	Compound Not Detected.					
63 1,4-Dichlorobenzene	146	Compound Not Detected.					

Data File: /chem/5972hp73.i/DF030409A73.b/WG23594-1A73.d
Report Date: 11-Apr-2003 11:27

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
64 1,4 Dichlorobenzene	146	12.615	12.612	(1.002)	658	1.30654	0.052(a)
65 1,2-Dichlorobenzene	146	12.910	12.907	(1.025)	446	1.15298	0.046(a)
66 1,2-Dibromo-3-Chloropropane	75	Compound Not Detected.					
67 1,2,4-Trichlorobenzene	180	Compound Not Detected.					
68 1,2,3-Trichlorobenzene	180	Compound Not Detected.					
M 69 Xylene (Total)	106	Compound Not Detected.					

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: /chem/5972hp73.i/DF030409A73.b/WG23594-1A73.d

Date : 09-APR-2003,14:33

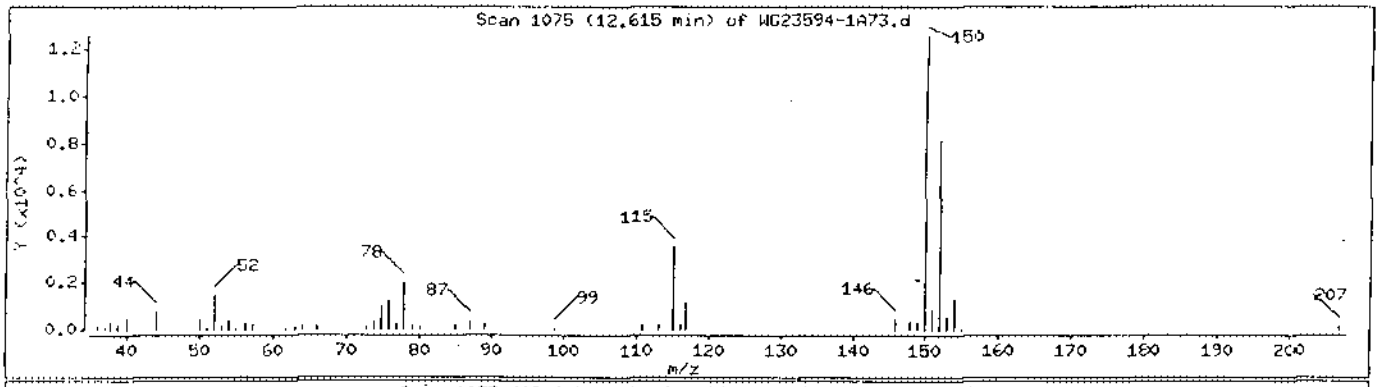
Client ID: VBLKXP | Instrument: 5972hp73.i

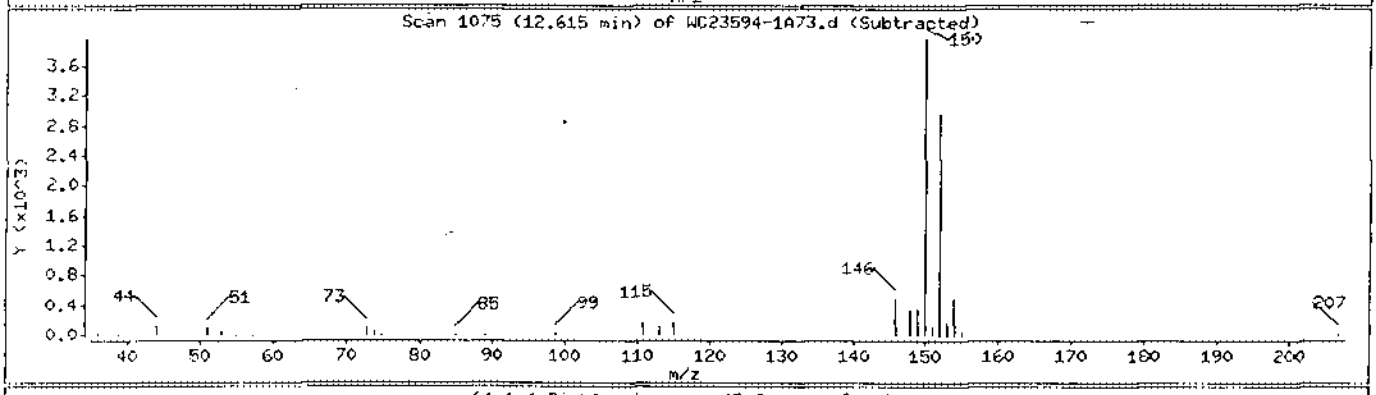
Sample Info:

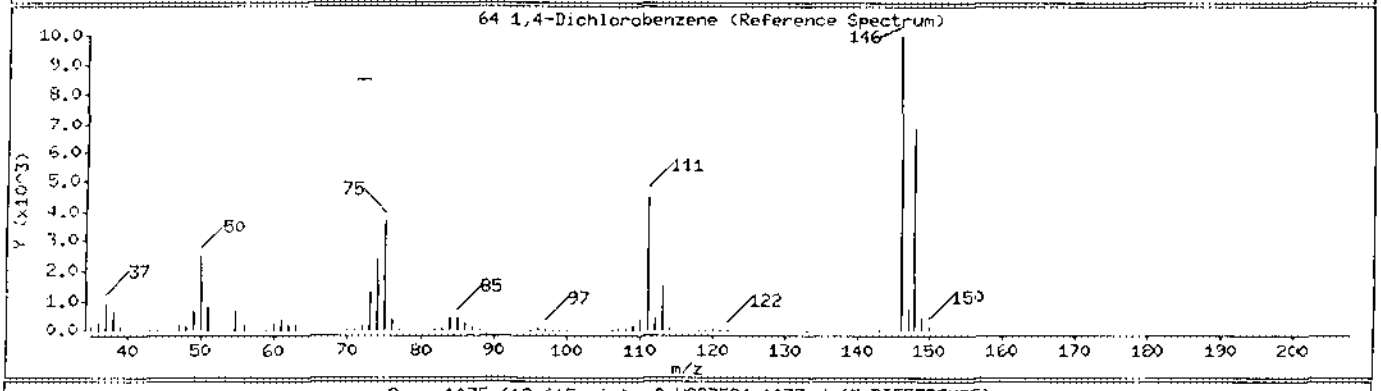
Purge Volume: 25.0 | Operator: 2537

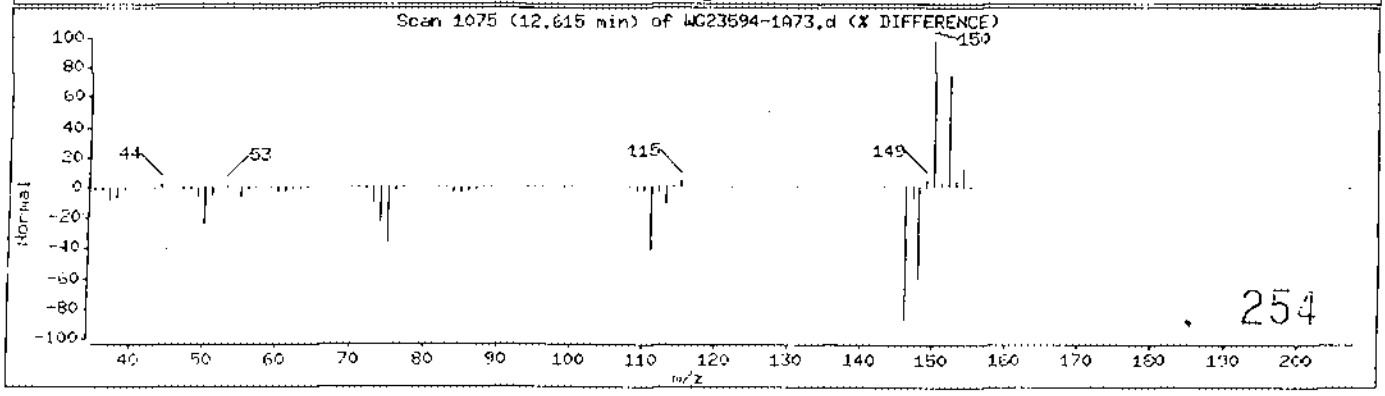
Column phase: ZB624 | Column diameter: 0.32

64 1,4-Dichlorobenzene | Concentration: 0.052 ug/L









Data File: /chem/5972hp73.i/DF030409A73.b/WG23594-1A73.d

Date : 09-APR-2003 14:33

Client ID: WBLKXP

Instrument: 5972hp73.i

Sample Info:

Purge Volume: 25.0

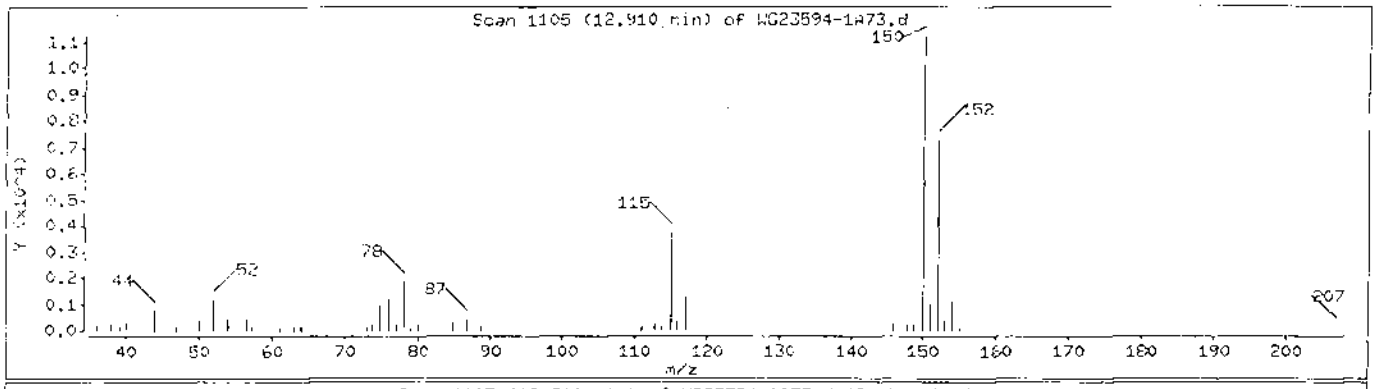
Operator: 2537

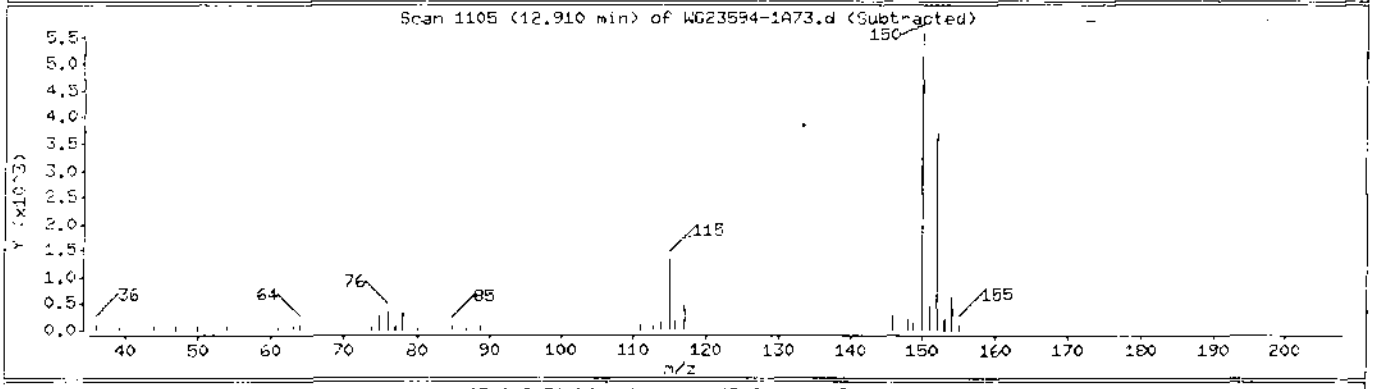
Column phase: ZB624

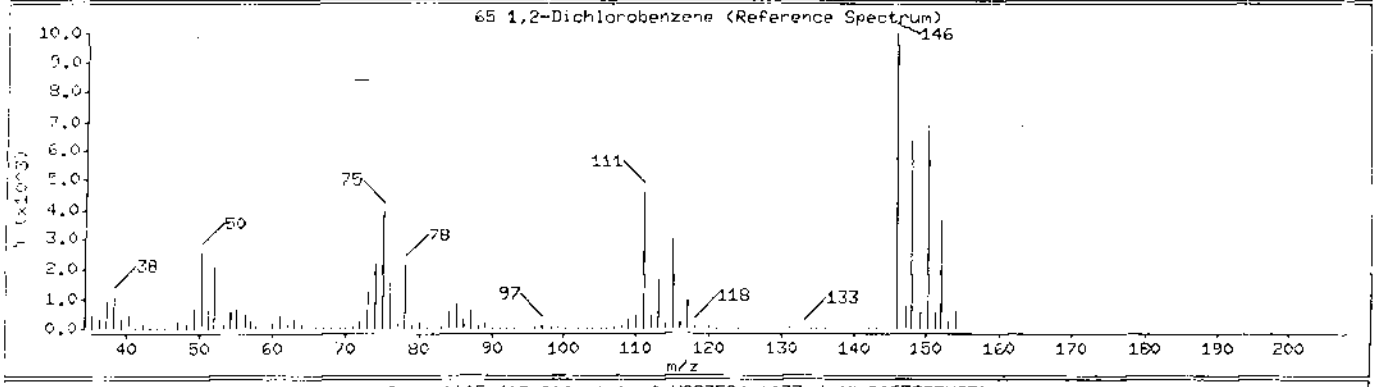
Column diameter: 0.32

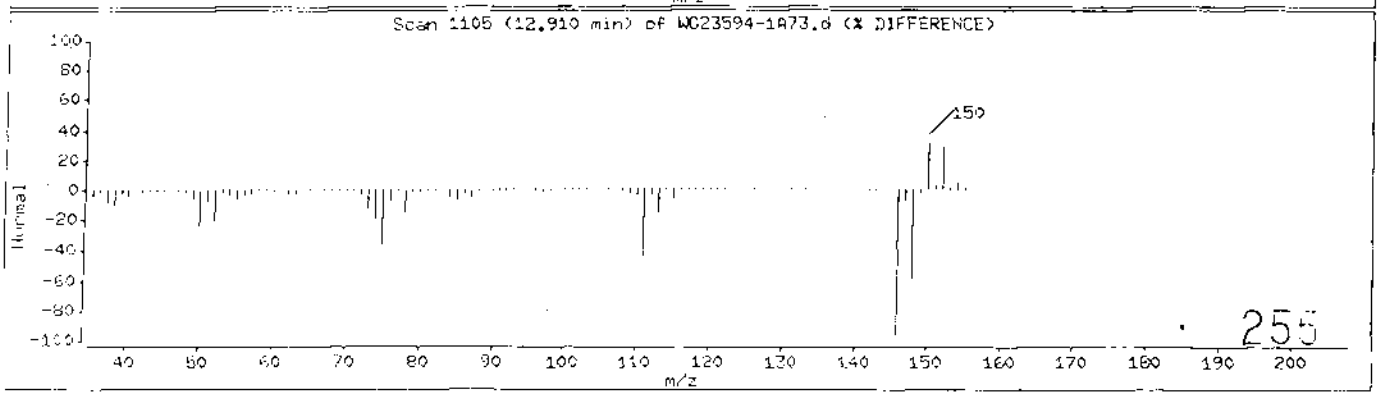
65 1,2-Dichlorobenzene

Concentration: 0.046 ug/L









255

Data File: /chem/5972hp73.i/DF030409A73.b/WG23594-1A73.d
Report Date: 11-Apr-2003 11:27

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030409A73.b/WG23594-1A73.d
Lab Smp Id: WG23594-1 Client Smp ID: VBLKXP
Inj Date : 09-APR-2003 14:33
Operator : 2537 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030409A73.b/OLC03v3.m
Meth Date : 11-Apr-2003 11:23 walker Quant Type: ISTD
Cal Date : 09-APR-2003 13:57 Cal File: CT030409A73.d
Als bottle: 4 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50

- NO TENTATIVELY IDENTIFIED COMPOUNDS -

ILCA
LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

VBLKZX

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: WG23648-1 Date Received: _____

Lab File ID: WG23648-1A73 Date Analyzed: 04/10/2003

Purge Volume: 25.0(ML) Dilution Factor: 1.0

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylene (Total)	0.50	U
100-42-5	Styrene	0.50	U

COPY YORET

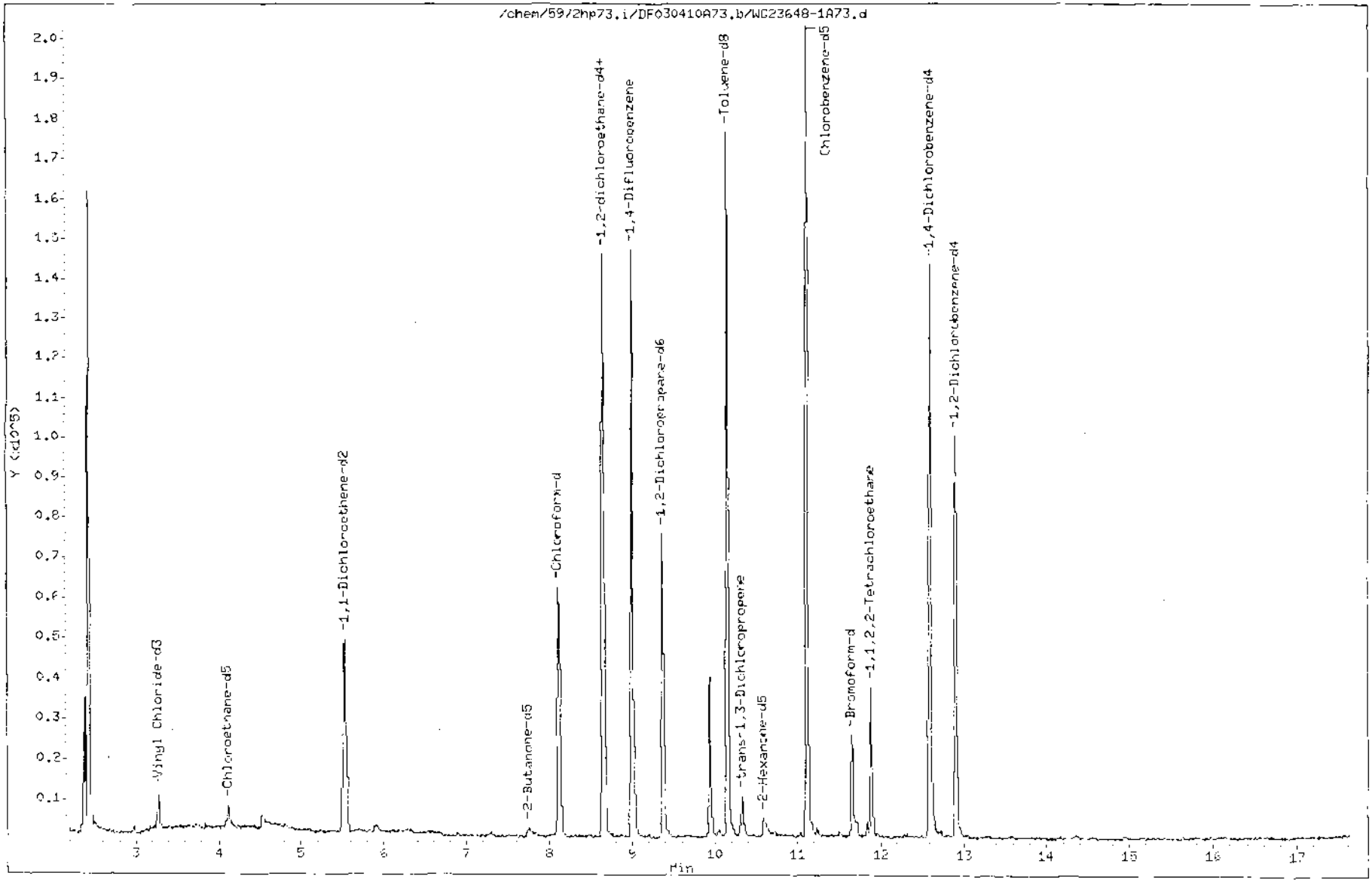
ORIGINAL DOCUMENTS INCLUDED IN CSF 31374

SIGNATURE [illegible] DATE 4/11/03

253

Data File: /chem/5972hp73.i/DF030410A73.b/WG23648-1A73.d
Date : 10-APR-2003 09:00
Client ID: VBLK7X
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2537
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030410A73.b/WG23648-1A73.d
Report Date: 11-Apr-2003 09:51

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030410A73.b/WG23648-1A73.d
Lab Smp Id: WG23648-1 Client Smp ID: VBLKZX
Inj Date : 10-APR-2003 09:00
Operator : 2537 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030410A73.b/OLC03v3.m
Meth Date : 11-Apr-2003 09:39 walker Quant Type: ISTD
Cal Date : 10-APR-2003 08:21 Cal File: CS030410A73.d
Als bottle: 3 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
* 1 1,4-Difluorobenzene	114	9.005	9.005	(1.000)	132589	125.000	
* 2 Chlorobenzene-d5	117	11.120	11.120	(1.000)	106084	125.000	
* 3 1,4-Dichlorobenzene-d4	152	12.616	12.606	(1.000)	45168	125.000	
$ 4 Vinyl Chloride-d3	65	3.288	3.279	(0.365)	8947	112.566	4.5
$ 5 Chloroethane-d5	69	4.125	4.115	(0.458)	6196	118.575	4.7
$ 6 1,1-Dichloroethene-d2	63	5.531	5.522	(0.614)	43652	93.1182	3.7
$ 7 2-Butanone-d5	46	7.745	7.736	(0.860)	4534	106.545	4.3
$ 8 Chloroform-d	84	8.119	8.119	(0.902)	60191	114.934	4.6
$ 9 1,2-dichloroethane-d4	65	8.650	8.651	(0.961)	21346	117.115	4.7
$ 10 Benzene-d6	84	8.660	8.651	(0.779)	125386	119.629	4.8
$ 11 1,2-Dichloropropane-d6	67	9.369	9.369	(0.842)	35339	110.251	4.4
$ 12 Toluene-d8	98	10.156	10.156	(0.913)	109151	119.360	4.8
$ 13 trans-1,3-Dichloropropene-d4	79	10.333	10.333	(0.929)	5035	108.584	4.3
$ 14 2-Hexanone-d5	63	10.589	10.569	(0.952)	2915	86.1505	3.4
$ 15 1,1,2,2-Tetrachloroethane-d2	84	11.887	11.888	(1.069)	19797	106.543	4.3
$ 16 Bromoform-d	174	11.661	11.661	(0.924)	11162	106.765	4.3

4/11/03

Data File: /chem/5972hp73.i/DF030410A73.b/WG23648-1A73.d
Report Date: 11-Apr-2003 09:51

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
$ 17 1,2-Dichlorobenzene-d4	152	12.911	12.911	(1.023)	33155	128.353	5.1
18 Dichlorodifluoromethane	85	Compound Not Detected.					
19 Chloromethane	50	Compound Not Detected.					
20 Vinyl Chloride	62	Compound Not Detected					
21 Bromomethane	94	Compound Not Detected.					
22 Chloroethane	64	Compound Not Detected.					
23 Trichlorofluoromethane	101	Compound Not Detected.					
24 1,1-Dichloroethene	96	Compound Not Detected.					
25 1,1,2-Trichloro-1,2,2-trifluo	101	Compound Not Detected.					
26 Acetone	43	Compound Not Detected.					
27 Carbon Disulfide	76	Compound Not Detected.					
28 Methyl Acetate	43	Compound Not Detected.					
29 Bromochloromethane	128	Compound Not Detected					
30 Methylene Chloride	84	Compound Not Detected.					
31 trans 1,2-Dichloroethene	96	Compound Not Detected.					
32 Methyl tert-Butyl Ether	73	Compound Not Detected.					
33 1,1-Dichloroethane	63	Compound Not Detected.					
34 cis-1,2-Dichloroethene	96	Compound Not Detected.					
35 2-Butanone	43	Compound Not Detected					
36 Chloroform	83	Compound Not Detected.					
37 1,1,1-Trichloroethane	97	Compound Not Detected.					
38 Cyclohexane	56	Compound Not Detected.					
39 Carbon Tetrachloride	117	Compound Not Detected.					
40 Benzene	78	Compound Not Detected.					
41 1,2-Dichloroethane	62	Compound Not Detected.					
42 Trichloroethene	95	Compound Not Detected.					
43 Methylcyclohexane	83	Compound Not Detected.					
44 1,2 Dichloropropane	63	Compound Not Detected.					
45 Bromodichloromethane	83	Compound Not Detected.					
46 cis-1,3-Dichloropropene	75	Compound Not Detected.					
47 4-Methyl-2 Pentanone	43	Compound Not Detected.					
48 Toluene	91	10.205	10.205	(0.918)	1140	0.91770	0 037(a)
49 trans-1,3-Dichloropropene	75	Compound Not Detected.					
50 1,1,2-Trichloroethane	97	Compound Not Detected.					
51 Tetrachloroethene	164	Compound Not Detected.					
52 2-Hexanone	43	Compound Not Detected.					
53 Dibromochloromethane	129	Compound Not Detected.					
54 1,2 Dibromoethane	107	Compound Not Detected.					
55 Chlorobenzene	112	Compound Not Detected.					
56 Ethylbenzene	91	Compound Not Detected.					
57 m,p-Xylene	106	Compound Not Detected.					
58 o-Xylene	106	Compound Not Detected.					
59 Styrene	104	Compound Not Detected.					
60 Bromoform	173	Compound Not Detected.					
61 Isopropylbenzene	105	Compound Not Detected.					
62 1,1,2,2-Tetrachloroethane	83	Compound Not Detected.					
63 1,3-Dichlorobenzene	146	Compound Not Detected.					

Data File: /chem/5972hp73.i/DF030410A73.b/WG23648-1A73.d
Report Date: 11-Apr-2003 09:51

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
64 1,4-Dichlorobenzene	146	Compound Not Detected.					
65 1,2-Dichlorobenzene	146	Compound Not Detected.					
66 1,2-Dibromo-3-Chloropropane	75	Compound Not Detected.					
67 1,2,4-Trichlorobenzene	180	14.357	14.347	(1.138)	783	3.19969	0.13(a)
68 1,2,3-Trichlorobenzene	180	Compound Not Detected.					
M 69 Xylene (Total)	106	Compound Not Detected.					

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: /chem/5972hp73.i/DF030410A73.b/WG23648-1A73.d

Date : 10-APR-2003 09:00

Client ID: VBLKZX

*Instrument: 5972hp73.i

Sample Info:

Purge Volume: 25.0

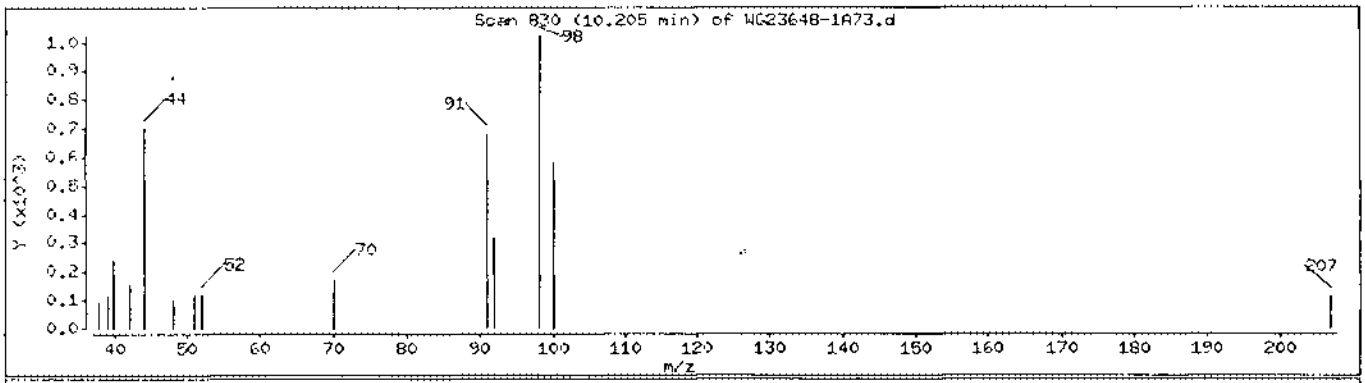
Operator: 2537

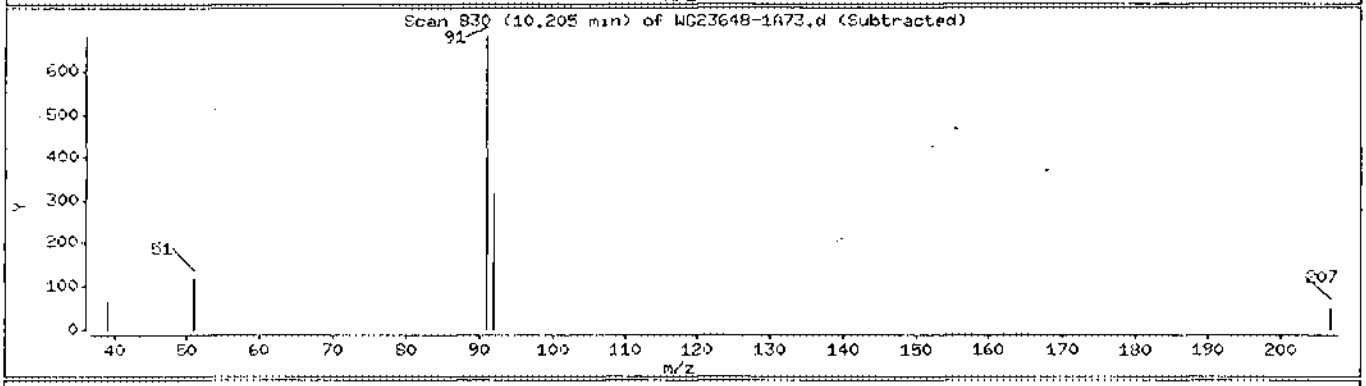
Column phase: ZB624

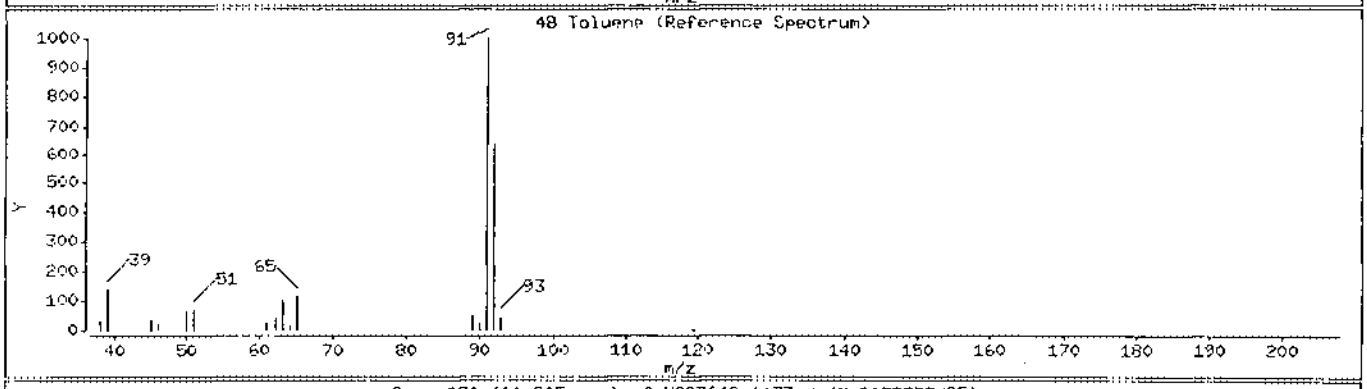
Column diameter: 0.32

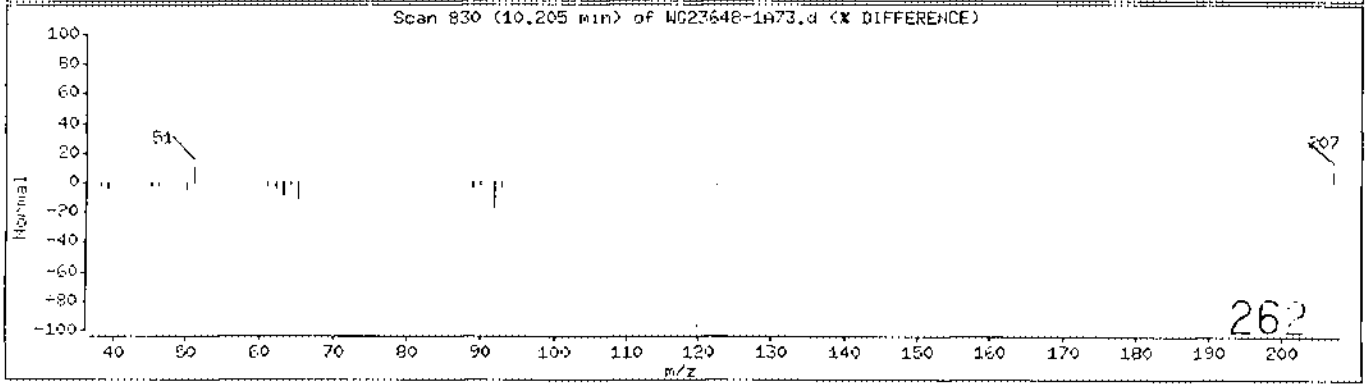
48 Toluene

Concentration: 0.037 ug/L









262

Data File: /chem/5972hp73.i/DF030410A73.b/WG23648-1A73.d

Date : 10-APR-2003 09:00

Client ID: VBLKZX

Instrument: 5972hp73.i

Sample Info:

Purge Volume: 25.0

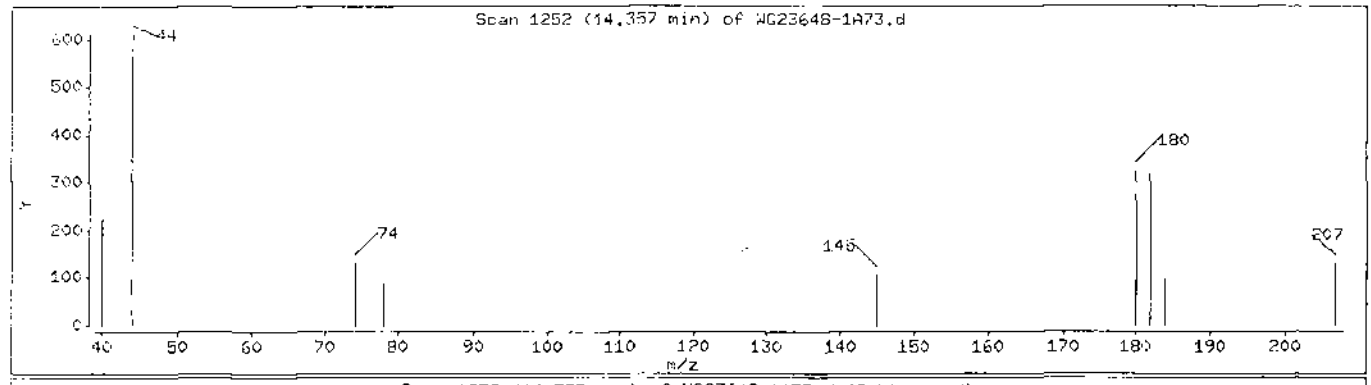
Operator: 2537

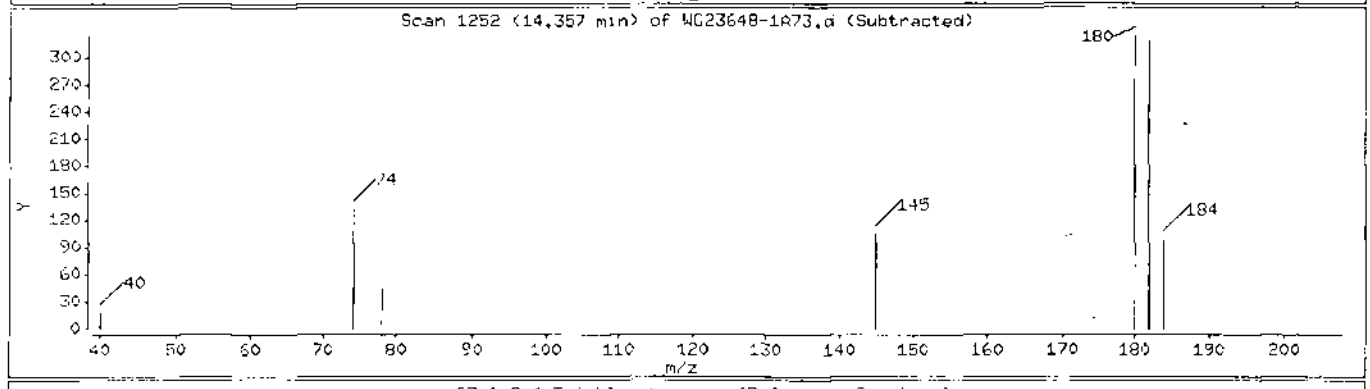
Column phase: ZB624

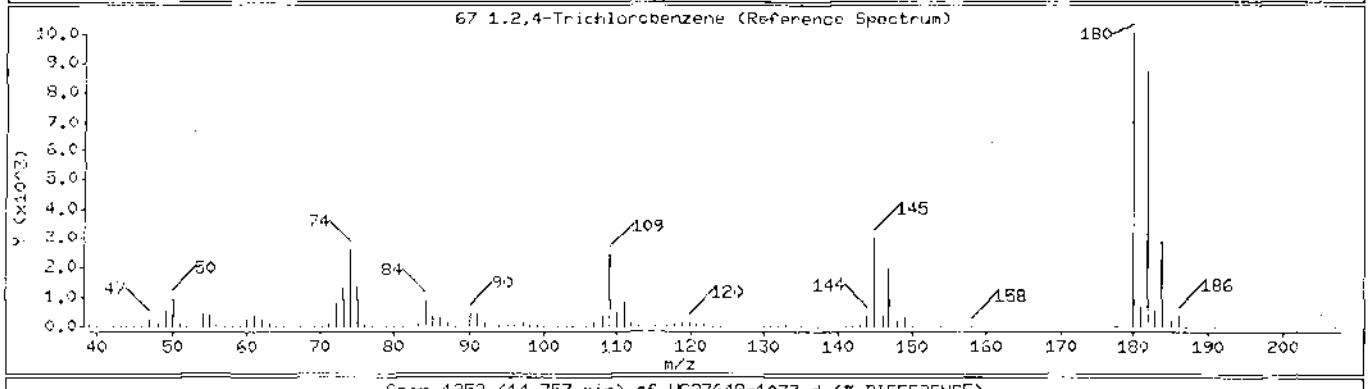
Column diameter: 0.32

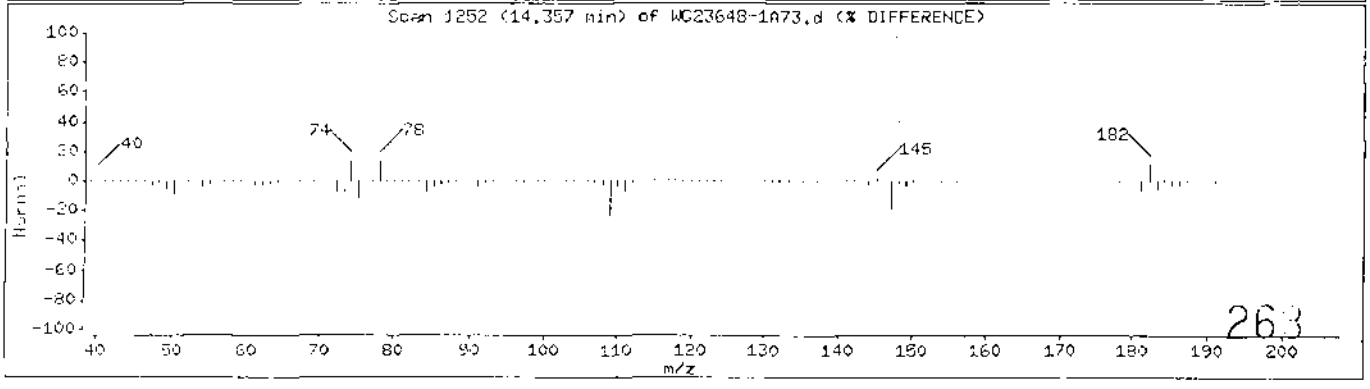
67 1,2,4-Trichlorobenzene

Concentration: 0.13 ug/L









1LCA
LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

VBLKBW

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: WG23726-1 Date Received: _____

Lab File ID: WG23726-1B73R Date Analyzed: 04/16/2003

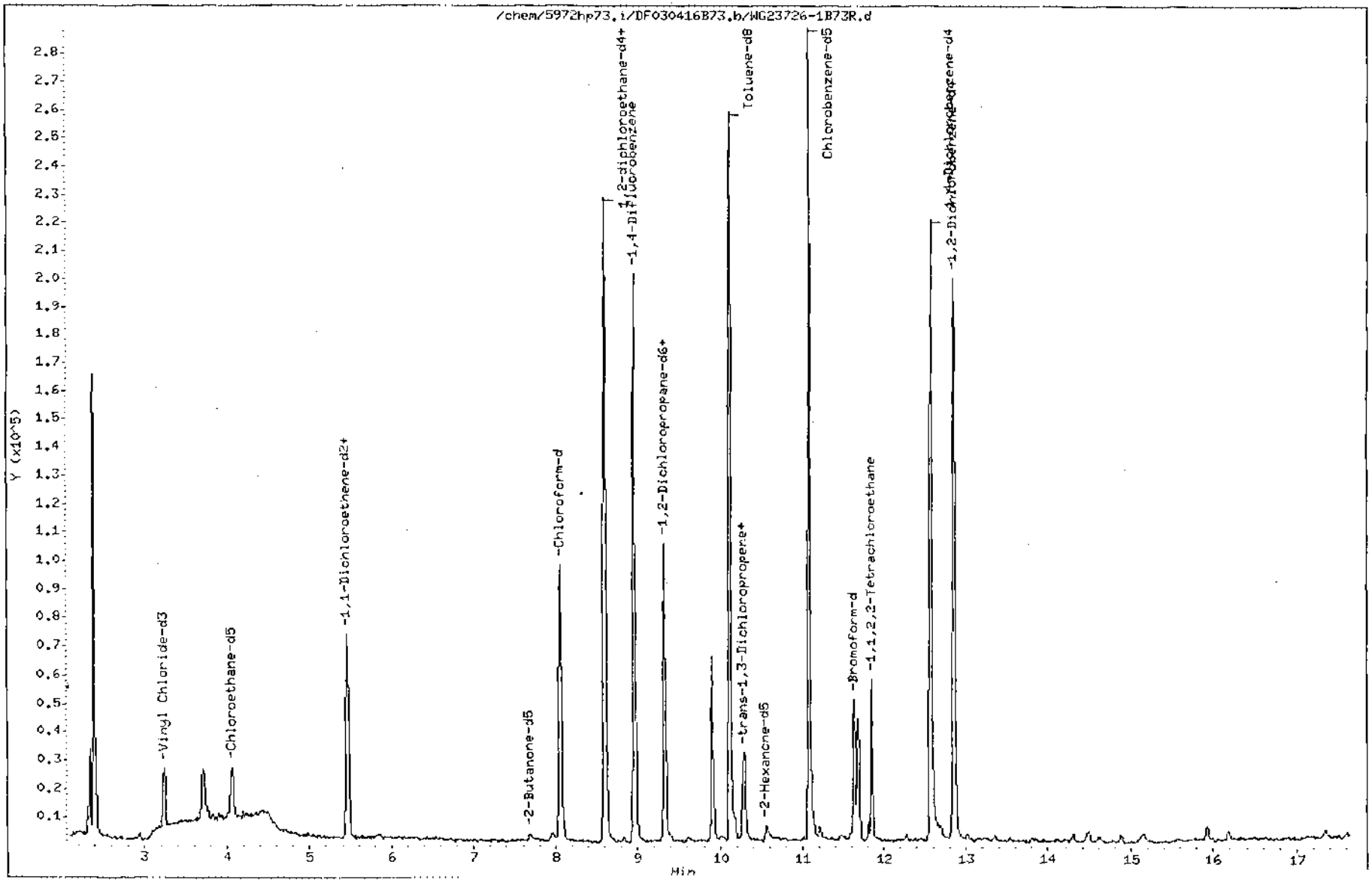
Purge Volume: 25.0(ML) Dilution Factor: 1.0

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
100-41-4	Ethylbenzene	0.037	J
1330-20-7	Xylene (Total)	0.082	J
100-42-5	Styrene	0.50	U

Data File: /chem/5972hp73.i/DF030416B73.b/WG23726-1B73R.d
Date : 16-APR-2003 20:31
Client ID: VBLKBW
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2513
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030416B73.b/WG23726-1B73R.d
Report Date: 21-Apr-2003 11:13

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030416B73.b/WG23726-1B73R.d
Lab Smp Id: WG23726-1 Client Smp ID: VBLKBW
Inj Date : 16-APR-2003 20:31
Operator : 2513 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030416B73.b/OLC03v3.m
Meth Date : 21-Apr-2003 10:18 sutton Quant Type: ISTD
Cal Date : 16-APR-2003 19:58 Cal File: CS030416B73.d
Als bottle: 3 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: EXS.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Y 04/28/03

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
1 1,4-Difluorobenzene	114	8.960	8.958	(1.000)	190461	125.000	
2 Chlorobenzene-d5	117	11.086	11.084	(1.000)	163220	125.000	
3 1,4-Dichlorobenzene-d4	152	12.572	12.570	(1.000)	74998	125.000	
4 Vinyl Chloride-d3	65	3.241	3.239	(0.362)	22936	122.321	4.9
5 Chloroethane-d5	69	4.068	4.056	(0.454)	21477	121.554	4.9
6 1,1-Dichloroethene-d2	63	5.466	5.463	(0.610)	66671	103.540	4.1
7 2-Butanone-d5	46	7.700	7.678	(0.859)	4843	96.8080	3.9
8 Chloroform-d	84	8.064	8.052	(0.900)	103774	119.256	4.8
9 1,2-dichloroethane-d4	65	8.606	8.603	(0.960)	37272	122.393	4.9
10 Benzene-d6	84	8.606	8.603	(0.776)	201089	137.635	5.5
11 1,2-Dichloropropane-d6	67	9.324	9.322	(0.841)	49415	126.133	5.0
12 Toluene-d8	98	10.121	10.119	(0.913)	180676	138.449	5.5
13 trans-1,3-Dichloropropene-d4	79	10.299	10.296	(0.929)	9636	115.365	4.6
14 2-Hexanone-d5	63	10.554	10.532	(0.952)	3561	73.6485	2.9
15 1,1,2,2-Tetrachloroethane d2	84	11.854	11.851	(1.069)	30566	118.468	4.7
16 Bromoform-d	174	11.627	11.625	(0.925)	23501	118.455	4.7

Data File: /chem/5972hp73.i/DF030416B73.b/WG23726-1B73R.d
Report Date: 21-Apr-2003 11:13

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
$ 17 1,2-Dichlorobenzene-d4	152	12.867	12.865	(1.023)	62282	136.201	5.4
56 Ethylbenzene	91	11.145	11.133	(1.005)	1824	0.92499	0.037(a)
57 m,p-Xylene	106	11.204	11.192	(1.011)	1456	1.96150	0.078(a)
58 o-Xylene	106	Compound Not Detected.					
59 Styrene	104	Compound Not Detected.					
M 69 Xylene (Total)	106				1456	2.04624	0.082(a)

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: /chem/5972hp73.i/DF030416B73.b/WG23726-1B73R.d

Date : 16-APR-2003 20:31

Client ID: VBLKBW

Instrument: 5972hp73.i

Sample Info:

Purge Volume: 25.0

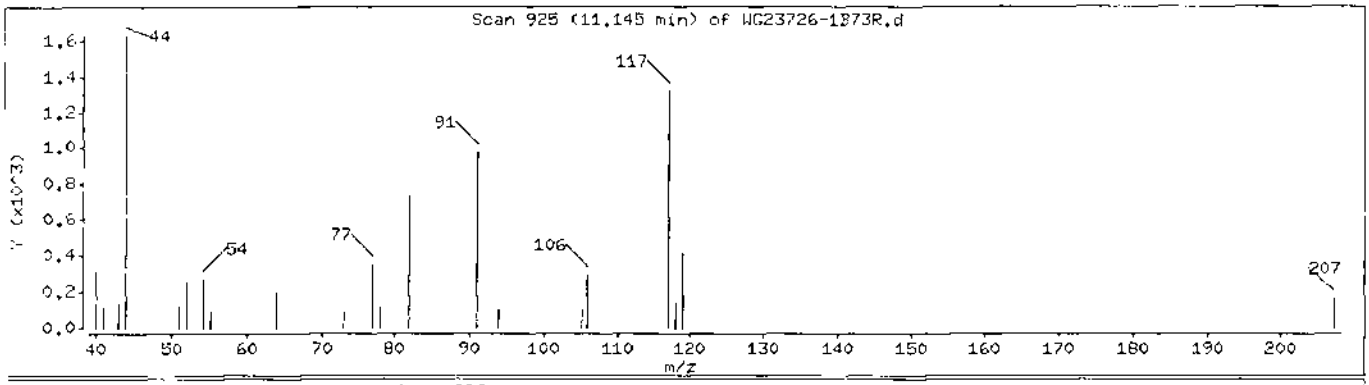
Operator: 2513

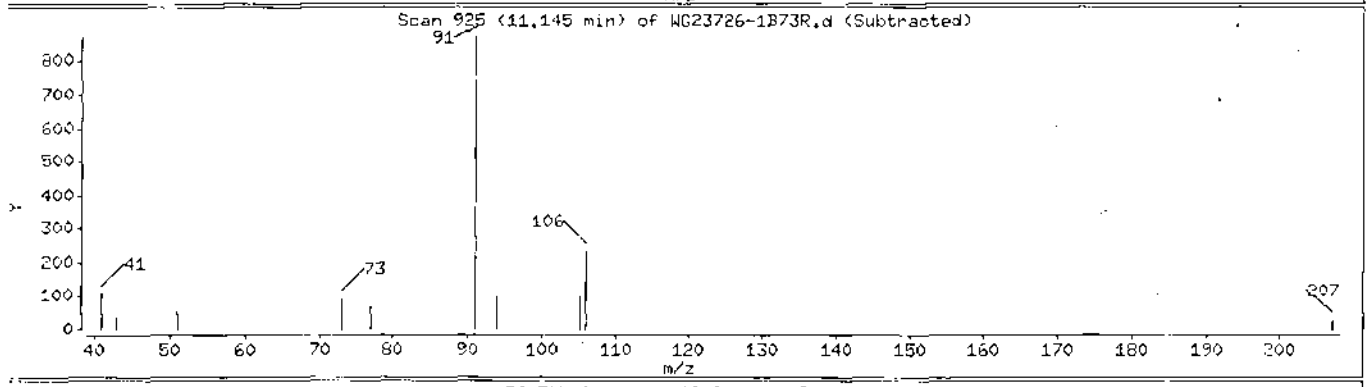
Column phase: ZB624

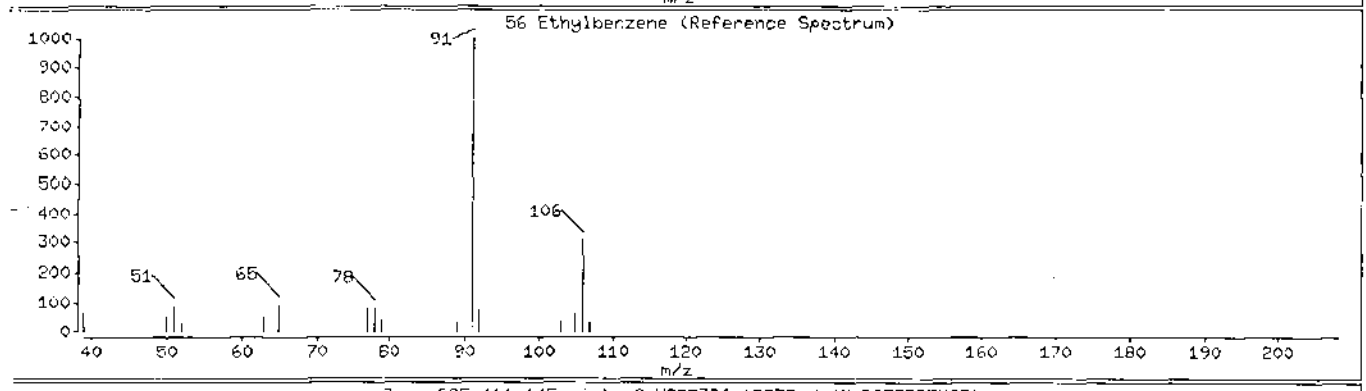
Column diameter: 0.32

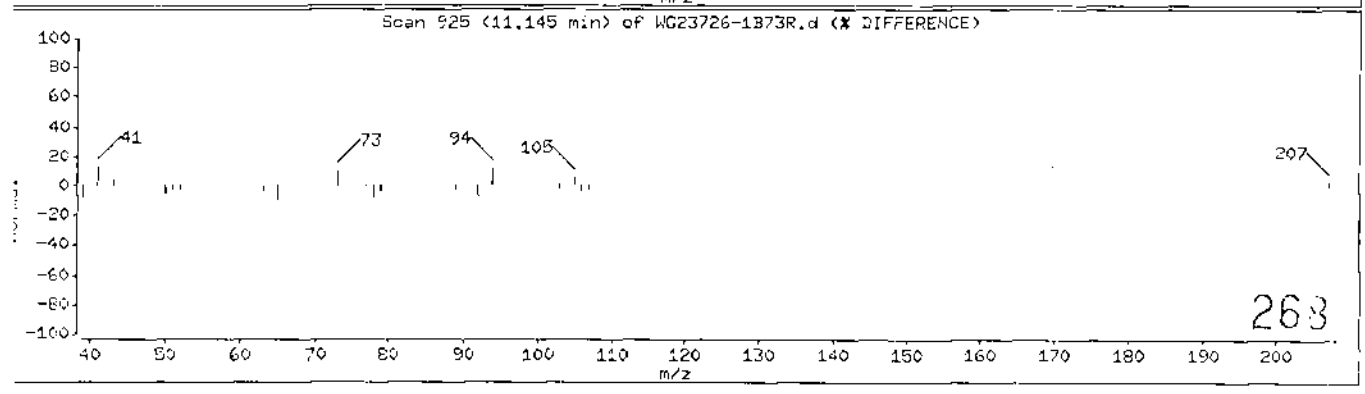
56 Ethylbenzene

Concentration: 0.037 ug/L









Data File: /chem/5972hp73.i/DF030416B73.b/WG23726-1B73R.d

Date : 16-APR-2003 20:31

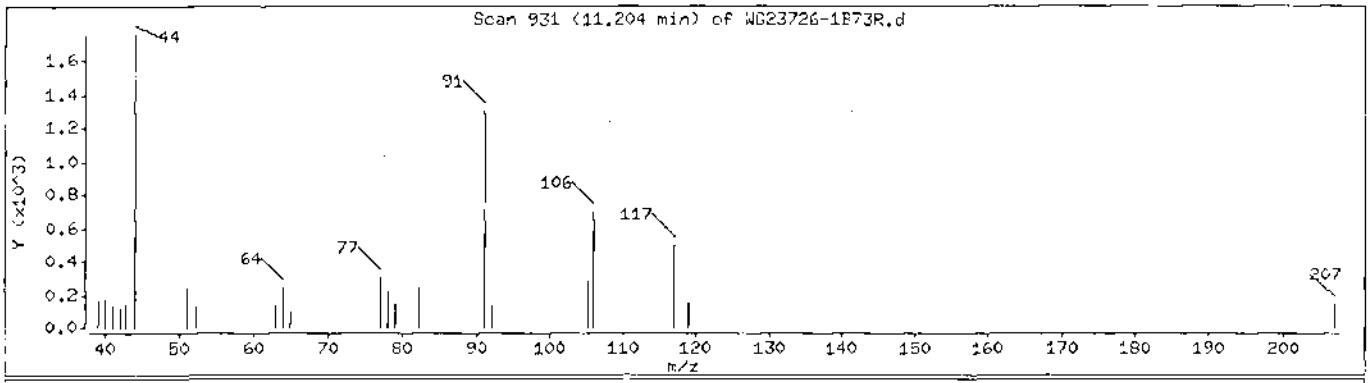
Client ID: VBLKBW | Instrument: 5972hp73.i

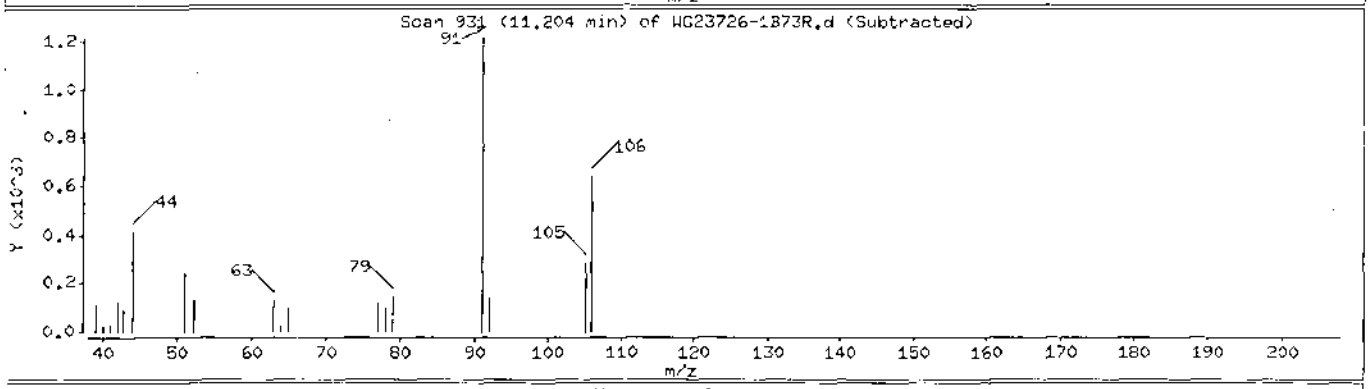
Sample Info:

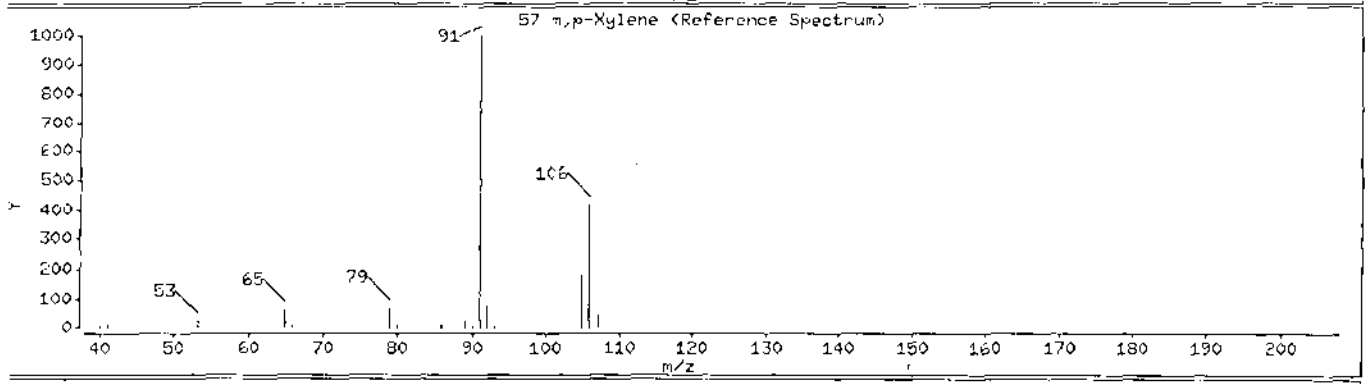
Purge Volume: 25.0 | Operator: 2513

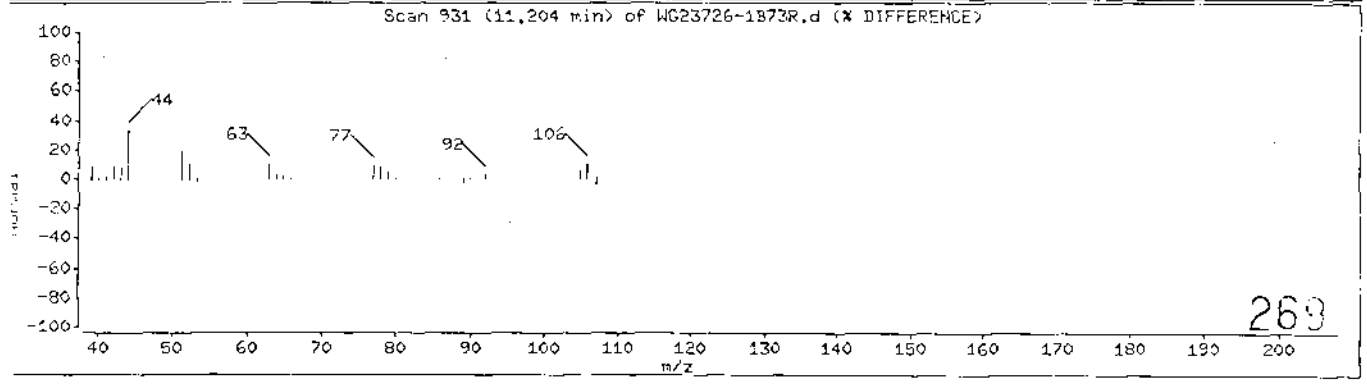
Column phase: ZB624 | Column diameter: 0.32

57 m,p-Xylene | Concentration: 0.078 ug/L









1LCA
LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

VBLKCO

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: WG23737-1 Date Received: ____ ____

Lab File ID: WG23737-1A73R Date Analyzed: 04/17/2003

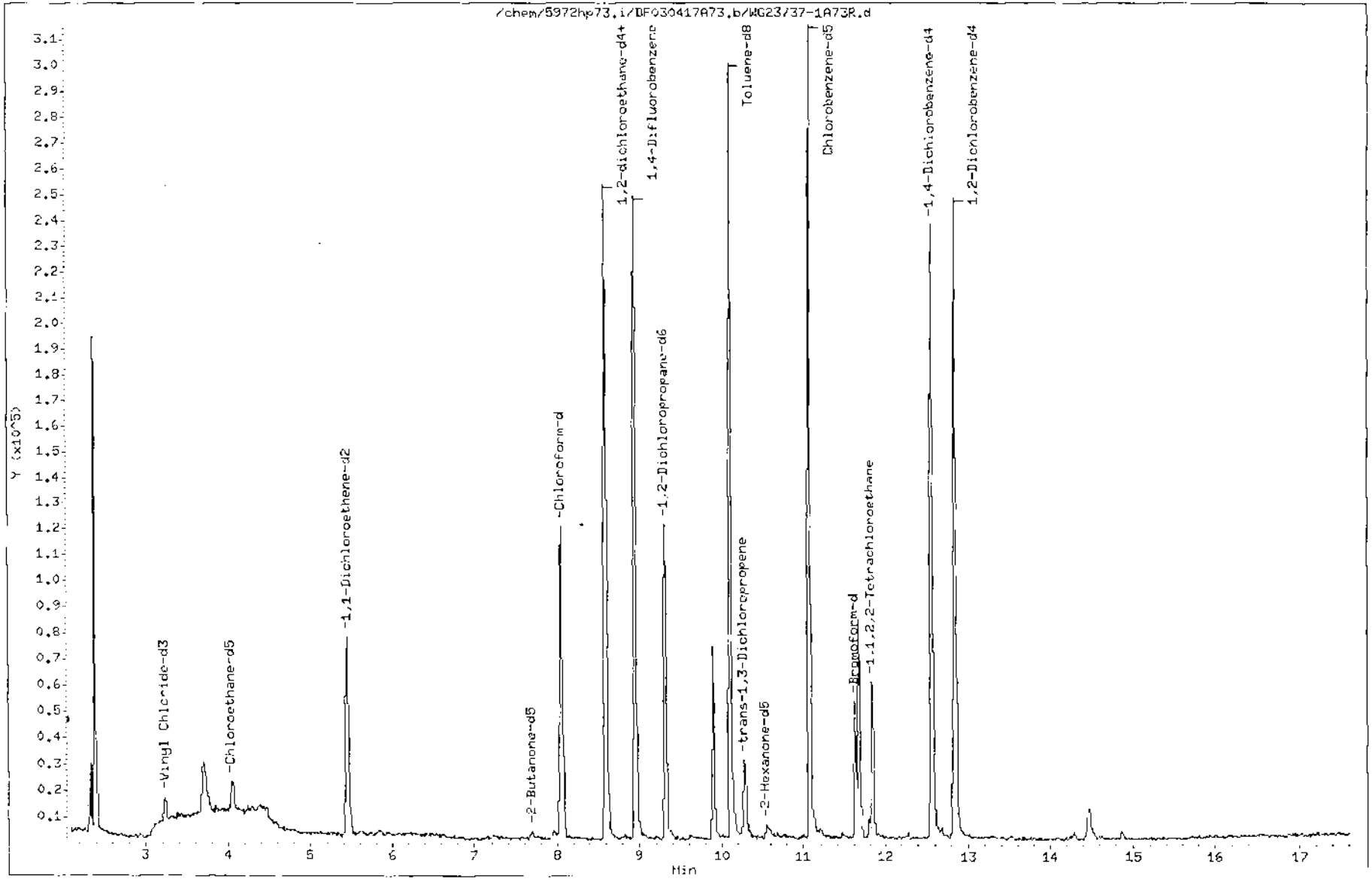
Purge Volume: 25.0(ML) Dilution Factor: 1.0

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
100-41-4	Ethylbenzene	0.030	J
1330-20-7	Xylene (Total)	0.50	U
100-42-5	Styrene	0.50	U

Data File: /chem/5972hp73.i/DF030417A73.b/WG23737-1A73R.d
Date : 17-APR-2003 08:59
Client ID: VBLKCO
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2537
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030417A73.b/WG23737-1A73R.d
Report Date: 18-Apr-2003 11:37

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030417A73.b/WG23737-1A73R.d
Lab Smp Id: WG23737-1 Client Smp ID: VBLKCO
Inj Date : 17-APR-2003 08:59
Operator : 2537 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030417A73.b/OLC03v3.m
Meth Date : 18-Apr-2003 11:06 curtis Quant Type: ISTD
Cal Date : 17-APR-2003 08:23 Cal File: CS030417A73.d
Als bottle: 3 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: EXS.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
1 1,4-Difluorobenzene	114	8.958	8.954	(1.000)	236645	125.000	
2 Chlorobenzene-d5	117	11.084	11.080	(1.000)	188579	125.000	
3 1,4-Dichlorobenzene-d4	152	12.570	12.566	(1.000)	81541	125.000	
4 Vinyl Chloride-d3	65	3.239	3.235	(0.362)	10090	121.110	4.8
5 Chloroethane-d5	69	4.056	4.052	(0.453)	15858	130.415	5.2
6 1,1-Dichloroethene-d2	63	5.464	5.469	(0.610)	66165	103.801	4.2
7 2-Butanone-d5	46	7.688	7.674	(0.858)	4974	99.7464	4.0
8 Chloroform-d	84	8.062	8.058	(0.900)	126820	122.891	4.9
9 1,2-dichloroethane-d4	65	8.604	8.599	(0.960)	40645	117.621	4.7
10 Benzene-d6	84	8.604	8.599	(0.776)	229797	127.478	5.1
11 1,2-Dichloropropane-d6	67	9.322	9.328	(0.841)	57088	118.116	4.7
12 Toluene-d8	98	10.109	10.115	(0.912)	211853	130.886	5.2
13 trans-1,3-Dichloropropene-d4	79	10.296	10.292	(0.929)	11070	116.590	4.7
14 2-Hexanone-d5	63	10.562	10.528	(0.953)	3982	82.9231	3.3
15 1,1,2,2-Tetrachloroethane-d2	84	11.842	11.847	(1.068)	34928	114.813	4.6
16 Bromoform-d	174	11.625	11.621	(0.925)	25092	115.846	4.6

DMC 9/1/03

Data File: /chem/5972hp73.i/DF030417A73.b/WG23737-1A73R.d
Report Date: 18-Apr-2003 11:37

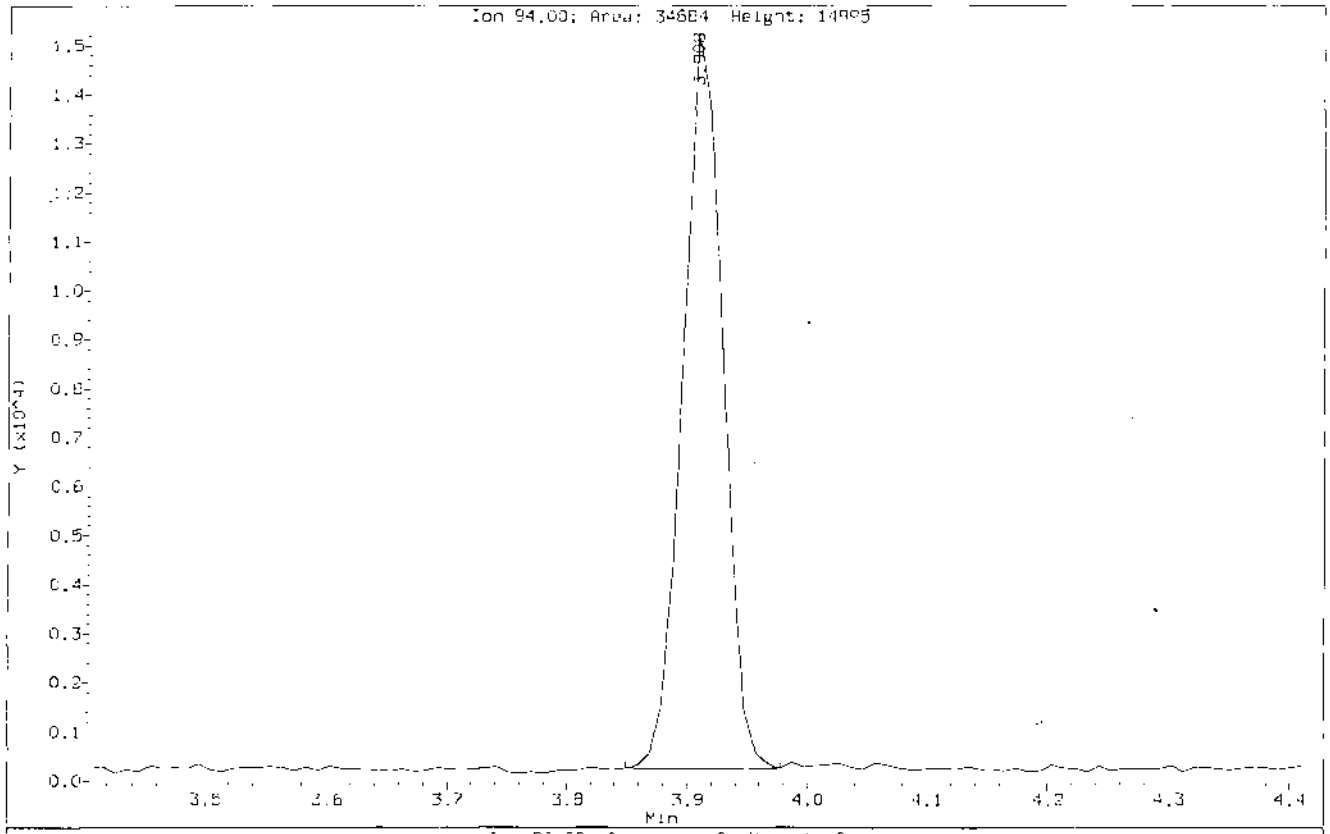
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
$	17 1,2-Dichlorobenzene-d4	152	12.856	12.861	(1.023)	63841	126.857	5.1
	56 Ethylbenzene	91	11.143	11.129	(1.005)	1738	0.74871	0.030(a)
	57 m,p-Xylene	106	Compound Not Detected.					
	58 o-Xylene	106	Compound Not Detected.					
	59 Styrene	104	Compound Not Detected.					
M	69 Xylene (Total)	106	Compound Not Detected.					

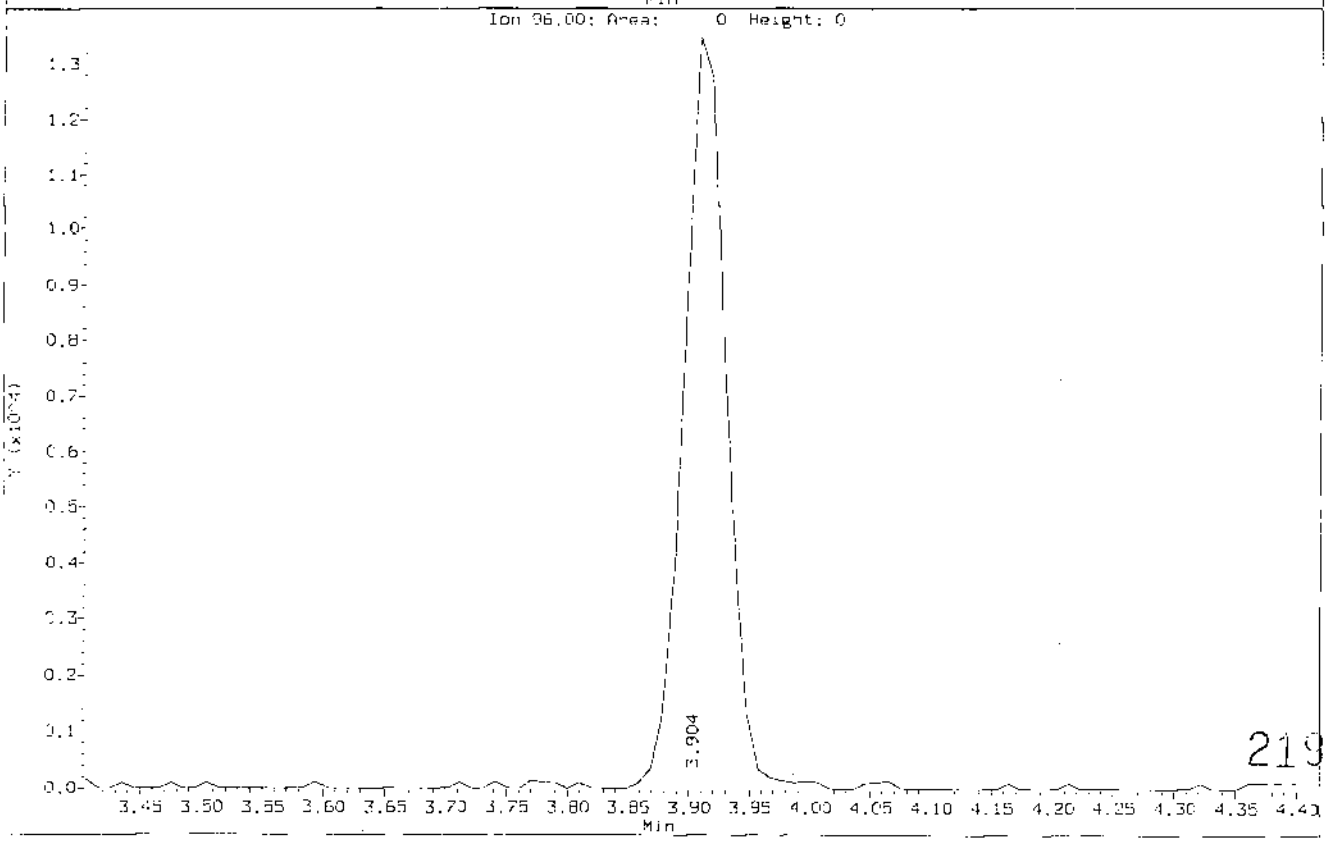
QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: /chem/5972hp73.i/0F030416873.b/CS030416873.d
Injection Date: 16-APR-2003 19:58
Instrument: 5972hp73.i
Client Sample ID: VST0005FX

Compound: Bromomethane
CAS Number: 74-83-9





219

COMPUCHEM a division of Liberty Analytical Corp DATE 4/16/03 INITIAL TIME OF TUNE 1942 SHIFT/S(A) (B) ✓ (C)

GC/MS VOLATILE RUN LOG TIME TUNE EXPIRES 742 LINKER /METHOD CC-3 SPX 624

COMPUCHEM LOGBOOK 11 ZZZ 8 (5972hp73)

PREVENTIVE MAINTENANCE

	REPORTED	FILE NAME	ACCEPTED	DATE	TIME	CLIENT ID#	CASE/SDG#	SAMPLE VOLUME	CHEMIST	COMMENTS(ETC.)/DISPOSITION
1		MX0304161573	✓	4/16/03	1943	[illegible]	—	25ml	2513	
2		CS0304161573	✓	/ /	1953	[illegible]	X 04-21-03	25ml		
3		[illegible]	✓	/ /	2031	[illegible]	[illegible]			
4	✓	F0F77-70173	SL	/ /	2108	F0F71	F0F77	15ml		
5		CWCW7-1573	✓	/ /	2133	CWCW7	CWCW7	25ml		
6		CWCW7-2573	✓	/ /	2155	CWCW9				
7	✓	CWCW7-3573	DI	/ /	2218	CWCW9				
8	✓	YORF4-1573	DI	/ /	2243	YORF4	YORF4			Chlorobenzene
9	✓	R1435-1173	DI	4/16 /	2307	AC-101	R1435			Carbon Disulfide
10	✓	R1435-1173	DI	/ /	2326	AC-102				Carbon Disulfide (2:1) Non Target Peaks
11	✓	R1435-1373	DI	/ /	2354	[illegible]				
12		R1438-1473	✓	4/17/03	0018	[illegible]				
13		R1438-1573	✓	/ /	0041	[illegible]				
14		L1471-1573	✓	/ /	0105	[illegible]	L1471			
15		[illegible]	✓	/ /	0129	[illegible]				
16		[illegible]	✓	/ /	0152	[illegible]				
17		L1471-2573	✓	/ /	0216	[illegible]				
18		L1471-3573	✓	/ /	0239	[illegible]				
19	✓	L1471-4573	DI	/ /	0303	[illegible]				
20	✓	[illegible]	DI	/ /	0327	[illegible]	KDR005			[illegible]
21	✓	[illegible]	L	/ /	0351	[illegible]	KDR005			[illegible]
22				/ /						Sample limit
23				/ /						
24				/ /						

SUPERVISOR APPROVAL [signature] Date 4/17/03

Tune (ID #7008) Lot No. 5 4304

Calibration Group Code / Lot No. 0493

The presence of the Chemist's employee ID number, or signature, on this run log attests that strict compliance with the method's SOP has occurred. Any SOP deviations require documentation by the responsible chemist together with the chemist's initials and the initials of the lab supervisor and a QA department representative, signifying approval of the deviation.

2020 03.doc

7LCA

LOW CONCENTRATION WATER VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Instrument ID: 5972HP73 Calibration Date: 04/17/2003 Time: 0823

Lab File ID: CS030417A73 Init. Calib. Date(s): 04/16/2003 04/16/2003

EPA Sample No.(VSTD005##): VSTD005PW Init. Calib. Times: 0918 1300

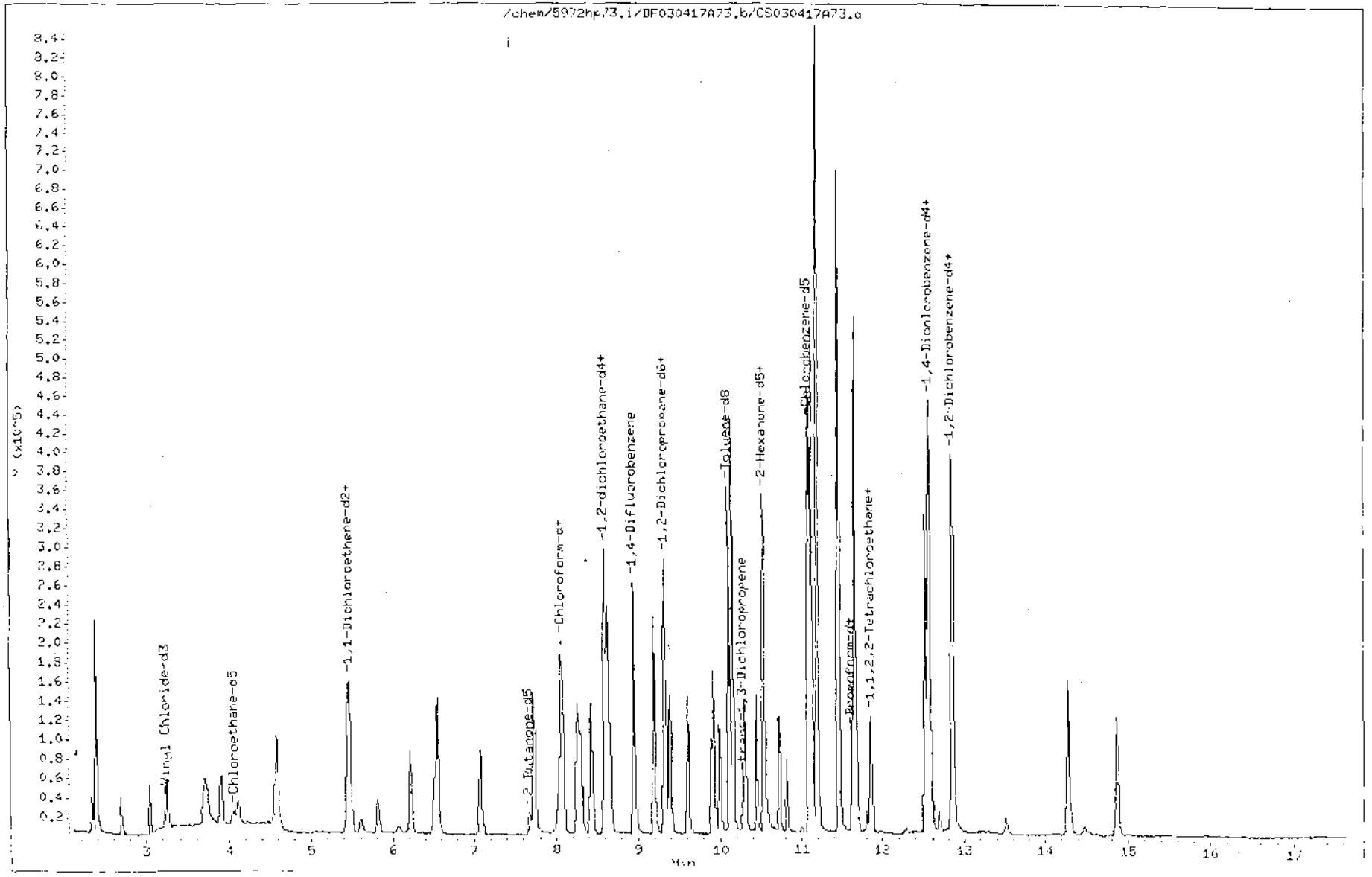
GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

COMPOUND	$\overline{RRF}$	RRF5	MIN RRF	%D	MAX %D
Ethylbenzene	1.685	1.539	0.100	-8.7	30.0
Xylene (Total)	0.607	0.557	0.300	8.2	30.0
Styrene	0.890	0.827	0.300	-7.1	30.0
Vinyl Chloride-d3	0.135	0.044		-67.4	
Chloroethane-d5	0.120	0.064		-46.7	
1,1-Dichloroethene-d2	0.443	0.337		-23.9	
2-Butanone-d5	0.027	0.026		-3.7	
Chloroform-d	0.588	0.545		-7.3	
1,2-dichloroethane-d4	0.200	0.183		-8.5	
Benzene-d6	1.278	1.195		-6.5	
1,2-Dichloropropane-d6	0.337	0.320		-5.0	
Toluene-d8	1.224	1.073		-12.3	
trans-1,3-Dichloropropene-d4	0.071	0.063		-11.3	
2-Hexanone-d5	0.036	0.032		-11.1	
Bromoform-d	0.345	0.332		-3.8	
1,1,2,2-Tetrachloroethane-d2	0.208	0.202		2.9	
1,2-Dichlorobenzene-d4	0.839	0.771		-8.1	

All other compounds must meet a minimum RRF of 0.010.

Data File: /chem/5972hp73.i/DF030417A73.b/CS030417A73.d
Date : 17 APR-2003 08:23
Client ID: WSTD005HW
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2537
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030417A73.b/CS030417A73.d
Report Date: 18-Apr-2003 11:18

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030417A73.b/CS030417A73.d
Lab Smp Id: VSTD005FW Client Smp ID: VSTD005FW
Inj Date : 17-APR-2003 08:23
Operator : 2537 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030417A73.b/OLC03v3.m
Meth Date : 18-Apr-2003 11:06 curtis Quant Type: ISTD
Cal Date : 17-APR-2003 08:23 Cal File: CS030417A73.d
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
1 1,4-Difluorobenzene	114	8.954	8.954	(1.000)	261434	125.000	
2 Chlorobenzene-d5	117	11.080	11.080	(1.000)	219840	125.000	
3 1,4-Dichlorobenzene-d4	152	12.566	12.566	(1.000)	98835	125.000	
4 Vinyl Chloride-d3	65	3.235	3.235	(0.361)	11549	125.000	41(M)
5 Chloroethane-d5	69	4.052	4.052	(0.453)	16855	125.000	67
6 1,1-Dichloroethene-d2	63	5.469	5.469	(0.611)	88361	125.000	95
7 2-Butanone-d5	46	7.674	7.674	(0.857)	34562	625.000	600
8 Chloroform-d	84	8.058	8.058	(0.900)	143054	125.000	120
9 1,2-dichloroethane-d4	65	8.599	8.599	(0.960)	47902	125.000	110
10 Benzene-d6	84	8.599	8.599	(0.776)	262684	125.000	120
11 1,2-Dichloropropane-d6	67	9.328	9.328	(0.842)	70430	125.000	120
12 Toluene-d8	98	10.115	10.115	(0.913)	235865	125.000	110
13 trans-1,3-Dichloropropene-d4	79	10.292	10.292	(0.929)	13836	125.000	110
14 2-Hexanone-d5	63	10.528	10.528	(0.950)	34988	625.000	560
15 1,1,2,2-Tetrachloroethane-d2	84	11.847	11.847	(1.069)	44331	125.000	120
16 Bromoform-d	174	11.621	11.621	(0.925)	32917	125.000	120

Data File: /chem/5972hp73.i/DF030417A73.b/CS030417A73.d
Report Date: 18-Apr-2003 11:18

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
C 17 1,2-Dichlorobenzene-d4	152	12.861	12.861	(1.023)	76248	125.000	110
18 Dichlorodifluoromethane	85	2.694	2.694	(0.301)	36962	125.000	74
19 Chloromethane	50	3.048	3.048	(0.340)	47540	125.000	110
20 Vinyl Chloride	62	3.255	3.255	(0.364)	46416	125.000	120
21 Bromomethane	94	3.914	3.914	(0.437)	39362	125.000	120
22 Chloroethane	64	4.111	4.111	(0.459)	26870	125.000	120
23 Trichlorofluoromethane	101	4.583	4.583	(0.512)	140606	125.000	150
24 1,1-Dichloroethene	96	5.489	5.489	(0.613)	33726	125.000	120
25 1,1,2-Trichloro-1,2,2-triflu	101	5.459	5.459	(0.610)	47300	125.000	110
26 Acetone	43	5.607	5.607	(0.626)	22166	625.000	530
27 Carbon Disulfide	76	5.824	5.824	(0.650)	56184	125.000	120
28 Methyl Acetate	43	6.070	6.070	(0.678)	12562	125.000	140
29 Bromochloromethane	128	6.019	6.019	(0.696)	9026	125.000	120
30 Methylene Chloride	84	6.227	6.227	(0.695)	56187	125.000	130
31 trans-1,2-Dichloroethene	96	6.562	6.562	(0.733)	66235	125.000	120
32 Methyl tert Butyl Ether	73	6.532	6.532	(0.730)	95714	125.000	130
33 1,1-Dichloroethane	63	7.083	7.083	(0.791)	131850	125.000	130
34 cis-1,2-Dichloroethene	96	7.733	7.733	(0.864)	79513	125.000	130
35 2-Butanone	43	7.743	7.743	(0.865)	50489	625.000	600
36 Chloroform	83	8.078	8.078	(0.902)	132655	125.000	130
37 1,1,1 Trichloroethane	97	8.265	8.265	(0.746)	125118	125.000	120
38 Cyclohexane	56	8.304	8.304	(0.749)	55096	125.000	110
39 Carbon Tetrachloride	117	8.432	8.432	(0.761)	101157	125.000	110
40 Benzene	78	8.639	8.639	(0.780)	241154	125.000	120
41 1,2-Dichloroethane	62	8.668	8.668	(0.968)	55693	125.000	120
42 Trichloroethene	95	9.200	9.200	(0.830)	74384	125.000	120
43 Methylcyclohexane	83	9.337	9.337	(0.843)	114216	125.000	120
44 1,2 Dichloropropane	63	9.396	9.396	(0.848)	52973	125.000	120
45 Bromodichloromethane	83	9.613	9.613	(0.868)	88559	125.000	120
46 cis-1,3-Dichloropropene	75	9.928	9.928	(0.896)	98613	125.000	120
47 4-Methyl-2-Pentanone	43	9.997	9.997	(0.902)	73085	625.000	620
48 Toluene	91	10.164	10.164	(0.917)	297376	125.000	120
49 trans-1,3-Dichloropropene	75	10.312	10.312	(0.931)	74352	125.000	120
50 1,1,2-Trichloroethane	97	10.450	10.450	(0.943)	44464	125.000	120
51 Tetrachloroethene	164	10.548	10.548	(0.952)	67456	125.000	110
52 2-Hexanone	43	10.568	10.568	(0.954)	49724	625.000	590
53 Dibromochloromethane	129	10.735	10.735	(0.969)	66028	125.000	120
54 1,2 Dibromoethane	107	10.824	10.824	(0.977)	47277	125.000	120
55 Chlorobenzene	112	11.059	11.059	(1.002)	202174	125.000	120
56 Ethylbenzene	91	11.129	11.129	(1.004)	338267	125.000	110
57 m,p-Xylene	106	11.198	11.198	(1.011)	353644	250.000	220
58 o-Xylene	106	11.454	11.454	(1.034)	122386	125.000	110
59 Styrene	104	11.463	11.463	(1.035)	181787	125.000	120
60 Bromoform	173	11.631	11.631	(0.926)	35362	125.000	120
61 Isopropylbenzene	105	11.660	11.660	(1.052)	354387	125.000	120
62 1,1,2,2-Tetrachloroethane	83	11.867	11.867	(1.071)	45801	125.000	120
63 1,3-Dichlorobenzene	146	12.526	12.526	(0.957)	164926	125.000	120

Data File: /chem/5972hp73.i/DF030417A73.b/CS030417A73.d
Report Date: 18-Apr-2003 11:18

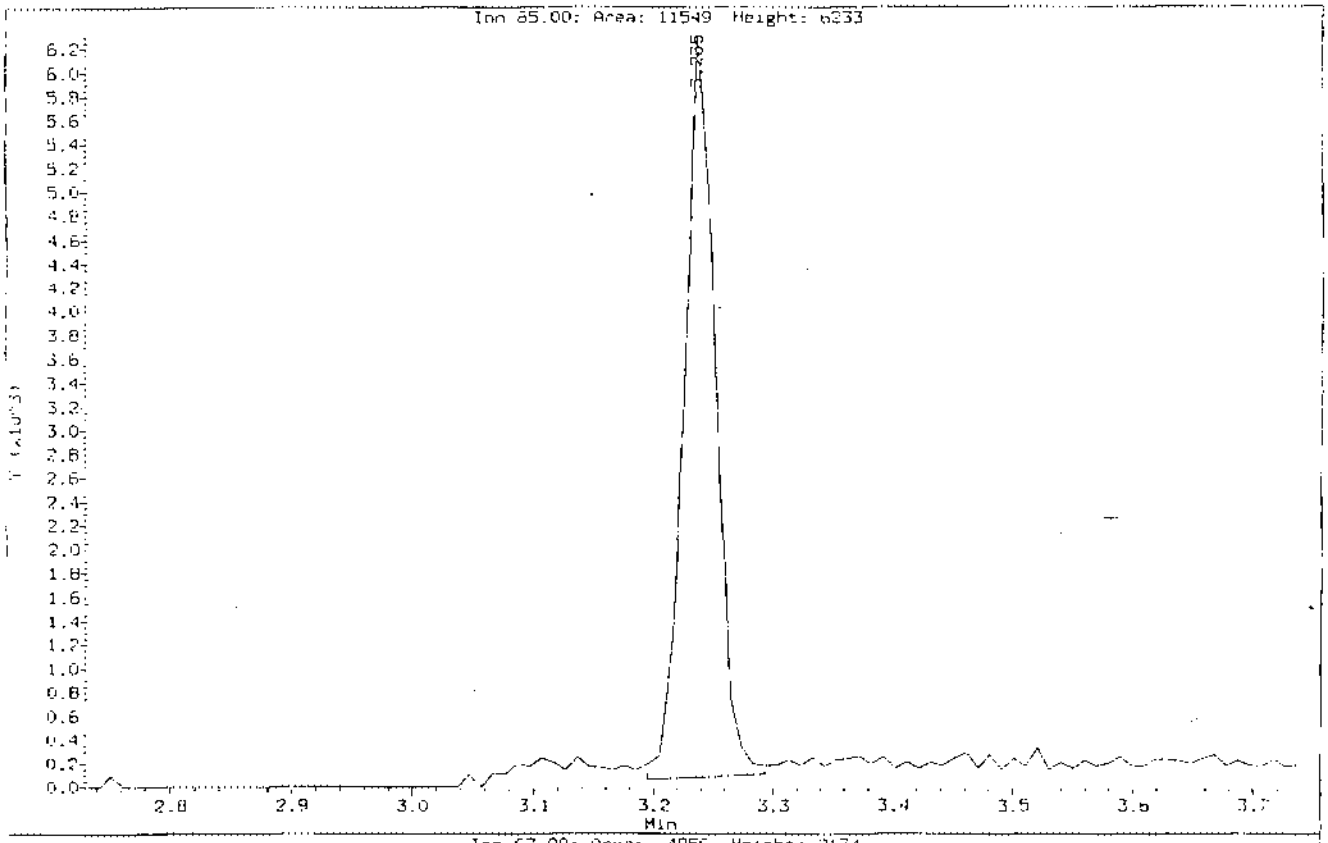
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)
64 1,4-Dichlorobenzene	146	12.585	12.585	(1.002)	159235	125.000	120
65 1,2-Dichlorobenzene	146	12.871	12.871	(1.024)	130739	125.000	110
66 1,2-Dibromo-3-Chloropropane	75	13.511	13.511	(1.075)	4575	125.000	110
67 1,2,4-Trichlorobenzene	180	14.278	14.278	(1.136)	78295	125.000	110
68 1,2,3-Trichlorobenzene	180	14.869	14.869	(1.183)	62663	125.000	120
69 Xylene (Total)	106				375030	125.000	350

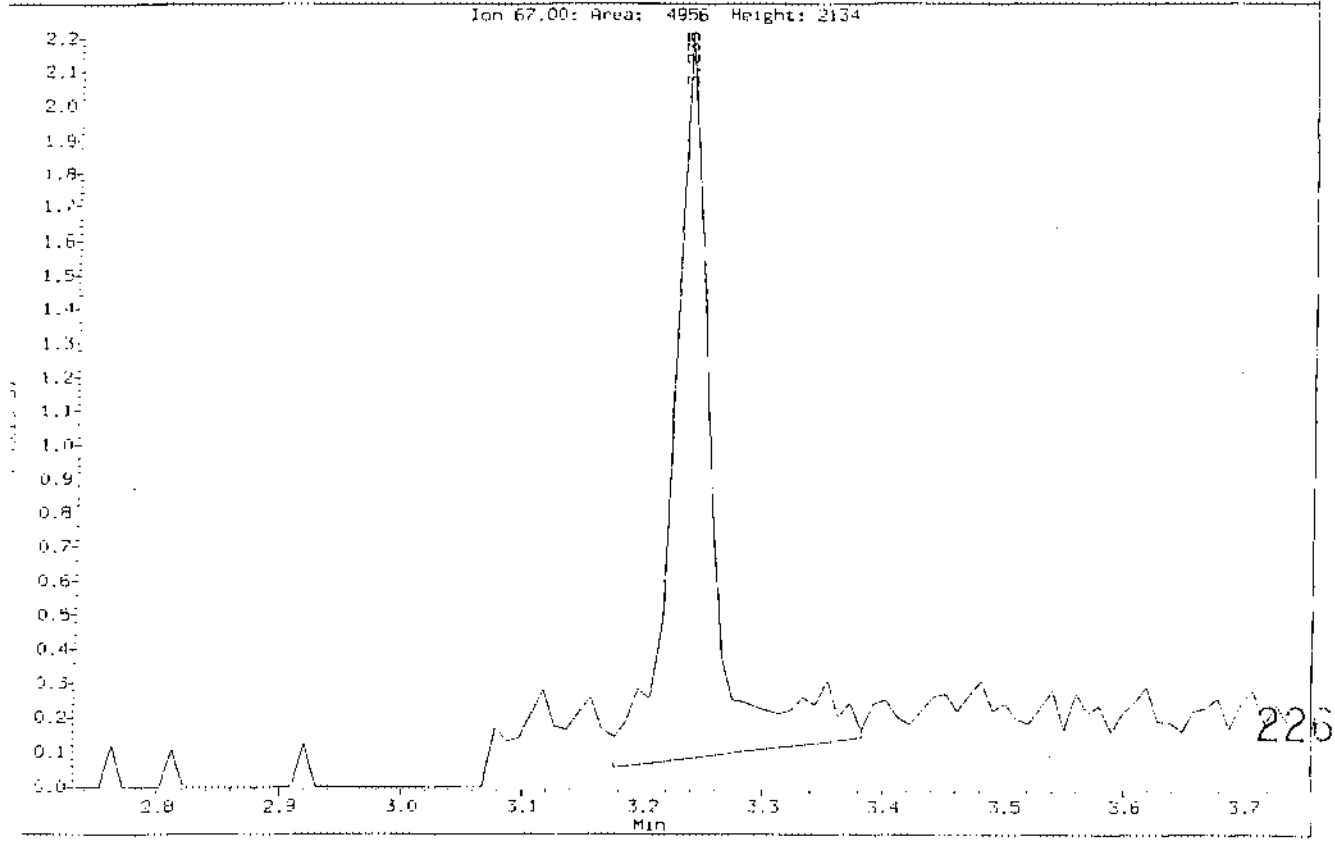
QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/5972hp73.i/DF030417A73.b/CS030417A73.d
Injection Date: 17-APR-2003 08:23
Instrument: 5972hp73.i
Client Sample ID: VSTD005FW

Compound: Vinyl Chloride-d3
CAS Number: 6745-35-3





COMPUCHEM a division of Liberty Analytical Corp DATE 4 / 17 / 03 INITIAL TIME OF TUNE 0753 SHIFT/S(A) ✓ (B) ____ (C) ____

GC/MS VOLATILE RUN LOG TIME TUNE EXPIRES 1553 LINKER /METHOD [illegible]

COMPUCHEM LOGBOOK 11 ZZZ 8 (5972hp73)

PREVENTIVE MAINTENANCE None

	FILE NAME	DATE	TIME	CLIENT ID#	CASE/SDG#	SAMPLE VOLUME	CHEMIST	COMMENTS(ETC.)/DISPOSITION
1	[illegible]	4/17/03	0753	BFB	—	2 ml	2527	[illegible]
2	CS 1	/ /	0823	[illegible]	—	25 ml		
3	[illegible]	/ /	0851	VBLK20	VAR[illegible]	1		
4	FOF77-7DL A73	/ /	0941	FOF77	FOF77	[illegible]		
5	CWQW7-3D A73	/ /	1005	CWQW7	CWQW7	3 ml/25 ml		
6	~~[illegible]~~	/ /		~~[illegible]~~	~~[illegible]~~	~~[illegible]~~		[illegible]
7	~~[illegible]~~	/ /		~~[illegible]~~	~~[illegible]~~	~~[illegible]~~		
8	[illegible]	4/17/03	1023	YORF4	YORF4	4 ml/25 ml	2527	
9	[illegible]	/ /	1052	IEAM036	[illegible]	3 ml/25 ml		
10	[illegible]	/ /	1132	VABLK20	VAR[illegible]	25 ml		[illegible]
11		/ /						
12		/ /						
13		/ /						
14		/ /						
15		/ /						
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23		/ /						
24		/ /						

SUPERVISOR APPROVAL [signature] Date 4-17-03

Tune (ID #7008) Lot No. 5937

Calibration Group Code / Lot No. [illegible]

The presence of the Chemist's employee ID number, or signature, on this run log attests that strict compliance with the method's SOP has occurred. Any SOP deviations require documentation by the responsible chemist together with the chemist's initials and the initials of the lab supervisor and a QA department representative, signifying approval of the deviation

4. Volatiles Raw QC Data

a. BFB Data

b. Blank Data

c. Matrix Spike Data

d. Matrix Spike Duplicate Data

a. BFB Data

For each 12 hour period, per instrument utilized, include:

- Bar Graph Spectrum and Tabulated Relative Abundances
- Mass listing
- Reconstructed total Ion Chromatogram

Data File: /chem/5972hp73.i/BF030408A73.b/BF030408A73.d

Date : 08-APR-2003 07:50

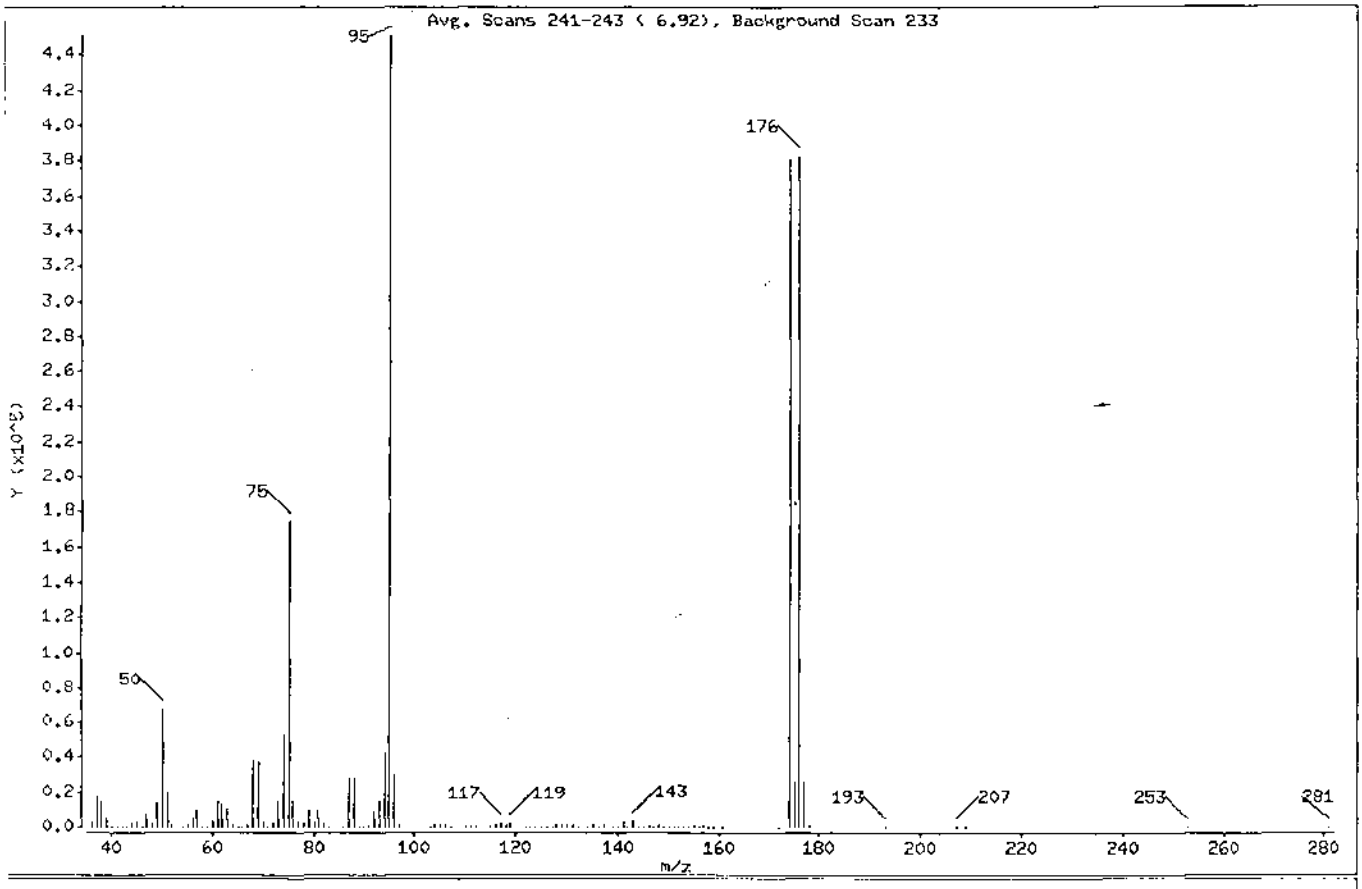
Client ID: BFB | Instrument: 5972hp73.i

Sample Info:

Volume Injected (uL): 2.0 | Operator: 2537

Column phase: ZB-624 | Column diameter: 0.32

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	8.00 - 40.00% of mass 95	14.91
75	30.00 - 66.00% of mass 95	38.68
96	5.00 - 9.00% of mass 95	6.67
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	84.36
175	4.00 - 9.00% of mass 174	5.80 (6.87)
176	93.00 - 101.00% of mass 174	84.79 (100.51)
177	5.00 - 9.00% of mass 176	5.68 (6.70)

Data File: /chem/5972hp73.i/BF030408A73.b/BF030408A73.d

Date : 08-APR-2003 07:50

Client ID: BFB | Instrument: 5972hp73.i

Sample Info:

Volume Injected (uL): 2.0 | Operator: 2537

Column phase: ZB-624 | Column diameter: 0.32

Data File: BF030408A73.d

Spectrum: Avg. Scans 241-243 (6.92), Background Scan 233

Location of Maximum: 95.00

Number of points: 121

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	3517	68.00	37920	106.00	1478	144.00	214
37.00	17488	69.00	37304	107.00	478	145.00	223
38.00	14874	70.00	2940	110.00	171	146.00	575
39.00	5668	71.00	128	111.00	216	147.00	207
40.00	474	72.00	1946	112.00	170	148.00	942
41.00	222	73.00	14295	113.00	309	149.00	160
42.00	33	74.00	52880	115.00	419	150.00	301
43.00	61	75.00	174336	116.00	1130	151.00	50
44.00	1687	76.00	14581	117.00	2092	152.00	191
45.00	3350	77.00	2731	118.00	1341	153.00	292
46.00	196	78.00	1916	119.00	1695	154.00	259
47.00	6830	79.00	9591	122.00	129	155.00	885
48.00	2179	80.00	2780	123.00	46	156.00	182
49.00	13656	81.00	9702	124.00	254	157.00	734
50.00	67232	82.00	2027	125.00	79	158.00	97
51.00	19688	83.00	39	126.00	207	159.00	365
52.00	891	86.00	205	127.00	176	161.00	359
54.00	90	87.00	27800	128.00	1173	172.00	221
55.00	872	88.00	27512	129.00	582	174.00	380288
56.00	4827	89.00	34	130.00	1251	175.00	26128
57.00	9339	90.00	37	131.00	530	176.00	382272
58.00	450	91.00	1229	132.00	35	177.00	25600
59.00	75	92.00	9597	134.00	142	178.00	743
60.00	2996	93.00	14147	135.00	539	193.00	6
61.00	14234	94.00	42272	136.00	96	207.00	112
62.00	13980	95.00	450816	137.00	561	209.00	11
63.00	10206	96.00	30048	139.00	121	253.00	90
64.00	1068	97.00	1115	140.00	170	281.00	82
65.00	85	103.00	173	141.00	2626		
66.00	37	104.00	1520	142.00	361		
67.00	903	105.00	588	143.00	2634		

Data File: /chem/5972hp73.i/BF030408A73.b/BF030408A73.d
Date : 08-APR-2003 07:50
Client ID: BFB
Sample Info:
Volume Injected (uL): 2.0
Column phase: ZB-624

Instrument: 5972hp73.i
Operator: 2537
Column diameter: 0.32

COPY
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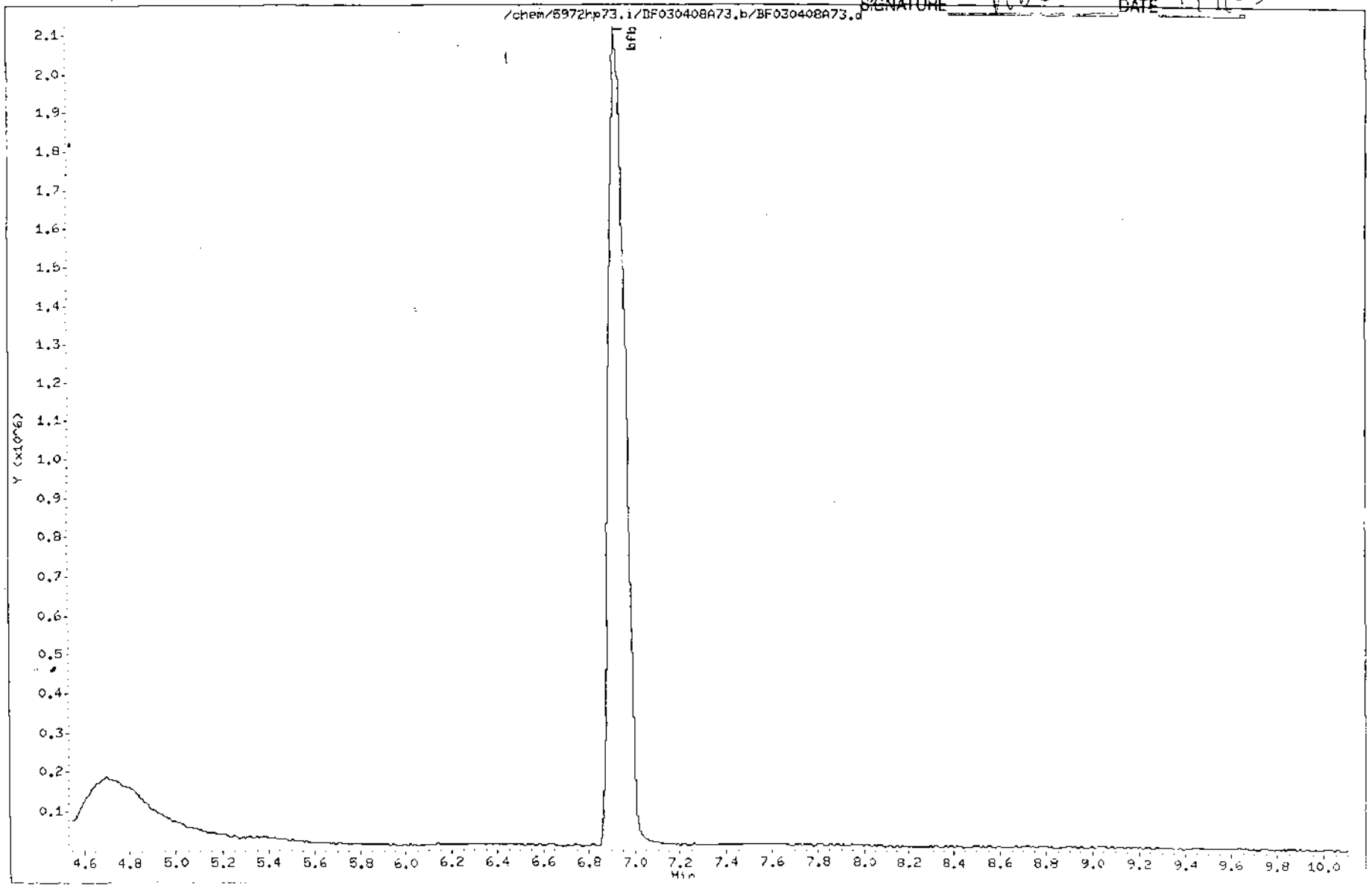
SIGNATURE MDC DATE 4/9/03



Data File: /chem/5972hp73.i/DF030409A73.b/BF030409A73.d

Date : 09-APR-2003 12:26

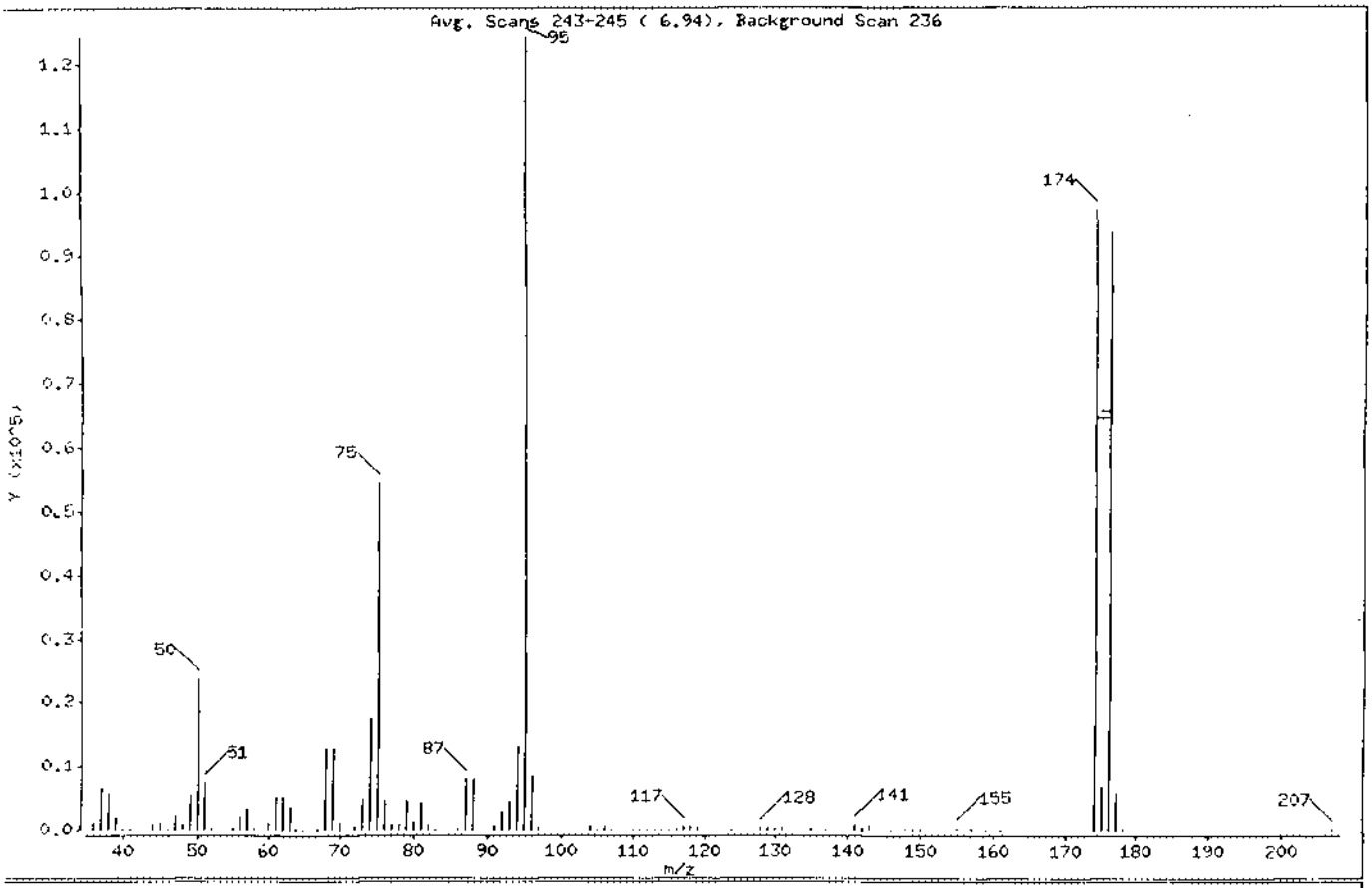
Client ID: BFB | Instrument: 5972hp73.i

Sample Info: BFB:2537

Volume Injected (uL): 2.0 | Operator: 2537

Column phase: ZB-624 | Column diameter: 0.32

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	8.00 - 40.00% of mass 95	19.18
75	30.00 - 66.00% of mass 95	43.95
96	5.00 - 9.00% of mass 95	6.99
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	78.10
175	4.00 - 9.00% of mass 174	5.45 (6.98)
176	93.00 - 101.00% of mass 174	75.48 (96.65)
177	5.00 - 9.00% of mass 176	4.92 (6.51)

Data File: /chem/5972hp73.i/DF030409A73.b/BF030409A73.d

Date : 09-APR-2003 12:26

Client ID: BFP | Instrument: 5972hp73.i

Sample Info: BF2:2537

Volume Injected (uL): 2.0 | Operator: 2537

Column phase: ZB-624 | Column diameter: 0.32

Data File: BF030409A73.d

Spectrum: Avg. Scans 243-245 (6.94), Background Scan 236

Location of Maximum: 95.00

Number of points: 90

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1216	63.00	3839	92.00	2952	130.00	396
37.00	6695	64.00	346	93.00	4579	131.00	162
38.00	5814	65.00	40	94.00	13159	135.00	218
39.00	2043	67.00	352	95.00	124192	137.00	90
40.00	62	68.00	12962	96.00	6885	141.00	895
41.00	37	69.00	12786	97.00	248	142.00	162
43.00	90	70.00	1014	104.00	622	143.00	853
44.00	845	72.00	529	105.00	125	146.00	122
45.00	1158	73.00	4973	106.00	533	148.00	258
46.00	33	74.00	17448	107.00	115	149.00	34
47.00	2179	75.00	54584	110.00	83	150.00	34
48.00	813	76.00	4609	111.00	40	155.00	215
49.00	5334	77.00	919	112.00	36	157.00	180
50.00	23816	78.00	759	113.00	122	159.00	81
51.00	7424	79.00	4572	114.00	39	161.00	34
52.00	354	80.00	1157	115.00	89	174.00	96992
55.00	419	81.00	4362	116.00	418	175.00	6768
56.00	1984	82.00	922	117.00	659	176.00	93744
57.00	3530	83.00	36	118.00	440	177.00	6105
58.00	160	86.00	217	119.00	493	178.00	157
60.00	1061	87.00	8123	124.00	34	207.00	125
61.00	5264	88.00	7877	128.00	420		
62.00	5048	91.00	503	129.00	193		

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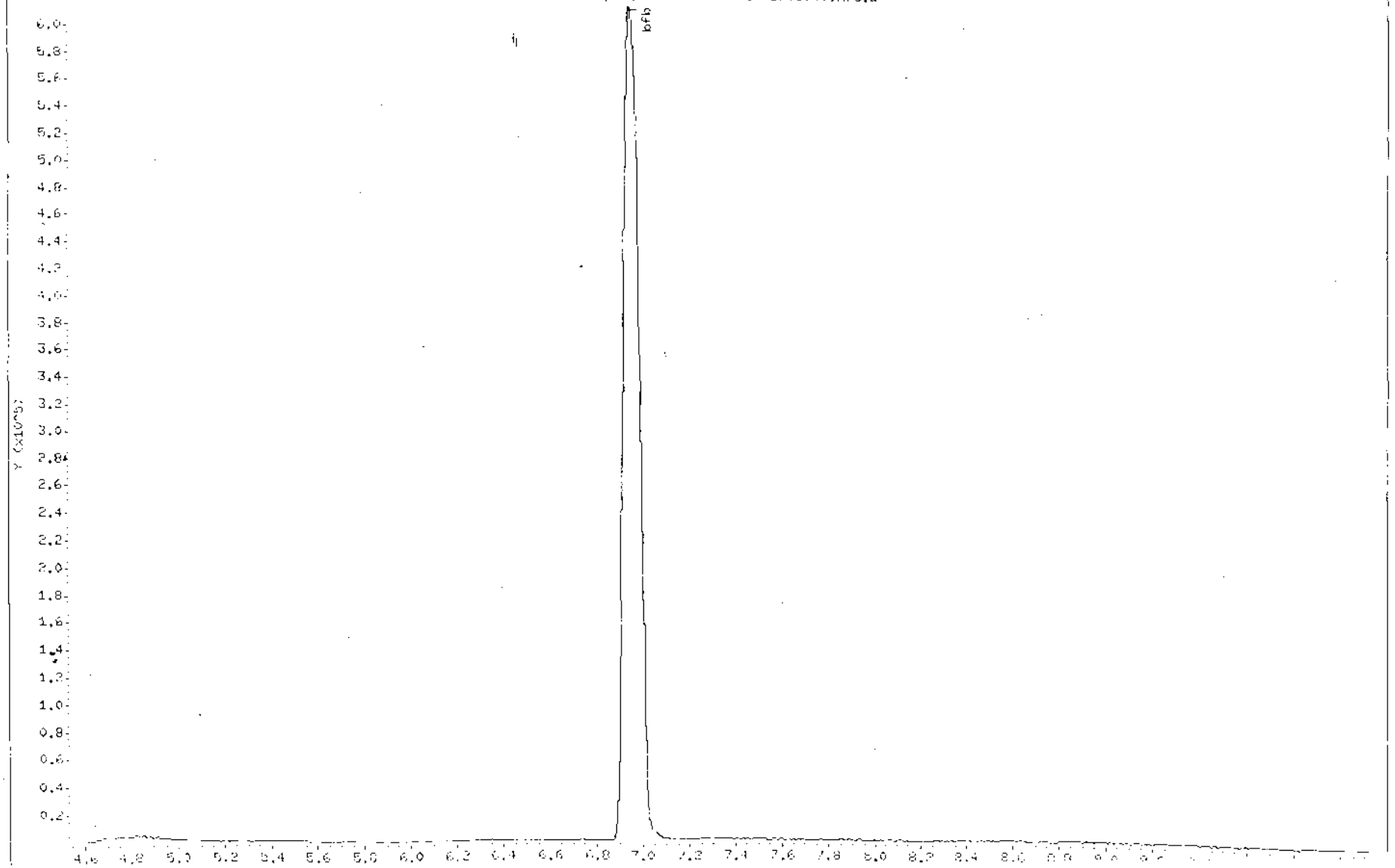
ORIGINAL DOCUMENTS INCLUDED IN CSF- 31374

SIGNATURE [signature] DATE 4/[illegible]

Data File: /chem/5972hp73.i/DF030409A73.b/BF030409A73.d
Date : 09-APR-2003 12:26
Client ID: BFB
Sample Info: BFB;2537
Volume Injected (uL): 2.0
Column phase: ZB-624

Instrument: 5972hp73.i

Operator: 2537
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030410A73.b/BF030410A73.d

Date : 10-APR-2003 07:53

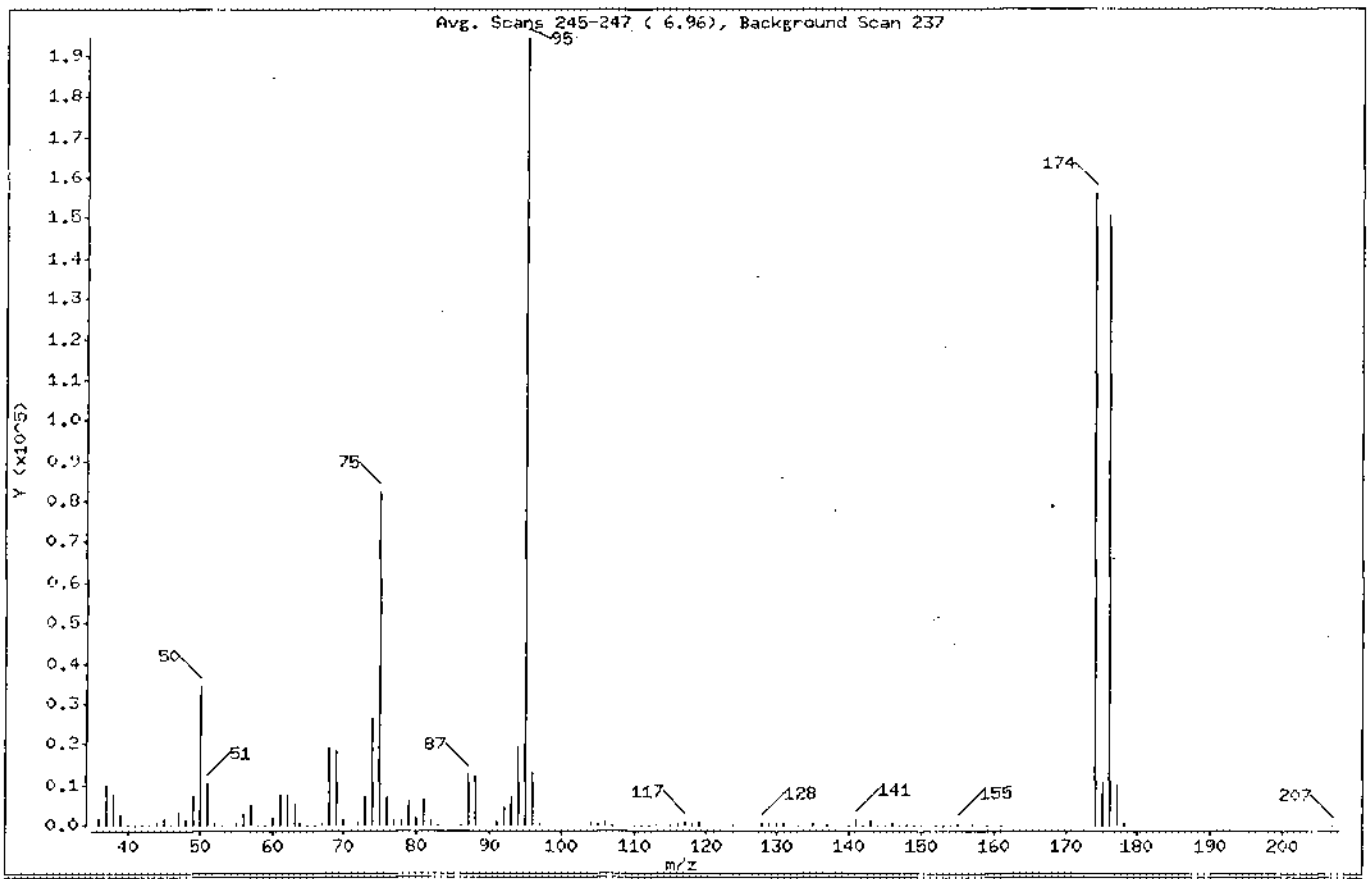
Client ID: BFB | Instrument: 5972hp73.i

Sample Info: BFB:2537

Volume Injected (uL): 2.0 | Operator: 2537

Column phase: ZB-624 | Column diameter: 0.32

1 bfb



m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	8.00 - 40.00% of mass 95	17.61
75	30.00 - 66.00% of mass 95	42.24
96	5.00 - 9.00% of mass 95	6.73
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	80.30
175	4.00 - 9.00% of mass 174	5.61 (6.98)
176	93.00 - 101.00% of mass 174	77.49 (96.50)
177	5.00 - 9.00% of mass 176	5.12 (6.60)

Data File: /chem/5972hp73.i/BF030410A73.b/BF030410A73.d

Date : 10-APR-2003 07:53

Client ID: BFB | Instrument: 5972hp73.i

Sample Info: BFB:2537

Volume Injected (uL): 2.0 | Operator: 2537

Column phase: ZB-624 | Column diameter: 0.32

Data File: BF030410A73.d

Spectrum: Avg. Scans 245-247 (6.96), Background Scan 237

Location of Maximum: 95.00

Number of points: 102

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1715	63.00	5477	94.00	19424	140.00	38
37.00	9772	64.00	501	95.00	194432	141.00	1450
38.00	7751	65.00	34	96.00	13090	142.00	196
39.00	2887	66.00	43	97.00	360	143.00	1333
40.00	66	67.00	576	103.00	34	144.00	36
41.00	44	68.00	19192	104.00	786	145.00	92
42.00	117	69.00	18448	105.00	289	146.00	255
43.00	147	70.00	1548	106.00	729	147.00	148
44.00	890	72.00	912	107.00	222	148.00	418
45.00	1788	73.00	7241	110.00	40	149.00	92
46.00	165	74.00	26528	111.00	169	150.00	145
47.00	3148	75.00	82198	112.00	97	152.00	34
48.00	1204	76.00	7050	113.00	100	153.00	61
49.00	7363	77.00	1273	115.00	194	154.00	41
50.00	34240	78.00	1228	116.00	597	155.00	370
51.00	10158	79.00	5807	117.00	1023	157.00	244
52.00	427	80.00	1636	118.00	582	159.00	157
53.00	34	81.00	6262	119.00	836	161.00	164
55.00	437	82.00	1316	124.00	91	174.00	156096
56.00	2572	83.00	82	128.00	635	175.00	10903
57.00	5108	86.00	157	129.00	249	176.00	150656
58.00	223	87.00	12357	130.00	531	177.00	9951
59.00	36	88.00	11903	131.00	255	178.00	294
60.00	1622	91.00	767	133.00	81	207.00	38
61.00	7667	92.00	4533	135.00	294		
62.00	7395	93.00	6972	137.00	210		

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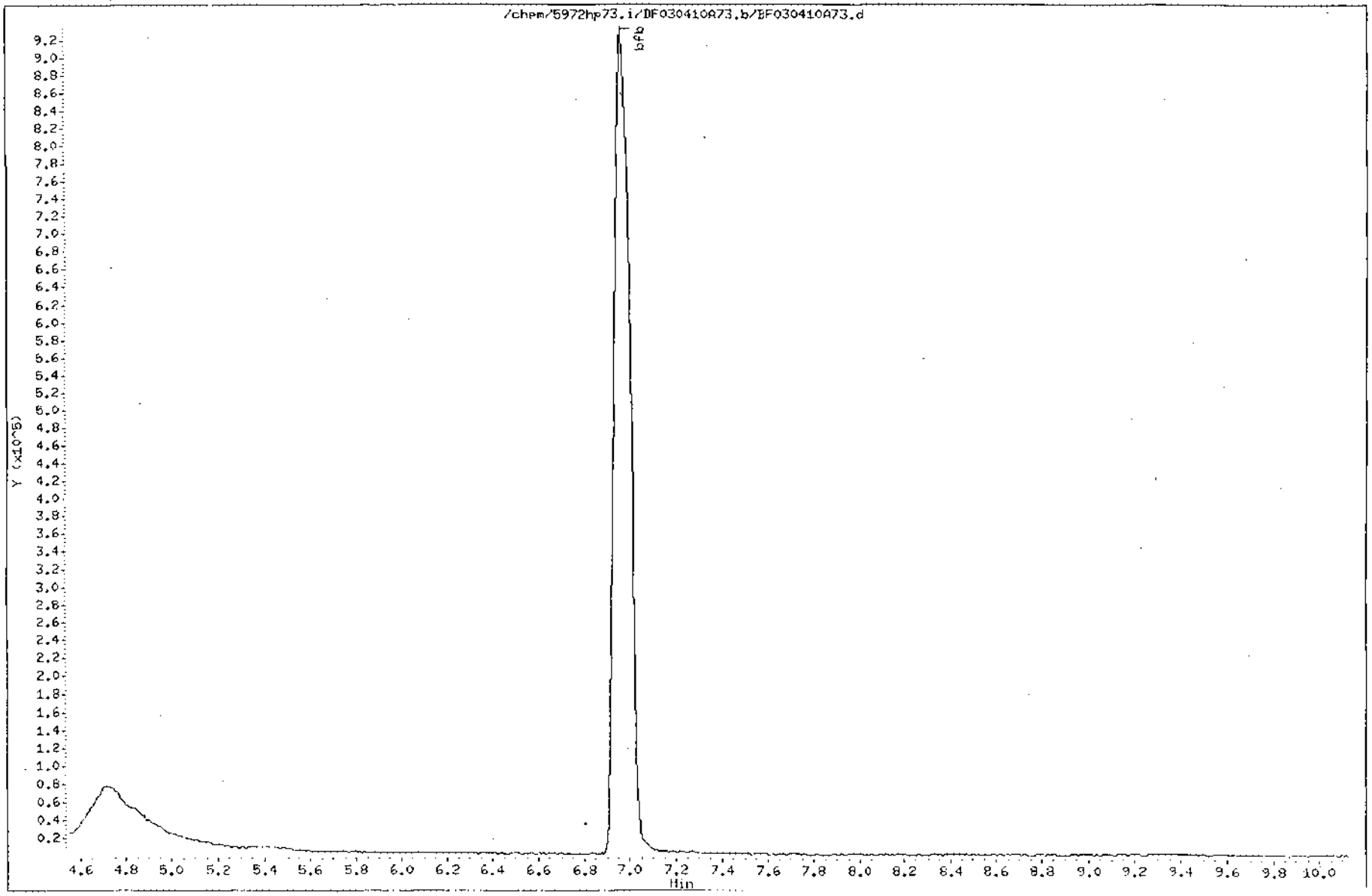
ORIGINAL DOCUMENTS INCLUDED IN CSF 31374 YORET

SIGNATURE [illegible] DATE 4/1/03

Data File: /chem/5972hp73.i/DF030410A73.b/BF030410A73.d
Date : 10-APR-2003 07:53
Client ID: BFB
Sample Info: BFB:2537
Volume Injected (uL): 2.0
Column phase: ZB-624

Instrument: 5972hp73.i
Operator: 2537
Column diameter: 0.32



Data File: /chem/5972hp73.i/BF030416A73.b/BF030416A73.d

Date : 16-APR-2003 08:34

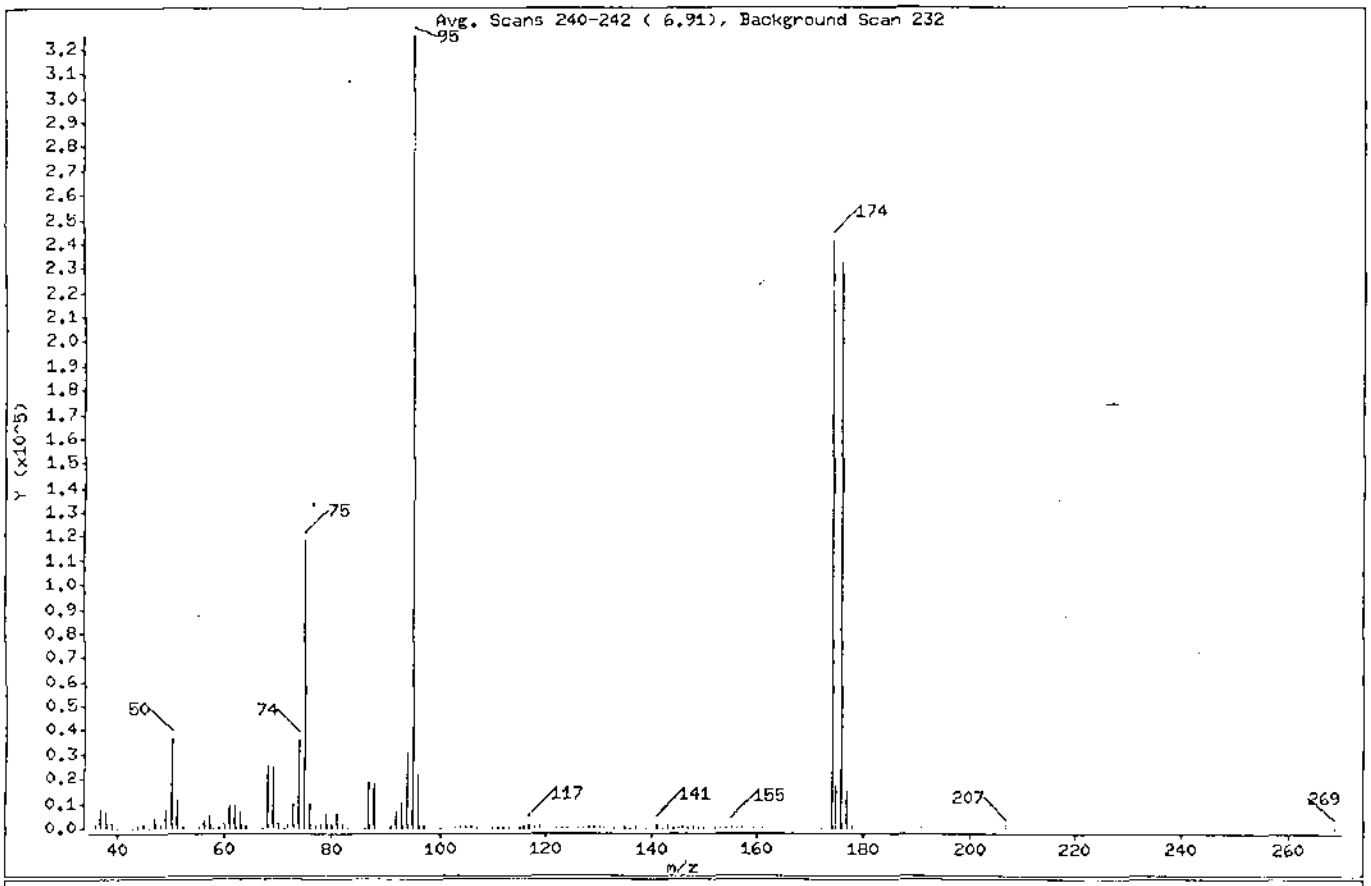
Client ID: BFB | Instrument: 5972hp73.i

Sample Info:

Volume Injected (uL): 2.0 | Operator: 2537

Column phase: ZB-624 | Column diameter: 0.32

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	8.00 - 40.00% of mass 95	11.17
75	30.00 - 66.00% of mass 95	36.24
96	5.00 - 9.00% of mass 95	6.72
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	73.92
175	4.00 - 9.00% of mass 174	5.36 (7.25)
176	93.00 - 101.00% of mass 174	71.23 (96.36)
177	5.00 - 9.00% of mass 176	4.51 (6.33)

Data File: /chem/5972hp73.i/BF030416A73.b/BF030416A73.d

Date : 16-APR-2003 08:34

Client ID: BFB | Instrument: 5972hp73.i

Sample Info:

Volume Injected (uL): 2.0 | Operator: 2537

Column phase: ZB-624 | Column diameter: 0.32

Data File: BF030416A73.d

Spectrum: Avg. Scans 240-242 (6.91), Background Scan 232

Location of Maximum: 95.00

Number of points: 108

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1390	70.00	1893	106.00	989	144.00	137
37.00	7278	71.00	153	107.00	302	145.00	104
38.00	6628	72.00	1225	110.00	131	146.00	408
39.00	2615	73.00	9411	111.00	174	147.00	268
40.00	41	74.00	36160	112.00	53	148.00	632
43.00	117	75.00	117848	113.00	173	149.00	267
44.00	555	76.00	9893	115.00	289	150.00	217
45.00	1477	77.00	1824	116.00	784	152.00	95
46.00	153	78.00	1508	117.00	1432	153.00	196
47.00	3502	79.00	6003	118.00	806	154.00	173
48.00	1244	80.00	1643	119.00	1154	155.00	590
49.00	7385	81.00	5815	122.00	33	156.00	36
50.00	36328	82.00	1164	123.00	34	157.00	447
51.00	11260	83.00	157	124.00	186	159.00	291
52.00	609	86.00	247	126.00	139	161.00	276
55.00	516	87.00	18680	127.00	43	172.00	49
56.00	2850	88.00	17864	128.00	817	174.00	240384
57.00	5352	91.00	826	129.00	405	175.00	17432
58.00	245	92.00	6587	130.00	932	176.00	231616
59.00	33	93.00	10513	131.00	370	177.00	14674
60.00	2057	94.00	30312	133.00	97	178.00	459
61.00	8914	95.00	325184	135.00	437	191.00	44
62.00	8741	96.00	21848	136.00	71	207.00	77
63.00	6394	97.00	616	137.00	386	269.00	24
64.00	603	100.00	38	139.00	107		
67.00	135	103.00	145	141.00	1728		
68.00	25200	104.00	971	142.00	260		
69.00	24464	105.00	403	143.00	1691		

Data File: /chem/5972hp73.i/DF030416A73.b/BF030416A73.d
Date : 16-APR-2003 08:34
Client ID: BFB
Sample Info:
Volume Injected (uL): 2.0
Column phase: ZB-624

Instrument: 5972hp73.i
Operator: 2537
Column diameter: 0.32

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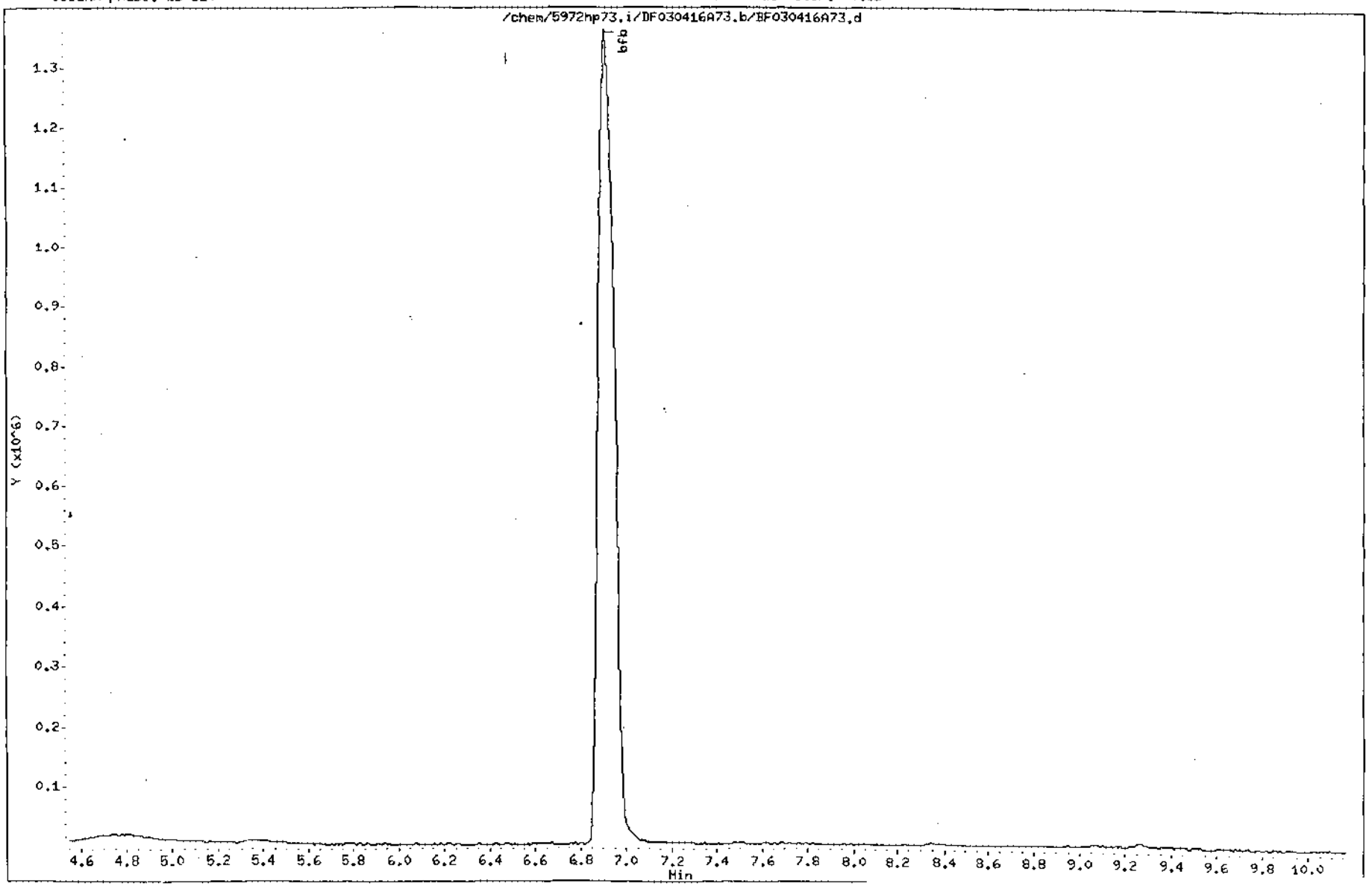
SIGNATURE VMC DATE 4/17/03



Data File: /chem/5972hp73.i/DF030416B73.b/BF030416B73.d

Date : 16-APR-2003 19:42

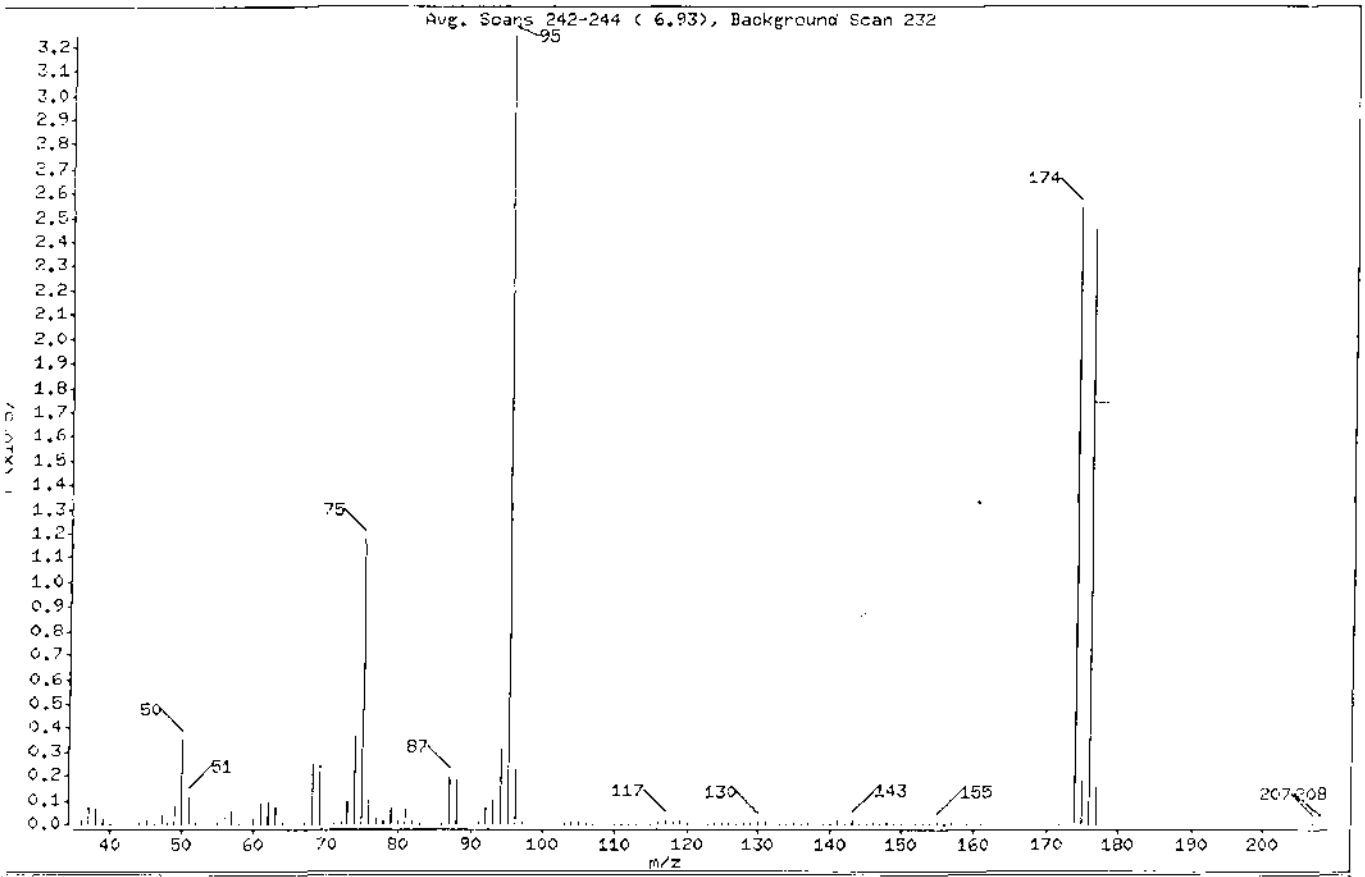
Client ID: BFB | Instrument: 5972hp73.i

Sample Info:

Volume Injected (uL): 2.0 | Operator: 2513

Column phase: ZB-624 | Column diameter: 0.32

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	8.00 - 40.00% of mass 95	10.83
75	30.00 - 66.00% of mass 95	36.07
96	5.00 - 9.00% of mass 95	6.81
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	78.12
175	4.00 - 9.00% of mass 174	5.49 (7.03)
176	93.00 - 101.00% of mass 174	75.43 (96.56)
177	5.00 - 9.00% of mass 176	4.91 (6.51)

Data File: /chem/5972hp73.i/DF030416B73.b/BF030416B73.d

Date : 16-APR-2003 19:42

Client ID: BFB | Instrument: 5972hp73.i

Sample Info:

Volume Injected (uL): 2.0 | Operator: 2513

Column phase: ZB-624 | Column diameter: 0.32

Data File: BF030416B73.d

Spectrum: Avg. Scans 242-244 (6.93), Background Scan 232

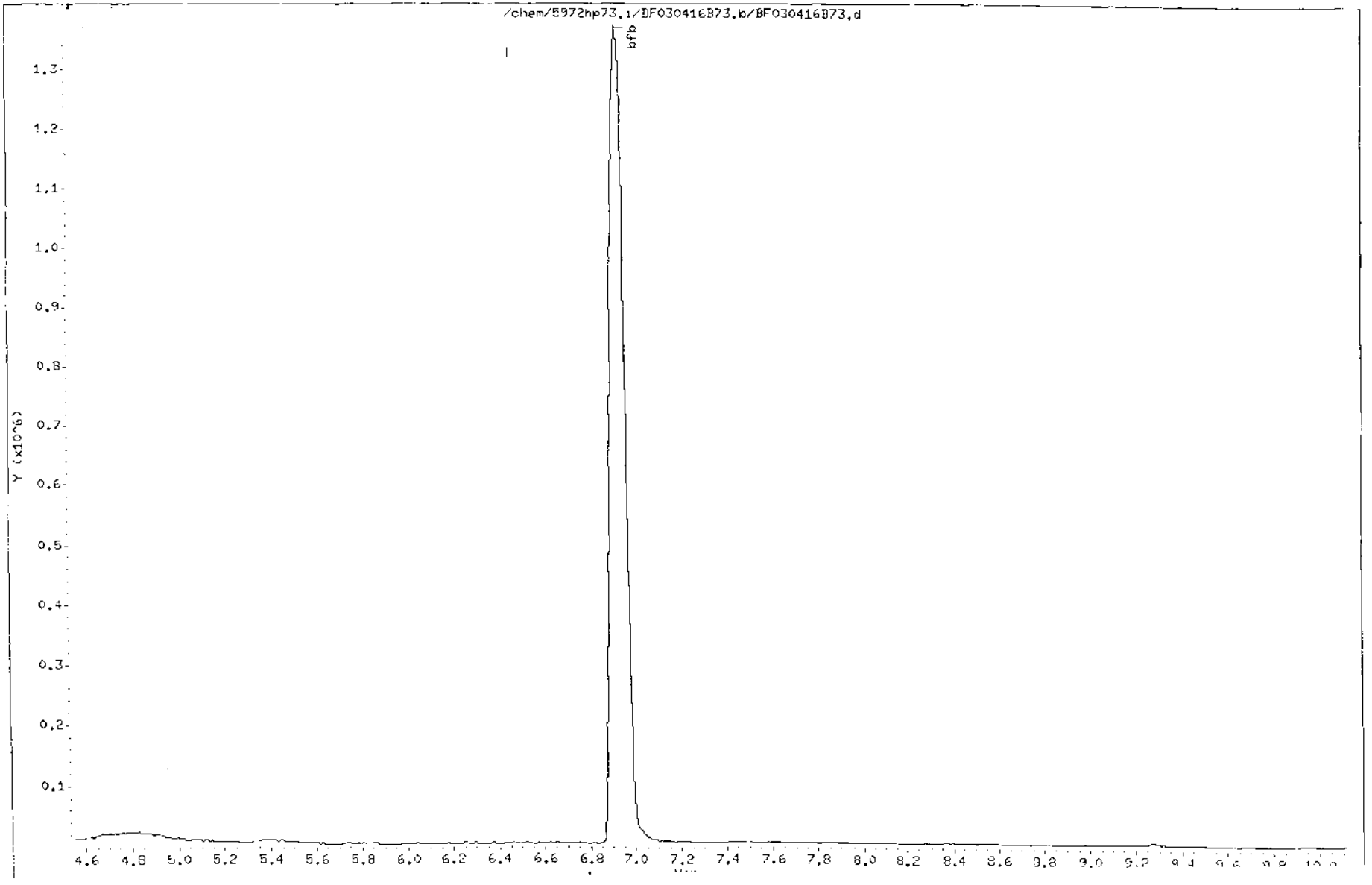
Location of Maximum: 95.00

Number of points: 107

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1423	71.00	35	107.00	311	141.00	1741
37.00	6979	72.00	1074	110.00	90	142.00	243
38.00	6663	73.00	9442	111.00	162	143.00	1770
39.00	2363	74.00	35680	112.00	140	144.00	113
40.00	145	75.00	116984	113.00	159	145.00	97
44.00	996	76.00	9714	115.00	294	146.00	420
45.00	1631	77.00	1898	116.00	810	147.00	193
46.00	89	78.00	1347	117.00	1440	148.00	684
47.00	3387	79.00	6429	118.00	813	149.00	215
48.00	1106	80.00	1692	119.00	1140	150.00	248
49.00	7371	81.00	6157	120.00	35	152.00	98
50.00	35120	82.00	1493	123.00	41	153.00	184
51.00	10881	83.00	123	124.00	175	154.00	180
52.00	524	86.00	169	125.00	121	155.00	609
55.00	717	87.00	19200	126.00	99	156.00	35
56.00	2796	88.00	17928	127.00	42	157.00	470
57.00	5167	91.00	824	128.00	908	159.00	264
58.00	269	92.00	6809	129.00	412	161.00	284
60.00	1969	93.00	10490	130.00	1013	172.00	47
61.00	8745	94.00	30400	131.00	380	174.00	253312
62.00	8748	95.00	324288	133.00	42	175.00	17800
63.00	6476	96.00	22072	134.00	33	176.00	244608
64.00	672	97.00	694	135.00	449	177.00	15925
67.00	571	103.00	88	136.00	38	178.00	302
68.00	24832	104.00	1061	137.00	403	207.00	102
69.00	24032	105.00	388	139.00	41	208.00	34
70.00	1849	106.00	986	140.00	55		

Data File: /chem/5972hp73.i/DF030416B73.b/BF030416B73.d
Date : 16-APR-2003 19:42
Client ID: BFB
Sample Info:
Volume Injected (uL): 2.0
Column phase: ZB-624

Instrument: 5972hp73.i
Operator: 2513
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030417A73.b/5F030417A73.d

Date : 17-APR-2003 07:53

Client ID: BFB | Instrument: 5972hp73.i

Sample Info:

Volume Injected (uL): 2.0 | Operator: 3527

Column phase: ZB-624 | Column diameter: 0.32

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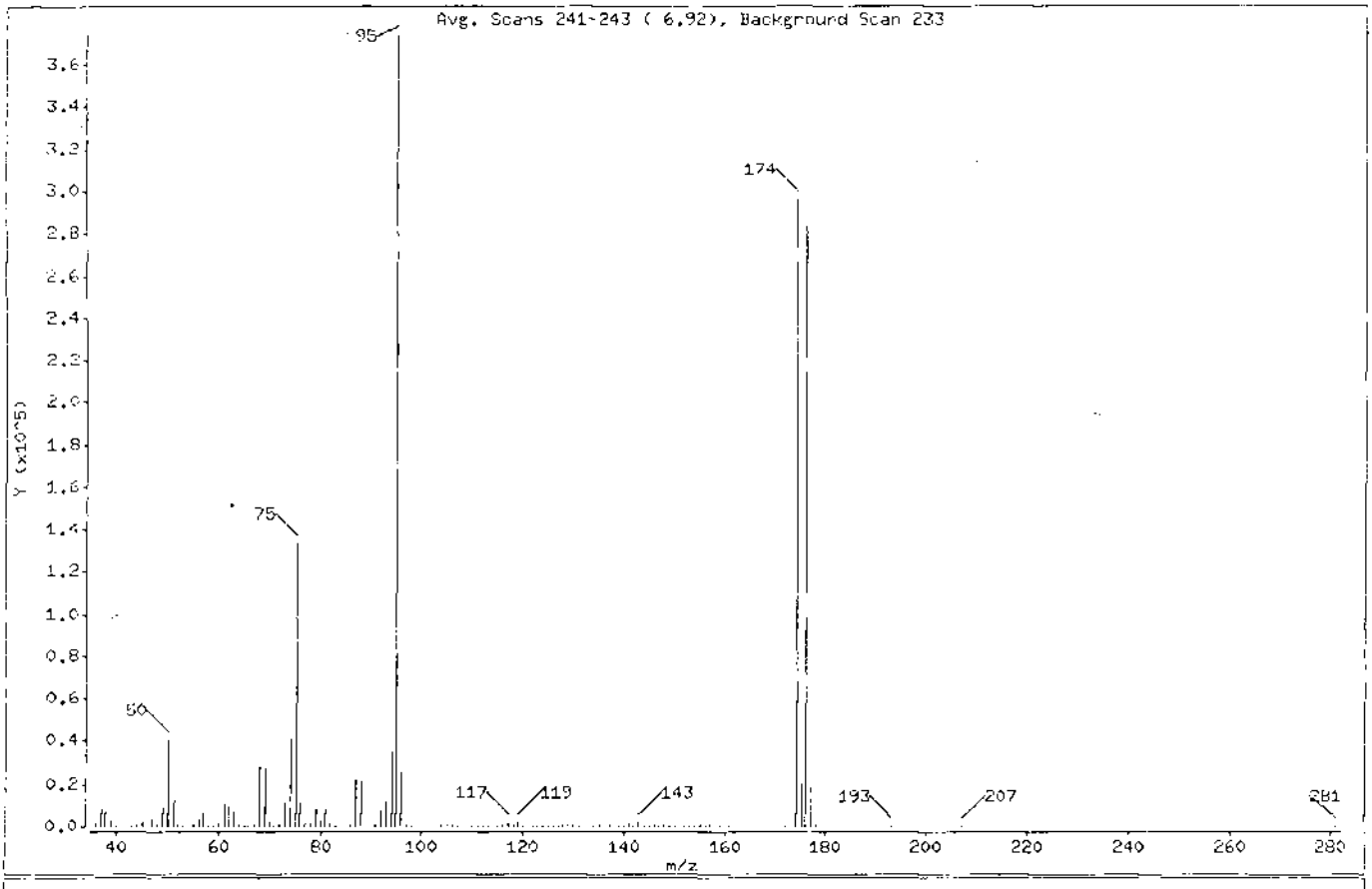


m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	8.00 - 40.00% of mass 95	10.80
75	30.00 - 66.00% of mass 95	38.66
96	5.00 - 9.00% of mass 95	6.80
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 120.00% of mass 95	79.10
175	4.00 - 9.00% of mass 174	5.57 (7.05)
176	93.00 - 101.00% of mass 174	76.47 (96.68)
177	5.00 - 9.00% of mass 176	4.98 (6.51)

Data File: /chem/5972hp73.i/DF030417A73.b/BF030417A73.d

Date : 17-APR-2003 07:53

Client ID: BFB | Instrument: 5972hp73.i

Sample Info:

Volume Injected (uL): 2.0 | Operator: 2537

Column phase: ZB-624 | Column diameter: 0.32

Data File: BF030417A73.d

Spectrum: Avg. Scans 241-243 (6.92), Background Scan 233

Location of Maximum: 95.00

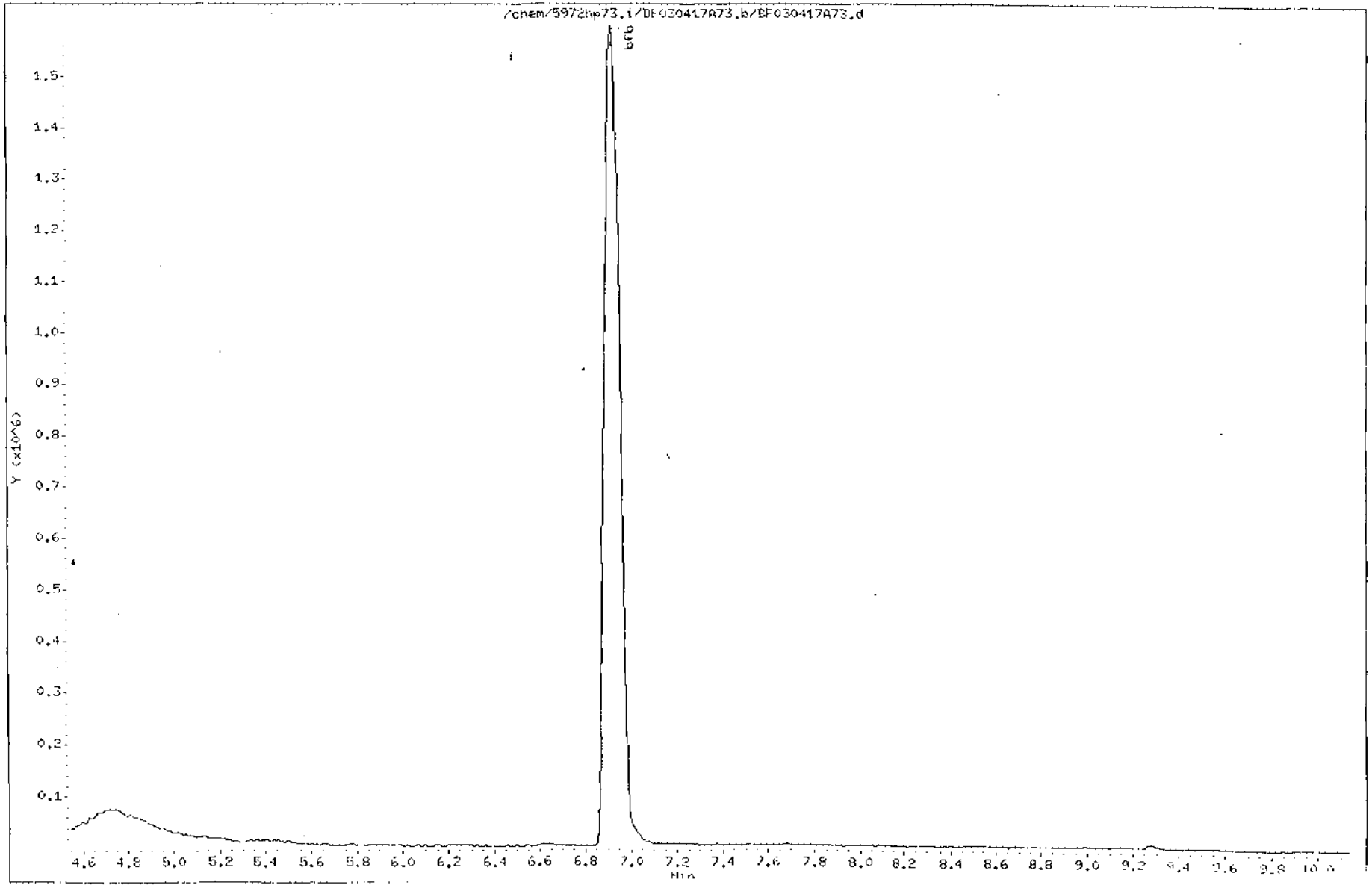
Number of points: 115

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1629	68.00	28400	105.00	583	141.00	2001
37.00	8165	69.00	27608	106.00	1283	142.00	283
38.00	7037	70.00	2212	107.00	419	143.00	2126
39.00	2909	71.00	187	110.00	177	144.00	119
40.00	97	72.00	1286	111.00	253	145.00	172
43.00	61	73.00	10894	112.00	162	146.00	488
44.00	1124	74.00	40856	113.00	192	147.00	261
45.00	2121	75.00	133312	115.00	382	148.00	734
46.00	190	76.00	11014	116.00	938	149.00	237
47.00	3770	77.00	2164	117.00	1666	150.00	286
48.00	1218	78.00	1793	118.00	934	152.00	138
49.00	8552	79.00	7409	119.00	1432	153.00	230
50.00	40400	80.00	2208	120.00	41	154.00	219
51.00	12494	81.00	7386	122.00	47	155.00	719
52.00	640	82.00	1543	123.00	35	156.00	41
53.00	40	83.00	158	124.00	200	157.00	544
55.00	543	86.00	545	125.00	83	159.00	289
56.00	3226	87.00	22032	126.00	143	161.00	247
57.00	6305	88.00	21464	127.00	132	172.00	38
58.00	364	91.00	962	128.00	1088	174.00	295744
59.00	80	92.00	7577	129.00	584	175.00	20840
60.00	2127	93.00	12208	130.00	1146	176.00	285952
61.00	9995	94.00	34976	131.00	425	177.00	18624
62.00	9813	95.00	373952	134.00	45	178.00	563
63.00	7275	96.00	25424	135.00	541	193.00	34
64.00	679	97.00	785	136.00	81	207.00	104
65.00	156	98.00	33	137.00	492	208.00	70
66.00	33	103.00	184	139.00	83	281.00	76
67.00	702	104.00	1205	140.00	59		

Data File: /chem/5972hp73.i/DF030417A73.b/BF030417A73.d
Date : 17-APR-2003 07:53
Client ID: BFB
Sample Info:
Volume Injected (uL): 2.0
Column phase: ZB-624

Instrument: 5972hp73.i
Operator: 2537
Column diameter: 0.32

247



b. Blank Data

Arranged by type of blank (method, storage, instrument) in chronological order, by instrument. Shall include:

- Tabulated Results (Form I LCV-1 and LCV-2)
- Tentatively Identified Compounds (Form I LCV-TIC)
- Reconstructed Ion Chromatogram and quantitation report.
- Target compound spectra with lab-generated standard spectra.
- Quantitation/Calculation of TIC concentrations.
- GC/MS library search spectra for TICs.

ILCA
LOW CONCENTRATION WATER VOLATILE ORGANICS ANALYSIS
DATA SHEET

EPA SAMPLE NO.

VBLKXP

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Lab Sample ID: WG23594-1 Date Received: _____

Lab File ID: WG23594-1A73 Date Analyzed: 04/09/2003

Purge Volume: 25.0(ML) Dilution Factor: 1.0

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L)	Q
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylene (Total)	0.50	U
100-42-5	Styrene	0.50	U

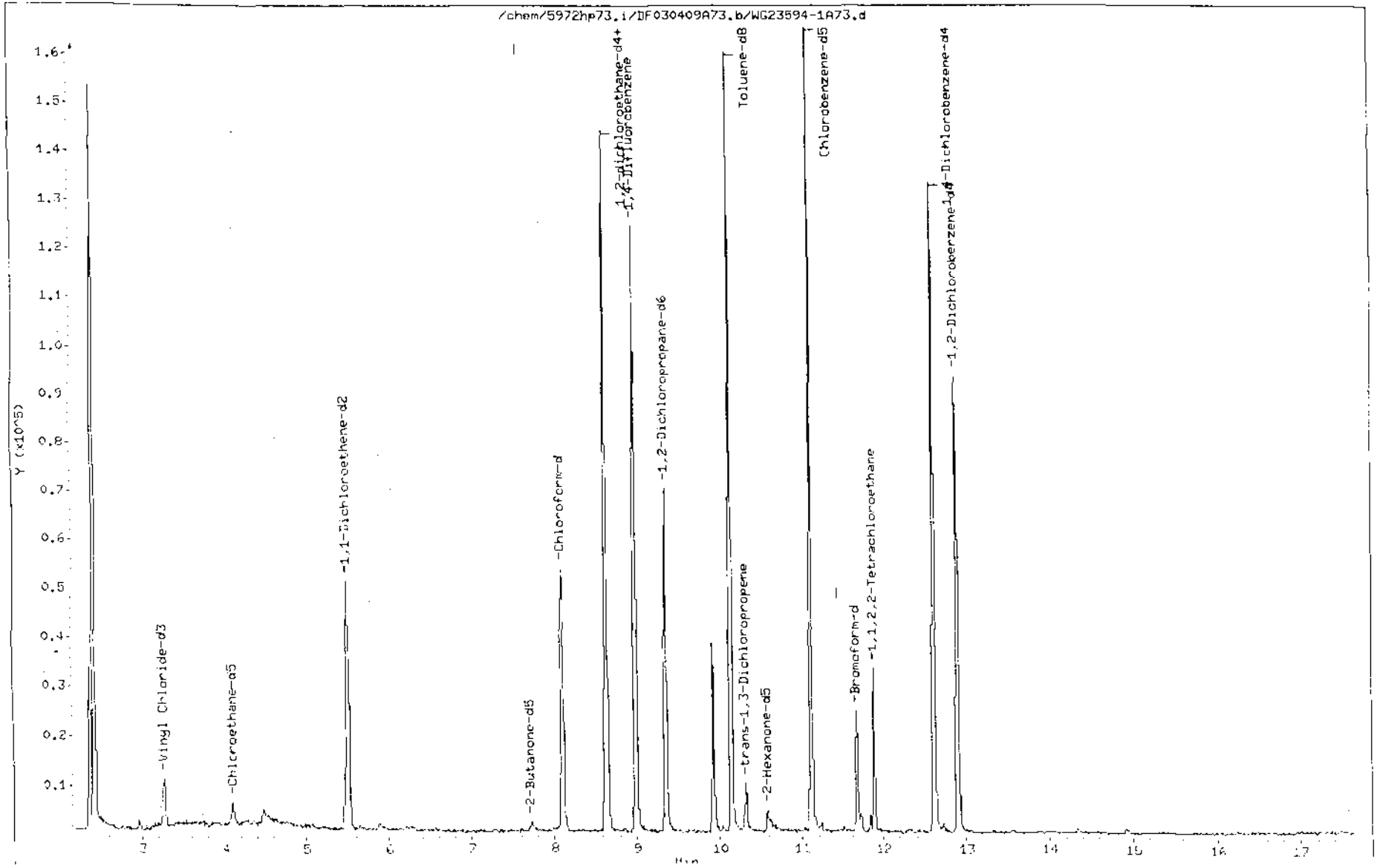
COPY YORE7

ORIGINAL DOCUMENTS INCLUDED IN CSF 31374

SIGNATURE [illegible] DATE 4/11/03

Data File: /chem/5972hp73.i/DF030409A73.b/WG23594-1A73.d
Date : 09-APR-2003 14:33
Client ID: VBLKXP
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i
Operator: 2537
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030409A73.b/WG23594-1A73.d
Report Date: 15 Apr-2003 11:27

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030409A73.b/WG23594-1A73.d
Lab Smp Id: WG23594-1 Client Smp ID: VBLKXP
Inj Date : 09-APR-2003 14:33
Operator : 2537 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030409A73.b/OLC03v3.m
Meth Date : 11-Apr-2003 11:23 walker Quant Type: ISTD
Cal Date : 09-APR-2003 13:57 Cal File: CT030409A73.d
Als bottle: 4 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

Compounds	QUANT STD MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
* 1 1,4-Difluorobenzene	114	8.994	8.991	(1.000)	116616	125.000	
* 2 Chlorobenzene-d5	117	11.110	11.157	(1.000)	90259	125.000	
* 3 1,4-Dichlorobenzene-d4	152	12.595	12.593	(1.000)	40600	125.000	
S 4 Vinyl Chloride-d3	65	3.268	3.265	(0.363)	9612	121.840	4.8
S 5 Chloroethane-d5	69	4.104	4.101	(0.456)	6019	120.610	4.8
S 6 1,1-Dichloroethene-d2	63	5.502	5.508	(0.612)	45101	94.3373	3.8
S 7 2-Butanone-d5	46	7.735	7.712	(0.860)	4338	118.214	4.7
S 8 Chloroform-d	84	8.099	8.096	(0.900)	55369	114.970	4.6
S 9 1,2-dichloroethane-d4	65	8.640	8.637	(0.961)	19477	120.806	4.8
S 10 Benzene-d6	84	8.640	8.637	(0.961)	122416	129.864	5.2
S 11 1,2-Dichloropropane-d6	67	9.358	9.355	(0.842)	32762	112.774	4.5
S 12 Toluene-d8	98	10.146	10.142	(0.913)	105802	122.670	4.9
S 13 trans-1,3-Dichloropropene-d4	79	10.323	10.320	(0.929)	4352	113.551	4.5
S 14 2-Hexanone-d5	63	10.578	10.556	(0.952)	2598	100.416	4.0
S 15 1,1,2,2-Tetrachloroethane-d2	84	11.877	11.874	(1.069)	17681	113.794	4.6
S 16 Bromoform-d	174	11.651	11.648	(0.996)	10577	115.672	4.6

4/11/03 251

COMPUCHEM a division of Liberty Analytical Corp DATE 4/10/03 INITIAL TIME OF TUNE 0753 SHIFT/S(A) ✓ (B) ____ (C) ____

GC/MS VOLATILE RUN LOG TIME TUNE EXPIRES 1953 LINKER /METHOD OL63

COMPUCHEM LOGBOOK 11 ZZZ 8 (5972hp73)

PREVENTIVE MAINTENANCE None

	REJECTED	FILE NAME	REPORTED	DATE	TIME	CLIENT ID#	CASE/SDG#	SAMPLE VOLUME	CHEMIST	COMMENTS(ETC.) DISPOSITION
1		BF030410A73	/	4/10/03	0753	BFB	—	2ml	2537	LCDESCD
2		CS 1	/	/ /	0821	VSTDOOSEH	—	25ml		
3		WG23648-1A73	/	/ /	0900	VBLKZX	VARIOUS			
4		WG23641-4A73	/	/ /	0934	VHBLKXP	YORDS			
5		X04D4-1 1	/	/ /	1000	X04D4	X04D4			
6		WG23648-4A73	/	/ /	1044	AC-105MS	R1438			
7		-5 1	/	/ /	1108	1 MSD				
8		R1438-1A73	SH	/ /	1132	SP-~~8~~ 9				
9		-2	/	/ /	1156	~~8~~ 8				
10		-3	/	/ /	1220	-7				
11		-4	SL	/ /	1244	-6				
12		R1438-1RA73	/	/ /	1308	SP-9				
13		YORF7-4A73	/	/ /	1341	YORF7	YORF7			
14		-5	/	/ /	1405	2				
15		-6	/	/ /	1429	3				
16		R1438-4RA73	[illegible]	/ /	1516	SP-6	R1438			
17		FOEH9-2A73	IL	/ /	1554	FOEJO	FOEH9			
18		FOF77-3A73	/	/ /	1618	FOF69	~~FOF77~~ FOF77			
19		-4	/	/ /	1641	79				
20		-5	/	/ /	1706	84				
21	/	FOEH9-2RA73	IL SH	/ /	1840	FOEJO	FOEH9	25ml	2513	
22	/	WG23632-4A73	IL SH	/ /	1903	VHBLKZU	VARIOUS			
23				/ /						
24				/ /						

SUPERVISOR APPROVAL [signature] Date 4-10-03

Tune (ID #7008) Lot No. 54304

Calibration Group Code / Lot No. OL91

The presence of the Chemist's employee ID number, or signature, on this run log attests that strict compliance with the method's SOP has occurred. Any SOP deviations require documentation by the responsible chemist together with the chemist's initials and the initials of the lab supervisor and a QA department representative, signifying approval of the deviation.

2/20/03 oc

1090

7LCA

LOW CONCENTRATION WATER VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: COMPUCHEM Contract: OLC03-REVS

Lab Code: LIBRTY Case No.: Client No.: SDG No.: R1438

Instrument ID: 5972HP73 Calibration Date: 04/16/2003 Time: 1958

Lab File ID: CS030416B73 Init. Calib. Date(s): 04/16/2003 04/16/2003

EPA Sample No.(VSTD005##): VSTD005FX Init. Calib. Times: 0918 1300

GC Column: ZB624 ID: 0.32(MM) Length: 60.0(M)

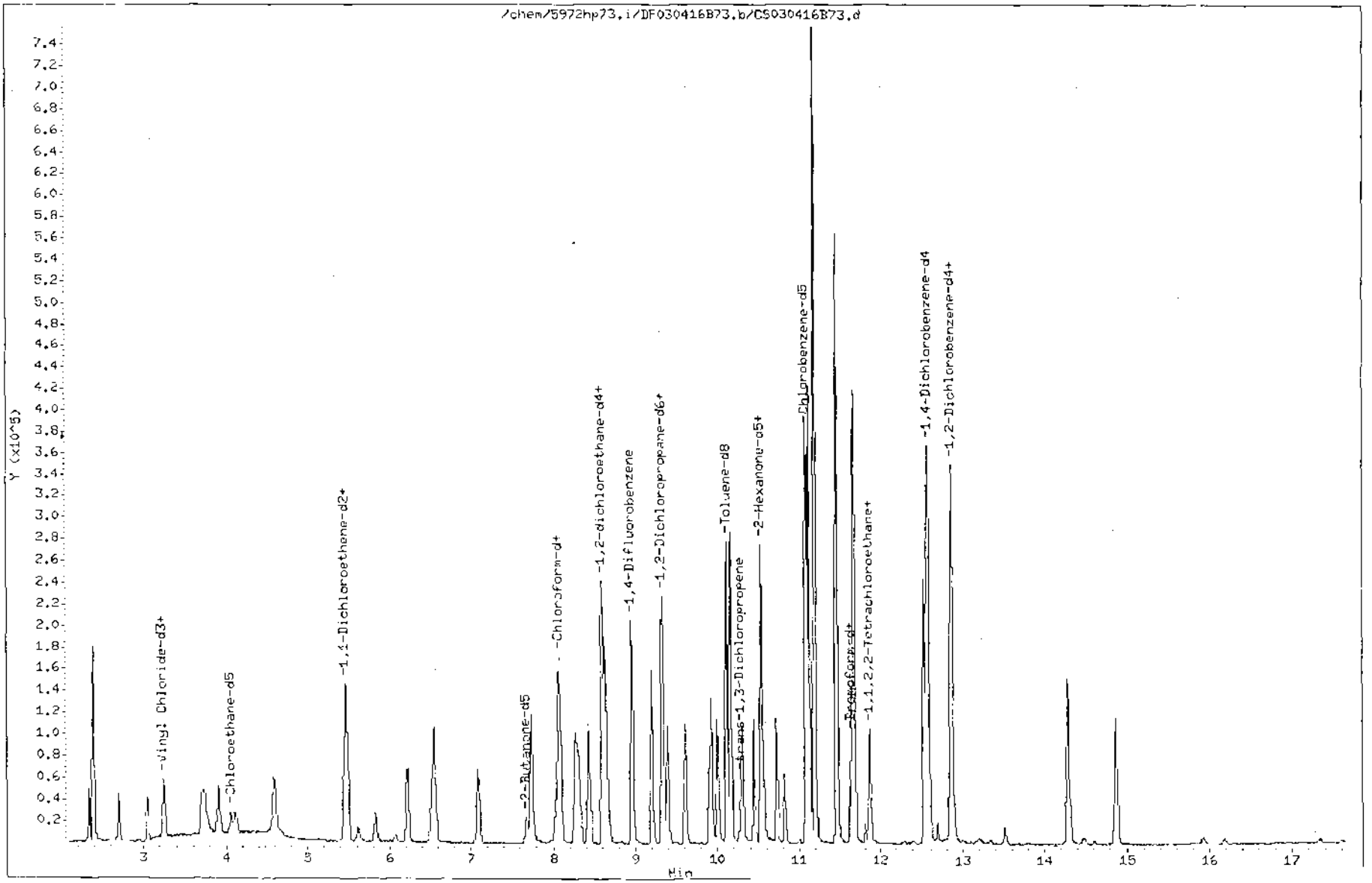
COMPOUND	$\overline{RRF}$	RRF5	MIN RRF	%D	MAX %D
Ethylbenzene	1.685	1.510	0.100	-10.4	30.0
Xylene (Total)	0.607	0.545	0.300	-10.2	30.0
Styrene	0.890	0.814	0.300	-8.5	30.0
Vinyl Chloride-d3	0.135	0.123		-8.9	
Chloroethane-d5	0.120	0.116		-3.3	
1,1-Dichloroethene-d2	0.443	0.423		-4.5	
2-Butanone-d5	0.027	0.033		22.2	
Chloroform-d	0.588	0.571		-2.9	
1,2-dichloroethane-d4	0.200	0.200		0.0	
Benzene-d6	1.278	1.119		-12.4	
1,2-Dichloropropane-d6	0.337	0.300		-11.0	
Toluene-d8	1.224	0.999		-18.4	
trans-1,3-Dichloropropene-d4	0.071	0.064		-9.9	
2-Hexanone-d5	0.036	0.037		2.8	
Bromoform-d	0.345	0.331		-4.1	
1,1,2,2-Tetrachloroethane-d2	0.208	0.198		-4.8	
1,2-Dichlorobenzene-d4	0.839	0.763		-9.1	

All other compounds must meet a minimum RRF of 0.010.

Data File: /chem/5972hp73.i/DF030416B73.b/CS030416B73.d
Date : 16-APR-2003 13:58
Client ID: VSTD005FX
Sample Info:
Purge Volume: 25.0
Column phase: ZB624

Instrument: 5972hp73.i

Operator: 2513
Column diameter: 0.32



Data File: /chem/5972hp73.i/DF030416B73.b/CS030416B73.d
Report Date: 21-Apr-2003 10:18

CompuChem

OLC03 QUANT AND RATIO REPORT

Data file : /chem/5972hp73.i/DF030416B73.b/CS030416B73.d
Lab Smp Id: VSTD005FX Client Smp ID: VSTD005FX
Inj Date : 16-APR-2003 19:58
Operator : 2513 Inst ID: 5972hp73.i
Smp Info :
Misc Info :
Comment :
Method : /chem/5972hp73.i/DF030416B73.b/OLC03v3.m
Meth Date : 21-Apr-2003 10:18 sutton Quant Type: ISTD
Cal Date : 16-APR-2003 19:58 Cal File: CS030416B73.d
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50
Processing Host: dante

Concentration Formula: Amt * DF * 1/(Vo) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	25.00000	Sample Volume purged (mL)
DF	1.00000	

Cpnd Variable Local Compound Variable

B 04/21/03

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL AMT (ng)	ON-COL (ng)
*	1 1,4-Difluorobenzene	114	8.958	8.958	(1.000)	203760	125.000	
*	2 Chlorobenzene-d5	117	11.084	11.084	(1.000)	183077	125.000	
*	3 1,4-Dichlorobenzene-d4	152	12.570	12.570	(1.000)	84201	125.000	
$	4 Vinyl Chloride-d3	65	3.239	3.239	(0.362)	25075	125.000	110
$	5 Chloroethane-d5	69	4.056	4.056	(0.453)	23628	125.000	120
$	6 1,1-Dichloroethene-d2	63	5.463	5.463	(0.610)	86110	125.000	120
$	7 2-Butanone-d5	46	7.678	7.678	(0.857)	33450	625.000	740
$	8 Chloroform-d	84	8.062	8.062	(0.900)	116367	125.000	120
$	9 1,2-dichloroethane-d4	65	8.603	8.603	(0.960)	49724	125.000	130
$	10 Benzene-d6	84	8.603	8.603	(0.776)	204847	125.000	110
$	11 1,2-Dichloropropane-d6	67	9.322	9.322	(0.841)	54929	125.000	110
$	12 Toluene-d8	98	10.119	10.119	(0.913)	182571	125.000	100
$	13 trans-1,3-Dichloropropene-d4	79	10.296	10.296	(0.929)	11711	125.000	110
$	14 2 Hexanone-d5	63	10.532	10.532	(0.950)	33896	625.000	650
$	15 1,1,2,2-Tetrachloroethane-d2	84	11.851	11.851	(1.069)	36163	125.000	120

Data File: /chem/5972hp73.i/DF030416B73.b/CS030416B73.d
Report Date: 21-Apr-2003 10:18

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)
$ 16 Bromoform-d	174	11.625	11.625	(0.925)	27876	125.000	120
$ 17 1,2-Dichlorobenzene-d4	152	12.865	12.865	(1.023)	64251	125.000	110
18 Dichlorodifluoromethane	85	2.698	2.698	(0.301)	39534	125.000	120
19 Chloromethane	50	3.042	3.042	(0.340)	37145	125.000	110
20 Vinyl Chloride	62	3.259	3.259	(0.364)	38338	125.000	120
21 Bromomethane	94	3.908	3.908	(0.436)	34684	125.000	140(M)
22 Chloroethane	64	4.125	4.125	(0.460)	21565	125.000	120
23 Trichlorofluoromethane	101	4.587	4.587	(0.512)	56254	125.000	92
24 1,1-Dichloroethene	96	5.493	5.483	(0.612)	26065	125.000	120
25 1,1,2-Trichloro-1,2,2-trifluo	101	5.463	5.463	(0.610)	35111	125.000	120
26 Acetone	43	5.611	5.611	(0.626)	30149	625.000	620
27 Carbon Disulfide	76	5.828	5.828	(0.651)	41871	125.000	120
28 Methyl Acetate	43	6.074	6.074	(0.678)	8245	125.000	140
29 Bromochloromethane	128	8.023	8.023	(0.896)	7671	125.000	130
30 Methylene Chloride	84	6.231	6.231	(0.696)	44844	125.000	130
31 trans-1,2-Dichloroethene	96	6.566	6.566	(0.733)	50468	125.000	120
32 Methyl tert-Butyl Ether	73	6.536	6.536	(0.730)	84983	125.000	140
33 1,1-Dichloroethane	63	7.087	7.087	(0.791)	75387	125.000	120
34 cis-1,2-Dichloroethene	96	7.737	7.737	(0.864)	60380	125.000	130
35 2 Butanone	43	7.747	7.747	(0.865)	28190	625.000	710
36 Chloroform	83	8.082	8.082	(0.902)	108249	125.000	130
37 1,1,1-Trichloroethane	97	8.269	8.269	(0.746)	90048	125.000	110
38 Cyclohexane	56	8.308	8.308	(0.750)	42312	125.000	110
39 Carbon Tetrachloride	117	8.436	8.436	(0.761)	84431	125.000	110
40 Benzene	78	8.643	8.643	(0.780)	184310	125.000	110
41 1,2-Dichloroethane	62	8.672	8.672	(0.968)	45948	125.000	130
42 Trichloroethene	95	9.204	9.204	(0.830)	55648	125.000	110
43 Methylcyclohexane	83	9.332	9.332	(0.842)	85896	125.000	110
44 1,2-Dichloropropane	63	9.400	9.400	(0.848)	40619	125.000	110
45 Bromodichloromethane	83	9.617	9.617	(0.868)	72352	125.000	120
46 cis-1,3-Dichloropropene	75	9.932	9.932	(0.896)	80352	125.000	120
47 4-Methyl-2-Pentanone	43	10.001	10.001	(0.902)	67174	625.000	690
48 Toluene	91	10.168	10.168	(0.917)	217620	125.000	110
49 trans-1,3-Dichloropropene	75	10.316	10.316	(0.931)	60323	125.000	110
50 1,1,2-Trichloroethane	97	10.454	10.454	(0.943)	36402	125.000	120
51 Tetrachloroethene	164	10.542	10.542	(0.951)	51106	125.000	130
52 2-Hexanone	43	10.562	10.562	(0.953)	48924	625.000	690
53 Dibromochloromethane	129	10.729	10.729	(0.968)	55880	125.000	120
54 1,2-Dibromoethane	107	10.818	10.818	(0.976)	39995	125.000	130
55 Chlorobenzene	112	11.103	11.103	(1.002)	165207	125.000	120
56 Ethylbenzene	91	11.133	11.133	(1.004)	276476	125.000	110
57 m,p-Xylene	106	11.192	11.192	(1.010)	208149	250.000	220
58 o-Xylene	106	11.448	11.448	(1.033)	99769	125.000	110
59 Styrene	104	11.458	11.458	(1.034)	149037	125.000	110
60 Bromoform	173	11.635	11.635	(0.926)	30928	125.000	130
61 Isopropylbenzene	105	11.664	11.664	(1.052)	265968	125.000	110
62 1,1,2,2-Tetrachloroethane	83	11.861	11.861	(1.070)	39367	125.000	130

Data File: /chem/5972hp73.i/DF030416B73.b/CS030416B73.d
Report Date: 21-Apr-2003 10:18

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug)	AMOUNTS ON-COL (ng)
	63 1,3-Dichlorobenzene	146	12.530	12.530	(0.997)	124811	125.000	120
	64 1,4-Dichlorobenzene	146	12.589	12.589	(1.002)	128027	125.000	110
	65 1,2-Dichlorobenzene	146	12.875	12.875	(1.024)	107580	125.000	120
	66 1,2-Dibromo-3 Chloropropane	75	13.505	13.505	(1.074)	4990	125.000	140
	67 1,2,4-Trichlorobenzene	180	14.282	14.282	(1.136)	71725	125.000	120
	68 1,2,3 Trichlorobenzene	180	14.873	14.873	(1.183)	57585	125.000	130
M	69 Xylene (Total)	106				307918	125.000	350

QC Flag Legend

M - Compound response manually integrated.