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FINAL REPORT
FOR SEPTEMBER-OCTOBER 2014 MOBILIZATION
REVISION 4
PASSYUNK SOIL GAS SITE
PHILADELPHIA, PENNSYLVANIA
FEBRUARY 2018


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1.0 BACKGROUND

The Environmental Protection Agency/Environmental Response Team (EPA/ERT) issued Work Assignment (WA) Number SERAS-219, Passyunk Soil Gas Site (Site) in Philadelphia, Pennsylvania (PA) to Lockheed Martin (currently Leidos Innovations) under the Scientific, Engineering, Response, and Analytical Services (SERAS) contract. The purpose of this WA was to assist EPA Region 3 during the performance of a vapor intrusion study. The vapor intrusion study was performed adjacent to the Philadelphia Gas Works (PGW) Passyunk Facility in an effort to determine if a subsurface gas plume exists and if there is a potential indoor impact associated with the subsurface plume at adjacent off-site locations.

The Passyunk Soil Gas Site is located in south Philadelphia. It is a residential neighborhood with a local tavern, a playground and a mummer's hall. There are no daycares or schools. The neighborhood is bounded by the Philadelphia Gas Works (PGW) Passyunk facility on the west, the Sunoco Refinery to the south, and the Schuylkill Expressway to the East/Northeast.

The PGW facility is in the process of voluntary site remediation in general accordance with Pennsylvania's Land Recycling and Environmental Remediation Standards Act (Act 2) due to the presence of volatile organic compounds (VOCs), semi-VOCs and metals in soil and groundwater. Additionally, phase separated hydrocarbons (product) have been observed in the groundwater at the PGW facility. PGW is currently operating a product recovery system. PGW completed an environmental investigation of its facility which included an off-site soil vapor study in the Passyunk residential neighborhood. The Pennsylvania Department of Environmental Protection (PADEP) oversaw this investigation. PGW detected elevated levels of chloroform in the soil vapor within the residential neighborhood at levels above standards established by the PADEP. The Agency for Toxic Substances and Disease Registry (ATSDR) assisted the Pennsylvania Department of Health with the review and evaluation of PGW's soil vapor data. ATSDR referred the site to EPA's removal program. State and federal officials agreed that further investigation of the chloroform and the potential for vapor intrusion is warranted in the local area. Since chloroform is unrelated to PGW's operations, the United States EPA conducted the follow-up vapor intrusion investigation under the authority of the federal "Superfund" law (more formally called the Comprehensive Environmental Response, Compensation, and Liability Act).

In January 2014, SERAS personnel mobilized to the Site to conduct activities which included cleaning out lifestyle products that may potentially interfere with the analysis of target compounds, installation of sub-slab soil gas wells at locations chosen by the Work Assignment Manager (WAM), on-site collection and analysis of sub-slab soil gas samples using Tedlar® bags, indoor air monitoring using the Trace Atmospheric Gas Analyzer (TAGA) Mass Spectrometer/Mass Spectrometer (MS/MS), and collection of sub-slab soil gas, indoor air and ambient air samples using SUMMA® canisters.

2.0 MOBILIZATION ACTIVITIES/METHODOLOGY

The September-October 2014 scope of work was identical to the objectives of the January 2014 mobilization, which included the evaluation of sub-slab soil gas, basement air, first floor indoor air and outdoor ambient air quality at residential and commercial units in the vicinity of the Site. Activities included cleaning out lifestyle products that may potentially interfere with the analysis of target compounds, installation of sub-slab soil gas wells at locations chosen by the WAM, on-site collection and analysis of sub-slab soil gas samples using Tedlar® bags, indoor air monitoring using the TAGA MS/MS, and collection of sub-slab soil gas, indoor air and ambient air samples using SUMMA® canisters.

2.1 Collection of Sub-Slab Soil Gas Samples in Tedlar® Bags and On-Site GC/MS Analysis

On 29 September 2014, twelve soil gas samples were collected from pre-existing outdoor ports. The soil gas samples collected in Tedlar® bags were analyzed on-site by Gas Chromatography/Mass Spectrometry (GC/MS) in accordance with SERAS Standard Operating Procedure (SOP) #1741, *Field Analysis of VOCs in Gaseous Phase Samples by GC/MS Loop*

Injection. On 30 September 2014, five sub-slab soil gas samples were collected in Tedlar® bags from Units 84, 50, 34, 70 and 175. Sample collection from Unit 116 was attempted, however, the sample failed to collect.

All samples collected in Tedlar® bags were hand delivered to TAGA Laboratory 1693. All samples collected in Tedlar® bags were analyzed on-site for tetrachloroethene (PCE), trichloroethene (TCE), 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), vinyl chloride (VCL), methyl tert-butyl ether (MTBE), chloroform (HCCL3), 1,1,1-trichloroethane (1,1,1-TCA) and benzene, toluene, ethyl benzene, m&p-xylenes, and o-xylene (BTEX). Preliminary data were presented to the WAM after analysis of the samples on 29 September 2014 through 30 September 2014.

2.2 Cleaning Out of Residential and Commercial Units

On 30 September 2014, SERAS personnel collected potential lifestyle products that may potentially interfere with the analysis of target compounds from four residential and two commercial units. Lifestyle products were removed from the residential and commercial units 24 hours prior to any TAGA MS/MS indoor air monitoring or sample collection using SUMMA® canisters.

2.3 Installation of Sub-Slab Soil Gas Wells

On 30 September 2014, SERAS personnel installed one sub-slab soil gas well in one residential unit as the original port installed during the January 2014 mobilization was unusable due to home remodeling. The sub-slab soil gas well was installed near the location of the previous well in accordance with SERAS SOP #2082, *Construction and Installation of Permanent Sub-Slab Soil Gas Wells*. The sub-slab soil gas well was installed flush with the basement slab with sample collection tubing in place. The tubing was capped until the time of sample collection.

2.4 Indoor Air Monitoring using TAGA MS/MS

On 01 October 2014, SERAS personnel performed indoor air monitoring within four residential and two commercial units in accordance with SERAS SOP #1711, *Trace Atmospheric Gas Analyzer (TAGA) IIE Operation*. All residential units were monitored for PCE, TCE, DCE (total), VCL, HCCL3, benzene and toluene. All preliminary TAGA MS/MS results were presented to the WAM in “real-time” and preliminary printouts were provided following an initial review of the data by the TAGA MS/MS operator.

2.5 Collection of Sub-Slab Soil Gas, Basement and First Floor Indoor Air and Ambient Air Samples using SUMMA® Canisters

On 02 October 2014, SERAS personnel collected six sub-slab soil gas samples, six basement indoor air samples, six first floor indoor air samples, one collocated first floor indoor air sample and two ambient air samples using SUMMA® canisters from locations previously sampled during the January 2014 sampling event. All sub-slab soil gas samples collected in SUMMA® canisters were collected at least 24 hours after sub-slab soil gas samples were collected in 1-L Tedlar® bags. Air sampling using SUMMA® canisters was conducted in accordance with SERAS SOP #1704, *SUMMA® Canister Sampling*. A trip blank was also collected.

All air samples collected using SUMMA® canisters were hand delivered to the ERT/SERAS Laboratory and analyzed in accordance with EPA Toxic Organic Method TO-15, *Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)*. All air samples collected using SUMMA® canisters were analyzed for the full TO-15 target compound list.

3.0 DISCUSSION OF RESULTS

Table 1 is a summary of the September-October 2014 Tedlar® bag sampling events that occurred at the Site. Table 2 is a summary of results in parts per billion by volume (ppbv) for the 12 soil gas samples and the five sub-slab soil gas samples from Units 84, 50, 34, 70 and 175 collected using Tedlar® bags and analyzed on-site by a GC/MS. All field sampling data worksheets generated during the September-October 2014 mobilization for the collection of soil gas and sub-slab soil gas samples in Tedlar® bags and SUMMA® canisters are presented in Appendix A. Tables that compare the analytical results of individual unit to risk levels are presented in Appendix B. The comparisons are reported in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).

3.1 Tedlar® Bag Sample Results

The Final GC/MS Analytical Report, SERAS-219-DFA-101614-GC/MS, is included in Appendix C. The final report includes results in both ppbv and $\mu\text{g}/\text{m}^3$.

Of the 12 soil gas samples collected, sample numbers 53636 (V06), 53641 (V20), and 53638 (V15) have the highest reportable results for HCCL3 at 30 ppbv ($150 \mu\text{g}/\text{m}^3$), 14 ppbv ($68 \mu\text{g}/\text{m}^3$), and 8.5 ppbv ($41 \mu\text{g}/\text{m}^3$), respectively. Sample number 53631 (V12), 53640 (V18), and 53641 (V20) have the highest reportable results for PCE at 7.6 ppbv ($51 \mu\text{g}/\text{m}^3$), 6.3 ppbv ($43 \mu\text{g}/\text{m}^3$), and 6.1 ppbv ($42 \mu\text{g}/\text{m}^3$), respectively. Sample numbers 53635 (V01) and 53636 (V06) have the highest reportable results for 1,1,1-TCA at 2.8 ppbv ($15 \mu\text{g}/\text{m}^3$) and 0.64 ppbv ($3.5 \mu\text{g}/\text{m}^3$), respectively. Sample number 53630 (V07) had the highest reportable results for benzene, toluene, and m&p-xylenes at 0.76 ppbv ($2.4 \mu\text{g}/\text{m}^3$), 2.3 ppbv ($8.7 \mu\text{g}/\text{m}^3$), and 1.6 ppbv ($6.9 \mu\text{g}/\text{m}^3$), respectively. Sample number 53638 (V15) had the highest reportable results for ethyl benzene and o-xylene at 0.64 ppbv ($2.8 \mu\text{g}/\text{m}^3$) and 0.81 ppbv ($3.5 \mu\text{g}/\text{m}^3$), respectively. All other targeted compounds were not detected in any of the soil gas samples collected in Tedlar® bags at or above their reporting limits (RLs).

Of the five sub-slab soil gas samples collected, sample number 53645 (Unit 175) and 53643 (Unit 84) have the highest reportable results for HCCL3 at 0.90 ppbv ($4.4 \mu\text{g}/\text{m}^3$) and 0.57 ppbv ($2.8 \mu\text{g}/\text{m}^3$), respectively. Sample number 53642 (Unit 34) and 53645 (Unit 175) have the highest reportable results for PCE at 2.6 ppbv ($18 \mu\text{g}/\text{m}^3$) and 1.4 ppbv ($9.6 \mu\text{g}/\text{m}^3$), respectively. Sample number 53646 (Unit 50) had the highest reportable result for toluene at 0.56 ppbv ($2.1 \mu\text{g}/\text{m}^3$). Sample number 53645 (Unit 175) had the highest reportable result for 1,1-DCE, 1,1-DCA, 1,1,1-TCA, and TCE at 49 ppbv ($190 \mu\text{g}/\text{m}^3$), 3.8 ppbv ($15 \mu\text{g}/\text{m}^3$), 230,000 ppbv ($1,300,000 \mu\text{g}/\text{m}^3$), and 0.89 ppbv ($4.8 \mu\text{g}/\text{m}^3$), respectively. All other targeted compounds were not detected in any of the sub-slab soil gas samples collected in Tedlar® bags at or above their RLs. Figure 1 presents the analytical results for soil gas and sub-slab soil gas samples collected in Tedlar® bags.

3.2 SUMMA® Canister Sample Results

SUMMA® canister sample results are reported in both ppbv and $\mu\text{g}/\text{m}^3$. Table 3 is a summary of the September-October 2014 SUMMA® canister sampling events that occurred at the Site. Six sub-slab soil gas samples, six basement indoor air samples, six first floor indoor air samples, one collocated first floor indoor air sample and two ambient air samples were collected using SUMMA® canisters and delivered to the ERT/SERAS Laboratory for EPA TO-15 analysis. Tables 4 and 5 summarize the results for the target compounds in the sub-slab soil gas and air samples collected using SUMMA® canisters in ppbv and $\mu\text{g}/\text{m}^3$, respectively. Figure 1 also presents the analytical results for samples collected in SUMMA® canisters.

Of the 21 samples and one trip blank collected using SUMMA® canisters on 02 October 2014, sample numbers 219-SS-026 (Unit 116) and 219-IA-041 (Unit 175) have the highest reportable results for HCCL3 at 3.51 ppbv ($17.1 \mu\text{g}/\text{m}^3$) and 1.90 ppbv ($9.26 \mu\text{g}/\text{m}^3$), respectively. Sample

numbers 219-SS-026 (Unit 116) and 219-SS-039 (Unit 34) have the highest reportable results for PCE at 3.99 ppbv (27.1 $\mu\text{g}/\text{m}^3$) and 2.11 ppbv (14.3 $\mu\text{g}/\text{m}^3$), respectively. Sample number 219-SS-032 (Unit 50) had the highest reportable results for TCE at 0.289 ppbv (1.55 $\mu\text{g}/\text{m}^3$). Complete analytical results are reported in the Final Analytical Report, SERAS-219-DARR1-021317, which is included in Appendix D.

3.3 Comparison of Tedlar® Bag and SUMMA® Canister Sample Results

Table 6 is a comparison of analytical results between sub-slab soil gas samples collected and analyzed on-site using Tedlar® bags and sub-slab soil gas samples collected and analyzed off-site using SUMMA® canisters. Relative percent differences (RPDs) between comparable results ranged from 10.5% to 55.9%. The highest RPD was from samples collected at Unit 175, which had a Tedlar® bag (sample number 53645) result for 1,1,1-DCE at 49 ppbv and a SUMMA® canister (sample number 219-SS-043) result at 27.6 ppbv, resulting in a RPD of 55.9%.

3.4 Comparison of January 2014 and September-October 2014 Sample Results

Tables 7 and 8 are comparisons of analytical results between samples collected in SUMMA® canisters during the January 2014 and September-October 2014 events in ppbv and $\mu\text{g}/\text{m}^3$, respectively.

Table 9 is a comparison of analytical results between soil gas and sub-slab soil gas samples collected in Tedlar® bags during the January 2014 and September-October 2014 events and analyzed on-site. Results are presented in ppbv. Only sample results from locations where samples were collected during both events are included in Table 9.

3.5 TAGA Monitoring

The Final TAGA Analytical Report, SERAS-219-DFA-101614-TAGA, is included in Appendix E. On 01 October 2014, the TAGA MS/MS End of Day Transport Efficiency for VCL and HCCL3 were lower than the 85% acceptance criteria at 68.0 % and 82.4 %, respectively. VCL and HCCL3 data should be used with caution and may be biased low. A complete discussion of the TAGA results can be found in Appendix E.

Tables 10 through 17 are the September-October 2014 TAGA target compound summaries for the indoor air monitoring events that occurred at four residential and two commercial units at the Site. During each indoor air monitoring event, a one-minute average was measured in each room, or at various locations within a room. The highest average concentrations above the quantitation limits (QLs) for the eight target compounds are reported below. Result discussions are in ppbv only.

Unit 116 and Unit 84, the two commercial units, were surveyed on 01 October 2014 at 11:58:34 and results are presented in Table 10. The average concentrations of PCE, TCE, total DCE, VCL, HCCL3, benzene, toluene, and total xylenes were not detected above their quantitation limits at any of the monitoring locations.

Unit 116 and Unit 84 were entered a second time and investigated on 01 October 2014 at 12:28:06, and results are presented in Table 11. The average concentrations of PCE, TCE, total DCE, VCL, HCCL3, benzene and toluene were not detected above their quantitation limits at any of the monitoring locations. The highest average concentration of total xylenes was 3.1 ppbv in basement room one between flags E and F.

Unit 50 was surveyed on 01 October 2014 at 12:52:53 and results are presented in Table 12. The average concentrations of PCE, TCE, total DCE, VCL, HCCL3, benzene and toluene were not detected above their quantitation limits at any of the monitoring locations. The highest average

concentrations of total xylene were 9.7 ppbv and 7.9 ppbv at the sump between flags I and J and in room one (under construction) between flags D and E, respectively.

Unit 70 was surveyed on 01 October 2014 at 13:29:48 and results are presented in Table 13. The average concentrations of PCE, TCE, total DCE, VCL, HCCL3, benzene, toluene, and total xylenes were not detected above their quantitation limits at any of the monitoring locations.

Unit 70 was entered a second time and investigated on 01 October 2014 at 13:48:33 and results are presented in Table 14. The average concentrations of PCE, TCE, total DCE, VCL, benzene, toluene, and total xylenes were not detected above their quantitation limits at any of the monitoring locations. The highest average concentrations of HCCL3 were 23 ppbv with the hot and cold water running in the sink between flags H and I and 19 ppbv and 15 ppbv with the cold water running in the sink between flags F and G and between flags J and K, respectively.

Unit 34 was surveyed on 01 October 2014 at 14:08:31 and results are presented in Table 15. The average concentrations of PCE, TCE, total DCE, VCL, HCCL3, benzene and toluene were not detected above their quantitation limits at any of the monitoring locations. The highest average concentrations of total xylene were 7.4 ppbv and 7.3 ppbv in the front basement between flags I and J and in the back basement between flags K and L, respectively.

Unit 34 was entered a second time and investigated on 01 October 2014 at 14:30:00 and results are presented in Table 16. The average concentrations of PCE, TCE, total DCE, VCL, HCCL3, benzene, toluene, and total xylenes were not detected above their quantitation limits at any of the monitoring locations.

Unit 175 was surveyed on 01 October 2014 at 16:20:39 and results are presented in Table 17. The average concentrations of PCE, TCE, VCL, HCCL3, benzene, toluene, and total xylenes were not detected above their quantitation limits at any of the monitoring locations. The highest average concentrations of total dichloroethene were 3.7 ppbv in hole one between flags M and N and 3.5 ppbv in the basement and floor drain between flags I and J and between flags K and L, respectively.

TABLES

Summary of Abbreviation used in Tables

AA = Ambient Air
SS = Sub-slab
IA = Indoor Air
CO = Collocated
DL = Detection Limit
J = Result is considered estimated
J = Concentration detected below the quantitation limit (for TAGA)
D = Dilution
NA = Not Applicable
NC = Not Calculable
ppbv = part per billion by volume
QL = Quantitation Limit
RPD = Relative Percent Difference
U = Undetected below Reporting Limit (RL)
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
% = Percentage

TABLE 1
Summary of September-October 2014 Tedlar® Bag Sampling Events
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number	Location	Sub Location	Sample Type	Media	Start Date	Stop Date
53630	V07	Dover Street	Soil Gas	Tedlar Bag	9/29/2014	9/29/2014
53631	V12	Ernst Street	Soil Gas	Tedlar Bag	9/29/2014	9/29/2014
53632	V13	Ernst Street	Soil Gas	Tedlar Bag	9/29/2014	9/29/2014
53633	V14	Ernst Street	Soil Gas	Tedlar Bag	9/29/2014	9/29/2014
53634	V02	28th Street	Soil Gas	Tedlar Bag	9/29/2014	9/29/2014
53635	V01	28th Street	Soil Gas	Tedlar Bag	9/29/2014	9/29/2014
53636	V06	Porter Street	Soil Gas	Tedlar Bag	9/29/2014	9/29/2014
53637	V03	Porter Street	Soil Gas	Tedlar Bag	9/29/2014	9/29/2014
53638	V15	Newkirk Street	Soil Gas	Tedlar Bag	9/29/2014	9/29/2014
53639	V17	Newkirk Street	Soil Gas	Tedlar Bag	9/29/2014	9/29/2014
53640	V18	Passyunk/Ernst Alley	Soil Gas	Tedlar Bag	9/29/2014	9/29/2014
53641	V20	Passyunk/Ernst Alley	Soil Gas	Tedlar Bag	9/29/2014	9/29/2014
53642	Unit 34	Basement	Sub-Slab Soil Gas	Tedlar Bag	9/30/2014	9/30/2014
53643	Unit 84	Basement	Sub-Slab Soil Gas	Tedlar Bag	9/30/2014	9/30/2014
53644	Unit 70	Basement	Sub-Slab Soil Gas	Tedlar Bag	9/30/2014	9/30/2014
53645	Unit 175	Basement	Sub-Slab Soil Gas	Tedlar Bag	9/30/2014	9/30/2014
53646	Unit 50	Basement	Sub-Slab Soil Gas	Tedlar Bag	9/30/2014	9/30/2014

TABLE 2
Summary of Results for VOC Analysis of Samples Collected using Tedlar® Bags in ppbv
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Location	53630 V07 Dover Street Soil Gas ppbv	53631 V12 Ernst Street Soil Gas ppbv	53632 V13 Ernst Street Soil Gas ppbv	53633 V14 Ernst Street Soil Gas ppbv	53634 V02 28th Street Soil Gas ppbv	53635 V01 28th Street Soil Gas ppbv	53636 V06 Porter Street Soil Gas ppbv
1,1,1-Trichloroethane	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	2.8	0.64
1,1-Dichloroethane	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
1,1-Dichloroethene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Benzene	0.76	0.53 U	0.53 U	0.53 U	0.50 J	0.53 U	0.53 U
Chloroform	0.52 U	3.3	1.5	1.2	0.52 U	2.9	30
cis-1,2-Dichloroethene	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U
Ethyl Benzene	0.54	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
m,p-Xylene	1.6	0.52 U	0.62	0.52	1.0	0.52 U	0.96
Methyl Tert Butyl Ether	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	0.65	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
Tetrachloroethene	0.51 U	7.6	5.9	1.6	0.56	3.1	0.59
Toluene	2.3	0.56	0.82	0.85	1.5	0.59	0.70
trans-1,2-Dichloroethene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
Vinyl Chloride	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U

Sample Number Location	53637 V03 Porter Street Soil Gas ppbv	53638 V15 Newkirk Street Soil Gas ppbv	53639 V17 Newkirk Street Soil Gas ppbv	53640 V18 Passyunk/Ernst Alley Soil Gas ppbv	53641 V20 Passyunk/Ernst Alley Soil Gas ppbv	53642 Unit 34 Basement Sub-slab Soil Gas ppbv	53643 Unit 84 Basement Sub-slab Soil Gas ppbv
1,1,1-Trichloroethane	0.51 U	0.51	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
1,1-Dichloroethane	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
1,1-Dichloroethene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Benzene	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U
Chloroform	1.2	8.5	0.52 U	1.4	14	0.52 U	0.57
cis-1,2-Dichloroethene	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U
Ethyl Benzene	0.52 U	0.64	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
m,p-Xylene	0.52 U	1.3	1.0	0.52 U	0.52 U	0.52 U	0.52 U
Methyl Tert Butyl Ether	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	0.52 U	0.81	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
Tetrachloroethene	0.51 U	0.53	0.51 U	6.3	6.1	2.6	0.78
Toluene	0.52 U	1.3	1.9	0.52 U	0.52 U	0.52 U	0.52 U
trans-1,2-Dichloroethene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
Vinyl Chloride	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U

TABLE 2 (continued)
Summary of Results for VOC Analysis of Samples Collected using Tedlar® Bags in ppbv
Passyunk Soil Gas Site
Philadelphia, PA
Febrary 2018

Sample Number	53644	53645	53646
Location	Unit 70	Unit 175	Unit 50
Sub-Location	Basement	Basement	Basement
Sample Type	Sub-slab Soil Gas	Sub-slab Soil Gas	Sub-slab Soil Gas
Result Units	ppbv	ppbv	ppbv
1,1,1-Trichloroethane	0.51 U	230000 D	0.51 U
1,1-Dichloroethane	0.52 U	3.8	0.52 U
1,1-Dichloroethene	0.50 U	49	0.50 U
Benzene	0.53 U	0.53 U	0.53 U
Chloroform	0.52 U	0.90	0.52 U
cis-1,2-Dichloroethene	0.53 U	0.53 U	0.53 U
Ethyl Benzene	0.52 U	0.52 U	0.52 U
m,p-Xylene	0.52 U	0.52 U	0.52 U
Methyl Tert Butyl Ether	0.50 U	0.50 U	0.50 U
o-Xylene	0.52 U	0.52 U	0.52 U
Tetrachloroethene	0.51 U	1.4	0.51 U
Toluene	0.52 U	0.52 U	0.56
trans-1,2-Dichloroethene	0.50 U	0.50 U	0.50 U
Trichloroethene	0.51 U	0.89	0.51 U
Vinyl Chloride	5.2 U	5.2 U	5.2 U

TABLE 3
Summary of September-October 2014 SUMMA® Canister Sampling Events
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number	Location	Sub-Location	Sample Type	Media	SUMMA Number	Start Date	Start Time	Stop Date	Stop Time	Remarks
219-TB-023	Trip Blank	NA	Blank	SUMMA Canister	192	10/1/2014	12:00:00 PM	10/1/2014		
219-SS-024	Unit 84	Sub-Slab	Sub-Slab	SUMMA Canister	247	10/1/2014	12:00:00 PM	10/2/2014	11:22:00 AM	
219-IA-025	Unit 84	Basement IA	Indoor Air	SUMMA Canister	200	10/1/2014	12:01:00 PM	10/2/2014	11:22:00 AM	Dining Area
219-SS-026	Unit 116	Sub-Slab	Sub-Slab	SUMMA Canister	241	10/1/2014	12:05:00 PM	10/2/2014	11:22:00 AM	Near stairs
219-IA-027	Unit 116	Basement IA	Indoor Air	SUMMA Canister	139	10/1/2014	12:03:00 PM	10/2/2014	11:22:00 AM	
219-IA-028	Unit 84	1st Floor IA	Indoor Air	SUMMA Canister	98	10/1/2014	12:08:00 PM	10/2/2014	11:20:00 AM	On bar
219-IA-029	Unit 116	1st Floor IA	Indoor Air	SUMMA Canister	10	10/1/2014	12:08:00 PM	10/2/2014	11:19:00 AM	
219-IA-030	Unit 50	1st Floor IA	Indoor Air	SUMMA Canister	195	10/1/2014	1:03:00 PM	10/2/2014	1:01:00 PM	Toward front
219-IA-031	Unit 50	Basement IA	Indoor Air	SUMMA Canister	246	10/1/2014	1:07:00 PM	10/2/2014	1:02:00 PM	
219-SS-032	Unit 50	Sub-Slab	Sub-Slab	SUMMA Canister	66	10/1/2014	1:07:00 PM	10/2/2014	1:02:00 PM	Installed new port due to home renovation.
219-IA-033	Unit 70	1st Floor IA	Indoor Air	SUMMA Canister	181	10/1/2014	1:35:00 PM	10/2/2014	1:13:00 PM	Dining area
219-IA-034	Unit 70	Basement IA	Indoor Air	SUMMA Canister	14247	10/1/2014	1:36:00 PM	10/2/2014	1:14:00 PM	
219-SS-035	Unit 70	Sub-Slab	Sub-Slab	SUMMA Canister	55	10/1/2014	1:37:00 PM	10/2/2014	1:14:00 PM	
219-IA-036	Unit 34	1st Floor IA	Indoor Air	SUMMA Canister	135	10/1/2014	2:40:00 PM	10/2/2014	2:02:00 PM	Dining area
219-IA-037	Unit 34	1st Floor IA-Dup	Indoor Air	SUMMA Canister	209	10/1/2014	2:40:00 PM	10/2/2014	2:02:00 PM	Dining area - collocated
219-IA-038	Unit 34	Basement IA	Indoor Air	SUMMA Canister	163	10/1/2014	2:42:00 PM	10/2/2014	2:03:00 PM	
219-SS-039	Unit 34	Sub-Slab	Sub-Slab	SUMMA Canister	258	10/1/2014	2:44:00 PM	10/2/2014	2:03:00 PM	
219-AA-040	Unit 116 (Ernst Street)	Ambient	Ambient Air	SUMMA Canister	53	10/1/2014	2:46:00 PM	10/2/2014	2:12:00 PM	On gate behind Unit 116
219-IA-041	Unit 175	1st Floor IA	Indoor Air	SUMMA Canister	14242	10/1/2014	4:34:00 PM	10/2/2014	4:03:00 PM	Kitchen
219-IA-042	Unit 175	Basement IA	Indoor Air	SUMMA Canister	230	10/1/2014	4:40:00 PM	10/2/2014	4:06:00 PM	
219-SS-043	Unit 175	Sub-Slab	Sub-Slab	SUMMA Canister	13	10/1/2014	4:40:00 PM	10/2/2014	4:06:00 PM	Toward back. Likely has high concentration of 1,1,1-TCA
219-AA-044	Unit 175	Ambient	Ambient Air	SUMMA Canister	95	10/1/2014	4:37:00 PM	10/2/2014	4:04:00 PM	On fence behind home

TABLE 4
Summary of Results for VOC Analysis of Samples Collected using SUMMA[®] Canisters in ppbv
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Location Sub-Location Sample Type Result Units	219-TB-023 Trip Blank NA Blank ppbv	219-SS-024 Unit 84 Basement Sub-Slab ppbv	219-IA-025 Unit 84 Basement Indoor Air ppbv	219-SS-026 Unit 116 Basement Sub-Slab ppbv	219-IA-027 Unit 116 Basement Indoor Air ppbv
1,1,1-Trichloroethane	0.0200 U	0.0200 U	0.100 U	0.0619	0.0200 U
1,1,2,2-Tetrachloroethane	0.0200 U	0.0200 U	0.100 U	0.0200 U	0.0200 U
1,1,2-Trichloroethane	0.0200 U	0.0200 U	0.100 U	0.0200 U	0.0200 U
1,1-Dichloroethane	0.0200 U	0.0200 U	0.100 U	0.0200 U	0.0200 U
1,1-Dichloroethene	0.0200 U	0.0200 U	0.100 U	0.0200 U	0.0200 U
1,2,4-Trimethylbenzene	0.0200 U	0.0536	0.183	0.147	0.187
1,2-Dibromoethane	0.0025 J	0.0200 U	0.100 U	0.0200 U	0.0200 U
1,2-Dichlorobenzene	0.0200 U	0.0200 U	0.100 U	0.0200 U	0.0200 U
1,2-Dichloroethane	0.0200 U	0.0200 U	0.100 U	0.0200 U	0.0264
1,2-Dichloropropane	0.0200 U	0.0200 U	0.100 U	0.0200 U	0.0200 U
1,3,5-Trimethylbenzene	0.0200 U	0.0200 U	0.100 U	0.0349	0.0607
1,3-Butadiene	0.0200 U	0.0200 U	0.100 U	0.0200 U	0.0200 U
1,3-Dichlorobenzene	0.0200 U	0.0200 U	0.100 U	0.0200 U	0.0200 U
1,4-Dichlorobenzene	0.0200 U	0.0200 U	0.200	0.0796	0.218
1,4-Dioxane	0.0200 U	0.0643	0.100 U	0.0200 U	0.0200 U
2-Butanone	0.0200 U	0.896	1.01	0.475	0.365
2-Hexanone	0.0200 U	0.726	0.100 U	0.0678	0.0200 U
Acetone	0.500 U	6.55	11.4	8.68	0.500 U
Benzene	0.0200 U	0.0261	0.177	0.0832	0.185
Bromoform	0.0200 U	0.0200 U	0.100 U	0.0200 U	0.0200 U
Bromomethane	0.0200 U	0.0200 U	0.100 U	0.0200 U	0.0200 U
Carbon Tetrachloride	0.0200 U	0.0709	0.0682 J	0.0314	0.0702
Chlorobenzene	0.0200 U	0.0200 U	0.100 U	0.0200 U	0.0200 U
Chloroethane	0.0200 U	0.0200 U	0.100 U	0.0200 U	0.0200 U
Chloroform	0.0200 U	0.403	0.118	3.51	0.120
Chloromethane	0.0200 U	0.270	0.263	0.333	0.496
cis-1,2-Dichloroethene	0.0200 U	0.0200 U	0.100 U	0.0200 U	0.0200 U
cis-1,3-Dichloropropene	0.0200 U	0.0200 U	0.100 U	0.0200 U	0.0200 U
Cyclohexane	0.0200 U	0.0200 U	0.100 U	0.0509	0.172
Dibromochloromethane	0.0200 U	0.0200 U	0.100 U	0.0200 U	0.0197 J
Dichlorodifluoromethane	0.0200 U	0.298	0.409	0.251	0.0200 U
Dichlorotetrafluoroethane	0.0200 U	0.0200 U	0.100 U	0.0200 U	0.0200 U
Ethyl Acetate	0.0200 U	0.0802	0.100 U	0.122	0.0200 U
Ethylbenzene	0.0200 U	0.0321	0.337	0.111	0.257
Heptane	0.0200 UJ	0.0200 UJ	0.100 UJ	0.0715 J	0.0830 J
Hexane	0.0200 U	0.155	0.462	0.261	0.431
Isopropyl Alcohol	0.500 U	0.500 U	2.50 U	0.500 U	0.500 U
m&p-Xylene	0.0200 U	0.0629	1.14	0.311	0.843
Methyl Isobutyl Ketone	0.0200 UJ	0.0587 J	0.363 J	0.425 J	0.217 J
Methylene Chloride	0.0200 U	146	10.2	1.35	5.53
MTBE	0.0200 U	0.0200 U	0.100 U	0.0200 U	0.0200 U
o-Xylene	0.0200 U	0.0283	0.230	0.122	0.200
p-Ethyltoluene	0.0200 U	0.0200 U	0.100 U	0.0328	0.0453
Propylene	0.0200 U	2.32	19.9	5.20	37.9
Styrene	0.0200 U	0.0374	0.336	0.0748	0.301
Tetrachloroethene	0.0200 U	0.651	0.100 U	3.99	0.0776
Tetrahydrofuran	0.0200 U	0.155	0.487	0.181	0.0941
Toluene	0.0200 U	0.154	0.769	0.328	0.689
trans-1,2-Dichloroethene	0.0200 U	0.0200 U	0.100 U	0.0200 U	0.0200 U
trans-1,3-Dichloropropene	0.0200 U	0.0200 U	0.100 U	0.0200 U	0.0200 U
Trichloroethene	0.0200 U	0.0200 U	0.0999 J	0.0200 U	0.107
Trichlorofluoromethane	0.0200 U	0.257	0.268	0.320	0.258
Trichlorotrifluoroethane	0.0200 U	0.0925	0.100 U	0.0951	0.0786
Vinyl Acetate	0.0200 U	0.0200 U	0.100 U	0.0200 U	0.0200 U
Vinyl Chloride	0.0200 U	0.0200 U	0.100 U	0.0200 U	0.0200 U

TABLE 4 (continued)
Summary of Results for VOC Analysis of Samples Collected using SUMMA® Canisters in ppbv
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Location Sub-Location Sample Type Result Units	219-IA-028 Unit 84 1st Floor Indoor Air ppbv	219-IA-029 Unit 116 1st Floor Indoor Air ppbv	219-IA-030 Unit 50 1st Floor Indoor Air ppbv	219-IA-031 Unit 50 Basement Indoor Air ppbv	219-SS-032 Unit 50 Basement Sub-Slab ppbv
1,1,1-Trichloroethane	0.100 U	5.97	0.0200 U	0.0200 U	0.0200 U
1,1,2,2-Tetrachloroethane	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U
1,1,2-Trichloroethane	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U
1,1-Dichloroethane	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U
1,1-Dichloroethene	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U
1,2,4-Trimethylbenzene	0.157	0.152	0.989	1.76	0.373
1,2-Dibromoethane	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U
1,2-Dichlorobenzene	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U
1,2-Dichloroethane	0.100 U	0.100 U	0.0281	0.0412	0.0200 U
1,2-Dichloropropane	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U
1,3,5-Trimethylbenzene	0.100 U	0.100 U	0.367	0.687	0.144
1,3-Butadiene	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U
1,3-Dichlorobenzene	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U
1,4-Dichlorobenzene	0.0615 J	0.100 U	0.0401	0.0628	0.0200 U
1,4-Dioxane	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U
2-Butanone	0.671	0.430	0.0200 U	5.42	0.955
2-Hexanone	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0697
Acetone	6.71	6.12	3.33	109	5.75
Benzene	0.171	0.170	0.295	0.430	0.133
Bromoform	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U
Bromomethane	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U
Carbon Tetrachloride	0.0134 J	0.100 U	0.0741	0.0681	0.0703
Chlorobenzene	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U
Chloroethane	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U
Chloroform	0.0477 J	0.100 U	0.0342	0.0438	0.105
Chloromethane	0.475	0.453	0.390	0.390	0.0528
cis-1,2-Dichloroethene	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U
cis-1,3-Dichloropropene	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U
Cyclohexane	0.100 U	0.100 U	0.421	0.888	0.134
Dibromochloromethane	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U
Dichlorodifluoromethane	0.442	0.442	0.211	0.216	0.335
Dichlorotetrafluoroethane	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U
Ethyl Acetate	0.287	0.268	0.0200 U	0.596	0.118
Ethylbenzene	0.106	0.100 U	0.478	0.910	0.112
Heptane	0.100 UJ	0.100 UJ	0.443 J	1.01 J	0.127 J
Hexane	0.340	0.330	1.03	1.86	0.303
Isopropyl Alcohol	2.50 U	2.50 U	0.500 U	0.500 U	0.500 U
m&p-Xylene	0.366	0.304	1.80	3.30	0.356
Methyl Isobutyl Ketone	0.139 J	0.100 UJ	0.0200 UJ	0.0357 J	0.178 J
Methylene Chloride	2.27	1.05	0.564	1.33	0.0577
MTBE	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U
o-Xylene	0.122	0.112	0.752	1.43	0.456
p-Ethyltoluene	0.100 U	0.100 U	0.194	0.321	0.0812
Propylene	4.18	3.40	3.42	7.14	2.27
Styrene	0.214	0.100 U	0.133	0.174	0.0809
Tetrachloroethene	0.100 U	0.100 U	0.0264	0.0350	0.371
Tetrahydrofuran	0.141	0.159	2.81	83.1	1.60
Toluene	0.481	0.508	2.08	3.44	0.411
trans-1,2-Dichloroethene	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U
trans-1,3-Dichloropropene	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U
Trichloroethene	0.100 U	0.100 U	0.116	0.103	0.289
Trichlorofluoromethane	0.274	0.256	0.267	0.309	0.410
Trichlorotrifluoroethane	0.100 U	4.40	0.0713	0.0768	0.0899
Vinyl Acetate	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U
Vinyl Chloride	0.100 U	0.100 U	0.0200 U	0.0200 U	0.0200 U

TABLE 4 (continued)
Summary of Results for VOC Analysis of Samples Collected using SUMMA® Canisters in ppbv
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number	219-IA-033	219-IA-034	219-SS-035	219-IA-036	219-IA-037
Location	Unit 70	Unit 70	Unit 70	Unit 34	Unit 34
Sub-Location	1st Floor	Basement	Basement	1st Floor	1st Floor CO
Sample Type	Indoor Air	Indoor Air	Sub-Slab	Indoor Air	Indoor Air
Result Units	ppbv	ppbv	ppbv	ppbv	ppbv
1,1,1-Trichloroethane	0.100 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
1,1,2,2-Tetrachloroethane	0.100 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
1,1,2-Trichloroethane	0.100 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
1,1-Dichloroethane	0.100 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
1,1-Dichloroethene	0.100 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
1,2,4-Trimethylbenzene	0.208	0.211	0.0393	0.194	0.157
1,2-Dibromoethane	0.100 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
1,2-Dichlorobenzene	0.100 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
1,2-Dichloroethane	0.387	0.391	0.0200 U	0.319	0.0214
1,2-Dichloropropane	0.100 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
1,3,5-Trimethylbenzene	0.100 U	0.0638	0.0200 U	0.0528	0.0483
1,3-Butadiene	0.100 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
1,3-Dichlorobenzene	0.100 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
1,4-Dichlorobenzene	0.457	0.437	0.0200 U	0.440	0.0320
1,4-Dioxane	0.100 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
2-Butanone	0.849	0.440	0.366	0.644	0.273
2-Hexanone	0.100 U	0.0371	0.0328	0.0251	0.0200 U
Acetone	25.8	12.5 J	4.61 J	13.5	7.40
Benzene	0.324	0.342	0.0326	0.357	0.212
Bromoform	0.100 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Bromomethane	0.100 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Carbon Tetrachloride	0.0124 J	0.0703	0.0698	0.0659	0.0737
Chlorobenzene	0.100 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Chloroethane	0.100 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Chloroform	0.161	0.155	0.0252	0.126	0.0672
Chloromethane	0.618	0.713	0.0542	0.554	0.555
cis-1,2-Dichloroethene	0.100 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
cis-1,3-Dichloropropene	0.100 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Cyclohexane	0.100 U	0.0567	0.0200 U	0.0535	0.0456
Dibromochloromethane	0.100 U	0.0284	0.0200 U	0.0204	0.0077 J
Dichlorodifluoromethane	0.425	0.243	0.354	0.210	0.273
Dichlorotetrafluoroethane	0.100 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Ethyl Acetate	0.255 J	0.234	0.0200 U	0.199	2.87
Ethylbenzene	0.183	0.202	0.0200 U	0.166	0.131
Heptane	0.134 J	0.120 J	0.0413 J	0.116 J	0.127 J
Hexane	0.253	0.268	0.114	0.289	0.263
Isopropyl Alcohol	6.89	0.761 J	0.500 U	0.705	1.11
m&p-Xylene	0.508	0.544	0.0392	0.428	0.355
Methyl Isobutyl Ketone	0.296 J	0.276 J	0.246 J	0.112 J	4.45 J
Methylene Chloride	0.660 J	0.299	0.0200 U	0.283	0.224
MTBE	0.100 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
o-Xylene	0.222	0.229	0.0200 U	0.173	0.147
p-Ethyltoluene	0.100 U	0.0500	0.0200 U	0.0441	0.0346
Propylene	20.8	16.9 J	0.168	11.3	0.841
Styrene	0.364	0.402 J	0.0300	0.283	0.0760
Tetrachloroethene	0.100 U	0.0291	0.187	0.0262	0.0391
Tetrahydrofuran	0.319	0.126 J	0.0921 J	0.139	0.116
Toluene	1.30	1.32	0.0909	1.05	0.465
trans-1,2-Dichloroethene	0.100 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
trans-1,3-Dichloropropene	0.100 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Trichloroethene	0.100 U	0.0460	0.0200 U	0.0420	0.0601
Trichlorofluoromethane	0.229	0.238	0.259	0.208	0.261
Trichlorotrifluoroethane	0.100 U	0.0820	0.0889	0.0705	0.0911
Vinyl Acetate	0.561	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Vinyl Chloride	0.100 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U

TABLE 4 (continued)
Summary of Results for VOC Analysis of Samples Collected using SUMMA[®] Canisters in ppbv
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number	219-IA-038	219-SS-039	219-AA-040	219-IA-041	219-IA-042
Location	Unit 34	Unit 34	Unit 116 (Ernst Street)	Unit 175	Unit 175
Sub-Location	Basement	Basement	Ambient	1st Floor	Basement
Sample Type	Indoor Air	Sub-Slab	Ambient Air	Indoor Air	Indoor Air
Result Units	ppbv	ppbv	ppbv	ppbv	ppbv
1,1,1-Trichloroethane	0.0200 U	0.272	0.0200 U	0.0200 U	5.12
1,1,2,2-Tetrachloroethane	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
1,1,2-Trichloroethane	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
1,1-Dichloroethane	0.0200 U	0.0200 U	0.0200 U	0.0460	0.0200 U
1,1-Dichloroethene	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
1,2,4-Trimethylbenzene	0.140	0.0579	0.111	0.580	0.137
1,2-Dibromoethane	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
1,2-Dichlorobenzene	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
1,2-Dichloroethane	0.0200 U	0.0200 U	0.0200 U	0.0596	0.0227
1,2-Dichloropropane	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
1,3,5-Trimethylbenzene	0.0427	0.0200 U	0.0349	0.271	0.0494
1,3-Butadiene	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
1,3-Dichlorobenzene	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
1,4-Dichlorobenzene	0.0295	0.0200 U	0.0200 U	0.470	0.0219
1,4-Dioxane	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
2-Butanone	0.285	0.353	0.371	0.505	0.286
2-Hexanone	0.0200 U	0.0850	0.0200 U	0.0200 U	0.0200 U
Acetone	7.45	4.09	5.65	8.80	4.55
Benzene	0.190	0.0363	0.162	4.44	0.702
Bromoform	0.0200 U	0.0200 U	0.0200 U	0.0316	0.0200 U
Bromomethane	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Carbon Tetrachloride	0.0663	0.101	0.0691	0.0707	0.0743
Chlorobenzene	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Chloroethane	0.0200 U	0.0200 U	0.0200 U	0.0321	0.126
Chloroform	0.0546	0.144	0.0266	1.90	0.172
Chloromethane	0.455	0.103	0.497	0.446	1.17
cis-1,2-Dichloroethene	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
cis-1,3-Dichloropropene	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Cyclohexane	0.0387	0.0200 U	0.0383	0.0684	0.0416
Dibromochloromethane	0.0068 J	0.0200 U	0.0200 U	0.276	0.0345
Dichlorodifluoromethane	0.242	0.271	0.224	0.223	0.223
Dichlorotetrafluoroethane	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Ethyl Acetate	2.67	0.0669	0.188	1.34	5.76
Ethylbenzene	0.117	0.0200 U	0.0630	2.73	0.152
Heptane	0.113 J	0.0312 J	0.0799 J	0.145 J	0.163 J
Hexane	0.231	0.113	0.311	0.254	0.312
Isopropyl Alcohol	0.987	0.500 U	0.646	0.840	4.39
m&p-Xylene	0.321	0.0514	0.210	2.56	0.361
Methyl Isobutyl Ketone	4.48 J	0.573 J	0.0346 J	6.39 J	0.0588 J
Methylene Chloride	0.228	0.0200 U	0.100	0.291	0.249
MTBE	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
o-Xylene	0.132	0.0200 U	0.0837	1.56	0.146
p-Ethyltoluene	0.0312	0.0200 U	0.0278	0.295	0.0437
Propylene	0.755	0.131	0.667	2.08	9.20
Styrene	0.0654	0.0346	0.0599	0.122	0.121
Tetrachloroethene	0.0345	2.11	0.0217	0.167	0.0478
Tetrahydrofuran	0.107	0.100	0.119	0.200	0.0708
Toluene	0.408	0.106	0.364	0.930	1.03
trans-1,2-Dichloroethene	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
trans-1,3-Dichloropropene	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Trichloroethene	0.0543	0.0200 U	0.113	0.117	0.0200 U
Trichlorofluoromethane	0.243	0.305	0.241	0.255	0.951
Trichlorotrifluoroethane	0.0806	0.0884	0.0830	0.0748	2.04
Vinyl Acetate	0.0200 U	0.0200 U	0.236	0.0200 U	0.0200 U
Vinyl Chloride	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U

TABLE 4 (continued)
Summary of Results for VOC Analysis of Samples Collected using SUMMA® Canisters in ppbv
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number	219-SS-043	219-AA-044
Location	Unit 175	Unit 175
Sub-Location	Basement	Ambient
Sample Type	Sub-Slab	Ambient Air
Result Units	ppbv	ppbv
1,1,1-Trichloroethane	143000	0.0252
1,1,2,2-Tetrachloroethane	1.00 U	0.0200 U
1,1,2-Trichloroethane	1.00 U	0.0200 U
1,1-Dichloroethane	2.67	0.0200 U
1,1-Dichloroethene	27.6	0.0200 U
1,2,4-Trimethylbenzene	1.00 U	0.0871
1,2-Dibromoethane	1.00 U	0.0200 U
1,2-Dichlorobenzene	1.00 U	0.0200 U
1,2-Dichloroethane	1.00 U	0.0200 U
1,2-Dichloropropane	1.00 U	0.0200 U
1,3,5-Trimethylbenzene	1.00 U	0.0272
1,3-Butadiene	1.00 U	0.0200 U
1,3-Dichlorobenzene	1.00 U	0.0200 U
1,4-Dichlorobenzene	1.00 U	0.0200 U
1,4-Dioxane	1.00 U	0.0200 U
2-Butanone	1.00 U	0.261
2-Hexanone	1.00 U	0.0200 U
Acetone	25.0 U	4.63
Benzene	1.00 U	0.124
Bromoform	1.00 U	0.0200 U
Bromomethane	1.00 U	0.0200 U
Carbon Tetrachloride	21.5	0.0693
Chlorobenzene	1.00 U	0.0200 U
Chloroethane	1.00 U	0.0200 U
Chloroform	1.06	0.0255
Chloromethane	2.34	0.497
cis-1,2-Dichloroethene	1.00 U	0.0200 U
cis-1,3-Dichloropropene	1.00 U	0.0200 U
Cyclohexane	1.00 U	0.0277
Dibromochloromethane	1.00 U	0.0200 U
Dichlorodifluoromethane	2.22	0.227
Dichlorotetrafluoroethane	1.00 U	0.0200 U
Ethyl Acetate	1.00 U	0.155
Ethylbenzene	1.00 U	0.0545
Heptane	1.00 UJ	0.0664 J
Hexane	1.00 U	0.195
Isopropyl Alcohol	25.0 U	0.500 U
m&p-Xylene	1.00 U	0.172
Methyl Isobutyl Ketone	1.00 UJ	0.148 J
Methylene Chloride	1.00 U	0.116
MTBE	1.00 U	0.0200 U
o-Xylene	1.00 U	0.0701
p-Ethyltoluene	1.00 U	0.0224
Propylene	4770	0.545
Styrene	1.00 U	0.0659
Tetrachloroethene	1.26	0.0200 U
Tetrahydrofuran	1.00 U	0.0585
Toluene	1.00 U	0.312
trans-1,2-Dichloroethene	1.00 U	0.0200 U
trans-1,3-Dichloropropene	1.00 U	0.0200 U
Trichloroethene	1.00 U	0.0247
Trichlorofluoromethane	1.92	0.274
Trichlorotrifluoroethane	107000	0.0882
Vinyl Acetate	1.00 U	0.0200 U
Vinyl Chloride	1.00 U	0.0200 U

TABLE 5
Summary of Results for VOC Analysis of Samples Collected using SUMMA[®] Canisters in µg/m³
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Location Sub-Location Sample Type Result Units	219-TB-023 Trip Blank NA Blank µg/m ³	219-SS-024 Unit 84 Basement Sub-Slab µg/m ³	219-IA-025 Unit 84 Basement Indoor Air µg/m ³	219-SS-026 Unit 116 Basement Sub-Slab µg/m ³	219-IA-027 Unit 116 Basement Indoor Air µg/m ³
1,1,1-Trichloroethane	0.109 U	0.109 U	0.546 U	0.337	0.109 U
1,1,2,2-Tetrachloroethane	0.137 U	0.137 U	0.687 U	0.137 U	0.137 U
1,1,2-Trichloroethane	0.109 U	0.109 U	0.546 U	0.109 U	0.109 U
1,1-Dichloroethane	0.0809 U	0.0809 U	0.405 U	0.0809 U	0.0809 U
1,1-Dichloroethene	0.0793 U	0.0793 U	0.396 U	0.0793 U	0.0793 U
1,2,4-Trimethylbenzene	0.0983 U	0.263	0.901	0.721	0.918
1,2-Dibromoethane	0.0192 J	0.154 U	0.768 U	0.154 U	0.154 U
1,2-Dichlorobenzene	0.120 U	0.120 U	0.601 U	0.120 U	0.120 U
1,2-Dichloroethane	0.0809 U	0.0809 U	0.405 U	0.0809 U	0.107
1,2-Dichloropropane	0.0924 U	0.0924 U	0.462 U	0.0924 U	0.0924 U
1,3,5-Trimethylbenzene	0.0983 U	0.0983 U	0.492 U	0.172	0.298
1,3-Butadiene	0.0442 U	0.0442 U	0.221 U	0.0442 U	0.0442 U
1,3-Dichlorobenzene	0.120 U	0.120 U	0.601 U	0.120 U	0.120 U
1,4-Dichlorobenzene	0.120 U	0.120 U	1.20	0.479	1.31
1,4-Dioxane	0.0721 U	0.232	0.360 U	0.0721 U	0.0721 U
2-Butanone	0.0590 U	2.64	2.98	1.40	1.08
2-Hexanone	0.0819 U	2.97	0.410 U	0.278	0.0819 U
Acetone	1.19 U	15.6	27.0	20.6	1.19 U
Benzene	0.0639 U	0.0835	0.567	0.266	0.591
Bromoform	0.207 U	0.207 U	1.03 U	0.207 U	0.207 U
Bromomethane	0.0777 U	0.0777 U	0.388 U	0.0777 U	0.0777 U
Carbon Tetrachloride	0.126 U	0.446	0.429 J	0.197	0.442
Chlorobenzene	0.0921 U	0.0921 U	0.460 U	0.0921 U	0.0921 U
Chloroethane	0.0528 U	0.0528 U	0.264 U	0.0528 U	0.0528 U
Chloroform	0.0977 U	1.97	0.578	17.1	0.588
Chloromethane	0.0413 U	0.558	0.544	0.688	1.03
cis-1,2-Dichloroethene	0.0793 U	0.0793 U	0.396 U	0.0793 U	0.0793 U
cis-1,3-Dichloropropene	0.0908 U	0.0908 U	0.454 U	0.0908 U	0.0908 U
Cyclohexane	0.0688 U	0.0688 U	0.344 U	0.175	0.594
Dibromochloromethane	0.170 U	0.170 U	0.852 U	0.170 U	0.168 J
Dichlorodifluoromethane	0.0989 U	1.47	2.02	1.24	0.0989 U
Dichlorotetrafluoroethane	0.140 U	0.140 U	0.699 U	0.140 U	0.14 U
Ethyl Acetate	0.0721 U	0.289	0.360 U	0.438	0.0721 U
Ethylbenzene	0.0868 U	0.140	1.46	0.480	1.11
Heptane	0.0820 UJ	0.0820 UJ	0.410 UJ	0.293 J	0.340 J
Hexane	0.0705 U	0.547	1.63	0.919	1.52
Isopropyl Alcohol	1.23 U	1.23 U	6.15 U	1.23 U	0.0834
m&p-Xylene	0.0868 U	0.273	4.97	1.35	3.66
Methyl Isobutyl Ketone	0.0819 UJ	0.240 J	1.49 J	1.74 J	0.890 J
Methylene Chloride	0.0695 U	506	35.6	4.67	19.2
MTBE	0.0721 U	0.0721 U	0.361 U	0.0721 U	0.0721 U
o-Xylene	0.0868 U	0.123	0.999	0.530	0.868
p-Ethyltoluene	0.0983 U	0.0983 U	0.492 U	0.161	0.223
Propylene	0.0344 U	3.99	34.2	8.95	65.3
Styrene	0.0852 U	0.159	1.43	0.319	1.28
Tetrachloroethene	0.136 U	4.42	0.678 U	27.1	0.526
Tetrahydrofuran	0.0590 U	0.458	1.43	0.534	0.277
Toluene	0.0754 U	0.582	2.90	1.24	2.60
trans-1,2-Dichloroethene	0.0793 U	0.0793 U	0.396 U	0.0793 U	0.0793 U
trans-1,3-Dichloropropene	0.0908 U	0.0908 U	0.454 U	0.0908 U	0.0908 U
Trichloroethene	0.107 U	0.107 U	0.537 J	0.107 U	0.573
Trichlorofluoromethane	0.112 U	1.45	1.51	1.80	1.45
Trichlorotrifluoroethane	0.153 U	0.709	0.766 U	0.729	0.602
Vinyl Acetate	0.0704 U	0.0704 U	0.352 U	0.0704 U	0.0704 U
Vinyl Chloride	0.0511 U	0.0511 U	0.256 U	0.0511 U	0.0511 U

TABLE 5 (continued)
Summary of Results for VOC Analysis of Samples Collected using SUMMA[®] Canisters in µg/m³
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Location Sub-Location Sample Type Result Units	219-IA-028 Unit 84 1st Floor Indoor Air µg/m ³	219-IA-029 Unit 116 1st Floor Indoor Air µg/m ³	219-IA-030 Unit 50 1st Floor Indoor Air µg/m ³	219-IA-031 Unit 50 Basement Indoor Air µg/m ³	219-SS-032 Unit 50 Basement Sub-Slab µg/m ³
1,1,1-Trichloroethane	0.546 U	32.6	0.109 U	0.109 U	0.109 U
1,1,2,2-Tetrachloroethane	0.687 U	0.687 U	0.137 U	0.137 U	0.137 U
1,1,2-Trichloroethane	0.546 U	0.546 U	0.109 U	0.109 U	0.109 U
1,1-Dichloroethane	0.405 U	0.405 U	0.0809 U	0.0809 U	0.0809 U
1,1-Dichloroethene	0.396 U	0.396 U	0.0793 U	0.0793 U	0.0793 U
1,2,4-Trimethylbenzene	0.770	0.746	4.86	8.66	1.84
1,2-Dibromoethane	0.768 U	0.768 U	0.154 U	0.154 U	0.154 U
1,2-Dichlorobenzene	0.601 U	0.601 U	0.120 U	0.120 U	0.120 U
1,2-Dichloroethane	0.405 U	0.405 U	0.114	0.167	0.0809 U
1,2-Dichloropropane	0.462 U	0.462 U	0.0924 U	0.0924 U	0.0924 U
1,3,5-Trimethylbenzene	0.492 U	0.492 U	1.80	3.38	0.709
1,3-Butadiene	0.221 U	0.221 U	0.0442 U	0.0442 U	0.0442 U
1,3-Dichlorobenzene	0.601 U	0.601 U	0.120 U	0.120 U	0.120 U
1,4-Dichlorobenzene	0.370 J	0.601 U	0.241	0.378	0.120 U
1,4-Dioxane	0.360 U	0.360 U	0.0721 U	0.0721 U	0.0721 U
2-Butanone	1.98	1.27	0.0590 U	16.0	2.82
2-Hexanone	0.410 U	0.410 U	0.0819 U	0.0819 U	0.285
Acetone	15.9	14.5	7.92	260	13.7
Benzene	0.547	0.542	0.941	1.37	0.426
Bromoform	1.03 U	1.03 U	0.207 U	0.207 U	0.207 U
Bromomethane	0.388 U	0.388 U	0.0777 U	0.0777 U	0.0777 U
Carbon Tetrachloride	0.0843 J	0.629 U	0.466	0.428	0.442
Chlorobenzene	0.460 U	0.460 U	0.0921 U	0.0921 U	0.0921 U
Chloroethane	0.264 U	0.264 U	0.0528 U	0.0528 U	0.0528 U
Chloroform	0.235 J	0.488 U	0.167	0.214	0.511
Chloromethane	0.981	0.935	0.806	0.805	0.109
cis-1,2-Dichloroethene	0.396 U	0.396 U	0.0793 U	0.0793 U	0.0793 U
cis-1,3-Dichloropropene	0.454 U	0.454 U	0.0908 U	0.0908 U	0.0908 U
Cyclohexane	0.344 U	0.344 U	1.45	3.06	0.460
Dibromochloromethane	0.852 U	0.852 U	0.170 UJ	0.170 U	0.170 U
Dichlorodifluoromethane	2.19	2.18	1.04	1.07	1.66
Dichlorotetrafluoroethane	0.699 U	0.699 U	0.140 U	0.140 U	0.140 U
Ethyl Acetate	1.03	0.964	0.0721 U	2.15	0.426
Ethylbenzene	0.459	0.434 U	2.07	3.95	0.488
Heptane	0.410 UJ	0.410 UJ	1.81 J	4.16 J	0.519 J
Hexane	1.20	1.16	3.65	6.55	1.07
Isopropyl Alcohol	6.15 U	6.15 U	1.23 U	1.23 U	1.23 U
m&p-Xylene	1.59	1.32	7.80	14.3	1.55
Methyl Isobutyl Ketone	0.571 J	0.410 UJ	0.0819 UJ	0.146 J	0.731 J
Methylene Chloride	7.88	3.66	1.96	4.62	0.200
MTBE	0.361 U	0.361 U	0.0721 U	0.0721 U	0.0721 U
o-Xylene	0.532	0.487	3.27	6.20	1.98
p-Ethyltoluene	0.492 U	0.492 U	0.952	1.58	0.399
Propylene	7.20	5.85	5.88	12.3	3.91
Styrene	0.910	0.426 U	0.567	0.740	0.344
Tetrachloroethene	0.678 U	0.678 U	0.179	0.237	2.52
Tetrahydrofuran	0.415	0.468	8.29	245	4.72
Toluene	1.81	1.92	7.83	13.0	1.55
trans-1,2-Dichloroethene	0.396 U	0.396 U	0.0793 U	0.0793 U	0.0793 U
trans-1,3-Dichloropropene	0.454 U	0.454 U	0.0908 U	0.0908 U	0.0908 U
Trichloroethene	0.537 U	0.537 U	0.622	0.553	1.55
Trichlorofluoromethane	1.54	1.44	1.50	1.74	2.30
Trichlorotrifluoroethane	0.766 U	33.7	0.546	0.588	0.689
Vinyl Acetate	0.352 U	0.352 U	0.0704 U	0.0704 U	0.0704 U
Vinyl Chloride	0.256 U	0.256 U	0.0511 U	0.0511 U	0.0511 U

TABLE 5 (continued)
Summary of Results for VOC Analysis of Samples Collected using SUMMA® Canisters in µg/m³
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number	219-IA-033	219-IA-034	219-SS-035	219-IA-036	219-IA-037
Location	Unit 70	Unit 70	Unit 70	Unit 34	Unit 34
Sub-Location	1st Floor	Basement	Basement	1st Floor	1st Floor CO
Sample Type	Indoor Air	Indoor Air	Sub-Slab	Indoor Air	Indoor Air
Result Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1-Trichloroethane	0.546 U	0.109 U	0.109 U	0.109 U	0.109 U
1,1,2,2-Tetrachloroethane	0.687 U	0.137 U	0.137 U	0.137 U	0.137 U
1,1,2-Trichloroethane	0.546 U	0.109 U	0.109 U	0.109 U	0.109 U
1,1-Dichloroethane	0.4050 U	0.0809 U	0.0809 U	0.0809 U	0.0809 U
1,1-Dichloroethene	0.3960 U	0.0793 U	0.0793 U	0.0793 U	0.0793 U
1,2,4-Trimethylbenzene	1.02	1.04	0.193	0.954	0.770
1,2-Dibromoethane	0.768 U	0.154 U	0.154 U	0.154 U	0.154 U
1,2-Dichlorobenzene	0.601 U	0.120 U	0.120 U	0.120 U	0.120 U
1,2-Dichloroethane	1.57	1.58	0.0809 U	1.29	0.0867
1,2-Dichloropropane	0.462 U	0.0924 U	0.0924 U	0.0924 U	0.0924 U
1,3,5-Trimethylbenzene	0.492 U	0.314	0.0983 U	0.260	0.238
1,3-Butadiene	0.221 U	0.0442 U	0.0442 U	0.0442 U	0.0442 U
1,3-Dichlorobenzene	0.601 U	0.120 U	0.120 U	0.120 U	0.120 U
1,4-Dichlorobenzene	2.75	2.63	0.120 U	2.65	0.192
1,4-Dioxane	0.360 U	0.0721 U	0.0721 U	0.0721 U	0.0721 U
2-Butanone	2.50	1.30	1.08	1.90	0.805
2-Hexanone	0.410 U	0.152	0.134	0.103	0.0819 U
Acetone	61.3	29.7 J	11.0 J	32.2	17.6
Benzene	1.04	1.09	0.104	1.14	0.676
Bromoform	1.03 U	0.207 U	0.207 U	0.207 U	0.207 U
Bromomethane	0.388 U	0.0777 U	0.0777 U	0.0777 U	0.0777 U
Carbon Tetrachloride	0.0780 J	0.442	0.439	0.415	0.463
Chlorobenzene	0.460 U	0.0921 U	0.0921 U	0.092 U	0.0921 U
Chloroethane	0.264 U	0.0528 U	0.0528 U	0.0528 U	0.0528 U
Chloroform	0.788	0.758	0.123	0.616	0.328
Chloromethane	1.28	1.47	0.112	1.14	1.15
cis-1,2-Dichloroethene	0.396 U	0.0793 U	0.0793 U	0.0793 U	0.0793 U
cis-1,3-Dichloropropene	0.454 U	0.0908 U	0.0908 U	0.0908 U	0.0908 U
Cyclohexane	0.344 U	0.195	0.0688 U	0.184	0.157
Dibromochloromethane	0.852 U	0.242	0.170 U	0.173	0.0656 J
Dichlorodifluoromethane	2.10	1.20	1.75	1.04	1.35
Dichlorotetrafluoroethane	0.699 U	0.140 U	0.140 U	0.140 U	0.140 U
Ethyl Acetate	0.918 J	0.844	0.0721 U	0.717	10.3
Ethylbenzene	0.795	0.876	0.0868 U	0.720	0.569
Heptane	0.548 J	0.492 J	0.169 J	0.475 J	0.521 J
Hexane	0.890	0.945	0.403	1.02	0.927
Isopropyl Alcohol	16.9	1.87 J	1.23 U	1.73	2.73
m&p-Xylene	2.21	2.36	0.170	1.86	1.54
Methyl Isobutyl Ketone	1.21 J	1.13 J	1.01 J	0.459 J	18.2 J
Methylene Chloride	2.29 J	1.04	0.0695 U	0.983	0.779
MTBE	0.361 U	0.0721 U	0.0721 U	0.0721 U	0.0721 U
o-Xylene	0.963	0.994	0.0868 U	0.752	0.638
p-Ethyltoluene	0.492 U	0.246	0.0983 U	0.217	0.170
Propylene	35.7	29.2 J	0.290	19.5	1.45
Styrene	1.55	1.71 J	0.128	1.21	0.324
Tetrachloroethene	0.678 U	0.197	1.26	0.178	0.265
Tetrahydrofuran	0.940	0.372 J	0.272 J	0.411	0.342
Toluene	4.91	4.99	0.342	3.96	1.75
trans-1,2-Dichloroethene	0.396 U	0.0793 U	0.0793 U	0.0793 U	0.0793 U
trans-1,3-Dichloropropene	0.454 U	0.0908 U	0.0908 U	0.0908 U	0.0908 U
Trichloroethene	0.537 U	0.247	0.107 U	0.226	0.323
Trichlorofluoromethane	1.29	1.34	1.46	1.17	1.47
Trichlorotrifluoroethane	0.766 U	0.628	0.681	0.540	0.698
Vinyl Acetate	1.98	0.0704 U	0.0704 U	0.0704 U	0.0704 U
Vinyl Chloride	0.256 U	0.0511 U	0.0511 U	0.0511 U	0.0511 U

TABLE 5 (continued)
Summary of Results for VOC Analysis of Samples Collected using SUMMA® Canisters in µg/m³
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number	219-IA-038	219-SS-039	219-AA-040	219-IA-041	219-IA-042
Location	Unit 34	Unit 34	Unit 116 (Ernst Street)	Unit 175	Unit 175
Sub-Location	Basement	Basement	Ambient	1st Floor	Basement
Sample Type	Indoor Air	Sub-Slab	Ambient Air	Indoor Air	Indoor Air
Result Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1-Trichloroethane	0.109 U	1.49	0.109 U	0.109 U	27.9
1,1,2,2-Tetrachloroethane	0.137 U	0.137 U	0.137 U	0.137 U	0.137 U
1,1,2-Trichloroethane	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U
1,1-Dichloroethane	0.0809 U	0.0809 U	0.0809 U	0.186	0.0809 U
1,1-Dichloroethene	0.0793 U	0.0793 U	0.0793 U	0.0793 U	0.079 U
1,2,4-Trimethylbenzene	0.690	0.285	0.544	2.85	0.675
1,2-Dibromoethane	0.154 U	0.154 U	0.154 U	0.154 U	0.154 U
1,2-Dichlorobenzene	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U
1,2-Dichloroethane	0.0809 U	0.0809 U	0.0809 U	0.241	0.0919
1,2-Dichloropropane	0.0924 U	0.0924 U	0.0924 U	0.0924 U	0.0924 U
1,3,5-Trimethylbenzene	0.210	0.0983 U	0.171	1.33	0.243
1,3-Butadiene	0.0442 U	0.0442 U	0.0442 U	0.0442 U	0.0442 U
1,3-Dichlorobenzene	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U
1,4-Dichlorobenzene	0.177	0.120 U	0.120 U	2.83	0.132
1,4-Dioxane	0.0721 U	0.0721 U	0.0721 U	0.0721 U	0.0721 U
2-Butanone	0.840	1.04	1.09	1.49	0.845
2-Hexanone	0.0819 U	0.348	0.0819 U	0.0819 U	0.0819 U
Acetone	17.7	9.71	13.4	20.9	10.8
Benzene	0.606	0.116	0.519	14.2	2.24
Bromoform	0.207 U	0.207 U	0.207 U	0.327	0.207 U
Bromomethane	0.0777 U	0.0777 U	0.0777 U	0.0777 U	0.0777 U
Carbon Tetrachloride	0.417	0.636	0.435	0.445	0.467
Chlorobenzene	0.0921 U	0.0921 U	0.0921 U	0.0921 U	0.0921 U
Chloroethane	0.053 U	0.053 U	0.053 U	0.0846	0.331
Chloroform	0.266	0.705	0.130	9.26	0.841
Chloromethane	0.940	0.213	1.03	0.921	2.41
cis-1,2-Dichloroethene	0.0793 U	0.0793 U	0.0793 U	0.0793 U	0.0793 U
cis-1,3-Dichloropropene	0.0908 U	0.0908 U	0.0908 U	0.0908 U	0.0908 U
Cyclohexane	0.133	0.0688 U	0.132	0.236	0.143
Dibromochloromethane	0.0579 J	0.170 U	0.170 U	2.35	0.294
Dichlorodifluoromethane	1.19	1.34	1.11	1.10	1.10
Dichlorotetrafluoroethane	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U
Ethyl Acetate	9.61	0.241	0.678	4.83	20.8
Ethylbenzene	0.508	0.0868 U	0.274	11.8	0.661
Heptane	0.465 J	0.128 J	0.327 J	0.594 J	0.668 J
Hexane	0.815	0.397	1.10	0.894	1.10
Isopropyl Alcohol	2.43	1.23 U	1.59	2.06	10.8
m&p-Xylene	1.39	0.223	0.913	11.1	1.57
Methyl Isobutyl Ketone	18.4 J	2.35 J	0.142 J	26.2 J	0.241 J
Methylene Chloride	0.791	0.0695 U	0.348	1.01	0.866
MTBE	0.0721 U	0.0721 U	0.0721 U	0.0721 U	0.0721 U
o-Xylene	0.574	0.0868 U	0.363	6.73	0.633
p-Ethyltoluene	0.153	0.0983 U	0.137	1.45	0.215
Propylene	1.30	0.226	1.15	3.59	15.8
Styrene	0.279	0.147	0.255	0.519	0.515
Tetrachloroethene	0.234	14.3	0.147	1.13	0.324
Tetrahydrofuran	0.315	0.296	0.350	0.591	0.209
Toluene	1.54	0.401	1.37	3.50	3.88
trans-1,2-Dichloroethene	0.0793 U	0.0793 U	0.0793 U	0.0793 U	0.0793 U
trans-1,3-Dichloropropene	0.0908 U	0.0908 U	0.0908 U	0.0908 U	0.0908 U
Trichloroethene	0.292	0.107 U	0.607	0.627	0.107 U
Trichlorofluoromethane	1.36	1.72	1.36	1.43	5.35
Trichlorotrifluoroethane	0.618	0.677	0.636	0.574	15.7
Vinyl Acetate	0.0704 U	0.0704 U	0.830	0.070 U	0.0704 U
Vinyl Chloride	0.0511 U	0.0511 U	0.0511 U	0.0511 U	0.0511 U

TABLE 5 (continued)
Summary of Results for VOC Analysis of Samples Collected using SUMMA[®] Canisters in µg/m³
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number	219-SS-043	219-AA-044
Location	Unit 175	Unit 175
Sub-Location	Basement	Ambient
Sample Type	Sub-Slab	Ambient Air
Result Units	µg/m³	µg/m³
1,1,1-Trichloroethane	780000	0.137
1,1,2,2-Tetrachloroethane	6.87 U	0.137 U
1,1,2-Trichloroethane	5.46 U	0.109 U
1,1-Dichloroethane	10.8	0.0809 U
1,1-Dichloroethene	109	0.0793 U
1,2,4-Trimethylbenzene	4.92 U	0.428
1,2-Dibromoethane	7.68 U	0.154 U
1,2-Dichlorobenzene	6.01 U	0.120 U
1,2-Dichloroethane	4.05 U	0.0809 U
1,2-Dichloropropane	4.62 U	0.0924 U
1,3,5-Trimethylbenzene	4.92 U	0.134
1,3-Butadiene	2.21 U	0.0442 U
1,3-Dichlorobenzene	6.01 U	0.120 U
1,4-Dichlorobenzene	6.01 U	0.120 U
1,4-Dioxane	3.60 U	0.0721 U
2-Butanone	2.95 U	0.770
2-Hexanone	4.10 U	0.0819 U
Acetone	59.4 U	11.0
Benzene	3.19 U	0.395
Bromoform	10.3 U	0.207 U
Bromomethane	3.88 U	0.0777 U
Carbon Tetrachloride	135	0.436
Chlorobenzene	4.60 U	0.0921 U
Chloroethane	2.64 U	0.053 U
Chloroform	5.19	0.125
Chloromethane	4.82	1.03
cis-1,2-Dichloroethene	3.96 U	0.0793 U
cis-1,3-Dichloropropene	4.54 U	0.0908 U
Cyclohexane	3.44 U	0.0955
Dibromochloromethane	8.52 U	0.170 U
Dichlorodifluoromethane	11.0	1.12
Dichlorotetrafluoroethane	6.99 U	0.140 U
Ethyl Acetate	3.60 U	0.559
Ethylbenzene	4.34 U	0.237
Heptane	4.10 UJ	0.272 J
Hexane	3.52 U	0.688
Isopropyl Alcohol	61.5 U	0.855
m&p-Xylene	4.34 U	0.746
Methyl Isobutyl Ketone	4.10 UJ	0.606 J
Methylene Chloride	3.47 U	0.404
MTBE	3.61 U	0.0721 U
o-Xylene	4.34 U	0.304
p-Ethyltoluene	4.92 U	0.110
Propylene	8210	0.938
Styrene	4.26 U	0.281
Tetrachloroethene	8.56	0.136 U
Tetrahydrofuran	2.95 U	0.172
Toluene	3.77 U	1.17
trans-1,2-Dichloroethene	3.96 U	0.0793 U
trans-1,3-Dichloropropene	4.54 U	0.0908 U
Trichloroethene	5.37 U	0.132
Trichlorofluoromethane	10.8	1.54
Trichlorotrifluoroethane	822000	0.676
Vinyl Acetate	3.52 U	0.0704 U
Vinyl Chloride	2.56 U	0.0511 U

TABLE 6
Comparison of Results for Samples Collected using Tedlar® Bags versus SUMMA® Canisters in ppbv
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Location	219-SS-039 Unit 34	53642 Unit 34		219-SS-024 Unit 84	53643 Unit 84		219-SS-035 Unit 70	53644 Unit 70	
Sample Type	Sub-Slab	Sub-Slab Soil Gas		Sub-Slab	Sub-Slab Soil Gas		Sub-Slab	Sub-Slab Soil Gas	
Media Results Units	SUMMA ppbv	Tedlar ppbv	RPD (%)	SUMMA ppbv	Tedlar ppbv	RPD (%)	SUMMA ppbv	Tedlar ppbv	RPD (%)
1,1,1-Trichloroethane	0.272	0.51 U	NC	0.0200 U	0.51 U	NC	0.0200 U	0.51 U	NC
1,1-Dichloroethane	0.0200 U	0.52 U	NC	0.0200 U	0.52 U	NC	0.0200 U	0.52 U	NC
1,1-Dichloroethene	0.0200 U	0.50 U	NC	0.0200 U	0.50 U	NC	0.0200 U	0.50 U	NC
Benzene	0.0363	0.53 U	NC	0.0261	0.53 U	NC	0.0326	0.53 U	NC
Chloroform	0.144	0.52 U	NC	0.403	0.57	34.3	0.0252	0.52 U	NC
cis-1,2-Dichloroethene	0.0200 U	0.53 U	NC	0.0200 U	0.53 U	NC	0.0200 U	0.53 U	NC
Ethyl Benzene	0.0200 U	0.52 U	NC	0.0321	0.52 U	NC	0.0200 U	0.52 U	NC
m,p-Xylene	0.0514	0.52 U	NC	0.0629	0.52 U	NC	0.0392	0.52 U	NC
Methyl Tert Butyl Ether	0.0200 U	0.50 U	NC	0.0200 U	0.50 U	NC	0.0200 U	0.50 U	NC
o-Xylene	0.0200 U	0.52 U	NC	0.0283	0.52 U	NC	0.0200 U	0.52 U	NC
Tetrachloroethene	2.11	2.6	20.8	0.651	0.78	18.0	0.187	0.51 U	NC
Toluene	0.106	0.52 U	NC	0.154	0.52 U	NC	0.0909	0.52 U	NC
trans-1,2-Dichloroethene	0.0200 U	0.50 U	NC	0.0200 U	0.50 U	NC	0.0200 U	0.50 U	NC
Trichloroethene	0.0200 U	0.51 U	NC	0.0200 U	0.51 U	NC	0.0200 U	0.51 U	NC
Vinyl Chloride	0.0200 U	5.2 U	NC	0.0200 U	5.2 U	NC	0.0200 U	5.2 U	NC

TABLE 6 (continued)
Comparison of Results for Samples Collected using Tedlar® Bags versus SUMMA® Canisters in ppbv
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Location Sample Type Media Results Units	219-SS-043 Unit 175 Sub-Slab SUMMA ppbv	53645 Unit 175 Sub-Slab Soil Gas Tedlar ppbv	RPD (%)	219-SS-032 Unit 50 Sub-Slab SUMMA ppbv	53646 Unit 50 Sub-Slab Soil Gas Tedlar ppbv	RPD (%)
1,1,1-Trichloroethane	143000	230000 D	46.6	0.0200 U	0.51 U	NC
1,1-Dichloroethane	2.67	3.8	34.9	0.0200 U	0.52 U	NC
1,1-Dichloroethene	27.6	49	55.9	0.0200 U	0.50 U	NC
Benzene	1.00 U	0.53 U	NC	0.133	0.53 U	NC
Chloroform	1.06	0.90	16.3	0.105	0.52 U	NC
cis-1,2-Dichloroethene	1.00 U	0.53 U	NC	0.0200 U	0.53 U	NC
Ethyl Benzene	1.00 U	0.52 U	NC	0.112	0.52 U	NC
m,p-Xylene	1.00 U	0.52 U	NC	0.356	0.52 U	NC
Methyl Tert Butyl Ether	1.00 U	0.50 U	NC	0.0200 U	0.50 U	NC
o-Xylene	1.00 U	0.52 U	NC	0.456	0.52 U	NC
Tetrachloroethene	1.26	1.4	10.5	0.371	0.51 U	NC
Toluene	1.00 U	0.52 U	NC	0.411	0.56	30.7
trans-1,2-Dichloroethene	1.00 U	0.50 U	NC	0.0200 U	0.50 U	NC
Trichloroethene	1.00 U	0.89	NC	0.289	0.51 U	NC
Vinyl Chloride	1.00 U	5.2 U	NC	0.0200 U	5.2 U	NC

TABLE 7
Comparison of Results for Samples Collected using SUMMA[®] Canisters in ppbv
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Sampling Event Location Sub-Location Sample Type Result Units	219-IA-001 Jan-14 Unit 84 Basement Indoor Air ppbv	219-IA-025 Oct-14 Unit 84 Basement Indoor Air ppbv	219-IA-002 Jan-14 Unit 116 Basement Indoor Air ppbv	219-IA-027 Oct-14 Unit 116 Basement Indoor Air ppbv
1,1,1-Trichloroethane	0.018 U	0.100 U	0.020	0.0200 U
1,1,2,2-Tetrachloroethane	0.018 U	0.100 U	0.018 U	0.0200 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.059	0.100 U	0.066	0.0786
1,1,2-Trichloroethane	0.018 U	0.100 U	0.018 U	0.0200 U
1,1-Dichloroethane	0.018 U	0.100 U	0.018 U	0.0200 U
1,1-Dichloroethylene	0.018 U	0.100 U	0.018 U	0.0200 U
1,2,4-Trimethylbenzene	0.042	0.183	0.041	0.187
1,2-Dibromoethane	0.035 U	0.100 U	0.035 U	0.0200 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.035 U	0.100 U	0.035 U	0.0200 U
1,2-Dichlorobenzene	0.035 U	0.100 U	0.035 U	0.0200 U
1,2-Dichloroethane	0.018 U	0.100 U	0.018 U	0.0264
1,2-Dichloropropane	0.035 U	0.100 U	0.035 U	0.0200 U
1,3,5-Trimethylbenzene	0.035 U	0.100 U	0.035 U	0.0607
1,3-Butadiene	0.036	0.100 U	0.066	0.0200 U
1,3-Dichlorobenzene	0.035 U	0.100 U	0.035 U	0.0200 U
1,4-Dichlorobenzene	0.035 U	0.200	0.035 U	0.218
1,4-Dioxane	0.350 U	0.100 U	0.35 U	0.0200 U
2-Butanone (MEK)	1.4 U	1.01	1.4 U	0.365
2-Hexanone (MBK)	0.053	0.100 U	0.035 U	0.0200 U
4-Ethyltoluene	0.035 U	0.100 U	0.035 U	0.0453
Methyl Isobutyl Ketone	0.035 U	0.363 J	0.035 U	0.217 J
Acetone	5.5 J	11.4	3.7 J	0.500 U
Benzene	0.22	0.177	0.24	0.185
Bromoform	0.035 U	0.100 U	0.035 U	0.0200 U
Bromomethane	0.035 U	0.100 U	0.035 U	0.0200 U
Carbon Tetrachloride	0.057	0.0682 J	0.065	0.0702
Chlorobenzene	0.035 U	0.100 U	0.035 U	0.0200 U
Chloroethane	0.035 U	0.100 U	0.035 U	0.0200 U
Chloroform	0.035	0.118	0.042	0.120
Chloromethane	0.36	0.263	0.45	0.496
cis-1,2-Dichloroethylene	0.018 U	0.100 U	0.018 U	0.0200 U
cis-1,3-Dichloropropene	0.035 U	0.100 U	0.035 U	0.0200 U
Cyclohexane	0.058	0.100 U	0.12	0.172
Dibromochloromethane	0.018 U	0.100 U	0.018 U	0.0197 J
Dichlorodifluoromethane	0.23	0.409	0.25	0.0200 U
Ethyl Acetate	0.12	0.100 U	0.26	0.0200 U
Ethylbenzene	0.037	0.337	0.038	0.257
Heptane	0.13	0.100 UJ	0.17	0.0830 J
Hexane	1.4 U	0.462	1.4 U	0.431
Isopropanol	1.4 U	2.50 U	1.4 U	0.500 U
m&p-Xylene	0.110	1.14	0.11	0.843
MTBE	0.035 U	0.100 U	0.035 U	0.0200 U
Methylene Chloride	0.36 U	10.2	0.66 U	5.53
o-Xylene	0.045	0.230	0.047	0.200
Propene	1.4 U	19.9	1.4 U	37.9
Styrene	0.046	0.336	0.035 U	0.301
Tetrachloroethylene	0.018 U	0.100 U	0.019	0.0776
Tetrahydrofuran	0.035 U	0.487	0.035 U	0.0941
Toluene	0.32	0.769	0.38	0.689
trans-1,2-Dichloroethylene	0.018 U	0.100 U	0.018 U	0.0200 U
trans-1,3-Dichloropropene	0.035 U	0.100 U	0.035 U	0.0200 U
Trichloroethylene	0.018 U	0.0999 J	0.018 U	0.107
Trichlorofluoromethane	0.19	0.268	0.21	0.258
Vinyl Acetate	0.70 UJ	0.100 U	0.70 UJ	0.0200 U
Vinyl Chloride	0.018 U	0.100 U	0.018 U	0.0200 U

Results for the January 2014 mobilization are to 2 significant figures (sig. fig.), while results for the October 2014 mobilization are to 3 sig. fig.

TABLE 7 (continued)
Comparison of Results for Samples Collected using SUMMA® Canisters in ppbv
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Sampling Event Location Sub-Location Sample Type Result Units	219-IA-003 Jan-14 Unit 116 1st Floor Indoor Air ppbv	219-IA-029 Oct-14 Unit 116 1st Floor Indoor Air ppbv	219-IA-004 Jan-14 Unit 84 1st Floor Indoor Air ppbv	219-IA-028 Oct-14 Unit 84 1st Floor Indoor Air ppbv
1,1,1-Trichloroethane	0.019	5.97	0.018 U	0.100 U
1,1,2,2-Tetrachloroethane	0.018 U	0.100 U	0.018 U	0.100 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.064	4.40	0.067	0.100 U
1,1,2-Trichloroethane	0.018 U	0.100 U	0.018 U	0.100 U
1,1-Dichloroethane	0.018 U	0.100 U	0.018 U	0.100 U
1,1-Dichloroethylene	0.018 U	0.100 U	0.018 U	0.100 U
1,2,4-Trimethylbenzene	0.039	0.152	0.055	0.157
1,2-Dibromoethane	0.035 U	0.100 U	0.035 U	0.100 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.035 U	0.100 U	0.035 U	0.100 U
1,2-Dichlorobenzene	0.035 U	0.100 U	0.035 U	0.100 U
1,2-Dichloroethane	0.032	0.100 U	0.020	0.100 U
1,2-Dichloropropane	0.035 U	0.100 U	0.035 U	0.100 U
1,3,5-Trimethylbenzene	0.035 U	0.100 U	0.035 U	0.100 U
1,3-Butadiene	0.084	0.100 U	0.076	0.100 U
1,3-Dichlorobenzene	0.035 U	0.100 U	0.035 U	0.100 U
1,4-Dichlorobenzene	0.035 U	0.100 U	0.035 U	0.0615 J
1,4-Dioxane	0.35 U	0.100 U	0.35 U	0.100 U
2-Butanone (MEK)	1.4 U	0.430	1.4 U	0.671
2-Hexanone (MBK)	0.065	0.100 U	0.079	0.100 U
4-Ethyltoluene	0.035 U	0.100 U	0.035 U	0.100 U
Methyl Isobutyl Ketone	0.035 U	0.100 UJ	0.035 U	0.139 J
Acetone	12 J	6.12	6.6 J	6.71
Benzene	0.35	0.170	0.30	0.171
Bromoform	0.035 U	0.100 U	0.035 U	0.100 U
Bromomethane	0.035 U	0.100 U	0.035 U	0.100 U
Carbon Tetrachloride	0.018 U	0.100 U	0.018 U	0.0134 J
Chlorobenzene	0.035 U	0.100 U	0.035 U	0.100 U
Chloroethane	0.035 U	0.100 U	0.035 U	0.100 U
Chloroform	0.046	0.100 U	0.044	0.0477 J
Chloromethane	0.53	0.453	0.52	0.475
cis-1,2-Dichloroethylene	0.018 U	0.100 U	0.018 U	0.100 U
cis-1,3-Dichloropropene	0.035 U	0.100 U	0.035 U	0.100 U
Cyclohexane	0.051	0.100 U	0.061	0.100 U
Dibromochloromethane	0.018 U	0.100 U	0.018 U	0.100 U
Dichlorodifluoromethane	0.26	0.442	0.27	0.442
Ethyl Acetate	0.45	0.268	0.23	0.287
Ethylbenzene	0.051	0.100 U	0.055	0.106
Heptane	0.50	0.100 UJ	0.50	0.100 UJ
Hexane	1.4 U	0.330	1.4 U	0.340
Isopropanol	1.4 U	2.50 U	1.4 U	2.50 U
m&p-Xylene	0.14	0.304	0.16	0.366
MTBE	0.035 U	0.100 U	0.035 U	0.100 U
Methylene Chloride	0.40 U	1.05	0.63 U	2.27
o-Xylene	0.055	0.112	0.060	0.122
Propene	1.4 U	3.40	1.4 U	4.18
Styrene	0.035 U	0.100 U	0.043	0.214
Tetrachloroethylene	0.018 U	0.100 U	0.018 U	0.100 U
Tetrahydrofuran	0.062	0.159	0.080	0.141
Toluene	0.39	0.508	0.38	0.481
trans-1,2-Dichloroethylene	0.018 U	0.100 U	0.018 U	0.100 U
trans-1,3-Dichloropropene	0.035 U	0.100 U	0.035 U	0.100 U
Trichloroethylene	0.018 U	0.100 U	0.018 U	0.100 U
Trichlorofluoromethane	0.21	0.256	0.22	0.274
Vinyl Acetate	0.70 UJ	0.100 U	0.70 UJ	0.100 U
Vinyl Chloride	0.018 U	0.100 U	0.018 U	0.100 U

Results for the January 2014 mobilization are to 2 significant figures (sig. fig.), while results for the October 2014 mobilization are to 3 sig. fig.

TABLE 7 (continued)
Comparison of Results for Samples Collected using SUMMA® Canisters in ppbv
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Sampling Event Location Sub-Location Sample Type Result Units	219-IA-005 Jan-14 Unit 50 1st Floor Indoor Air ppbv	219-IA-030 Oct-14 Unit 50 1st Floor Indoor Air ppbv	219-IA-006 Jan-14 Unit 50 Basement Indoor Air ppbv	219-IA-031 Oct-14 Unit 50 Basement Indoor Air ppbv
1,1,1-Trichloroethane	0.018 U	0.0200 U	0.018 U	0.0200 U
1,1,2,2-Tetrachloroethane	0.018 U	0.0200 U	0.018 U	0.0200 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.067	0.0713	0.069	0.0768
1,1,2-Trichloroethane	0.018 U	0.0200 U	0.018 U	0.0200 U
1,1-Dichloroethane	0.018 U	0.0200 U	0.018 U	0.0200 U
1,1-Dichloroethylene	0.018 U	0.0200 U	0.018 U	0.0200 U
1,2,4-Trimethylbenzene	0.28	0.989	0.33	1.76
1,2-Dibromoethane	0.035 U	0.0200 U	0.035 U	0.0200 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.035 U	0.0200 U	0.035 U	0.0200 U
1,2-Dichlorobenzene	0.035 U	0.0200 U	0.035 U	0.0200 U
1,2-Dichloroethane	0.018 U	0.0281	0.018 U	0.0412
1,2-Dichloropropane	0.035 U	0.0200 U	0.035 U	0.0200 U
1,3,5-Trimethylbenzene	0.12	0.367	0.14	0.687
1,3-Butadiene	0.10	0.0200 U	0.087	0.0200 U
1,3-Dichlorobenzene	0.035 U	0.0200 U	0.035 U	0.0200 U
1,4-Dichlorobenzene	0.035 U	0.0401	0.035 U	0.0628
1,4-Dioxane	0.35 U	0.0200 U	0.35 U	0.0200 U
2-Butanone (MEK)	2.8	0.0200 U	3.6	5.42
2-Hexanone (MBK)	0.12	0.0200 U	0.094	0.0200 U
4-Ethyltoluene	0.061	0.194	0.069	0.321
Methyl Isobutyl Ketone	0.035 U	0.0200 UJ	0.035 U	0.0357 J
Acetone	19 J	3.33	23 J	109
Benzene	0.71	0.295	0.26	0.430
Bromoform	0.035 U	0.0200 U	0.035 U	0.0200 U
Bromomethane	0.035 U	0.0200 U	0.035 U	0.0200 U
Carbon Tetrachloride	0.018 U	0.0741	0.066	0.0681
Chlorobenzene	0.035 U	0.0200 U	0.035 U	0.0200 U
Chloroethane	0.035 U	0.0200 U	0.051	0.0200 U
Chloroform	0.039	0.0342	0.044	0.0438
Chloromethane	0.46	0.390	0.54	0.390
cis-1,2-Dichloroethylene	0.018 U	0.0200 U	0.018 U	0.0200 U
cis-1,3-Dichloropropene	0.035 U	0.0200 U	0.035 U	0.0200 U
Cyclohexane	0.12	0.421	0.083	0.888
Dibromochloromethane	0.018 U	0.0200 UJ	0.018 U	0.0200 U
Dichlorodifluoromethane	0.24	0.211	0.24	0.216
Ethyl Acetate	0.11	0.0200 U	0.11	0.596
Ethylbenzene	0.10	0.478	0.11	0.910
Heptane	0.31	0.443 J	0.19	1.01 J
Hexane	1.4 U	1.03	1.4 U	1.86
Isopropanol	5.7	0.500 U	5.0	0.500 U
m&p-Xylene	0.38	1.80	0.40	3.30
MTBE	0.035 U	0.0200 U	0.035 U	0.0200 U
Methylene Chloride	4.2	0.564	5.6	1.33
o-Xylene	0.15	0.752	0.16	1.43
Propene	1.4 U	3.42	1.4 U	7.14
Styrene	0.041	0.133	0.035 U	0.174
Tetrachloroethylene	0.018 U	0.0264	0.066	0.0350
Tetrahydrofuran	2.9	2.81	4.8	83.1
Toluene	0.52	2.08	0.51	3.44
trans-1,2-Dichloroethylene	0.018 U	0.0200 U	0.018 U	0.0200 U
trans-1,3-Dichloropropene	0.035 U	0.0200 U	0.035 U	0.0200 U
Trichloroethylene	0.018 U	0.116	0.018 U	0.103
Trichlorofluoromethane	0.21	0.267	0.22	0.309
Vinyl Acetate	0.70 UJ	0.0200 U	0.70 UJ	0.0200 U
Vinyl Chloride	0.018 U	0.0200 U	0.018 U	0.0200 U

Results for the January 2014 mobilization are to 2 significant figures (sig. fig.), while results for the October 2014 mobilization are to 3 sig. fig.

TABLE 7 (continued)
Comparison of Results for Samples Collected using SUMMA® Canisters in ppbv
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Sampling Event Location Sub-Location Sample Type Result Units	219-IA-007 Jan-14 Unit 34 Basement Indoor Air ppbv	219-IA-038 Oct-14 Unit 34 Basement Indoor Air ppbv	219-IA-008 Jan-14 Unit 34 1st Floor Indoor Air ppbv	219-IA-036 Oct-14 Unit 34 1st Floor Indoor Air ppbv
1,1,1-Trichloroethane	0.018 U	0.0200 U	0.018 U	0.0200 U
1,1,2,2-Tetrachloroethane	0.018 U	0.0200 U	0.018 U	0.0200 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.071	0.0806	0.074	0.0705
1,1,2-Trichloroethane	0.018 U	0.0200 U	0.018 U	0.0200 U
1,1-Dichloroethane	0.018 U	0.0200 U	0.018 U	0.0200 U
1,1-Dichloroethylene	0.018 U	0.0200 U	0.018 U	0.0200 U
1,2,4-Trimethylbenzene	0.19	0.140	0.24	0.194
1,2-Dibromoethane	0.035 U	0.0200 U	0.035 U	0.0200 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.035 U	0.0200 U	0.035 U	0.0200 U
1,2-Dichlorobenzene	0.035 U	0.0200 U	0.035 U	0.0200 U
1,2-Dichloroethane	0.046	0.0200 U	0.051	0.319
1,2-Dichloropropane	0.035 U	0.0200 U	0.035 U	0.0200 U
1,3,5-Trimethylbenzene	0.053	0.0427	0.073	0.0528
1,3-Butadiene	0.037	0.0200 U	0.063	0.0200 U
1,3-Dichlorobenzene	0.035 U	0.0200 U	0.035 U	0.0200 U
1,4-Dichlorobenzene	0.035 U	0.0295	0.035 U	0.440
1,4-Dioxane	0.35 U	0.0200 U	0.35 U	0.0200 U
2-Butanone (MEK)	1.4 U	0.285	1.4 U	0.644
2-Hexanone (MBK)	0.12	0.0200 U	0.070	0.0251
4-Ethyltoluene	0.042	0.0312	0.060	0.0441
Methyl Isobutyl Ketone	0.035 U	4.48 J	0.035 U	0.112 J
Acetone	12 J	7.45	24 J	13.5
Benzene	0.21	0.190	0.24	0.357
Bromoform	0.035 U	0.0200 U	0.035 U	0.0200 U
Bromomethane	0.035 U	0.0200 U	0.035 U	0.0200 U
Carbon Tetrachloride	0.059	0.0663	0.11	0.0659
Chlorobenzene	0.035 U	0.0200 U	0.035 U	0.0200 U
Chloroethane	0.035 U	0.0200 U	0.035 U	0.0200 U
Chloroform	0.084	0.0546	0.11	0.126
Chloromethane	0.36	0.455	0.46	0.554
cis-1,2-Dichloroethylene	0.018 U	0.0200 U	0.018 U	0.0200 U
cis-1,3-Dichloropropene	0.035 U	0.0200 U	0.035 U	0.0200 U
Cyclohexane	0.046	0.0387	0.069	0.0535
Dibromochloromethane	0.018 U	0.0068 J	0.018 U	0.0204
Dichlorodifluoromethane	0.25	0.242	0.26	0.210
Ethyl Acetate	0.14	2.67	0.85	0.199
Ethylbenzene	0.042	0.117	0.072	0.166
Heptane	0.060	0.113 J	0.098	0.116 J
Hexane	1.4 U	0.231	1.4 U	0.289
Isopropanol	12	0.987	130	0.705
m&p-Xylene	0.13	0.321	0.21	0.428
MTBE	0.035 U	0.0200 U	0.062	0.0200 U
Methylene Chloride	0.43 U	0.228	1.3 U	0.283
o-Xylene	0.061	0.132	0.088	0.173
Propene	1.4 U	0.755	1.4 U	11.3
Styrene	0.035 U	0.0654	0.038	0.283
Tetrachloroethylene	0.081	0.0345	0.086	0.0262
Tetrahydrofuran	0.14	0.107	0.066	0.139
Toluene	0.29	0.408	0.63	1.05
trans-1,2-Dichloroethylene	0.018 U	0.0200 U	0.018 U	0.0200 U
trans-1,3-Dichloropropene	0.035 U	0.0200 U	0.035 U	0.0200 U
Trichloroethylene	0.018 U	0.0543	0.018 U	0.0420
Trichlorofluoromethane	0.20	0.243	0.22	0.208
Vinyl Acetate	0.70 UJ	0.0200 U	0.70 UJ	0.0200 U
Vinyl Chloride	0.018 U	0.0200 U	0.018 U	0.0200 U

Results for the January 2014 mobilization are to 2 significant figures (sig. fig.), while results for the October 2014 mobilization are to 3 sig. fig.

TABLE 7 (continued)
Comparison of Results for Samples Collected using SUMMA® Canisters in ppbv
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Sampling Event Location Sub-Location Sample Type Result Units	219-IA-009 Jan-14 Unit 34 1st Floor CO Indoor Air ppbv	219-IA-037 Oct-14 Unit 34 1st Floor CO Indoor Air ppbv	219-IA-010 Jan-14 Unit 70 1st Floor Indoor Air ppbv	219-IA-033 Oct-14 Unit 70 1st Floor Indoor Air ppbv
1,1,1-Trichloroethane	0.018 U	0.0200 U	0.018 U	0.100 U
1,1,2,2-Tetrachloroethane	0.018 U	0.0200 U	0.018 U	0.100 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.070	0.0911	0.072	0.100 U
1,1,2-Trichloroethane	0.018 U	0.0200 U	0.018 U	0.100 U
1,1-Dichloroethane	0.018 U	0.0200 U	0.018 U	0.100 U
1,1-Dichloroethylene	0.018 U	0.0200 U	0.018 U	0.100 U
1,2,4-Trimethylbenzene	0.22	0.157	0.050	0.208
1,2-Dibromoethane	0.035 U	0.0200 U	0.035 U	0.100 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.035 U	0.0200 U	0.035 U	0.100 U
1,2-Dichlorobenzene	0.035 U	0.0200 U	0.035 U	0.100 U
1,2-Dichloroethane	0.048	0.0214	0.037	0.387
1,2-Dichloropropane	0.035 U	0.0200 U	0.035 U	0.100 U
1,3,5-Trimethylbenzene	0.066	0.0483	0.035 U	0.100 U
1,3-Butadiene	0.035 U	0.0200 U	0.042	0.100 U
1,3-Dichlorobenzene	0.035 U	0.0200 U	0.035 U	0.100 U
1,4-Dichlorobenzene	0.035 U	0.0320	0.035 U	0.457
1,4-Dioxane	0.35 U	0.0200 U	0.35 U	0.100 U
2-Butanone (MEK)	1.4 U	0.273	1.4 U	0.849
2-Hexanone (MBK)	0.035 U	0.0200 U	0.073	0.100 U
4-Ethyltoluene	0.056	0.0346	0.035 U	0.100 U
Methyl Isobutyl Ketone	0.035 U	4.45 J	0.053	0.296 J
Acetone	20 J	7.40	65 J	25.8
Benzene	0.22	0.212	0.23	0.324
Bromoform	0.035 U	0.0200 U	0.035 U	0.100 U
Bromomethane	0.035 U	0.0200 U	0.035 U	0.100 U
Carbon Tetrachloride	0.018 U	0.0737	0.065	0.0124 J
Chlorobenzene	0.035 U	0.0200 U	0.035 U	0.100 U
Chloroethane	0.035 U	0.0200 U	0.035 U	0.100 U
Chloroform	0.10	0.0672	0.039	0.161
Chloromethane	0.46	0.555	0.40	0.618
cis-1,2-Dichloroethylene	0.018 U	0.0200 U	0.018 U	0.100 U
cis-1,3-Dichloropropene	0.035 U	0.0200 U	0.035 U	0.100 U
Cyclohexane	0.064	0.0456	0.036	0.100 U
Dibromochloromethane	0.018 U	0.0077 J	0.018 U	0.100 U
Dichlorodifluoromethane	0.23	0.273	0.25	0.425
Ethyl Acetate	0.90	2.87	0.14	0.255 J
Ethylbenzene	0.066	0.131	0.058	0.183
Heptane	0.091	0.127 J	0.057	0.134 J
Hexane	1.4 U	0.263	1.4 U	0.253
Isopropanol	93	1.11	1.7	6.89
m&p-Xylene	0.19	0.355	0.15	0.508
MTBE	0.059	0.0200 U	0.035 U	0.100 U
Methylene Chloride	1.3 U	0.224	0.43 U	0.660 J
o-Xylene	0.081	0.147	0.058	0.222
Propene	1.4 U	0.841	1.4 U	20.8
Styrene	0.046	0.0760	0.065	0.364
Tetrachloroethylene	0.081	0.0391	0.018 U	0.100 U
Tetrahydrofuran	0.062	0.116	0.035 U	0.319
Toluene	0.60	0.465	0.39	1.30
trans-1,2-Dichloroethylene	0.018 U	0.0200 U	0.018 U	0.100 U
trans-1,3-Dichloropropene	0.035 U	0.0200 U	0.035 U	0.100 U
Trichloroethylene	0.018 U	0.0601	0.018 U	0.100 U
Trichlorofluoromethane	0.21	0.261	0.20	0.229
Vinyl Acetate	0.70 UJ	0.0200 U	0.70 UJ	0.561
Vinyl Chloride	0.018 U	0.0200 U	0.018 U	0.100 U

Results for the January 2014 mobilization are to 2 significant figures (sig. fig.), while results for the October 2014 mobilization are to 3 sig. fig.

TABLE 7 (continued)
Comparison of Results for Samples Collected using SUMMA® Canisters in ppbv
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Sampling Event Location Sub-Location Sample Type Result Units	219-IA-011 Jan-14 Unit 70 Basement Indoor Air ppbv	219-IA-034 Oct-14 Unit 70 Basement Indoor Air ppbv	219-IA-012 Jan-14 Unit 175 Basement Indoor Air ppbv	219-IA-042 Oct-14 Unit 175 Basement Indoor Air ppbv
1,1,1-Trichloroethane	0.035 U	0.0200 U	0.11	5.12
1,1,2,2-Tetrachloroethane	0.035 U	0.0200 U	0.035 U	0.0200 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.072	0.0820	0.11	2.04
1,1,2-Trichloroethane	0.035 U	0.0200 U	0.035 U	0.0200 U
1,1-Dichloroethane	0.035 U	0.0200 U	0.035 U	0.0200 U
1,1-Dichloroethylene	0.035 U	0.0200 U	0.035 U	0.0200 U
1,2,4-Trimethylbenzene	0.052	0.211	0.11	0.137
1,2-Dibromoethane	0.035 U	0.0200 U	0.035 U	0.0200 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.035 U	0.0200 U	0.035 U	0.0200 U
1,2-Dichlorobenzene	0.035 U	0.0200 U	0.035 U	0.0200 U
1,2-Dichloroethane	0.036	0.391	0.035 U	0.0227
1,2-Dichloropropane	0.035 U	0.0200 U	0.035 U	0.0200 U
1,3,5-Trimethylbenzene	0.035 U	0.0638	0.035	0.0494
1,3-Butadiene	0.051	0.0200 U	0.057	0.0200 U
1,3-Dichlorobenzene	0.035 U	0.0200 U	0.035 U	0.0200 U
1,4-Dichlorobenzene	0.035 U	0.437	0.035 U	0.0219
1,4-Dioxane	0.35 U	0.0200 U	0.35 U	0.0200 U
2-Butanone (MEK)	1.4 U	0.440	2.1	0.286
2-Hexanone (MBK)	0.13 J	0.0371	0.060 J	0.0200 U
4-Ethyltoluene	0.035 U	0.0500	0.035 U	0.0437
Methyl Isobutyl Ketone	0.057 J	0.276 J	0.035 UJ	0.0588 J
Acetone	56 J	12.5 J	18 J	4.55
Benzene	0.23	0.342	0.40	0.702
Bromoform	0.035 U	0.0200 U	0.035 U	0.0200 U
Bromomethane	0.035 U	0.0200 U	0.035 U	0.0200 U
Carbon Tetrachloride	0.055	0.0703	0.088	0.0743
Chlorobenzene	0.035 U	0.0200 U	0.035 U	0.020 U
Chloroethane	0.035 U	0.0200 U	0.035 U	0.126
Chloroform	0.038	0.155	0.53	0.172
Chloromethane	0.41	0.713	0.60	1.17
cis-1,2-Dichloroethylene	0.035 U	0.0200 U	0.035 U	0.0200 U
cis-1,3-Dichloropropene	0.035 U	0.0200 U	0.035 U	0.0200 U
Cyclohexane	0.039	0.0567	0.062	0.0416
Dibromochloromethane	0.035 U	0.0284	0.035 U	0.0345
Dichlorodifluoromethane	0.28	0.243	0.65	0.223
Ethyl Acetate	0.17	0.234	0.40	5.76
Ethylbenzene	0.058	0.202	0.57	0.152
Heptane	0.061	0.120 J	0.089	0.163 J
Hexane	1.4 U	0.268	8.0	0.312
Isopropanol	1.4 U	0.761 J	1.4	4.39
m&p-Xylene	0.14	0.544	1.8	0.361
MTBE	0.035 U	0.0200 U	0.035 U	0.0200 U
Methylene Chloride	0.62 U	0.299	18	0.249
o-Xylene	0.056	0.229	0.47	0.146
Propene	1.4 U	16.9 J	1.4 U	9.20
Styrene	0.038	0.402 J	0.035 U	0.121
Tetrachloroethylene	0.035 U	0.0291	0.046	0.0478
Tetrahydrofuran	0.046	0.126 J	0.27	0.0708
Toluene	0.37	1.32	2.0	1.03
trans-1,2-Dichloroethylene	0.035 U	0.0200 U	0.035 U	0.0200 U
trans-1,3-Dichloropropene	0.035 U	0.0200 U	0.035 U	0.0200 U
Trichloroethylene	0.035 U	0.0460	0.035 U	0.0200 U
Trichlorofluoromethane	0.21	0.238	2.0	0.951
Vinyl Acetate	0.70 UJ	0.0200 U	0.70 UJ	0.0200 U
Vinyl Chloride	0.035 U	0.0200 U	0.035 U	0.0200 U

Results for the January 2014 mobilization are to 2 significant figures (sig. fig.), while results for the October 2014 mobilization are to 3 sig. fig.

TABLE 7 (continued)
Comparison of Results for Samples Collected using SUMMA® Canisters in ppbv
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Sampling Event Location Sub-Location Sample Type Result Units	219-IA-013 Jan-14 Unit 175 1st Floor Indoor Air ppbv	219-IA-041 Oct-14 Unit 175 1st Floor Indoor Air ppbv	219-AA-014 Jan-14 Unit 175 Behind House Ambient Air ppbv	219-AA-044 Oct-14 Unit 175 Behind House Ambient Air ppbv
1,1,1-Trichloroethane	0.062	0.0200 U	0.018 U	0.0252
1,1,2,2-Tetrachloroethane	0.035 U	0.0200 U	0.018 U	0.0200 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.077	0.0748	0.069	0.0882
1,1,2-Trichloroethane	0.035 U	0.0200 U	0.018 U	0.0200 U
1,1-Dichloroethane	0.035 U	0.0460	0.018 U	0.0200 U
1,1-Dichloroethylene	0.035 U	0.0200 U	0.018 U	0.0200 U
1,2,4-Trimethylbenzene	0.088	0.580	0.050	0.0871
1,2-Dibromoethane	0.035 U	0.0200 U	0.035 U	0.0200 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.035 U	0.0200 U	0.035 U	0.0200 U
1,2-Dichlorobenzene	0.035 U	0.0200 U	0.035 U	0.0200 U
1,2-Dichloroethane	0.035 U	0.0596	0.015 J	0.0200 U
1,2-Dichloropropane	0.035 U	0.0200 U	0.035 U	0.0200 U
1,3,5-Trimethylbenzene	0.035 U	0.271	0.035 U	0.0272
1,3-Butadiene	0.095	0.0200 U	0.065	0.0200 U
1,3-Dichlorobenzene	0.035 U	0.0200 U	0.035 U	0.0200 U
1,4-Dichlorobenzene	0.035 U	0.470	0.035 U	0.0200 U
1,4-Dioxane	0.35 U	0.0200 U	0.35 U	0.0200 U
2-Butanone (MEK)	1.4 U	0.505	1.4 U	0.261
2-Hexanone (MBK)	0.035 UJ	0.0200 U	0.065	0.0200 U
4-Ethyltoluene	0.035 U	0.295	0.035 U	0.0224
Methyl Isobutyl Ketone	0.035 UJ	6.39 J	0.035 U	0.148 J
Acetone	9.5 J	8.80	4.2 J	4.63
Benzene	0.42	4.44	0.32	0.124
Bromoform	0.035 U	0.0316	0.035 U	0.0200 U
Bromomethane	0.035 U	0.0200 U	0.035 U	0.0200 U
Carbon Tetrachloride	0.062	0.0707	0.053	0.0693
Chlorobenzene	0.035 U	0.0200 U	0.035 U	0.0200 U
Chloroethane	0.035 U	0.0321	0.035 U	0.0200 U
Chloroform	0.19	1.90	0.035 U	0.0255
Chloromethane	0.41	0.446	0.46	0.497
cis-1,2-Dichloroethylene	0.035 U	0.0200 U	0.018 U	0.0200 U
cis-1,3-Dichloropropene	0.035 U	0.0200 U	0.035 U	0.0200 U
Cyclohexane	0.093	0.0684	0.039	0.0277
Dibromochloromethane	0.035 U	0.276	0.018 U	0.0200 U
Dichlorodifluoromethane	0.42	0.223	0.25	0.227
Ethyl Acetate	0.20	1.34	0.035 U	0.155
Ethylbenzene	0.21	2.73	0.045	0.0545
Heptane	0.24	0.145 J	0.064	0.0664 J
Hexane	1.4 U	0.254	1.4 U	0.195
Isopropanol	2.7	0.840	1.4 U	0.500 U
m&p-Xylene	0.75	2.56	0.14	0.172
MTBE	0.035 U	0.0200 U	0.035 U	0.0200 U
Methylene Chloride	0.67 U	0.291	1.2 U	0.116
o-Xylene	0.25	1.55	0.060	0.0701
Propene	1.4 U	2.08	1.4 U	0.545
Styrene	0.035 U	0.122	0.035 U	0.0659
Tetrachloroethylene	0.035 U	0.167	0.018 U	0.0200 U
Tetrahydrofuran	0.079	0.200	0.035 U	0.0585
Toluene	0.87	0.930	0.34	0.312
trans-1,2-Dichloroethylene	0.035 U	0.0200 U	0.018 U	0.0200 U
trans-1,3-Dichloropropene	0.035 U	0.0200 U	0.035 U	0.0200 U
Trichloroethylene	0.035 U	0.117	0.018 U	0.0247
Trichlorofluoromethane	0.81	0.255	0.20	0.274
Vinyl Acetate	0.70 UJ	0.0200 U	0.70 UJ	0.0200 U
Vinyl Chloride	0.035 U	0.0200 U	0.051	0.0200 U

Results for the January 2014 mobilization are to 2 significant figures (sig. fig.), while results for the October 2014 mobilization are to 3 sig. fig.

TABLE 7 (continued)
Comparison of Results for Samples Collected using SUMMA® Canisters in ppbv
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Sampling Event Location Sub-Location Sample Type Result Units	219-AA-015 Jan-14 Unit 116 Ernst Street Ambient Air ppbv	219-AA-040 Oct-14 Unit 116 Ernst Street Ambient Air ppbv	219-SS-016 Jan-14 Unit 84 Basement Sub-Slab ppbv	219-SS-024 Oct-14 Unit 84 Basement Sub-Slab ppbv
1,1,1-Trichloroethane	0.018 U	0.0200 U	0.10 U	0.0200 U
1,1,2,2-Tetrachloroethane	0.018 U	0.0200 U	0.10 U	0.0200 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.066	0.0830	0.10 U	0.0925
1,1,2-Trichloroethane	0.018 U	0.0200 U	0.10 U	0.0200 U
1,1-Dichloroethane	0.018 U	0.0200 U	0.10 U	0.0200 U
1,1-Dichloroethylene	0.018 U	0.0200 U	0.10 U	0.0200 U
1,2,4-Trimethylbenzene	0.040	0.111	0.16	0.0536
1,2-Dibromoethane	0.035 U	0.0200 U	0.10 U	0.0200 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.035 U	0.0200 U	0.10 U	0.0200 U
1,2-Dichlorobenzene	0.035 U	0.0200 U	0.10 U	0.0200 U
1,2-Dichloroethane	0.018 U	0.0200 U	0.10 U	0.0200 U
1,2-Dichloropropane	0.035 U	0.0200 U	0.10 U	0.0200 U
1,3,5-Trimethylbenzene	0.035 U	0.0349	0.10 U	0.0200 U
1,3-Butadiene	0.035 U	0.0200 U	0.10 U	0.0200 U
1,3-Dichlorobenzene	0.035 U	0.0200 U	0.10 U	0.0200 U
1,4-Dichlorobenzene	0.035 U	0.0200 U	0.10 U	0.0200 U
1,4-Dioxane	0.35 U	0.0200 U	1.0 U	0.0643
2-Butanone (MEK)	1.4 U	0.371	4.0 U	0.896
2-Hexanone (MBK)	0.063	0.0200 U	0.27 J	0.726
4-Ethyltoluene	0.035 U	0.0278	0.10 U	0.0200 U
Methyl Isobutyl Ketone	0.035 U	0.0346 J	0.10 UJ	0.0587 J
Acetone	4.0 J	5.65	50 J	6.55
Benzene	0.22	0.162	0.11	0.0261
Bromoform	0.035 U	0.0200 U	0.10 U	0.0200 U
Bromomethane	0.035 U	0.0200 U	0.10 U	0.0200 U
Carbon Tetrachloride	0.046	0.0691	0.10 U	0.0709
Chlorobenzene	0.035 U	0.0200 U	0.10 U	0.0200 U
Chloroethane	0.035 U	0.0200 U	0.10 U	0.0200 U
Chloroform	0.035 U	0.0266	0.10 U	0.403
Chloromethane	0.42	0.497	0.45	0.270
cis-1,2-Dichloroethylene	0.018 U	0.0200 U	0.10 U	0.0200 U
cis-1,3-Dichloropropene	0.035 U	0.0200 U	0.10 U	0.0200 U
Cyclohexane	0.035 U	0.0383	0.10 U	0.0200 U
Dibromochloromethane	0.018 U	0.0200 U	0.10 U	0.0200 U
Dichlorodifluoromethane	0.25	0.224	0.44	0.298
Ethyl Acetate	0.035 U	0.188	0.32	0.0802
Ethylbenzene	0.038	0.0630	0.10 U	0.0321
Heptane	0.044	0.0799 J	0.10 U	0.0200 UJ
Hexane	1.4 U	0.311	4.0 U	0.155
Isopropanol	1.4 U	0.646	4.0 U	0.500 U
m&p-Xylene	0.11	0.210	0.20 U	0.0629
MTBE	0.035 U	0.0200 U	0.10 U	0.0200 U
Methylene Chloride	0.49 U	0.100	4.1	146
o-Xylene	0.048	0.0837	0.32	0.0283
Propene	1.4 U	0.667	4.0 U	2.32
Styrene	0.035 U	0.0599	0.10 U	0.0374
Tetrachloroethylene	0.018 U	0.0217	0.15	0.651
Tetrahydrofuran	0.035 U	0.119	0.10 U	0.155
Toluene	0.25	0.364	0.27	0.154
trans-1,2-Dichloroethylene	0.018 U	0.0200 U	0.10 U	0.0200 U
trans-1,3-Dichloropropene	0.035 U	0.0200 U	0.10 U	0.0200 U
Trichloroethylene	0.018 U	0.113	0.10 U	0.0200 U
Trichlorofluoromethane	0.20	0.241	0.26	0.257
Vinyl Acetate	0.70 UJ	0.236	2.0 UJ	0.0200 U
Vinyl Chloride	0.018 U	0.0200 U	0.10 U	0.0200 U

Results for the January 2014 mobilization are to 2 significant figures (sig. fig.), while results for the October 2014 mobilization are to 3 sig. fig.

TABLE 7 (continued)
Comparison of Results for Samples Collected using SUMMA® Canisters in ppbv
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Sampling Event Location Sub-Location Sample Type Result Units	219-SS-017 Jan-14 Unit 116 Basement Sub-Slab ppbv	219-SS-026 Oct-14 Unit 116 Basement Sub-Slab ppbv	219-SS-018 Jan-14 Unit 50 Basement Sub-Slab ppbv	219-SS-032 Oct-14 Unit 50 Basement Sub-Slab ppbv
1,1,1-Trichloroethane	0.10 U	0.0619	0.10 U	0.0200 U
1,1,2,2-Tetrachloroethane	0.10 U	0.0200 U	0.10 U	0.0200 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.10 U	0.0951	0.10 U	0.0899
1,1,2-Trichloroethane	0.10 U	0.0200 U	0.10 U	0.0200 U
1,1-Dichloroethane	0.10 U	0.0200 U	0.10 U	0.0200 U
1,1-Dichloroethylene	0.10 U	0.0200 U	0.10 U	0.0200 U
1,2,4-Trimethylbenzene	0.10 U	0.147	0.10 U	0.373
1,2-Dibromoethane	0.10 U	0.0200 U	0.10 U	0.0200 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.10 U	0.0200 U	0.10 U	0.0200 U
1,2-Dichlorobenzene	0.10 U	0.0200 U	0.10 U	0.0200 U
1,2-Dichloroethane	0.10 U	0.0200 U	0.10 U	0.0200 U
1,2-Dichloropropane	0.10 U	0.0200 U	0.10 U	0.0200 U
1,3,5-Trimethylbenzene	0.10 U	0.0349	0.10 U	0.144
1,3-Butadiene	0.23	0.0200 U	0.10 U	0.0200 U
1,3-Dichlorobenzene	0.10 U	0.0200 U	0.10 U	0.0200 U
1,4-Dichlorobenzene	0.10 U	0.0796	0.10 U	0.0200 U
1,4-Dioxane	1.0 U	0.0200 U	1.0 U	0.0200 U
2-Butanone (MEK)	4.0 U	0.475	4.0 U	0.955
2-Hexanone (MBK)	0.21 J	0.0678	0.10 UJ	0.0697
4-Ethyltoluene	0.10 U	0.0328	0.10 U	0.0812
Methyl Isobutyl Ketone	0.10 UJ	0.425 J	0.10 UJ	0.178 J
Acetone	57 J	8.68	27 J	5.75
Benzene	0.38	0.0832	0.10 U	0.133
Bromoform	0.10 U	0.0200 U	0.10 U	0.0200 U
Bromomethane	0.10 U	0.0200 U	0.10 U	0.0200 U
Carbon Tetrachloride	0.10 U	0.0314	0.10 U	0.0703
Chlorobenzene	0.10 U	0.0200 U	0.10 U	0.0200 U
Chloroethane	0.10 U	0.0200 U	0.10 U	0.0200 U
Chloroform	0.16	3.51	0.49	0.105
Chloromethane	0.45	0.333	0.20 U	0.0528
cis-1,2-Dichloroethylene	0.10 U	0.0200 U	0.10 U	0.0200 U
cis-1,3-Dichloropropene	0.10 U	0.0200 U	0.10 U	0.0200 U
Cyclohexane	0.14	0.0509	0.10 U	0.134
Dibromochloromethane	0.10 U	0.0200 U	0.10 U	0.0200 U
Dichlorodifluoromethane	0.37	0.251	0.42	0.335
Ethyl Acetate	0.30	0.122	0.10 U	0.118
Ethylbenzene	0.15	0.111	0.10 U	0.112
Heptane	0.34	0.0715 J	0.10 U	0.127 J
Hexane	4.0 U	0.261	4.0 U	0.303
Isopropanol	4.0 U	0.500 U	4.0 U	0.500 U
m&p-Xylene	0.30	0.311	0.20 U	0.356
MTBE	0.10 U	0.0200 U	0.10 U	0.0200 U
Methylene Chloride	3.5	1.35	4.3	0.0577
o-Xylene	0.35	0.122	0.11	0.456
Propene	4.0 U	5.20	4.0 U	2.27
Styrene	0.10 U	0.0748	0.10 U	0.0809
Tetrachloroethylene	0.12	3.99	0.10 U	0.371
Tetrahydrofuran	0.10 U	0.181	0.29	1.60
Toluene	0.58	0.328	0.11	0.411
trans-1,2-Dichloroethylene	0.10 U	0.0200 U	0.10 U	0.0200 U
trans-1,3-Dichloropropene	0.10 U	0.0200 U	0.10 U	0.0200 U
Trichloroethylene	0.10 U	0.0200 U	0.10	0.289
Trichlorofluoromethane	0.25	0.320	0.25	0.410
Vinyl Acetate	2.0 UJ	0.0200 U	2.0 UJ	0.0200 U
Vinyl Chloride	0.10 U	0.0200 U	0.10 U	0.0200 U

Results for the January 2014 mobilization are to 2 significant figures (sig. fig.), while results for the October 2014 mobilization are to 3 sig. fig.

TABLE 7 (continued)
Comparison of Results for Samples Collected using SUMMA® Canisters in ppbv
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Sampling Event Location Sub-Location Sample Type Result Units	219-SS-019 Jan-14 Unit 34 Basement Sub-Slab ppbv	219-SS-039 Oct-14 Unit 34 Basement Sub-Slab ppbv	219-SS-020 Jan-14 Unit 70 Basement Sub-Slab ppbv	219-SS-035 Oct-14 Unit 70 Basement Sub-Slab ppbv
1,1,1-Trichloroethane	0.11	0.272	0.10 U	0.0200 U
1,1,2,2-Tetrachloroethane	0.10 U	0.0200 U	0.10 U	0.0200 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.10 U	0.0884	0.10 U	0.0889
1,1,2-Trichloroethane	0.10 U	0.0200 U	0.10 U	0.0200 U
1,1-Dichloroethane	0.10 U	0.0200 U	0.10 U	0.0200 U
1,1-Dichloroethylene	0.10 U	0.0200 U	0.10 U	0.0200 U
1,2,4-Trimethylbenzene	0.10 U	0.0579	0.10 U	0.0393
1,2-Dibromoethane	0.10 U	0.0200 U	0.10 U	0.0200 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.10 U	0.0200 U	0.10 U	0.0200 U
1,2-Dichlorobenzene	0.10 U	0.0200 U	0.10 U	0.0200 U
1,2-Dichloroethane	0.10 U	0.0200 U	0.10 U	0.0200 U
1,2-Dichloropropane	0.10 U	0.0200 U	0.10 U	0.0200 U
1,3,5-Trimethylbenzene	0.10 U	0.0200 U	0.10 U	0.0200 U
1,3-Butadiene	0.10 U	0.0200 U	0.10 U	0.0200 U
1,3-Dichlorobenzene	0.10 U	0.0200 U	0.10 U	0.0200 U
1,4-Dichlorobenzene	0.10 U	0.0200 U	0.10 U	0.0200 U
1,4-Dioxane	1.0 U	0.0200 U	1.0 U	0.0200 U
2-Butanone (MEK)	4.0 U	0.353	4.0 U	0.366
2-Hexanone (MBK)	0.18 J	0.0850	0.15 J	0.0328
4-Ethyltoluene	0.10 U	0.0200 U	0.10 U	0.0200 U
Methyl Isobutyl Ketone	0.10 UJ	0.573 J	0.10 UJ	0.246 J
Acetone	41 J	4.09	33 J	4.61 J
Benzene	0.10 U	0.0363	0.10 U	0.0326
Bromoform	0.10 U	0.0200 U	0.10 U	0.0200 U
Bromomethane	0.10 U	0.0200 U	0.10 U	0.0200 U
Carbon Tetrachloride	0.10 U	0.101	0.10 U	0.0698
Chlorobenzene	0.10 U	0.0200 U	0.10 U	0.0200 U
Chloroethane	0.10 U	0.0200 U	0.10 U	0.0200 U
Chloroform	0.74	0.144	0.10 U	0.0252
Chloromethane	0.20 U	0.103	0.20 U	0.0542
cis-1,2-Dichloroethylene	0.10 U	0.0200 U	0.10 U	0.0200 U
cis-1,3-Dichloropropene	0.10 U	0.0200 U	0.10 U	0.0200 U
Cyclohexane	0.10 U	0.0200 U	0.11	0.0200 U
Dibromochloromethane	0.10 U	0.0200 U	0.10 U	0.0200 U
Dichlorodifluoromethane	0.45	0.271	0.39	0.354
Ethyl Acetate	0.21	0.0669	0.10 U	0.0200 U
Ethylbenzene	0.10 U	0.0200 U	0.10 U	0.0200 U
Heptane	0.10 U	0.0312 J	0.10 U	0.0413 J
Hexane	4.0 U	0.113	4.0 U	0.114
Isopropanol	4.0 U	0.500 U	4.0 U	0.500 U
m&p-Xylene	0.20 U	0.0514	0.20 U	0.0392
MTBE	0.10 U	0.0200 U	0.10 U	0.0200 U
Methylene Chloride	6.2	0.0200 U	1.1 U	0.0200 U
o-Xylene	0.19	0.0200 U	0.10 U	0.0200 U
Propene	4.0 U	0.131	4.0 U	0.168
Styrene	0.10 U	0.0346	0.10 U	0.0300
Tetrachloroethylene	0.57	2.11	0.23	0.187
Tetrahydrofuran	0.10 U	0.100	0.10 U	0.0921 J
Toluene	0.14	0.106	0.10 U	0.0909
trans-1,2-Dichloroethylene	0.10 U	0.0200 U	0.10 U	0.0200 U
trans-1,3-Dichloropropene	0.10 U	0.0200 U	0.10 U	0.0200 U
Trichloroethylene	0.10 U	0.0200 U	0.10 U	0.0200 U
Trichlorofluoromethane	0.25	0.305	0.22	0.259
Vinyl Acetate	2.0 UJ	0.0200 U	2.0 UJ	0.0200 U
Vinyl Chloride	0.10 U	0.0200 U	0.10 U	0.0200 U

Results for the January 2014 mobilization are to 2 significant figures (sig. fig.), while results for the October 2014 mobilization are to 3 sig. fig.

TABLE 7 (continued)
Comparison of Results for Samples Collected using SUMMA® Canisters in ppbv
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Sampling Event Location Sub-Location Sample Type Result Units	219-TB-021 Jan-14 Trip Blank NA Blank ppbv	219-TB-023 Oct-14 Trip Blank NA Blank ppbv	219-SS-022 Jan-14 Unit 175 Basement Sub-Slab ppbv	219-SS-043 Oct-14 Unit 175 Basement Sub-Slab ppbv
1,1,1-Trichloroethane	0.018 U	0.0200 U	0.32	143000
1,1,2,2-Tetrachloroethane	0.018 U	0.0200 U	0.10 U	1.00 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.035 U	0.0200 U	0.10 U	107000
1,1,2-Trichloroethane	0.018 U	0.0200 U	0.10 U	1.00 U
1,1-Dichloroethane	0.018 U	0.0200 U	0.10 U	2.67
1,1-Dichloroethylene	0.018 U	0.0200 U	0.10 U	27.6
1,2,4-Trimethylbenzene	0.035 U	0.0200 U	0.10 U	1.00 U
1,2-Dibromoethane	0.035 U	0.0025 J	0.10 U	1.00 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.035 U	0.0200 U	0.10 U	1.00 U
1,2-Dichlorobenzene	0.035 U	0.0200 U	0.10 U	1.00 U
1,2-Dichloroethane	0.018 U	0.0200 U	0.10 U	1.00 U
1,2-Dichloropropane	0.035 U	0.0200 U	0.10 U	1.00 U
1,3,5-Trimethylbenzene	0.035 U	0.0200 U	0.10 U	1.00 U
1,3-Butadiene	0.035 U	0.0200 U	0.10 U	1.00 U
1,3-Dichlorobenzene	0.035 U	0.0200 U	0.10 U	1.00 U
1,4-Dichlorobenzene	0.035 U	0.0200 U	0.10 U	1.00 U
1,4-Dioxane	0.35 U	0.0200 U	1.0 U	1.00 U
2-Butanone (MEK)	1.4 U	0.0200 U	4.0 U	1.00 U
2-Hexanone (MBK)	0.035 U	0.0200 U	0.11 J	1.00 U
4-Ethyltoluene	0.035 U	0.0200 U	0.10 U	1.00 U
Methyl Isobutyl Ketone	0.035 U	0.0200 UJ	0.10 UJ	1.00 UJ
Acetone	1.4 U	0.500 U	33 J	25.0 U
Benzene	0.035 U	0.0200 U	0.10 U	1.00 U
Bromoform	0.035 U	0.0200 U	0.10 U	1.00 U
Bromomethane	0.035 U	0.0200 U	0.10 U	1.00 U
Carbon Tetrachloride	0.018 U	0.0200 U	0.10 U	21.5
Chlorobenzene	0.035 U	0.0200 U	0.10 U	1.00 U
Chloroethane	0.035 U	0.0200 U	0.10 U	1.00 U
Chloroform	0.035 U	0.0200 U	0.16	1.06
Chloromethane	0.070 U	0.0200 U	0.20 U	2.34
cis-1,2-Dichloroethylene	0.018 U	0.0200 U	0.10 U	1.00 U
cis-1,3-Dichloropropene	0.035 U	0.0200 U	0.10 U	1.00 U
Cyclohexane	0.035 U	0.0200 U	0.10 U	1.00 U
Dibromochloromethane	0.018 U	0.0200 U	0.10 U	1.00 U
Dichlorodifluoromethane	0.035 U	0.0200 U	1.5	2.22
Ethyl Acetate	0.035 U	0.0200 U	0.10 U	1.00 U
Ethylbenzene	0.035 U	0.0200 U	0.10 U	1.00 U
Heptane	0.035 U	0.0200 UJ	0.10 U	1.00 UJ
Hexane	1.4 U	0.0200 U	4.0 U	1.00 U
Isopropanol	1.4 U	0.5000 U	4.0 U	25.0 U
m&p-Xylene	0.07 U	0.0200 U	0.20 U	1.00 U
MTBE	0.035 U	0.0200 U	0.10 U	1.00 U
Methylene Chloride	0.43	0.0200 U	1.0 U	1.00 U
o-Xylene	0.035 U	0.0200 U	0.15	1.00 U
Propene	1.4 U	0.0200 U	4.0 U	4770
Styrene	0.035 U	0.0200 U	0.10 U	1.00 U
Tetrachloroethylene	0.018 U	0.0200 U	0.14	1.26
Tetrahydrofuran	0.035 U	0.0200 U	0.10 U	1.00 U
Toluene	0.035 U	0.0200 U	0.10 U	1.00 U
trans-1,2-Dichloroethylene	0.018 U	0.0200 U	0.10 U	1.00 U
trans-1,3-Dichloropropene	0.035 U	0.0200 U	0.10 U	1.00 U
Trichloroethylene	0.018 U	0.0200 U	1.6	1.00 U
Trichlorofluoromethane	0.035 U	0.0200 U	0.59	1.92
Vinyl Acetate	0.70 UJ	0.0200 U	2.0 UJ	1.00 U
Vinyl Chloride	0.018 U	0.0200 U	0.10 U	1.00 U

Results for the January 2014 mobilization are to 2 significant figures (sig. fig.), while results for the October 2014 mobilization are to 3 sig. fig.

TABLE 8
Comparison of Results for Samples Collected using SUMMA[®] Canisters in µg/m³
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Sampling Event Location Sub-Location Sample Type Result Units	219-IA-001 Jan-14 Unit 84 Basement Indoor Air µg/m ³	219-IA-025 Oct-14 Unit 84 Basement Indoor Air µg/m ³	219-IA-002 Jan-14 Unit 116 Basement Indoor Air µg/m ³	219-IA-027 Oct-14 Unit 116 Basement Indoor Air µg/m ³
1,1,1-Trichloroethane	0.098 U	0.546 U	0.11	0.109 U
1,1,2,2-Tetrachloroethane	0.12 U	0.687 U	0.12 U	0.137 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.45	0.766 U	0.51	0.602
1,1,2-Trichloroethane	0.098 U	0.546 U	0.098 U	0.109 U
1,1-Dichloroethane	0.073 U	0.405 U	0.073 U	0.0809 U
1,1-Dichloroethylene	0.071 U	0.396 U	0.071 U	0.0793 U
1,2,4-Trimethylbenzene	0.21	0.901	0.20	0.918
1,2-Dibromoethane	0.27 U	0.768 U	0.27 U	0.154 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.24 U	0.699 U	0.24 U	0.14 U
1,2-Dichlorobenzene	0.21 U	0.601 U	0.21 U	0.120 U
1,2-Dichloroethane	0.073 U	0.405 U	0.073 U	0.107
1,2-Dichloropropane	0.16 U	0.462 U	0.16 U	0.0924 U
1,3,5-Trimethylbenzene	0.17 U	0.492 U	0.17 U	0.298
1,3-Butadiene	0.081	0.221 U	0.15	0.0442 U
1,3-Dichlorobenzene	0.21 U	0.601 U	0.21 U	0.120 U
1,4-Dichlorobenzene	0.21 U	1.20	0.21 U	1.31
1,4-Dioxane	1.3 U	0.360 U	1.3 U	0.0721 U
2-Butanone (MEK)	4.1 U	2.98	4.1 U	1.08
2-Hexanone (MBK)	0.22	0.410 U	0.14 U	0.0819 U
4-Ethyltoluene	0.17 U	0.492 U	0.17 U	0.223
Methyl Isobutyl Ketone	0.14 U	1.49 J	0.14 U	0.890 J
Acetone	13 J	27.0	8.8 J	1.19 U
Benzene	0.70	0.567	0.78	0.591
Bromoform	0.36 U	1.03 U	0.36 U	0.207 U
Bromomethane	0.14 U	0.388 U	0.14 U	0.0777 U
Carbon Tetrachloride	0.36	0.429 J	0.41	0.442
Chlorobenzene	0.16 U	0.460 U	0.16 U	0.0921 U
Chloroethane	0.092 U	0.264 U	0.092 U	0.0528 U
Chloroform	0.17	0.578	0.21	0.588
Chloromethane	0.74	0.544	0.94	1.03
cis-1,2-Dichloroethylene	0.071 U	0.396 U	0.071 U	0.0793 U
cis-1,3-Dichloropropene	0.16 U	0.454 U	0.16 U	0.0908 U
Cyclohexane	0.20	0.344 U	0.41	0.594
Dibromochloromethane	0.15 U	0.852 U	0.15 U	0.168 J
Dichlorodifluoromethane	1.2	2.02	1.2	0.0989 U
Ethyl Acetate	0.44	0.360 U	0.93	0.0721 U
Ethylbenzene	0.16	1.46	0.16	1.11
Heptane	0.54	0.410 UJ	0.68	0.340 J
Hexane	4.9 U	1.63	4.9 U	1.52
Isopropanol	3.4 U	6.15 U	3.4 U	1.23 U
m&p-Xylene	0.48	4.97	0.48	3.66
MTBE	0.13 U	0.361 U	0.13 U	0.0721 U
Methylene Chloride	1.2 U	35.6	2.3 U	19.2
o-Xylene	0.20	0.999	0.20	0.868
Propene	2.4 U	34.2	2.4 U	65.3
Styrene	0.19	1.43	0.15 U	1.28
Tetrachloroethylene	0.12 U	0.678 U	0.13	0.526
Tetrahydrofuran	0.10 U	1.43	0.10 U	0.277
Toluene	1.2	2.90	1.4	2.60
trans-1,2-Dichloroethylene	0.071 U	0.396 U	0.071 U	0.079 U
trans-1,3-Dichloropropene	0.16 U	0.454 U	0.16 U	0.0908 U
Trichloroethylene	0.097 U	0.537 J	0.097 U	0.573
Trichlorofluoromethane	1.1	1.51	1.2	1.45
Vinyl Acetate	2.5 UJ	0.352 U	2.5 UJ	0.0704 U
Vinyl Chloride	0.046 U	0.256 U	0.046 U	0.0511 U

Results for the January 2014 mobilization are to 2 significant figures (sig. fig.), while results for the October 2014 mobilization are to 3 sig. fig.

TABLE 8 (continued)
Comparison of Results for Samples Collected using SUMMA® Canisters in µg/m³
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number	219-IA-003	219-IA-029	219-IA-004	219-IA-028
Sampling Event	Jan-14	Oct-14	Jan-14	Oct-14
Location	Unit 116	Unit 116	Unit 84	Unit 84
Sub-Location	1st Floor	1st Floor	1st Floor	1st Floor
Sample Type	Indoor Air	Indoor Air	Indoor Air	Indoor Air
Result Units	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1-Trichloroethane	0.10	32.6	0.098 U	0.546 U
1,1,2,2-Tetrachloroethane	0.12 U	0.687 U	0.12 U	0.687 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.49	33.7	0.51	0.766 U
1,1,2-Trichloroethane	0.098 U	0.546 U	0.098 U	0.546 U
1,1-Dichloroethane	0.073 U	0.405 U	0.073 U	0.405 U
1,1-Dichloroethylene	0.071 U	0.396 U	0.071 U	0.396 U
1,2,4-Trimethylbenzene	0.19	0.746	0.27	0.770
1,2-Dibromoethane	0.27 U	0.768 U	0.27 U	0.768 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.24 U	0.699 U	0.24 U	0.699 U
1,2-Dichlorobenzene	0.21 U	0.601 U	0.21 U	0.601 U
1,2-Dichloroethane	0.13	0.405 U	0.082	0.405 U
1,2-Dichloropropane	0.16 U	0.462 U	0.16 U	0.462 U
1,3,5-Trimethylbenzene	0.17 U	0.492 U	0.17 U	0.492 U
1,3-Butadiene	0.19	0.221 U	0.17	0.221 U
1,3-Dichlorobenzene	0.21 U	0.601 U	0.21 U	0.601 U
1,4-Dichlorobenzene	0.21 U	0.601 U	0.21 U	0.370 J
1,4-Dioxane	1.3 U	0.36 U	1.3 U	0.360 U
2-Butanone (MEK)	4.1 U	1.27	4.1 U	1.98
2-Hexanone (MBK)	0.27	0.41 U	0.32	0.410 U
4-Ethyltoluene	0.17 U	0.492 U	0.17 U	0.492 U
Methyl Isobutyl Ketone	0.14 U	0.410 UJ	0.14 U	0.571 J
Acetone	28 J	14.5	16 J	15.9
Benzene	1.1	0.542	0.94	0.547
Bromoform	0.36 U	1.03 U	0.36 U	1.03 U
Bromomethane	0.14 U	0.388 U	0.14 U	0.388 U
Carbon Tetrachloride	0.11 U	0.629 U	0.11 U	0.0843 J
Chlorobenzene	0.16 U	0.46 U	0.16 U	0.460 U
Chloroethane	0.092 U	0.264 U	0.092 U	0.264 U
Chloroform	0.22	0.488 U	0.22	0.235 J
Chloromethane	1.1	0.935	1.1	0.981
cis-1,2-Dichloroethylene	0.071 U	0.396 U	0.071 U	0.396 U
cis-1,3-Dichloropropene	0.16 U	0.454 U	0.16 U	0.454 U
Cyclohexane	0.17	0.344 U	0.21	0.344 U
Dibromochloromethane	0.15 U	0.852 U	0.15 U	0.852 U
Dichlorodifluoromethane	1.3	2.18	1.3	2.19
Ethyl Acetate	1.6	0.964	0.83	1.03
Ethylbenzene	0.22	0.434 U	0.24	0.459
Heptane	2.0	0.410 UJ	2.0	0.410 UJ
Hexane	4.9 U	1.16	4.9 U	1.20
Isopropanol	3.4 U	6.15 U	3.4 U	6.15 U
m&p-Xylene	0.63	1.32	0.68	1.59
MTBE	0.13 U	0.361 U	0.13 U	0.361 U
Methylene Chloride	1.4 U	3.66	2.2 U	7.88
o-Xylene	0.24	0.487	0.26	0.532
Propene	2.4 U	5.85	2.4 U	7.20
Styrene	0.15 U	0.426 U	0.18	0.910
Tetrachloroethylene	0.12 U	0.678 U	0.12 U	0.678 U
Tetrahydrofuran	0.18	0.468	0.24	0.415
Toluene	1.5	1.92	1.4	1.81
trans-1,2-Dichloroethylene	0.071 U	0.396 U	0.071 U	0.396 U
trans-1,3-Dichloropropene	0.16 U	0.454 U	0.16 U	0.454 U
Trichloroethylene	0.097 U	0.537 U	0.097 U	0.537 U
Trichlorofluoromethane	1.2	1.44	1.2	1.54
Vinyl Acetate	2.5 UJ	0.352 U	2.5 UJ	0.352 U
Vinyl Chloride	0.046 U	0.256 U	0.046 U	0.256 U

Results for the January 2014 mobilization are to 2 significant figures (sig. fig.), while results for the October 2014 mobilization are to 3 sig. fig.

TABLE 8 (continued)
Comparison of Results for Samples Collected using SUMMA® Canisters in µg/m³
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number	219-IA-005	219-IA-030	219-IA-006	219-IA-031
Sampling Event	Jan-14	Oct-14	Jan-14	Oct-14
Location	Unit 50	Unit 50	Unit 50	Unit 50
Sub-Location	1st Floor	1st Floor	Basement	Basement
Sample Type	Indoor Air	Indoor Air	Indoor Air	Indoor Air
Result Units	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1-Trichloroethane	0.098 U	0.109 U	0.098 U	0.109 U
1,1,2,2-Tetrachloroethane	0.12 U	0.137 U	0.12 U	0.137 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.52	0.546	0.53	0.588
1,1,2-Trichloroethane	0.098 U	0.109 U	0.098 U	0.109 U
1,1-Dichloroethane	0.073 U	0.0809 U	0.073 U	0.0809 U
1,1-Dichloroethylene	0.071 U	0.0793 U	0.071 U	0.0793 U
1,2,4-Trimethylbenzene	1.4	4.86	1.6	8.66
1,2-Dibromoethane	0.27 U	0.154 U	0.27 U	0.154 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.24 U	0.140 U	0.24 U	0.140 U
1,2-Dichlorobenzene	0.21 U	0.120 U	0.21 U	0.120 U
1,2-Dichloroethane	0.073 U	0.114	0.073 U	0.167
1,2-Dichloropropane	0.16 U	0.0924 U	0.16 U	0.0924 U
1,3,5-Trimethylbenzene	0.59	1.80	0.70	3.38
1,3-Butadiene	0.23	0.0442 U	0.19	0.0442 U
1,3-Dichlorobenzene	0.21 U	0.120 U	0.21 U	0.120 U
1,4-Dichlorobenzene	0.21 U	0.241	0.21 U	0.378
1,4-Dioxane	1.3 U	0.0721 U	1.3 U	0.0721 U
2-Butanone (MEK)	8.1	0.0590 U	11	16.0
2-Hexanone (MBK)	0.48	0.0819 U	0.39	0.0819 U
4-Ethyltoluene	0.30	0.952	0.34	1.58
Methyl Isobutyl Ketone	0.14 U	0.0819 UJ	0.14 U	0.146 J
Acetone	44 J	7.92	56 J	260
Benzene	2.3	0.941	0.84	1.37
Bromoform	0.36 U	0.207 U	0.36 U	0.207 U
Bromomethane	0.14 U	0.0777 U	0.14 U	0.0777 U
Carbon Tetrachloride	0.11 U	0.466	0.41	0.428
Chlorobenzene	0.16 U	0.0921 U	0.16 U	0.0921 U
Chloroethane	0.092 U	0.0528 U	0.14	0.0528 U
Chloroform	0.19	0.167	0.22	0.214
Chloromethane	0.95	0.806	1.1	0.805
cis-1,2-Dichloroethylene	0.071 U	0.0793 U	0.071 U	0.0793 U
cis-1,3-Dichloropropene	0.16 U	0.0908 U	0.16 U	0.0908 U
Cyclohexane	0.40	1.45	0.29	3.06
Dibromochloromethane	0.15 U	0.170 UJ	0.15 U	0.170 U
Dichlorodifluoromethane	1.2	1.04	1.2	1.07
Ethyl Acetate	0.38	0.0721 U	0.39	2.15
Ethylbenzene	0.44	2.07	0.47	3.95
Heptane	1.3	1.81 J	0.77	4.16 J
Hexane	4.9 U	3.65	4.9 U	6.55
Isopropanol	14	1.23 U	12	1.23 U
m&p-Xylene	1.6	7.80	1.7	14.3
MTBE	0.13 U	0.0721 U	0.13 U	0.0721 U
Methylene Chloride	15	1.96	20	4.62
o-Xylene	0.63	3.27	0.70	6.20
Propene	2.4 U	5.88	2.4 U	12.3
Styrene	0.18	0.567	0.15 U	0.740
Tetrachloroethylene	0.12 U	0.179	0.45	0.237
Tetrahydrofuran	8.5	8.29	14	245
Toluene	2.0	7.83	1.9	13.0
trans-1,2-Dichloroethylene	0.071 U	0.0793 U	0.071 U	0.0793 U
trans-1,3-Dichloropropene	0.16 U	0.0908 U	0.16 U	0.0908 U
Trichloroethylene	0.097 U	0.622	0.097 U	0.553
Trichlorofluoromethane	1.2	1.50	1.2	1.74
Vinyl Acetate	2.5 UJ	0.0704 U	2.5 UJ	0.0704 U
Vinyl Chloride	0.046 U	0.0511 U	0.046 U	0.0511 U

Results for the January 2014 mobilization are to 2 significant figures (sig. fig.), while results for the October 2014 mobilization are to 3 sig. fig.

TABLE 8 (continued)
Comparison of Results for Samples Collected using SUMMA[®] Canisters in µg/m³
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Sampling Event Location Sub-Location Sample Type Result Units	219-IA-007 Jan-14 Unit 34 Basement Indoor Air µg/m ³	219-IA-038 Oct-14 Unit 34 Basement Indoor Air µg/m ³	219-IA-008 Jan-14 Unit 34 1st Floor Indoor Air µg/m ³	219-IA-036 Oct-14 Unit 34 1st Floor Indoor Air µg/m ³
1,1,1-Trichloroethane	0.098 U	0.109 U	0.098 U	0.109 U
1,1,2,2-Tetrachloroethane	0.12 U	0.137 U	0.12 U	0.137 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.54	0.618	0.57	0.540
1,1,2-Trichloroethane	0.098 U	0.109 U	0.098 U	0.109 U
1,1-Dichloroethane	0.073 U	0.0809 U	0.073 U	0.0809 U
1,1-Dichloroethylene	0.071 U	0.0793 U	0.071 U	0.0793 U
1,2,4-Trimethylbenzene	0.91	0.690	1.2	0.954
1,2-Dibromoethane	0.27 U	0.154 U	0.27 U	0.154 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.24 U	0.140 U	0.24 U	0.140 U
1,2-Dichlorobenzene	0.21 U	0.120 U	0.21 U	0.120 U
1,2-Dichloroethane	0.18	0.0809 U	0.21	1.29
1,2-Dichloropropane	0.16 U	0.0924 U	0.16 U	0.0924 U
1,3,5-Trimethylbenzene	0.26	0.210	0.36	0.260
1,3-Butadiene	0.082	0.0442 U	0.14	0.0442 U
1,3-Dichlorobenzene	0.21 U	0.120 U	0.21 U	0.120 U
1,4-Dichlorobenzene	0.21 U	0.177	0.21 U	2.65
1,4-Dioxane	1.3 U	0.0721 U	1.3 U	0.0721 U
2-Butanone (MEK)	4.1 U	0.840	4.1 U	1.90
2-Hexanone (MBK)	0.49	0.0819 U	0.29	0.103
4-Ethyltoluene	0.21	0.153	0.30	0.217
Methyl Isobutyl Ketone	0.14 U	18.4 J	0.14 U	0.459 J
Acetone	28 J	17.7	56 J	32.2
Benzene	0.67	0.606	0.76	1.14
Bromoform	0.36 U	0.207 U	0.36 U	0.207 U
Bromomethane	0.14 U	0.0777 U	0.14 U	0.0777 U
Carbon Tetrachloride	0.37	0.417	0.72	0.415
Chlorobenzene	0.16 U	0.0921 U	0.16 U	0.092 U
Chloroethane	0.092 U	0.053 U	0.092 U	0.0528 U
Chloroform	0.41	0.266	0.53	0.616
Chloromethane	0.75	0.940	0.94	1.14
cis-1,2-Dichloroethylene	0.071 U	0.0793 U	0.071 U	0.0793 U
cis-1,3-Dichloropropene	0.16 U	0.0908 U	0.16 U	0.0908 U
Cyclohexane	0.16	0.133	0.24	0.184
Dibromochloromethane	0.15 U	0.0579 J	0.15 U	0.173
Dichlorodifluoromethane	1.3	1.19	1.3	1.04
Ethyl Acetate	0.50	9.61	3.1	0.717
Ethylbenzene	0.18	0.508	0.31	0.720
Heptane	0.24	0.465 J	0.40	0.475 J
Hexane	4.9 U	0.815	4.9 U	1.02
Isopropanol	29	2.43	320	1.73
m&p-Xylene	0.57	1.39	0.90	1.86
MTBE	0.13 U	0.0721 U	0.22	0.0721 U
Methylene Chloride	1.5 U	0.791	4.4 U	0.983
o-Xylene	0.27	0.574	0.38	0.752
Propene	2.4 U	1.30	2.4 U	19.5
Styrene	0.15 U	0.279	0.16	1.21
Tetrachloroethylene	0.55	0.234	0.58	0.178
Tetrahydrofuran	0.42	0.315	0.19	0.411
Toluene	1.1	1.54	2.4	3.96
trans-1,2-Dichloroethylene	0.071 U	0.0793 U	0.071 U	0.0793 U
trans-1,3-Dichloropropene	0.16 U	0.0908 U	0.16 U	0.0908 U
Trichloroethylene	0.097 U	0.292	0.097 U	0.226
Trichlorofluoromethane	1.1	1.36	1.2	1.17
Vinyl Acetate	2.5 UJ	0.0704 U	2.5 UJ	0.0704 U
Vinyl Chloride	0.046 U	0.0511 U	0.046 U	0.0511 U

Results for the January 2014 mobilization are to 2 significant figures (sig. fig.), while results for the October 2014 mobilization are to 3 sig. fig.

TABLE 8 (continued)
Comparison of Results for Samples Collected using SUMMA[®] Canisters in µg/m³
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Sampling Event Location Sub-Location Sample Type Result Units	219-IA-009 Jan-14 Unit 34 1st Floor CO Indoor Air µg/m ³	219-IA-037 Oct-14 Unit 34 1st Floor CO Indoor Air µg/m ³	219-IA-010 Jan-14 Unit 70 1st Floor Indoor Air µg/m ³	219-IA-033 Oct-14 Unit 70 1st Floor Indoor Air µg/m ³
1,1,1-Trichloroethane	0.098 U	0.109 U	0.098 U	0.546 U
1,1,2,2-Tetrachloroethane	0.12 U	0.137 U	0.12 U	0.687 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.54	0.698	0.55	0.766 U
1,1,2-Trichloroethane	0.098 U	0.109 U	0.098 U	0.546 U
1,1-Dichloroethane	0.073 U	0.0809 U	0.073 U	0.4050 U
1,1-Dichloroethylene	0.071 U	0.0793 U	0.071 U	0.3960 U
1,2,4-Trimethylbenzene	1.1	0.770	0.24	1.02
1,2-Dibromoethane	0.27 U	0.154 U	0.27 U	0.768 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.24 U	0.140 U	0.24 U	0.699 U
1,2-Dichlorobenzene	0.21 U	0.120 U	0.21 U	0.601 U
1,2-Dichloroethane	0.20	0.0867	0.15	1.57
1,2-Dichloropropane	0.16 U	0.0924 U	0.16 U	0.462 U
1,3,5-Trimethylbenzene	0.32	0.238	0.17 U	0.492 U
1,3-Butadiene	0.077 U	0.0442 U	0.093	0.221 U
1,3-Dichlorobenzene	0.21 U	0.120 U	0.21 U	0.601 U
1,4-Dichlorobenzene	0.21 U	0.192	0.21 U	2.75
1,4-Dioxane	1.3 U	0.0721 U	1.3 U	0.360 U
2-Butanone (MEK)	4.1 U	0.805	4.1 U	2.50
2-Hexanone (MBK)	0.14 U	0.0819 U	0.30	0.410 U
4-Ethyltoluene	0.28	0.170	0.17 U	0.492 U
Methyl Isobutyl Ketone	0.14 U	18.2 J	0.22	1.21 J
Acetone	48 J	17.6	160 J	61.3
Benzene	0.72	0.676	0.72	1.04
Bromoform	0.36 U	0.207 U	0.36 U	1.03 U
Bromomethane	0.14 U	0.0777 U	0.14 U	0.388 U
Carbon Tetrachloride	0.11 U	0.463	0.41	0.0780 J
Chlorobenzene	0.16 U	0.0921 U	0.16 U	0.460 U
Chloroethane	0.092 U	0.0528 U	0.092 U	0.264 U
Chloroform	0.49	0.328	0.19	0.788
Chloromethane	0.95	1.15	0.82	1.28
cis-1,2-Dichloroethylene	0.071 U	0.0793 U	0.071 U	0.396 U
cis-1,3-Dichloropropene	0.16 U	0.0908 U	0.16 U	0.454 U
Cyclohexane	0.22	0.157	0.13	0.344 U
Dibromochloromethane	0.15 U	0.0656 J	0.15 U	0.852 U
Dichlorodifluoromethane	1.1	1.35	1.3	2.10
Ethyl Acetate	3.3	10.3	0.51	0.918 J
Ethylbenzene	0.29	0.569	0.25	0.795
Heptane	0.37	0.521 J	0.23	0.548 J
Hexane	4.9 U	0.927	4.9 U	0.890
Isopropanol	230	2.73	4.2	16.9
m&p-Xylene	0.84	1.54	0.63	2.21
MTBE	0.21	0.0721 U	0.13 U	0.361 U
Methylene Chloride	4.5 U	0.779	1.5 U	2.29 J
o-Xylene	0.35	0.638	0.25	0.963
Propene	2.4 U	1.45	2.4 U	35.7
Styrene	0.19	0.324	0.28	1.55
Tetrachloroethylene	0.55	0.265	0.12 U	0.678 U
Tetrahydrofuran	0.18	0.342	0.1 U	0.940
Toluene	2.3	1.75	1.5	4.91
trans-1,2-Dichloroethylene	0.071 U	0.0793 U	0.071 U	0.396 U
trans-1,3-Dichloropropene	0.16 U	0.0908 U	0.16 U	0.454 U
Trichloroethylene	0.097 U	0.323	0.097 U	0.537 U
Trichlorofluoromethane	1.2	1.47	1.2	1.29
Vinyl Acetate	2.5 UJ	0.0704 U	2.5 UJ	1.98
Vinyl Chloride	0.046 U	0.0511 U	0.046 U	0.256 U

Results for the January 2014 mobilization are to 2 significant figures (sig. fig.), while results for the October 2014 mobilization are to 3 sig. fig.

TABLE 8 (continued)
Comparison of Results for Samples Collected using SUMMA[®] Canisters in µg/m³
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Sampling Event Location Sub-Location Sample Type Result Units	219-IA-011 Jan-14 Unit 70 Basement Indoor Air µg/m ³	219-IA-034 Oct-14 Unit 70 Basement Indoor Air µg/m ³	219-IA-012 Jan-14 Unit 175 Basement Indoor Air µg/m ³	219-IA-042 Oct-14 Unit 175 Basement Indoor Air µg/m ³
1,1,1-Trichloroethane	0.19 U	0.109 U	0.60	27.9
1,1,2,2-Tetrachloroethane	0.24 U	0.137 U	0.24 U	0.137 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.55	0.628	0.83	15.7
1,1,2-Trichloroethane	0.19 U	0.109 U	0.19 U	0.109 U
1,1-Dichloroethane	0.14 U	0.0809 U	0.14 U	0.081 U
1,1-Dichloroethylene	0.14 U	0.0793 U	0.14 U	0.079 U
1,2,4-Trimethylbenzene	0.26	1.04	0.54	0.675
1,2-Dibromoethane	0.27 U	0.154 U	0.27 U	0.154 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.24 U	0.140 U	0.24 U	0.140 U
1,2-Dichlorobenzene	0.21 U	0.120 U	0.21 U	0.120 U
1,2-Dichloroethane	0.15	1.58	0.14 U	0.0919
1,2-Dichloropropane	0.16 U	0.0924 U	0.16 U	0.0924 U
1,3,5-Trimethylbenzene	0.17 U	0.314	0.17	0.243
1,3-Butadiene	0.11	0.0442 U	0.13	0.0442 U
1,3-Dichlorobenzene	0.21 U	0.120 U	0.21 U	0.120 U
1,4-Dichlorobenzene	0.21 U	2.63	0.21 U	0.132
1,4-Dioxane	1.3 U	0.0721 U	1.3 U	0.0721 U
2-Butanone (MEK)	4.1 U	1.30	6.1	0.845
2-Hexanone (MBK)	0.53 J	0.152	0.24 J	0.0819 U
4-Ethyltoluene	0.17 U	0.246	0.17 U	0.215
Methyl Isobutyl Ketone	0.23 J	1.13 J	0.14 UJ	0.241 J
Acetone	130 J	29.7 J	43 J	10.8
Benzene	0.75	1.09	1.3	2.24
Bromoform	0.36 U	0.207 U	0.36 U	0.207 U
Bromomethane	0.14 U	0.0777 U	0.14 U	0.0777 U
Carbon Tetrachloride	0.35	0.442	0.55	0.467
Chlorobenzene	0.16 U	0.0921 U	0.16 U	0.0921 U
Chloroethane	0.092 U	0.0528 U	0.092 U	0.331
Chloroform	0.19	0.758	2.6	0.841
Chloromethane	0.85	1.47	1.2	2.41
cis-1,2-Dichloroethylene	0.14 U	0.0793 U	0.14 U	0.0793 U
cis-1,3-Dichloropropene	0.16 U	0.0908 U	0.16 U	0.0908 U
Cyclohexane	0.13	0.195	0.21	0.143
Dibromochloromethane	0.3 U	0.242	0.3 U	0.294
Dichlorodifluoromethane	1.4	1.20	3.2	1.10
Ethyl Acetate	0.61	0.844	1.4	20.8
Ethylbenzene	0.25	0.876	2.5	0.661
Heptane	0.25	0.492 J	0.37	0.668 J
Hexane	4.9 U	0.945	28	1.10
Isopropanol	3.4 U	1.87 J	3.5	10.8
m&p-Xylene	0.61	2.36	7.9	1.57
MTBE	0.13 U	0.0721 U	0.13 U	0.0721 U
Methylene Chloride	2.1 U	1.04	61	0.866
o-Xylene	0.24	0.994	2.0	0.633
Propene	2.4 U	29.2 J	2.4 U	15.8
Styrene	0.16	1.71 J	0.15 U	0.515
Tetrachloroethylene	0.24 U	0.197	0.31	0.324
Tetrahydrofuran	0.14	0.372 J	0.81	0.209
Toluene	1.4	4.99	7.5	3.88
trans-1,2-Dichloroethylene	0.14 U	0.0793 U	0.14 U	0.0793 U
trans-1,3-Dichloropropene	0.16 U	0.0908 U	0.16 U	0.0908 U
Trichloroethylene	0.19 U	0.247	0.19 U	0.107 U
Trichlorofluoromethane	1.2	1.34	11	5.35
Vinyl Acetate	2.5 UJ	0.0704 U	2.5 UJ	0.0704 U
Vinyl Chloride	0.089 U	0.0511 U	0.089 U	0.0511 U

Results for the January 2014 mobilization are to 2 significant figures (sig. fig.), while results for the October 2014 mobilization are to 3 sig. fig.

TABLE 8 (continued)
Comparison of Results for Samples Collected using SUMMA[®] Canisters in µg/m³
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Sampling Event Location Sub-Location Sample Type Result Units	219-IA-013 Jan-14 Unit 175 1st Floor Indoor Air µg/m³	219-IA-041 Oct-14 Unit 175 1st Floor Indoor Air µg/m³	219-AA-014 Jan-14 Unit 175 Behind House Ambient Air µg/m³	219-AA-044 Oct-14 Unit 175 Behind House Ambient Air µg/m³
1,1,1-Trichloroethane	0.34	0.109 U	0.098 U	0.137
1,1,2,2-Tetrachloroethane	0.24 U	0.137 U	0.12 U	0.137 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.59	0.574	0.53	0.676
1,1,2-Trichloroethane	0.19 U	0.109 U	0.098 U	0.109 U
1,1-Dichloroethane	0.14 U	0.186	0.073 U	0.0809 U
1,1-Dichloroethylene	0.14 U	0.0793 U	0.071 U	0.0793 U
1,2,4-Trimethylbenzene	0.43	2.85	0.24	0.428
1,2-Dibromoethane	0.27 U	0.154 U	0.27 U	0.154 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.24 U	0.140 U	0.24 U	0.140 U
1,2-Dichlorobenzene	0.21 U	0.120 U	0.21 U	0.120 U
1,2-Dichloroethane	0.14 U	0.241	0.062 J	0.0809 U
1,2-Dichloropropane	0.16 U	0.0924 U	0.16 U	0.0924 U
1,3,5-Trimethylbenzene	0.17 U	1.33	0.17 U	0.134
1,3-Butadiene	0.21	0.0442 U	0.14	0.0442 U
1,3-Dichlorobenzene	0.21 U	0.120 U	0.21 U	0.120 U
1,4-Dichlorobenzene	0.21 U	2.83	0.21 U	0.120 U
1,4-Dioxane	1.3 U	0.0721 U	1.3 U	0.0721 U
2-Butanone (MEK)	4.1 U	1.49	4.1 U	0.770
2-Hexanone (MBK)	0.14 UJ	0.0819 U	0.27	0.0819 U
4-Ethyltoluene	0.12 J	1.45	0.17 U	0.110
Methyl Isobutyl Ketone	0.14 U	26.2 J	0.14 U	0.606 J
Acetone	23 J	20.9	10 J	11.0
Benzene	1.3	14.2	1.0	0.395
Bromoform	0.36 U	0.327	0.36 U	0.207 U
Bromomethane	0.14 U	0.0777 U	0.14 U	0.0777 U
Carbon Tetrachloride	0.39	0.445	0.34	0.436
Chlorobenzene	0.16 U	0.0921 U	0.16 U	0.0921 U
Chloroethane	0.092 U	0.0846	0.092 U	0.053 U
Chloroform	0.95	9.26	0.17 U	0.125
Chloromethane	0.85	0.921	0.95	1.03
cis-1,2-Dichloroethylene	0.14 U	0.0793 U	0.071 U	0.0793 U
cis-1,3-Dichloropropene	0.16 U	0.0908 U	0.16 U	0.0908 U
Cyclohexane	0.32	0.236	0.13	0.0955
Dibromochloromethane	0.3 U	2.35	0.15 U	0.170 U
Dichlorodifluoromethane	2.1	1.10	1.2	1.12
Ethyl Acetate	0.73	4.83	0.13 U	0.559
Ethylbenzene	0.93	11.8	0.20	0.237
Heptane	0.99	0.594 J	0.26	0.272 J
Hexane	4.9 U	0.894	4.9 U	0.688
Isopropanol	6.7	2.06	3.4 U	1.23 U
m&p-Xylene	3.3	11.1	0.63	0.746
MTBE	0.13 U	0.0721 U	0.13 U	0.0721 U
Methylene Chloride	2.3 U	1.01	4.2 U	0.404
o-Xylene	1.1	6.73	0.26	0.304
Propene	2.4 U	3.59	2.4 U	0.938
Styrene	0.15 U	0.519	0.15 U	0.281
Tetrachloroethylene	0.24 U	1.13	0.12 U	0.136 U
Tetrahydrofuran	0.23	0.591	0.1 U	0.172
Toluene	3.3	3.50	1.3	1.17
trans-1,2-Dichloroethylene	0.14 U	0.0793 U	0.071 U	0.0793 U
trans-1,3-Dichloropropene	0.16 U	0.0908 U	0.16 U	0.0908 U
Trichloroethylene	0.19 U	0.627	0.097 U	0.132
Trichlorofluoromethane	4.6	1.43	1.1	1.54
Vinyl Acetate	2.5 UJ	0.070 U	2.5 UJ	0.0704 U
Vinyl Chloride	0.089 U	0.0511 U	0.13	0.0511 U

Results for the January 2014 mobilization are to 2 significant figures (sig. fig.), while results for the October 2014 mobilization are to 3 sig. fig.

TABLE 8 (continued)
Comparison of Results for Samples Collected using SUMMA[®] Canisters in µg/m³
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number Sampling Event Location Sub-Location Sample Type Result Units	219-AA-015 Jan-14 Unit 116 Ernst Street Ambient Air µg/m³	219-AA-040 Oct-14 Unit 116 Ernst Street Ambient Air µg/m³	219-SS-016 Jan-14 Unit 84 Basement Sub-Slab µg/m³	219-SS-024 Oct-14 Unit 84 Basement Sub-Slab µg/m³
1,1,1-Trichloroethane	0.098 U	0.109 U	0.55 U	0.109 U
1,1,2,2-Tetrachloroethane	0.12 U	0.137 U	0.69 U	0.137 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.51	0.636	0.77 U	0.709
1,1,2-Trichloroethane	0.098 U	0.109 U	0.55 U	0.109 U
1,1-Dichloroethane	0.073 U	0.0809 U	0.40 U	0.0809 U
1,1-Dichloroethylene	0.071 U	0.0793 U	0.40 U	0.0793 U
1,2,4-Trimethylbenzene	0.20	0.544	0.79	0.263
1,2-Dibromoethane	0.27 U	0.154 U	0.77 U	0.154 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.24 U	0.140 U	0.70 U	0.140 U
1,2-Dichlorobenzene	0.21 U	0.120 U	0.60 U	0.120 U
1,2-Dichloroethane	0.073 U	0.0809 U	0.40 U	0.0809 U
1,2-Dichloropropane	0.16 U	0.0924 U	0.46 U	0.0924 U
1,3,5-Trimethylbenzene	0.17 U	0.171	0.49 U	0.0983 U
1,3-Butadiene	0.077 U	0.0442 U	0.22 U	0.0442 U
1,3-Dichlorobenzene	0.21 U	0.120 U	0.60 U	0.120 U
1,4-Dichlorobenzene	0.21 U	0.120 U	0.60 U	0.120 U
1,4-Dioxane	1.3 U	0.072 U	3.6 U	0.232
2-Butanone (MEK)	4.1 U	1.09	12 U	2.64
2-Hexanone (MBK)	0.26	0.0819 U	1.1 J	2.97
4-Ethyltoluene	0.17 U	0.137	0.49 U	0.0983 U
Methyl Isobutyl Ketone	0.14 U	0.142 J	0.41 UJ	0.240 J
Acetone	9.6 J	13.4	120 J	15.6
Benzene	0.71	0.519	0.34	0.0835
Bromoform	0.36 U	0.207 U	1.0 U	0.207 U
Bromomethane	0.14 U	0.0777 U	0.39 U	0.0777 U
Carbon Tetrachloride	0.29	0.435	0.63 U	0.446
Chlorobenzene	0.16 U	0.0921 U	0.46 U	0.0921 U
Chloroethane	0.092 U	0.053 U	0.26 U	0.0528 U
Chloroform	0.17 U	0.130	0.49 U	1.97
Chloromethane	0.87	1.03	0.93	0.558
cis-1,2-Dichloroethylene	0.071 U	0.0793 U	0.40 U	0.0793 U
cis-1,3-Dichloropropene	0.16 U	0.0908 U	0.45 U	0.0908 U
Cyclohexane	0.12 U	0.132	0.34 U	0.0688 U
Dibromochloromethane	0.15 U	0.170 U	0.85 U	0.170 U
Dichlorodifluoromethane	1.2	1.11	2.2	1.47
Ethyl Acetate	0.13 U	0.678	1.1	0.289
Ethylbenzene	0.16	0.274	0.43 U	0.140
Heptane	0.18	0.327 J	0.41 U	0.0820 UJ
Hexane	4.9 U	1.10	14 U	0.547
Isopropanol	3.4 U	1.59	9.8 U	1.23 U
m&p-Xylene	0.48	0.913	0.87 U	0.273
MTBE	0.13 U	0.0721 U	0.36 U	0.0721 U
Methylene Chloride	1.7 U	0.348	14	506
o-Xylene	0.21	0.363	1.4	0.123
Propene	2.4 U	1.15	6.9 U	3.99
Styrene	0.15 U	0.255	0.43 U	0.159
Tetrachloroethylene	0.12 U	0.147	1.0	4.42
Tetrahydrofuran	0.1 U	0.350	0.29 U	0.458
Toluene	0.96	1.37	1.0	0.582
trans-1,2-Dichloroethylene	0.071 U	0.0793 U	0.40 U	0.0793 U
trans-1,3-Dichloropropene	0.16 U	0.0908 U	0.45 U	0.0908 U
Trichloroethylene	0.097 U	0.607	0.54 U	0.107 U
Trichlorofluoromethane	1.1	1.36	1.4	1.45
Vinyl Acetate	2.5 UJ	0.830	7.0 UJ	0.0704 U
Vinyl Chloride	0.046 U	0.0511 U	0.26 U	0.0511 U

Results for the January 2014 mobilization are to 2 significant figures (sig. fig.), while results for the October 2014 mobilization are to 3 sig. fig.

TABLE 8 (continued)
Comparison of Results for Samples Collected using SUMMA[®] Canisters in µg/m³
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number	219-SS-017	219-SS-026	219-SS-018	219-SS-032
Sampling Event	Jan-14	Oct-14	Jan-14	Oct-14
Location	Unit 116	Unit 116	Unit 50	Unit 50
Sub-Location	Basement	Basement	Basement	Basement
Sample Type	Sub-Slab	Sub-Slab	Sub-Slab	Sub-Slab
Result Units	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1-Trichloroethane	0.55 U	0.337	0.55 U	0.109 U
1,1,2,2-Tetrachloroethane	0.69 U	0.137 U	0.69 U	0.137 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.77 U	0.729	0.77 U	0.689
1,1,2-Trichloroethane	0.55 U	0.109 U	0.55 U	0.109 U
1,1-Dichloroethane	0.40 U	0.0809 U	0.40 U	0.0809 U
1,1-Dichloroethylene	0.40 U	0.0793 U	0.40 U	0.0793 U
1,2,4-Trimethylbenzene	0.49 U	0.721	0.49 U	1.84
1,2-Dibromoethane	0.77 U	0.154 U	0.77 U	0.154 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.70 U	0.140 U	0.70 U	0.140 U
1,2-Dichlorobenzene	0.60 U	0.120 U	0.60 U	0.120 U
1,2-Dichloroethane	0.40 U	0.0809 U	0.40 U	0.0809 U
1,2-Dichloropropane	0.46 U	0.0924 U	0.46 U	0.0924 U
1,3,5-Trimethylbenzene	0.49 U	0.172	0.49 U	0.709
1,3-Butadiene	0.50	0.0442 U	0.22 U	0.0442 U
1,3-Dichlorobenzene	0.60 U	0.120 U	0.60 U	0.120 U
1,4-Dichlorobenzene	0.60 U	0.479	0.60 U	0.120 U
1,4-Dioxane	3.6 U	0.0721 U	3.6 U	0.0721 U
2-Butanone (MEK)	12 U	1.40	12 U	2.82
2-Hexanone (MBK)	0.86 J	0.278	0.41 UJ	0.285
4-Ethyltoluene	0.49 U	0.161	0.49 U	0.399
Methyl Isobutyl Ketone	0.41 UJ	1.74 J	0.41 UJ	0.731 J
Acetone	140 J	20.6	64 J	13.7
Benzene	1.2	0.266	0.32 U	0.426
Bromoform	1.0 U	0.207 U	1.0 U	0.207 U
Bromomethane	0.39 U	0.0777 U	0.39 U	0.0777 U
Carbon Tetrachloride	0.63 U	0.197	0.63 U	0.442
Chlorobenzene	0.46 U	0.0921 U	0.46 U	0.0921 U
Chloroethane	0.26 U	0.0528 U	0.26 U	0.0528 U
Chloroform	0.77	17.1	2.4	0.511
Chloromethane	0.94	0.688	0.41 U	0.109
cis-1,2-Dichloroethylene	0.40 U	0.0793 U	0.40 U	0.0793 U
cis-1,3-Dichloropropene	0.45 U	0.0908 U	0.45 U	0.0908 U
Cyclohexane	0.50	0.175	0.34 U	0.460
Dibromochloromethane	0.85 U	0.170 U	0.85 U	0.170 U
Dichlorodifluoromethane	1.8	1.24	2.1	1.66
Ethyl Acetate	1.1	0.438	0.36 U	0.426
Ethylbenzene	0.65	0.480	0.43 U	0.488
Heptane	1.4	0.293 J	0.41 U	0.519 J
Hexane	14 U	0.919	14 U	1.07
Isopropanol	9.8 U	1.23 U	9.8 U	1.23 U
m&p-Xylene	1.3	1.35	0.87 U	1.55
MTBE	0.36 U	0.0721 U	0.36 U	0.0721 U
Methylene Chloride	12	4.67	15	0.200
o-Xylene	1.5	0.530	0.48	1.98
Propene	6.9 U	8.95	6.9 U	3.91
Styrene	0.43 U	0.319	0.43 U	0.344
Tetrachloroethylene	0.81	27.1	0.68 U	2.52
Tetrahydrofuran	0.29 U	0.534	0.87	4.72
Toluene	2.2	1.24	0.41	1.55
trans-1,2-Dichloroethylene	0.40 U	0.0793 U	0.40 U	0.0793 U
trans-1,3-Dichloropropene	0.45 U	0.0908 U	0.45 U	0.0908 U
Trichloroethylene	0.54 U	0.107 U	0.55	1.55
Trichlorofluoromethane	1.4	1.80	1.4	2.30
Vinyl Acetate	7.0 UJ	0.0704 U	7.0 UJ	0.0704 U
Vinyl Chloride	0.26 U	0.0511 U	0.26 U	0.0511 U

Results for the January 2014 mobilization are to 2 significant figures (sig. fig.), while results for the October 2014 mobilization are to 3 sig. fig.

TABLE 8 (continued)
Comparison of Results for Samples Collected using SUMMA[®] Canisters in µg/m³
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number	219-SS-019	219-SS-039	219-SS-020	219-SS-035
Sampling Event	Jan-14	Oct-14	Jan-14	Oct-14
Location	Unit 34	Unit 34	Unit 70	Unit 70
Sub-Location	Basement	Basement	Basement	Basement
Sample Type	Sub-Slab	Sub-Slab	Sub-Slab	Sub-Slab
Result Units	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1-Trichloroethane	0.58	1.49	0.55 U	0.109 U
1,1,2,2-Tetrachloroethane	0.69 U	0.137 U	0.69 U	0.137 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.77 U	0.677	0.77 U	0.681
1,1,2-Trichloroethane	0.55 U	0.109 U	0.55 U	0.109 U
1,1-Dichloroethane	0.40 U	0.0809 U	0.40 U	0.0809 U
1,1-Dichloroethylene	0.40 U	0.0793 U	0.40 U	0.0793 U
1,2,4-Trimethylbenzene	0.49 U	0.285	0.49 U	0.193
1,2-Dibromoethane	0.77 U	0.154 U	0.77 U	0.154 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.70 U	0.140 U	0.70 U	0.140 U
1,2-Dichlorobenzene	0.60 U	0.120 U	0.60 U	0.120 U
1,2-Dichloroethane	0.40 U	0.0809 U	0.40 U	0.0809 U
1,2-Dichloropropane	0.46 U	0.0924 U	0.46 U	0.0924 U
1,3,5-Trimethylbenzene	0.49 U	0.098 U	0.49 U	0.0983 U
1,3-Butadiene	0.22 U	0.0442 U	0.22 U	0.0442 U
1,3-Dichlorobenzene	0.60 U	0.120 U	0.60 U	0.120 U
1,4-Dichlorobenzene	0.60 U	0.120 U	0.60 U	0.120 U
1,4-Dioxane	3.6 U	0.0721 U	3.6 U	0.0721 U
2-Butanone (MEK)	12 U	1.04	12 U	1.08
2-Hexanone (MBK)	0.72 J	0.348	0.61 J	0.134
4-Ethyltoluene	0.49 U	0.0983 U	0.49 U	0.0983 U
Methyl Isobutyl Ketone	0.41 UJ	2.35 J	0.41 UJ	1.01 J
Acetone	98 J	9.71	77 J	11.0 J
Benzene	0.32 U	0.116	0.32 U	0.104
Bromoform	1.0 U	0.207 U	1.0 U	0.207 U
Bromomethane	0.39 U	0.0777 U	0.39 U	0.0777 U
Carbon Tetrachloride	0.63 U	0.636	0.63 U	0.439
Chlorobenzene	0.46 U	0.0921 U	0.46 U	0.0921 U
Chloroethane	0.26 U	0.053 U	0.26 U	0.0528 U
Chloroform	3.6	0.705	0.49 U	0.123
Chloromethane	0.41 U	0.213	0.41 U	0.112
cis-1,2-Dichloroethylene	0.40 U	0.0793 U	0.40 U	0.0793 U
cis-1,3-Dichloropropene	0.45 U	0.0908 U	0.45 U	0.0908 U
Cyclohexane	0.34 U	0.0688 U	0.36	0.0688 U
Dibromochloromethane	0.85 U	0.170 U	0.85 U	0.170 U
Dichlorodifluoromethane	2.2	1.34	1.9	1.75
Ethyl Acetate	0.75	0.241	0.36 U	0.0721 U
Ethylbenzene	0.43 U	0.0868 U	0.43 U	0.0868 U
Heptane	0.41 U	0.128 J	0.41 U	0.169 J
Hexane	14 U	0.397	14 U	0.403
Isopropanol	9.8 U	1.23 U	9.8 U	1.23 U
m&p-Xylene	0.87 U	0.223	0.87 U	0.170
MTBE	0.36 U	0.0721 U	0.36 U	0.0721 U
Methylene Chloride	22	0.0695 U	3.8 U	0.0695 U
o-Xylene	0.82	0.0868 U	0.43 U	0.0868 U
Propene	6.9 U	0.226	6.9 U	0.290
Styrene	0.43 U	0.147	0.43 U	0.128
Tetrachloroethylene	3.8	14.3	1.5	1.26
Tetrahydrofuran	0.29 U	0.296	0.29 U	0.272 J
Toluene	0.51	0.401	0.38 U	0.342
trans-1,2-Dichloroethylene	0.40 U	0.0793 U	0.40 U	0.0793 U
trans-1,3-Dichloropropene	0.45 U	0.0908 U	0.45 U	0.0908 U
Trichloroethylene	0.54 U	0.107 U	0.54 U	0.107 U
Trichlorofluoromethane	1.4	1.72	1.2	1.46
Vinyl Acetate	7.0 UJ	0.0704 U	7.0 UJ	0.0704 U
Vinyl Chloride	0.26 U	0.0511 U	0.26 U	0.0511 U

Results for the January 2014 mobilization are to 2 significant figures (sig. fig.), while results for the October 2014 mobilization are to 3 sig. fig.

TABLE 8 (continued)
Comparison of Results for Samples Collected using SUMMA[®] Canisters in µg/m³
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number	219-TB-021	219-TB-023	219-SS-022	219-SS-043
Sampling Event	Jan-14	Oct-14	Jan-14	Oct-14
Location	Trip Blank	Trip Blank	Unit 175	Unit 175
Sub-Location	NA	NA	Basement	Basement
Sample Type	Blank	Blank	Sub-Slab	Sub-Slab
Result Units	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1-Trichloroethane	0.098 U	0.109 U	1.8	780000
1,1,2,2-Tetrachloroethane	0.12 U	0.137 U	0.69 U	6.87 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.27 U	0.153 U	0.77 U	822000
1,1,2-Trichloroethane	0.098 U	0.109 U	0.55 U	5.46 U
1,1-Dichloroethane	0.073 U	0.0809 U	0.40 U	10.8
1,1-Dichloroethylene	0.071 U	0.0793 U	0.40 U	109
1,2,4-Trimethylbenzene	0.17 U	0.0983 U	0.49 U	4.92 U
1,2-Dibromoethane	0.27 U	0.0192 J	0.77 U	7.68 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.24 U	0.140 U	0.70 U	6.99 U
1,2-Dichlorobenzene	0.21 U	0.120 U	0.60 U	6.01 U
1,2-Dichloroethane	0.073 U	0.0809 U	0.40 U	4.05 U
1,2-Dichloropropane	0.16 U	0.0924 U	0.46 U	4.62 U
1,3,5-Trimethylbenzene	0.17 U	0.0983 U	0.49 U	4.92 U
1,3-Butadiene	0.077 U	0.0442 U	0.22 U	2.21 U
1,3-Dichlorobenzene	0.21 U	0.120 U	0.60 U	6.01 U
1,4-Dichlorobenzene	0.21 U	0.120 U	0.60 U	6.01 U
1,4-Dioxane	1.3 U	0.0721 U	3.6 U	3.60 U
2-Butanone (MEK)	4.1 U	0.0590 U	12 U	2.95 U
2-Hexanone (MBK)	0.14 U	0.0819 U	0.47 J	4.10 U
4-Ethyltoluene	0.17 U	0.0983 U	0.49 U	4.92 U
Methyl Isobutyl Ketone	0.14 U	0.0819 UJ	0.41 UJ	4.10 UJ
Acetone	3.3 U	1.19 U	79 J	59.4 U
Benzene	0.11 U	0.0639 U	0.32 U	3.19 U
Bromoform	0.36 U	0.207 U	1.0 U	10.3 U
Bromomethane	0.14 U	0.0777 U	0.39 U	3.88 U
Carbon Tetrachloride	0.11 U	0.126 U	0.63 U	135
Chlorobenzene	0.16 U	0.0921 U	0.46 U	4.60 U
Chloroethane	0.092 U	0.0528 U	0.26 U	2.64 U
Chloroform	0.17 U	0.0977 U	0.78	5.19
Chloromethane	0.14 U	0.0413 U	0.41 U	4.82
cis-1,2-Dichloroethylene	0.071 U	0.0793 U	0.40 U	3.96 U
cis-1,3-Dichloropropene	0.16 U	0.0908 U	0.45 U	4.54 U
Cyclohexane	0.12 U	0.0688 U	0.34 U	3.44 U
Dibromochloromethane	0.15 U	0.170 U	0.85 U	8.52 U
Dichlorodifluoromethane	0.17 U	0.0989 U	7.5	11.0
Ethyl Acetate	0.13 U	0.0721 U	0.36 U	3.60 U
Ethylbenzene	0.15 U	0.0868 U	0.43 U	4.34 U
Heptane	0.14 U	0.0820 UJ	0.41 U	4.10 UJ
Hexane	4.9 U	0.0705 U	14 U	3.52 U
Isopropanol	3.4 U	1.23 U	9.8 U	61.5 U
m&p-Xylene	0.3 U	0.0868 U	0.87 U	4.34 U
MTBE	0.13 U	0.0721 U	0.36 U	3.61 U
Methylene Chloride	1.5	0.0695 U	3.5 U	3.47 U
o-Xylene	0.15 U	0.0868 U	0.63	4.34 U
Propene	2.4 U	0.0344 U	6.9 U	8210
Styrene	0.15 U	0.0852 U	0.43 U	4.26 U
Tetrachloroethylene	0.12 U	0.136 U	0.92	8.56
Tetrahydrofuran	0.1 U	0.0590 U	0.29 U	2.95 U
Toluene	0.13 U	0.0754 U	0.38 U	3.77 U
trans-1,2-Dichloroethylene	0.071 U	0.0793 U	0.40 U	3.96 U
trans-1,3-Dichloropropene	0.16 U	0.0908 U	0.45 U	4.54 U
Trichloroethylene	0.097 U	0.107 U	8.4	5.37 U
Trichlorofluoromethane	0.2 U	0.112 U	3.3	10.8
Vinyl Acetate	2.5 UJ	0.0704 U	7.0 UJ	3.52 U
Vinyl Chloride	0.046 U	0.0511 U	0.26 U	2.56 U

Results for the January 2014 mobilization are to 2 significant figures (sig. fig.), while results for the October 2014 mobilization are to 3 sig. fig.

TABLE 9
Comparison of Results for Samples Collected using Tedlar® Bags in ppbv
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number	219-T-001	53643	219-T-003	53646	219-T-004	53642
Sample Event	Jan-14	Oct-14	Jan-14	Oct-14	Jan-14	Oct-14
Location	Unit 84	Unit 84	Unit 50	Unit 50	Unit 34	Unit 34
Sub-Location	Basement	Basement	Basement	Basement	Basement	Basement
Sample Type	Sub-Slab	Sub-Slab Soil Gas	Sub-Slab	Sub-Slab Soil Gas	Sub-Slab	Sub-Slab Soil Gas
Result Units	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
1,1,1-Trichloroethane	0.50 U	0.51 U	0.50 U	0.51 U	0.50 U	0.51 U
1,1-Dichloroethane	0.51 U	0.52 U	0.51 U	0.52 U	0.51 U	0.52 U
1,1-Dichloroethene	0.51 U	0.50 U	0.51 U	0.50 U	0.51 U	0.50 U
Benzene	0.52 U	0.53 U	0.52 U	0.53 U	0.52 U	0.53 U
Chloroform	0.52 U	0.57	0.71	0.52 U	1.0	0.52 U
cis-1,2-Dichloroethene	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U
Ethyl Benzene	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
m,p-Xylene	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
Methyl Tert Butyl Ether	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
Tetrachloroethene	0.51 U	0.78	0.51 U	0.51 U	1.1	2.6
Toluene	0.52 U	0.52 U	0.52 U	0.56	0.52 U	0.52 U
trans-1,2-Dichloroethene	0.53 U	0.50 U	0.53 U	0.50 U	0.53 U	0.50 U
Trichloroethene	0.50 U	0.51 U	0.50 U	0.51 U	0.50 U	0.51 U
Vinyl Chloride	0.51 U	5.2 U	0.51 U	5.2 U	0.51 U	5.2 U

Sample Number	219-T-005	53644	219-T-006	53645	219-T-008	53638
Sample Event	Jan-14	Oct-14	Jan-14	Oct-14	Jan-14	Oct-14
Location	Unit 70	Unit 70	Unit 175	Unit 175	V15	V15
Sub-Location	Basement	Basement	Basement	Basement	Newkirk Street	Newkirk Street
Sample Type	Sub-Slab	Sub-Slab Soil Gas	Sub-Slab	Sub-Slab Soil Gas	Soil Gas	Soil Gas
Result Units	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
1,1,1-Trichloroethane	0.50 U	0.51 U	0.50 U	230000 D	0.50 U	0.51
1,1-Dichloroethane	0.51 U	0.52 U	0.51 U	3.8	0.51 U	0.52 U
1,1-Dichloroethene	0.51 U	0.50 U	0.51 U	49	0.51 U	0.50 U
Benzene	0.52 U	0.53 U	0.52 U	0.53 U	0.52 U	0.53 U
Chloroform	0.52 U	0.52 U	0.52 U	0.90	16	8.5
cis-1,2-Dichloroethene	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U
Ethyl Benzene	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.64
m,p-Xylene	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	1.3
Methyl Tert Butyl Ether	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.81
Tetrachloroethene	0.51 U	0.51 U	0.51 U	1.4	0.51 U	0.53
Toluene	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	1.3
trans-1,2-Dichloroethene	0.53 U	0.50 U	0.53 U	0.50 U	0.53 U	0.50 U
Trichloroethene	0.50 U	0.51 U	2.7	0.89	0.50 U	0.51 U
Vinyl Chloride	0.51 U	5.2 U	0.51 U	5.2 U	0.51 U	5.2 U

Comparisons are presented from locations sampled during both the January 2014 and September-October 2014 events. Locations that were sampled during only one event are not included in Table 9.

TABLE 9 (continued)
Comparison of Results for Samples Collected using Tedlar® Bags in ppbv
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

Sample Number	219-T-009	53633	219-T-007	219-T-012	53631
Sample Event	Jan-14	Oct-14	Jan-14	Jan-14	Oct-14
Location	V14	V14	V12	V12	V12
Sub-Location	Ernst Street	Ernst Street	Ernst Street	Ernst Street	Ernst Street
Sample Type	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Result Units	ppbv	ppbv	ppbv	ppbv	ppbv
1,1,1-Trichloroethane	0.50 U	0.51 U	0.50 U	0.50 U	0.51 U
1,1-Dichloroethane	0.51 U	0.52 U	0.51 U	0.51 U	0.52 U
1,1-Dichloroethene	0.51 U	0.50 U	0.51 U	0.51 U	0.50 U
Benzene	0.52 U	0.53 U	0.52 U	0.52 U	0.53 U
Chloroform	0.52 U	1.2	5.0	4.8	3.3
cis-1,2-Dichloroethene	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U
Ethyl Benzene	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
m,p-Xylene	0.52 U	0.52	0.52 U	0.52 U	0.52 U
Methyl Tert Butyl Ether	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
Tetrachloroethene	0.99	1.6	1.8	1.7	7.6
Toluene	0.52 U	0.85	0.52 U	0.52 U	0.56
trans-1,2-Dichloroethene	0.53 U	0.50 U	0.53 U	0.53 U	0.50 U
Trichloroethene	0.50 U	0.51 U	0.50 U	0.50 U	0.51 U
Vinyl Chloride	0.51 U	5.2 U	0.51 U	0.51 U	5.2 U

Sample Number	219-T-013	53636	219-T-014	53635	219-T-015	53634
Sample Event	Jan-14	Oct-14	Jan-14	Oct-14	Jan-14	Oct-14
Location	V06	V06	V01	V01	V02	V02
Sub-Location	Porter Street	Porter Street	28th Street	28th Street	28th Street	28th Street
Sample Type	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Result Units	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
1,1,1-Trichloroethane	0.50 U	0.64	0.73	2.8	0.50 U	0.51 U
1,1-Dichloroethane	0.51 U	0.52 U	0.51 U	0.52 U	0.51 U	0.52 U
1,1-Dichloroethene	0.51 U	0.50 U	0.51 U	0.50 U	0.51 U	0.50 U
Benzene	0.52 U	0.53 U	0.52 U	0.53 U	0.52 U	0.50 J
Chloroform	8.9	30	0.52	2.9	2.0	0.52 U
cis-1,2-Dichloroethene	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U
Ethyl Benzene	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
m,p-Xylene	0.52 U	0.96	0.52 U	0.52 U	0.52 U	1.0
Methyl Tert Butyl Ether	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
Tetrachloroethene	0.51 U	0.59	1.6	3.1	1.7	0.56
Toluene	0.52 U	0.70	0.52 U	0.59	0.52 U	1.5
trans-1,2-Dichloroethene	0.53 U	0.50 U	0.53 U	0.50 U	0.53 U	0.50 U
Trichloroethene	0.50 U	0.51 U	0.50 U	0.51 U	0.50 U	0.51 U
Vinyl Chloride	0.51 U	5.2 U	0.51 U	5.2 U	0.51 U	5.2 U

Comparisons are presented from locations sampled during both the January 2014 and September-October 2014 events. Locations that were sampled during only one event are not included in Table 9.

TABLE 10
TAGA Target Compound Summary for Unit 116 and Unit 84 Survey
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

TAGA Target Compound Summary for Unit 116 and Unit 84 Survey									
File: 93MSMS359 Acquired on 01 October 2014 at 11:58:34									
		Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
Detection Limits - DL:		0.15	0.12	0.14	59	3.0	2.1	5.5	0.83
Quantitation Limits - QL:		0.51	0.41	0.47	200	9.9	7.1	18	2.8
Flags	Description	Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
A - B	Pre-entry ambient	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	1.2J
D - E	Bar	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	0.99J
F - G	Men's room	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	0.91J
H - I	Women's room	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	0.83J
J - K	Kitchen/pantry	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	1.0J
M - N	Basement room one	DL=0.15	DL=0.12	DL=0.14	DL=59	4.8J	DL=2.1	DL=5.5	2.4J
O - P	Basement room two	DL=0.15	DL=0.12	DL=0.14	DL=59	4.0J	DL=2.1	DL=5.5	1.7J
R - S	Dining room	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	DL=0.83
U - V	Post-exit ambient	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	DL=0.83
W - X	30 mL/min spike	6.6	6.4	7.1	DL=59	8.0J	7.5	9.0J	12

Concentrations are given in parts per billion by volume

TABLE 11
TAGA Target Compound Summary for Unit 116 and Unit 84 Investigation
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

TAGA Target Compound Summary for Unit 116 and Unit 84 Investigation									
File: 93MSMS360 Acquired on 01 October 2014 at 12:28:06									
		Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
Detection Limits - DL:		0.15	0.12	0.14	59	3.0	2.1	5.5	0.83
Quantitation Limits - QL:		0.51	0.41	0.47	200	9.9	7.1	18	2.8
Flags	Description	Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
A - B	Pre-entry ambient	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	DL=0.83
E - F	Basement room one	DL=0.15	DL=0.12	DL=0.14	DL=59	8.1J	DL=2.1	DL=5.5	3.1
G - H	Crawl space	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	DL=0.83
I - J	Basement room one	DL=0.15	DL=0.12	DL=0.14	DL=59	3.2J	DL=2.1	DL=5.5	1.5J
M - N	Post-exit ambient	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	DL=0.83
O - P	30 mL/min spike	6.3	6.3	6.8	DL=59	7.1J	6.3J	7.6J	11

Concentrations are given in parts per billion by volume

TABLE 12
TAGA Target Compound Summary for Unit 50 Survey
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

TAGA Target Compound Summary for Unit 50 Survey									
File: 93MSMS361 Acquired on 01 October 2014 at 12:52:53									
		Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
Detection Limits - DL:		0.15	0.12	0.14	59	3.0	2.1	5.5	0.83
Quantitation Limits - QL:		0.51	0.41	0.47	200	9.9	7.1	18	2.8
Flags	Description	Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
A - B	Pre-entry ambient	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	DL=0.83
D - E	Room one (under construction)	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	7.2J	7.9
G - H	Basement	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	5.9J	7.2
I - J	Sump	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	7.9J	9.7
K - L	Pipe through the floor	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	6.0J	5.8
O - P	Post-exit ambient	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	DL=0.83
Q - R	30 mL/min spike	6.5	6.3	6.8	DL=59	7.7 J	6.4	7.8	11

Concentrations are given in parts per billion by volume

TABLE 13
TAGA Target Compound Summary for Unit 70 Survey
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

TAGA Target Compound Summary for Unit 70 Survey									
File: 93MSMS362 Acquired on 01 October 2014 at 13:29:48									
		Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
Detection Limits - DL:		0.15	0.12	0.14	59	3.0	2.1	5.5	0.83
Quantitation Limits - QL:		0.51	0.41	0.47	200	9.9	7.1	18	2.8
Flags	Description	Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
A - B	Pre-entry ambient	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	DL=0.83
D - E	Living room/kitchen	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	1.7J
G - H	Basement	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	1.4J
K - L	Post-exit ambient	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	1.2J
M - N	30 mL/min spike	6.9	6.9	7.5	DL=59	7.7J	7.7	8.4J	12

Concentrations are given in parts per billion by volume

TABLE 14
TAGA Target Compound Summary for Unit 70 Investigation
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

TAGA Target Compound Summary for Unit 70 Investigation File: 93MSMS363 Acquired on 01 October 2014 at 13:48:33									
		Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
Detection Limits - DL:		0.15	0.12	0.14	59	3.0	2.1	5.5	0.83
Quantitation Limits - QL:		0.51	0.41	0.47	200	9.9	7.1	18	2.8
Flags	Description	Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
A - B	Pre-entry ambient	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	DL=0.83
D - E	Kitchen	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	1.5J
F - G	Cold water running in sink	DL=0.15	DL=0.12	DL=0.14	DL=59	19	DL=2.1	DL=5.5	1.4J
H - I	Hot water and cold water running in sink	DL=0.15	DL=0.12	DL=0.14	DL=59	23	DL=2.1	DL=5.5	1.2J
J - K	Cold water running in sink	DL=0.15	DL=0.12	DL=0.14	DL=59	15	DL=2.1	DL=5.5	1.4J
M - N	Post-exit ambient	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	8.2J	DL=0.83
O - P	30 mL/min spike	6.7	6.6	7.0	DL=59	8.1J	7.2	12.J	11

Concentrations are given in parts per billion by volume

TABLE 15
TAGA Target Compound Summary for Unit 34 Survey
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

TAGA Target Compound Summary for Unit 34 Survey									
File: 93MSMS364 Acquired on 01 October 2014 at 14:08:31									
		Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
Detection Limits - DL:		0.15	0.12	0.14	59	3.0	2.1	5.5	0.83
Quantitation Limits - QL:		0.51	0.41	0.47	200	9.9	7.1	18	2.8
Flags	Description	Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
A - B	Pre-entry ambient	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	DL=0.83
D - E	Living room/dining room	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	DL=0.83
F - G	Kitchen	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	DL=0.83
I - J	Front basement	0.20J	DL=0.12	DL=0.14	DL=59	3.9J	4.6J	DL=5.5	7.4
K - L	Back basement	0.20J	DL=0.12	DL=0.14	DL=59	4.0J	4.6J	DL=5.5	7.3
O - P	Post-exit ambient	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	DL=0.83
Q - R	30 mL/min spike	6.5	6.4	6.7	DL=59	7.3J	6.9J	6.9J	10

Concentrations are given in parts per billion by volume

TABLE 16
TAGA Target Compound Summary for Unit 34 Investigation
Passyunk Soil Gas Site
Philadelphia, PA
February 2018

TAGA Target Compound Summary for Unit 34 Investigation File: 93MSMS365 Acquired on 01 October 2014 at 14:30:00									
		Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
Detection Limits - DL:		0.15	0.12	0.14	59	3.0	2.1	5.5	0.83
Quantitation Limits - QL:		0.51	0.41	0.47	200	9.9	7.1	18	2.8
Flags	Description	Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
A - B	Pre-entry ambient	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	DL=0.83
D - E	Kitchen	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	DL=0.83
F - G	Cold water running in sink	DL=0.15	DL=0.12	DL=0.14	DL=59	4.5J	DL=2.1	DL=5.5	DL=0.83
H - I	Hot water and cold water running in sink	DL=0.15	DL=0.12	DL=0.14	DL=59	5.0J	DL=2.1	DL=5.5	DL=0.83
J - K	Cold water running in sink	DL=0.15	DL=0.12	DL=0.14	DL=59	4.5J	DL=2.1	DL=5.5	DL=0.83
M - N	Post-exit ambient	DL=0.15	DL=0.12	DL=0.14	DL=59	DL=3.0	DL=2.1	DL=5.5	DL=0.83
O - P	30 mL/min spike	6.4	6.2	6.3	DL=59	6.5J	6.3J	7.1J	10

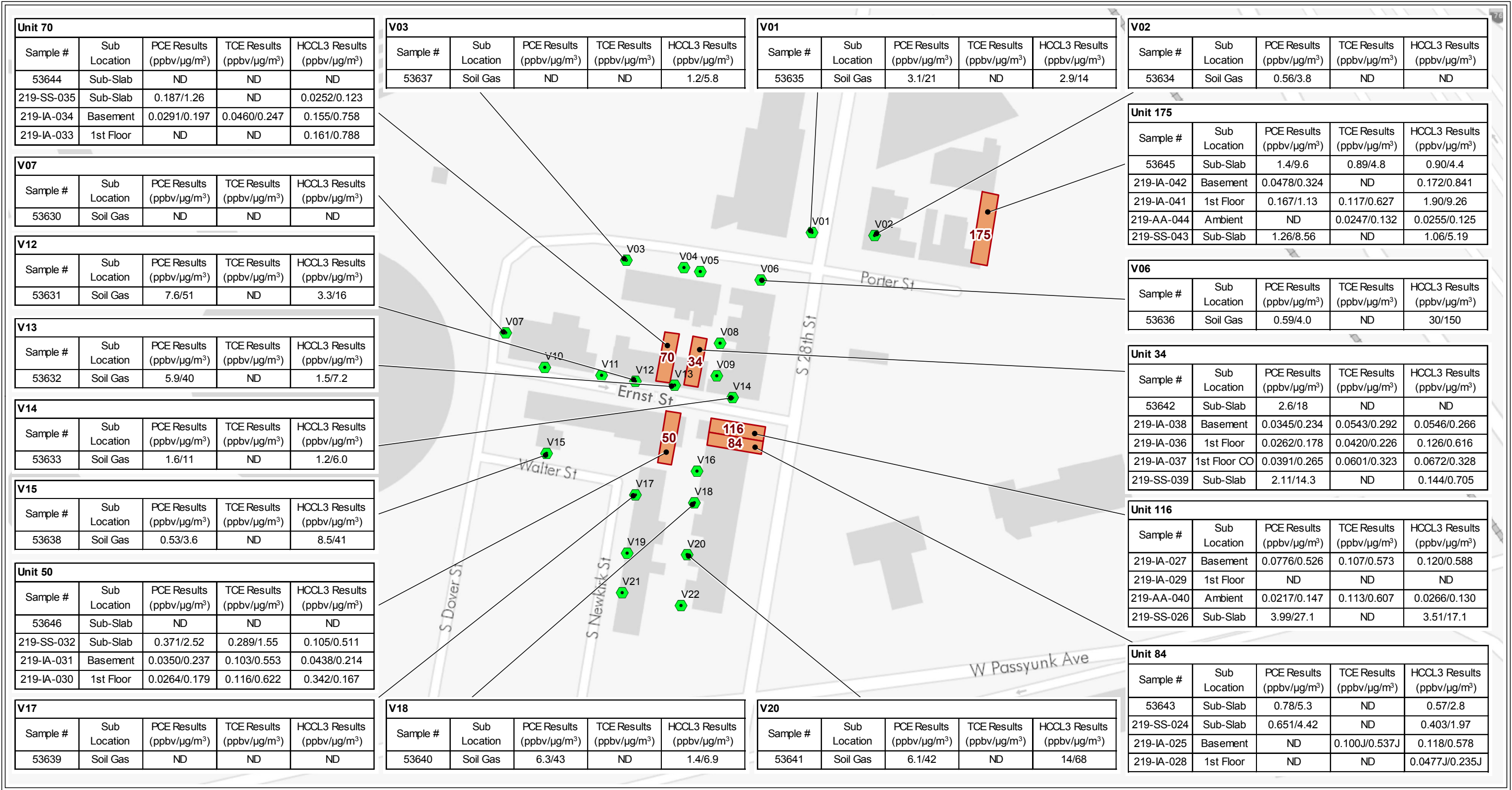
Concentrations are given in parts per billion by volume

TABLE 17
TAGA Target Compound Summary for Unit 175 Survey
Passyunk Soil Gas Site
Philadelphia, PA
February 2018


TAGA Target Compound Summary for Unit 175 Survey									
File: 93MSMS367 Acquired on 01 October 2014 at 16:20:39									
		Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
Detection Limits - DL:		0.15	0.073	0.12	38	3.0	2.2	4.3	0.46
Quantitation Limits - QL:		0.49	0.24	0.41	130	10	7.3	14	1.5
Flags	Description	Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
A - B	Pre-entry ambient	DL=0.15	DL=0.073	DL=0.12	DL=38	DL=3.0	DL=2.2	DL=4.3	DL=0.46
D - E	Living room/dining room	DL=0.15	DL=0.073	0.32J	50.J	4.6J	DL=2.2	4.6J	1.2J
F - G	Kitchen	DL=0.15	DL=0.073	0.30J	DL=38	5.3J	DL=2.2	4.7J	1.2J
I - J	Basement	0.39J	0.075J	3.5	DL=38	DL=3.0	DL=2.2	DL=4.3	0.60J
K - L	Floor drain	0.46J	0.076J	3.5	DL=38	DL=3.0	DL=2.2	DL=4.3	0.55J
M - N	Hole one	0.45J	0.11J	3.7	DL=38	DL=3.0	DL=2.2	DL=4.3	DL=0.46
Q - R	Post-exit ambient	DL=0.15	DL=0.073	DL=0.12	DL=38	DL=3.0	DL=2.2	DL=4.3	DL=0.46
S - T	30 mL/min spike	5.7	6.2	6.3	DL=38	7.0J	6.9J	9.2J	10


Concentrations are given in parts per billion by volume

FIGURES



Legend

 Soil Vapor Well

 Sampled Units

$\mu\text{g}/\text{m}^3$ micrograms per cubic meter

ppbv parts per billion by volume

TCE Trichloroethene

PCE Tetrachloroethene


HCCL3 Chloroform

ND Not Detected

J Estimated

050100200300400

Feet



U.S. EPA Environmental Response Team
Scientific, Engineering, Response and Analytical Services
EP-W-09-031
W.A.# 0-219

Figure 1
Map of Tetrachloroethene, Trichloroethene and Chloroform
Tedlar Bag and SUMMA Canister Results
Passyunk Soil Gas Site
Philadelphia, Pennsylvania

APPENDIX A

Field Sampling Worksheets for September-October 2014 Mobilization

Passyunk Soil Gas Site

Final Report

February 2018



EPA/Environmental Response Team
Scientific Engineering Response and Analytical Services Contract
Tedlar Bag Sampling Work Sheet
Lockheed Martin Corp., Edison, NJ
U.S. EPA Contract No. EP-W-09-031



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Site: Passyunk
Sampler: CS/BW
Date: 9/29/14

WA#: 219
U.S. EPA/ERT WAM: Mickunas
SERAS Task Leader: Steffensen

Sample #	53630	53631	53632	53633	53634
Location	V07	V12	V13	V14	V02
Start/Stop Time	1054	1136	1149	1210	1242
Media	Tedlar				
Analysis/Method	GC/MS Loop				
Well Depth					
Sample Volume	1L				
MET Station on Site?: Y / <input checked="" type="radio"/> N					

25 mL purged from outdoor soil gas ports prior to sampling

V10 - valve broke

V12 - water in first Tedlar sample.



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 U.S. EPA Contract No. EP-W-09-031

Site: PassyunkWA#: 219Sampler: CS/BWU.S. EPA/ERT WAM: MickunasDate: 9/29/14SERAS Task Leader: Steffensen

Sample #	53635	53636	53637	53638	53639
Location	V01	V04	V03	V15	V17
Start/Stop Time	1252	1442	1535	1547	
Media	Tedlar →				
Analysis/Method	GC/MS 1004 →				
Well Depth					
Sample Volume	1L →				
MET Station on Site?: Y / <input checked="" type="radio"/> N					

25-mL air purged before sampling each well

V04 - valve broken



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Tedlar Bag Sampling Work Sheet
Lockheed Martin Corp., Edison, NJ
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Site: Passyunk
Sampler: CS/BW
Date: 9/29/14

WA#: 219
U.S. EPA/ERT WAM: ~~MS~~ Mickunas
SERAS Task Leader: Steffensen

Sample #	53640	53641			
Location	<u>V18</u>	<u>V20</u>			
Start/Stop Time	<u>1629</u>	<u>1642</u>			
Media	<u>Tedlar</u>				
Analysis/Method	<u>GC/MS Loop</u>				
Well Depth					
Sample Volume	<u>1L</u>				
MET Station on Site?: Y <input checked="" type="radio"/> N					



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Site: Passyunk

Sampler: CS/BW

Date: 9/30/14

WA#: 219

U.S. EPA/ERT WAM: Mickunas

SERAS Task Leader: Steffensen

Sample #	53642	53643	53644	53645	53646
Location	Unit 34	Unit 84	Unit 70	Unit 175	Unit 50
Start/Stop Time	1105 0955	0947	1120	1206	1514
Media	Tedlar				
Analysis/Method	GC/MS loop				
Well Depth					
Sample Volume	1L				
MET Station on Site?: Y / <u>(N)</u>					

- First sample from Unit 34 leaked. 2nd sample collected.
- Unit 50 - Original port covered with concrete. Installed new port.



EPA/Environmental Response Team
Scientific, Engineering, Response and Analytical Services
Lockheed Martin Corp., Edison, NJ
U.S. EPA Contract No. EP-W-09-031



Air Sampling Work Sheet

Site: Passyunk

WA# 219

Sampler: CS

U.S. EPA/ERT WAM: Mickunas

Date: 10/1 - 10/2/14

SERAS Task Leader: Steffensen

Sample #	219-TB-023	219-SS-024	219-1A-025	219-SS-026	219-1A-027
Location	Blank	Unit 84	Unit 84	Unit 116	Unit 116
Sub-Location	TB	SS	Basement 1A	SS	Basement 1A
Summa #	192	247	200	241	139
Orifice ID	—	13952	14032	13996	13989
Start Pressure	-29	-29	-29	-29	-29
NIST Gauge S/N	CP150107	→			
Flow Rate (Start)	—	3.5	3.6	3.8	3.9
Flow meter	Agilent	→			
Analysis/Method	T0-15	→			
Time/Counter (Start)	1200	1200	1201	1205	1203
Time/Counter (Stop)		1122	1122	1122	1122
Total Time					
End Pressure		-2	-5	-8	-1
NIST Gauge S/N	CP150107	→			

MET Station on Site?: Y (N)



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Air Sampling Work Sheet

Site: Passyunk

WA# 219

Sampler: CS

U.S. EPA/ERT WAM: Mickunas

Date: 10/1 - 10/2/14

SERAS Task Leader: Steffensen

Sample #	219-1A-028	219-1A-029	219-1A-030	219-1A-031	219-SS-032
Location	Unit 84	Unit 116	Unit 50	Unit 50	Unit 50
Sub-Location	1 st Floor 1A	1 st Floor 1A	1 st Floor 1A	Basement 1A	SS
Summa #	98	10	195	246	66
Orifice ID	13983	13936	13933	13926	13988
Start Pressure	-29	-29	-29	-29	-29
NIST Gauge S/N	CP150107				
Flow Rate (Start)	3.6	3.2	3.6	3.6	3.4
Flow meter	Agilent				
Analysis/Method	TO-15				
Time/Counter (Start)	1208	1208	1303	1307	1307
Time/Counter (Stop)	1120	1119	1301	1302	1302
Total Time					
End Pressure	-3	-8	-2	-1	-4
NIST Gauge S/N	CP150107				

MET Station on Site?: Y / ☒ N



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Air Sampling Work Sheet

Site: Passyunk

WA# 219

Sampler: CS

U.S. EPA/ERT WAM: Mickunas

Date: 10/1 - 10/2/14

SERAS Task Leader: Steffensen

Sample #	219-1A-033	219-1A-034	219-SS-035	219-1A-036	219-1A-037
Location	Unit 70	Unit 70	Unit 70	Unit 34	Unit 34
Sub-Location	1 st Floor 1A	Basement 1A	SS	1 st Floor 1A	1 st Flr 1A Dup
Summa #	181	14247	55	135	209
Orifice ID	13985	13913	14001	14000	14019
Start Pressure	-29	-29	-29	-29	-29
NIST Gauge S/N	CP150107				
Flow Rate (Start)	3.2	3.7	3.8	3.2	3.4
Flow meter	Agilent				
Analysis/Method	TO-15				
Time/Counter (Start)	1335	1336	1337	1440	1440
Time/Counter (Stop)	1313	1314	1314	1402	1402
Total Time					
End Pressure	-5	-1	0	-5	-2
NIST Gauge S/N	CP150107				

MET Station on Site?: Y / ☒ N



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Air Sampling Work Sheet

Site: Passyunk

WA# 219

Sampler: CS

U.S. EPA/ERT WAM: Mickunas

Date: 10/1 - 10/2/14

SERAS Task Leader: Steffensen

Sample #	219-1A-038	219-SS-039	219-AA-040	219-1A-041	219-1A-042
Location	Unit 34	Unit 34	Ernst St	Unit 175	Unit 175
Sub-Location	Basement 1A	SS	Ambient	1st Floor 1A	Basement 1A
Summa #	163	258	53	14242	230
Orifice ID	13997	14051	13763	13922	14047
Start Pressure	-29	-29	-29	-29	-29
NIST Gauge S/N	CP150107				
Flow Rate (Start)	3.2	3.0	3.4	3.4	3.2
Flow meter	Agilent				
Analysis/Method	TO-15				
Time/Counter (Start)	1442	1444	1446	1634	1640
Time/Counter (Stop)	1403	1403	1412	1603	1606
Total Time					
End Pressure	-2	-8	-3	-3	-6
NIST Gauge S/N					

MET Station on Site?: Y ☒ N

Combo lock 4200



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Air Sampling Work Sheet

Site: Passyunk

WA# 219

Sampler: CS

U.S. EPA/ERT WAM: Mickunas

Date: 10/1-10/2/14

SERAS Task Leader: Steffensen

Sample #	219-SS-043	219-AA-044			
Location	Unit 175	Unit 175			
Sub-Location	SS	Ambient			
Summa #	13	95			
Orifice ID	13956	14028			
Start Pressure	-29	-29			
NIST Gauge S/N	CP150107				
Flow Rate (Start)	3.4	3.4			
Flow meter	Agilent				
Analysis/Method	TO-15				
Time/Counter (Start)	1640	1637			
Time/Counter (Stop)	1606	1604			
Total Time					
End Pressure	-3	-4			
NIST Gauge S/N					

MET Station on Site?: Y ☒ N

219-SS-043 likely has high conc of 111-TCA

APPENDIX B

Individual Table of Results per Unit Sampled during the September-October 2014 Mobilization

Passyunk Soil Gas Site

Final Report

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Table 1. Unit 116
Summary of Air Sampling Results

Analyte	CAS Number	Sub-slab ($\mu\text{g}/\text{m}^3$)	Indoor Air Result ($\mu\text{g}/\text{m}^3$)		Ambient Air Unit 116 (Ernst Street) ($\mu\text{g}/\text{m}^3$)	Ambient Air Unit 175 ($\mu\text{g}/\text{m}^3$)
			Basement	First Floor		
1,1,1-Trichloroethane	71-55-6	0.337	0.109 U	32.6	0.109 U	0.137
1,1,2,2-Tetrachloroethane	79-34-5	0.137 U	0.137 U	0.687 U	0.137 U	0.137 U
1,1,2-Trichloroethane	79-00-5	0.109 U	0.109 U	0.546 U	0.109 U	0.109 U
1,1-Dichloroethane	75-34-3	0.0809 U	0.0809 U	0.405 U	0.0809 U	0.0809 U
1,1-Dichloroethylene	75-35-4	0.0793 U	0.0793 U	0.396 U	0.0793 U	0.0793 U
1,2,4-Trimethylbenzene	95-63-6	0.721	0.918	0.746	0.544	0.428
1,2-Dibromoethane	106-93-4	0.154 U	0.154 U	0.768 U	0.154 U	0.154 U
1,2-Dichlorobenzene	95-50-1	0.120 U	0.120 U	0.601 U	0.120 U	0.120 U
1,2-Dichloroethane	107-06-2	0.0809 U	0.107	0.405 U	0.0809 U	0.0809 U
1,2-Dichloropropane	78-87-5	0.0924 U	0.0924 U	0.462 U	0.0924 U	0.0924 U
1,3,5-Trimethylbenzene	108-67-8	0.172	0.298	0.492 U	0.171	0.134
1,3-Butadiene	106-99-0	0.0442 U	0.0442 U	0.221 U	0.0442 U	0.0442 U
1,3-Dichlorobenzene	541-73-1	0.120 U	0.120 U	0.601 U	0.120 U	0.120 U
1,4-Dichlorobenzene	106-46-7	0.479	1.31	0.601 U	0.120 U	0.120 U
1,4-Dioxane	123-91-1	0.0721 U	0.0721 U	0.360 U	0.0721 U	0.0721 U
2-Butanone (MEK)	78-93-3	1.40	1.08	1.27	1.09	0.770
2-Hexanone (MBK)	591-78-6	0.278	0.0819 U	0.410 U	0.0819 U	0.0819 U
Acetone	67-64-1	20.6	1.19 U	14.5	13.4	11.0
Benzene	71-43-2	0.266	0.591	0.542	0.519	0.395
Bromoform	75-25-2	0.207 U	0.207 U	1.03 U	0.207 U	0.207 U
Bromomethane	74-83-9	0.0777 U	0.0777 U	0.388 U	0.0777 U	0.0777 U
Carbon Tetrachloride	56-23-5	0.197	0.442	0.629 U	0.435	0.436
Chlorobenzene	108-90-7	0.0921 U	0.0921 U	0.460 U	0.0921 U	0.0921 U
Chloroethane	75-00-3	0.0528 U	0.0528 U	0.264 U	0.0528 U	0.0528 U
Chloroform	67-66-3	17.1	0.588	0.488 U	0.130	0.125
Chloromethane	74-87-3	0.688	1.03	0.935	1.03	1.03
cis-1,2-Dichloroethylene	156-59-2	0.0793 U	0.0793 U	0.396 U	0.0793 U	0.0793 U
cis-1,3-Dichloropropene	1006-01-5	0.0908 U	0.0908 U	0.454 U	0.0908 U	0.0908 U
Cyclohexane	110-82-7	0.175	0.594	0.344 U	0.132	0.0955
Dibromochloromethane	124-48-1	0.170 U	0.168 J	0.852 U	0.170 U	0.170 U

Table 1. Unit 116
Summary of Air Sampling Results

Analyte	CAS Number	Sub-slab ($\mu\text{g}/\text{m}^3$)	Indoor Air Result ($\mu\text{g}/\text{m}^3$)		Ambient Air Unit 116 (Ernst Street) ($\mu\text{g}/\text{m}^3$)	Ambient Air Unit 175 ($\mu\text{g}/\text{m}^3$)
			Basement	First Floor		
Dichlorodifluoromethane	75-71-8	1.24	0.0989 U	2.18	1.11	1.12
Dichlorotetrafluoroethane	76-14-2	0.140 U	0.140 U	0.699 U	0.140 U	0.140 U
Ethyl Acetate	141-78-6	0.438	0.0721 U	0.964	0.678	0.559
Ethylbenzene	100-41-4	0.480	1.11	0.434 U	0.274	0.237
Heptane	142-82-5	0.293 J	0.340 J	0.410 UJ	0.327 J	0.272 J
Hexane	110-54-3	0.919	1.52	1.16	1.10	0.688
Isopropanol	67-63-0	1.23 U	1.23 U	6.15 U	1.59	1.23 U
m&p-Xylene	108-38-3	1.35	3.66	1.32	0.913	0.746
Methyl Isobutyl Ketone	108-10-1	1.74 J	0.890 J	0.410 UJ	0.142 J	0.606 J
Methylene Chloride	75-09-2	4.67	19.2	3.66	0.348	0.404
MTBE	1634-04-4	0.0721 U	0.0721 U	0.361 U	0.0721 U	0.0721 U
o-Xylene	95-47-6	0.530	0.868	0.487	0.363	0.304
p-Ethyltoluene	622-96-8	0.161	0.223	0.492 U	0.137	0.110
Propene	115-07-1	8.95	65.3	5.85	1.15	0.938
Styrene	100-42-5	0.319	1.28	0.426 U	0.255	0.281
Tetrachloroethylene	127-18-4	27.1	0.526	0.678 U	0.147	0.136 U
Tetrahydrofuran	109-99-9	0.534	0.277	0.468	0.350	0.172
Toluene	108-88-3	1.24	2.60	1.92	1.37	1.17
trans-1,2-Dichloroethylene	156-60-5	0.0793 U	0.0793 U	0.396 U	0.0793 U	0.0793 U
trans-1,3-Dichloropropene	10061-02-6	0.0908 U	0.0908 U	0.454 U	0.0908 U	0.0908 U
Trichloroethylene	79-01-6	0.107 U	0.573	0.537 U	0.607	0.132
Trichlorofluoromethane	75-69-4	1.80	1.45	1.44	1.36	1.54
Trichlorotrifluoroethane	76-13-1	0.729	0.602	33.7	0.636	0.676
Vinyl Acetate	108-05-4	0.0704 U	0.0704 U	0.352 U	0.830	0.0704 U
Vinyl Chloride	75-01-4	0.0511 U	0.0511 U	0.256 U	0.0511 U	0.0511 U

U - Not detected

J - Concentration is estimated

$\mu\text{g}/\text{m}^3$ - micrograms per cubic meter

Table 2. Unit 116
Comparison of Indoor Air Results to EPA Risk Ranges*

Analyte	CAS Number	Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Non-Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Residential Indoor Air Result ($\mu\text{g}/\text{m}^3$)		
		10^{-4}	10^{-6}	HI 1	HI 3	Basement	First Floor	
1,1,1-Trichloroethane	71-55-6	--	--	5200	15600	0.109 U	32.6	
1,1,2,2-Tetrachloroethane	79-34-5	0.48	0.0048	42	126	0.137 U	0.687	U
1,1,2-Trichloroethane	79-00-5	18	0.18	0.21	0.63	0.109 U	0.546	U
1,1-Dichloroethane	75-34-3	180	1.8	--	--	0.0809 U	0.405	U
1,1-Dichloroethylene	75-35-4	--	--	210	630	0.0793 U	0.396	U
1,2,4-Trimethylbenzene	95-63-6	--	--	7.3	21.9	0.918	0.746	
1,2-Dibromoethane	106-93-4	0.47	0.0047	9.4	28.2	0.154 U	0.768	U
1,2-Dichlorobenzene	95-50-1	--	--	210	630	0.120 U	0.601	U
1,2-Dichloroethane	107-06-2	11	0.11	7.3	21.9	0.107	0.405	U
1,2-Dichloropropane	78-87-5	28	0.28	4.2	12.6	0.0924 U	0.462	U
1,3,5-Trimethylbenzene	108-67-8	--	--	--	--	0.298	0.492	U
1,3-Butadiene	106-99-0	9.4	0.094	2.1	6.3	0.0442 U	0.221	U
1,3-Dichlorobenzene	541-73-1	--	--	--	--	0.120 U	0.601	U
1,4-Dichlorobenzene	106-46-7	26	0.26	830	2490	1.31	0.601	U
1,4-Dioxane	123-91-1	56	0.56	31	93	0.0721 U	0.360	U
2-Butanone (MEK)	78-93-3	--	--	--	--	1.08	1.27	
2-Hexanone (MBK)	591-78-6	--	--	31	93	0.0819 U	0.410	U
Acetone	67-64-1	--	--	32000	96000	1.19 U	14.5	
Benzene	71-43-2	36	0.36	31	93	0.591	0.542	
Bromoform	75-25-2	260	2.6	--	--	0.207 U	1.03	U
Bromomethane	74-83-9	--	--	5.2	15.6	0.0777 U	0.388	U
Carbon Tetrachloride	56-23-5	47	0.47	100	300	0.442	0.629	U
Chlorobenzene	108-90-7	--	--	52	156	0.0921 U	0.460	U
Chloroethane	75-00-3	--	--	10000	30000	0.0528 U	0.264	U
Chloroform	67-66-3	12	0.12	100	300	0.588	0.488	U
Chloromethane	74-87-3	--	--	94	282	1.03	0.935	
cis-1,2-Dichloroethylene	156-59-2	--	--	--	--	0.0793 U	0.396	U
cis-1,3-Dichloropropene	1006-01-5	--	--	--	--	0.0908 U	0.454	U
Cyclohexane	110-82-7	--	--	6300	18900	0.594	0.344	U
Dibromochloromethane	124-48-1	10	0.1	--	--	0.168 J	0.852	U
Dichlorodifluoromethane	75-71-8	--	--	100	300	0.0989 U	2.18	

Table 2. Unit 116
Comparison of Indoor Air Results to EPA Risk Ranges*

Analyte	CAS Number	Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Non-Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Residential Indoor Air Result ($\mu\text{g}/\text{m}^3$)	
		10^{-4}	10^{-6}	HI 1	HI 3	Basement	First Floor
Dichlorotetrafluoroethane	76-14-2	--	--	--	--	0.140 U	0.699 U
Ethyl Acetate	141-78-6	--	--	73	219	0.0721 U	0.964
Ethylbenzene	100-41-4	110	1.1	1000	3000	1.11	0.434 U
Heptane	142-82-5	--	--	--	--	0.340 J	0.410 UJ
Hexane	110-54-3	--	--	730	2190	1.52	1.16
Isopropanol	67-63-0	--	--	7300	21900	1.23 U	6.15 U
m&p-Xylene	108-38-3	--	--	100	300	3.66	1.32
Methyl Isobutyl Ketone	108-10-1	--	--	3100	9300	0.890 J	0.410 UJ
Methylene Chloride	75-09-2	1000	100	630	1890	19.2	3.66
MTBE	1634-04-4	1100	11	3100	9300	0.0721 U	0.361 U
o-Xylene	95-47-6	--	--	100	300	0.868	0.487
p-Ethyltoluene	622-96-8	--	--	--	--	0.223	0.492 U
Propene	115-07-1	--	--	3100	9300	65.3	5.85
Styrene	100-42-5	--	--	1000	3000	1.28	0.426 U
Tetrachloroethylene	127-18-4	1100	11	42	126	0.526	0.678 U
Tetrahydrofuran	109-99-9	--	--	2100	6300	0.277	0.468
Toluene	108-88-3	--	--	5200	15600	2.60	1.92
trans-1,2-Dichloroethene	156-60-5	--	--	--	--	0.0793 U	0.396 U
trans-1,3-Dichloropropene	10061-02-6	--	--	--	--	0.0908 U	0.454 U
Trichloroethylene	79-01-6	48	0.48	2.1	6.3	0.573	0.537 U
Trichlorofluoromethane	75-69-4	--	--	7300	21900	1.45	1.44
Trichlorotrifluoroethane	76-13-1	--	--	31000	93000	0.602	33.7
Vinyl Acetate	108-05-4	--	--	210	630	0.0704 U	0.352 U
Vinyl Chloride	75-01-4	17	0.17	100	300	0.0511 U	0.256 U

U - Not detected

J - Concentration is estimated

$\mu\text{g}/\text{m}^3$ - micrograms per cubic meter

HI - Hazard Index

*Risk ranges are derived from the EPA Regional Screening Levels Summary Table, November 2013

http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/docs/resair_sl_table_run_MAY2014.pdf

Table 1. Unit 84
Summary of Air Sampling Results

Analyte	CAS Number	Sub-slab ($\mu\text{g}/\text{m}^3$)	Indoor Air Result ($\mu\text{g}/\text{m}^3$)		Ambient Air Unit 116 (Ernst Street) ($\mu\text{g}/\text{m}^3$)	Ambient Air Unit 175 ($\mu\text{g}/\text{m}^3$)
			Basement	First Floor		
1,1,1-Trichloroethane	71-55-6	0.109 U	0.546 U	0.546 U	0.109 U	0.137
1,1,2,2-Tetrachloroethane	79-34-5	0.137 U	0.687 U	0.687 U	0.137 U	0.137 U
1,1,2-Trichloroethane	79-00-5	0.109 U	0.546 U	0.546 U	0.109 U	0.109 U
1,1-Dichloroethane	75-34-3	0.0809 U	0.405 U	0.405 U	0.0809 U	0.0809 U
1,1-Dichloroethylene	75-35-4	0.0793 U	0.396 U	0.396 U	0.0793 U	0.0793 U
1,2,4-Trimethylbenzene	95-63-6	0.263	0.901	0.770	0.544	0.428
1,2-Dibromoethane	106-93-4	0.154 U	0.768 U	0.768 U	0.154 U	0.154 U
1,2-Dichlorobenzene	95-50-1	0.120 U	0.601 U	0.601 U	0.120 U	0.120 U
1,2-Dichloroethane	107-06-2	0.0809 U	0.405 U	0.405 U	0.0809 U	0.0809 U
1,2-Dichloropropane	78-87-5	0.0924 U	0.462 U	0.462 U	0.0924 U	0.0924 U
1,3,5-Trimethylbenzene	108-67-8	0.0983 U	0.492 U	0.492 U	0.171	0.134
1,3-Butadiene	106-99-0	0.0442 U	0.221 U	0.221 U	0.0442 U	0.0442 U
1,3-Dichlorobenzene	541-73-1	0.120 U	0.601 U	0.601 U	0.120 U	0.120 U
1,4-Dichlorobenzene	106-46-7	0.120 U	1.20	0.370 J	0.120 U	0.120 U
1,4-Dioxane	123-91-1	0.232	0.360 U	0.360 U	0.0721 U	0.0721 U
2-Butanone (MEK)	78-93-3	2.64	2.98	1.98	1.09	0.770
2-Hexanone (MBK)	591-78-6	2.97	0.410 U	0.410 U	0.0819 U	0.0819 U
Acetone	67-64-1	15.6	27.0	15.9	13.4	11.0
Benzene	71-43-2	0.0835	0.567	0.547	0.519	0.395
Bromoform	75-25-2	0.207 U	1.03 U	1.03 U	0.207 U	0.207 U
Bromomethane	74-83-9	0.0777 U	0.388 U	0.388 U	0.0777 U	0.0777 U
Carbon Tetrachloride	56-23-5	0.446	0.429 J	0.0843 J	0.435	0.436
Chlorobenzene	108-90-7	0.0921 U	0.460 U	0.460 U	0.0921 U	0.0921 U
Chloroethane	75-00-3	0.0528 U	0.264 U	0.264 U	0.0528 U	0.0528 U
Chloroform	67-66-3	1.97	0.578	0.235 J	0.130	0.125
Chloromethane	74-87-3	0.558	0.544	0.981	1.03	1.03
cis-1,2-Dichloroethylene	156-59-2	0.0793 U	0.396 U	0.396 U	0.0793 U	0.0793 U
cis-1,3-Dichloropropene	1006-01-5	0.0908 U	0.454 U	0.454 U	0.0908 U	0.0908 U
Cyclohexane	110-82-7	0.0688 U	0.344 U	0.344 U	0.132	0.0955
Dibromochloromethane	124-48-1	0.170 U	0.852 U	0.852 U	0.170 U	0.170 U

Table 1. Unit 84
Summary of Air Sampling Results

Analyte	CAS Number	Sub-slab ($\mu\text{g}/\text{m}^3$)	Indoor Air Result ($\mu\text{g}/\text{m}^3$)		Ambient Air Unit 116 (Ernst Street) ($\mu\text{g}/\text{m}^3$)	Ambient Air Unit 175 ($\mu\text{g}/\text{m}^3$)
			Basement	First Floor		
Dichlorodifluoromethane	75-71-8	1.47	2.02	2.19	1.11	1.12
Dichlorotetrafluoroethane	76-14-2	0.140 U	0.699 U	0.699 U	0.140 U	0.140 U
Ethyl Acetate	141-78-6	0.289	0.360 U	1.03	0.678	0.559
Ethylbenzene	100-41-4	0.140	1.46	0.459	0.274	0.237
Heptane	142-82-5	0.0820 UJ	0.410 UJ	0.410 UJ	0.327 J	0.272 J
Hexane	110-54-3	0.547	1.63	1.20	1.10	0.688
Isopropanol	67-63-0	1.23 U	6.15 U	6.15 U	1.59	1.23 U
m&p-Xylene	108-38-3	0.273	4.97	1.59	0.913	0.746
Methyl Isobutyl Ketone	108-10-1	0.240 J	1.49 J	0.571 J	0.142 J	0.606 J
Methylene Chloride	75-09-2	506	35.6	7.88	0.348	0.404
MTBE	1634-04-4	0.0721 U	0.361 U	0.361 U	0.0721 U	0.0721 U
o-Xylene	95-47-6	0.123	0.999	0.532	0.363	0.304
p-Ethyltoluene	622-96-8	0.0983 U	0.492 U	0.492 U	0.137	0.110
Propene	115-07-1	3.99	34.2	7.20	1.15	0.938
Styrene	100-42-5	0.159	1.43	0.910	0.255	0.281
Tetrachloroethylene	127-18-4	4.42	0.678 U	0.678 U	0.147	0.136 U
Tetrahydrofuran	109-99-9	0.458	1.43	0.415	0.350	0.172
Toluene	108-88-3	0.582	2.90	1.81	1.37	1.17
trans-1,2-Dichloroethene	156-60-5	0.0793 U	0.396 U	0.396 U	0.0793 U	0.0793 U
trans-1,3-Dichloropropene	10061-02-6	0.0908 U	0.454 U	0.454 U	0.0908 U	0.0908 U
Trichloroethylene	79-01-6	0.107 U	0.537 J	0.537 U	0.607	0.132
Trichlorofluoromethane	75-69-4	1.45	1.51	1.54	1.36	1.54
Trichlorotrifluoroethane	76-13-1	0.709	0.766 U	0.766 U	0.636	0.676
Vinyl Acetate	108-05-4	0.0704 U	0.352 U	0.352 U	0.830	0.0704 U
Vinyl Chloride	75-01-4	0.0511 U	0.256 U	0.256 U	0.0511 U	0.0511 U

U - Not detected

J - Concentration is estimated

$\mu\text{g}/\text{m}^3$ - micrograms per cubic meter

Table 2. Unit 84
Comparison of Indoor Air Results to EPA Risk Ranges*

Analyte	CAS Number	Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Non-Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Residential Indoor Air Result ($\mu\text{g}/\text{m}^3$)			
		10^{-4}	10^{-6}	HI 1	HI 3	Basement		First Floor	
1,1,1-Trichloroethane	71-55-6	--	--	5200	15600	0.546	U	0.546	U
1,1,2,2-Tetrachloroethane	79-34-5	0.48	0.0048	42	126	0.687	U	0.687	U
1,1,2-Trichloroethane	79-00-5	18	0.18	0.21	0.63	0.546	U	0.546	U
1,1-Dichloroethane	75-34-3	180	1.8	--	--	0.405	U	0.405	U
1,1-Dichloroethylene	75-35-4	--	--	210	630	0.396	U	0.396	U
1,2,4-Trimethylbenzene	95-63-6	--	--	7.3	21.9	0.901		0.770	
1,2-Dibromoethane	106-93-4	0.47	0.0047	9.4	28.2	0.768	U	0.768	U
1,2-Dichlorobenzene	95-50-1	--	--	210	630	0.601	U	0.601	U
1,2-Dichloroethane	107-06-2	11	0.11	7.3	21.9	0.405	U	0.405	U
1,2-Dichloropropane	78-87-5	28	0.28	4.2	12.6	0.462	U	0.462	U
1,3,5-Trimethylbenzene	108-67-8	--	--	--	--	0.492	U	0.492	U
1,3-Butadiene	106-99-0	9.4	0.094	2.1	6.3	0.221	U	0.221	U
1,3-Dichlorobenzene	541-73-1	--	--	--	--	0.601	U	0.601	U
1,4-Dichlorobenzene	106-46-7	26	0.26	830	2490	1.20		0.370	J
1,4-Dioxane	123-91-1	56	0.56	31	93	0.360	U	0.360	U
2-Butanone (MEK)	78-93-3	--	--	--	--	2.98		1.98	
2-Hexanone (MBK)	591-78-6	--	--	31	93	0.410	U	0.410	U
Acetone	67-64-1	--	--	32000	96000	27.0		15.9	
Benzene	71-43-2	36	0.36	31	93	0.567		0.547	
Bromoform	75-25-2	260	2.6	--	--	1.03	U	1.03	U
Bromomethane	74-83-9	--	--	5.2	15.6	0.388	U	0.388	U
Carbon Tetrachloride	56-23-5	47	0.47	100	300	0.429	J	0.0843	J
Chlorobenzene	108-90-7	--	--	52	156	0.460	U	0.460	U
Chloroethane	75-00-3	--	--	10000	30000	0.264	U	0.264	U
Chloroform	67-66-3	12	0.12	100	300	0.578		0.235	J
Chloromethane	74-87-3	--	--	94	282	0.544		0.981	
cis-1,2-Dichloroethylene	156-59-2	--	--	--	--	0.396	U	0.396	U
cis-1,3-Dichloropropene	1006-01-5	--	--	--	--	0.454	U	0.454	U
Cyclohexane	110-82-7	--	--	6300	18900	0.344	U	0.344	U
Dibromochloromethane	124-48-1	10	0.1	--	--	0.852	U	0.852	U
Dichlorodifluoromethane	75-71-8	--	--	100	300	2.02		2.19	

Table 2. Unit 84
Comparison of Indoor Air Results to EPA Risk Ranges*

Analyte	CAS Number	Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Non-Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Residential Indoor Air Result ($\mu\text{g}/\text{m}^3$)	
		10^{-4}	10^{-6}	HI 1	HI 3	Basement	First Floor
Dichlorotetrafluoroethane	76-14-2	--	--	--	--	0.699 U	0.699 U
Ethyl Acetate	141-78-6	--	--	73	219	0.360 U	1.03
Ethylbenzene	100-41-4	110	1.1	1000	3000	1.46	0.459
Heptane	142-82-5	--	--	--	--	0.410 UJ	0.410 UJ
Hexane	110-54-3	--	--	730	2190	1.63	1.20
Isopropanol	67-63-0	--	--	7300	21900	6.15 U	6.15 U
m&p-Xylene	108-38-3	--	--	100	300	4.97	1.59
Methyl Isobutyl Ketone	108-10-1	--	--	3100	9300	1.49 J	0.571 J
Methylene Chloride	75-09-2	1000	100	630	1890	35.6	7.88
MTBE	1634-04-4	1100	11	3100	9300	0.361 U	0.361 U
o-Xylene	95-47-6	--	--	100	300	0.999	0.532
p-Ethyltoluene	622-96-8	--	--	--	--	0.492 U	0.492 U
Propene	115-07-1	--	--	3100	9300	34.2	7.20
Styrene	100-42-5	--	--	1000	3000	1.43	0.910
Tetrachloroethylene	127-18-4	1100	11	42	126	0.678 U	0.678 U
Tetrahydrofuran	109-99-9	--	--	2100	6300	1.43	0.415
Toluene	108-88-3	--	--	5200	15600	2.90	1.81
trans-1,2-Dichloroethylene	156-60-5	--	--	--	--	0.396 U	0.396 U
trans-1,3-Dichloropropene	10061-02-6	--	--	--	--	0.454 U	0.454 U
Trichloroethylene	79-01-6	48	0.48	2.1	6.3	0.537 J	0.537 U
Trichlorofluoromethane	75-69-4	--	--	7300	21900	1.51	1.54
Trichlorotrifluoroethane	76-13-1	--	--	31000	93000	0.766 U	0.766 U
Vinyl Acetate	108-05-4	--	--	210	630	0.352 U	0.352 U
Vinyl Chloride	75-01-4	17	0.17	100	300	0.256 U	0.256 U

U - Not detected

J - Concentration is estimated

$\mu\text{g}/\text{m}^3$ - micrograms per cubic meter

HI - Hazard Index

*Risk ranges are derived from the EPA Regional Screening Levels Summary Table, November 2013

http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/docs/resair_sl_table_run_MAY2014.pdf

Table 1. Unit 50
Summary of Air Sampling Results

Analyte	CAS Number	Sub-slab ($\mu\text{g}/\text{m}^3$)	Indoor Air Result ($\mu\text{g}/\text{m}^3$)		Ambient Air Unit 116 (Ernst Street) ($\mu\text{g}/\text{m}^3$)	Ambient Air Unit 175 ($\mu\text{g}/\text{m}^3$)
			Basement	First Floor		
1,1,1-Trichloroethane	71-55-6	0.109 U	0.109 U	0.109 U	0.109 U	0.137
1,1,2,2-Tetrachloroethane	79-34-5	0.137 U	0.137 U	0.137 U	0.137 U	0.137 U
1,1,2-Trichloroethane	79-00-5	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U
1,1-Dichloroethane	75-34-3	0.0809 U	0.0809 U	0.0809 U	0.0809 U	0.0809 U
1,1-Dichloroethylene	75-35-4	0.0793 U	0.0793 U	0.0793 U	0.0793 U	0.0793 U
1,2,4-Trimethylbenzene	95-63-6	1.84	8.66	4.86	0.544	0.428
1,2-Dibromoethane	106-93-4	0.154 U	0.154 U	0.154 U	0.154 U	0.154 U
1,2-Dichlorobenzene	95-50-1	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U
1,2-Dichloroethane	107-06-2	0.0809 U	0.167	0.114	0.0809 U	0.0809 U
1,2-Dichloropropane	78-87-5	0.0924 U	0.0924 U	0.0924 U	0.0924 U	0.0924 U
1,3,5-Trimethylbenzene	108-67-8	0.709	3.38	1.80	0.171	0.134
1,3-Butadiene	106-99-0	0.0442 U	0.0442 U	0.0442 U	0.0442 U	0.0442 U
1,3-Dichlorobenzene	541-73-1	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U
1,4-Dichlorobenzene	106-46-7	0.120 U	0.378	0.241	0.120 U	0.120 U
1,4-Dioxane	123-91-1	0.0721 U	0.0721 U	0.0721 U	0.0721 U	0.0721 U
2-Butanone (MEK)	78-93-3	2.82	16.0	0.0590 U	1.09	0.770
2-Hexanone (MBK)	591-78-6	0.285	0.0819 U	0.0819 U	0.0819 U	0.0819 U
Acetone	67-64-1	13.7	260	7.92	13.4	11.0
Benzene	71-43-2	0.426	1.37	0.941	0.519	0.395
Bromoform	75-25-2	0.207 U	0.207 U	0.207 U	0.207 U	0.207 U
Bromomethane	74-83-9	0.0777 U	0.0777 U	0.0777 U	0.0777 U	0.0777 U
Carbon Tetrachloride	56-23-5	0.442	0.428	0.466	0.435	0.436
Chlorobenzene	108-90-7	0.0921 U	0.0921 U	0.0921 U	0.0921 U	0.0921 U
Chloroethane	75-00-3	0.0528 U	0.0528 U	0.0528 U	0.053 U	0.053 U
Chloroform	67-66-3	0.511	0.214	0.167	0.130	0.125
Chloromethane	74-87-3	0.109	0.805	0.806	1.03	1.03
cis-1,2-Dichloroethylene	156-59-2	0.0793 U	0.0793 U	0.0793 U	0.0793 U	0.0793 U
cis-1,3-Dichloropropene	1006-01-5	0.0908 U	0.0908 U	0.0908 U	0.0908 U	0.0908 U
Cyclohexane	110-82-7	0.460	3.06	1.45	0.132	0.0955
Dibromochloromethane	124-48-1	0.170 U	0.170 U	0.170 UJ	0.170 U	0.170 U

Table 1. Unit 50
Summary of Air Sampling Results

Analyte	CAS Number	Sub-slab ($\mu\text{g}/\text{m}^3$)	Indoor Air Result ($\mu\text{g}/\text{m}^3$)		Ambient Air Unit 116 (Ernst Street) ($\mu\text{g}/\text{m}^3$)	Ambient Air Unit 175 ($\mu\text{g}/\text{m}^3$)
			Basement	First Floor		
Dichlorodifluoromethane	75-71-8	1.66	1.07	1.04	1.11	1.12
Dichlorotetrafluoroethane	76-14-2	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U
Ethyl Acetate	141-78-6	0.426	2.15	0.0721 U	0.678	0.559
Ethylbenzene	100-41-4	0.488	3.95	2.07	0.274	0.237
Heptane	142-82-5	0.519 J	4.16 J	1.81 J	0.327 J	0.272 J
Hexane	110-54-3	1.07	6.55	3.65	1.10	0.688
Isopropanol	67-63-0	1.23 U	1.23 U	1.23 U	1.59	1.23 U
m&p-Xylene	108-38-3	1.55	14.3	7.80	0.913	0.746
Methyl Isobutyl Ketone	108-10-1	0.731 J	0.146 J	0.0819 UJ	0.142 J	0.606 J
Methylene Chloride	75-09-2	0.200	4.62	1.96	0.348	0.404
MTBE	1634-04-4	0.0721 U	0.0721 U	0.0721 U	0.0721 U	0.0721 U
o-Xylene	95-47-6	1.98	6.20	3.27	0.363	0.304
p-Ethyltoluene	622-96-8	0.399	1.58	0.952	0.137	0.110
Propene	115-07-1	3.91	12.3	5.88	1.15	0.938
Styrene	100-42-5	0.344	0.740	0.567	0.255	0.281
Tetrachloroethylene	127-18-4	2.52	0.237	0.179	0.147	0.136 U
Tetrahydrofuran	109-99-9	4.72	245	8.29	0.350	0.172
Toluene	108-88-3	1.55	13.0	7.83	1.37	1.17
trans-1,2-Dichloroethylene	156-60-5	0.0793 U	0.0793 U	0.0793 U	0.0793 U	0.0793 U
trans-1,3-Dichloropropene	10061-02-6	0.0908 U	0.0908 U	0.0908 U	0.0908 U	0.0908 U
Trichloroethylene	79-01-6	1.55	0.553	0.622	0.607	0.132
Trichlorofluoromethane	75-69-4	2.30	1.74	1.50	1.36	1.54
Trichlorotrifluoroethane	76-13-1	0.689	0.588	0.546	0.636	0.676
Vinyl Acetate	108-05-4	0.0704 U	0.0704 U	0.0704 U	0.830	0.0704 U
Vinyl Chloride	75-01-4	0.0511 U	0.0511 U	0.0511 U	0.0511 U	0.0511 U

U - Not detected

J - Concentration is estimated

$\mu\text{g}/\text{m}^3$ - micrograms per cubic meter

Table 2. Unit 50
Comparison of Indoor Air Results to EPA Risk Ranges*

Analyte	CAS Number	Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Non-Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Residential Indoor Air Result ($\mu\text{g}/\text{m}^3$)	
		10^{-4}	10^{-6}	HI 1	HI 3	Basement	First Floor
1,1,1-Trichloroethane	71-55-6	--	--	5200	15600	0.109 U	0.109 U
1,1,2,2-Tetrachloroethane	79-34-5	0.48	0.0048	42	126	0.137 U	0.137 U
1,1,2-Trichloroethane	79-00-5	18	0.18	0.21	0.63	0.109 U	0.109 U
1,1-Dichloroethane	75-34-3	180	1.8	--	--	0.0809 U	0.0809 U
1,1-Dichloroethylene	75-35-4	--	--	210	630	0.0793 U	0.0793 U
1,2,4-Trimethylbenzene	95-63-6	--	--	7.3	21.9	8.66	4.86
1,2-Dibromoethane	106-93-4	0.47	0.0047	9.4	28.2	0.154 U	0.154 U
1,2-Dichlorobenzene	95-50-1	--	--	210	630	0.120 U	0.120 U
1,2-Dichloroethane	107-06-2	11	0.11	7.3	21.9	0.167	0.114
1,2-Dichloropropane	78-87-5	28	0.28	4.2	12.6	0.0924 U	0.0924 U
1,3,5-Trimethylbenzene	108-67-8	--	--	--	--	3.38	1.80
1,3-Butadiene	106-99-0	9.4	0.094	2.1	6.3	0.0442 U	0.0442 U
1,3-Dichlorobenzene	541-73-1	--	--	--	--	0.120 U	0.120 U
1,4-Dichlorobenzene	106-46-7	26	0.26	830	2490	0.378	0.241
1,4-Dioxane	123-91-1	56	0.56	31	93	0.0721 U	0.0721 U
2-Butanone (MEK)	78-93-3	--	--	--	--	16.0	0.0590 U
2-Hexanone (MBK)	591-78-6	--	--	31	93	0.0819 U	0.0819 U
Acetone	67-64-1	--	--	32000	96000	260	7.92
Benzene	71-43-2	36	0.36	31	93	1.37	0.941
Bromoform	75-25-2	260	2.6	--	--	0.207 U	0.207 U
Bromomethane	74-83-9	--	--	5.2	15.6	0.0777 U	0.0777 U
Carbon Tetrachloride	56-23-5	47	0.47	100	300	0.428	0.466
Chlorobenzene	108-90-7	--	--	52	156	0.0921 U	0.0921 U
Chloroethane	75-00-3	--	--	10000	30000	0.0528 U	0.0528 U
Chloroform	67-66-3	12	0.12	100	300	0.214	0.167
Chloromethane	74-87-3	--	--	94	282	0.805	0.806
cis-1,2-Dichloroethylene	156-59-2	--	--	--	--	0.0793 U	0.0793 U
cis-1,3-Dichloropropene	1006-01-5	--	--	--	--	0.0908 U	0.0908 U
Cyclohexane	110-82-7	--	--	6300	18900	3.06	1.45
Dibromochloromethane	124-48-1	10	0.1	--	--	0.170 U	0.170 UJ
Dichlorodifluoromethane	75-71-8	--	--	100	300	1.07	1.04

Table 2. Unit 50
Comparison of Indoor Air Results to EPA Risk Ranges*

Analyte	CAS Number	Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Non-Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Residential Indoor Air Result ($\mu\text{g}/\text{m}^3$)	
		10^{-4}	10^{-6}	HI 1	HI 3	Basement	First Floor
Dichlorotetrafluoroethane	76-14-2	--	--	--	--	0.140 U	0.140 U
Ethyl Acetate	141-78-6	--	--	73	219	2.15	0.0721 U
Ethylbenzene	100-41-4	110	1.1	1000	3000	3.95	2.07
Heptane	142-82-5	--	--	--	--	4.16 J	1.81 J
Hexane	110-54-3	--	--	730	2190	6.55	3.65
Isopropanol	67-63-0	--	--	7300	21900	1.23 U	1.23 U
m&p-Xylene	108-38-3	--	--	100	300	14.3	7.80
Methyl Isobutyl Ketone	108-10-1	--	--	3100	9300	0.146 J	0.0819 UJ
Methylene Chloride	75-09-2	1000	100	630	1890	4.62	1.96
MTBE	1634-04-4	1100	11	3100	9300	0.0721 U	0.0721 U
o-Xylene	95-47-6	--	--	100	300	6.20	3.27
p-Ethyltoluene	622-96-8	--	--	--	--	1.58	0.952
Propene	115-07-1	--	--	3100	9300	12.3	5.88
Styrene	100-42-5	--	--	1000	3000	0.740	0.567
Tetrachloroethylene	127-18-4	1100	11	42	126	0.237	0.179
Tetrahydrofuran	109-99-9	--	--	2100	6300	245	8.29
Toluene	108-88-3	--	--	5200	15600	13.0	7.83
trans-1,2-Dichloroethylene	156-60-5	--	--	--	--	0.0793 U	0.0793 U
trans-1,3-Dichloropropene	10061-02-6	--	--	--	--	0.0908 U	0.0908 U
Trichloroethylene	79-01-6	48	0.48	2.1	6.3	0.553	0.622
Trichlorofluoromethane	75-69-4	--	--	7300	21900	1.74	1.50
Trichlorotrifluoroethane	76-13-1	--	--	31000	93000	0.588	0.546
Vinyl Acetate	108-05-4	--	--	210	630	0.0704 U	0.0704 U
Vinyl Chloride	75-01-4	17	0.17	100	300	0.0511 U	0.0511 U

U - Not detected

J - Concentration is estimated

$\mu\text{g}/\text{m}^3$ - micrograms per cubic meter

HI - Hazard Index

*Risk ranges are derived from the EPA Regional Screening Levels Summary Table, November 2013

http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/docs/resair_sl_table_run_MAY2014.pdf

Table 1. Unit 34
Summary of Air Sampling Results

Analyte	CAS Number	Sub-slab ($\mu\text{g}/\text{m}^3$)	Indoor Air Result ($\mu\text{g}/\text{m}^3$)			Ambient Air Unit 116 (Ernst Street) ($\mu\text{g}/\text{m}^3$)	Ambient Air Unit 175 ($\mu\text{g}/\text{m}^3$)
			Basement	First Floor	First Floor (Duplicate)		
1,1,1-Trichloroethane	71-55-6	1.49	0.109 U	0.109 U	0.109 U	0.109 U	0.137
1,1,2,2-Tetrachloroethane	79-34-5	0.137 U	0.137 U	0.137 U	0.137 U	0.137 U	0.137 U
1,1,2-Trichloroethane	79-00-5	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U
1,1-Dichloroethane	75-34-3	0.0809 U	0.0809 U	0.0809 U	0.0809 U	0.0809 U	0.0809 U
1,1-Dichloroethylene	75-35-4	0.0793 U	0.0793 U	0.0793 U	0.0793 U	0.0793 U	0.0793 U
1,2,4-Trimethylbenzene	95-63-6	0.285	0.690	0.954	0.770	0.544	0.428
1,2-Dibromoethane	106-93-4	0.154 U	0.154 U	0.154 U	0.154 U	0.154 U	0.154 U
1,2-Dichlorobenzene	95-50-1	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U
1,2-Dichloroethane	107-06-2	0.0809 U	0.0809 U	1.29	0.0867	0.0809 U	0.0809 U
1,2-Dichloropropane	78-87-5	0.0924 U	0.0924 U	0.0924 U	0.0924 U	0.0924 U	0.0924 U
1,3,5-Trimethylbenzene	108-67-8	0.098 U	0.210	0.260	0.238	0.171	0.134
1,3-Butadiene	106-99-0	0.0442 U	0.0442 U	0.0442 U	0.0442 U	0.0442 U	0.0442 U
1,3-Dichlorobenzene	541-73-1	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U
1,4-Dichlorobenzene	106-46-7	0.120 U	0.177	2.65	0.192	0.120 U	0.120 U
1,4-Dioxane	123-91-1	0.0721 U	0.0721 U	0.0721 U	0.0721 U	0.072 U	0.0721 U
2-Butanone (MEK)	78-93-3	1.04	0.840	1.90	0.805	1.09	0.770
2-Hexanone (MBK)	591-78-6	0.348	0.0819 U	0.103	0.0819 U	0.0819 U	0.0819 U
Acetone	67-64-1	9.71	17.7	32.2	17.6	13.4	11.0
Benzene	71-43-2	0.116	0.606	1.14	0.676	0.519	0.395
Bromoform	75-25-2	0.207 U	0.207 U	0.207 U	0.207 U	0.207 U	0.207 U
Bromomethane	74-83-9	0.0777 U	0.0777 U	0.0777 U	0.0777 U	0.0777 U	0.0777 U
Carbon Tetrachloride	56-23-5	0.636	0.417	0.415	0.463	0.435	0.436
Chlorobenzene	108-90-7	0.0921 U	0.0921 U	0.0921 U	0.0921 U	0.0921 U	0.0921 U
Chloroethane	75-00-3	0.0528 U	0.0528 U	0.0528 U	0.0528 U	0.0528 U	0.0528 U
Chloroform	67-66-3	0.705	0.266	0.616	0.328	0.130	0.125
Chloromethane	74-87-3	0.213	0.940	1.14	1.15	1.03	1.03
cis-1,2-Dichloroethylene	156-59-2	0.0793 U	0.0793 U	0.0793 U	0.0793 U	0.0793 U	0.0793 U
cis-1,3-Dichloropropene	1006-01-5	0.0908 U	0.0908 U	0.0908 U	0.0908 U	0.0908 U	0.0908 U
Cyclohexane	110-82-7	0.0688 U	0.133	0.184	0.157	0.132	0.0955
Dibromochloromethane	124-48-1	0.170 U	0.0579 J	0.173	0.0656 J	0.170 U	0.170 U

Table 1. Unit 34
Summary of Air Sampling Results

Analyte	CAS Number	Sub-slab ($\mu\text{g}/\text{m}^3$)	Indoor Air Result ($\mu\text{g}/\text{m}^3$)			Ambient Air Unit 116 (Ernst Street) ($\mu\text{g}/\text{m}^3$)	Ambient Air Unit 175 ($\mu\text{g}/\text{m}^3$)
			Basement	First Floor	First Floor (Duplicate)		
Dichlorodifluoromethane	75-71-8	1.34	1.19	1.04	1.35	1.11	1.12
Dichlorotetrafluoroethane	76-14-2	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U
Ethyl Acetate	141-78-6	0.241	9.61	0.717	10.3	0.678	0.559
Ethylbenzene	100-41-4	0.0868 U	0.508	0.720	0.569	0.274	0.237
Heptane	142-82-5	0.128 J	0.465 J	0.475 J	0.521 J	0.327 J	0.272 J
Hexane	110-54-3	0.397	0.815	1.02	0.927	1.10	0.688
Isopropanol	67-63-0	1.23 U	2.43	1.73	2.73	1.23 U	0.855
m&p-Xylene	108-38-3	0.223	1.39	1.86	1.54	0.913	0.746
Methyl Isobutyl Ketone	108-10-1	2.35 J	18.4 J	0.459 J	18.2 J	0.142 J	0.606 J
Methylene Chloride	75-09-2	0.0695 U	0.791	0.983	0.779	0.348	0.404
MTBE	1634-04-4	0.0721 U	0.0721 U	0.0721 U	0.0721 U	0.0721 U	0.0721 U
o-Xylene	95-47-6	0.0868 U	0.574	0.752	0.638	0.363	0.304
p-Ethyltoluene	622-96-8	0.0983 U	0.153	0.217	0.170	0.137	0.110
Propene	115-07-1	0.226	1.30	19.5	1.45	1.15	0.938
Styrene	100-42-5	0.147	0.279	1.21	0.324	0.255	0.281
Tetrachloroethylene	127-18-4	14.3	0.234	0.178	0.265	0.147	0.136 U
Tetrahydrofuran	109-99-9	0.296	0.315	0.411	0.342	0.350	0.172
Toluene	108-88-3	0.401	1.54	3.96	1.75	1.37	1.17
trans-1,2-Dichloroethylene	156-60-5	0.0793 U	0.0793 U	0.0793 U	0.0793 U	0.0793 U	0.0793 U
trans-1,3-Dichloropropene	10061-02-6	0.0908 U	0.0908 U	0.0908 U	0.0908 U	0.0908 U	0.0908 U
Trichloroethylene	79-01-6	0.107 U	0.292	0.226	0.323	0.607	0.132
Trichlorofluoromethane	75-69-4	1.72	1.36	1.17	1.47	1.36	1.54
Trichlorotrifluoroethane	76-13-1	0.677	0.618	0.540	0.698	0.636	0.676
Vinyl Acetate	108-05-4	0.0704 U	0.0704 U	0.0704 U	0.0704 U	0.830	0.0704 U
Vinyl Chloride	75-01-4	0.0511 U	0.0511 U	0.0511 U	0.0511 U	0.0511 U	0.0511 U

U - Not detected

J - Concentration is estimated

$\mu\text{g}/\text{m}^3$ - micrograms per cubic meter

Table 2. Unit 34
Comparison of Indoor Air Results to EPA Risk Ranges*

Analyte	CAS Number	Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Non-Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Residential Indoor Air Result ($\mu\text{g}/\text{m}^3$)		
		10^{-4}	10^{-6}	HI 1	HI 3	Basement	First Floor	(Duplicate)
1,1,1-Trichloroethane	71-55-6	--	--	5200	15600	0.109 U	0.109 U	0.109 U
1,1,2,2-Tetrachloroethane	79-34-5	0.48	0.0048	42	126	0.137 U	0.137 U	0.137 U
1,1,2-Trichloroethane	79-00-5	18	0.18	0.21	0.63	0.109 U	0.109 U	0.109 U
1,1-Dichloroethane	75-34-3	180	1.8	--	--	0.0809 U	0.0809 U	0.0809 U
1,1-Dichloroethylene	75-35-4	--	--	210	630	0.0793 U	0.0793 U	0.0793 U
1,2,4-Trimethylbenzene	95-63-6	--	--	7.3	21.9	0.690	0.954	0.770
1,2-Dibromoethane	106-93-4	0.47	0.0047	9.4	28.2	0.154 U	0.154 U	0.154 U
1,2-Dichlorobenzene	95-50-1	--	--	210	630	0.120 U	0.120 U	0.120 U
1,2-Dichloroethane	107-06-2	11	0.11	7.3	21.9	0.0809 U	1.29	0.0867
1,2-Dichloropropane	78-87-5	28	0.28	4.2	12.6	0.0924 U	0.0924 U	0.0924 U
1,3,5-Trimethylbenzene	108-67-8	--	--	--	--	0.210	0.260	0.238
1,3-Butadiene	106-99-0	9.4	0.094	2.1	6.3	0.0442 U	0.0442 U	0.0442 U
1,3-Dichlorobenzene	541-73-1	--	--	--	--	0.120 U	0.120 U	0.120 U
1,4-Dichlorobenzene	106-46-7	26	0.26	830	2490	0.177	2.65	0.192
1,4-Dioxane	123-91-1	56	0.56	31	93	0.0721 U	0.0721 U	0.0721 U
2-Butanone (MEK)	78-93-3	--	--	--	--	0.840	1.90	0.805
2-Hexanone (MBK)	591-78-6	--	--	31	93	0.0819 U	0.103	0.0819 U
Acetone	67-64-1	--	--	32000	96000	17.7	32.2	17.6
Benzene	71-43-2	36	0.36	31	93	0.606	1.14	0.676
Bromoform	75-25-2	260	2.6	--	--	0.207 U	0.207 U	0.207 U
Bromomethane	74-83-9	--	--	5.2	15.6	0.0777 U	0.0777 U	0.0777 U
Carbon Tetrachloride	56-23-5	47	0.47	100	300	0.417	0.415	0.463
Chlorobenzene	108-90-7	--	--	52	156	0.0921 U	0.0921 U	0.0921 U
Chloroethane	75-00-3	--	--	10000	30000	0.0528 U	0.0528 U	0.0528 U
Chloroform	67-66-3	12	0.12	100	300	0.266	0.616	0.328
Chloromethane	74-87-3	--	--	94	282	0.940	1.14	1.15
cis-1,2-Dichloroethylene	156-59-2	--	--	--	--	0.0793 U	0.0793 U	0.0793 U
cis-1,3-Dichloropropene	1006-01-5	--	--	--	--	0.0908 U	0.0908 U	0.0908 U
Cyclohexane	110-82-7	--	--	6300	18900	0.133	0.184	0.157
Dibromochloromethane	124-48-1	10	0.1	--	--	0.0579 J	0.173	0.0656 J
Dichlorodifluoromethane	75-71-8	--	--	100	300	1.19	1.04	1.35

Table 2. Unit 34
Comparison of Indoor Air Results to EPA Risk Ranges*

Analyte	CAS Number	Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Non-Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Residential Indoor Air Result ($\mu\text{g}/\text{m}^3$)		
		10^{-4}	10^{-6}	HI 1	HI 3	Basement	First Floor	(Duplicate)
Dichlorotetrafluoroethane	76-14-2	--	--	--	--	0.140 U	0.140 U	0.140 U
Ethyl Acetate	141-78-6	--	--	73	219	9.61	0.717	10.3
Ethylbenzene	100-41-4	110	1.1	1000	3000	0.508	0.720	0.569
Heptane	142-82-5	--	--	--	--	0.465 J	0.475 J	0.521 J
Hexane	110-54-3	--	--	730	2190	0.815	1.02	0.927
Isopropanol	67-63-0	--	--	7300	21900	2.43	1.73	2.73
m&p-Xylene	108-38-3	--	--	100	300	1.39	1.86	1.54
Methyl Isobutyl Ketone	108-10-1	--	--	3100	9300	18.4 J	0.459 J	18.2 J
Methylene Chloride	75-09-2	1000	100	630	1890	0.791	0.983	0.779
MTBE	1634-04-4	1100	11	3100	9300	0.0721 U	0.0721 U	0.0721 U
o-Xylene	95-47-6	--	--	100	300	0.574	0.752	0.638
p-Ethyltoluene	622-96-8	--	--	--	--	0.153	0.217	0.170
Propene	115-07-1	--	--	3100	9300	1.30	19.5	1.45
Styrene	100-42-5	--	--	1000	3000	0.279	1.21	0.324
Tetrachloroethylene	127-18-4	1100	11	42	126	0.234	0.178	0.265
Tetrahydrofuran	109-99-9	--	--	2100	6300	0.315	0.411	0.342
Toluene	108-88-3	--	--	5200	15600	1.54	3.96	1.75
trans-1,2-Dichloroethylene	156-60-5	--	--	--	--	0.0793 U	0.0793 U	0.0793 U
trans-1,3-Dichloropropene	10061-02-6	--	--	--	--	0.0908 U	0.0908 U	0.0908 U
Trichloroethylene	79-01-6	48	0.48	2.1	6.3	0.292	0.226	0.323
Trichlorofluoromethane	75-69-4	--	--	7300	21900	1.36	1.17	1.47
Trichlorotrifluoroethane	76-13-1	--	--	31000	93000	0.618	0.540	0.698
Vinyl Acetate	108-05-4	--	--	210	630	0.0704 U	0.0704 U	0.0704 U
Vinyl Chloride	75-01-4	17	0.17	100	300	0.0511 U	0.0511 U	0.0511 U

U - Not detected

J - Concentration is estimated

$\mu\text{g}/\text{m}^3$ - micrograms per cubic meter

HI - Hazard Index

*Risk ranges are derived from the EPA Regional Screening Levels Summary Table, November 2013

http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/docs/resair_sl_table_run_MAY2014.pdf

Table 1. Unit 70
Summary of Air Sampling Results

Analyte	CAS Number	Sub-slab ($\mu\text{g}/\text{m}^3$)	Indoor Air Result ($\mu\text{g}/\text{m}^3$)		Ambient Air Unit 116 (Ernst Street) ($\mu\text{g}/\text{m}^3$)	Ambient Air Unit 175 ($\mu\text{g}/\text{m}^3$)
			Basement	First Floor		
1,1,1-Trichloroethane	71-55-6	0.109 U	0.109 U	0.546 U	0.109 U	0.137
1,1,2,2-Tetrachloroethane	79-34-5	0.137 U	0.137 U	0.687 U	0.137 U	0.137 U
1,1,2-Trichloroethane	79-00-5	0.109 U	0.109 U	0.546 U	0.109 U	0.109 U
1,1-Dichloroethane	75-34-3	0.0809 U	0.0809 U	0.405 U	0.0809 U	0.0809 U
1,1-Dichloroethylene	75-35-4	0.0793 U	0.0793 U	0.396 U	0.0793 U	0.0793 U
1,2,4-Trimethylbenzene	95-63-6	0.193	1.04	1.02	0.544	0.428
1,2-Dibromoethane	106-93-4	0.154 U	0.154 U	0.768 U	0.154 U	0.154 U
1,2-Dichlorobenzene	95-50-1	0.120 U	0.120 U	0.601 U	0.120 U	0.120 U
1,2-Dichloroethane	107-06-2	0.0809 U	1.58	1.57	0.0809 U	0.0809 U
1,2-Dichloropropane	78-87-5	0.0924 U	0.0924 U	0.462 U	0.0924 U	0.0924 U
1,3,5-Trimethylbenzene	108-67-8	0.0983 U	0.314	0.492 U	0.171	0.134
1,3-Butadiene	106-99-0	0.0442 U	0.0442 U	0.221 U	0.0442 U	0.0442 U
1,3-Dichlorobenzene	541-73-1	0.120 U	0.120 U	0.601 U	0.120 U	0.120 U
1,4-Dichlorobenzene	106-46-7	0.120 U	2.63	2.75	0.120 U	0.120 U
1,4-Dioxane	123-91-1	0.0721 U	0.0721 U	0.360 U	0.0721 U	0.0721 U
2-Butanone (MEK)	78-93-3	1.08	1.30	2.50	1.09	0.770
2-Hexanone (MBK)	591-78-6	0.134	0.152	0.410 U	0.0819 U	0.0819 U
Acetone	67-64-1	11.0 J	29.7 J	61.3	13.4	11.0
Benzene	71-43-2	0.104	1.09	1.04	0.519	0.395
Bromoform	75-25-2	0.207 U	0.207 U	1.03 U	0.207 U	0.207 U
Bromomethane	74-83-9	0.0777 U	0.0777 U	0.388 U	0.0777 U	0.0777 U
Carbon Tetrachloride	56-23-5	0.439	0.442	0.0780 J	0.435	0.436
Chlorobenzene	108-90-7	0.0921 U	0.0921 U	0.460 U	0.0921 U	0.0921 U
Chloroethane	75-00-3	0.0528 U	0.0528 U	0.264 U	0.053 U	0.053 U
Chloroform	67-66-3	0.123	0.758	0.788	0.130	0.125
Chloromethane	74-87-3	0.112	1.47	1.28	1.03	1.03
cis-1,2-Dichloroethylene	156-59-2	0.0793 U	0.0793 U	0.396 U	0.0793 U	0.0793 U
cis-1,3-Dichloropropene	1006-01-5	0.0908 U	0.0908 U	0.454 U	0.0908 U	0.0908 U
Cyclohexane	110-82-7	0.0688 U	0.195	0.344 U	0.132	0.0955
Dibromochloromethane	124-48-1	0.170 U	0.242	0.852 U	0.170 U	0.170 U

Table 1. Unit 70
Summary of Air Sampling Results

Analyte	CAS Number	Sub-slab ($\mu\text{g}/\text{m}^3$)	Indoor Air Result ($\mu\text{g}/\text{m}^3$)		Ambient Air Unit 116 (Ernst Street) ($\mu\text{g}/\text{m}^3$)	Ambient Air Unit 175 ($\mu\text{g}/\text{m}^3$)
			Basement	First Floor		
Dichlorodifluoromethane	75-71-8	1.75	1.20	2.10	1.11	1.12
Dichlorotetrafluoroethane	76-14-2	0.140 U	0.140 U	0.699 U	0.140 U	0.140 U
Ethyl Acetate	141-78-6	0.0721 U	0.844	0.918 J	0.678	0.559
Ethylbenzene	100-41-4	0.0868 U	0.876	0.795	0.274	0.237
Heptane	142-82-5	0.169 J	0.492 J	0.548 J	0.327 J	0.272 J
Hexane	110-54-3	0.403	0.945	0.890	1.10	0.688
Isopropanol	67-63-0	1.23 U	1.87 J	16.9	1.59	1.23 U
m&p-Xylene	108-38-3	0.170	2.36	2.21	0.913	0.746
Methyl Isobutyl Ketone	108-10-1	1.01 J	1.13 J	1.21 J	0.142 J	0.606 J
Methylene Chloride	75-09-2	0.0695 U	1.04	2.29 J	0.348	0.404
MTBE	1634-04-4	0.0721 U	0.0721 U	0.361 U	0.0721 U	0.0721 U
o-Xylene	95-47-6	0.0868 U	0.994	0.963	0.363	0.304
p-Ethyltoluene	622-96-8	0.0983 U	0.246	0.492 U	0.137	0.110
Propene	115-07-1	0.290	29.2 J	35.7	1.15	0.938
Styrene	100-42-5	0.128	1.71 J	1.55	0.255	0.281
Tetrachloroethylene	127-18-4	1.26	0.197	0.678 U	0.147	0.136 U
Tetrahydrofuran	109-99-9	0.272 J	0.372 J	0.940	0.350	0.172
Toluene	108-88-3	0.342	4.99	4.91	1.37	1.17
trans-1,2-Dichloroethylene	156-60-5	0.0793 U	0.0793 U	0.396 U	0.0793 U	0.0793 U
trans-1,3-Dichloropropene	10061-02-6	0.0908 U	0.0908 U	0.454 U	0.0908 U	0.0908 U
Trichloroethylene	79-01-6	0.107 U	0.247	0.537 U	0.607	0.132
Trichlorofluoromethane	75-69-4	1.46	1.34	1.29	1.36	1.54
Trichlorotrifluoroethane	76-13-1	0.681	0.628	0.766 U	0.636	0.676
Vinyl Acetate	108-05-4	0.0704 U	0.0704 U	1.98	0.830	0.0704 U
Vinyl Chloride	75-01-4	0.0511 U	0.0511 U	0.256 U	0.0511 U	0.0511 U

U - Not detected

J - Concentration is estimated

$\mu\text{g}/\text{m}^3$ - micrograms per cubic meter

Table 2. Unit 70
Comparison of Indoor Air Results to EPA Risk Ranges*

Analyte	CAS Number	Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Non-Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Residential Indoor Air Result ($\mu\text{g}/\text{m}^3$)			
		10^{-4}	10^{-6}	HI 1	HI 3	Basement		First Floor	
1,1,1-Trichloroethane	71-55-6	--	--	5200	15600	0.109	U	0.546	U
1,1,2,2-Tetrachloroethane	79-34-5	0.48	0.0048	42	126	0.137	U	0.687	U
1,1,2-Trichloroethane	79-00-5	18	0.18	0.21	0.63	0.109	U	0.546	U
1,1-Dichloroethane	75-34-3	180	1.8	--	--	0.0809	U	0.405	U
1,1-Dichloroethylene	75-35-4	--	--	210	630	0.0793	U	0.396	U
1,2,4-Trimethylbenzene	95-63-6	--	--	7.3	21.9	1.04		1.02	
1,2-Dibromoethane	106-93-4	0.47	0.0047	9.4	28.2	0.154	U	0.768	U
1,2-Dichlorobenzene	95-50-1	--	--	210	630	0.120	U	0.601	U
1,2-Dichloroethane	107-06-2	11	0.11	7.3	21.9	1.58		1.57	
1,2-Dichloropropane	78-87-5	28	0.28	4.2	12.6	0.0924	U	0.462	U
1,3,5-Trimethylbenzene	108-67-8	--	--	--	--	0.314		0.492	U
1,3-Butadiene	106-99-0	9.4	0.094	2.1	6.3	0.0442	U	0.221	U
1,3-Dichlorobenzene	541-73-1	--	--	--	--	0.120	U	0.601	U
1,4-Dichlorobenzene	106-46-7	26	0.26	830	2490	2.63		2.75	
1,4-Dioxane	123-91-1	56	0.56	31	93	0.0721	U	0.360	U
2-Butanone (MEK)	78-93-3	--	--	--	--	1.30		2.50	
2-Hexanone (MBK)	591-78-6	--	--	31	93	0.152		0.410	U
Acetone	67-64-1	--	--	32000	96000	29.7	J	61.3	
Benzene	71-43-2	36	0.36	31	93	1.09		1.04	
Bromoform	75-25-2	260	2.6	--	--	0.207	U	1.03	U
Bromomethane	74-83-9	--	--	5.2	15.6	0.0777	U	0.388	U
Carbon Tetrachloride	56-23-5	47	0.47	100	300	0.442		0.078	J
Chlorobenzene	108-90-7	--	--	52	156	0.0921	U	0.460	U
Chloroethane	75-00-3	--	--	10000	30000	0.0528	U	0.264	U
Chloroform	67-66-3	12	0.12	100	300	0.758		0.788	
Chloromethane	74-87-3	--	--	94	282	1.47		1.28	
cis-1,2-Dichloroethylene	156-59-2	--	--	--	--	0.0793	U	0.396	U
cis-1,3-Dichloropropene	1006-01-5	--	--	--	--	0.0908	U	0.454	U
Cyclohexane	110-82-7	--	--	6300	18900	0.195		0.344	U
Dibromochloromethane	124-48-1	10	0.1	--	--	0.242		0.852	U
Dichlorodifluoromethane	75-71-8	--	--	100	300	1.20		2.10	

Table 2. Unit 70
Comparison of Indoor Air Results to EPA Risk Ranges*

Analyte	CAS Number	Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Non-Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Residential Indoor Air Result ($\mu\text{g}/\text{m}^3$)	
		10^{-4}	10^{-6}	HI 1	HI 3	Basement	First Floor
Dichlorotetrafluoroethane	76-14-2	--	--	--	--	0.140 U	0.699 U
Ethyl Acetate	141-78-6	--	--	73	219	0.844	0.918 J
Ethylbenzene	100-41-4	110	1.1	1000	3000	0.876	0.795
Heptane	142-82-5	--	--	--	--	0.492 J	0.548 J
Hexane	110-54-3	--	--	730	2190	0.945	0.890
Isopropanol	67-63-0	--	--	7300	21900	1.87 J	16.9
m&p-Xylene	108-38-3	--	--	100	300	2.36	2.21
Methyl Isobutyl Ketone	108-10-1	--	--	3100	9300	1.13 J	1.21 J
Methylene Chloride	75-09-2	1000	100	630	1890	1.04	2.29 J
MTBE	1634-04-4	1100	11	3100	9300	0.0721 U	0.361 U
o-Xylene	95-47-6	--	--	100	300	0.994	0.963
p-Ethyltoluene	622-96-8	--	--	--	--	0.246	0.492 U
Propene	115-07-1	--	--	3100	9300	29.2 J	35.7
Styrene	100-42-5	--	--	1000	3000	1.71 J	1.55
Tetrachloroethylene	127-18-4	1100	11	42	126	0.197	0.678 U
Tetrahydrofuran	109-99-9	--	--	2100	6300	0.372 J	0.940
Toluene	108-88-3	--	--	5200	15600	4.99	4.91
trans-1,2-Dichloroethylene	156-60-5	--	--	--	--	0.0793 U	0.396 U
trans-1,3-Dichloropropene	10061-02-6	--	--	--	--	0.0908 U	0.454 U
Trichloroethylene	79-01-6	48	0.48	2.1	6.3	0.247	0.537 U
Trichlorofluoromethane	75-69-4	--	--	7300	21900	1.34	1.29
Trichlorotrifluoroethane	76-13-1	--	--	31000	93000	0.628	0.766 U
Vinyl Acetate	108-05-4	--	--	210	630	0.0704 U	1.98
Vinyl Chloride	75-01-4	17	0.17	100	300	0.0511 U	0.256 U

U - Not detected

J - Concentration is estimated

$\mu\text{g}/\text{m}^3$ - micrograms per cubic meter

HI - Hazard Index

*Risk ranges are derived from the EPA Regional Screening Levels Summary Table, November 2013

http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/docs/resair_sl_tablre_run_MAY2014.pdf

Table 1. Unit 175
Summary of Air Sampling Results

Analyte	CAS Number	Sub-slab ($\mu\text{g}/\text{m}^3$)	Indoor Air Result ($\mu\text{g}/\text{m}^3$)		Ambient Air Unit 116 (Ernst Street) ($\mu\text{g}/\text{m}^3$)	Ambient Air Unit 175 ($\mu\text{g}/\text{m}^3$)
			Basement	First Floor		
1,1,1-Trichloroethane	71-55-6	780000	27.9	0.109 U	0.109 U	0.137
1,1,2,2-Tetrachloroethane	79-34-5	6.87 U	0.137 U	0.137 U	0.137 U	0.137 U
1,1,2-Trichloroethane	79-00-5	5.46 U	0.109 U	0.109 U	0.109 U	0.109 U
1,1-Dichloroethane	75-34-3	10.8	0.0809 U	0.186	0.0809 U	0.0809 U
1,1-Dichloroethylene	75-35-4	109	0.0793 U	0.0793 U	0.0793 U	0.0793 U
1,2,4-Trimethylbenzene	95-63-6	4.92 U	0.675	2.85	0.544	0.428
1,2-Dibromoethane	106-93-4	7.68 U	0.154 U	0.154 U	0.154 U	0.154 U
1,2-Dichlorobenzene	95-50-1	6.01 U	0.120 U	0.120 U	0.120 U	0.120 U
1,2-Dichloroethane	107-06-2	4.05 U	0.0919	0.241	0.0809 U	0.0809 U
1,2-Dichloropropane	78-87-5	4.62 U	0.0924 U	0.0924 U	0.0924 U	0.0924 U
1,3,5-Trimethylbenzene	108-67-8	4.92 U	0.243	1.33	0.171	0.134
1,3-Butadiene	106-99-0	2.21 U	0.0442 U	0.0442 U	0.0442 U	0.0442 U
1,3-Dichlorobenzene	541-73-1	6.01 U	0.120 U	0.120 U	0.120 U	0.120 U
1,4-Dichlorobenzene	106-46-7	6.01 U	0.132	2.83	0.120 U	0.120 U
1,4-Dioxane	123-91-1	3.60 U	0.0721 U	0.0721 U	0.0721 U	0.0721 U
2-Butanone (MEK)	78-93-3	2.95 U	0.845	1.49	1.09	0.770
2-Hexanone (MBK)	591-78-6	4.10 U	0.0819 U	0.0819 U	0.0819 U	0.0819 U
Acetone	67-64-1	59.4 U	10.8	20.9	13.4	11.0
Benzene	71-43-2	3.19 U	2.24	14.2	0.519	0.395
Bromoform	75-25-2	10.3 U	0.207 U	0.327	0.207 U	0.207 U
Bromomethane	74-83-9	3.88 U	0.0777 U	0.0777 U	0.0777 U	0.0777 U
Carbon Tetrachloride	56-23-5	135	0.467	0.445	0.435	0.436
Chlorobenzene	108-90-7	4.60 U	0.0921 U	0.0921 U	0.0921 U	0.0921 U
Chloroethane	75-00-3	2.64 U	0.331	0.0846	0.053 U	0.053 U
Chloroform	67-66-3	5.19	0.841	9.26	0.130	0.125
Chloromethane	74-87-3	4.82	2.41	0.921	1.03	1.03
cis-1,2-Dichloroethylene	156-59-2	3.96 U	0.0793 U	0.0793 U	0.0793 U	0.0793 U
cis-1,3-Dichloropropene	1006-01-5	4.54 U	0.0908 U	0.0908 U	0.0908 U	0.0908 U
Cyclohexane	110-82-7	3.44 U	0.143	0.236	0.132	0.0955
Dibromochloromethane	124-48-1	8.52 U	0.294	2.35	0.170 U	0.170 U

Table 1. Unit 175
Summary of Air Sampling Results

Analyte	CAS Number	Sub-slab ($\mu\text{g}/\text{m}^3$)	Indoor Air Result ($\mu\text{g}/\text{m}^3$)		Ambient Air Unit 116 (Ernst Street) ($\mu\text{g}/\text{m}^3$)	Ambient Air Unit 175 ($\mu\text{g}/\text{m}^3$)
			Basement	First Floor		
Dichlorodifluoromethane	75-71-8	11.0	1.10	1.10	1.11	1.12
Dichlorotetrafluoroethane	76-14-2	6.99 U	0.140 U	0.140 U	0.140 U	0.140 U
Ethyl Acetate	141-78-6	3.60 U	20.8	4.83	0.678	0.559
Ethylbenzene	100-41-4	4.34 U	0.661	11.8	0.274	0.237
Heptane	142-82-5	4.10 UJ	0.668 J	0.594 J	0.327 J	0.272 J
Hexane	110-54-3	3.52 U	1.10	0.894	1.10	0.688
Isopropanol	67-63-0	61.5 U	10.8	2.06	1.59	1.23 U
m&p-Xylene	108-38-3	4.34 U	1.57	11.1	0.913	0.746
Methyl Isobutyl Ketone	108-10-1	4.10 UJ	0.241 J	26.2 J	0.142 J	0.606 J
Methylene Chloride	75-09-2	3.47 U	0.866	1.01	0.348	0.404
MTBE	1634-04-4	3.61 U	0.0721 U	0.0721 U	0.0721 U	0.0721 U
o-Xylene	95-47-6	4.34 U	0.633	6.73	0.363	0.304
p-Ethyltoluene	622-96-8	4.92 U	0.215	1.45	0.137	0.110
Propene	115-07-1	8210	15.8	3.59	1.15	0.938
Styrene	100-42-5	4.26 U	0.515	0.519	0.255	0.281
Tetrachloroethylene	127-18-4	8.56	0.324	1.13	0.147	0.136 U
Tetrahydrofuran	109-99-9	2.95 U	0.209	0.591	0.350	0.172
Toluene	108-88-3	3.77 U	3.88	3.50	1.37	1.17
trans-1,2-Dichloroethylene	156-60-5	3.96 U	0.0793 U	0.0793 U	0.0793 U	0.0793 U
trans-1,3-Dichloropropene	10061-02-6	4.54 U	0.0908 U	0.0908 U	0.0908 U	0.0908 U
Trichloroethylene	79-01-6	5.37 U	0.107 U	0.627	0.607	0.132
Trichlorofluoromethane	75-69-4	10.8	5.35	1.43	1.36	1.54
Trichlorotrifluoroethane	76-13-1	822000	15.7	0.574	0.636	0.676
Vinyl Acetate	108-05-4	3.52 U	0.0704 U	0.0704 U	0.830	0.0704 U
Vinyl Chloride	75-01-4	2.56 U	0.0511 U	0.0511 U	0.0511 U	0.0511 U

U - Not detected

J - Concentration is estimated

$\mu\text{g}/\text{m}^3$ - micrograms per cubic meter

Table 2. Unit 175
Comparison of Indoor Air Results to EPA Risk Ranges*

Analyte	CAS Number	Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Non-Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Residential Indoor Air Result ($\mu\text{g}/\text{m}^3$)	
		10^{-4}	10^{-6}	HI 1	HI 3	Basement	First Floor
1,1,1-Trichloroethane	71-55-6	--	--	5200	15600	27.9	0.109 U
1,1,2,2-Tetrachloroethane	79-34-5	0.48	0.0048	42	126	0.137 U	0.137 U
1,1,2-Trichloroethane	79-00-5	18	0.18	0.21	0.63	0.109 U	0.109 U
1,1-Dichloroethane	75-34-3	180	1.8	--	--	0.0809 U	0.186
1,1-Dichloroethylene	75-35-4	--	--	210	630	0.0793 U	0.0793 U
1,2,4-Trimethylbenzene	95-63-6	--	--	7.3	21.9	0.675	2.85
1,2-Dibromoethane	106-93-4	0.47	0.0047	9.4	28.2	0.154 U	0.154 U
1,2-Dichlorobenzene	95-50-1	--	--	210	630	0.120 U	0.120 U
1,2-Dichloroethane	107-06-2	11	0.11	7.3	21.9	0.0919	0.241
1,2-Dichloropropane	78-87-5	28	0.28	4.2	12.6	0.0924 U	0.0924 U
1,3,5-Trimethylbenzene	108-67-8	--	--	--	--	0.243	1.33
1,3-Butadiene	106-99-0	9.4	0.094	2.1	6.3	0.0442 U	0.0442 U
1,3-Dichlorobenzene	541-73-1	--	--	--	--	0.120 U	0.120 U
1,4-Dichlorobenzene	106-46-7	26	0.26	830	2490	0.132	2.83
1,4-Dioxane	123-91-1	56	0.56	31	93	0.0721 U	0.0721 U
2-Butanone (MBK)	78-93-3	--	--	--	--	0.845	1.49
2-Hexanone (MEK)	591-78-6	--	--	31	93	0.0819 U	0.0819 U
Acetone	67-64-1	--	--	32000	96000	10.8	20.9
Benzene	71-43-2	36	0.36	31	93	2.24	14.2
Bromoform	75-25-2	260	2.6	--	--	0.207 U	0.327
Bromomethane	74-83-9	--	--	5.2	15.6	0.0777 U	0.0777 U
Carbon Tetrachloride	56-23-5	47	0.47	100	300	0.467	0.445
Chlorobenzene	108-90-7	--	--	52	156	0.0921 U	0.0921 U
Chloroethane	75-00-3	--	--	10000	30000	0.331	0.0846
Chloroform	67-66-3	12	0.12	100	300	0.841	9.26
Chloromethane	74-87-3	--	--	94	282	2.41	0.921
cis-1,2-Dichloroethylene	156-59-2	--	--	--	--	0.0793 U	0.0793 U
cis-1,3-Dichloropropene	1006-01-5	--	--	--	--	0.0908 U	0.0908 U
Cyclohexane	110-82-7	--	--	6300	18900	0.143	0.236
Dibromochloromethane	124-48-1	10	0.1	--	--	0.294	2.35
Dichlorodifluoromethane	75-71-8	--	--	100	300	1.10	1.10

Table 2. Unit 175
Comparison of Indoor Air Results to EPA Risk Ranges*

Analyte	CAS Number	Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Non-Cancer Risk Range ($\mu\text{g}/\text{m}^3$)		Residential Indoor Air Result ($\mu\text{g}/\text{m}^3$)	
		10^{-4}	10^{-6}	HI 1	HI 3	Basement	First Floor
Dichlorotetrafluoroethane	76-14-2	--	--	--	--	0.140 U	0.140 U
Ethyl Acetate	141-78-6	--	--	73	219	20.8	4.83
Ethylbenzene	100-41-4	110	1.1	1000	3000	0.661	11.8
Heptane	142-82-5	--	--	--	--	0.668 J	0.594 J
Hexane	110-54-3	--	--	730	2190	1.10	0.894
Isopropanol	67-63-0	--	--	7300	21900	10.8	2.06
m&p-Xylene	108-38-3	--	--	100	300	1.57	11.1
Methyl Isobutyl Ketone	108-10-1	--	--	3100	9300	0.241 J	26.2 J
Methylene Chloride	75-09-2	1000	100	630	1890	0.866	1.01
MTBE	1634-04-4	1100	11	3100	9300	0.0721 U	0.0721 U
o-Xylene	95-47-6	--	--	100	300	0.633	6.73
p-Ethyltoluene	622-96-8	--	--	--	--	0.215	1.45
Propene	115-07-1	--	--	3100	9300	15.8	3.59
Styrene	100-42-5	--	--	1000	3000	0.515	0.519
Tetrachloroethylene	127-18-4	1100	11	42	126	0.324	1.13
Tetrahydrofuran	109-99-9	--	--	2100	6300	0.209	0.591
Toluene	108-88-3	--	--	5200	15600	3.88	3.50
trans-1,2-Dichloroethylene	156-60-5	--	--	--	--	0.0793 U	0.0793 U
trans-1,3-Dichloropropene	10061-02-6	--	--	--	--	0.0908 U	0.0908 U
Trichloroethylene	79-01-6	48	0.48	2.1	6.3	0.107 U	0.627
Trichlorofluoromethane	75-69-4	--	--	7300	21900	5.35	1.43
Trichlorotrifluoroethane	76-13-1	--	--	31000	93000	15.7	0.574
Vinyl Acetate	108-05-4	--	--	210	630	0.0704 U	0.0704 U
Vinyl Chloride	75-01-4	17	0.17	100	300	0.0511 U	0.0511 U

U - Not detected

J - Concentration is estimated

$\mu\text{g}/\text{m}^3$ - micrograms per cubic meter

HI - Hazard Index

*Risk ranges are derived from the EPA Regional Screening Levels Summary Table, November 2013

http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/docs/resair_sl_tablr_run_MAY2014.pdf

APPENDIX C

Final GC/MS Analytical Report for Samples Collected in Tedlar® Bags

Passyunk Soil Gas Site

Final Report

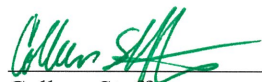
February 2018

GC/MS ANALYTICAL REPORT
PASSYUNK SOIL GAS SITE
PHILADELPHIA, PENNSYLVANIA
OCTOBER 2014

U.S. EPA Work Assignment No.: SERAS-219
LOCKHEED MARTIN Work Order No.: SER00219
U.S. EPA Contract No.: EP-W-09-031


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APPENDICES

Appendix A	Chain of Custody Records
Appendix B	Certificates of Analysis
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1.0 INTRODUCTION

The Environmental Protection Agency/Environmental Response Team (EPA/ERT) issued Work Assignment # SERAS-219 to Lockheed Martin under the Scientific, Engineering, Response, and Analytical Services (SERAS) contract to conduct a vapor intrusion study at the Passyunk Soil Gas Site (Site) located in Philadelphia, Pennsylvania (PA).

An Agilent®7890 gas chromatograph and 5975C Triple Axis mass spectrometer (GC/MS) were used to perform volatile organic compound (VOC) analysis on soil gas and sub-slab soil gas samples collected in one-liter (L) Tedlar® bags. The following analytes comprised the target compound list: tetrachloroethene (PCE), trichloroethene (TCE), 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), vinyl chloride (VCL), methyl tert butyl ether (MTBE), chloroform (HCCL₃), 1,1,1-trichloroethane (1,1,1-TCA) and benzene, ethyl benzene, toluene, m&p-xylenes, and o-xylene (BETX).

On-site GC/MS analyses occurred from 29 September 2014 to 30 September 2014 on 17 samples, 12 soil gas samples and five sub-slab soil gas samples collected in Tedlar® bags by SERAS personnel at the Site. Analysis was performed in accordance with SERAS Standard Operating Procedure (SOP) #1741, *Field Analysis of VOCs in Gaseous Phase Samples by GC/MSD Loop Injection*. The analytical data meets definitive data (DD) requirements as per EPA Method TO-15 modified for Tedlar® bag samples. Table 1 details the samples by chain of custody (COC) record, number of samples, sampled and received dates, sample matrix, and analysis. A copy of the COC record is included in Appendix A.

2.0 PROCEDURES

A Tedlar® bag was attached to the sample introduction port of the heated dual loop injection apparatus. One of the loops was filled with a sample and the other loop with internal standard. The contents of both loops were simultaneously injected onto the head of the column for subsequent analysis by GC/MS. The Agilent ChemStation® data system was used to evaluate and process the data. Table 2 lists the operating conditions of the dual loop injection apparatus and the GC/MS instrument.

2.1 Analysis

An aliquant of sample was directly introduced into the first loop of the injection apparatus from a Tedlar® bag using the sample introduction port. The second loop was filled from a SUMMA® canister containing the internal standard. The loops were switched in line with the carrier gas to inject the sample and internal standard into the GC/MS instrument.

The GC oven was temperature programmed to focus the sample on the head of the column and to achieve quick separation of the VOCs in the sample, which were then detected by the MS detector. Comparing their retention times and mass spectra with those of the 500 parts per billion by volume (ppbv) reference standard permits identification of the VOCs in the sample.

2.2 Tuning and Calibration Standards

All certified standards were obtained from commercial vendors and the certificates of analysis (COAs) are presented in Appendix B. The standards' cylinder numbers, concentrations, and compound quantitation ions used are presented in Table 3.

Mass spectrometer tuning was checked daily and re-tuned as needed. Five milliliters (mL) of p-bromofluorobenzene (BFB) at one part per million by volume (ppmv) were analyzed to validate the mass spectrometer tuning parameters.

The primary and secondary loop GC/MS standards both contained 15 target compounds in a balance of nitrogen. The primary and secondary loop GC/MS chloroform standards both contained one target compound in a balance of nitrogen. The concentrations used for the initial

and continuing calibration standards were based on the actual concentrations of the analytes in the standards.

The internal standard mix consists of bromochloromethane, 1,4-difluorobenzene, and chlorobenzene-d₅ each at approximately one ppmv. Fifty microliters (μL) of the internal standard, equivalent to 10 ppbv in a 5-mL injection were co-injected with all standards, blanks, and samples. After the instrument performance check standard criteria were met, the GC/MS was calibrated with a minimum of five concentrations that spanned the monitoring range of interest in an initial calibration sequence to determine the sensitivity and linearity of the instrument's response for the target compounds.

The continuing calibration verification (CCV) standard at the mid-point concentration and the low level continuing calibration verification (LLCCV) standard at the low-point concentration, were analyzed as daily calibration check standards. Samples were analyzed in the 24-hour period after meeting the acceptance criteria for the CCV and LLCCV.

2.3 Compound Identification and Quantitation

VOCs in the samples were identified and quantitated using the Agilent EnviroQuant[®] software. The software uses mass spectra reference libraries and extracted ion chromatograms matched with retention time windows to identify and quantify target compounds. The report format prints the internal standards, identified compound, calculated concentration, mass spectra (both raw and background subtracted), quantitation, and qualifier ion chromatograms.

The Reporting Limit (RL) for each compound was calculated using the following equation:

$$RL \text{ (ppbv)} = \text{Lowest Calibration Standard (ppbv)} \times \text{Dilution Factor (DF)}$$

Dilution of a sample was performed when target compounds exceeded the upper range of the initial calibration. The dilution was documented in the injection logbook and the dilution factor was calculated using the following equation:

$$DF = \frac{\text{Final Sample Volume (mL)}}{\text{Initial Sample Volume (mL)}}$$

The target compound results were calculated using the following equation:

$$\text{Concentration (ppbv)} = \text{Analytical Concentration of Compound (ppbv)} \times DF$$

2.4 Quality Assurance/Quality Control

The following Quality Assurance/Quality Control (QA/QC) procedures were performed for this assignment:

- The GC/MS was tuned, as needed, with perfluorotributylamine (PFTBA) to meet ion abundance criteria for BFB, as listed in the BFB report included in the calibration data section (Appendix C).
- A six-point initial calibration or continuing calibration standards were prepared, analyzed, and acceptance criteria verified prior to sample analysis. Evaluations for the initial calibration standards or CCV and LLCCV standards are in the calibration data section (Appendix C).
- Immediately following the six-point initial calibration, the initial calibration verification

(ICV) standard was prepared from the secondary source standard, analyzed, and acceptance criteria verified. Evaluation of the ICV standard is in the calibration data section (Appendix C).

- Method blanks were analyzed after the calibration standard(s) and before samples to assess possible laboratory contamination and/or carryover. When necessary, method blanks were analyzed to minimize carryover from standards or samples with high levels of target or non-target VOCs.
- During the 24-hour analytical period, at least one laboratory control sample (LCS) was prepared from the secondary standard, analyzed, and acceptance criteria verified. Table 6 lists the summary of the LCS results for VOCs. Evaluations for the LCS results are in the calibration data section (Appendix C).
- Internal standards from all standards, method blanks and samples were evaluated and acceptance criteria verified. Evaluations for the internal standards are in the calibration data section (Appendix C).
- During the 24-hour analytical period, at least one replicate sample (RS) was analyzed and acceptance criteria verified. Table 7 lists the replicate sample summary for VOCs in sub-slab soil gas samples. Evaluations for the replicate sample results are in the quantitation reports section (Appendix D).
- The lowest calibration standard used in the initial calibration was used for the RL.
- The following is a list of the QA/QC flags used in qualifying the results:
 - U - Undetected at or above the RL
 - D - Result is from a secondary dilution

All applicable data qualifiers were inserted into the results table.

3.0 RESULTS

Target compound results are reported, to two significant figures, in ppbv and micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) in Table 4 and Table 5, respectively. Target compound results for LCS and replicate samples are reported in ppbv in Table 6 and Table 7, respectively.

The COC records are found in Appendix A. The COAs, for all standards used, are found in Appendix B. The calibration package for each day of analysis is included in Appendix C. This package includes copies of the injection logbook # SERAS-L-0365, BFB tune reports, air and water check reports, initial calibration or CCV and LLCCV reports, ICV and LCS evaluation reports, all standard quantitation reports and internal standard evaluations. Quantitation reports for all method blanks, soil gas samples and sub-slab soil gas samples are included in Appendix D.

All quantitation reports list the retention times, quantitation ions, peak areas, and concentrations of target compounds in ppbv. Calculated concentrations are generated using the average relative response factor from the initial calibration curve for each target compound.

4.0 DISCUSSION OF RESULTS

On 29 September 2014, five mL of BFB was analyzed and six ICAL STDs were prepared, analyzed, reviewed, and found to be acceptable. The ICV standard, method blank, and LCS were prepared, analyzed, reviewed and found to meet acceptance criteria. Twelve soil gas samples were collected and analyzed on site by SERAS personnel. The internal standard results for the soil gas samples analyzed on 29 September

2014 were reviewed and found to be within the acceptable range. A replicate sample was analyzed, reviewed and found to meet acceptance criteria. The preliminary results were reported to the WAM.

Of the 12 soil gas samples collected and analyzed on 29 September 2014, sample numbers 53636 (V06), 53641 (V20), and 53638 (V15) have the highest reportable results for chloroform at 30 ppbv ($150 \mu\text{g}/\text{m}^3$), 14 ppbv ($68 \mu\text{g}/\text{m}^3$), and 8.5 ppbv ($41 \mu\text{g}/\text{m}^3$), respectively. Sample number 53631 (V12), 53640 (V18), and 53641 (V20) have the highest reportable results for tetrachloroethene at 7.6 ppbv ($51 \mu\text{g}/\text{m}^3$), 6.3 ppbv ($43 \mu\text{g}/\text{m}^3$), and 6.1 ppbv ($42 \mu\text{g}/\text{m}^3$), respectively. Sample numbers 53635 (V01) and 53636 (V06) have the highest reportable results for 1,1,1-trichloroethane at 2.8 ppbv ($15 \mu\text{g}/\text{m}^3$) and 0.64 ppbv ($3.5 \mu\text{g}/\text{m}^3$), respectively. Sample number 53630 (V07) had the highest reportable results for benzene, toluene, and m&p-xylenes at 0.76 ppbv ($2.4 \mu\text{g}/\text{m}^3$), 2.3 ppbv ($8.7 \mu\text{g}/\text{m}^3$), and 1.6 ppbv ($6.9 \mu\text{g}/\text{m}^3$), respectively. Sample number 53638 (V15) had the highest reportable results for ethyl benzene and o-xylene at 0.64 ppbv ($2.8 \mu\text{g}/\text{m}^3$) and 0.81 ppbv ($3.5 \mu\text{g}/\text{m}^3$), respectively. All other targeted compounds were not detected in any of the soil gas samples collected in Tedlar® bags at or above their RLs on 29 September 2014.

On 30 September 2014, the BFB, CCV standard, LLCCV standard, method blank and LCS were prepared, analyzed, reviewed, and found to meet acceptance criteria. Five sub-slab soil gas samples were collected and analyzed on site by SERAS personnel. The internal standard results for the sub-slab soil gas samples analyzed on 30 September 2014 were reviewed and found to be within the acceptable range. A replicate sample was analyzed, reviewed and found to meet acceptance criteria. The preliminary results were reported to the WAM.

Of the five sub-slab soil gas samples collected and analyzed on 30 September 2014, sample number 53645 (Unit 175) and 53643 (Unit 84) have the highest reportable results for chloroform at 0.90 ppbv ($4.4 \mu\text{g}/\text{m}^3$) and 0.57 ppbv ($2.8 \mu\text{g}/\text{m}^3$), respectively. Sample number 56642 (Unit 34) and 56645 (Unit 175) have the highest reportable results for tetrachloroethene at 2.6 ppbv ($18 \mu\text{g}/\text{m}^3$) and 1.4 ppbv ($9.6 \mu\text{g}/\text{m}^3$), respectively. Sample number 53646 (Unit 50) had the highest reportable result for toluene at 0.56 ppbv ($2.1 \mu\text{g}/\text{m}^3$). Sample number 53645 (Unit 175) had the highest reportable result for 1,1-dichloroethene, 1,1-dichloroethane, 1,1,1-trichloroethane, and trichloroethene at 49 ppbv ($190 \mu\text{g}/\text{m}^3$), 3.8 ppbv ($15 \mu\text{g}/\text{m}^3$), 230,000 ppbv ($1,300,000 \mu\text{g}/\text{m}^3$), and 0.89 ppbv ($4.8 \mu\text{g}/\text{m}^3$), respectively. All other targeted compounds were not detected in any of the soil gas samples collected in Tedlar® bags at or above their RLs on 30 September 2014.

TABLES

TABLE 1
Summary of Chain of Custody Records
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

COC #	Number of Samples	Date Sampled	Date Received	Matrix	Analysis
06546	12	09/29/14	09/29/14	Soil Gas	VOC / Loop GC/MS
06553	5	09/30/14	09/30/14	Sub-Slab Soil Gas	VOC / Loop GC/MS

TABLE 2
Instrument Conditions for Analysis of Volatile Organic Compounds
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

AGILENT® GC

Sample Loop	
Loop Volume	5 mL
Loop Temperature	160°C
Internal Standard Loop	
Loop Volume	50 µL (equivalent to 10ppbv)
Loop Temperature	160°C
GC Inlet	
Gas Type	Helium
Mode	Pulsed Splitless
Temperature	190°C
Pressure	23.099 psi
Pulsed Pressure	50.0 psi
Pulsed Time	0.50 minute
Purge Flow	30.0 mL/minute
Purge Time	0.00 minute
Septum Purge Flow	3 mL/minute
Total Flow	34.5 mL/ minute
GC Oven	
Column	Rtx-Volatiles, 20 m x 0.18 mm ID x 2.0 µm df
Mode	Constant Flow
Flow Rate	1.5 mL/ minute
Cryo (CO ₂)	On
Quick Cryo Cooling	On
Initial Temperature	-10°C
Initial Temperature Hold Time	0.50 minute
Temperature Ramp Program	25°C/ minute
Final Temperature	160°C
Hold Time	0.50 minute
Total Run Time	7.80 minute

AGILENT® MS

MS Temperatures	
MS Quadrupole	150°C
MS Ion Source	230°C
MS Transfer Line	200°C
MS Tune File	bfb.u
MS Acquisition Mode	SCAN/SIM
Solvent Delay	1.50 minute

TABLE 2 (continued)
Instrument Conditions for Analysis of Volatile Organic Compounds
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

SIMS Parameters	
Group 1 Start Time	1.80 min
Ions/Dwell in Group 1	(27/100) (62/100) (64/100)
Group 2 Start Time	3.00 min
Ions/Dwell in Group 2	(61/40) (63/40) (96/40)
Group 3 Start Time	3.80 min
Ions/Dwell in Group 3	(27/25) (41/25) (53/25) (61/25) (63/25) (65/25) (73/25) (96/25) (98/25)
Group 4 Start Time	4.50 min
Ions/Dwell in Group 4	(47/20) (49/20) (61/20) (83/20) (85/20) (93/20) (96/20) (98/20) (128/20) (130/20)
Group 5 Start Time	4.92 min
Ions/Dwell in Group 5	(61/40) (97/40) (99/40)
Group 6 Start Time	5.12 min
Ions/Dwell in Group 6	(50/40) (63/40) (77/40) (78/40) (88/40) (114/40)
Group 7 Start Time	5.42 min
Ions/Dwell in Group 7	(95/40) (130/40) (132/40)
Group 8 Start Time	5.80 min
Ions/Dwell in Group 8	(91/40) (92/40)
Group 9 Start Time	6.40 min
Ions/Dwell in Group 9	(131/40) (164/40) (166/40)
Group 10 Start Time	6.80 min
Ions/Dwell in Group 10	(82/40) (91/40) (105/40) (106/40) (117/40) (119/40)

TABLE 3
Concentrations and Quantitation Ions for Air Toxic Standards
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Linde, Custom Class Calibration Standard

Cylinder Number: CC-82181
 Certification Date: 14 August 2014
 Expiration Date: 14 August 2015

<u>BFB Compound</u>	<u>Quant Ion</u>	<u>Concentration</u>
4-Bromofluorobenzene	N/A	1.02 ppm

Linde, Custom Class Calibration Standard

Cylinder Number: CC-256139
 Certification Date: 14 August 2014
 Expiration Date: 14 August 2015

<u>Internal Standard</u>	<u>Quant Ion</u>	<u>Concentration</u>
Bromochloromethane	49	0.97 ppm
1,4-Difluorobenzene	114	1.02 ppm
Chlorobenzene-d ₅	117	1.08 ppm

Linde, Custom Class Calibration Standard

Cylinder Number: CC-80994
 Certification Date: 14 March 2014
 Expiration Date: 14 March 2015

<u>Volatile Organic Compound</u>	<u>Quant Ion</u>	<u>Concentration</u>
Vinyl chloride	62	20.6 ppm
1,1-Dichloroethene	61	19.9 ppm
trans-1,2-Dichloroethene	61	20.1 ppm
1,1-Dichloroethane	63	20.7 ppm
Methyl tert-Butyl Ether	73	20.1 ppm
cis-1,2-Dichloroethene	61	21.1 ppm
1,1,1-Trichloroethane	97	20.2 ppm
Benzene	78	21.0 ppm
Trichloroethene	130	20.2 ppm
Toluene	91	20.8 ppm
Tetrachloroethene	166	20.3 ppm
Ethylbenzene	91	20.8 ppm
m-Xylene	91	10.4 ppm
p-Xylene	91	10.4 ppm
o-Xylene	91	20.7 ppm

TABLE 3 (continued)
Concentrations and Quantitation Ions for Air Toxic Standards
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Linde, Custom Class Calibration Standard

Cylinder Number: CC-99022
 Certification Date: 14 March 2014
 Expiration Date: 14 March 2015

<u>Volatile Organic Compound</u>	<u>Quant Ion</u>	<u>Concentration</u>
Vinyl chloride	62	20.7 ppm
1,1-Dichloroethene	61	20.5 ppm
trans-1,2-Dichloroethene	61	20.0 ppm
1,1-Dichloroethane	63	21.0 ppm
Methyl tert-Butyl Ether	73	20.4 ppm
cis-1,2-Dichloroethene	61	21.2 ppm
1,1,1-Trichloroethane	97	20.4 ppm
Benzene	78	21.1 ppm
Trichloroethene	130	20.4 ppm
Toluene	91	20.9 ppm
Tetrachloroethene	166	20.7 ppm
Ethylbenzene	91	21.0 ppm
m-Xylene	91	10.4 ppm
p-Xylene	91	10.4 ppm
o-Xylene	91	21.0 ppm

Linde, Custom Class Calibration Standard

Cylinder Number: CC-128284
 Certification Date: 22 November 2013
 Expiration Date: 22 November 2014

<u>Volatile Organic Compound</u>	<u>Quant Ion</u>	<u>Concentration</u>
Chloroform	83	20.6 ppm

Linde, Custom Class Calibration Standard

Cylinder Number: CC-197345
 Certification Date: 13 December 2013
 Expiration Date: 13 December 2014

<u>Volatile Organic Compound</u>	<u>Quant Ion</u>	<u>Concentration</u>
Chloroform	83	21.2 ppm

TABLE 4
Results of Target Compounds for Volatile Organic Compounds
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Data File:	93GCMS2014-763	93GCMS2014-765	93GCMS2014-766	93GCMS2014-767
Sample Number:	20140929-MB	53638	53630	53631
Sample Location:	Method Blank	V15	V07	V12
Sample Volume (ml):	5	5	5	5
Dilution multiplier:	1	1	1	1
Date Sampled:	29 Sept 2014	29 Sept 2014	29 Sept 2014	29 Sept 2014
Date Analyzed:	29 Sept 2014	29 Sept 2014	29 Sept 2014	29 Sept 2014

Compound	Results (ppbv)	RL	Results (ppbv)	RL	Results (ppbv)	RL	Results (ppbv)	RL
Vinyl Chloride	U	5.2	U	5.2	U	5.2	U	5.2
1,1-Dichloroethene	U	0.50	U	0.50	U	0.50	U	0.50
Methyl Tert Butyl Ether	U	0.50	U	0.50	U	0.50	U	0.50
trans-1,2-Dichloroethene	U	0.50	U	0.50	U	0.50	U	0.50
1,1-Dichloroethane	U	0.52	U	0.52	U	0.52	U	0.52
cis-1,2-Dichloroethene	U	0.53	U	0.53	U	0.53	U	0.53
Chloroform	U	0.52	8.5	0.52	U	0.52	3.3	0.52
1,1,1-Trichloroethane	U	0.51	0.51	0.51	U	0.51	U	0.51
Benzene	U	0.53	U	0.53	0.76	0.53	U	0.53
Trichloroethene	U	0.51	U	0.51	U	0.51	U	0.51
Toluene	U	0.52	1.3	0.52	2.3	0.52	0.56	0.52
Tetrachloroethene	U	0.51	0.53	0.51	U	0.51	7.6	0.51
Ethyl Benzene	U	0.52	0.64	0.52	0.54	0.52	U	0.52
m,p-Xylene	U	0.52	1.3	0.52	1.6	0.52	U	0.52
o-Xylene	U	0.52	0.81	0.52	0.65	0.52	U	0.52

Results are in part per billion by volume (ppbv)

RL = Reporting Limit

U = None detected at or above the RL

TABLE 4 (continued)
Results of Target Compounds for Volatile Organic Compounds
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Data File:	93GCMS2014-768	93GCMS2014-769	93GCMS2014-770	93GCMS2014-771
Sample Number:	53632	53633	53634	53635
Sample Location:	V13	V14	V02	V01
Sample Volume (ml):	5	5	5	5
Dilution multiplier:	1	1	1	1
Date Sampled:	29 Sept 2014	29 Sept 2014	29 Sept 2014	29 Sept 2014
Date Analyzed:	29 Sept 2014	29 Sept 2014	29 Sept 2014	29 Sept 2014

Compound	Results (ppbv)	RL	Results (ppbv)	RL	Results (ppbv)	RL	Results (ppbv)	RL
Vinyl Chloride	U	5.2	U	5.2	U	5.2	U	5.2
1,1-Dichloroethene	U	0.50	U	0.50	U	0.50	U	0.50
Methyl Tert Butyl Ether	U	0.50	U	0.50	U	0.50	U	0.50
trans-1,2-Dichloroethene	U	0.50	U	0.50	U	0.50	U	0.50
1,1-Dichloroethane	U	0.52	U	0.52	U	0.52	U	0.52
cis-1,2-Dichloroethene	U	0.53	U	0.53	U	0.53	U	0.53
Chloroform	1.5	0.52	1.2	0.52	U	0.52	2.9	0.52
1,1,1-Trichloroethane	U	0.51	U	0.51	U	0.51	2.8	0.51
Benzene	U	0.53	U	0.53	U	0.53	U	0.53
Trichloroethene	U	0.51	U	0.51	U	0.51	U	0.51
Toluene	0.82	0.52	0.85	0.52	1.5	0.52	0.59	0.52
Tetrachloroethene	5.9	0.51	1.6	0.51	0.56	0.51	3.1	0.51
Ethyl Benzene	U	0.52	U	0.52	U	0.52	U	0.52
m,p-Xylene	0.62	0.52	0.52	0.52	1.0	0.52	U	0.52
o-Xylene	U	0.52	U	0.52	U	0.52	U	0.52

Results are in part per billion by volume (ppbv)

RL = Reporting Limit

U = None detected at or above the RL

TABLE 4 (continued)
Results of Target Compounds for Volatile Organic Compounds
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Data File:	93GCMS2014-772	93GCMS2014-774	93GCMS2014-775	93GCMS2014-776				
Sample Number:	53636	53637	53639	53640				
Sample Location:	V06	V03	V17	V18				
Sample Volume (ml):	5	5	5	5				
Dilution multiplier:	1	1	1	1				
Date Sampled:	29 Sept 2014	29 Sept 2014	29 Sept 2014	29 Sept 2014				
Date Analyzed:	29 Sept 2014	29 Sept 2014	29 Sept 2014	29 Sept 2014				
Compound	Results (ppbv)	RL	Results (ppbv)	RL	Results (ppbv)	RL	Results (ppbv)	RL
Vinyl Chloride	U	5.2	U	5.2	U	5.2	U	5.2
1,1-Dichloroethene	U	0.50	U	0.50	U	0.50	U	0.50
Methyl Tert Butyl Ether	U	0.50	U	0.50	U	0.50	U	0.50
trans-1,2-Dichloroethene	U	0.50	U	0.50	U	0.50	U	0.50
1,1-Dichloroethane	U	0.52	U	0.52	U	0.52	U	0.52
cis-1,2-Dichloroethene	U	0.53	U	0.53	U	0.53	U	0.53
Chloroform	30	0.52	1.2	0.52	U	0.52	1.4	0.52
1,1,1-Trichloroethane	0.64	0.51	U	0.51	U	0.51	U	0.51
Benzene	U	0.53	U	0.53	U	0.53	U	0.53
Trichloroethene	U	0.51	U	0.51	U	0.51	U	0.51
Toluene	0.70	0.52	U	0.52	1.9	0.52	U	0.52
Tetrachloroethene	0.59	0.51	U	0.51	U	0.51	6.3	0.51
Ethyl Benzene	U	0.52	U	0.52	U	0.52	U	0.52
m,p-Xylene	0.96	0.52	U	0.52	1.0	0.52	U	0.52
o-Xylene	U	0.52	U	0.52	U	0.52	U	0.52

Results are in part per billion by volume (ppbv)

RL = Reporting Limit

U = None detected at or above the RL

TABLE 4 (continued)
Results of Target Compounds for Volatile Organic Compounds
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Data File:	93GCMS2014-777	93GCMS2014-782	93GCMS2014-784	93GCMS2014-785
Sample Number:	53641	20140930-MB	53643	53642
Sample Location:	V20	Method Blank	Unit 84	Unit 34
Sample Volume (ml):	5	5	5	5
Dilution multiplier:	1	1	1	1
Date Sampled:	29 Sept 2014	30 Sept 2014	30 Sept 2014	30 Sept 2014
Date Analyzed:	29 Sept 2014	30 Sept 2014	30 Sept 2014	30 Sept 2014

Compound	Results (ppbv)	RL	Results (ppbv)	RL	Results (ppbv)	RL	Results (ppbv)	RL
Vinyl Chloride	U	5.2	U	5.2	U	5.2	U	5.2
1,1-Dichloroethene	U	0.50	U	0.50	U	0.50	U	0.50
Methyl Tert Butyl Ether	U	0.50	U	0.50	U	0.50	U	0.50
trans-1,2-Dichloroethene	U	0.50	U	0.50	U	0.50	U	0.50
1,1-Dichloroethane	U	0.52	U	0.52	U	0.52	U	0.52
cis-1,2-Dichloroethene	U	0.53	U	0.53	U	0.53	U	0.53
Chloroform	14	0.52	U	0.52	0.57	0.52	U	0.52
1,1,1-Trichloroethane	U	0.51	U	0.51	U	0.51	U	0.51
Benzene	U	0.53	U	0.53	U	0.53	U	0.53
Trichloroethene	U	0.51	U	0.51	U	0.51	U	0.51
Toluene	U	0.52	U	0.52	U	0.52	U	0.52
Tetrachloroethene	6.1	0.51	U	0.51	0.78	0.51	2.6	0.51
Ethyl Benzene	U	0.52	U	0.52	U	0.52	U	0.52
m,p-Xylene	U	0.52	U	0.52	U	0.52	U	0.52
o-Xylene	U	0.52	U	0.52	U	0.52	U	0.52

Results are in part per billion by volume (ppbv)

RL = Reporting Limit

U = None detected at or above the RL

TABLE 4 (continued)
Results of Target Compounds for Volatile Organic Compounds
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Data File:	93GCMS2014-786	93GCMS2014-788	93GCMS2014-790
Sample Number:	53644	53645	53646
Sample Location:	Unit 70	Unit 175	Unit 50
Sample Volume (ml):	5	5	5
Dilution multiplier:	1	1	1
Date Sampled:	30 Sept 2014	30 Sept 2014	30 Sept 2014
Date Analyzed:	30 Sept 2014	30 Sept 2014	30 Sept 2014

Compound	Results (ppbv)	RL	Results (ppbv)	RL	Results (ppbv)	RL
Vinyl Chloride	U	5.2	U	5.2	U	5.2
1,1-Dichloroethene	U	0.50	49	0.50	U	0.50
Methyl Tert Butyl Ether	U	0.50	U	0.50	U	0.50
trans-1,2-Dichloroethene	U	0.50	U	0.50	U	0.50
1,1-Dichloroethane	U	0.52	3.8	0.52	U	0.52
cis-1,2-Dichloroethene	U	0.53	U	0.53	U	0.53
Chloroform	U	0.52	0.90	0.52	U	0.52
1,1,1-Trichloroethane	U	0.51	230000 D	510	U	0.51
Benzene	U	0.53	U	0.53	U	0.53
Trichloroethene	U	0.51	0.89	0.51	U	0.51
Toluene	U	0.52	U	0.52	0.56	0.52
Tetrachloroethene	U	0.51	1.4	0.51	U	0.51
Ethyl Benzene	U	0.52	U	0.52	U	0.52
m,p-Xylene	U	0.52	U	0.52	U	0.52
o-Xylene	U	0.52	U	0.52	U	0.52

Results are in part per billion by volume (ppbv)

RL = Reporting Limit

U = None detected at or above the RL

D = Result is from a secondary dilution

TABLE 5
Results of Target Compounds for Volatile Organic Compounds
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Data File:	93GCMS2014-763	93GCMS2014-765	93GCMS2014-766	93GCMS2014-767
Sample Number:	20140929-MB	53638	53630	53631
Sample Location:	Method Blank	V15	V07	V12
Sample Volume (ml):	5	5	5	5
Dilution multiplier:	1	1	1	1
Date Sampled:	29 Sept 2014	29 Sept 2014	29 Sept 2014	29 Sept 2014
Date Analyzed:	29 Sept 2014	29 Sept 2014	29 Sept 2014	29 Sept 2014

Compound	Results ($\mu\text{g}/\text{m}^3$)	RL	Results ($\mu\text{g}/\text{m}^3$)	RL	Results ($\mu\text{g}/\text{m}^3$)	RL	Results ($\mu\text{g}/\text{m}^3$)	RL
Vinyl Chloride	U	13	U	13	U	13	U	13
1,1-Dichloroethene	U	2.0	U	2.0	U	2.0	U	2.0
Methyl Tert Butyl Ether	U	1.8	U	1.8	U	1.8	U	1.8
trans-1,2-Dichloroethene	U	2.0	U	2.0	U	2.0	U	2.0
1,1-Dichloroethane	U	2.1	U	2.1	U	2.1	U	2.1
cis-1,2-Dichloroethene	U	2.1	U	2.1	U	2.1	U	2.1
Chloroform	U	2.5	41	2.5	U	2.5	16	2.5
1,1,1-Trichloroethane	U	2.8	2.8	2.8	U	2.8	U	2.8
Benzene	U	1.7	U	1.7	2.4	1.7	U	1.7
Trichloroethene	U	2.7	U	2.7	U	2.7	U	2.7
Toluene	U	2.0	5.0	2.0	8.7	2.0	2.1	2.0
Tetrachloroethene	U	3.5	3.6	3.5	U	3.5	51	3.5
Ethyl Benzene	U	2.3	2.8	2.3	2.3	2.3	U	2.3
m,p-Xylene	U	2.3	5.5	2.3	6.9	2.3	U	2.3
o-Xylene	U	2.3	3.5	2.3	2.8	2.3	U	2.3

Results are in microgram per cubic meter ($\mu\text{g}/\text{m}^3$)

RL = Reporting Limit

U = None detected at or above the RL

TABLE 5 (continued)
Results of Target Compounds for Volatile Organic Compounds
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Data File:	93GCMS2014-768	93GCMS2014-769	93GCMS2014-770	93GCMS2014-771
Sample Number:	53632	53633	53634	53635
Sample Location:	V13	V14	V02	V01
Sample Volume (ml):	5	5	5	5
Dilution multiplier:	1	1	1	1
Date Sampled:	29 Sept 2014	29 Sept 2014	29 Sept 2014	29 Sept 2014
Date Analyzed:	29 Sept 2014	29 Sept 2014	29 Sept 2014	29 Sept 2014

Compound	Results ($\mu\text{g}/\text{m}^3$)	RL	Results ($\mu\text{g}/\text{m}^3$)	RL	Results ($\mu\text{g}/\text{m}^3$)	RL	Results ($\mu\text{g}/\text{m}^3$)	RL
Vinyl Chloride	U	13	U	13	U	13	U	13
1,1-Dichloroethene	U	2.0	U	2.0	U	2.0	U	2.0
Methyl Tert Butyl Ether	U	1.8	U	1.8	U	1.8	U	1.8
trans-1,2-Dichloroethene	U	2.0	U	2.0	U	2.0	U	2.0
1,1-Dichloroethane	U	2.1	U	2.1	U	2.1	U	2.1
cis-1,2-Dichloroethene	U	2.1	U	2.1	U	2.1	U	2.1
Chloroform	7.2	2.5	6.0	2.5	U	2.5	14	2.5
1,1,1-Trichloroethane	U	2.8	U	2.8	U	2.8	15	2.8
Benzene	U	1.7	U	1.7	1.6 J	1.7	U	1.7
Trichloroethene	U	2.7	U	2.7	U	2.7	U	2.7
Toluene	3.1	2.0	3.2	2.0	5.7	2.0	2.2	2.0
Tetrachloroethene	40	3.5	11	3.5	3.8	3.5	21	3.5
Ethyl Benzene	U	2.3	U	2.3	U	2.3	U	2.3
m,p-Xylene	2.7	2.3	2.3	2.3	4.3	2.3	U	2.3
o-Xylene	U	2.3	U	2.3	U	2.3	U	2.3

Results are in microgram per cubic meter ($\mu\text{g}/\text{m}^3$)

RL = Reporting Limit

U = None detected at or above the RL

TABLE 5 (continued)
Results of Target Compounds for Volatile Organic Compounds
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Data File:	93GCMS2014-772	93GCMS2014-774	93GCMS2014-775	93GCMS2014-776
Sample Number:	53636	53637	53639	53640
Sample Location:	V06	V03	V17	V18
Sample Volume (ml):	5	5	5	5
Dilution multiplier:	1	1	1	1
Date Sampled:	29 Sept 2014	29 Sept 2014	29 Sept 2014	29 Sept 2014
Date Analyzed:	29 Sept 2014	29 Sept 2014	29 Sept 2014	29 Sept 2014

Compound	Results ($\mu\text{g}/\text{m}^3$)	RL	Results ($\mu\text{g}/\text{m}^3$)	RL	Results ($\mu\text{g}/\text{m}^3$)	RL	Results ($\mu\text{g}/\text{m}^3$)	RL
Vinyl Chloride	U	13	U	13	U	13	U	13
1,1-Dichloroethene	U	2.0	U	2.0	U	2.0	U	2.0
Methyl Tert Butyl Ether	U	1.8	U	1.8	U	1.8	U	1.8
trans-1,2-Dichloroethene	U	2.0	U	2.0	U	2.0	U	2.0
1,1-Dichloroethane	U	2.1	U	2.1	U	2.1	U	2.1
cis-1,2-Dichloroethene	U	2.1	U	2.1	U	2.1	U	2.1
Chloroform	150	2.5	5.8	2.5	U	2.5	6.9	2.5
1,1,1-Trichloroethane	3.5	2.8	U	2.8	U	2.8	U	2.8
Benzene	U	1.7	U	1.7	U	1.7	U	1.7
Trichloroethene	U	2.7	U	2.7	U	2.7	U	2.7
Toluene	2.6	2.0	U	2.0	7.1	2.0	U	2.0
Tetrachloroethene	4.0	3.5	U	3.5	U	3.5	43	3.5
Ethyl Benzene	U	2.3	U	2.3	U	2.3	U	2.3
m,p-Xylene	4.2	2.3	U	2.3	4.4	2.3	U	2.3
o-Xylene	U	2.3	U	2.3	U	2.3	U	2.3

Results are in microgram per cubic meter ($\mu\text{g}/\text{m}^3$)

RL = Reporting Limit

U = None detected at or above the RL

TABLE 5 (continued)
Results of Target Compounds for Volatile Organic Compounds
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Data File:	93GCMS2014-777	93GCMS2014-782	93GCMS2014-784	93GCMS2014-785
Sample Number:	53641	20140930-MB	53643	53642
Sample Location:	V20	Method Blank	Unit 84	Unit 34
Sample Volume (ml):	5	5	5	5
Dilution multiplier:	1	1	1	1
Date Sampled:	29 Sept 2014	30 Sept 2014	30 Sept 2014	30 Sept 2014
Date Analyzed:	29 Sept 2014	30 Sept 2014	30 Sept 2014	30 Sept 2014

Compound	Results ($\mu\text{g}/\text{m}^3$)	RL	Results ($\mu\text{g}/\text{m}^3$)	RL	Results ($\mu\text{g}/\text{m}^3$)	RL	Results ($\mu\text{g}/\text{m}^3$)	RL
Vinyl Chloride	U	13	U	13	U	13	U	13
1,1-Dichloroethene	U	2.0	U	2.0	U	2.0	U	2.0
Methyl Tert Butyl Ether	U	1.8	U	1.8	U	1.8	U	1.8
trans-1,2-Dichloroethene	U	2.0	U	2.0	U	2.0	U	2.0
1,1-Dichloroethane	U	2.1	U	2.1	U	2.1	U	2.1
cis-1,2-Dichloroethene	U	2.1	U	2.1	U	2.1	U	2.1
Chloroform	68	2.5	U	2.5	2.8	2.5	U	2.5
1,1,1-Trichloroethane	U	2.8	U	2.8	U	2.8	U	2.8
Benzene	U	1.7	U	1.7	U	1.7	U	1.7
Trichloroethene	U	2.7	U	2.7	U	2.7	U	2.7
Toluene	U	2.0	U	2.0	U	2.0	U	2.0
Tetrachloroethene	42	3.5	U	3.5	5.3	3.5	18	3.5
Ethyl Benzene	U	2.3	U	2.3	U	2.3	U	2.3
m,p-Xylene	U	2.3	U	2.3	U	2.3	U	2.3
o-Xylene	U	2.3	U	2.3	U	2.3	U	2.3

Results are in microgram per cubic meter ($\mu\text{g}/\text{m}^3$)

RL = Reporting Limit

U = None detected at or above the RL

TABLE 5 (continued)
Results of Target Compounds for Volatile Organic Compounds
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Data File:	93GCMS2014-786	93GCMS2014-788	93GCMS2014-790
Sample Number:	53644	53645	53646
Sample Location:	Unit 70	Unit 175	Unit 50
Sample Volume (ml):	5	5	5
Dilution multiplier:	1	1	1
Date Sampled:	30 Sept 2014	30 Sept 2014	30 Sept 2014
Date Analyzed:	30 Sept 2014	30 Sept 2014	30 Sept 2014

Compound	Results ($\mu\text{g}/\text{m}^3$)	RL	Results ($\mu\text{g}/\text{m}^3$)	RL	Results ($\mu\text{g}/\text{m}^3$)	RL
Vinyl Chloride	U	13	U	13	U	13
1,1-Dichloroethene	U	2.0	190	2.0	U	2.0
Methyl Tert Butyl Ether	U	1.8	U	1.8	U	1.8
trans-1,2-Dichloroethene	U	2.0	U	2.0	U	2.0
1,1-Dichloroethane	U	2.1	15	2.1	U	2.1
cis-1,2-Dichloroethene	U	2.1	U	2.1	U	2.1
Chloroform	U	2.5	4.4	2.5	U	2.5
1,1,1-Trichloroethane	U	2.8	1,300,000 D	2.8	U	2.8
Benzene	U	1.7	U	1.7	U	1.7
Trichloroethene	U	2.7	4.8	2.7	U	2.7
Toluene	U	2.0	U	2.0	2.1	2.0
Tetrachloroethene	U	3.5	9.6	3.5	U	3.5
Ethyl Benzene	U	2.3	U	2.3	U	2.3
m,p-Xylene	U	2.3	U	2.3	U	2.3
o-Xylene	U	2.3	U	2.3	U	2.3

Results are in microgram per cubic meter ($\mu\text{g}/\text{m}^3$)

RL = Reporting Limit

U = None detected at or above the RL

D = Result is from a secondary dilution

TABLE 6
Summary of Laboratory Control Samples for Volatile Organic Compounds
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Data File:		93GCMS2014-764		
Sample Name:		20140929-LCS		
Sample Volume (mL)		5		
Date Prepared:		29-Sep-2014		
Date Analyzed:		29-Sep-2014		
Compound	COA Concentrations CC# 99022 EXP. 03/14/2015 CC# 128284 EXP. 11/22/2014 (ppmv)	Calculated Concentrations 20140929-LCS (ppbv)	20140929-LCS 500ppbv LCS Results (ppbv)	Percent Recovery (70-130%)
Vinyl Chloride	20.7	517.50	542.63	105
1,1-Dichloroethene	20.5	512.50	556.12	109
Methyl Tert Butyl Ether	20.4	510.00	636.21	125
trans-1,2-Dichloroethene	20.0	500.00	534.80	107
1,1-Dichloroethane	21.0	525.00	563.72	107
cis-1,2-Dichloroethene	21.2	530.00	575.42	109
Chloroform	20.6	515.00	526.57	102
1,1,1-Trichloroethane	20.4	510.00	555.69	109
Benzene	21.1	527.50	542.20	103
Trichloroethene	20.4	510.00	533.28	105
Toluene	20.9	522.50	539.30	103
Tetrachloroethene	20.7	517.50	530.00	102
Ethyl Benzene	21.0	525.00	552.05	105
m&p-Xylene	20.8	520.00	548.76	106
o-Xylene	21.0	525.00	556.16	106

ppmv = part per million by volume

Results are in part per billion by volume (ppbv)

% = Percentage

TABLE 6 (continued)
Summary of Laboratory Control Samples for Volatile Organic Compounds
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Data File:		93GCMS2014-778		
Sample Name:		20140929-LCS		
Sample Volume (mL)		5		
Date Prepared:		29-Sep-2014		
Date Analyzed:		29-Sep-2014		
Compound	COA Concentrations CC# 99022 EXP. 03/14/2015 CC# 128284 EXP. 11/22/2014 (ppmv)	Calculated Concentrations 20140929-LCS (ppbv)	20140929-LCS 500ppbv LCS Results (ppbv)	Percent Recovery (70-130%)
Vinyl Chloride	20.7	517.50	531.04	103
1,1-Dichloroethene	20.5	512.50	544.64	106
Methyl Tert Butyl Ether	20.4	510.00	629.62	123
trans-1,2-Dichloroethene	20.0	500.00	518.67	104
1,1-Dichloroethane	21.0	525.00	551.10	105
cis-1,2-Dichloroethene	21.2	530.00	555.71	105
Chloroform	20.6	515.00	513.40	100
1,1,1-Trichloroethane	20.4	510.00	547.55	107
Benzene	21.1	527.50	525.87	100
Trichloroethene	20.4	510.00	513.85	101
Toluene	20.9	522.50	525.45	101
Tetrachloroethene	20.7	517.50	519.34	100
Ethyl Benzene	21.0	525.00	540.35	103
m&p-Xylene	20.8	520.00	527.57	101
o-Xylene	21.0	525.00	532.07	101

ppmv = part per million by volume
Results are in part per billion by volume (ppbv)
% = Percentage

TABLE 6 (continued)
Summary of Laboratory Control Samples for Volatile Organic Compounds
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Data File:	93GCMS2014-783			
Sample Name:	20140930-LCS			
Sample Volume (mL)	5			
Date Prepared:	30-Sep-2014			
Date Analyzed:	30-Sep-2014			
Compound	COA Concentrations CC# 99022 EXP. 03/14/2015 CC# 128284 EXP. 11/22/2014 (ppmv)	Calculated Concentrations 20140930-LCS (ppbv)	20140930-LCS 500ppbv LCS Results (ppbv)	Percent Recovery (70-130%)
Vinyl Chloride	20.7	517.50	555.28	107
1,1-Dichloroethene	20.5	512.50	568.94	111
Methyl Tert Butyl Ether	20.4	510.00	647.56	127
trans-1,2-Dichloroethene	20.0	500.00	547.45	109
1,1-Dichloroethane	21.0	525.00	575.36	110
cis-1,2-Dichloroethene	21.2	530.00	588.68	111
Chloroform	20.6	515.00	548.32	106
1,1,1-Trichloroethane	20.4	510.00	570.55	112
Benzene	21.1	527.50	564.21	107
Trichloroethene	20.4	510.00	553.34	108
Toluene	20.9	522.50	568.01	109
Tetrachloroethene	20.7	517.50	557.55	108
Ethyl Benzene	21.0	525.00	587.56	112
m&p-Xylene	20.8	520.00	579.30	111
o-Xylene	21.0	525.00	584.95	111

ppmv = part per million by volume
Results are in part per billion by volume (ppbv)
% = Percentage

TABLE 6 (continued)
Summary of Laboratory Control Samples for Volatile Organic Compounds
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Data File:	93GCMS2014-791			
Sample Name:	20140930-LCS			
Sample Volume (mL)	5			
Date Prepared:	30-Sep-2014			
Date Analyzed:	30-Sep-2014			
Compound	COA Concentrations CC# 99022 EXP. 03/14/2015 CC# 128284 EXP. 11/22/2014 (ppmv)	Calculated Concentrations 20140930-LCS (ppbv)	20140930-LCS 500ppbv LCS Results (ppbv)	Percent Recovery (70-130%)
Vinyl Chloride	20.7	517.50	543.19	105
1,1-Dichloroethene	20.5	512.50	561.88	110
Methyl Tert Butyl Ether	20.4	510.00	641.84	126
trans-1,2-Dichloroethene	20.0	500.00	535.77	107
1,1-Dichloroethane	21.0	525.00	568.23	108
cis-1,2-Dichloroethene	21.2	530.00	571.81	108
Chloroform	20.6	515.00	542.84	105
1,1,1-Trichloroethane	20.4	510.00	567.98	111
Benzene	21.1	527.50	548.16	104
Trichloroethene	20.4	510.00	538.44	106
Toluene	20.9	522.50	546.53	105
Tetrachloroethene	20.7	517.50	540.97	105
Ethyl Benzene	21.0	525.00	566.14	108
m&p-Xylene	20.8	520.00	522.80	101
o-Xylene	21.0	525.00	546.35	104

ppmv = part per million by volume
Results are in part per billion by volume (ppbv)
% = Percentage

TABLE 7
Replicate Sample Summary for Volatile Organic Compounds
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Data File:	93GCMS2014-772	93GCMS2014-773	
Sample Number:	53636	53636	
Sample Location:	V06	V06 RS	
Sample Volume (mL)	5	5	
Date Prepared:	29 Sept 2014	29 Sept 2014	
Date Analyzed:	29 Sept 2014	29 Sept 2014	
Compound	Results (ppbv)	Results (ppbv)	RPD (%)
Vinyl Chloride	U	U	NC
1,1-Dichloroethene	U	U	NC
Methyl Tert Butyl Ether	U	U	NC
trans-1,2-Dichloroethene	U	U	NC
1,1-Dichloroethane	U	U	NC
cis-1,2-Dichloroethene	U	U	NC
Chloroform	30	27	11
1,1,1-Trichloroethane	0.64	0.54	17
Benzene	U	U	NC
Trichloroethene	U	U	NC
Toluene	0.70	0.79	12
Tetrachloroethene	0.59	0.50	17
Ethyl Benzene	U	U	NC
m&p-Xylene	0.96	1.0	4
o-Xylene	U	U	NC

Results are in part per billion by volume (ppbv)

RS = Replicate Sample

U = None detected at or above the Reporting Limit (RL)

NC = Not Calculable

RPD (%) = Relative Percent Difference

TABLE 7 (continued)
Replicate Sample Summary for Volatile Organic Compounds
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Data File:	93GCMS2014-785	93GCMS2014-787	
Sample Number:	53642	53642	
Sample Location:	Unit 34	Unit 34 RS	
Sample Volume (mL)	5	5	
Date Prepared:	30 Sept 2014	30 Sept 2014	
Date Analyzed:	30 Sept 2014	30 Sept 2014	
Compound	Results (ppbv)	Results (ppbv)	RPD (%)
Vinyl Chloride	U	U	NC
1,1-Dichloroethene	U	U	NC
Methyl Tert Butyl Ether	U	U	NC
trans-1,2-Dichloroethene	U	U	NC
1,1-Dichloroethane	U	U	NC
cis-1,2-Dichloroethene	U	U	NC
Chloroform	U	U	NC
1,1,1-Trichloroethane	U	U	NC
Benzene	U	U	NC
Trichloroethene	U	U	NC
Toluene	U	U	NC
Tetrachloroethene	2.6	2.5	2.7
Ethyl Benzene	U	U	NC
m&p-Xylene	U	U	NC
o-Xylene	U	U	NC

Results are in part per billion by volume (ppbv)

REP = Replicate Sample

U = None detected at or above the Reporting Limit (RL)

NC = Not Calculable

RPD (%) = Relative Percent Difference

APPENDIX A

Chain of Custody Records

**Passyunk Soil Gas Site
Philadelphia, Pennsylvania**

GC/MS Analytical Report

October 2014

EP-W-09-031

CHAIN OF CUSTODY RECORD

Project Name: PASSYUNK Soil GAS Site
Project Number: 0-219
LM Contact: C. Steffensen Phone: 732-321-4200

No: **06546**
Sheet 01 of 01(Do not copy)
 (for addnl. samples use new form)

Sample Identification

Analyses Requested

[illegible]

Matrix:

A- Air	PW- Potable Water
AT-Animal Tissue	S- Soil
DL- Drum Liquids	SD- Sediment
DS- Drum Solids	SL- Sludge
GW- Groundwater	SW- Surface Water
O- Oil	TX-TCLP Extract
PR-Product	W- Water
PT-Plant Tissue	X- Other

SG = 50% GAS

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #:

Items/Reason	Relinquished by	Date	Received by	Date	Time
ANALYSIS		7/29/14	[Signature]	7/29/14	ALL DAY

REAC, Edison, NJ

(732) 321-4200

EPA Contract 68-C99-223

EP-W-09-031

CHAIN OF CUSTODY RECORD

Project Name: PASSYUNK SOIL GAS SITE

Project Number: 0-219

LM Contact: C. Steffensen Phone: 732-321-4200

No: **06553**

Sheet **01** of **01** (Do not copy)
(for addnl. samples use new form)

Sample Identification

Analyses Requested

REAC#	Sample No	Sampling Location	Matrix	Date Collected	# of Bottles	Container/Preservative	GC/MS				
784	53643	unit 84	SG	09/30/14	1	Tedlar Bag	SOH1741				
785	53642	unit 34	↓	↓	↓	↓	↓				
786	53644	unit 70	↓	↓	↓	↓	↓				
788	53645	unit 175	↓	↓	↓	↓	↓				
790	53646	unit 50	↓	↓	↓	↓	↓				
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APPENDIX B

Certificates of Analysis

**Passyunk Soil Gas Site
Philadelphia, Pennsylvania**

GC/MS Analytical Report

October 2014

THE LINDE GROUP

Linde

SHIPPED TO: Lockheed Martin
2890 Woodbridge Ave.
Edison, NJ 08837-3679

PAGE: 1 of 1

CERTIFICATE OF CONFORMANCE

Sales#:	111921250	Cylinder Size:	2A (8" X 47.5")
Production#:	2957860	Cylinder #:	CC-82181
Certification Date:	Aug-14-2014	Cylinder Pressure:	1700 psig
P.O.#:	Recert-Scott Thompson	Cylinder Valve:	CGA 350 / Steel
Blend Type:	CERTIFIED	Cylinder Volume:	29.5 Liter
Material#:	14004551	Cylinder Material:	Aluminum
Traceability:	NIST by weight	Gas Volume:	3400 Liters
Expiration Date:	Aug-14-2015	Blend Tolerance:	10% Relative
Do NOT use under:	150 psig	Analytical Accuracy:	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	CERTIFIED CONC
4-Bromofluorobenzene	460-00-4	1.00 ppm	1.02 ppm
Nitrogen	7727-37-9	Balance	Balance

ANALYST: 

Matthew Jackson

DATE: Aug-14-2014

THE LINDE GROUP

Linde

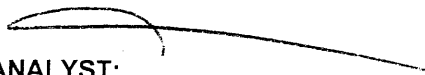
SHIPPED TO: Lockheed Martin
2890 Woodbridge Ave.
Edison, NJ 08837-3679

PAGE: 1 of 1

CERTIFICATE OF CONFORMANCE

Sales#:	111921250	Cylinder Size:	2A (8" X 47.5")
Production#:	2957860	Cylinder #:	CC-256139
Certification Date:	Aug-14-2014	Cylinder Pressure:	1000 psig
P.O.#:	Recert-Scott Thompson	Cylinder Valve:	CGA 350 / Steel
Blend Type:	CERTIFIED	Cylinder Volume:	29.5 Liter
Material#:	14004551	Cylinder Material:	Aluminum
Traceability:	NIST by weight	Gas Volume:	2000 Liters
Expiration Date:	Aug-14-2015	Blend Tolerance:	10% Relative
Do NOT use under:	150 psig	Analytical Accuracy:	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	CERTIFIED CONC
Bromochloromethane	74-97-5	1.00 ppm	0.97 ppm
1,4-Difluorobenzene	540-36-3	1.00 ppm	1.02 ppm
Chlorobenzene-d5	3114-55-4	1.00 ppm	1.08 ppm
Nitrogen	7727-37-9	Balance	Balance

ANALYST: 
Matthew Jackson

DATE: Aug-14-2014

THE LINDE GROUP

Linde

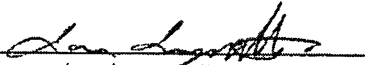
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2890 Woodbridge Ave.
Edison, NJ 08837-3679

PAGE: 1 of 1

CERTIFICATE OF ANALYSIS

Sales#:	111418443	Cylinder Size:	2A (8" X 47.5")
Production#:	1289804	Cylinder #:	CC-80994
Certification Date:	Mar-14-2014	Cylinder Pressure:	730 psig
P.O.#:	CC-Scott Thompson	Cylinder Valve:	CGA 350 / Steel
Blend Type:	CERTIFIED	Cylinder Volume:	29.5 Liter
Material#:	24086386	Cylinder Material:	Aluminum
Traceability:	NIST by weight	Gas Volume:	1460 Liters
Expiration Date:	Mar-14-2015	Blend Tolerance:	5% Relative
Do NOT use under:	150 psig	Analytical Accuracy:	2% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	CERTIFIED CONC
Vinyl Chloride	75-01-4	20.0 ppm	20.6 ppm
1,1-Dichloroethene	75-35-4	20.0 ppm	19.9 ppm
Trans-1,2-Dichloroethylene	156-60-5	20.0 ppm	20.1 ppm
1,1-Dichloroethane	75-34-3	20.0 ppm	20.7 ppm
Methyl Tert-Butyl Ether	1634-04-4	20.0 ppm	20.1 ppm
Cis-1,2-Dichloroethylene	156-59-2	20.0 ppm	21.1 ppm
1,1,1-Trichloroethane	71-55-6	20.0 ppm	20.2 ppm
Benzene	71-43-2	20.0 ppm	21.0 ppm
Trichloroethylene	79-01-6	20.0 ppm	20.2 ppm
Toluene	108-88-3	20.0 ppm	20.8 ppm
Tetrachloroethylene	127-18-4	20.0 ppm	20.3 ppm
Ethylbenzene	100-41-4	20.0 ppm	20.8 ppm
p-xylene	106-42-3	10.0 ppm	10.4 ppm
m-xylene	108-38-3	10.0 ppm	10.4 ppm
o-xylene	95-47-6	20.0 ppm	20.7 ppm
Nitrogen	7727-37-9	Balance	Balance

ANALYST: 
Lou Lorenzetti

DATE: Mar-14-2014

THE LINDE GROUP



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2890 Woodbridge Ave.
Edison, NJ 08837-3679

PAGE: 1 of 1

CERTIFICATE OF ANALYSIS

Sales#:	111418443	Cylinder Size:	2A (8" X 47.5")
Production#:	1289803	Cylinder #:	CC-99022
Certification Date:	Mar-14-2014	Cylinder Pressure:	730 psig
P.O.#:	CC-Scott Thompson	Cylinder Valve:	CGA 350 / Steel
Blend Type:	CERTIFIED	Cylinder Volume:	29.5 Liter
Material#:	24086386	Cylinder Material:	Aluminum
Traceability:	NIST by weight	Gas Volume:	1460 Liters
Expiration Date:	Mar-14-2015	Blend Tolerance:	5% Relative
Do NOT use under:	150 psig	Analytical Accuracy:	2% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	CERTIFIED CONC
Vinyl Chloride	75-01-4	20.0 ppm	20.7 ppm
1,1-Dichloroethene	75-35-4	20.0 ppm	20.5 ppm
Trans-1,2-Dichloroethylene	156-60-5	20.0 ppm	20.0 ppm
1,1-Dichloroethane	75-34-3	20.0 ppm	21.0 ppm
Methyl Tert-Butyl Ether	1634-04-4	20.0 ppm	20.4 ppm
Cis-1,2-Dichloroethylene	156-59-2	20.0 ppm	21.2 ppm
1,1,1-Trichloroethane	71-55-6	20.0 ppm	20.4 ppm
Benzene	71-43-2	20.0 ppm	21.1 ppm
Trichloroethylene	79-01-6	20.0 ppm	20.4 ppm
Toluene	108-88-3	20.0 ppm	20.9 ppm
Tetrachloroethylene	127-18-4	20.0 ppm	20.7 ppm
Ethylbenzene	100-41-4	20.0 ppm	21.0 ppm
p-xylene	106-42-3	10.0 ppm	10.4 ppm
m-xylene	108-38-3	10.0 ppm	10.4 ppm
o-xylene	95-47-6	20.0 ppm	21.0 ppm
Nitrogen	7727-37-9	Balance	Balance

ANALYST:


Lou Lorenzetti

DATE: Mar-14-2014

THE LINDE GROUP




SHIPPED TO: Lockheed Martin
2890 Woodbridge Ave.
Edison, NJ 08837-3679

PAGE: 1 of 1

CERTIFICATE OF ANALYSIS

Sales#:	111074597	Cylinder Size:	2A (8" X 47.5")
Production#:	1278990	Cylinder #:	CC-128284
Certification Date:	Nov-22-2013	Cylinder Pressure:	2000 psig
P.O.#:	Scott Thompson	Cylinder Valve:	CGA 350 / Steel
Blend Type:	CERTIFIED	Cylinder Volume:	29.5 Liter
Material#:	24086389	Cylinder Material:	Aluminum
Traceability:	NIST by weight	Gas Volume:	4000 Liter
Expiration Date:	Nov-22-2014	Blend Tolerance:	5% Relative
Do NOT use under:	150 psig	Analytical Accuracy:	2% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	CERTIFIED CONC
Chloroform	67-66-3	20.0 ppm	20.6 ppm
Nitrogen	7727-37-9	Balance	Balance

ANALYST: 
Lou Lorenzetti

DATE: Nov-22-2013

THE LINDE GROUP

Linde

SHIPPED TO: Lockheed Martin
2890 Woodbridge Ave
Edison, NJ 08837

PAGE: 1 of 1

CERTIFICATE OF ANALYSIS

Sales#:	111091871	Cylinder Size:	2A (8" X 47.5")
Production#:	1279441	Cylinder #:	CC-197345
Certification Date:	Dec-13-2013	Cylinder Pressure:	2000 psig
P.O.#:	Scott Thompson	Cylinder Valve:	CGA 350 / Steel
Blend Type:	CERTIFIED	Cylinder Volume:	29.5 Liter
Material#:	24086389	Cylinder Material:	Aluminum
Traceability:	NIST by weight	Gas Volume:	4000 Liter
Expiration Date:	Dec-13-2014	Blend Tolerance:	5% Relative
Do NOT use under:	150 psig	Analytical Accuracy:	2% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	CERTIFIED CONC
Chloroform	67-66-3	20.0 ppm	21.2 ppm
Nitrogen	7727-37-9	Balance	Balance

ANALYST:


Matthew Booth

DATE: Dec-13-2013

APPENDIX C

Calibration Data

**Passyunk Soil Gas Site
Philadelphia, Pennsylvania**

GC/MS Analytical Report

October 2014

09/29/14

- Baked out MS for 1hr.
- Tuned PFTBA for BFB. w/ GC oven @ 125°C → ok
- checked for AIR & WATER → ok
- Prepared ICHL \ ICHV \ mB \ LGS using H2A in Tedlar Bags

- 20140929-H2A \ 100 µL D:H₂O into 40 psi AIR

- STD20140929-4 \ 10,000 ppbv ICHL STD
500 mL - 1° Loop STD cc 80994 T092314-03
500 mL - 1° HCCl₃ STD cc 128284 T092314-05

- STD20140929-5 \ 2,000 ppbv ICHL STD
100 mL - 1° Loop STD cc 80994 T092314-03
100 mL - 1° HCCl₃ STD cc 128284 T092314-05
800 mL - H2A

- STD20140929-6 \ 500 ppbv ICHL STD
25 mL - 1° Loop STD cc 80994 T092314-03
25 mL - 1° HCCl₃ STD cc 128284 T092314-05
975 mL - H2A

- STD20140929-7 \ 100 ppbv ICHL STD
50 mL - STD20140929-5 (2,000 ppbv)
950 mL - H2A

- STD20140929-8 \ 5 ppbv ICHL STD
10 mL - STD20140929-6 (500 ppbv)
990 mL - H2A

- STD20140929-9 \ 0.5 ppbv ICHL STD
100 mL - STD20140929-8 (5 ppbv)
900 mL - H2A

~~STD201409~~ 09/29/14

Continued on Page 91

Read and Understood By

Scott J. Thompson
Signed

09/29/14
Date

Signed

Date

09/29/14 (cont)

- STD20140929-10 \ 500ppbv IGV STD
25mL-2° Loop STD 99022 T092314-04
25mL-2° HCL₃ STD 197345 T092314-06
950mL-H₂A
- 20140929-MB \ method BLANK
1000mL-H₂A
- 20140929-LCS \ 500ppbv LCS
25mL-2° Loop STD 99022 T092314-04
25mL-2° Loop STD 197345 T092314-06
950mL-H₂A
- GC/MS methods: Loop BFB.m & Loop SOP1741 + HCL₃
- Enviro Quant method: Loop 20140929-Quant.m
- Data Location D:\msdchem\1\data\2014\20140929\XXX.d

936CMS2014-755	BFB \ 1PMV STD \ 5mL	PASS	OK
756	STD20140929-4 \ 10,000 ppbv ICHL STD \ 5mL		OK
757	STD20140929-5 \ 2,000 ppbv ICHL STD \ 5mL		OK
758	STD20140929-6 \ 500ppbv ICHL STD \ 5mL		OK
759	STD20140929-7 \ 100ppbv ICHL STD \ 5mL		OK
760	STD20140929-8 \ 5ppbv ICHL STD \ 5mL		OK
761	STD20140929-9 \ 0.5ppbv ICHL STD \ 5mL		OK
762	STD20140929-10 \ 500ppbv IGV STD \ 5mL	PASS	OK
763	20140929-MB \ method BLANK \ 5mL		OK
764	20140929-LCS \ 500ppbv LCS \ 5mL	PASS	OK
765	53638 \ V15 \ 5mL		OK
766	53630 \ V07 \ 5mL		OK
767	53631 \ V12 \ 5mL		OK
768	53632 \ V13 \ 5mL		OK
769	53633 \ V14 \ 5mL		OK
770	53634 \ V02 \ 5mL		OK
771	53635 \ V01 \ 5mL		OK

Continued on Page 92

Read and Understood By

Signed

Date

Signed

Date



09/29/14

09/29/14 (cont.)											
93GCMs2014-	772.d	53636	\	V06	\	5mL					OK
	773.d	53636	\	V06	RS	\	5mL	PASS			OK
	774.d	53637	\	V03	\	5mL					OK
	775.d	53639	\	V17	\	5mL					OK
	776.d	53640	\	V18	\	5mL					OK
	777.d	53641	\	V20	\	5mL					OK
	778.d	20140929-LCS	\	500ppbv LCS	\	5mL		PASS			OK
- Reviewed Int STD Report → PASS/OK											
- Stored GC oven @ 125°C											
										9/29/14	END


09/30/14 WA#0-219

- Reviewed MS Tune File BFB.m w/ GC oven @ 125°C → OK
- checked for Air & Water → OK
- Prepared CCS \ LCCU \ MB \ LCS using H2A in Tedlar Bags.

• STD20140930-1 \ 500ppbv CCS	• STD20140930-2 \ 5ppbv	• STD20140930-3 \ 0.5ppbv LCCU
25mL - 1 STD 80994 T092314-03	10mL - STD20140930-1	100mL - STD20140930-2
25mL - 1 HCL3 128284 T092314-05	990mL - H2A	700mL - H2A
950mL - H2A	• 20140930-LCS \ 500ppbv LCS	
- 20140930-MB \ method BLANK	25mL - 2 STD 99022 T092314-04	
1000mL - H2A	25mL - 2 HCL3 197345 T092314-06	
	950mL - H2A	
- GC/MS methods: Loop BFB.m & Loop SUP1741 + HCL3.m		
- Enviro Quant method: Loop 20140929-Quant.m		
- created Data Location D:\msdchem\data\2014\20140930\XXX.d		

93GCMs2014-	779.d	BFB	\	1PPMV STD	\	5mL	PASS	OK
	780.d	STD20140930-1	\	500ppbv CCS	\	5mL	PASS	OK
	781.d	STD20140930-3	\	0.5ppbv LCCU	\	5mL	PASS	OK
	782.d	20140930-MB	\	method BLANK	\	5mL		OK
	783.d	20140930-LCS	\	500ppbv LCS	\	5mL	PASS	OK
	784.d	53643	\	Unit 84	\	5mL		OK

Continued on Page 93

S = Replicate Sample		Read and Understood By	
		09/30/14	
Signed	Date	Signed	Date

(09/30/14)

93GCM52014-785.d

53642 \ unit 34 \ 5mL

ok

786.d

53644 \ unit 70 \ 5mL

ok

787.d

53642 \ unit 34 RS \ 5mL

PASS ok

788.d

53645 \ unit 175 \ 5mL

RRC/100x ok

789.d

53645 \ unit 175 \ 0.05mL

ok

790.d

53646 \ unit 50 \ 5mL

ok

791.d

20140930-LCS \ Soupphi LCS \ 5mL

PASS ok

- Review Int STD Report → PASS \ ok

- Stored GC oven @ 125°C

(09/30/14) End

Continued on Page

Read and Understood By

Signed

Date

Signed

Date

METHOD CONTROL PARAMETERS

Method Information For: C:\MSDCHEM\1\METHODS\LOOPSOP1741+HCCL3.M
Method Sections To Run:

() Save Copy of Method With Data
() Instrument Control Pre-Run Cmd/Macro =
() Data Analysis Pre-Run Cmd/Macro =
(X) Data Acquisition
(X) Data Analysis
() Instrument Control Post-Run Cmd/Macro =
() Data Analysis Post-Run Cmd/Macro =

Method Comments:

Chemical Test For Octafluoronaphthalene (OFN) at 1 pg/ul isooctane at 1ul injection (rev
5-14-03 H. Prest)

END OF METHOD CONTROL PARAMETERS

P 09/29/14

INSTRUMENT CONTROL PARAMETERS: Instrument 2

C:\MSDCHEM\1\METHODS\LOOP SOP1741+HCCL3.M
Mon Sep 29 18:55:48 2014

Control Information

Sample Inlet : GC
Injection Source : Manual
Mass Spectrometer : Enabled

Oven
Equilibration Time 0.1 min
Oven Program On
-10 °C for 0.5 min
then 25 °C/min to 160 °C for 0.5 min
Run Time 7.8 min

Front Injector

Front SS Inlet He
Mode Pulsed Splitless
Heater On 190 °C
Pressure On 23.099 psi
Total Flow On 34.5 mL/min
Septum Purge Flow On 3 mL/min
Gas Saver Off
Injection Pulse Pressure 50 psi Until 0.5 min
Purge Flow to Split Vent 30 mL/min at 0 min

Thermal Aux 2 {MSD Transfer Line}
Heater On
Temperature Program On
200 °C for 0 min
Run Time 7.8 min

Column #1
Rtx-Volatiles: 51675
Rtx-Volatiles
270 °C: 20 m x 180 µm x 2 µm
In: Front SS Inlet He
Out: Vacuum

(Initial)
Pressure -10 °C
Flow 23.099 psi
Average Velocity 1.5 mL/min
Holdup Time 52.9 cm/sec
Flow Program 0.63012 min
1.5 mL/min for 0 min
Run Time Off
7.8 min

Signals	
Test Plot	Save Off
Test Plot	Save Off
Test Plot	Save Off
Test Plot	Save Off

MS ACQUISITION PARAMETERS

General Information

Tune File	: bfb.u
Acquistion Mode	: Scan/SIM

MS Information

Solvent Delay	: 1.80 min
EMV Mode	: Relative
Relative Voltage	: 0
Resulting EM Voltage	: 1541

[Scan Parameters]

Low Mass	: 36.0	
High Mass	: 220.0	
Threshold	: 100	
Sample #	: 2	A/D Samples 4
Plot 2 low mass	: 36.0	
Plot 2 high mass	: 220.0	

[Sim Parameters]

GROUP 1	
Group ID	: 1
Resolution	: High
Plot 1 Ion	: 64.00
Plot 2 Ion	: 62.0
Ions/Dwell In Group	(Mass, Dwell) (Mass, Dwell) (Mass, Dwell)
	(27.00, 100) (62.00, 100) (64.00, 100)

GROUP 2	
Group ID	: 2
Resolution	: High
Group Start Time	: 3.00
Plot 1 Ion	: 61.00
Plot 2 Ion	: 61.0
Ions/Dwell In Group	(Mass, Dwell) (Mass, Dwell) (Mass, Dwell)
	(61.00, 40) (63.00, 40) (96.00, 40)

GROUP 3	
Group ID	: 3
Resolution	: High
Group Start Time	: 3.80
Plot 1 Ion	: 73.00
Plot 2 Ion	: 63.0
Ions/Dwell In Group	(Mass, Dwell) (Mass, Dwell) (Mass, Dwell)
	(27.00, 25) (41.00, 25) (53.00, 25)
	(61.00, 25) (63.00, 25) (65.00, 25)
	(73.00, 25) (96.00, 25) (98.00, 25)

GROUP 4	
Group ID	: 4
Resolution	: High
Group Start Time	: 4.50
Plot 1 Ion	: 61.00

```

Plot 2 Ion          : 130.0
Ions/Dwell In Group (  Mass,  Dwell) (  Mass,  Dwell) (  Mass,  Dwell)
( 47.00, 20) ( 49.00, 20) ( 61.00, 20)
( 83.00, 20) ( 85.00, 20) ( 93.00, 20)
( 96.00, 20) ( 98.00, 20) (128.00, 20)
(130.00, 20)

```

```

GROUP 5
Group ID           : 5
Resolution         : High
Group Start Time   : 4.92
Plot 1 Ion         : 97.00
Plot 2 Ion         : 61.0
Ions/Dwell In Group (  Mass,  Dwell) (  Mass,  Dwell) (  Mass,  Dwell)
( 61.00, 40) ( 97.00, 40) ( 99.00, 40)

```

```

GROUP 6
Group ID           : 6
Resolution         : High
Group Start Time   : 5.12
Plot 1 Ion         : 78.00
Plot 2 Ion         : 114.0
Ions/Dwell In Group (  Mass,  Dwell) (  Mass,  Dwell) (  Mass,  Dwell)
( 50.00, 40) ( 63.00, 40) ( 77.00, 40)
( 78.00, 40) ( 88.00, 40) (114.00, 40)

```

```

GROUP 7
Group ID           : 7
Resolution         : High
Group Start Time   : 5.42
Plot 1 Ion         : 130.00
Plot 2 Ion         : 95.0
Ions/Dwell In Group (  Mass,  Dwell) (  Mass,  Dwell) (  Mass,  Dwell)
( 95.00, 40) (130.00, 40) (132.00, 40)

```

```

GROUP 8
Group ID           : 8
Resolution         : High
Group Start Time   : 5.80
Plot 1 Ion         : 91.00
Plot 2 Ion         : 92.0
Ions/Dwell In Group (  Mass,  Dwell) (  Mass,  Dwell)
( 91.00, 40) ( 92.00, 40)

```

```

GROUP 9
Group ID           : 9
Resolution         : High
Group Start Time   : 6.40
Plot 1 Ion         : 166.00
Plot 2 Ion         : 131.0
Ions/Dwell In Group (  Mass,  Dwell) (  Mass,  Dwell) (  Mass,  Dwell)
(131.00, 40) (164.00, 40) (166.00, 40)

```

```

GROUP 10
Group ID           : 10
Resolution         : High
Group Start Time   : 6.80
Plot 1 Ion         : 117.00
Plot 2 Ion         : 91.0
Ions/Dwell In Group (  Mass,  Dwell) (  Mass,  Dwell) (  Mass,  Dwell)
( 82.00, 40) ( 91.00, 40) (105.00, 40)
(106.00, 40) (117.00, 40) (119.00, 40)

```

[MSZones]

```

MS Source          : 230 C    maximum 250 C
MS Quad            : 150 C    maximum 200 C

```

END OF MS ACQUISITION PARAMETERS

TUNE PARAMETERS for SN: US83130668

Trace Ion Detection is OFF.

EMISSION : 34.610
ENERGY : 69.922
REPELLER : 19.904
IONFOCUS : 74.024
ENTRANCE_LE : 0.000
EMVOLTS : 1541.176

Actual EMV : 1541.18
GAIN FACTOR : 0.84

AMUGAIN : 1180.000
AMUOFFSET : 126.250
FILAMENT : 2.000
DCPOLARITY : 0.000
ENTLENSOFFS : 16.816@ 3 16.816@ 50 13.553@ 69 15.059@131 14.808
@219 16.816@414 18.322@502 18.322@1049
MASSGAIN : -977.000
MASSOFFSET : -39.000

END OF TUNE PARAMETERS

END OF INSTRUMENT CONTROL PARAMETERS

DATA ANALYSIS PARAMETERS

Method Name : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Percent Report Settings

Sort By: Retention Time

Output Destination

Screen: Yes
Printer: Yes
File: No

Integration Events: Meth Default

Generate Report During Run Method: No

Signal Correlation Window: 0.020

Qualitative Report Settings

Peak Location of Unknown: Apex

Library to Search Minimum Quality
C:\Database\W8N08.L 0

Integration Events: Meth Default

Report Type: Summary

Output Destination

Screen: Yes
Printer: Yes
File: No

Generate Report During Run Method: No

Quantitative Report Settings

Report Type: Detailed

Output Destination

Screen: No
Printer: Yes
File: quant.xls

Generate Report During Run Method: No

Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014
Calibration Last Updated: Mon Sep 29 18:48:25 2014

Reference Window: 10.00 Percent
Non-Reference Window: 5.00 Percent

Method: LOOP20140929-QUANT.M

Mon Sep 29 18:52:31 2014 Page: 1

Q 09/29/14

Correlation Window: 0.02 minutes
Default Multiplier: 1.00
Default Sample Concentration: 0.00

Compound Information

1) Bromochloromethane (ISTD TR)

Ret. Time 4.848 min., Extract & Integrate from 4.748 to 4.918 min.

Signal	Rel Resp.	Pct. Unc.(rel)	Integration
Tgt 49.00			*** METH DEFAULT ***
Q1 130.00	68.00	20.0	*** METH DEFAULT ***
Q2 93.00	26.40	20.0	*** METH DEFAULT ***
Q3 128.00	54.00	20.0	*** METH DEFAULT ***

Lvl ID	Conc (ppbv)	Response
500	10.000	1864
10K	10.000	2468
2K	10.000	1930
100	10.000	1875
5	10.000	1838
0.5	10.000	1835
cc	10.000	1864

Qualifier Peak Analysis ON ISTD conc: 10.000 ppbv
Curve Fit: Avg. RF

2) Vinyl Chloride ()

Ret. Time 2.134 min., Extract & Integrate from 1.884 to 2.384 min.

Signal	Rel Resp.	Pct. Unc.(rel)	Integration
Tgt 62.00			*** METH DEFAULT ***
Q1 64.00	31.50	20.0	*** METH DEFAULT ***
Q2 27.00	39.70	20.0	*** METH DEFAULT ***

Lvl ID	Conc (ppbv)	Response
500	515.000	50475
10K	10300.000	1015952
2K	2060.000	197627
100	103.000	9960
5	5.150	562
0.5	0.520	-1
cc	515.000	50475

Qualifier Peak Analysis OFF
Curve Fit: Avg. RF

3) 1,1-Dichloroethene ()

Ret. Time 3.589 min., Extract & Integrate from 3.489 to 3.689 min.

Signal	Rel Resp.	Pct. Unc.(rel)	Integration
Tgt 61.00			*** METH DEFAULT ***
Q1 96.00	58.40	20.0	*** METH DEFAULT ***
Q2 63.00	31.60	20.0	*** METH DEFAULT ***

Lvl ID	Conc (ppbv)	Response
500	497.500	88290
10K	9950.000	1709010
2K	1990.000	343487
100	99.500	16917
5	4.980	837
0.5	0.500	83
cc	497.500	88290

Qualifier Peak Analysis OFF

Curve Fit: Avg. RF

4) Methyl Tert Butyl Ether

()

Ret. Time 4.040 min., Extract & Integrate from 3.940 to 4.140 min.

Signal	Rel Resp.	Pct. Unc.(rel)	Integration
Tgt 73.00			*** METH DEFAULT ***
Q1 53.00	1.30	20.0	*** METH DEFAULT ***
Q2 41.00	25.20	20.0	*** METH DEFAULT ***

Lvl ID	Conc (ppbv)	Response
500	502.500	109856
10K	10050.000	2120043
2K	2010.000	430823
100	100.500	20886
5	5.030	981
0.5	0.500	105
cc	502.500	109856

Qualifier Peak Analysis OFF
Curve Fit: Avg. RF

5) trans-1,2-Dichloroethene

()

Ret. Time 4.109 min., Extract & Integrate from 4.009 to 4.209 min.

Signal	Rel Resp.	Pct. Unc.(rel)	Integration
Tgt 61.00			*** METH DEFAULT ***
Q1 96.00	66.30	20.0	*** METH DEFAULT ***
Q2 98.00	42.20	20.0	*** METH DEFAULT ***

Lvl ID	Conc (ppbv)	Response
500	502.500	82571
10K	10050.000	1532891
2K	2010.000	313352
100	100.500	15503
5	5.030	789
0.5	0.500	86
cc	502.500	82571

Qualifier Peak Analysis OFF
Curve Fit: Avg. RF

6) 1,1-Dichloroethane

()

Ret. Time 4.346 min., Extract & Integrate from 4.246 to 4.446 min.

Signal	Rel Resp.	Pct. Unc.(rel)	Integration
Tgt 63.00			*** METH DEFAULT ***
Q1 65.00	30.20	20.0	*** METH DEFAULT ***
Q2 27.00	23.30	20.0	*** METH DEFAULT ***

Lvl ID	Conc (ppbv)	Response
500	517.500	103661
10K	10350.000	1956389
2K	2070.000	398749
100	103.500	19569
5	5.180	950
0.5	0.520	103
cc	517.500	103661

Qualifier Peak Analysis OFF
Curve Fit: Avg. RF

7) cis-1,2-Dichloroethene

()

Ret. Time 4.684 min., Extract & Integrate from 4.584 to 4.784 min.

Signal	Rel Resp.	Pct. Unc.(rel)	Integration
Tgt 61.00			*** METH DEFAULT ***
Q1 96.00	72.70	20.0	*** METH DEFAULT ***
Q2 98.00	46.40	20.0	*** METH DEFAULT ***

Lvl ID	Conc (ppbv)	Response
500	527.500	81888
10K	10550.000	1520990
2K	2110.000	310370
100	105.500	15253
5	5.280	740
0.5	0.530	83
cc	527.500	81888

Qualifier Peak Analysis OFF
Curve Fit: Avg. RF

8) Chloroform ()

Ret. Time 4.772 min., Extract & Integrate from 4.672 to 4.872 min.

Signal	Rel Resp.	Pct. Unc.(rel)	Integration
Tgt 83.00			EVENTS.E
Q1 85.00	64.70	20.0	EVENTS.E
Q2 47.00	25.60	20.0	EVENTS.E

Lvl ID	Conc (ppbv)	Response
500	515.000	107154
10K	10300.000	2090904
2K	2060.000	404658
100	103.000	19995
5	5.150	970
0.5	0.520	103
cc	515.000	107154

Qualifier Peak Analysis ON
Curve Fit: Avg. RF

9) 1,1,1-Trichloroethane ()

Ret. Time 5.016 min., Extract & Integrate from 4.916 to 5.116 min.

Signal	Rel Resp.	Pct. Unc.(rel)	Integration
Tgt 97.00			*** METH DEFAULT ***
Q1 99.00	64.30	20.0	*** METH DEFAULT ***
Q2 61.00	45.70	20.0	*** METH DEFAULT ***

Lvl ID	Conc (ppbv)	Response
500	505.000	114997
10K	10100.000	2203343
2K	2020.000	446064
100	101.000	21578
5	5.050	1015
0.5	0.510	107
cc	505.000	114997

Qualifier Peak Analysis OFF
Curve Fit: Avg. RF

10) 1,4-Difluorobenzene (ISTD TR)

Ret. Time 5.359 min., Extract & Integrate from 5.289 to 5.429 min.

Signal	Rel Resp.	Pct. Unc.(rel)	Integration
Tgt 114.00			*** METH DEFAULT ***
Q1 63.00	19.60	20.0	*** METH DEFAULT ***
Q2 88.00	14.70	20.0	*** METH DEFAULT ***

Lvl	ID	Conc (ppbv)	Response
500		10.000	5261
10K		10.000	5045
2K		10.000	5132
100		10.000	5320
5		10.000	5230
0.5		10.000	5208
cc		10.000	5261

Qualifier Peak Analysis OFF ISTD conc: 10.000 ppbv
 Curve Fit: Avg. RF

11) Benzene ()

Ret. Time 5.236 min., Extract & Integrate from 5.136 to 5.336 min.

Signal	Rel Resp.	Pct. Unc.(rel)	Integration
Tgt 78.00			*** METH DEFAULT ***
Q1 77.00	22.90	20.0	*** METH DEFAULT ***
Q2 50.00	18.00	20.0	*** METH DEFAULT ***

Lvl	ID	Conc (ppbv)	Response
500		525.000	161554
10K		10500.000	2916215
2K		2100.000	615420
100		105.000	30350
5		5.250	1496
0.5		0.530	169
cc		525.000	161554

Qualifier Peak Analysis OFF
 Curve Fit: Avg. RF

12) Trichloroethene ()

Ret. Time 5.569 min., Extract & Integrate from 5.469 to 5.669 min.

Signal	Rel Resp.	Pct. Unc.(rel)	Integration
Tgt 130.00			*** METH DEFAULT ***
Q1 132.00	96.30	20.0	*** METH DEFAULT ***
Q2 95.00	91.50	20.0	*** METH DEFAULT ***

Lvl	ID	Conc (ppbv)	Response
500		505.000	82585
10K		10100.000	1529446
2K		2020.000	315270
100		101.000	15497
5		5.050	745
0.5		0.510	80
cc		505.000	82585

Qualifier Peak Analysis OFF
 Curve Fit: Avg. RF

13) Chlorobenzene-d5 (ISTD TR)

Ret. Time 7.054 min., Extract & Integrate from 6.954 to 7.134 min.

Signal	Rel Resp.	Pct. Unc.(rel)	Integration
Tgt 117.00			*** METH DEFAULT ***
Q1 82.00	49.40	20.0	*** METH DEFAULT ***
Q2 119.00	32.20	20.0	*** METH DEFAULT ***

Lvl	ID	Conc (ppbv)	Response
500		10.000	5415
10K		10.000	5222
2K		10.000	5314
100		10.000	5505
5		10.000	5363

Qualifier Peak Analysis OFF ISTD conc: 10.000 ppbv
Curve Fit: Avg. RF

()

Lvl	ID	Conc (ppbv)	Response
500		520.000	204059
10K		10400.000	3600353
2K		2080.000	771365
100		104.000	37563
5		5.200	1859
0.5		0.520	220
cc		520.000	204059

Qualifier Peak Analysis OFF
Curve Fit: Avg. RF

()

Signal	Rel Resp.	Pct. Unc.(rel)	Integration
Tgt 166.00			*** METH DEFAULT ***
Q1 164.00	78.20	20.0	*** METH DEFAULT ***
Q2 131.00	72.40	20.0	*** METH DEFAULT ***

Lvl	ID	Conc (ppbv)	Response
500		507.500	105579
10K		10150.000	1952850
2K		2030.000	405102
100		101.500	19769
5		5.080	946
0.5		0.510	106
cc		507.500	105579

Qualifier Peak Analysis OFF
Curve Fit: Avg. RF

()

Signal	Rel Resp.	Pct. Unc.(rel)	Integration
Tgt 91.00			*** METH DEFAULT ***
Q1 106.00	33.00	20.0	*** METH DEFAULT ***

Lvl	ID	Conc (ppbv)	Response
500		520.000	265141
10K		10400.000	4708668
2K		2080.000	1042895
100		104.000	48569
5		5.200	2235
0.5		0.520	251
cc		520.000	265141

Qualifier Peak Analysis ON
Curve Fit: Avg. RF

()

Ret. Time 7.151 min., Extract & Integrate from 7.051 to 7.251 min.

Signal	Rel Resp.	Pct. Unc.(rel)	Integration
Tgt 91.00			*** METH DEFAULT ***
Q1 106.00	51.50	20.0	*** METH DEFAULT ***
Q2 105.00	23.00	20.0	*** METH DEFAULT ***

Lvl	ID	Conc (ppbv)	Response
500		520.000	206455
10K		10400.000	3591821
2K		2080.000	765312
100		104.000	36569
5		5.200	1744
0.5		0.520	220
cc		520.000	206455

Qualifier Peak Analysis ON
Curve Fit: Avg. RF

18) o-Xylene ()

Ret. Time 7.409 min., Extract & Integrate from 7.309 to 7.509 min.

Signal	Rel Resp.	Pct. Unc.(rel)	Integration
Tgt 91.00			*** METH DEFAULT ***
Q1 106.00	47.90	20.0	*** METH DEFAULT ***
Q2 105.00	19.10	20.0	*** METH DEFAULT ***

Lvl	ID	Conc (ppbv)	Response
500		517.500	209822
10K		10350.000	3687777
2K		2070.000	804043
100		103.500	37952
5		5.180	1779
0.5		0.520	209
cc		517.500	209822

Qualifier Peak Analysis OFF
Curve Fit: Avg. RF

END OF DATA ANALYSIS PARAMETERS

Mon Sep 29 18:52:31 2014

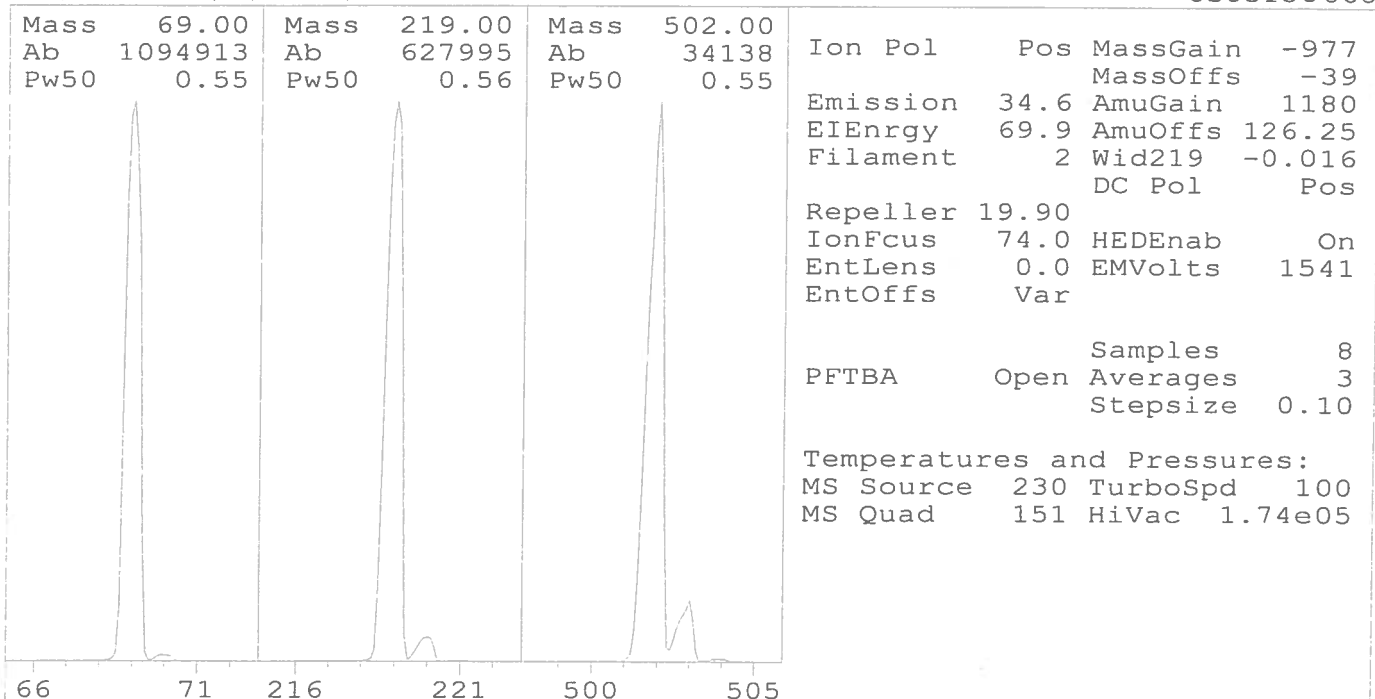
5975 BFB Dynamic Target Tune

Mon Sep 29 17:08:08 2014

Instrument: Instrument 2

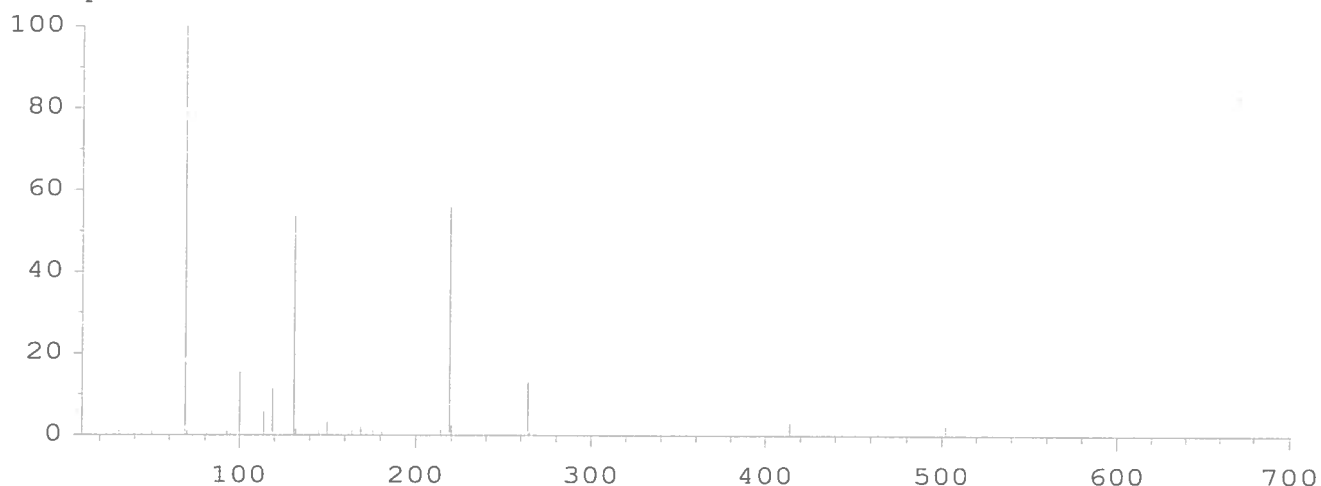
C:\MSDCHEM\1\5975\bfb.u

US83130668



Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10

118 peaks Base: 69.00 Abundance: 1041024



Air/Water Check: H2O~0.17% N2~0.57% O2~0.19% CO2~0.13% N2/H2O~330.76%

Ramp Criteria:

Ion Focus Maximum	90	volts using ion	502;	EM Gain	83731
Repeller Maximum	20	volts using ion	219;	Gain Factor	0.84

MassGain Values(Samples): -963(3) -950(2) -924(1) -880(0) -853(FS)

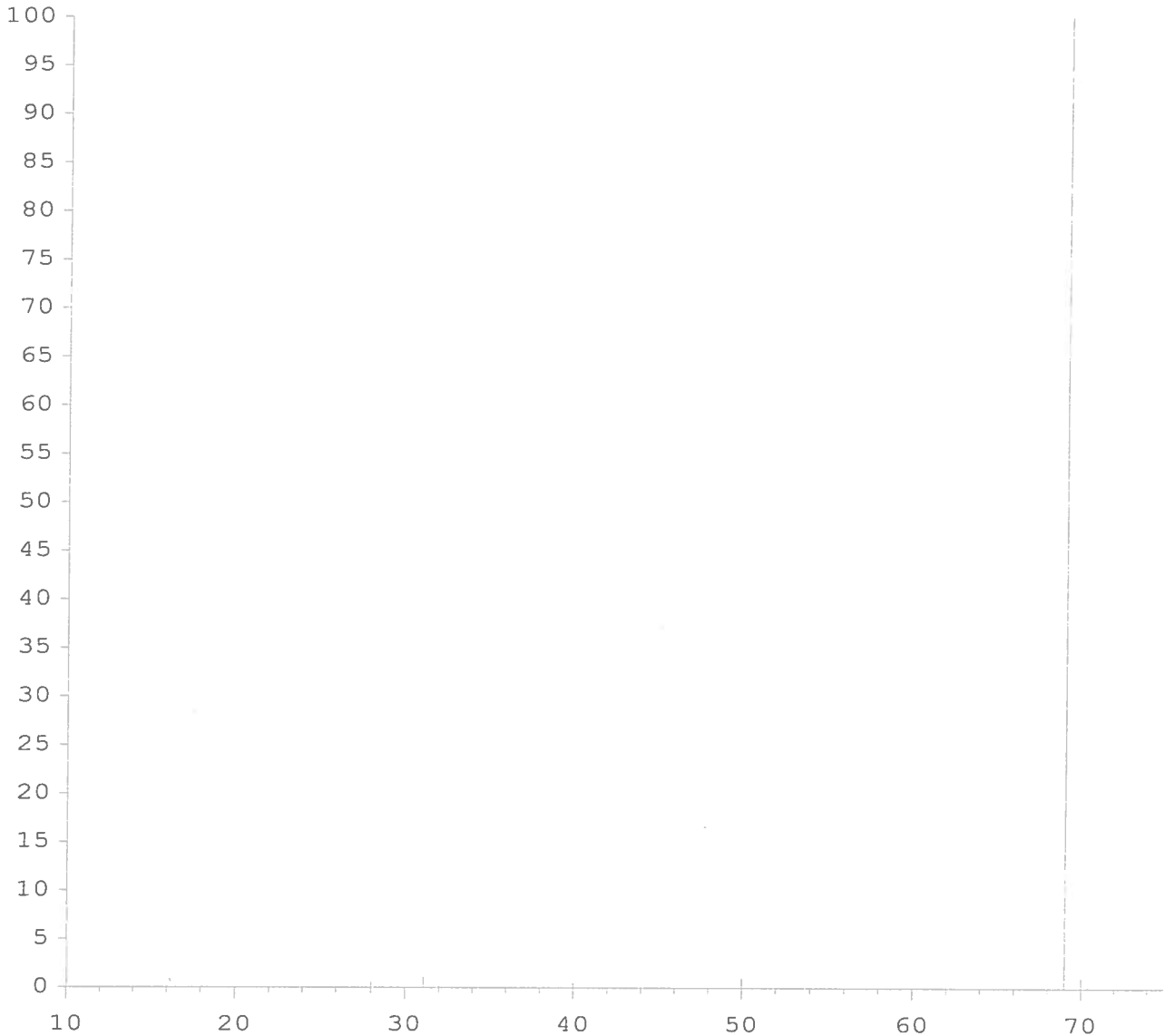
TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	126.3	126.3	126.3	126.3	126.3	126.3	126.3
Entrance Lens Offset:	16.8	13.6	15.1	14.8	16.8	18.3	18.3
Target Abund(%)	1.0	100.0	52.0	50.0	2.4	2.0	
Actual Tune Abund(%)	1.0	100.0	53.6	55.9	3.1	2.8	

597x Air and Water Check

Instrument: Instrument 2
Mon Sep 29 17:10:33 2014

C:\msdchem\1\5975\

Scan: 10.00 - 75.00 Samples: 8 Thresh: 0 Step: 0.10
73 peaks Base: 69.00 Abundance: 1044160



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	1044160	100.00	70.00	11268	1.08
18.10	2065	0.20	19.00	76	3.68
28.00	6065	0.58	29.20	76	1.25

Current Params used: bfb.u

Relative abundances:

18/69 = 0.20	Water%	(counts=2065)
28/69 = 0.58	Nitrogen%	(counts=6065)
32/69 = 0.21	Oxygen%	(counts=2181)
44/69 = 0.12	Carbon Dioxide%	(counts=1247)
28/18 = 293.70	Nitrogen/Water%	

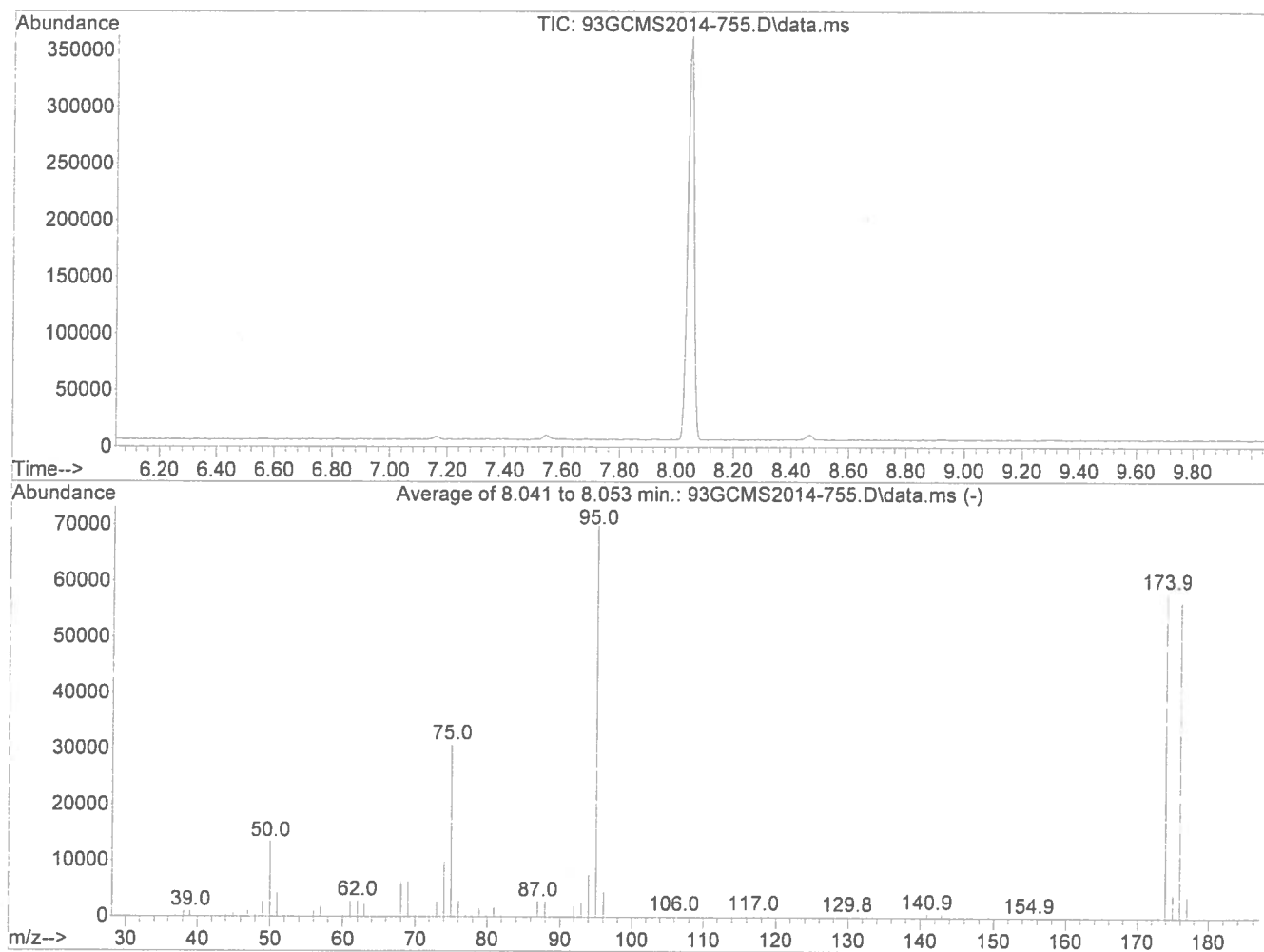
Handwritten signature and date: 09/29/14

BFB

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-755.D
 Acq On : 29 Sep 2014 17:21
 Operator : SJT
 Sample : BFB \ 1ppmv STD
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\LOOP20140924-QUANT.M
 Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjWed Sep 24 10:31
 Last Update : Mon Sep 29 08:37:55 2014



AutoFind: Scans 697, 698, 699; Background Corrected with Scan 689

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.1	13371	PASS
75	95	30	66	44.0	30784	PASS
95	95	100	100	100.0	69901	PASS
96	95	5	9	6.4	4453	PASS
173	174	0.00	2	0.6	334	PASS
174	95	50	120	83.0	58032	PASS
175	174	4	9	7.2	4169	PASS
176	174	93	101	97.1	56333	PASS
177	176	5	9	6.5	3679	PASS

Handwritten signature/initials

Compound	COA Concentrations CC# 80994 EXP. 03/14/2015 CC# 128284 EXP. 11/22/2014	10K ICAL	2K ICAL	500 ICAL	100 ICAL	5 ICAL	0.5 ICAL
	(ppmv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)
Vinyl Chloride	20.6	10300.00	2060.00	515.00	103.00	5.15	0.52
1,1-Dichloroethene	19.9	9950.00	1990.00	497.50	99.50	4.98	0.50
trans-1,2-Dichloroethene	20.1	10050.00	2010.00	502.50	100.50	5.03	0.50
1,1-Dichloroethane	20.7	10350.00	2070.00	517.50	103.50	5.18	0.52
Methyl Tert Butyl Ether	20.1	10050.00	2010.00	502.50	100.50	5.03	0.50
cis-1,2-Dichloroethene	21.1	10550.00	2110.00	527.50	105.50	5.28	0.53
Cholorform	20.6	10300.00	2060.00	515.00	103.00	5.15	0.52
1,1,1-Trichloroethane	20.2	10100.00	2020.00	505.00	101.00	5.05	0.51
Benzene	21.0	10500.00	2100.00	525.00	105.00	5.25	0.53
Trichloroethene	20.2	10100.00	2020.00	505.00	101.00	5.05	0.51
Toluene	20.8	10400.00	2080.00	520.00	104.00	5.20	0.52
Tetrachloroethene	20.3	10150.00	2030.00	507.50	101.50	5.08	0.51
Ethyl Benzene	20.8	10400.00	2080.00	520.00	104.00	5.20	0.52
m&p-Xylene	20.8	10400.00	2080.00	520.00	104.00	5.20	0.52
o-Xylene	20.7	10350.00	2070.00	517.50	103.50	5.18	0.52

P 09/24/11

Response Factor Report Instrument 2

Method Path : C:\msdchem\1\METHODS\

Method File : LOOP20140929-QUANT.M

Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014

Last Update : Mon Sep 29 18:48:25 2014

Response Via : Initial Calibration

Calibration Files

500 =93GCMS2014-758.D 10K =93GCMS2014-756.D 2K =93GCMS2014-757.D

100 =93GCMS2014-759.D 5 =93GCMS2014-760.D 0.5 =93GCMS2014-761.D

Compound	500	10K	2K	100	5	0.5	Avg	%RS
----------	-----	-----	----	-----	---	-----	-----	-----

1) ISTD	Bromochloromethane							
2)	Vinyl Chloride	0.526	0.400	0.497	0.516	0.594	0.506	13.81
3)	1,1-Dichloroet...	0.952	0.696	0.894	0.907	0.914	0.905	10.41
4)	Methyl Tert Bu...	1.173	0.855	1.111	1.108	1.061	1.144	10.64
5)	trans-1,2-Dich...	0.882	0.618	0.808	0.823	0.853	0.937	13.32
6)	1,1-Dichloroet...	1.075	0.766	0.998	1.008	0.998	1.079	11.62
7)	cis-1,2-Dichlo...	0.833	0.584	0.762	0.771	0.763	0.853	12.48
8)	Chloroform	1.116	0.823	1.018	1.035	1.025	1.079	10.03
9)	1,1,1-Trichlor...	1.222	0.884	1.144	1.139	1.094	1.143	10.47
10) ISTD	1,4-Difluorobenzene							
11)	Benzene	0.585	0.551	0.571	0.543	0.545	0.612	4.79
12)	Trichloroethene	0.311	0.300	0.304	0.288	0.282	0.301	3.56
13) ISTD	Chlorobenzene-d5							
14)	Toluene	0.725	0.663	0.698	0.656	0.667	0.783	7.00
15)	Tetrachloroethene	0.384	0.368	0.376	0.354	0.347	0.385	4.25
16)	Ethyl Benzene	0.942	0.867	0.944	0.848	0.801	0.894	6.27
17)	m,p-Xylene	0.733	0.661	0.692	0.639	0.625	0.783	8.76
18)	o-Xylene	0.749	0.682	0.731	0.666	0.640	0.744	6.46

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-756.D
 Acq On : 29 Sep 2014 17:36
 Operator : SJT
 Sample : STD20140929-4 \ 10,000ppbv ICAL STD
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 18:09:00 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:08:12 2014
 QLast Update : Mon Sep 29 18:08:12 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.848	49	2468	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.356	114	5045	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.053	117	5222	10.00	ppbv	0.00

System Monitoring Compounds

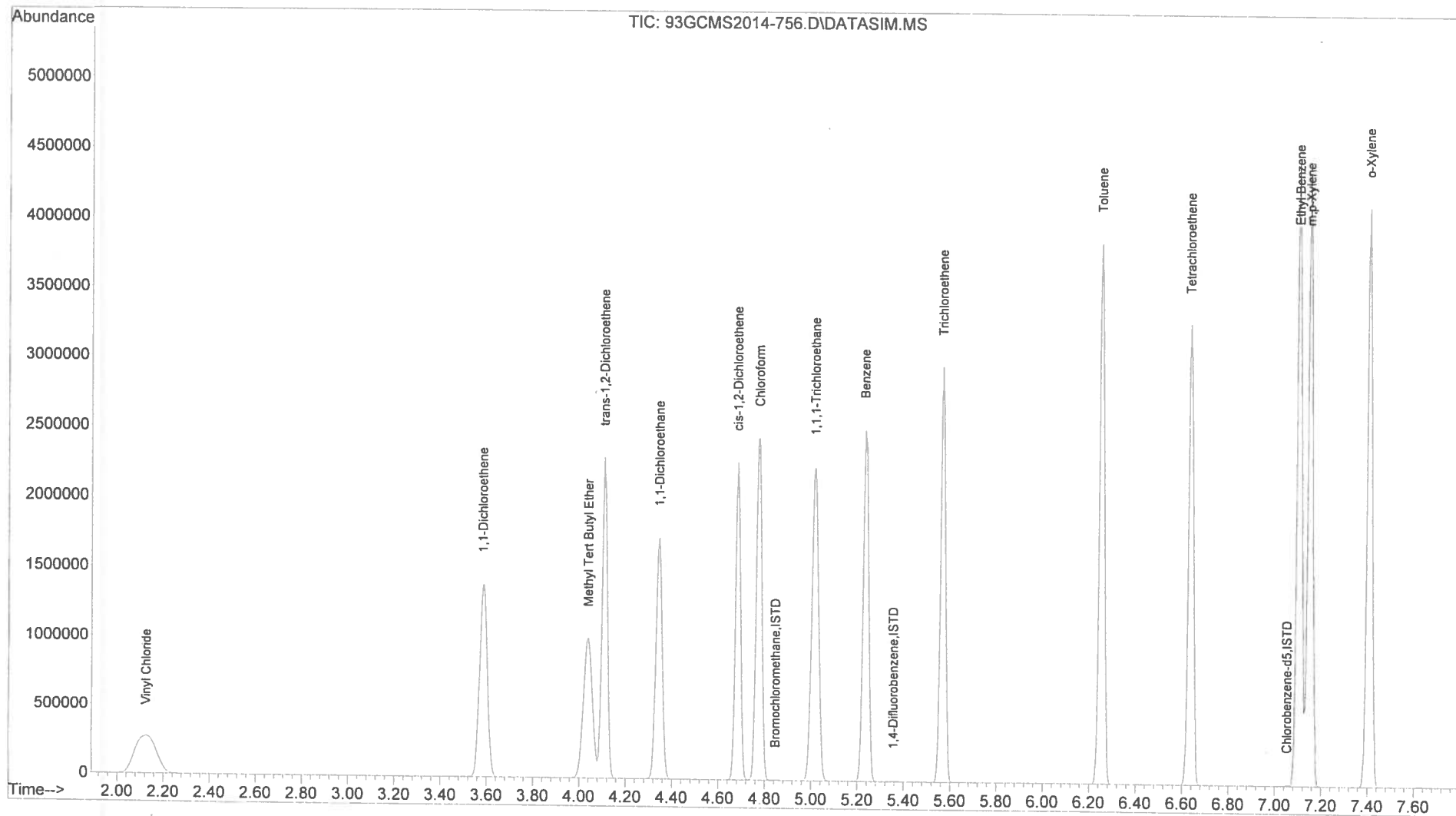
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Vinyl Chloride	2.126	62	1015952	7828.97	ppbv	99
3) 1,1-Dichloroethene	3.584	61	1709010	7273.22	ppbv	100
4) Methyl Tert Butyl Ether	4.040	73	2120043	7324.16	ppbv	99
5) trans-1,2-Dichloroethene	4.109	61	1532891	7045.64	ppbv	99
6) 1,1-Dichloroethane	4.346	63	1956389	7376.51	ppbv	99
7) cis-1,2-Dichloroethene	4.684	61	1520990	7399.96	ppbv	99
8) Chloroform	4.778	83	2090904	7589.86	ppbv	99
9) 1,1,1-Trichloroethane	5.018	97	2203343	7307.82	ppbv	99
11) Benzene	5.234	78	2916215	9882.53	ppbv	100
12) Trichloroethene	5.569	130	1529446	9752.85	ppbv	99
14) Toluene	6.254	91	3600353	9513.81	ppbv	99
15) Tetrachloroethene	6.636	166	1952850	9733.95	ppbv	100
16) Ethyl Benzene	7.105	91	4708668	9576.04	ppbv	100
17) m,p-Xylene	7.150	91	3591821	9381.11	ppbv	100
18) o-Xylene	7.408	91	3687777	9431.60	ppbv	99

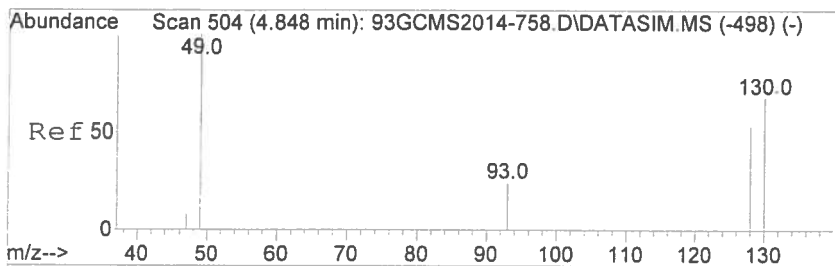
(#) = qualifier out of range (m) = manual integration (+) = signals summed

JP 09/29/14

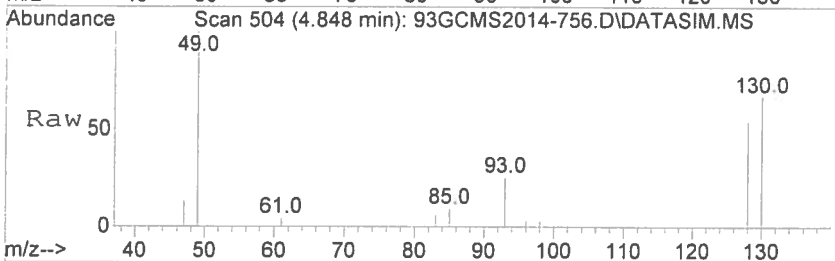
Data Path : D:\msdchem\1\data\2014\20140929\
Data File : 93GCMS2014-756.D
Acq On : 29 Sep 2014 17:36
Operator : SJT
Sample : STD20140929-4 \ 10,000ppbv ICAL STD
Misc : 5mL \ 29 Sept 2014
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 18:09:00 2014
Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:08:12 2014
QLast Update : Mon Sep 29 18:08:12 2014
Response via : Initial Calibration

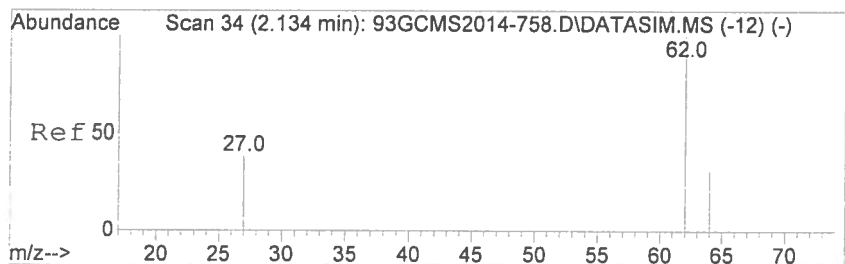
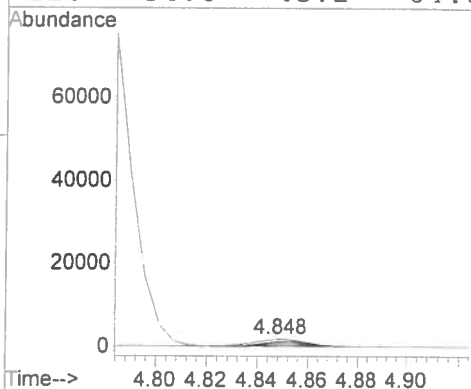
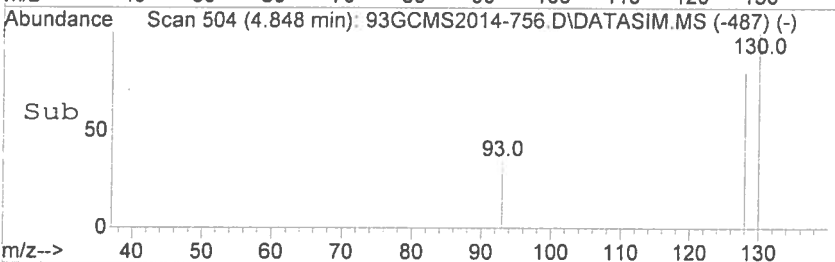




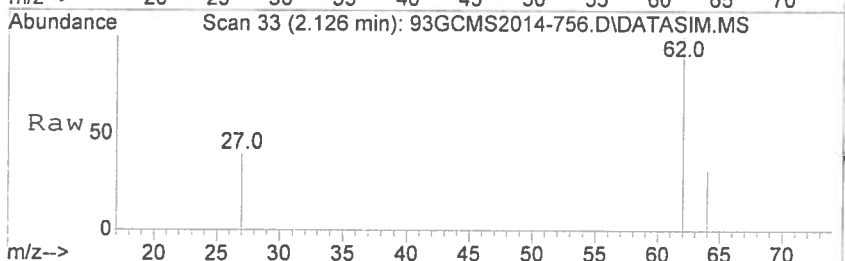
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. 0.000 min
Lab File: 93GCMS2014-756.D
Acq: 29 Sep 2014 17:36



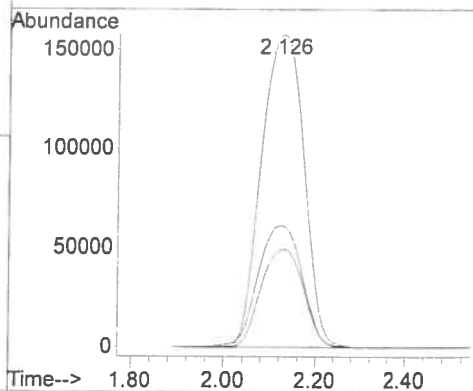
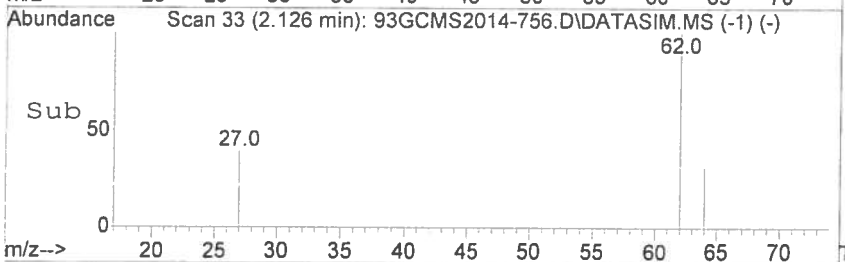
Tgt Ion: 49 Resp: 2468
Ion Ratio Lower Upper
49 100
130 67.3 54.4 81.6
93 24.5 21.1 31.7
128 54.0 43.2 64.8

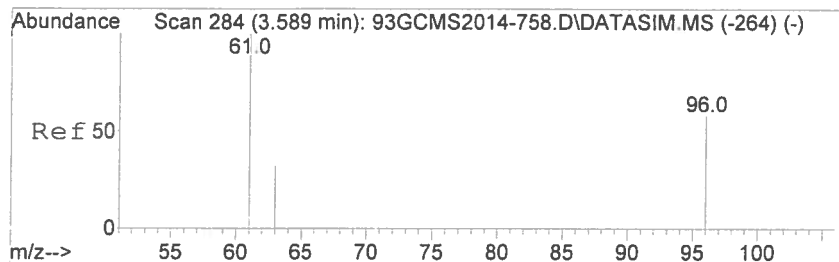


#2
Vinyl Chloride
Concen: 7828.97 ppbv
RT: 2.126 min Scan# 33
Delta R.T. -0.007 min
Lab File: 93GCMS2014-756.D
Acq: 29 Sep 2014 17:36



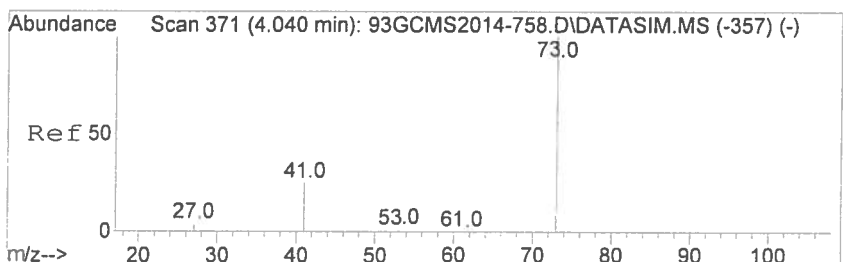
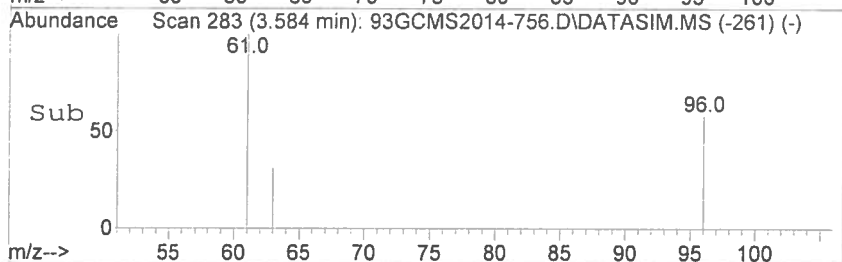
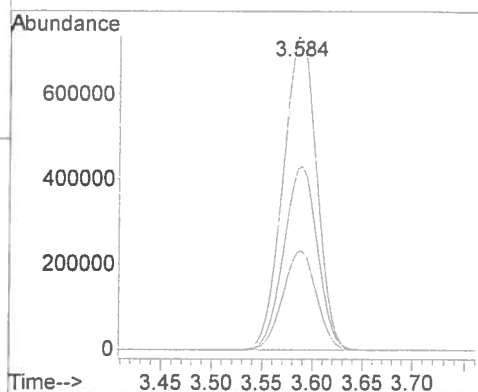
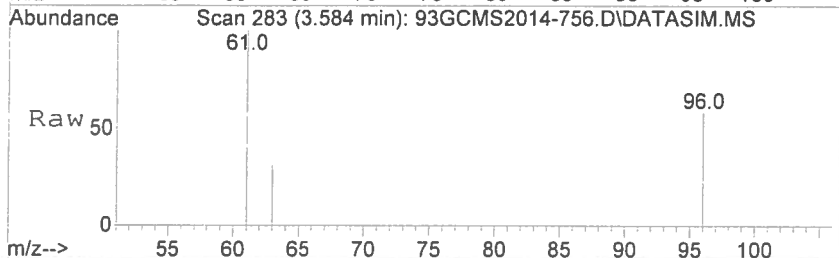
Tgt Ion: 62 Resp: 1015952
Ion Ratio Lower Upper
62 100
64 31.2 25.2 37.8
27 40.2 31.8 47.6





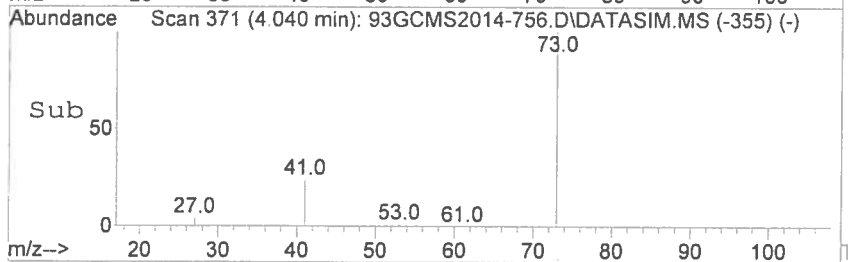
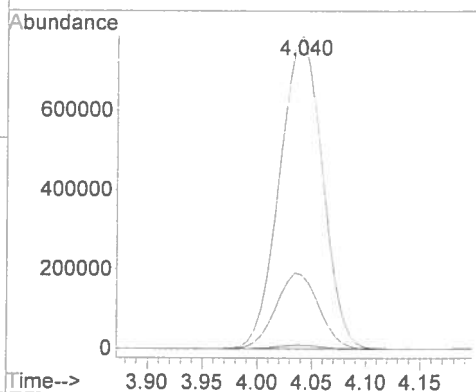
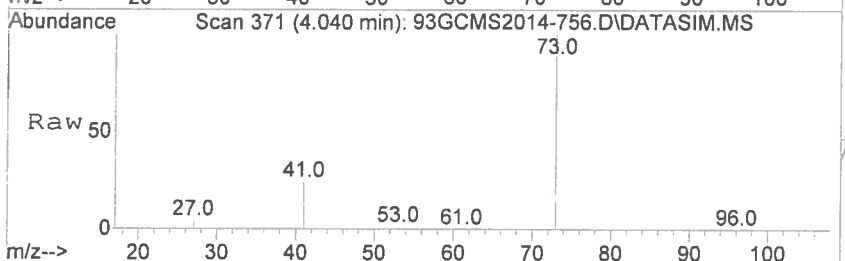
#3
1,1-Dichloroethene
Concen: 7273.22 ppbv
RT: 3.584 min Scan# 283
Delta R.T. -0.004 min
Lab File: 93GCMS2014-756.D
Acq: 29 Sep 2014 17:36

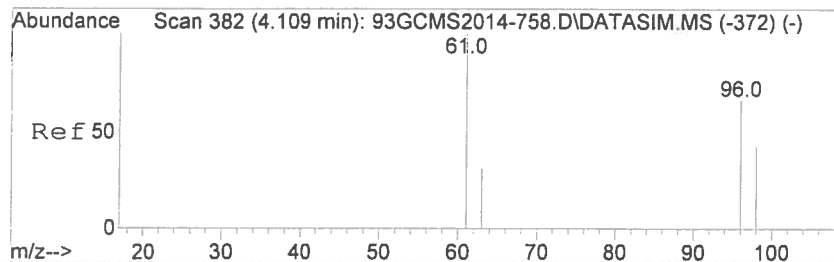
Tgt Ion	Ratio	Lower	Upper
61	100		
96	58.4	46.7	70.1
63	31.6	25.3	37.9



#4
Methyl Tert Butyl Ether
Concen: 7324.16 ppbv
RT: 4.040 min Scan# 371
Delta R.T. -0.000 min
Lab File: 93GCMS2014-756.D
Acq: 29 Sep 2014 17:36

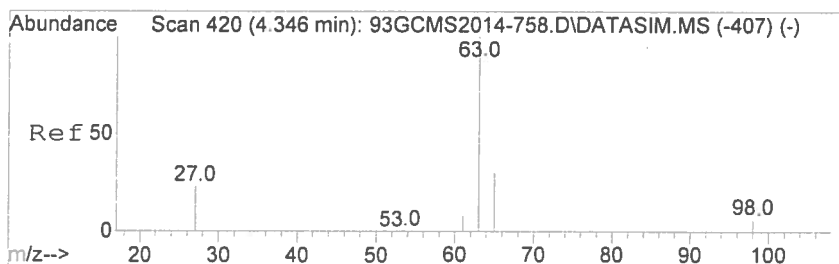
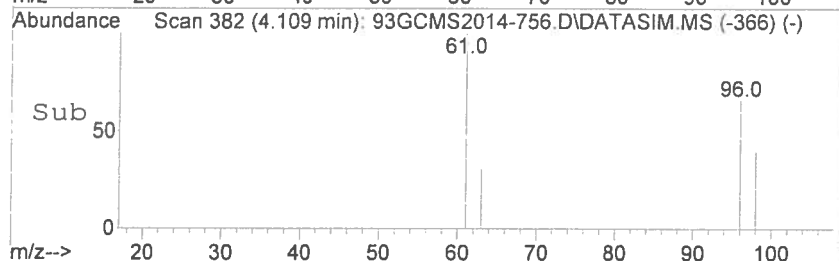
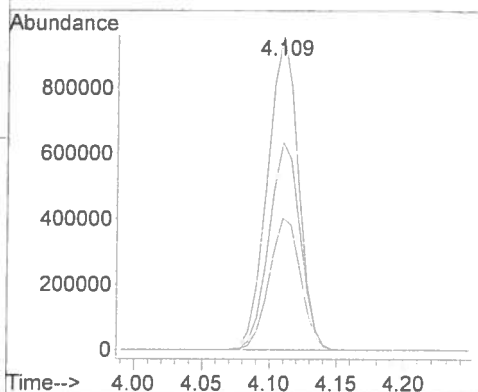
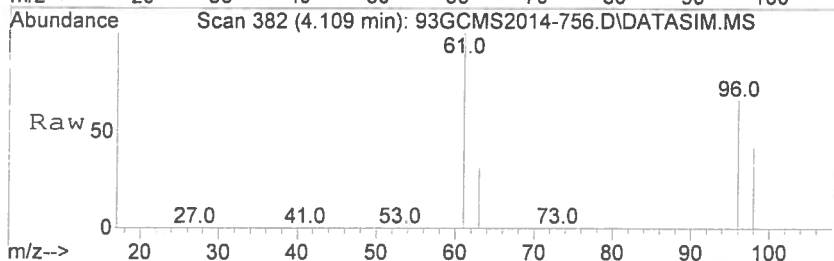
Tgt Ion	Ratio	Lower	Upper
73	100		
53	1.2	1.0	1.6
41	24.5	20.2	30.2





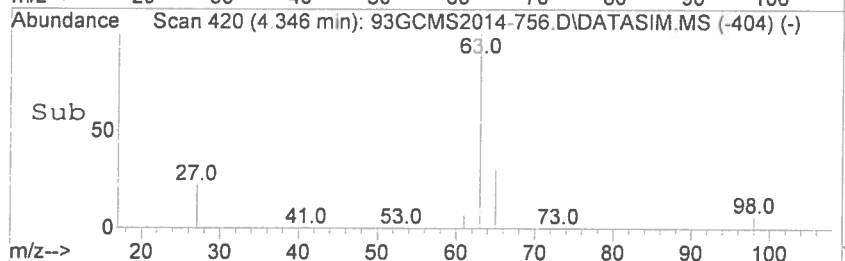
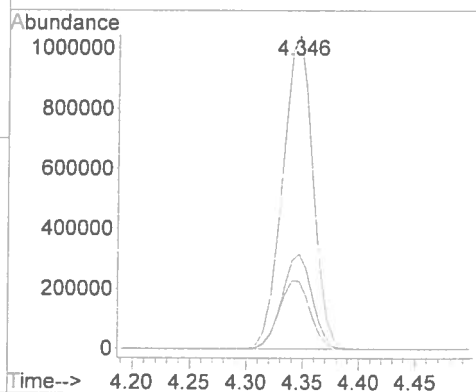
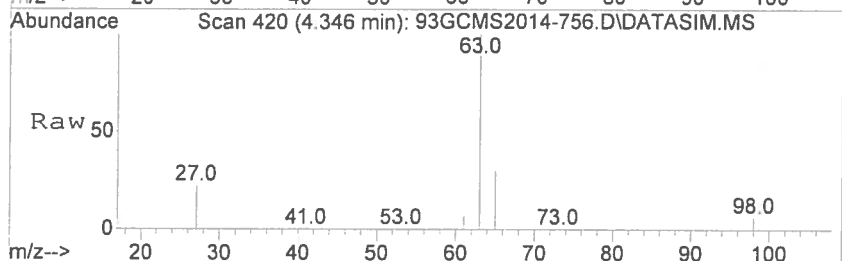
#5
trans-1,2-Dichloroethene
Concen: 7045.64 ppbv
RT: 4.109 min Scan# 382
Delta R.T. -0.000 min
Lab File: 93GCMS2014-756.D
Acq: 29 Sep 2014 17:36

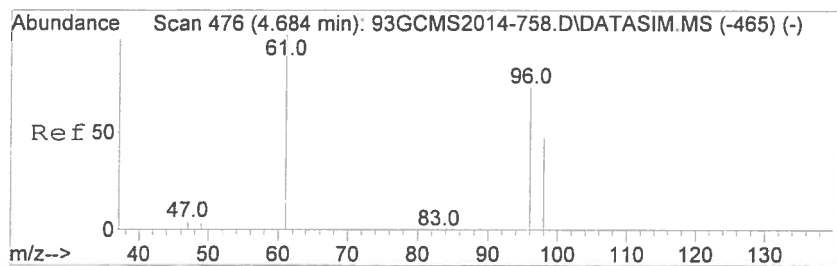
Tgt Ion	Ratio	Lower	Upper
61	100		
96	66.6	53.0	79.6
98	42.7	33.8	50.6



#6
1,1-Dichloroethane
Concen: 7376.51 ppbv
RT: 4.346 min Scan# 420
Delta R.T. -0.000 min
Lab File: 93GCMS2014-756.D
Acq: 29 Sep 2014 17:36

Tgt Ion	Ratio	Lower	Upper
63	100		
65	30.2	24.2	36.2
27	22.6	18.6	28.0





#7

cis-1,2-Dichloroethene

Concen: 7399.96 ppbv

RT: 4.684 min Scan# 476

Delta R.T. 0.000 min

Lab File: 93GCMS2014-756.D

Acq: 29 Sep 2014 17:36

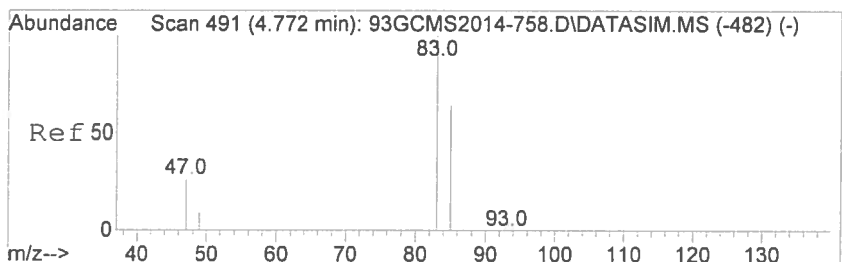
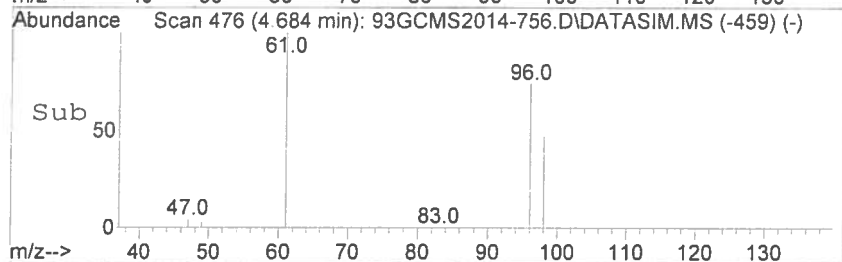
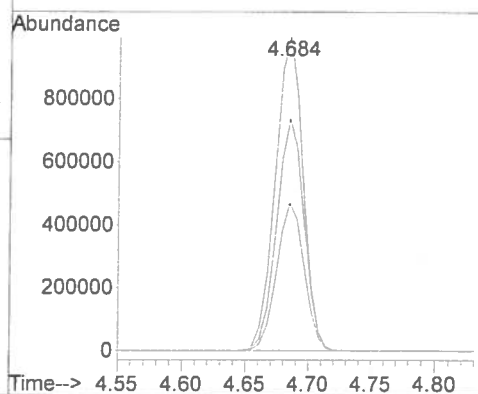
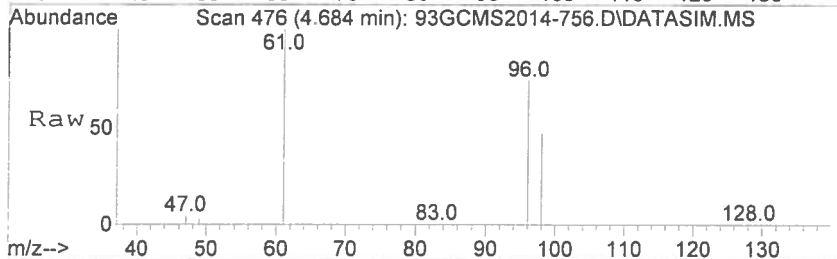
Tgt Ion: 61 Resp: 1520990

Ion Ratio Lower Upper

61 100

96 73.1 58.2 87.2

98 46.9 37.1 55.7



#8

Chloroform

Concen: 7589.86 ppbv

RT: 4.778 min Scan# 492

Delta R.T. 0.006 min

Lab File: 93GCMS2014-756.D

Acq: 29 Sep 2014 17:36

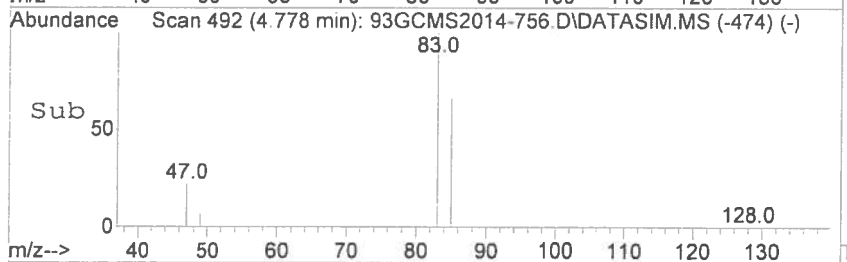
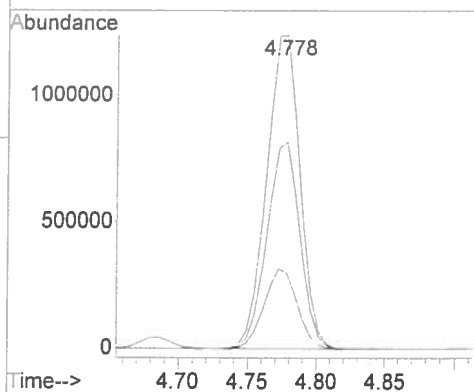
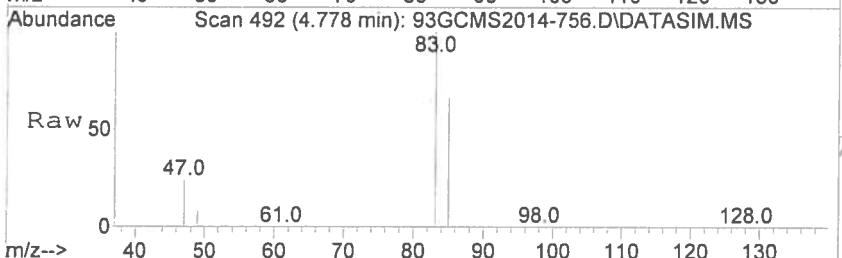
Tgt Ion: 83 Resp: 2090904

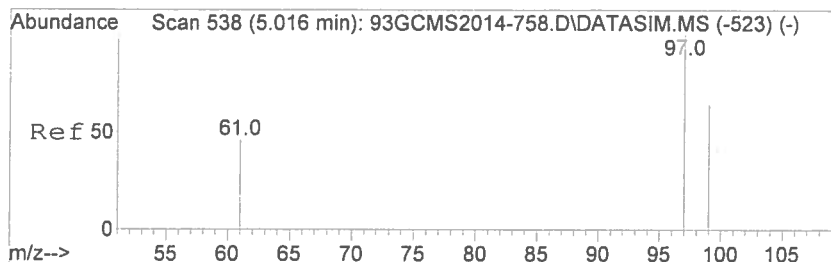
Ion Ratio Lower Upper

83 100

85 65.1 51.8 77.6

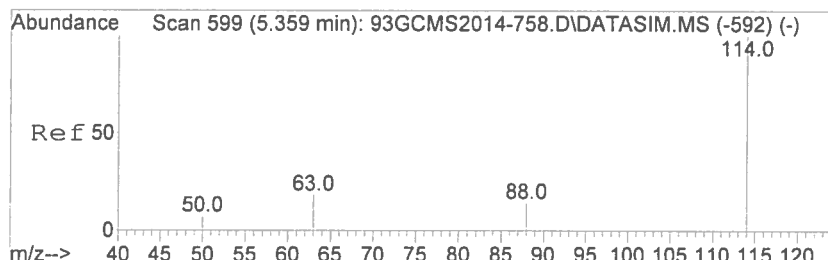
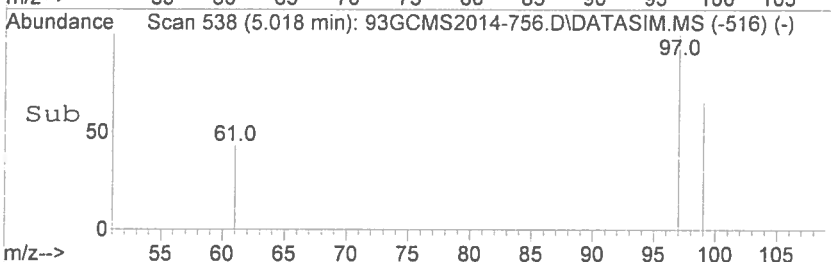
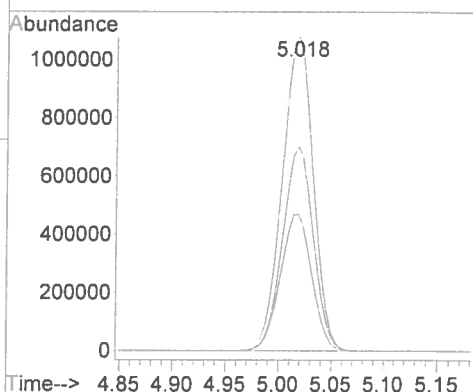
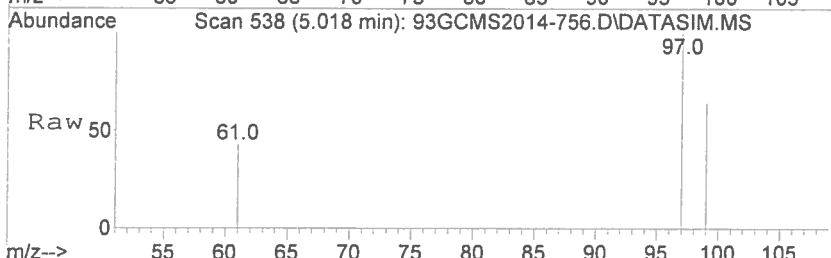
47 25.2 20.5 30.7





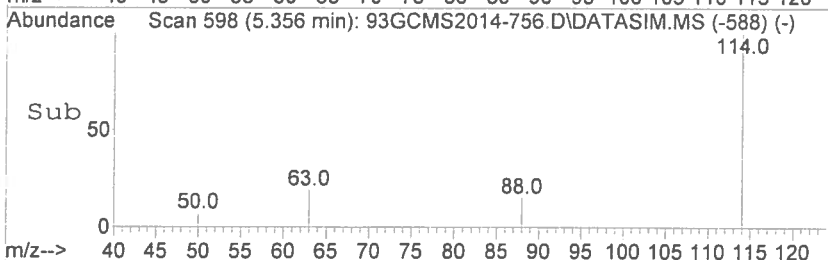
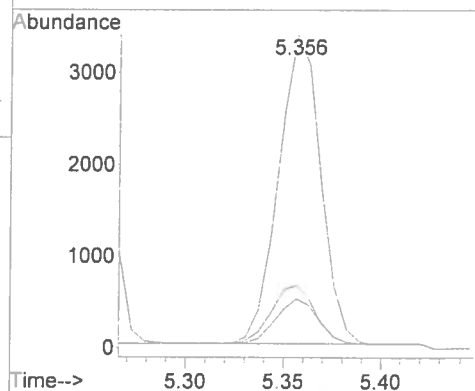
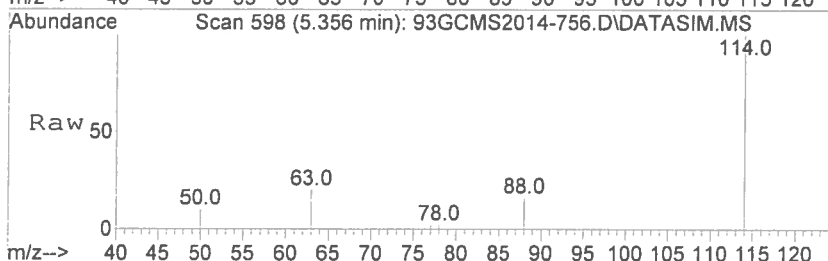
#9
1,1,1-Trichloroethane
Concen: 7307.82 ppbv
RT: 5.018 min Scan# 538
Delta R.T. 0.002 min
Lab File: 93GCMS2014-756.D
Acq: 29 Sep 2014 17:36

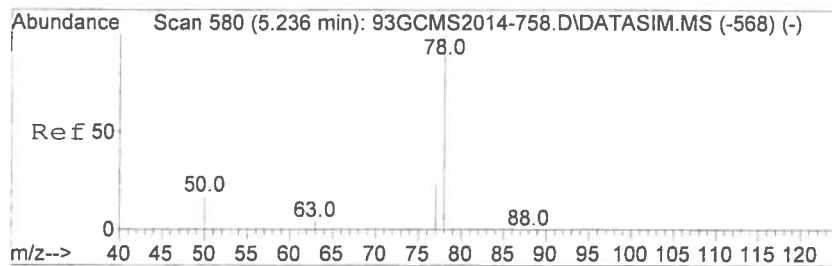
Tgt Ion	Ratio	Lower	Upper
97	100		
99	64.7	51.4	77.2
61	44.0	36.6	54.8



#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.356 min Scan# 598
Delta R.T. -0.003 min
Lab File: 93GCMS2014-756.D
Acq: 29 Sep 2014 17:36

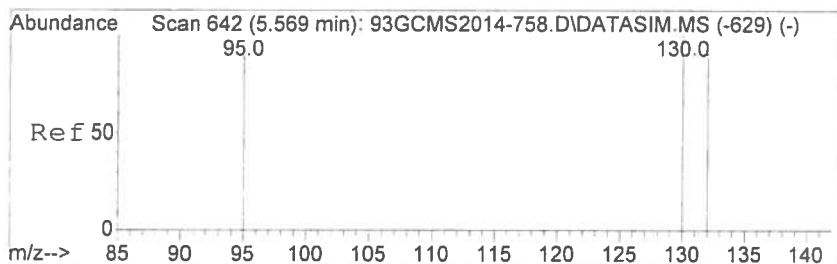
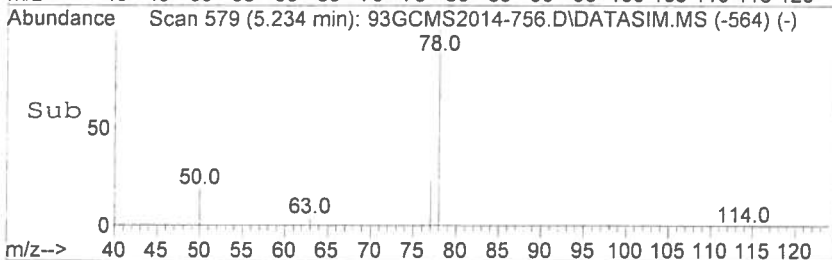
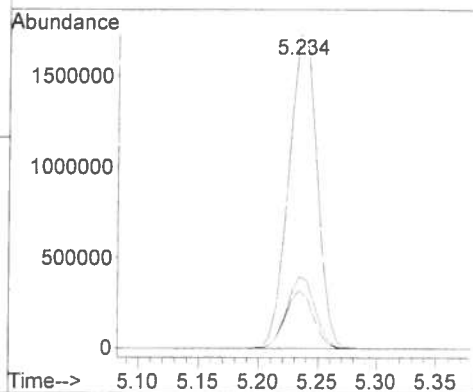
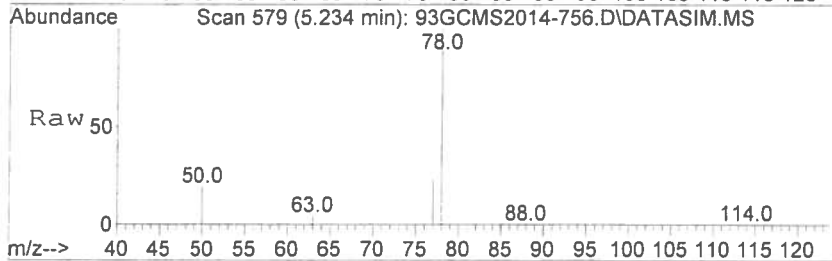
Tgt Ion	Ratio	Lower	Upper
114	100		
63	19.3	15.7	23.5
88	14.5	11.8	17.6





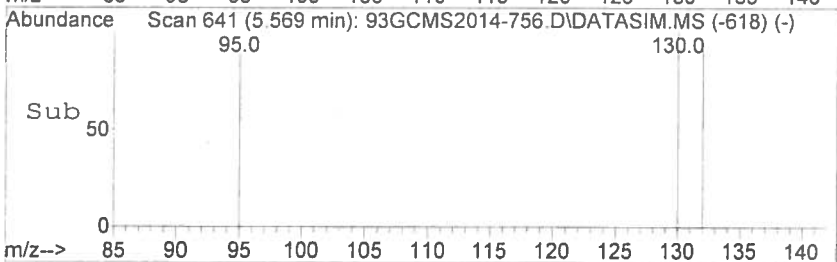
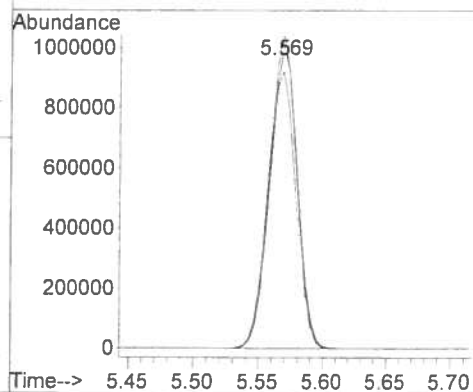
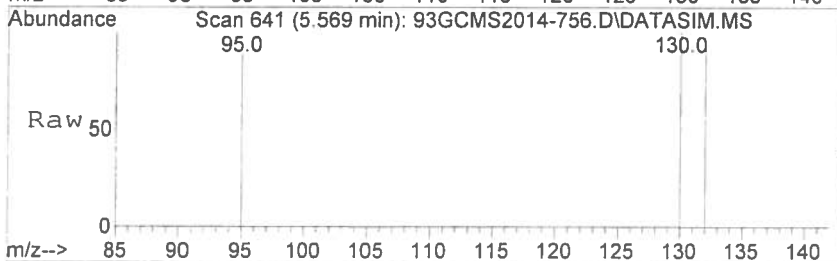
#11
Benzene
Concen: 9882.53 ppbv
RT: 5.234 min Scan# 579
Delta R.T. -0.003 min
Lab File: 93GCMS2014-756.D
Acq: 29 Sep 2014 17:36

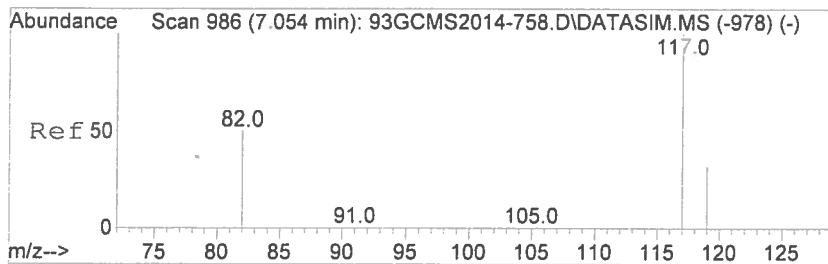
Tgt Ion	Ratio	Lower	Upper
78	100		
77	22.8	18.3	27.5
50	18.1	14.4	21.6



#12
Trichloroethene
Concen: 9752.85 ppbv
RT: 5.569 min Scan# 641
Delta R.T. -0.001 min
Lab File: 93GCMS2014-756.D
Acq: 29 Sep 2014 17:36

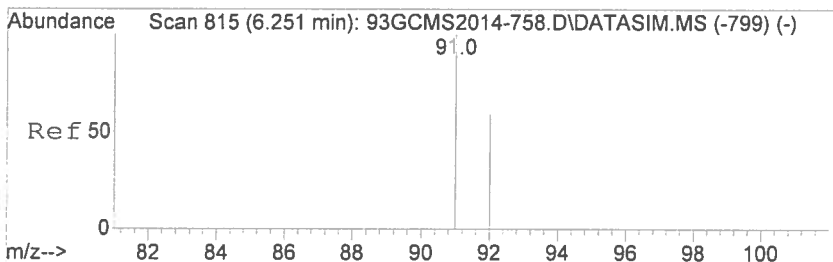
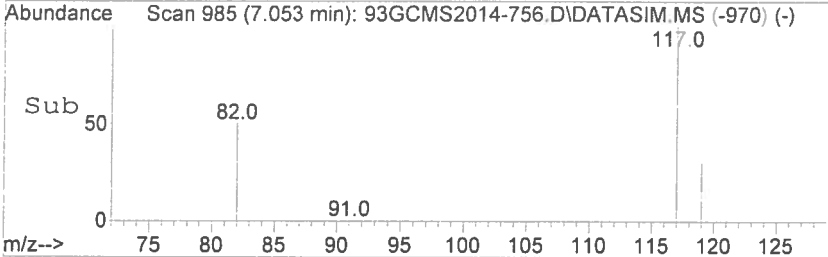
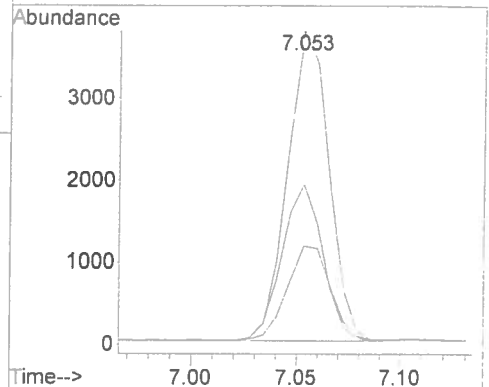
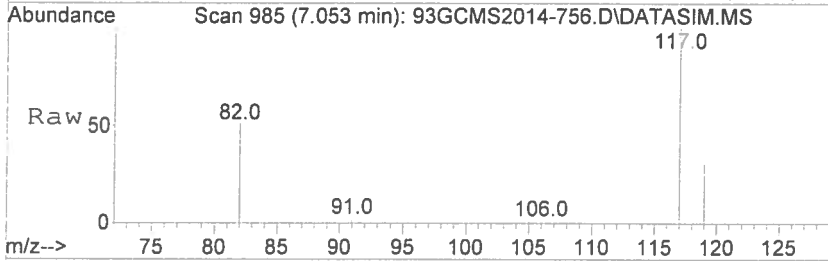
Tgt Ion	Ratio	Lower	Upper
130	100		
132	96.7	77.0	115.6
95	89.8	73.2	109.8





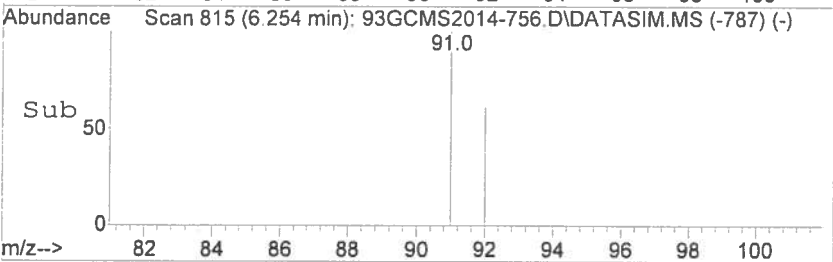
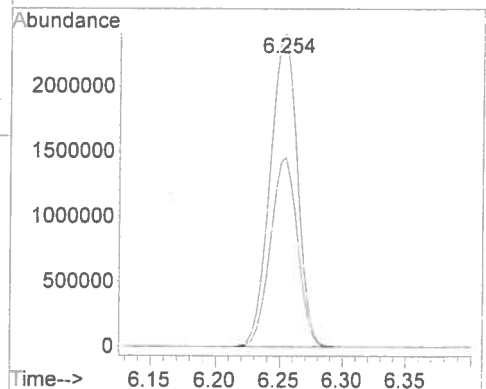
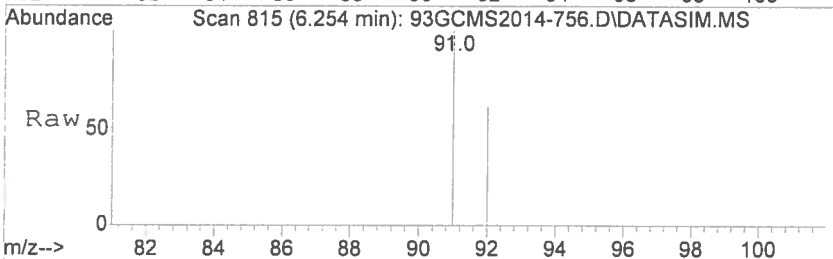
#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.053 min Scan# 985
Delta R.T. -0.001 min
Lab File: 93GCMS2014-756.D
Acq: 29 Sep 2014 17:36

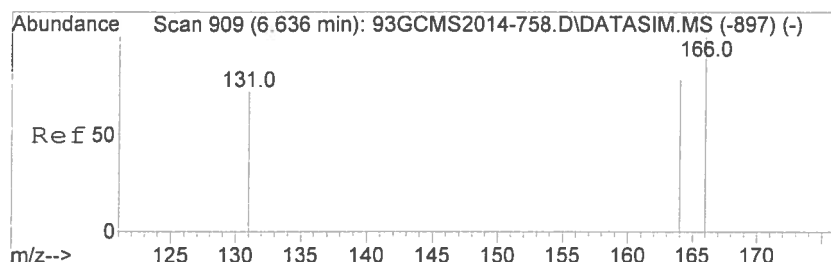
Tgt Ion	Ratio	Lower	Upper
117	100		
82	49.7	39.5	59.3
119	31.7	25.8	38.6



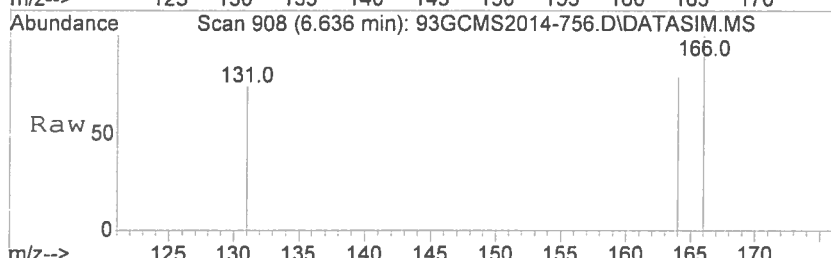
#14
Toluene
Concen: 9513.81 ppbv
RT: 6.254 min Scan# 815
Delta R.T. 0.003 min
Lab File: 93GCMS2014-756.D
Acq: 29 Sep 2014 17:36

Tgt Ion	Ratio	Lower	Upper
91	100		
92	60.1	47.4	71.2



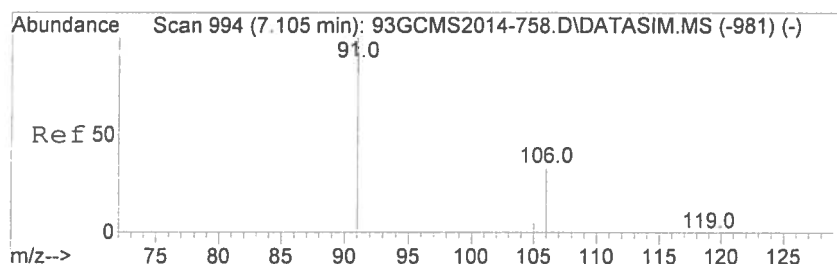
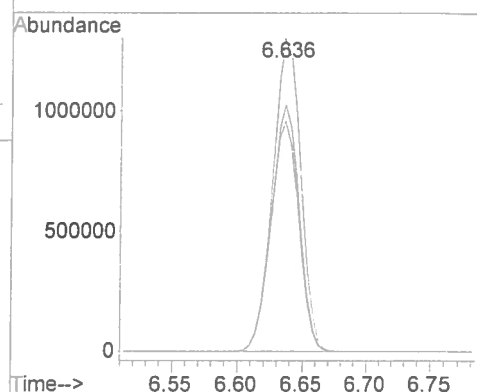
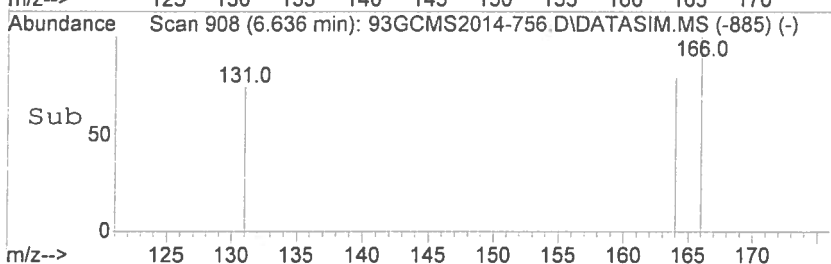


#15
Tetrachloroethene
Concen: 9733.95 ppbv
RT: 6.636 min Scan# 908
Delta R.T. -0.001 min
Lab File: 93GCMS2014-756.D
Acq: 29 Sep 2014 17:36

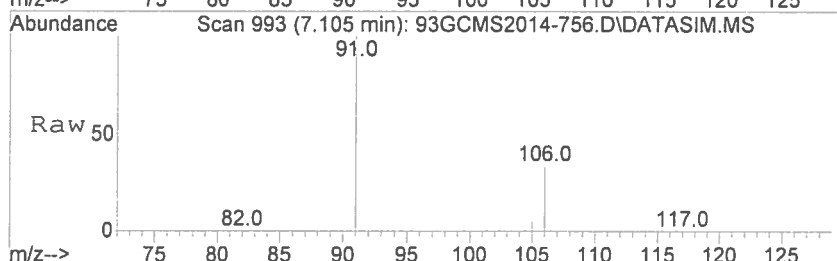


Tgt Ion: 166 Resp: 1952850

Ion	Ratio	Lower	Upper
166	100		
164	78.1	62.6	93.8
131	73.1	57.9	86.9

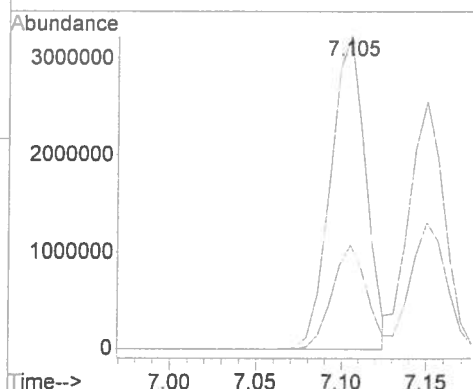
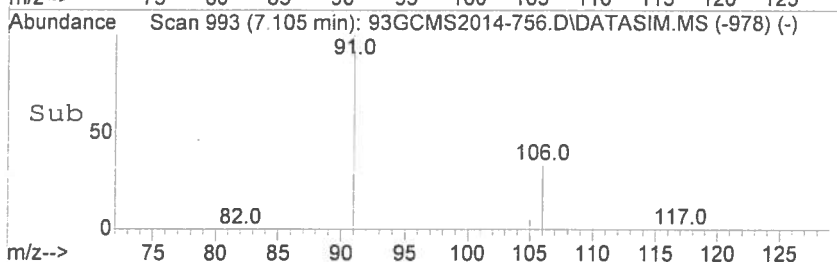


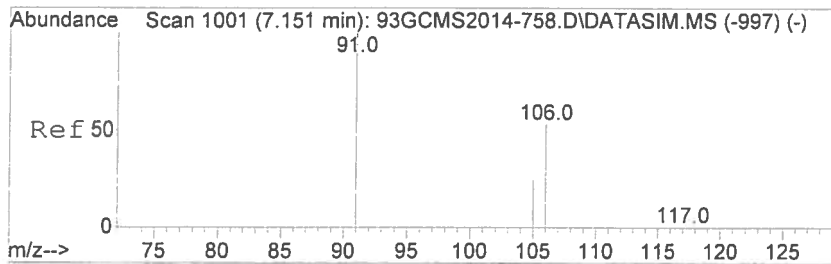
#16
Ethyl Benzene
Concen: 9576.04 ppbv
RT: 7.105 min Scan# 993
Delta R.T. -0.001 min
Lab File: 93GCMS2014-756.D
Acq: 29 Sep 2014 17:36



Tgt Ion: 91 Resp: 4708668

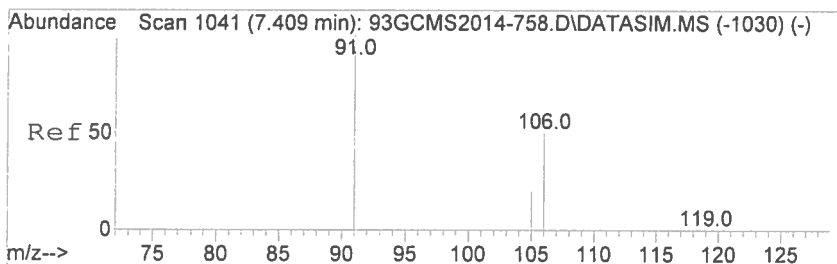
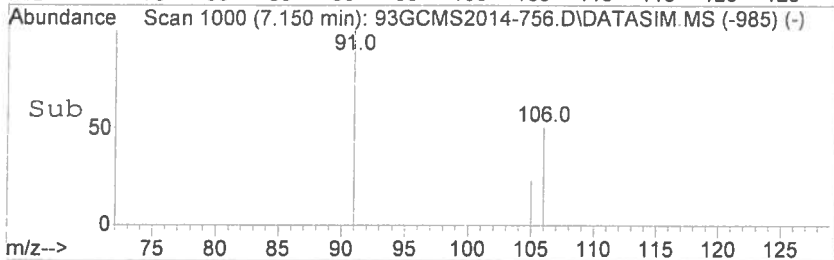
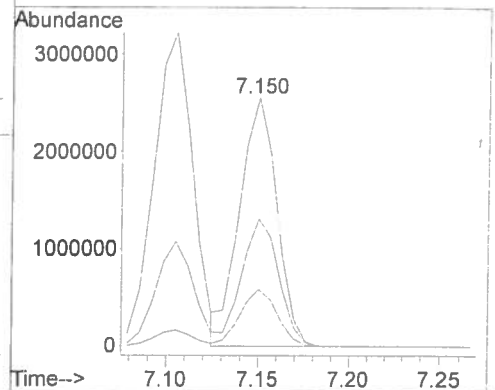
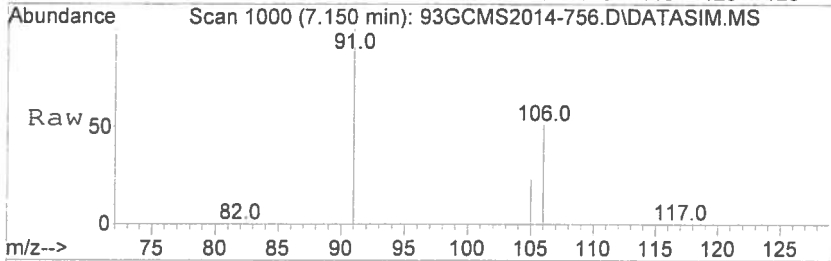
Ion	Ratio	Lower	Upper
91	100		
106	33.2	26.4	39.6





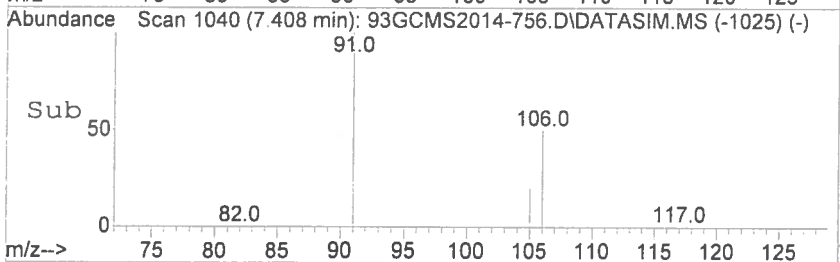
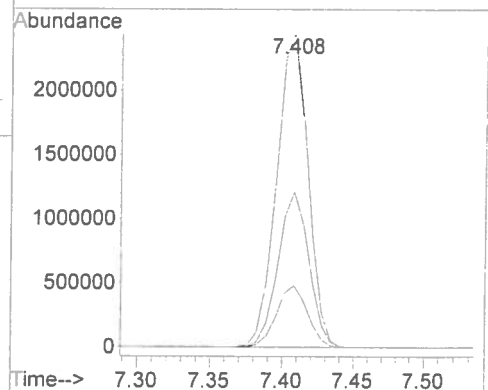
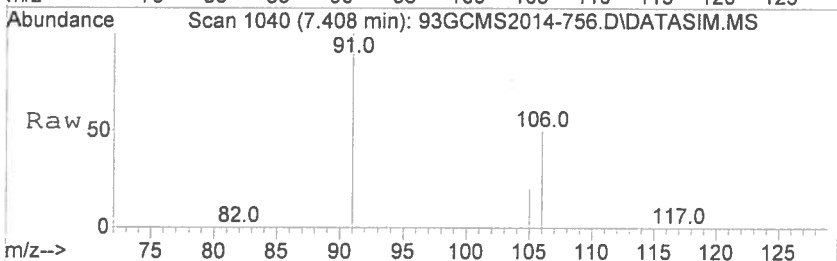
#17
m,p-Xylene
Concen: 9381.11 ppbv
RT: 7.150 min Scan# 1000
Delta R.T. -0.001 min
Lab File: 93GCMS2014-756.D
Acq: 29 Sep 2014 17:36

Tgt Ion: 91 Resp: 3591821
Ion Ratio Lower Upper
91 100
106 51.1 41.2 61.8
105 22.9 18.4 27.6



#18
o-Xylene
Concen: 9431.60 ppbv
RT: 7.408 min Scan# 1040
Delta R.T. -0.001 min
Lab File: 93GCMS2014-756.D
Acq: 29 Sep 2014 17:36

Tgt Ion: 91 Resp: 3687777
Ion Ratio Lower Upper
91 100
106 48.6 38.3 57.5
105 19.3 15.3 22.9



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-757.D
 Acq On : 29 Sep 2014 17:48
 Operator : SJT
 Sample : STD20140929-5 \ 2,000ppbv ICAL STD
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 18:09:51 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18 08:12 2014
 QLast Update : Mon Sep 29 18:08:12 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)

Internal Standards						
1) Bromochloromethane	4.848	49	1930	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.356	114	5132	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.060	117	5314	10.00	ppbv	0.00

System Monitoring Compounds

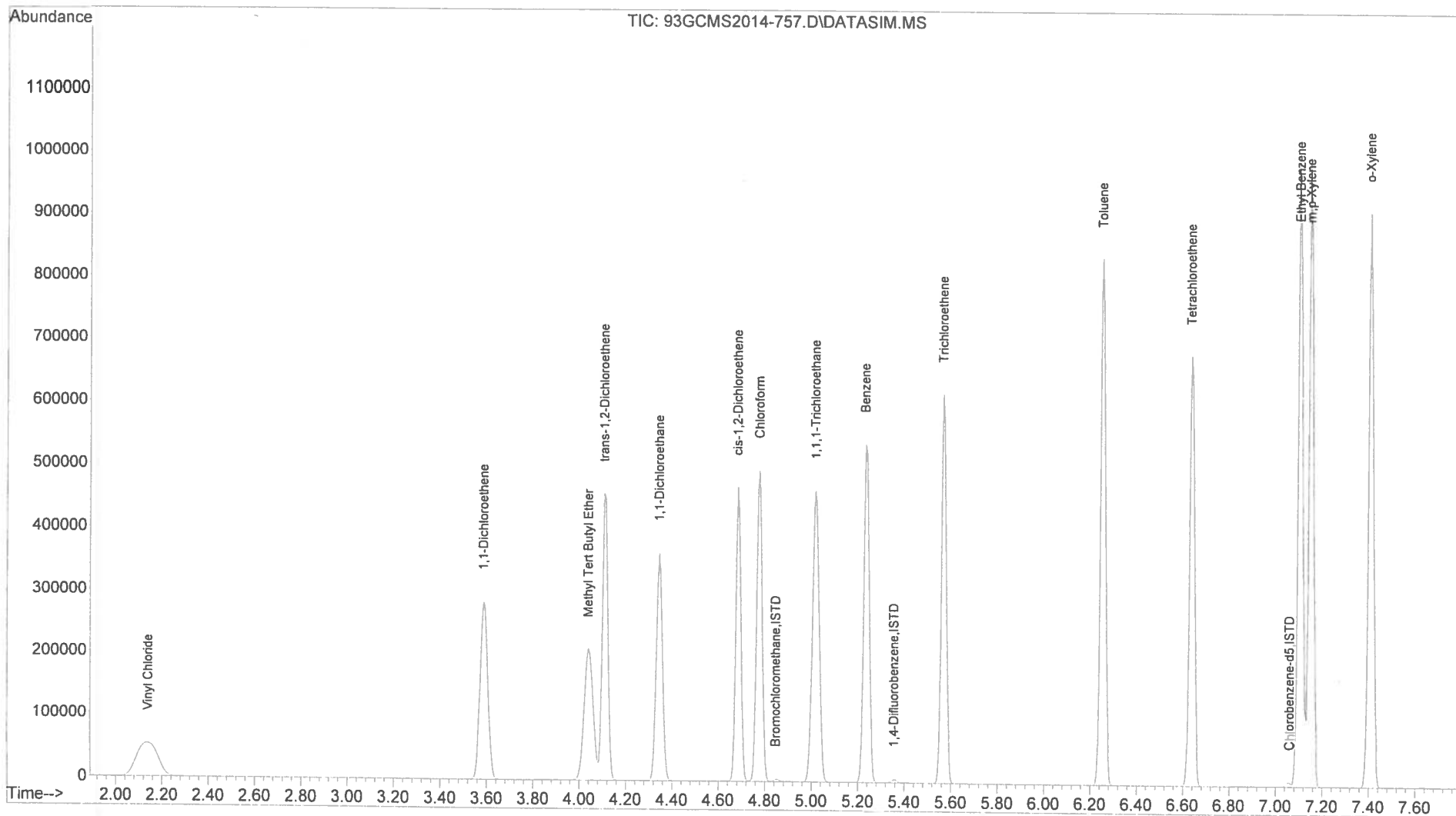
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Vinyl Chloride	2.141	62	197627	1947.45	ppbv	99
3) 1,1-Dichloroethene	3.589	61	343487	1869.31	ppbv	100
4) Methyl Tert Butyl Ether	4.040	73	430823	1903.27	ppbv	99
5) trans-1,2-Dichloroethene	4.109	61	313352	1841.75	ppbv	100
6) 1,1-Dichloroethane	4.346	63	398749	1922.57	ppbv	100
7) cis-1,2-Dichloroethene	4.685	61	310370	1930.95	ppbv	100
8) Chloroform	4.778	83	404658	1878.35	ppbv	100
9) 1,1,1-Trichloroethane	5.018	97	446064	1891.87	ppbv	99
11) Benzene	5.234	78	615420	2050.19	ppbv	100
12) Trichloroethene	5.569	130	315270	1976.31	ppbv	100
14) Toluene	6.254	91	771365	2003.02	ppbv	100
15) Tetrachloroethene	6.636	166	405102	1984.27	ppbv	100
16) Ethyl Benzene	7.105	91	1042895	2084.22	ppbv	98
17) m,p-Xylene	7.150	91	765312	1964.23	ppbv	98
18) o-Xylene	7.408	91	804043	2020.76	ppbv	100

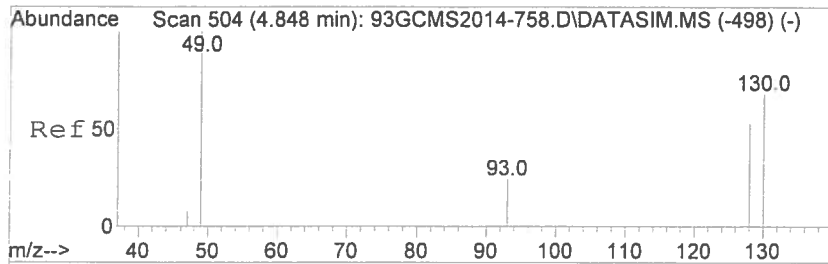
(#) = qualifier out of range (m) = manual integration (+) = signals summed

[Signature] 09/29/14

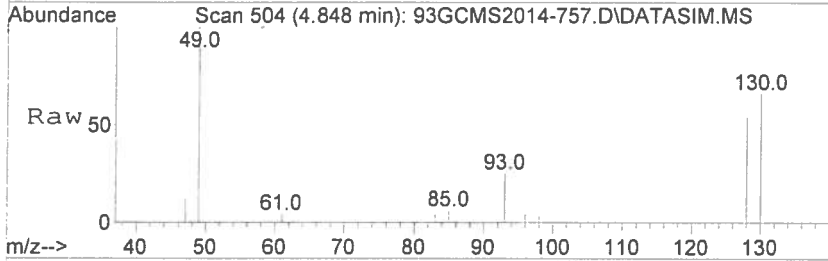
Data Path : D:\msdchem\1\data\2014\20140929\
Data File : 93GCMS2014-757.D
Acq On : 29 Sep 2014 17:48
Operator : SJT
Sample : STD20140929-5 \ 2,000ppbv ICAL STD
Misc : 5mL \ 29 Sept 2014
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 18:09:51 2014
Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:08:12 2014
QLast Update : Mon Sep 29 18:08:12 2014
Response via : Initial Calibration

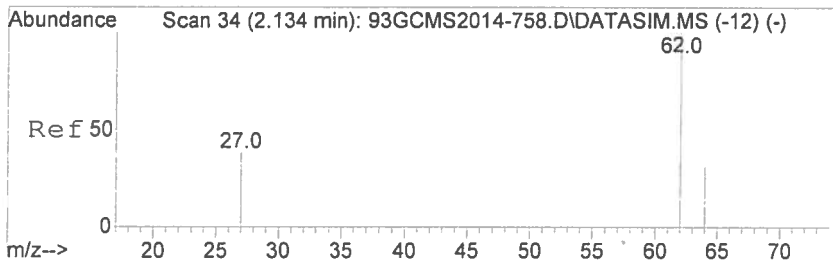
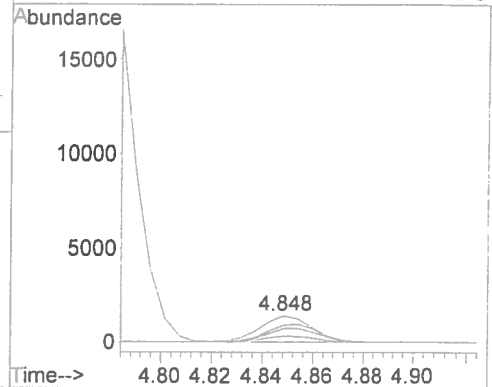
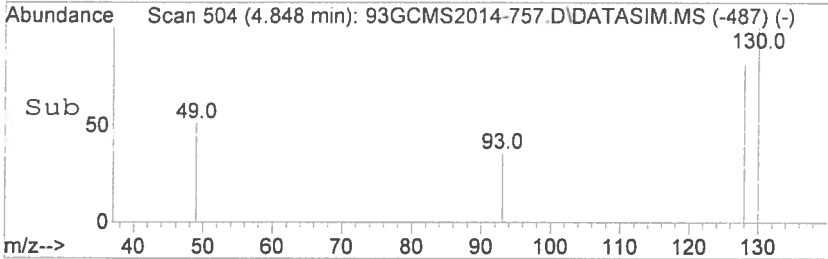




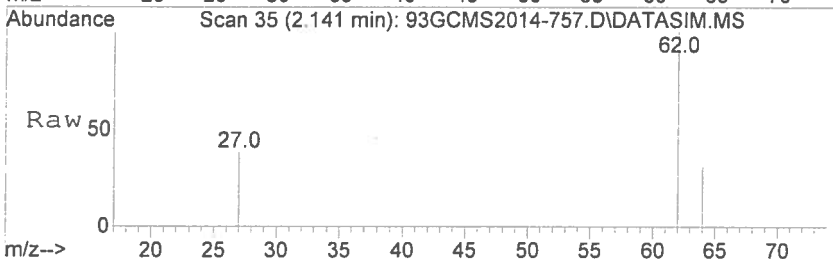
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. 0.000 min
Lab File: 93GCMS2014-757.D
Acq: 29 Sep 2014 17:48



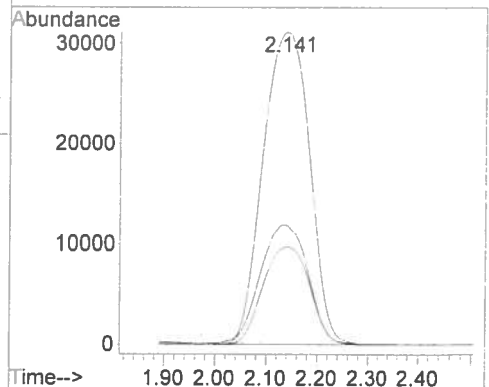
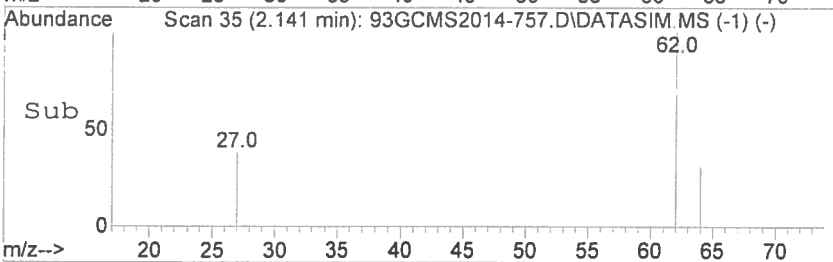
Tgt Ion: 49 Resp: 1930
Ion Ratio Lower Upper
49 100
130 65.9 54.4 81.6
93 25.3 21.1 31.7
128 54.2 43.2 64.8

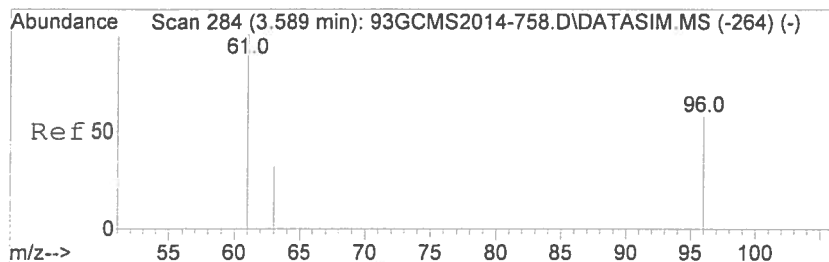


#2
Vinyl Chloride
Concen: 1947.45 ppbv
RT: 2.141 min Scan# 35
Delta R.T. 0.007 min
Lab File: 93GCMS2014-757.D
Acq: 29 Sep 2014 17:48



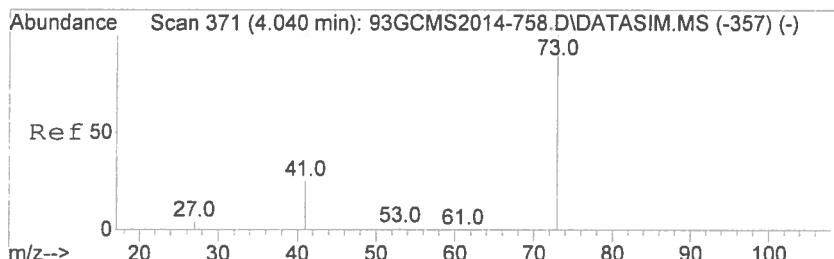
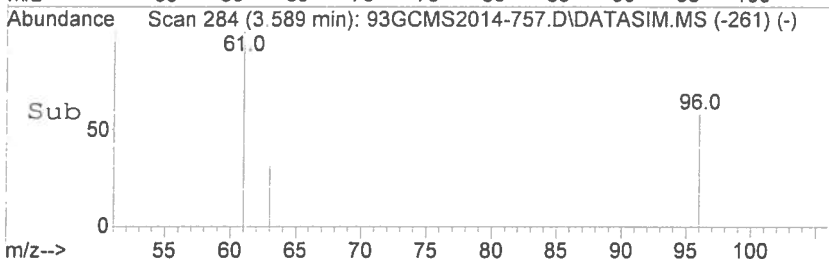
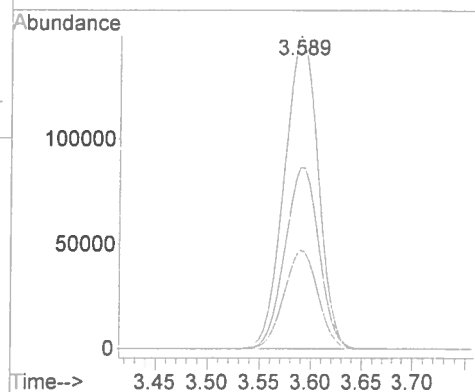
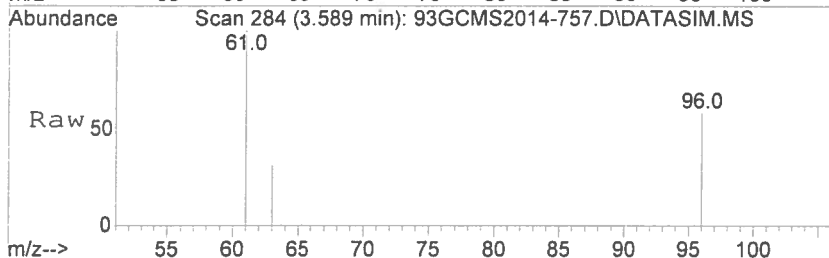
Tgt Ion: 62 Resp: 197627
Ion Ratio Lower Upper
62 100
64 31.3 25.2 37.8
27 39.1 31.8 47.6





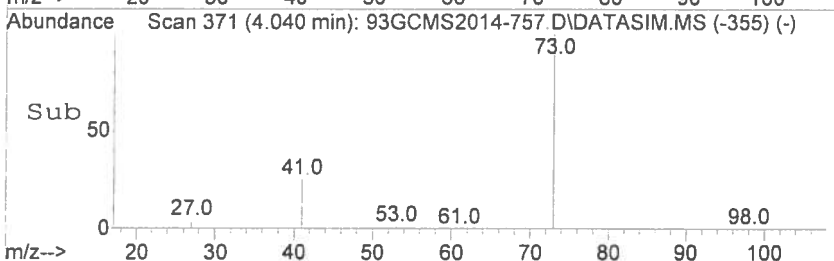
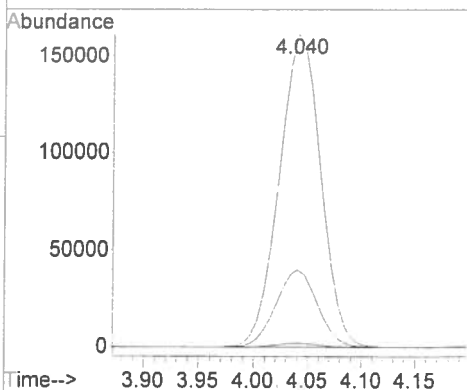
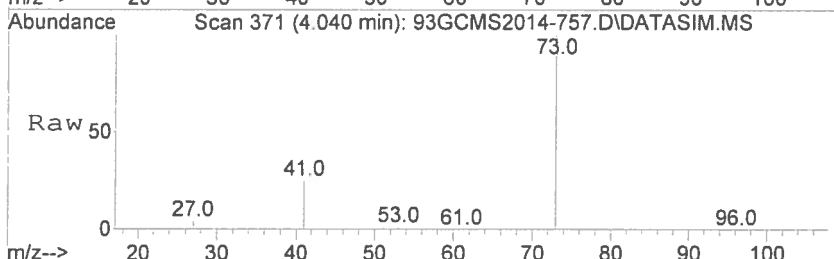
#3
1,1-Dichloroethene
Concen: 1869.31 ppbv
RT: 3.589 min Scan# 284
Delta R.T. 0.000 min
Lab File: 93GCMS2014-757.D
Acq: 29 Sep 2014 17:48

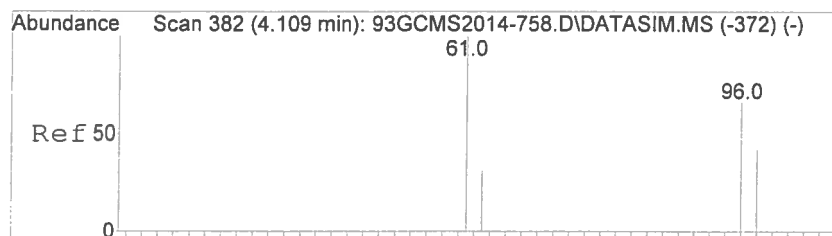
Tgt Ion	Ratio	Resp	Lower	Upper
61	100	343487		
96	58.2		46.7	70.1
63	31.5		25.3	37.9



#4
Methyl Tert Butyl Ether
Concen: 1903.27 ppbv
RT: 4.040 min Scan# 371
Delta R.T. 0.000 min
Lab File: 93GCMS2014-757.D
Acq: 29 Sep 2014 17:48

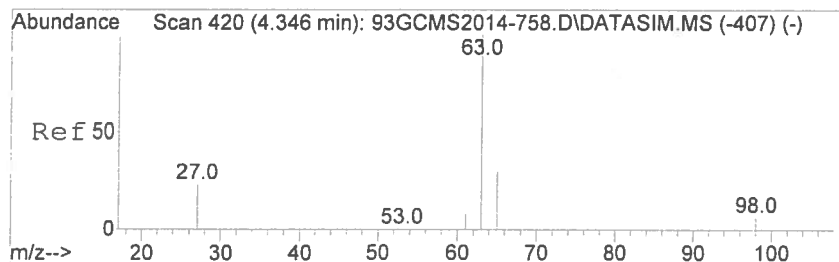
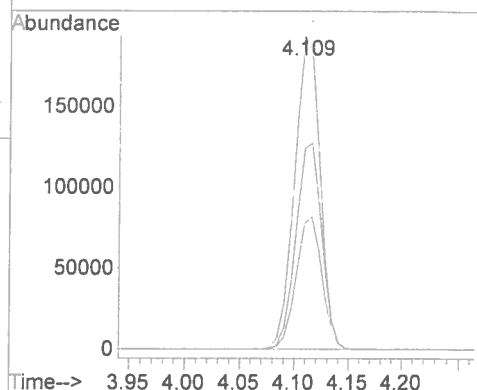
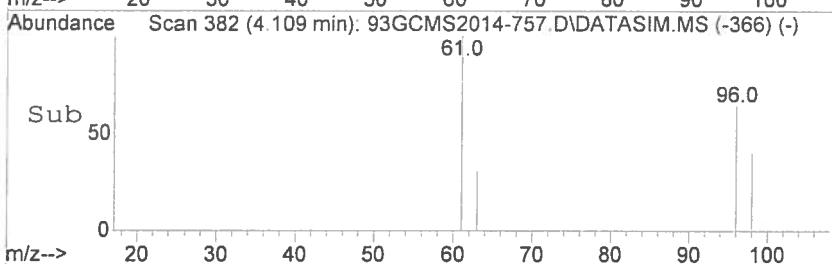
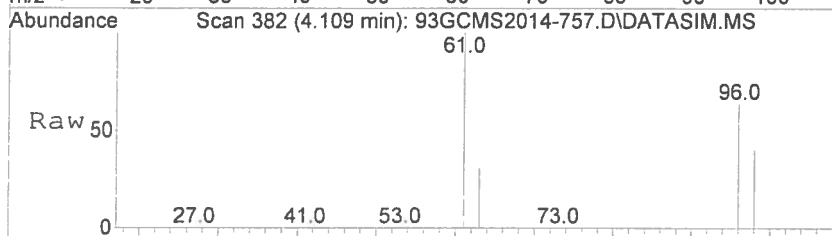
Tgt Ion	Ratio	Resp	Lower	Upper
73	100	430823		
53	1.2		1.0	1.6
41	24.7		20.2	30.2





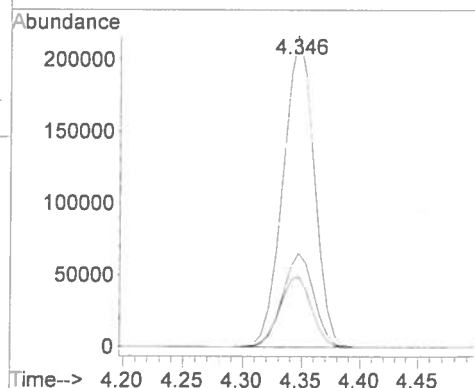
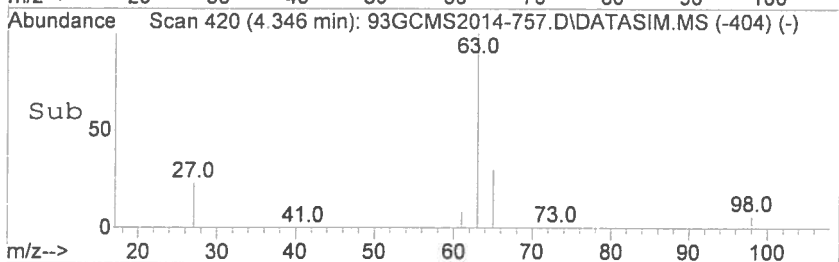
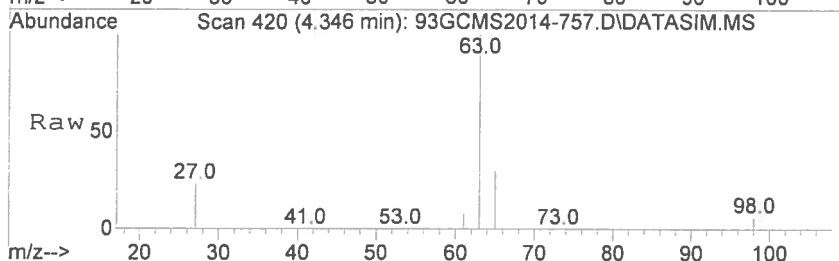
#5
trans-1,2-Dichloroethene
Concen: 1841.75 ppbv
RT: 4.109 min Scan# 382
Delta R.T. 0.000 min
Lab File: 93GCMS2014-757.D
Acq: 29 Sep 2014 17:48

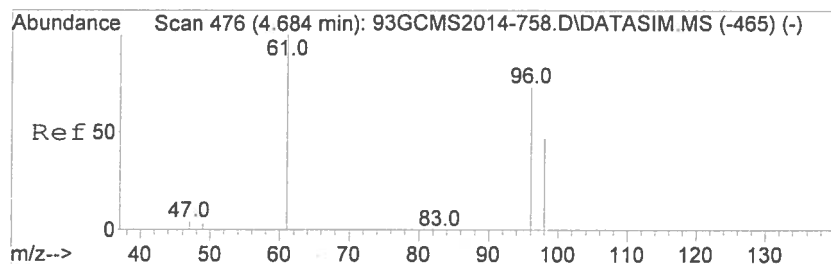
Tgt Ion	Ratio	Lower	Upper
61	100		
96	66.6	53.0	79.6
98	42.5	33.8	50.6



#6
1,1-Dichloroethane
Concen: 1922.57 ppbv
RT: 4.346 min Scan# 420
Delta R.T. 0.000 min
Lab File: 93GCMS2014-757.D
Acq: 29 Sep 2014 17:48

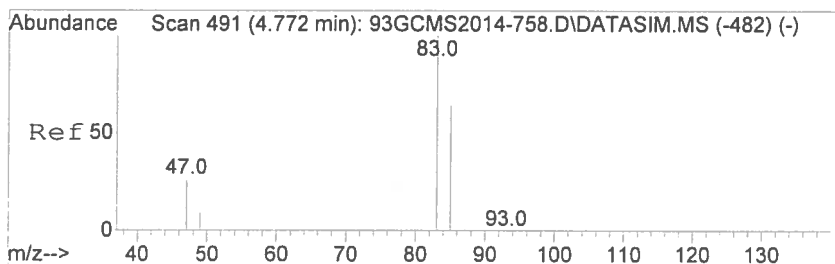
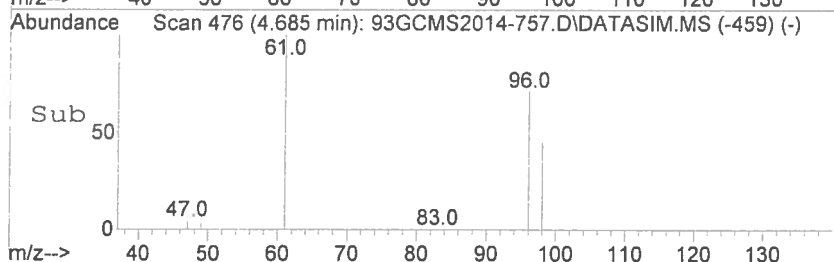
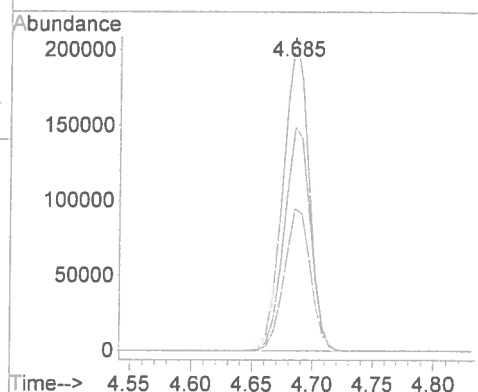
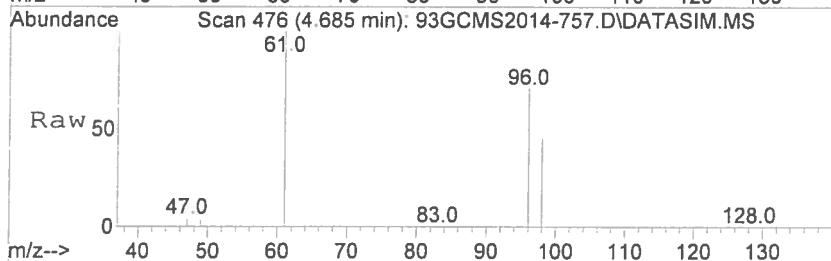
Tgt Ion	Ratio	Lower	Upper
63	100		
65	30.2	24.2	36.2
27	23.0	18.6	28.0





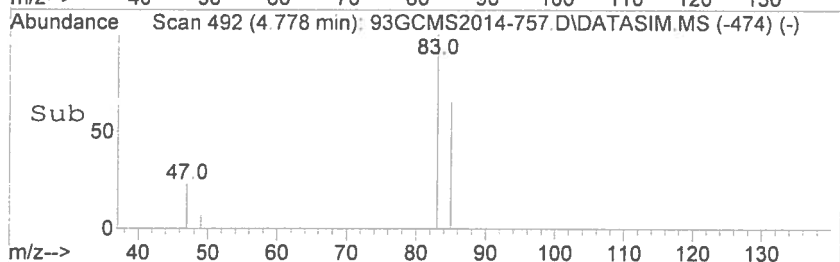
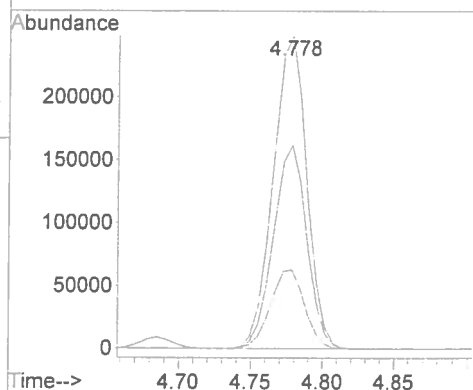
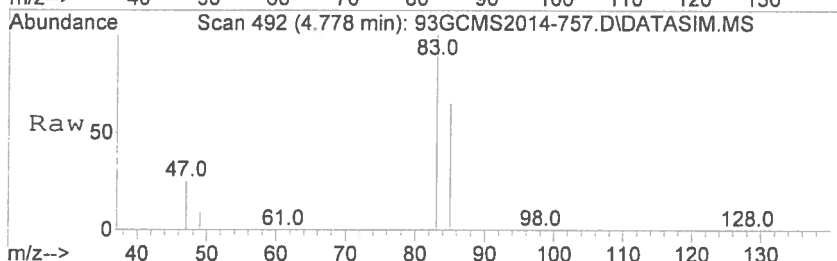
#7
 cis-1,2-Dichloroethene
 Concen: 1930.95 ppbv
 RT: 4.685 min Scan# 476
 Delta R.T. 0.000 min
 Lab File: 93GCMS2014-757.D
 Acq: 29 Sep 2014 17:48

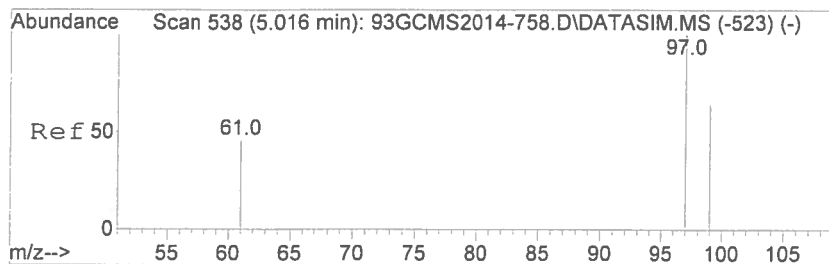
Tgt Ion	Ratio	Lower	Upper
61	100		
96	72.8	58.2	87.2
98	46.6	37.1	55.7



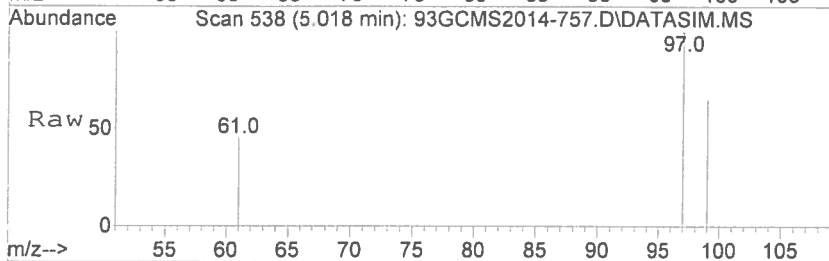
#8
 Chloroform
 Concen: 1878.35 ppbv
 RT: 4.778 min Scan# 492
 Delta R.T. 0.006 min
 Lab File: 93GCMS2014-757.D
 Acq: 29 Sep 2014 17:48

Tgt Ion	Ratio	Lower	Upper
83	100		
85	64.7	51.8	77.6
47	25.6	20.5	30.7

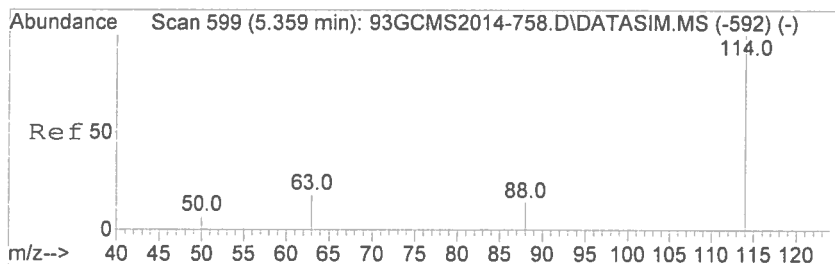
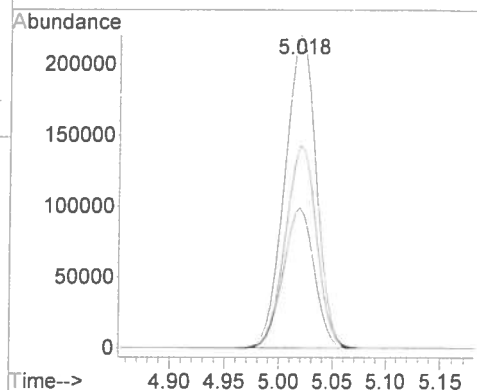
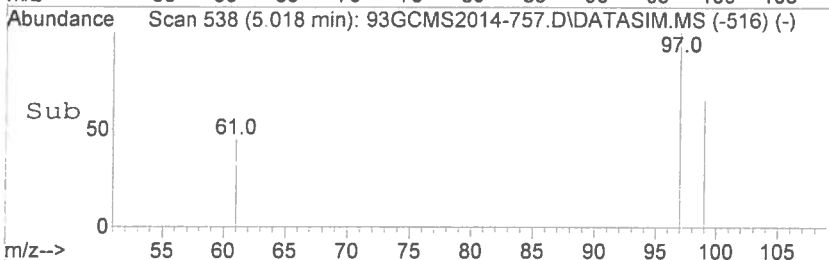




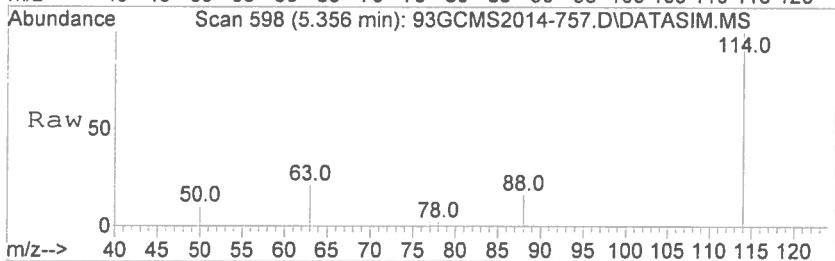
#9
1,1,1-Trichloroethane
Concen: 1891.87 ppbv
RT: 5.018 min Scan# 538
Delta R.T. 0.002 min
Lab File: 93GCMS2014-757.D
Acq: 29 Sep 2014 17:48



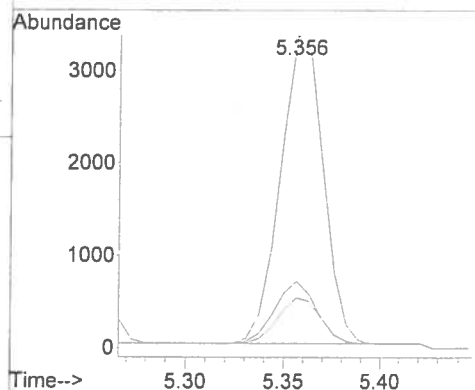
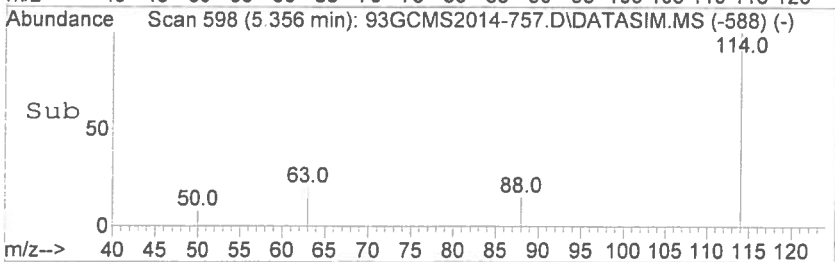
Tgt Ion	Ratio	Lower	Upper
97	100		
99	64.5	51.4	77.2
61	45.0	36.6	54.8

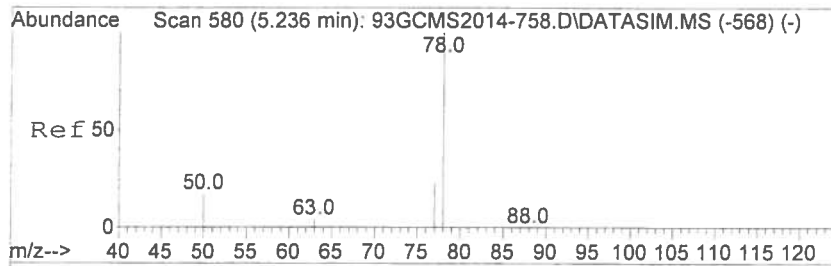


#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.356 min Scan# 598
Delta R.T. -0.003 min
Lab File: 93GCMS2014-757.D
Acq: 29 Sep 2014 17:48



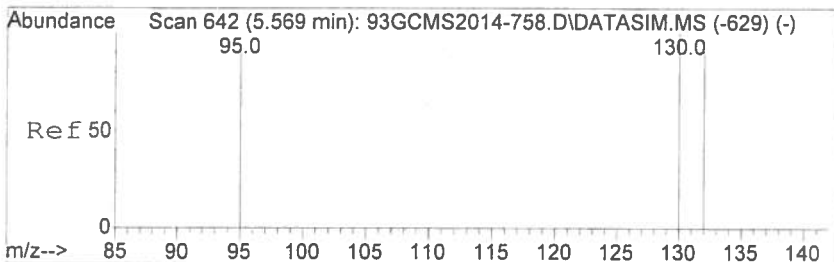
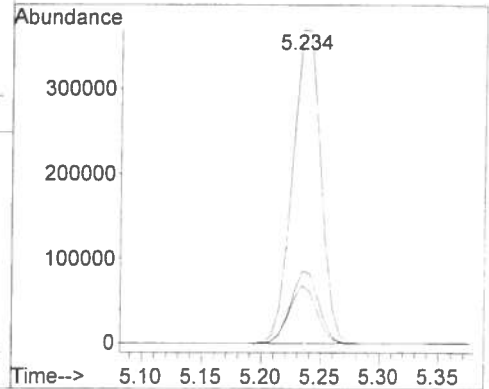
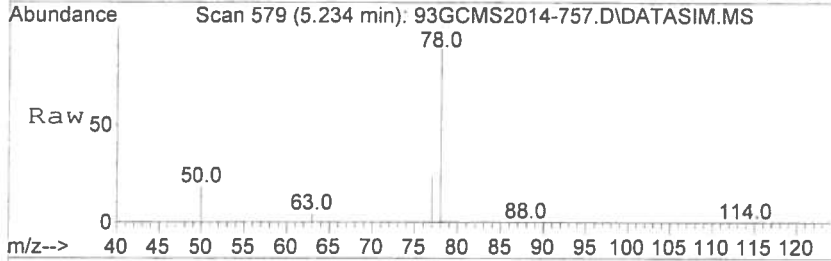
Tgt Ion	Ratio	Lower	Upper
114	100		
63	19.3	15.7	23.5
88	14.9	11.8	17.6





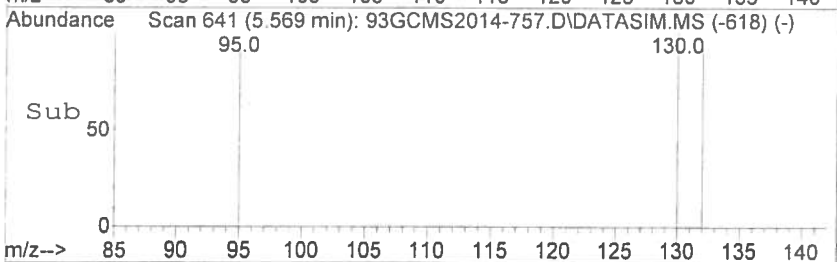
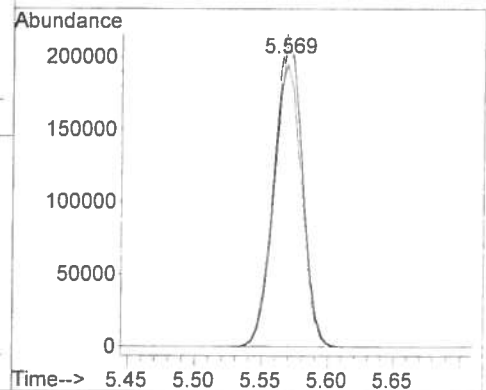
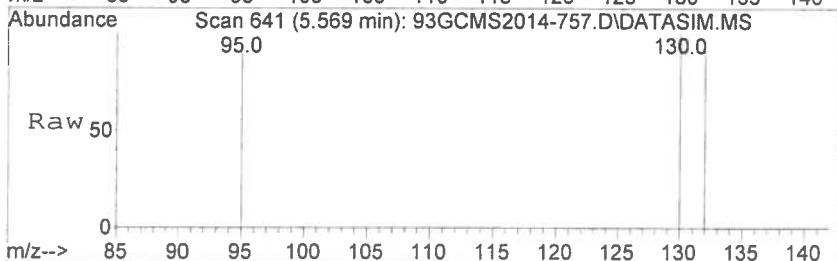
#11
Benzene
Concen: 2050.19 ppbv
RT: 5.234 min Scan# 579
Delta R.T. -0.003 min
Lab File: 93GCMS2014-757.D
Acq: 29 Sep 2014 17:48

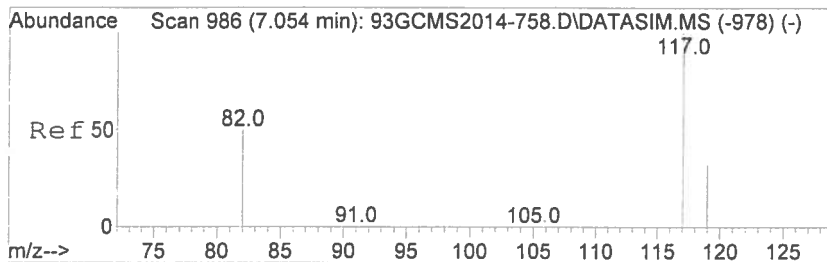
Tgt Ion	Ratio	Lower	Upper
78	100		
77	22.8	18.3	27.5
50	17.9	14.4	21.6



#12
Trichloroethene
Concen: 1976.31 ppbv
RT: 5.569 min Scan# 641
Delta R.T. -0.000 min
Lab File: 93GCMS2014-757.D
Acq: 29 Sep 2014 17:48

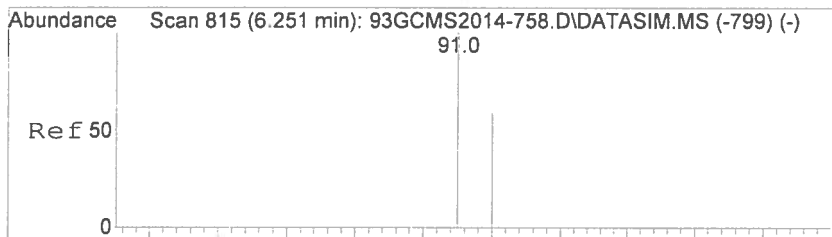
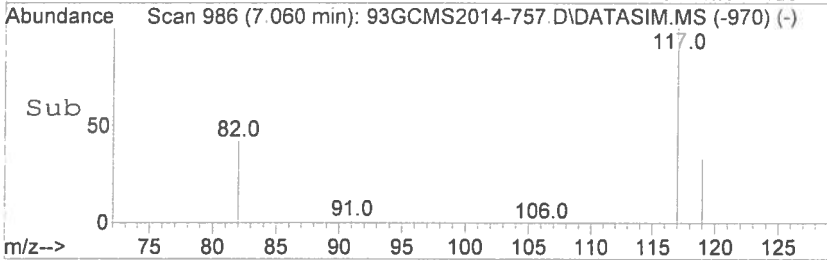
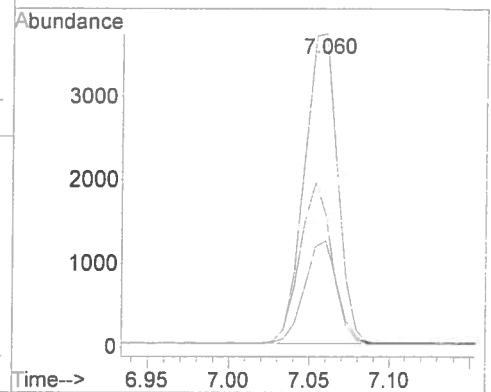
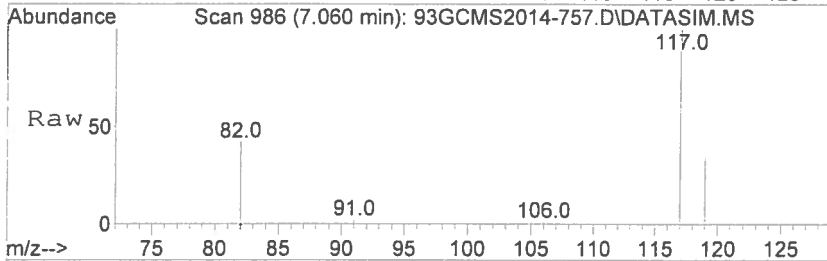
Tgt Ion	Ratio	Lower	Upper
130	100		
132	96.4	77.0	115.6
95	91.0	73.2	109.8





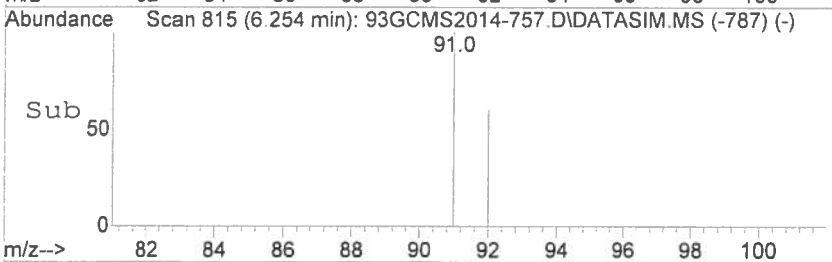
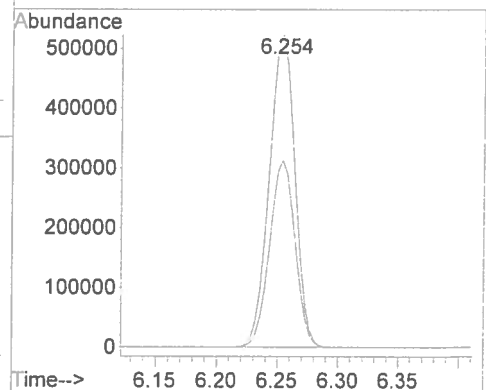
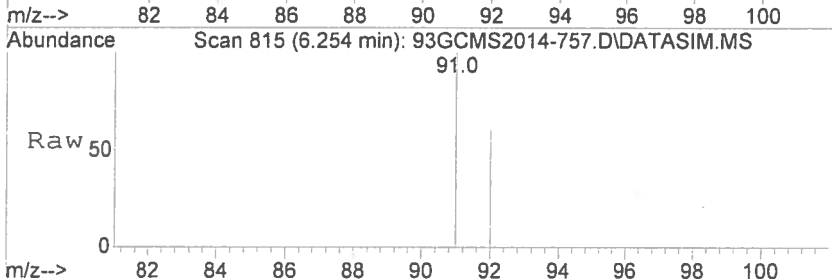
#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.060 min Scan# 986
Delta R.T. 0.006 min
Lab File: 93GCMS2014-757.D
Acq: 29 Sep 2014 17:48

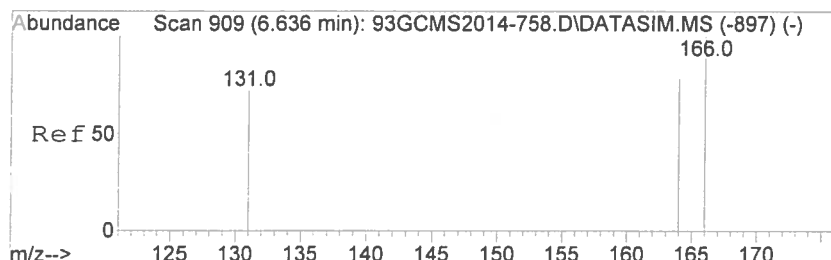
Tgt Ion	Ratio	Lower	Upper
117	100		
82	49.3	39.5	59.3
119	32.0	25.8	38.6



#14
Toluene
Concen: 2003.02 ppbv
RT: 6.254 min Scan# 815
Delta R.T. 0.003 min
Lab File: 93GCMS2014-757.D
Acq: 29 Sep 2014 17:48

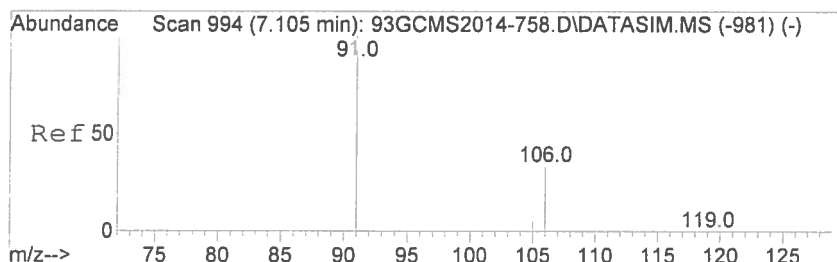
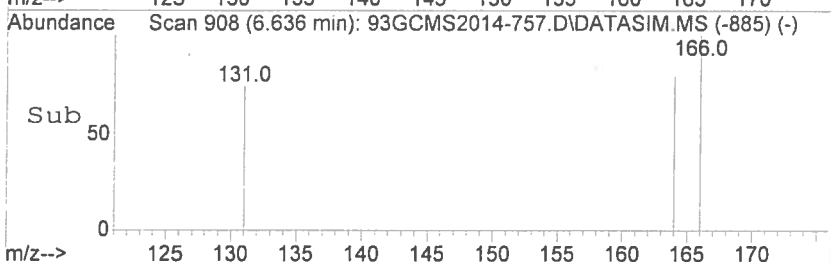
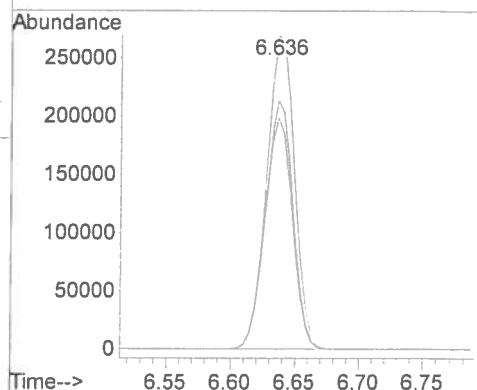
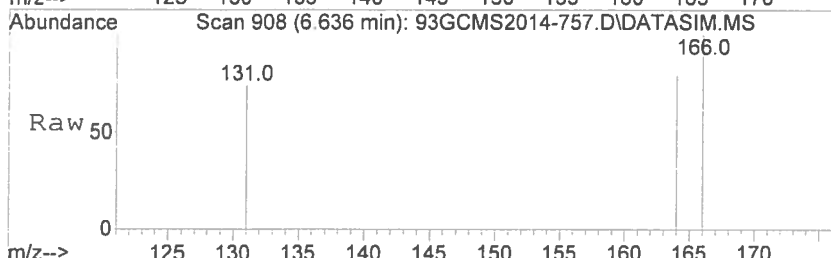
Tgt Ion	Ratio	Lower	Upper
91	100		
92	59.5	47.4	71.2





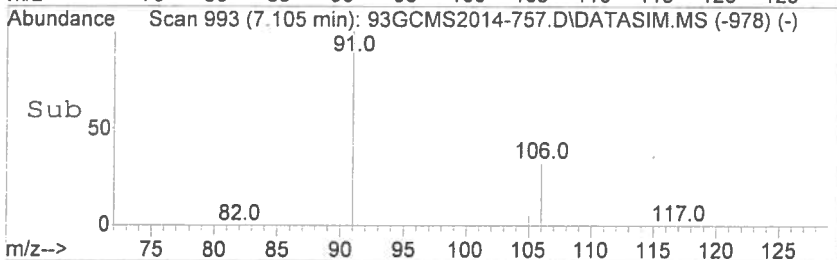
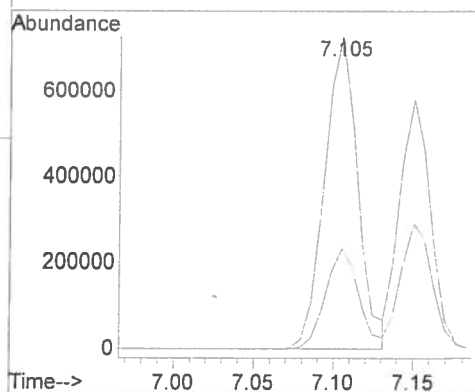
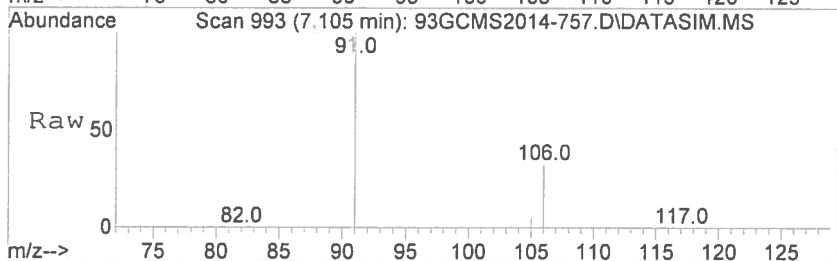
#15
Tetrachloroethene
Concen: 1984.27 ppbv
RT: 6.636 min Scan# 908
Delta R.T. -0.000 min
Lab File: 93GCMS2014-757.D
Acq: 29 Sep 2014 17:48

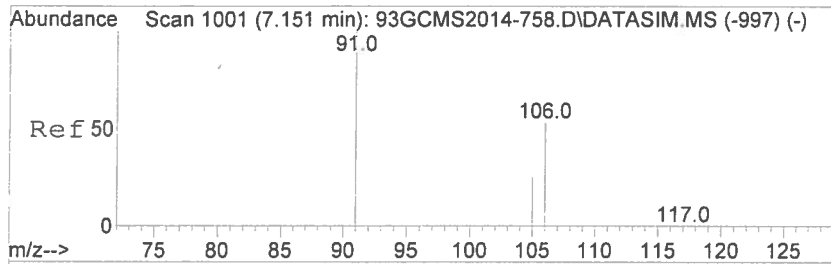
Tgt Ion	Ratio	Lower	Upper
166	100		
164	78.2	62.6	93.8
131	72.7	57.9	86.9



#16
Ethyl Benzene
Concen: 2084.22 ppbv
RT: 7.105 min Scan# 993
Delta R.T. -0.000 min
Lab File: 93GCMS2014-757.D
Acq: 29 Sep 2014 17:48

Tgt Ion	Ratio	Lower	Upper
91	100		
106	32.1	26.4	39.6





#17

m,p-Xylene

Concen: 1964.23 ppbv

RT: 7.150 min Scan# 1000

Delta R.T. -0.000 min

Lab File: 93GCMS2014-757.D

Acq: 29 Sep 2014 17:48

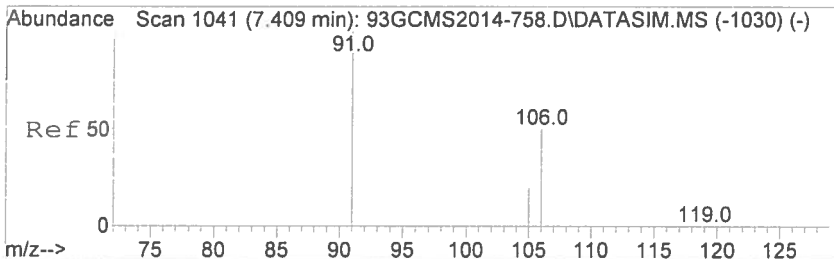
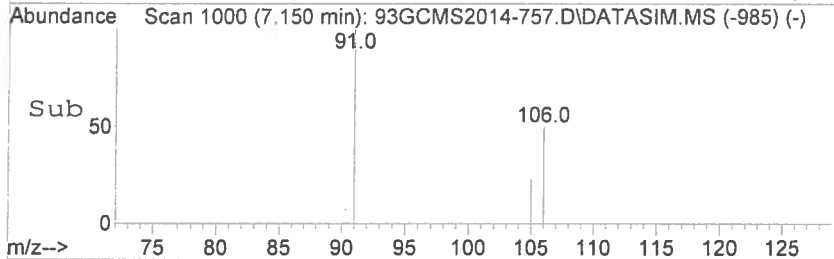
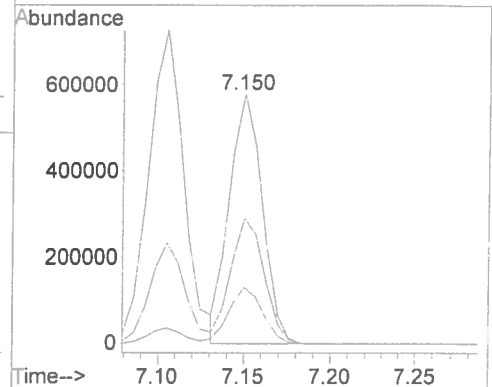
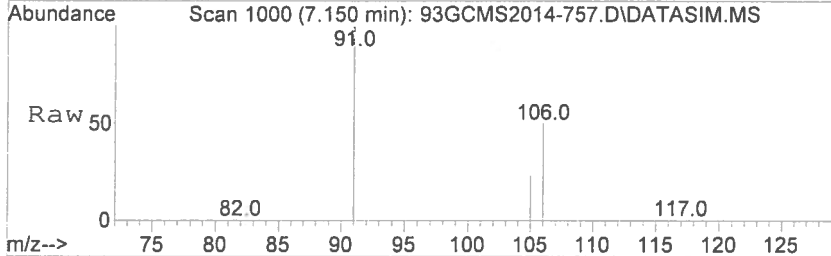
Tgt Ion: 91 Resp: 765312

Ion Ratio Lower Upper

91 100

106 50.1 41.2 61.8

105 22.5 18.4 27.6



#18

o-Xylene

Concen: 2020.76 ppbv

RT: 7.408 min Scan# 1040

Delta R.T. -0.000 min

Lab File: 93GCMS2014-757.D

Acq: 29 Sep 2014 17:48

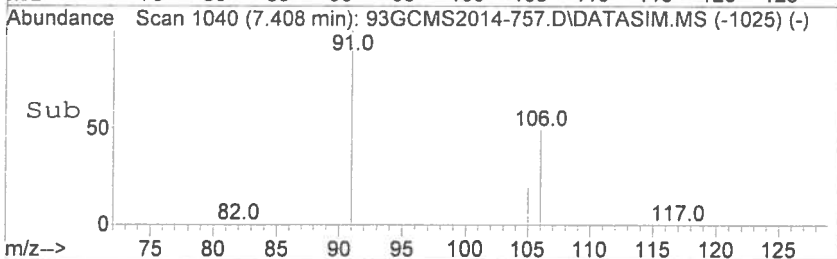
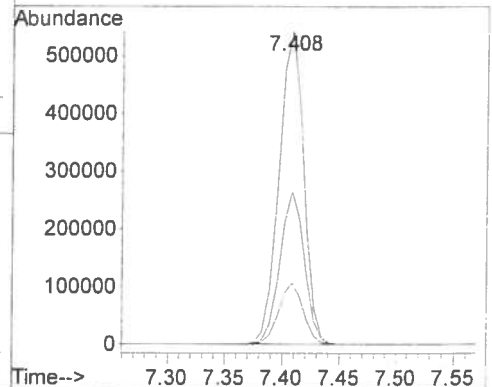
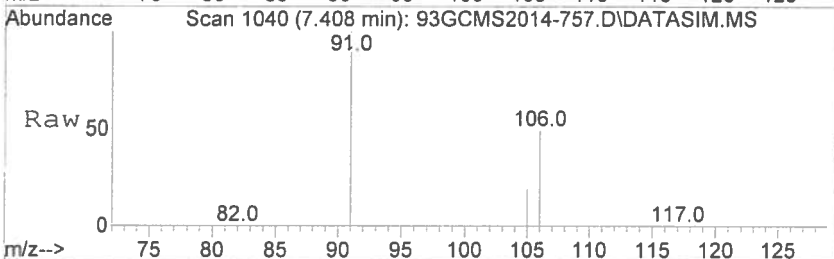
Tgt Ion: 91 Resp: 804043

Ion Ratio Lower Upper

91 100

106 48.1 38.3 57.5

105 19.2 15.3 22.9



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140929\
Data File : 93GCMS2014-758.D
Acq On : 29 Sep 2014 18:00
Operator : SJT
Sample : STD20140929-6 \ 500ppbv ICAL STD
Misc : 5mL \ 29 Sept 2014
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 18:08:19 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18 07:22 2014

QLast Update : Mon Sep 29 18:08:12 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.848	49	1864	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.359	114	5261	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5415	10.00	ppbv	0.00

System Monitoring Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Vinyl Chloride	2.134	62	50475	515.00	ppbv	100
3) 1,1-Dichloroethene	3.589	61	88290	497.50	ppbv	100
4) Methyl Tert Butyl Ether	4.040	73	109856	502.50	ppbv	100
5) trans-1,2-Dichloroethene	4.109	61	82571	502.50	ppbv	100
6) 1,1-Dichloroethane	4.346	63	103661	517.50	ppbv	100
7) cis-1,2-Dichloroethene	4.684	61	81888	527.50	ppbv	100
8) Chloroform	4.772	83	107154	515.00	ppbv	100
9) 1,1,1-Trichloroethane	5.016	97	114997	505.00	ppbv	100
11) Benzene	5.236	78	161554	525.00	ppbv	100
12) Trichloroethene	5.569	130	82585	505.00	ppbv	100
14) Toluene	6.251	91	204059	520.00	ppbv	100
15) Tetrachloroethene	6.636	166	105579	507.50	ppbv	100
16) Ethyl Benzene	7.105	91	265141	520.00	ppbv	100
17) m,p-Xylene	7.151	91	206455	520.00	ppbv	100
18) o-Xylene	7.409	91	209822	517.50	ppbv	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

09/29/14

Data Path : D:\msdchem\1\data\2014\20140929\
Data File : 93GCMS2014-758.D
Acq On : 29 Sep 2014 18:00
Operator : SJT
Sample : STD20140929-6 \ 500ppbv ICAL STD
Misc : 5mL \ 29 Sept 2014
ALS Vial : 1 Sample Multiplier: 1

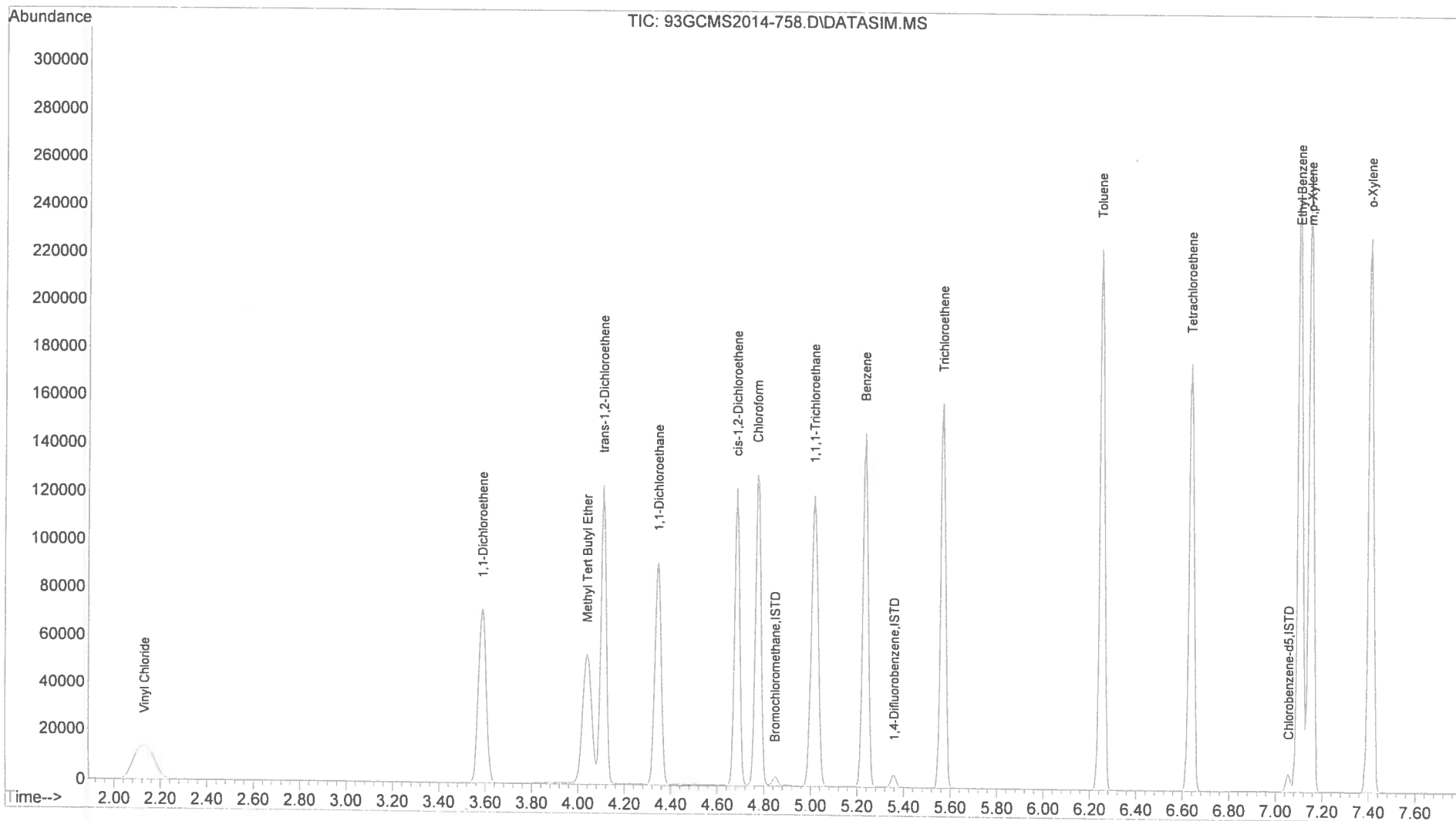
Quant Time: Sep 29 18:08:19 2014

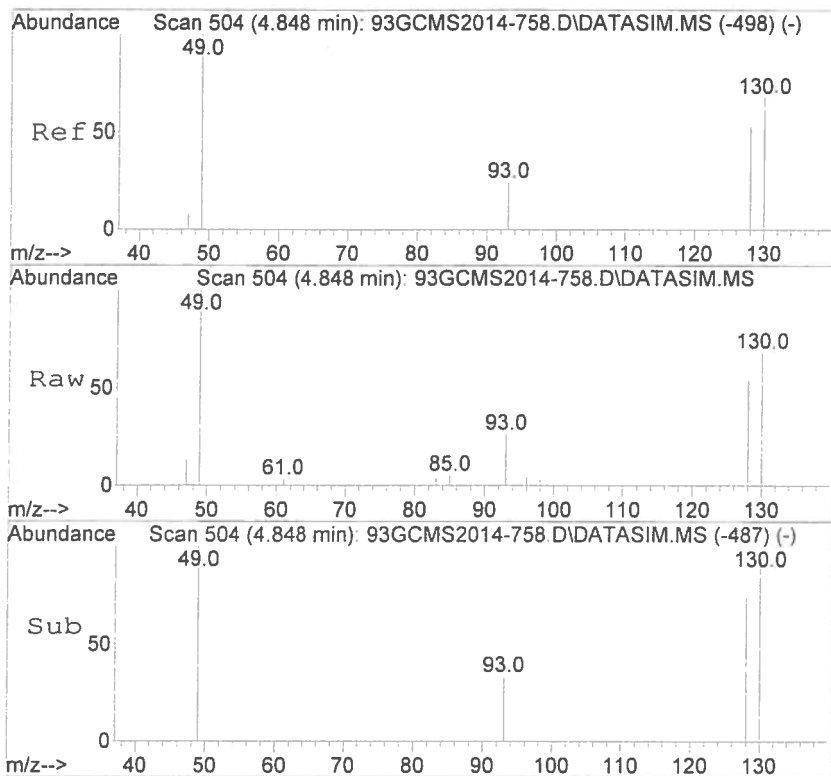
Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:07:22 2014

QLast Update : Mon Sep 29 18:08:12 2014

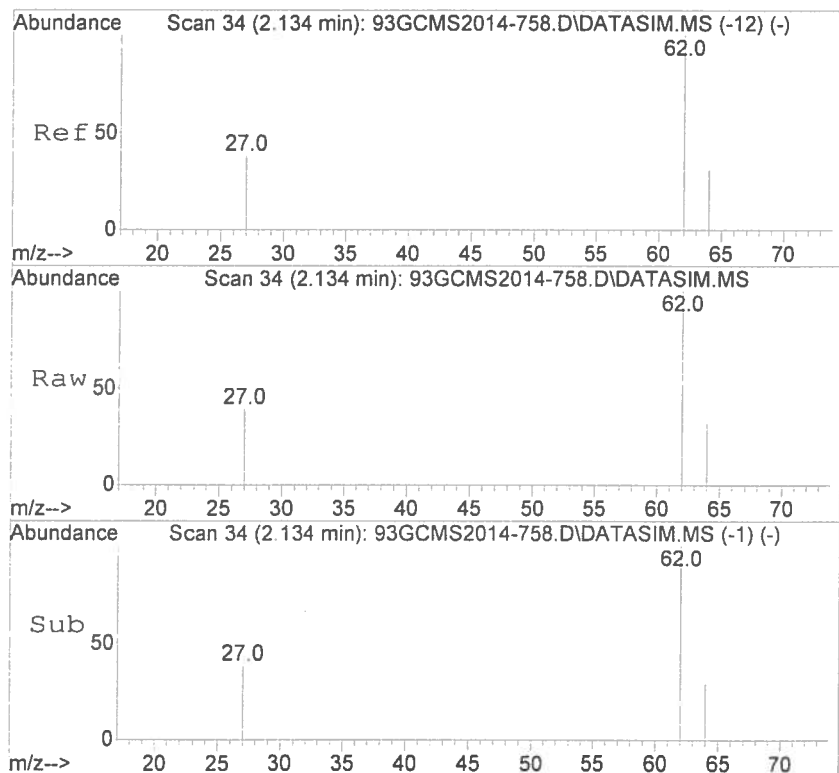
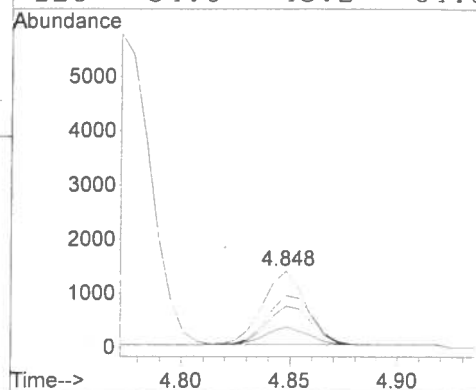
Response via : Initial Calibration





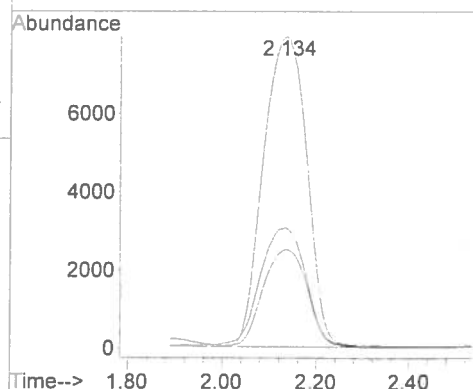
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. -0.000 min
Lab File: 93GCMS2014-758.D
Acq: 29 Sep 2014 18:00

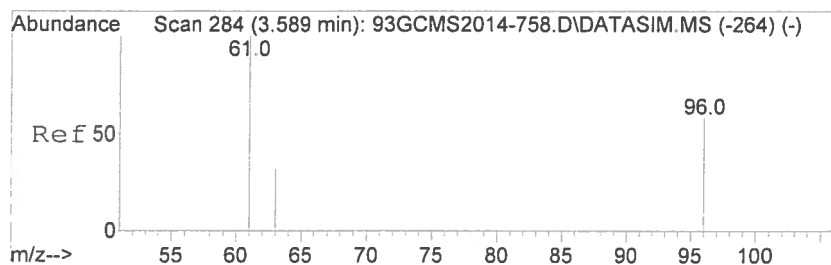
Tgt Ion: 49	Resp: 1864
Ion Ratio	Lower Upper
49 100	
130 68.0	54.4 81.6
93 26.4	21.1 31.7
128 54.0	43.2 64.8



#2
Vinyl Chloride
Concen: 515.00 ppbv
RT: 2.134 min Scan# 34
Delta R.T. 0.000 min
Lab File: 93GCMS2014-758.D
Acq: 29 Sep 2014 18:00

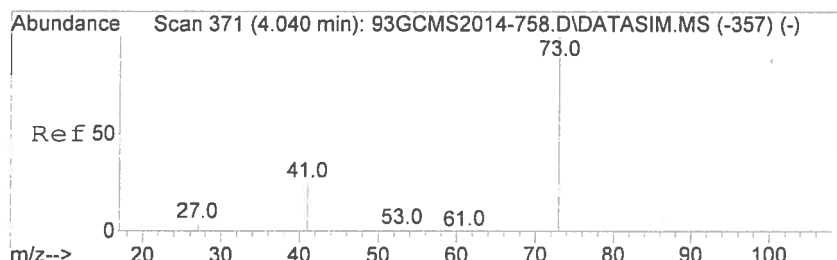
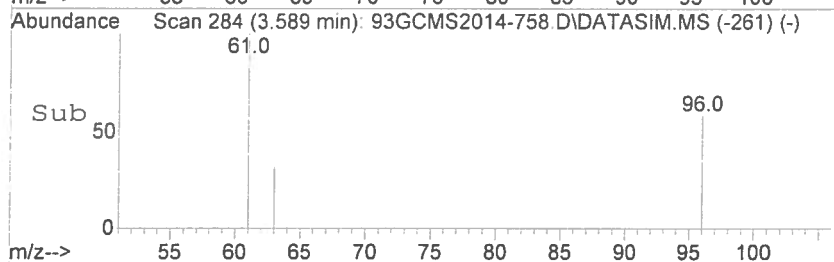
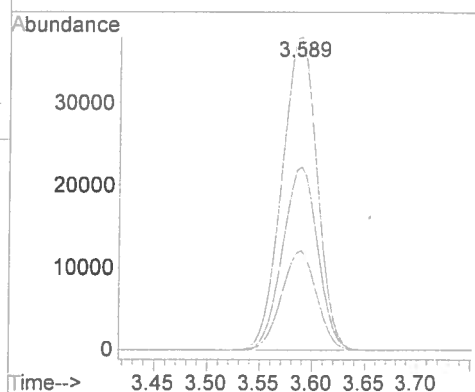
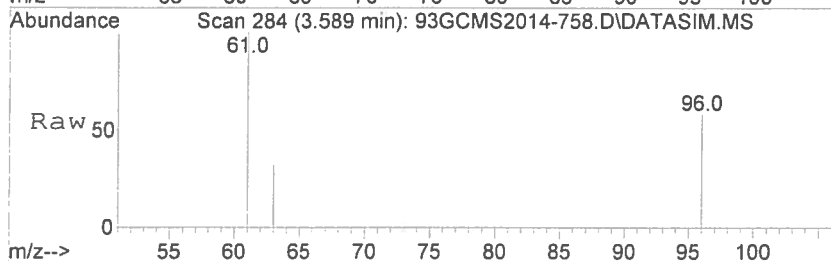
Tgt Ion: 62	Resp: 50475
Ion Ratio	Lower Upper
62 100	
64 31.5	25.2 37.8
27 39.7	31.8 47.6





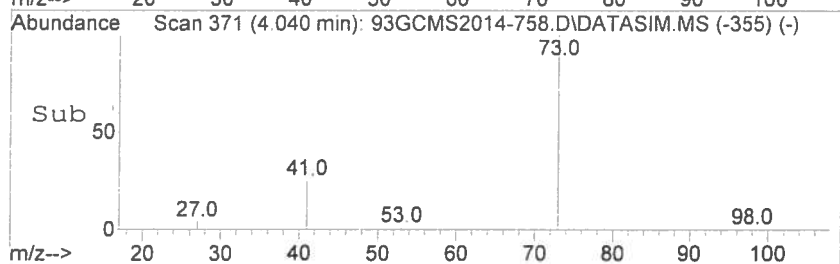
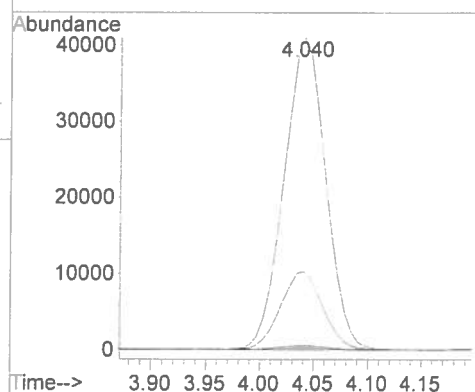
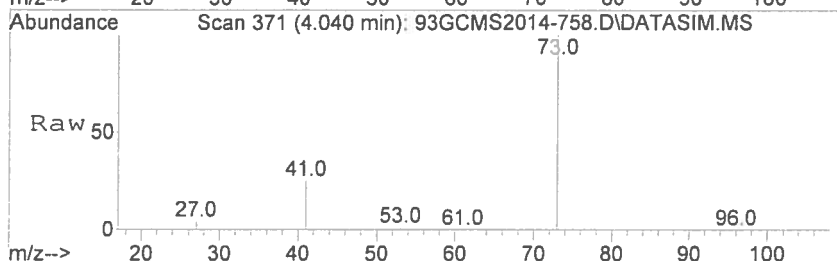
#3
1,1-Dichloroethene
Concen: 497.50 ppbv
RT: 3.589 min Scan# 284
Delta R.T. 0.000 min
Lab File: 93GCMS2014-758.D
Acq: 29 Sep 2014 18:00

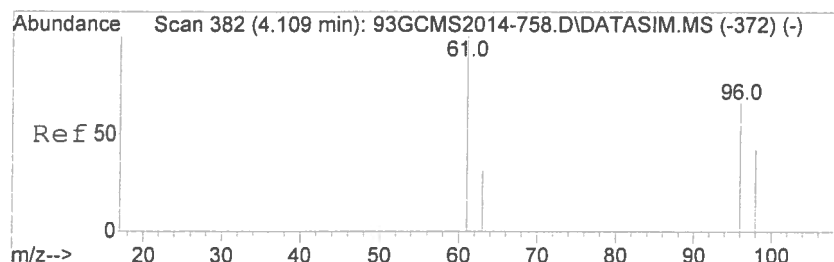
Tgt Ion	Ratio	Resp	Lower	Upper
61	100	88290		
96	58.4		46.7	70.1
63	31.6		25.3	37.9



#4
Methyl Tert Butyl Ether
Concen: 502.50 ppbv
RT: 4.040 min Scan# 371
Delta R.T. 0.000 min
Lab File: 93GCMS2014-758.D
Acq: 29 Sep 2014 18:00

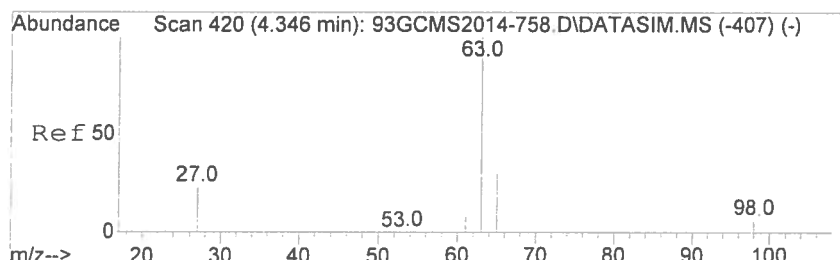
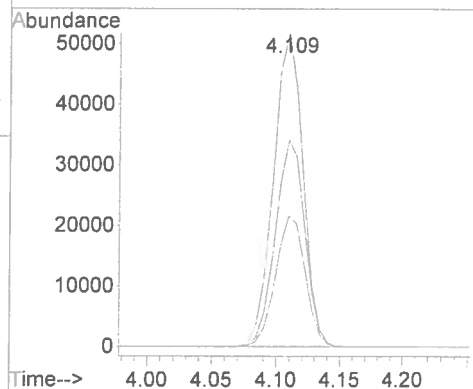
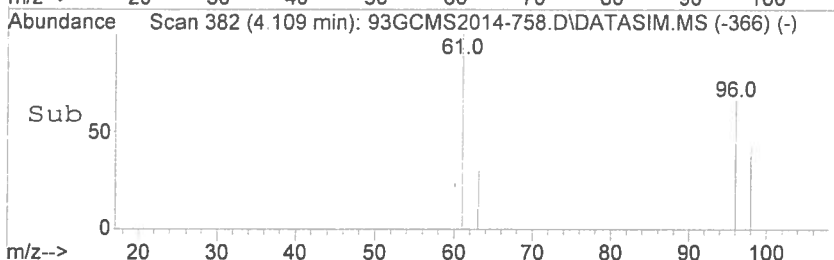
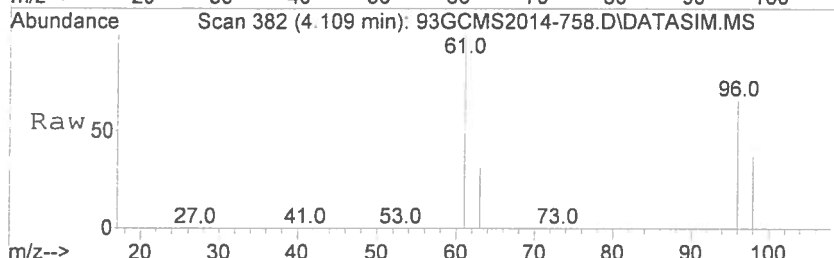
Tgt Ion	Ratio	Resp	Lower	Upper
73	100	109856		
53	1.3		1.0	1.6
41	25.2		20.2	30.2





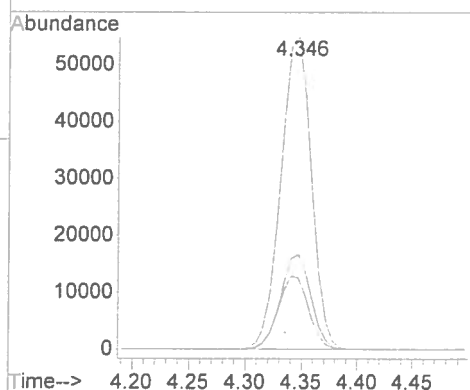
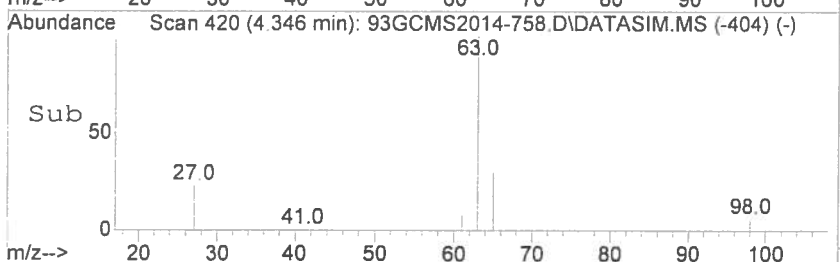
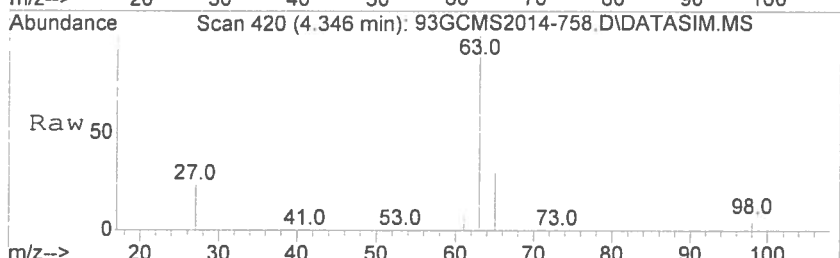
#5
 trans-1,2-Dichloroethene
 Concen: 502.50 ppbv
 RT: 4.109 min Scan# 382
 Delta R.T. 0.000 min
 Lab File: 93GCMS2014-758.D
 Acq: 29 Sep 2014 18:00

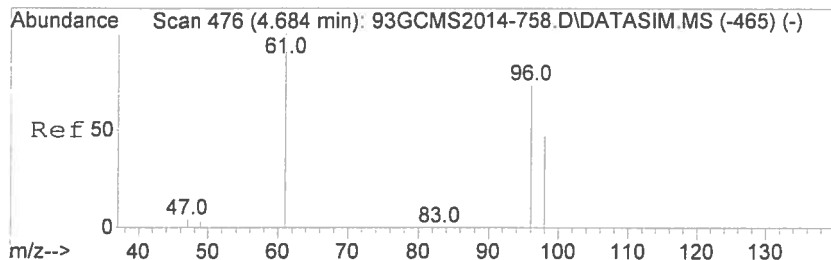
Tgt Ion	Ratio	Lower	Upper
61	100		
96	66.3	53.0	79.6
98	42.2	33.8	50.6



#6
 1,1-Dichloroethane
 Concen: 517.50 ppbv
 RT: 4.346 min Scan# 420
 Delta R.T. 0.000 min
 Lab File: 93GCMS2014-758.D
 Acq: 29 Sep 2014 18:00

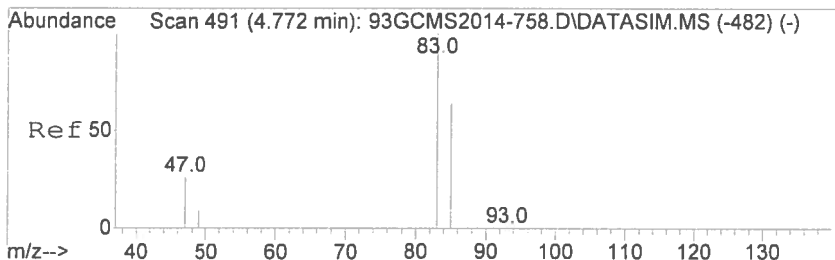
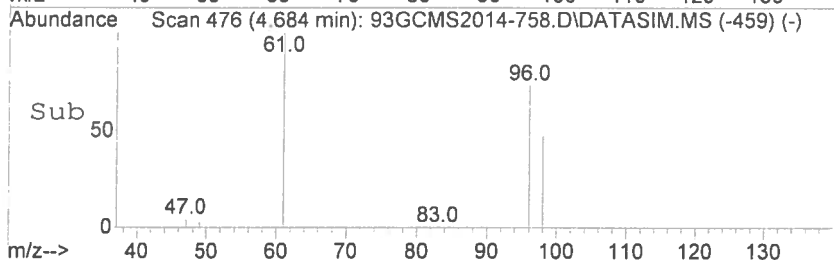
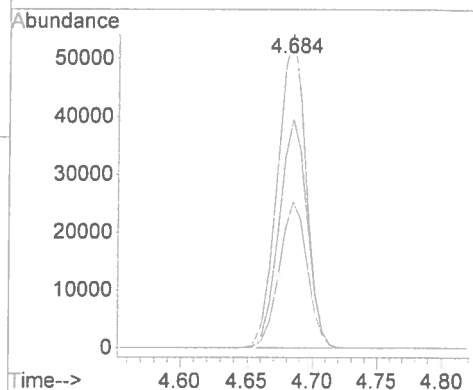
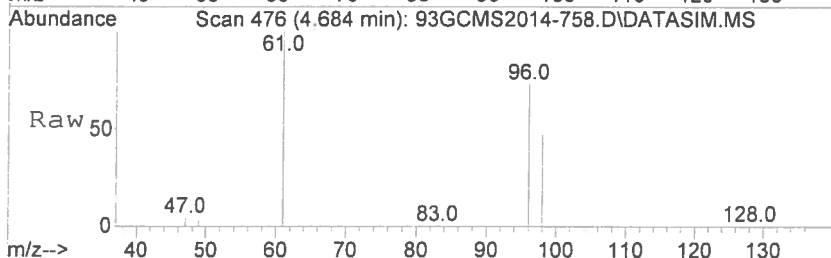
Tgt Ion	Ratio	Lower	Upper
63	100		
65	30.2	24.2	36.2
27	23.3	18.6	28.0





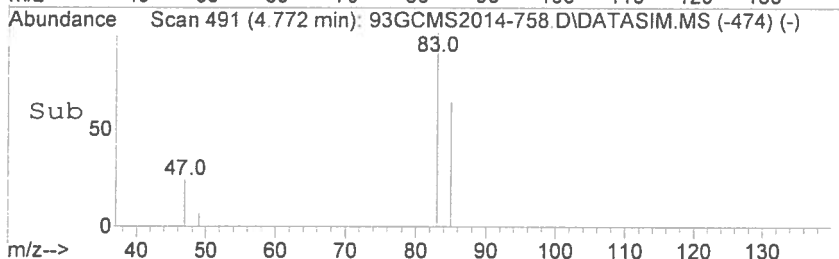
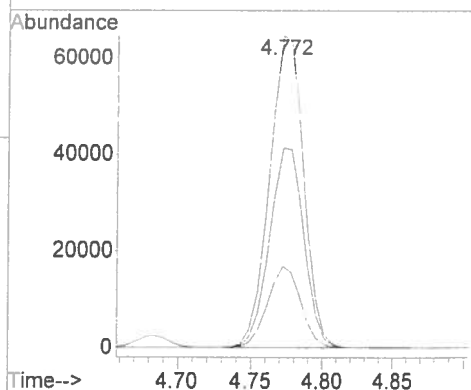
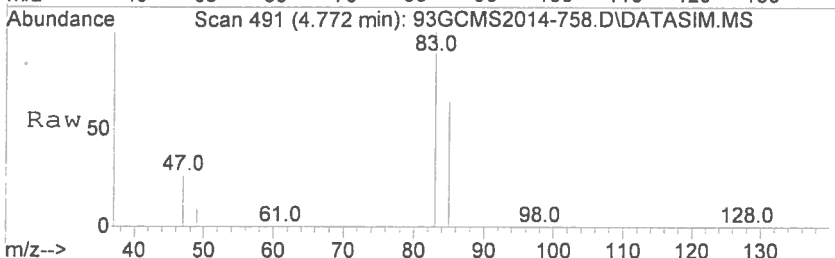
#7
 cis-1,2-Dichloroethene
 Concen: 527.50 ppbv
 RT: 4.684 min Scan# 476
 Delta R.T. 0.000 min
 Lab File: 93GCMS2014-758.D
 Acq: 29 Sep 2014 18:00

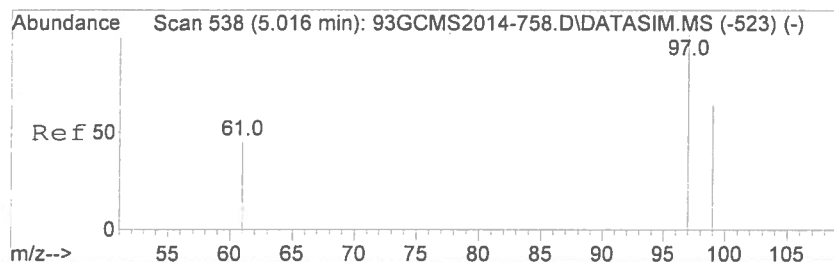
Tgt Ion	Ratio	Resp	Lower	Upper
61	100	81888		
96	72.7	58.2	87.2	
98	46.4	37.1	55.7	



#8
 Chloroform
 Concen: 515.00 ppbv
 RT: 4.772 min Scan# 491
 Delta R.T. 0.000 min
 Lab File: 93GCMS2014-758.D
 Acq: 29 Sep 2014 18:00

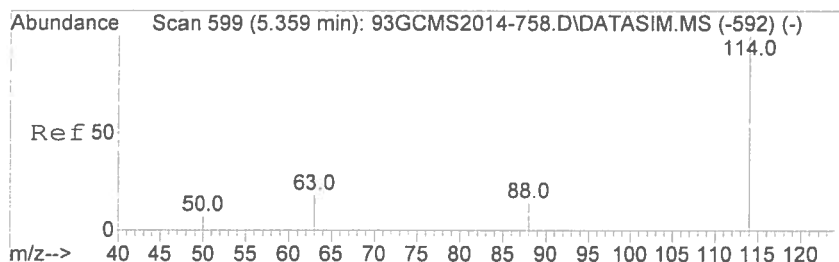
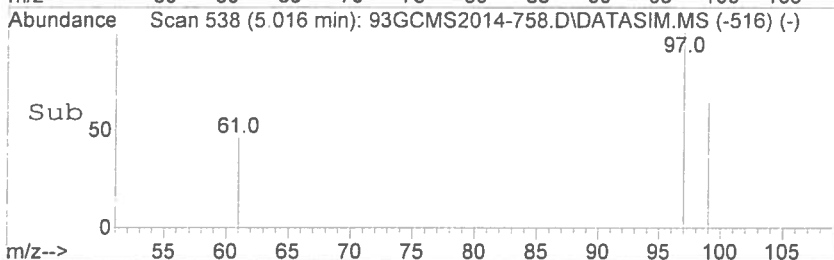
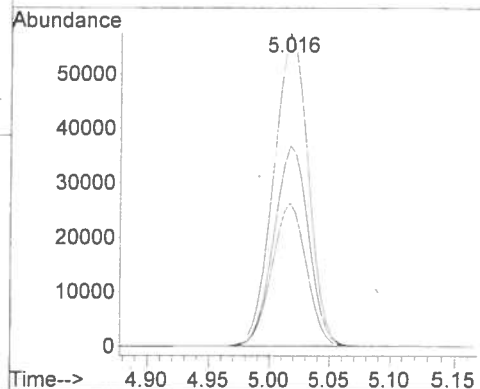
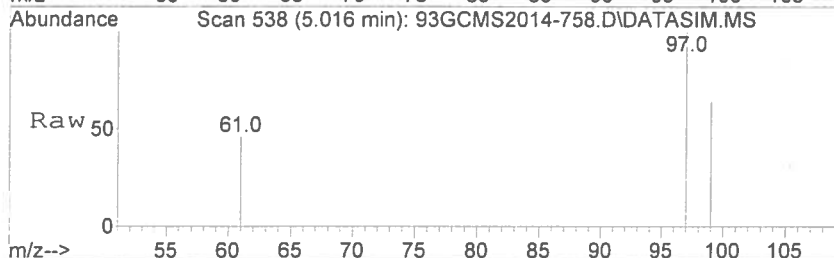
Tgt Ion	Ratio	Resp	Lower	Upper
83	100	107154		
85	64.7	51.8	77.6	
47	25.6	20.5	30.7	





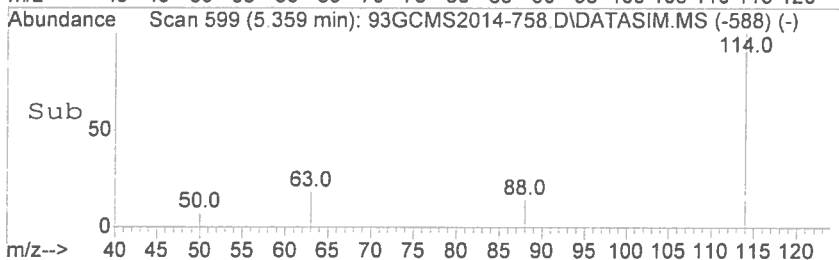
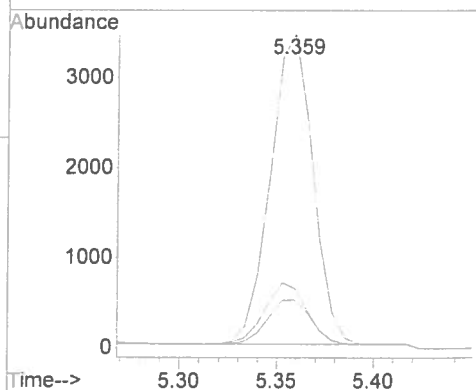
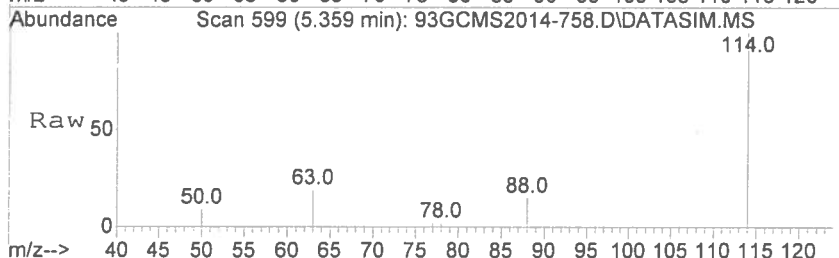
#9
1,1,1-Trichloroethane
Concen: 505.00 ppbv
RT: 5.016 min Scan# 538
Delta R.T. 0.000 min
Lab File: 93GCMS2014-758.D
Acq: 29 Sep 2014 18:00

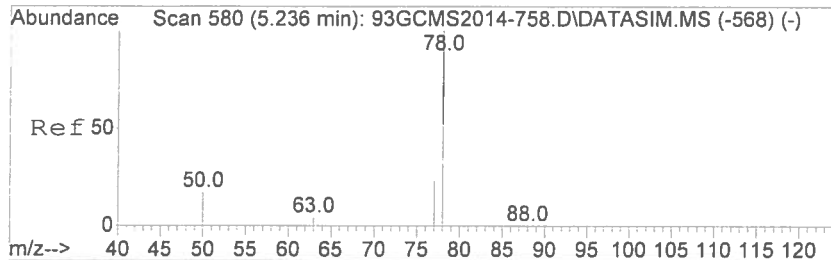
Tgt Ion	Ratio	Resp	Lower	Upper
97	100	114997		
99	64.3		51.4	77.2
61	45.7		36.6	54.8



#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.359 min Scan# 599
Delta R.T. 0.000 min
Lab File: 93GCMS2014-758.D
Acq: 29 Sep 2014 18:00

Tgt Ion	Ratio	Resp	Lower	Upper
114	100	5261		
63	19.6		15.7	23.5
88	14.7		11.8	17.6





#11

Benzene

Concen: 525.00 ppbv

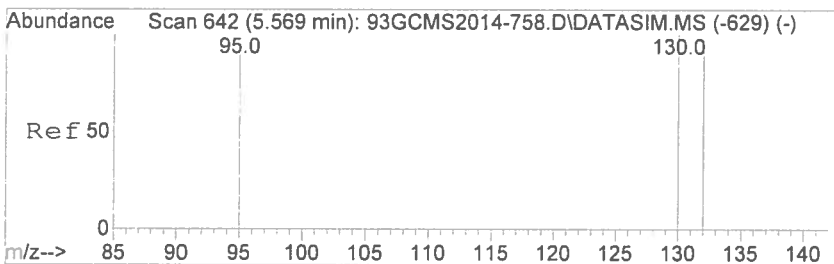
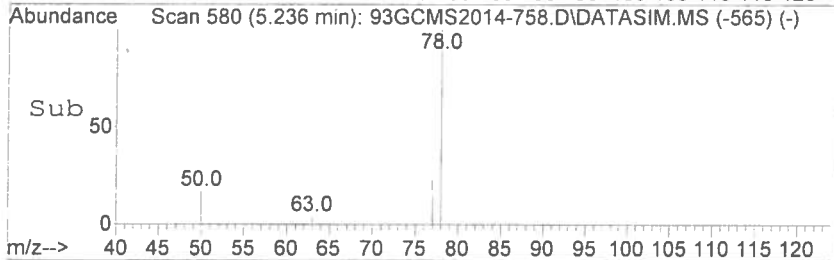
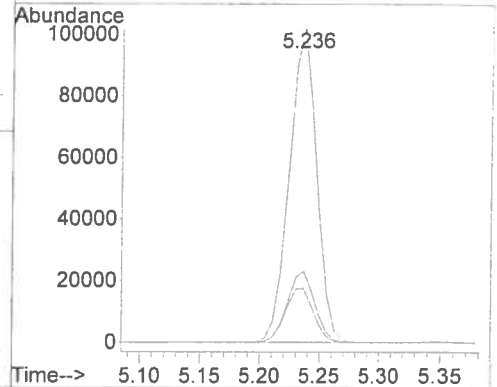
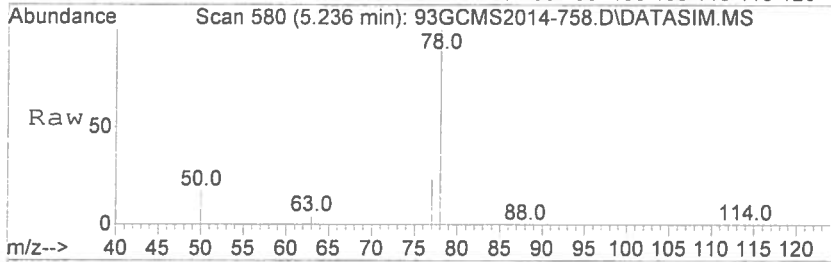
RT: 5.236 min Scan# 580

Delta R.T. 0.000 min

Lab File: 93GCMS2014-758.D

Acq: 29 Sep 2014 18:00

Tgt Ion: 78	Resp: 161554
Ion Ratio	Lower Upper
78 100	
77 22.9	18.3 27.5
50 18.0	14.4 21.6



#12

Trichloroethene

Concen: 505.00 ppbv

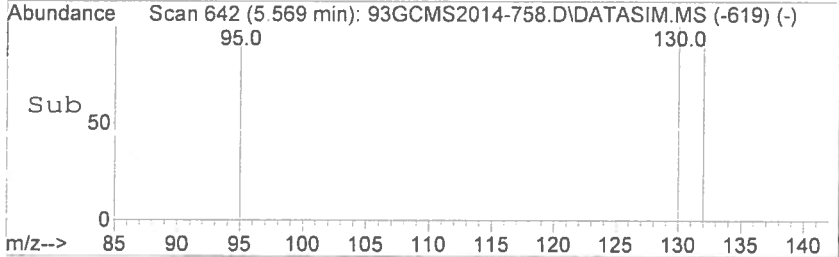
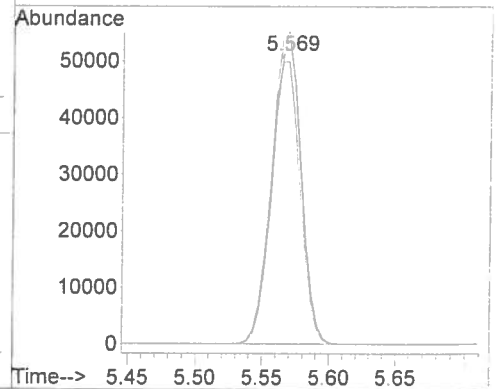
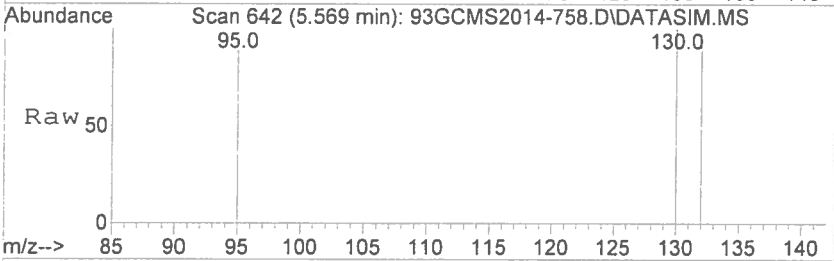
RT: 5.569 min Scan# 642

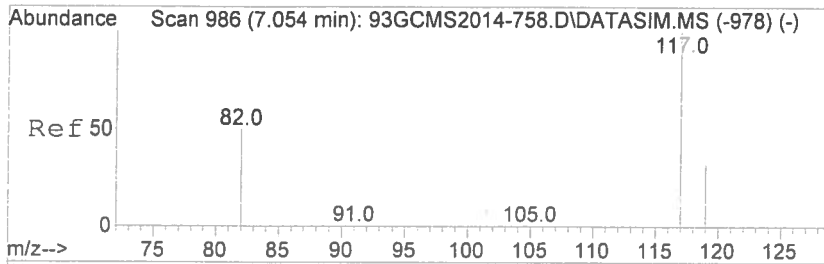
Delta R.T. 0.000 min

Lab File: 93GCMS2014-758.D

Acq: 29 Sep 2014 18:00

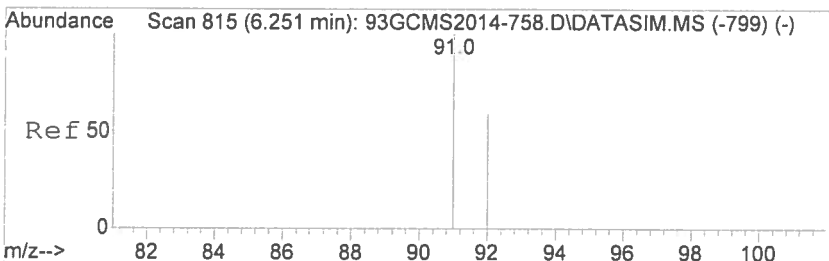
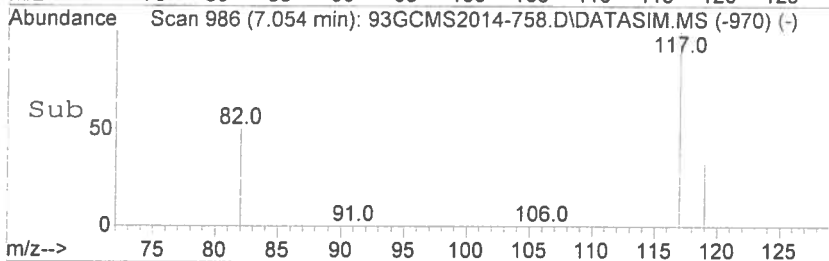
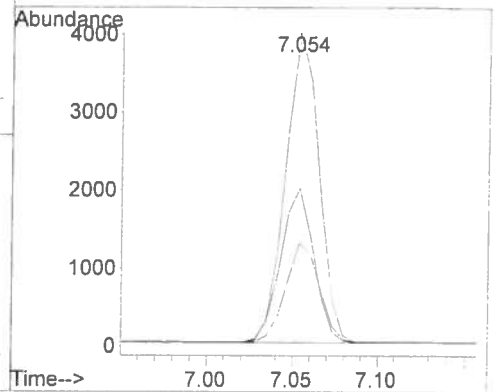
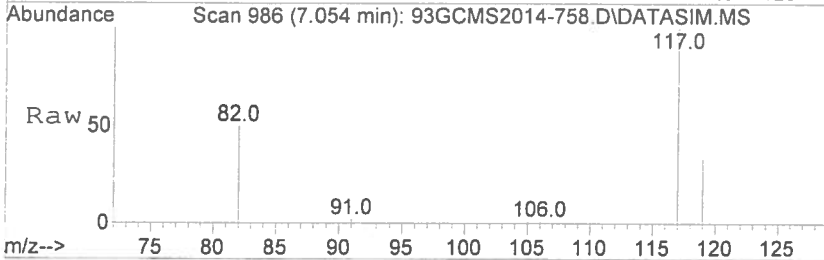
Tgt Ion: 130	Resp: 82585
Ion Ratio	Lower Upper
130 100	
132 96.3	77.0 115.6
95 91.5	73.2 109.8





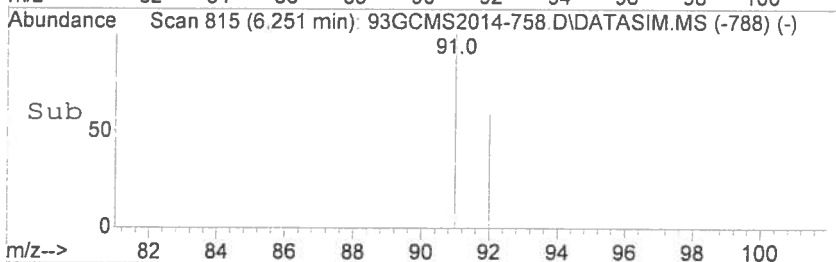
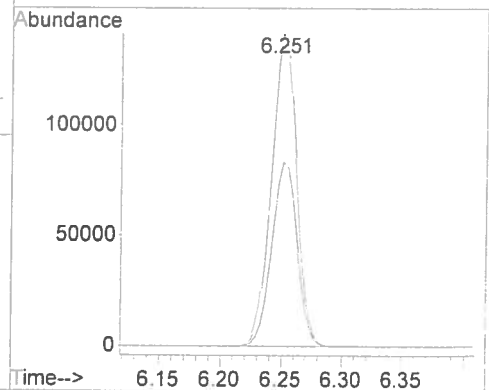
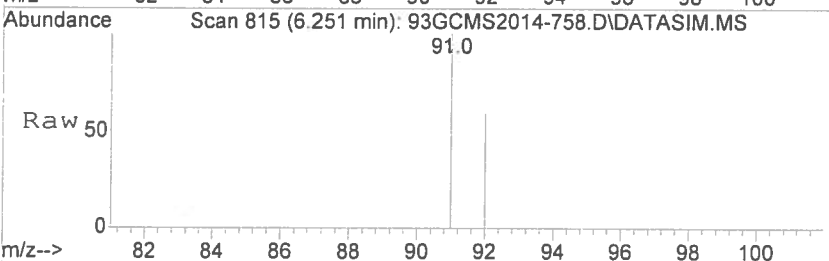
#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.054 min Scan# 986
Delta R.T. 0.000 min
Lab File: 93GCMS2014-758.D
Acq: 29 Sep 2014 18:00

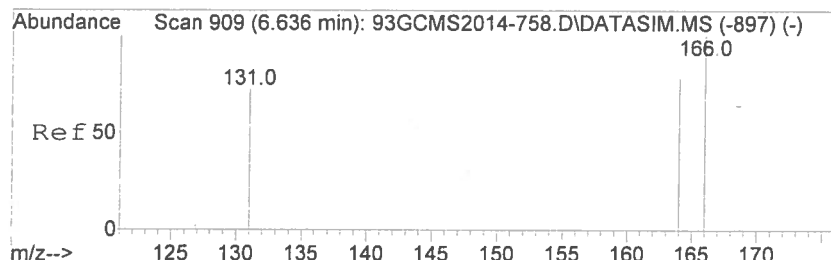
Tgt Ion	Ratio	Lower	Upper
117	100		
82	49.4	39.5	59.3
119	32.2	25.8	38.6



#14
Toluene
Concen: 520.00 ppbv
RT: 6.251 min Scan# 815
Delta R.T. 0.000 min
Lab File: 93GCMS2014-758.D
Acq: 29 Sep 2014 18:00

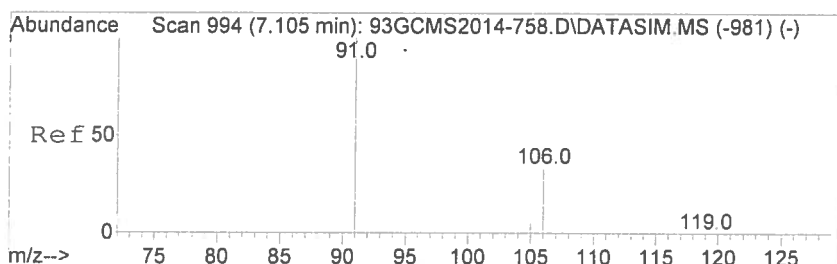
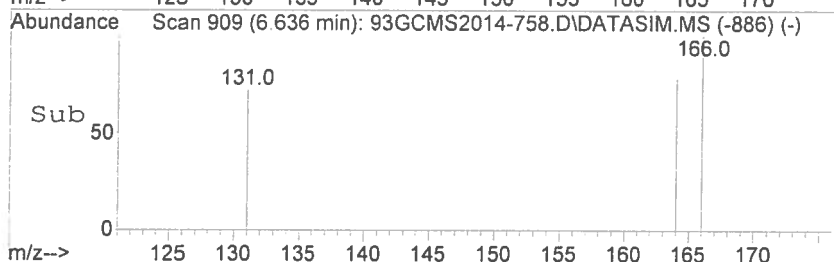
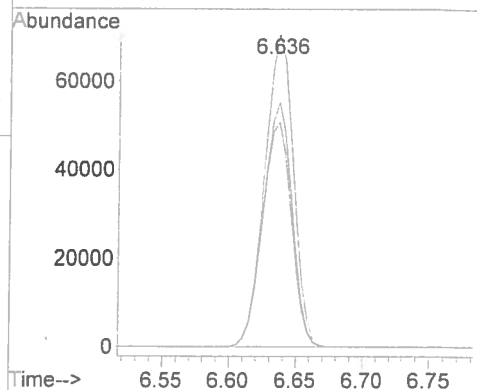
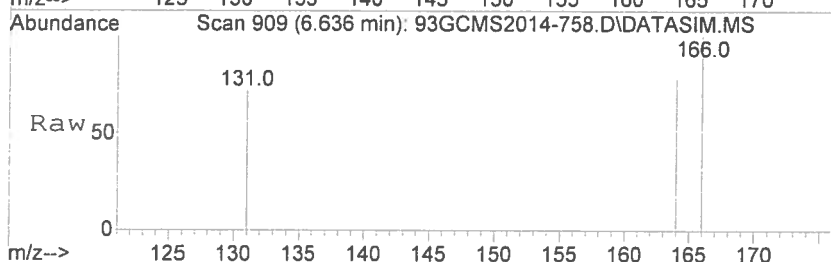
Tgt Ion	Ratio	Lower	Upper
91	100		
92	59.3	47.4	71.2





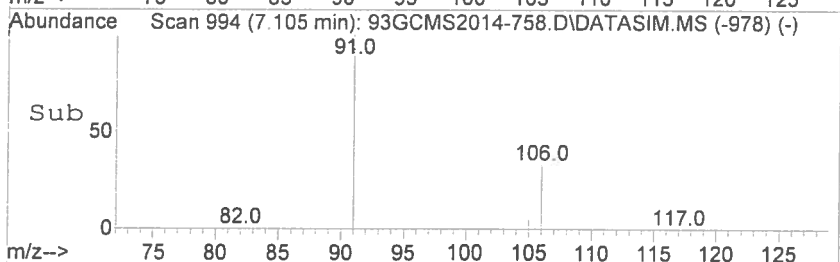
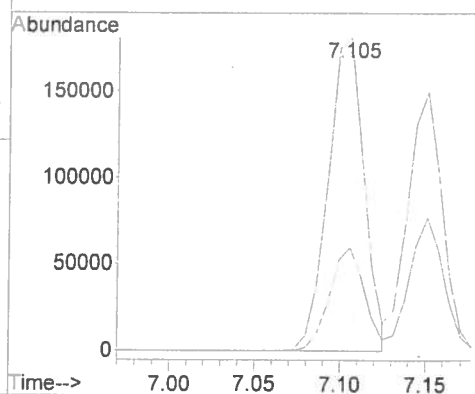
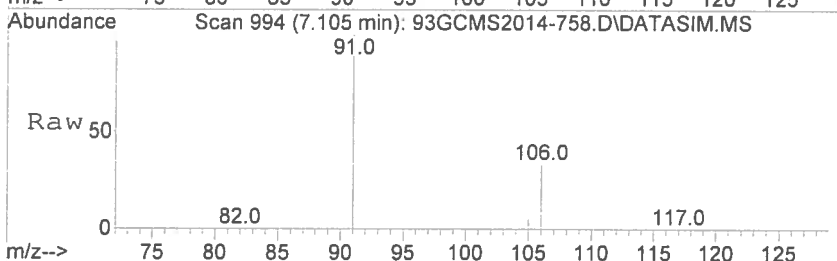
#15
Tetrachloroethene
Concen: 507.50 ppbv
RT: 6.636 min Scan# 909
Delta R.T. 0.000 min
Lab File: 93GCMS2014-758.D
Acq: 29 Sep 2014 18:00

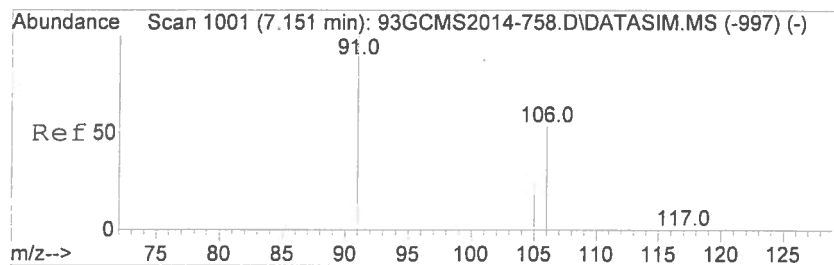
Tgt Ion	Ratio	Resp	Lower	Upper
166	100	105579		
164	78.2	62.6	93.8	
131	72.4	57.9	86.9	



#16
Ethyl Benzene
Concen: 520.00 ppbv
RT: 7.105 min Scan# 994
Delta R.T. 0.000 min
Lab File: 93GCMS2014-758.D
Acq: 29 Sep 2014 18:00

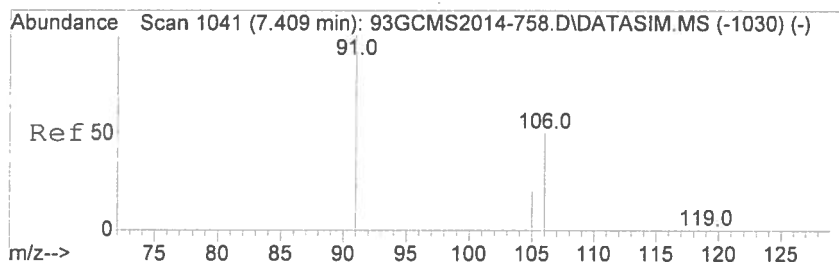
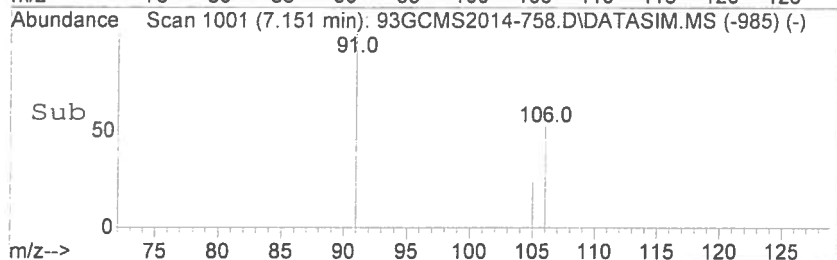
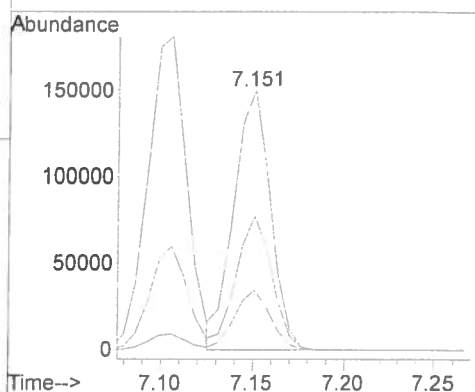
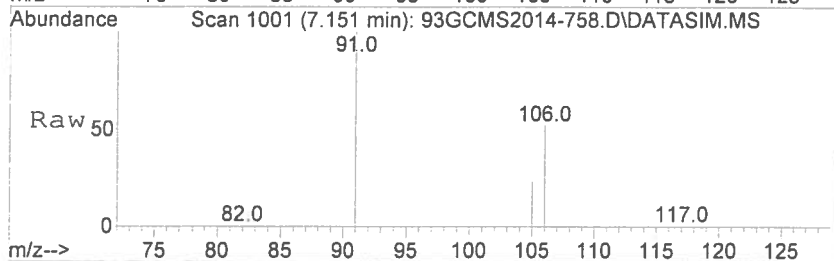
Tgt Ion	Ratio	Resp	Lower	Upper
91	100	265141		
106	33.0	26.4	39.6	





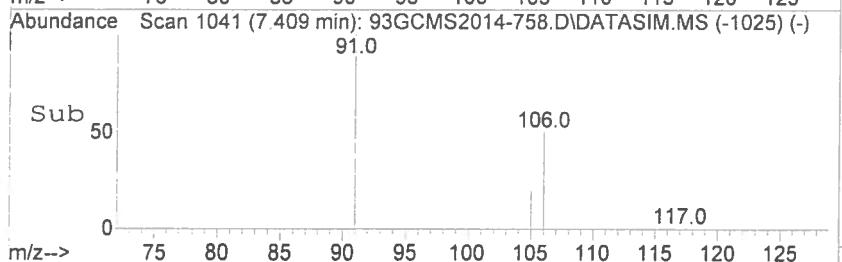
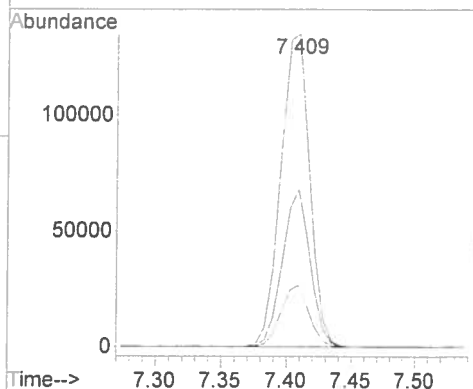
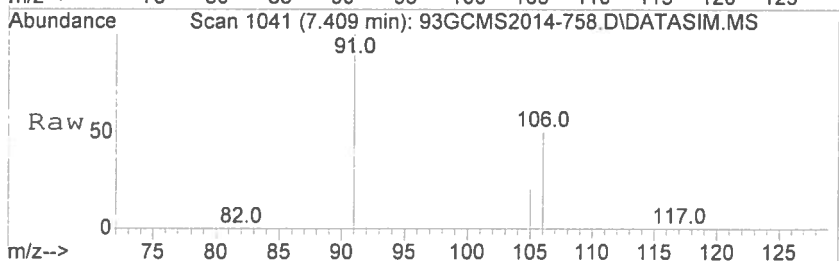
#17
m,p-Xylene
Concen: 520.00 ppbv
RT: 7.151 min Scan# 1001
Delta R.T. 0.000 min
Lab File: 93GCMS2014-758.D
Acq: 29 Sep 2014 18:00

Tgt Ion	Ratio	Lower	Upper
91	100		
106	51.5	41.2	61.8
105	23.0	18.4	27.6



#18
o-Xylene
Concen: 517.50 ppbv
RT: 7.409 min Scan# 1041
Delta R.T. 0.000 min
Lab File: 93GCMS2014-758.D
Acq: 29 Sep 2014 18:00

Tgt Ion	Ratio	Lower	Upper
91	100		
106	47.9	38.3	57.5
105	19.1	15.3	22.9



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-759.D
 Acq On : 29 Sep 2014 18:12
 Operator : SJT
 Sample : STD20140929-7 \ 100ppbv ICAL STD
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 18:20:16 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:08:12 2014

QLast Update : Mon Sep 29 18:08:12 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	4.848	49	1875	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.356	114	5320	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.057	117	5505	10.00	ppbv	0.00

System Monitoring Compounds

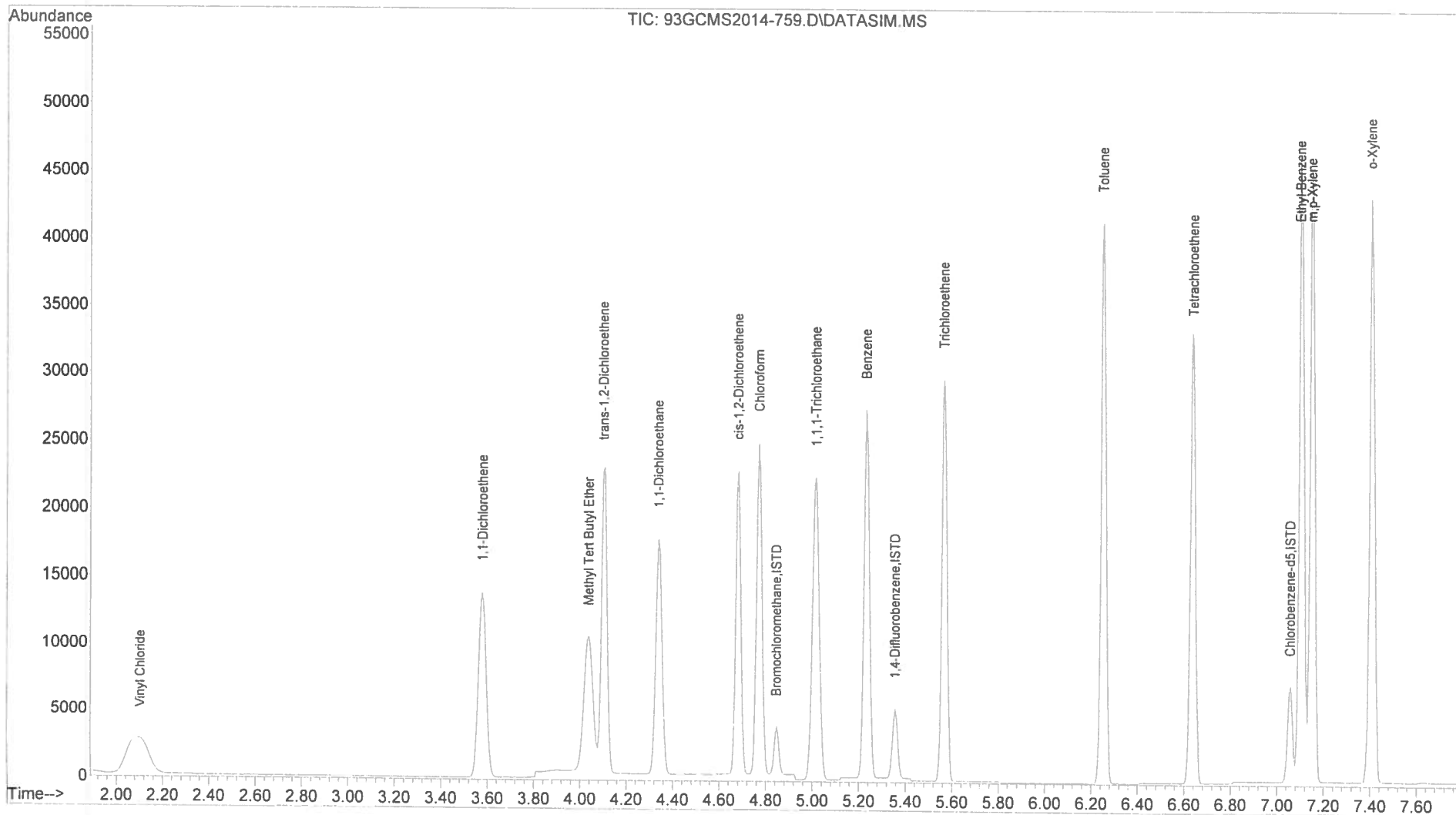
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Vinyl Chloride	2.104	62	9960	101.03	ppbv	99
3) 1,1-Dichloroethene	3.580	61	16917	94.77	ppbv	100
4) Methyl Tert Butyl Ether	4.040	73	20886	94.98	ppbv #	99
5) trans-1,2-Dichloroethene	4.103	61	15503	93.79	ppbv	100
6) 1,1-Dichloroethane	4.340	63	19569	97.12	ppbv	100
7) cis-1,2-Dichloroethene	4.684	61	15253	97.68	ppbv	100
8) Chloroform	4.772	83	19995	95.54	ppbv	100
9) 1,1,1-Trichloroethane	5.018	97	21578	94.20	ppbv	100
11) Benzene	5.234	78	30350	97.53	ppbv	100
12) Trichloroethene	5.568	130	15497	93.71	ppbv	100
14) Toluene	6.254	91	37563	94.16	ppbv	100
15) Tetrachloroethene	6.640	166	19769	93.47	ppbv	100
16) Ethyl Benzene	7.102	91	48569	93.70	ppbv	97
17) m,p-Xylene	7.148	91	36569	90.60	ppbv	96
18) o-Xylene	7.406	91	37952	92.07	ppbv	100

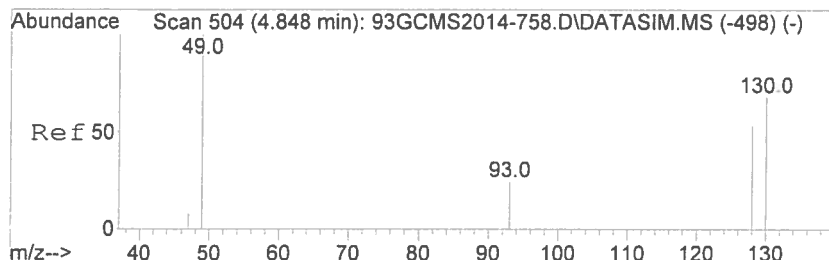
(#) = qualifier out of range (m) = manual integration (+) = signals summed

09/29/14

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-759.D
 Acq On : 29 Sep 2014 18:12
 Operator : SJT
 Sample : STD20140929-7 \ 100ppbv ICAL STD
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

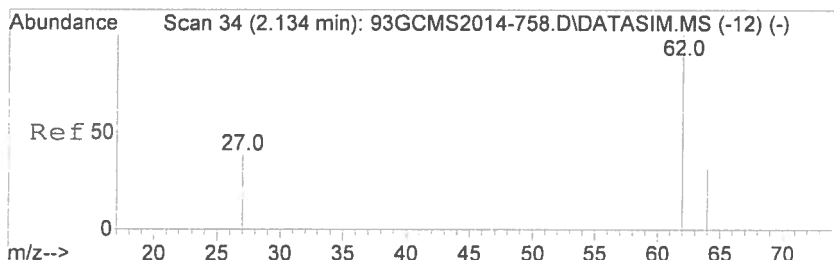
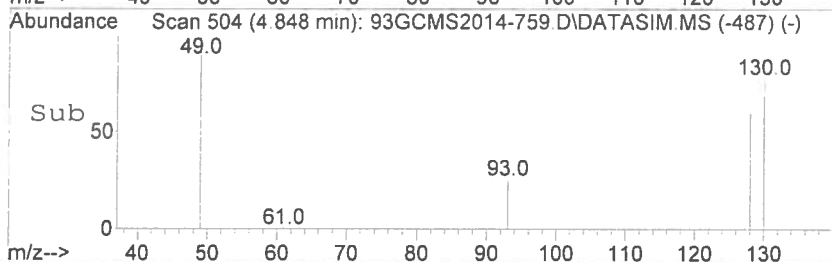
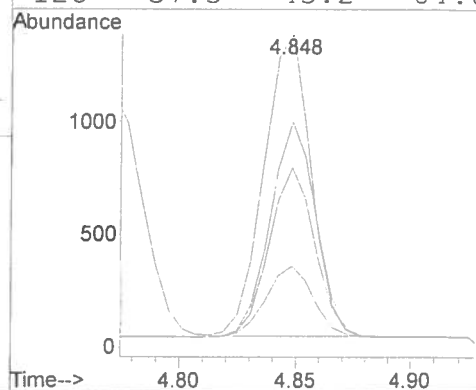
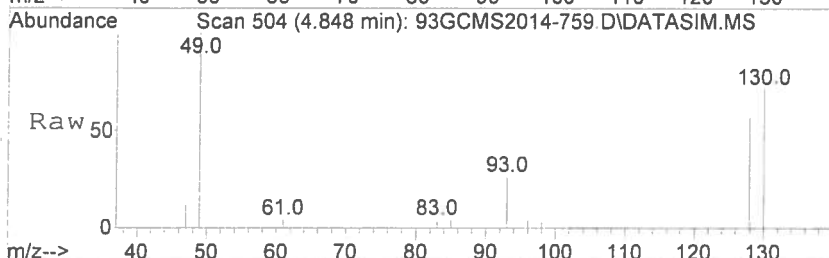
Quant Time: Sep 29 18:20:16 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:08:12 2014
 QLast Update : Mon Sep 29 18:08:12 2014
 Response via : Initial Calibration





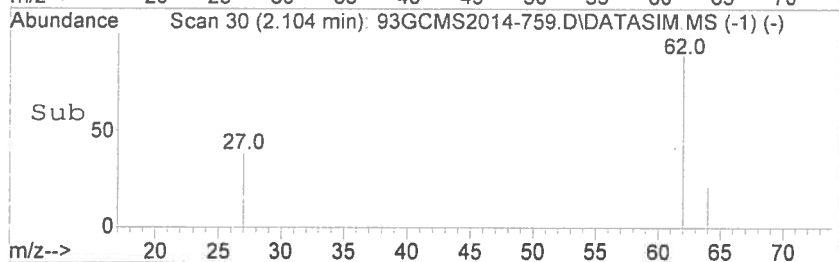
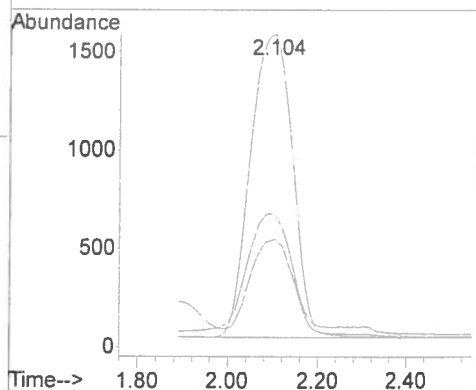
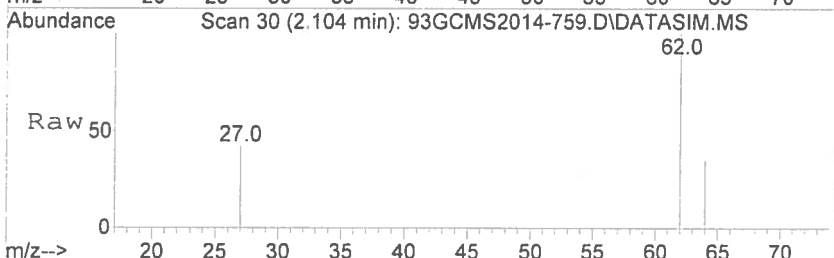
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. 0.000 min
Lab File: 93GCMS2014-759.D
Acq: 29 Sep 2014 18:12

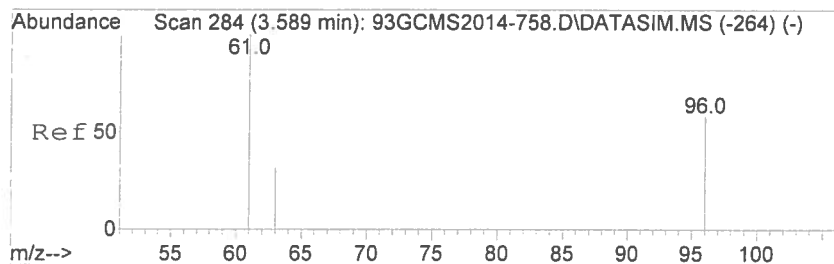
Tgt Ion	Ratio	Lower	Upper
49	100		
130	72.1	54.4	81.6
93	26.0	21.1	31.7
128	57.5	43.2	64.8



#2
Vinyl Chloride
Concen: 101.03 ppbv
RT: 2.104 min Scan# 30
Delta R.T. -0.030 min
Lab File: 93GCMS2014-759.D
Acq: 29 Sep 2014 18:12

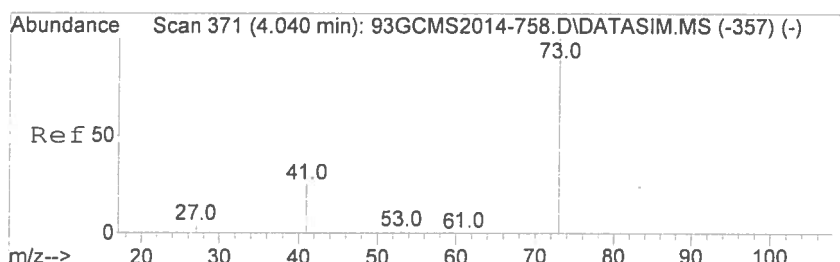
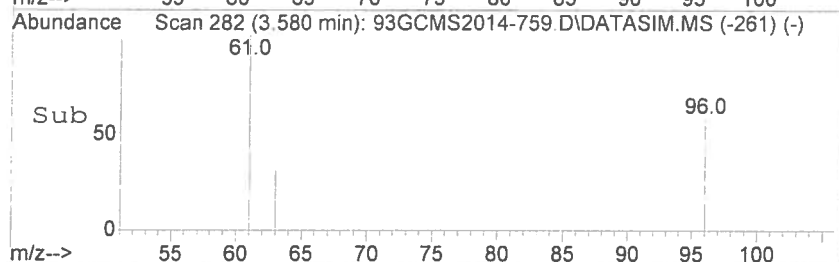
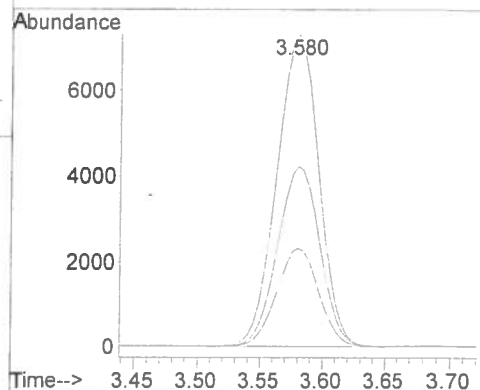
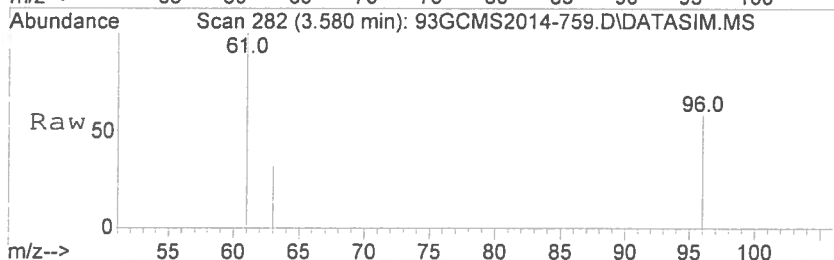
Tgt Ion	Ratio	Lower	Upper
62	100		
64	31.6	25.2	37.8
27	41.0	31.8	47.6





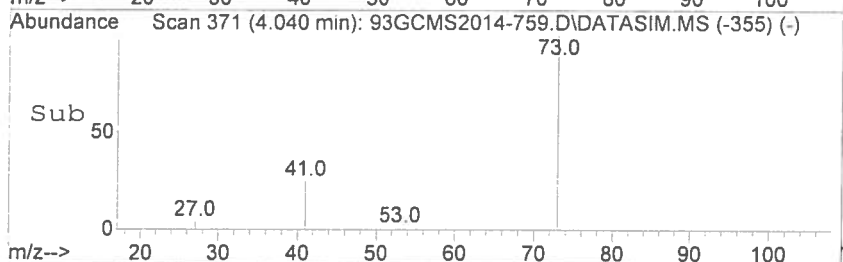
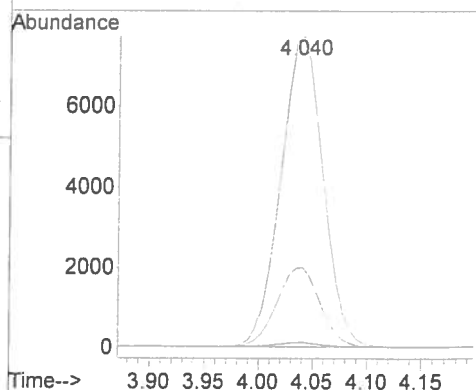
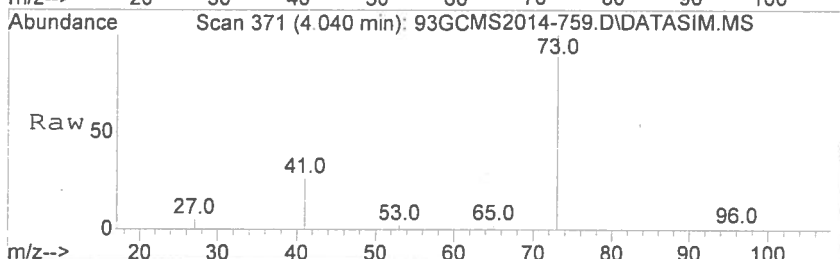
#3
 1,1-Dichloroethene
 Concen: 94.77 ppbv
 RT: 3.580 min Scan# 282
 Delta R.T. -0.009 min
 Lab File: 93GCMS2014-759.D
 Acq: 29 Sep 2014 18:12

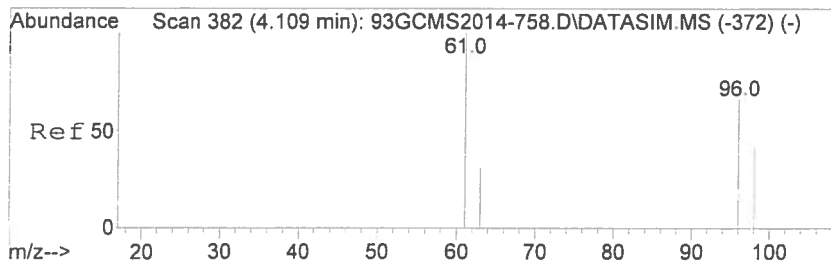
Tgt Ion	Ratio	Lower	Upper
61	100		
96	58.2	46.7	70.1
63	31.6	25.3	37.9



#4
 Methyl Tert Butyl Ether
 Concen: 94.98 ppbv
 RT: 4.040 min Scan# 371
 Delta R.T. -0.000 min
 Lab File: 93GCMS2014-759.D
 Acq: 29 Sep 2014 18:12

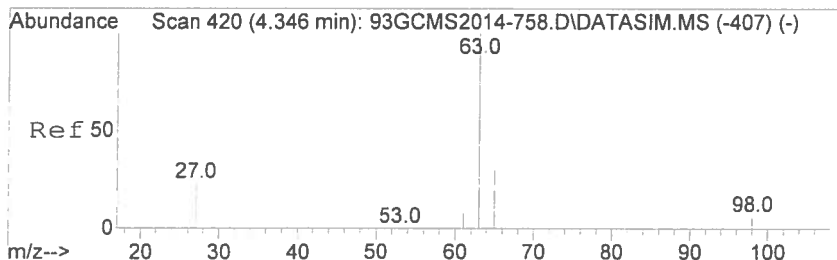
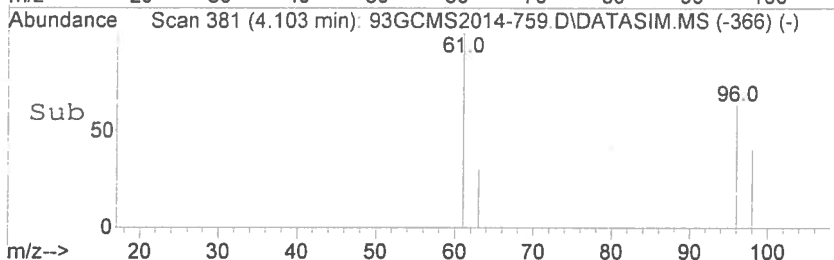
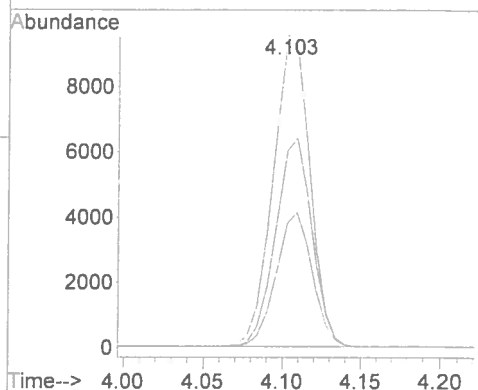
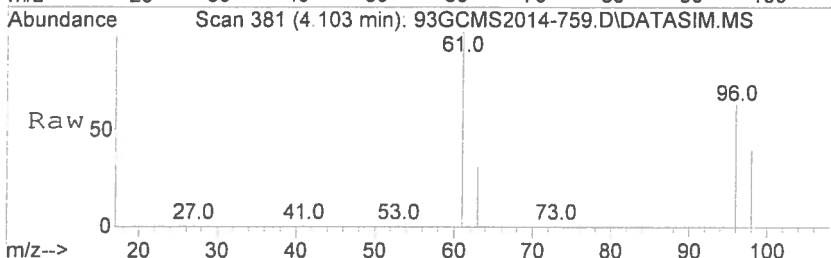
Tgt Ion	Ratio	Lower	Upper
73	100		
53	1.7	1.0	1.6#
41	25.7	20.2	30.2





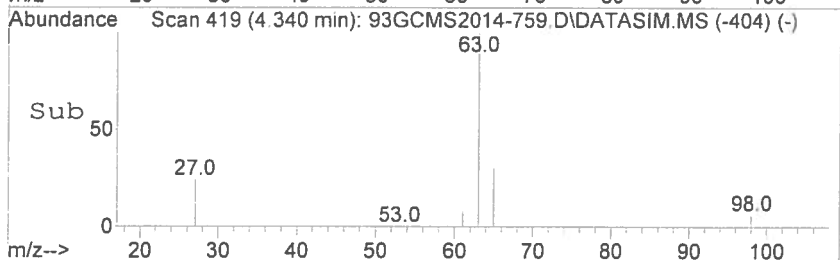
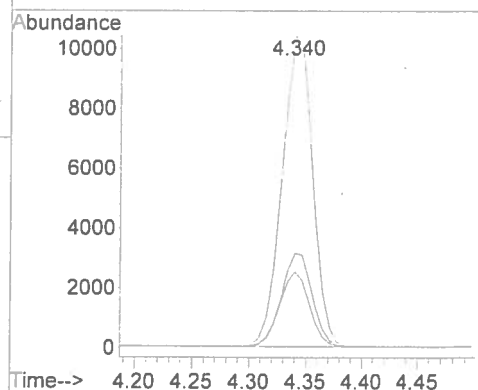
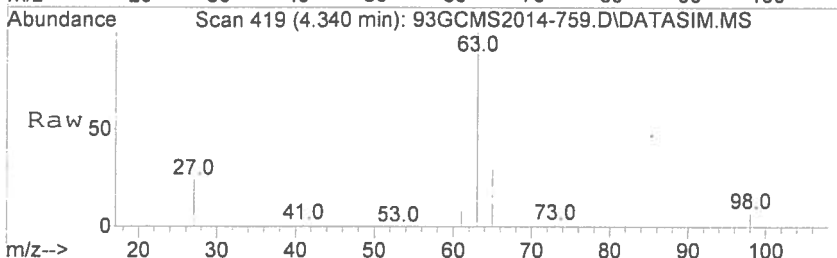
#5
trans-1,2-Dichloroethene
Concen: 93.79 ppbv
RT: 4.103 min Scan# 381
Delta R.T. -0.006 min
Lab File: 93GCMS2014-759.D
Acq: 29 Sep 2014 18:12

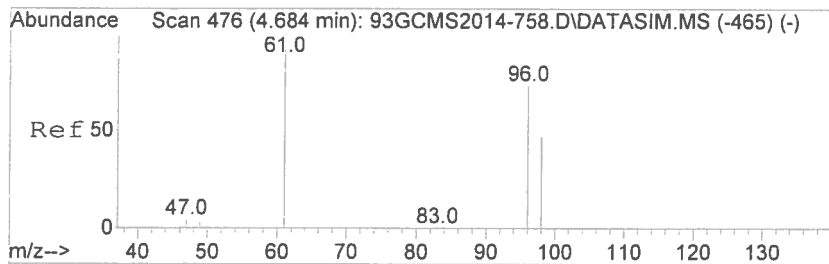
Tgt Ion	Ratio	Lower	Upper
61	100		
96	66.4	53.0	79.6
98	42.5	33.8	50.6



#6
1,1-Dichloroethane
Concen: 97.12 ppbv
RT: 4.340 min Scan# 419
Delta R.T. -0.006 min
Lab File: 93GCMS2014-759.D
Acq: 29 Sep 2014 18:12

Tgt Ion	Ratio	Lower	Upper
63	100		
65	30.2	24.2	36.2
27	23.3	18.6	28.0

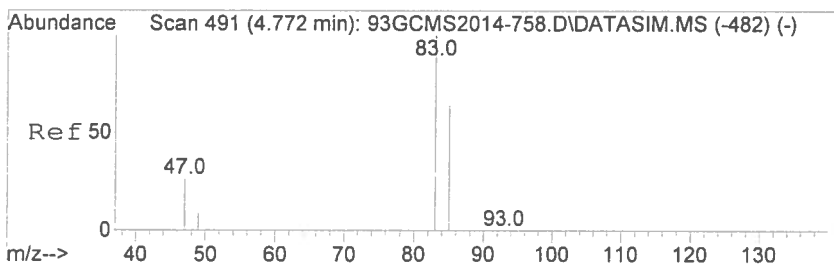
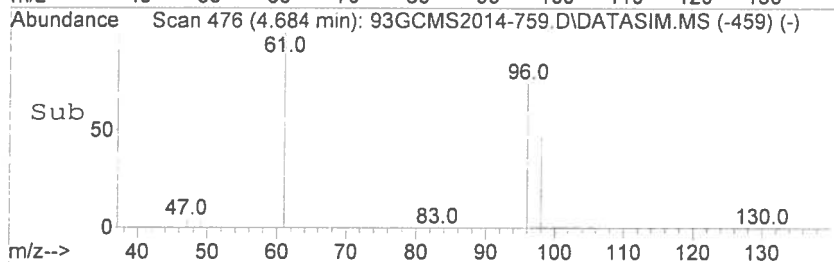
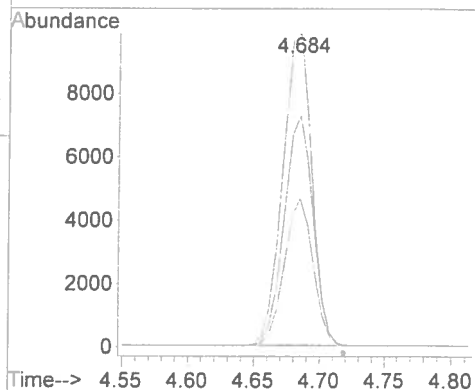
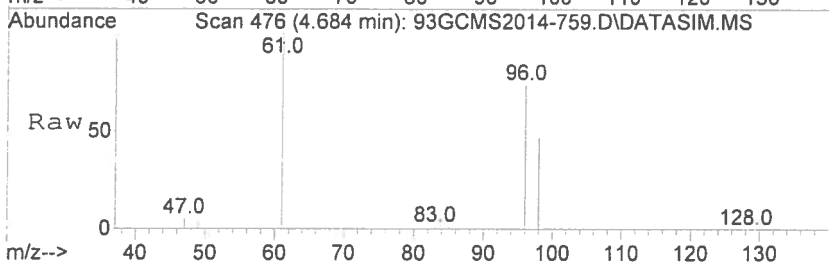




#7

cis-1,2-Dichloroethene
Concen: 97.68 ppbv
RT: 4.684 min Scan# 476
Delta R.T. 0.000 min
Lab File: 93GCMS2014-759.D
Acq: 29 Sep 2014 18:12

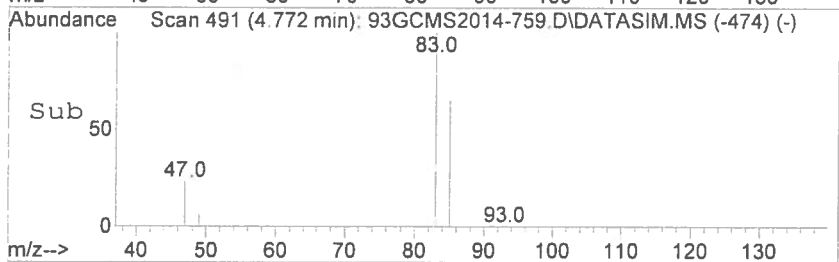
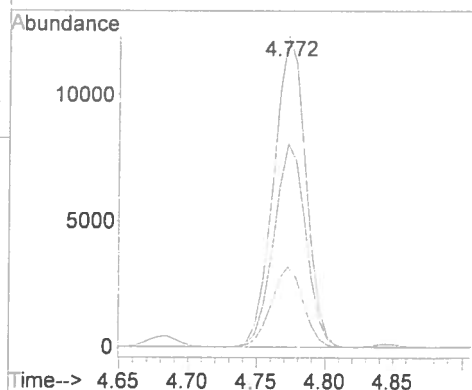
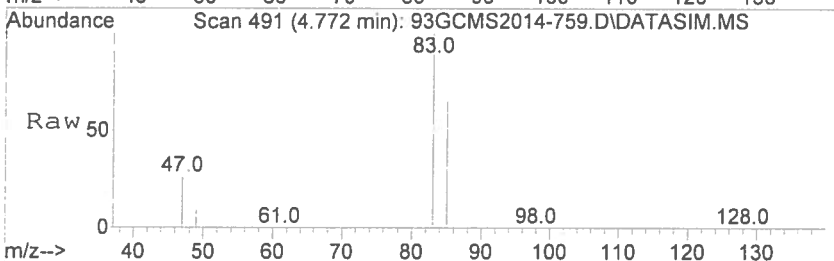
Tgt Ion	Ratio	Resp	Lower	Upper
61	100	15253		
96	72.9	58.2	87.2	
98	46.5	37.1	55.7	

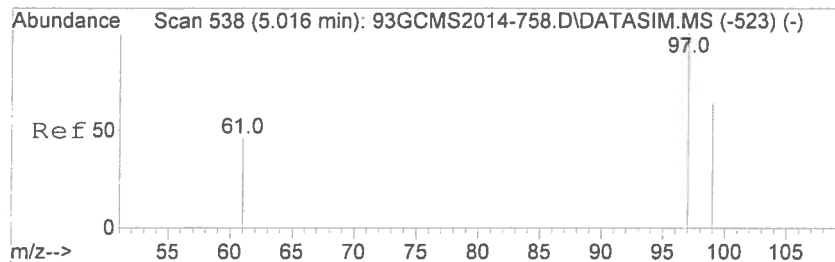


#8

Chloroform
Concen: 95.54 ppbv
RT: 4.772 min Scan# 491
Delta R.T. 0.000 min
Lab File: 93GCMS2014-759.D
Acq: 29 Sep 2014 18:12

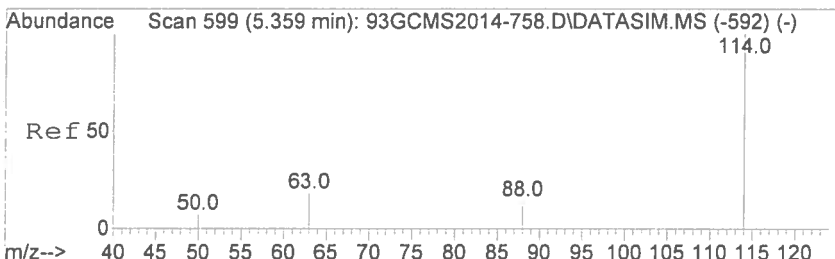
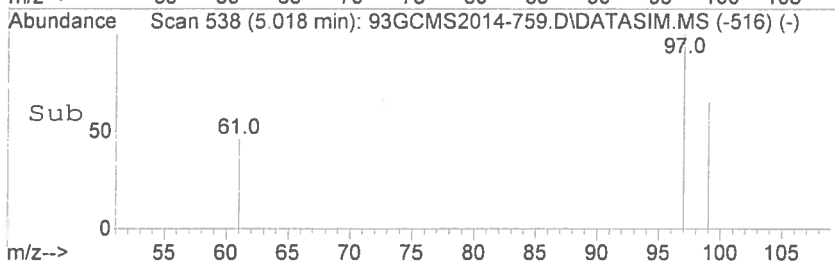
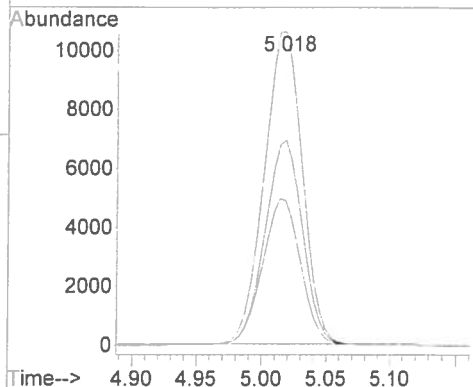
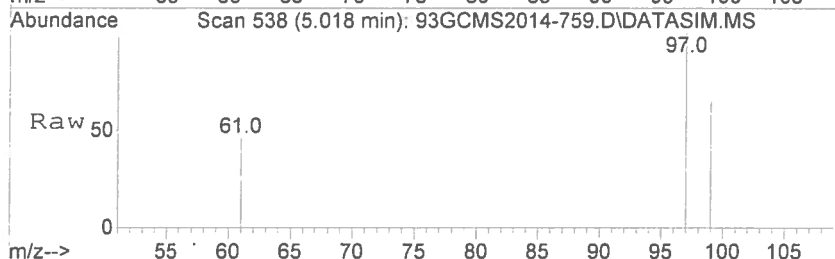
Tgt Ion	Ratio	Resp	Lower	Upper
83	100	19995		
85	64.9	51.8	77.6	
47	25.6	20.5	30.7	





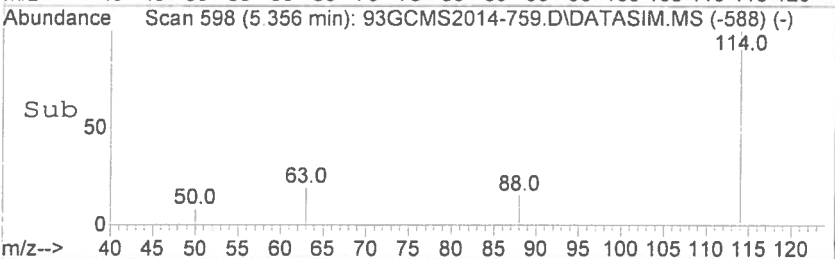
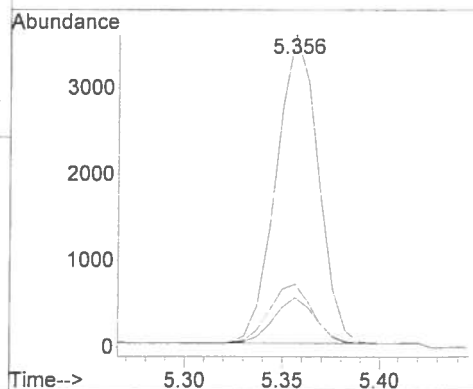
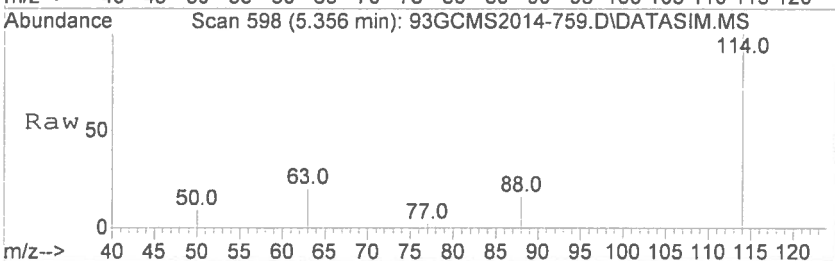
#9
1,1,1-Trichloroethane
Concen: 94.20 ppbv
RT: 5.018 min Scan# 538
Delta R.T. 0.002 min
Lab File: 93GCMS2014-759.D
Acq: 29 Sep 2014 18:12

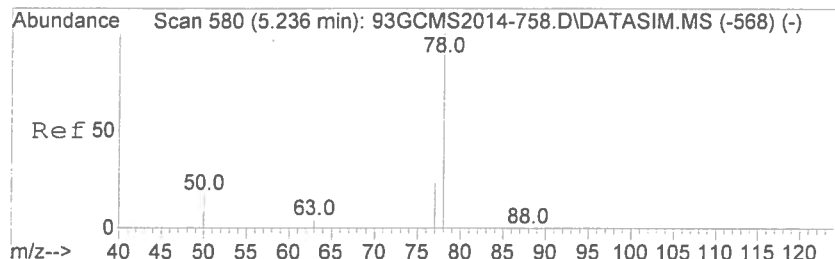
Tgt Ion	Ratio	Resp	Lower	Upper
97	100	21578		
99	64.5		51.4	77.2
61	46.3		36.6	54.8



#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.356 min Scan# 598
Delta R.T. -0.003 min
Lab File: 93GCMS2014-759.D
Acq: 29 Sep 2014 18:12

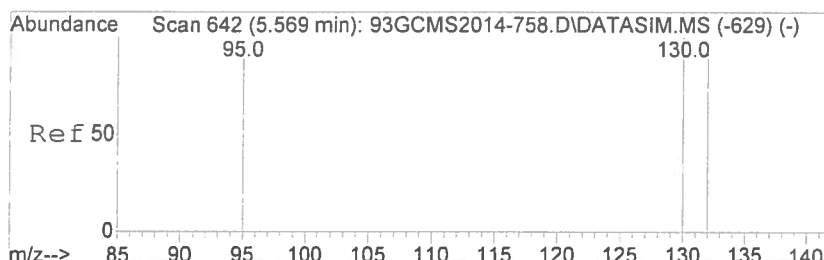
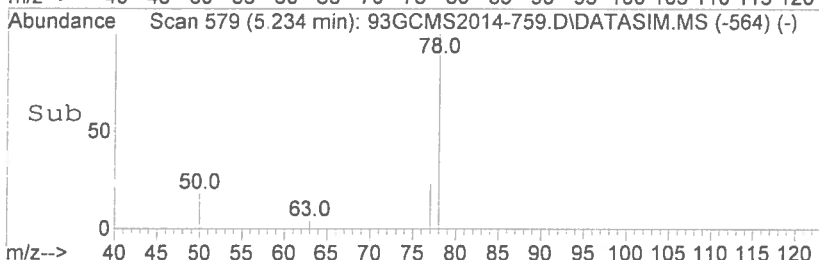
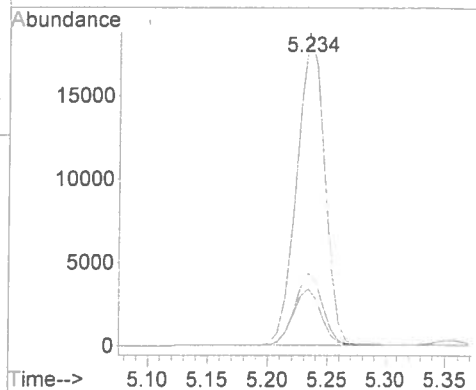
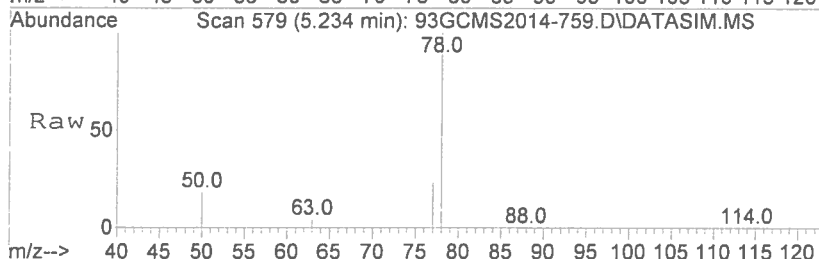
Tgt Ion	Ratio	Resp	Lower	Upper
114	100	5320		
63	19.3		15.7	23.5
88	14.5		11.8	17.6





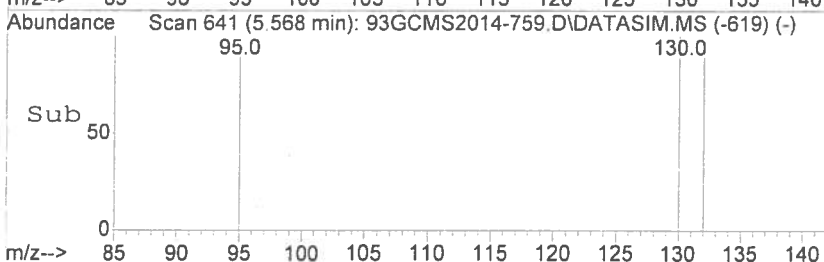
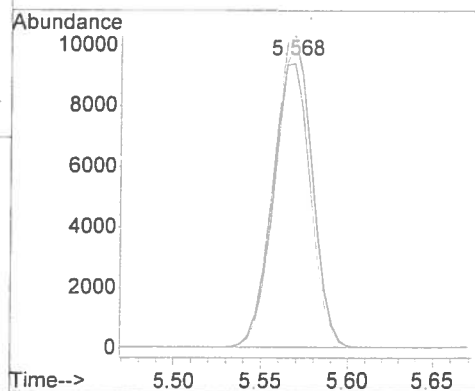
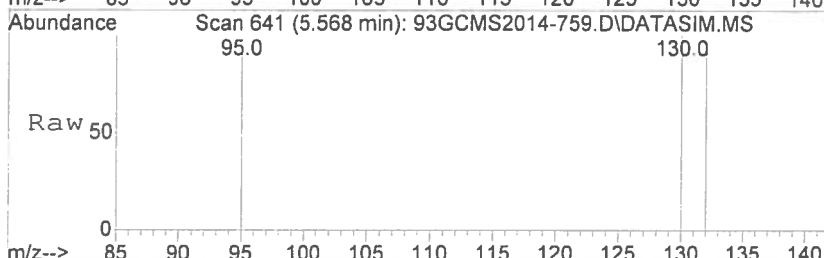
#11
Benzene
Concen: 97.53 ppbv
RT: 5.234 min Scan# 579
Delta R.T. -0.003 min
Lab File: 93GCMS2014-759.D
Acq: 29 Sep 2014 18:12

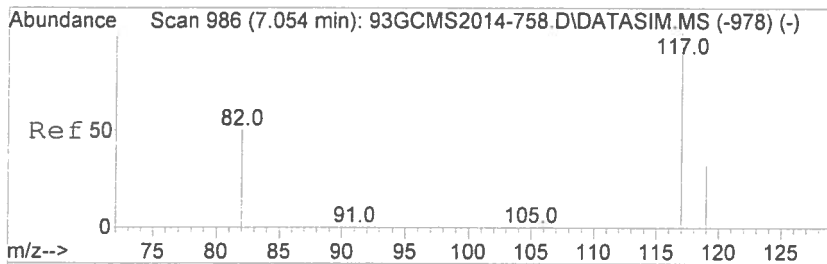
Tgt Ion	Ratio	Resp	Lower	Upper
78	100	30350		
77	23.0		18.3	27.5
50	18.0		14.4	21.6



#12
Trichloroethene
Concen: 93.71 ppbv
RT: 5.568 min Scan# 641
Delta R.T. -0.001 min
Lab File: 93GCMS2014-759.D
Acq: 29 Sep 2014 18:12

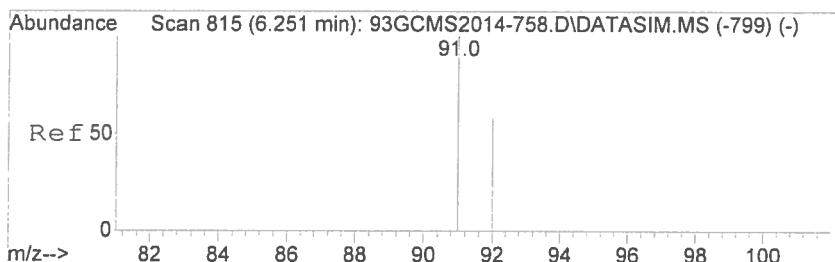
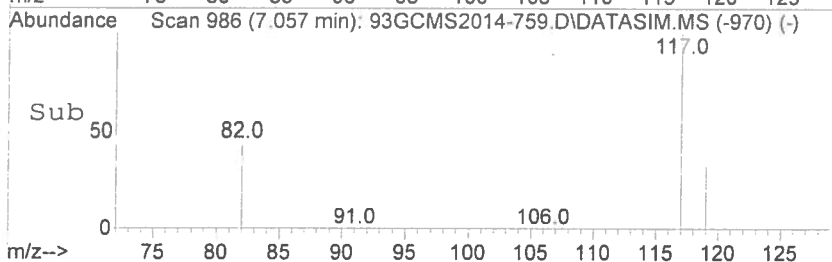
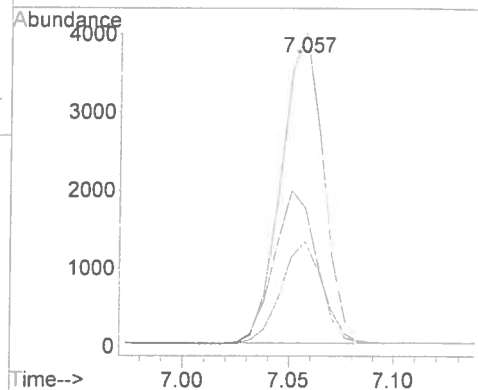
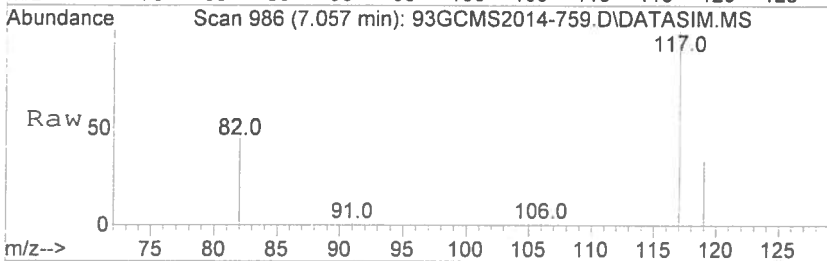
Tgt Ion	Ratio	Resp	Lower	Upper
130	100	15497		
132	96.0		77.0	115.6
95	91.3		73.2	109.8





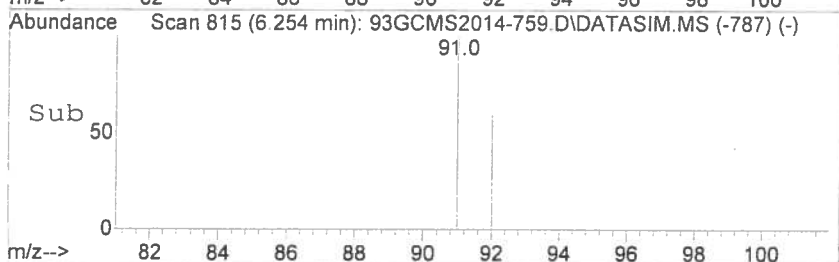
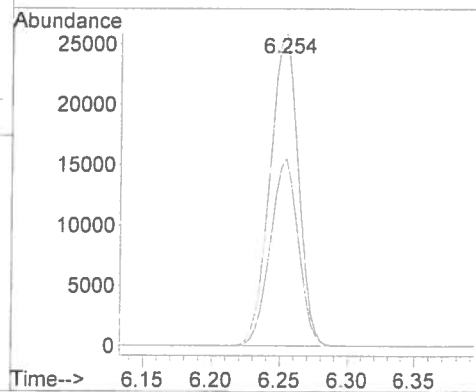
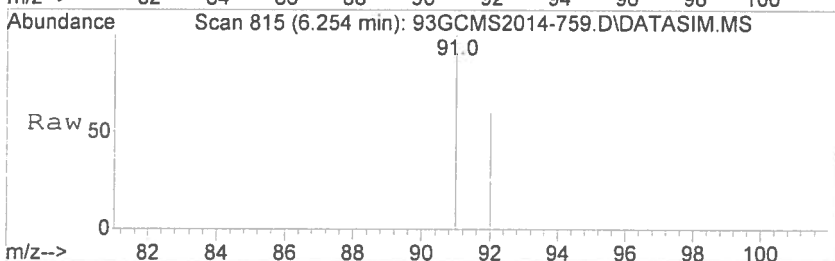
#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.057 min Scan# 986
Delta R.T. 0.003 min
Lab File: 93GCMS2014-759.D
Acq: 29 Sep 2014 18:12

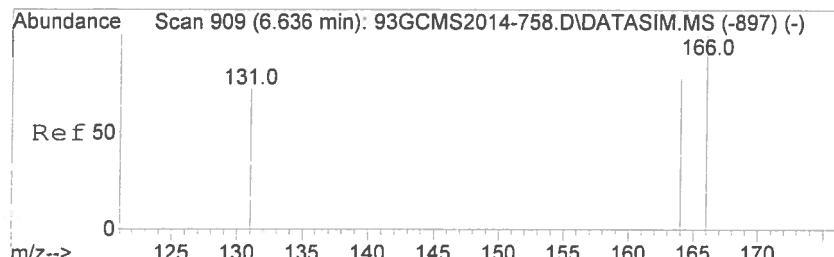
Tgt Ion	Ratio	Resp	Lower	Upper
117	100	5505		
82	49.1		39.5	59.3
119	32.1		25.8	38.6



#14
Toluene
Concen: 94.16 ppbv
RT: 6.254 min Scan# 815
Delta R.T. 0.003 min
Lab File: 93GCMS2014-759.D
Acq: 29 Sep 2014 18:12

Tgt Ion	Ratio	Resp	Lower	Upper
91	100	37563		
92	59.3		47.4	71.2





#15

Tetrachloroethene

Concen: 93.47 ppbv

RT: 6.640 min Scan# 909

Delta R.T. 0.003 min

Lab File: 93GCMS2014-759.D

Acq: 29 Sep 2014 18:12

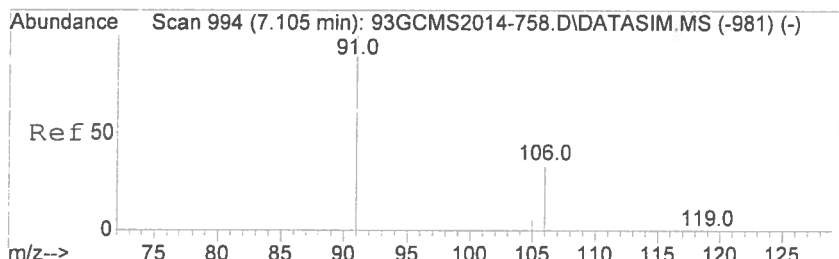
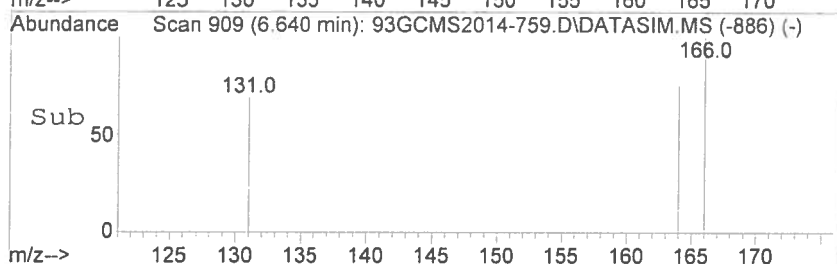
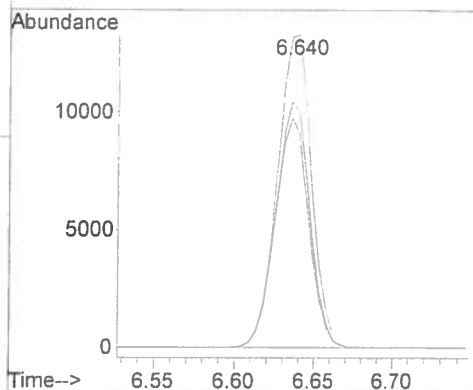
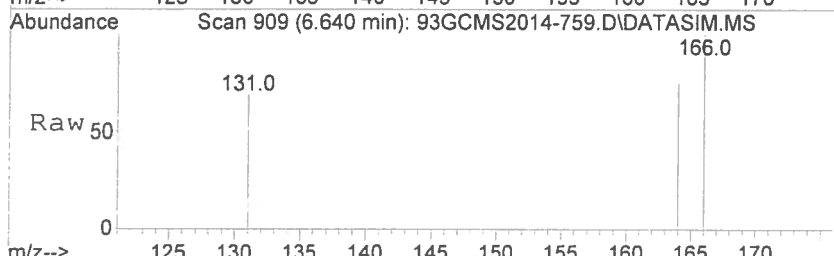
Tgt Ion: 166 Resp: 19769

Ion Ratio Lower Upper

166 100

164 78.2 62.6 93.8

131 72.3 57.9 86.9



#16

Ethyl Benzene

Concen: 93.70 ppbv

RT: 7.102 min Scan# 993

Delta R.T. -0.003 min

Lab File: 93GCMS2014-759.D

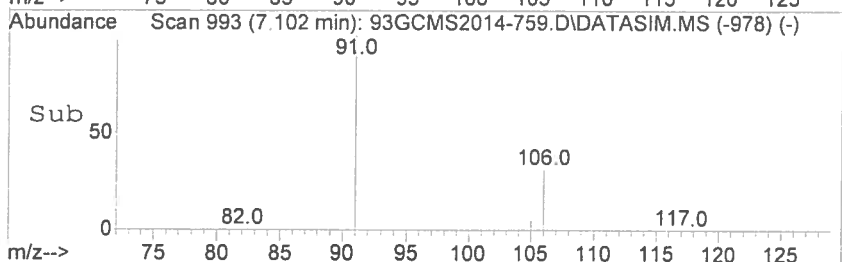
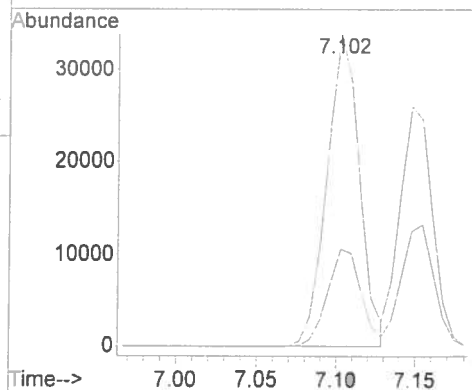
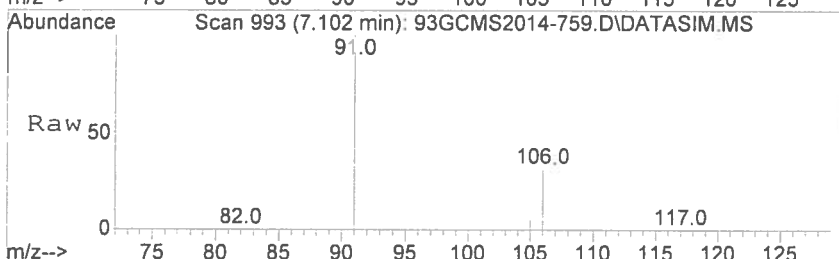
Acq: 29 Sep 2014 18:12

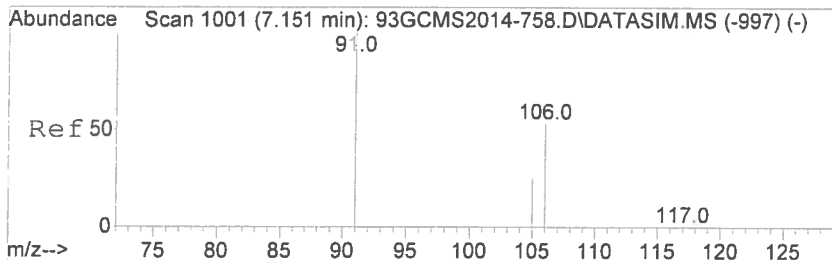
Tgt Ion: 91 Resp: 48569

Ion Ratio Lower Upper

91 100

106 31.3 26.4 39.6





#17

m,p-Xylene

Concen: 90.60 ppbv

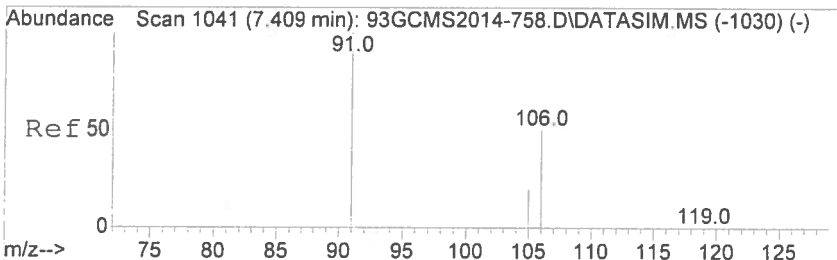
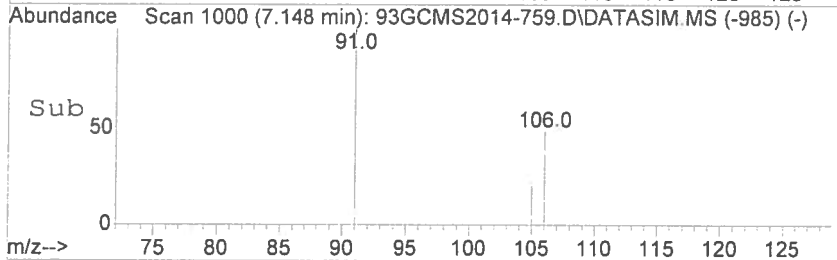
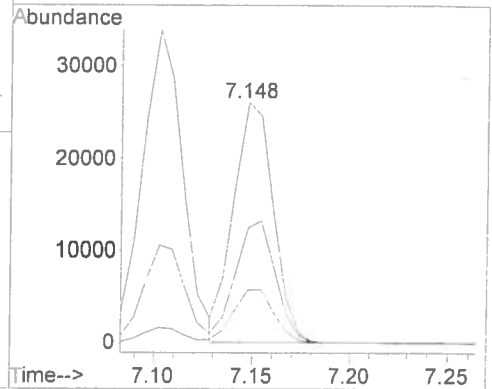
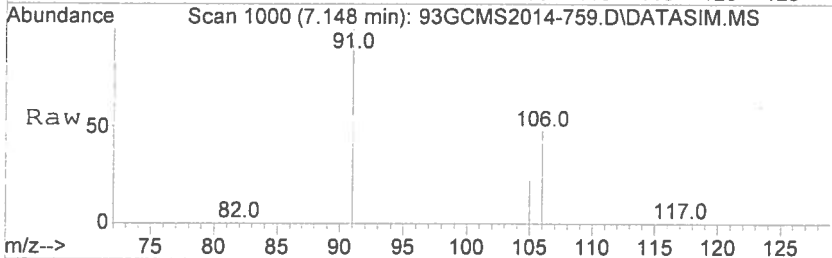
RT: 7.148 min Scan# 1000

Delta R.T. -0.003 min

Lab File: 93GCMS2014-759.D

Acq: 29 Sep 2014 18:12

Tgt Ion:	91	Resp:	36569
Ion Ratio	Lower	Upper	
91	100		
106	48.1	41.2	61.8
105	22.2	18.4	27.6



#18

o-Xylene

Concen: 92.07 ppbv

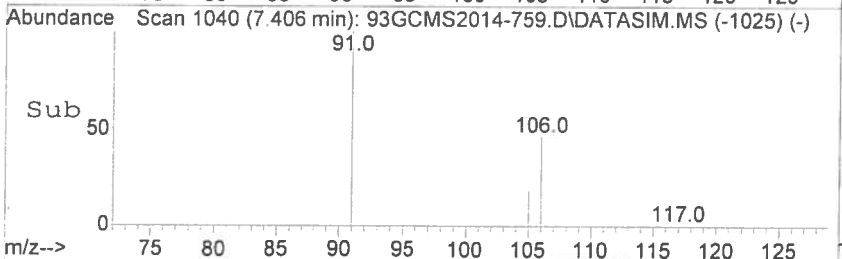
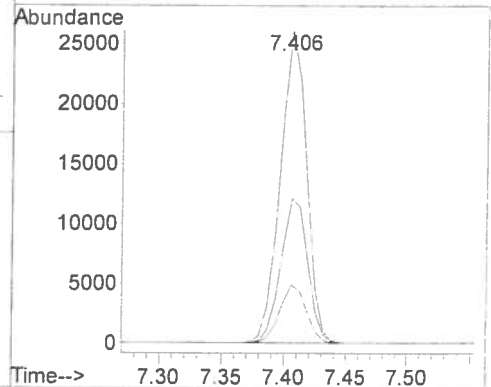
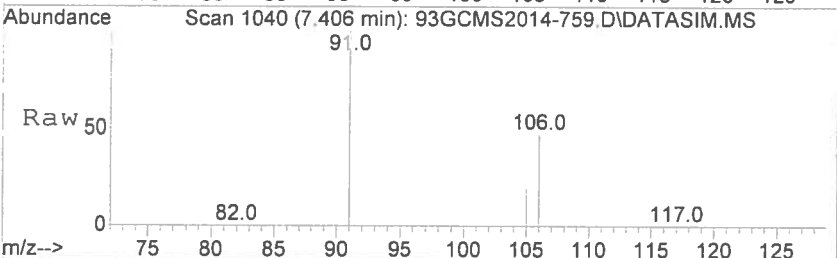
RT: 7.406 min Scan# 1040

Delta R.T. -0.003 min

Lab File: 93GCMS2014-759.D

Acq: 29 Sep 2014 18:12

Tgt Ion:	91	Resp:	37952
Ion Ratio	Lower	Upper	
91	100		
106	47.8	38.3	57.5
105	19.0	15.3	22.9



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-760.D
 Acq On : 29 Sep 2014 18:24
 Operator : SJT
 Sample : STD20140929-8 \ 5ppbv ICAL STD
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 18:30:42 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18
 08:12 2014
 QLast Update : Mon Sep 29 18:08:12 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Bromochloromethane	4.848	49	1838	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.360	114	5230	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.055	117	5363	10.00	ppbv	0.00

System Monitoring Compounds

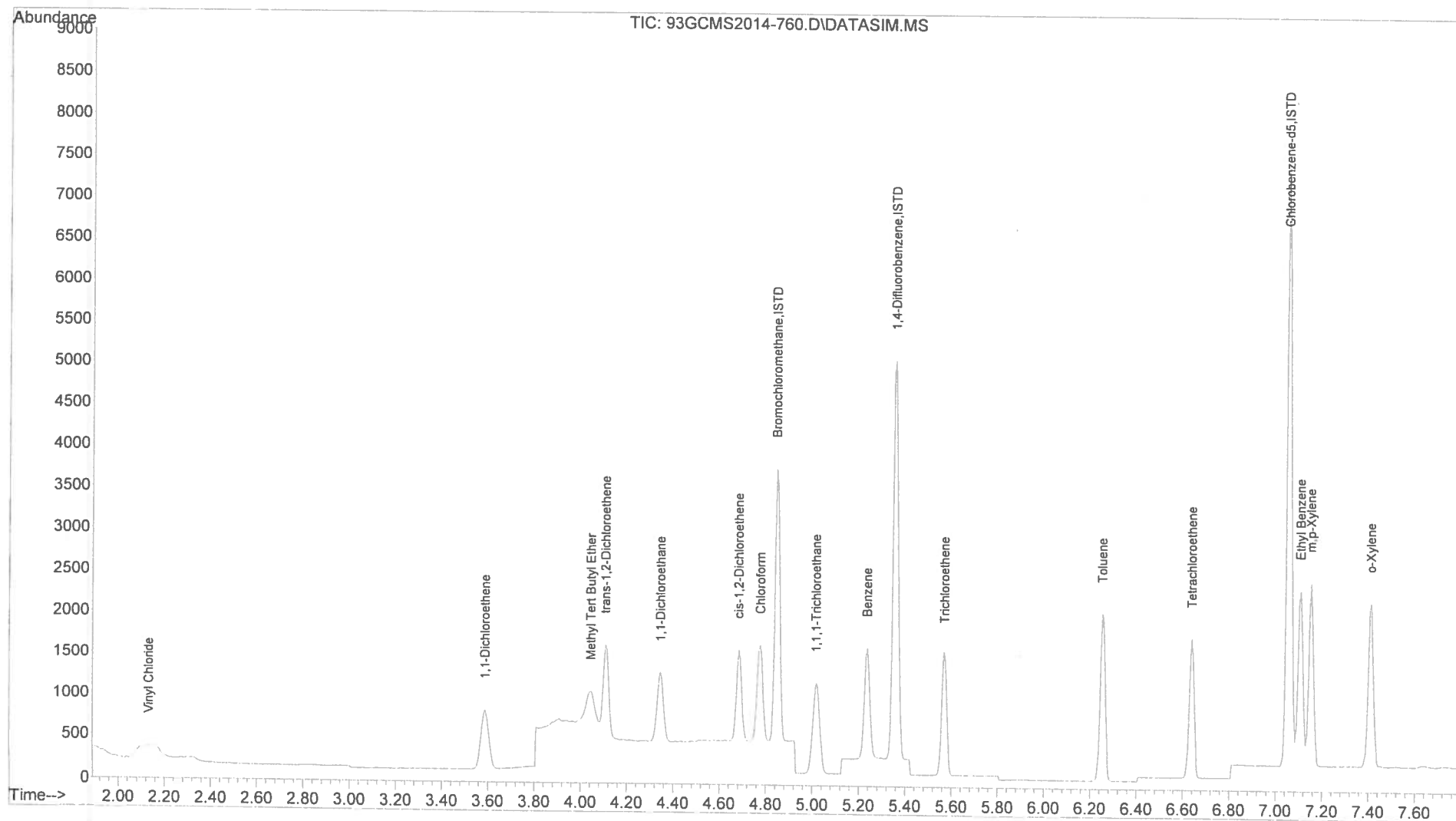
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Vinyl Chloride	2.134	62	562	5.82	ppbv	# 39
3) 1,1-Dichloroethene	3.589	61	837	4.78	ppbv	99
4) Methyl Tert Butyl Ether	4.047	73	981	4.55	ppbv	# 96
5) trans-1,2-Dichloroethene	4.109	61	789	4.87	ppbv	100
6) 1,1-Dichloroethane	4.346	63	950	4.81	ppbv	98
7) cis-1,2-Dichloroethene	4.684	61	740	4.83	ppbv	98
8) Chloroform	4.778	83	970	4.73	ppbv	98
9) 1,1,1-Trichloroethane	5.018	97	1015	4.52	ppbv	99
11) Benzene	5.238	78	1496	4.89	ppbv	96
12) Trichloroethene	5.571	130	745	4.58	ppbv	99
14) Toluene	6.252	91	1859	4.78	ppbv	99
15) Tetrachloroethene	6.638	166	946	4.59	ppbv	99
16) Ethyl Benzene	7.107	91	2235	4.43	ppbv	96
17) m,p-Xylene	7.152	91	1744	4.44	ppbv	98
18) o-Xylene	7.410	91	1779	4.43	ppbv	99

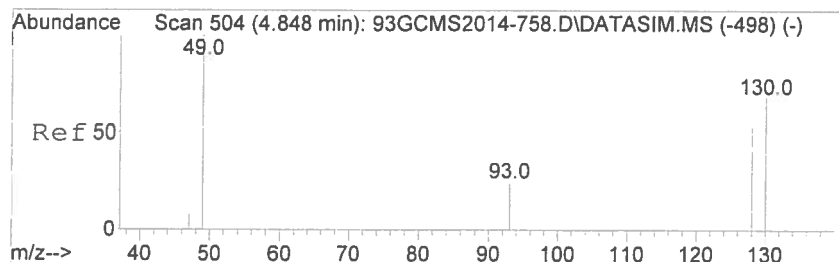
(#) = qualifier out of range (m) = manual integration (+) = signals summed

P 09/29/

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-760.D
 Acq On : 29 Sep 2014 18:24
 Operator : SJT
 Sample : STD20140929-8 \ 5ppbv ICAL STD
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

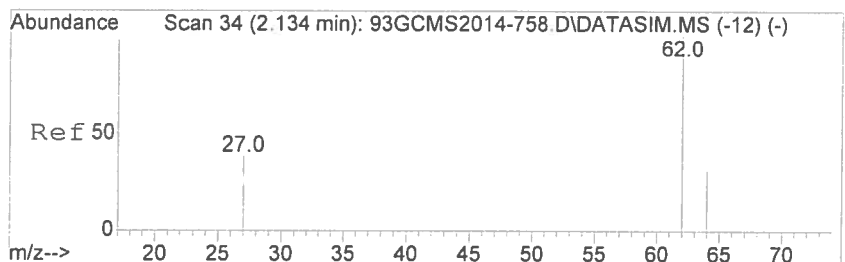
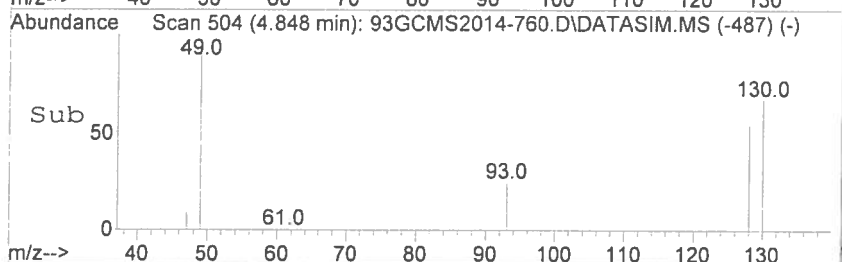
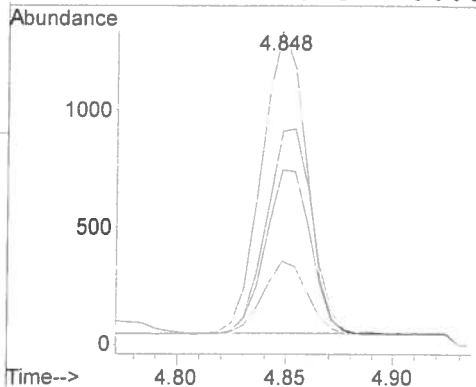
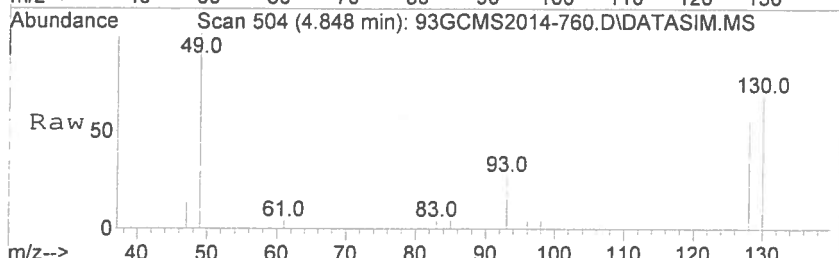
Quant Time: Sep 29 18:30:42 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:08:12 2014
 QLast Update : Mon Sep 29 18:08:12 2014
 Response via : Initial Calibration





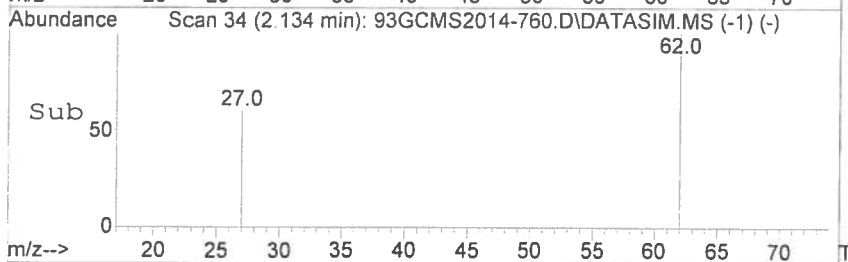
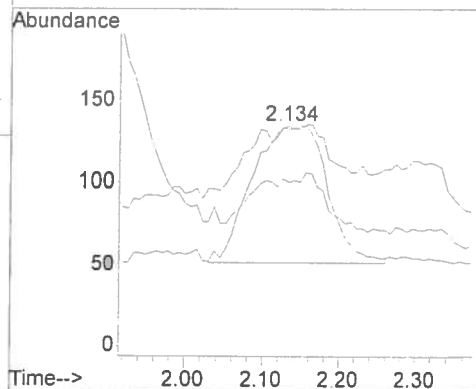
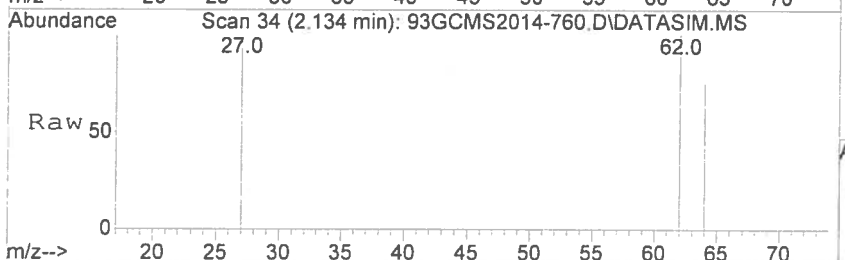
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. -0.000 min
Lab File: 93GCMS2014-760.D
Acq: 29 Sep 2014 18:24

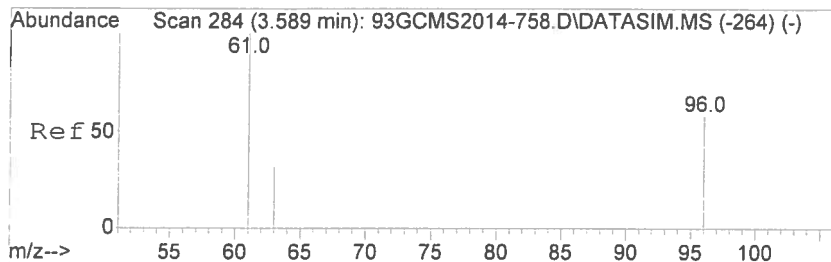
Tgt Ion	Ratio	Lower	Upper
49	100		
130	67.8	54.4	81.6
93	26.6	21.1	31.7
128	55.6	43.2	64.8



#2
Vinyl Chloride
Concen: 5.82 ppbv
RT: 2.134 min Scan# 34
Delta R.T. -0.000 min
Lab File: 93GCMS2014-760.D
Acq: 29 Sep 2014 18:24

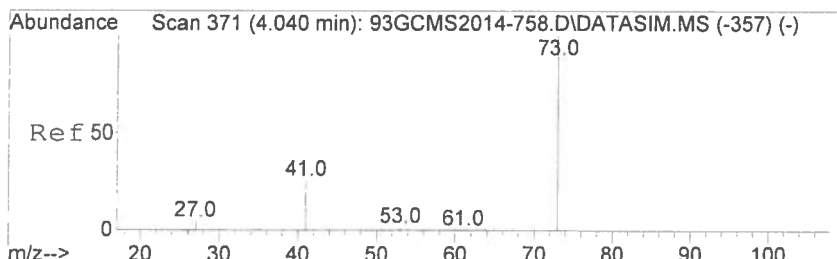
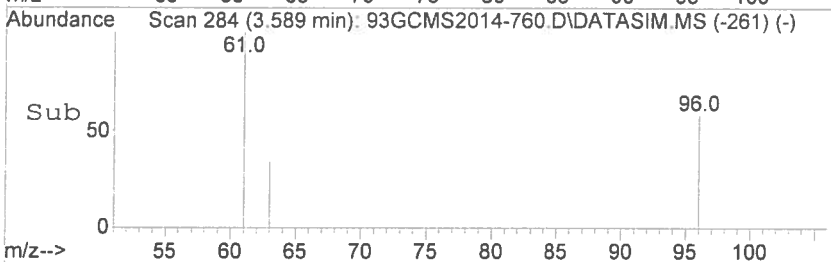
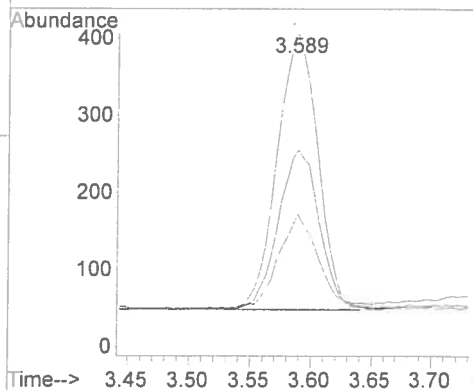
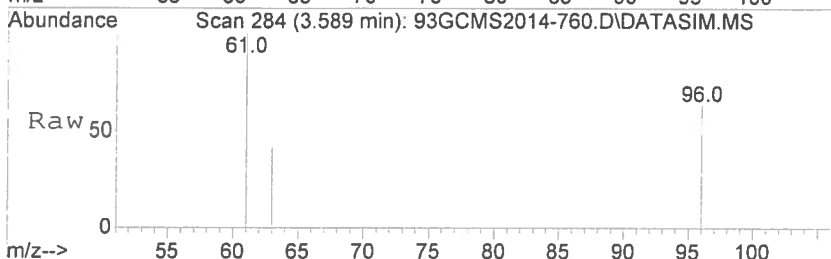
Tgt Ion	Ratio	Lower	Upper
62	100		
64	0.0	25.2	37.8#
27	0.0	31.8	47.6#





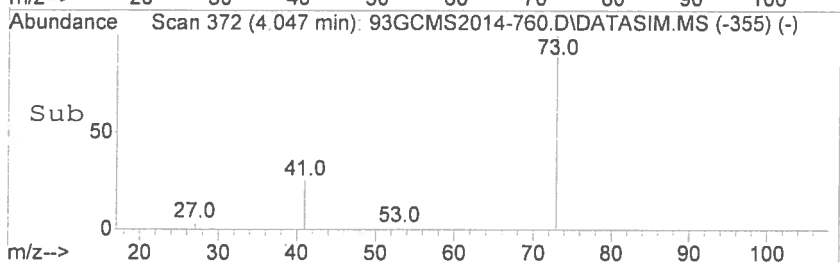
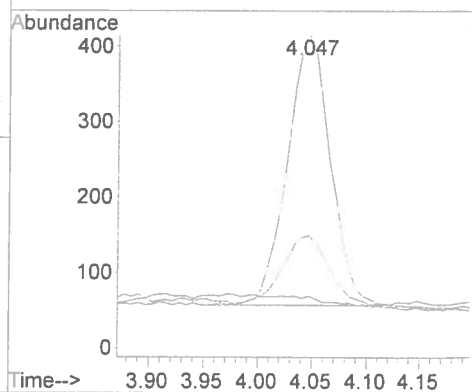
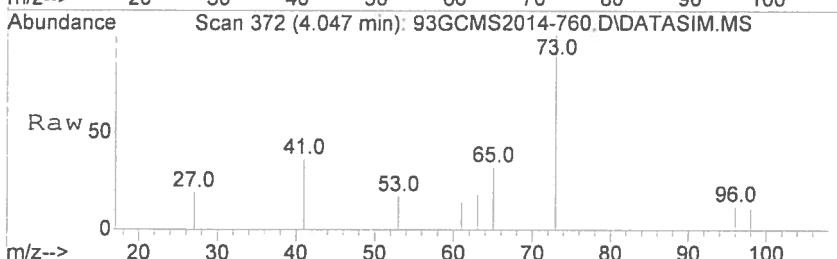
#3
1,1-Dichloroethene
Concen: 4.78 ppbv
RT: 3.589 min Scan# 284
Delta R.T. -0.000 min
Lab File: 93GCMS2014-760.D
Acq: 29 Sep 2014 18:24

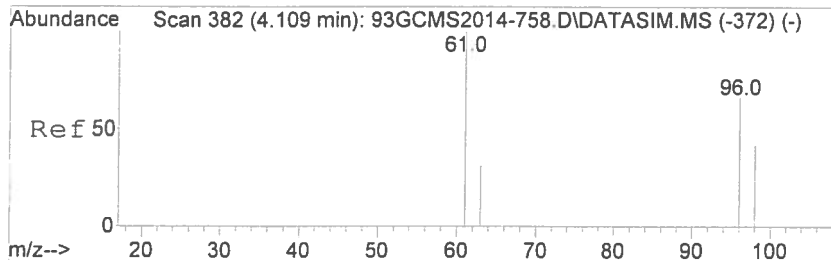
Tgt Ion: 61 Resp: 837
Ion Ratio Lower Upper
61 100
96 57.9 46.7 70.1
63 32.7 25.3 37.9



#4
Methyl Tert Butyl Ether
Concen: 4.55 ppbv
RT: 4.047 min Scan# 372
Delta R.T. 0.006 min
Lab File: 93GCMS2014-760.D
Acq: 29 Sep 2014 18:24

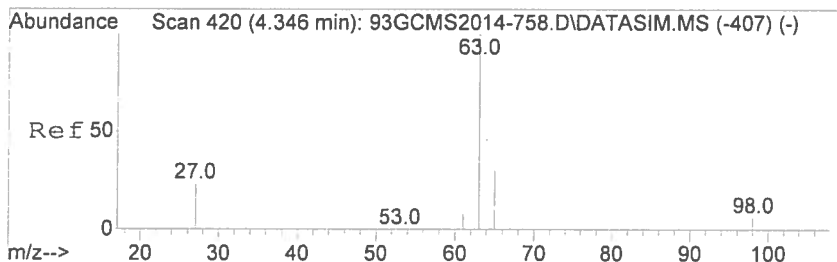
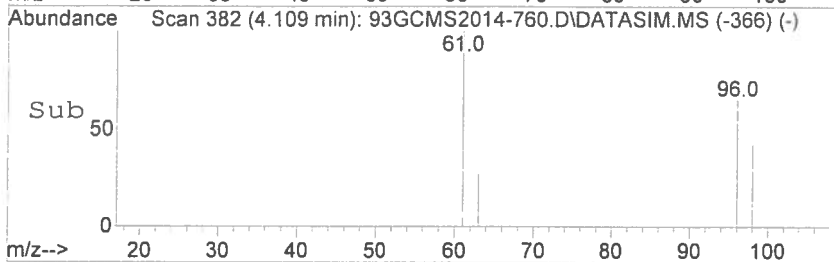
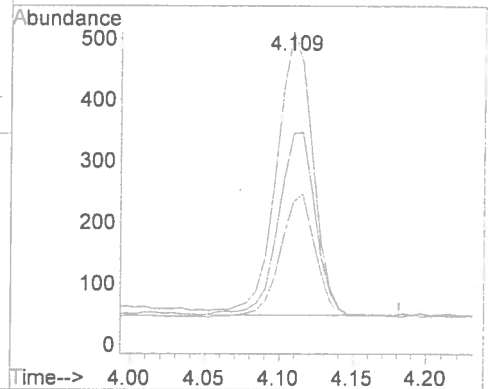
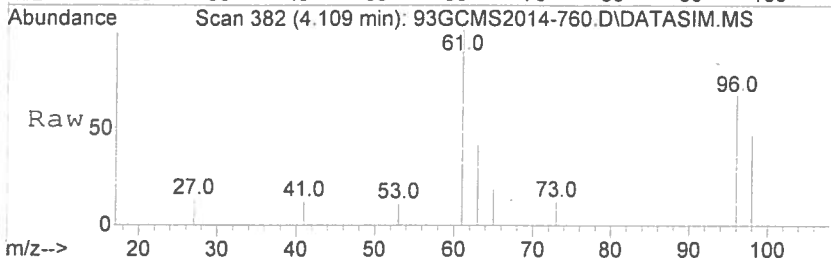
Tgt Ion: 73 Resp: 981
Ion Ratio Lower Upper
73 100
53 0.0 1.0 1.6#
41 27.1 20.2 30.2





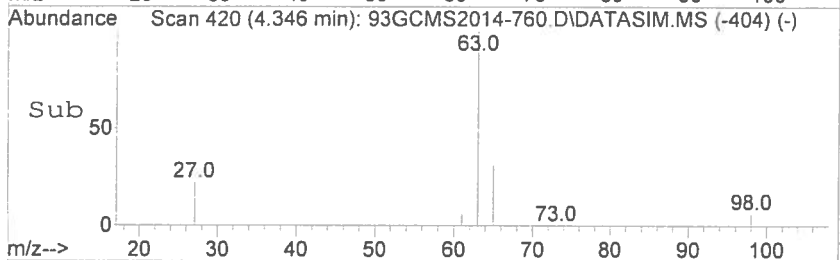
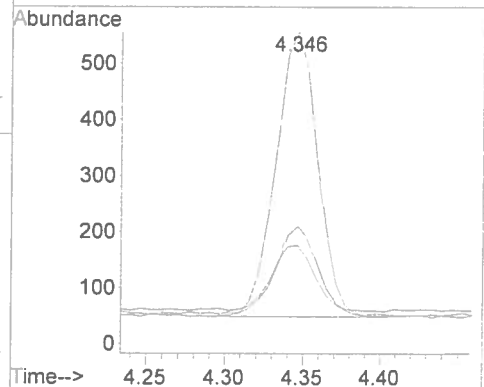
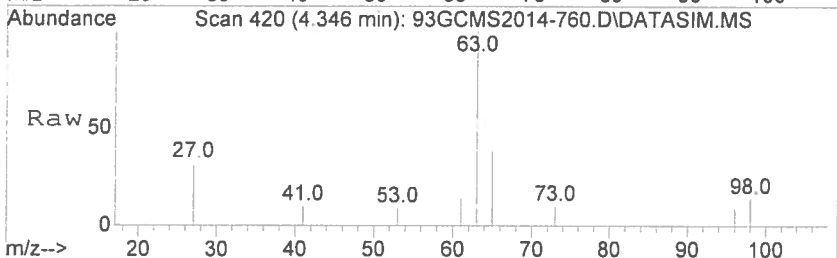
#5
trans-1,2-Dichloroethene
Concen: 4.87 ppbv
RT: 4.109 min Scan# 382
Delta R.T. -0.000 min
Lab File: 93GCMS2014-760.D
Acq: 29 Sep 2014 18:24

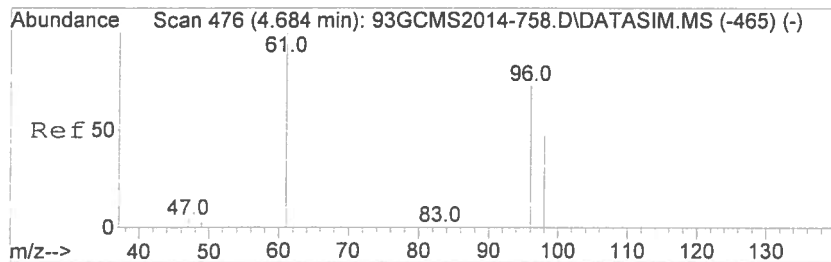
Tgt Ion	Ratio	Lower	Upper
61	100		
96	66.5	53.0	79.6
98	42.5	33.8	50.6



#6
1,1-Dichloroethane
Concen: 4.81 ppbv
RT: 4.346 min Scan# 420
Delta R.T. -0.000 min
Lab File: 93GCMS2014-760.D
Acq: 29 Sep 2014 18:24

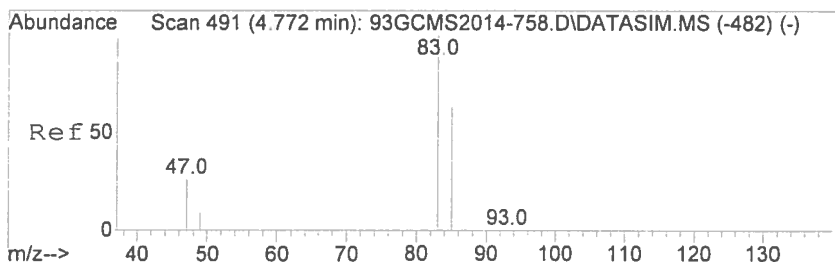
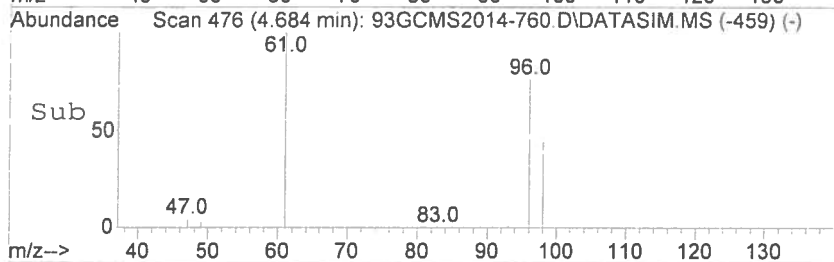
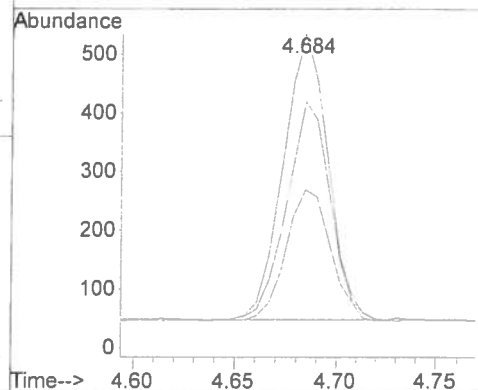
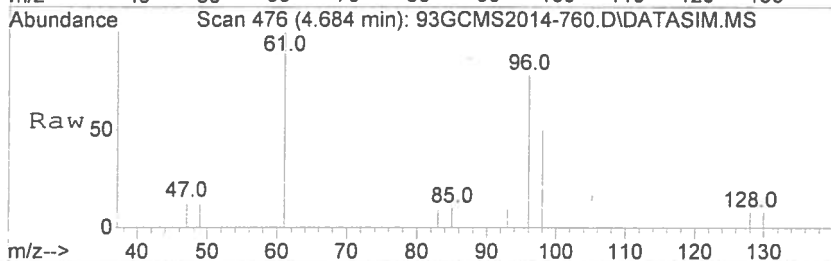
Tgt Ion	Ratio	Lower	Upper
63	100		
65	31.5	24.2	36.2
27	24.4	18.6	28.0





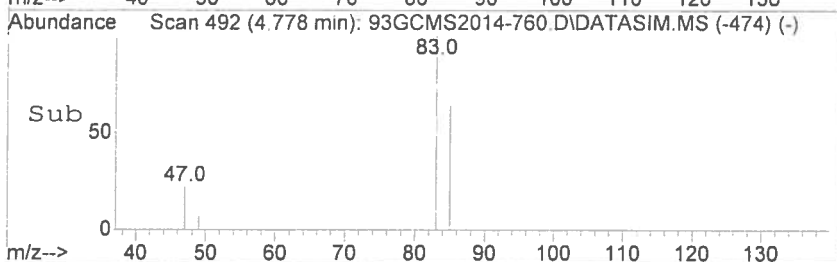
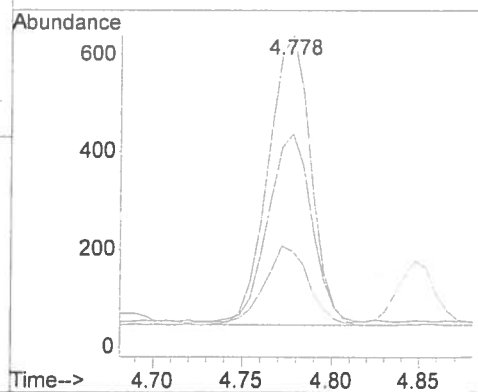
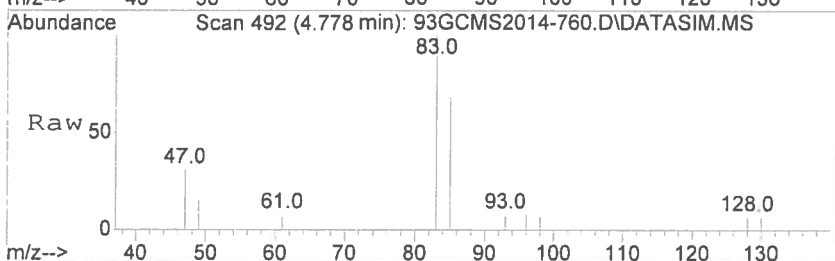
#7
 cis-1,2-Dichloroethene
 Concen: 4.83 ppbv
 RT: 4.684 min Scan# 476
 Delta R.T. -0.000 min
 Lab File: 93GCMS2014-760.D
 Acq: 29 Sep 2014 18:24

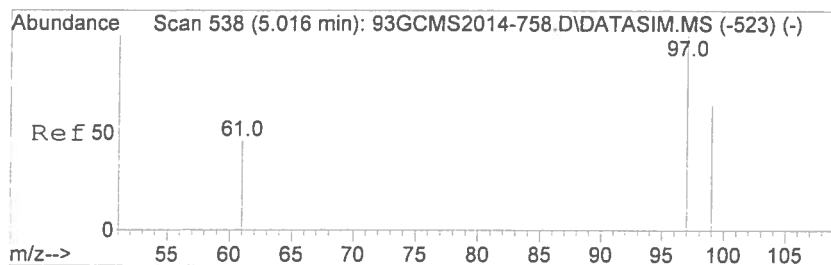
Tgt Ion	Ratio	Lower	Upper
61	100		
96	75.7	58.2	87.2
98	46.4	37.1	55.7



#8
 Chloroform
 Concen: 4.73 ppbv
 RT: 4.778 min Scan# 492
 Delta R.T. 0.006 min
 Lab File: 93GCMS2014-760.D
 Acq: 29 Sep 2014 18:24

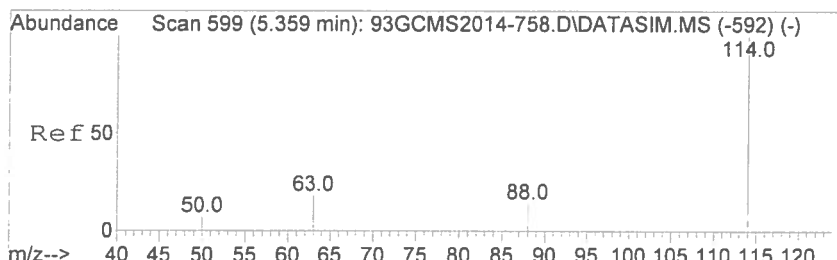
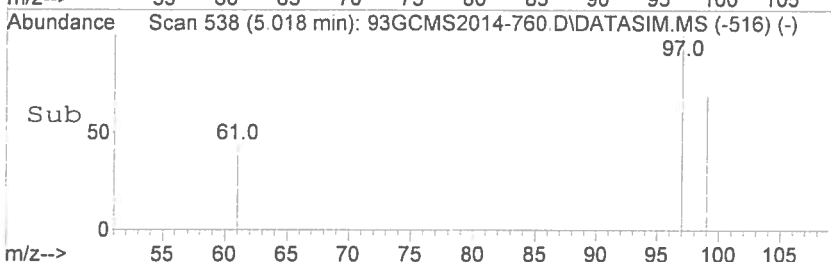
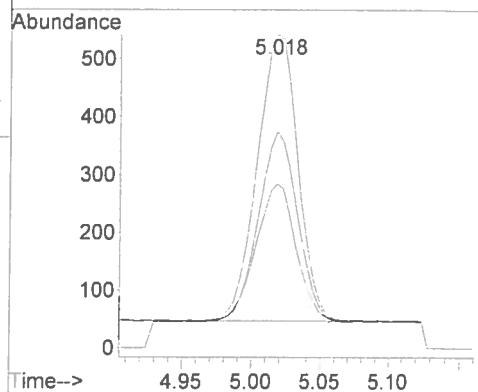
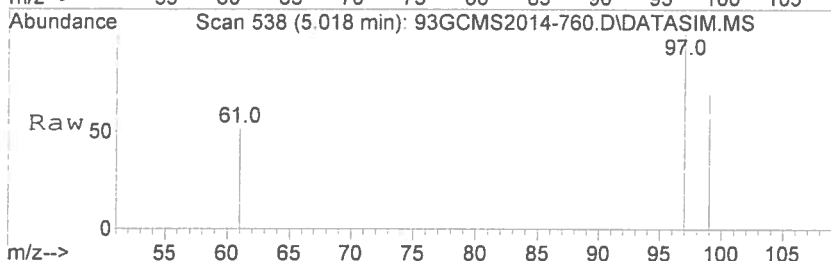
Tgt Ion	Ratio	Lower	Upper
83	100		
85	66.1	51.8	77.6
47	27.0	20.5	30.7





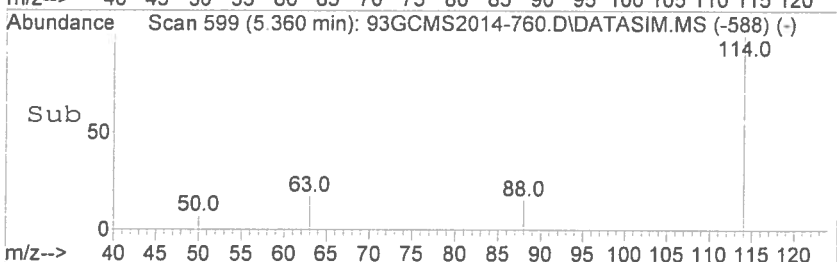
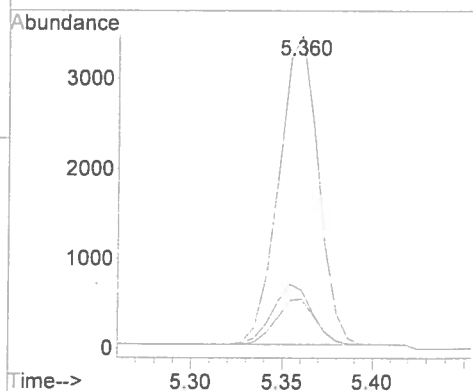
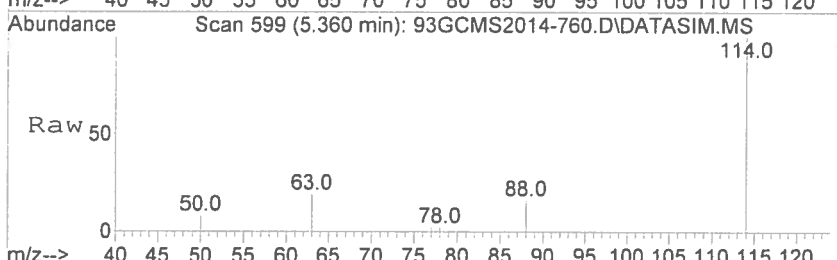
#9
1,1,1-Trichloroethane
Concen: 4.52 ppbv
RT: 5.018 min Scan# 538
Delta R.T. 0.001 min
Lab File: 93GCMS2014-760.D
Acq: 29 Sep 2014 18:24

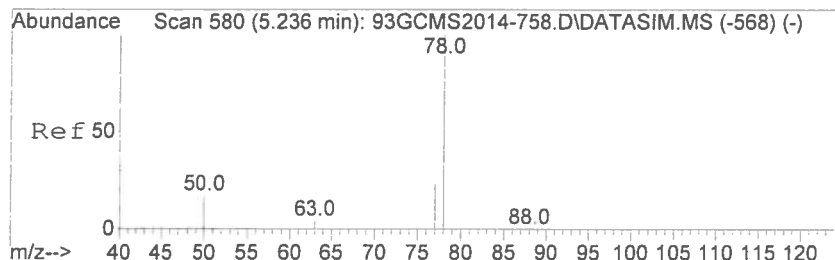
Tgt Ion	Ratio	Resp	Lower	Upper
97	100	1015		
99	63.5		51.4	77.2
61	46.8		36.6	54.8



#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.360 min Scan# 599
Delta R.T. 0.001 min
Lab File: 93GCMS2014-760.D
Acq: 29 Sep 2014 18:24

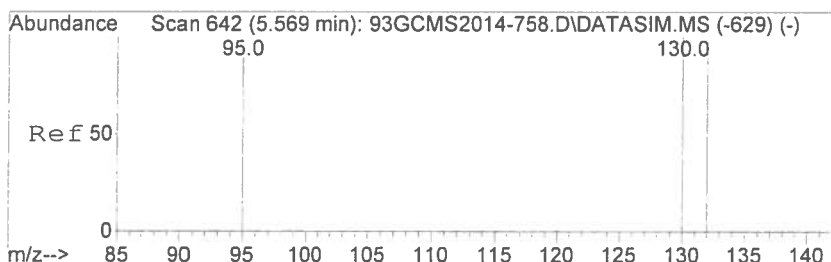
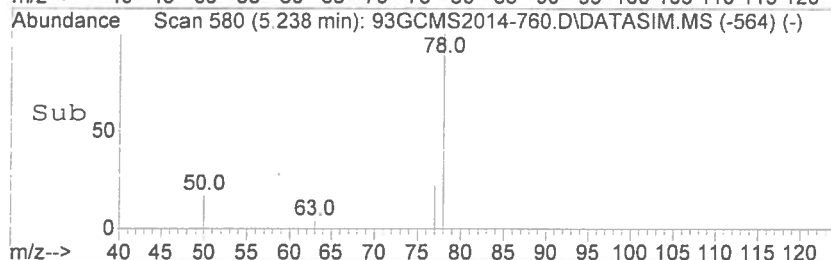
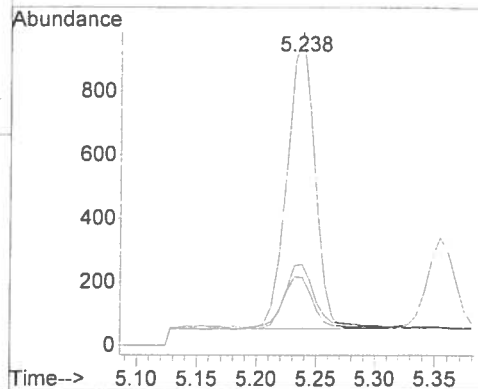
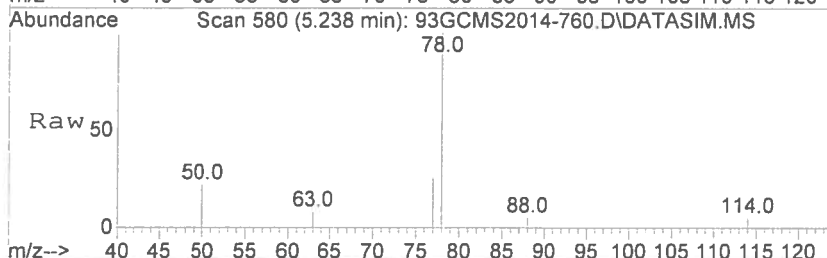
Tgt Ion	Ratio	Resp	Lower	Upper
114	100	5230		
63	19.2		15.7	23.5
88	14.7		11.8	17.6





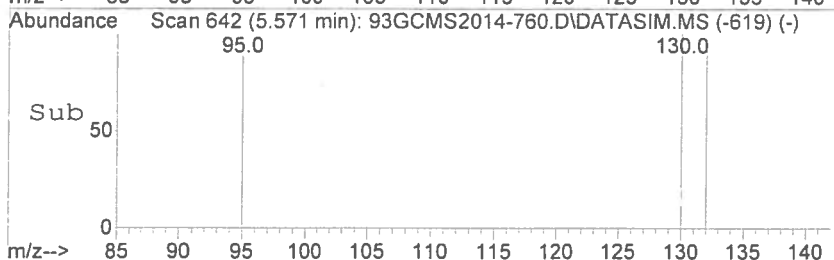
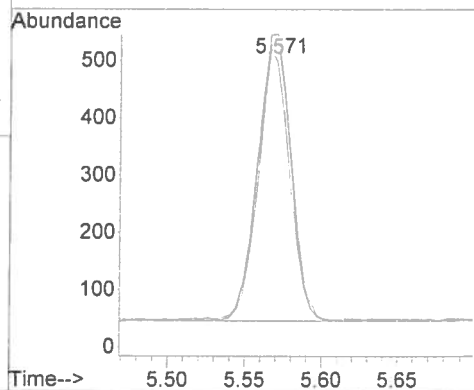
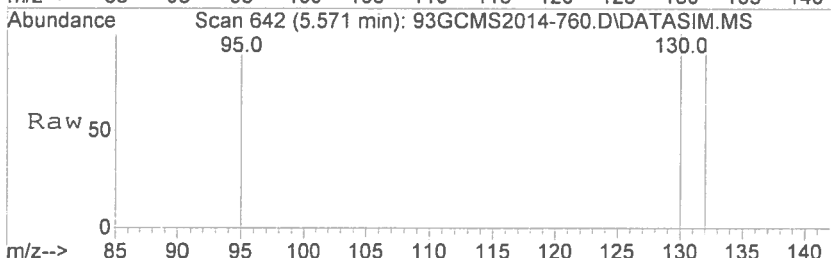
#11
Benzene
Concen: 4.89 ppbv
RT: 5.238 min Scan# 580
Delta R.T. 0.001 min
Lab File: 93GCMS2014-760.D
Acq: 29 Sep 2014 18:24

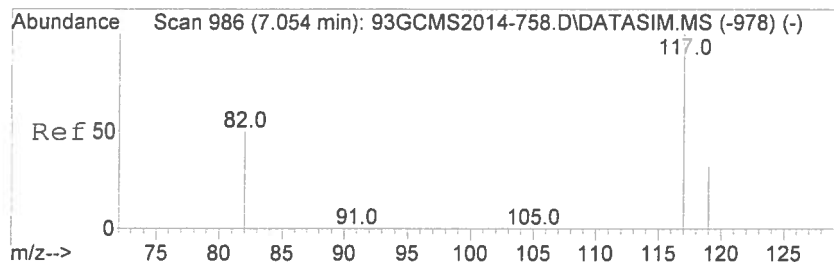
Tgt Ion	Ratio	Resp	Lower	Upper
78	100	1496		
77	26.5		18.3	27.5
50	17.8		14.4	21.6



#12
Trichloroethene
Concen: 4.58 ppbv
RT: 5.571 min Scan# 642
Delta R.T. 0.001 min
Lab File: 93GCMS2014-760.D
Acq: 29 Sep 2014 18:24

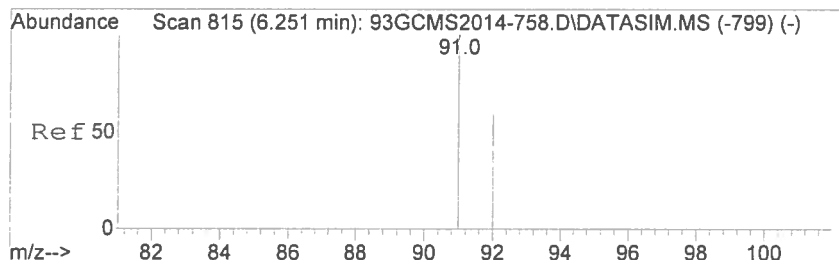
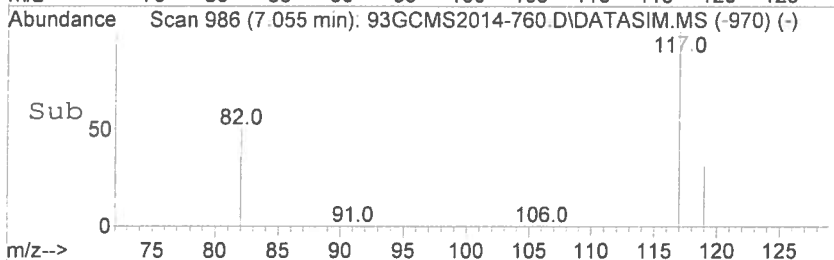
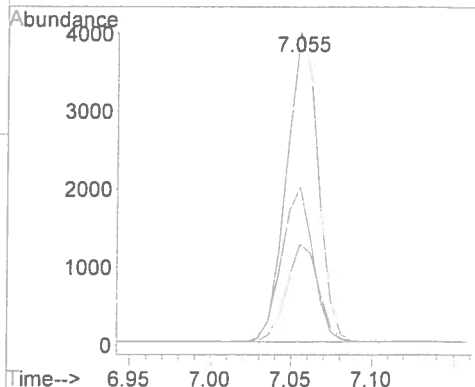
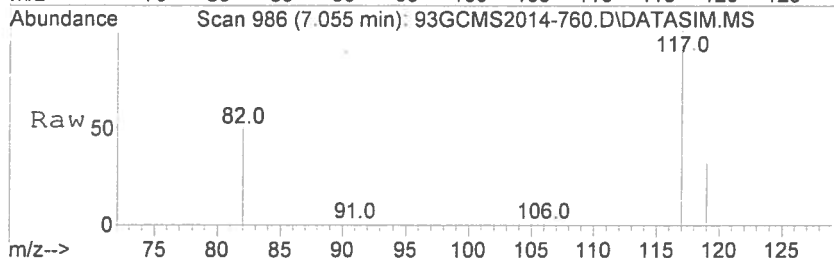
Tgt Ion	Ratio	Resp	Lower	Upper
130	100	745		
132	96.6		77.0	115.6
95	93.2		73.2	109.8





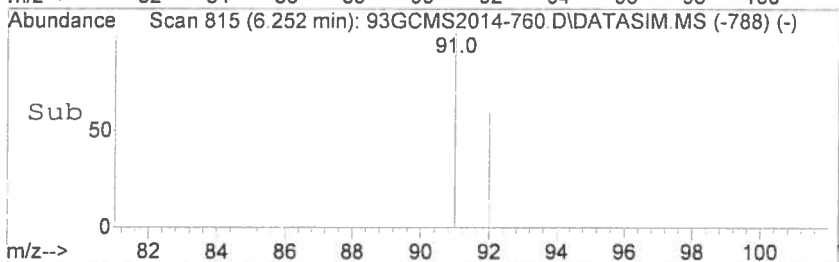
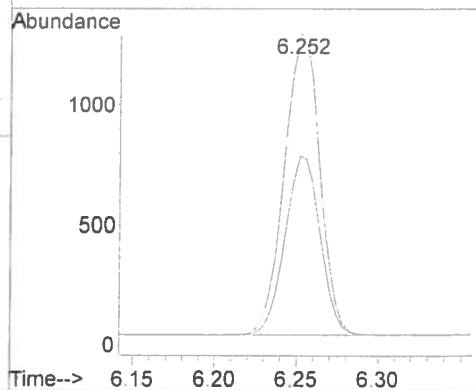
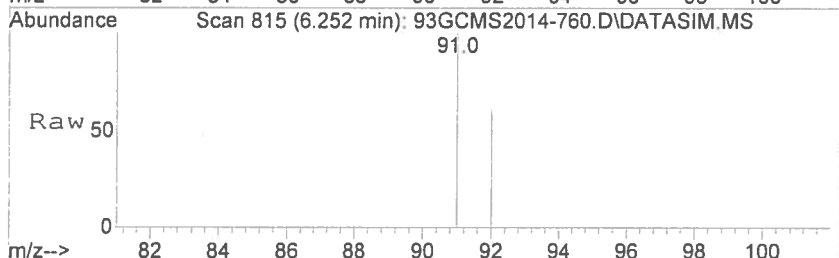
#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.055 min Scan# 986
Delta R.T. 0.001 min
Lab File: 93GCMS2014-760.D
Acq: 29 Sep 2014 18:24

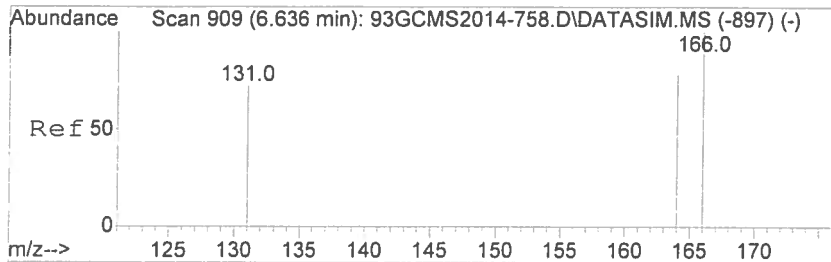
Tgt Ion	Ratio	Lower	Upper
117	100		
82	49.6	39.5	59.3
119	32.4	25.8	38.6



#14
Toluene
Concen: 4.78 ppbv
RT: 6.252 min Scan# 815
Delta R.T. 0.001 min
Lab File: 93GCMS2014-760.D
Acq: 29 Sep 2014 18:24

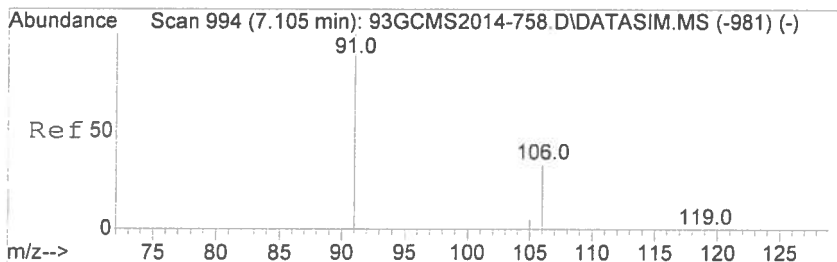
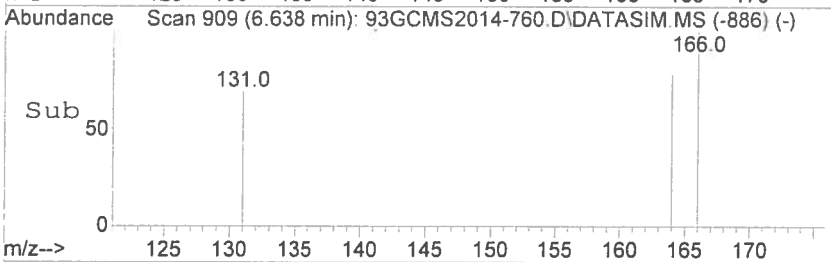
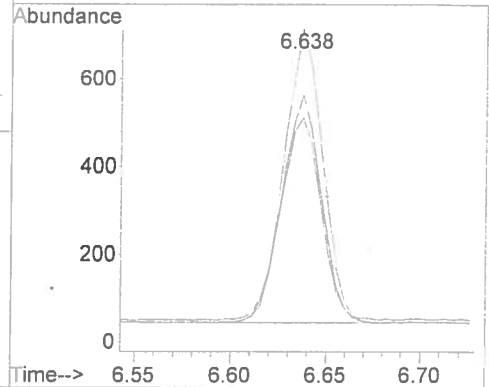
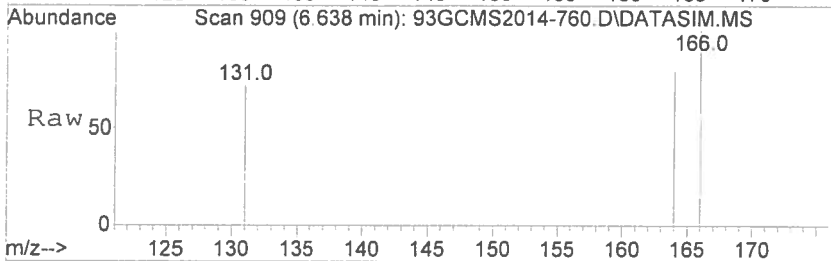
Tgt Ion	Ratio	Lower	Upper
91	100		
92	58.8	47.4	71.2





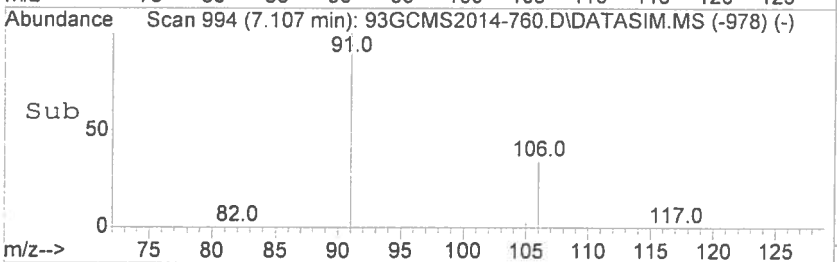
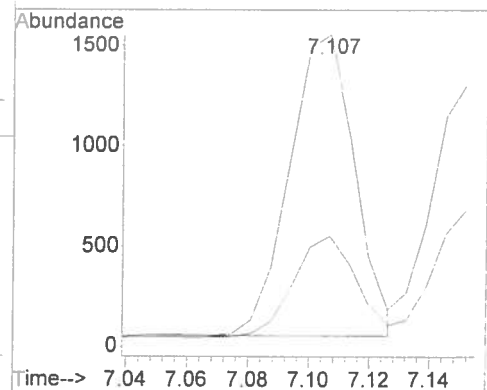
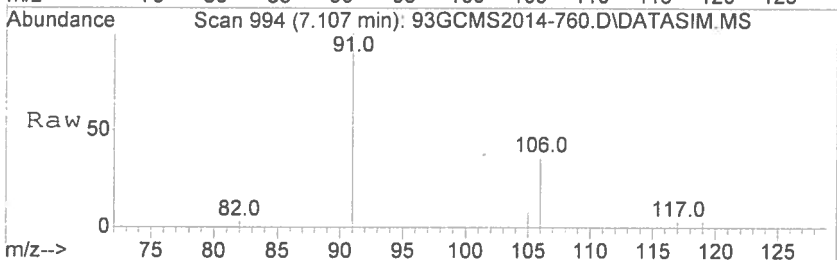
#15
Tetrachloroethene
Concen: 4.59 ppbv
RT: 6.638 min Scan# 909
Delta R.T. 0.001 min
Lab File: 93GCMS2014-760.D
Acq: 29 Sep 2014 18:24

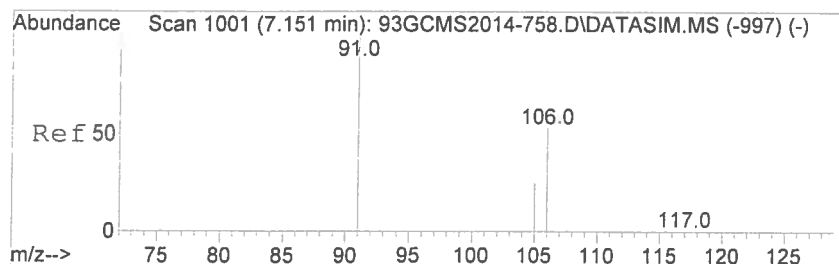
Tgt Ion	Ratio	Lower	Upper
166	100		
164	79.2	62.6	93.8
131	72.1	57.9	86.9



#16
Ethyl Benzene
Concen: 4.43 ppbv
RT: 7.107 min Scan# 994
Delta R.T. 0.001 min
Lab File: 93GCMS2014-760.D
Acq: 29 Sep 2014 18:24

Tgt Ion	Ratio	Lower	Upper
91	100		
106	35.5	26.4	39.6





#17

m,p-Xylene

Concen: 4.44 ppbv

RT: 7.152 min Scan# 1001

Delta R.T. 0.001 min

Lab File: 93GCMS2014-760.D

Acq: 29 Sep 2014 18:24

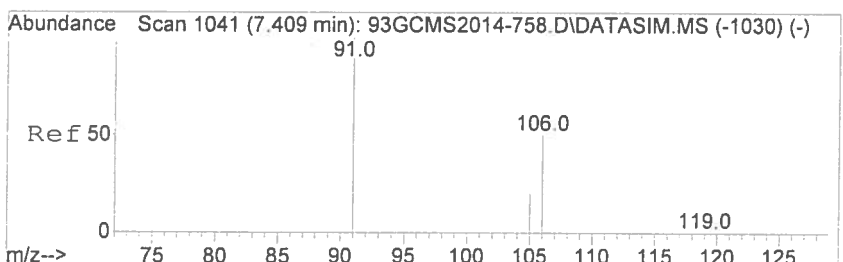
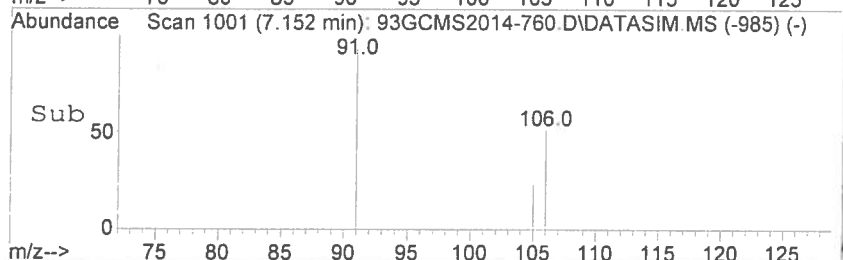
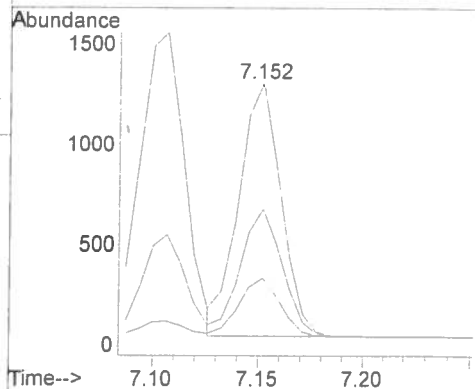
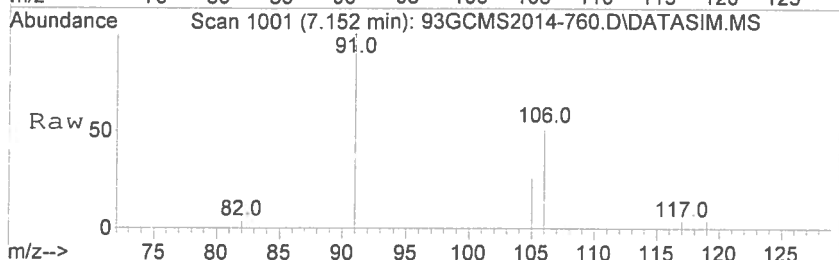
Tgt Ion: 91 Resp: 1744

Ion Ratio Lower Upper

91 100

106 52.1 41.2 61.8

105 25.8 18.4 27.6



#18

o-Xylene

Concen: 4.43 ppbv

RT: 7.410 min Scan# 1041

Delta R.T. 0.001 min

Lab File: 93GCMS2014-760.D

Acq: 29 Sep 2014 18:24

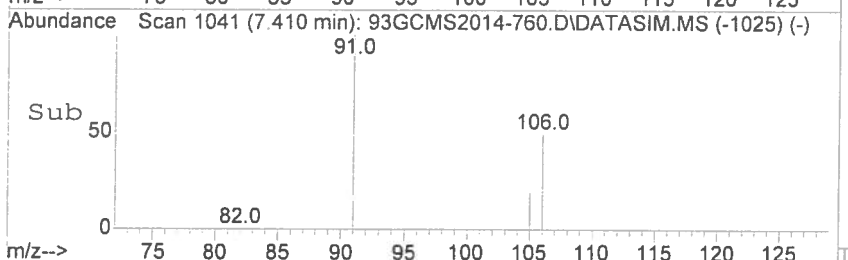
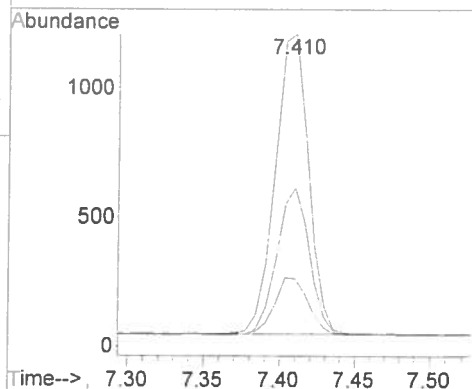
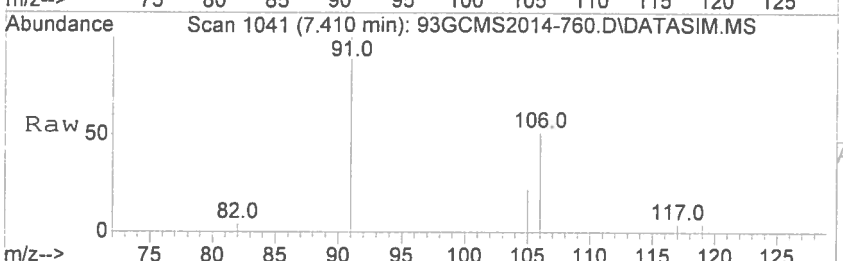
Tgt Ion: 91 Resp: 1779

Ion Ratio Lower Upper

91 100

106 48.5 38.3 57.5

105 19.4 15.3 22.9



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-761.D
 Acq On : 29 Sep 2014 18:35
 Operator : SJT
 Sample : STD20140929-9 \ 0.5ppbv ICAL STD
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 18:44:42 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:37:49 2014

QLast Update : Mon Sep 29 18:37:49 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)

Internal Standards						
1) Bromochloromethane	4.846	49	1835	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.358	114	5208	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.055	117	5401	10.00	ppbv	0.00

System Monitoring Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue

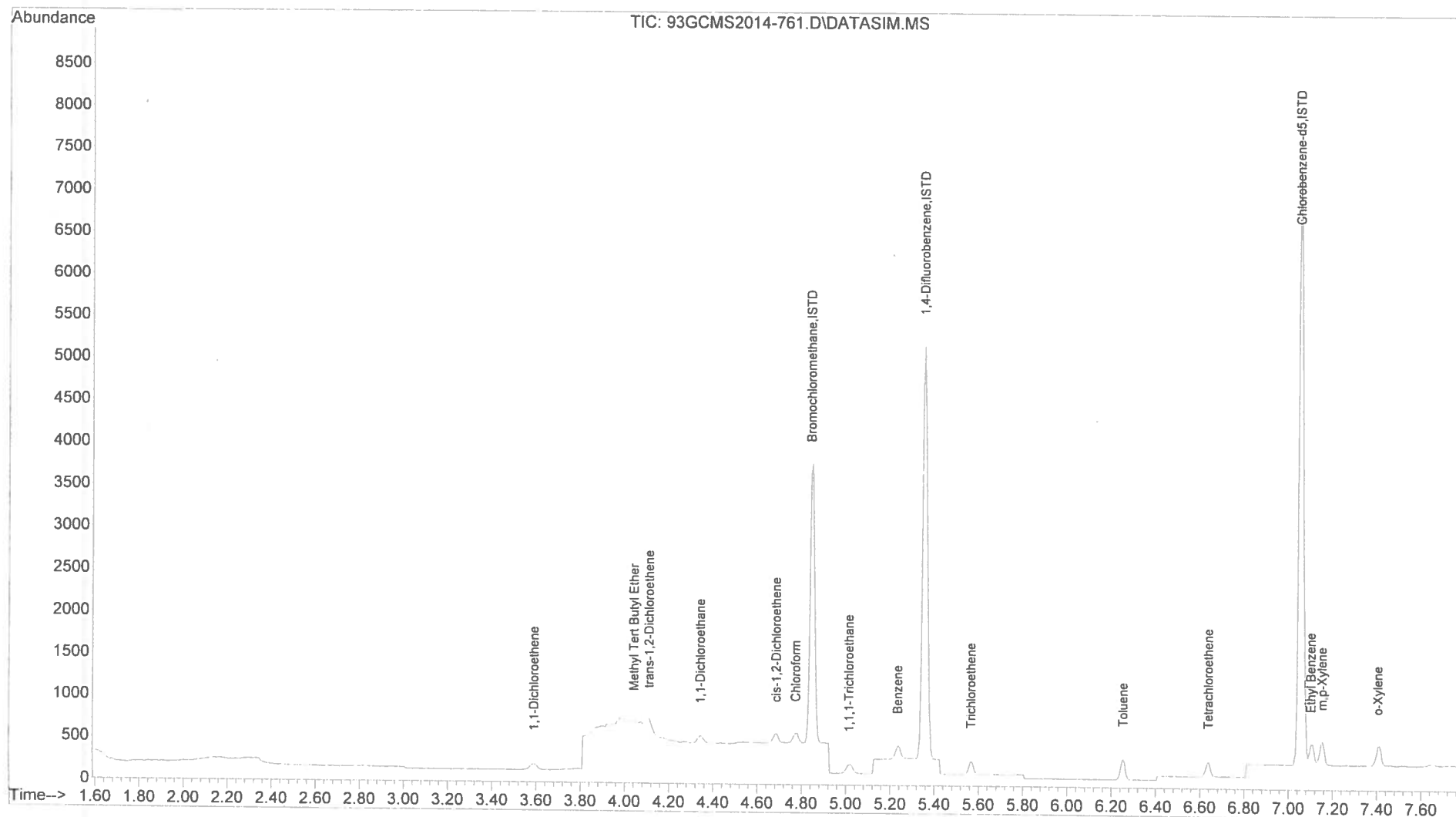
3) 1,1-Dichloroethene	3.593	61	83	0.48	ppbv #	87
4) Methyl Tert Butyl Ether	4.044	73	105	0.49	ppbv #	89
5) trans-1,2-Dichloroethene	4.113	61	86m	0.53	ppbv	
6) 1,1-Dichloroethane	4.344	63	103	0.52	ppbv #	72
7) cis-1,2-Dichloroethene	4.688	61	83	0.54	ppbv	92
8) Chloroform	4.776	83	103	0.50	ppbv #	90
9) 1,1,1-Trichloroethane	5.016	97	107	0.48	ppbv	95
11) Benzene	5.236	78	169m	0.55	ppbv	
12) Trichloroethene	5.566	130	80m	0.49	ppbv	
14) Toluene	6.251	91	220	0.56	ppbv	95
15) Tetrachloroethene	6.637	166	106	0.51	ppbv	94
16) Ethyl Benzene	7.100	91	251	0.49	ppbv #	78
17) m,p-Xylene	7.152	91	220m	0.56	ppbv	
18) o-Xylene	7.403	91	209	0.52	ppbv	95

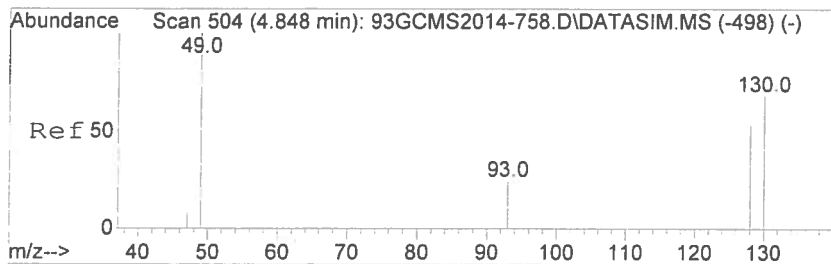
(#) = qualifier out of range (m) = manual integration (+) = signals summed

09/29/14

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-761.D
 Acq On : 29 Sep 2014 18:35
 Operator : SJT
 Sample : STD20140929-9 \ 0.5ppbv ICAL STD
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

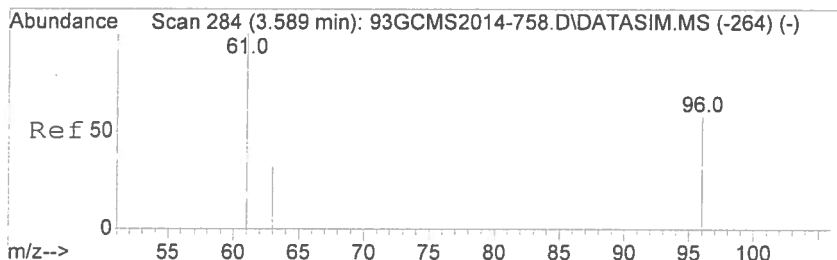
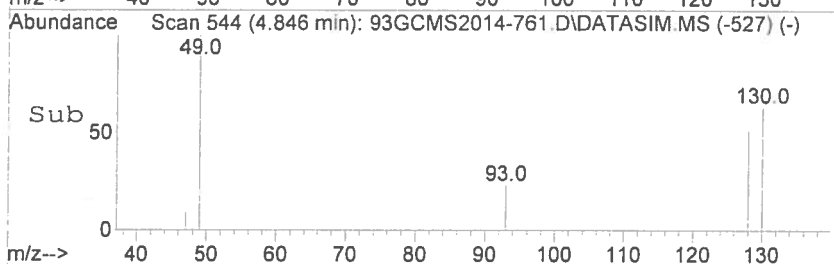
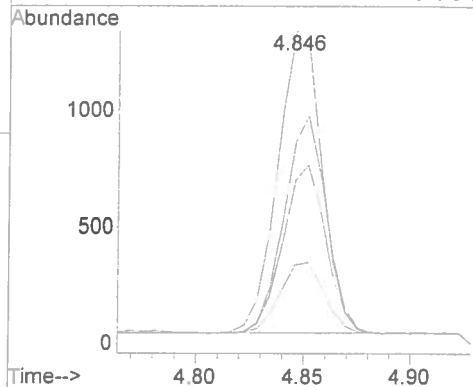
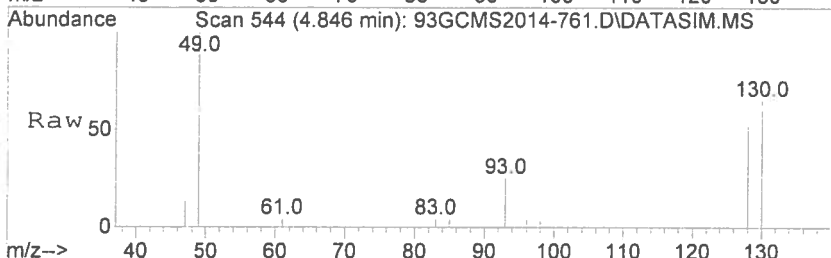
Quant Time: Sep 29 18:44:42 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:37:49 2014
 QLast Update : Mon Sep 29 18:37:49 2014
 Response via : Initial Calibration





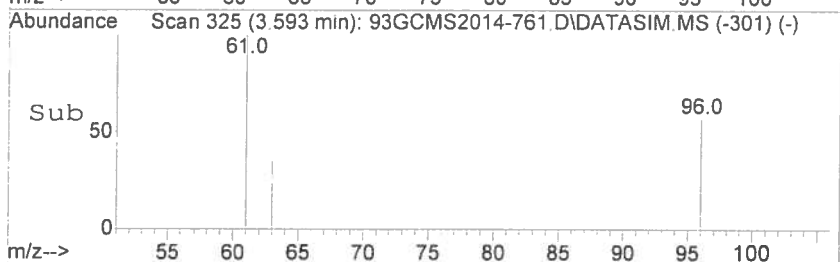
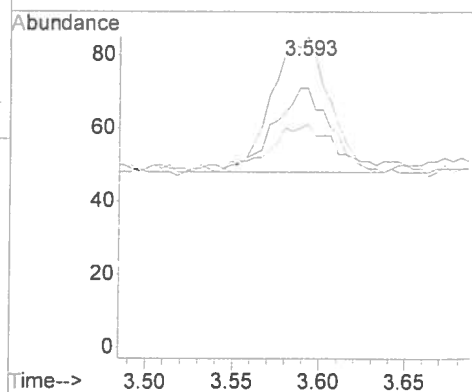
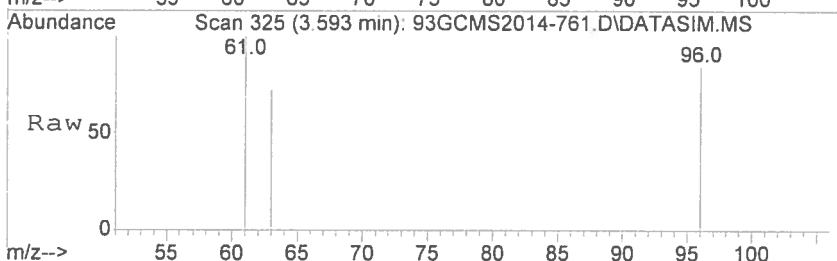
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.846 min Scan# 544
Delta R.T. -0.002 min
Lab File: 93GCMS2014-761.D
Acq: 29 Sep 2014 18:35

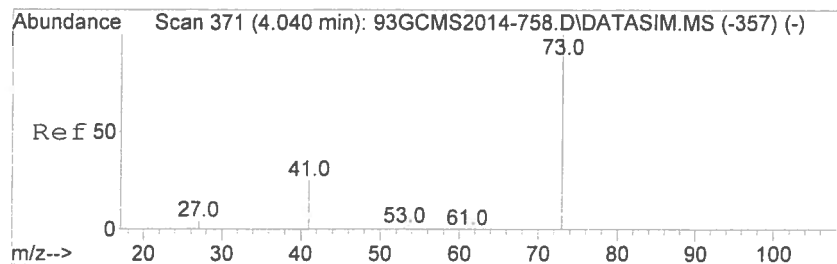
Tgt Ion: 49	Resp: 1835
Ion Ratio	Lower Upper
49 100	
130 64.6	54.4 81.6
93 25.3	21.1 31.7
128 52.4	43.2 64.8



#3
1,1-Dichloroethene
Concen: 0.48 ppbv
RT: 3.593 min Scan# 325
Delta R.T. 0.004 min
Lab File: 93GCMS2014-761.D
Acq: 29 Sep 2014 18:35

Tgt Ion: 61	Resp: 83
Ion Ratio	Lower Upper
61 100	
96 66.3	46.7 70.1
63 41.0	25.3 37.9#





#4

Methyl Tert Butyl Ether

Concen: 0.49 ppbv

RT: 4.044 min Scan# 412

Delta R.T. 0.004 min

Lab File: 93GCMS2014-761.D

Acq: 29 Sep 2014 18:35

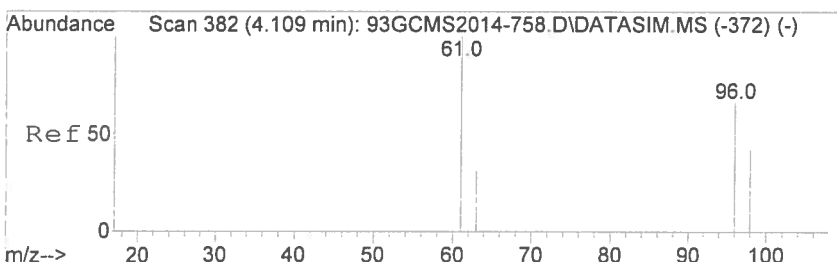
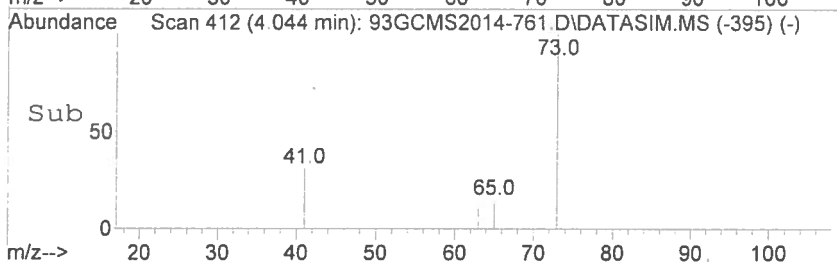
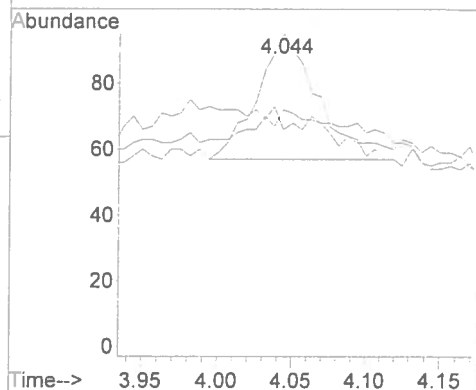
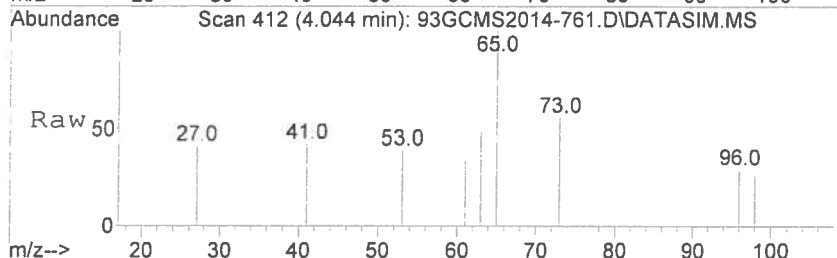
Tgt Ion: 73 Resp: 105

Ion Ratio Lower Upper

73 100

53 6.7 1.0 1.6#

41 30.5 20.2 30.2#



#5

trans-1,2-Dichloroethene

Concen: 0.53 ppbv m

RT: 4.113 min Scan# 423

Delta R.T. 0.004 min

Lab File: 93GCMS2014-761.D

Acq: 29 Sep 2014 18:35

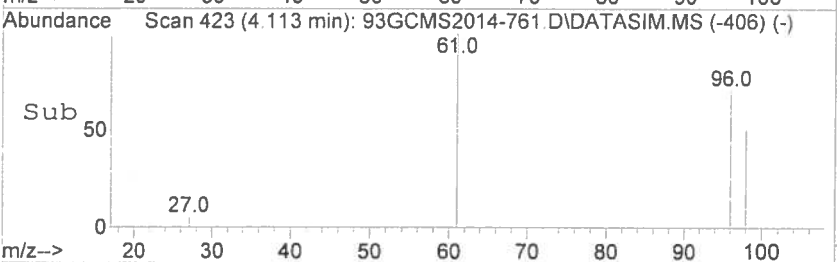
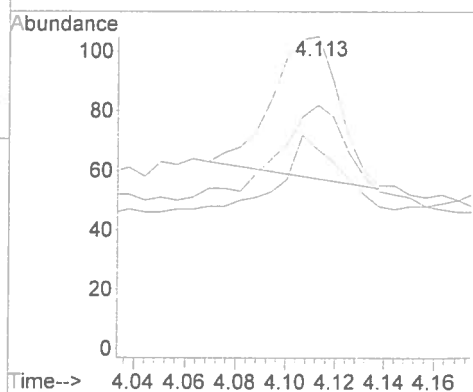
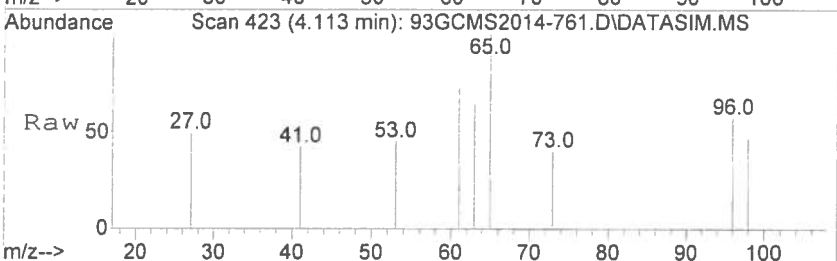
Tgt Ion: 61 Resp: 86

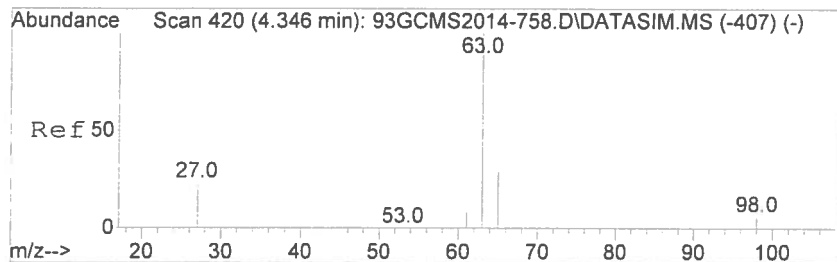
Ion Ratio Lower Upper

61 100

96 88.4 53.0 79.6#

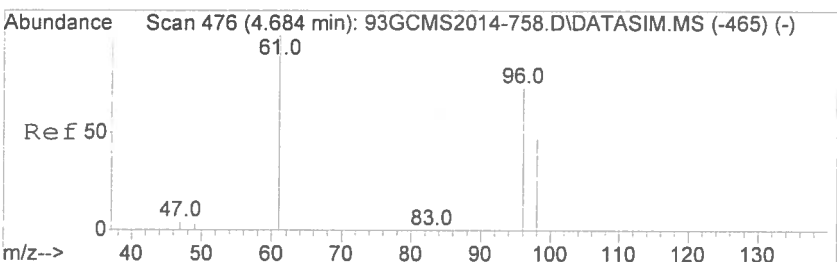
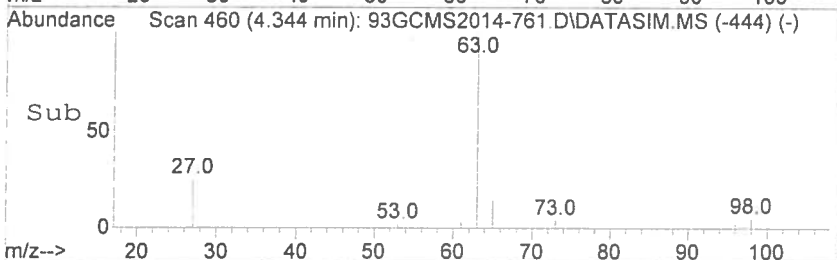
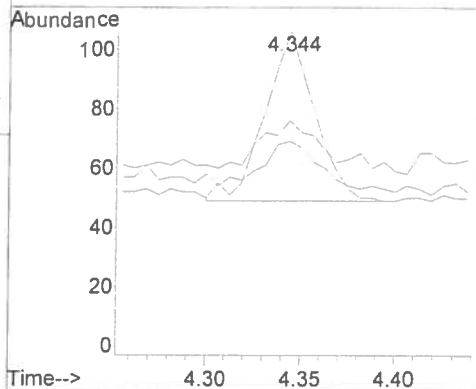
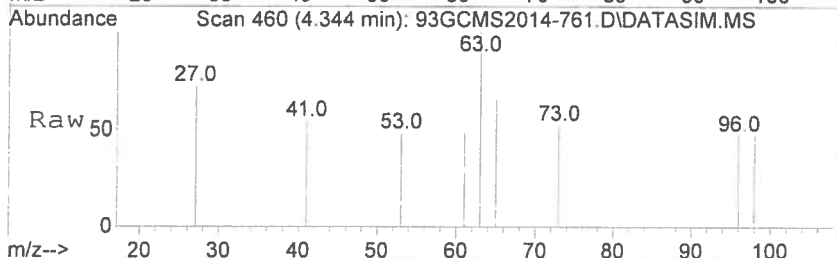
98 51.2 33.8 50.6#





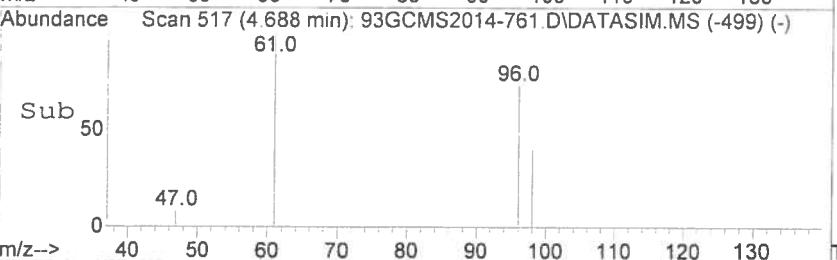
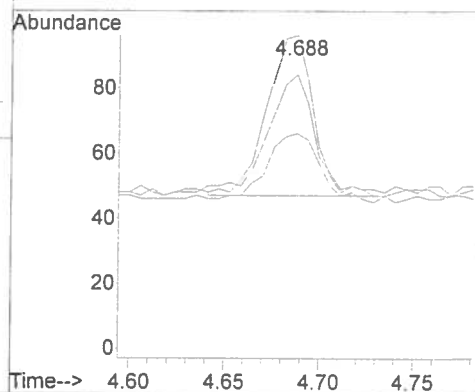
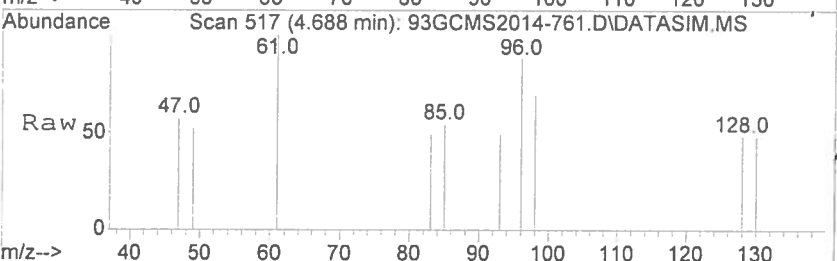
#6
1,1-Dichloroethane
Concen: 0.52 ppbv
RT: 4.344 min Scan# 460
Delta R.T. -0.003 min
Lab File: 93GCMS2014-761.D
Acq: 29 Sep 2014 18:35

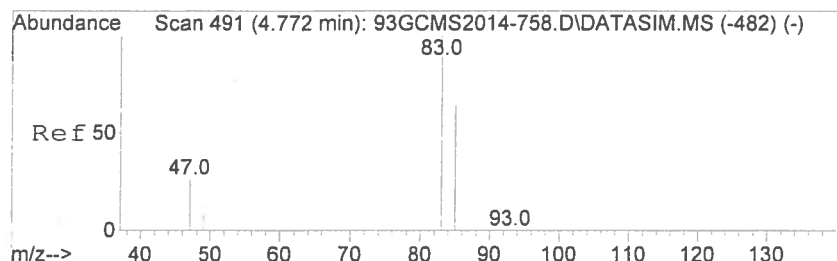
Tgt Ion	Ratio	Lower	Upper
63	100		
65	39.8	24.2	36.2#
27	43.7	18.6	28.0#



#7
cis-1,2-Dichloroethene
Concen: 0.54 ppbv
RT: 4.688 min Scan# 517
Delta R.T. 0.004 min
Lab File: 93GCMS2014-761.D
Acq: 29 Sep 2014 18:35

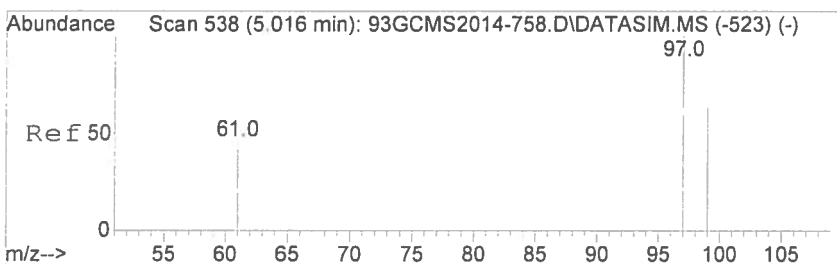
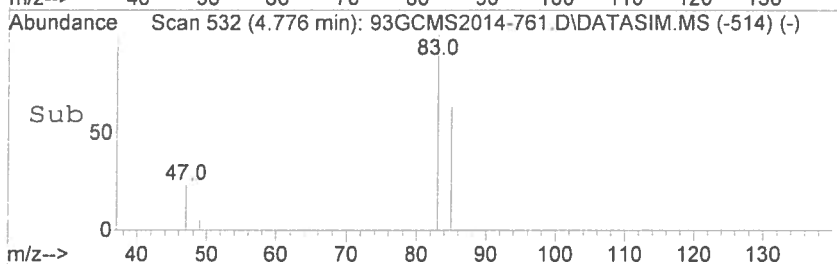
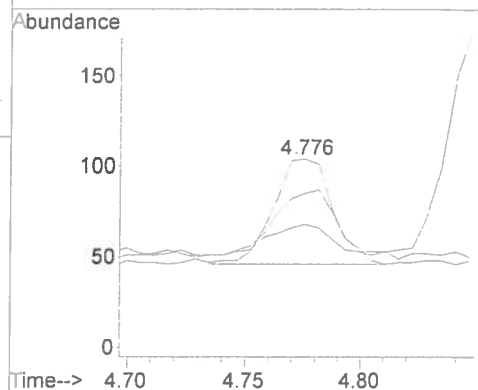
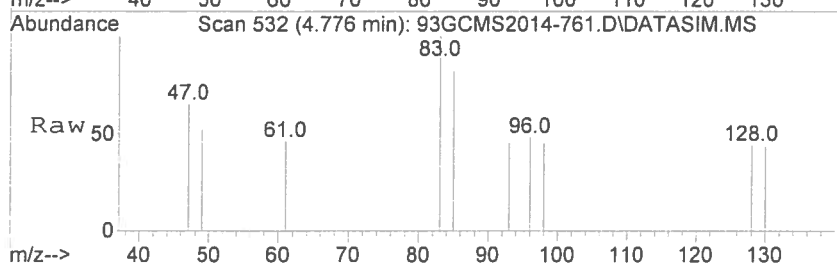
Tgt Ion	Ratio	Lower	Upper
61	100		
96	81.9	58.2	87.2
98	49.4	37.1	55.7





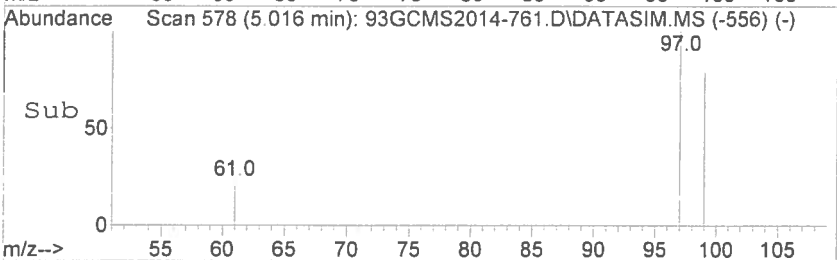
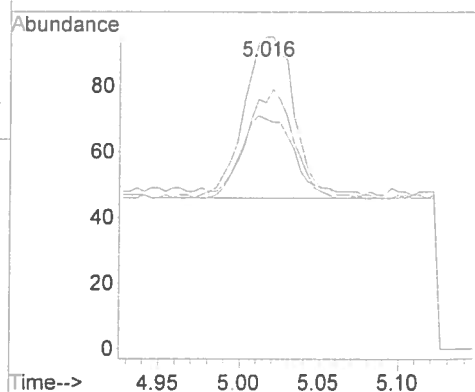
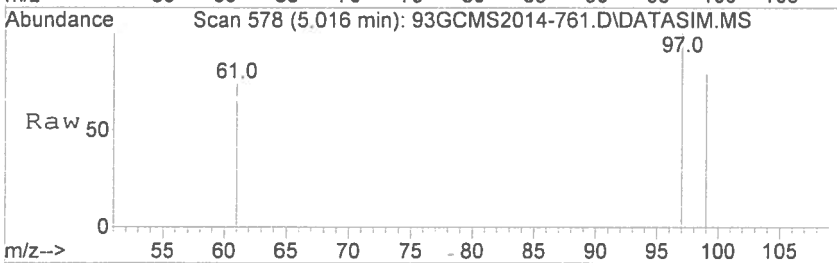
#8
Chloroform
Concen: 0.50 ppbv
RT: 4.776 min Scan# 532
Delta R.T. 0.004 min
Lab File: 93GCMS2014-761.D
Acq: 29 Sep 2014 18:35

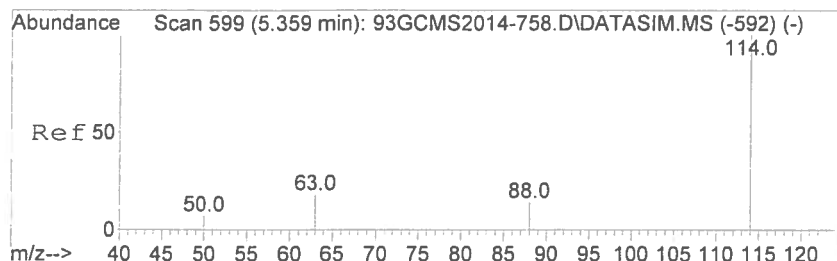
Tgt Ion: 83 Resp: 103
Ion Ratio Lower Upper
83 100
85 70.9 51.8 77.6
47 34.0 20.5 30.7#



#9
1,1,1-Trichloroethane
Concen: 0.48 ppbv
RT: 5.016 min Scan# 578
Delta R.T. -0.001 min
Lab File: 93GCMS2014-761.D
Acq: 29 Sep 2014 18:35

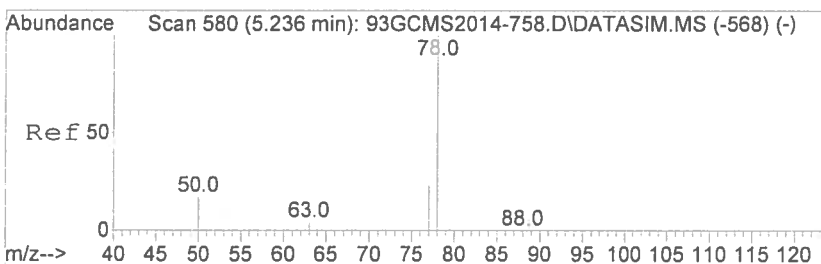
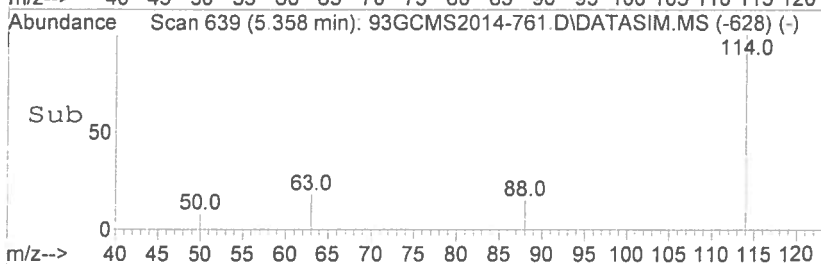
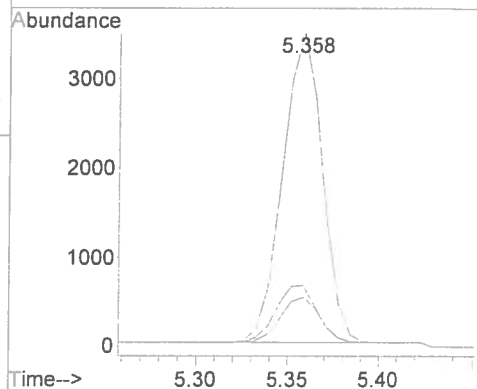
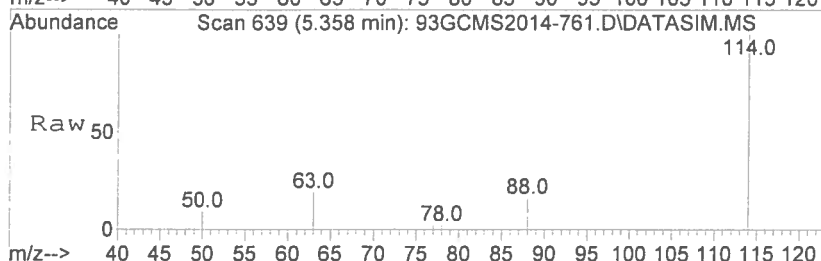
Tgt Ion: 97 Resp: 107
Ion Ratio Lower Upper
97 100
99 61.7 51.4 77.2
61 50.5 36.6 54.8





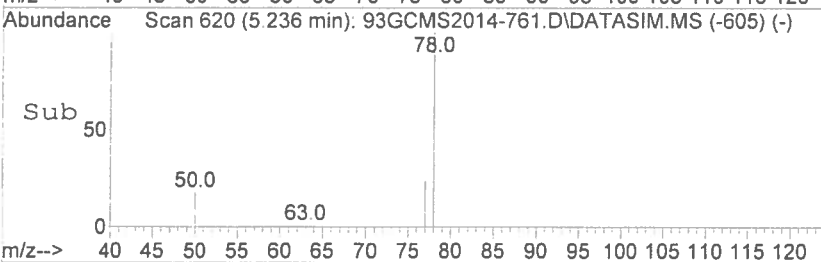
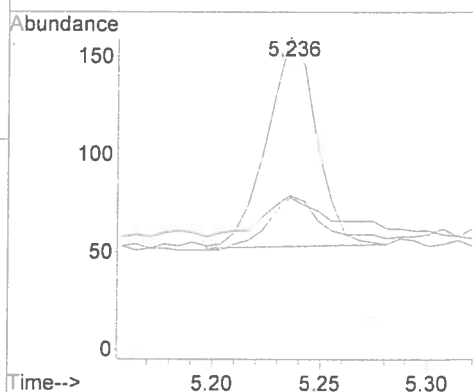
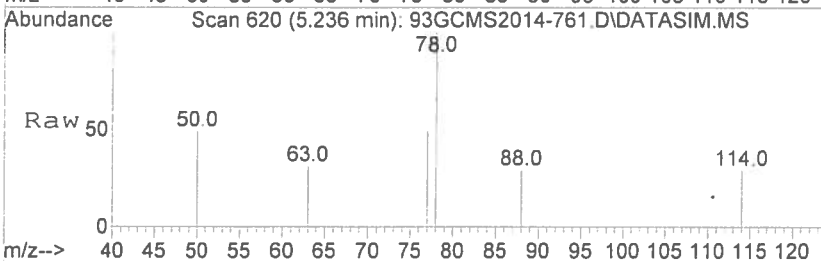
#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.358 min Scan# 639
Delta R.T. -0.001 min
Lab File: 93GCMS2014-761.D
Acq: 29 Sep 2014 18:35

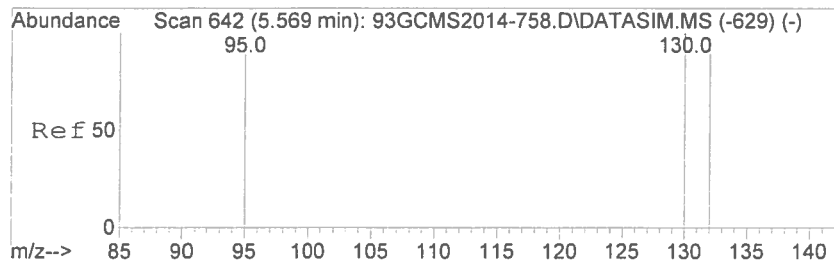
Tgt Ion	Ratio	Lower	Upper
114	100		
63	19.1	15.7	23.5
88	14.8	11.8	17.6



#11
Benzene
Concen: 0.55 ppbv m
RT: 5.236 min Scan# 620
Delta R.T. -0.001 min
Lab File: 93GCMS2014-761.D
Acq: 29 Sep 2014 18:35

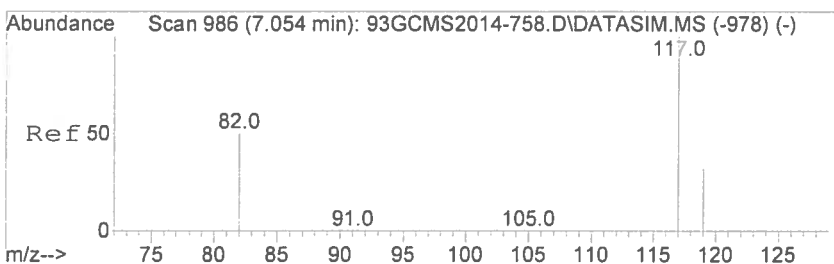
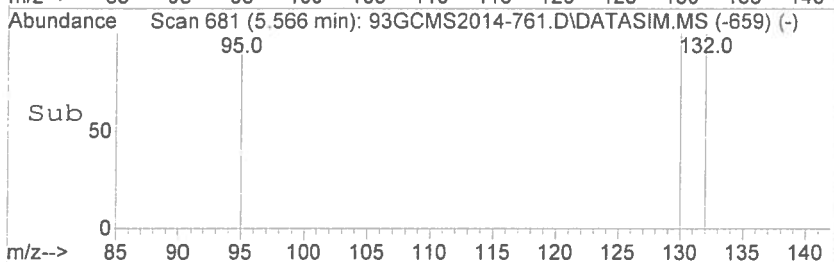
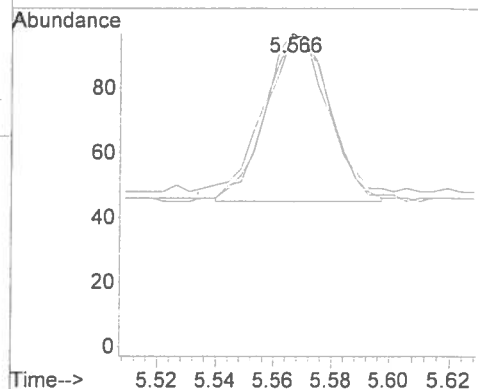
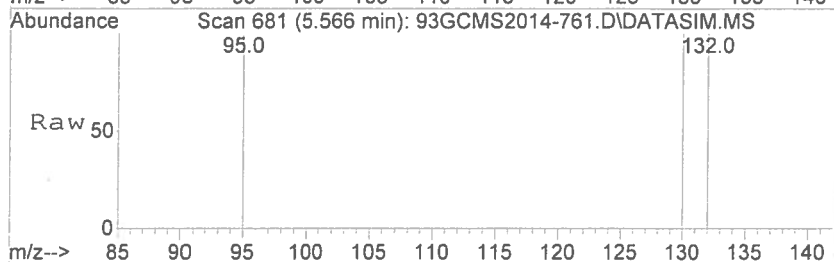
Tgt Ion	Ratio	Lower	Upper
78	100		
77	49.7	18.3	27.5#
50	22.5	14.4	21.6#





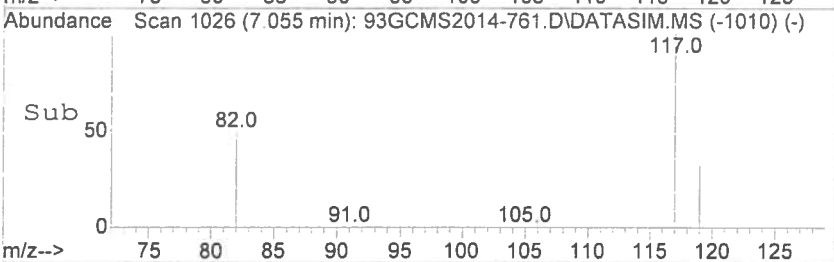
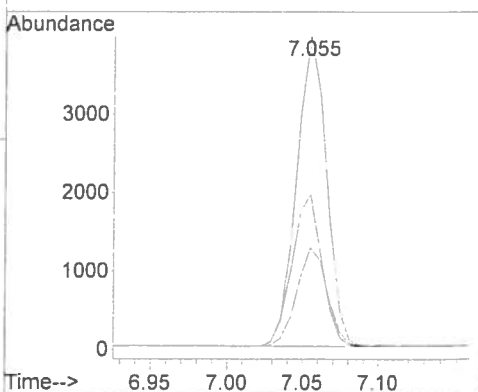
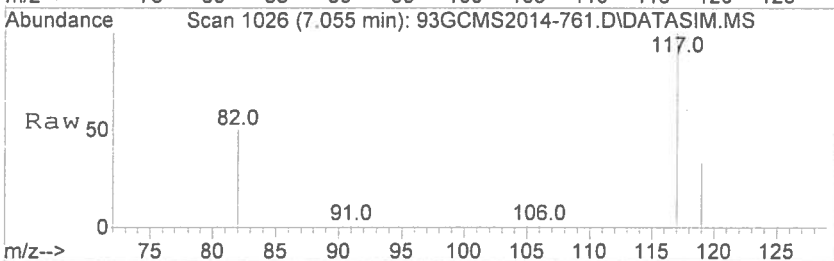
#12
Trichloroethene
Concen: 0.49 ppbv m
RT: 5.566 min Scan# 681
Delta R.T. -0.003 min
Lab File: 93GCMS2014-761.D
Acq: 29 Sep 2014 18:35

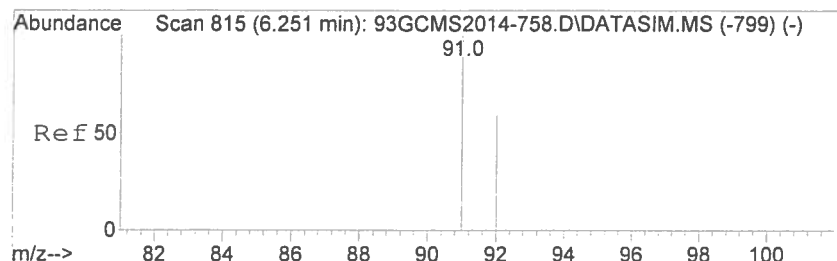
Tgt Ion	Ratio	Lower	Upper
130	100		
132	97.5	77.0	115.6
95	93.8	73.2	109.8



#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.055 min Scan# 1026
Delta R.T. 0.001 min
Lab File: 93GCMS2014-761.D
Acq: 29 Sep 2014 18:35

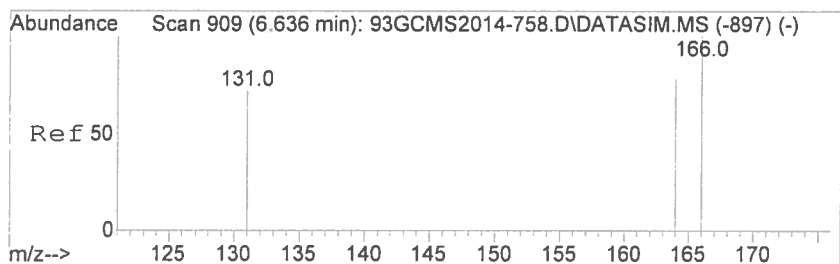
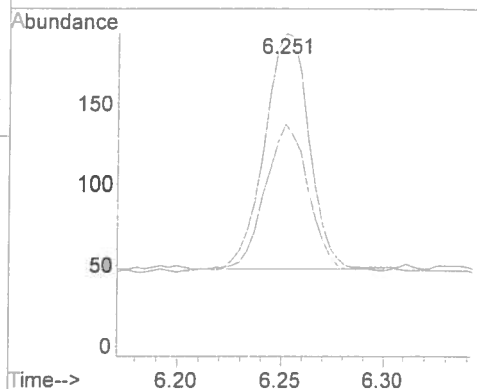
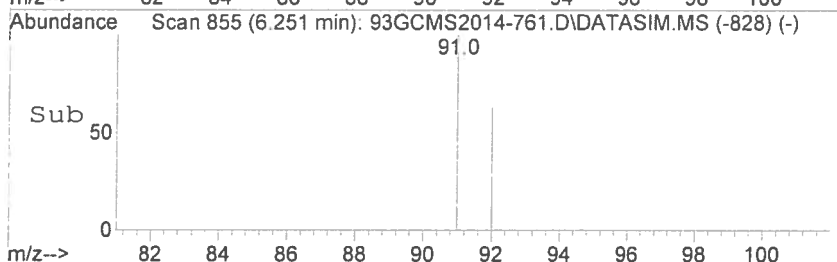
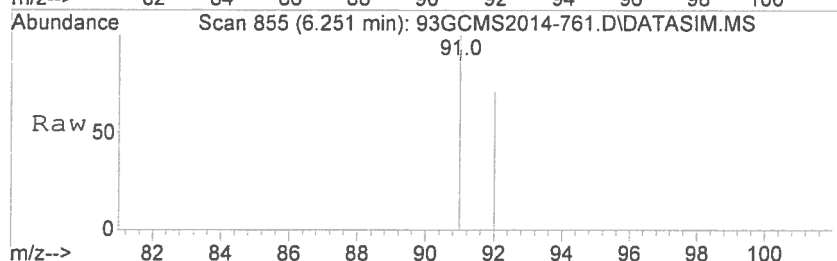
Tgt Ion	Ratio	Lower	Upper
117	100		
82	48.9	39.5	59.3
119	32.0	25.8	38.6





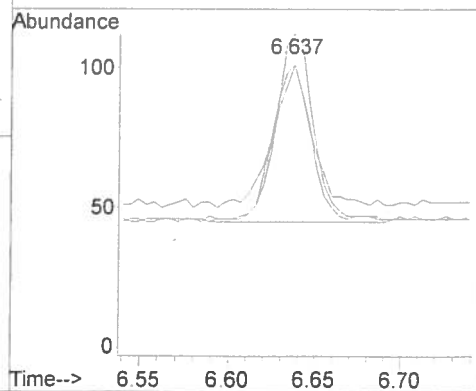
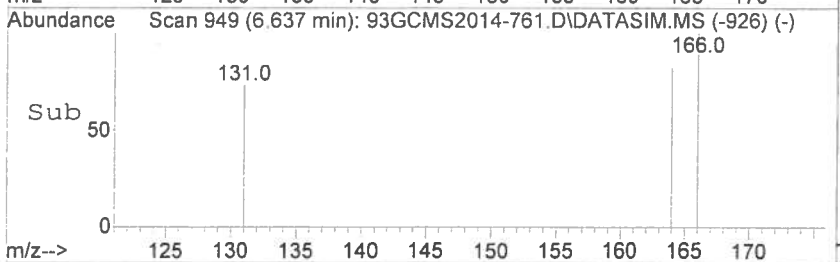
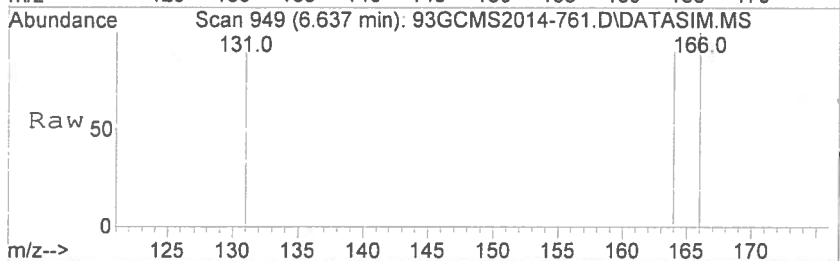
#14
Toluene
Concen: 0.56 ppbv
RT: 6.251 min Scan# 855
Delta R.T. 0.001 min
Lab File: 93GCMS2014-761.D
Acq: 29 Sep 2014 18:35

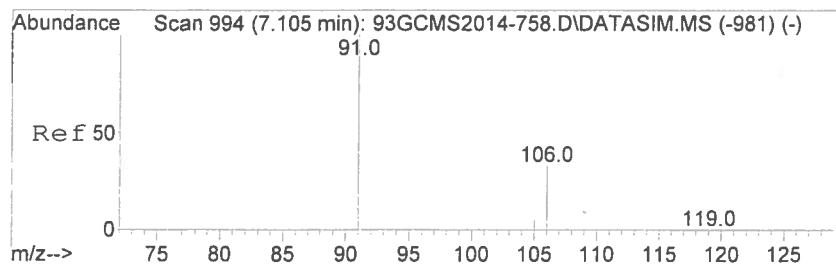
Tgt Ion	Ratio	Lower	Upper
91	100		
92	63.2	47.4	71.2



#15
Tetrachloroethene
Concen: 0.51 ppbv
RT: 6.637 min Scan# 949
Delta R.T. 0.001 min
Lab File: 93GCMS2014-761.D
Acq: 29 Sep 2014 18:35

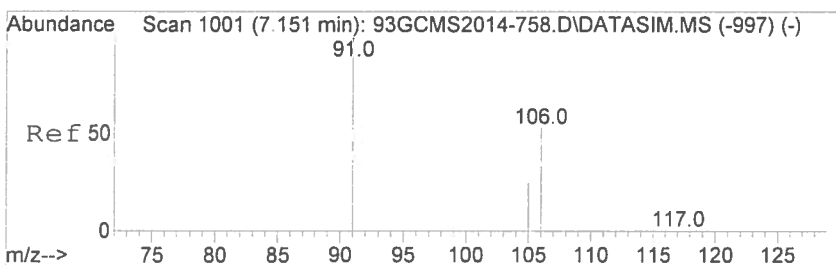
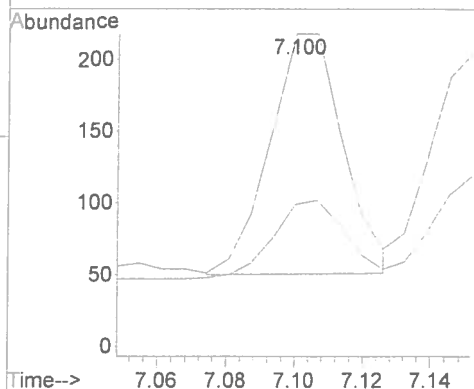
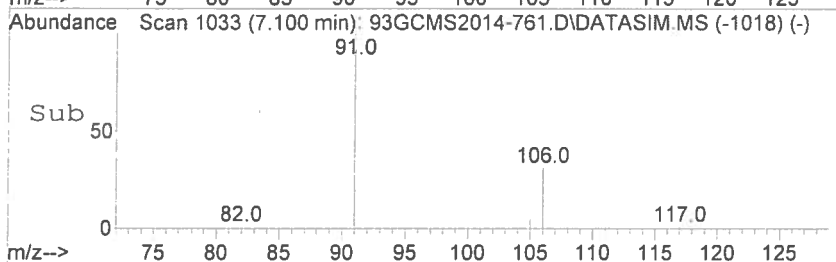
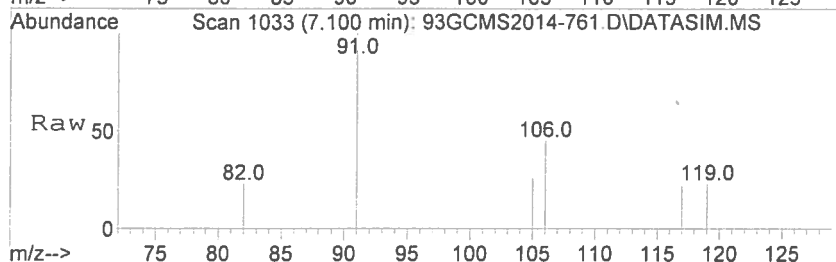
Tgt Ion	Ratio	Lower	Upper
166	100		
164	75.5	62.6	93.8
131	79.2	57.9	86.9





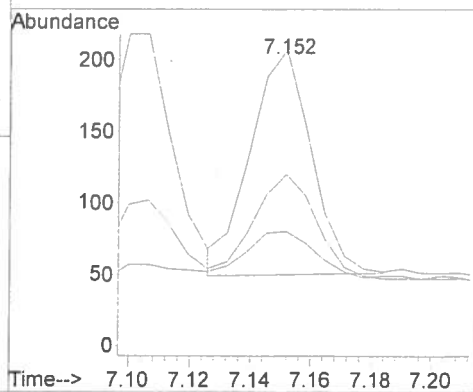
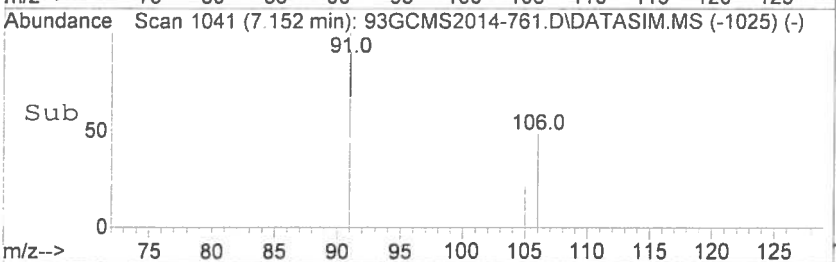
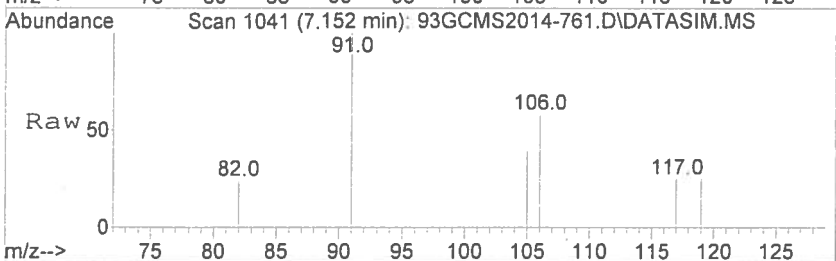
#16
Ethyl Benzene
Concen: 0.49 ppbv
RT: 7.100 min Scan# 1033
Delta R.T. -0.005 min
Lab File: 93GCMS2014-761.D
Acq: 29 Sep 2014 18:35

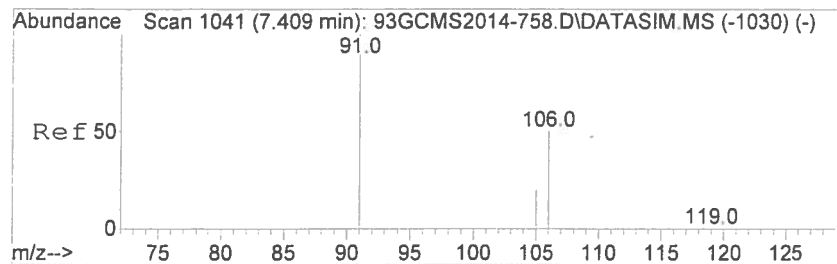
Tgt Ion: 91 Resp: 251
Ion Ratio Lower Upper
91 100
106 45.4 26.4 39.6#



#17
m,p-Xylene
Concen: 0.56 ppbv m
RT: 7.152 min Scan# 1041
Delta R.T. 0.001 min
Lab File: 93GCMS2014-761.D
Acq: 29 Sep 2014 18:35

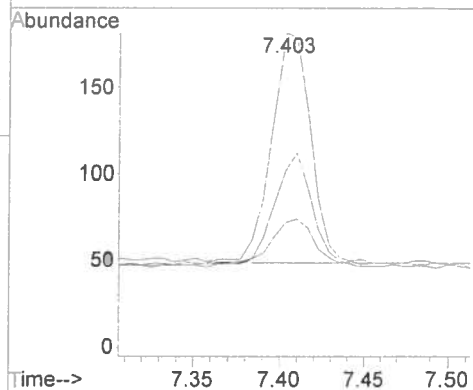
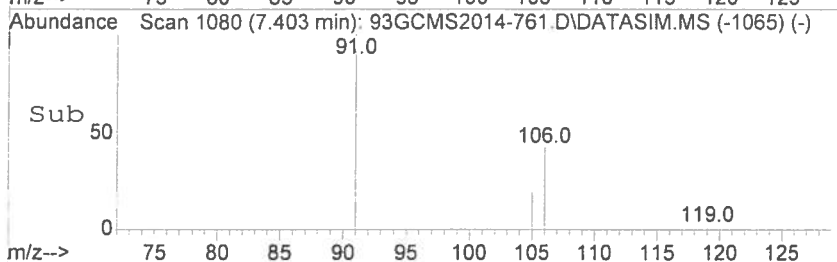
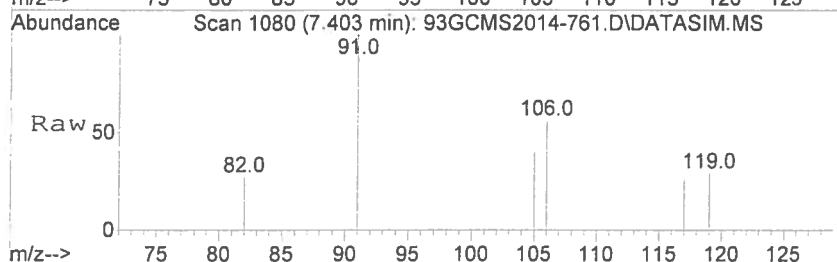
Tgt Ion: 91 Resp: 220
Ion Ratio Lower Upper
91 100
106 58.0 41.2 61.8
105 38.6 18.4 27.6#



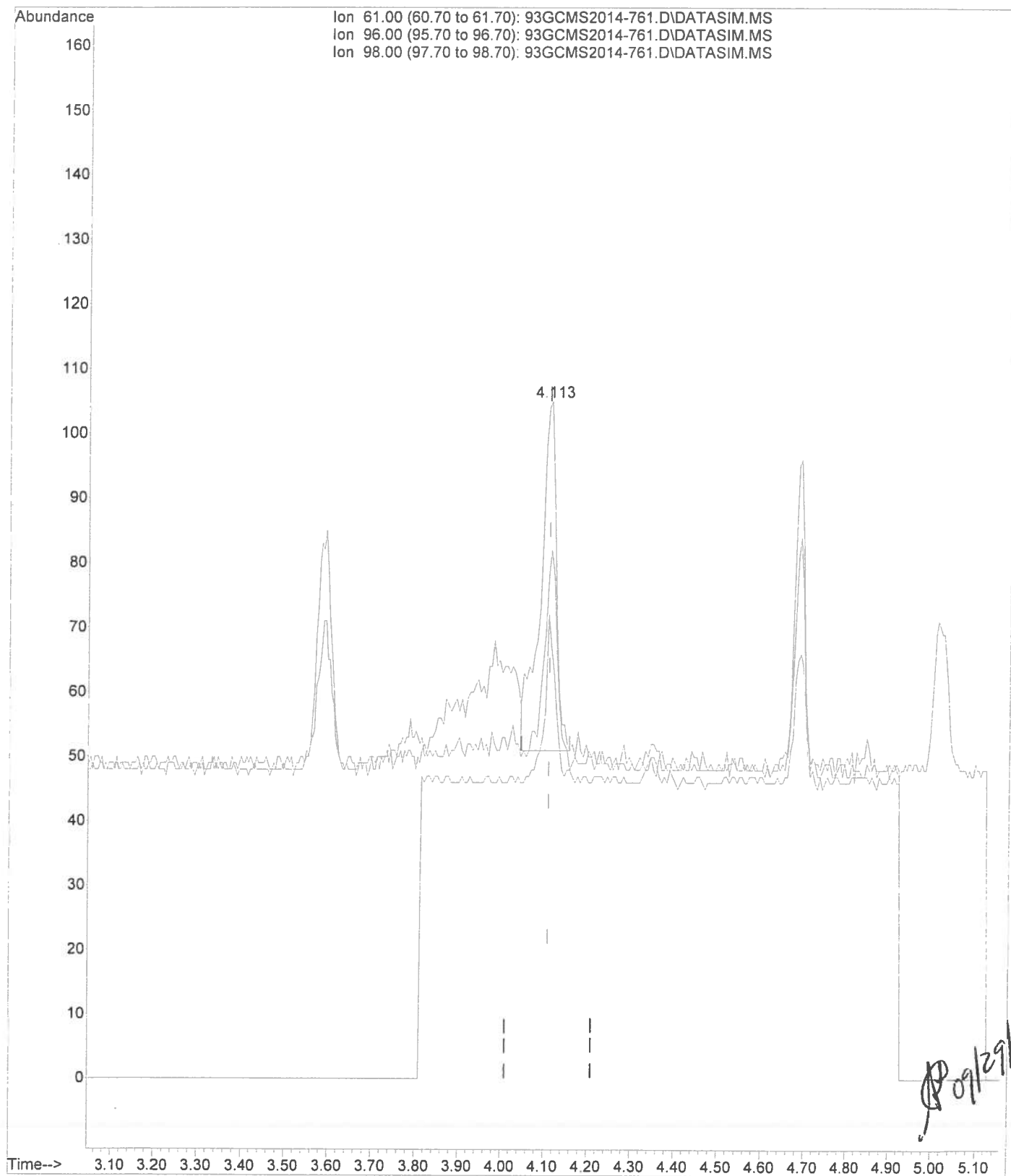


#18
o-Xylene
Concen: 0.52 ppbv
RT: 7.403 min Scan# 1080
Delta R.T. -0.005 min
Lab File: 93GCMS2014-761.D
Acq: 29 Sep 2014 18:35

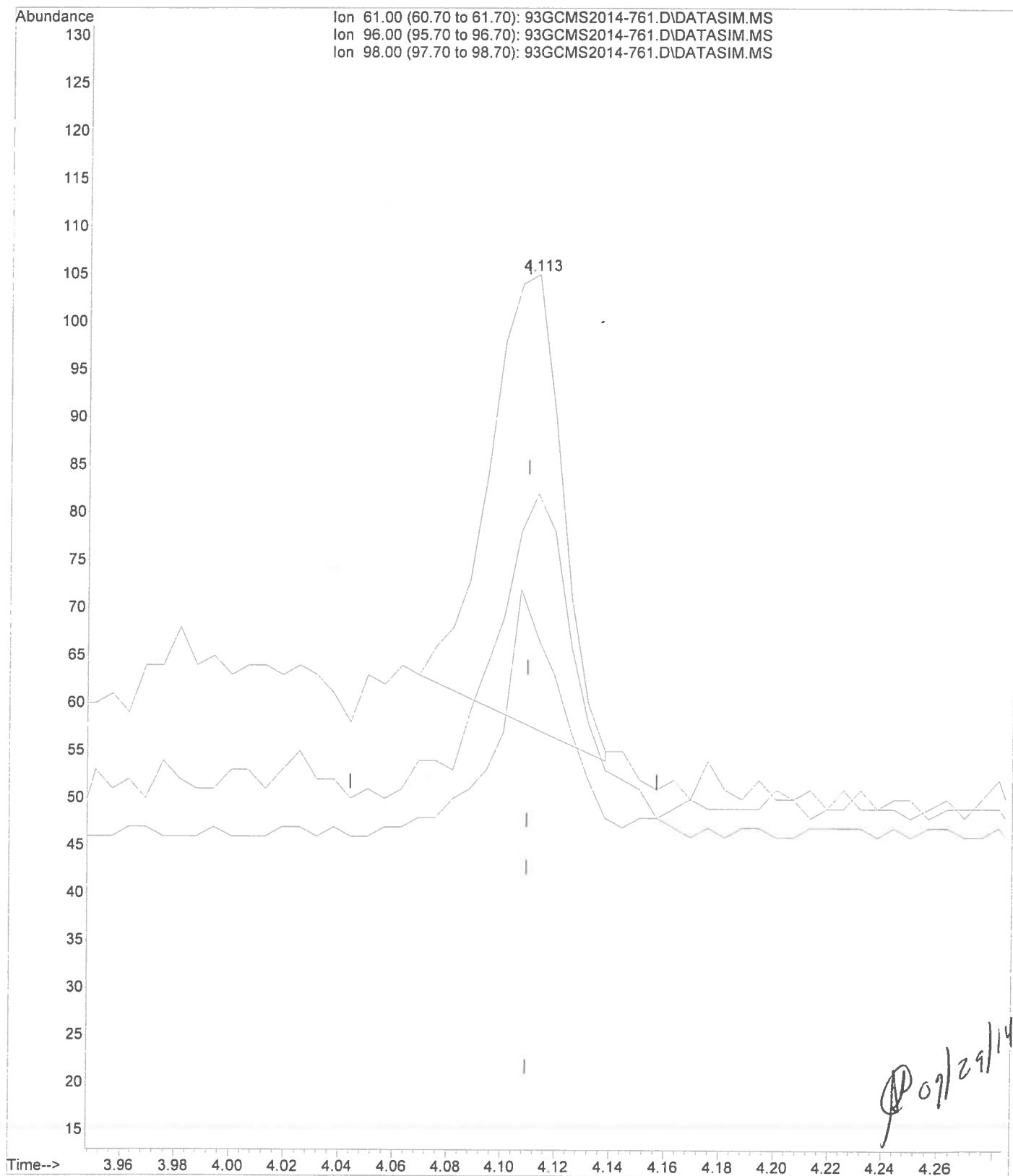
Tgt Ion	Ratio	Lower	Upper
91	100		
106	50.2	38.3	57.5
105	22.5	15.3	22.9



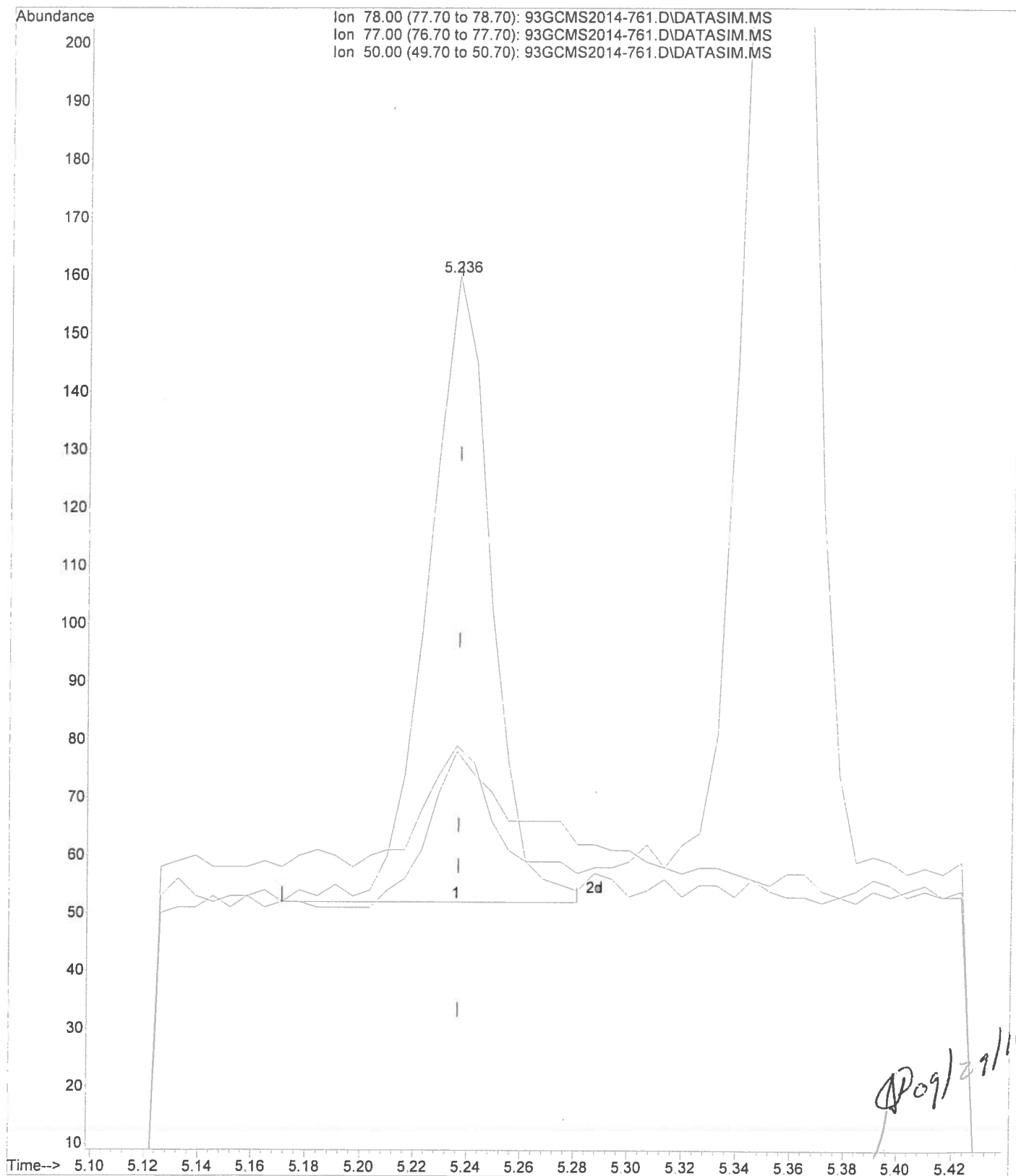
File :D:\msdchem\1\data\2014\20140929\93GCMS2014-761.D
Operator : SJT
Acquired : 29 Sep 2014 18:35 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140929-9 \ 0.5ppbv ICAL STD
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



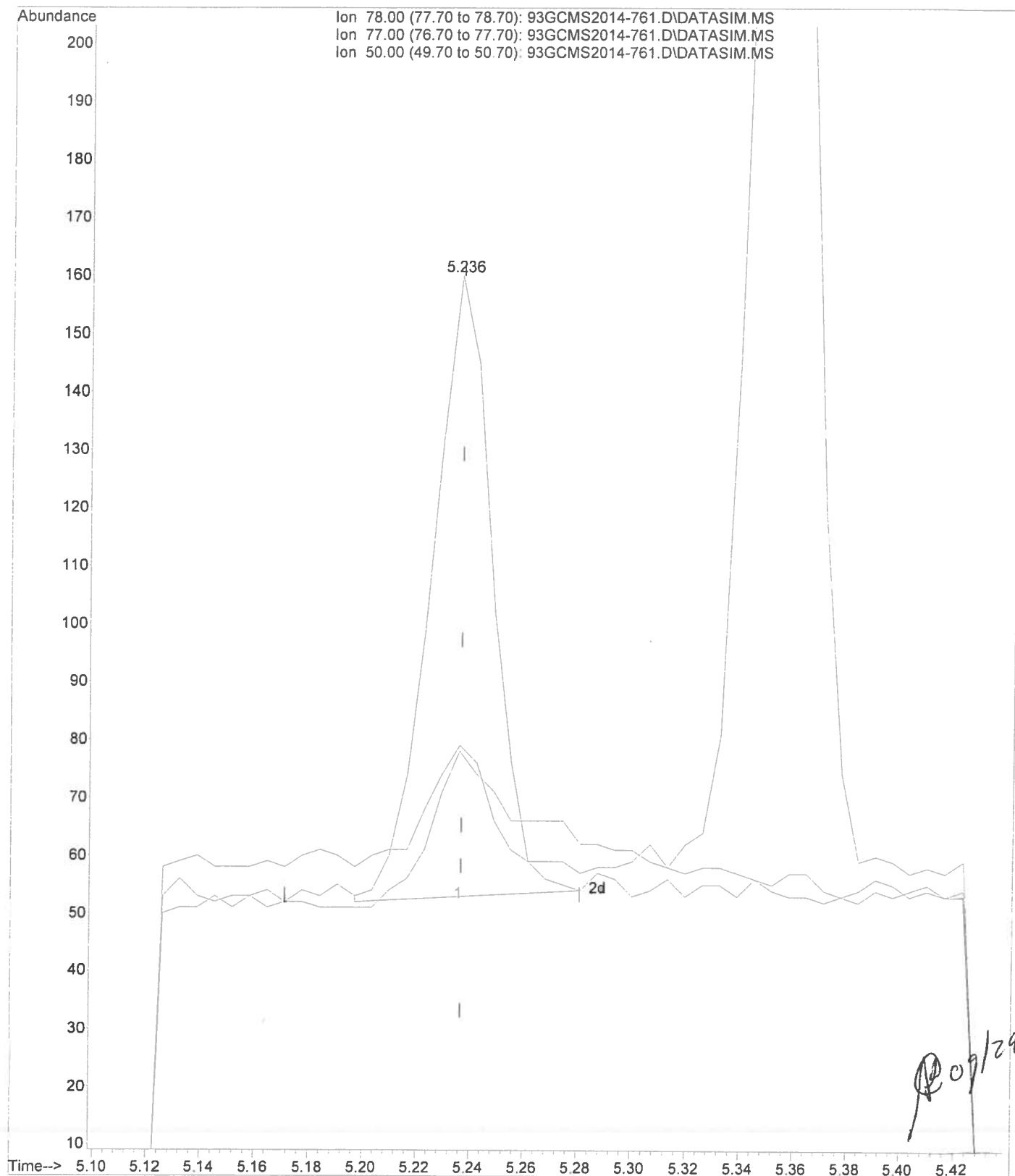
File :D:\msdchem\1\data\2014\20140929\93GCMS2014-761.D
Operator : SJT
Acquired : 29 Sep 2014 18:35 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140929-9 \ 0.5ppbv ICAL STD
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



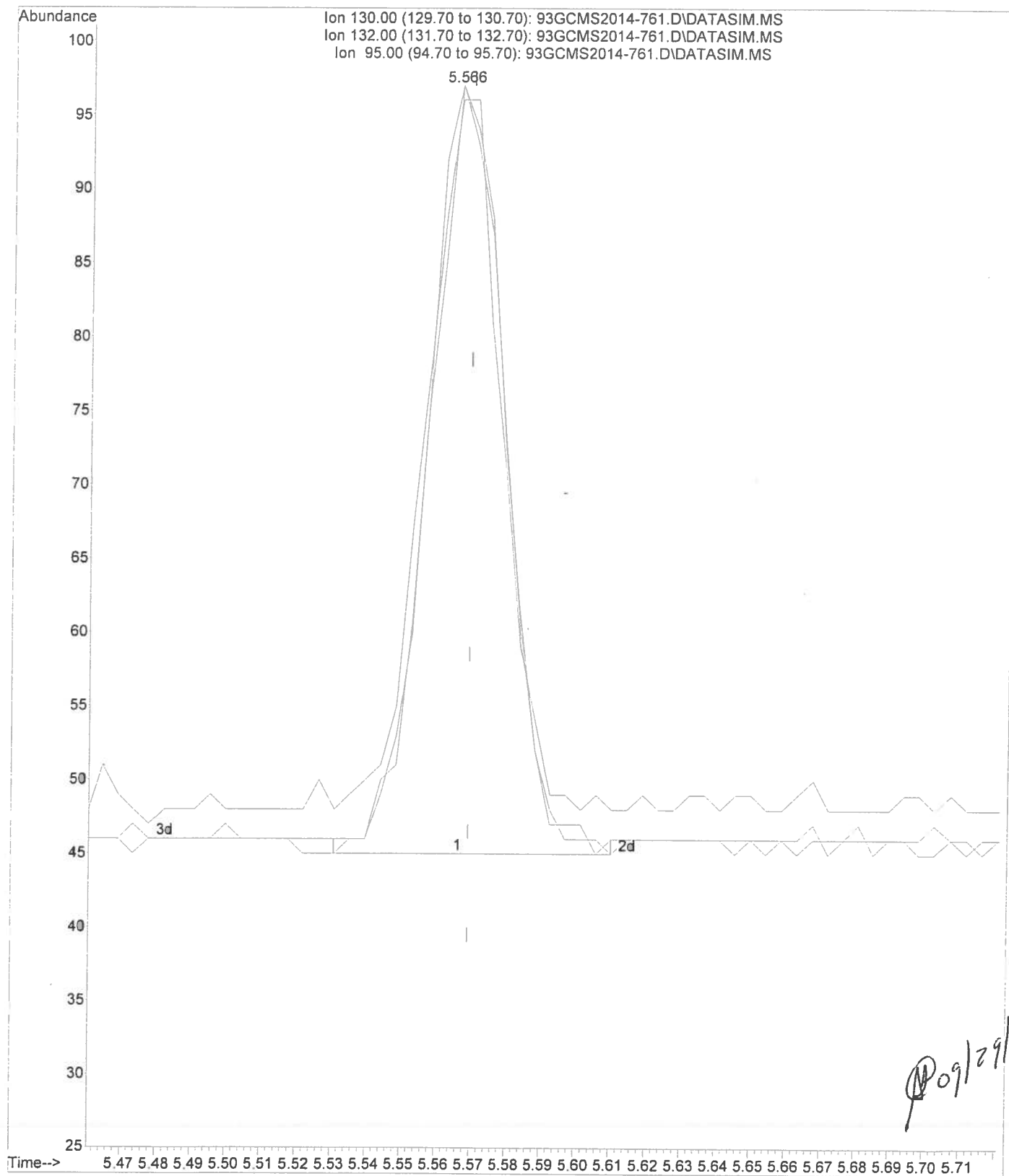
File :D:\msdchem\1\data\2014\20140929\93GCMS2014-761.D
Operator : SJT
Acquired : 29 Sep 2014 18:35 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140929-9 \ 0.5ppbv ICAL STD
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



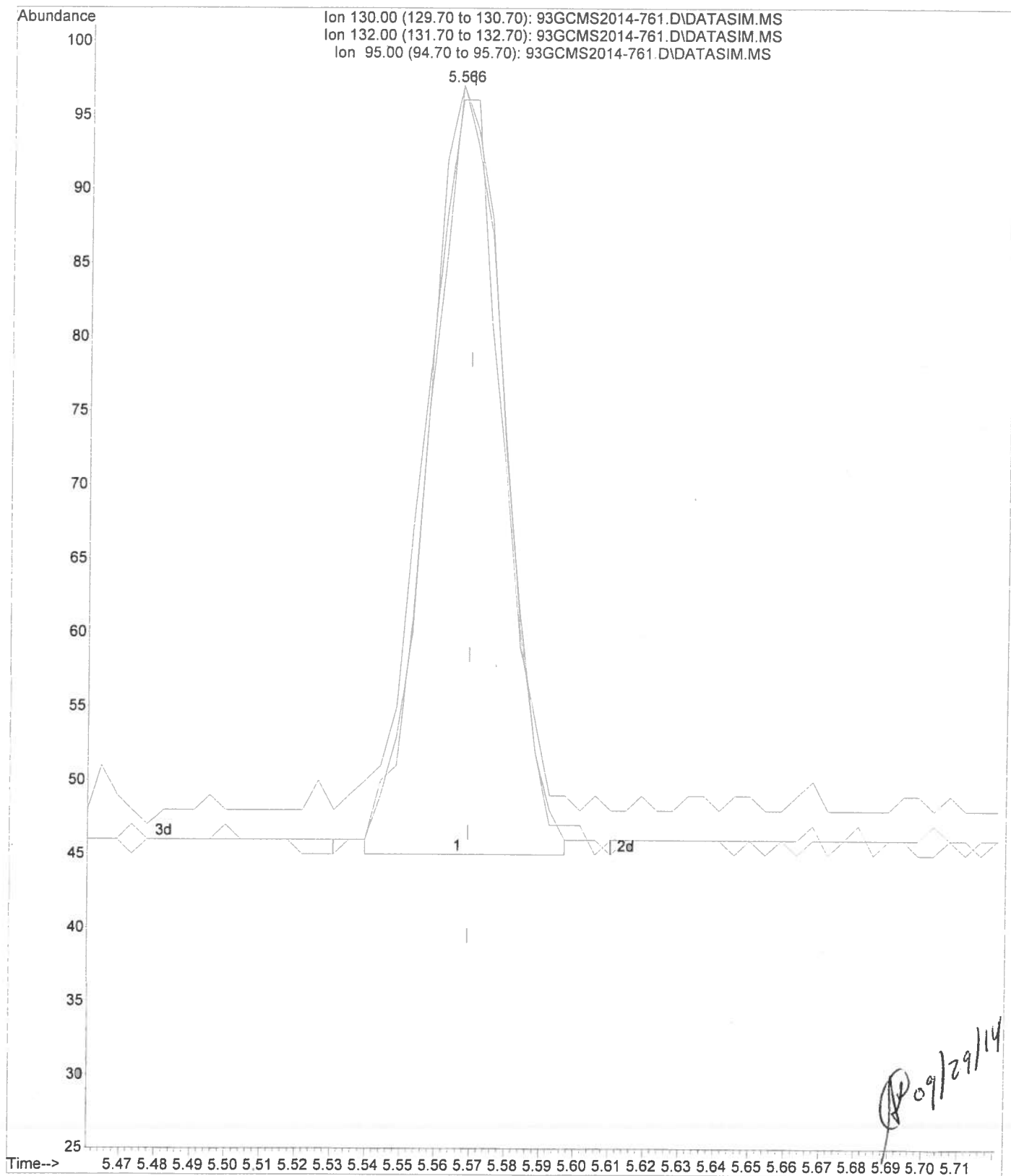
File :D:\msdchem\1\data\2014\20140929\93GCMS2014-761.D
Operator : SJT
Acquired : 29 Sep 2014 18:35 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140929-9 \ 0.5ppbv ICAL STD
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



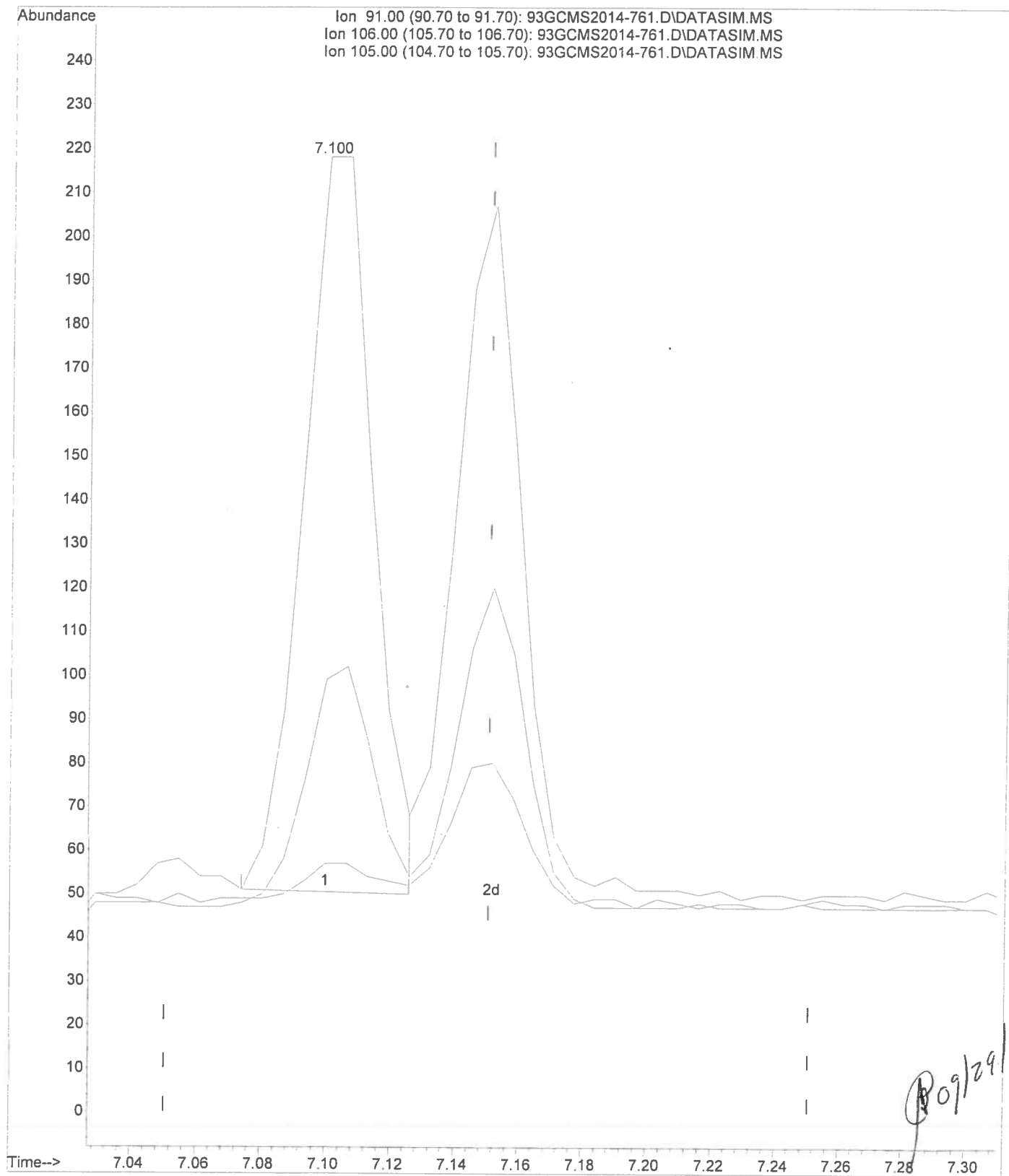
File : D:\msdchem\1\data\2014\20140929\93GCMS2014-761.D
Operator : SJT
Acquired : 29 Sep 2014 18:35 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140929-9 \ 0.5ppbv ICAL STD
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



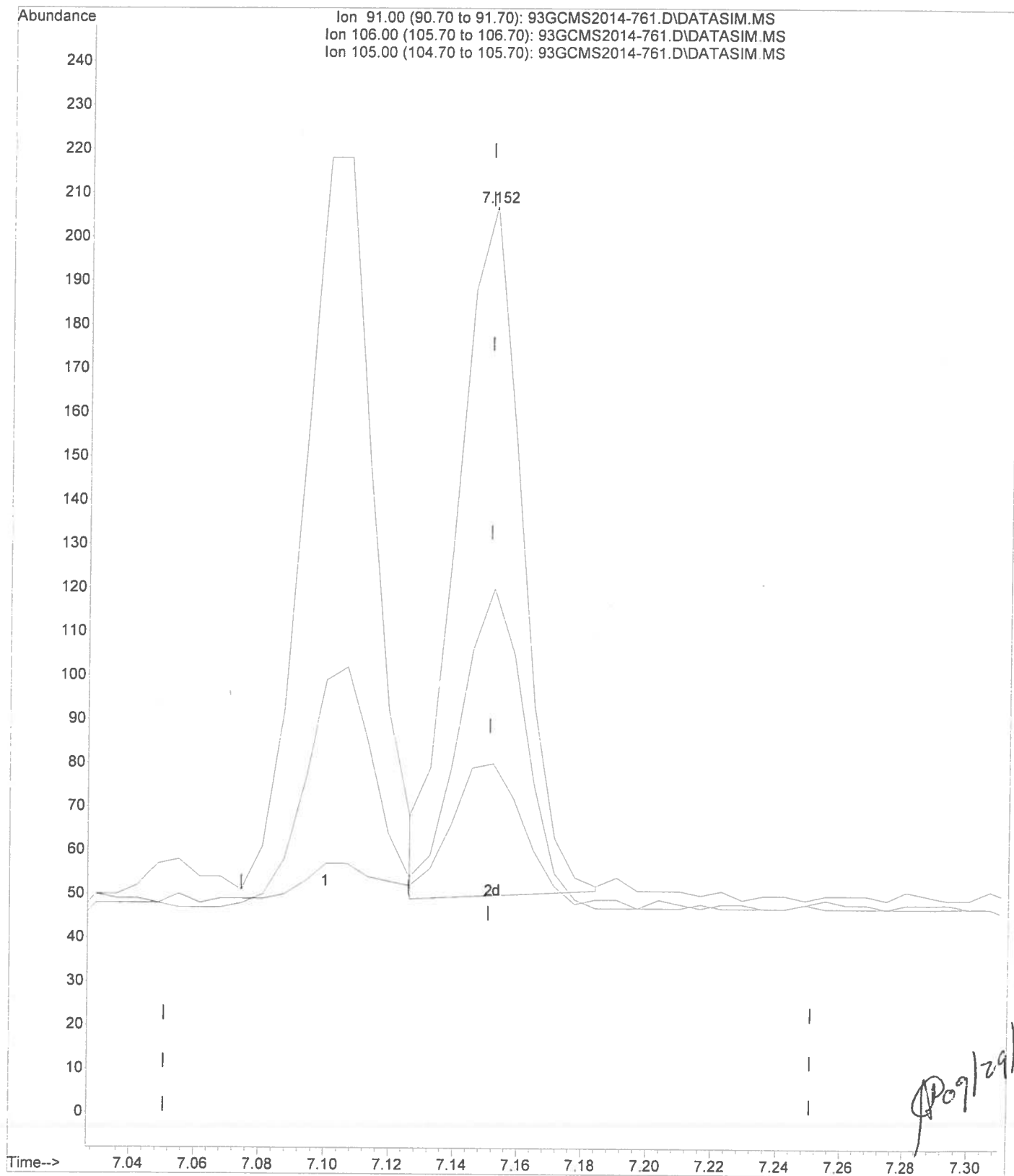
File :D:\msdchem\1\data\2014\20140929\93GCMS2014-761.D
Operator : SJT
Acquired : 29 Sep 2014 18:35 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140929-9 \ 0.5ppbv ICAL STD
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



File : D:\msdchem\1\data\2014\20140929\93GCMS2014-761.D
Operator : SJT
Acquired : 29 Sep 2014 18:35 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140929-9 \ 0.5ppbv ICAL STD
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



File :D:\msdchem\1\data\2014\20140929\93GCMS2014-761.D
Operator : SJT
Acquired : 29 Sep 2014 18:35 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140929-9 \ 0.5ppbv ICAL STD
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



Data File:	93GCMS2014-762.d			
Sample Number:	STD20140929-10			
Sample Volume (mL)	5			
Date Prepared:	29-Sep-2014			
Date Analyzed:	29-Sep-2014			
Compound	COA Concentrations CC# 99022 EXP. 03/14/2015 CC# 128284 EXP. 11/22/2014 (ppmv)	Calculated Concentrations STD20140929-10 500ppbv ICV STD (ppbv)	STD20140929-10 500ppbv ICV STD Results (ppbv)	Percent Deviation (%) (±30%)
Vinyl Chloride	20.7	517.50	533.89	-3.17
1,1-Dichloroethene	20.5	512.50	543.88	-6.12
Methyl Tert Butyl Ether	20.4	510.00	624.98	-22.55
trans-1,2-Dichloroethene	20.0	500.00	515.47	-3.09
1,1-Dichloroethane	21.0	525.00	551.49	-5.05
cis-1,2-Dichloroethene	21.2	530.00	548.74	-3.54
Chloroform	20.6	515.00	524.70	-1.88
1,1,1-Trichloroethane	20.4	510.00	542.62	-6.40
Benzene	21.1	527.50	515.23	2.33
Trichloroethene	20.4	510.00	505.20	0.94
Toluene	20.9	522.50	505.78	3.20
Tetrachloroethene	20.7	517.50	501.84	3.03
Ethyl Benzene	21.0	525.00	519.20	1.10
m&p-Xylene	20.8	520.00	505.75	2.74
o-Xylene	21.0	525.00	512.72	2.34

09/29/14

Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-762.D
 Acq On : 29 Sep 2014 18:47
 Operator : SJT
 Sample : STD20140929-10 \ 500ppbv ICV STD
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 18:55:06 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014

QLast Update : Mon Sep 29 18:48:25 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Bromochloromethane	4.848	49	1839	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	5195	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5365	10.00	ppbv	0.00

System Monitoring Compounds

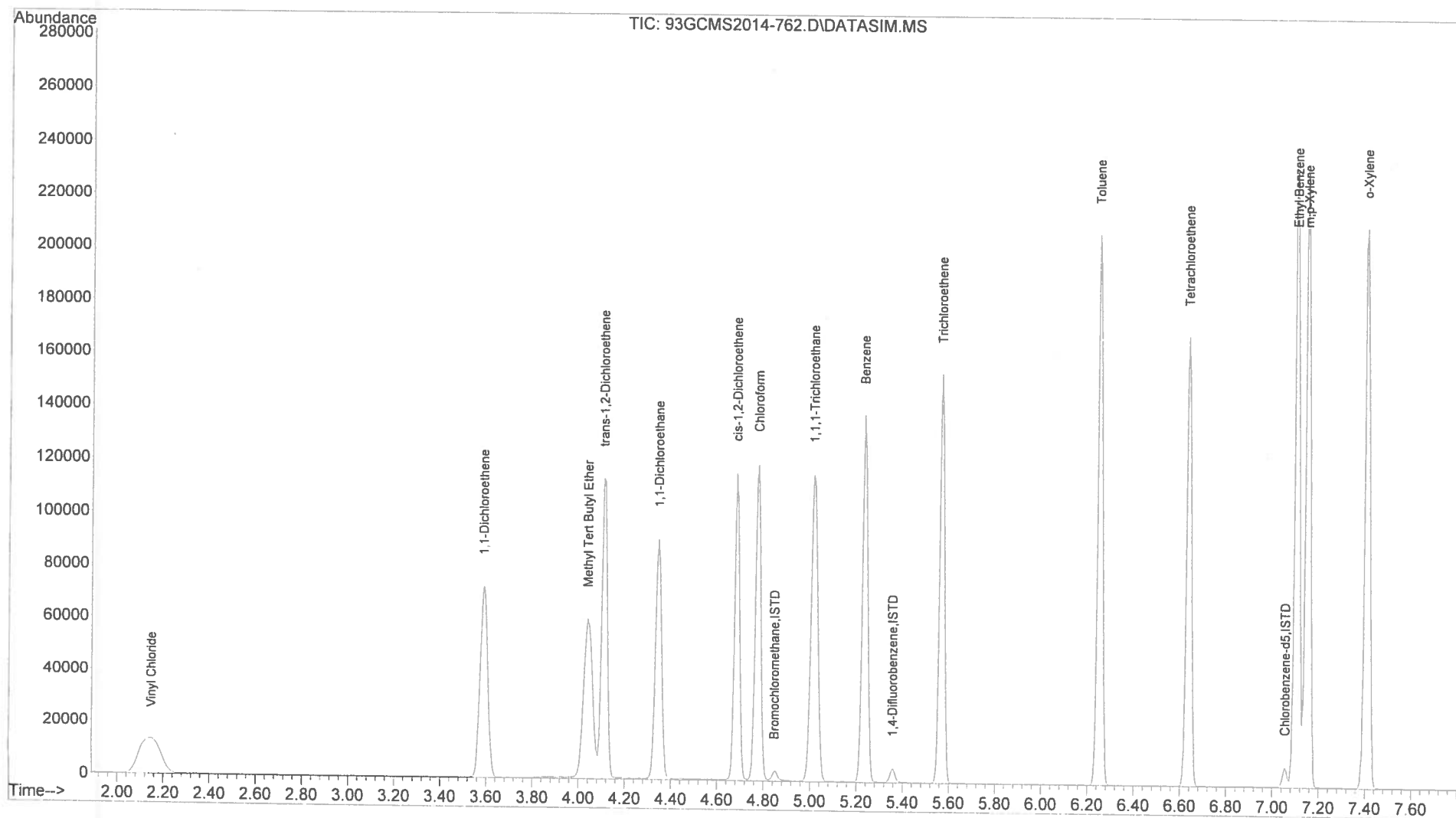
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Vinyl Chloride	2.148	62	49719	533.89	ppbv	99
3) 1,1-Dichloroethene	3.589	61	87820	543.88	ppbv	100
4) Methyl Tert Butyl Ether	4.040	73	123594	624.98	ppbv	98
5) trans-1,2-Dichloroethene	4.109	61	77744	515.47	ppbv	100
6) 1,1-Dichloroethane	4.346	63	100139	551.49	ppbv	100
7) cis-1,2-Dichloroethene	4.684	61	76797	548.74	ppbv	99
8) Chloroform	4.778	83	98038	524.70	ppbv	100
9) 1,1,1-Trichloroethane	5.017	97	110200	542.62	ppbv	100
11) Benzene	5.235	78	151982	515.23	ppbv	100
12) Trichloroethene	5.569	130	78158	505.20	ppbv	100
14) Toluene	6.251	91	189563	505.78	ppbv	100
15) Tetrachloroethene	6.637	166	99350	501.84	ppbv	100
16) Ethyl Benzene	7.106	91	245850	519.20	ppbv	99
17) m,p-Xylene	7.151	91	186967	505.75	ppbv	99
18) o-Xylene	7.409	91	193131	512.72	ppbv	100

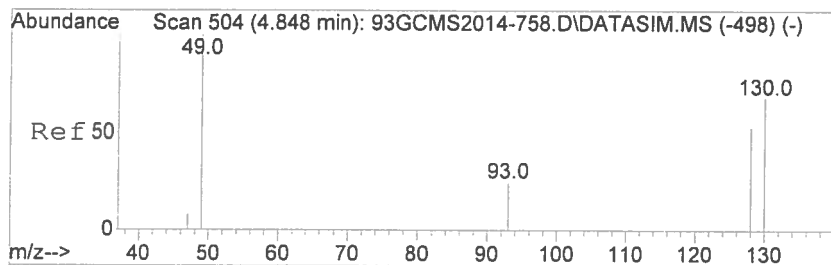
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Handwritten signature and date: 09/29/14

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-762.D
 Acq On : 29 Sep 2014 18:47
 Operator : SJT
 Sample : STD20140929-10 \ 500ppbv ICV STD
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

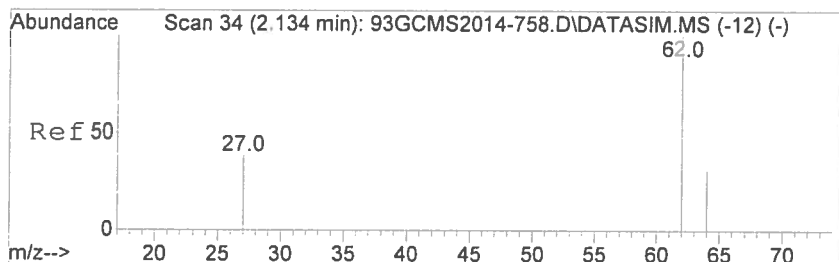
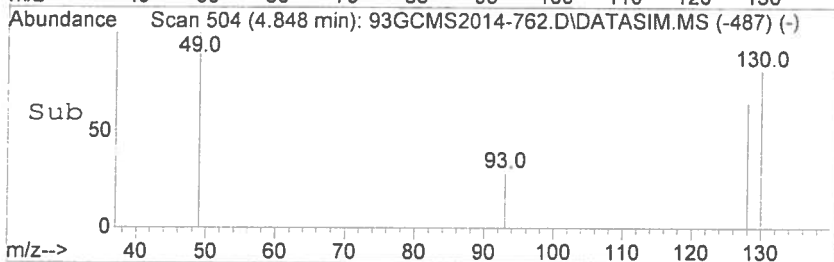
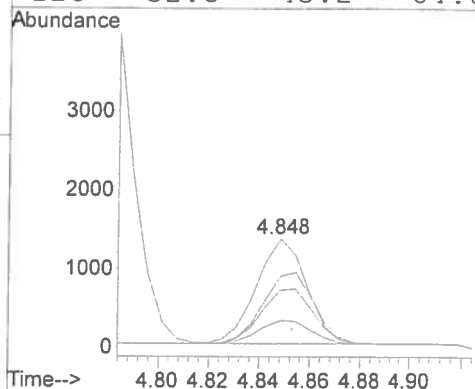
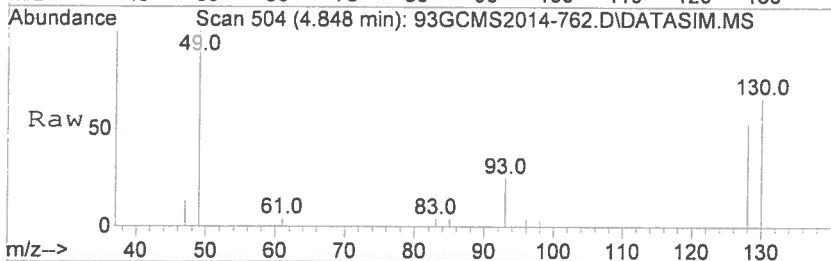
Quant Time: Sep 29 18:55:06 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014
 QLast Update : Mon Sep 29 18:48:25 2014
 Response via : Initial Calibration





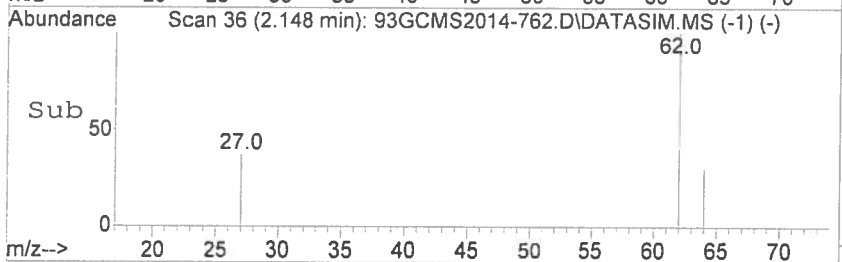
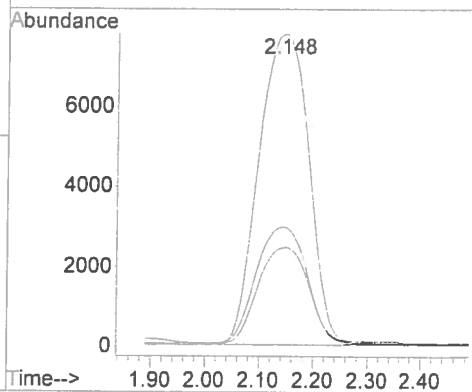
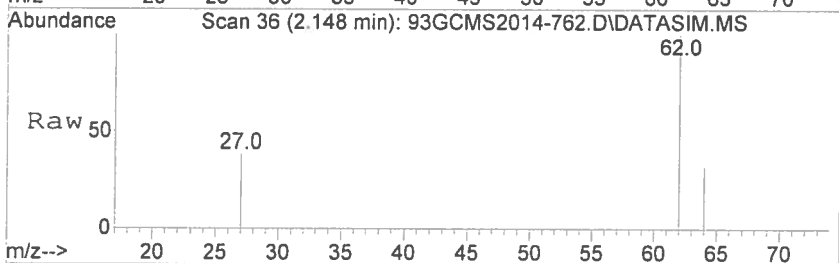
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. 0.000 min
Lab File: 93GCMS2014-762.D
Acq: 29 Sep 2014 18:47

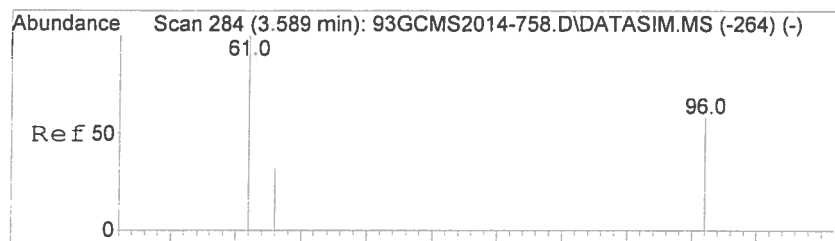
Tgt Ion: 49	Resp: 1839
Ion Ratio	Lower Upper
49 100	
130 65.7	54.4 81.6
93 24.8	21.1 31.7
128 52.8	43.2 64.8



#2
Vinyl Chloride
Concen: 533.89 ppbv
RT: 2.148 min Scan# 36
Delta R.T. 0.015 min
Lab File: 93GCMS2014-762.D
Acq: 29 Sep 2014 18:47

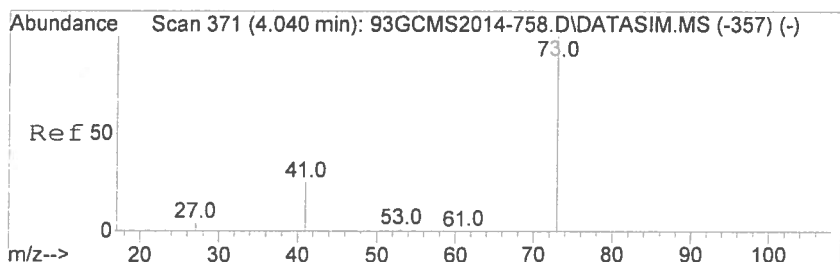
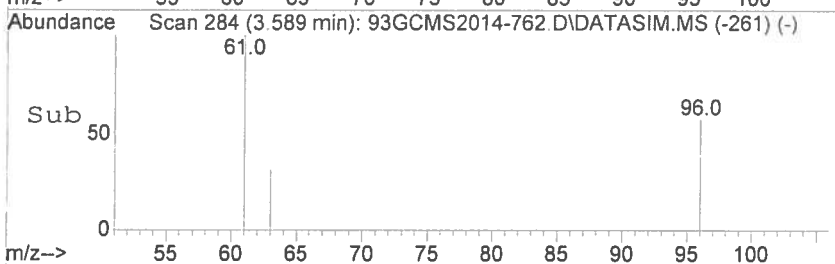
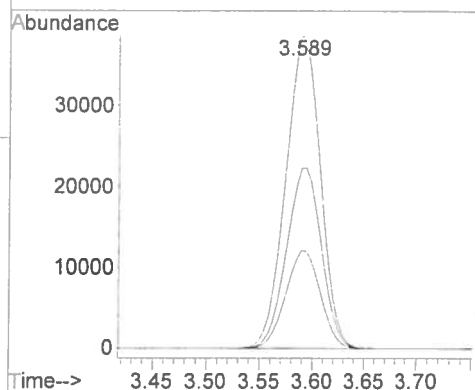
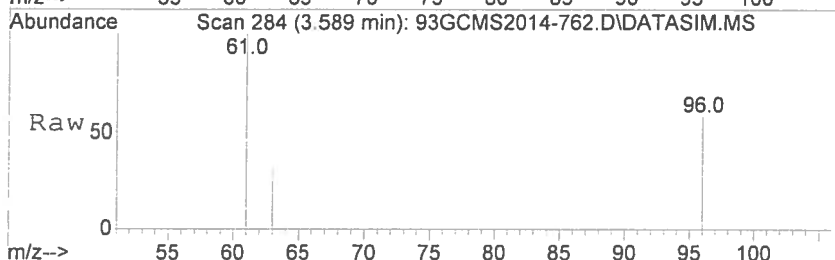
Tgt	Ion: 62	Resp:	49719
Ion	Ratio	Lower	Upper
62	100		
64	31.2	25.2	37.8
27	38.5	31.8	47.6





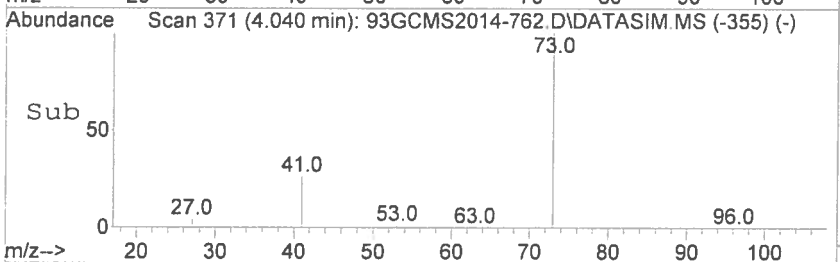
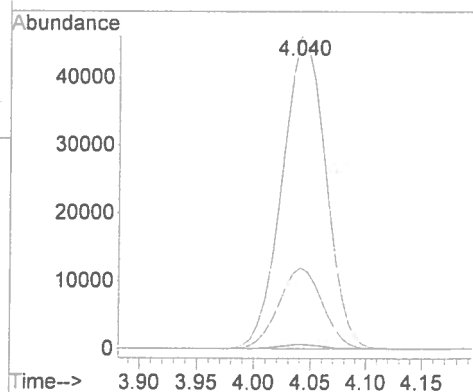
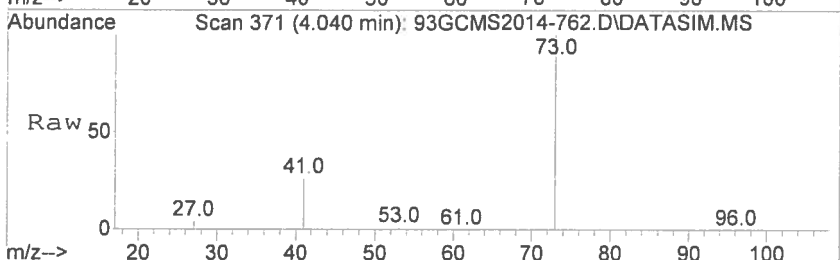
#3
1,1-Dichloroethene
Concen: 543.88 ppbv
RT: 3.589 min Scan# 284
Delta R.T. -0.000 min
Lab File: 93GCMS2014-762.D
Acq: 29 Sep 2014 18:47

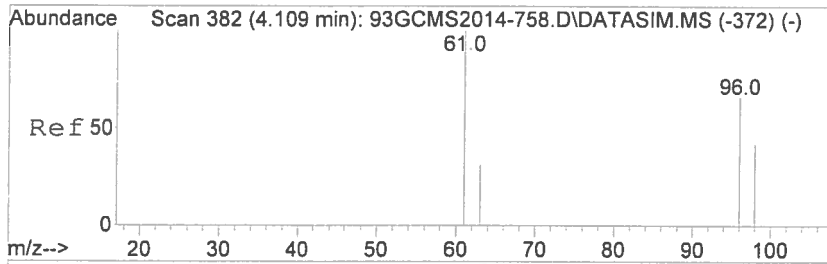
Tgt Ion	Ratio	Resp	Lower	Upper
61	100	87820		
96	58.2		46.7	70.1
63	31.5		25.3	37.9



#4
Methyl Tert Butyl Ether
Concen: 624.98 ppbv
RT: 4.040 min Scan# 371
Delta R.T. -0.000 min
Lab File: 93GCMS2014-762.D
Acq: 29 Sep 2014 18:47

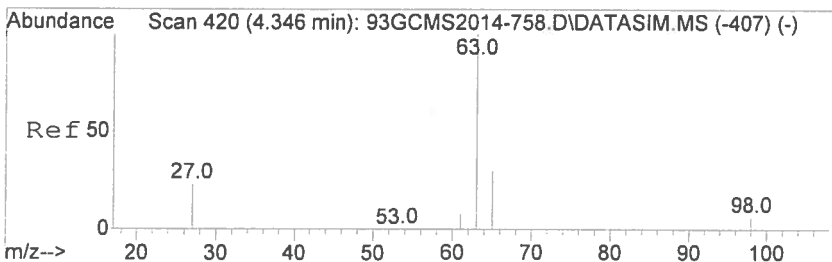
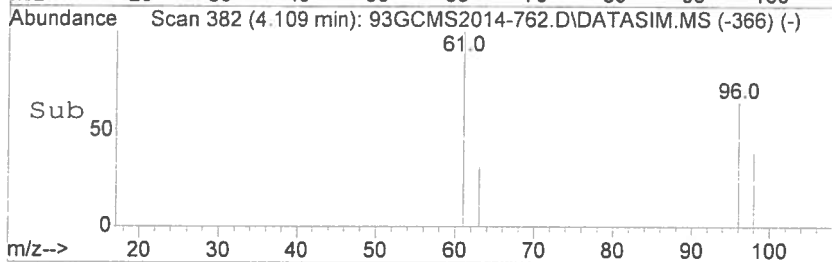
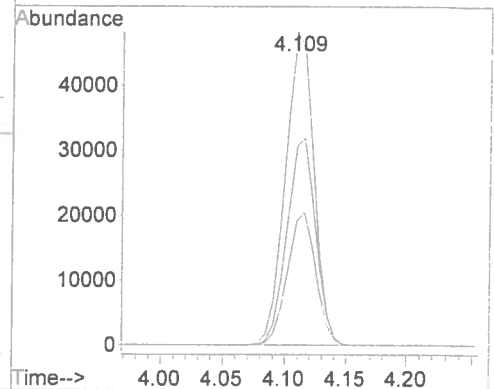
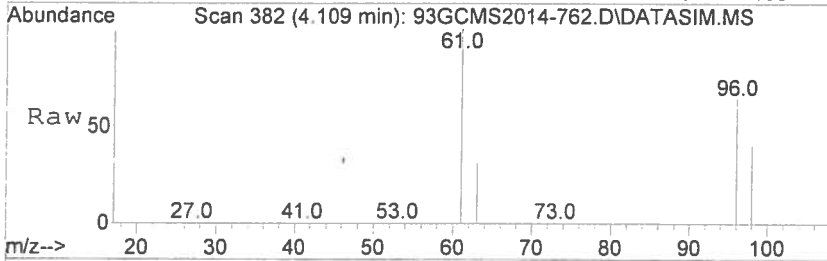
Tgt Ion	Ratio	Resp	Lower	Upper
73	100	123594		
53	1.3		1.0	1.6
41	26.0		20.2	30.2





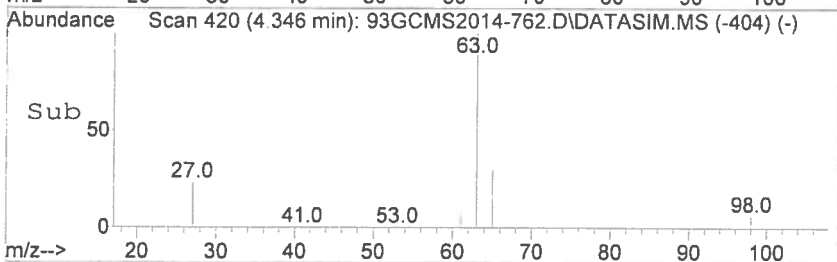
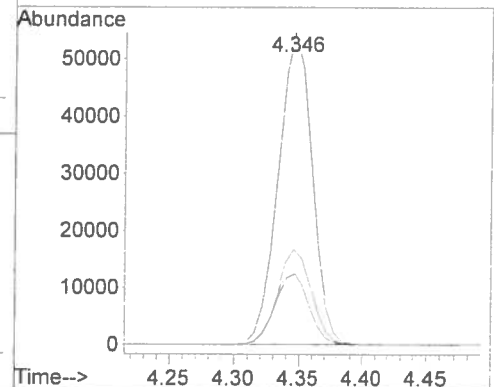
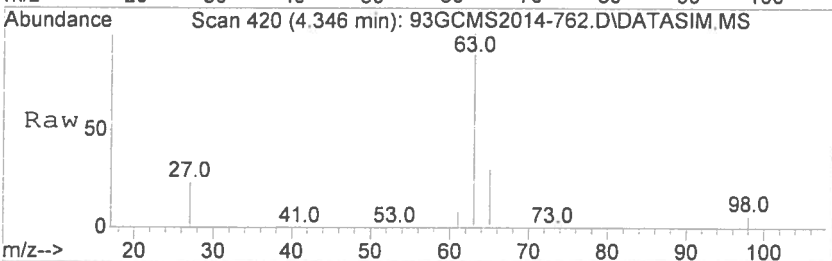
#5
trans-1,2-Dichloroethene
Concen: 515.47 ppbv
RT: 4.109 min Scan# 382
Delta R.T. -0.000 min
Lab File: 93GCMS2014-762.D
Acq: 29 Sep 2014 18:47

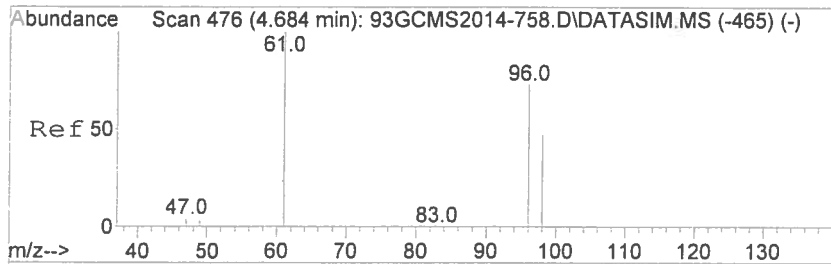
Tgt Ion	Ratio	Lower	Upper
61	100		
96	66.4	53.0	79.6
98	42.3	33.8	50.6



#6
1,1-Dichloroethane
Concen: 551.49 ppbv
RT: 4.346 min Scan# 420
Delta R.T. -0.000 min
Lab File: 93GCMS2014-762.D
Acq: 29 Sep 2014 18:47

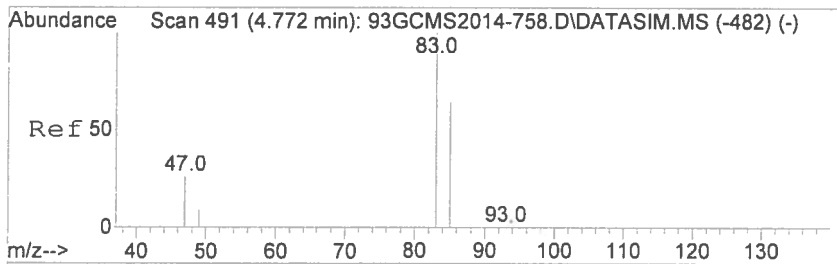
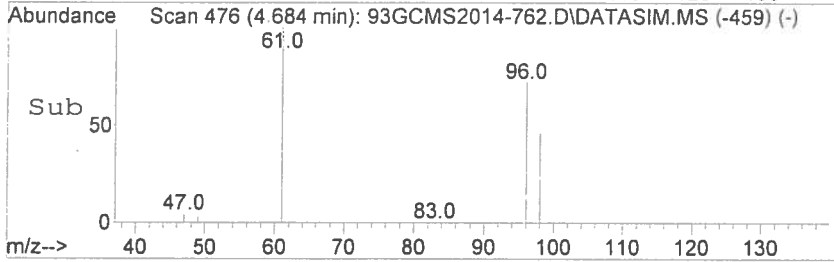
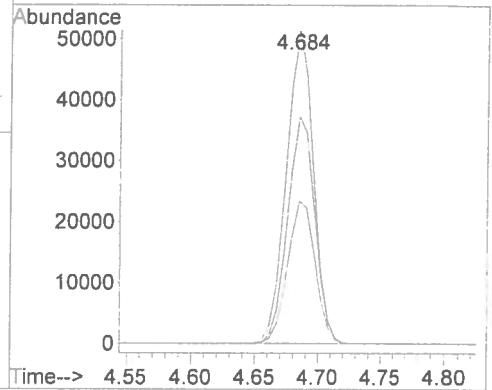
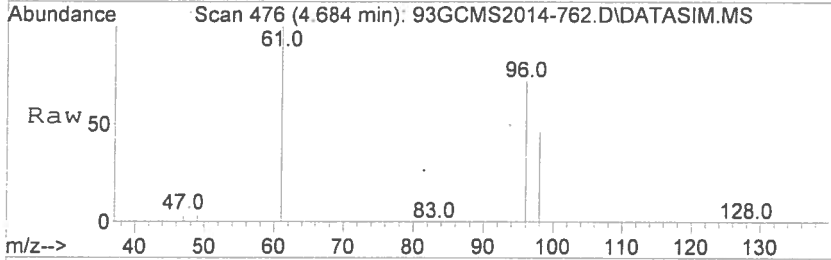
Tgt Ion	Ratio	Lower	Upper
63	100		
65	30.2	24.2	36.2
27	23.0	18.6	28.0





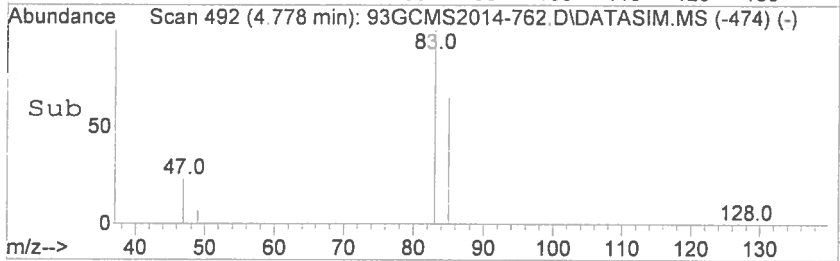
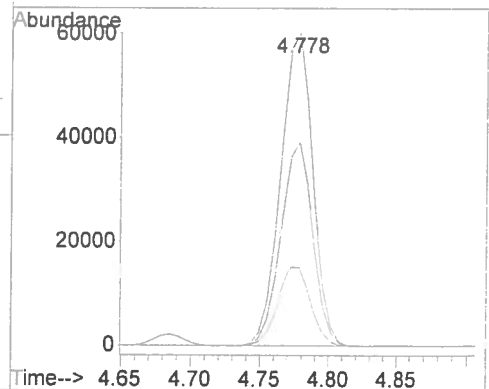
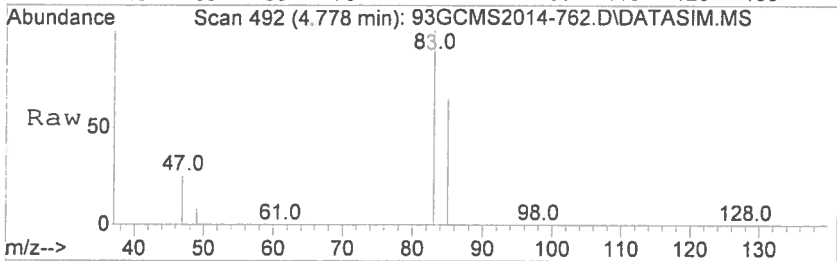
#7
 cis-1,2-Dichloroethene
 Concen: 548.74 ppbv
 RT: 4.684 min Scan# 476
 Delta R.T. 0.000 min
 Lab File: 93GCMS2014-762.D
 Acq: 29 Sep 2014 18:47

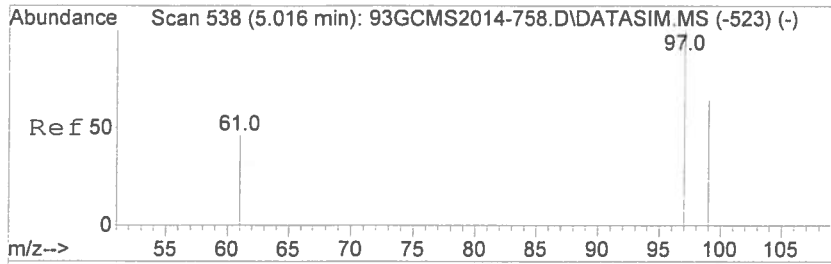
Tgt Ion	Ratio	Lower	Upper
61	100		
96	73.3	58.2	87.2
98	46.7	37.1	55.7



#8
 Chloroform
 Concen: 524.70 ppbv
 RT: 4.778 min Scan# 492
 Delta R.T. 0.006 min
 Lab File: 93GCMS2014-762.D
 Acq: 29 Sep 2014 18:47

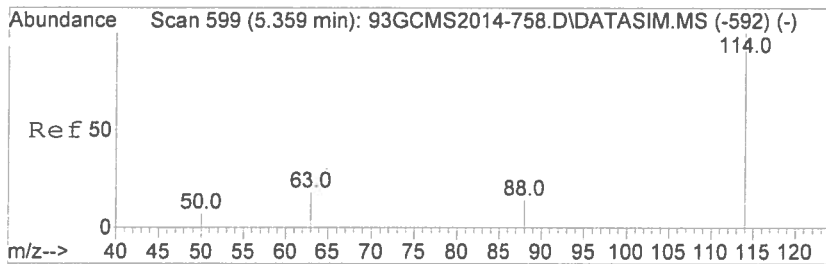
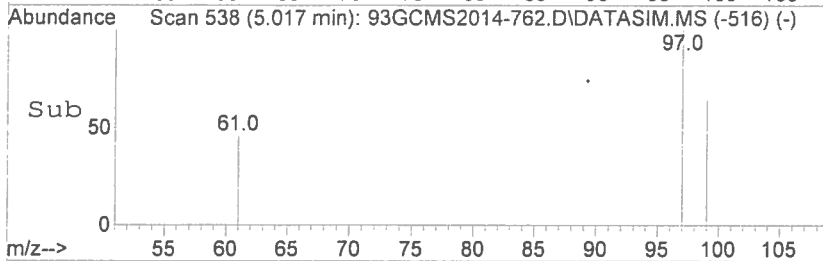
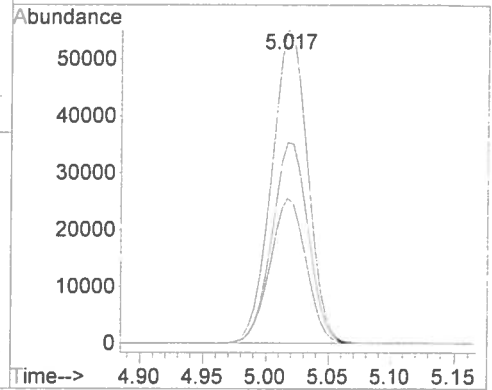
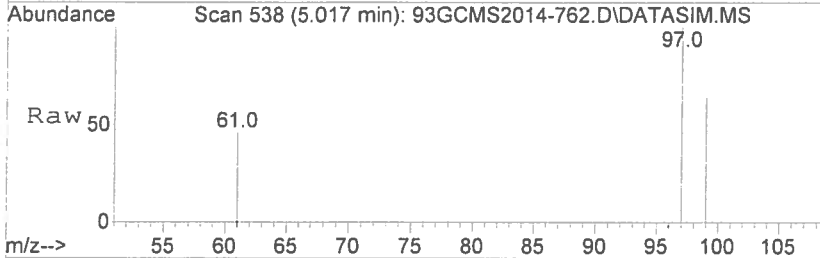
Tgt Ion	Ratio	Lower	Upper
83	100		
85	64.7	51.8	77.6
47	25.6	20.5	30.7





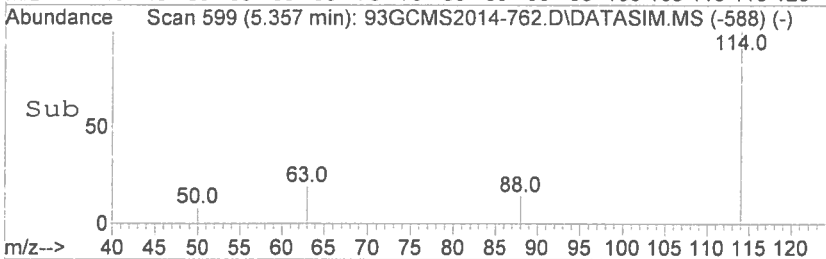
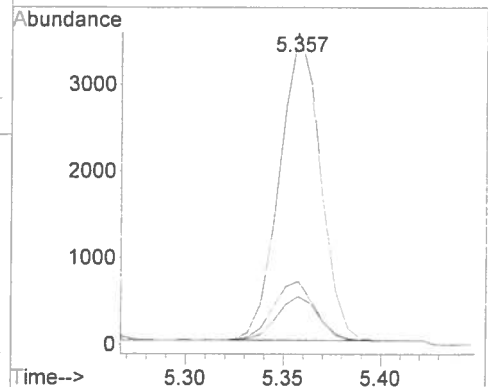
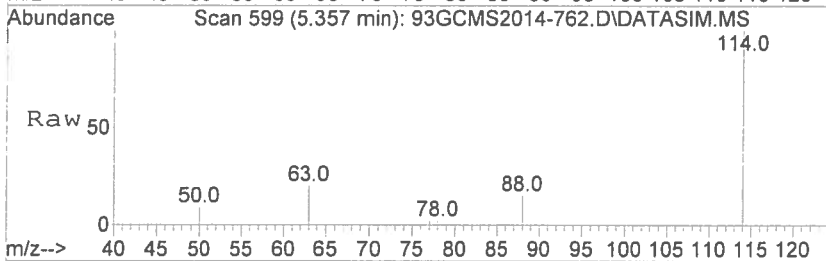
#9
1,1,1-Trichloroethane
Concen: 542.62 ppbv
RT: 5.017 min Scan# 538
Delta R.T. 0.000 min
Lab File: 93GCMS2014-762.D
Acq: 29 Sep 2014 18:47

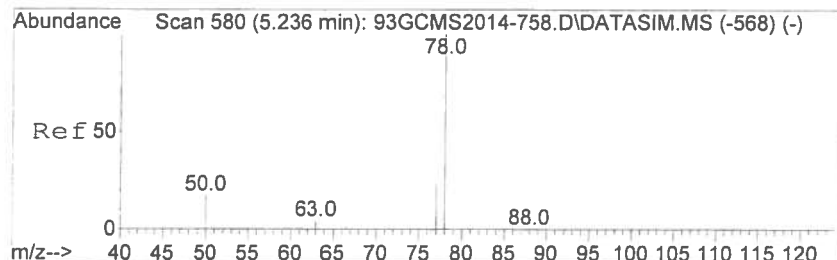
Tgt Ion	Ratio	Resp	Lower	Upper
97	100	110200		
99	64.4		51.4	77.2
61	46.3		36.6	54.8



#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.357 min Scan# 599
Delta R.T. -0.002 min
Lab File: 93GCMS2014-762.D
Acq: 29 Sep 2014 18:47

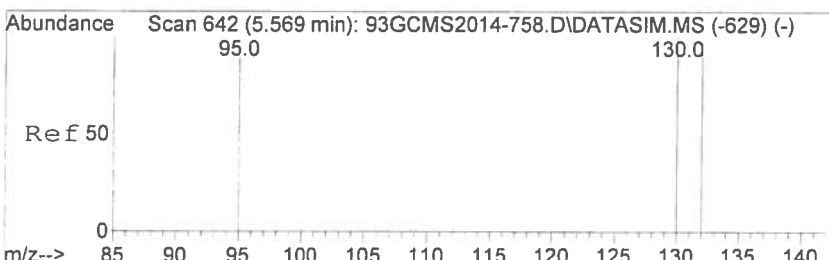
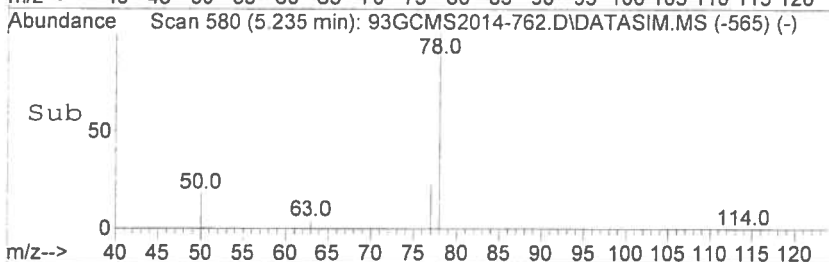
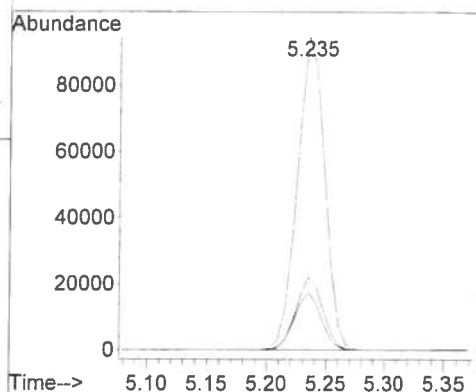
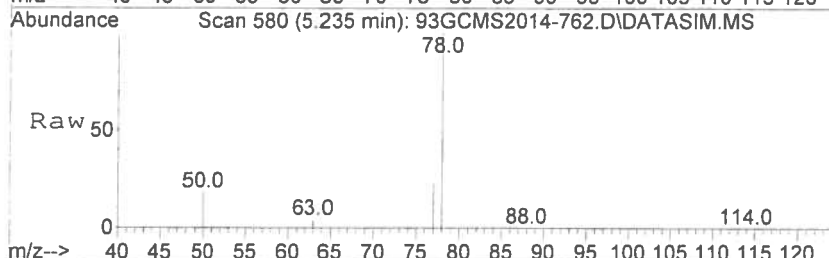
Tgt Ion	Ratio	Resp	Lower	Upper
114	100	5195		
63	19.6		15.7	23.5
88	14.7		11.8	17.6





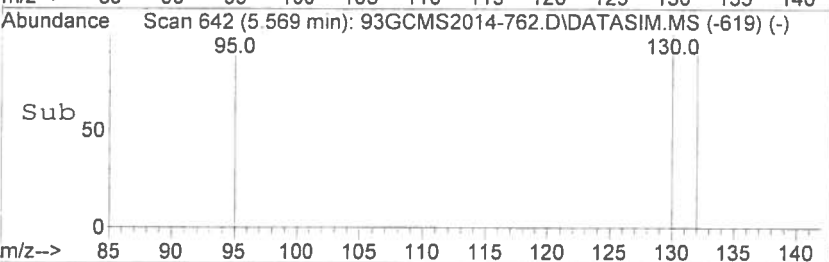
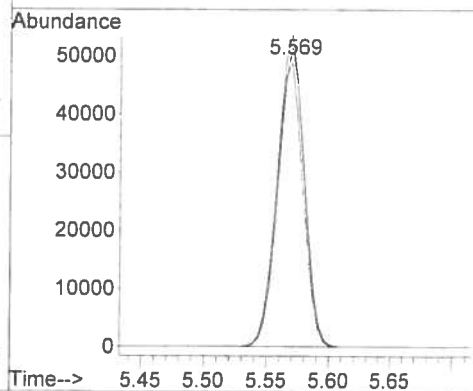
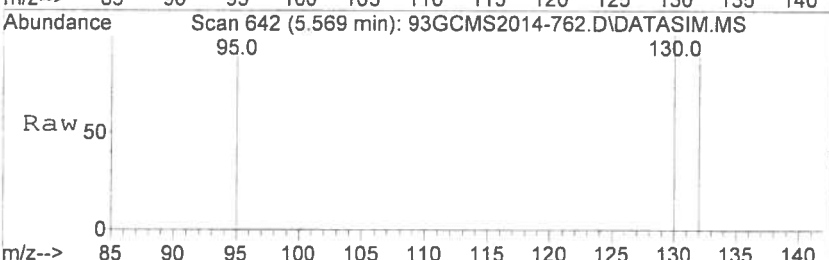
#11
Benzene
Concen: 515.23 ppbv
RT: 5.235 min Scan# 580
Delta R.T. -0.002 min
Lab File: 93GCMS2014-762.D
Acq: 29 Sep 2014 18:47

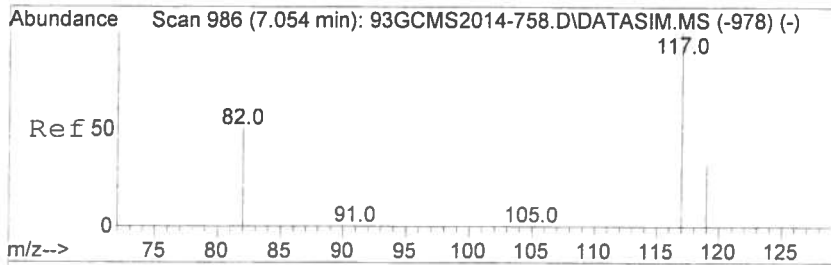
Tgt Ion	Ratio	Lower	Upper
78	100		
77	22.9	18.3	27.5
50	18.1	14.4	21.6



#12
Trichloroethene
Concen: 505.20 ppbv
RT: 5.569 min Scan# 642
Delta R.T. 0.000 min
Lab File: 93GCMS2014-762.D
Acq: 29 Sep 2014 18:47

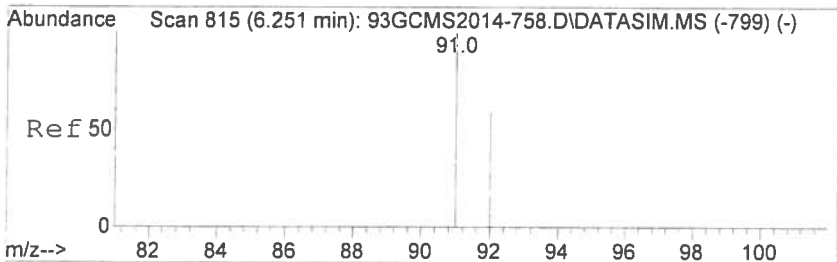
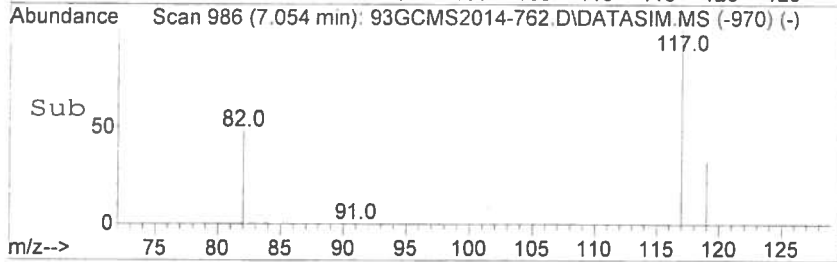
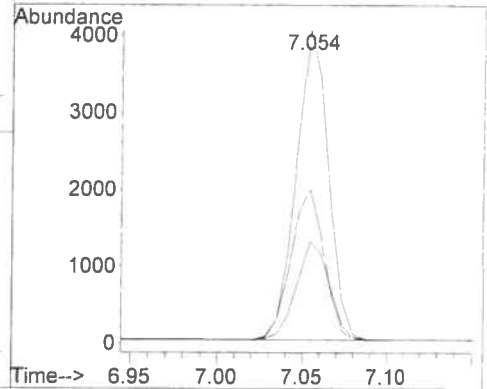
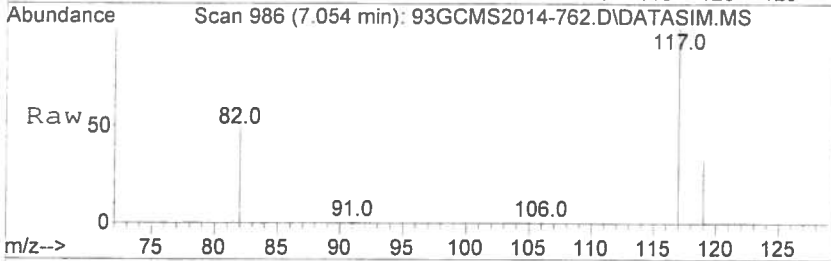
Tgt Ion	Ratio	Lower	Upper
130	100		
132	96.0	77.0	115.6
95	91.7	73.2	109.8





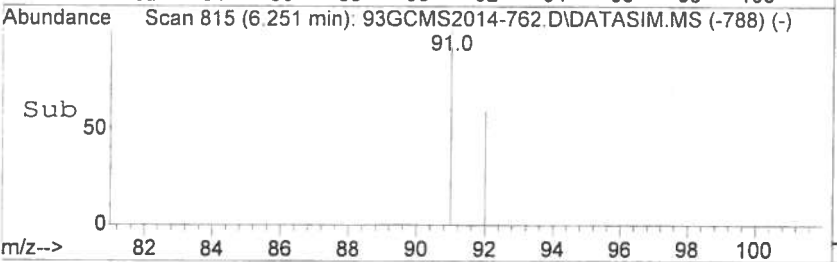
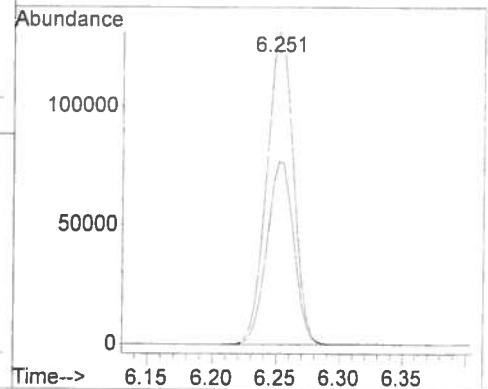
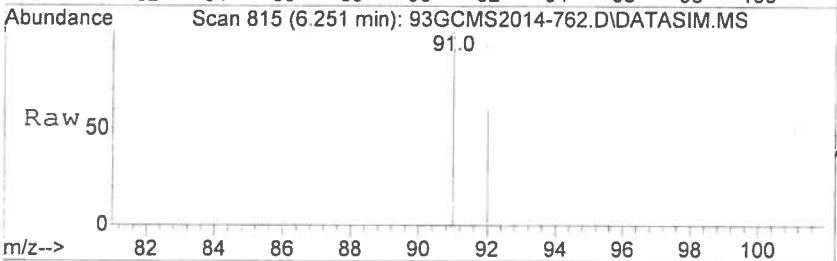
#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.054 min Scan# 986
Delta R.T. 0.000 min
Lab File: 93GCMS2014-762.D
Acq: 29 Sep 2014 18:47

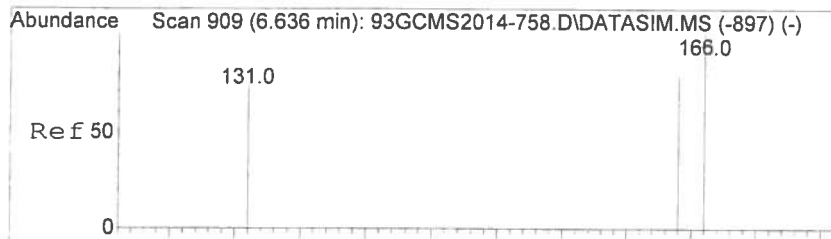
Tgt Ion	Ratio	Resp	Lower	Upper
117	100	5365		
82	49.6		39.5	59.3
119	32.2		25.8	38.6



#14
Toluene
Concen: 505.78 ppbv
RT: 6.251 min Scan# 815
Delta R.T. 0.000 min
Lab File: 93GCMS2014-762.D
Acq: 29 Sep 2014 18:47

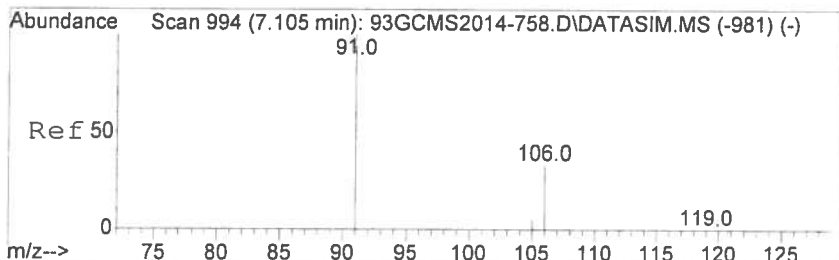
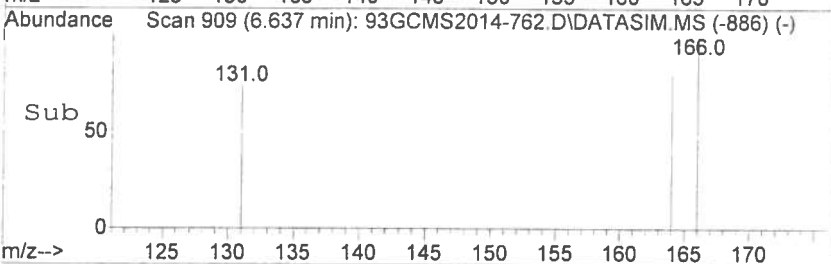
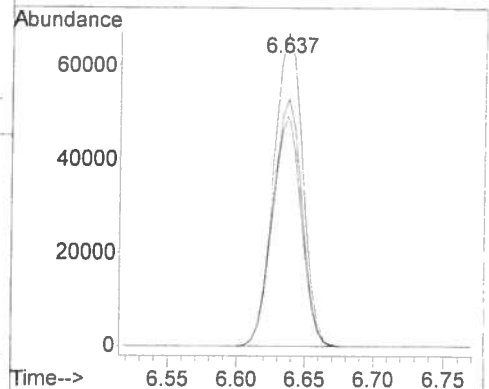
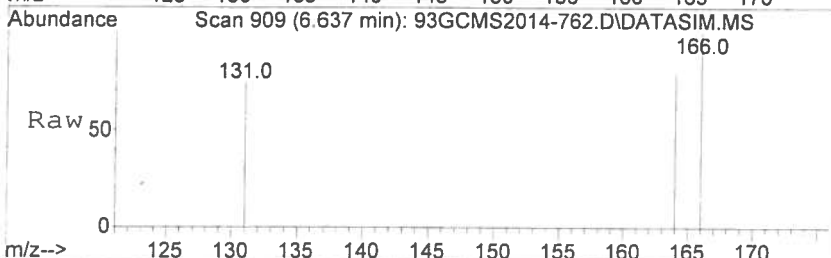
Tgt Ion	Ratio	Resp	Lower	Upper
91	100	189563		
92	59.3		47.4	71.2





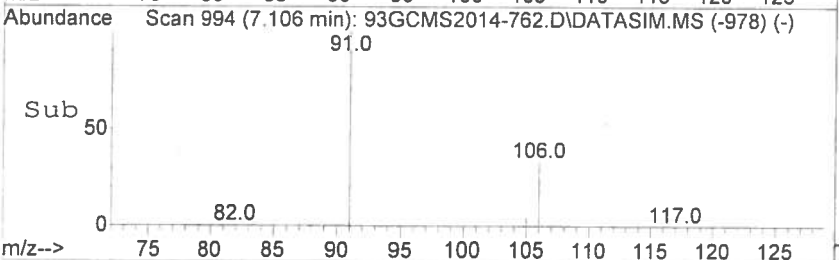
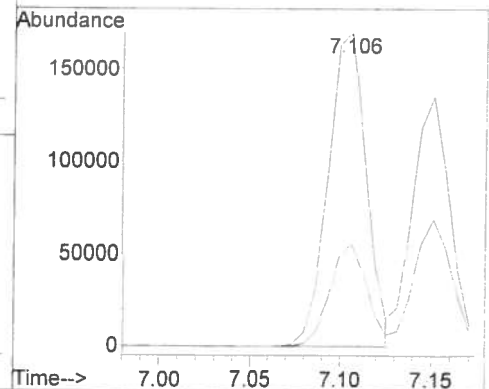
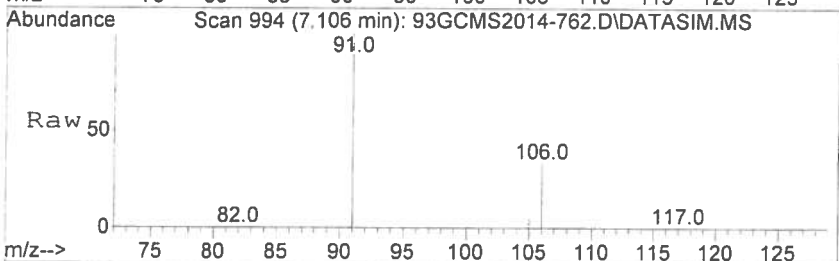
#15
Tetrachloroethene
Concen: 501.84 ppbv
RT: 6.637 min Scan# 909
Delta R.T. 0.000 min
Lab File: 93GCMS2014-762.D
Acq: 29 Sep 2014 18:47

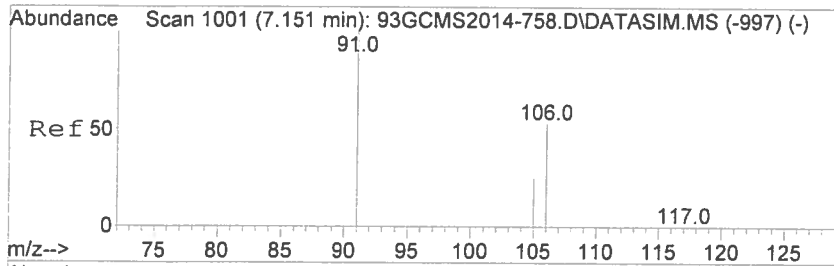
Tgt Ion	Ratio	Lower	Upper
166	100		
164	78.5	62.6	93.8
131	72.6	57.9	86.9



#16
Ethyl Benzene
Concen: 519.20 ppbv
RT: 7.106 min Scan# 994
Delta R.T. 0.000 min
Lab File: 93GCMS2014-762.D
Acq: 29 Sep 2014 18:47

Tgt Ion	Ratio	Lower	Upper
91	100		
106	32.6	26.4	39.6





#17

m,p-Xylene

Concen: 505.75 ppbv

RT: 7.151 min Scan# 1001

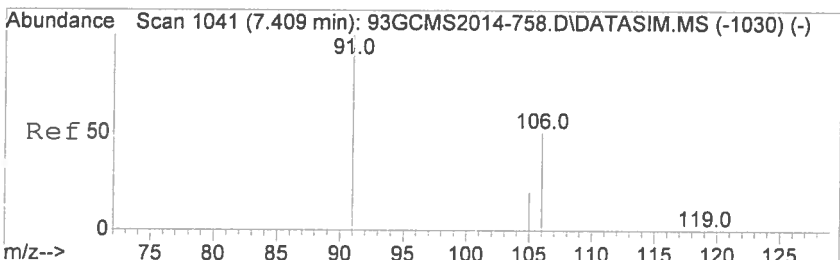
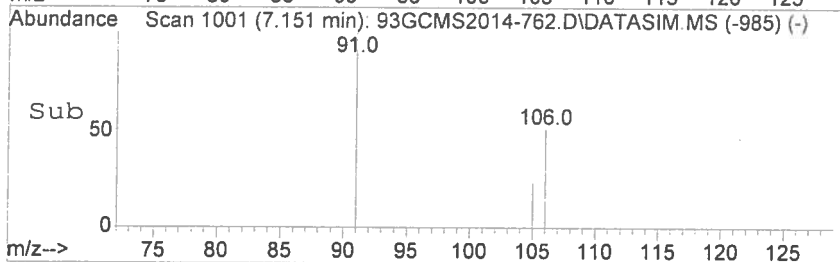
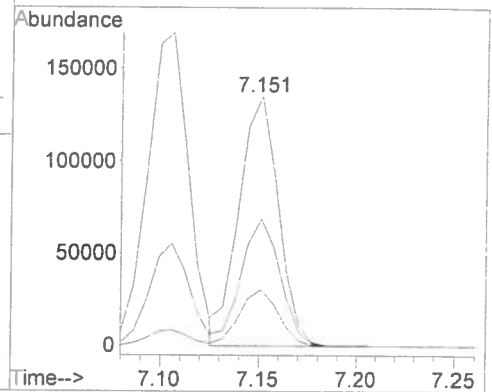
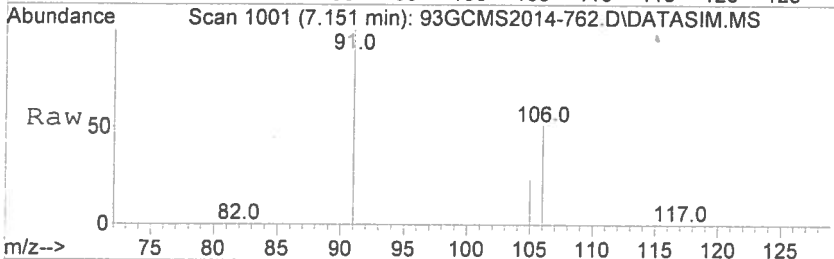
Delta R.T. 0.000 min

Lab File: 93GCMS2014-762.D

Acq: 29 Sep 2014 18:47

Tgt Ion: 91 Resp: 186967

Ion	Ratio	Lower	Upper
91	100		
106	50.9	41.2	61.8
105	22.7	18.4	27.6



#18

o-Xylene

Concen: 512.72 ppbv

RT: 7.409 min Scan# 1041

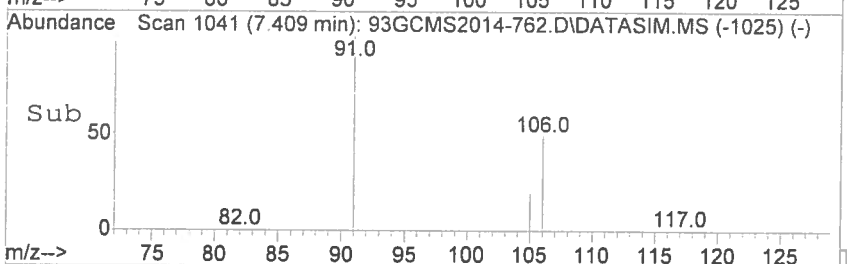
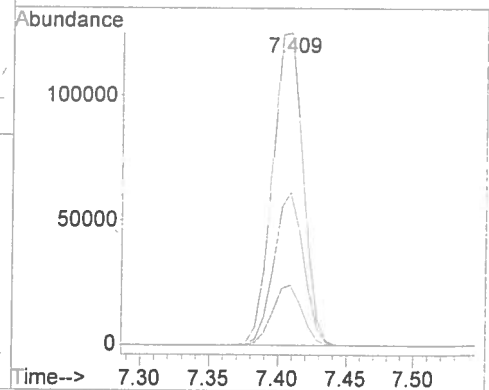
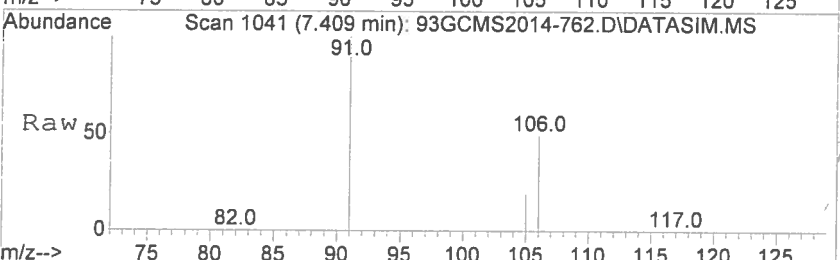
Delta R.T. 0.000 min

Lab File: 93GCMS2014-762.D

Acq: 29 Sep 2014 18:47

Tgt Ion: 91 Resp: 193131

Ion	Ratio	Lower	Upper
91	100		
106	47.8	38.3	57.5
105	19.0	15.3	22.9



Data File:	93GCMS2014-764.d			
Sample Name:	20140929-LCS			
Sample Volume (mL)	5			
Date Prepared:	29-Sep-2014			
Date Analyzed:	29-Sep-2014			
Compound	COA Concentrations CC# 99022 EXP. 03/14/2015 CC# 128284 EXP. 11/22/2014 (ppmv)	Calculated Concentrations 20140929-LCS (ppbv)	20140929-LCS 500ppbv LCS Results (ppbv)	Percent Recovery (70-130%)
Vinyl Chloride	20.7	517.50	542.63	105
1,1-Dichloroethene	20.5	512.50	556.12	109
Methyl Tert Butyl Ether	20.4	510.00	636.21	125
trans-1,2-Dichloroethene	20.0	500.00	534.80	107
1,1-Dichloroethane	21.0	525.00	563.72	107
cis-1,2-Dichloroethene	21.2	530.00	575.42	109
Chloroform	20.6	515.00	526.57	102
1,1,1-Trichloroethane	20.4	510.00	555.69	109
Benzene	21.1	527.50	542.20	103
Trichloroethene	20.4	510.00	533.28	105
Toluene	20.9	522.50	539.30	103
Tetrachloroethene	20.7	517.50	530.00	102
Ethyl Benzene	21.0	525.00	552.05	105
m&p-Xylene	20.8	520.00	548.76	106
o-Xylene	21.0	525.00	556.16	106

P 09/29/14

Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-764.D
 Acq On : 29 Sep 2014 19:12
 Operator : SJT
 Sample : 20140929-LCS \ 500ppbv LCS
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 19:18:46 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014
 QLast Update : Mon Sep 29 18:48:25 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.848	49	1834	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	5141	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5342	10.00	ppbv	0.00

System Monitoring Compounds

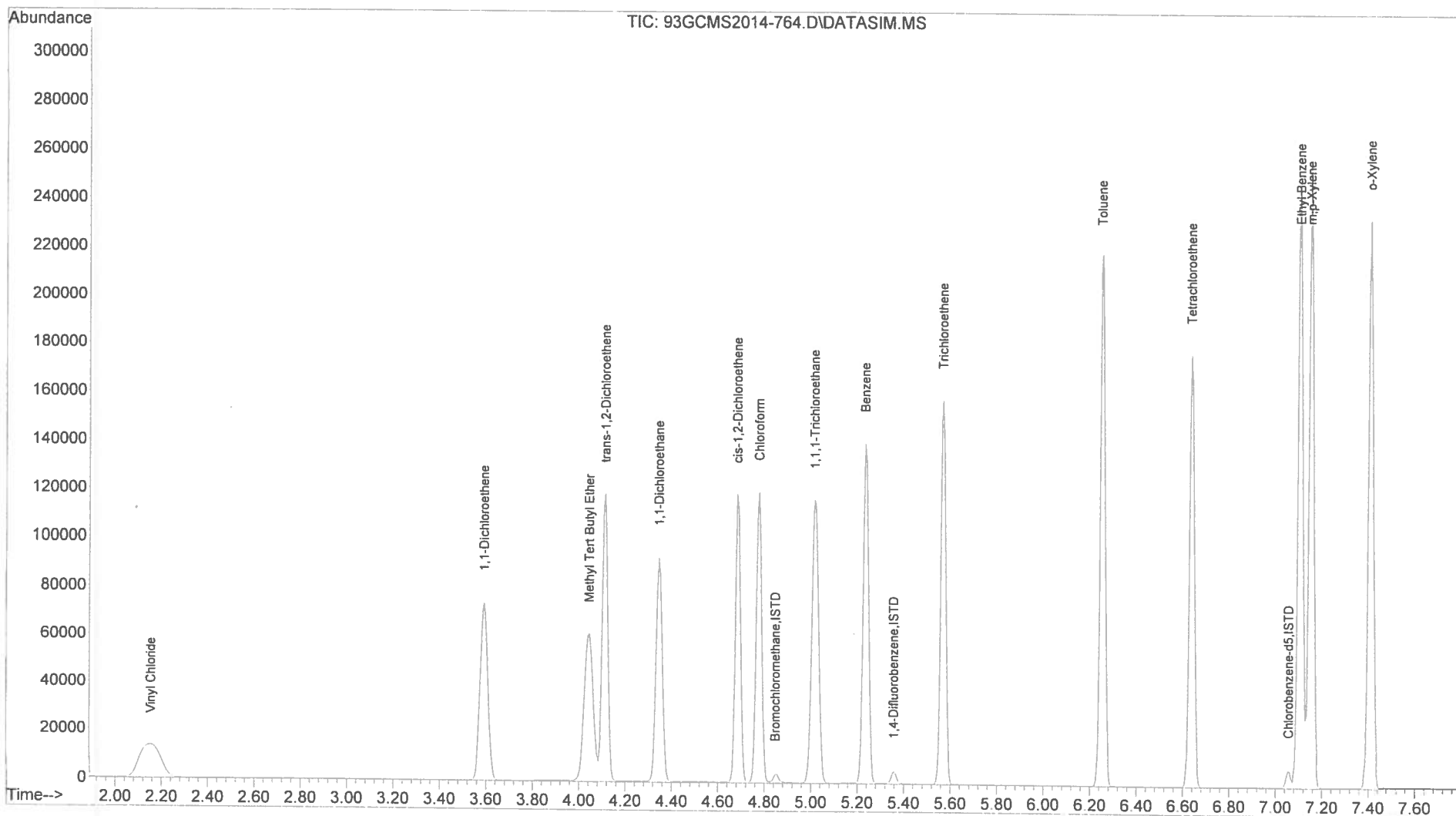
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Vinyl Chloride	2.156	62	50396	542.63	ppbv	98
3) 1,1-Dichloroethene	3.593	61	89553	556.12	ppbv	100
4) Methyl Tert Butyl Ether	4.047	73	125471	636.21	ppbv	99
5) trans-1,2-Dichloroethene	4.115	61	80440	534.80	ppbv	100
6) 1,1-Dichloroethane	4.346	63	102081	563.72	ppbv	100
7) cis-1,2-Dichloroethene	4.685	61	80312	575.42	ppbv	100
8) Chloroform	4.778	83	98119	526.57	ppbv	100
9) 1,1,1-Trichloroethane	5.017	97	112547	555.69	ppbv	100
11) Benzene	5.235	78	158277	542.20	ppbv	100
12) Trichloroethene	5.569	130	81645	533.28	ppbv	100
14) Toluene	6.251	91	201261	539.30	ppbv	100
15) Tetrachloroethene	6.637	166	104474	530.00	ppbv	100
16) Ethyl Benzene	7.106	91	260286	552.05	ppbv	99
17) m,p-Xylene	7.151	91	202000	548.76	ppbv	98
18) o-Xylene	7.409	91	208598	556.16	ppbv	100

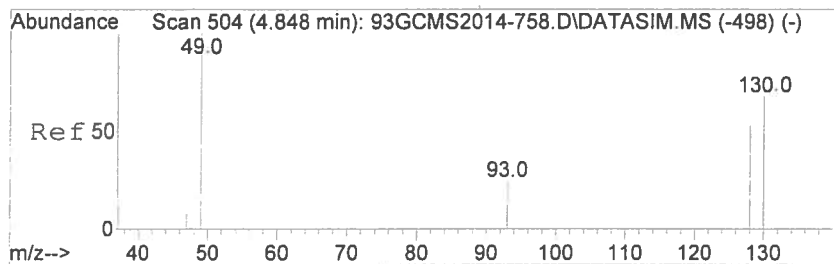
(#) = qualifier out of range (m) = manual integration (+) = signals summed

09/29/11

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-764.D
 Acq On : 29 Sep 2014 19:12
 Operator : SJT
 Sample : 20140929-LCS \ 500ppbv LCS
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

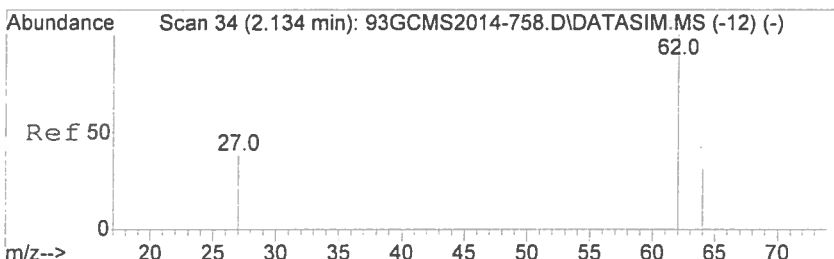
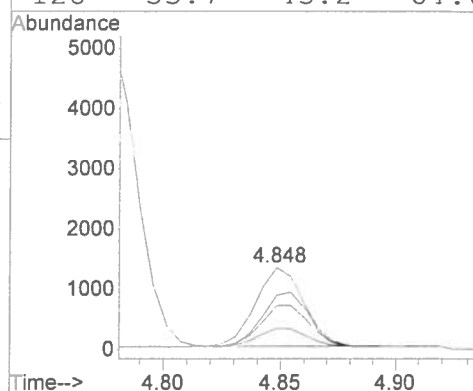
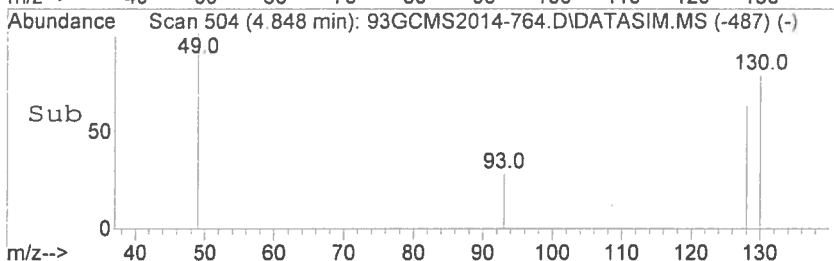
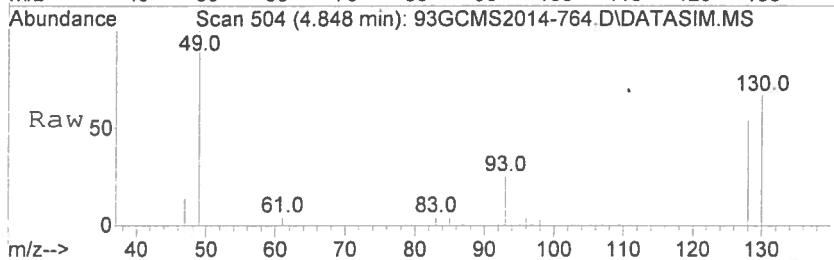
Quant Time: Sep 29 19:18:46 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014
 QLast Update : Mon Sep 29 18:48:25 2014
 Response via : Initial Calibration





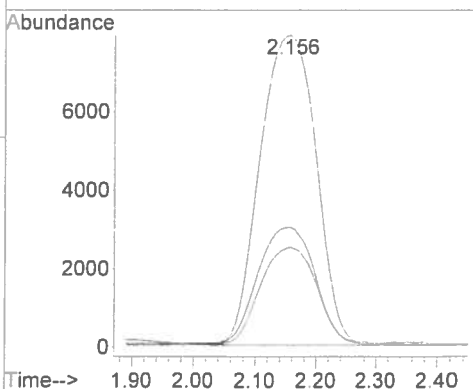
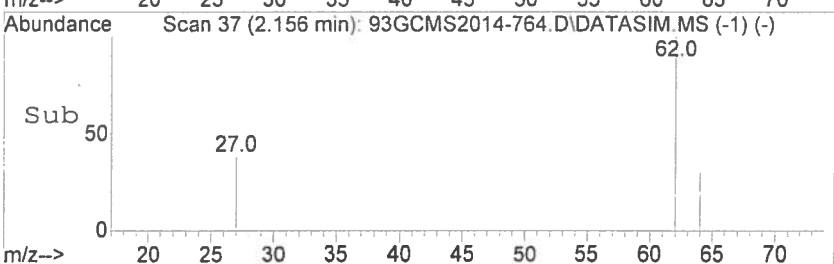
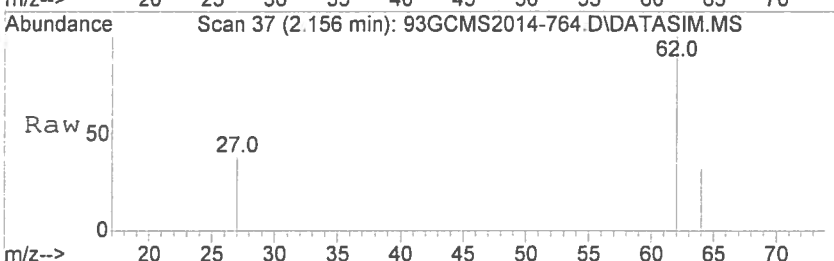
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. 0.000 min
Lab File: 93GCMS2014-764.D
Acq: 29 Sep 2014 19:12

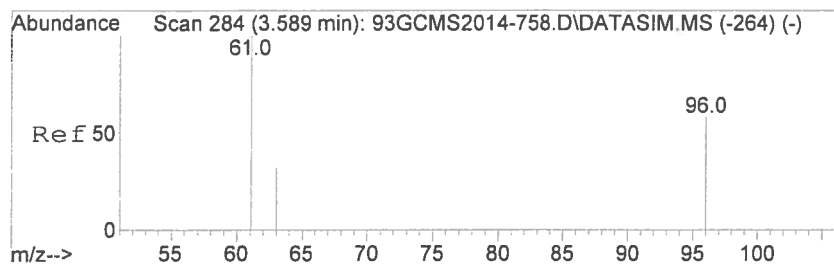
Tgt Ion: 49 Resp: 1834
Ion Ratio Lower Upper
49 100
130 66.6 54.4 81.6
93 25.4 21.1 31.7
128 53.7 43.2 64.8



#2
Vinyl Chloride
Concen: 542.63 ppbv
RT: 2.156 min Scan# 37
Delta R.T. 0.022 min
Lab File: 93GCMS2014-764.D
Acq: 29 Sep 2014 19:12

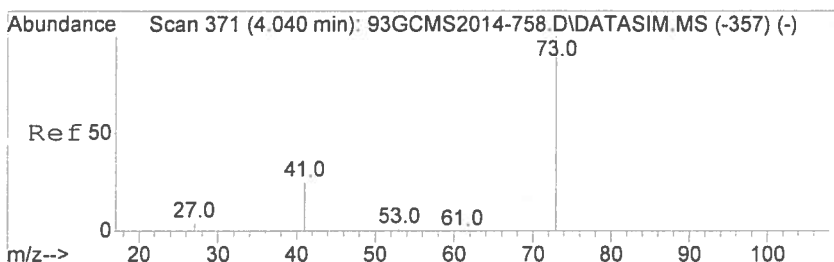
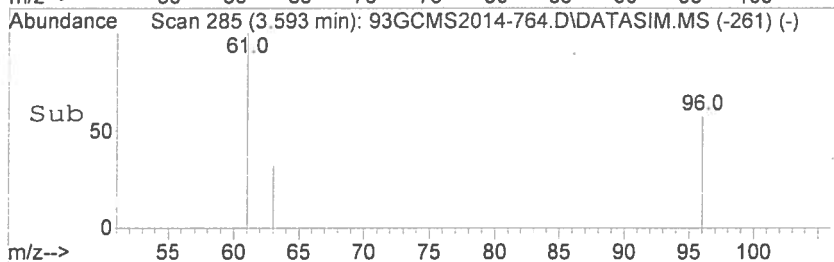
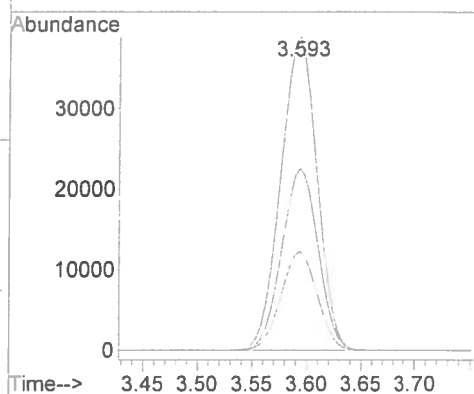
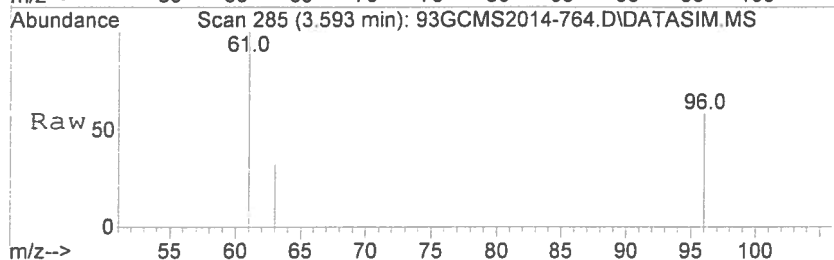
Tgt Ion: 62 Resp: 50396
Ion Ratio Lower Upper
62 100
64 31.1 25.2 37.8
27 38.3 31.8 47.6





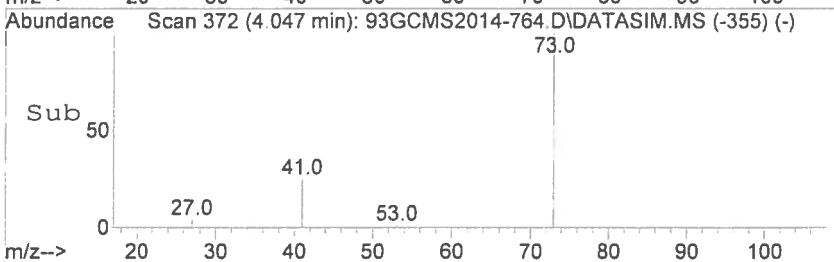
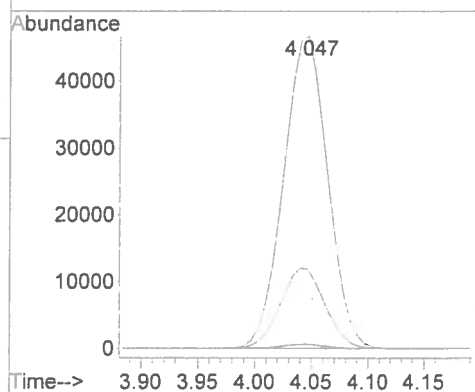
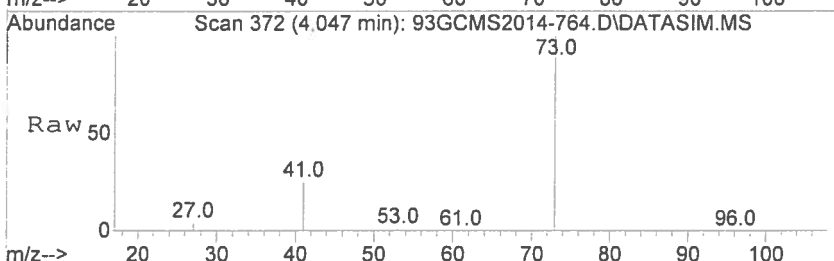
#3
1,1-Dichloroethene
Concen: 556.12 ppbv
RT: 3.593 min Scan# 285
Delta R.T. 0.004 min
Lab File: 93GCMS2014-764.D
Acq: 29 Sep 2014 19:12

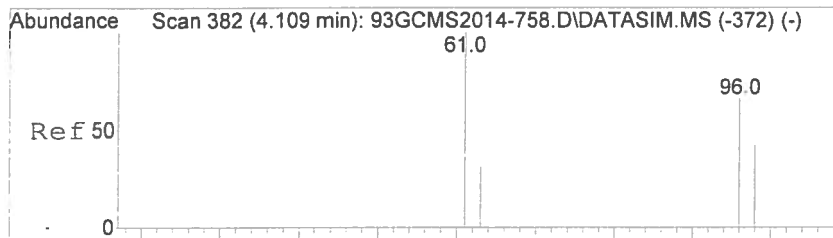
Tgt Ion	Ratio	Lower	Upper
61	100		
96	58.2	46.7	70.1
63	31.5	25.3	37.9



#4
Methyl Tert Butyl Ether
Concen: 636.21 ppbv
RT: 4.047 min Scan# 372
Delta R.T. 0.006 min
Lab File: 93GCMS2014-764.D
Acq: 29 Sep 2014 19:12

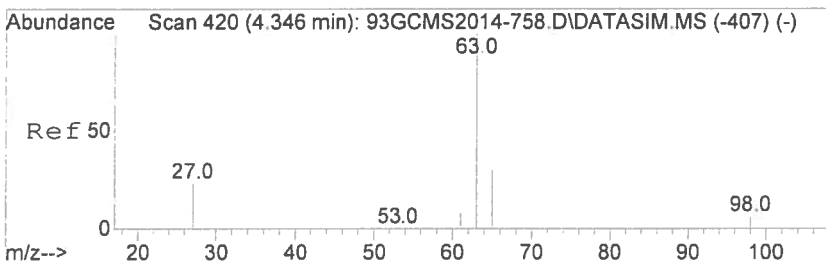
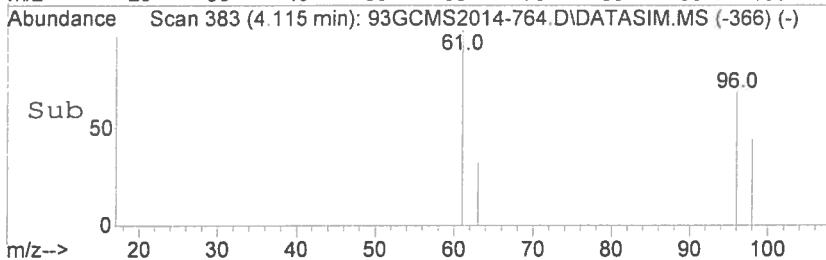
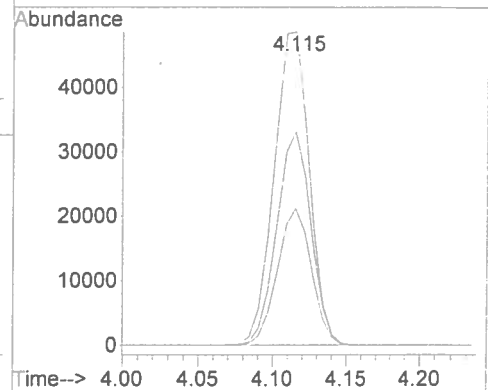
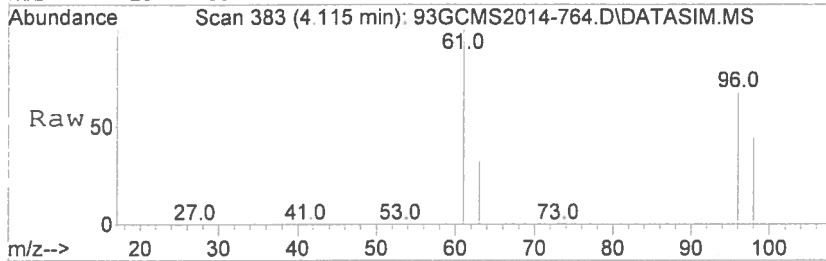
Tgt Ion	Ratio	Lower	Upper
73	100		
53	1.3	1.0	1.6
41	25.9	20.2	30.2





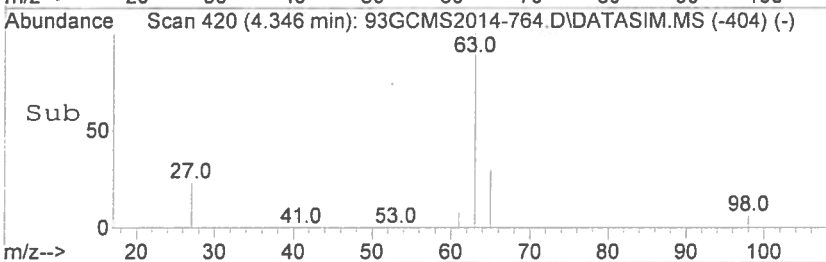
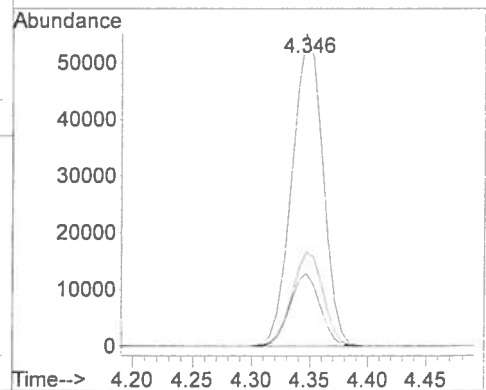
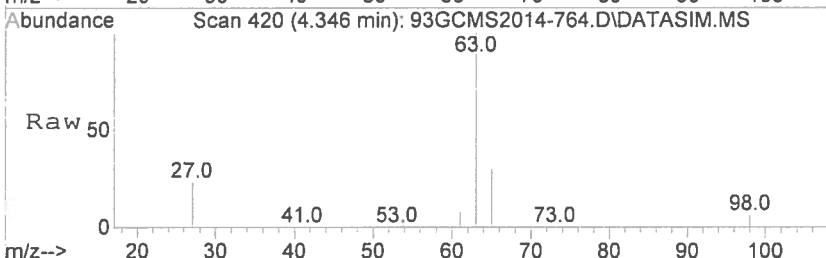
#5
 trans-1,2-Dichloroethene
 Concen: 534.80 ppbv
 RT: 4.115 min Scan# 383
 Delta R.T. 0.006 min
 Lab File: 93GCMS2014-764.D
 Acq: 29 Sep 2014 19:12

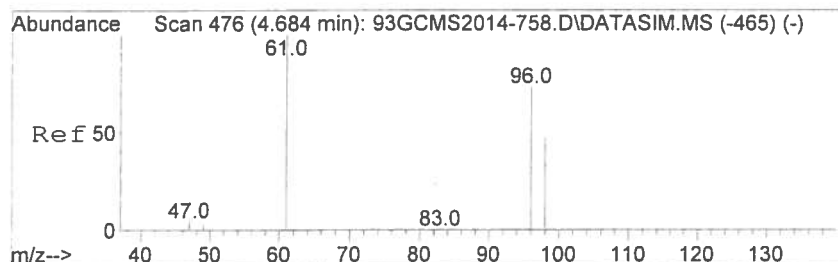
Tgt Ion	Ratio	Lower	Upper
61	100		
96	66.2	53.0	79.6
98	42.2	33.8	50.6



#6
 1,1-Dichloroethane
 Concen: 563.72 ppbv
 RT: 4.346 min Scan# 420
 Delta R.T. -0.000 min
 Lab File: 93GCMS2014-764.D
 Acq: 29 Sep 2014 19:12

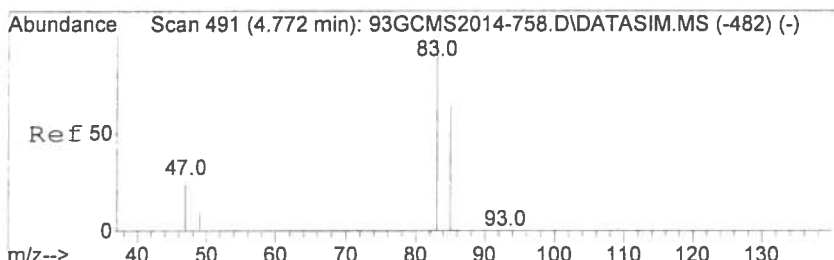
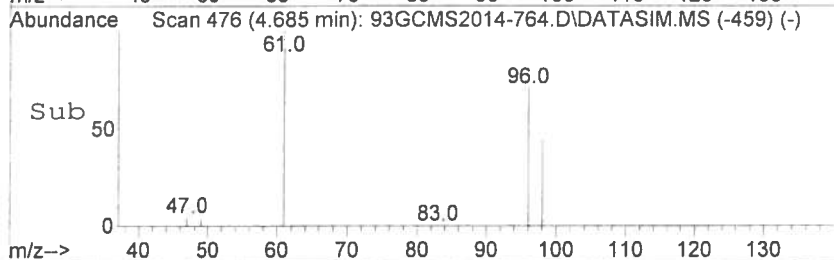
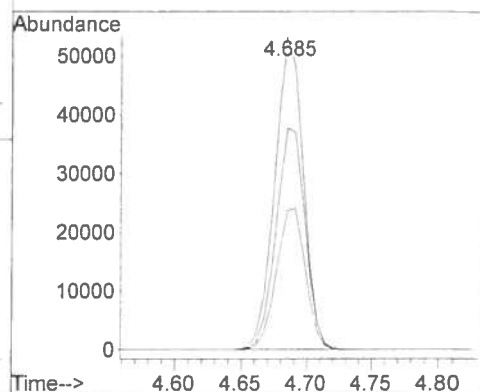
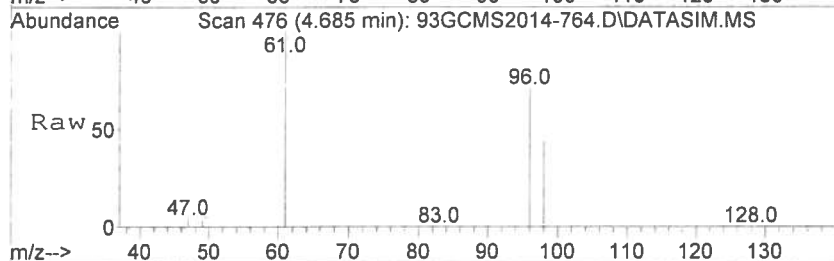
Tgt Ion	Ratio	Lower	Upper
63	100		
65	30.3	24.2	36.2
27	23.2	18.6	28.0





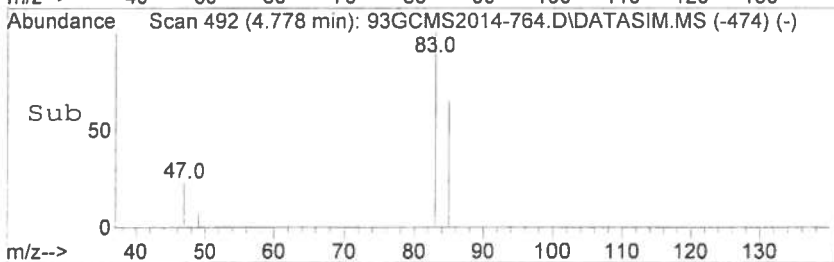
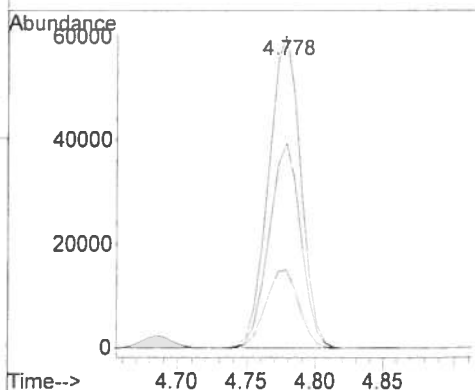
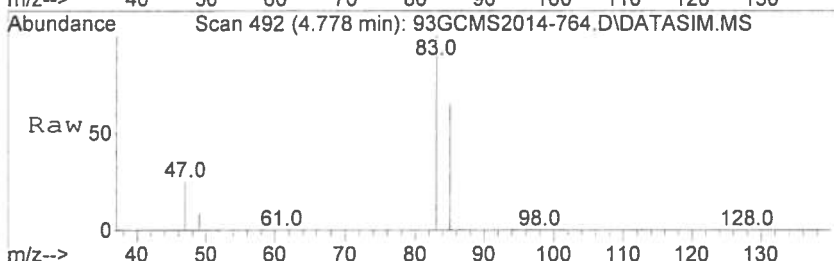
#7
 cis-1,2-Dichloroethene
 Concen: 575.42 ppbv
 RT: 4.685 min Scan# 476
 Delta R.T. 0.000 min
 Lab File: 93GCMS2014-764.D
 Acq: 29 Sep 2014 19:12

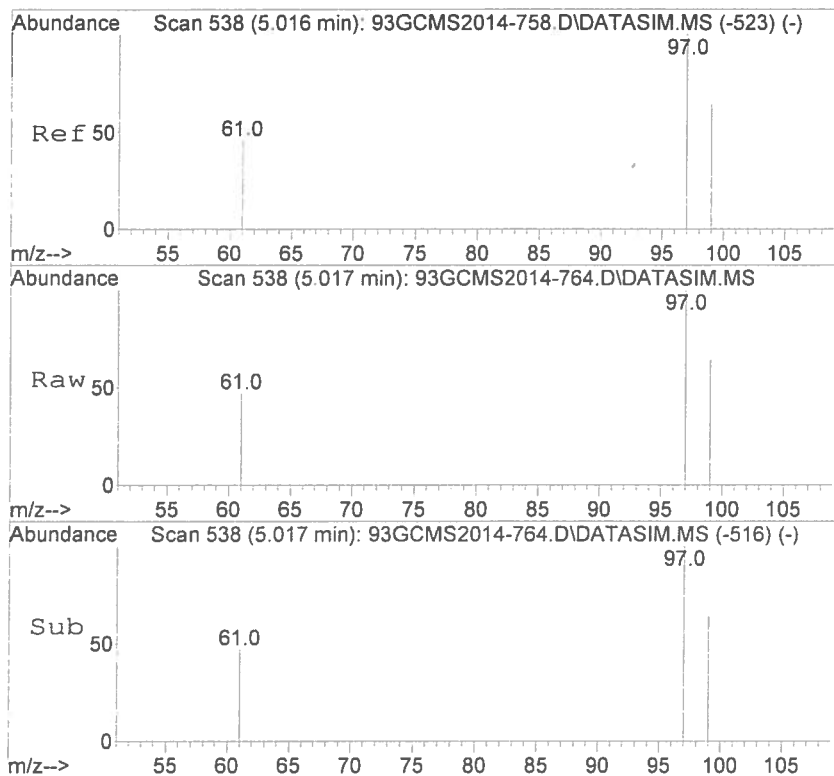
Tgt Ion	Ratio	Lower	Upper
61	100		
96	72.8	58.2	87.2
98	46.5	37.1	55.7



#8
 Chloroform
 Concen: 526.57 ppbv
 RT: 4.778 min Scan# 492
 Delta R.T. 0.006 min
 Lab File: 93GCMS2014-764.D
 Acq: 29 Sep 2014 19:12

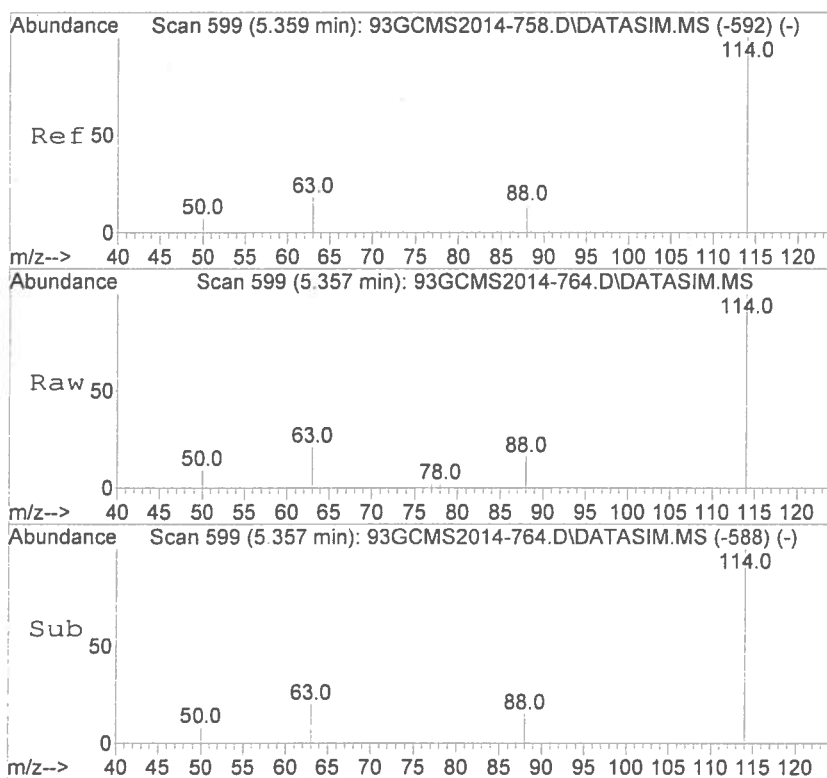
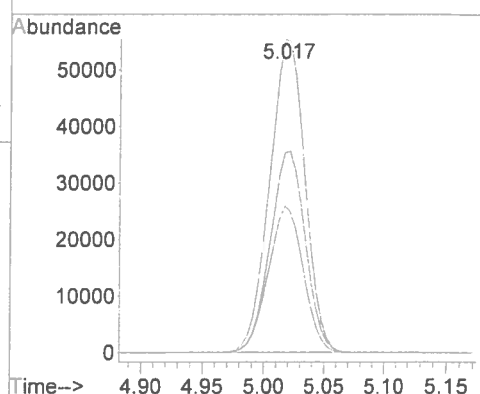
Tgt Ion	Ratio	Lower	Upper
83	100		
85	64.8	51.8	77.6
47	25.5	20.5	30.7





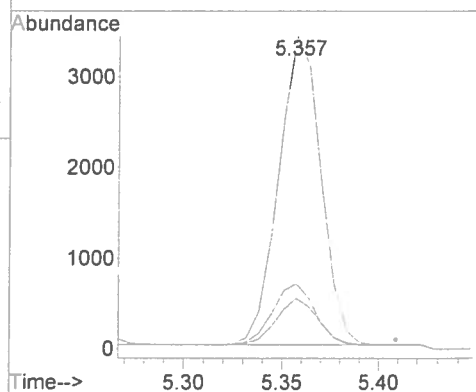
#9
 1,1,1-Trichloroethane
 Concen: 555.69 ppbv
 RT: 5.017 min Scan# 538
 Delta R.T. 0.000 min
 Lab File: 93GCMS2014-764.D
 Acq: 29 Sep 2014 19:12

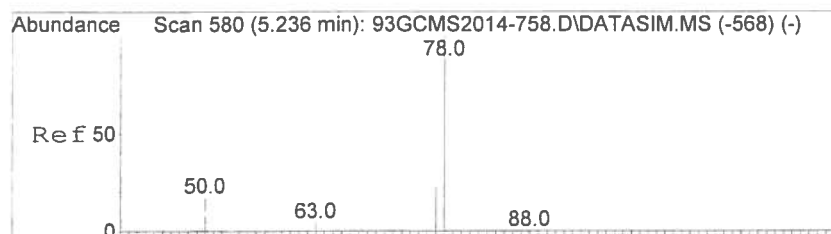
Tgt Ion	Ratio	Lower	Upper
97	100		
99	64.3	51.4	77.2
61	46.3	36.6	54.8



#10
 1,4-Difluorobenzene
 Concen: 10.00 ppbv
 RT: 5.357 min Scan# 599
 Delta R.T. -0.002 min
 Lab File: 93GCMS2014-764.D
 Acq: 29 Sep 2014 19:12

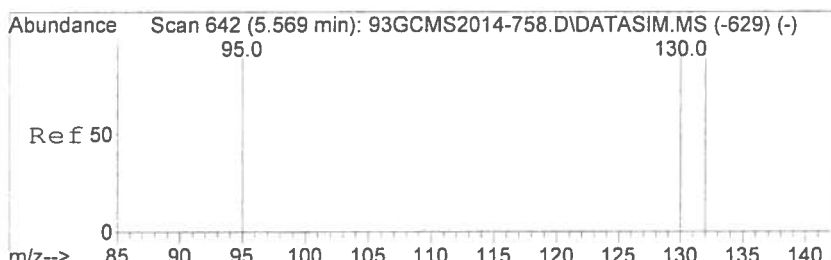
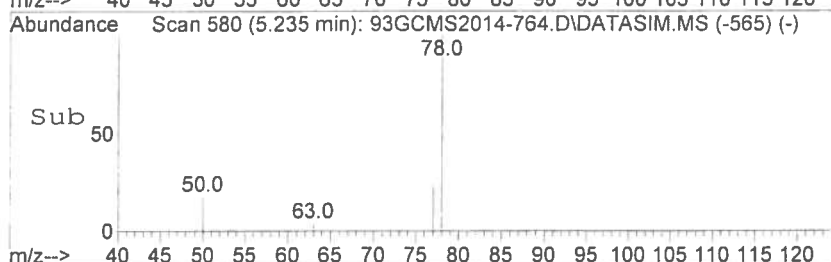
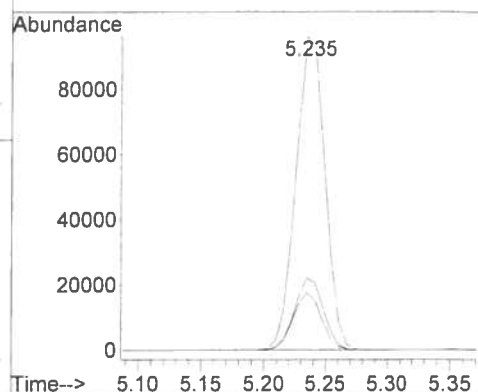
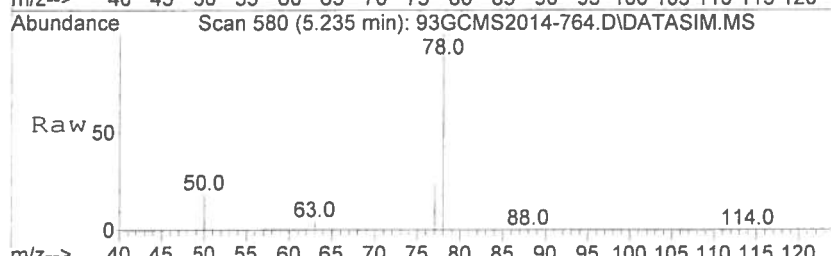
Tgt Ion	Ratio	Lower	Upper
114	100		
63	19.5	15.7	23.5
88	14.7	11.8	17.6





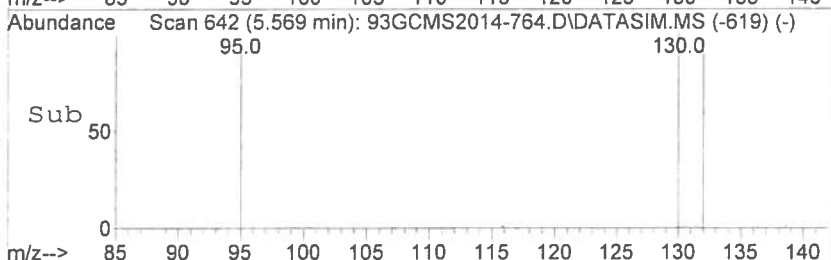
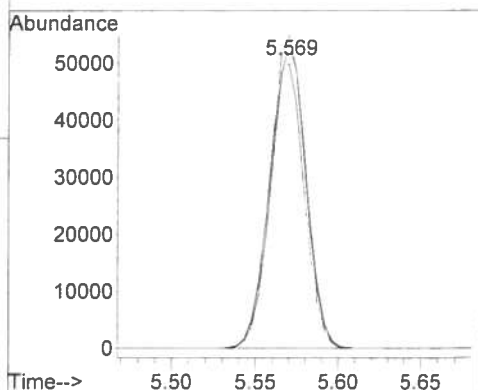
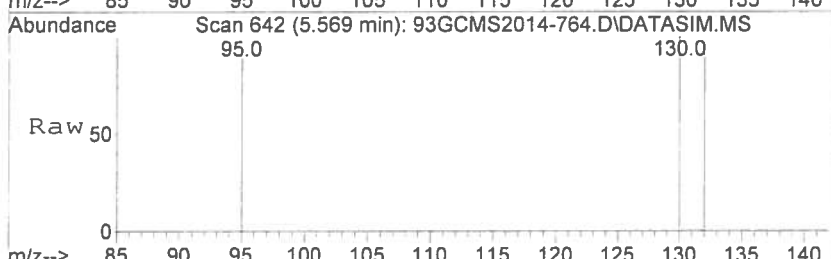
#11
Benzene
Concen: 542.20 ppbv
RT: 5.235 min Scan# 580
Delta R.T. -0.002 min
Lab File: 93GCMS2014-764.D
Acq: 29 Sep 2014 19:12

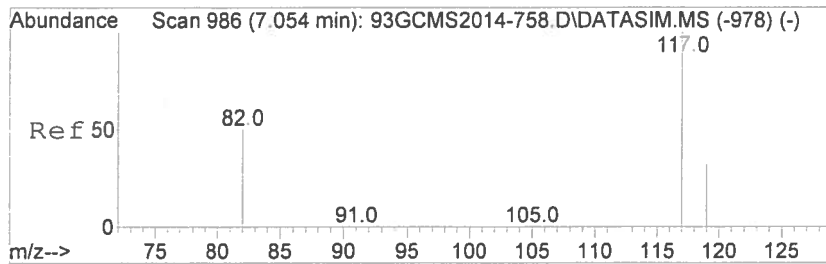
Tgt Ion	Ratio	Lower	Upper
78	100		
77	22.8	18.3	27.5
50	17.9	14.4	21.6



#12
Trichloroethene
Concen: 533.28 ppbv
RT: 5.569 min Scan# 642
Delta R.T. 0.000 min
Lab File: 93GCMS2014-764.D
Acq: 29 Sep 2014 19:12

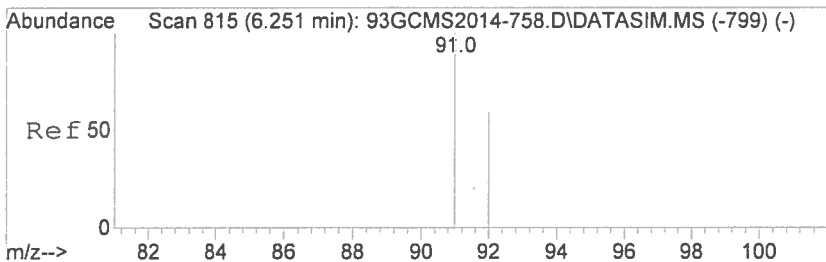
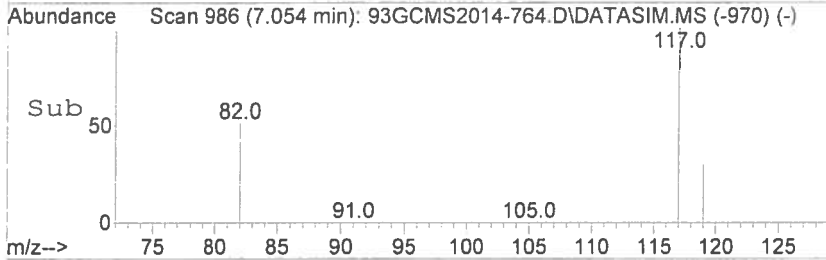
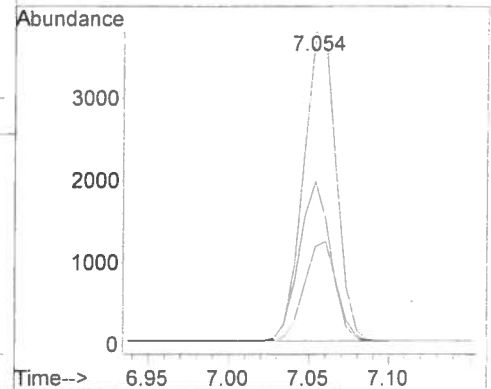
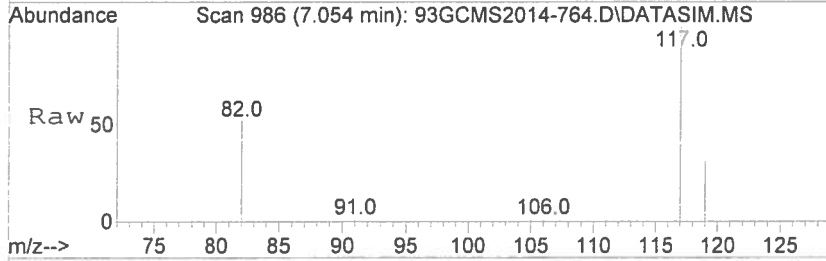
Tgt Ion	Ratio	Lower	Upper
130	100		
132	96.5	77.0	115.6
95	91.4	73.2	109.8





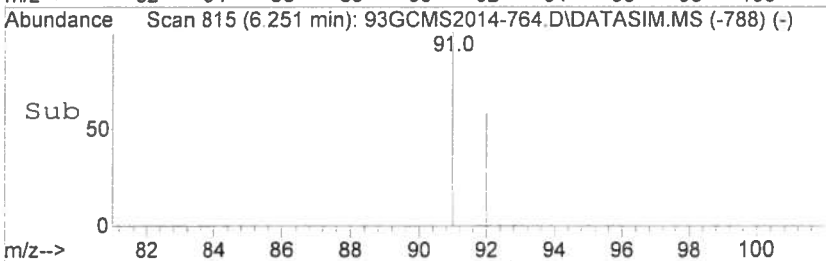
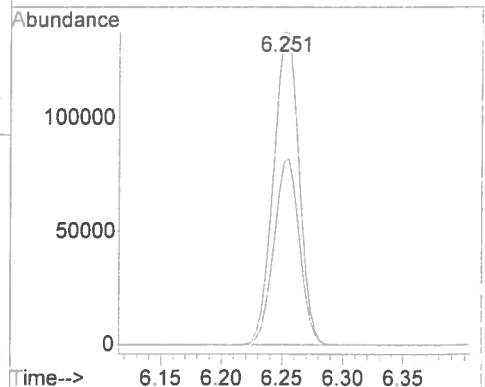
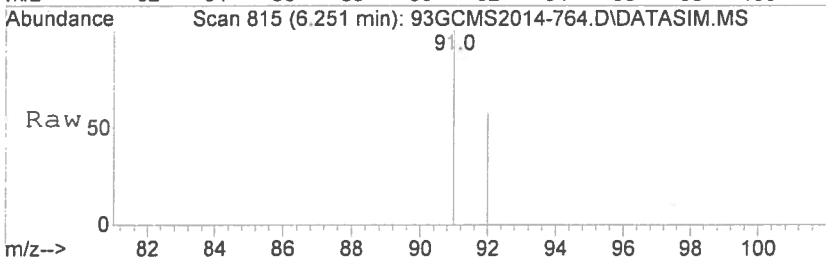
#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.054 min Scan# 986
Delta R.T. 0.000 min
Lab File: 93GCMS2014-764.D
Acq: 29 Sep 2014 19:12

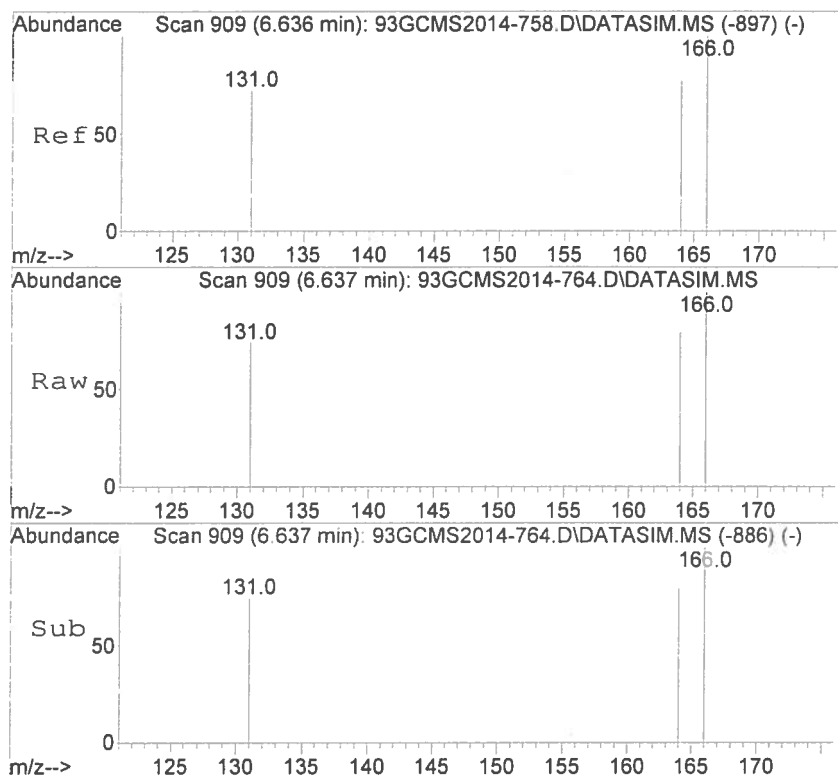
Tgt Ion	Ratio	Lower	Upper
117	100		
82	49.4	39.5	59.3
119	32.0	25.8	38.6



#14
Toluene
Concen: 539.30 ppbv
RT: 6.251 min Scan# 815
Delta R.T. 0.000 min
Lab File: 93GCMS2014-764.D
Acq: 29 Sep 2014 19:12

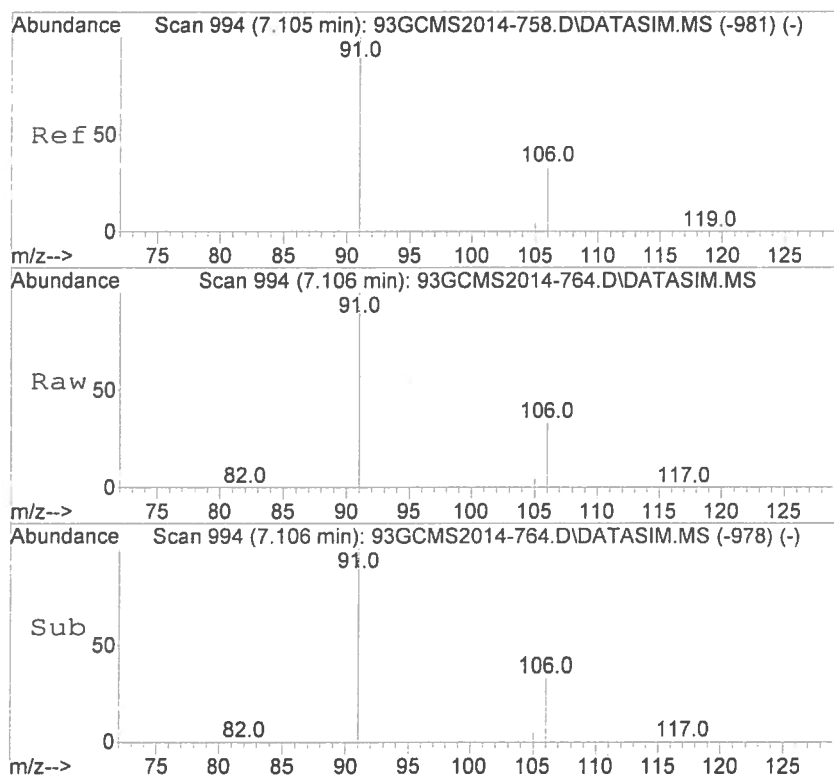
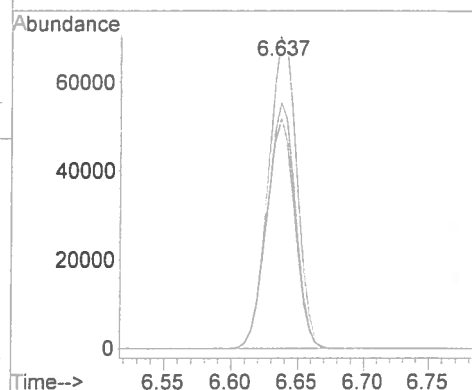
Tgt Ion	Ratio	Lower	Upper
91	100		
92	59.3	47.4	71.2





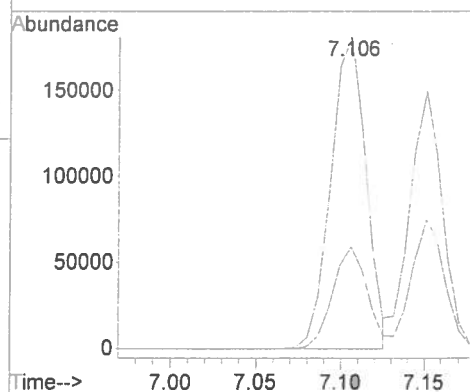
#15
Tetrachloroethene
Concen: 530.00 ppbv
RT: 6.637 min Scan# 909
Delta R.T. 0.000 min
Lab File: 93GCMS2014-764.D
Acq: 29 Sep 2014 19:12

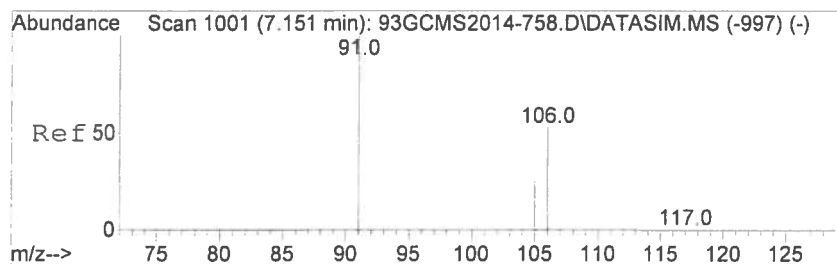
Tgt Ion	Ratio	Resp	Lower	Upper
166	100	104474		
164	78.3	62.6	93.8	
131	72.6	57.9	86.9	



#16
Ethyl Benzene
Concen: 552.05 ppbv
RT: 7.106 min Scan# 994
Delta R.T. 0.000 min
Lab File: 93GCMS2014-764.D
Acq: 29 Sep 2014 19:12

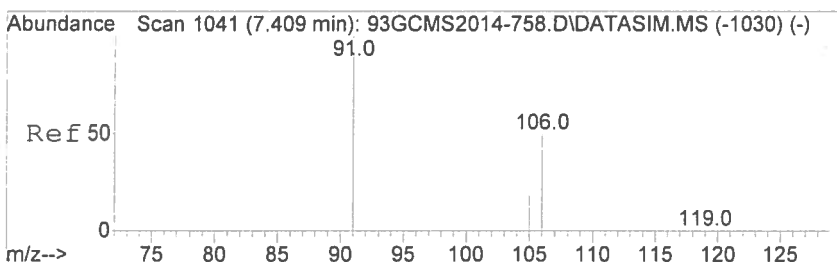
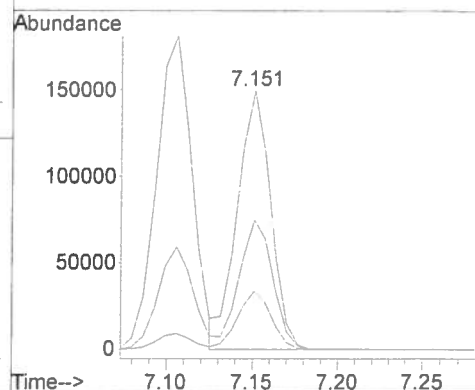
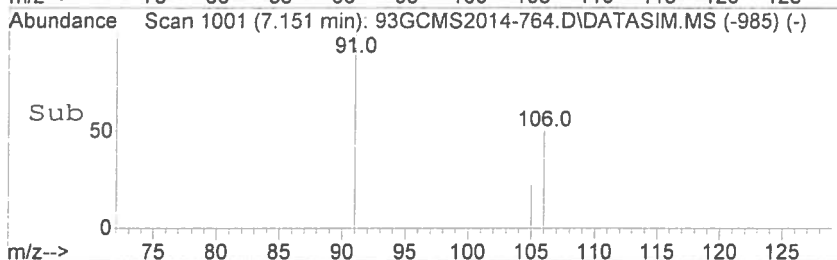
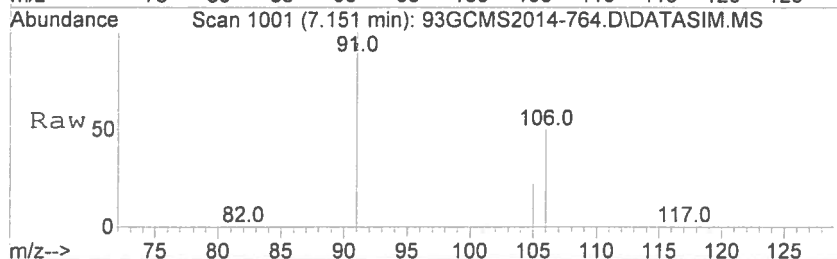
Tgt Ion	Ratio	Resp	Lower	Upper
91	100	260286		
106	32.6	26.4	39.6	





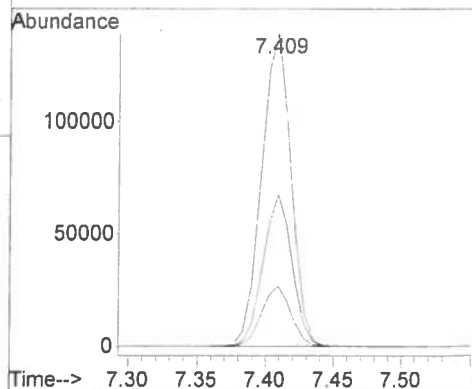
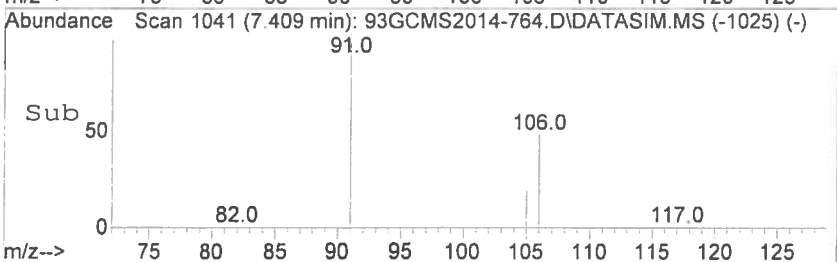
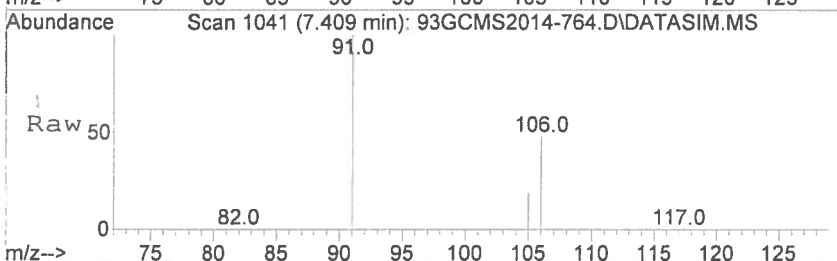
#17
m,p-Xylene
Concen: 548.76 ppbv
RT: 7.151 min Scan# 1001
Delta R.T. 0.000 min
Lab File: 93GCMS2014-764.D
Acq: 29 Sep 2014 19:12

Tgt Ion	Ratio	Lower	Upper
91	100		
106	49.9	41.2	61.8
105	22.5	18.4	27.6



#18
o-Xylene
Concen: 556.16 ppbv
RT: 7.409 min Scan# 1041
Delta R.T. 0.000 min
Lab File: 93GCMS2014-764.D
Acq: 29 Sep 2014 19:12

Tgt Ion	Ratio	Lower	Upper
91	100		
106	47.9	38.3	57.5
105	19.1	15.3	22.9



Data File:	93GCMS2014-778.d			
Sample Name:	20140929-LCS			
Sample Volume (mL)	5			
Date Prepared:	29-Sep-2014			
Date Analyzed:	29-Sep-2014			
Compound	COA Concentrations CC# 99022 EXP. 03/14/2015 CC# 128284 EXP. 11/22/2014 (ppmv)	Calculated Concentrations 20140929-LCS (ppbv)	20140929-LCS 500ppbv LCS Results (ppbv)	Percent Recovery (70-130%)
Vinyl Chloride	20.7	517.50	531.04	103
1,1-Dichloroethene	20.5	512.50	544.64	106
Methyl Tert Butyl Ether	20.4	510.00	629.62	123
trans-1,2-Dichloroethene	20.0	500.00	518.67	104
1,1-Dichloroethane	21.0	525.00	551.10	105
cis-1,2-Dichloroethene	21.2	530.00	555.71	105
Chloroform	20.6	515.00	513.40	100
1,1,1-Trichloroethane	20.4	510.00	547.55	107
Benzene	21.1	527.50	525.87	100
Trichloroethene	20.4	510.00	513.85	101
Toluene	20.9	522.50	525.45	101
Tetrachloroethene	20.7	517.50	519.34	100
Ethyl Benzene	21.0	525.00	540.35	103
m&p-Xylene	20.8	520.00	527.57	101
o-Xylene	21.0	525.00	532.07	101

R 09/29/14

Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-778.D
 Acq On : 29 Sep 2014 22:11
 Operator : SJT
 Sample : 20140929-LCS \ 500ppbv LCS
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 22:18:05 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014

QLast Update : Mon Sep 29 18:48:25 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.848	49	1841	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	5155	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5285	10.00	ppbv	0.00

System Monitoring Compounds

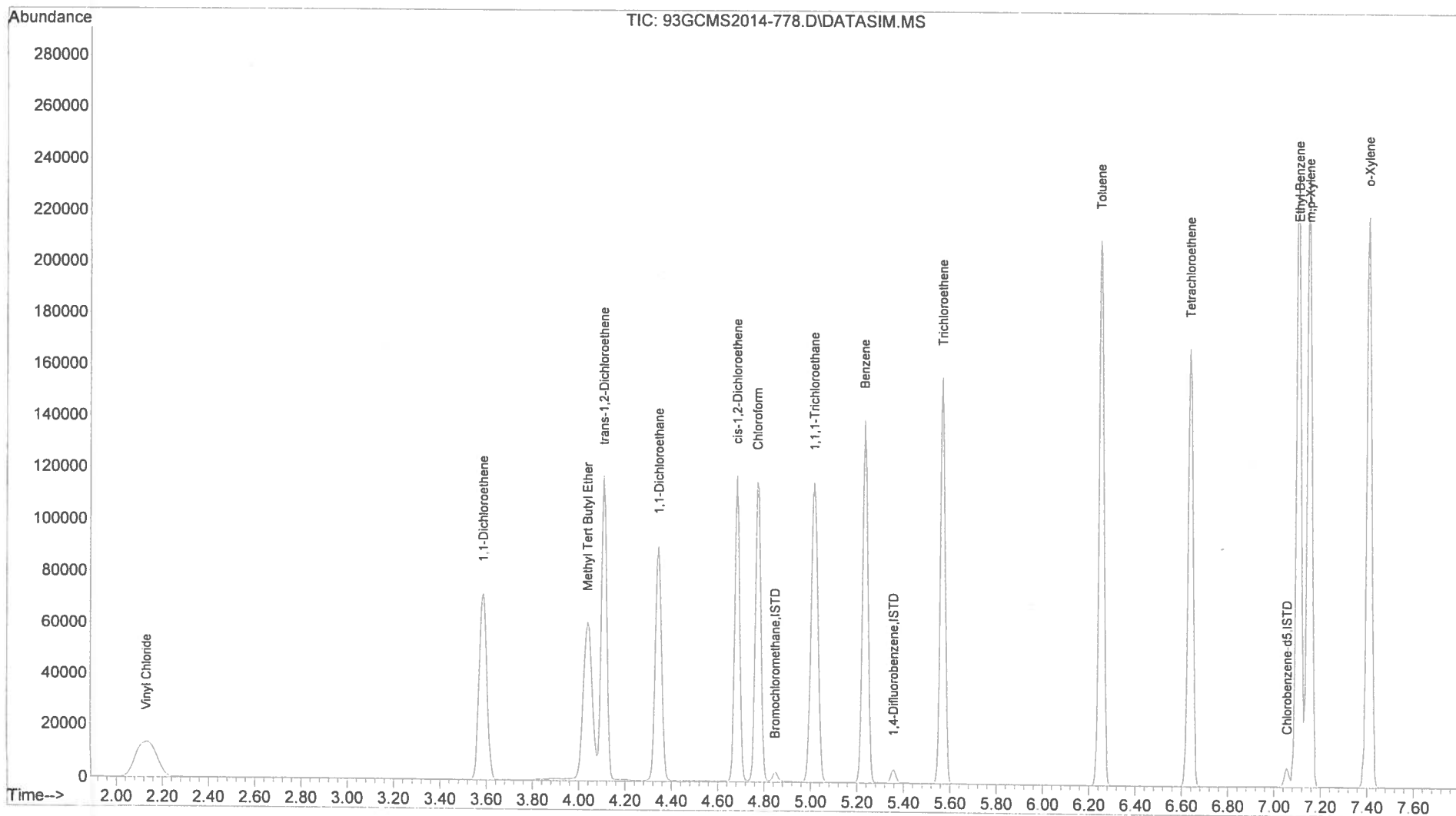
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Vinyl Chloride	2.133	62	49508	531.04	ppbv	99
3) 1,1-Dichloroethene	3.589	61	88038	544.64	ppbv	99
4) Methyl Tert Butyl Ether	4.040	73	124647	629.62	ppbv	99
5) trans-1,2-Dichloroethene	4.109	61	78312	518.67	ppbv	100
6) 1,1-Dichloroethane	4.346	63	100177	551.10	ppbv	100
7) cis-1,2-Dichloroethene	4.684	61	77858	555.71	ppbv	100
8) Chloroform	4.772	83	96031	513.40	ppbv	100
9) 1,1,1-Trichloroethane	5.017	97	111322	547.55	ppbv	100
11) Benzene	5.234	78	153928	525.87	ppbv	100
12) Trichloroethene	5.569	130	78884	513.85	ppbv	100
14) Toluene	6.251	91	193997	525.45	ppbv	100
15) Tetrachloroethene	6.636	166	101280	519.34	ppbv	100
16) Ethyl Benzene	7.106	91	252050	540.35	ppbv	99
17) m,p-Xylene	7.151	91	192125	527.57	ppbv	100
18) o-Xylene	7.409	91	197434	532.07	ppbv	100

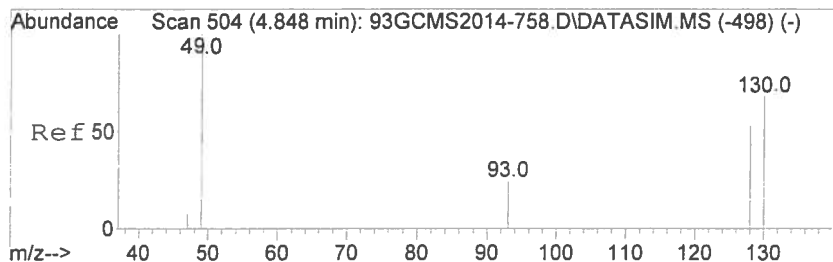
(#) = qualifier out of range (m) = manual integration (+) = signals summed

R 09/29

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-778.D
 Acq On : 29 Sep 2014 22:11
 Operator : SJT
 Sample : 20140929-LCS \ 500ppbv LCS
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

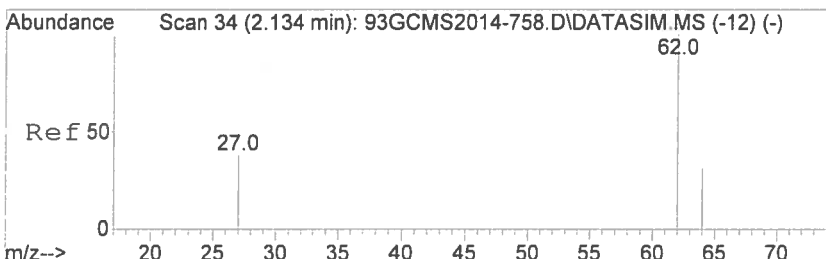
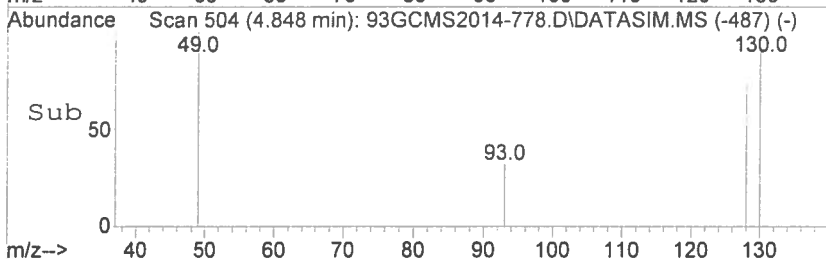
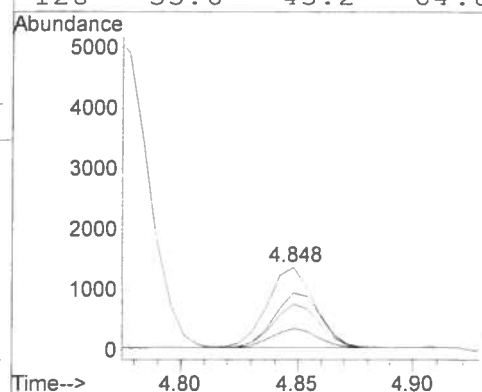
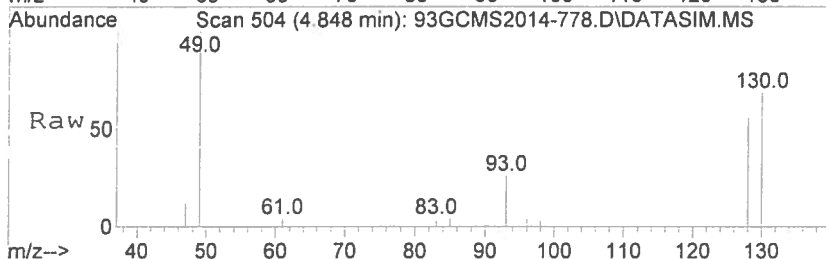
Quant Time: Sep 29 22:18:05 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014
 QLast Update : Mon Sep 29 18:48:25 2014
 Response via : Initial Calibration





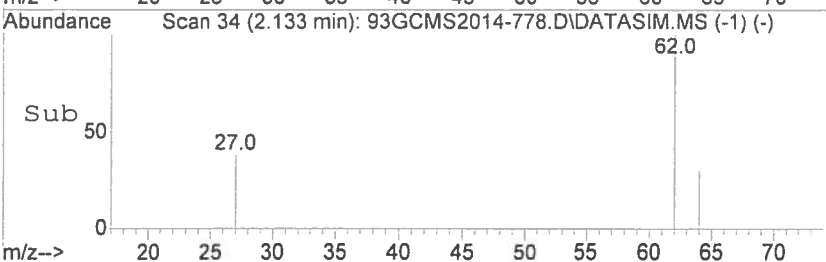
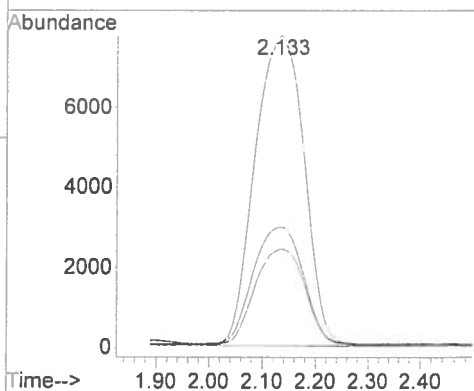
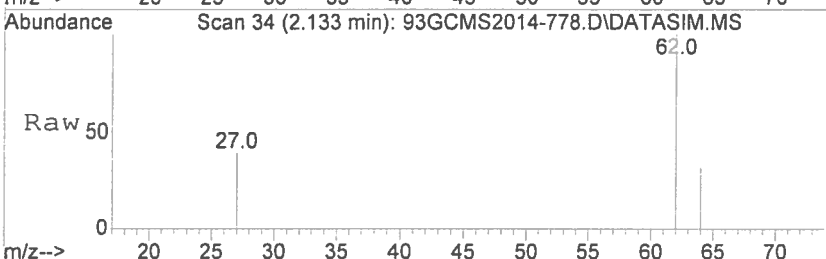
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. 0.000 min
Lab File: 93GCMS2014-778.D
Acq: 29 Sep 2014 22:11

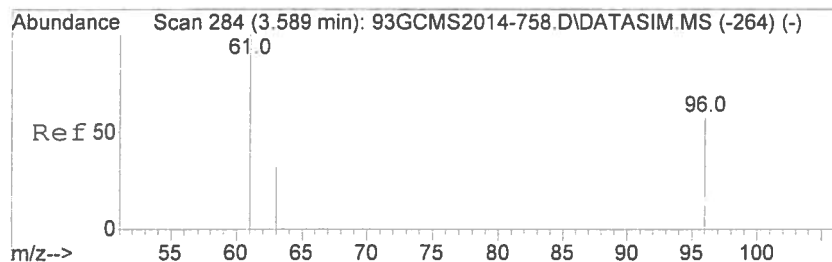
Tgt Ion	Ratio	Lower	Upper
49	100		
130	69.4	54.4	81.6
93	26.3	21.1	31.7
128	55.6	43.2	64.8



#2
Vinyl Chloride
Concen: 531.04 ppbv
RT: 2.133 min Scan# 34
Delta R.T. -0.000 min
Lab File: 93GCMS2014-778.D
Acq: 29 Sep 2014 22:11

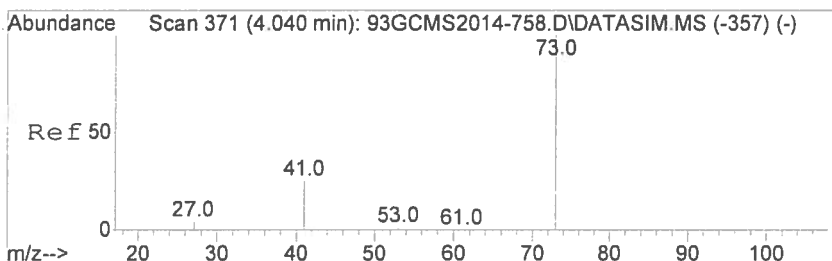
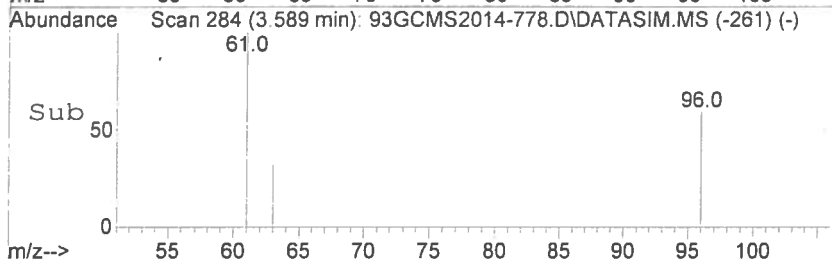
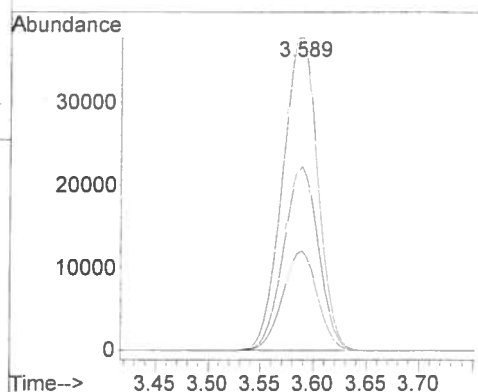
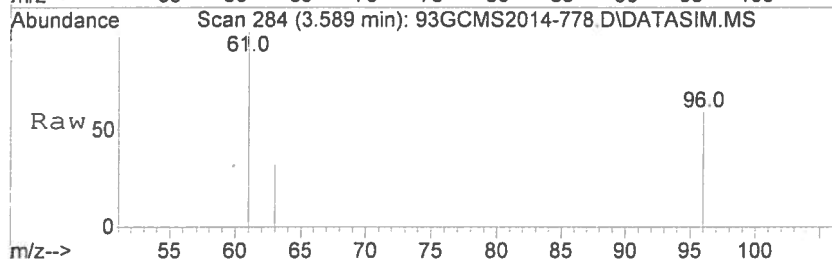
Tgt Ion	Ratio	Lower	Upper
62	100		
64	31.1	25.2	37.8
27	38.7	31.8	47.6





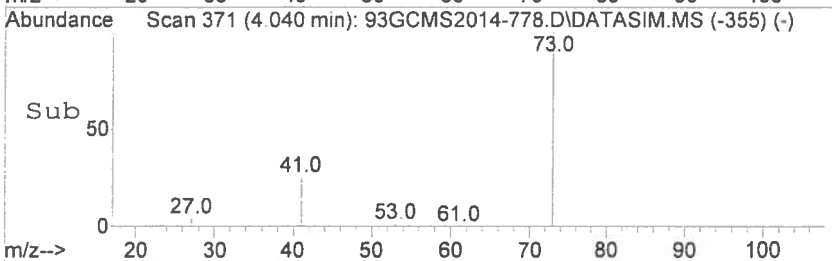
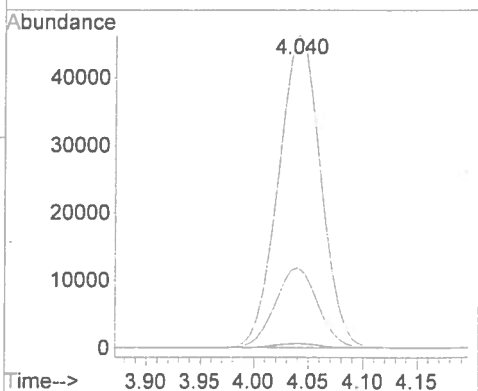
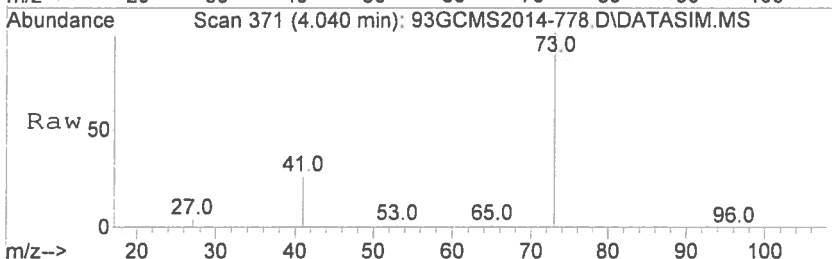
#3
 1,1-Dichloroethene
 Concen: 544.64 ppbv
 RT: 3.589 min Scan# 284
 Delta R.T. -0.000 min
 Lab File: 93GCMS2014-778.D
 Acq: 29 Sep 2014 22:11

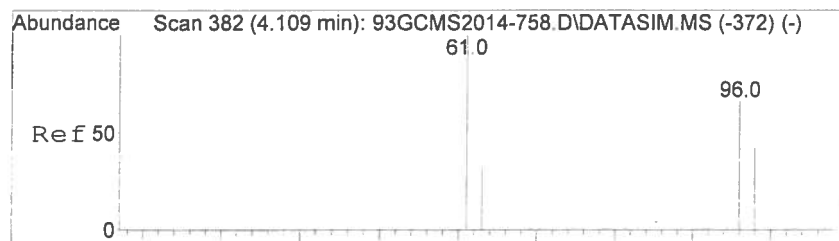
Tgt Ion	Ratio	Lower	Upper
61	100		
96	57.8	46.7	70.1
63	31.5	25.3	37.9



#4
 Methyl Tert Butyl Ether
 Concen: 629.62 ppbv
 RT: 4.040 min Scan# 371
 Delta R.T. -0.000 min
 Lab File: 93GCMS2014-778.D
 Acq: 29 Sep 2014 22:11

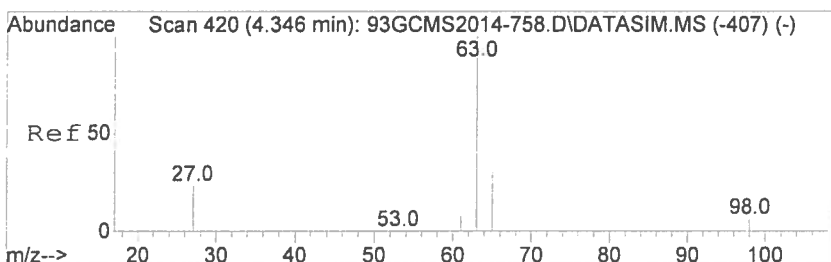
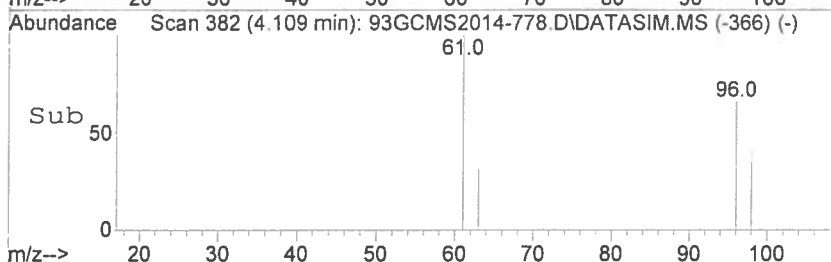
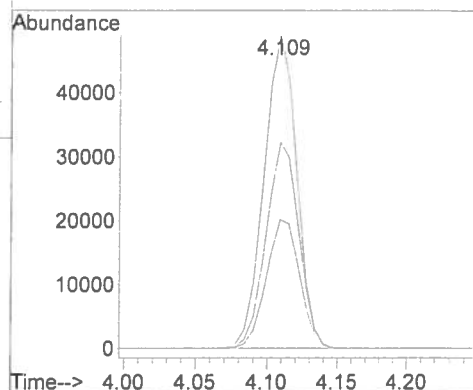
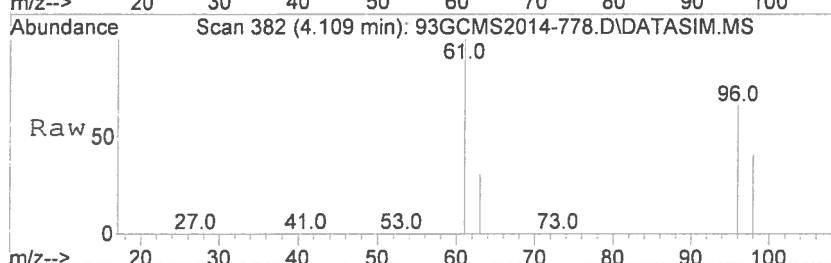
Tgt Ion	Ratio	Lower	Upper
73	100		
53	1.3	1.0	1.6
41	25.7	20.2	30.2





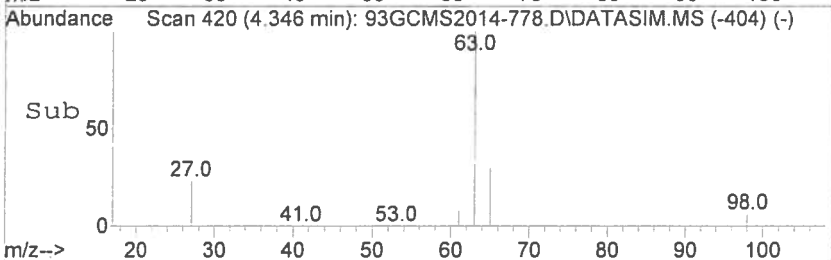
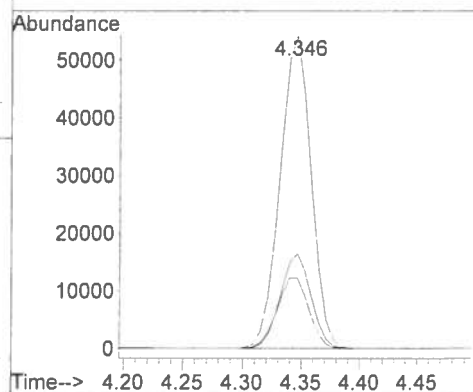
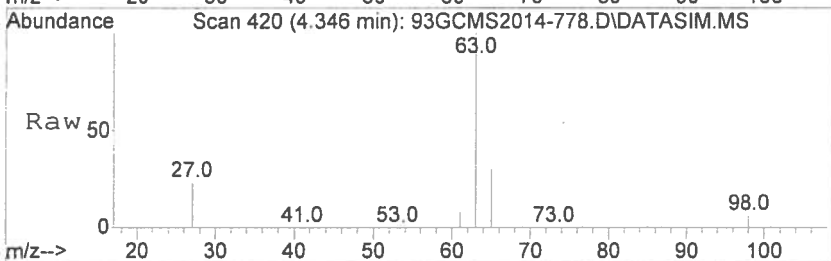
#5
trans-1,2-Dichloroethene
Concen: 518.67 ppbv
RT: 4.109 min Scan# 382
Delta R.T. -0.000 min
Lab File: 93GCMS2014-778.D
Acq: 29 Sep 2014 22:11

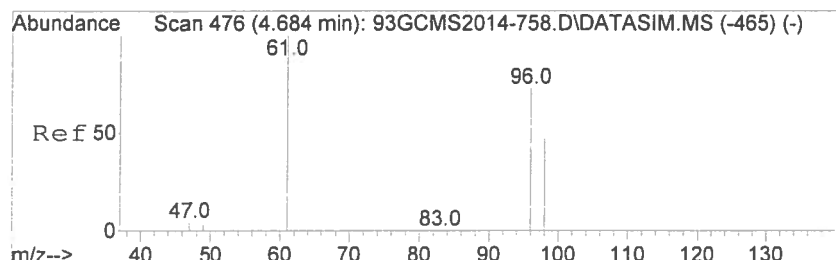
Tgt Ion	Ratio	Lower	Upper
61	100		
96	66.3	53.0	79.6
98	42.2	33.8	50.6



#6
1,1-Dichloroethane
Concen: 551.10 ppbv
RT: 4.346 min Scan# 420
Delta R.T. -0.000 min
Lab File: 93GCMS2014-778.D
Acq: 29 Sep 2014 22:11

Tgt Ion	Ratio	Lower	Upper
63	100		
65	30.3	24.2	36.2
27	23.4	18.6	28.0





#7

cis-1,2-Dichloroethene

Concen: 555.71 ppbv

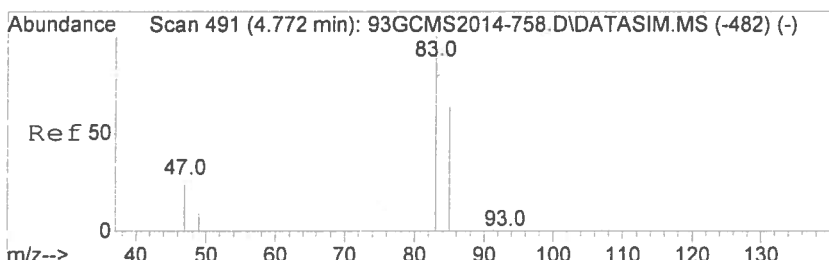
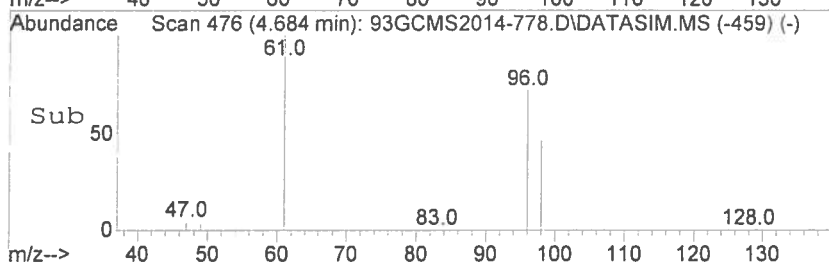
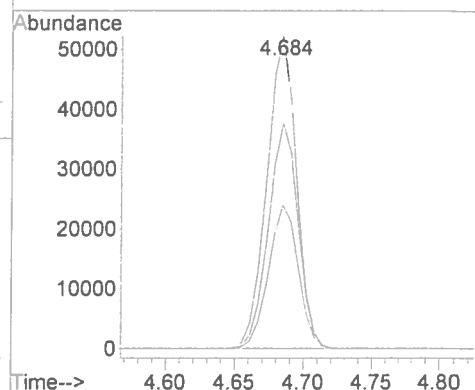
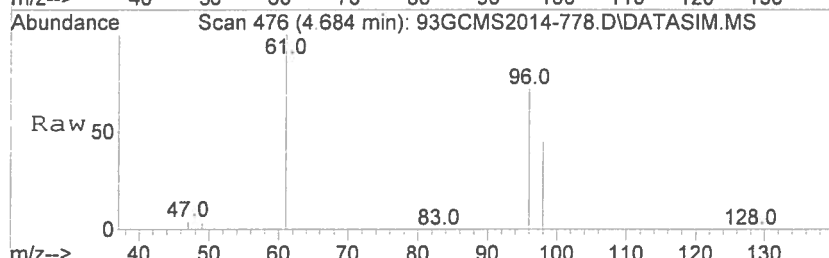
RT: 4.684 min Scan# 476

Delta R.T. 0.000 min

Lab File: 93GCMS2014-778.D

Acq: 29 Sep 2014 22:11

Tgt Ion:	61	Resp:	77858
Ion Ratio	Lower	Upper	
61	100		
96	72.5	58.2	87.2
98	46.3	37.1	55.7



#8

Chloroform

Concen: 513.40 ppbv

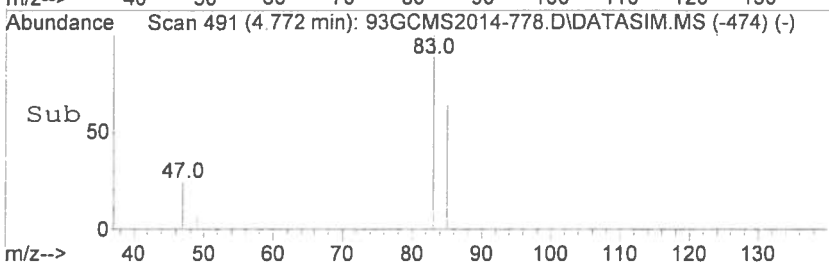
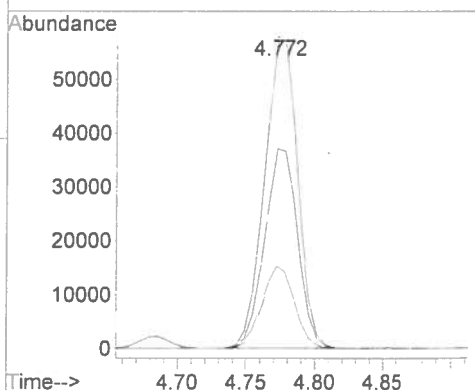
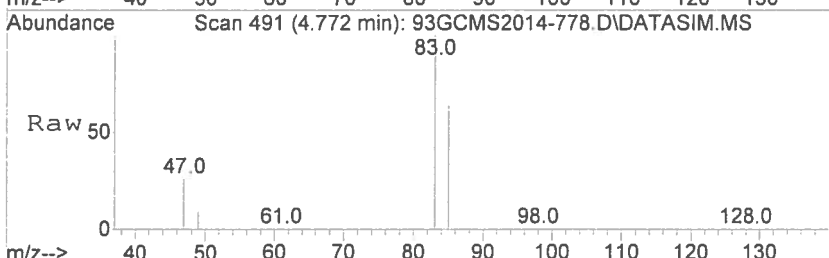
RT: 4.772 min Scan# 491

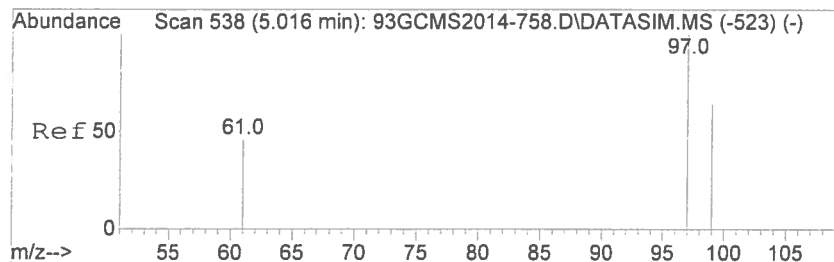
Delta R.T. 0.000 min

Lab File: 93GCMS2014-778.D

Acq: 29 Sep 2014 22:11

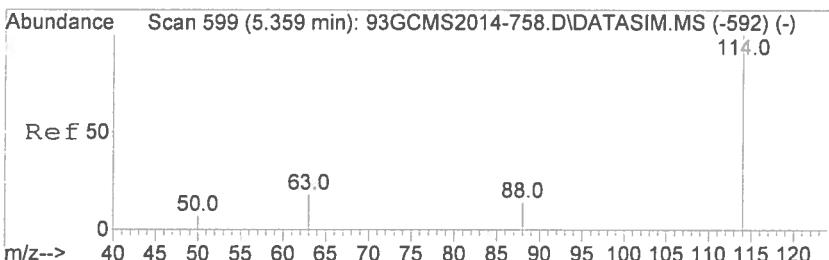
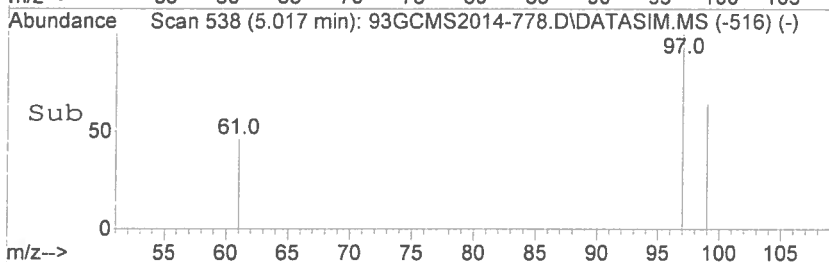
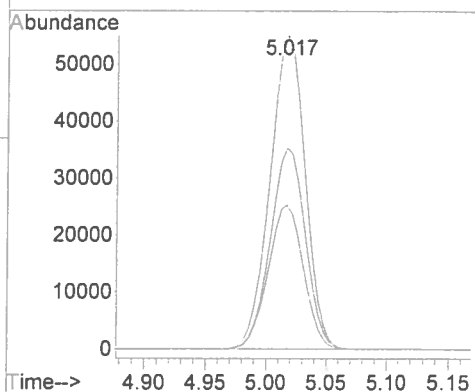
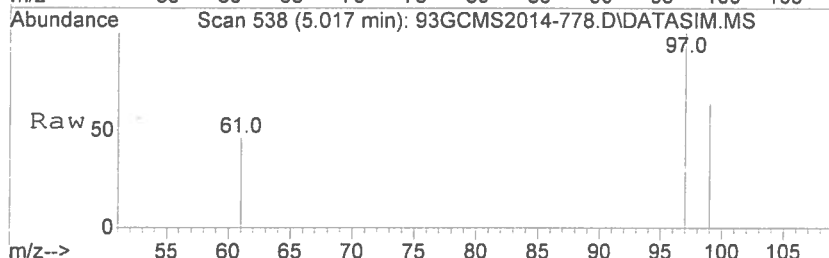
Tgt Ion:	83	Resp:	96031
Ion Ratio	Lower	Upper	
83	100		
85	64.7	51.8	77.6
47	25.6	20.5	30.7





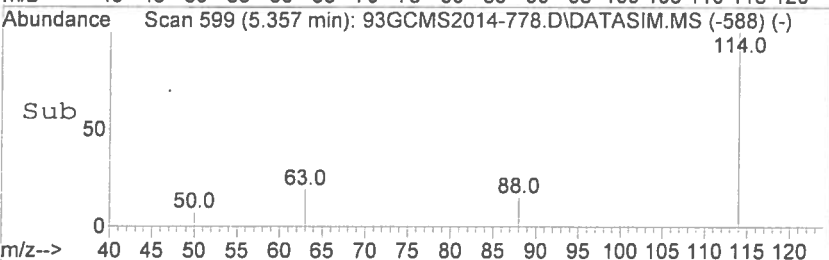
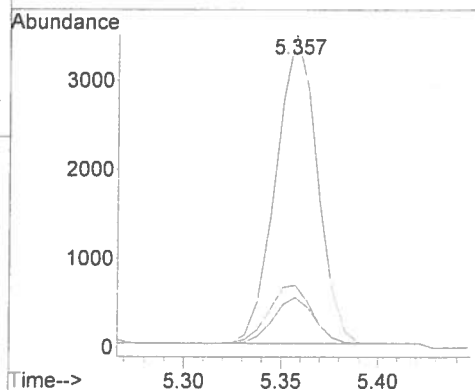
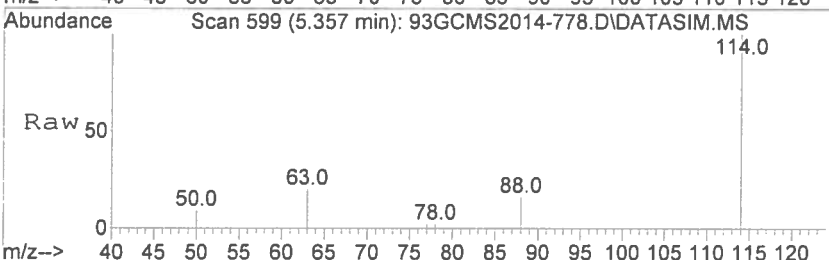
#9
1,1,1-Trichloroethane
Concen: 547.55 ppbv
RT: 5.017 min Scan# 538
Delta R.T. 0.000 min
Lab File: 93GCMS2014-778.D
Acq: 29 Sep 2014 22:11

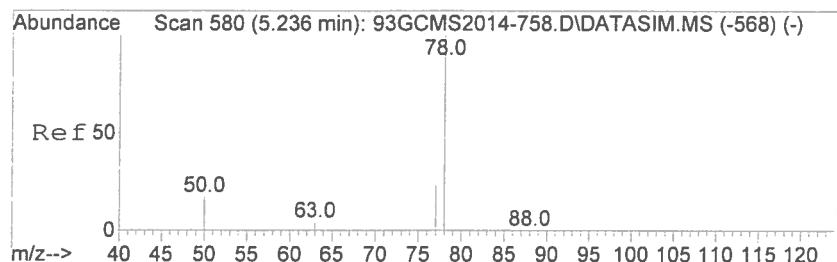
Tgt Ion	Ratio	Lower	Upper
97	100		
99	64.3	51.4	77.2
61	46.2	36.6	54.8



#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.357 min Scan# 599
Delta R.T. -0.002 min
Lab File: 93GCMS2014-778.D
Acq: 29 Sep 2014 22:11

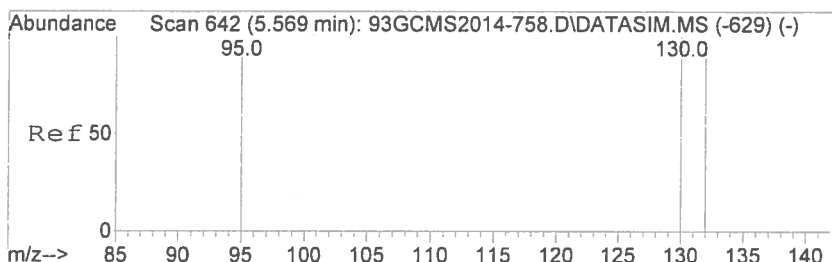
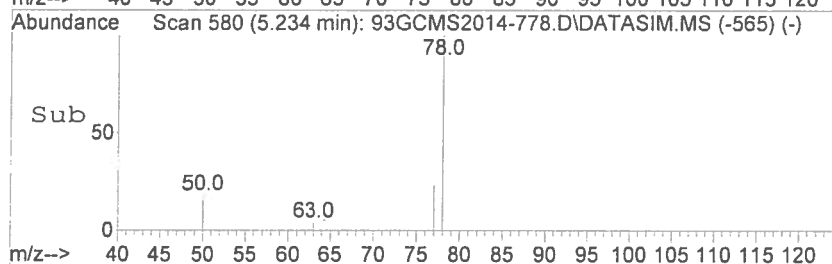
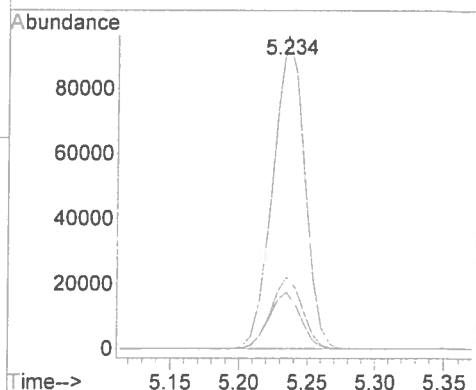
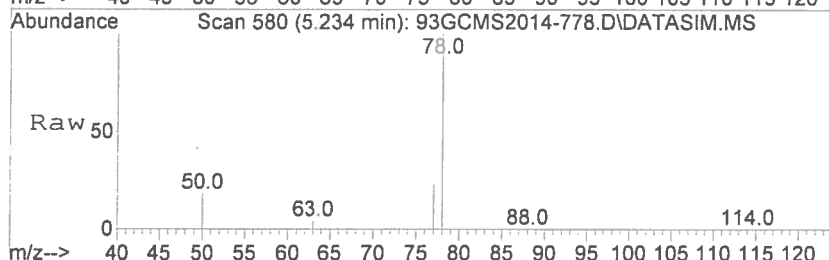
Tgt Ion	Ratio	Lower	Upper
114	100		
63	19.6	15.7	23.5
88	14.9	11.8	17.6





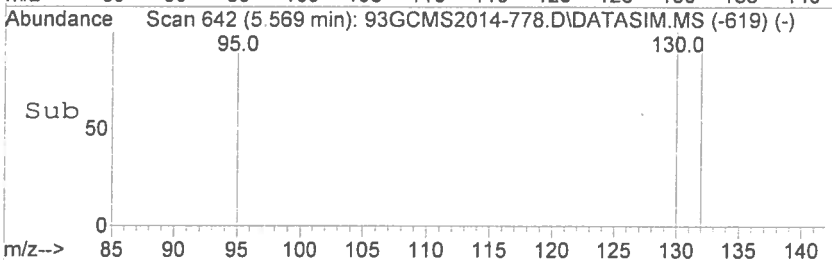
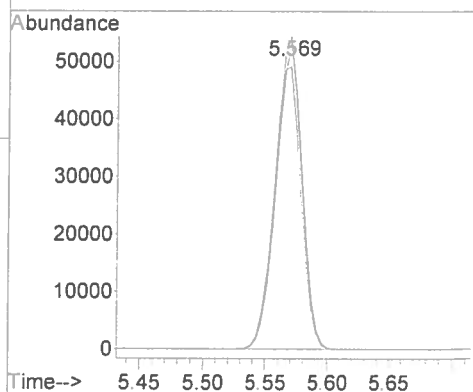
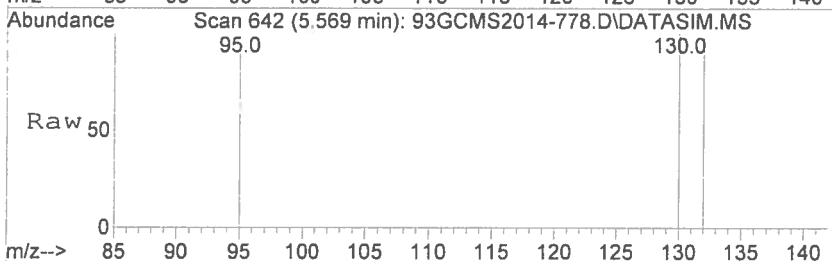
#11
Benzene
Concen: 525.87 ppbv
RT: 5.234 min Scan# 580
Delta R.T. -0.002 min
Lab File: 93GCMS2014-778.D
Acq: 29 Sep 2014 22:11

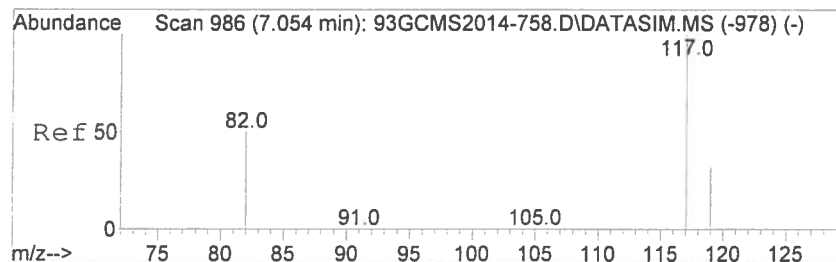
Tgt Ion	Ratio	Lower	Upper
78	100		
77	22.8	18.3	27.5
50	17.9	14.4	21.6



#12
Trichloroethene
Concen: 513.85 ppbv
RT: 5.569 min Scan# 642
Delta R.T. 0.000 min
Lab File: 93GCMS2014-778.D
Acq: 29 Sep 2014 22:11

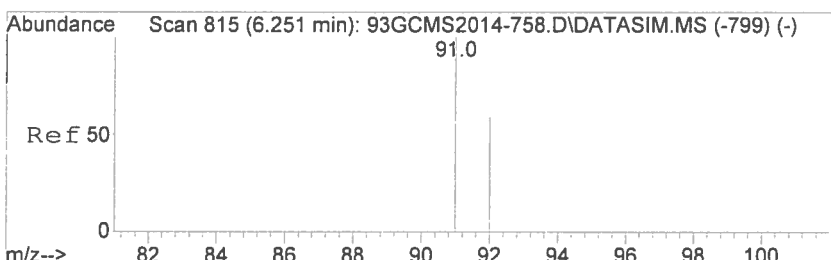
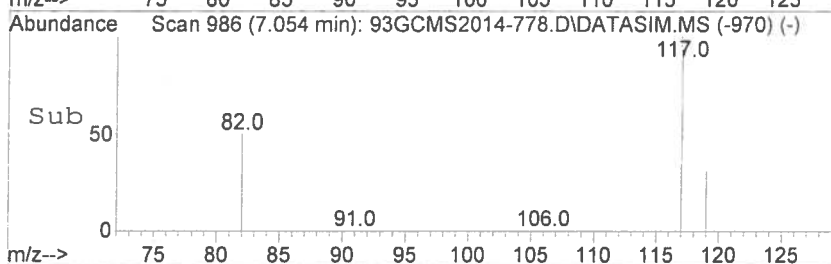
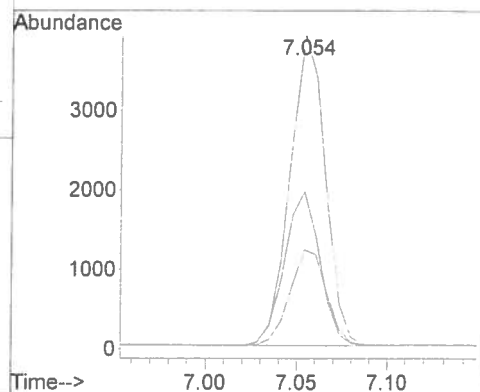
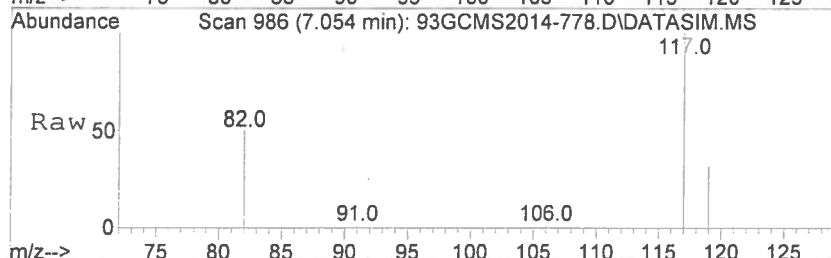
Tgt Ion	Ratio	Lower	Upper
130	100		
132	96.2	77.0	115.6
95	91.8	73.2	109.8





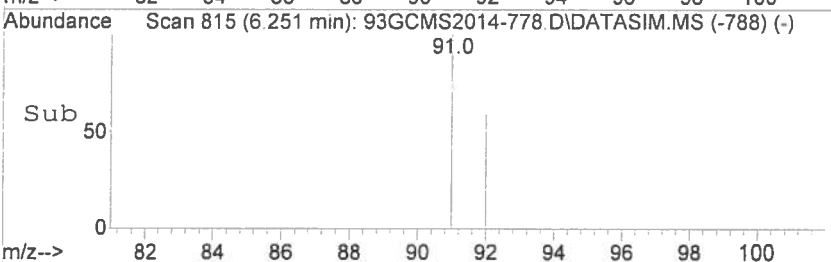
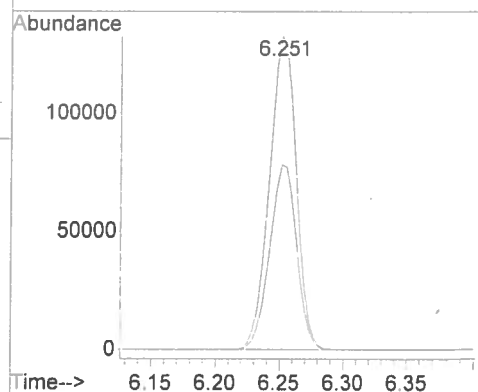
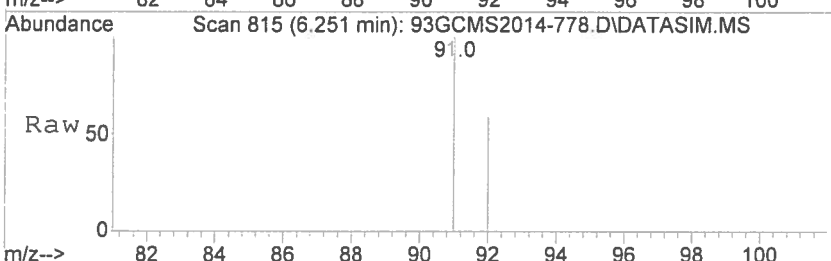
#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.054 min Scan# 986
Delta R.T. 0.000 min
Lab File: 93GCMS2014-778.D
Acq: 29 Sep 2014 22:11

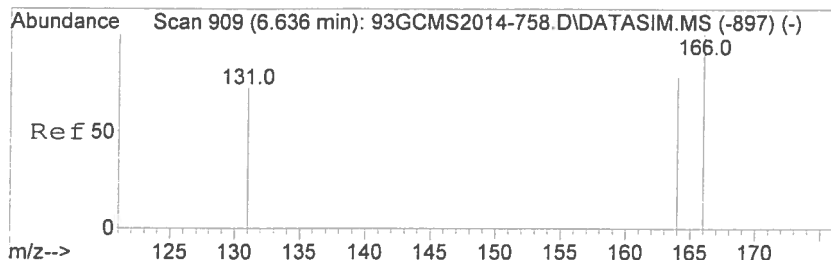
Tgt Ion	Ratio	Resp	Lower	Upper
117	100	5285		
82	49.6		39.5	59.3
119	31.8		25.8	38.6



#14
Toluene
Concen: 525.45 ppbv
RT: 6.251 min Scan# 815
Delta R.T. 0.000 min
Lab File: 93GCMS2014-778.D
Acq: 29 Sep 2014 22:11

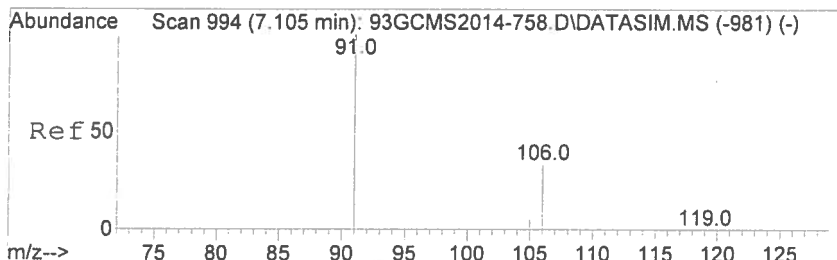
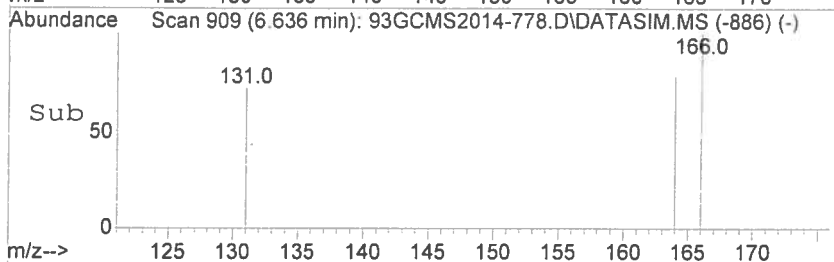
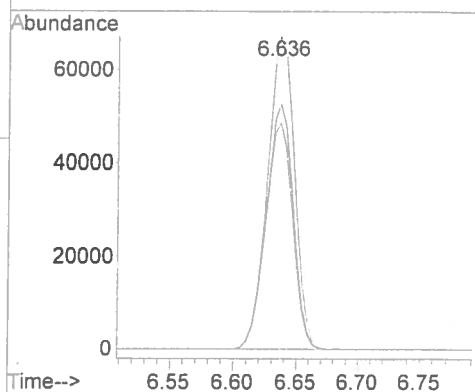
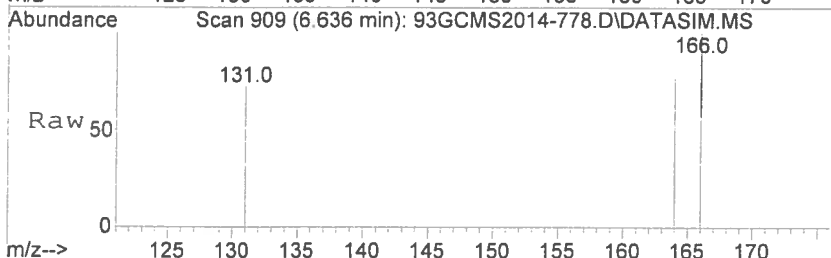
Tgt Ion	Ratio	Resp	Lower	Upper
91	100	193997		
92	59.2		47.4	71.2





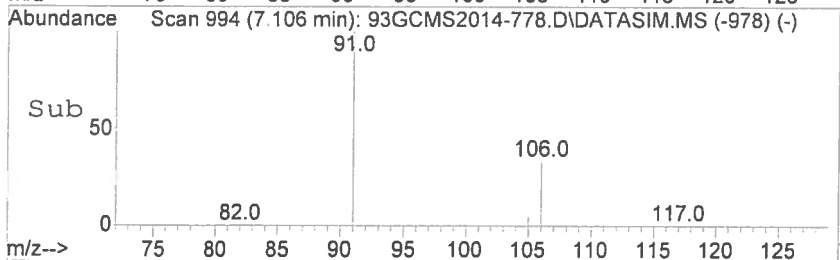
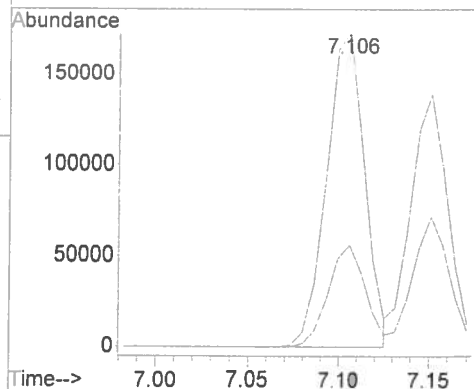
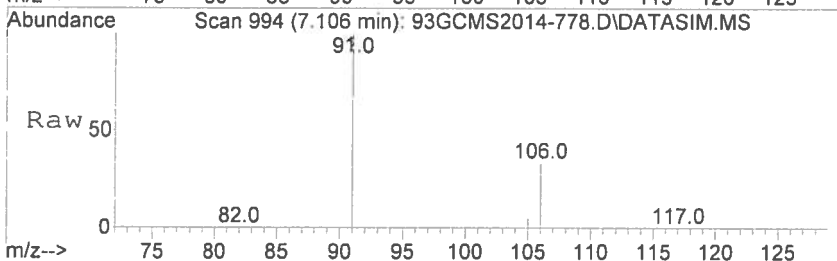
#15
Tetrachloroethene
Concen: 519.34 ppbv
RT: 6.636 min Scan# 909
Delta R.T. 0.000 min
Lab File: 93GCMS2014-778.D
Acq: 29 Sep 2014 22:11

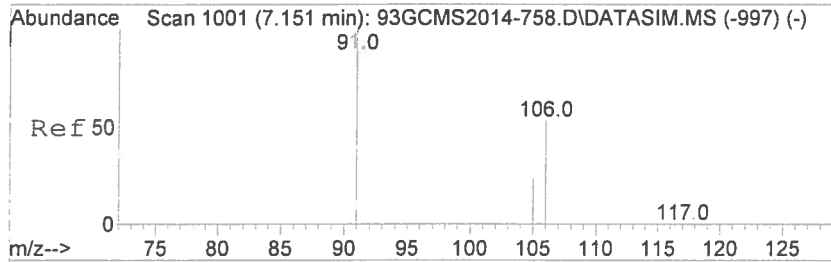
Tgt Ion	Ratio	Lower	Upper
166	100		
164	78.3	62.6	93.8
131	72.5	57.9	86.9



#16
Ethyl Benzene
Concen: 540.35 ppbv
RT: 7.106 min Scan# 994
Delta R.T. 0.000 min
Lab File: 93GCMS2014-778.D
Acq: 29 Sep 2014 22:11

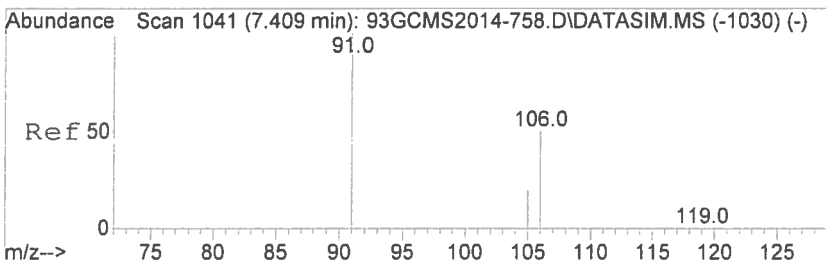
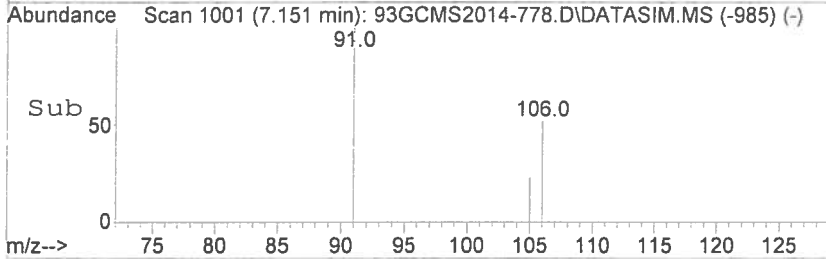
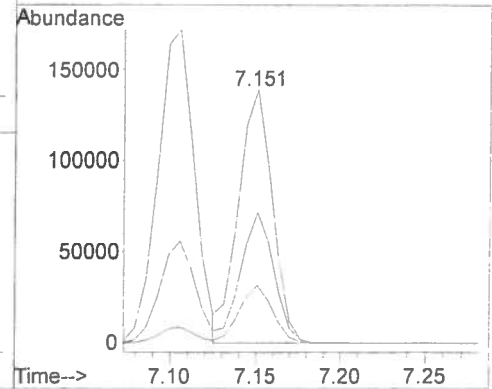
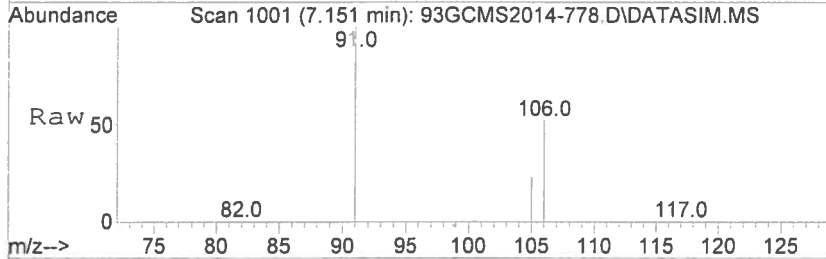
Tgt Ion	Ratio	Lower	Upper
91	100		
106	32.5	26.4	39.6





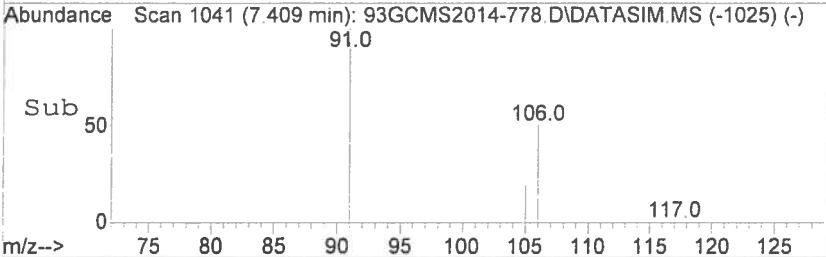
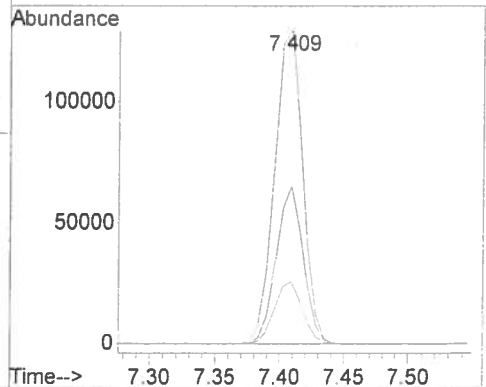
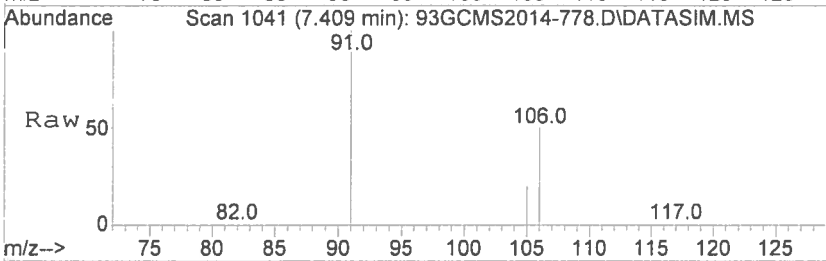
#17
m,p-Xylene
Concen: 527.57 ppbv
RT: 7.151 min Scan# 1001
Delta R.T. 0.000 min
Lab File: 93GCMS2014-778.D
Acq: 29 Sep 2014 22:11

Tgt Ion	Ratio	Lower	Upper
91	100		
106	51.5	41.2	61.8
105	22.9	18.4	27.6



#18
o-Xylene
Concen: 532.07 ppbv
RT: 7.409 min Scan# 1041
Delta R.T. 0.000 min
Lab File: 93GCMS2014-778.D
Acq: 29 Sep 2014 22:11

Tgt Ion	Ratio	Lower	Upper
91	100		
106	48.2	38.3	57.5
105	19.1	15.3	22.9



GC/MS QA-QC Check Report

Tune File : D:\msdchem\1\data\2014\20140929\93GCMS2014-755.D

Tune Time : 29 Sep 2014 17:21

Daily Calibration File : D:\msdchem\1\data\2014\20140929\93GCMS2014-758.D

		1864	5261	5415
File	Sample	Internal Standard Responses		
93GCMS2014-756.D	STD2014092	2468	5045	5222
93GCMS2014-757.D	STD2014092	1930	5132	5314
93GCMS2014-758.D	STD2014092	1864	5261	5415
93GCMS2014-759.D	STD2014092	1875	5320	5505
93GCMS2014-760.D	STD2014092	1838	5230	5363
93GCMS2014-761.D	STD2014092	1835	5208	5401
93GCMS2014-762.D	STD2014092	1839	5195	5365
93GCMS2014-763.D	20140929-M	1824	5151	5316
93GCMS2014-764.D	20140929-L	1834	5141	5342
93GCMS2014-765.D	53638 \ V1	1855	5205	5379
93GCMS2014-766.D	53630 \ V0	1803	4986	5189
93GCMS2014-767.D	53631 \ V1	1849	5158	5334
93GCMS2014-768.D	53632 \ V1	1873	5275	5419
93GCMS2014-769.D	53633 \ V1	1846	5252	5387
93GCMS2014-770.D	53634 \ V0	1852	5207	5407
93GCMS2014-771.D	53635 \ V0	1801	5079	5230
93GCMS2014-772.D	53636 \ V0	1825	5143	5367
93GCMS2014-773.D	53636 \ V0	1890	5242	5322
93GCMS2014-774.D	53637 \ V0	1850	5196	5285

P09/241

93GCMS2014-775.D			
53639 \ V1	1930	5243	5410
93GCMS2014-776.D			
53640 \ V1	1848	5150	5292
93GCMS2014-777.D			
53641 \ V2	1853	5160	5312
93GCMS2014-778.D			
20140929-L	1841	5155	5285

(fails) - fails 24hr time check * - fails criteria

Created: Mon Sep 29 22:19:44 2014 Instrument 2

5975

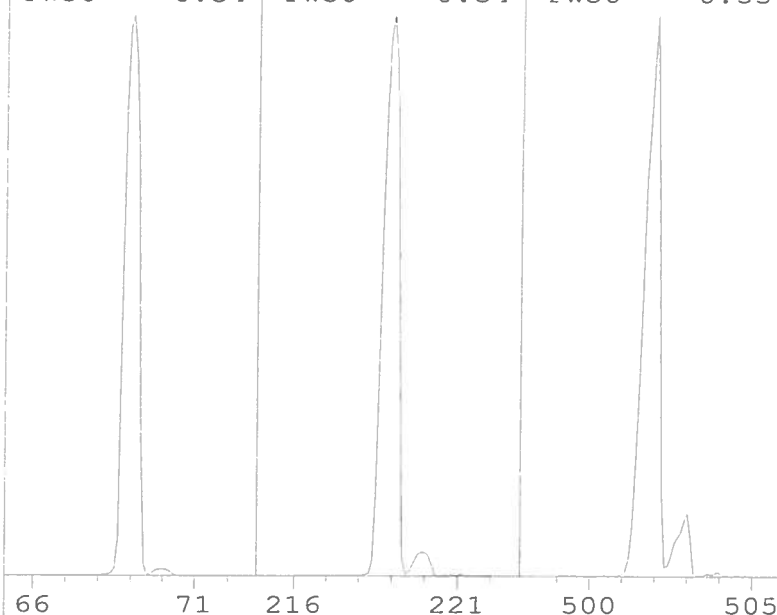
Tue Sep 30 08:42:01 2014
C:\msdchem\1\5975\bfb.u

Instrument: Instrument 2
US83130668

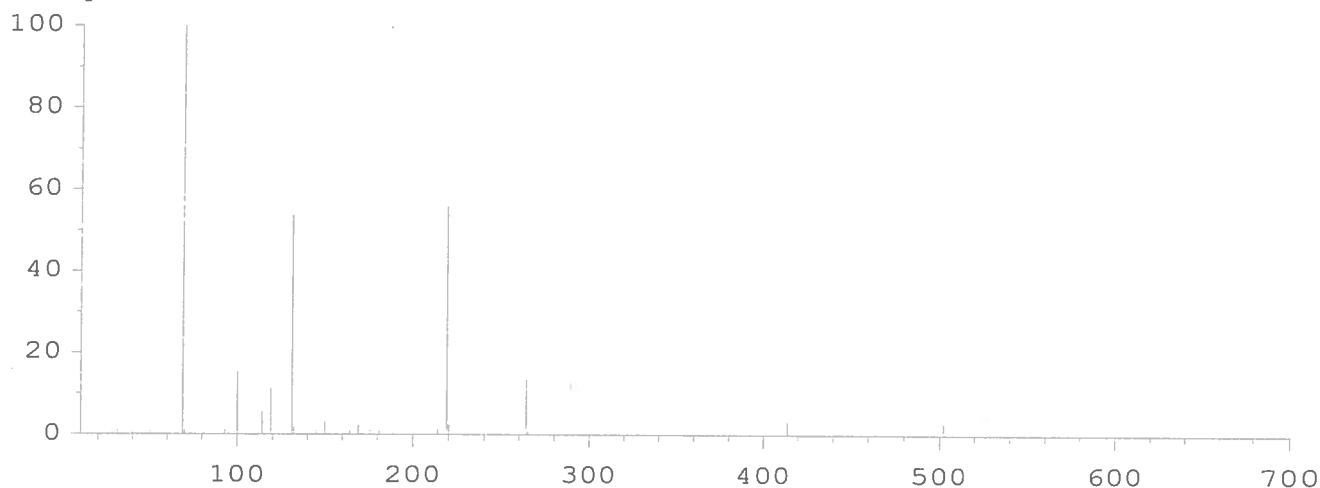
Mass	69.00	Mass	219.00	Mass	502.00
Ab	856733	Ab	498277	Ab	25771
Pw50	0.54	Pw50	0.54	Pw50	0.53

Ion Pol	Pos	MassGain	-977
		MassOffs	-39
Emission	34.6	AmuGain	1180
EIEnergy	69.9	AmuOffs	126.25
Filament	2	Wid219	-0.016
		DC Pol	Pos
Repeller	19.90		
IonFcus	74.0	HEDENab	On
EntLens	0.0	EMVolts	1541
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:
MS Source 230 TurboSpd 100
MS Quad 150 HiVac 1.63e05



Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
115 peaks Base: 69.00 Abundance: 826688



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	826688	100.00	70.00	8680	1.05
219.00	470144	56.87	220.00	19592	4.17
502.00	23744	2.87	503.00	2424	10.21

Air/Water Check: H2O~0.20% N2~0.66% O2~0.26% CO2~0.17% N2/H2O~335.60%

Ramp Criteria:

Ion Focus Maximum	90	volts using ion	502;	EM Gain	89223
Repeller Maximum	20	volts using ion	219;	Gain Factor	0.89

MassGain Values(Samples): -963(3) -950(2) -924(1) -880(0) -853(FS)

TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	126.3	126.3	126.3	126.3	126.3	126.3	126.3
Entrance Lens Offset:	16.8	13.6	15.1	14.8	16.8	18.3	18.3
Target Abund(%)	1.0	100.0	52.0	50.0	2.4	2.0	
Actual Tune Abund(%)	0.9	100.0	53.8	56.9	3.1	2.9	

09/30/14

597x Air and Water Check

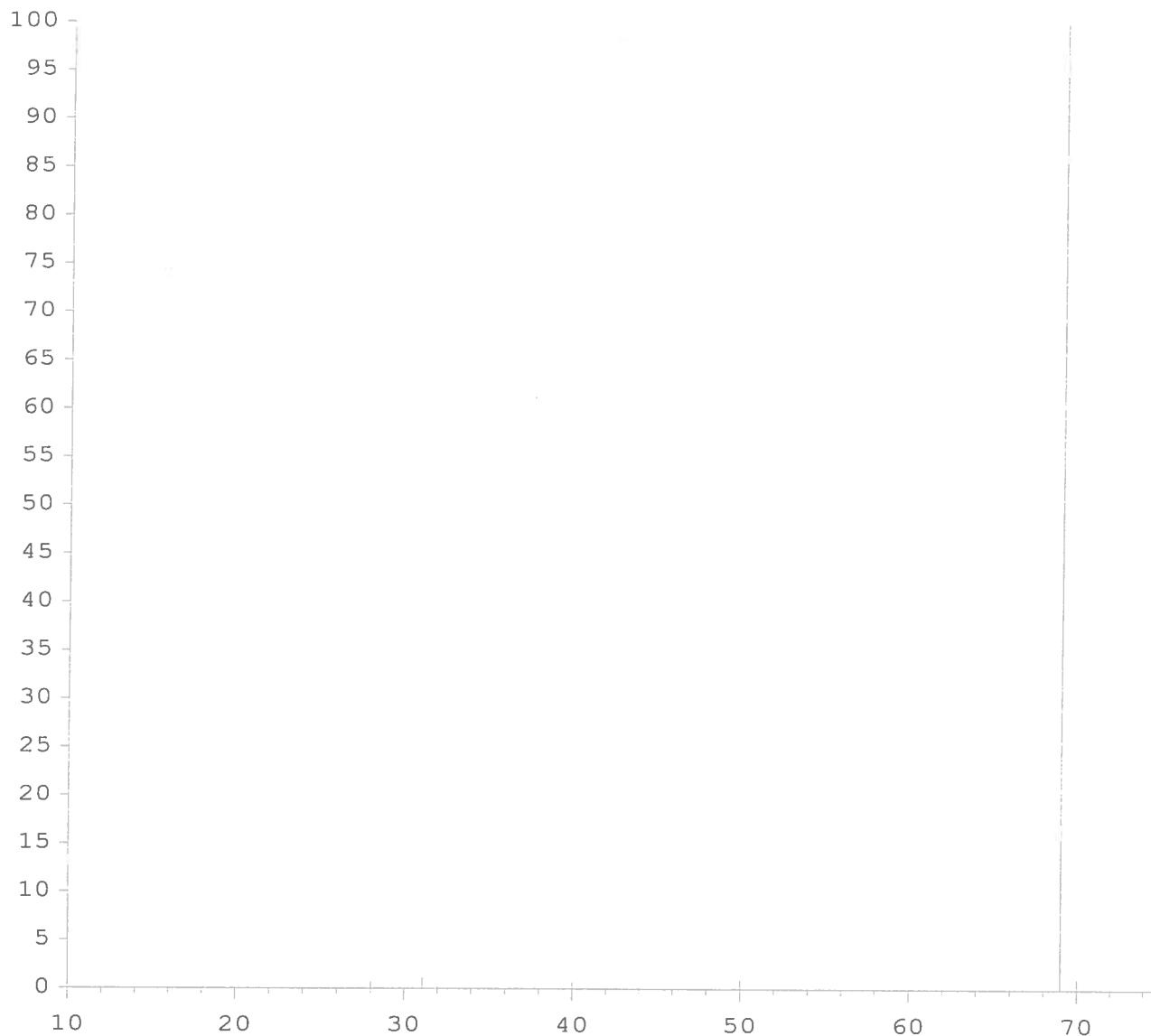
Instrument: Instrument 2

Tue Sep 30 08:42:50 2014

C:\msdchem\1\5975\

Scan: 10.00 - 75.00 Samples: 8 Thresh: 0 Step: 0.10

69 peaks Base: 69.00 Abundance: 832384



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	832384	100.00	70.00	9071	1.09
18.10	1304	0.16	19.10	82	6.29
28.00	5684	0.68	29.10	78	1.37

Current Params used: bfb.u

Relative abundances:

18/69 =	0.16	Water%	(counts=1304)
28/69 =	0.68	Nitrogen%	(counts=5684)
32/69 =	0.25	Oxygen%	(counts=2042)
44/69 =	0.16	Carbon Dioxide%	(counts=1311)
28/18 =	435.89	Nitrogen/Water%	

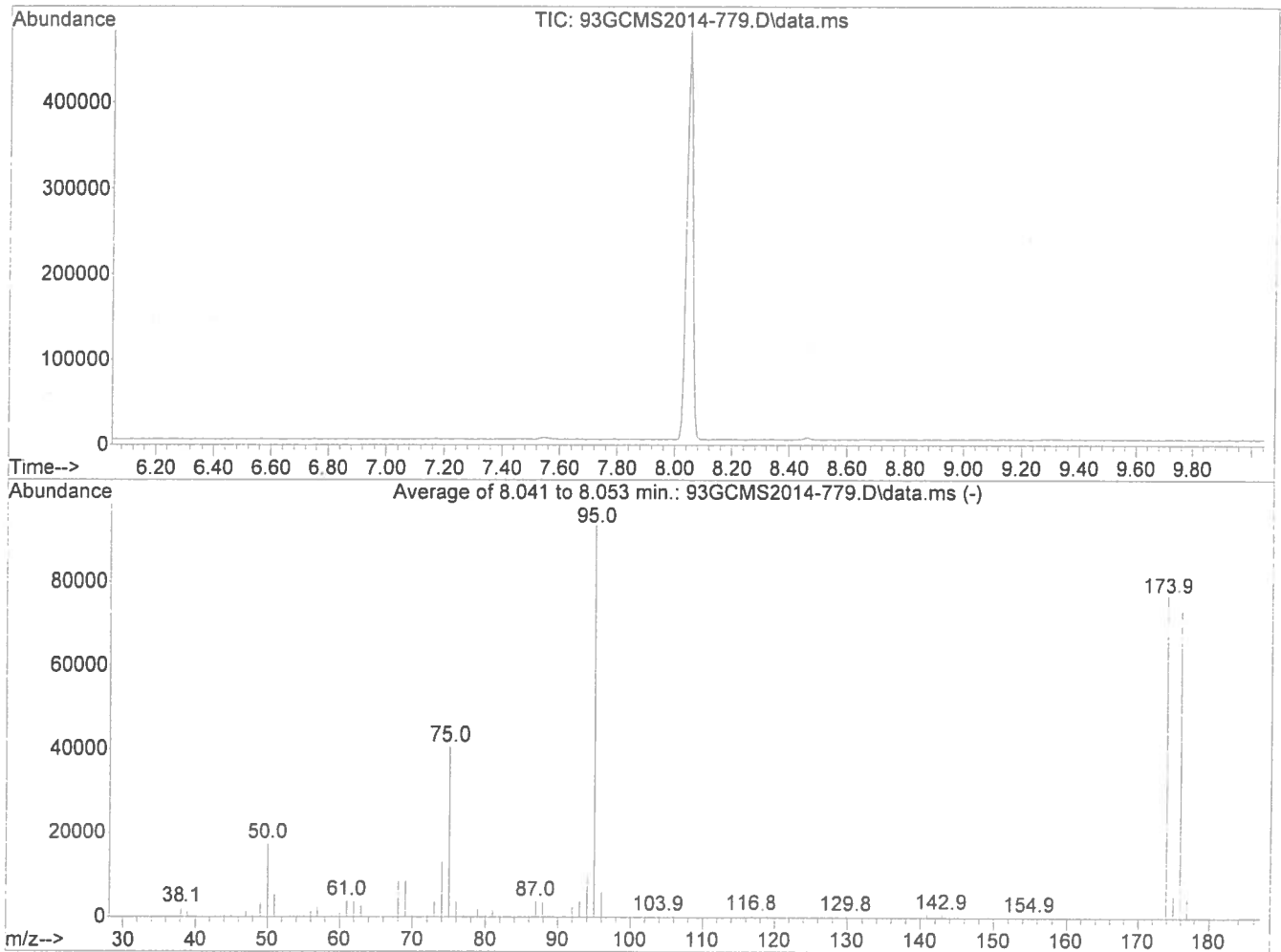
Handwritten signature/initials

BFB

Data Path : D:\msdchem\1\data\2014\20140930\
 Data File : 93GCMS2014-779.D
 Acq On : 30 Sep 2014 8:52
 Operator : SJT
 Sample : BFB \ 1ppmv STD
 Misc : 5mL \ 30 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48
 Last Update : Mon Sep 29 18:48:25 2014



AutoFind: Scans 697, 698, 699; Background Corrected with Scan 690

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.6	17427	PASS
75	95	30	66	43.3	40619	PASS
95	95	100	100	100.0	93883	PASS
96	95	5	9	6.4	6032	PASS
173	174	0.00	2	0.5	351	PASS
174	95	50	120	81.6	76645	PASS
175	174	4	9	6.8	5225	PASS
176	174	93	101	96.4	73920	PASS
177	176	5	9	6.4	4761	PASS

Continuing Calibration Report Instrument 2

Method Path : C:\msdchem\1\METHODS\

Method File : LOOP20140929-QUANT.M

Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014

Last Update : Tue Sep 30 09:39:45 2014

Response Via : Initial Calibration

CC Data File: 93GCMS2014-780.D

Min. RRF : 0.000 Min. Rel. Area : 50%

Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%
1	ISTD Bromochloromethane	1.000	1.000	0.0	102
2	Vinyl Chloride	0.506	0.592	-16.9	115
3	1,1-Dichloroethene	0.878	0.981	-11.7	105
4	Methyl Tert Butyl Ether	1.075	1.168	-8.7	101
5	trans-1,2-Dichloroethene	0.820	0.894	-9.0	103
6	1,1-Dichloroethane	0.987	1.089	-10.3	103
7	cis-1,2-Dichloroethene	0.761	0.846	-11.2	104
8	Chloroform	1.016	1.163	-14.5	106
9	1,1,1-Trichloroethane	1.104	1.245	-12.8	104
10	ISTD 1,4-Difluorobenzene	1.000	1.000	0.0	99
11	Benzene	0.568	0.613	-7.9	103
12	Trichloroethene	0.298	0.327	-9.8	104
13	ISTD Chlorobenzene-d5	1.000	1.000	0.0	98
14	Toluene	0.699	0.767	-9.7	103
15	Tetrachloroethene	0.369	0.408	-10.5	104
16	Ethyl Benzene	0.883	1.001	-13.4	104
17	m,p-Xylene	0.689	0.781	-13.3	104
18	o-Xylene	0.702	0.797	-13.5	104

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

09/30

Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140930\
 Data File : 93GCMS2014-780.D
 Acq On : 30 Sep 2014 9:28
 Operator : SJT
 Sample : STD20140930-1 \ 500ppbv CCV
 Misc : 5mL \ 30 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 30 09:34:48 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014

QLast Update : Mon Sep 29 18:48:25 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.848	49	1899	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	5189	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5291	10.00	ppbv	0.00

System Monitoring Compounds

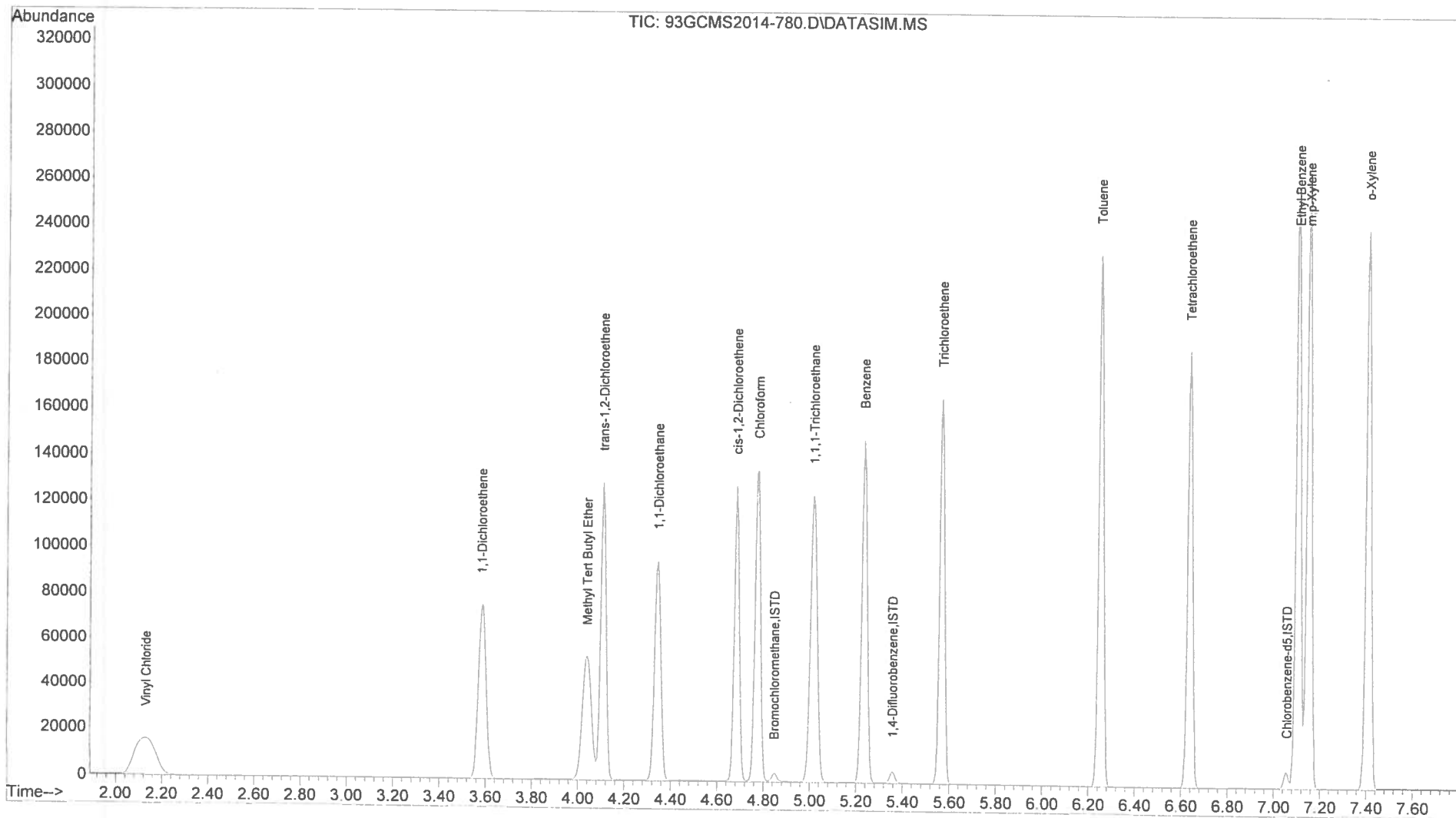
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Vinyl Chloride	2.134	62	57885	601.93	ppbv	98
3) 1,1-Dichloroethene	3.584	61	92664	555.74	ppbv	100
4) Methyl Tert Butyl Ether	4.040	73	111495	545.99	ppbv	99
5) trans-1,2-Dichloroethene	4.109	61	85309	547.76	ppbv	100
6) 1,1-Dichloroethane	4.346	63	107030	570.82	ppbv	100
7) cis-1,2-Dichloroethene	4.684	61	84775	586.60	ppbv	100
8) Chloroform	4.778	83	113762	589.62	ppbv	100
9) 1,1,1-Trichloroethane	5.017	97	119430	569.49	ppbv	100
11) Benzene	5.235	78	166896	566.44	ppbv	100
12) Trichloroethene	5.569	130	85658	554.32	ppbv	100
14) Toluene	6.251	91	210889	570.55	ppbv	100
15) Tetrachloroethene	6.637	166	109467	560.68	ppbv	100
16) Ethyl Benzene	7.106	91	275270	589.46	ppbv	100
17) m,p-Xylene	7.151	91	214744	589.01	ppbv	100
18) o-Xylene	7.409	91	218130	587.18	ppbv	100

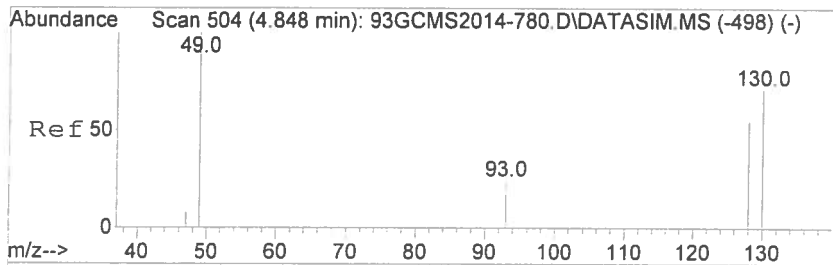
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Handwritten signature

Data Path : D:\msdchem\1\data\2014\20140930\
 Data File : 93GCMS2014-780.D
 Acq On : 30 Sep 2014 9:28
 Operator : SJT
 Sample : STD20140930-1 \ 500ppbv CCV
 Misc : 5mL \ 30 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

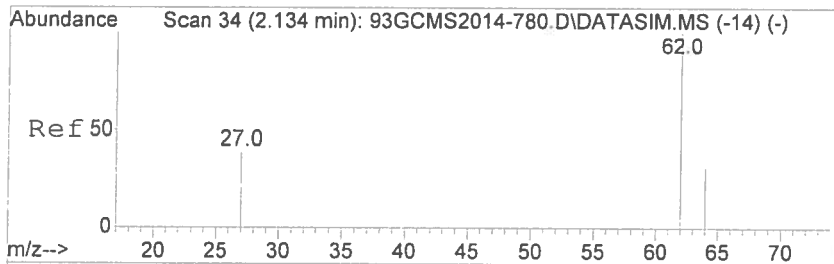
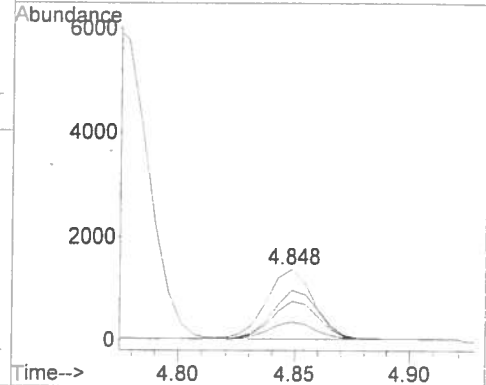
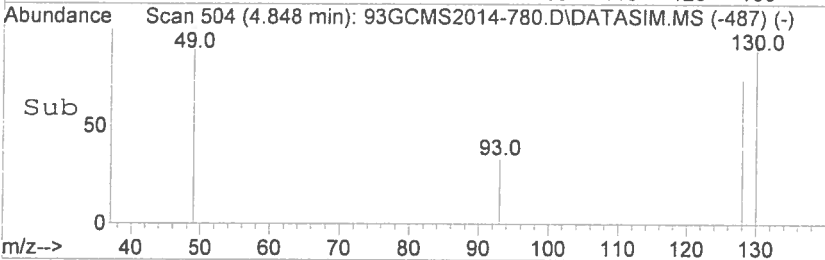
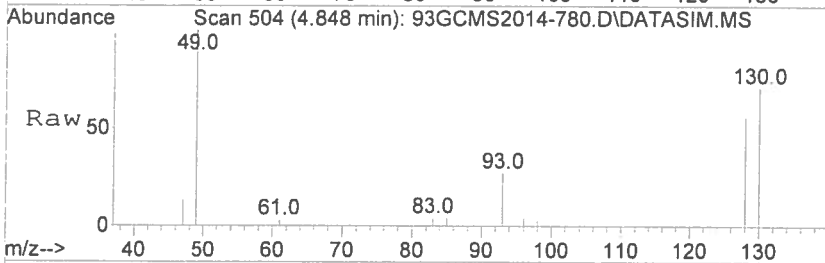
Quant Time: Sep 30 09:34:48 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014
 QLast Update : Mon Sep 29 18:48:25 2014
 Response via : Initial Calibration





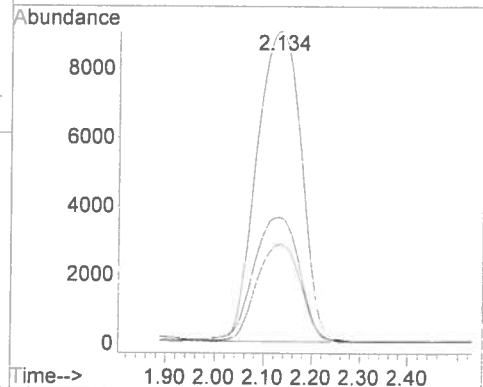
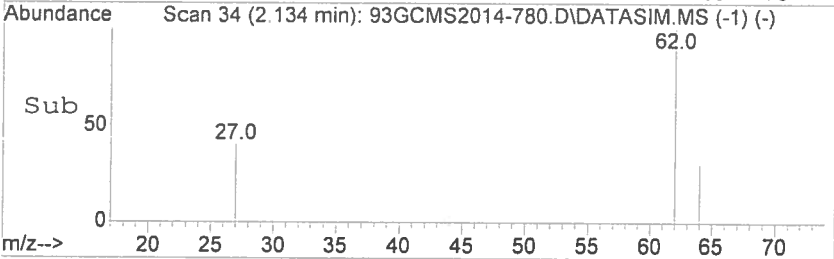
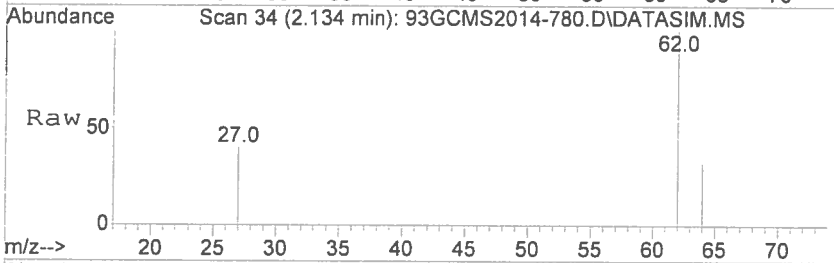
#1
 Bromochloromethane
 Concen: 10.00 ppbv
 RT: 4.848 min Scan# 504
 Delta R.T. 0.000 min
 Lab File: 93GCMS2014-780.D
 Acq: 30 Sep 2014 9:28

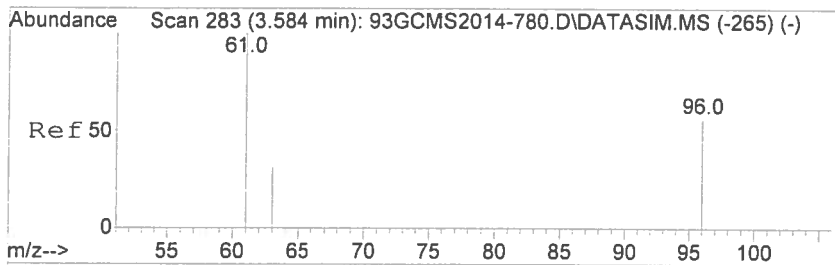
Tgt Ion: 49	Resp: 1899
Ion Ratio	Lower Upper
49 100	
130 70.9	54.4 81.6
93 26.8	21.1 31.7
128 55.7	43.2 64.8



#2
 Vinyl Chloride
 Concen: 601.93 ppbv
 RT: 2.134 min Scan# 34
 Delta R.T. -0.000 min
 Lab File: 93GCMS2014-780.D
 Acq: 30 Sep 2014 9:28

Tgt Ion: 62	Resp: 57885
Ion Ratio	Lower Upper
62 100	
64 31.4	25.2 37.8
27 41.4	31.8 47.6





#3

1,1-Dichloroethene

Concen: 555.74 ppbv

RT: 3.584 min Scan# 283

Delta R.T. -0.004 min

Lab File: 93GCMS2014-780.D

Acq: 30 Sep 2014 9:28

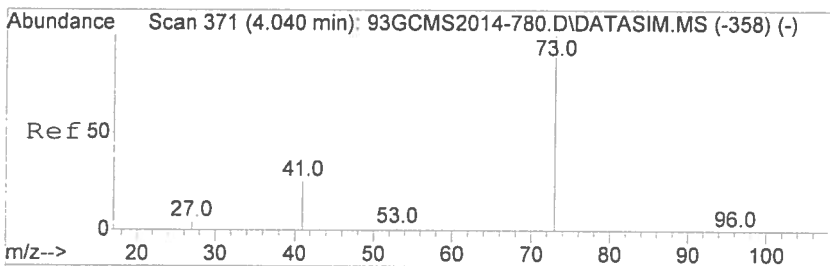
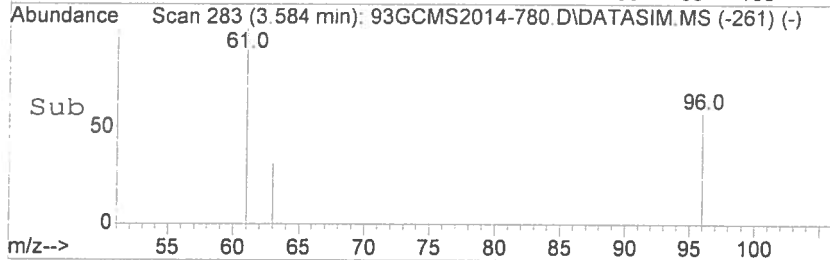
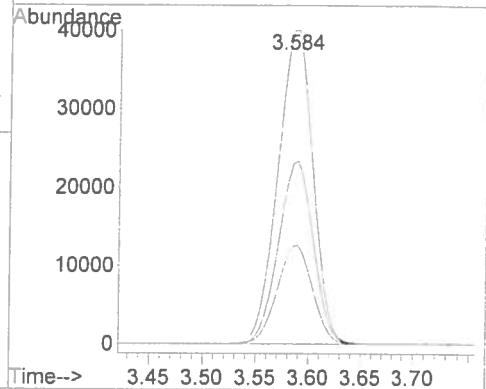
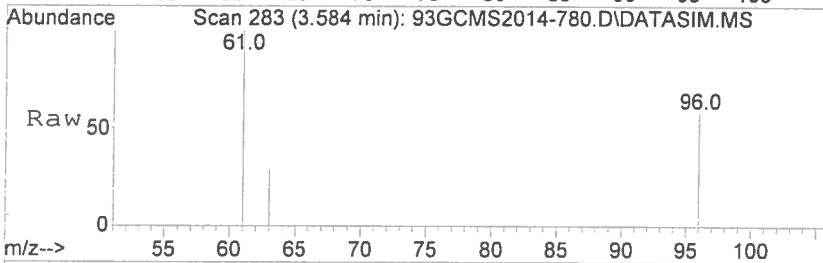
Tgt Ion: 61 Resp: 92664

Ion Ratio Lower Upper

61 100

96 58.1 46.7 70.1

63 31.5 25.3 37.9



#4

Methyl Tert Butyl Ether

Concen: 545.99 ppbv

RT: 4.040 min Scan# 371

Delta R.T. -0.000 min

Lab File: 93GCMS2014-780.D

Acq: 30 Sep 2014 9:28

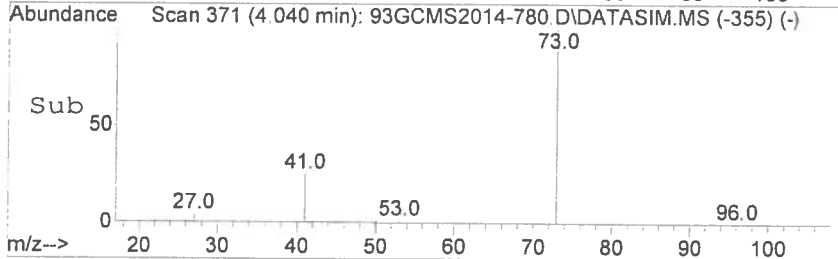
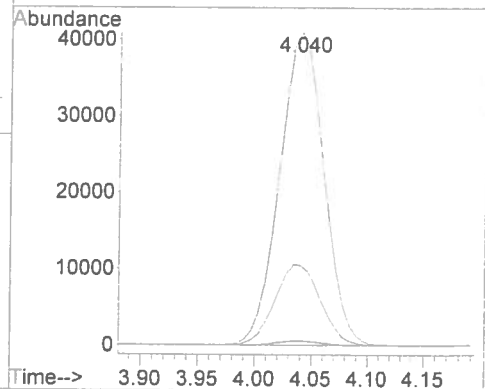
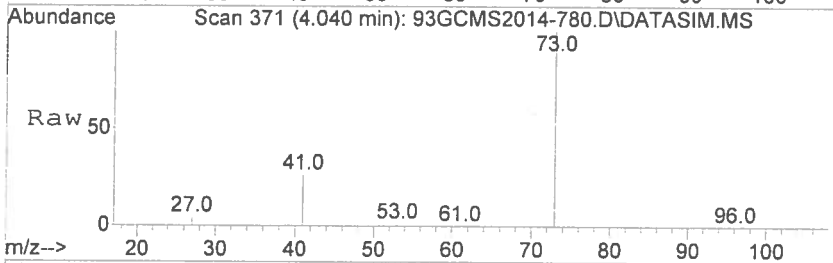
Tgt Ion: 73 Resp: 111495

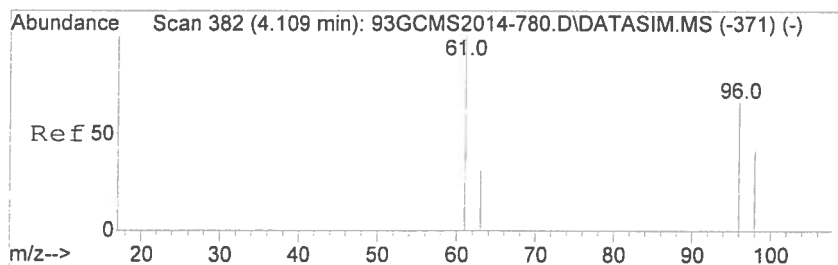
Ion Ratio Lower Upper

73 100

53 1.3 1.0 1.6

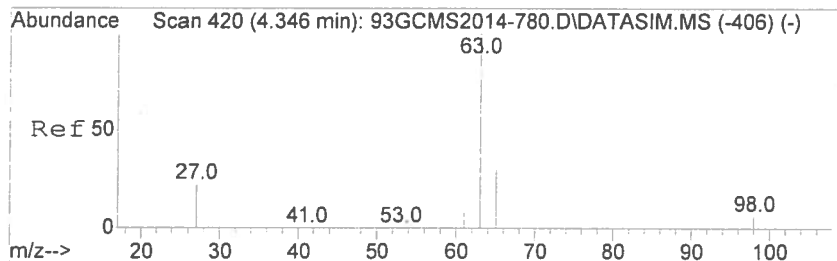
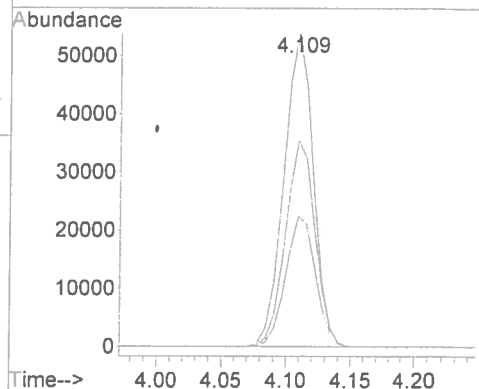
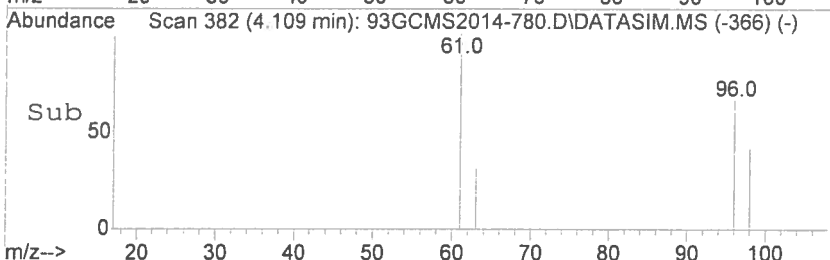
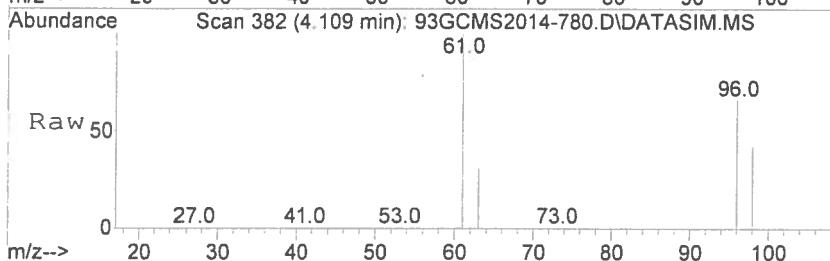
41 25.9 20.2 30.2





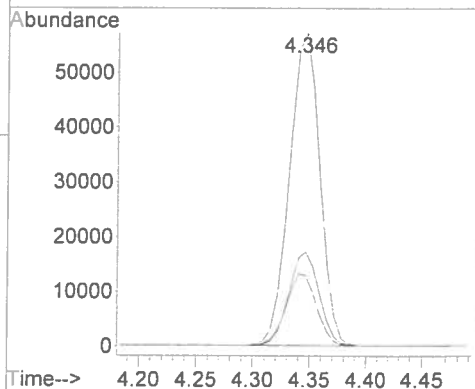
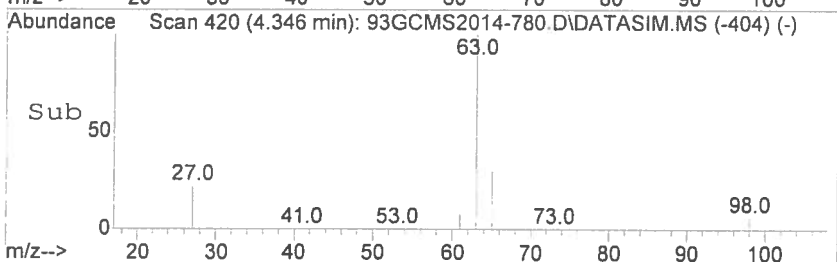
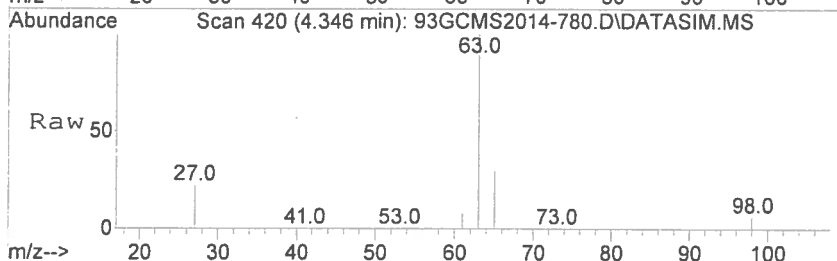
#5
 trans-1,2-Dichloroethene
 Concen: 547.76 ppbv
 RT: 4.109 min Scan# 382
 Delta R.T. -0.000 min
 Lab File: 93GCMS2014-780.D
 Acq: 30 Sep 2014 9:28

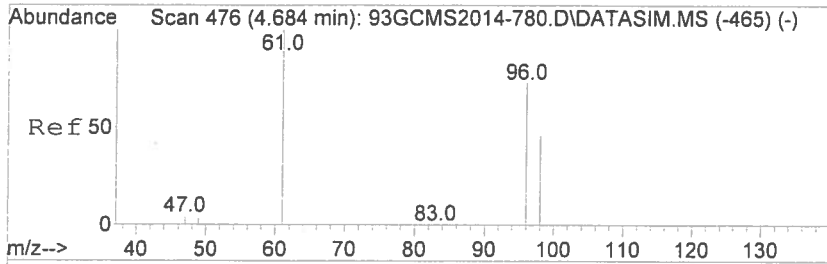
Tgt Ion	Ratio	Lower	Upper
61	100		
96	66.3	53.0	79.6
98	42.3	33.8	50.6



#6
 1,1-Dichloroethane
 Concen: 570.82 ppbv
 RT: 4.346 min Scan# 420
 Delta R.T. -0.000 min
 Lab File: 93GCMS2014-780.D
 Acq: 30 Sep 2014 9:28

Tgt Ion	Ratio	Lower	Upper
63	100		
65	30.1	24.2	36.2
27	23.1	18.6	28.0





#7

cis-1,2-Dichloroethene

Concen: 586.60 ppbv

RT: 4.684 min Scan# 476

Delta R.T. 0.000 min

Lab File: 93GCMS2014-780.D

Acq: 30 Sep 2014 9:28

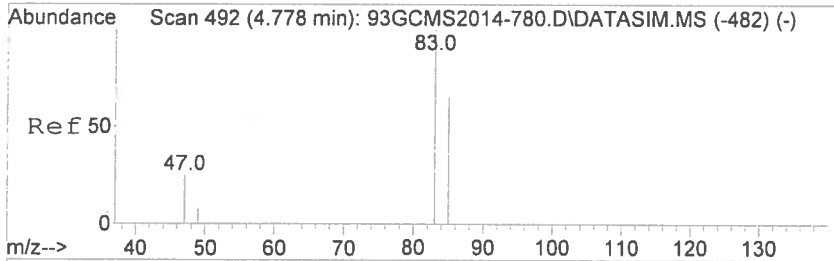
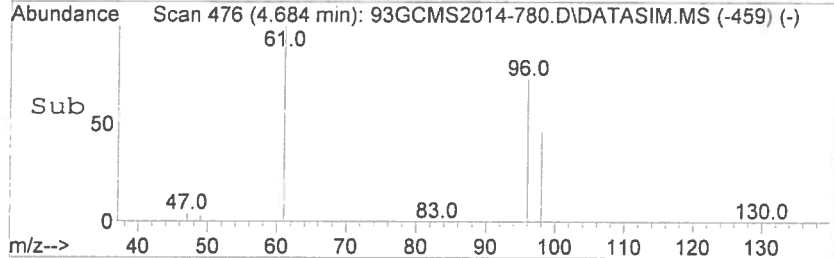
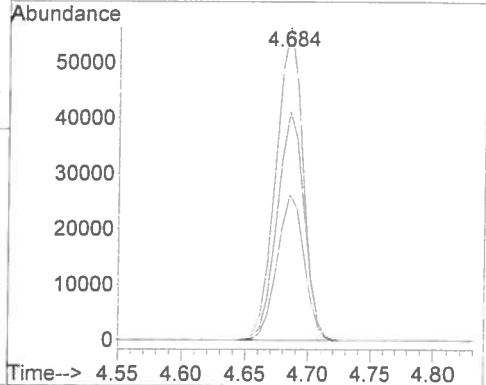
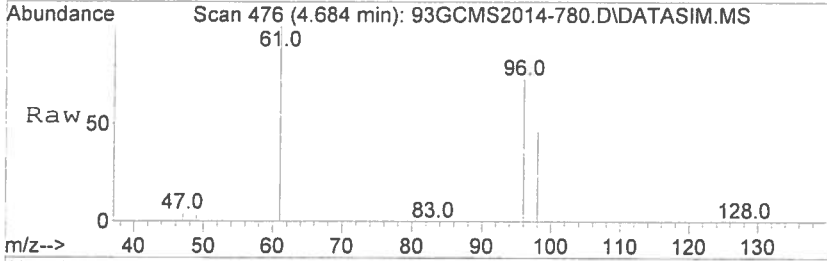
Tgt Ion: 61 Resp: 84775

Ion Ratio Lower Upper

61 100

96 72.8 58.2 87.2

98 46.5 37.1 55.7



#8

Chloroform

Concen: 589.62 ppbv

RT: 4.778 min Scan# 492

Delta R.T. 0.006 min

Lab File: 93GCMS2014-780.D

Acq: 30 Sep 2014 9:28

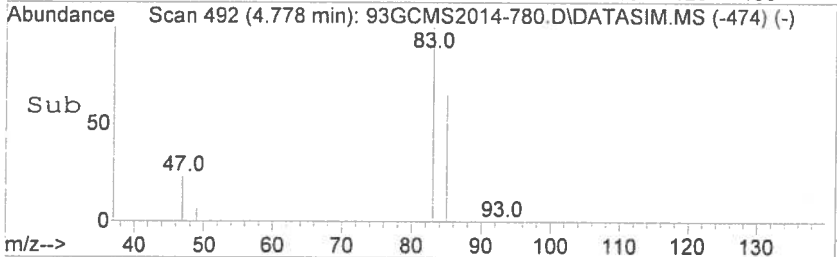
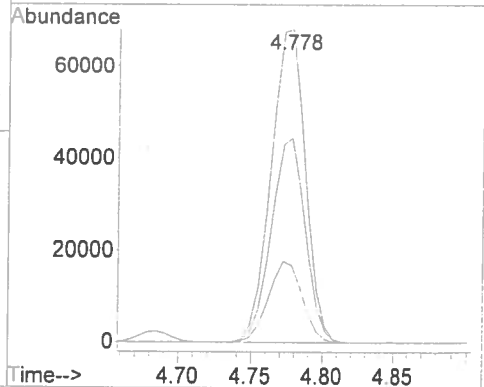
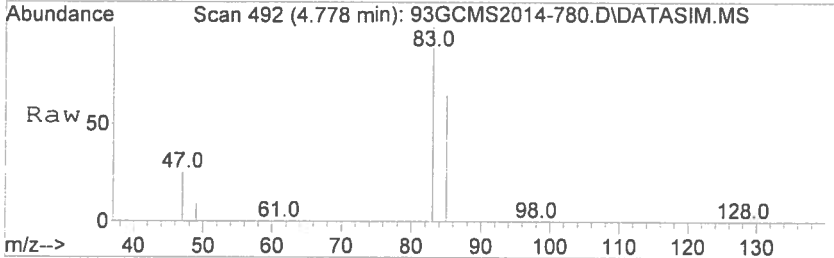
Tgt Ion: 83 Resp: 113762

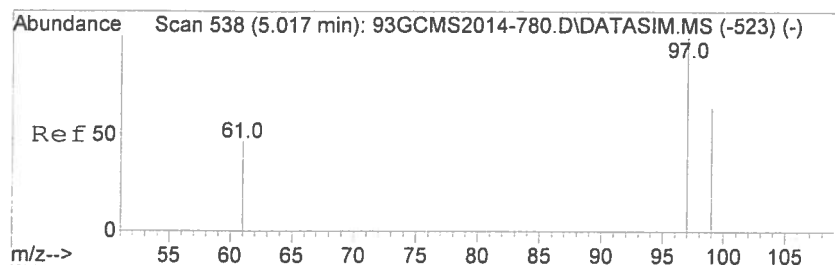
Ion Ratio Lower Upper

83 100

85 64.6 51.8 77.6

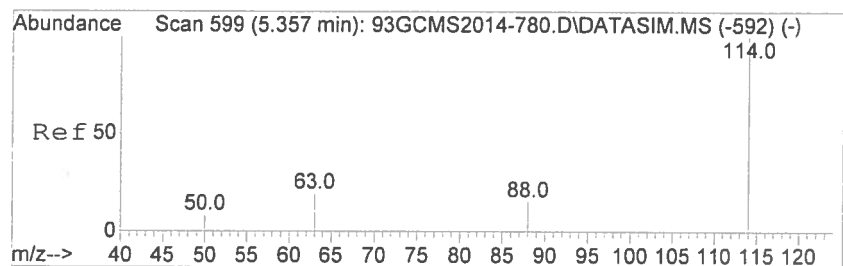
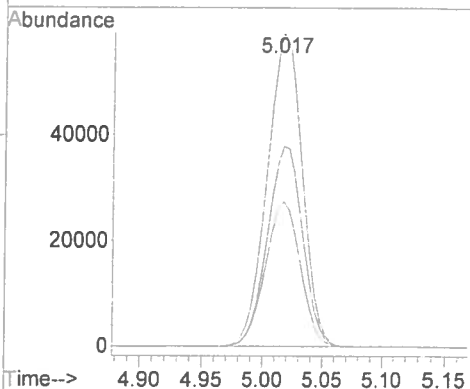
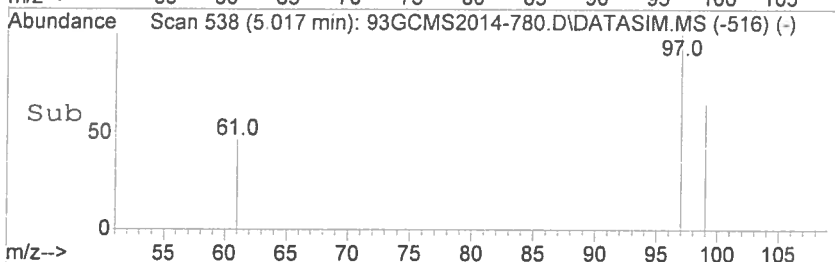
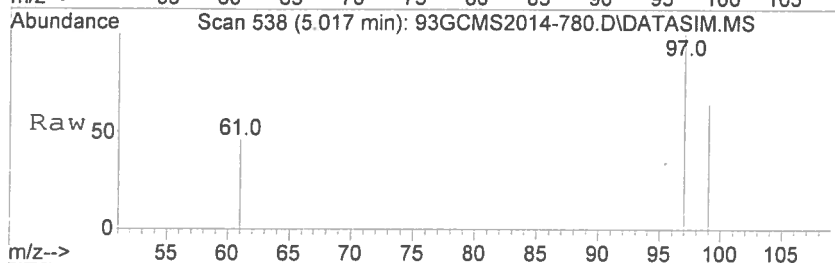
47 25.5 20.5 30.7





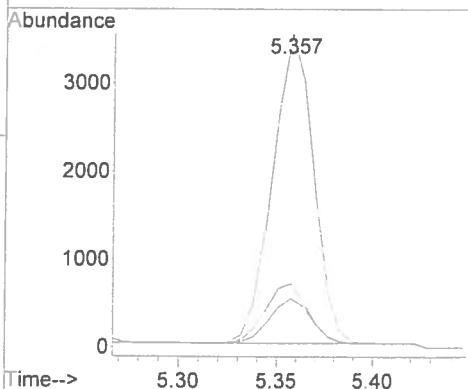
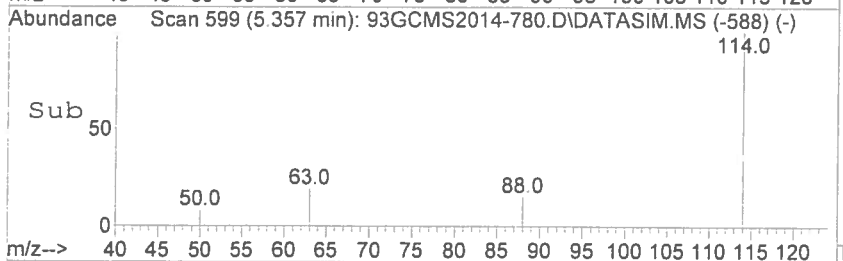
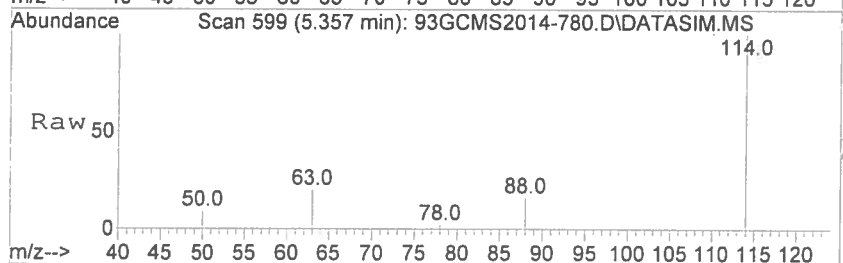
#9
 1,1,1-Trichloroethane
 Concen: 569.49 ppbv
 RT: 5.017 min Scan# 538
 Delta R.T. 0.000 min
 Lab File: 93GCMS2014-780.D
 Acq: 30 Sep 2014 9:28

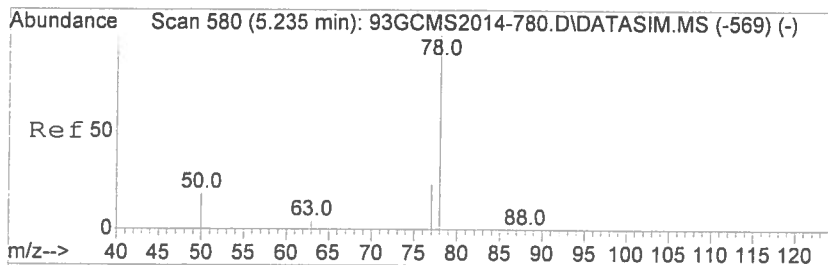
Tgt Ion	Ratio	Lower	Upper
97	100		
99	64.3	51.4	77.2
61	46.2	36.6	54.8



#10
 1,4-Difluorobenzene
 Concen: 10.00 ppbv
 RT: 5.357 min Scan# 599
 Delta R.T. -0.002 min
 Lab File: 93GCMS2014-780.D
 Acq: 30 Sep 2014 9:28

Tgt Ion	Ratio	Lower	Upper
114	100		
63	19.7	15.7	23.5
88	14.8	11.8	17.6





#11

Benzene

Concen: 566.44 ppbv

RT: 5.235 min Scan# 580

Delta R.T. -0.002 min

Lab File: 93GCMS2014-780.D

Acq: 30 Sep 2014 9:28

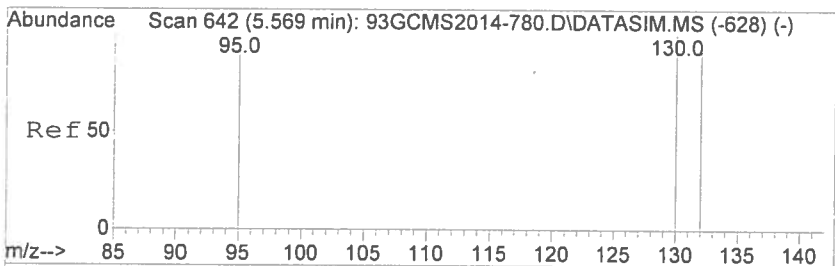
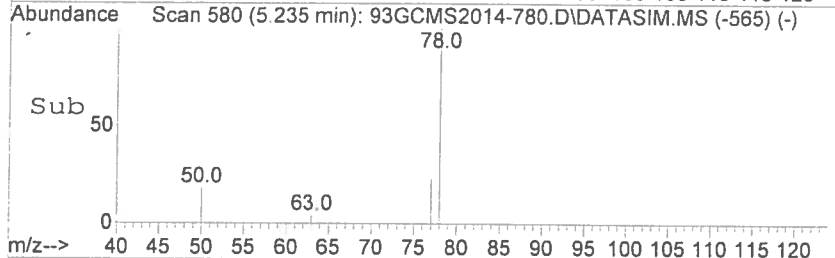
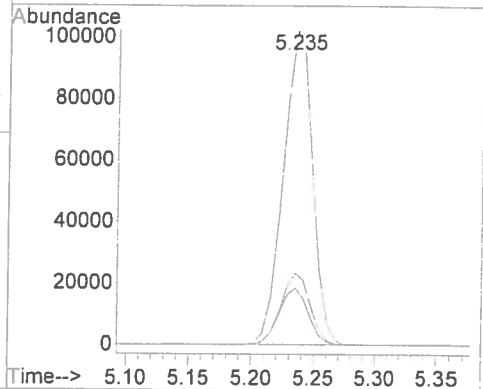
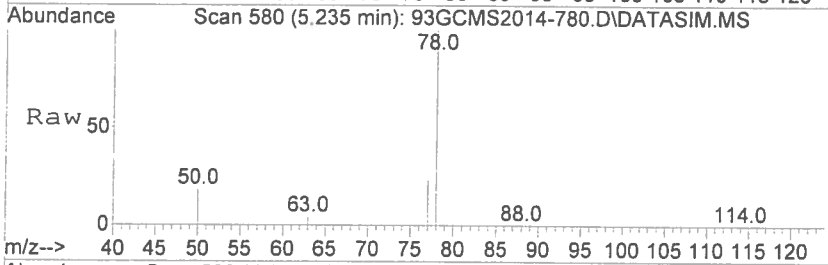
Tgt Ion: 78 Resp: 166896

Ion Ratio Lower Upper

78 100

77 22.9 18.3 27.5

50 18.0 14.4 21.6



#12

Trichloroethene

Concen: 554.32 ppbv

RT: 5.569 min Scan# 642

Delta R.T. 0.000 min

Lab File: 93GCMS2014-780.D

Acq: 30 Sep 2014 9:28

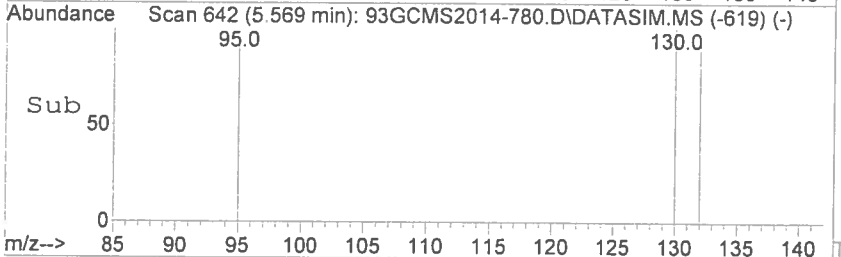
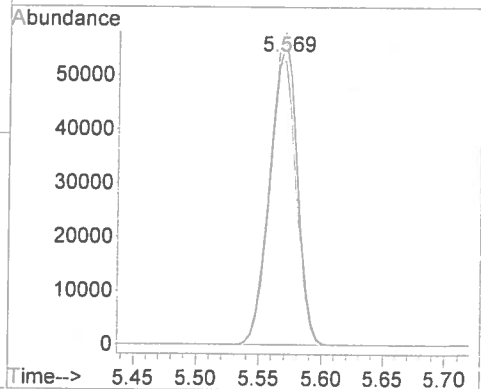
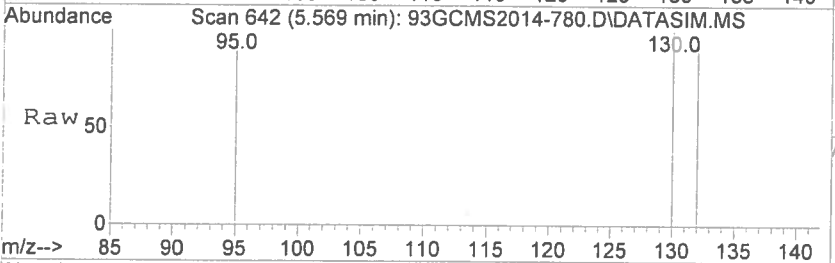
Tgt Ion: 130 Resp: 85658

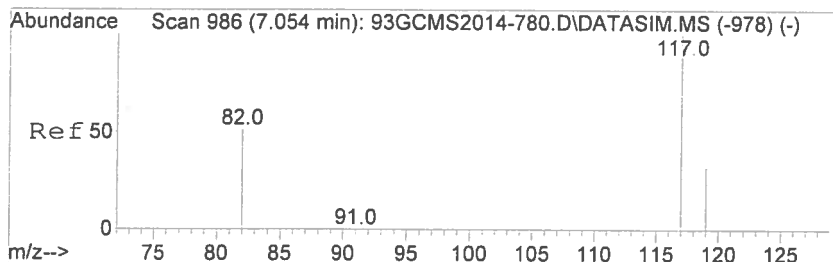
Ion Ratio Lower Upper

130 100

132 96.2 77.0 115.6

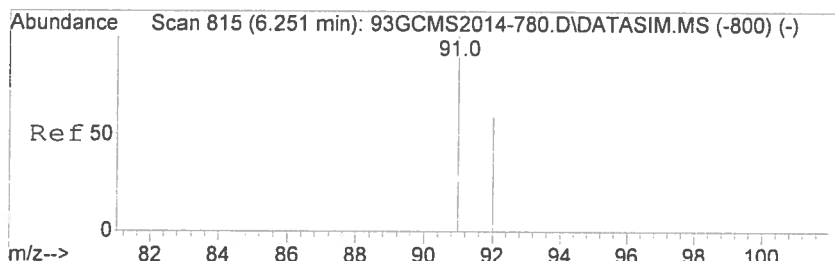
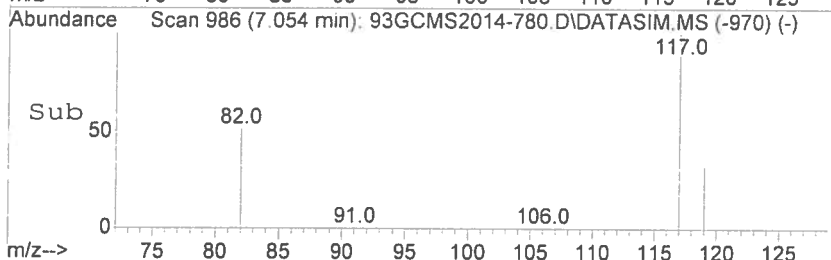
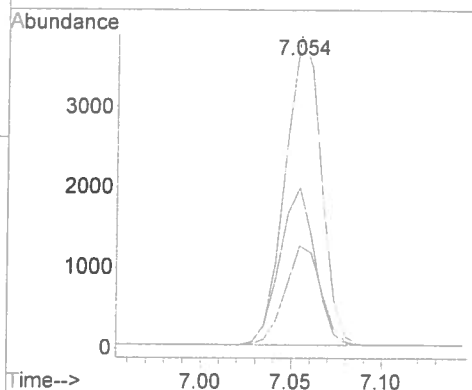
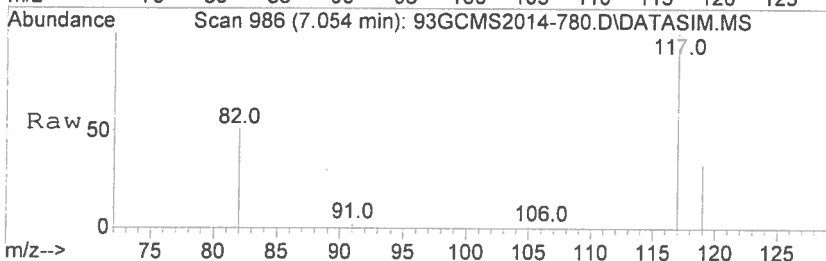
95 91.5 73.2 109.8





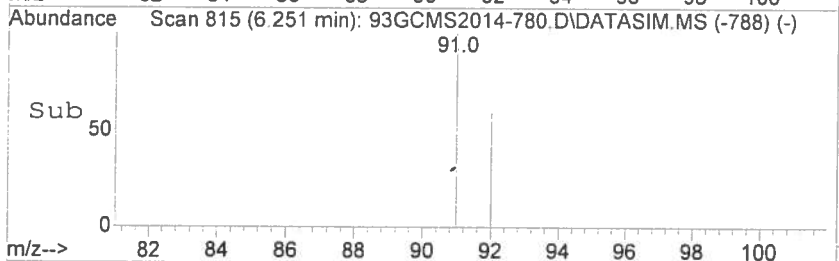
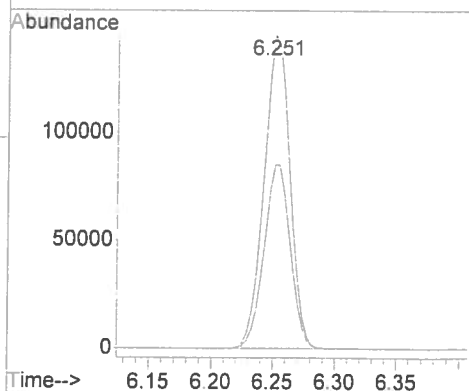
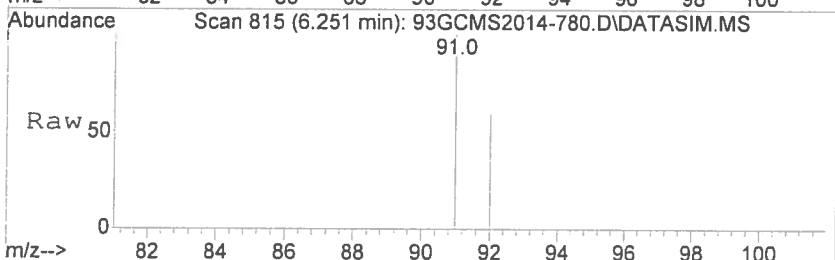
#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.054 min Scan# 986
Delta R.T. 0.000 min
Lab File: 93GCMS2014-780.D
Acq: 30 Sep 2014 9:28

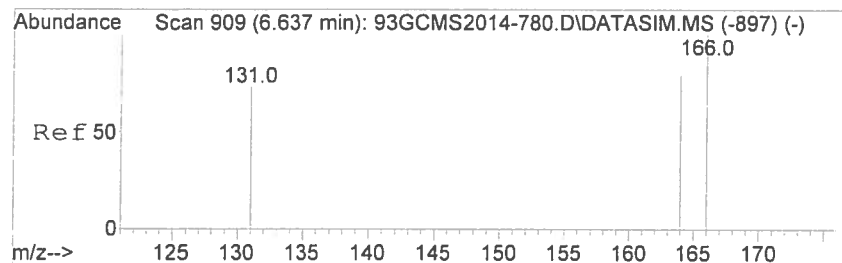
Tgt Ion	Ratio	Lower	Upper
117	100		
82	49.5	39.5	59.3
119	32.1	25.8	38.6



#14
Toluene
Concen: 570.55 ppbv
RT: 6.251 min Scan# 815
Delta R.T. 0.000 min
Lab File: 93GCMS2014-780.D
Acq: 30 Sep 2014 9:28

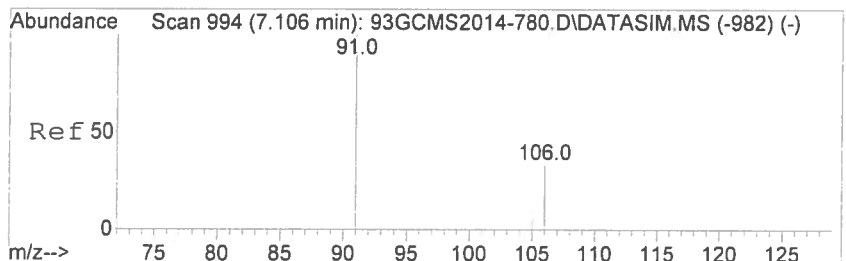
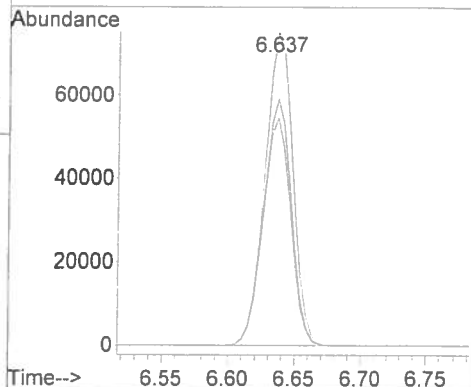
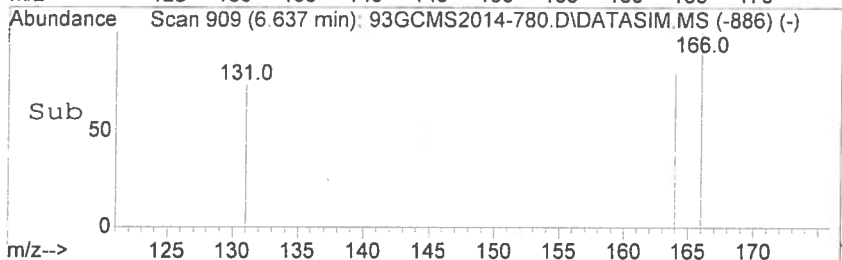
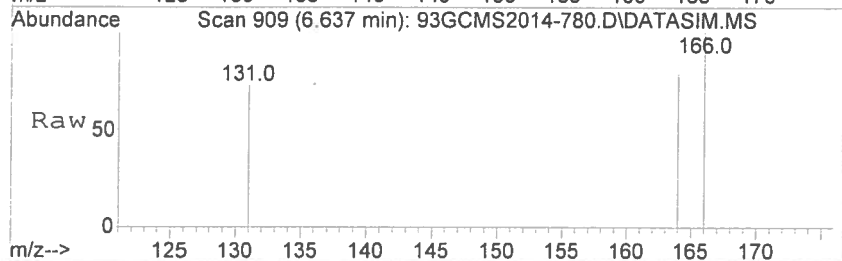
Tgt Ion	Ratio	Lower	Upper
91	100		
92	59.4	47.4	71.2





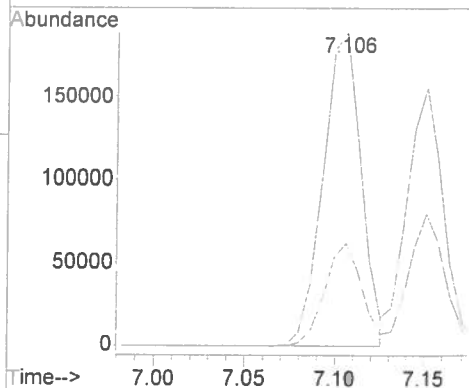
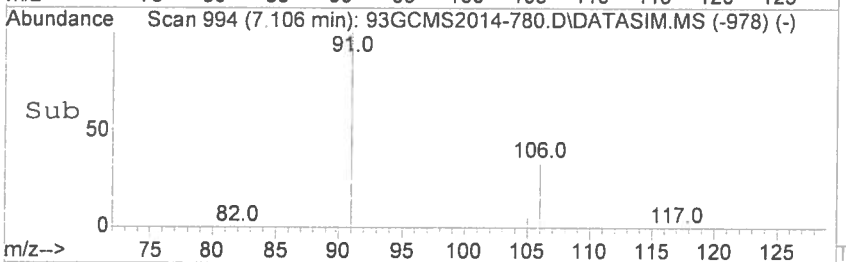
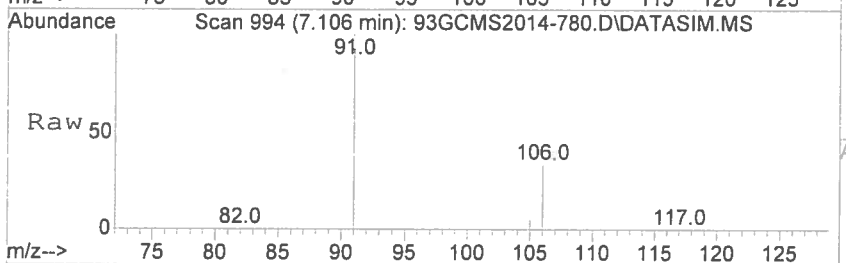
#15
Tetrachloroethene
Concen: 560.68 ppbv
RT: 6.637 min Scan# 909
Delta R.T. 0.000 min
Lab File: 93GCMS2014-780.D
Acq: 30 Sep 2014 9:28

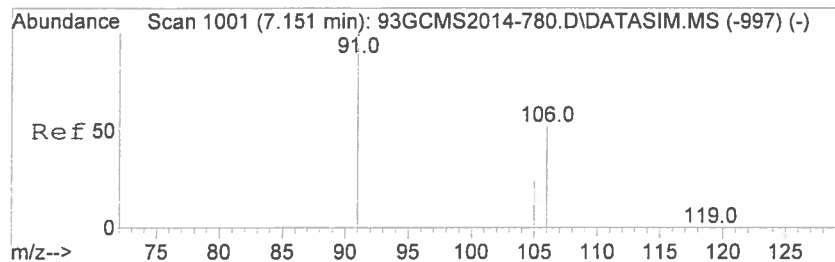
Tgt Ion	Ratio	Lower	Upper
166	100		
164	78.3	62.6	93.8
131	72.5	57.9	86.9



#16
Ethyl Benzene
Concen: 589.46 ppbv
RT: 7.106 min Scan# 994
Delta R.T. 0.000 min
Lab File: 93GCMS2014-780.D
Acq: 30 Sep 2014 9:28

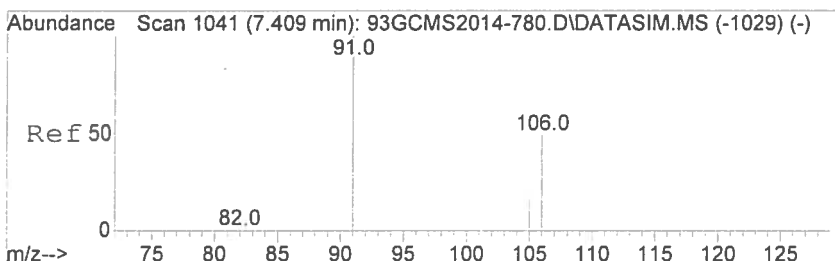
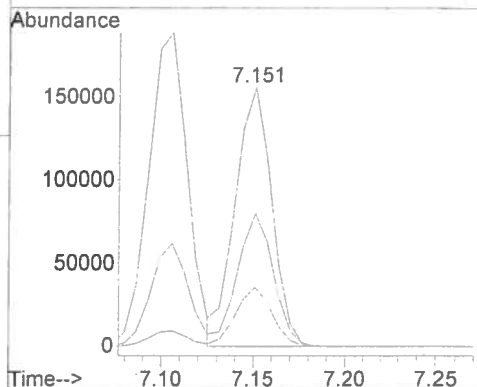
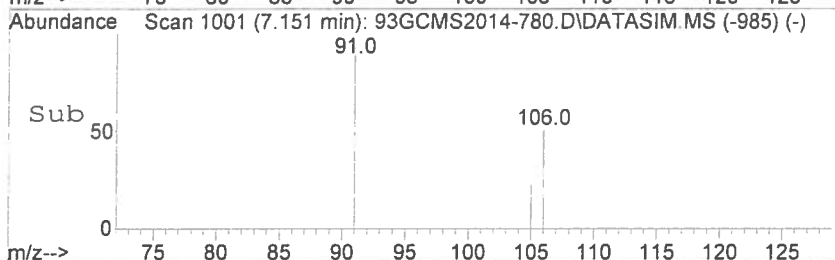
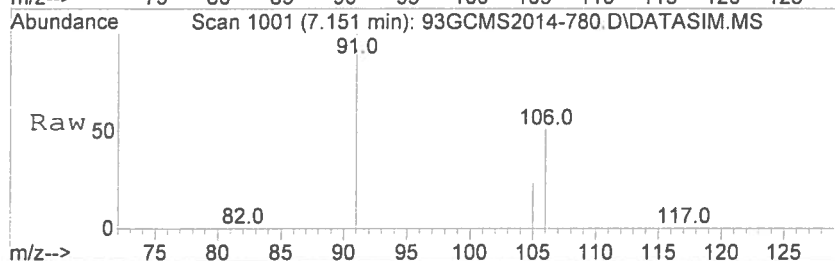
Tgt Ion	Ratio	Lower	Upper
91	100		
106	32.8	26.4	39.6





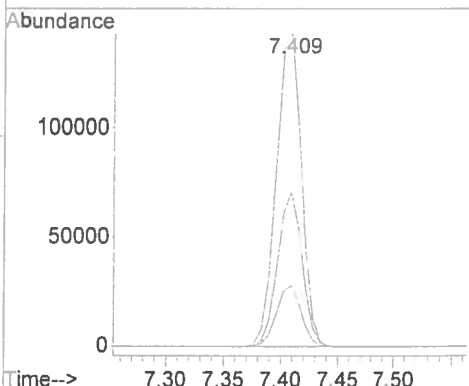
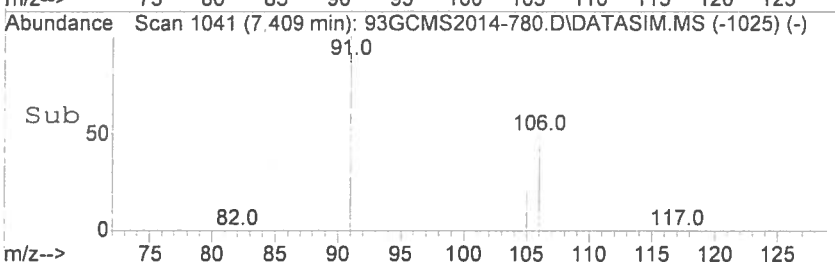
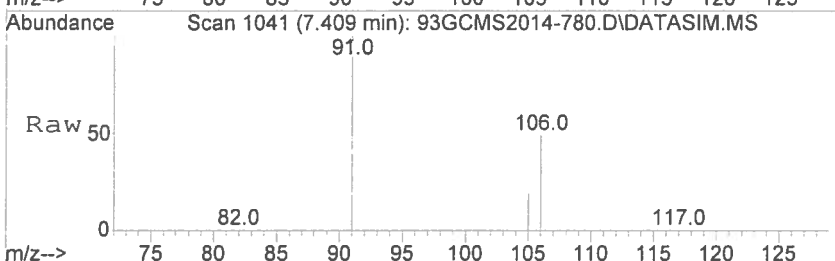
#17
m,p-Xylene
Concen: 589.01 ppbv
RT: 7.151 min Scan# 1001
Delta R.T. 0.000 min
Lab File: 93GCMS2014-780.D
Acq: 30 Sep 2014 9:28

Tgt Ion	Ratio	Lower	Upper
91	100		
106	51.2	41.2	61.8
105	22.7	18.4	27.6



#18
o-Xylene
Concen: 587.18 ppbv
RT: 7.409 min Scan# 1041
Delta R.T. 0.000 min
Lab File: 93GCMS2014-780.D
Acq: 30 Sep 2014 9:28

Tgt Ion	Ratio	Lower	Upper
91	100		
106	48.0	38.3	57.5
105	19.1	15.3	22.9



Data File:	93GCMS2014-781.d			
Sample Name:	STD20140930-3			
Sample Volume (mL)	5			
Date Prepared:	30-Sep-2014			
Date Analyzed:	30-Sep-2014			
Compound	COA Concentrations CC# 88022 EXP. 03/14/15 CC# 128284 EXP. 11/22/2014 (ppmv)	Calculated Concentrations STD20140930-3 0.5ppbv LLCCV (ppbv)	STD20140930-3 0.5ppbv LLCCV Results (ppbv)	Percent Deviation (%) (±50%)
1,1-Dichloroethene	19.9	0.51	0.61	-19.61
Methyl Tert Butyl Ether	20.1	0.53	0.46	13.21
trans-1,2-Dichloroethene	20.1	0.51	0.49	3.92
1,1-Dichloroethane	20.7	0.50	0.52	-4.00
cis-1,2-Dichloroethene	21.1	0.53	0.56	-5.66
Chloroform	20.6	0.52	0.62	-19.23
1,1,1-Trichloroethane	20.2	0.50	0.54	-8.00
Benzene	21.0	0.52	0.58	-11.54
Trichloroethene	20.2	0.50	0.53	-6.00
Toluene	20.8	0.52	0.62	-19.23
Tetrachloroethene	20.3	0.51	0.65	-27.45
Ethyl Benzene	20.8	0.52	0.52	0.00
m&p-Xylene	20.8	0.52	0.54	-3.85
o-Xylene	20.7	0.52	0.52	0.00

P 09/30/14

Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140930\
 Data File : 93GCMS2014-781.D
 Acq On : 30 Sep 2014 9:54
 Operator : SJT
 Sample : STD20140930-3 \ 0.5ppbv LLCCV
 Misc : 5mL \ 30 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 30 10:03:44 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjTue Sep 30 09:39:46 2014

QLast Update : Tue Sep 30 09:39:46 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	4.848	49	1820	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.356	114	4963	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.057	117	5060	10.00	ppbv	0.00

System Monitoring Compounds

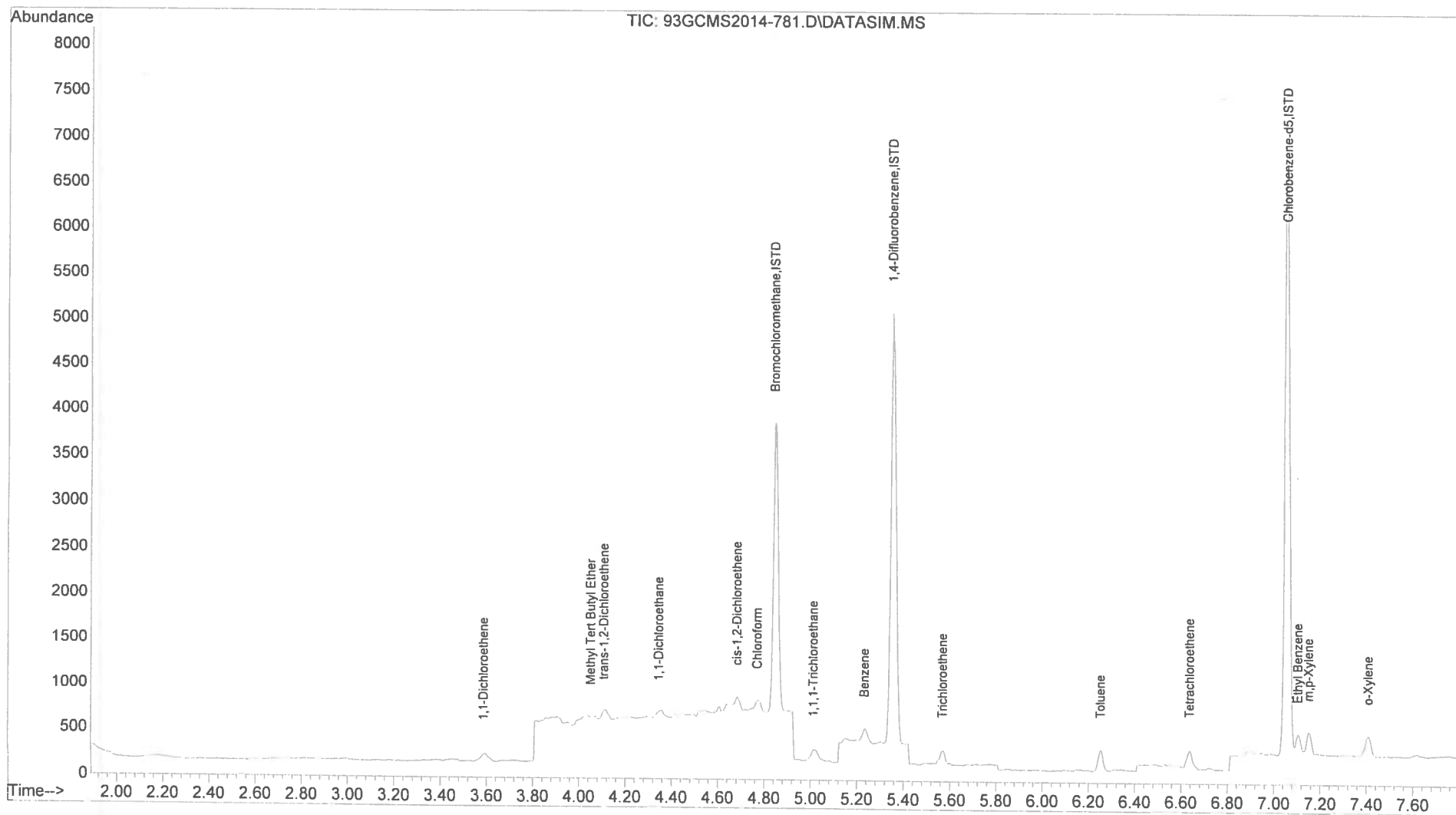
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
3) 1,1-Dichloroethene	3.589	61	98	0.61	ppbv	# 78
4) Methyl Tert Butyl Ether	4.053	73	90m	0.46	ppbv	
5) trans-1,2-Dichloroethene	4.109	61	73m	0.49	ppbv	
6) 1,1-Dichloroethane	4.346	63	94m	0.52	ppbv	
7) cis-1,2-Dichloroethene	4.684	61	78m	0.56	ppbv	
8) Chloroform	4.772	83	115	0.62	ppbv	# 88
9) 1,1,1-Trichloroethane	5.014	97	108m	0.54	ppbv	
11) Benzene	5.234	78	163m	0.58	ppbv	
12) Trichloroethene	5.568	130	78m	0.53	ppbv	
14) Toluene	6.250	91	218	0.62	ppbv	99
15) Tetrachloroethene	6.635	166	121m	0.65	ppbv	
16) Ethyl Benzene	7.102	91	231	0.52	ppbv	# 77
17) m,p-Xylene	7.148	91	190	0.54	ppbv	# 77
18) o-Xylene	7.406	91	185	0.52	ppbv	# 94

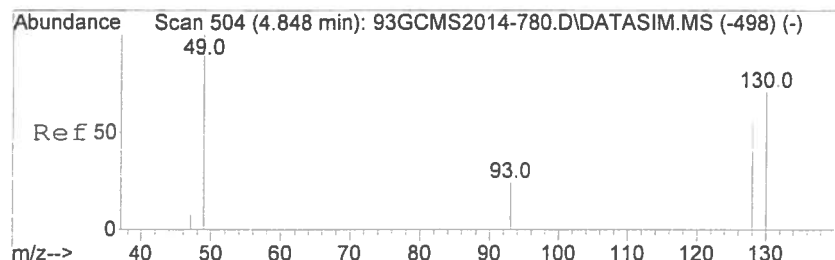
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Handwritten signature and date: 09/30/14

Data Path : D:\msdchem\1\data\2014\20140930\
Data File : 93GCMS2014-781.D
Acq On : 30 Sep 2014 9:54
Operator : SJT
Sample : STD20140930-3 \ 0.5ppbv LLCCV
Misc : 5mL \ 30 Sept 2014
ALS Vial : 1 Sample Multiplier: 1

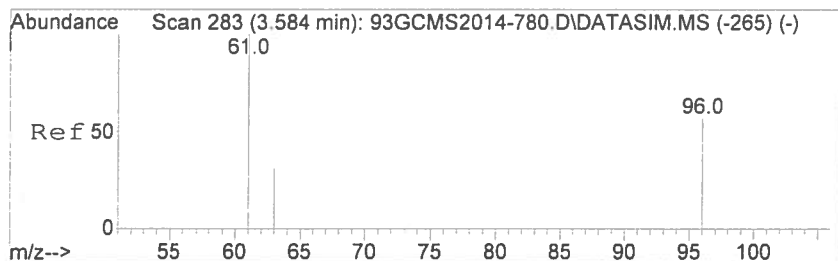
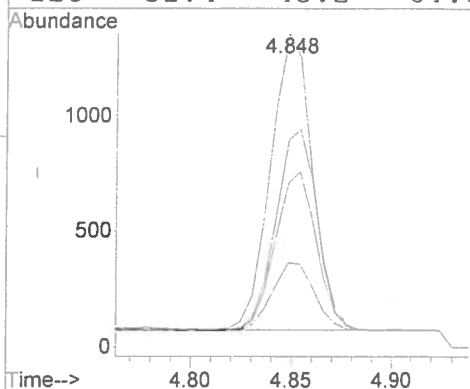
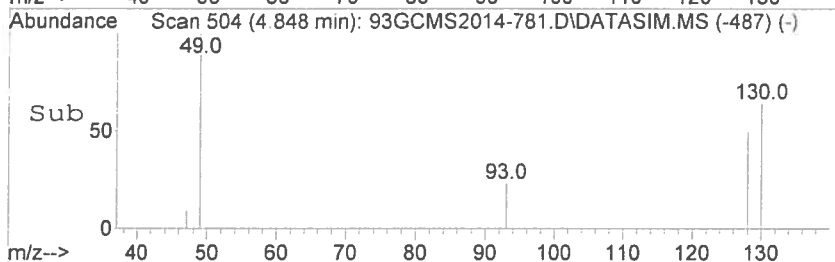
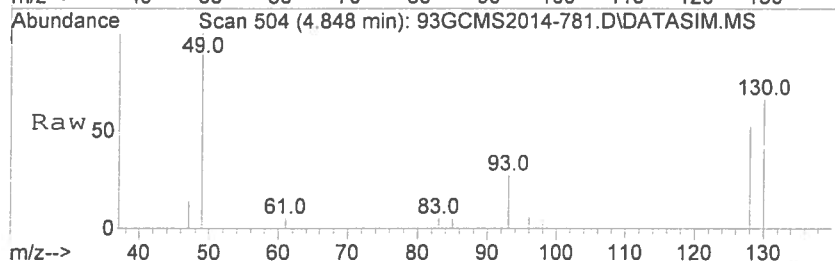
Quant Time: Sep 30 10:03:44 2014
Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjTue Sep 30 09:39:46 2014
QLast Update : Tue Sep 30 09:39:46 2014
Response via : Initial Calibration





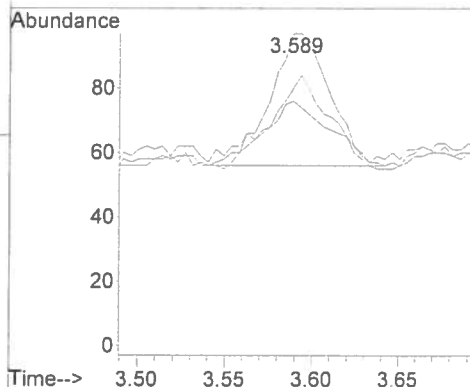
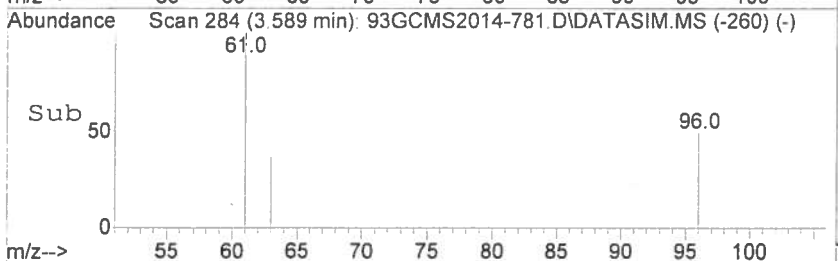
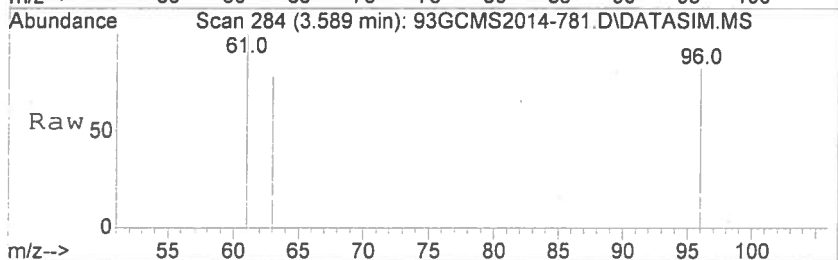
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. -0.000 min
Lab File: 93GCMS2014-781.D
Acq: 30 Sep 2014 9:54

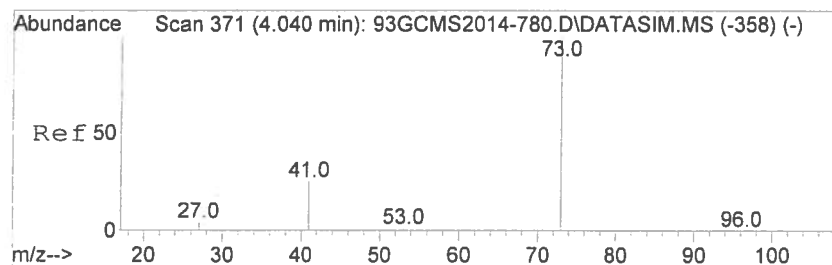
Tgt Ion	Ratio	Lower	Upper
49	100		
130	66.0	54.4	81.6
93	26.8	21.1	31.7
128	52.4	43.2	64.8



#3
1,1-Dichloroethene
Concen: 0.61 ppbv
RT: 3.589 min Scan# 284
Delta R.T. 0.004 min
Lab File: 93GCMS2014-781.D
Acq: 30 Sep 2014 9:54

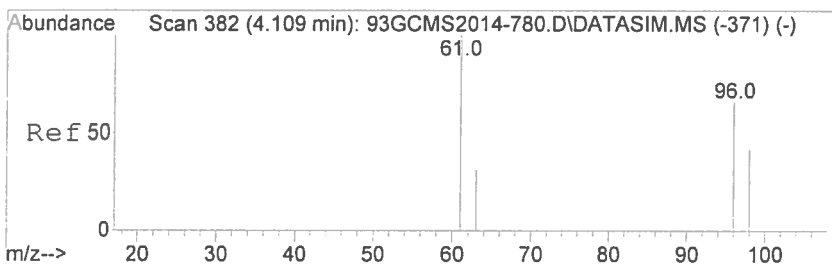
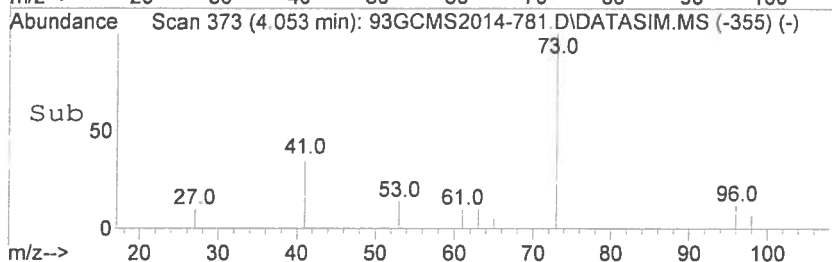
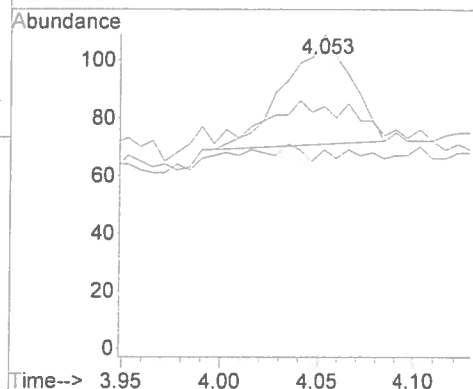
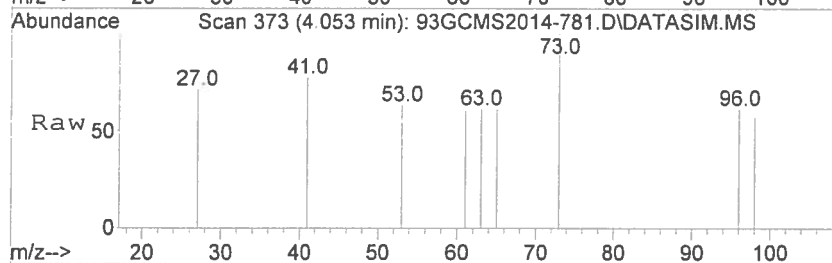
Tgt Ion	Ratio	Lower	Upper
61	100		
96	68.4	46.7	70.1
63	52.0	25.3	37.9#





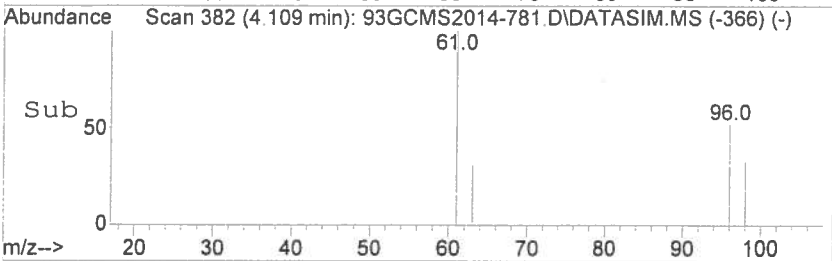
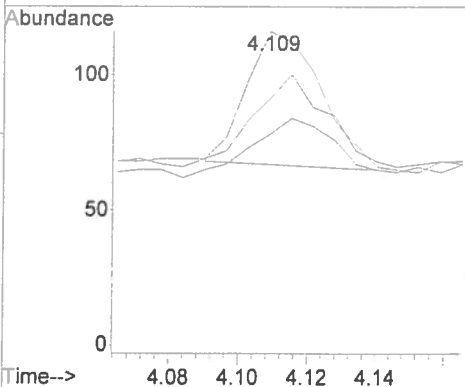
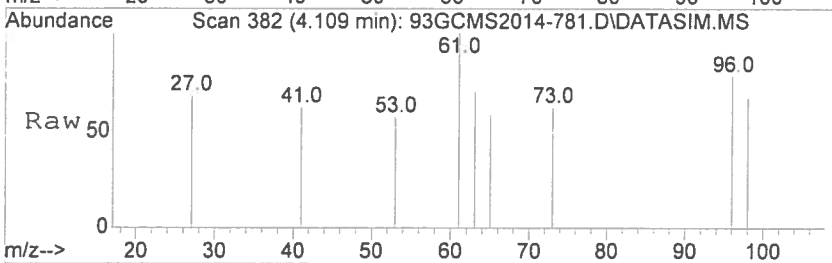
#4
Methyl Tert Butyl Ether
Concen: 0.46 ppbv m
RT: 4.053 min Scan# 373
Delta R.T. 0.012 min
Lab File: 93GCMS2014-781.D
Acq: 30 Sep 2014 9:54

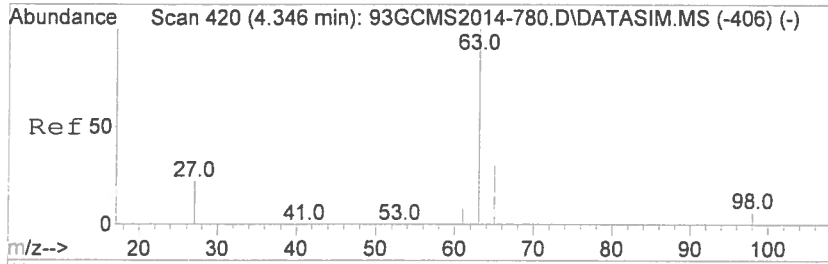
Tgt Ion	Ratio	Lower	Upper
73	100		
53	7.8	1.0	1.6#
41	0.0	20.2	30.2#



#5
trans-1,2-Dichloroethene
Concen: 0.49 ppbv m
RT: 4.109 min Scan# 382
Delta R.T. -0.000 min
Lab File: 93GCMS2014-781.D
Acq: 30 Sep 2014 9:54

Tgt Ion	Ratio	Lower	Upper
61	100		
96	71.2	53.0	79.6
98	50.7	33.8	50.6#





#6

1,1-Dichloroethane

Concen: 0.52 ppbv m

RT: 4.346 min Scan# 420

Delta R.T. -0.000 min

Lab File: 93GCMS2014-781.D

Acq: 30 Sep 2014 9:54

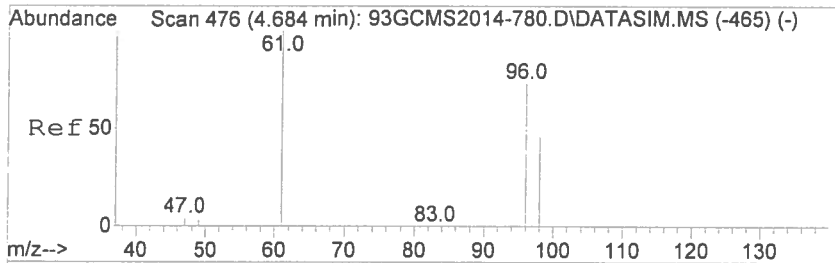
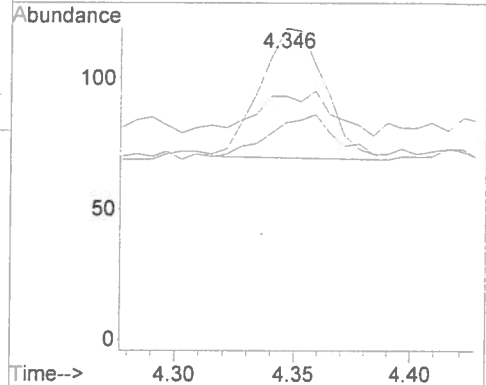
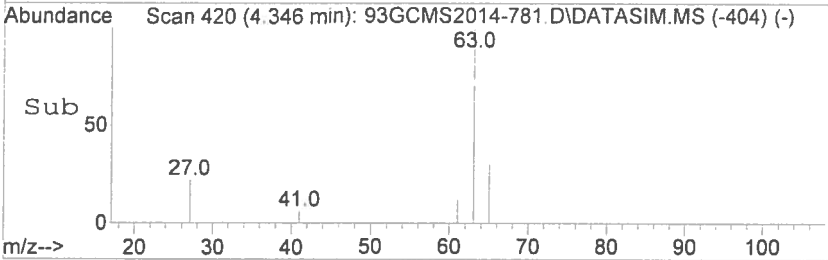
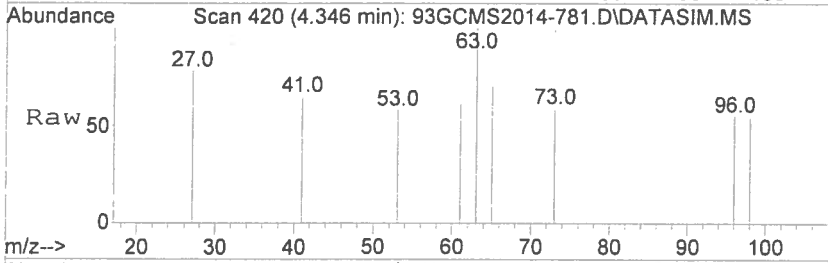
Tgt Ion: 63 Resp: 94

Ion Ratio Lower Upper

63 100

65 38.3 24.2 36.2#

27 40.4 18.6 28.0#



#7

cis-1,2-Dichloroethene

Concen: 0.56 ppbv m

RT: 4.684 min Scan# 476

Delta R.T. -0.000 min

Lab File: 93GCMS2014-781.D

Acq: 30 Sep 2014 9:54

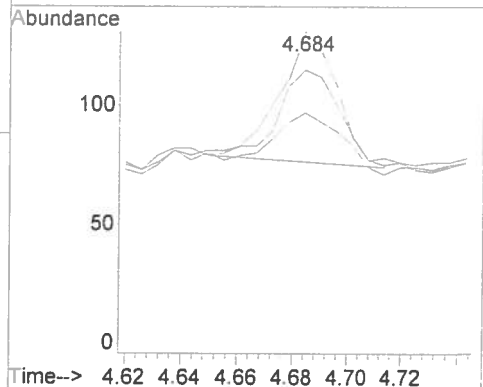
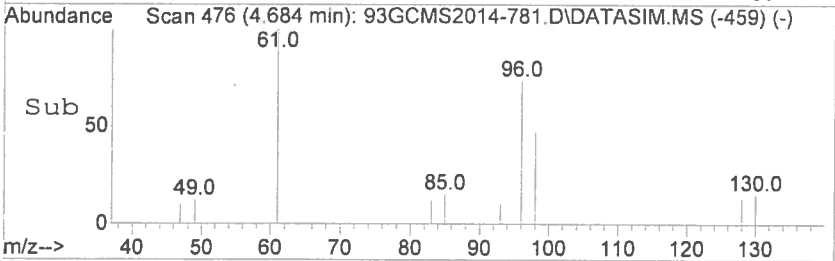
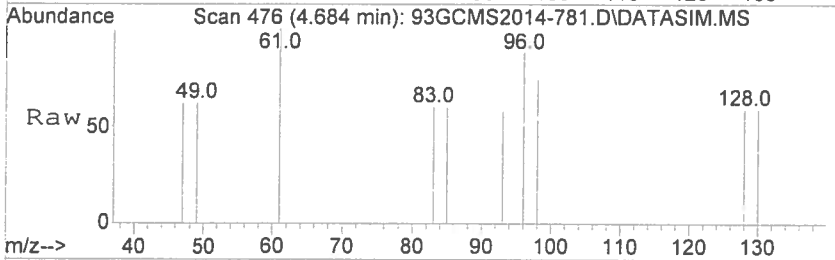
Tgt Ion: 61 Resp: 78

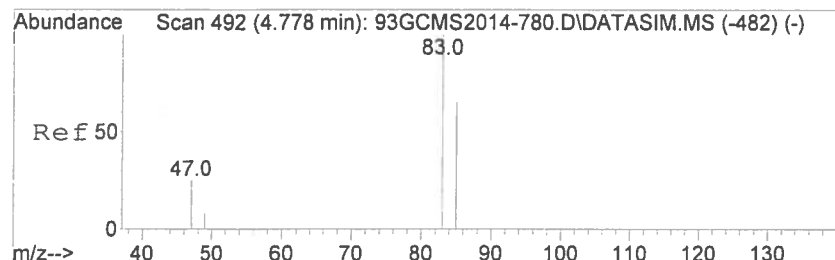
Ion Ratio Lower Upper

61 100

96 107.7 58.2 87.2#

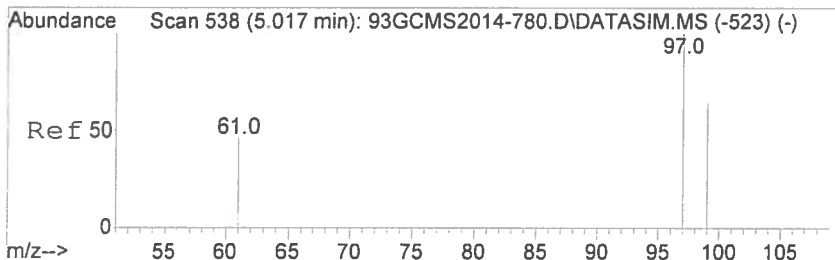
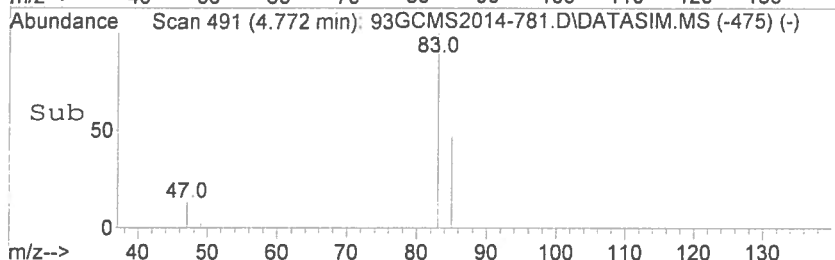
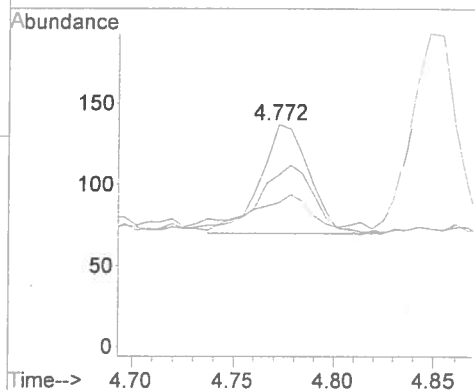
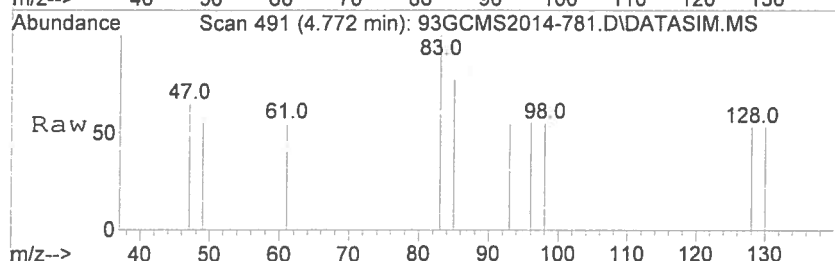
98 60.3 37.1 55.7#





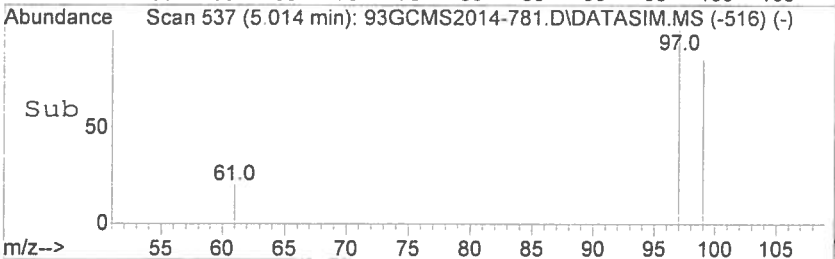
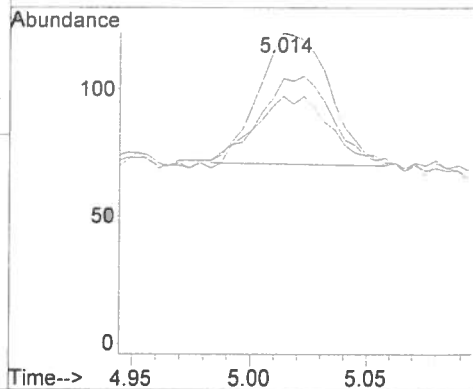
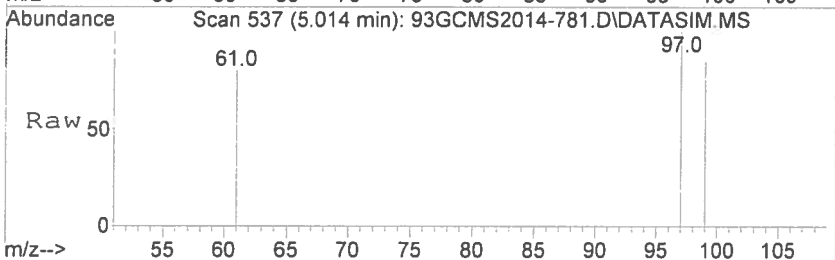
#8
Chloroform
Concen: 0.62 ppbv
RT: 4.772 min Scan# 491
Delta R.T. -0.006 min
Lab File: 93GCMS2014-781.D
Acq: 30 Sep 2014 9:54

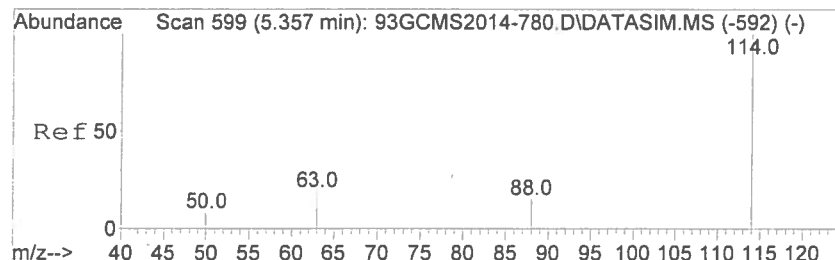
Tgt Ion: 83 Resp: 115
Ion Ratio Lower Upper
83 100
85 73.9 51.8 77.6
47 32.2 20.5 30.7#



#9
1,1,1-Trichloroethane
Concen: 0.54 ppbv m
RT: 5.014 min Scan# 537
Delta R.T. -0.003 min
Lab File: 93GCMS2014-781.D
Acq: 30 Sep 2014 9:54

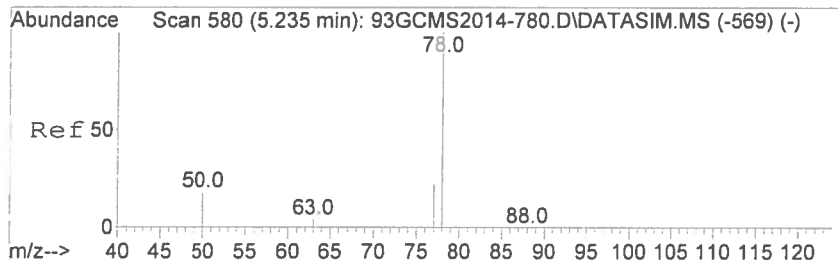
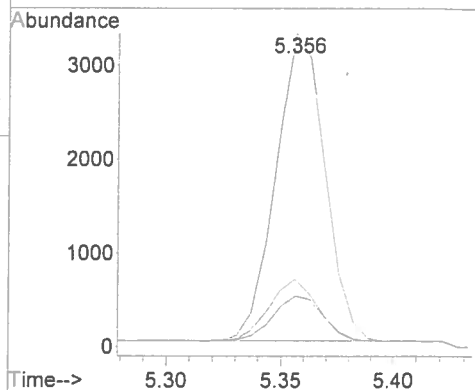
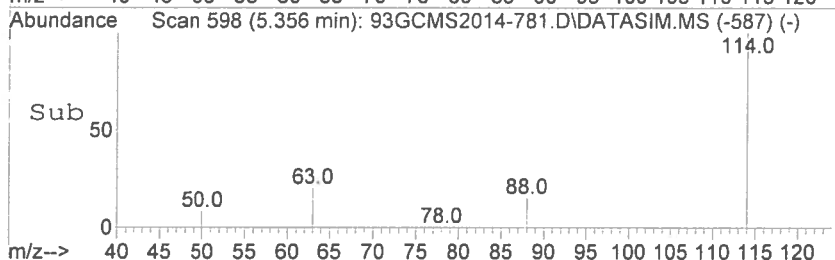
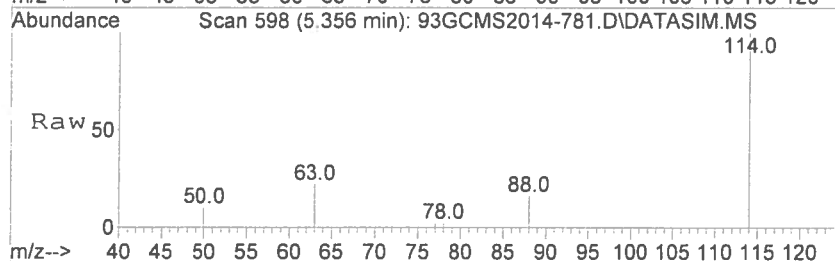
Tgt Ion: 97 Resp: 108
Ion Ratio Lower Upper
97 100
99 105.6 51.4 77.2#
61 67.6 36.6 54.8#





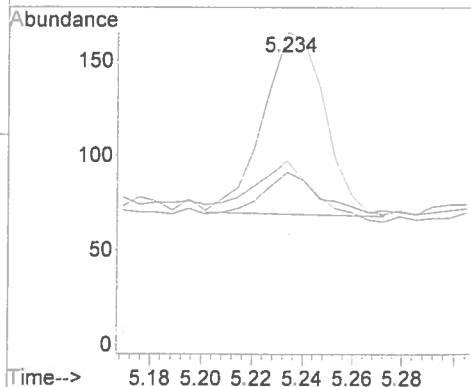
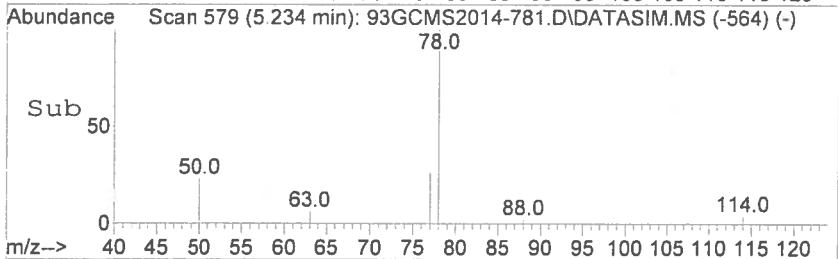
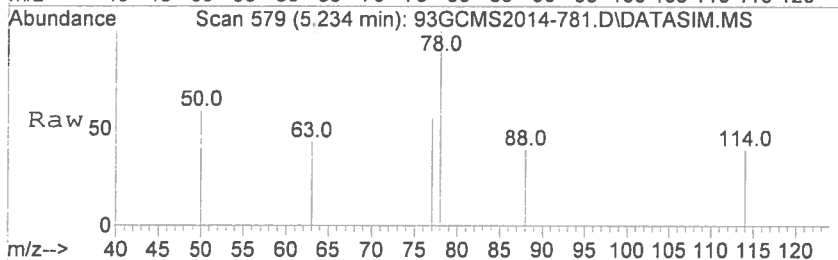
#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.356 min Scan# 598
Delta R.T. -0.001 min
Lab File: 93GCMS2014-781.D
Acq: 30 Sep 2014 9:54

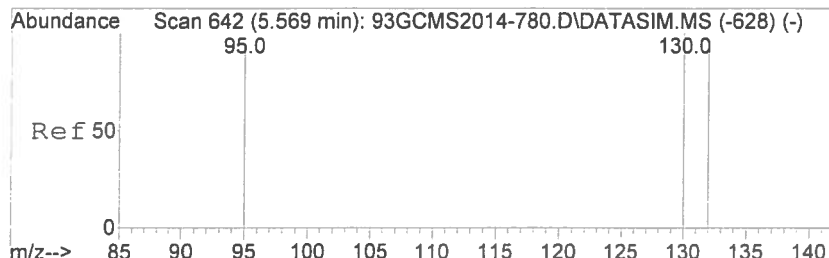
Tgt Ion	Ratio	Lower	Upper
114	100		
63	19.6	15.7	23.5
88	15.2	11.8	17.6



#11
Benzene
Concen: 0.58 ppbv m
RT: 5.234 min Scan# 579
Delta R.T. -0.001 min
Lab File: 93GCMS2014-781.D
Acq: 30 Sep 2014 9:54

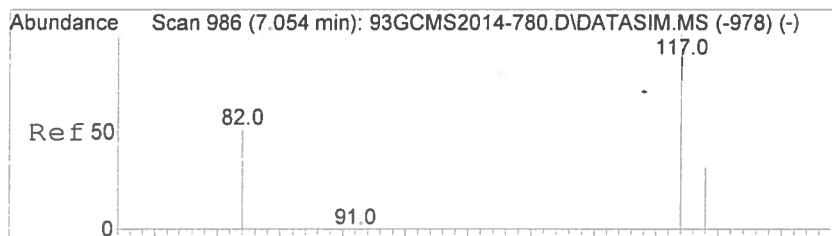
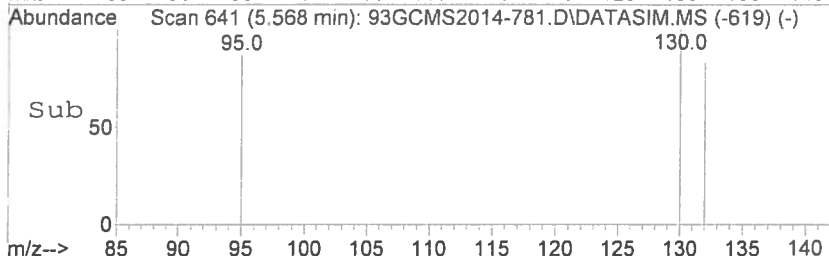
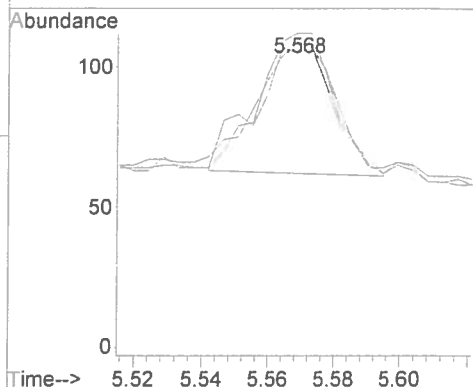
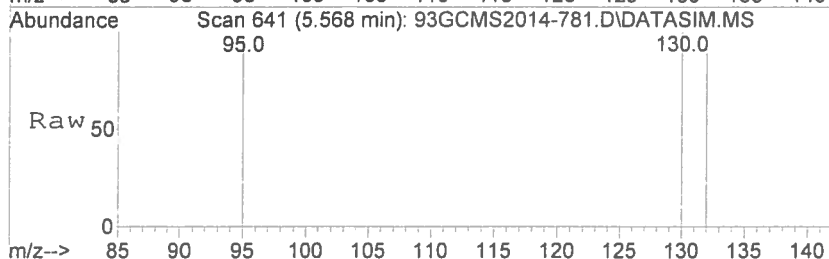
Tgt Ion	Ratio	Lower	Upper
78	100		
77	27.6	18.3	27.5#
50	28.2	14.4	21.6#





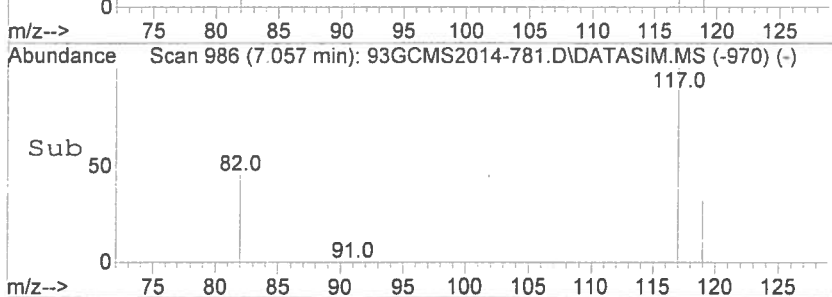
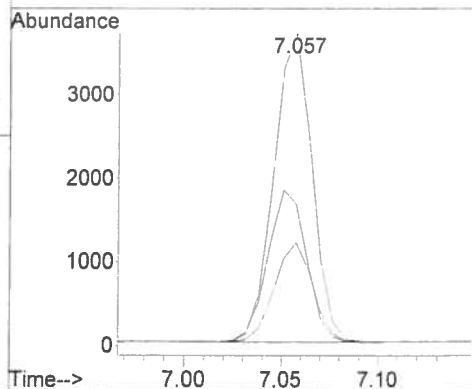
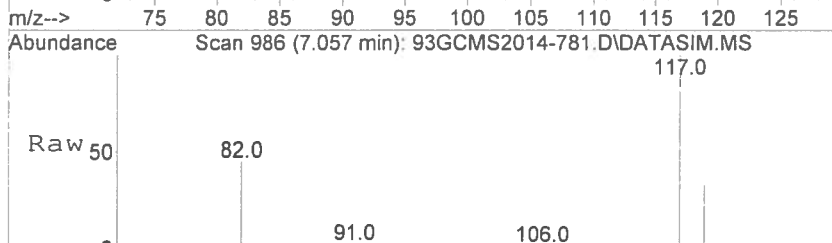
#12
 Trichloroethene
 Concen: 0.53 ppbv m
 RT: 5.568 min Scan# 641
 Delta R.T. -0.001 min
 Lab File: 93GCMS2014-781.D
 Acq: 30 Sep 2014 9:54

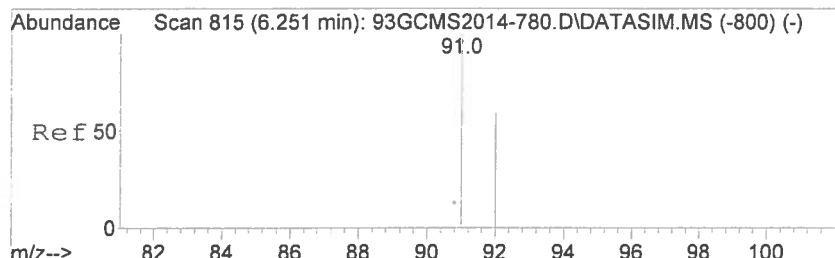
Tgt Ion	Ratio	Lower	Upper
130	100		
132	120.5	77.0	115.6#
95	89.7	73.2	109.8



#13
 Chlorobenzene-d5
 Concen: 10.00 ppbv
 RT: 7.057 min Scan# 986
 Delta R.T. 0.003 min
 Lab File: 93GCMS2014-781.D
 Acq: 30 Sep 2014 9:54

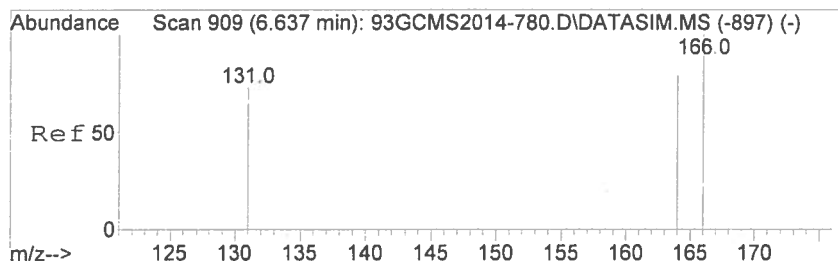
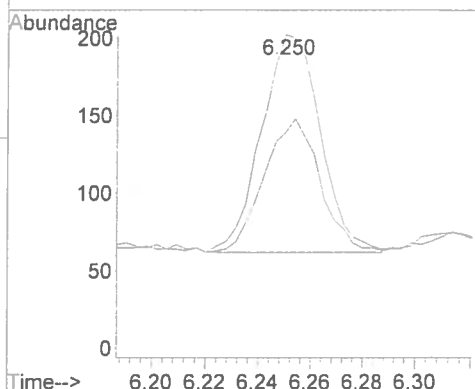
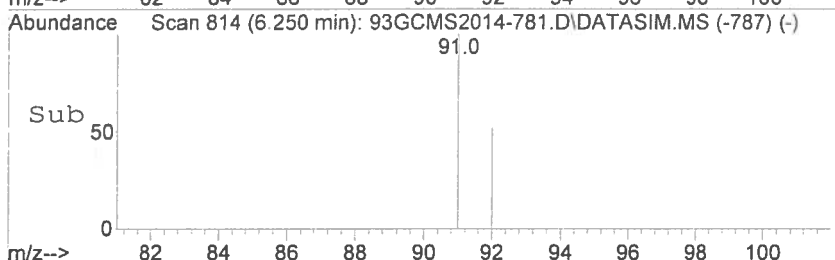
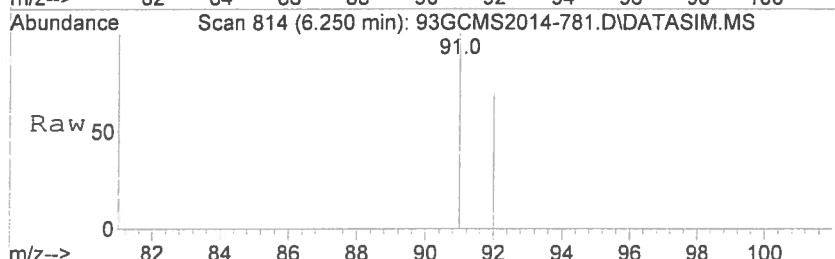
Tgt Ion	Ratio	Lower	Upper
117	100		
82	49.8	39.5	59.3
119	32.1	25.8	38.6





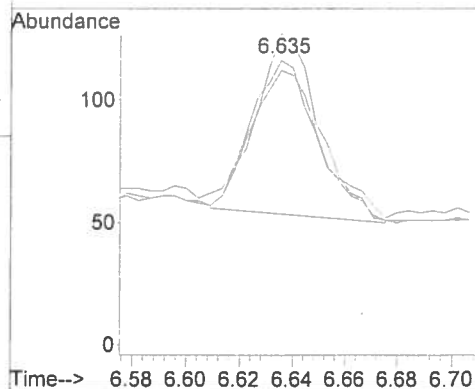
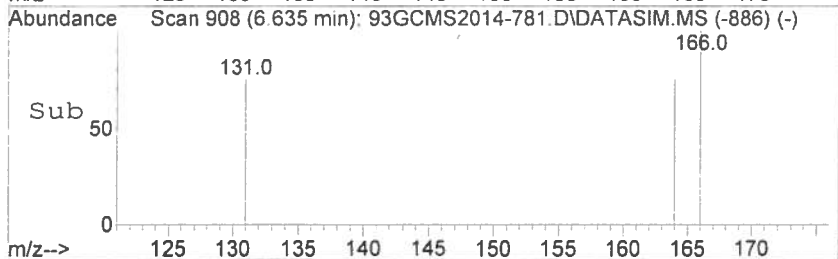
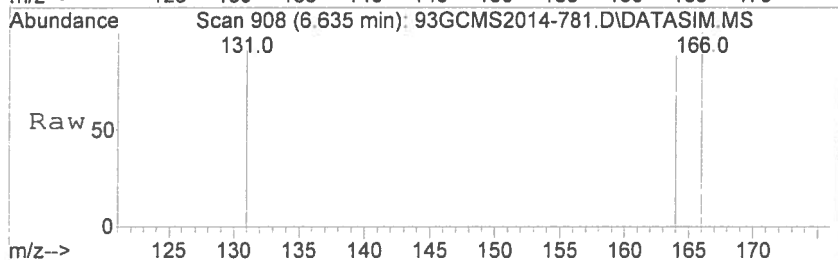
#14
Toluene
Concen: 0.62 ppbv
RT: 6.250 min Scan# 814
Delta R.T. -0.001 min
Lab File: 93GCMS2014-781.D
Acq: 30 Sep 2014 9:54

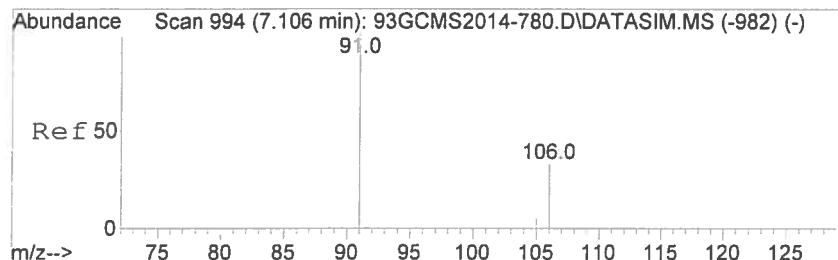
Tgt Ion	Ratio	Lower	Upper
91	100		
92	58.3	47.4	71.2



#15
Tetrachloroethene
Concen: 0.65 ppbv m
RT: 6.635 min Scan# 908
Delta R.T. -0.001 min
Lab File: 93GCMS2014-781.D
Acq: 30 Sep 2014 9:54

Tgt Ion	Ratio	Lower	Upper
166	100		
164	92.6	62.6	93.8
131	98.3	57.9	86.9#





#16

Ethyl Benzene

Concen: 0.52 ppbv

RT: 7.102 min Scan# 993

Delta R.T. -0.003 min

Lab File: 93GCMS2014-781.D

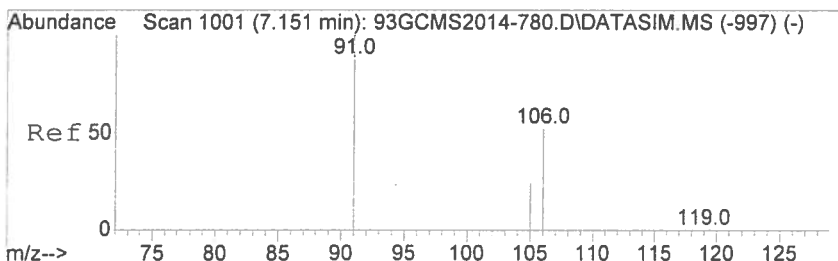
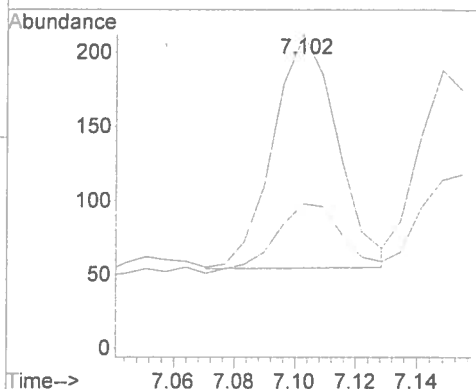
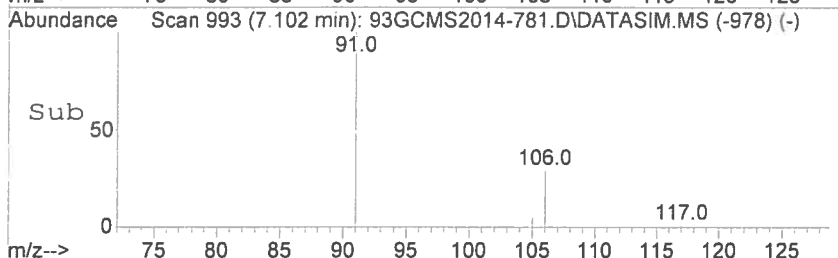
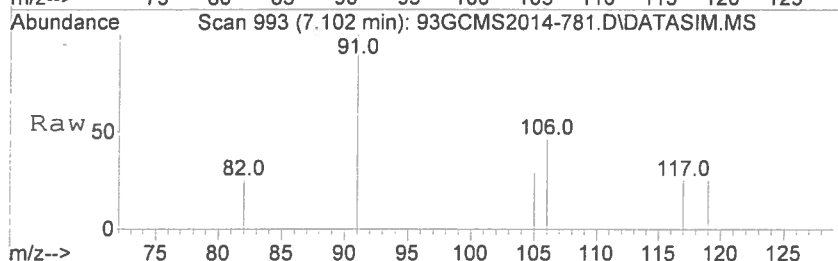
Acq: 30 Sep 2014 9:54

Tgt Ion: 91 Resp: 231

Ion Ratio Lower Upper

91 100

106 46.2 26.4 39.6#



#17

m,p-Xylene

Concen: 0.54 ppbv

RT: 7.148 min Scan# 1000

Delta R.T. -0.003 min

Lab File: 93GCMS2014-781.D

Acq: 30 Sep 2014 9:54

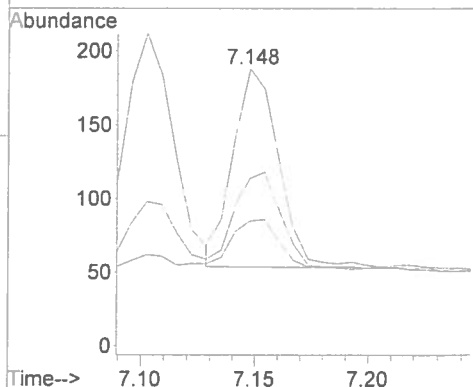
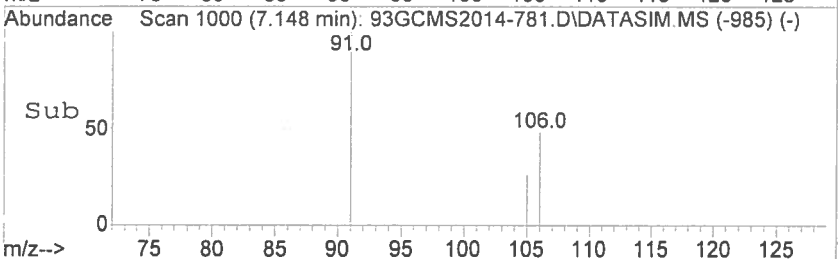
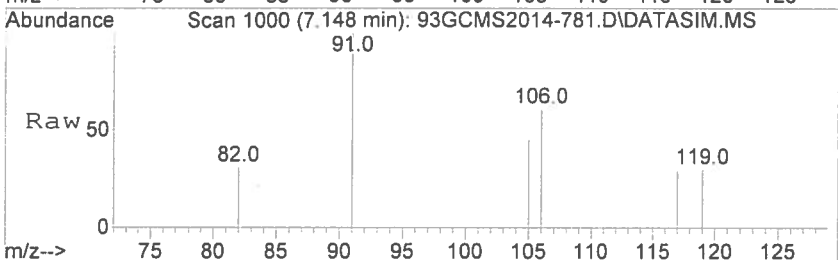
Tgt Ion: 91 Resp: 190

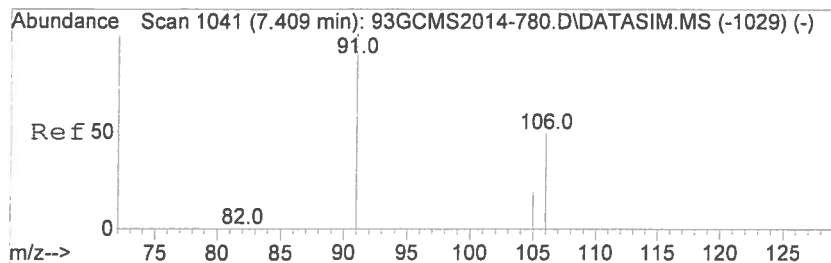
Ion Ratio Lower Upper

91 100

106 60.6 41.2 61.8

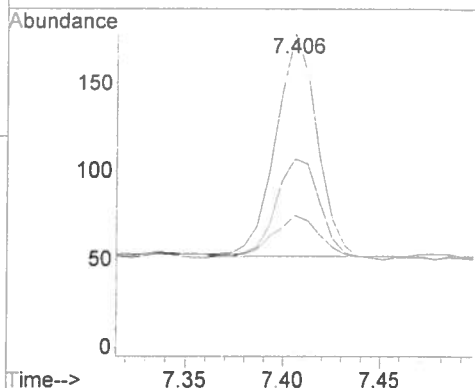
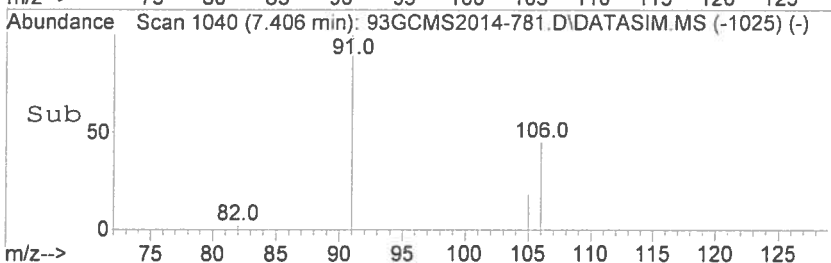
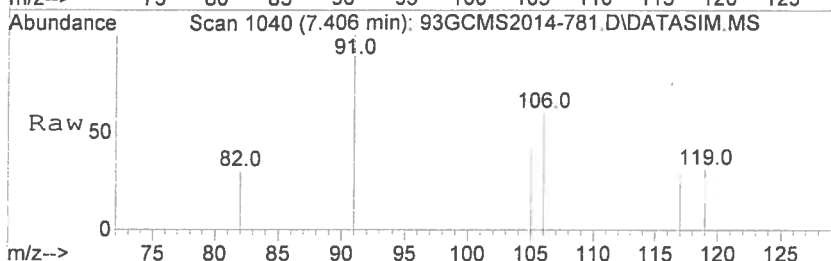
105 45.2 18.4 27.6#



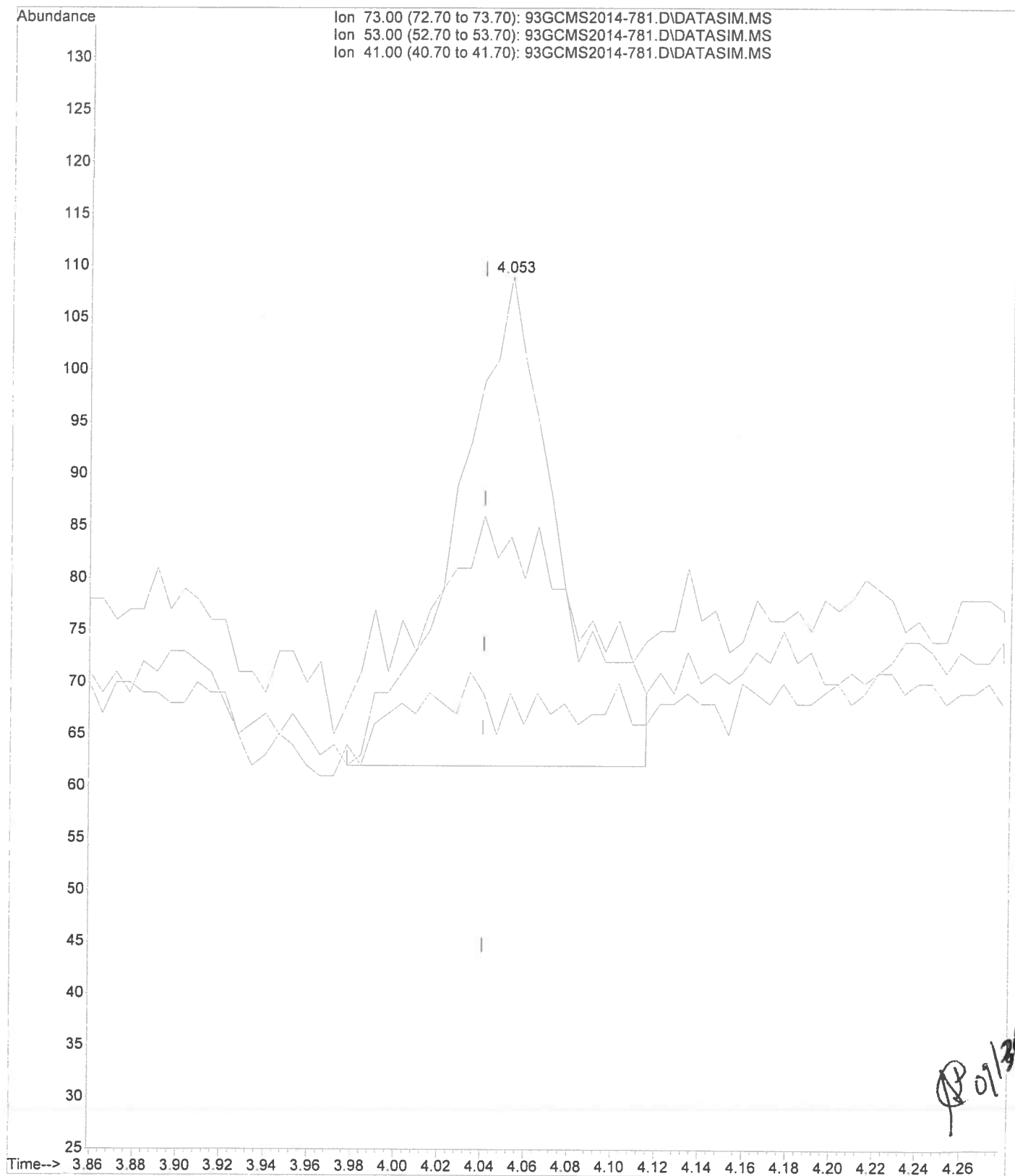


#18
o-Xylene
Concen: 0.52 ppbv
RT: 7.406 min Scan# 1040
Delta R.T. -0.003 min
Lab File: 93GCMS2014-781.D
Acq: 30 Sep 2014 9:54

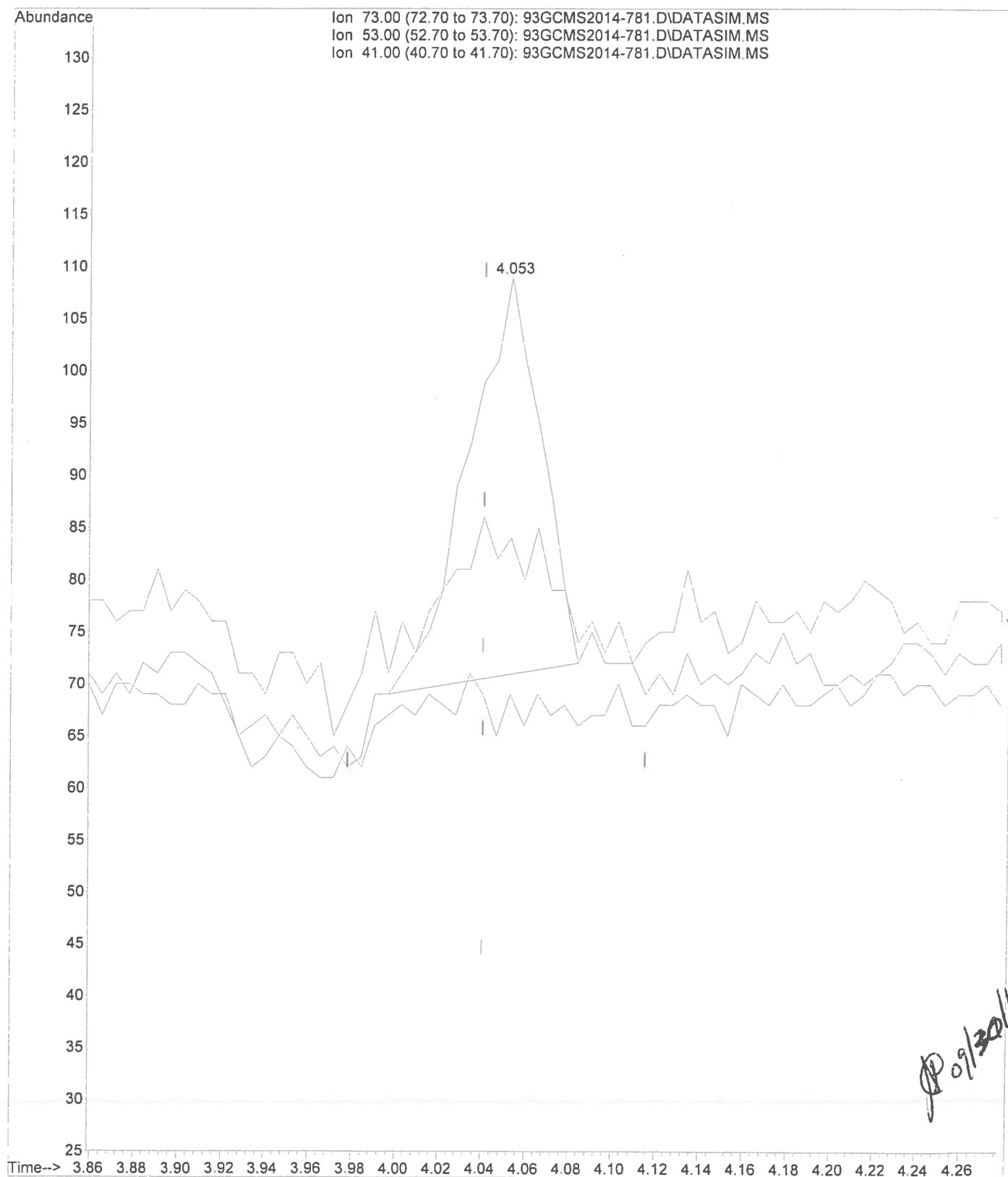
Tgt Ion: 91 Resp: 185
Ion Ratio Lower Upper
91 100
106 50.8 38.3 57.5
105 24.3 15.3 22.9#



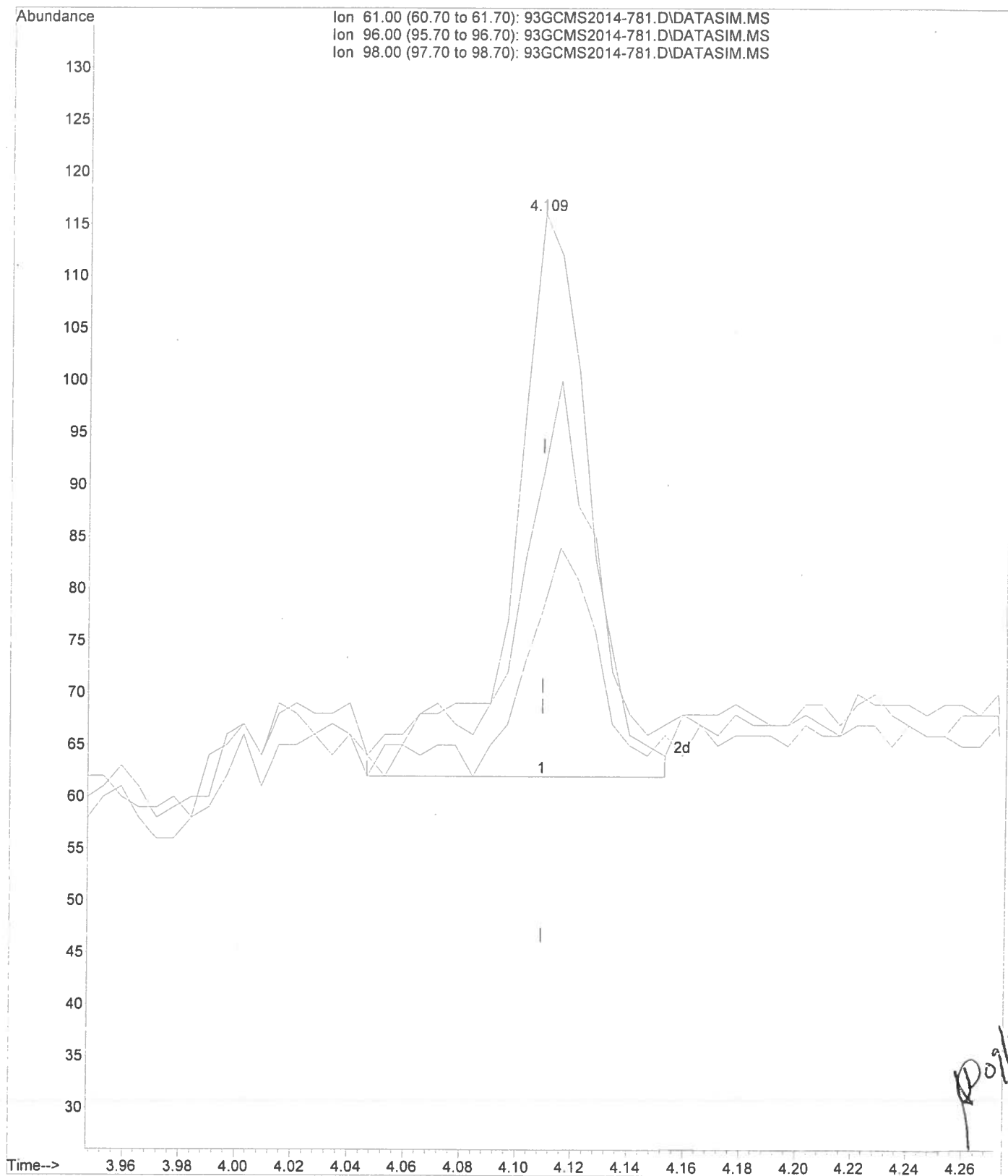
File :D:\msdchem\1\data\2014\20140930\93GCMS2014-781.D
Operator : SJT
Acquired : 30 Sep 2014 9:54 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140930-3 \ 0.5ppbv LLCCV
Misc Info : 5mL \ 30 Sept 2014
Vial Number: 1



File :D:\msdchem\1\data\2014\20140930\93GCMS2014-781.D
Operator : SJT
Acquired : 30 Sep 2014 9:54 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140930-3 \ 0.5ppbv LLCCV
Misc Info : 5mL \ 30 Sept 2014
Vial Number: 1

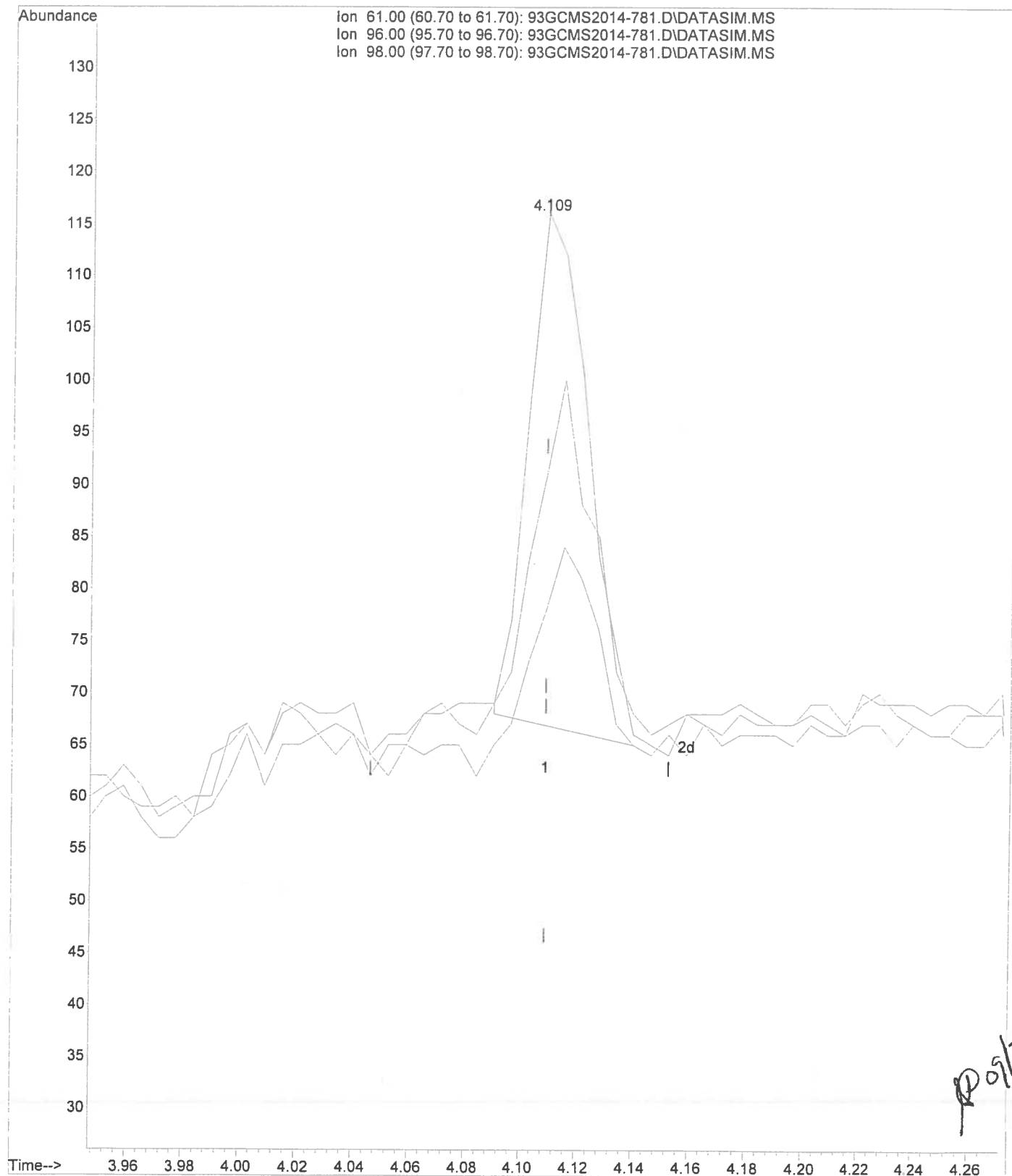


File :D:\msdchem\1\data\2014\20140930\93GCMS2014-781.D
Operator : SJT
Acquired : 30 Sep 2014 9:54 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140930-3 \ 0.5ppbv LLCCV
Misc Info : 5mL \ 30 Sept 2014
Vial Number: 1



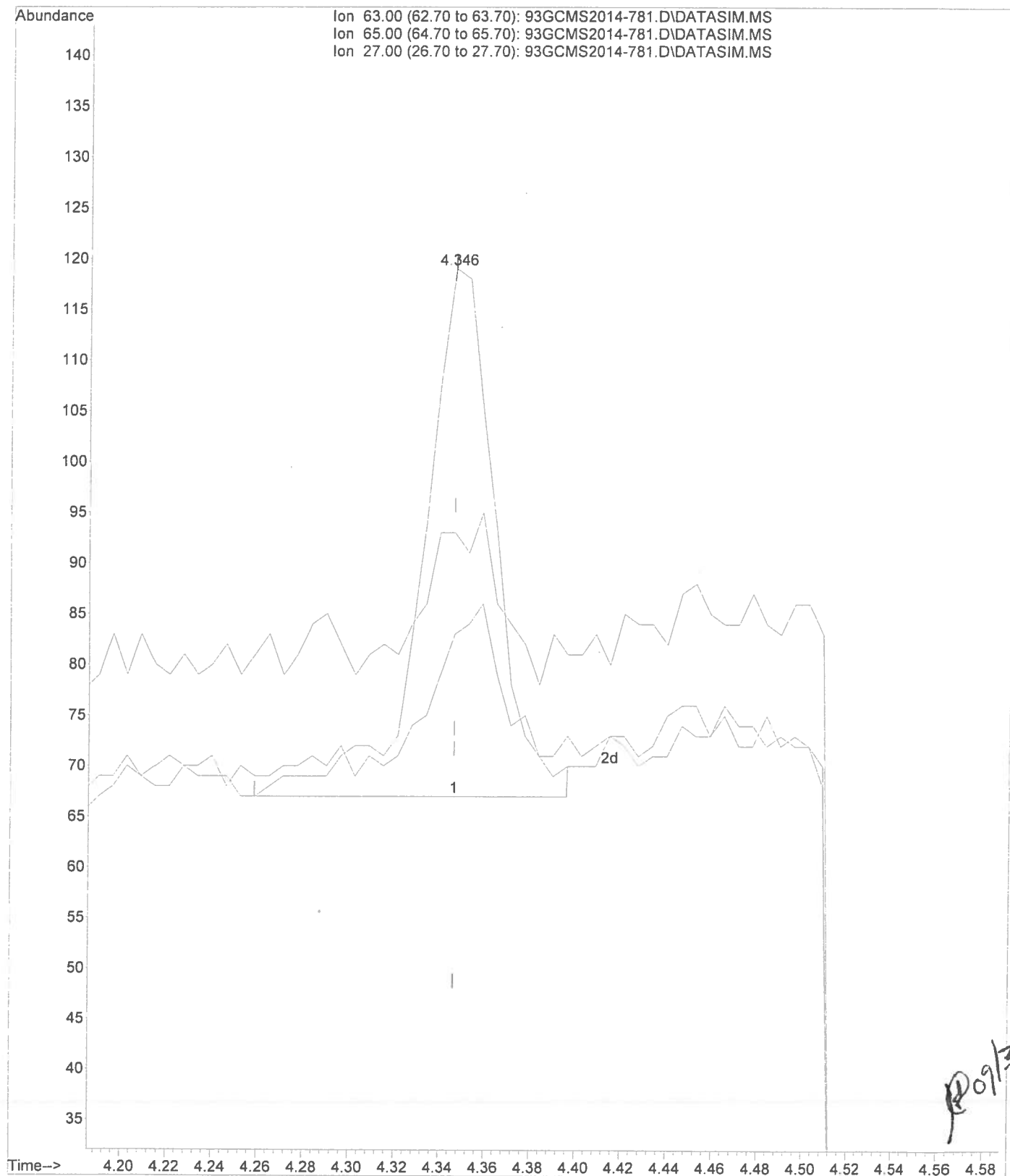
10/30/14

File :D:\msdchem\1\data\2014\20140930\93GCMS2014-781.D
Operator : SJT
Acquired : 30 Sep 2014 9:54 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140930-3 \ 0.5ppbv LLCCV
Misc Info : 5mL \ 30 Sept 2014
Vial Number: 1

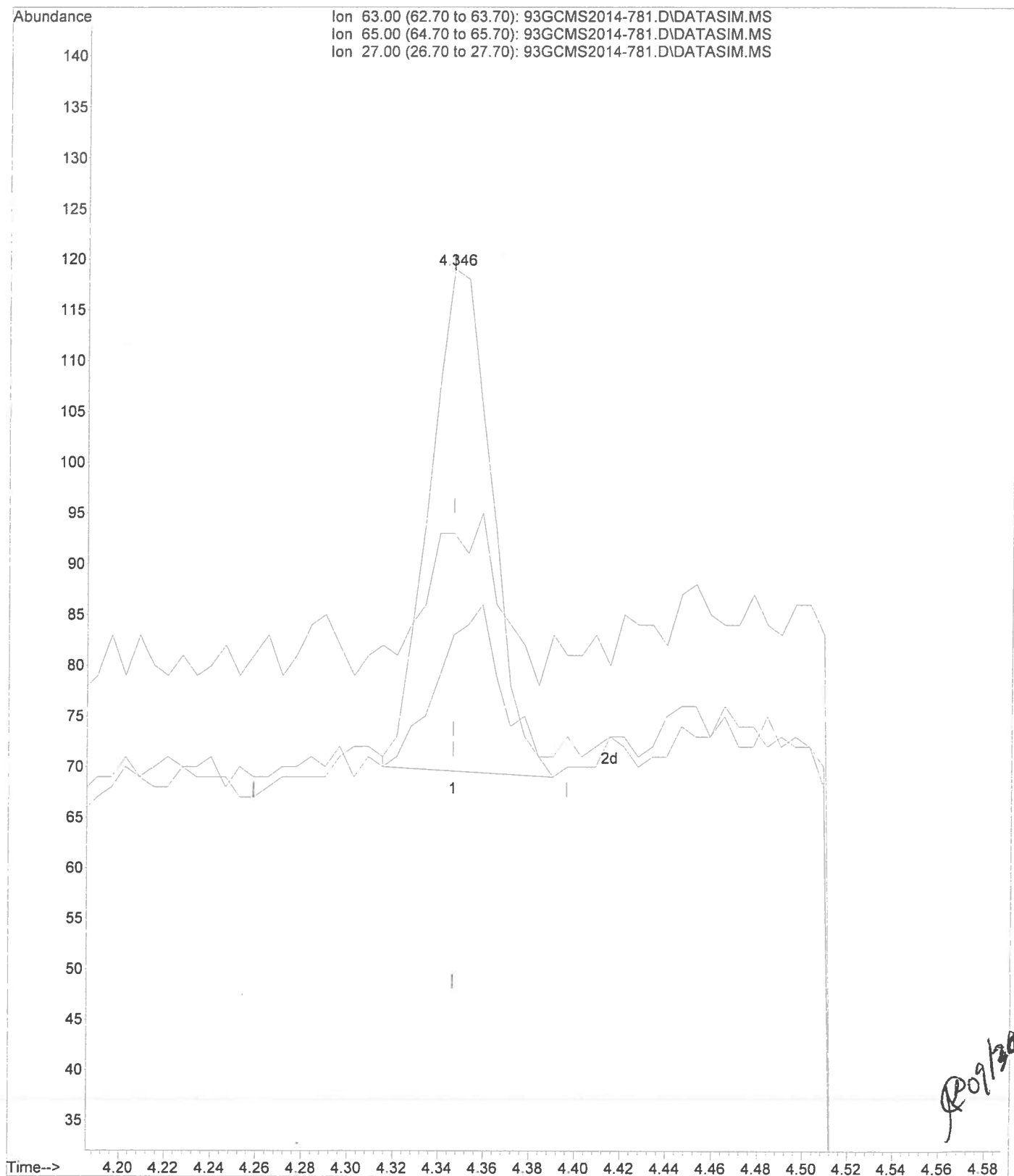


09/30/14

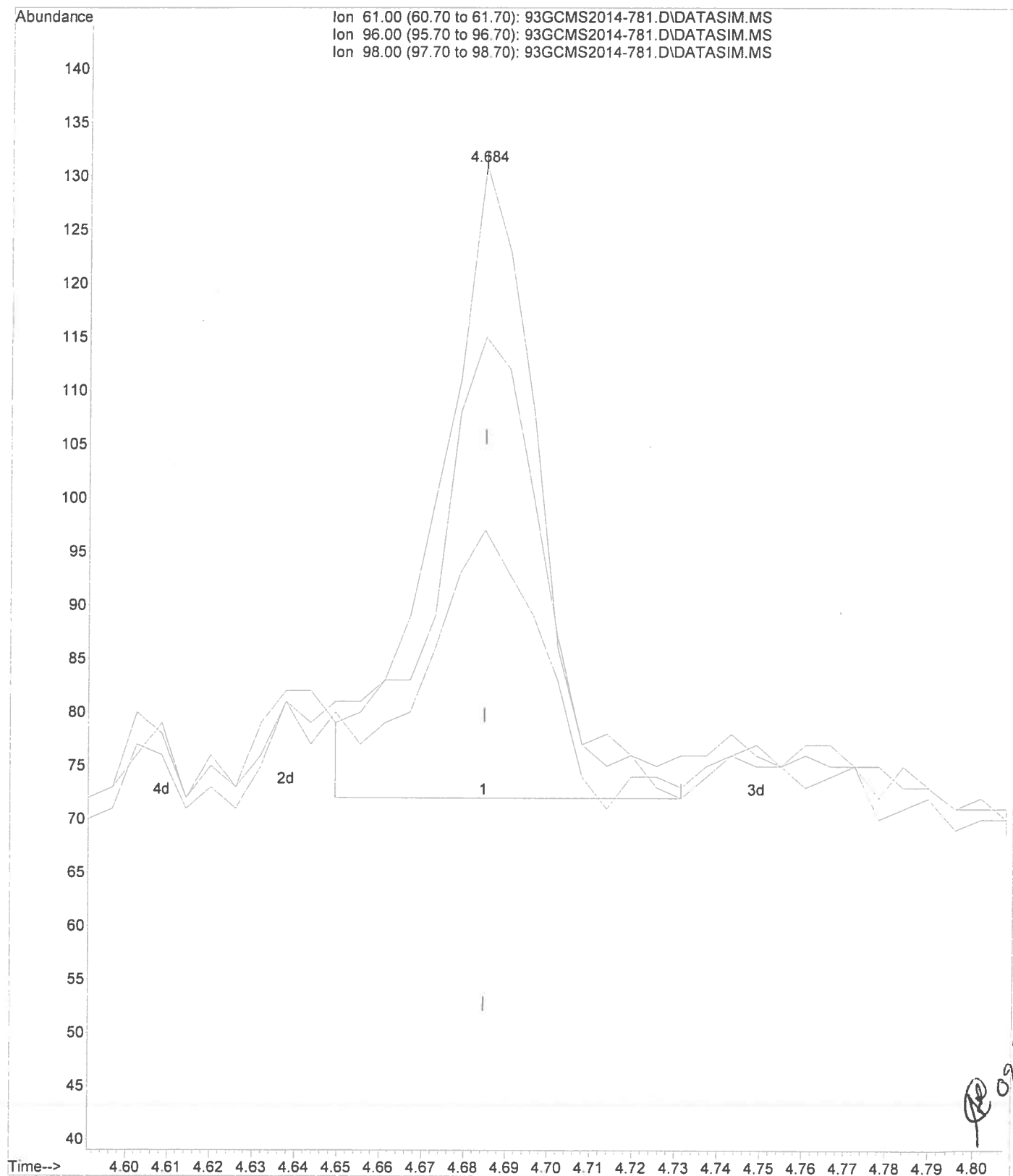
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Operator : SJT
Acquired : 30 Sep 2014 9:54 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140930-3 \ 0.5ppbv LLCCV
Misc Info : 5mL \ 30 Sept 2014
Vial Number: 1



File : D:\msdchem\1\data\2014\20140930\93GCMS2014-781.D
Operator : SJT
Acquired : 30 Sep 2014 9:54 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140930-3 \ 0.5ppbv LLCCV
Misc Info : 5mL \ 30 Sept 2014
Vial Number: 1

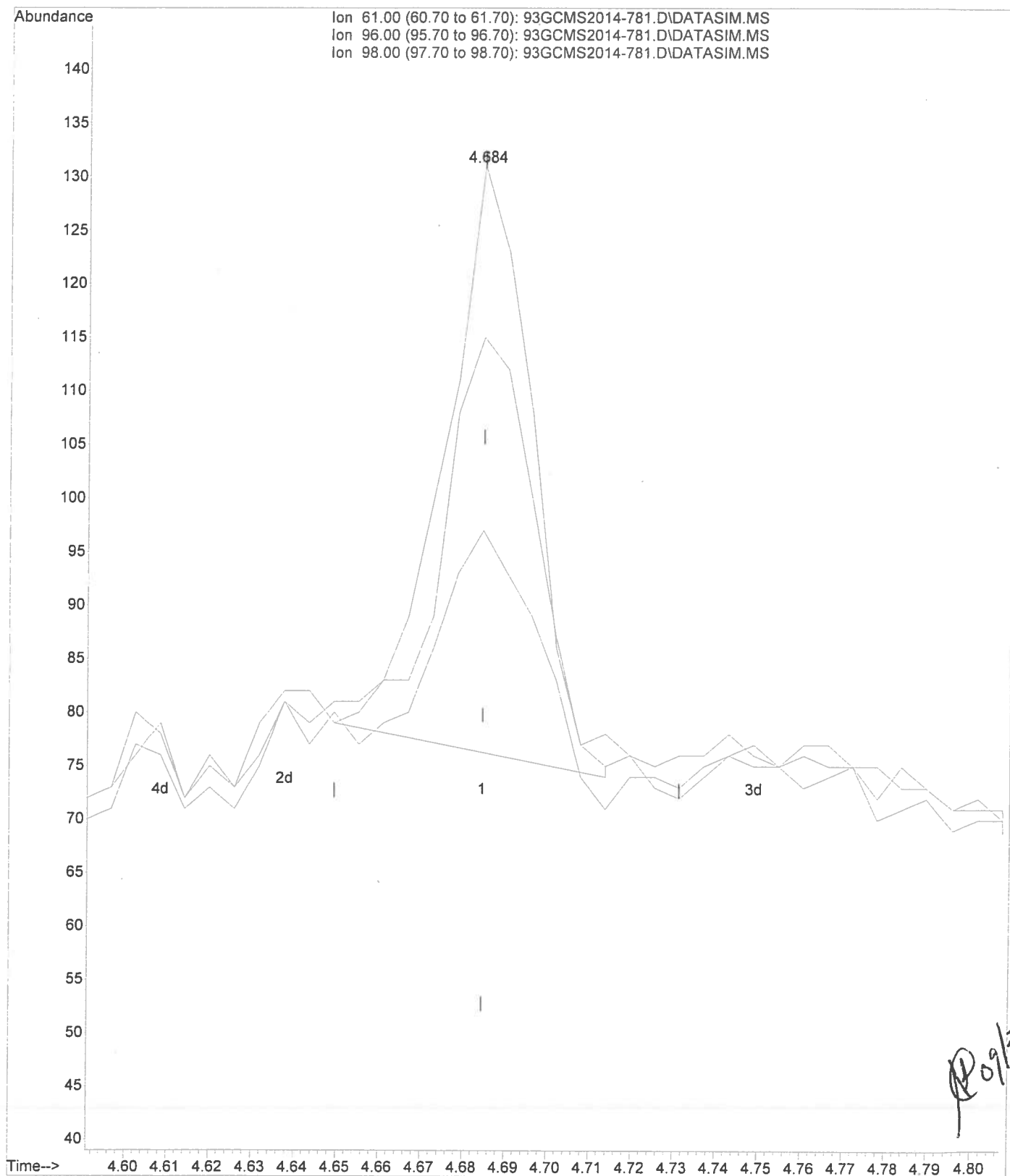


File :D:\msdchem\1\data\2014\20140930\93GCMS2014-781.D
Operator : SJT
Acquired : 30 Sep 2014 9:54 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140930-3 \ 0.5ppbv LLCCV
Misc Info : 5mL \ 30 Sept 2014
Vial Number: 1

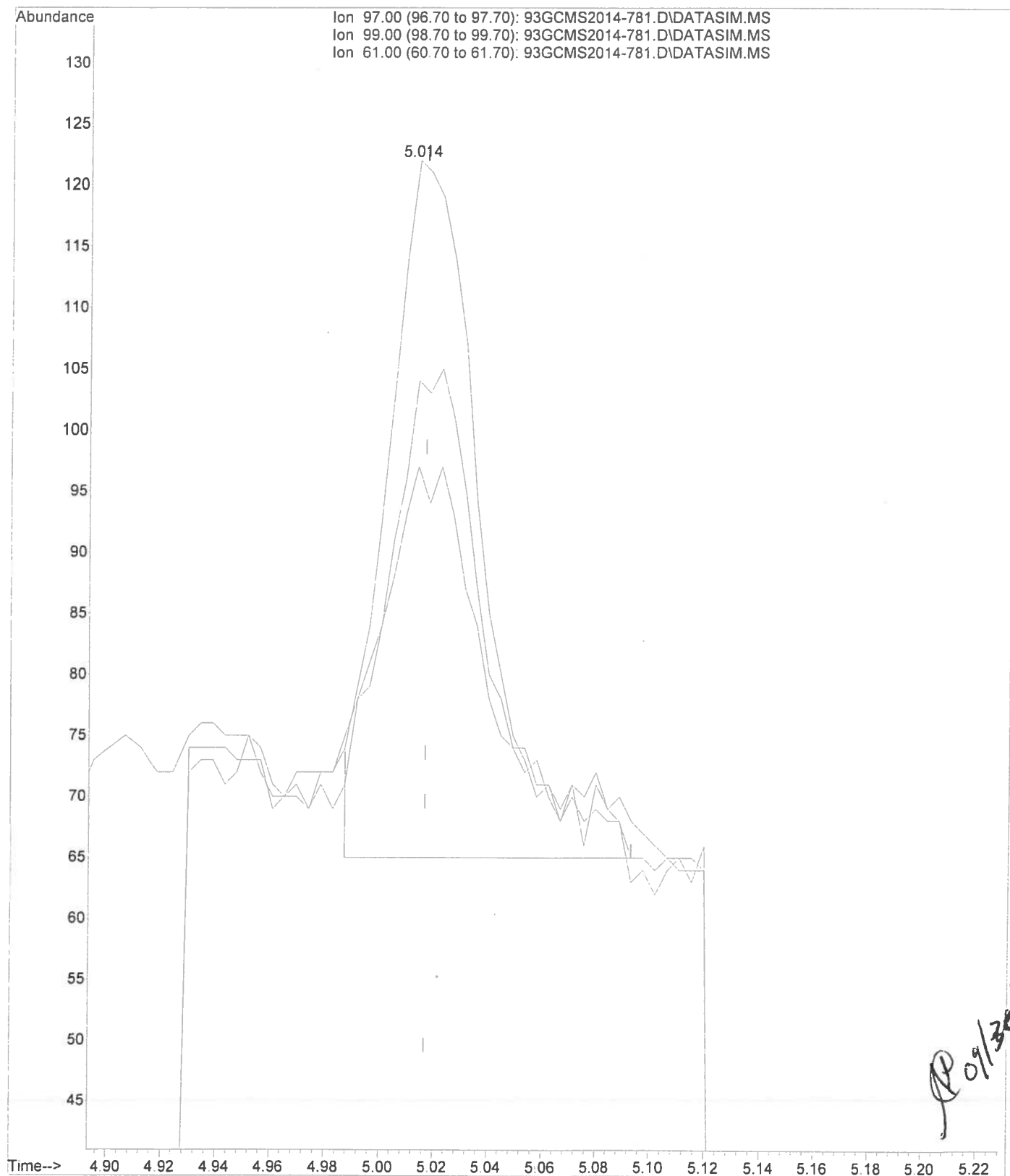


09/30/14

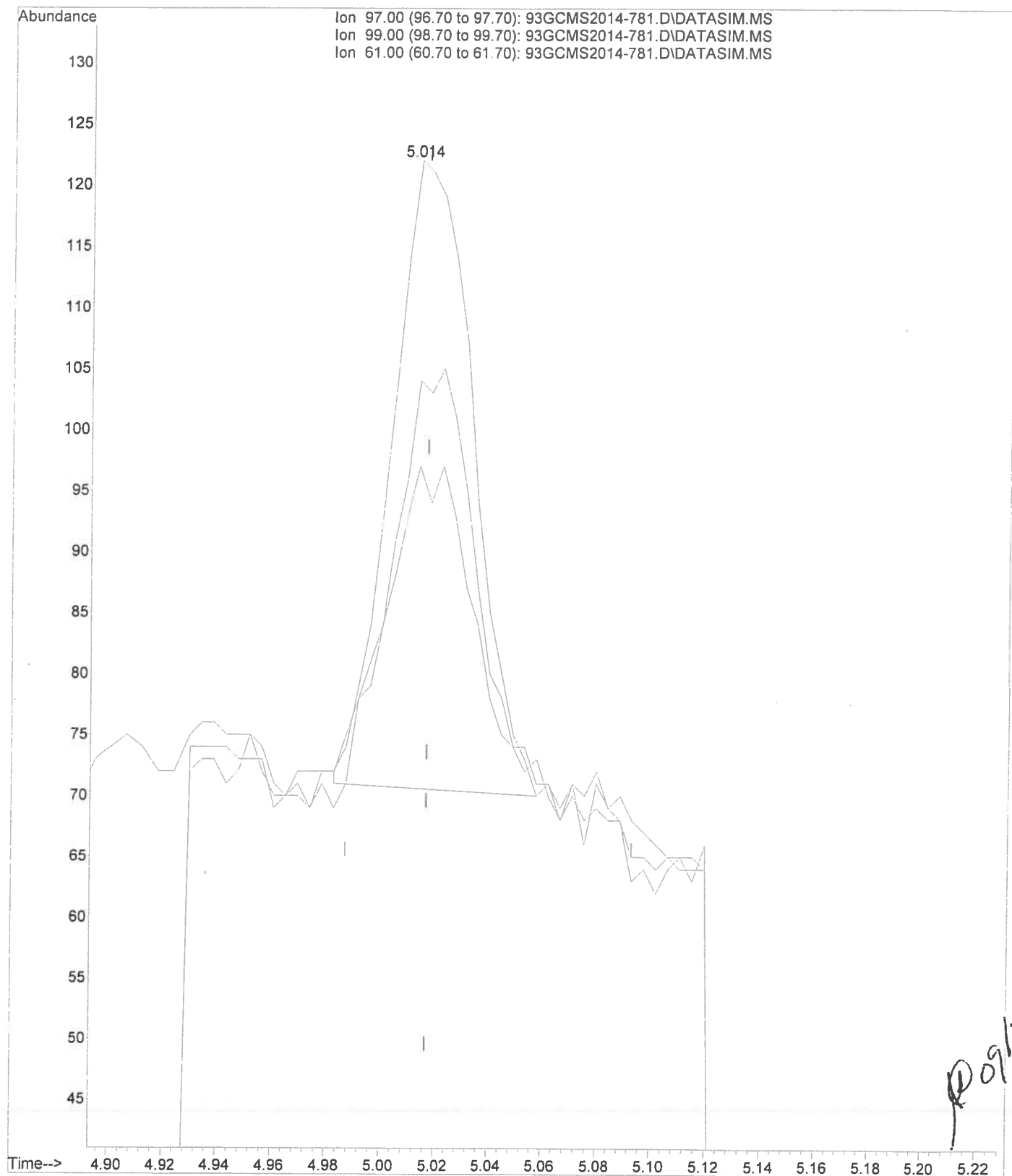
File :D:\msdchem\1\data\2014\20140930\93GCMS2014-781.D
Operator : SJT
Acquired : 30 Sep 2014 9:54 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140930-3 \ 0.5ppbv LLCCV
Misc Info : 5mL \ 30 Sept 2014
Vial Number: 1



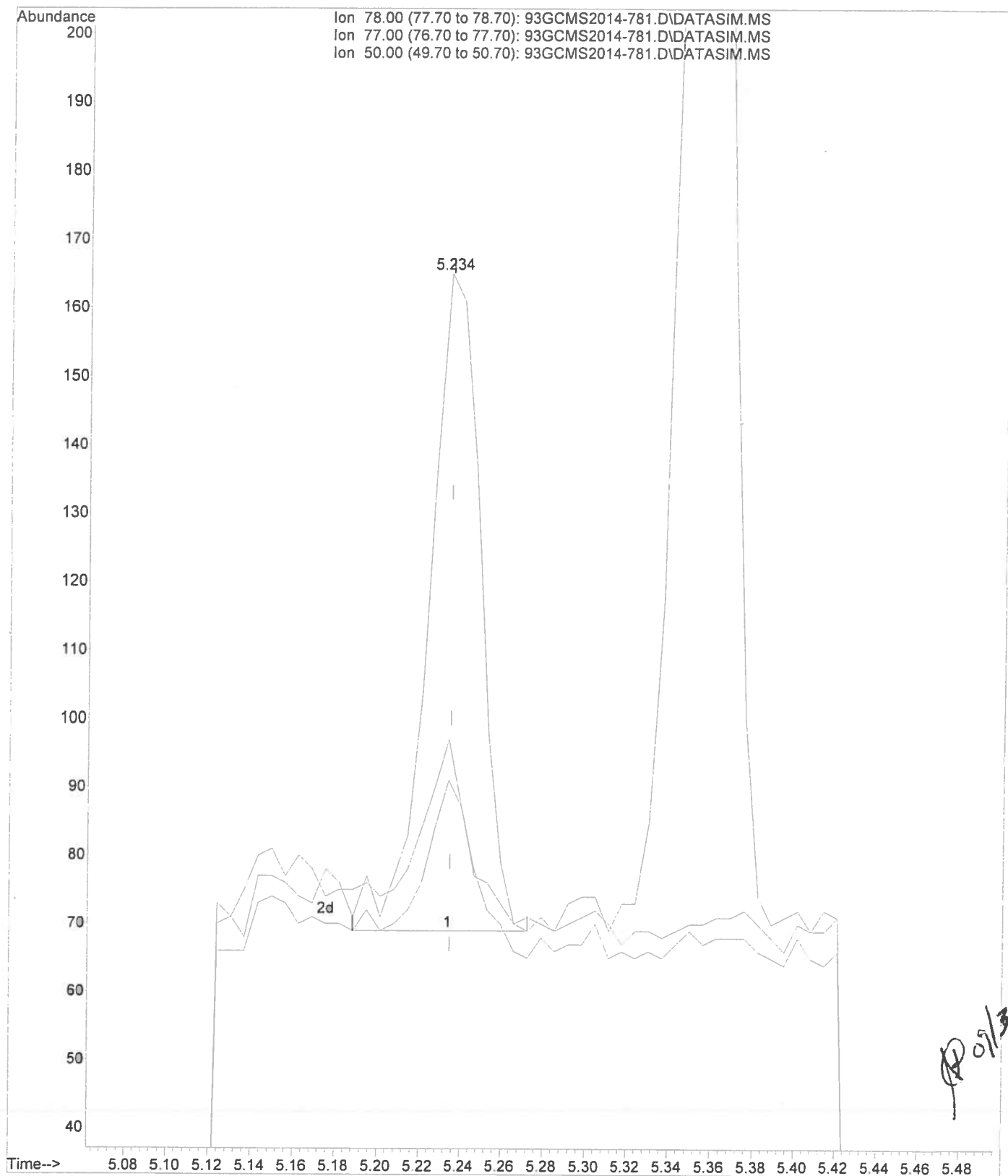
File : D:\msdchem\1\data\2014\20140930\93GCMS2014-781.D
Operator : SJT
Acquired : 30 Sep 2014 9:54 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140930-3 \ 0.5ppbv LLCCV
Misc Info : 5mL \ 30 Sept 2014
Vial Number: 1



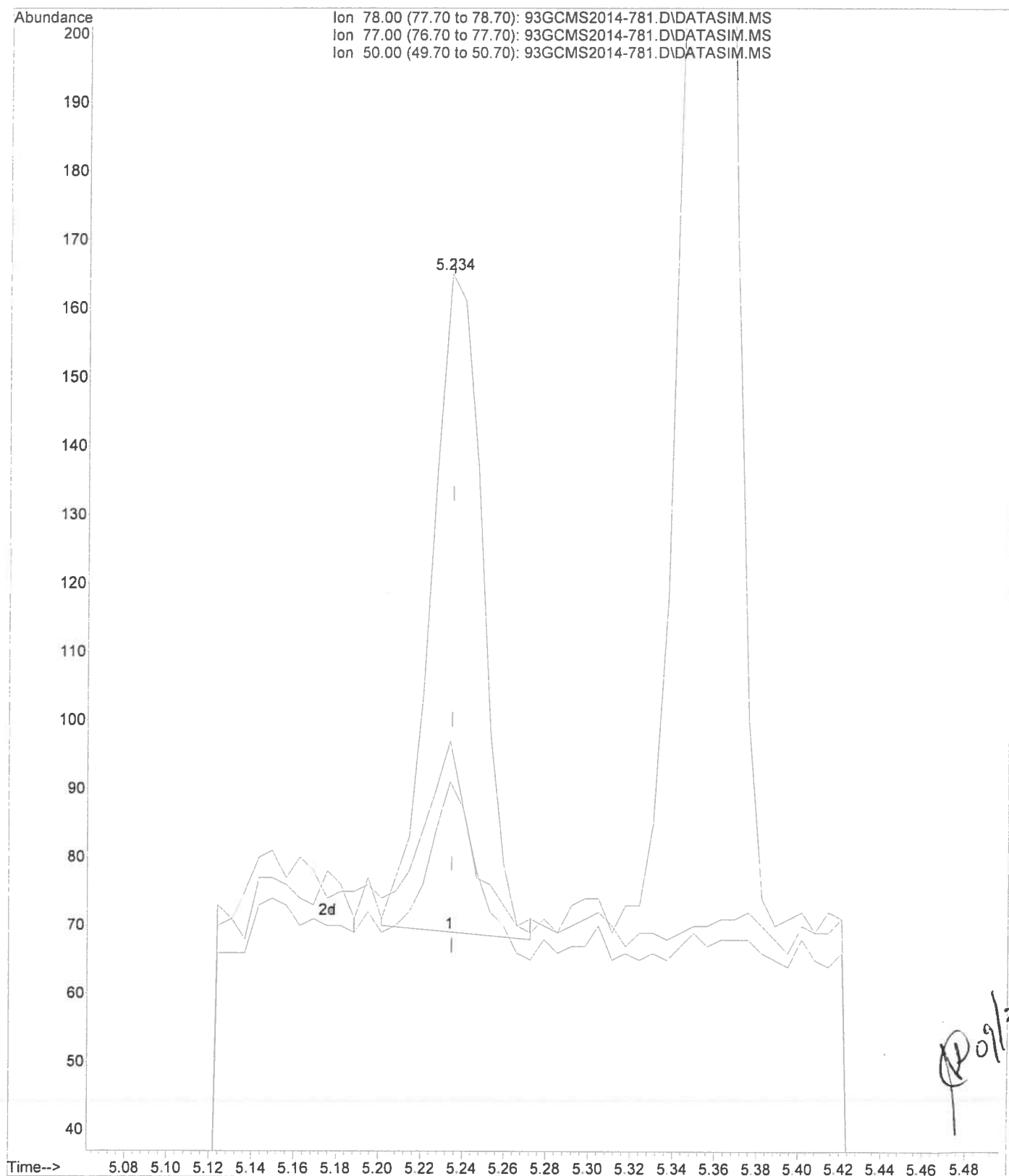
File :D:\msdchem\1\data\2014\20140930\93GCMS2014-781.D
Operator : SJT
Acquired : 30 Sep 2014 9:54 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140930-3 \ 0.5ppbv LLCCV
Misc Info : 5mL \ 30 Sept 2014
Vial Number: 1



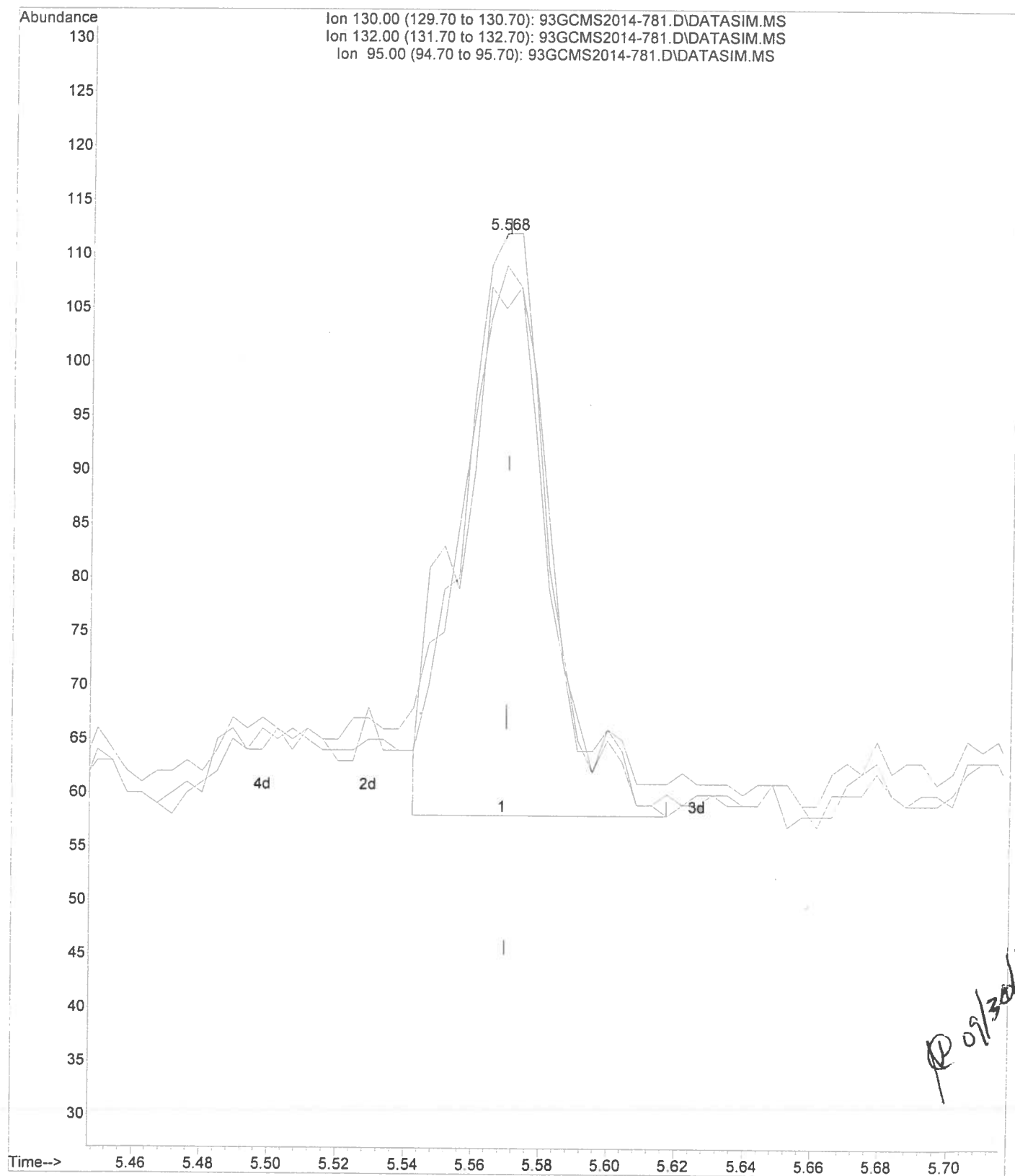
File :D:\msdchem\1\data\2014\20140930\93GCMS2014-781.D
Operator : SJT
Acquired : 30 Sep 2014 9:54 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140930-3 \ 0.5ppbv LLCCV
Misc Info : 5mL \ 30 Sept 2014
Vial Number: 1



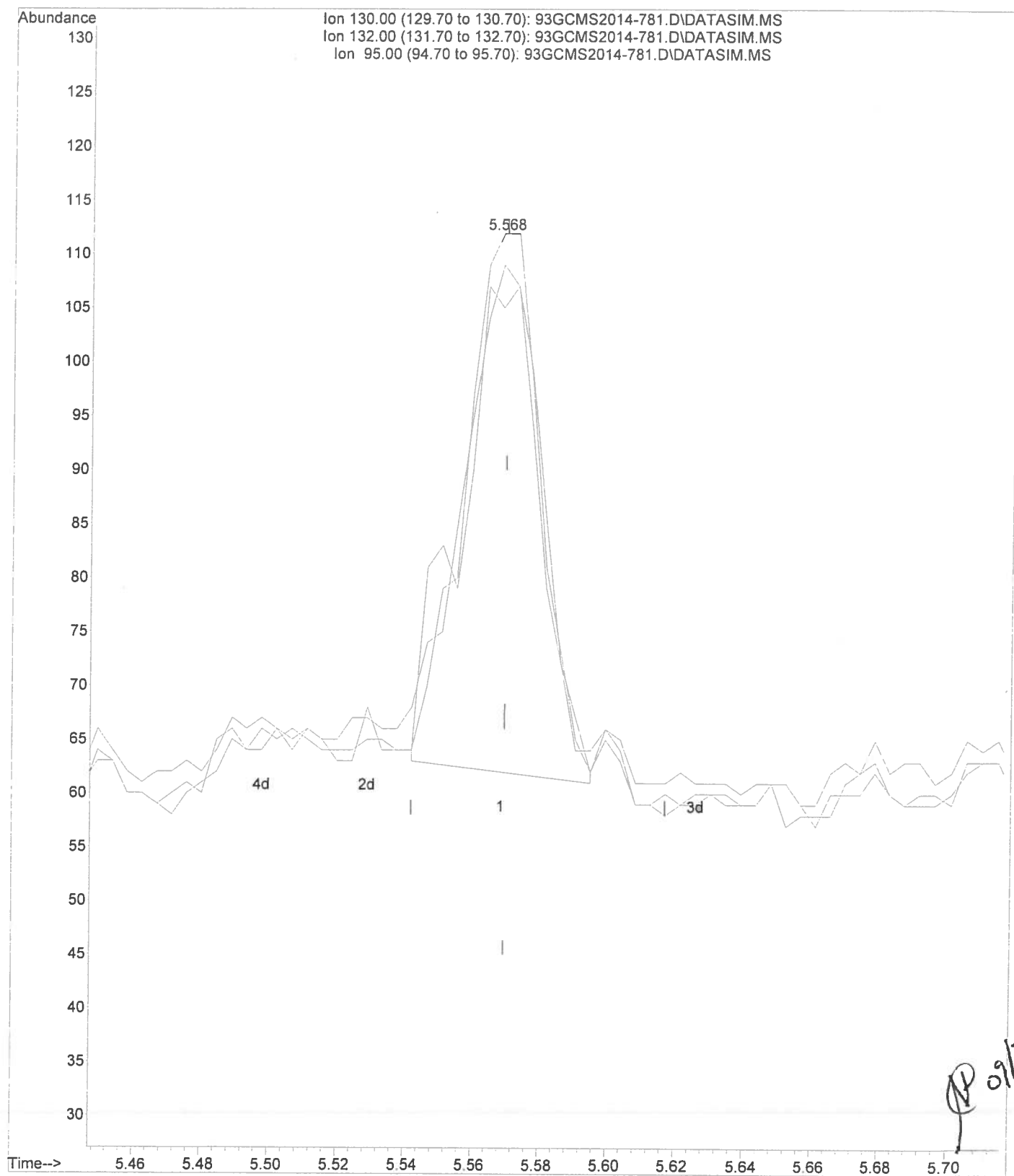
File :D:\msdchem\1\data\2014\20140930\93GCMS2014-781.D
Operator : SJT
Acquired : 30 Sep 2014 9:54 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140930-3 \ 0.5ppbv LLCCV
Misc Info : 5mL \ 30 Sept 2014
Vial Number: 1



File :D:\msdchem\1\data\2014\20140930\93GCMS2014-781.D
Operator : SJT
Acquired : 30 Sep 2014 9:54 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140930-3 \ 0.5ppbv LLCCV
Misc Info : 5mL \ 30 Sept 2014
Vial Number: 1

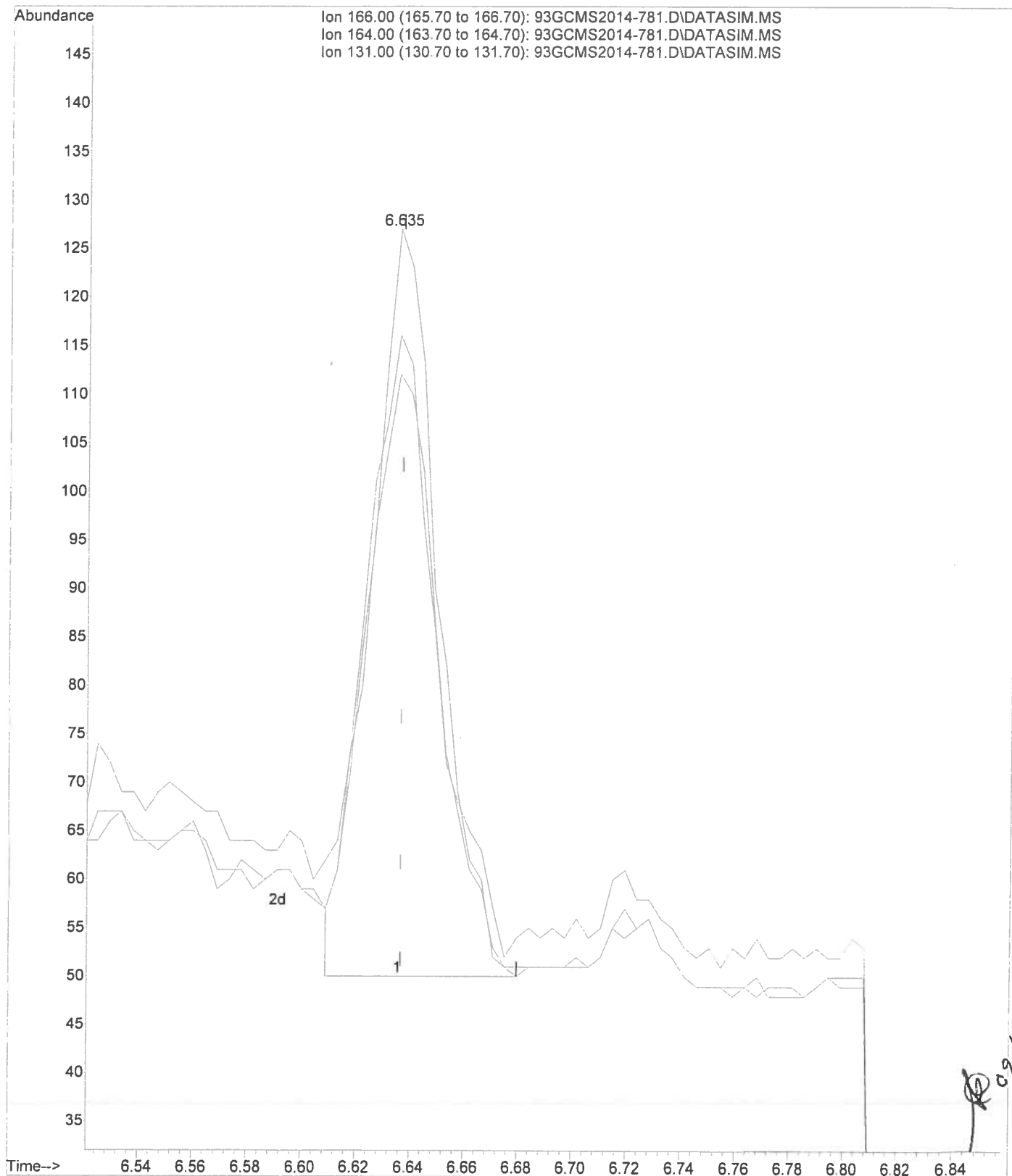


File :D:\msdchem\1\data\2014\20140930\93GCMS2014-781.D
Operator : SJT
Acquired : 30 Sep 2014 9:54 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140930-3 \ 0.5ppbv LLCCV
Misc Info : 5mL \ 30 Sept 2014
Vial Number: 1

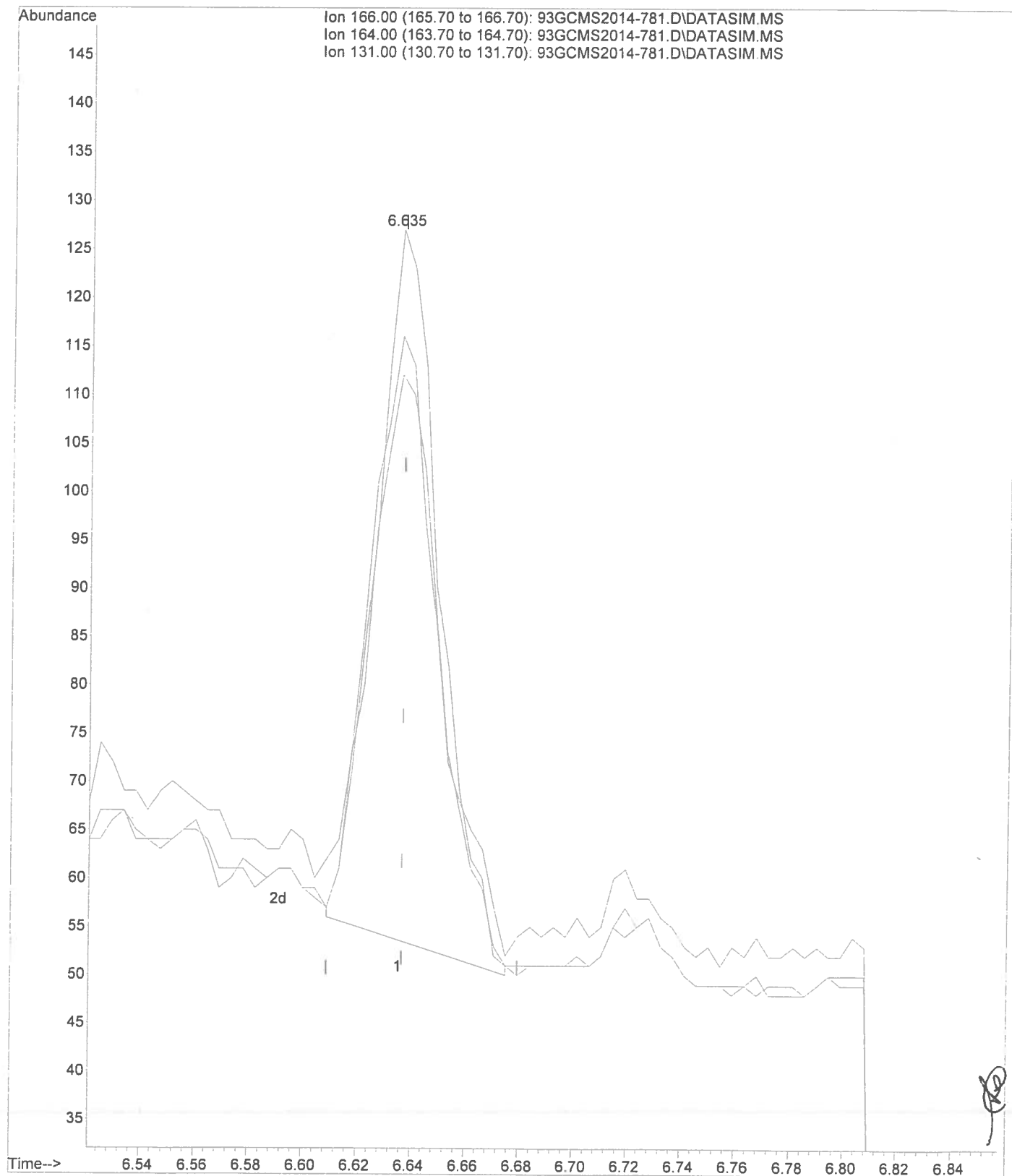


P 09/30/14

File :D:\msdchem\1\data\2014\20140930\93GCMS2014-781.D
Operator : SJT
Acquired : 30 Sep 2014 9:54 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140930-3 \ 0.5ppbv LLCCV
Misc Info : 5mL \ 30 Sept 2014
Vial Number: 1



File :D:\msdchem\1\data\2014\20140930\93GCMS2014-781.D
Operator : SJT
Acquired : 30 Sep 2014 9:54 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: STD20140930-3 \ 0.5ppbv LLCCV
Misc Info : 5mL \ 30 Sept 2014
Vial Number: 1



Data File:	93GCMS2014-783.d			
Sample Name:	20140930-LCS			
Sample Volume (mL)	5			
Date Prepared:	30-Sep-2014			
Date Analyzed:	30-Sep-2014			
Compound	COA Concentrations CC# 99022 EXP. 03/14/2015 CC# 128284 EXP. 11/22/2014 (ppmv)	Calculated Concentrations 20140930-LCS (ppbv)	20140930-LCS 500ppbv LCS Results (ppbv)	Percent Recovery (70-130%)
Vinyl Chloride	20.7	517.50	555.28	107
1,1-Dichloroethene	20.5	512.50	568.94	111
Methyl Tert Butyl Ether	20.4	510.00	647.56	127
trans-1,2-Dichloroethene	20.0	500.00	547.45	109
1,1-Dichloroethane	21.0	525.00	575.36	110
cis-1,2-Dichloroethene	21.2	530.00	588.68	111
Chloroform	20.6	515.00	548.32	106
1,1,1-Trichloroethane	20.4	510.00	570.55	112
Benzene	21.1	527.50	564.21	107
Trichloroethene	20.4	510.00	553.34	108
Toluene	20.9	522.50	568.01	109
Tetrachloroethene	20.7	517.50	557.55	108
Ethyl Benzene	21.0	525.00	587.56	112
m&p-Xylene	20.8	520.00	579.30	111
o-Xylene	21.0	525.00	584.95	111

09/30/11

Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140930\
 Data File : 93GCMS2014-783.D
 Acq On : 30 Sep 2014 10:18
 Operator : SJT
 Sample : 20140930-LCS \ 500ppbv LCS
 Misc : 5mL \ 30 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 30 10:25:02 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjTue Sep 30 09:39:46 2014
 QLast Update : Tue Sep 30 09:39:46 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Bromochloromethane	4.848	49	1829	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	5012	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5121	10.00	ppbv	0.00

System Monitoring Compounds

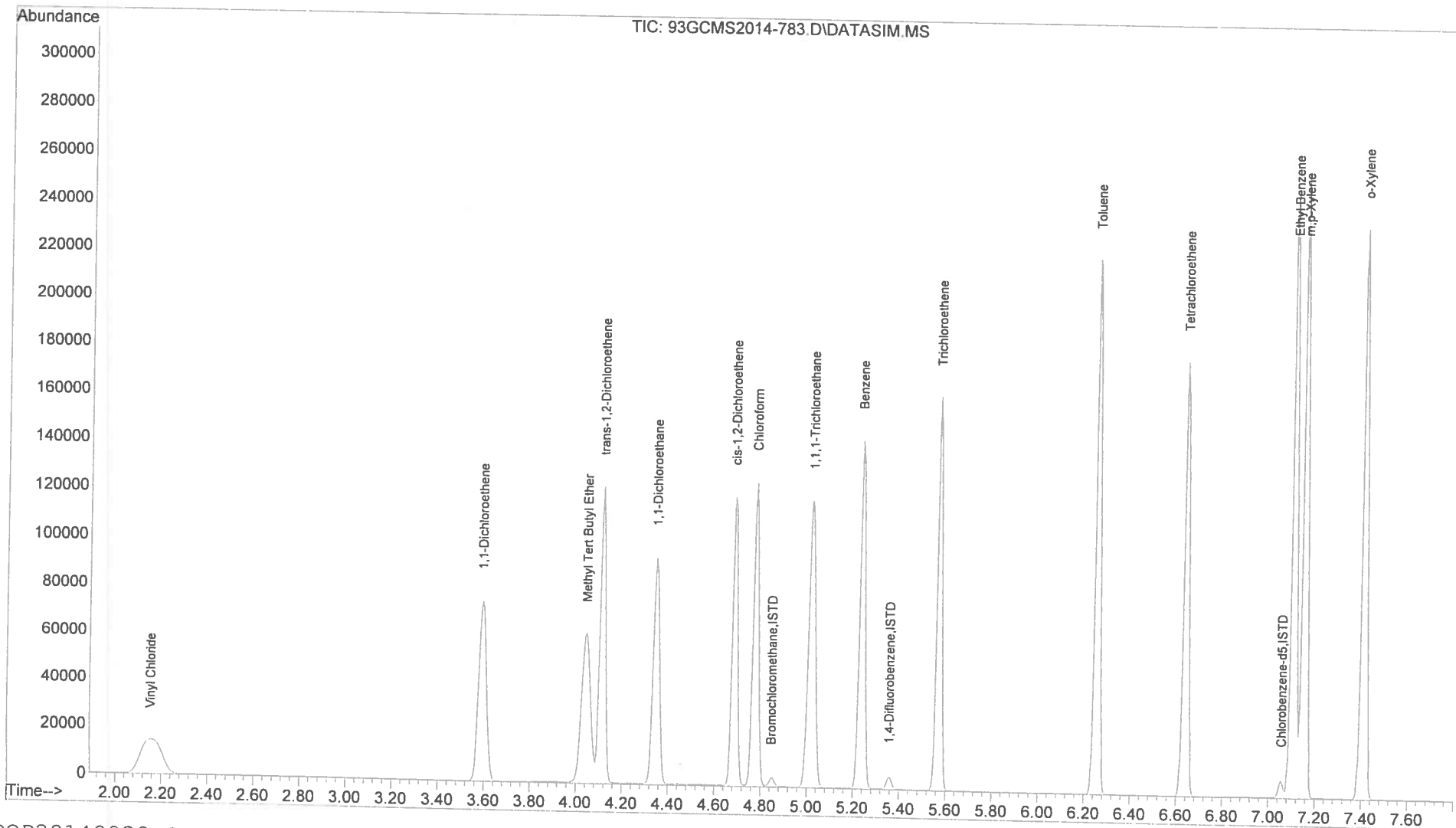
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Vinyl Chloride	2.156	62	51430	555.28	ppbv	99
3) 1,1-Dichloroethene	3.593	61	91368	568.94	ppbv	99
4) Methyl Tert Butyl Ether	4.046	73	127362	647.56	ppbv	98
5) trans-1,2-Dichloroethene	4.115	61	82119	547.45	ppbv	100
6) 1,1-Dichloroethane	4.346	63	103905	575.36	ppbv	100
7) cis-1,2-Dichloroethene	4.684	61	81939	588.68	ppbv	100
8) Chloroform	4.778	83	101894	548.32	ppbv	100
9) 1,1,1-Trichloroethane	5.021	97	115243	570.55	ppbv	99
11) Benzene	5.234	78	160568	564.21	ppbv	100
12) Trichloroethene	5.569	130	82590	553.34	ppbv	100
14) Toluene	6.251	91	203206	568.01	ppbv	100
15) Tetrachloroethene	6.636	166	105358	557.55	ppbv	100
16) Ethyl Benzene	7.106	91	265565	587.56	ppbv	99
17) m,p-Xylene	7.151	91	204418	579.30	ppbv	100
18) o-Xylene	7.409	91	210320	584.95	ppbv	100

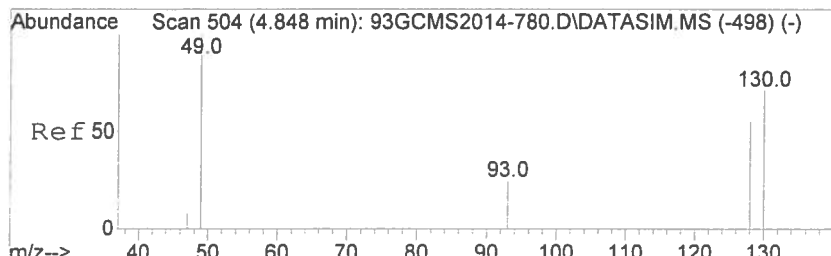
(#) = qualifier out of range (m) = manual integration (+) = signals summed

09/30/14

Quantitation Report (Q1 Reviewed)
Data Path : D:\msdchem\1\data\2014\20140930\
Data File : 93GCMS2014-783.D
Acq On : 30 Sep 2014 10:18
Operator : SJT
Sample : 20140930-LCS \ 500ppbv LCS
Misc : 5mL \ 30 Sept 2014
ALS Vial : 1 Sample Multiplier: 1

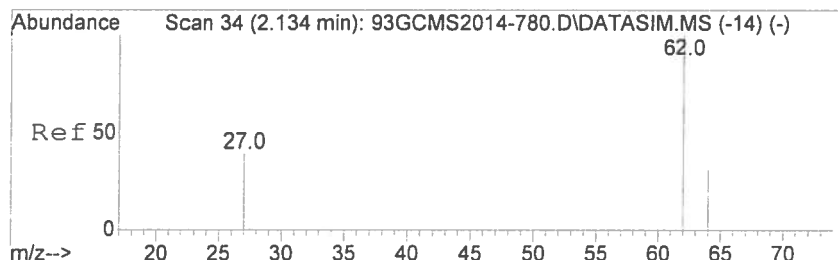
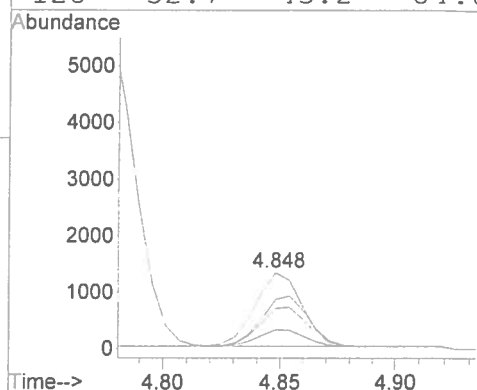
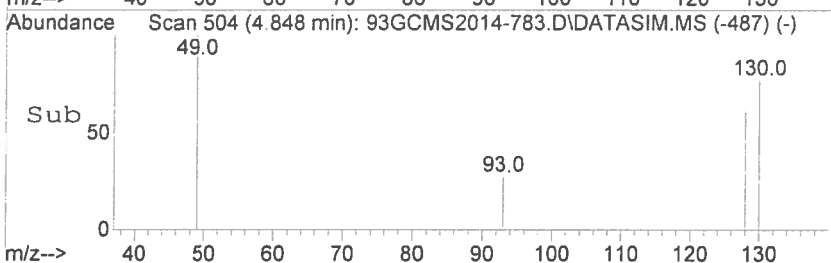
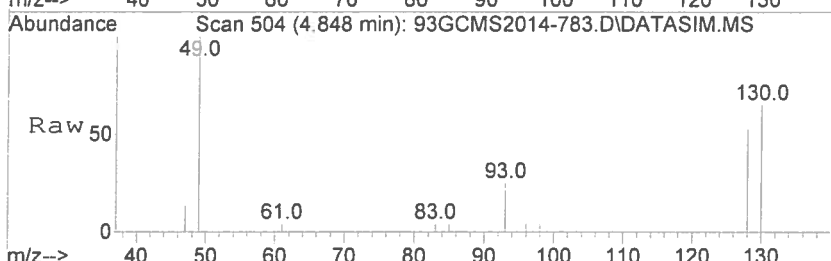
Quant Time: Sep 30 10:25:02 2014
Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjTue Sep 30 09:39:46 2014
QLast Update : Tue Sep 30 09:39:46 2014
Response via : Initial Calibration





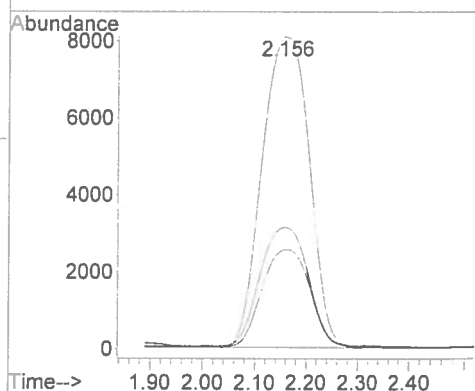
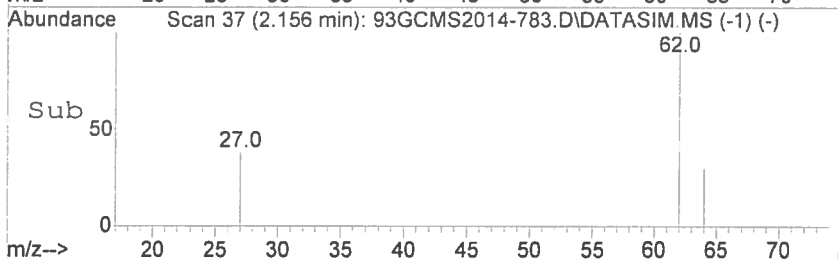
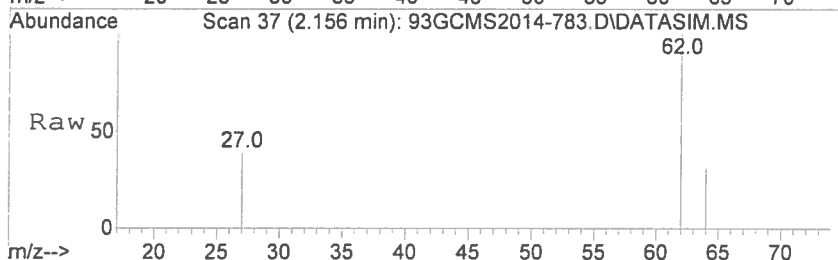
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. -0.000 min
Lab File: 93GCMS2014-783.D
Acq: 30 Sep 2014 10:18

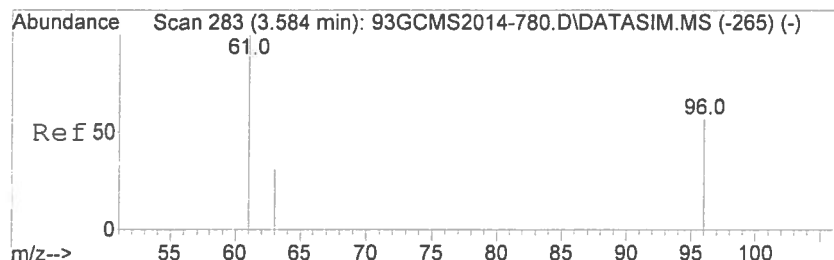
Tgt Ion: 49 Resp: 1829
Ion Ratio Lower Upper
49 100
130 64.7 54.4 81.6
93 25.0 21.1 31.7
128 52.7 43.2 64.8



#2
Vinyl Chloride
Concen: 555.28 ppbv
RT: 2.156 min Scan# 37
Delta R.T. 0.022 min
Lab File: 93GCMS2014-783.D
Acq: 30 Sep 2014 10:18

Tgt Ion: 62 Resp: 51430
Ion Ratio Lower Upper
62 100
64 31.7 25.2 37.8
27 38.7 31.8 47.6





#3

1,1-Dichloroethene

Concen: 568.94 ppbv

RT: 3.593 min Scan# 285

Delta R.T. 0.009 min

Lab File: 93GCMS2014-783.D

Acq: 30 Sep 2014 10:18

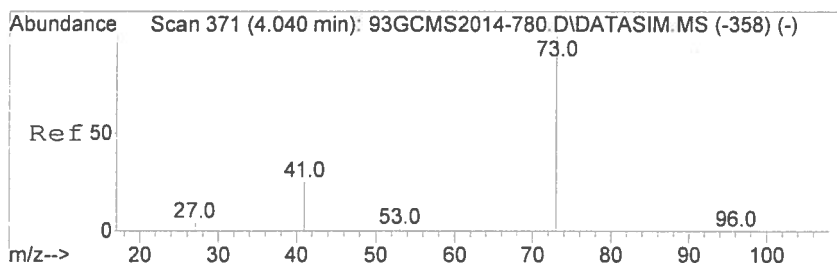
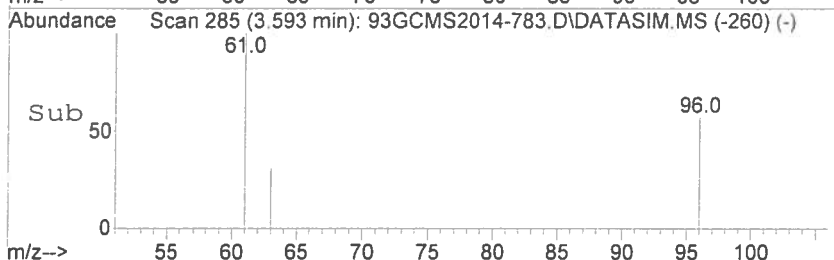
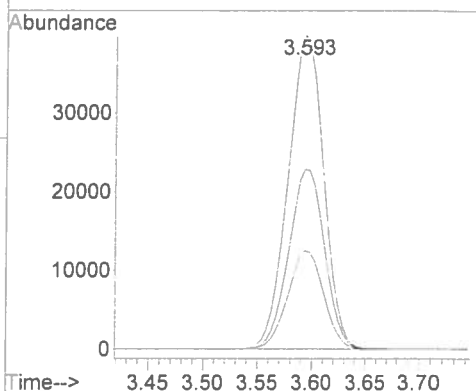
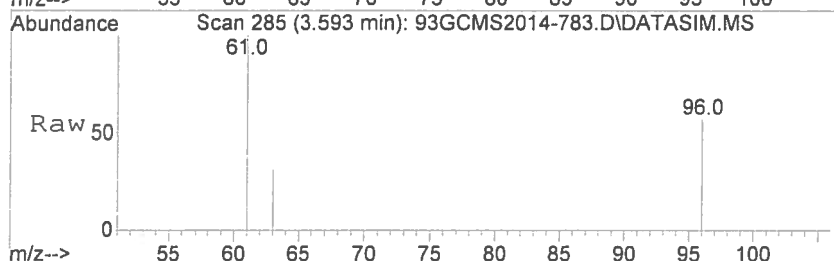
Tgt Ion: 61 Resp: 91368

Ion Ratio Lower Upper

61 100

96 57.8 46.7 70.1

63 31.5 25.3 37.9



#4

Methyl Tert Butyl Ether

Concen: 647.56 ppbv

RT: 4.046 min Scan# 372

Delta R.T. 0.006 min

Lab File: 93GCMS2014-783.D

Acq: 30 Sep 2014 10:18

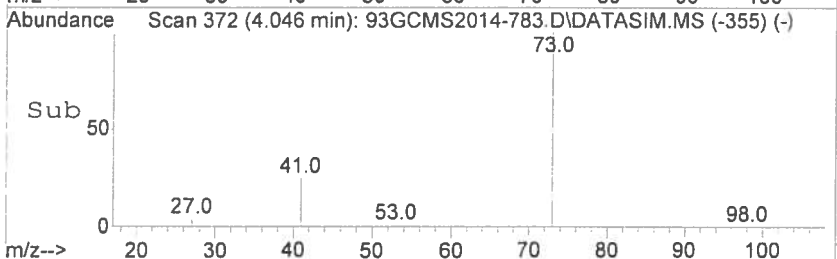
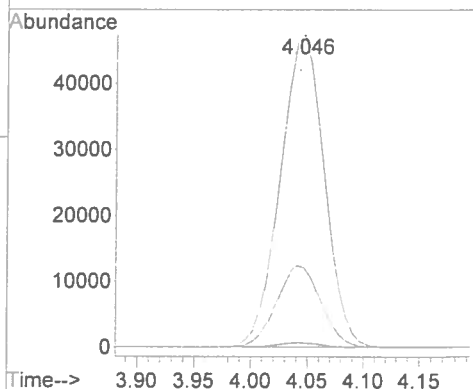
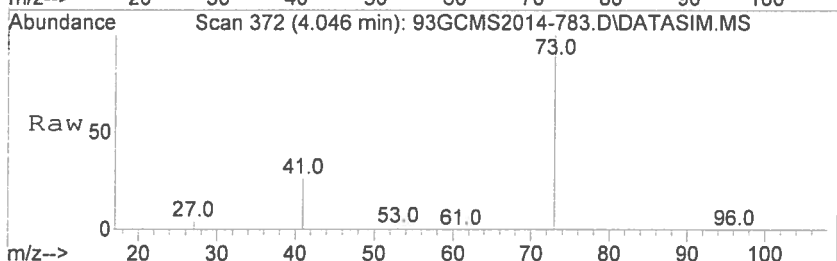
Tgt Ion: 73 Resp: 127362

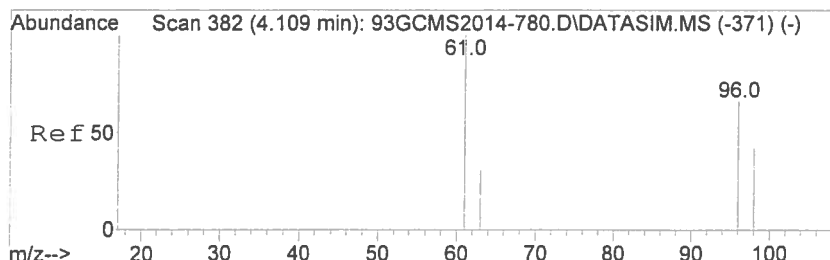
Ion Ratio Lower Upper

73 100

53 1.3 1.0 1.6

41 26.2 20.2 30.2

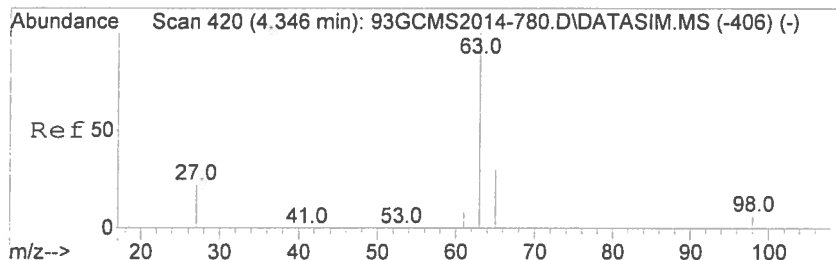
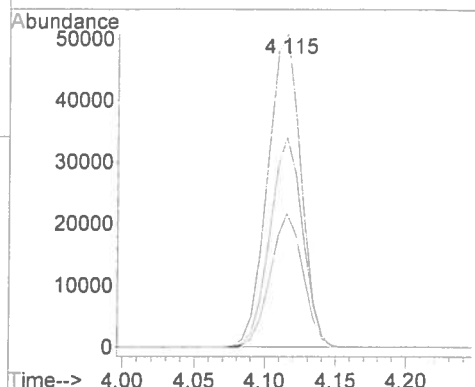
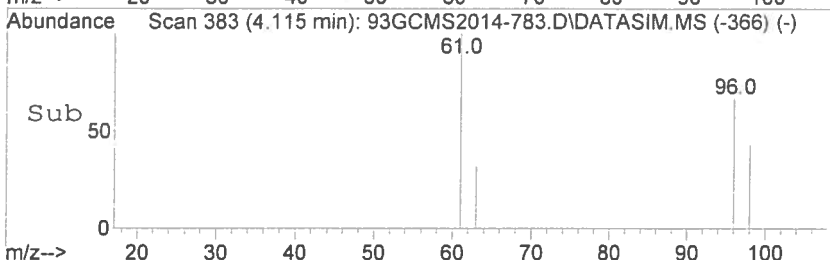
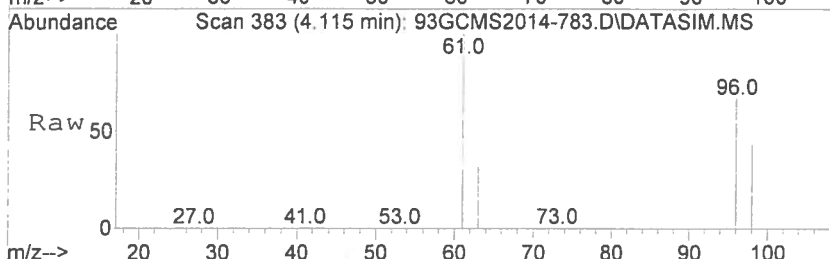




#5

trans-1,2-Dichloroethene
Concen: 547.45 ppbv
RT: 4.115 min Scan# 383
Delta R.T. 0.006 min
Lab File: 93GCMS2014-783.D
Acq: 30 Sep 2014 10:18

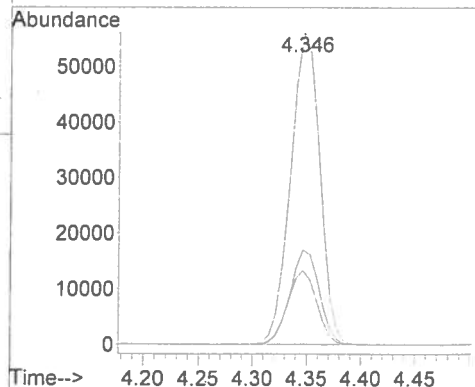
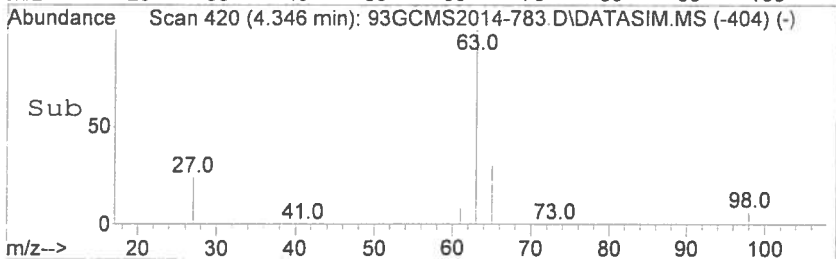
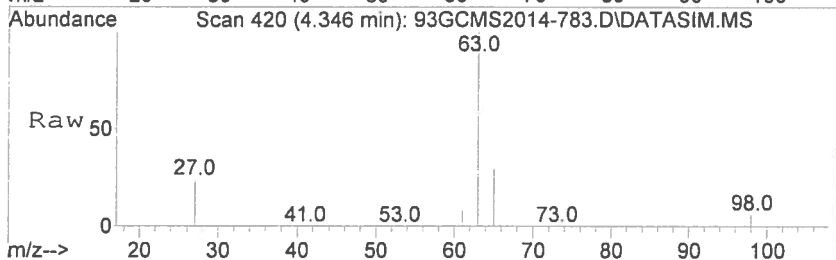
Tgt Ion	Ratio	Lower	Upper
61	100		
96	65.9	53.0	79.6
98	42.0	33.8	50.6

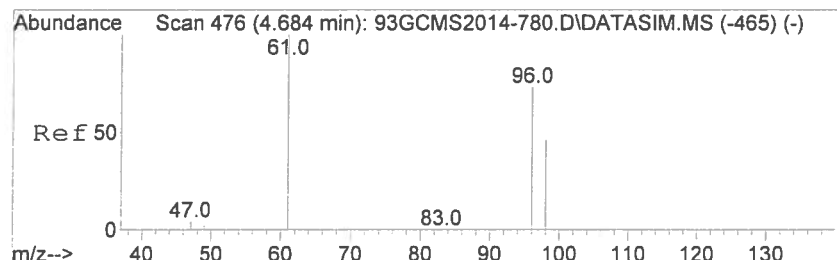


#6

1,1-Dichloroethane
Concen: 575.36 ppbv
RT: 4.346 min Scan# 420
Delta R.T. -0.000 min
Lab File: 93GCMS2014-783.D
Acq: 30 Sep 2014 10:18

Tgt Ion	Ratio	Lower	Upper
63	100		
65	30.2	24.2	36.2
27	23.5	18.6	28.0





#7

cis-1,2-Dichloroethene

Concen: 588.68 ppbv

RT: 4.684 min Scan# 476

Delta R.T. -0.000 min

Lab File: 93GCMS2014-783.D

Acq: 30 Sep 2014 10:18

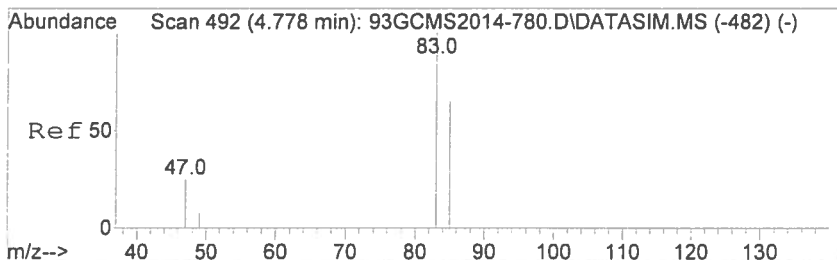
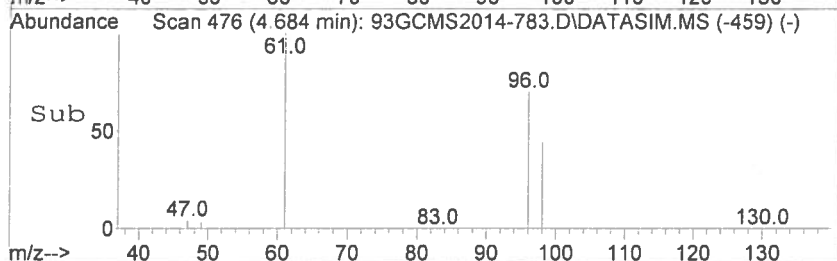
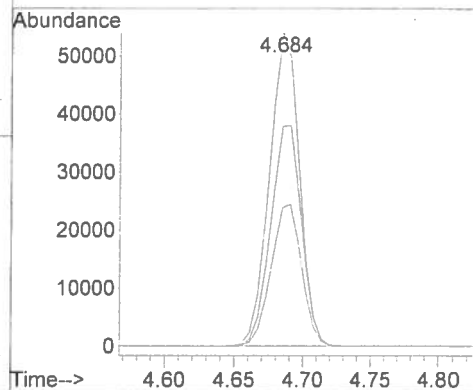
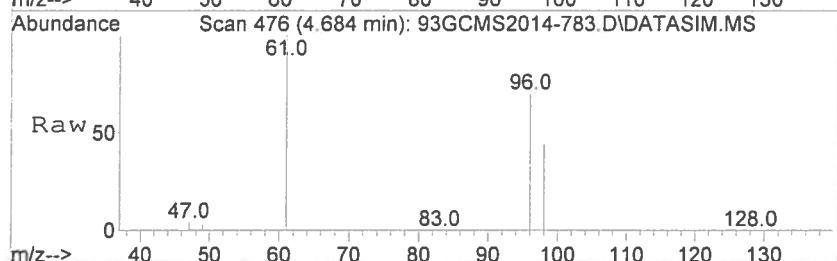
Tgt Ion: 61 Resp: 81939

Ion Ratio Lower Upper

61 100

96 72.4 58.2 87.2

98 46.3 37.1 55.7



#8

Chloroform

Concen: 548.32 ppbv

RT: 4.778 min Scan# 492

Delta R.T. -0.000 min

Lab File: 93GCMS2014-783.D

Acq: 30 Sep 2014 10:18

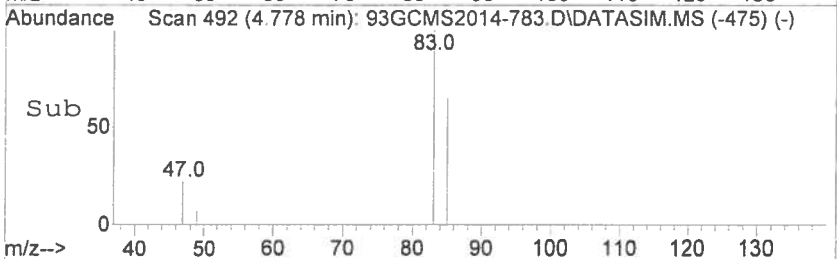
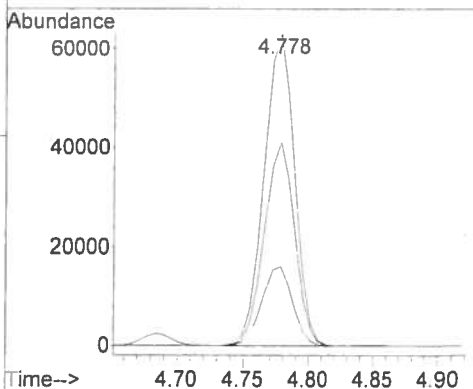
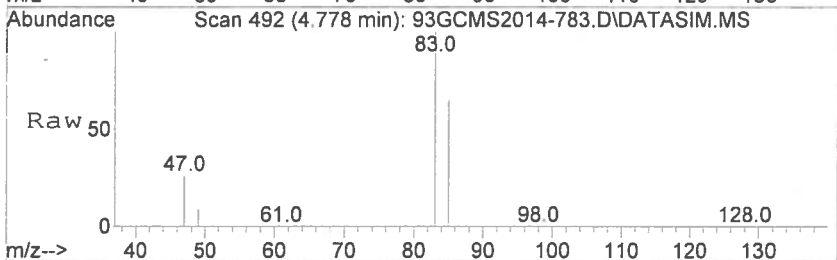
Tgt Ion: 83 Resp: 101894

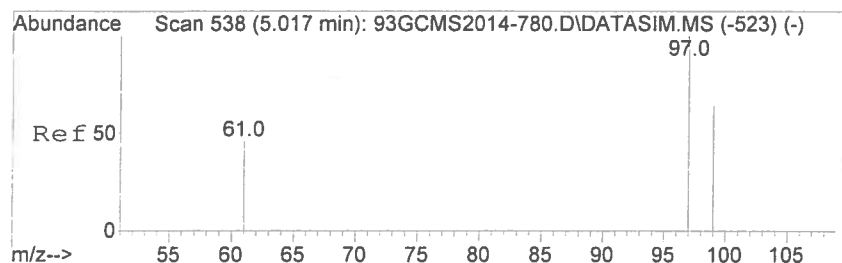
Ion Ratio Lower Upper

83 100

85 65.0 51.8 77.6

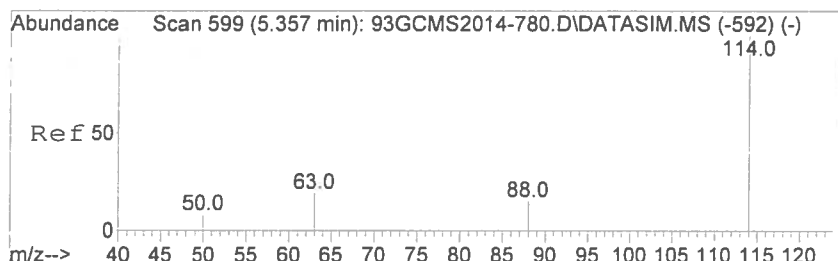
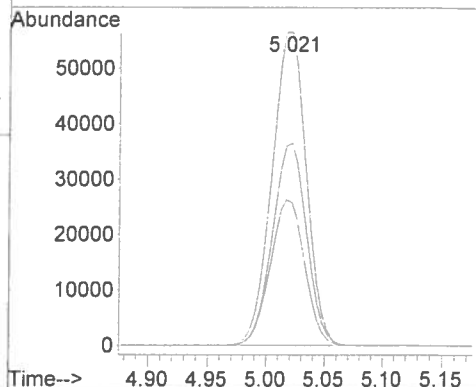
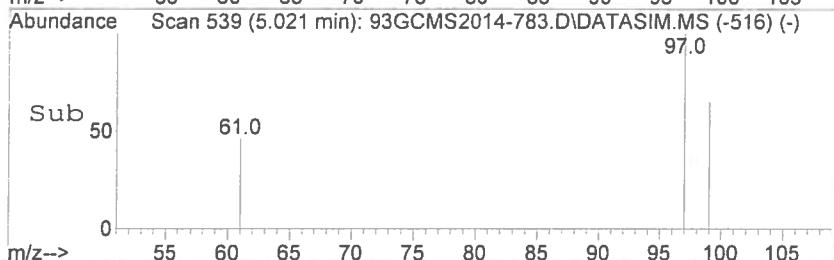
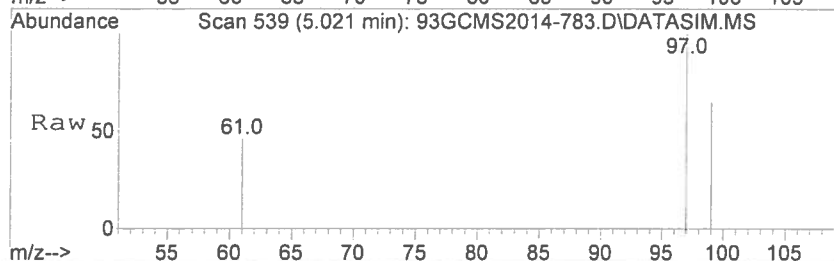
47 25.9 20.5 30.7





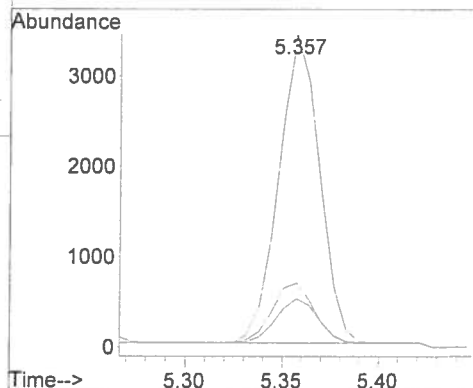
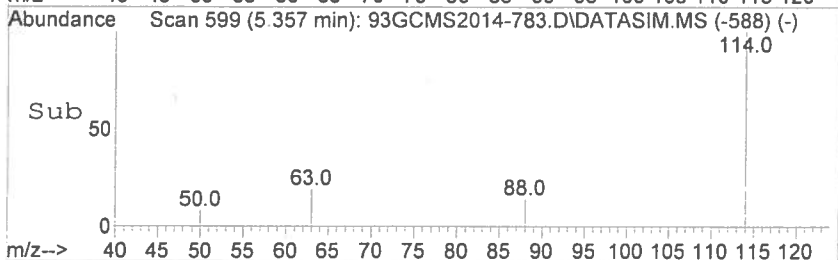
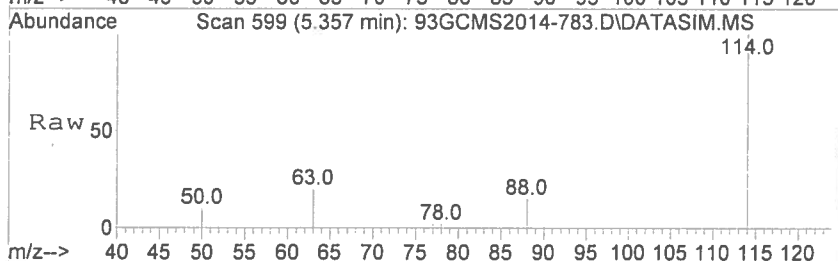
#9
 1,1,1-Trichloroethane
 Concen: 570.55 ppbv
 RT: 5.021 min Scan# 539
 Delta R.T. 0.004 min
 Lab File: 93GCMS2014-783.D
 Acq: 30 Sep 2014 10:18

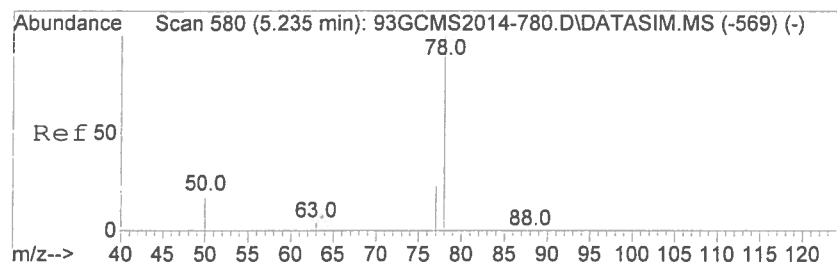
Tgt Ion	Ratio	Lower	Upper
97	100		
99	64.2	51.4	77.2
61	46.5	36.6	54.8



#10
 1,4-Difluorobenzene
 Concen: 10.00 ppbv
 RT: 5.357 min Scan# 599
 Delta R.T. -0.000 min
 Lab File: 93GCMS2014-783.D
 Acq: 30 Sep 2014 10:18

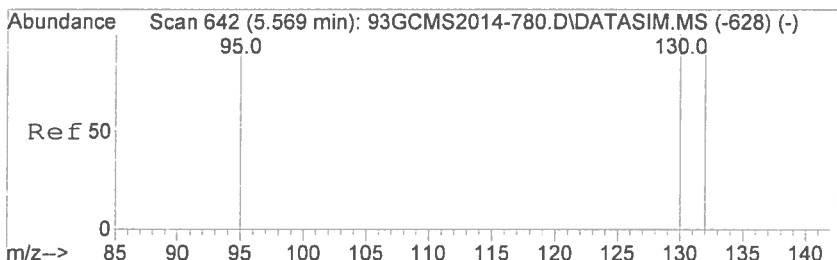
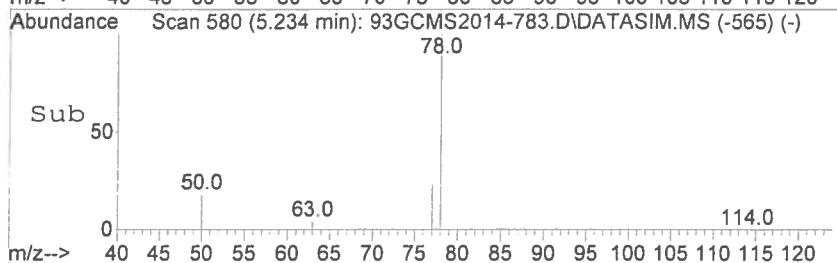
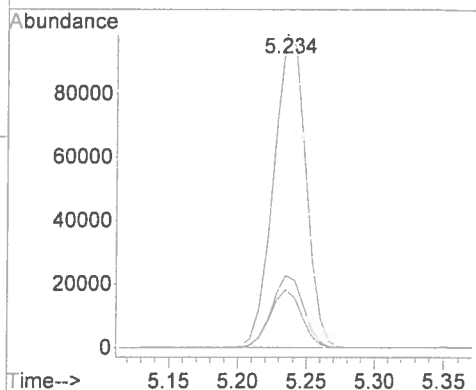
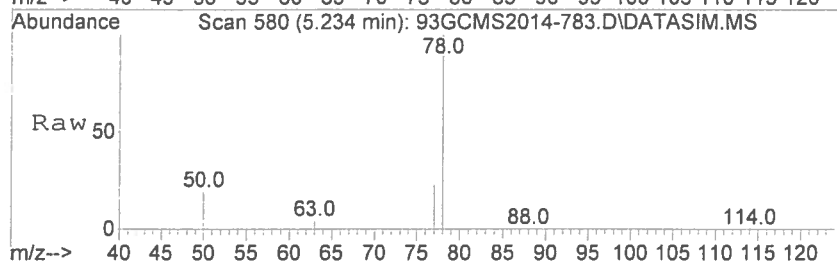
Tgt Ion	Ratio	Lower	Upper
114	100		
63	19.6	15.7	23.5
88	14.7	11.8	17.6





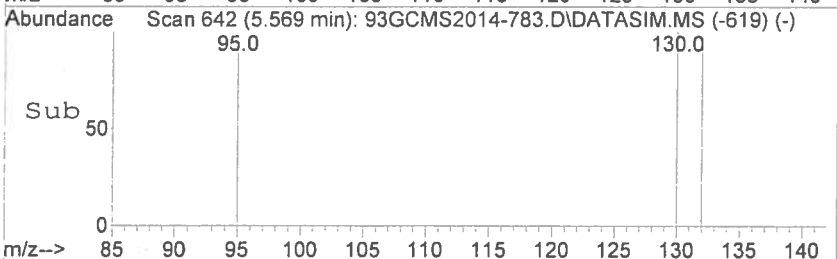
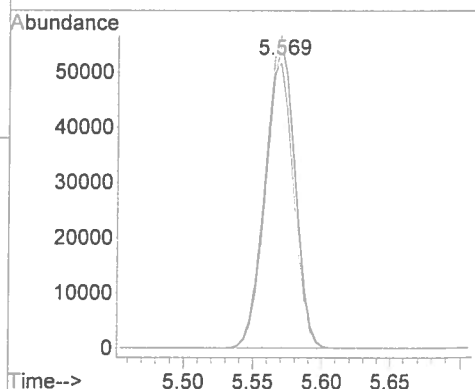
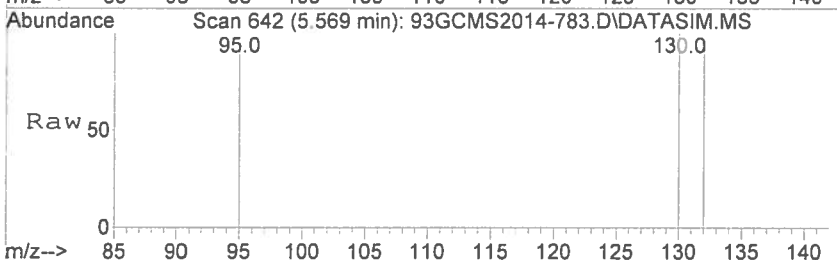
#11
Benzene
Concen: 564.21 ppbv
RT: 5.234 min Scan# 580
Delta R.T. -0.000 min
Lab File: 93GCMS2014-783.D
Acq: 30 Sep 2014 10:18

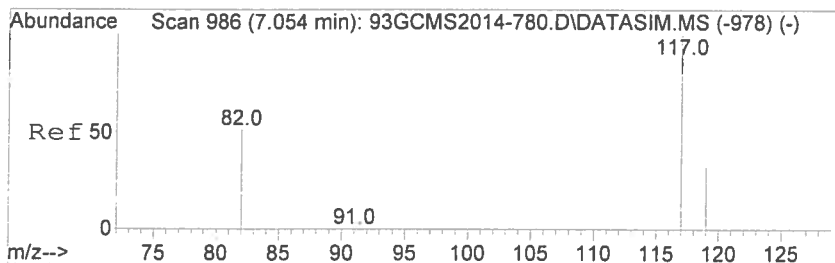
Tgt Ion	Ratio	Lower	Upper
78	100		
77	22.9	18.3	27.5
50	18.1	14.4	21.6



#12
Trichloroethene
Concen: 553.34 ppbv
RT: 5.569 min Scan# 642
Delta R.T. -0.000 min
Lab File: 93GCMS2014-783.D
Acq: 30 Sep 2014 10:18

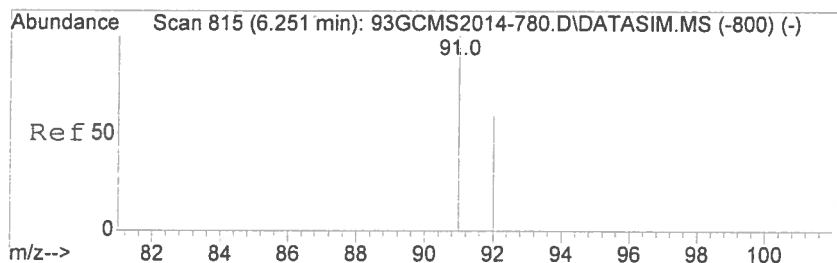
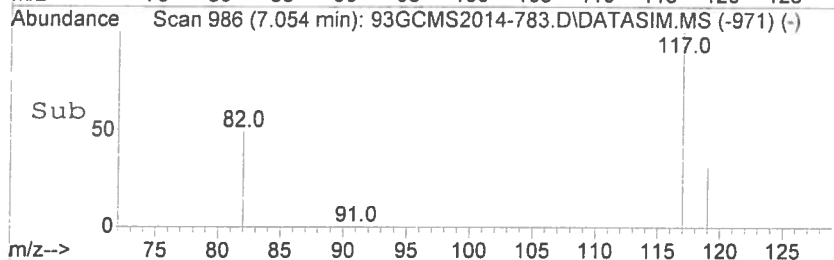
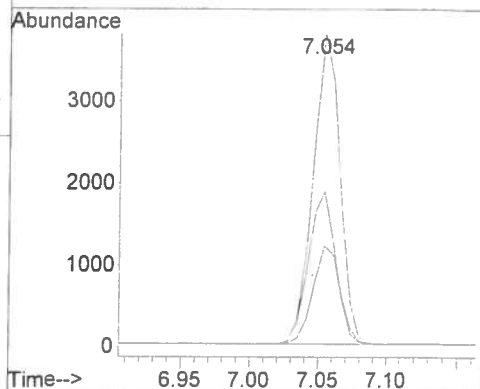
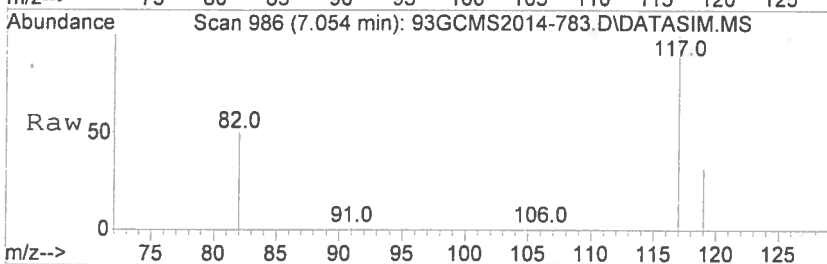
Tgt Ion	Ratio	Lower	Upper
130	100		
132	96.3	77.0	115.6
95	91.9	73.2	109.8





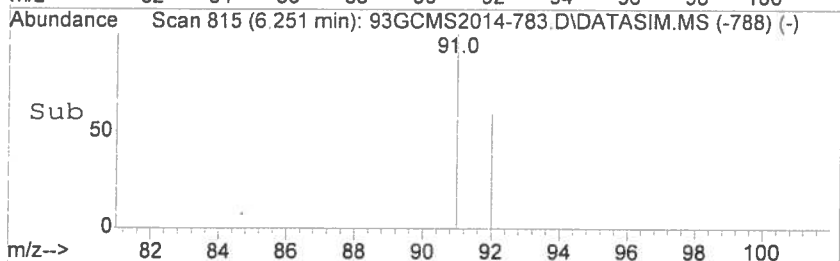
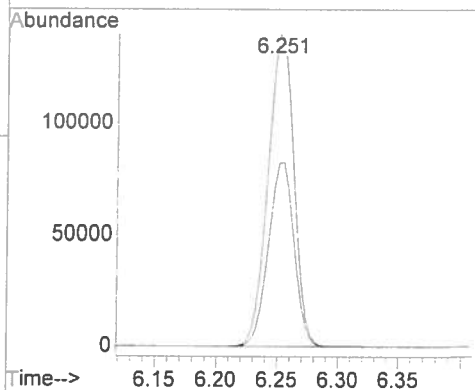
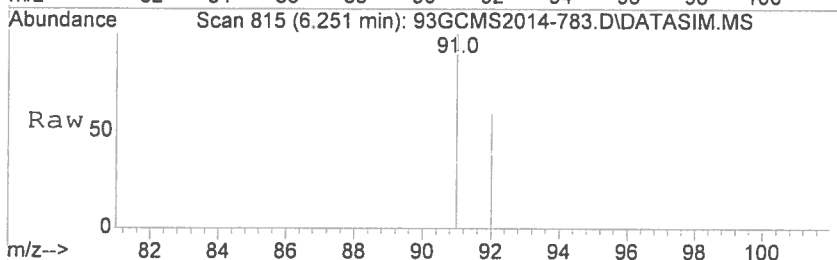
#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.054 min Scan# 986
Delta R.T. -0.000 min
Lab File: 93GCMS2014-783.D
Acq: 30 Sep 2014 10:18

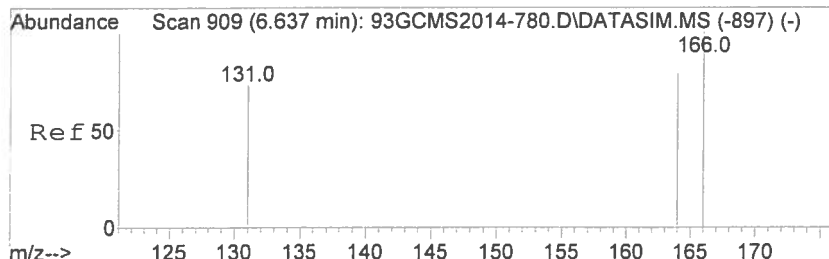
Tgt Ion	Ratio	Lower	Upper
117	100		
82	49.5	39.5	59.3
119	32.0	25.8	38.6



#14
Toluene
Concen: 568.01 ppbv
RT: 6.251 min Scan# 815
Delta R.T. -0.000 min
Lab File: 93GCMS2014-783.D
Acq: 30 Sep 2014 10:18

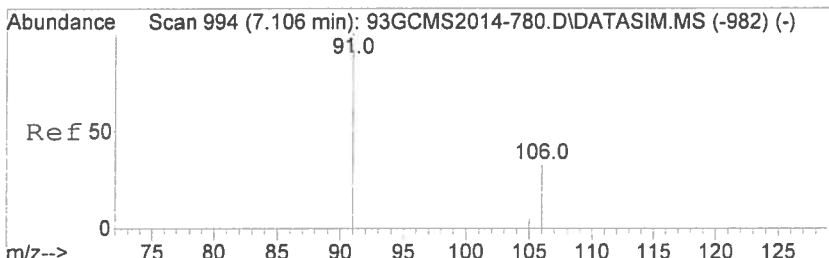
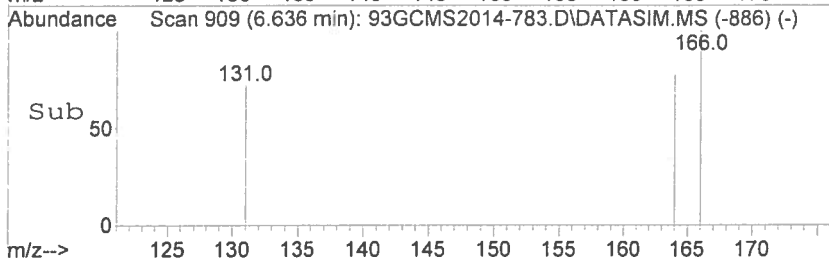
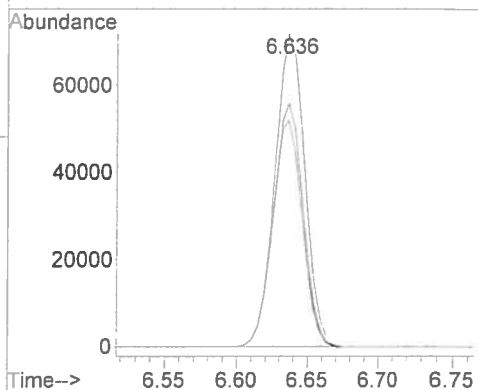
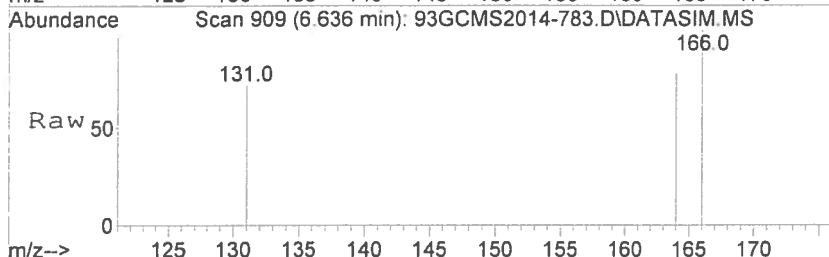
Tgt Ion	Ratio	Lower	Upper
91	100		
92	59.4	47.4	71.2





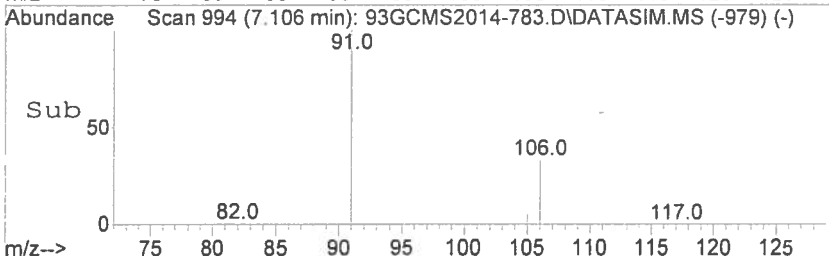
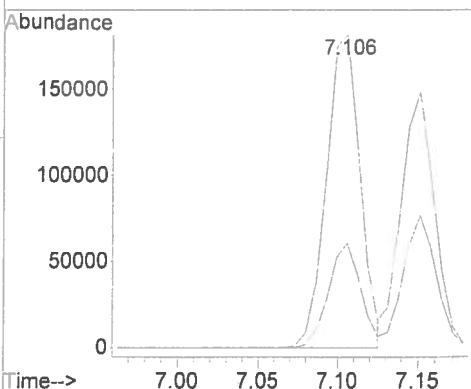
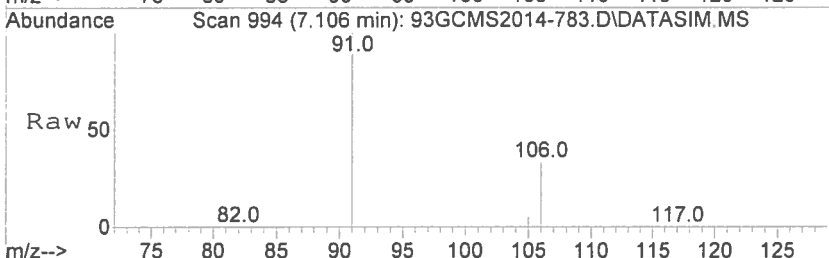
#15
Tetrachloroethene
Concen: 557.55 ppbv
RT: 6.636 min Scan# 909
Delta R.T. -0.000 min
Lab File: 93GCMS2014-783.D
Acq: 30 Sep 2014 10:18

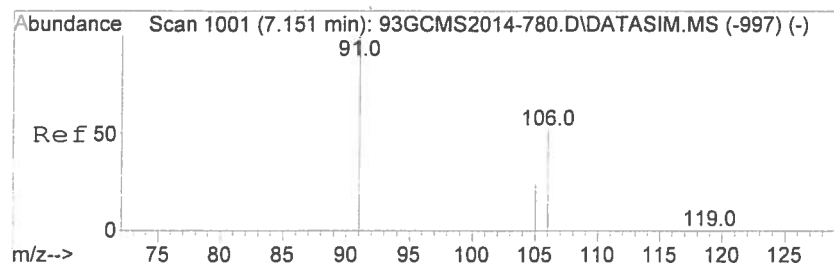
Tgt Ion	Ratio	Lower	Upper
166	100		
164	78.2	62.6	93.8
131	72.8	57.9	86.9



#16
Ethyl Benzene
Concen: 587.56 ppbv
RT: 7.106 min Scan# 994
Delta R.T. -0.000 min
Lab File: 93GCMS2014-783.D
Acq: 30 Sep 2014 10:18

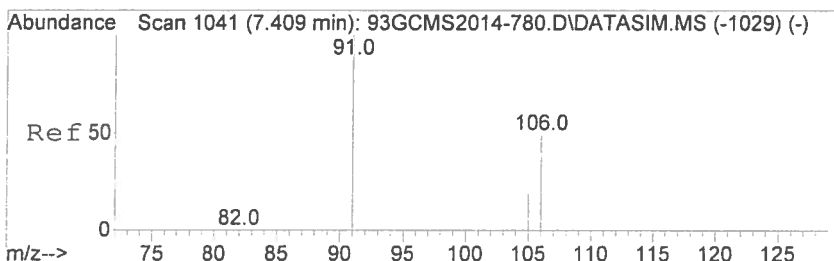
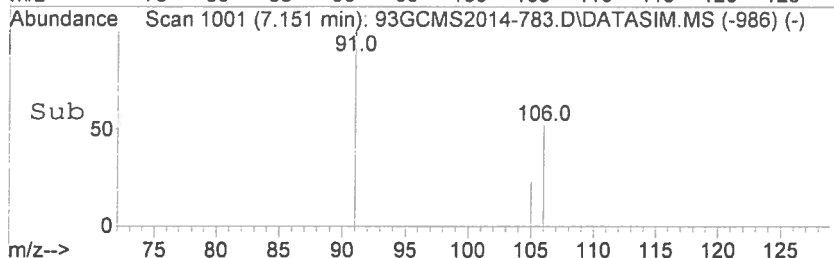
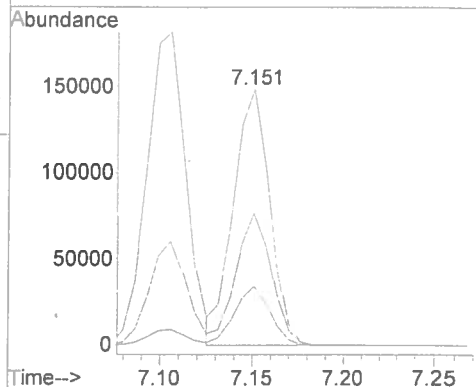
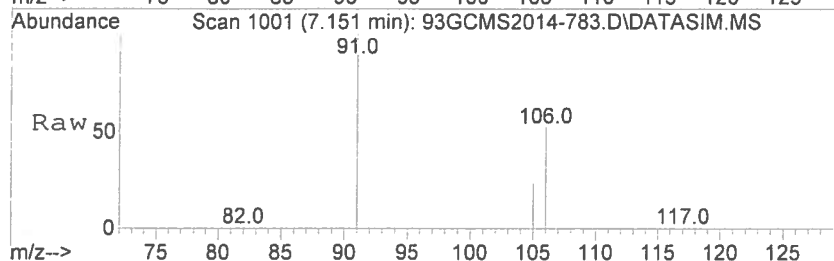
Tgt Ion	Ratio	Lower	Upper
91	100		
106	33.4	26.4	39.6





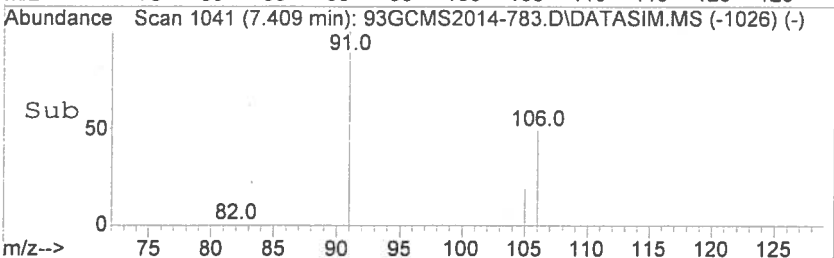
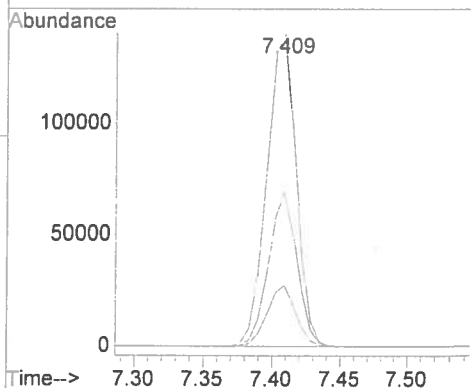
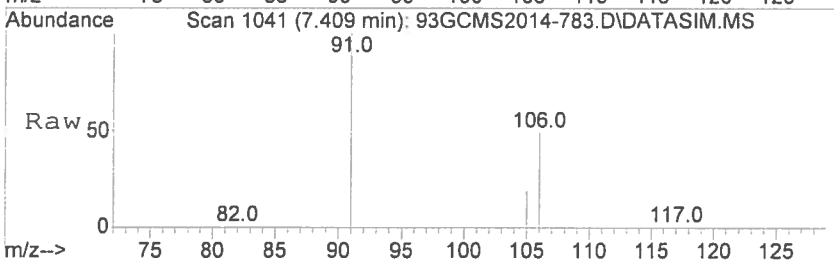
#17
m,p-Xylene
Concen: 579.30 ppbv
RT: 7.151 min Scan# 1001
Delta R.T. -0.000 min
Lab File: 93GCMS2014-783.D
Acq: 30 Sep 2014 10:18

Tgt Ion	Ratio	Lower	Upper
91	100		
106	51.8	41.2	61.8
105	23.0	18.4	27.6



#18
o-Xylene
Concen: 584.95 ppbv
RT: 7.409 min Scan# 1041
Delta R.T. -0.000 min
Lab File: 93GCMS2014-783.D
Acq: 30 Sep 2014 10:18

Tgt Ion	Ratio	Lower	Upper
91	100		
106	47.7	38.3	57.5
105	19.0	15.3	22.9



Data File:	93GCMS2014-791.d			
Sample Name:	20140930-LCS			
Sample Volume (mL)	5			
Date Prepared:	30-Sep-2014			
Date Analyzed:	30-Sep-2014			
Compound	COA Concentrations CC# 99022 EXP. 03/14/2015 CC# 128284 EXP. 11/22/2014 (ppmv)	Calculated Concentrations 20140930-LCS (ppbv)	20140930-LCS 500ppbv LCS Results (ppbv)	Percent Recovery (70-130%)
Vinyl Chloride	20.7	517.50	543.19	105
1,1-Dichloroethene	20.5	512.50	561.88	110
Methyl Tert Butyl Ether	20.4	510.00	641.84	126
trans-1,2-Dichloroethene	20.0	500.00	535.77	107
1,1-Dichloroethane	21.0	525.00	568.23	108
cis-1,2-Dichloroethene	21.2	530.00	571.81	108
Chloroform	20.6	515.00	542.84	105
1,1,1-Trichloroethane	20.4	510.00	567.98	111
Benzene	21.1	527.50	548.16	104
Trichloroethene	20.4	510.00	538.44	106
Toluene	20.9	522.50	546.53	105
Tetrachloroethene	20.7	517.50	540.97	105
Ethyl Benzene	21.0	525.00	566.14	108
m&p-Xylene	20.8	520.00	522.80	101
o-Xylene	21.0	525.00	546.35	104

09/30/14

Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140930\
 Data File : 93GCMS2014-791.D
 Acq On : 30 Sep 2014 15:44
 Operator : SJT
 Sample : 20140930-LCS \ 500ppbv LCS
 Misc : 5mL \ 30 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 30 15:51:28 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjTue Sep 30 09:39:46 2014

QLast Update : Tue Sep 30 09:39:46 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	4.854	49	1752	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	4811	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	4886	10.00	ppbv	0.00

System Monitoring Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Vinyl Chloride	2.171	62	48192	543.19	ppbv	99
3) 1,1-Dichloroethene	3.598	61	86434	561.88	ppbv	99
4) Methyl Tert Butyl Ether	4.046	73	120923	641.84	ppbv	98
5) trans-1,2-Dichloroethene	4.115	61	76983	535.77	ppbv	100
6) 1,1-Dichloroethane	4.352	63	98297	568.23	ppbv	100
7) cis-1,2-Dichloroethene	4.690	61	76241	571.81	ppbv	100
8) Chloroform	4.778	83	96629	542.84	ppbv	100
9) 1,1,1-Trichloroethane	5.021	97	109894	567.98	ppbv	100
11) Benzene	5.241	78	149743	548.16	ppbv	100
12) Trichloroethene	5.569	130	77143	538.44	ppbv	100
14) Toluene	6.255	91	186547	546.53	ppbv	100
15) Tetrachloroethene	6.636	166	97534	540.97	ppbv	100
16) Ethyl Benzene	7.106	91	244143	566.14	ppbv	99
17) m,p-Xylene	7.151	91	176015	522.80	ppbv	99
18) o-Xylene	7.409	91	187428	546.35	ppbv	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Signature
 09/30/14

Data Path : D:\msdchem\1\data\2014\20140930\
Data File : 93GCMS2014-791.D
Acq On : 30 Sep 2014 15:44
Operator : SJT
Sample : 20140930-LCS \ 500ppbv LCS
Misc : 5mL \ 30 Sept 2014
ALS Vial : 1 Sample Multiplier: 1

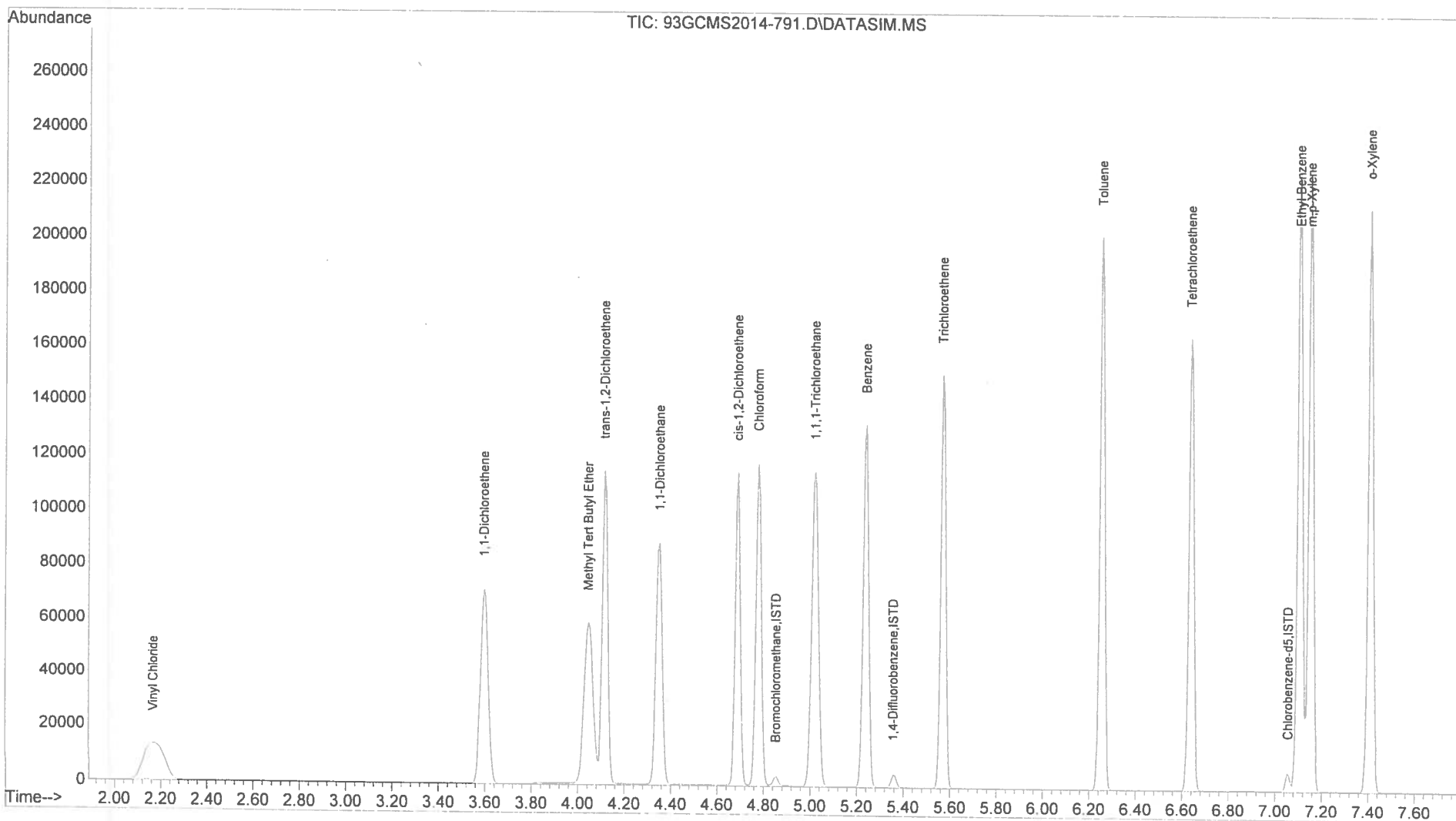
Quant Time: Sep 30 15:51:28 2014

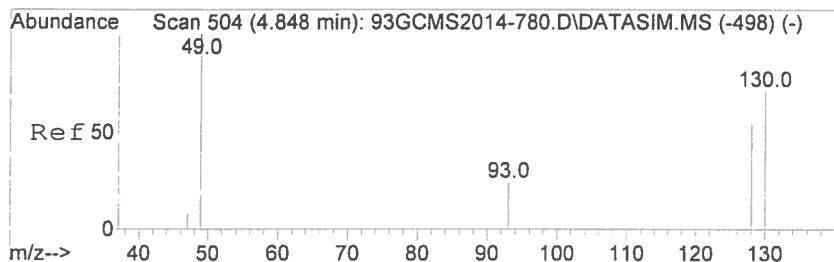
Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjTue Sep 30 09:39:46 2014

QLast Update : Tue Sep 30 09:39:46 2014

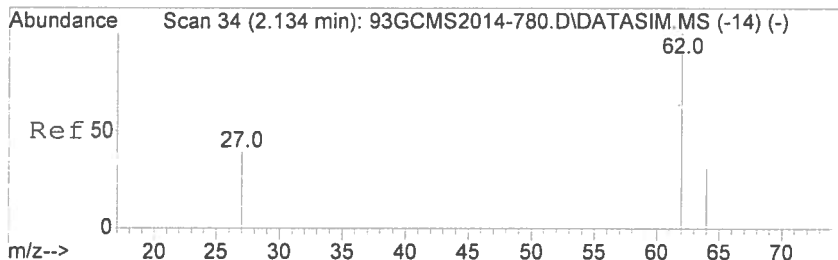
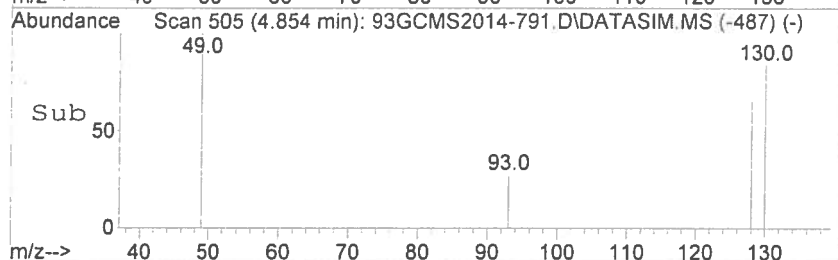
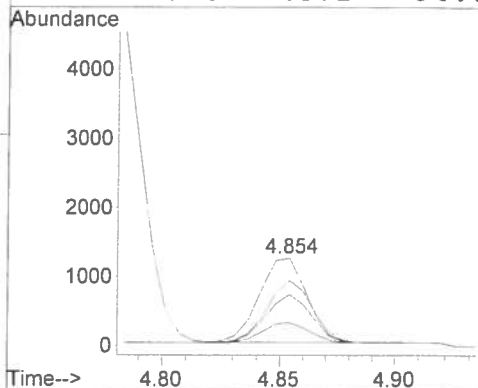
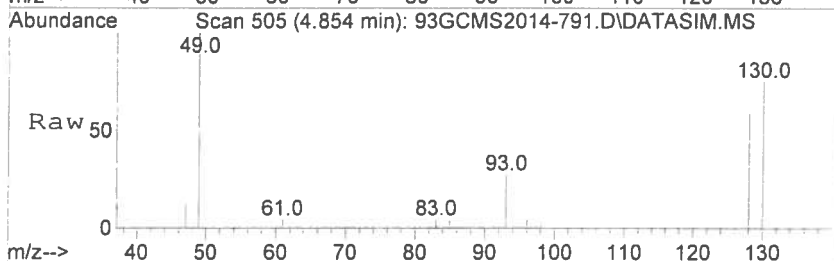
Response via : Initial Calibration





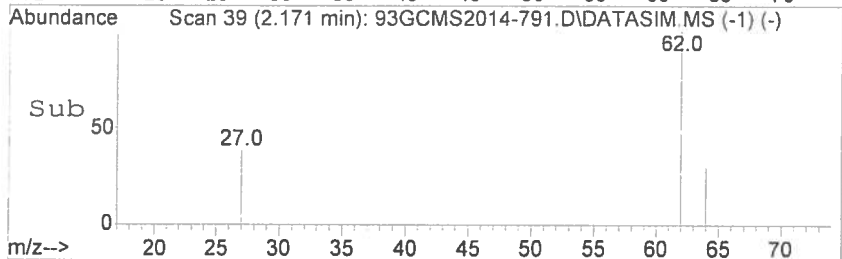
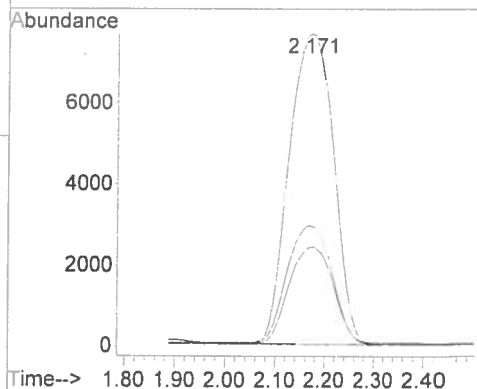
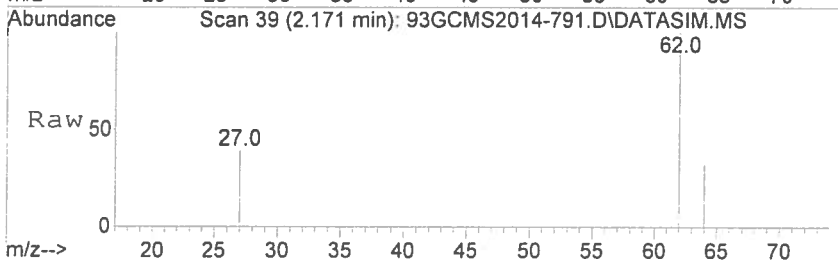
#1
 Bromochloromethane
 Concen: 10.00 ppbv
 RT: 4.854 min Scan# 505
 Delta R.T. 0.006 min
 Lab File: 93GCMS2014-791.D
 Acq: 30 Sep 2014 15:44

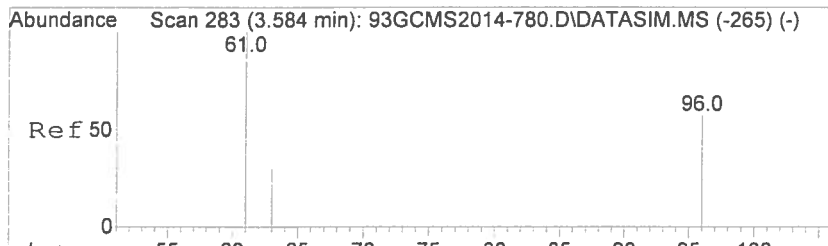
Tgt Ion: 49 Resp: 1752
 Ion Ratio Lower Upper
 49 100
 130 74.5 54.4 81.6
 93 26.7 21.1 31.7
 128 58.6 43.2 64.8



#2
 Vinyl Chloride
 Concen: 543.19 ppbv
 RT: 2.171 min Scan# 39
 Delta R.T. 0.037 min
 Lab File: 93GCMS2014-791.D
 Acq: 30 Sep 2014 15:44

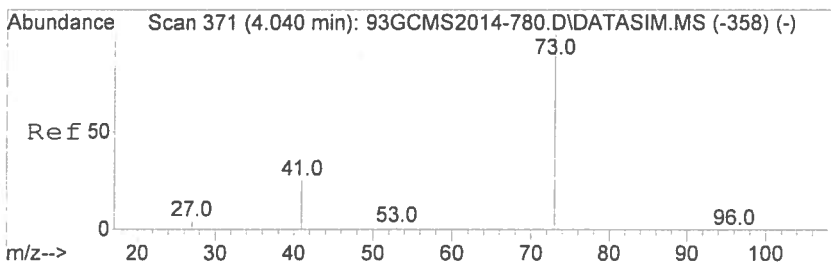
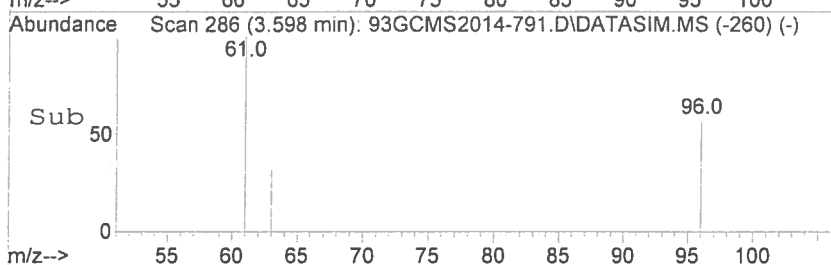
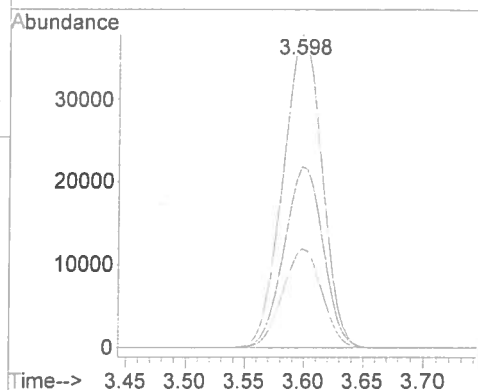
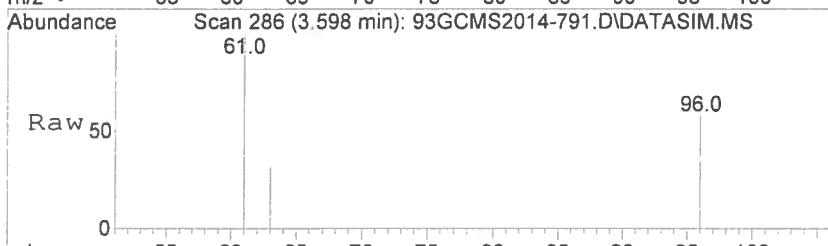
Tgt Ion: 62 Resp: 48192
 Ion Ratio Lower Upper
 62 100
 64 31.2 25.2 37.8
 27 38.3 31.8 47.6





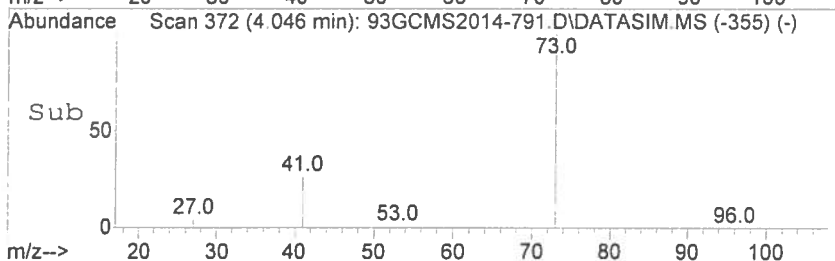
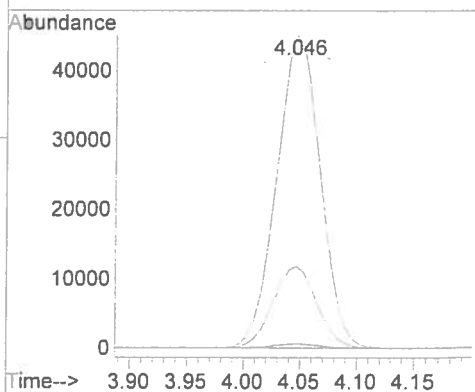
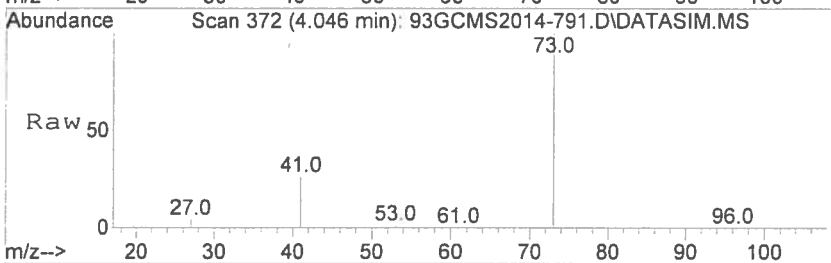
#3
 1,1-Dichloroethene
 Concen: 561.88 ppbv
 RT: 3.598 min Scan# 286
 Delta R.T. 0.013 min
 Lab File: 93GCMS2014-791.D
 Acq: 30 Sep 2014 15:44

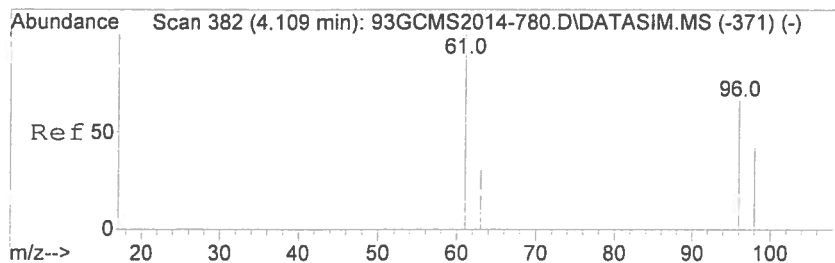
Tgt Ion	Ratio	Resp	Lower	Upper
61	100	86434		
96	57.8		46.7	70.1
63	31.5		25.3	37.9



#4
 Methyl Tert Butyl Ether
 Concen: 641.84 ppbv
 RT: 4.046 min Scan# 372
 Delta R.T. 0.006 min
 Lab File: 93GCMS2014-791.D
 Acq: 30 Sep 2014 15:44

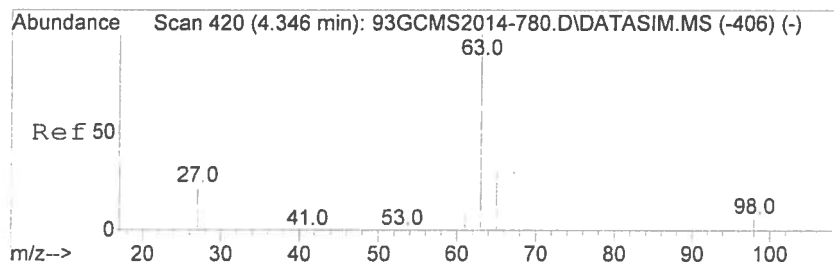
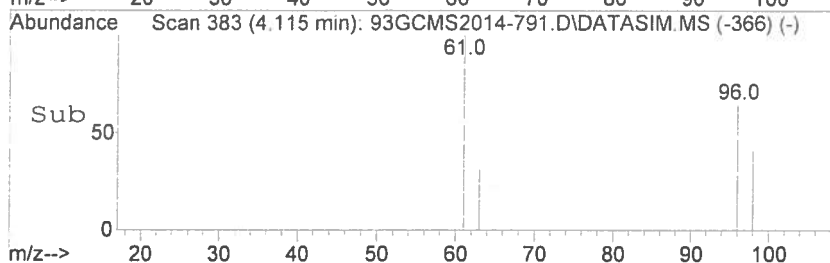
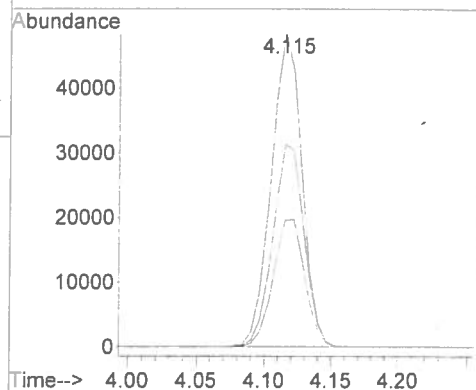
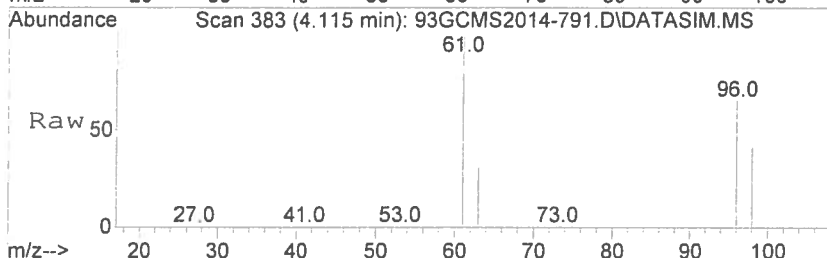
Tgt Ion	Ratio	Resp	Lower	Upper
73	100	120923		
53	1.3		1.0	1.6
41	26.1		20.2	30.2





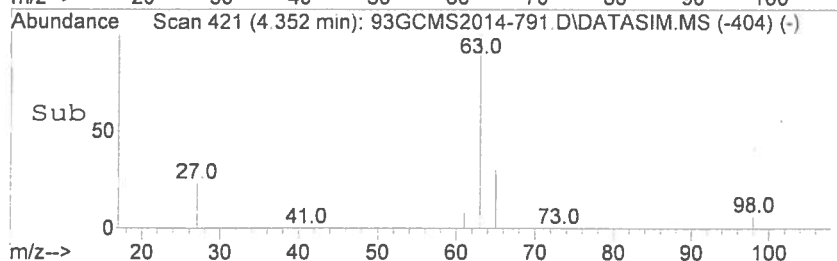
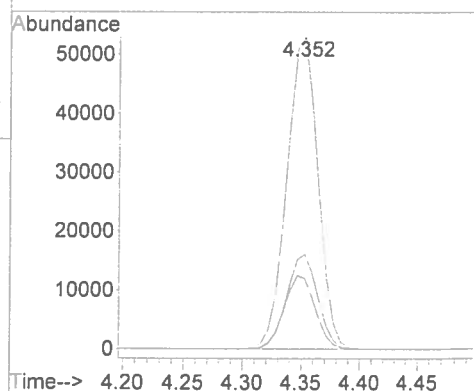
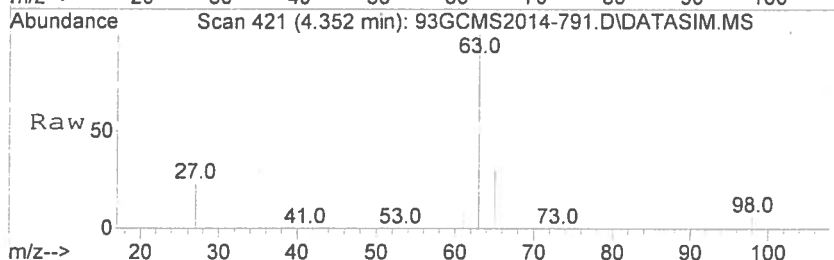
#5
trans-1,2-Dichloroethene
Concen: 535.77 ppbv
RT: 4.115 min Scan# 383
Delta R.T. 0.006 min
Lab File: 93GCMS2014-791.D
Acq: 30 Sep 2014 15:44

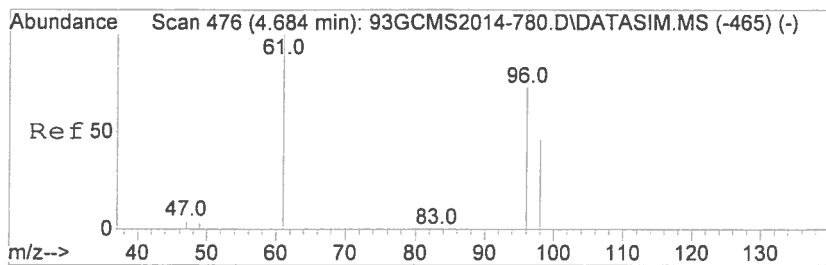
Tgt Ion	Ratio	Lower	Upper
61	100		
96	66.0	53.0	79.6
98	42.1	33.8	50.6



#6
1,1-Dichloroethane
Concen: 568.23 ppbv
RT: 4.352 min Scan# 421
Delta R.T. 0.006 min
Lab File: 93GCMS2014-791.D
Acq: 30 Sep 2014 15:44

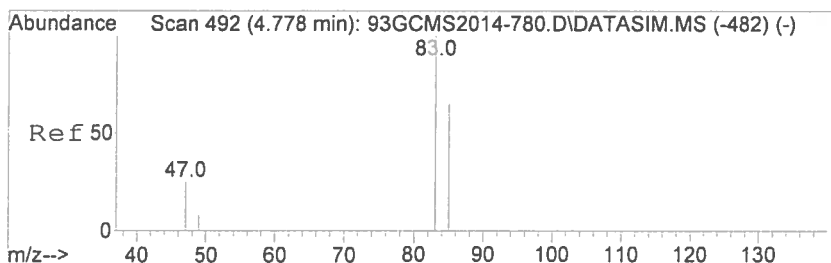
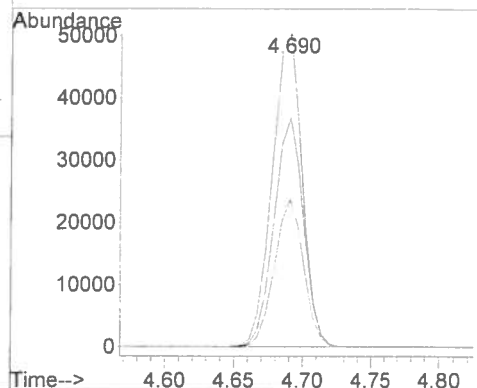
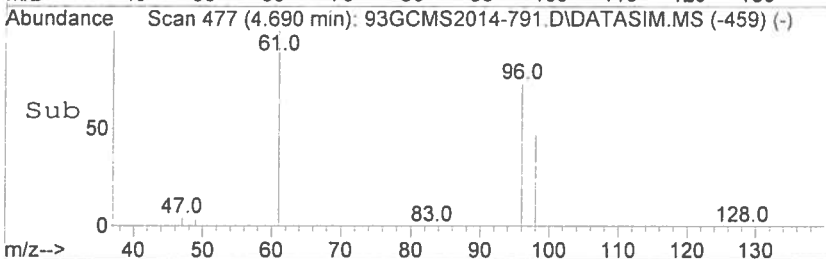
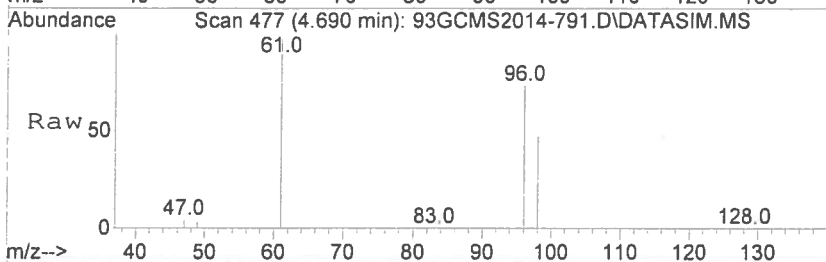
Tgt Ion	Ratio	Lower	Upper
63	100		
65	30.2	24.2	36.2
27	23.5	18.6	28.0





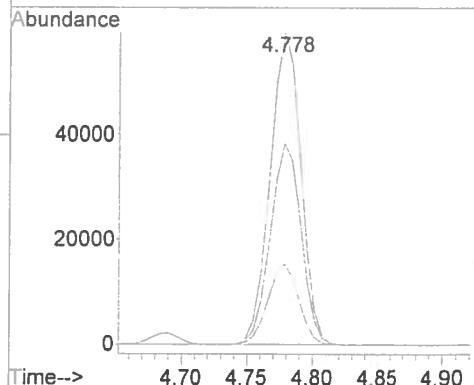
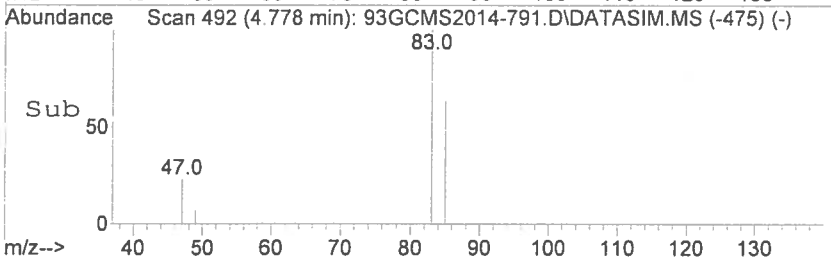
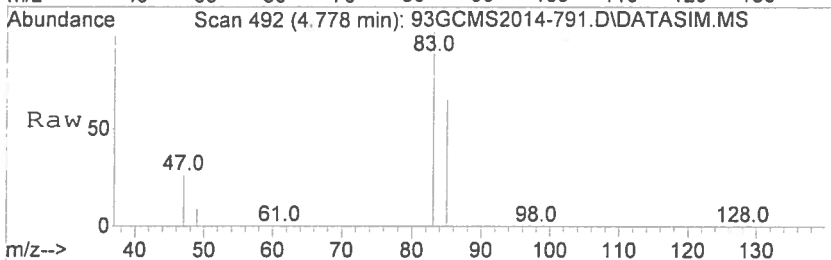
#7
 cis-1,2-Dichloroethene
 Concen: 571.81 ppbv
 RT: 4.690 min Scan# 477
 Delta R.T. 0.006 min
 Lab File: 93GCMS2014-791.D
 Acq: 30 Sep 2014 15:44

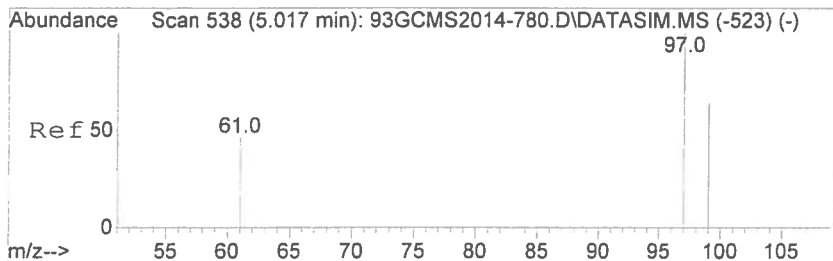
Tgt Ion	Ratio	Resp	Lower	Upper
61	100	76241		
96	72.3	58.2	87.2	
98	46.3	37.1	55.7	



#8
 Chloroform
 Concen: 542.84 ppbv
 RT: 4.778 min Scan# 492
 Delta R.T. -0.000 min
 Lab File: 93GCMS2014-791.D
 Acq: 30 Sep 2014 15:44

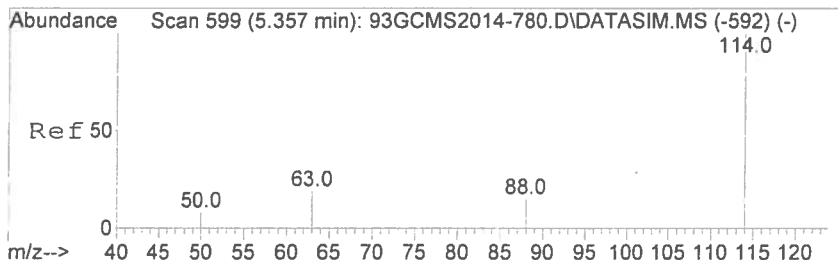
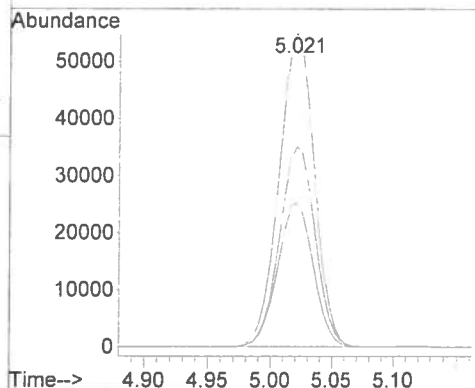
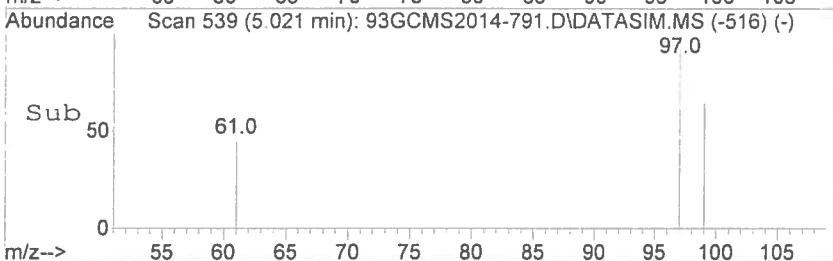
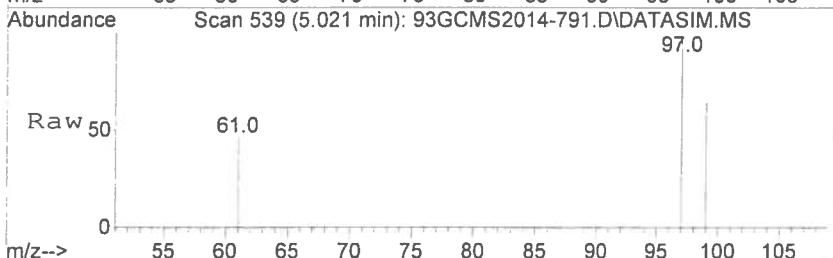
Tgt Ion	Ratio	Resp	Lower	Upper
83	100	96629		
85	64.6	51.8	77.6	
47	25.7	20.5	30.7	





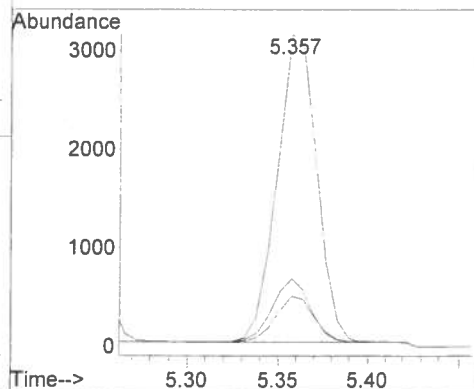
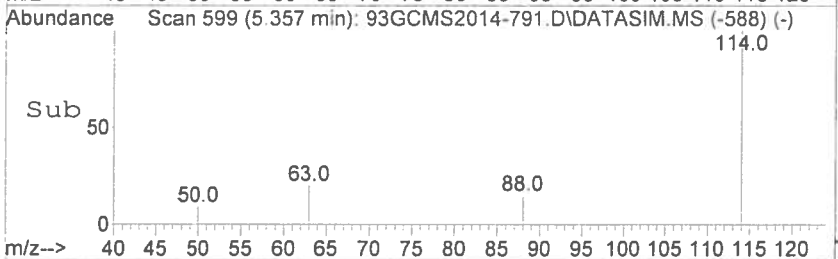
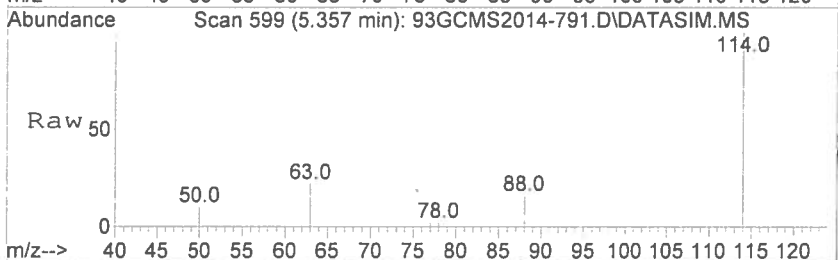
#9
 1,1,1-Trichloroethane
 Concen: 567.98 ppbv
 RT: 5.021 min Scan# 539
 Delta R.T. 0.004 min
 Lab File: 93GCMS2014-791.D
 Acq: 30 Sep 2014 15:44

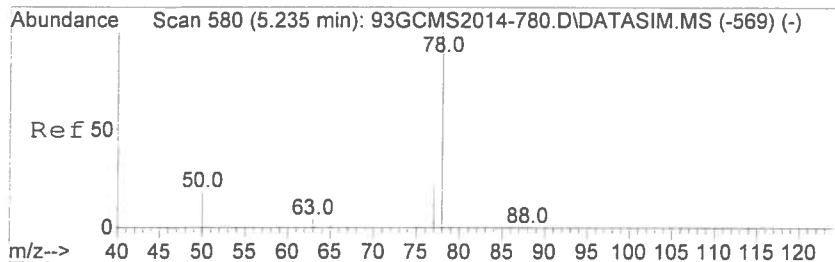
Tgt Ion	Ratio	Lower	Upper
97	100		
99	64.2	51.4	77.2
61	46.2	36.6	54.8



#10
 1,4-Difluorobenzene
 Concen: 10.00 ppbv
 RT: 5.357 min Scan# 599
 Delta R.T. -0.000 min
 Lab File: 93GCMS2014-791.D
 Acq: 30 Sep 2014 15:44

Tgt Ion	Ratio	Lower	Upper
114	100		
63	19.7	15.7	23.5
88	14.7	11.8	17.6





#11

Benzene

Concen: 548.16 ppbv

RT: 5.241 min Scan# 581

Delta R.T. 0.006 min

Lab File: 93GCMS2014-791.D

Acq: 30 Sep 2014 15:44

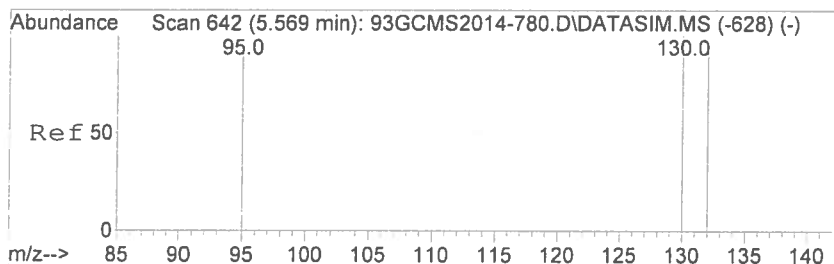
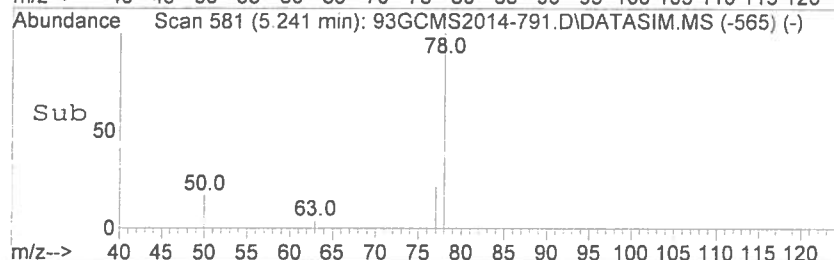
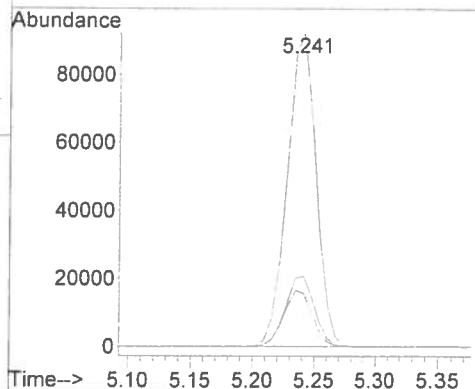
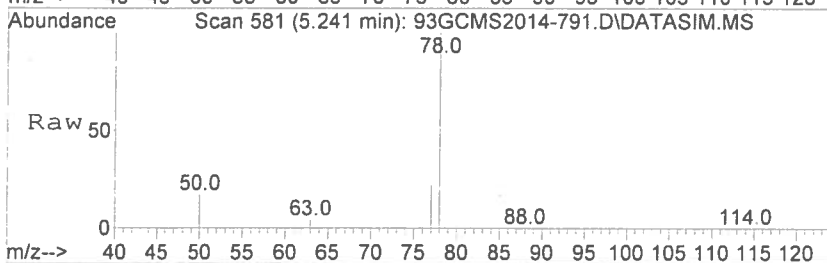
Tgt Ion: 78 Resp: 149743

Ion Ratio Lower Upper

78 100

77 22.9 18.3 27.5

50 18.1 14.4 21.6



#12

Trichloroethene

Concen: 538.44 ppbv

RT: 5.569 min Scan# 642

Delta R.T. -0.000 min

Lab File: 93GCMS2014-791.D

Acq: 30 Sep 2014 15:44

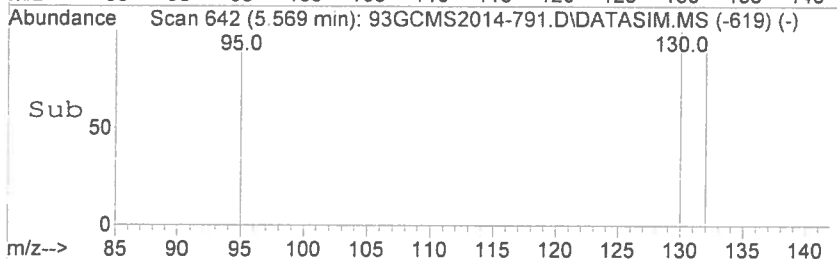
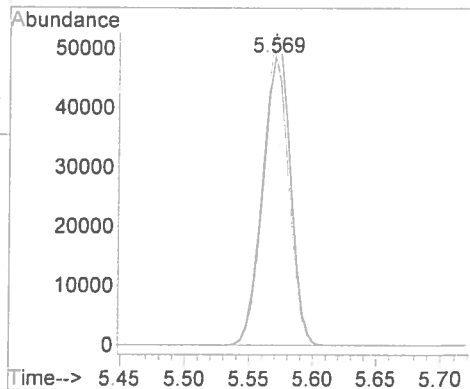
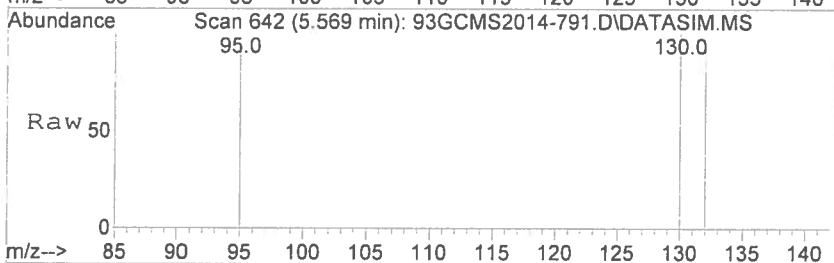
Tgt Ion: 130 Resp: 77143

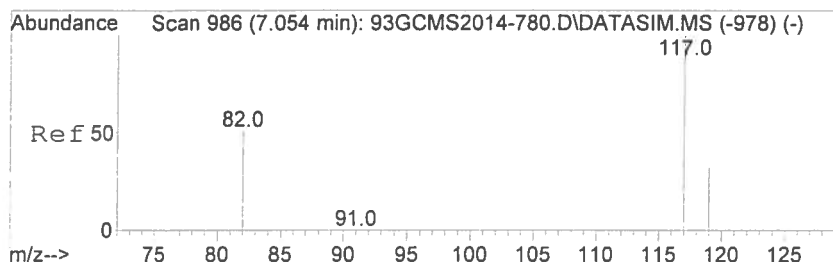
Ion Ratio Lower Upper

130 100

132 96.0 77.0 115.6

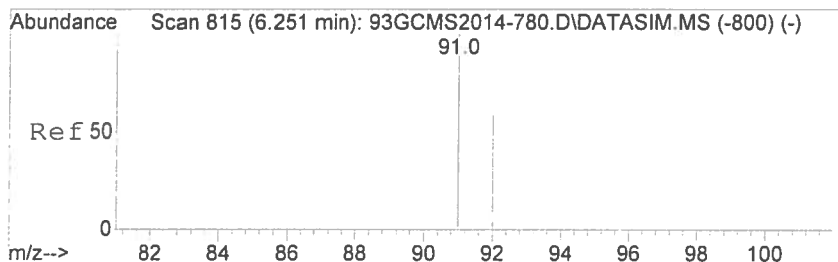
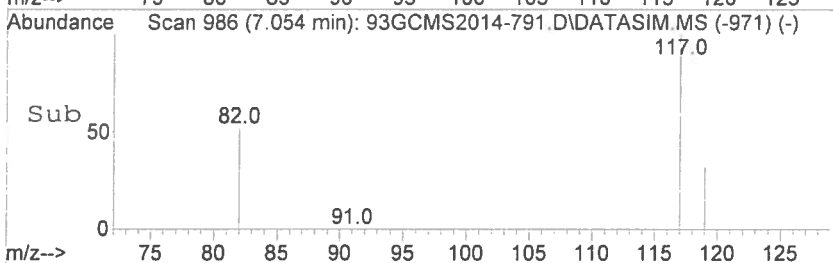
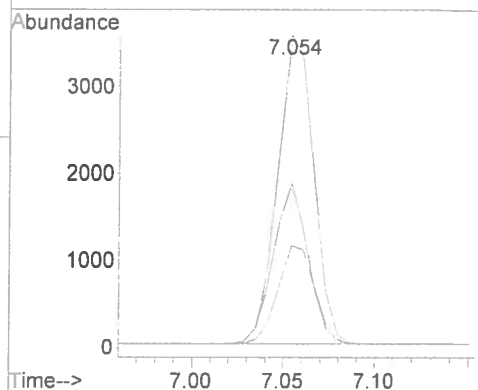
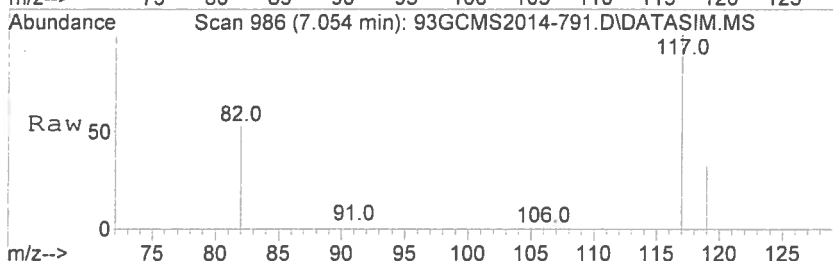
95 91.8 73.2 109.8





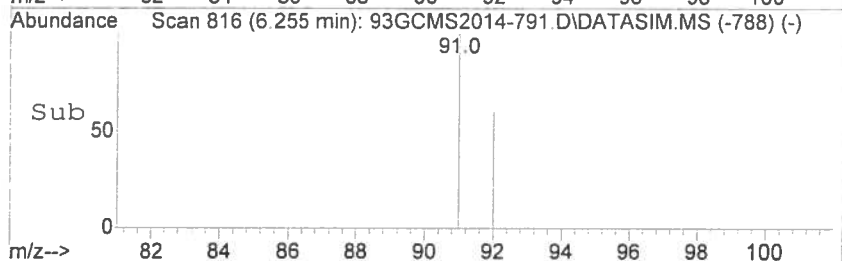
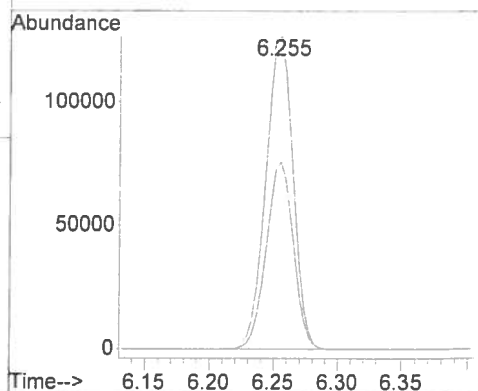
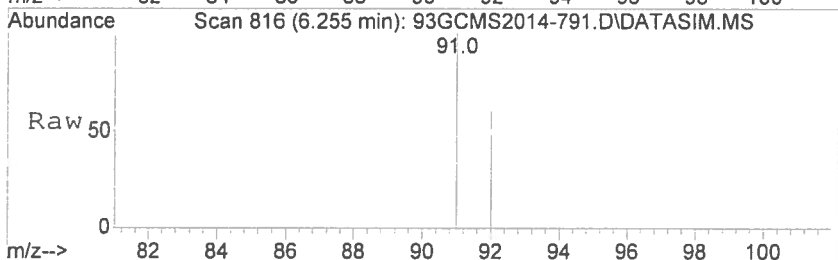
#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.054 min Scan# 986
Delta R.T. -0.000 min
Lab File: 93GCMS2014-791.D
Acq: 30 Sep 2014 15:44

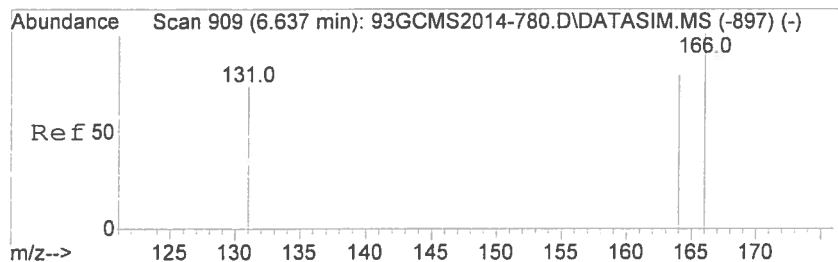
Tgt Ion	Ratio	Resp	Lower	Upper
117	100	4886		
82	49.7		39.5	59.3
119	32.3		25.8	38.6



#14
Toluene
Concen: 546.53 ppbv
RT: 6.255 min Scan# 816
Delta R.T. 0.004 min
Lab File: 93GCMS2014-791.D
Acq: 30 Sep 2014 15:44

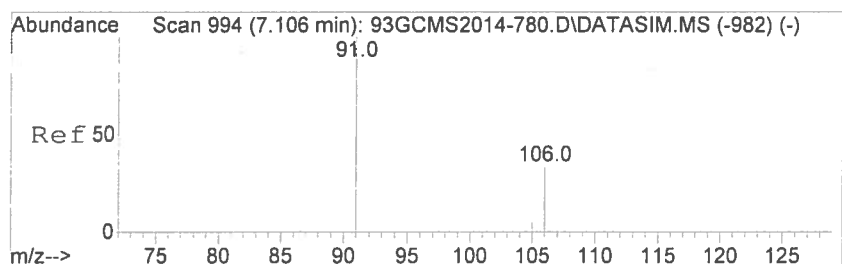
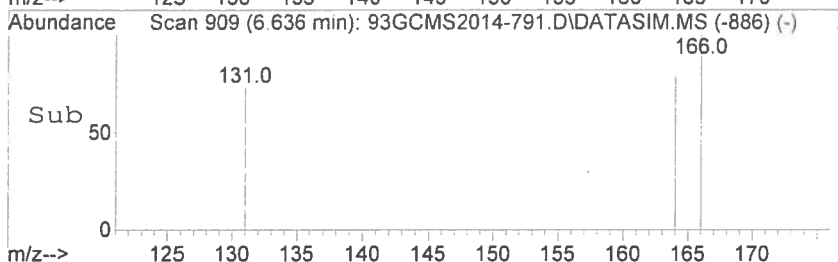
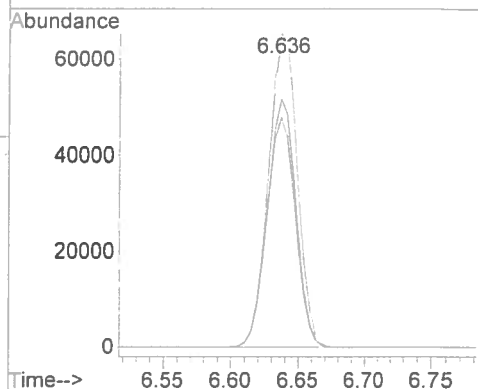
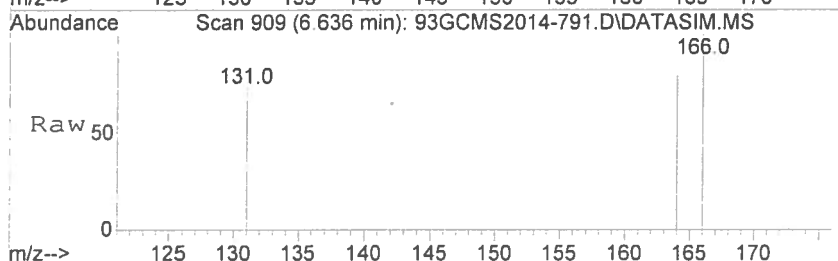
Tgt Ion	Ratio	Resp	Lower	Upper
91	100	186547		
92	59.4		47.4	71.2





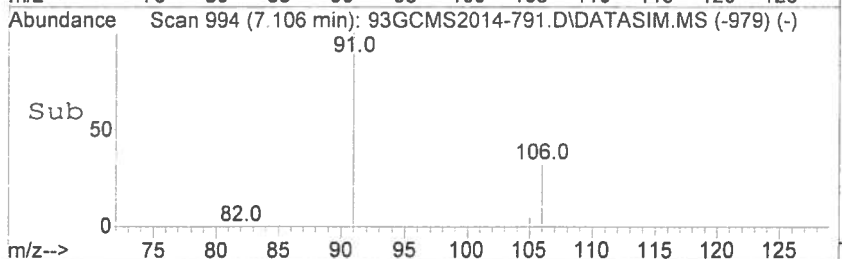
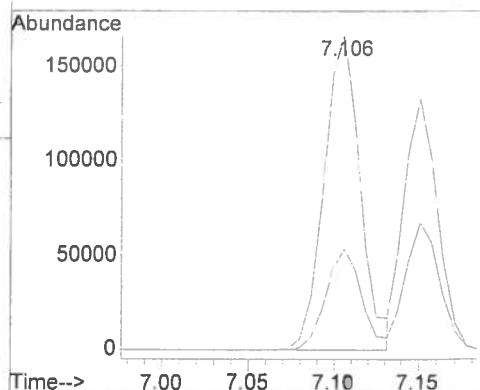
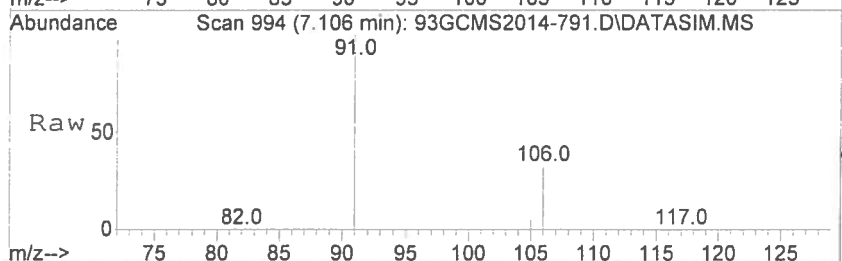
#15
Tetrachloroethene
Concen: 540.97 ppbv
RT: 6.636 min Scan# 909
Delta R.T. -0.000 min
Lab File: 93GCMS2014-791.D
Acq: 30 Sep 2014 15:44

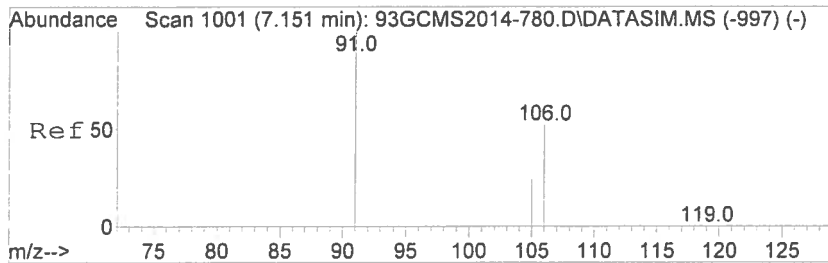
Tgt Ion	Ratio	Lower	Upper
166	100		
164	78.2	62.6	93.8
131	72.6	57.9	86.9



#16
Ethyl Benzene
Concen: 566.14 ppbv
RT: 7.106 min Scan# 994
Delta R.T. -0.000 min
Lab File: 93GCMS2014-791.D
Acq: 30 Sep 2014 15:44

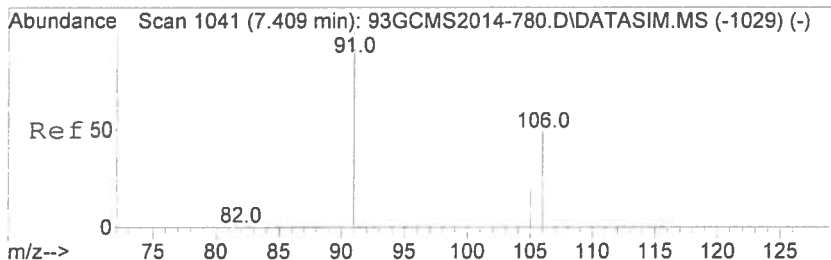
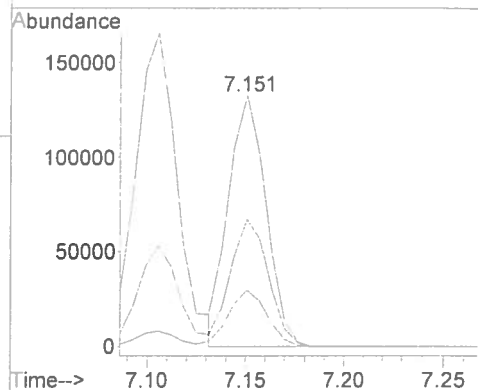
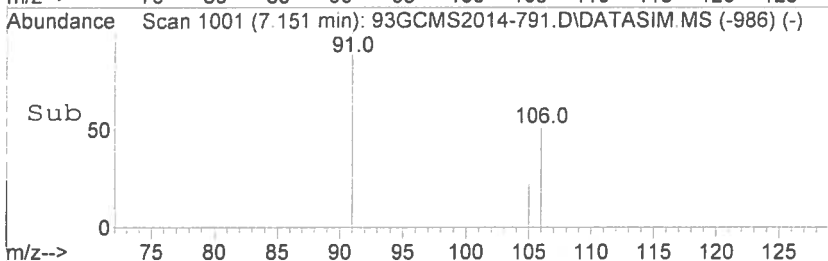
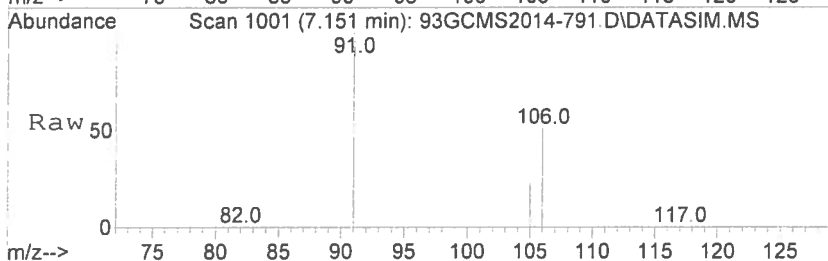
Tgt Ion	Ratio	Lower	Upper
91	100		
106	32.3	26.4	39.6





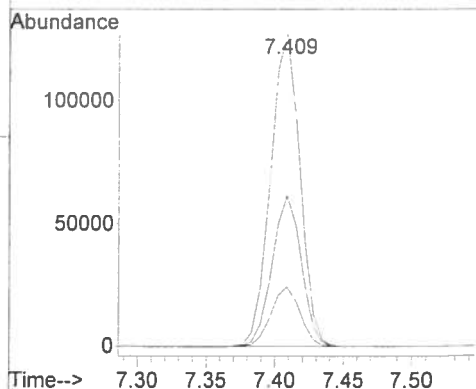
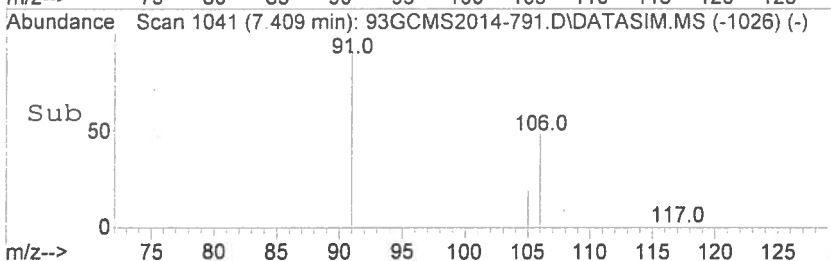
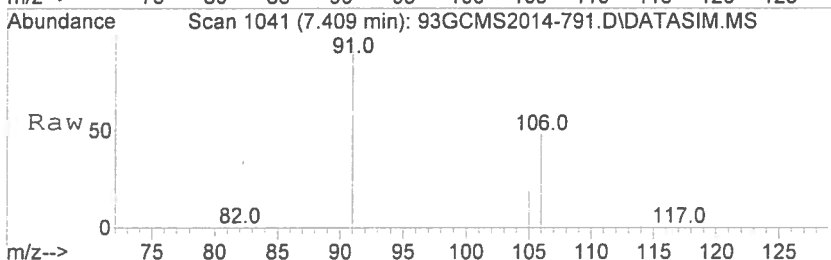
#17
m,p-Xylene
Concen: 522.80 ppbv
RT: 7.151 min Scan# 1001
Delta R.T. -0.000 min
Lab File: 93GCMS2014-791.D
Acq: 30 Sep 2014 15:44

Tgt Ion: 91 Resp: 176015
Ion Ratio Lower Upper
91 100
106 50.6 41.2 61.8
105 22.5 18.4 27.6



#18
o-Xylene
Concen: 546.35 ppbv
RT: 7.409 min Scan# 1041
Delta R.T. -0.000 min
Lab File: 93GCMS2014-791.D
Acq: 30 Sep 2014 15:44

Tgt Ion: 91 Resp: 187428
Ion Ratio Lower Upper
91 100
106 47.9 38.3 57.5
105 19.0 15.3 22.9



GC/MS QA-QC Check Report

Tune File : D:\msdchem\1\data\2014\20140930\93GCMS2014-779.D

Tune Time : 30 Sep 2014 8:52

Daily Calibration File : D:\msdchem\1\data\2014\20140930\93GCMS2014-780.D

		1899	5189	5291
File	Sample	Internal Standard Responses		
=====				
93GCMS2014-780.D				
	STD2014093	1899	5189	5291

93GCMS2014-781.D				
	STD2014093	1820	4963	5060

93GCMS2014-782.D				
	20140930-M	1843	5085	5169

93GCMS2014-783.D				
	20140930-L	1829	5012	5121

93GCMS2014-784.D				
	53643 \ Un	1840	5036	5079

93GCMS2014-785.D				
	53642 \ Un	1895	5185	5261

93GCMS2014-786.D				
	53644 \ Un	1883	5176	5248

93GCMS2014-787.D				
	53642 \ Un	1888	5205	5258

93GCMS2014-788.D				
	53645 \ Un	2073	4692	4948

93GCMS2014-789.D				
	53645 \ Un	1721	4712	4818

93GCMS2014-790.D				
	53646 \ Un	1841	4997	5091

93GCMS2014-791.D				
	20140930-L	1752	4811	4886

(fails) - fails 24hr time check * - fails criteria

Created: Tue Sep 30 15:53:09 2014 Instrument 2

Q 09/30/14

APPENDIX D

Quantitation Reports

**Passyunk Soil Gas Site
Philadelphia, Pennsylvania**

GC/MS Analytical Report

October 2014

Data Path : D:\msdchem\1\data\2014\20140929\
Data File : 93GCMS2014-763.D
Acq On : 29 Sep 2014 19:00
Operator : SJT
Sample : 20140929-MB \ Method Blank
Misc : 5mL \ 29 Sept 2014
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 19:06:48 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014

QLast Update : Mon Sep 29 18:48:25 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)

Internal Standards						
1) Bromochloromethane	4.848	49	1824	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	5151	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5316	10.00	ppbv	0.00

System Monitoring Compounds

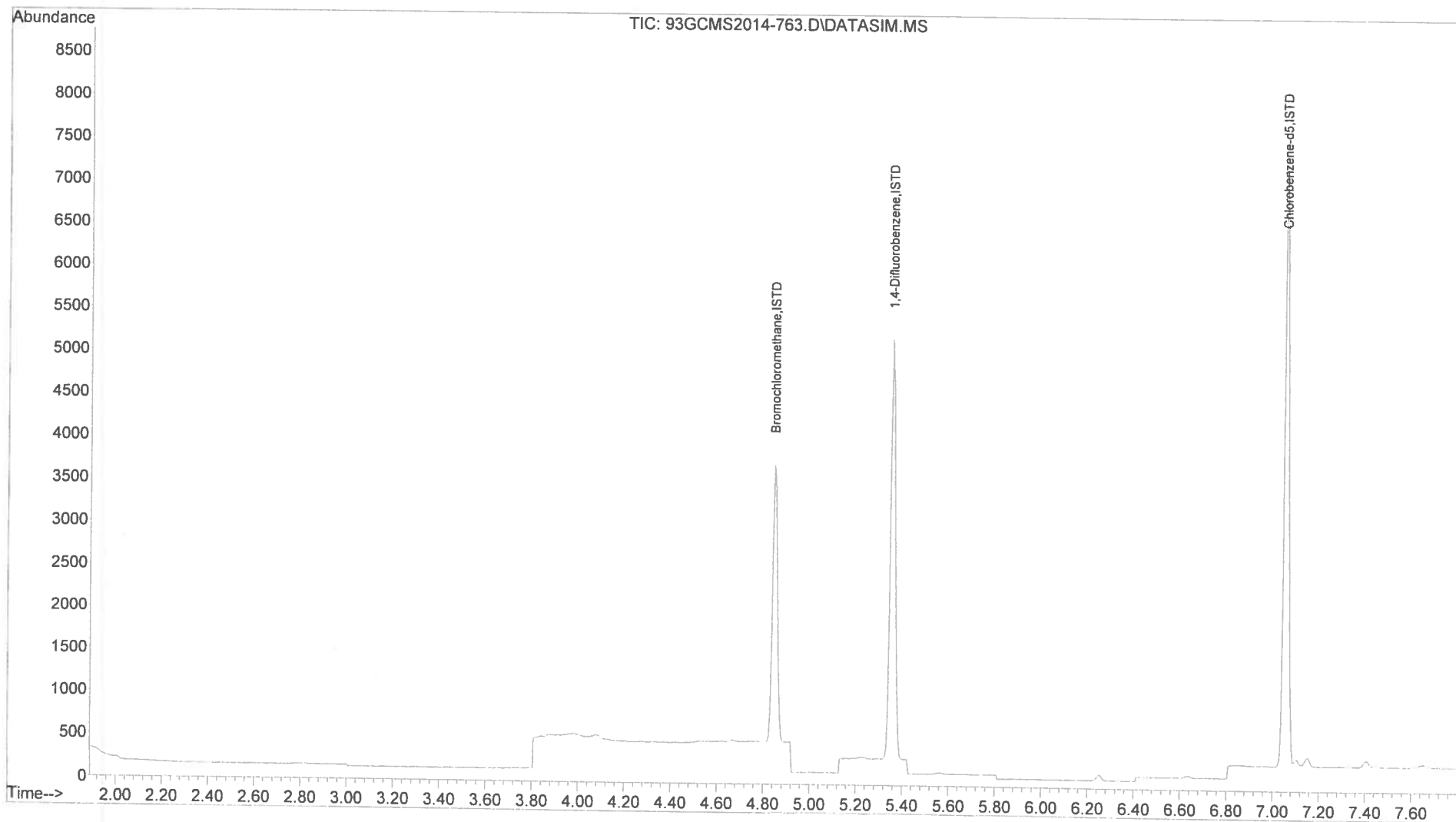
Target Compounds	Qvalue

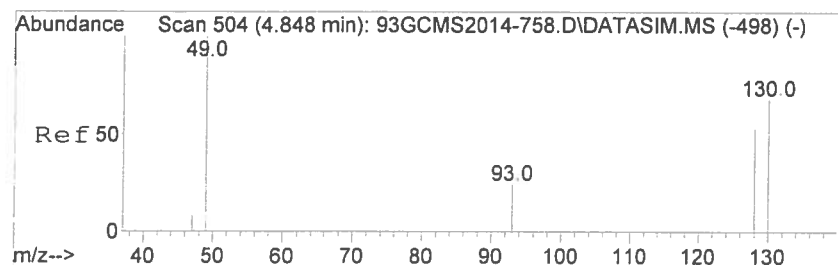
(#) = qualifier out of range (m) = manual integration (+) = signals summed

09/29/14

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-763.D
 Acq On : 29 Sep 2014 19:00
 Operator : SJT
 Sample : 20140929-MB \ Method Blank
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

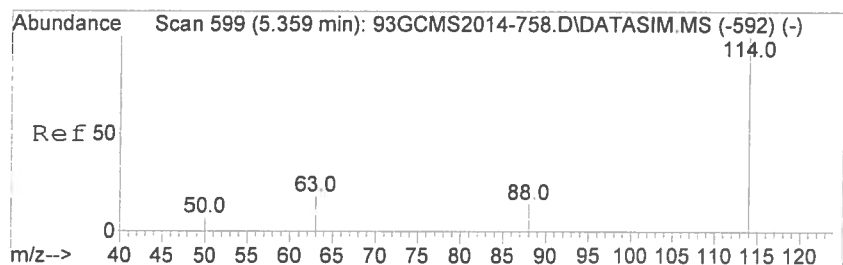
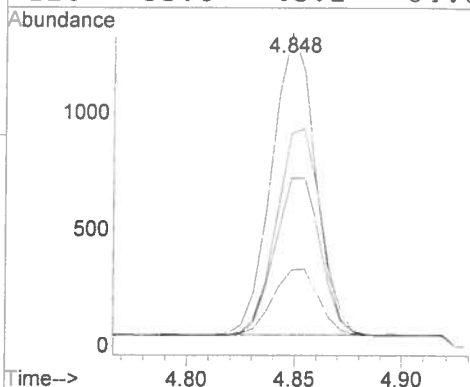
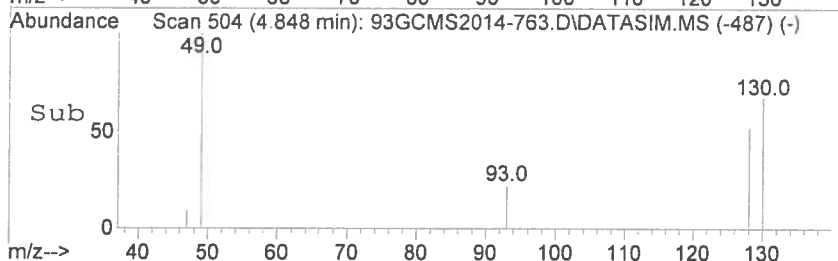
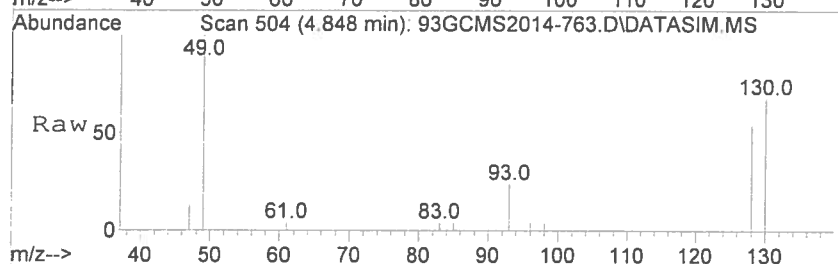
Quant Time: Sep 29 19:06:48 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014
 QLast Update : Mon Sep 29 18:48:25 2014
 Response via : Initial Calibration





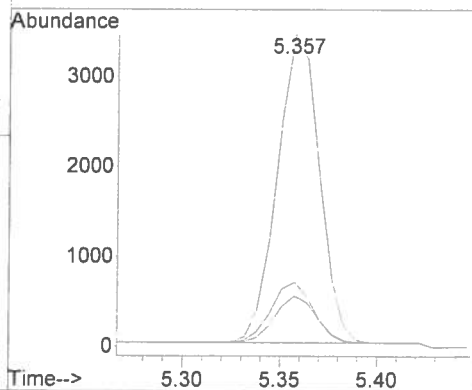
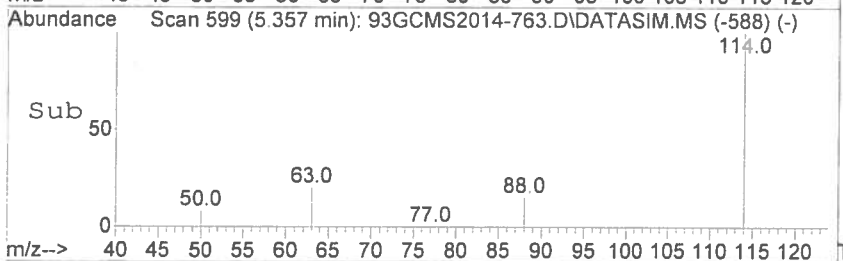
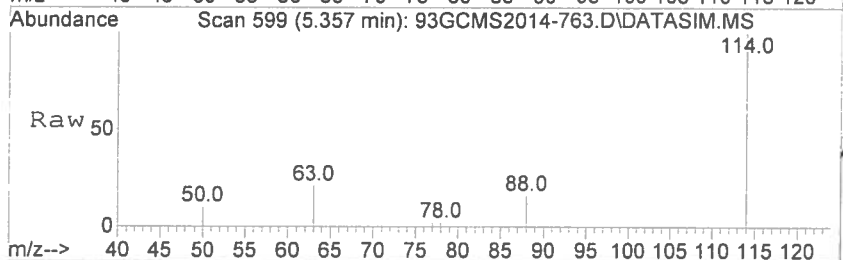
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. 0.000 min
Lab File: 93GCMS2014-763.D
Acq: 29 Sep 2014 19:00

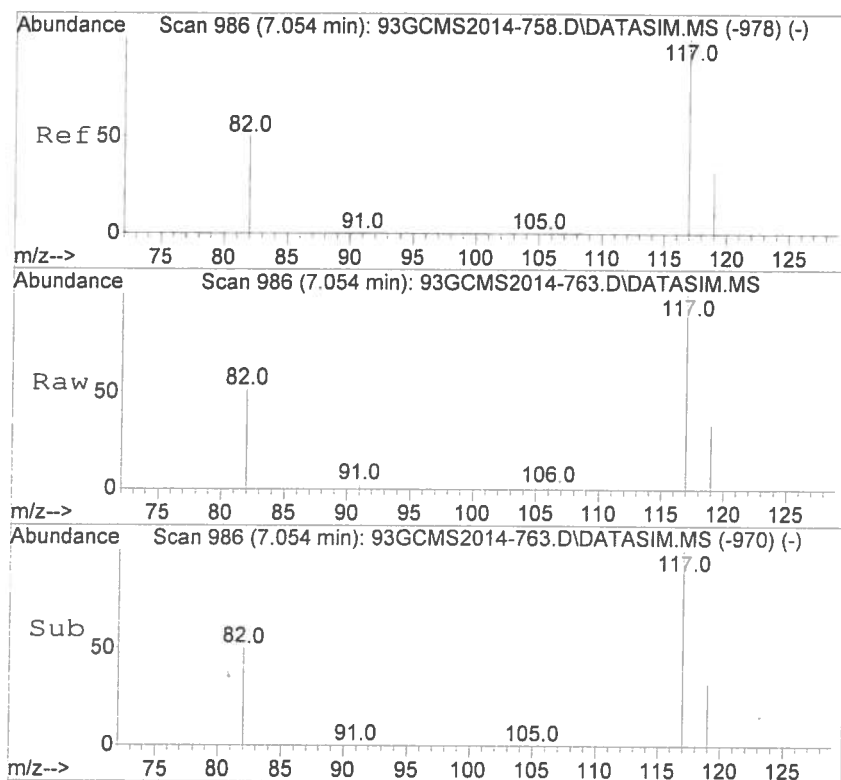
Tgt Ion: 49 Resp: 1824
Ion Ratio Lower Upper
49 100
130 68.0 54.4 81.6
93 24.3 21.1 31.7
128 53.8 43.2 64.8



#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.357 min Scan# 599
Delta R.T. -0.002 min
Lab File: 93GCMS2014-763.D
Acq: 29 Sep 2014 19:00

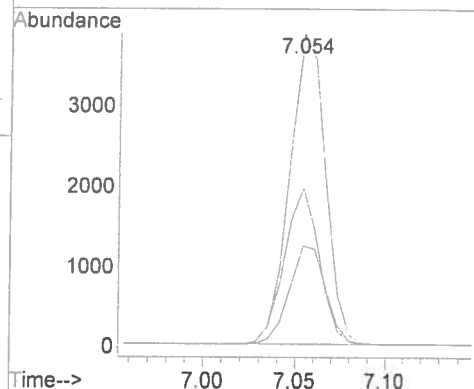
Tgt Ion: 114 Resp: 5151
Ion Ratio Lower Upper
114 100
63 19.5 15.7 23.5
88 15.0 11.8 17.6





#13
 Chlorobenzene-d5
 Concen: 10.00 ppbv
 RT: 7.054 min Scan# 986
 Delta R.T. 0.000 min
 Lab File: 93GCMS2014-763.D
 Acq: 29 Sep 2014 19:00

Tgt Ion	Ratio	Lower	Upper
117	100		
82	48.8	39.5	59.3
119	32.2	25.8	38.6



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-765.D
 Acq On : 29 Sep 2014 19:24
 Operator : SJT
 Sample : 53638 \ V15
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 19:32:30 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014

QLast Update : Mon Sep 29 18:48:25 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Bromochloromethane	4.848	49	1855	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.356	114	5205	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.057	117	5379	10.00	ppbv	0.00

System Monitoring Compounds

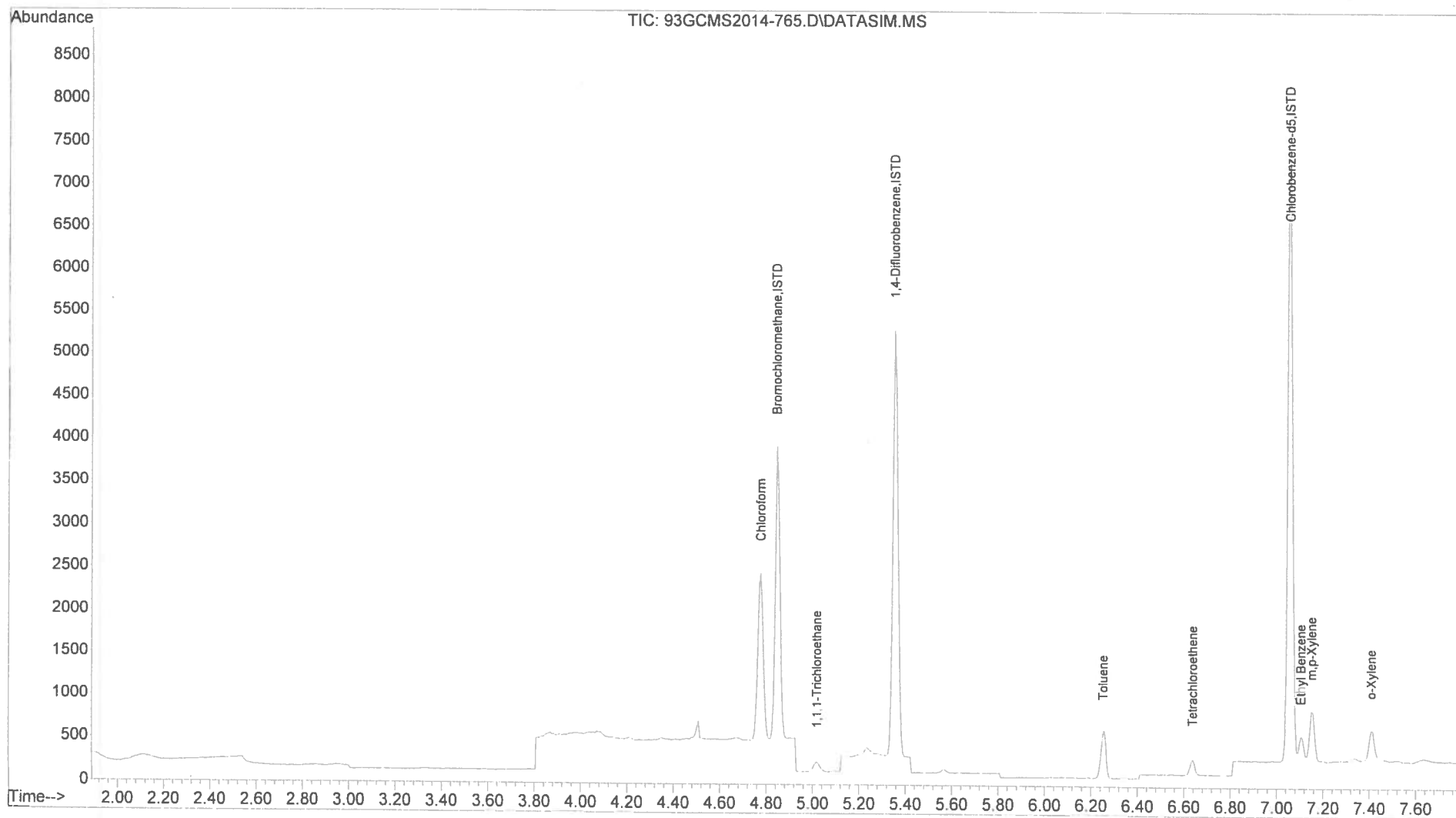
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
8) Chloroform	4.778	83	1593	8.45	ppbv	99
9) 1,1,1-Trichloroethane	5.018	97	104m	0.51	ppbv	
14) Toluene	6.250	91	496	1.32	ppbv	100
15) Tetrachloroethene	6.635	166	105m	0.53	ppbv	
16) Ethyl Benzene	7.102	91	302	0.64	ppbv #	82
17) m,p-Xylene	7.148	91	469m	1.27	ppbv	
18) o-Xylene	7.406	91	307	0.81	ppbv #	90

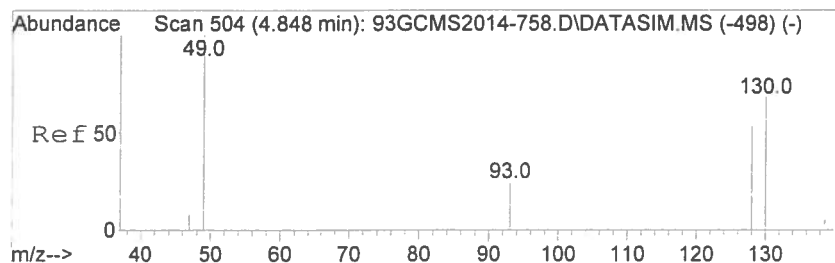
(#) = qualifier out of range (m) = manual integration (+) = signals summed

P 09/29/14

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-765.D
 Acq On : 29 Sep 2014 19:24
 Operator : SJT
 Sample : 53638 \ V15
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

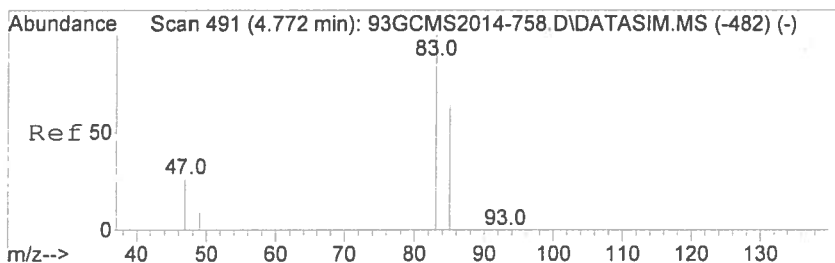
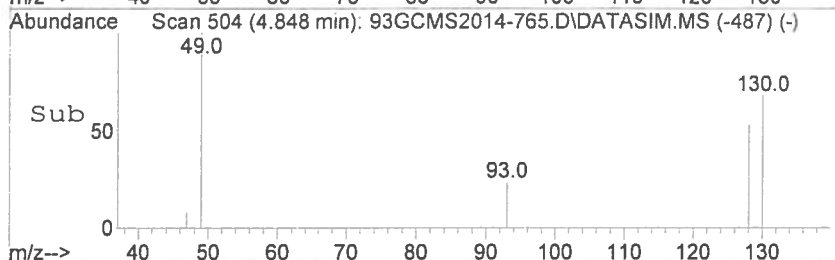
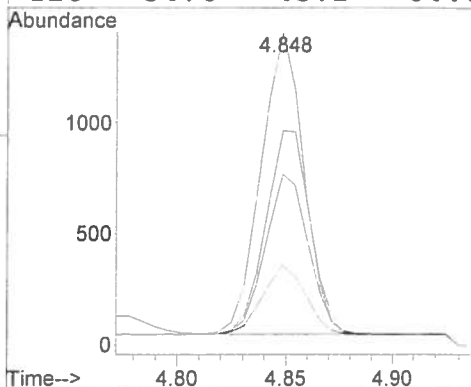
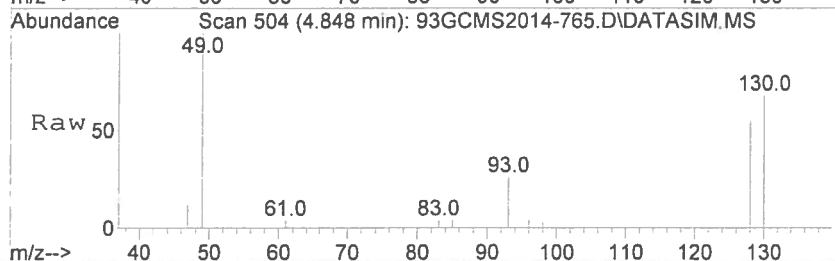
Quant Time: Sep 29 19:32:30 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014
 QLast Update : Mon Sep 29 18:48:25 2014
 Response via : Initial Calibration





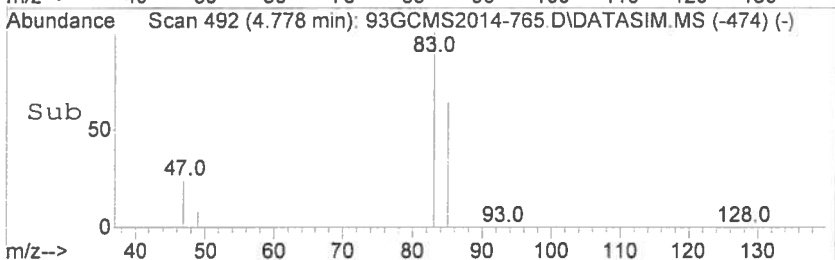
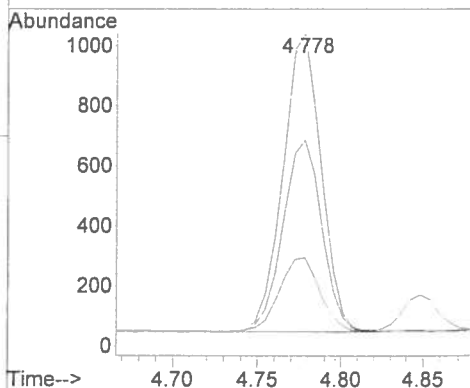
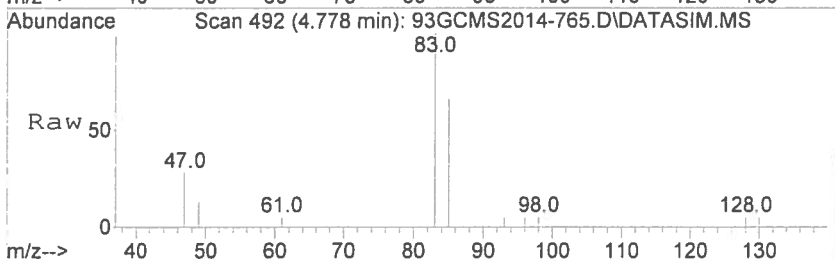
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. 0.000 min
Lab File: 93GCMS2014-765.D
Acq: 29 Sep 2014 19:24

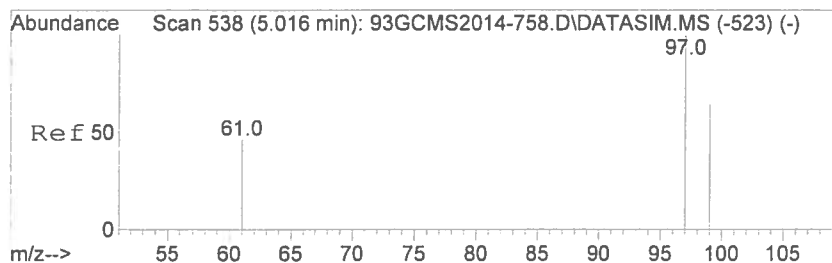
Tgt Ion	Ratio	Lower	Upper
49	100		
130	68.5	54.4	81.6
93	25.6	21.1	31.7
128	54.6	43.2	64.8



#8
Chloroform
Concen: 8.45 ppbv
RT: 4.778 min Scan# 492
Delta R.T. 0.006 min
Lab File: 93GCMS2014-765.D
Acq: 29 Sep 2014 19:24

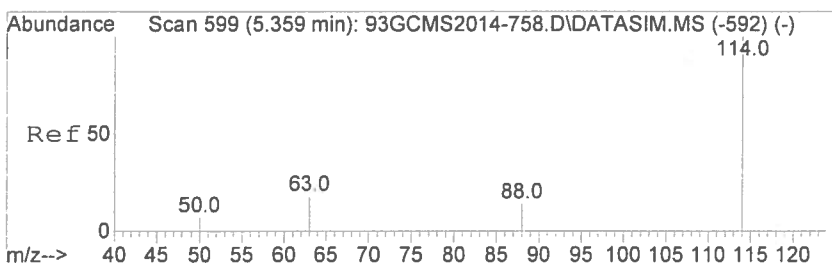
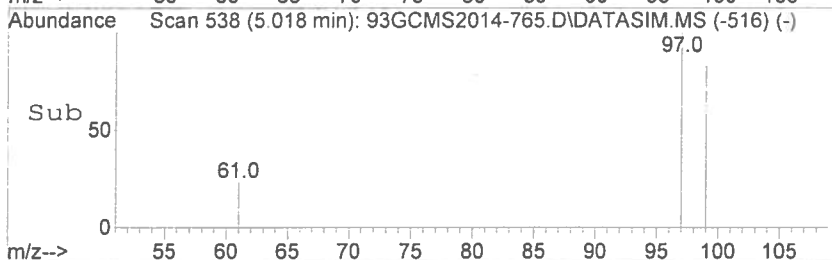
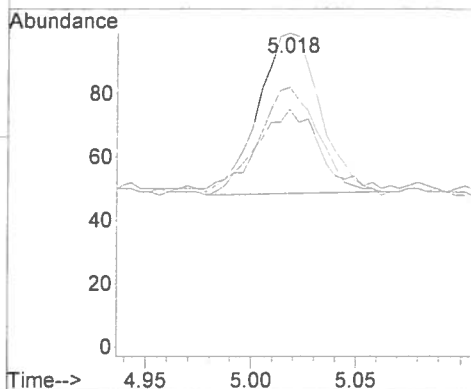
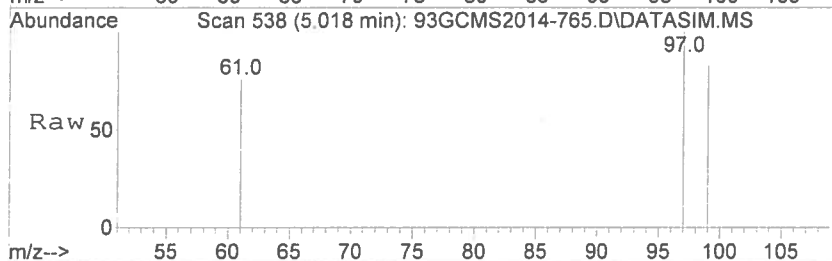
Tgt Ion	Ratio	Lower	Upper
83	100		
85	65.6	51.8	77.6
47	25.9	20.5	30.7





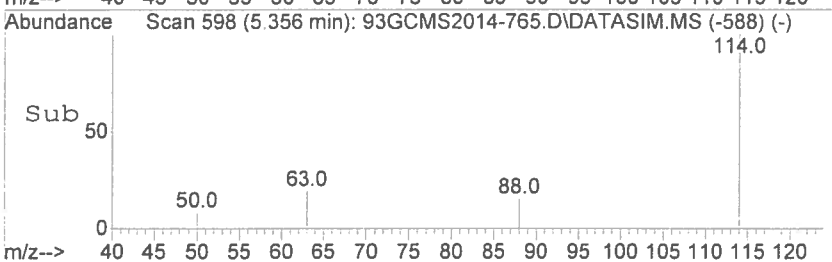
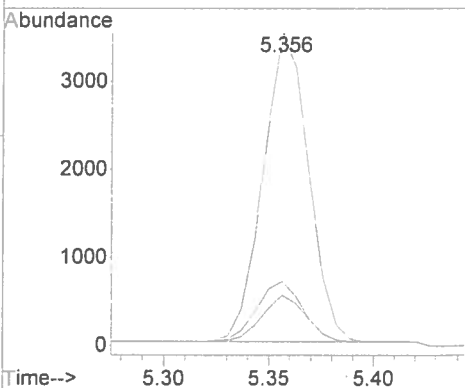
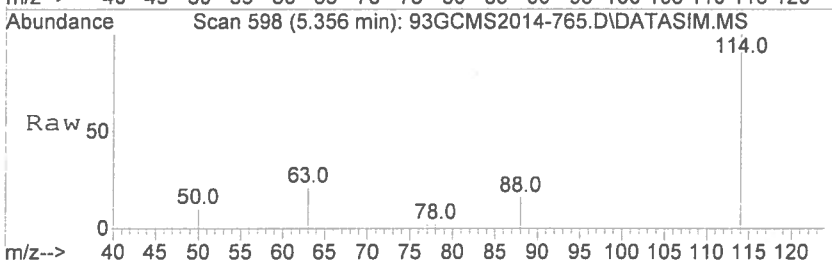
#9
1,1,1-Trichloroethane
Concen: 0.51 ppbv m
RT: 5.018 min Scan# 538
Delta R.T. 0.002 min
Lab File: 93GCMS2014-765.D
Acq: 29 Sep 2014 19:24

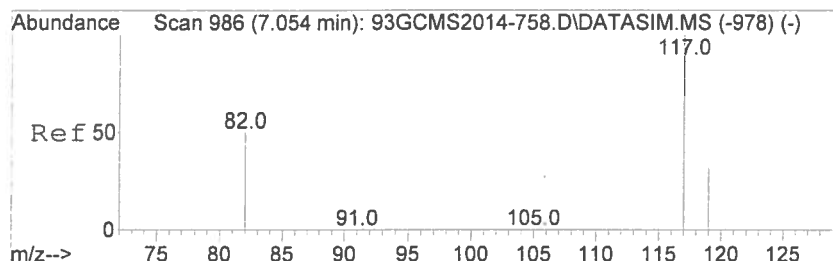
Tgt Ion	Ratio	Lower	Upper
97	100		
99	60.6	51.4	77.2
61	51.9	36.6	54.8



#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.356 min Scan# 598
Delta R.T. -0.003 min
Lab File: 93GCMS2014-765.D
Acq: 29 Sep 2014 19:24

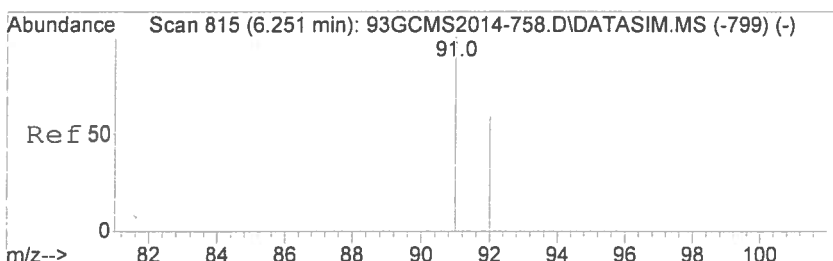
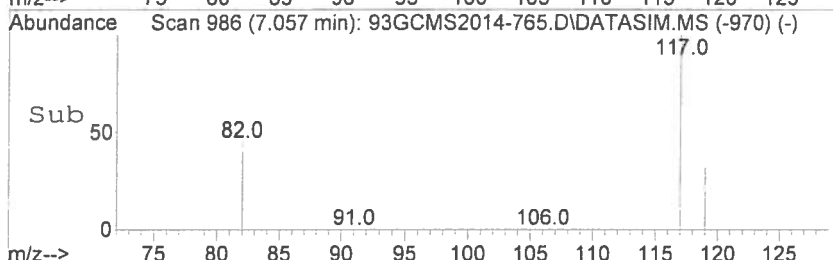
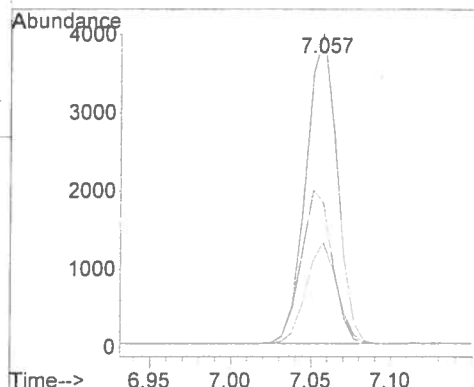
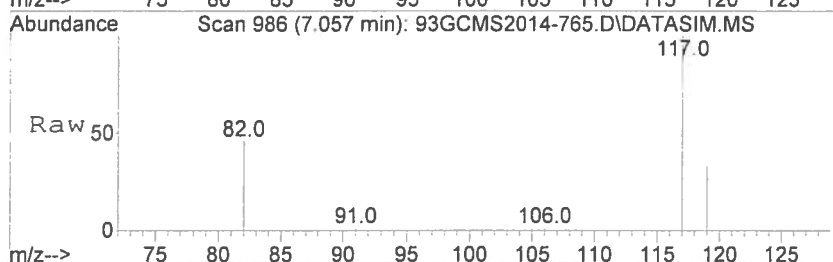
Tgt Ion	Ratio	Lower	Upper
114	100		
63	19.7	15.7	23.5
88	14.6	11.8	17.6





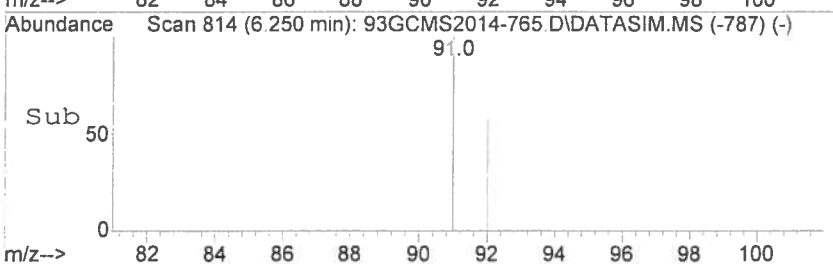
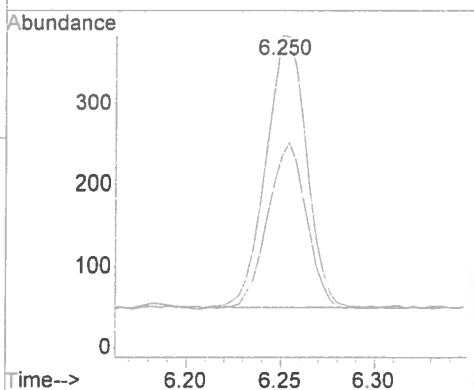
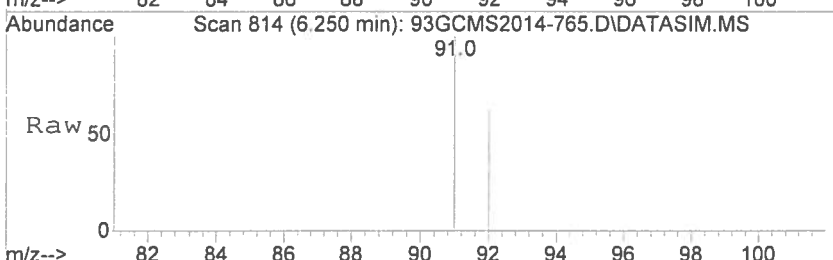
#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.057 min Scan# 986
Delta R.T. 0.003 min
Lab File: 93GCMS2014-765.D
Acq: 29 Sep 2014 19:24

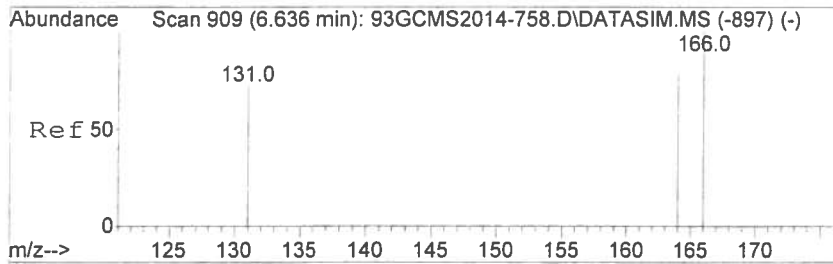
Tgt Ion: 117	Resp: 5379
Ion Ratio	Lower Upper
117 100	
82 49.7	39.5 59.3
119 32.0	25.8 38.6



#14
Toluene
Concen: 1.32 ppbv
RT: 6.250 min Scan# 814
Delta R.T. -0.001 min
Lab File: 93GCMS2014-765.D
Acq: 29 Sep 2014 19:24

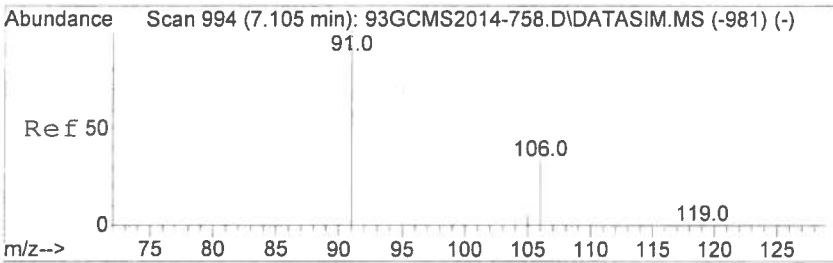
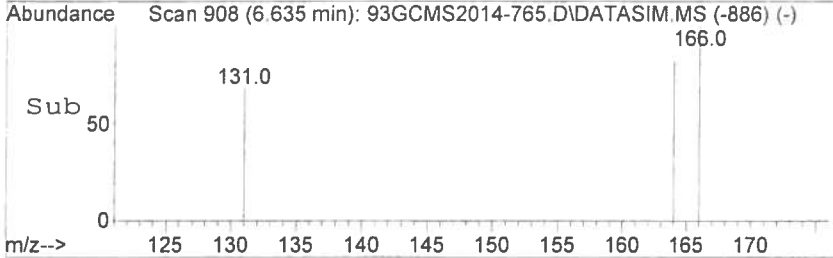
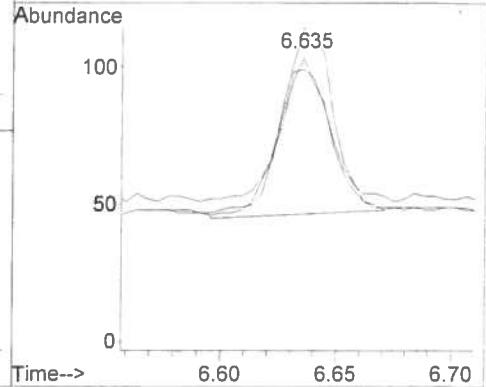
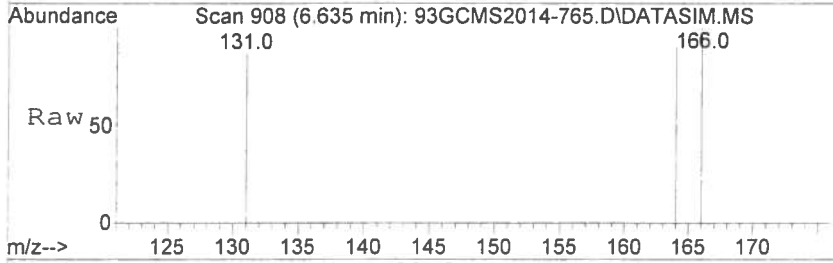
Tgt Ion: 91	Resp: 496
Ion Ratio	Lower Upper
91 100	
92 59.5	47.4 71.2





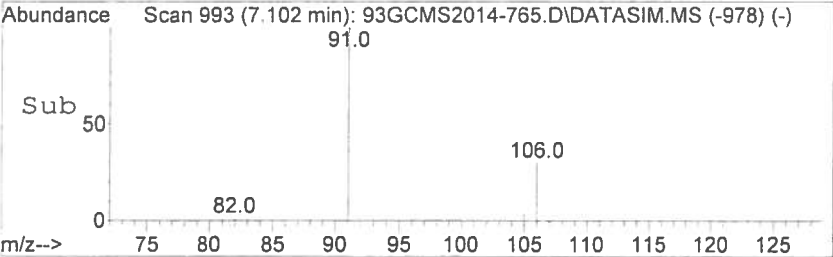
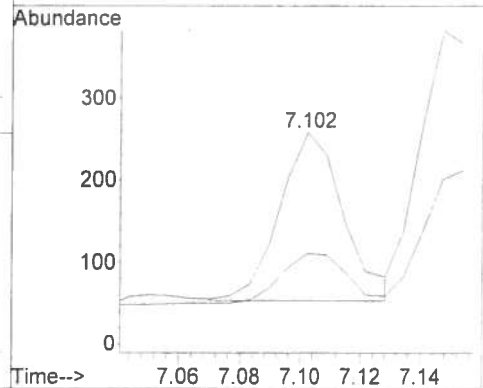
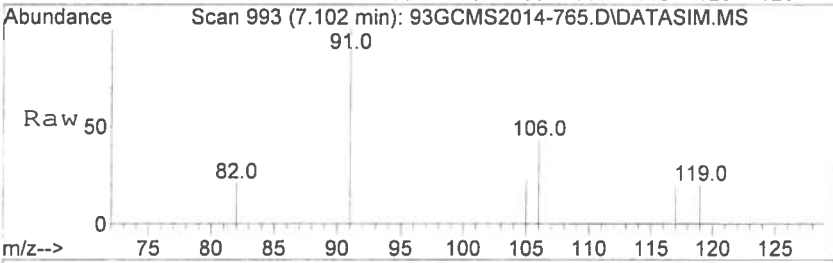
#15
 Tetrachloroethene
 Concen: 0.53 ppbv m
 RT: 6.635 min Scan# 908
 Delta R.T. -0.001 min
 Lab File: 93GCMS2014-765.D
 Acq: 29 Sep 2014 19:24

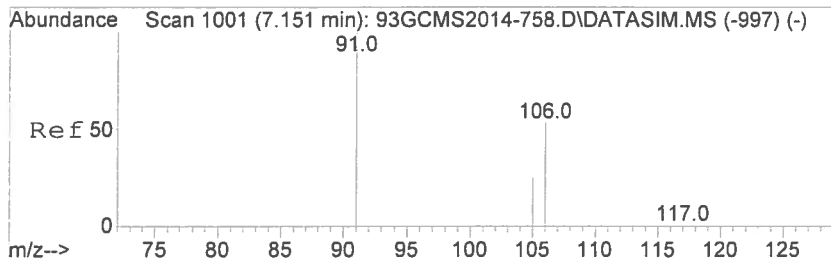
Tgt Ion:	166	Resp:	105
Ion Ratio	Lower	Upper	
166	100		
164	82.9	62.6	93.8
131	73.3	57.9	86.9



#16
 Ethyl Benzene
 Concen: 0.64 ppbv
 RT: 7.102 min Scan# 993
 Delta R.T. -0.003 min
 Lab File: 93GCMS2014-765.D
 Acq: 29 Sep 2014 19:24

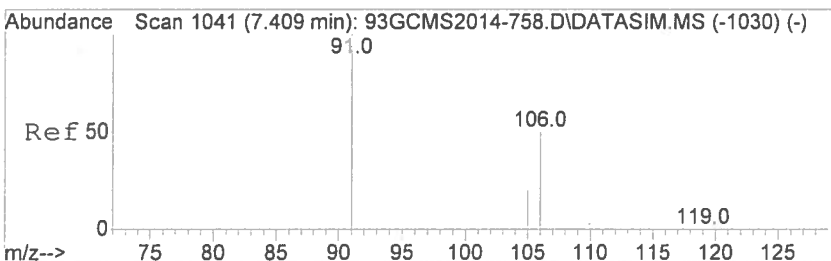
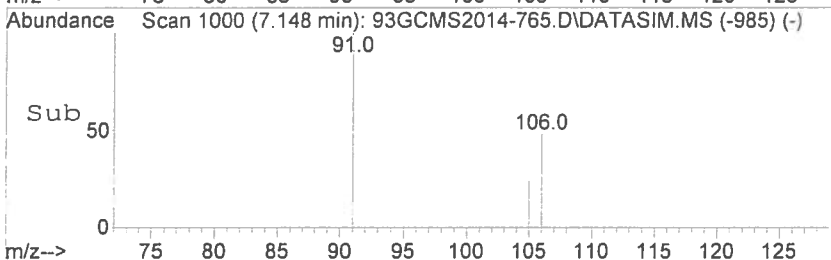
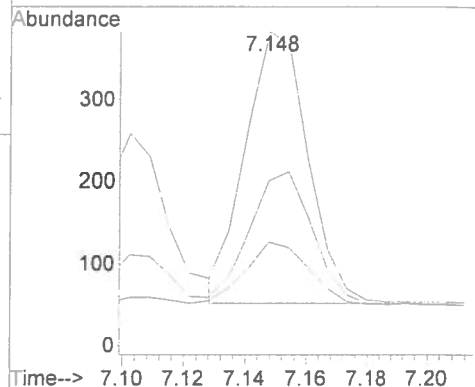
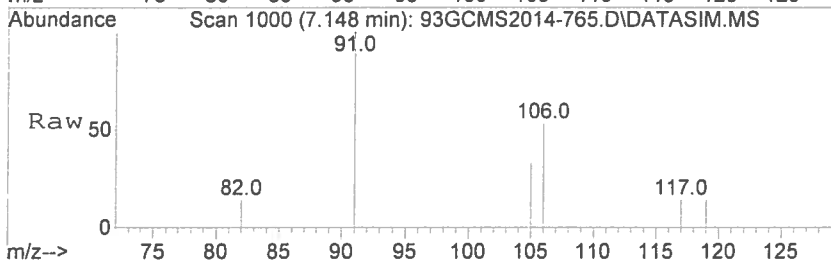
Tgt Ion:	91	Resp:	302
Ion Ratio	Lower	Upper	
91	100		
106	43.0	26.4	39.6#





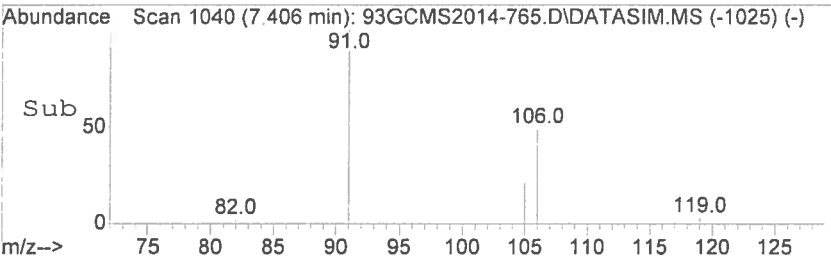
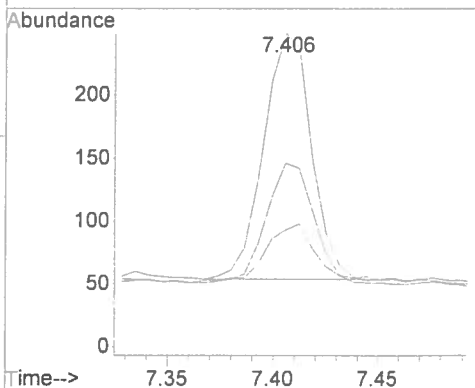
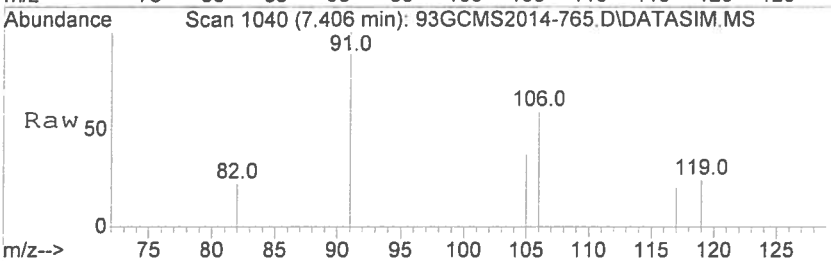
#17
m,p-Xylene
Concen: 1.27 ppbv m
RT: 7.148 min Scan# 1000
Delta R.T. -0.003 min
Lab File: 93GCMS2014-765.D
Acq: 29 Sep 2014 19:24

Tgt Ion	Ratio	Lower	Upper
91	100		
106	52.6	41.2	61.8
105	33.0	18.4	27.6#

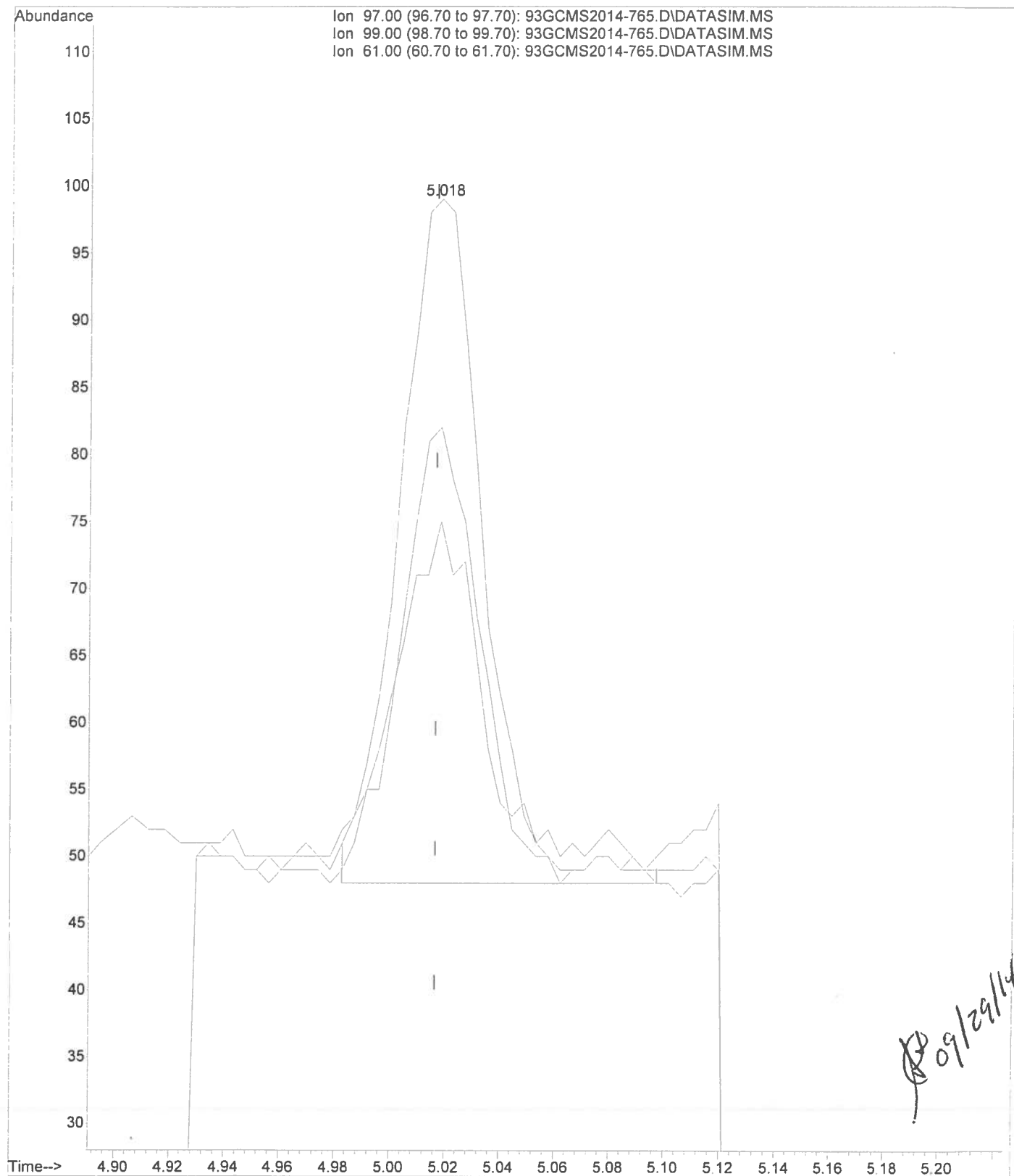


#18
o-Xylene
Concen: 0.81 ppbv
RT: 7.406 min Scan# 1040
Delta R.T. -0.003 min
Lab File: 93GCMS2014-765.D
Acq: 29 Sep 2014 19:24

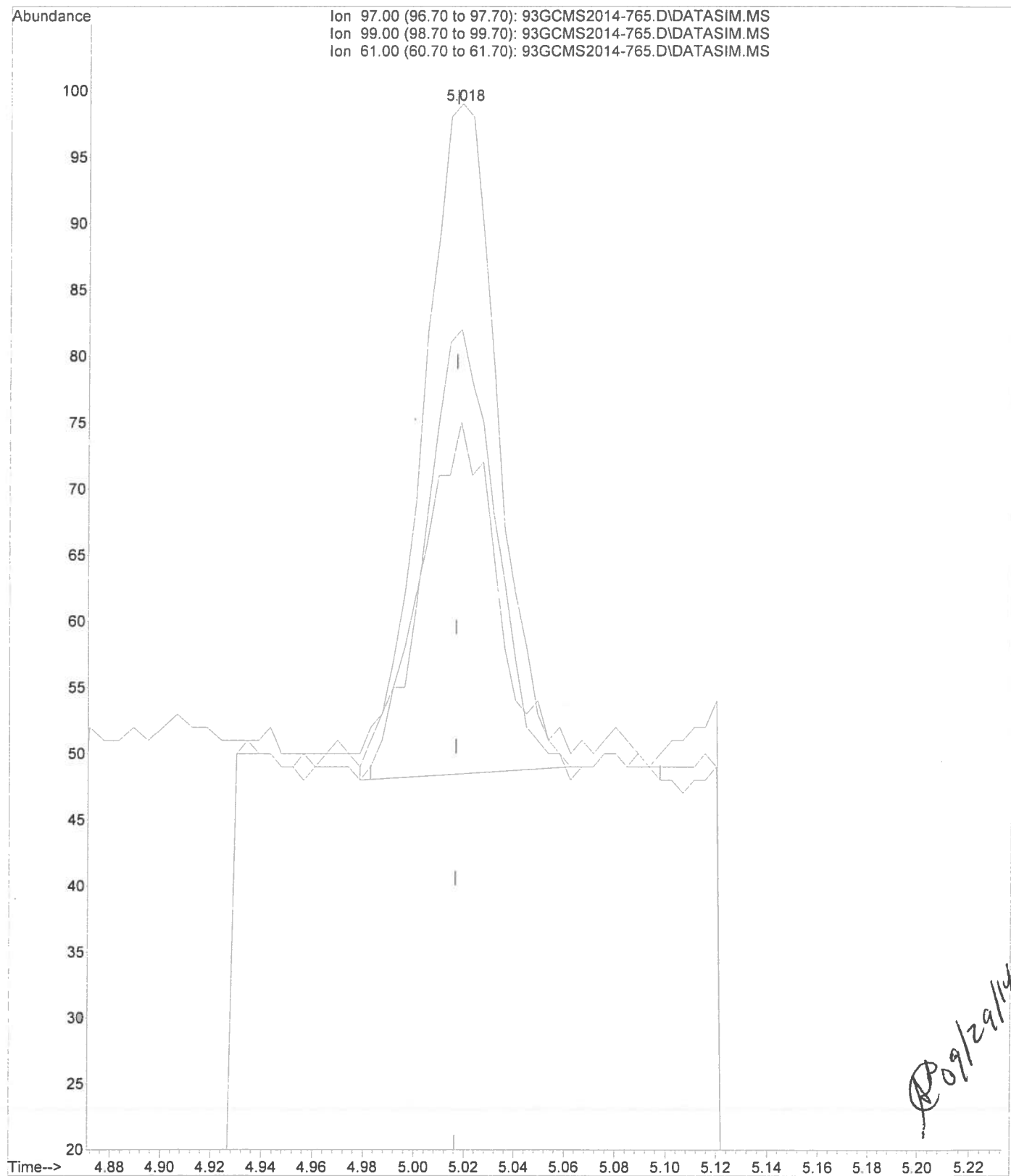
Tgt Ion	Ratio	Lower	Upper
91	100		
106	50.8	38.3	57.5
105	29.6	15.3	22.9#



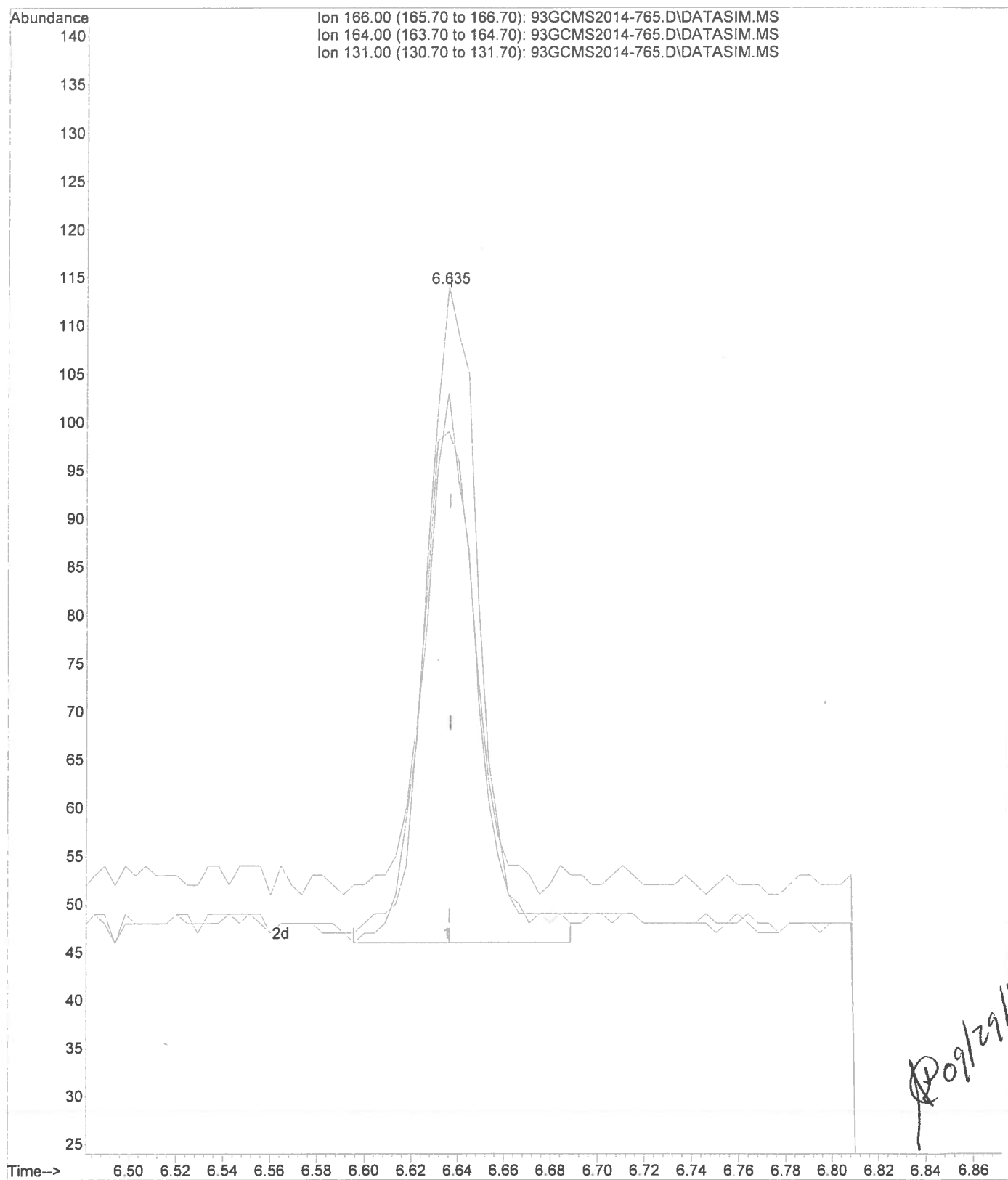
File :D:\msdchem\1\data\2014\20140929\93GCMS2014-765.D
Operator : SJT
Acquired : 29 Sep 2014 19:24 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: 53638 \ V15
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



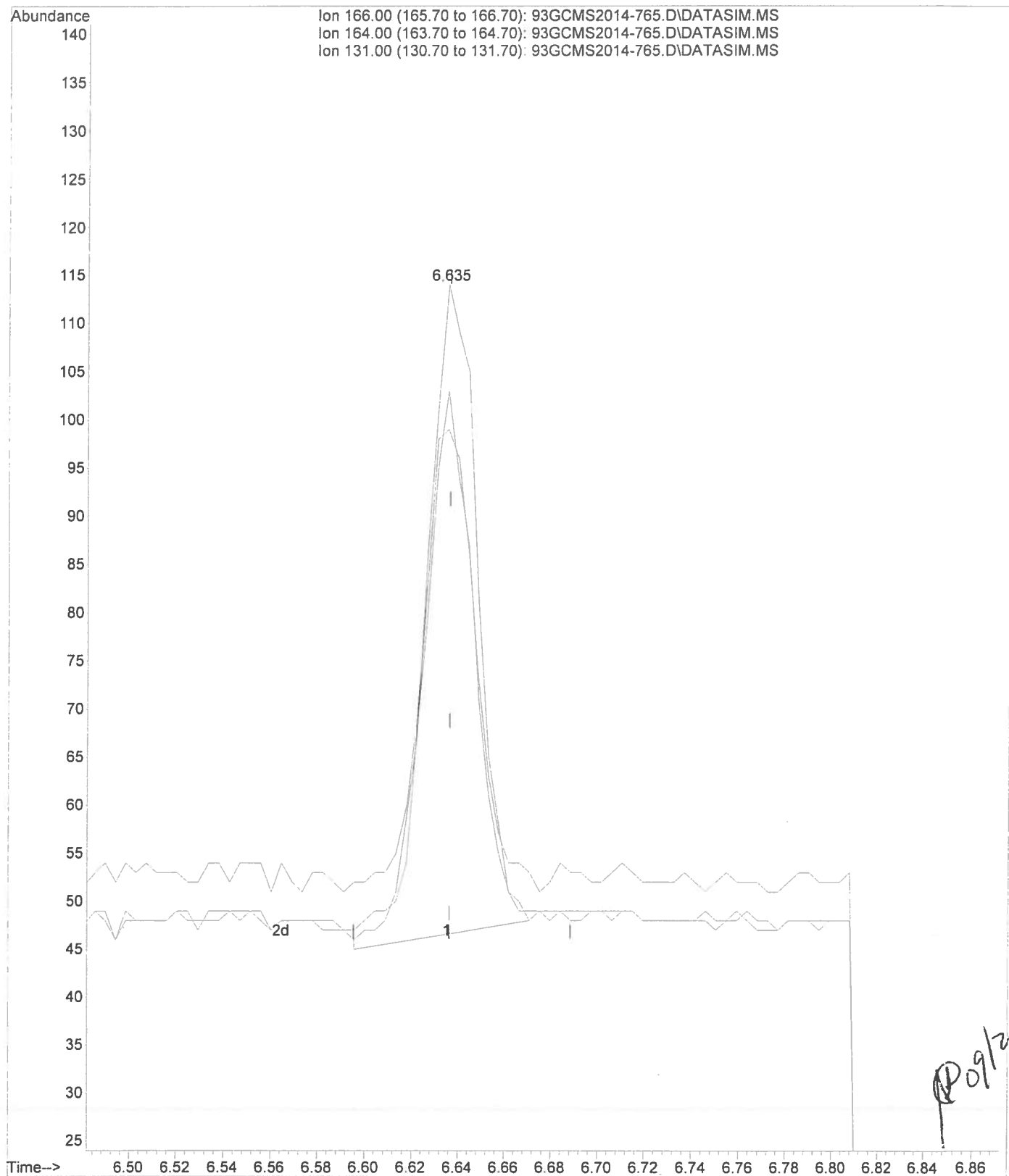
File :D:\msdchem\1\data\2014\20140929\93GCMS2014-765.D
Operator : SJT
Acquired : 29 Sep 2014 19:24 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: 53638 \ V15
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



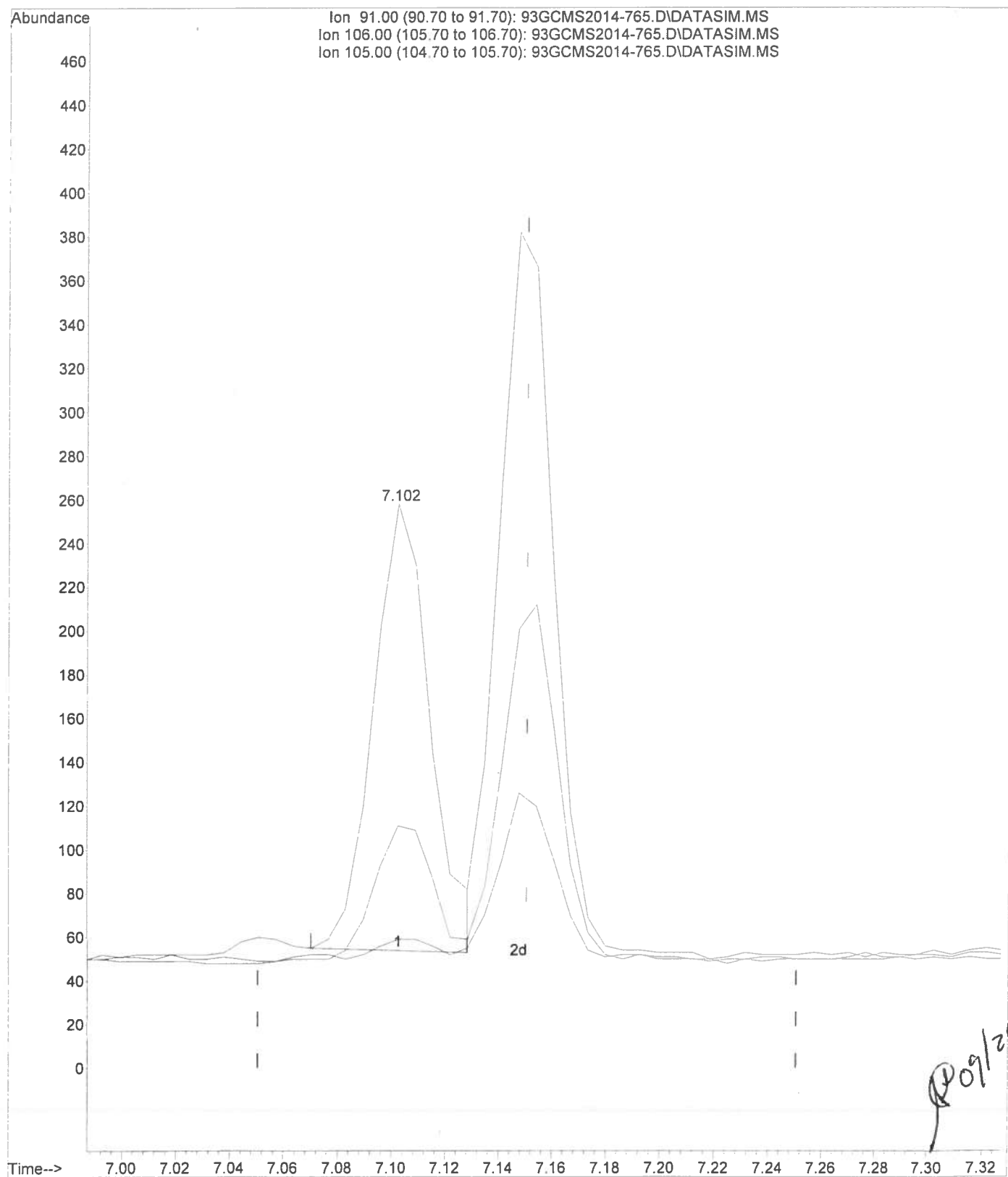
File :D:\msdchem\1\data\2014\20140929\93GCMS2014-765.D
Operator : SJT
Acquired : 29 Sep 2014 19:24 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: 53638 \ V15
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



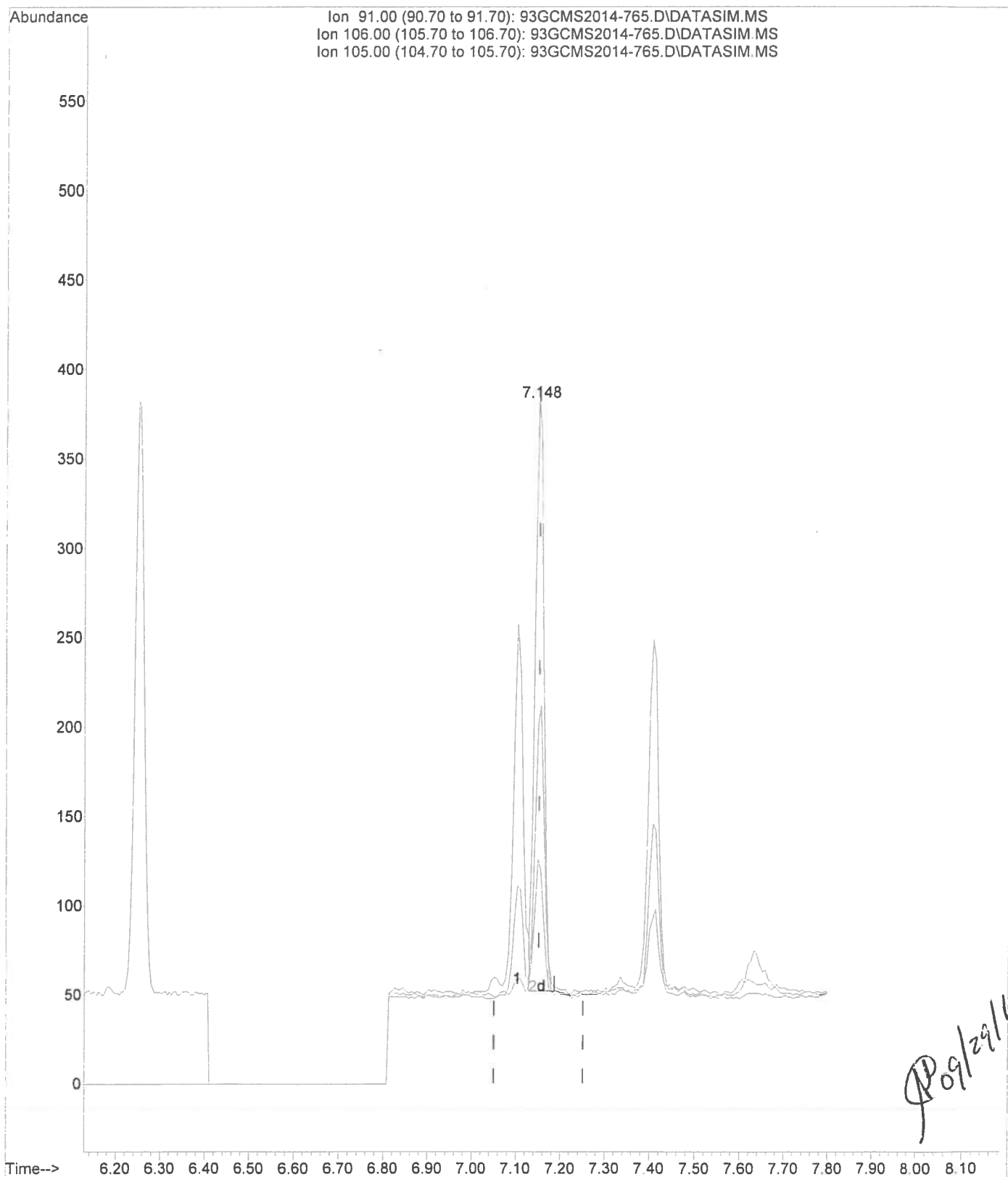
File :D:\msdchem\1\data\2014\20140929\93GCMS2014-765.D
Operator : SJT
Acquired : 29 Sep 2014 19:24 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: 53638 \ V15
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



File :D:\msdchem\1\data\2014\20140929\93GCMS2014-765.D
Operator : SJT
Acquired : 29 Sep 2014 19:24 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: 53638 \ V15
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



File :D:\msdchem\1\data\2014\20140929\93GCMS2014-765.D
Operator : SJT
Acquired : 29 Sep 2014 19:24 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: 53638 \ V15
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-766.D
 Acq On : 29 Sep 2014 19:36
 Operator : SJT
 Sample : 53630 \ V07
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 19:55:23 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014

QLast Update : Mon Sep 29 18:48:25 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	4.854	49	1803	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	4986	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5189	10.00	ppbv	0.00

System Monitoring Compounds

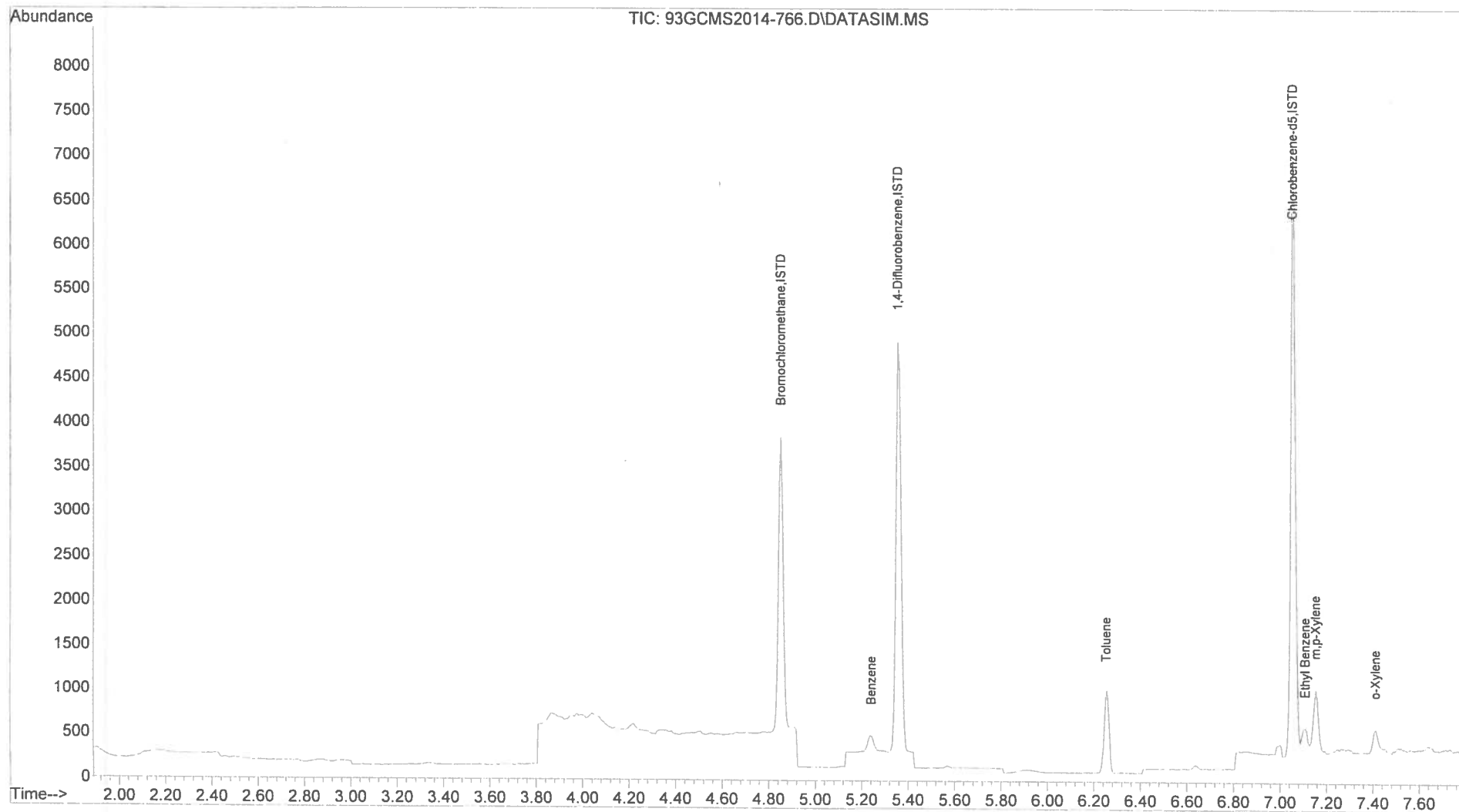
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
11) Benzene	5.241	78	214	0.76	ppbv	# 76
14) Toluene	6.251	91	839	2.31	ppbv	99
16) Ethyl Benzene	7.105	91	249	0.54	ppbv	# 65
17) m,p-Xylene	7.151	91	565	1.58	ppbv	# 90
18) o-Xylene	7.409	91	235	0.65	ppbv	# 79

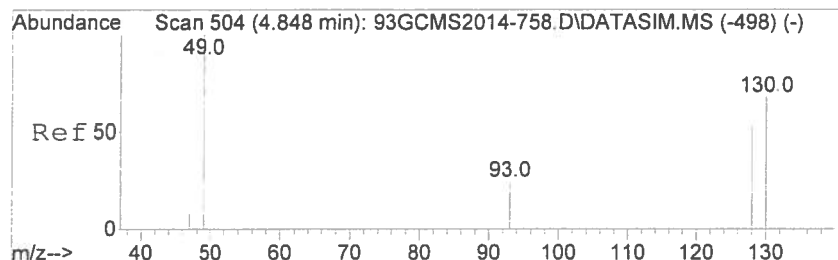
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Handwritten signature and date: 09/29/14

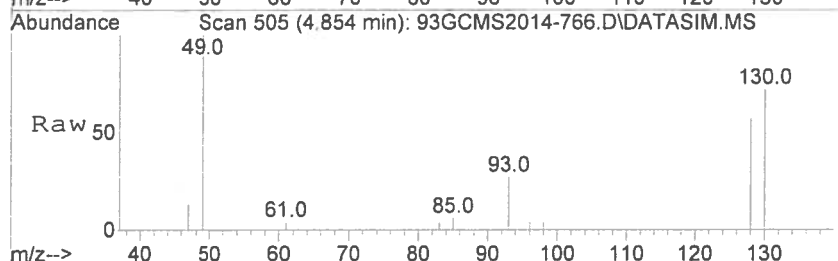
Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-766.D
 Acq On : 29 Sep 2014 19:36
 Operator : SJT
 Sample : 53630 \ V07
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 19:55:23 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014
 QLast Update : Mon Sep 29 18:48:25 2014
 Response via : Initial Calibration

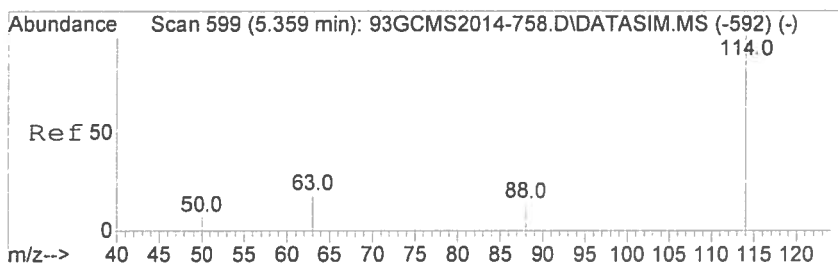
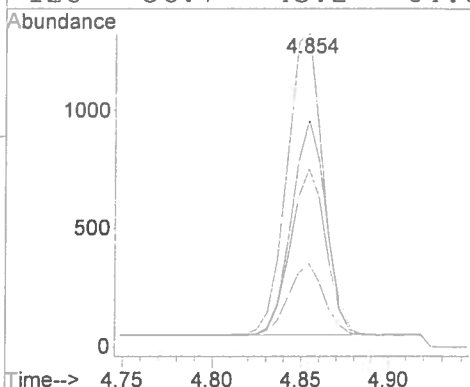
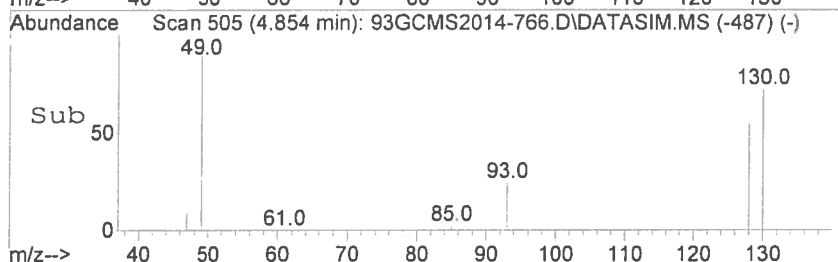




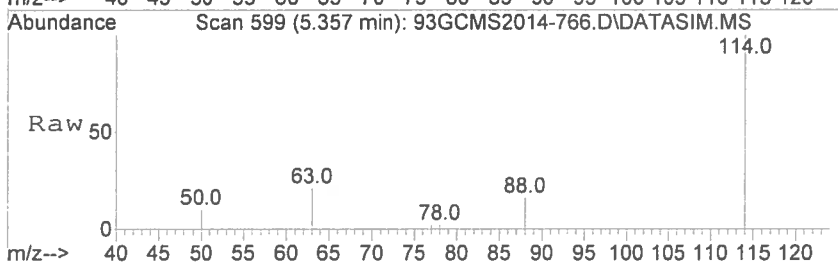
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.854 min Scan# 505
Delta R.T. 0.006 min
Lab File: 93GCMS2014-766.D
Acq: 29 Sep 2014 19:36



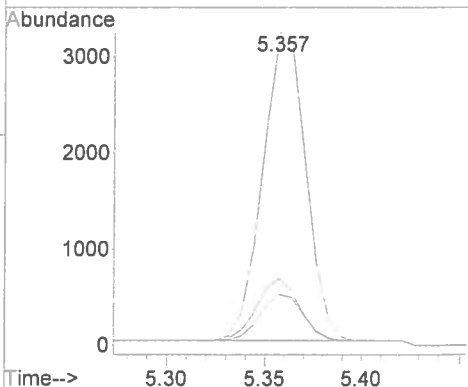
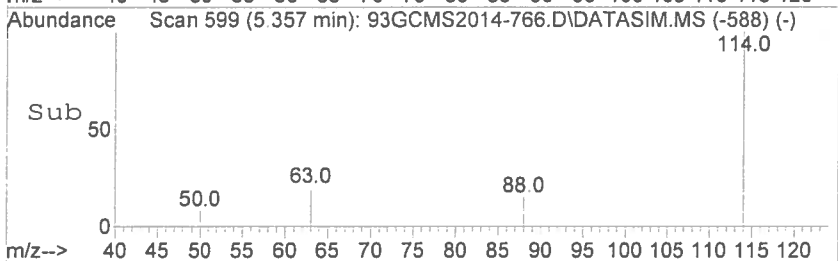
Tgt Ion	Ratio	Lower	Upper
49	100		
130	72.4	54.4	81.6
93	26.6	21.1	31.7
128	56.7	43.2	64.8

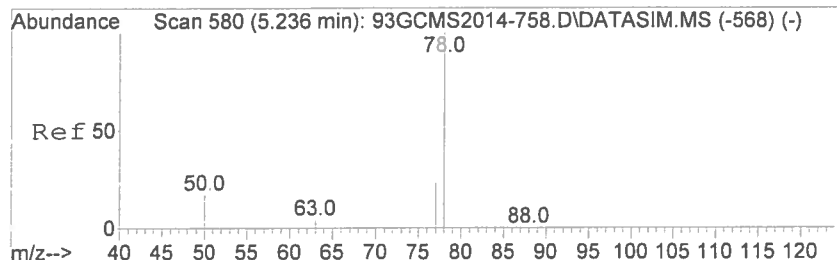


#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.357 min Scan# 599
Delta R.T. -0.002 min
Lab File: 93GCMS2014-766.D
Acq: 29 Sep 2014 19:36



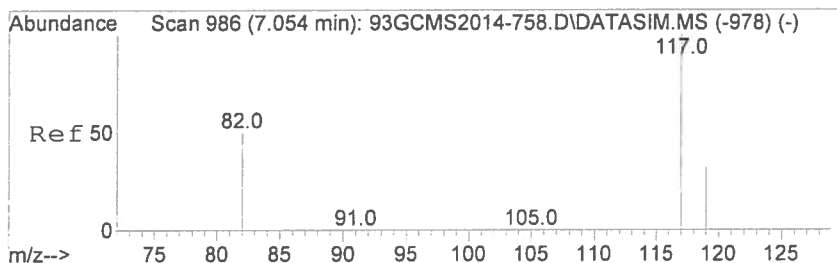
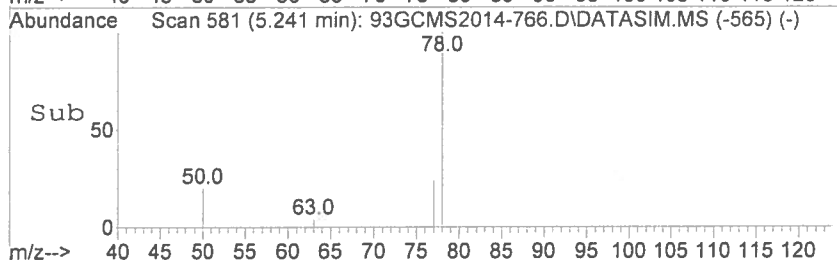
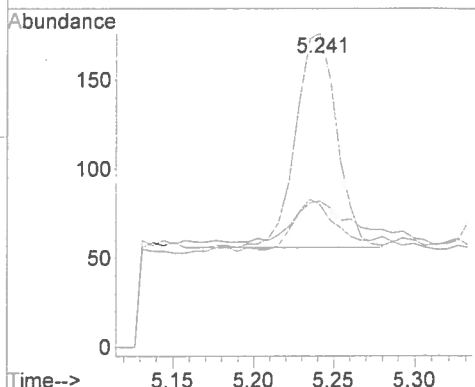
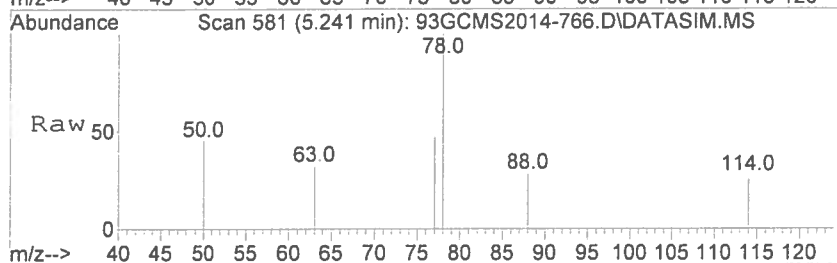
Tgt Ion	Ratio	Lower	Upper
114	100		
63	19.4	15.7	23.5
88	14.8	11.8	17.6





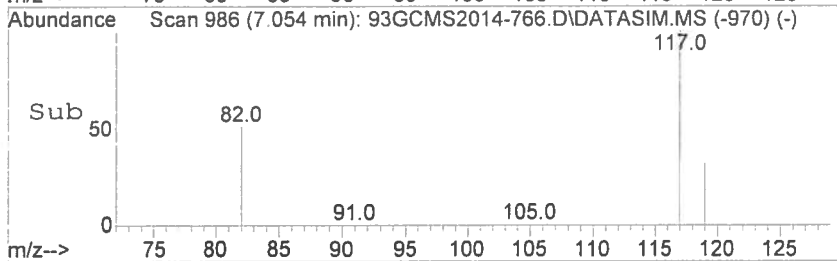
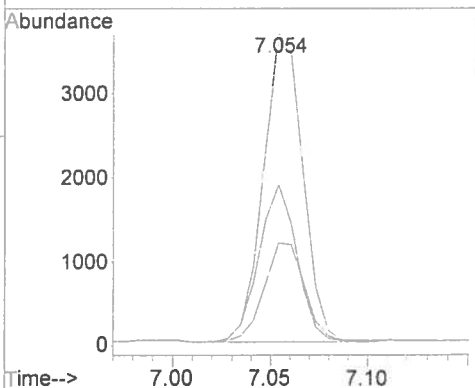
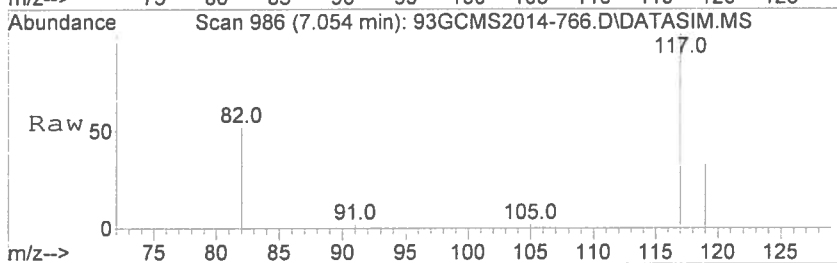
#11
Benzene
Concen: 0.76 ppbv
RT: 5.241 min Scan# 581
Delta R.T. 0.005 min
Lab File: 93GCMS2014-766.D
Acq: 29 Sep 2014 19:36

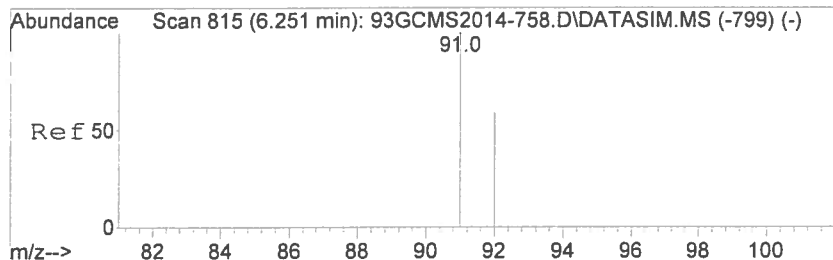
Tgt Ion: 78	Resp: 214
Ion Ratio Lower Upper	
78 100	
77 40.7 18.3 27.5#	
50 22.0 14.4 21.6#	



#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.054 min Scan# 986
Delta R.T. 0.000 min
Lab File: 93GCMS2014-766.D
Acq: 29 Sep 2014 19:36

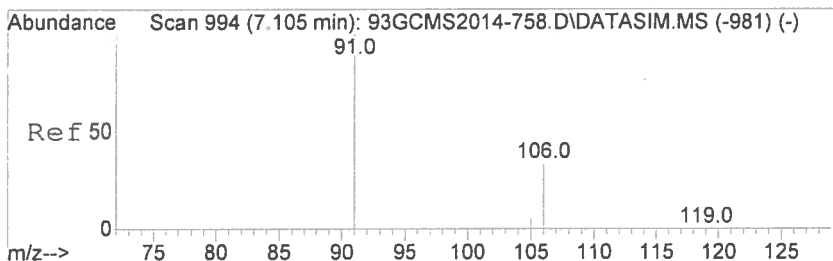
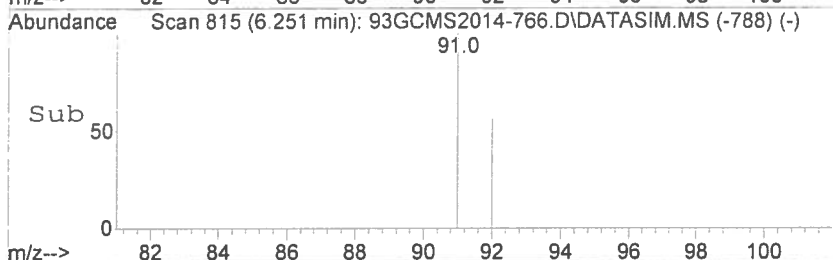
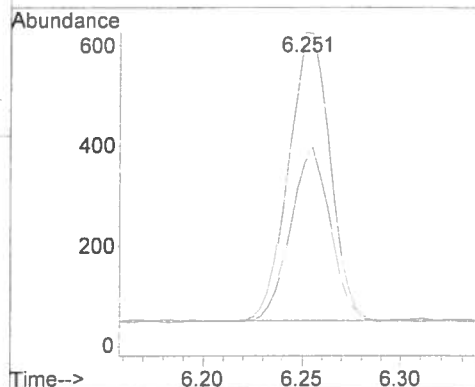
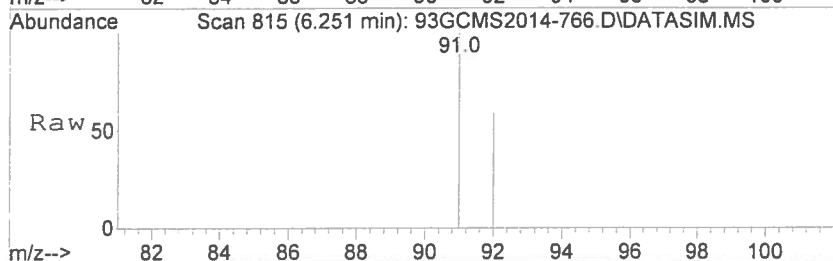
Tgt Ion: 117	Resp: 5189
Ion Ratio Lower Upper	
117 100	
82 49.2 39.5 59.3	
119 32.8 25.8 38.6	





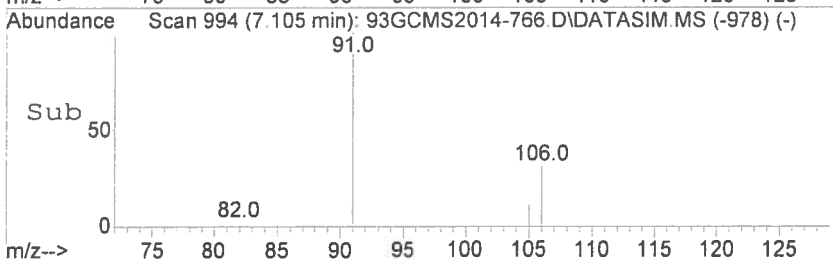
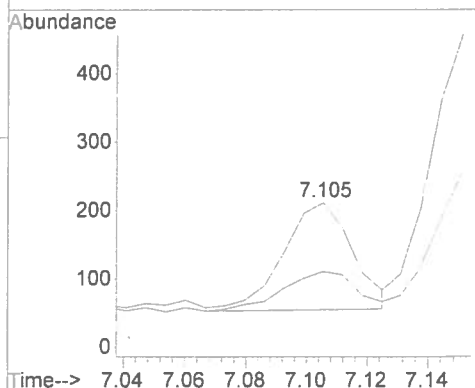
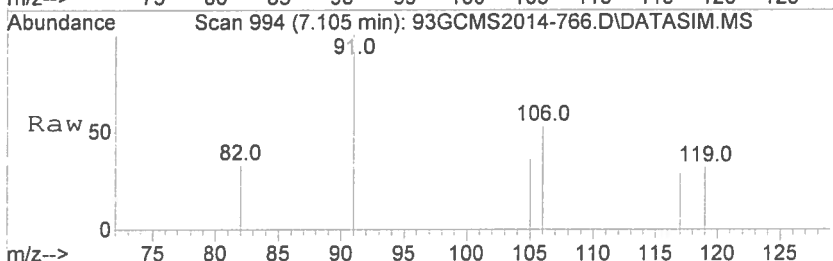
#14
Toluene
Concen: 2.31 ppbv
RT: 6.251 min Scan# 815
Delta R.T. 0.000 min
Lab File: 93GCMS2014-766.D
Acq: 29 Sep 2014 19:36

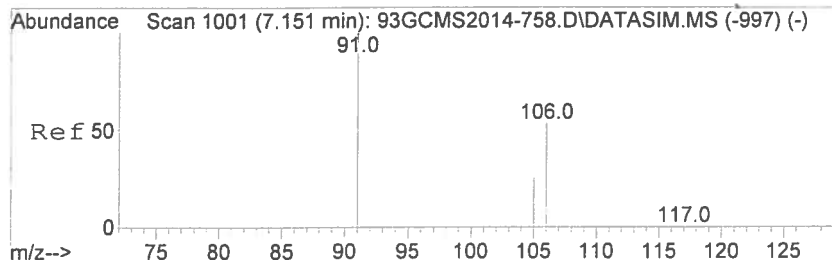
Tgt Ion	Ratio	Lower	Upper
91	100		
92	58.6	47.4	71.2



#16
Ethyl Benzene
Concen: 0.54 ppbv
RT: 7.105 min Scan# 994
Delta R.T. 0.000 min
Lab File: 93GCMS2014-766.D
Acq: 29 Sep 2014 19:36

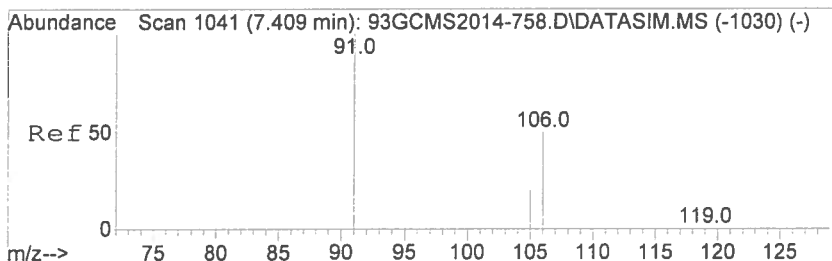
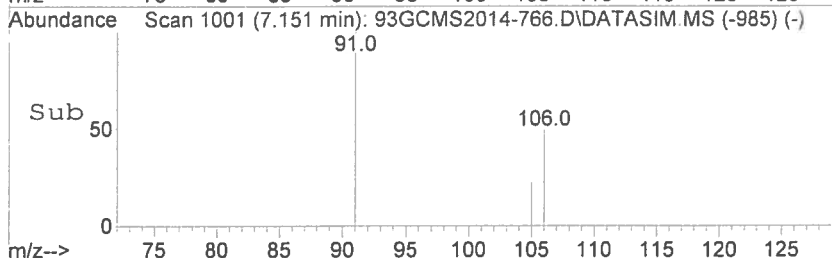
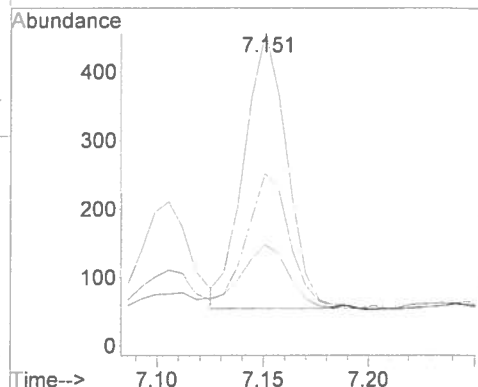
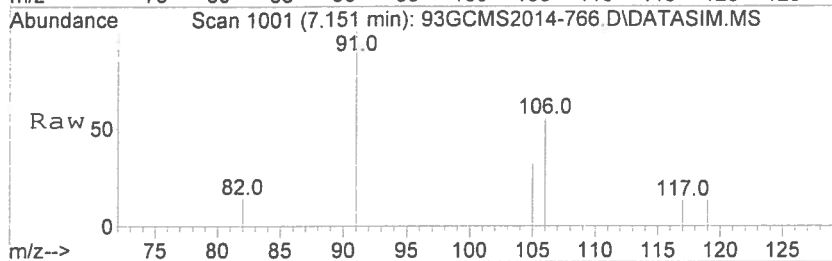
Tgt Ion	Ratio	Lower	Upper
91	100		
106	52.6	26.4	39.6#





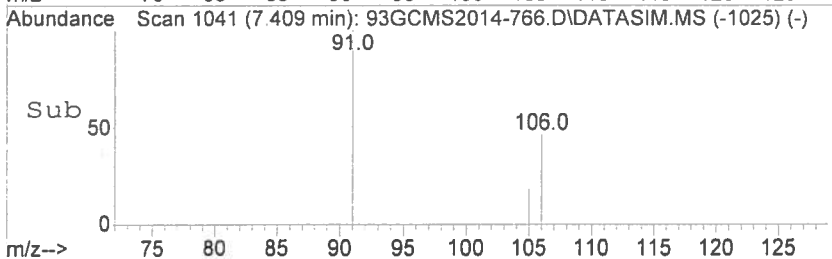
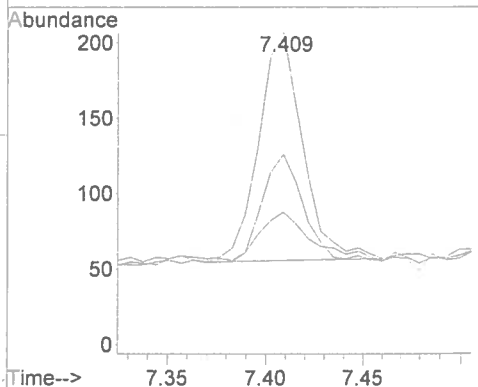
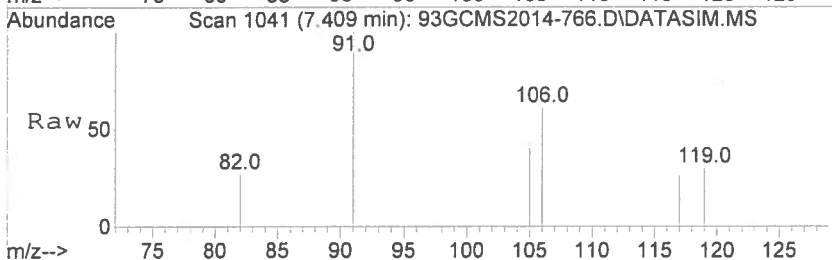
#17
m,p-Xylene
Concen: 1.58 ppbv
RT: 7.151 min Scan# 1001
Delta R.T. 0.000 min
Lab File: 93GCMS2014-766.D
Acq: 29 Sep 2014 19:36

Tgt Ion	Ratio	Lower	Upper
91	100		
106	55.1	41.2	61.8
105	32.4	18.4	27.6#



#18
o-Xylene
Concen: 0.65 ppbv
RT: 7.409 min Scan# 1041
Delta R.T. 0.000 min
Lab File: 93GCMS2014-766.D
Acq: 29 Sep 2014 19:36

Tgt Ion	Ratio	Lower	Upper
91	100		
106	61.3	38.3	57.5#
105	29.8	15.3	22.9#



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-767.D
 Acq On : 29 Sep 2014 19:48
 Operator : SJT
 Sample : 53631 \ V12
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 19:55:45 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014

QLast Update : Mon Sep 29 18:48:25 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	4.848	49	1849	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	5158	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5334	10.00	ppbv	0.00

System Monitoring Compounds

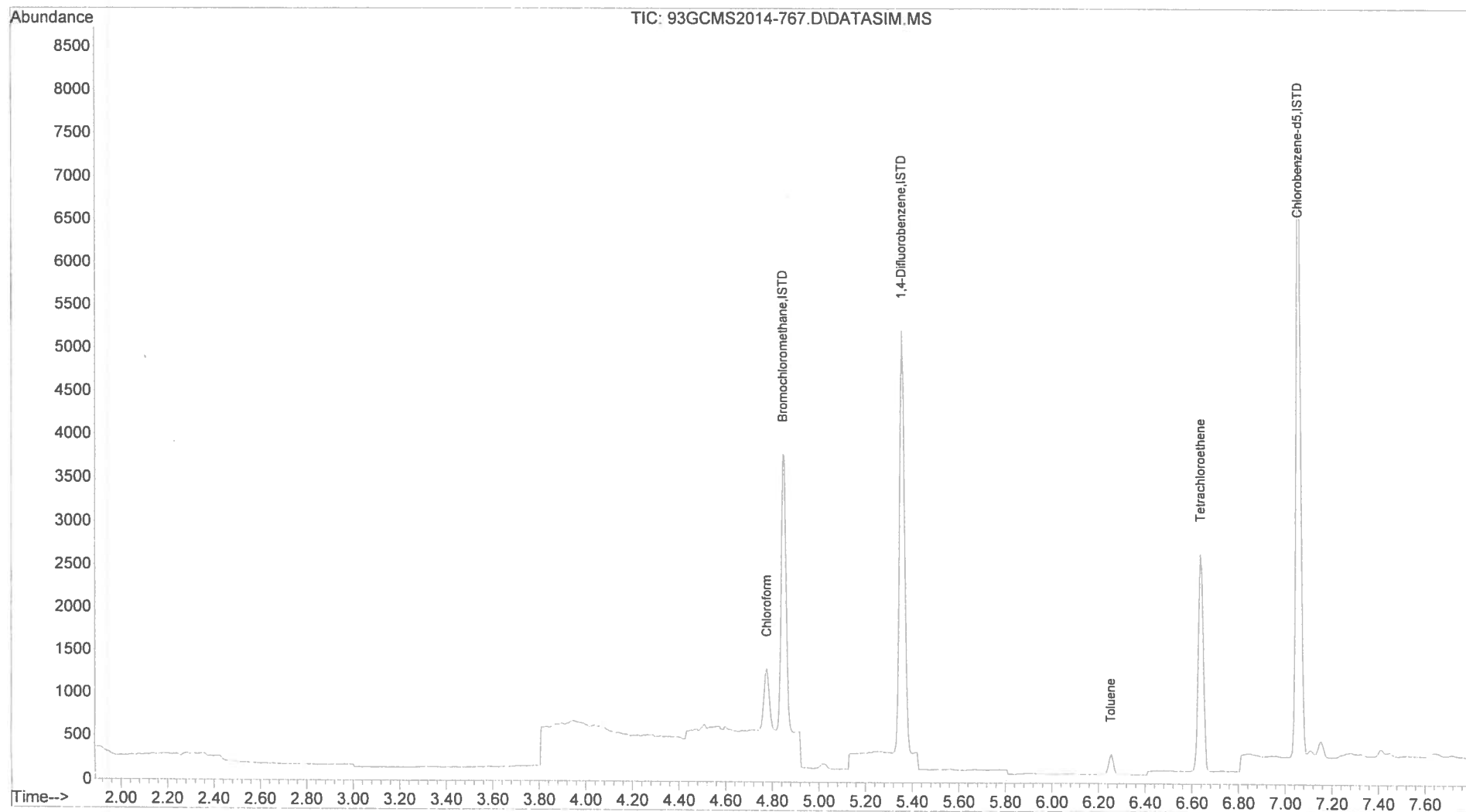
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
8) Chloroform	4.778	83	612	3.26	ppbv	99
14) Toluene	6.251	91	209	0.56	ppbv	98
15) Tetrachloroethene	6.636	166	1493	7.59	ppbv	99

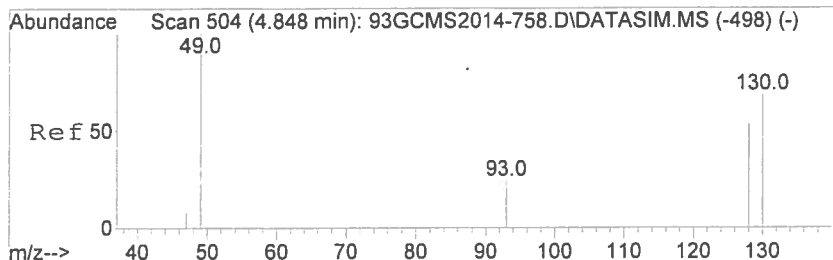
(#) = qualifier out of range (m) = manual integration (+) = signals summed

09/29/14

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-767.D
 Acq On : 29 Sep 2014 19:48
 Operator : SJT
 Sample : 53631 \ V12
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

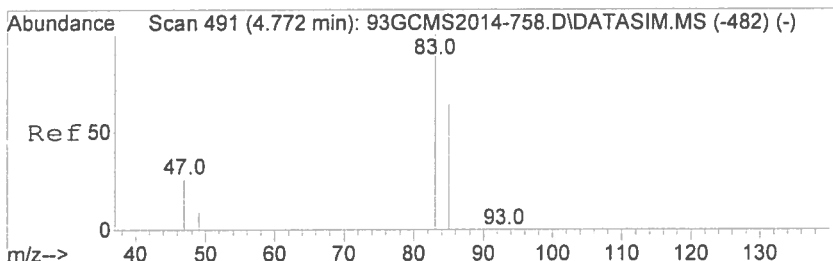
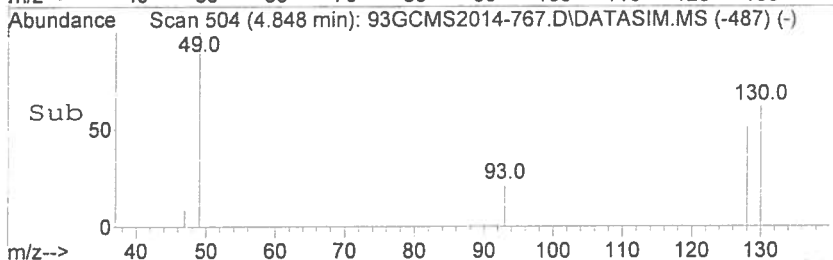
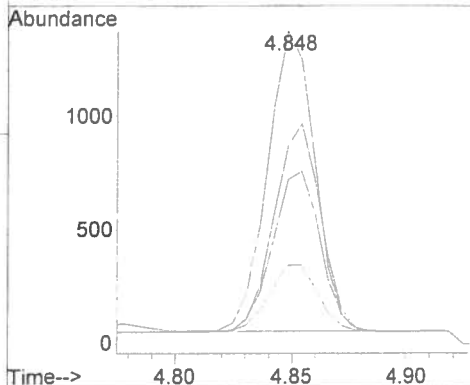
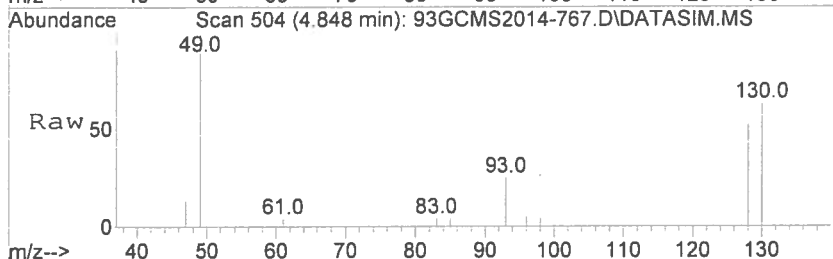
Quant Time: Sep 29 19:55:45 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014
 QLast Update : Mon Sep 29 18:48:25 2014
 Response via : Initial Calibration





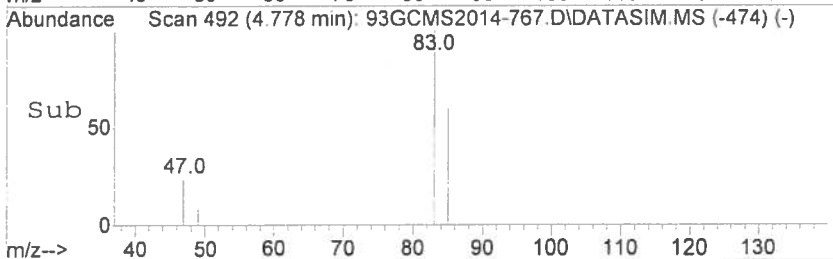
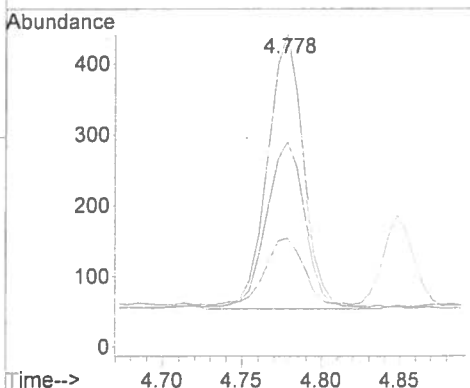
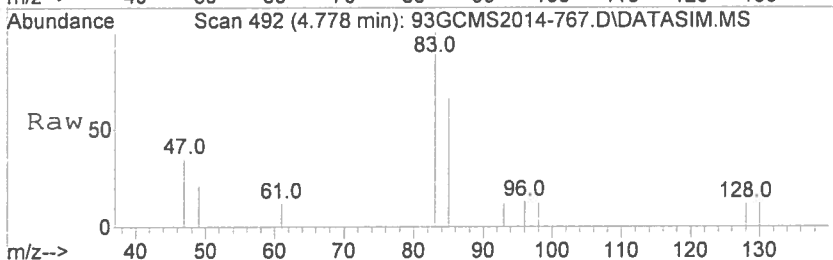
#1
 Bromochloromethane
 Concen: 10.00 ppbv
 RT: 4.848 min Scan# 504
 Delta R.T. 0.000 min
 Lab File: 93GCMS2014-767.D
 Acq: 29 Sep 2014 19:48

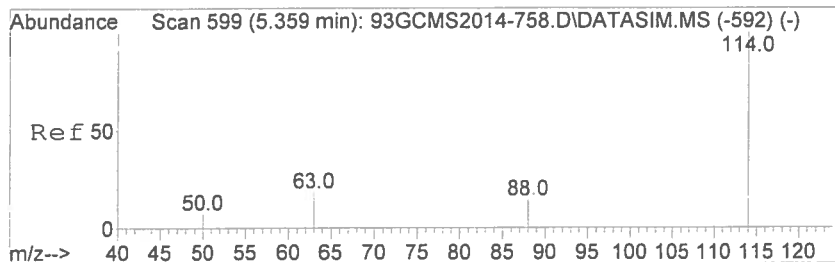
Tgt Ion: 49	Resp: 1849
Ion Ratio	Lower Upper
49 100	
130 63.2	54.4 81.6
93 25.1	21.1 31.7
128 52.4	43.2 64.8



#8
 Chloroform
 Concen: 3.26 ppbv
 RT: 4.778 min Scan# 492
 Delta R.T. 0.006 min
 Lab File: 93GCMS2014-767.D
 Acq: 29 Sep 2014 19:48

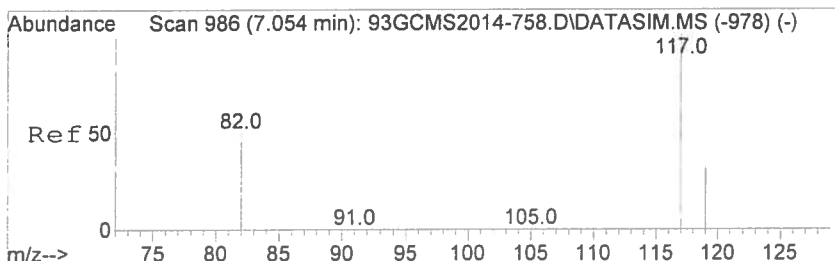
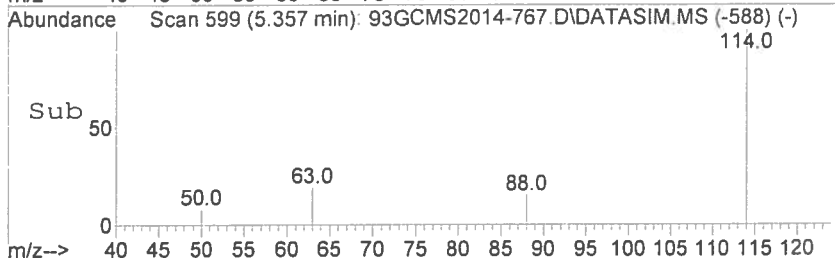
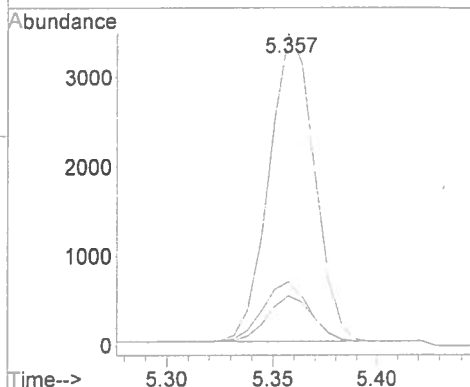
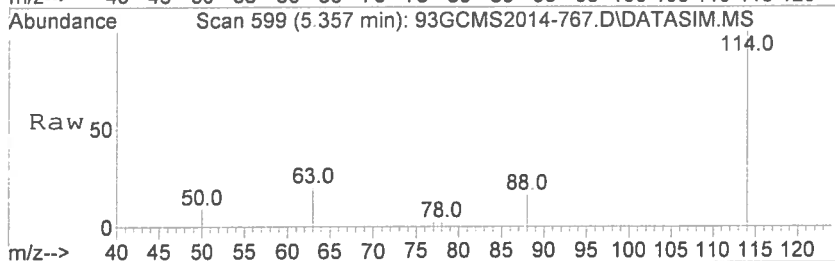
Tgt Ion: 83	Resp: 612
Ion Ratio	Lower Upper
83 100	
85 63.4	51.8 77.6
47 25.3	20.5 30.7





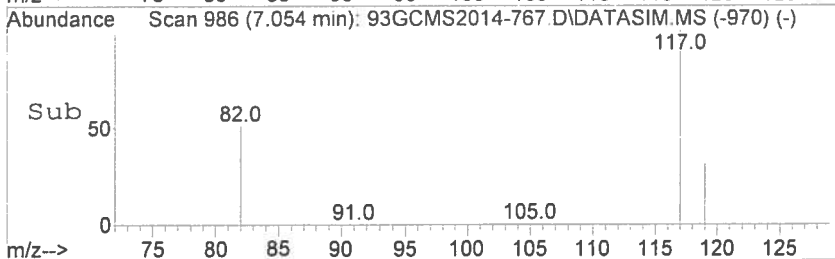
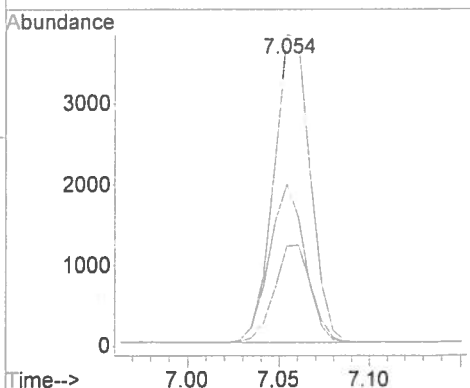
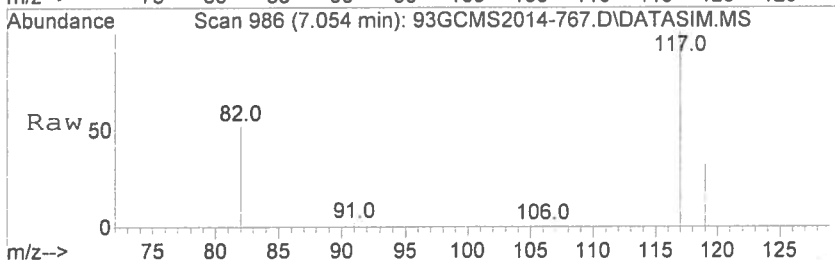
#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.357 min Scan# 599
Delta R.T. -0.002 min
Lab File: 93GCMS2014-767.D
Acq: 29 Sep 2014 19:48

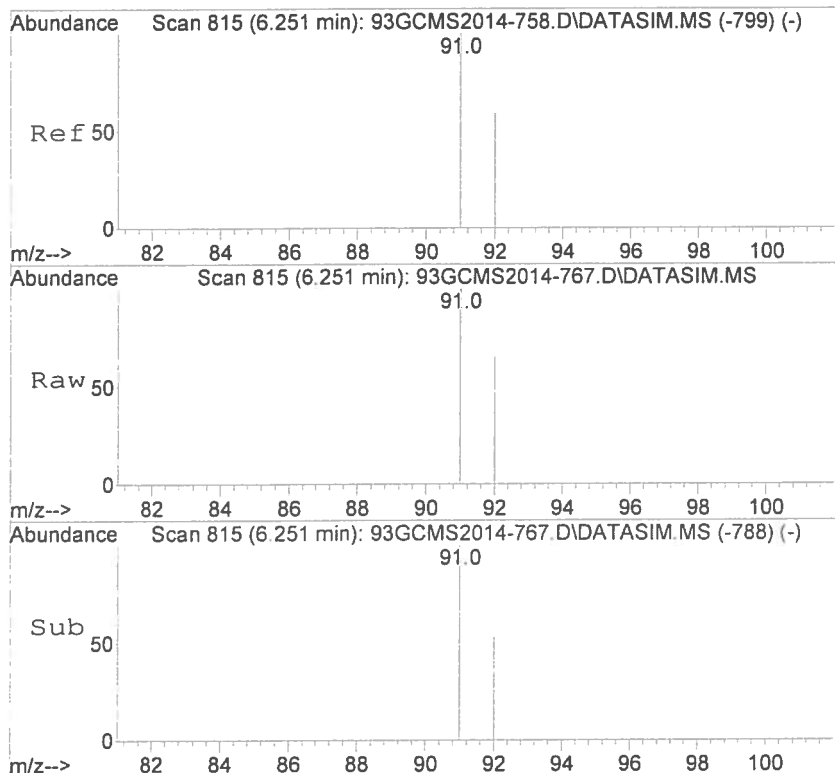
Tgt Ion: 114	Resp: 5158
Ion Ratio	Lower Upper
114 100	
63 19.5	15.7 23.5
88 14.8	11.8 17.6



#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.054 min Scan# 986
Delta R.T. 0.000 min
Lab File: 93GCMS2014-767.D
Acq: 29 Sep 2014 19:48

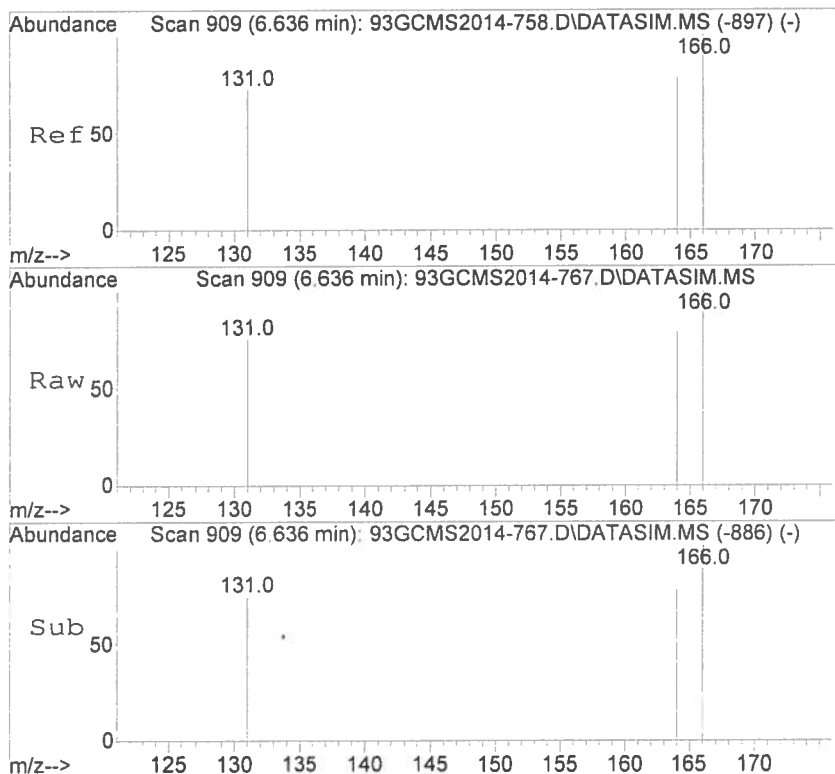
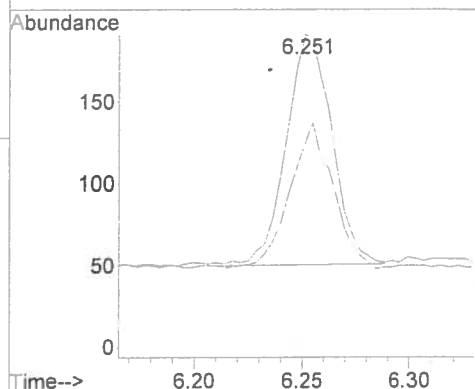
Tgt Ion: 117	Resp: 5334
Ion Ratio	Lower Upper
117 100	
82 49.6	39.5 59.3
119 32.0	25.8 38.6





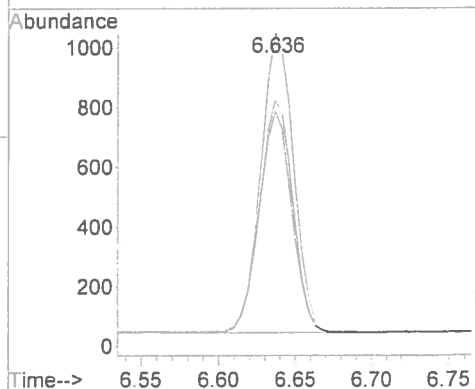
#14
Toluene
Concen: 0.56 ppbv
RT: 6.251 min Scan# 815
Delta R.T. 0.000 min
Lab File: 93GCMS2014-767.D
Acq: 29 Sep 2014 19:48

Tgt Ion	Ratio	Lower	Upper
91	100		
92	57.9	47.4	71.2



#15
Tetrachloroethene
Concen: 7.59 ppbv
RT: 6.636 min Scan# 909
Delta R.T. 0.000 min
Lab File: 93GCMS2014-767.D
Acq: 29 Sep 2014 19:48

Tgt Ion	Ratio	Lower	Upper
166	100		
164	78.1	62.6	93.8
131	73.4	57.9	86.9



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-768.D
 Acq On : 29 Sep 2014 20:01
 Operator : SJT
 Sample : 53632 \ V13
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 21:01:55 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014

QLast Update : Mon Sep 29 18:48:25 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	4.842	49	1873	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	5275	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5419	10.00	ppbv	0.00

System Monitoring Compounds

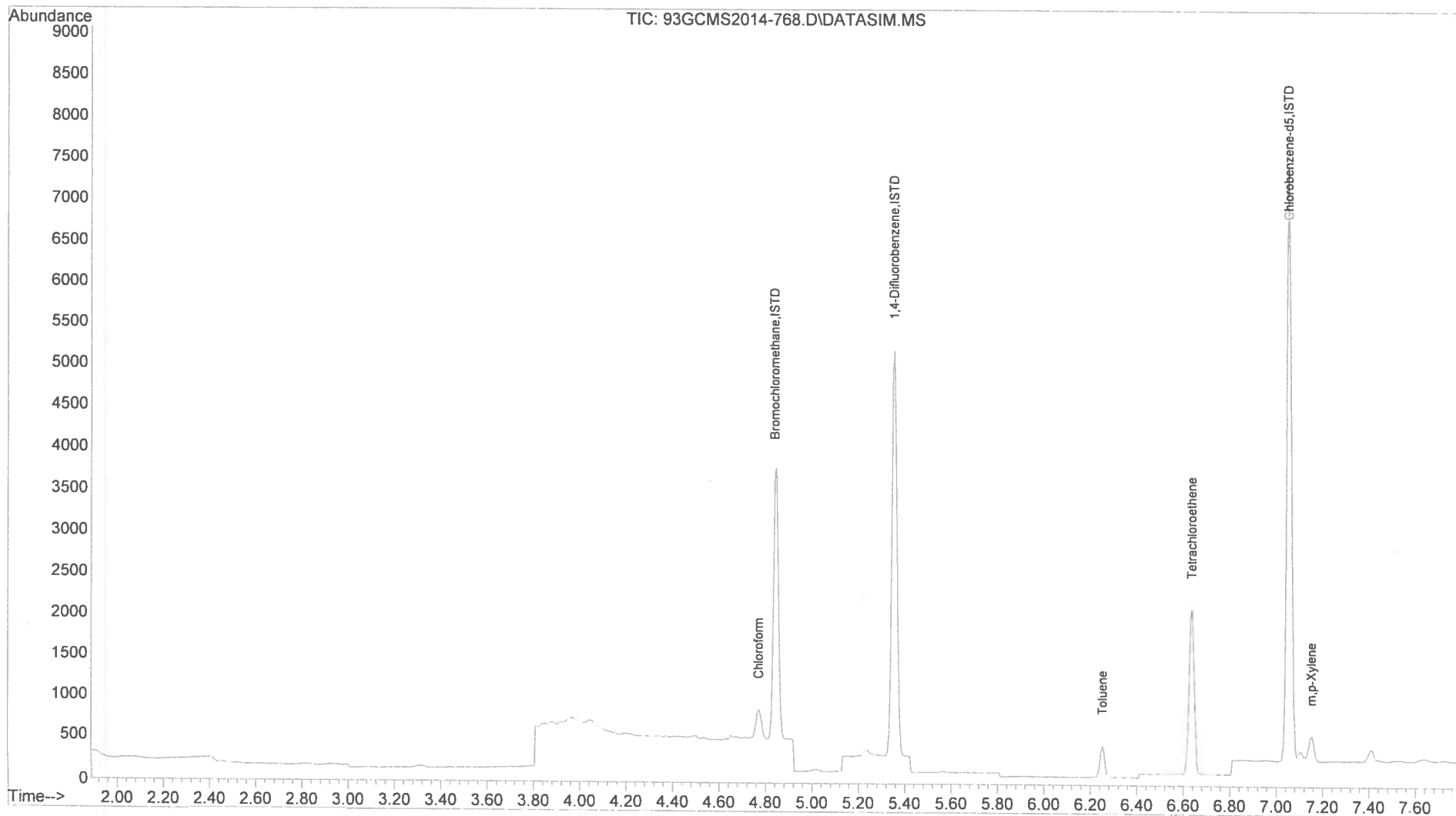
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
8) Chloroform	4.772	83	282m	1.48	ppbv	
14) Toluene	6.251	91	309	0.82	ppbv	99
15) Tetrachloroethene	6.637	166	1175	5.88	ppbv	99
17) m,p-Xylene	7.151	91	230	0.62	ppbv #	82

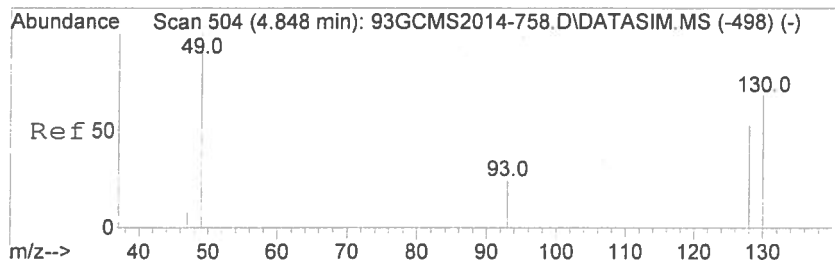
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Handwritten signature and date: 09/29/14

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-768.D
 Acq On : 29 Sep 2014 20:01
 Operator : SJT
 Sample : 53632 \ V13
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

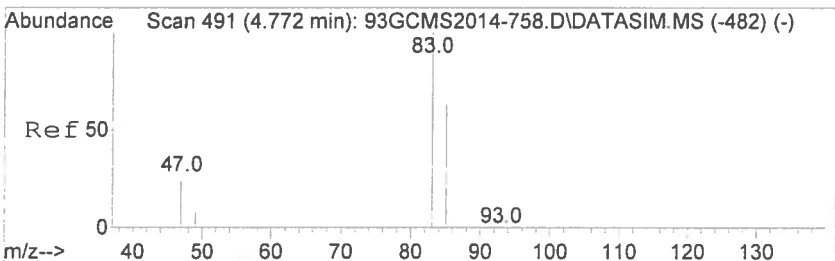
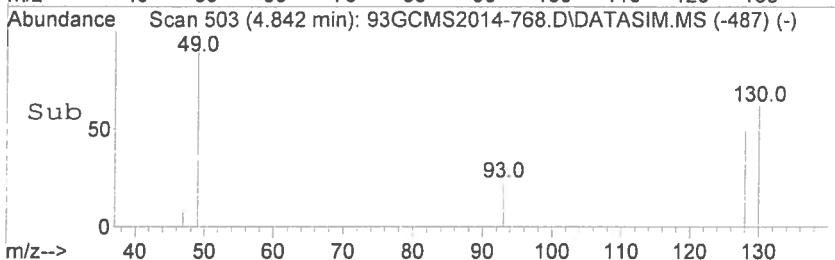
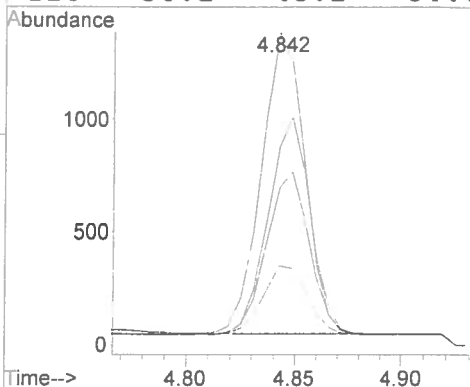
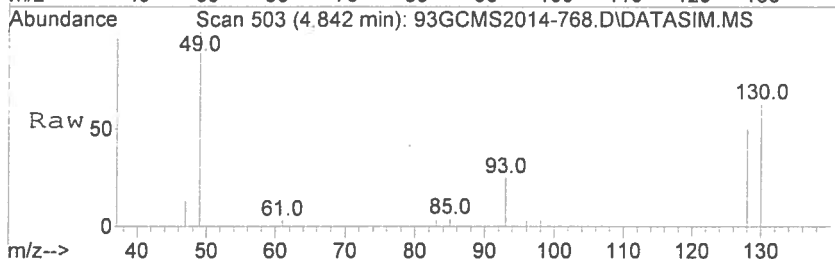
Quant Time: Sep 29 21:01:55 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014
 QLast Update : Mon Sep 29 18:48:25 2014
 Response via : Initial Calibration





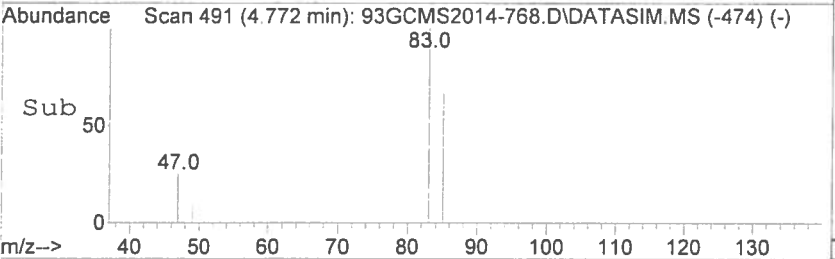
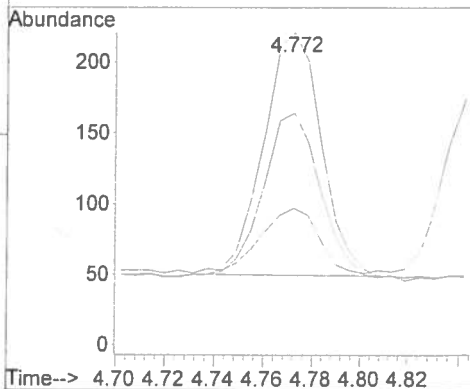
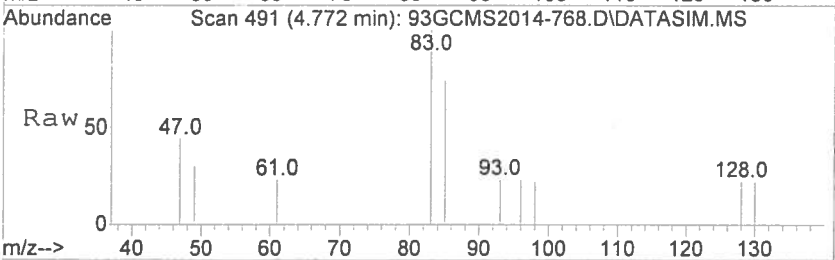
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.842 min Scan# 503
Delta R.T. -0.006 min
Lab File: 93GCMS2014-768.D
Acq: 29 Sep 2014 20:01

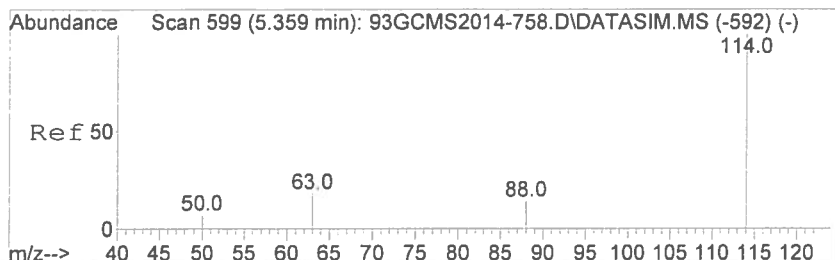
Tgt Ion:	49	Resp:	1873
Ion Ratio	Lower	Upper	
49	100		
130	63.2	54.4	81.6
93	25.3	21.1	31.7
128	50.2	43.2	64.8



#8
Chloroform
Concen: 1.48 ppbv m
RT: 4.772 min Scan# 491
Delta R.T. 0.000 min
Lab File: 93GCMS2014-768.D
Acq: 29 Sep 2014 20:01

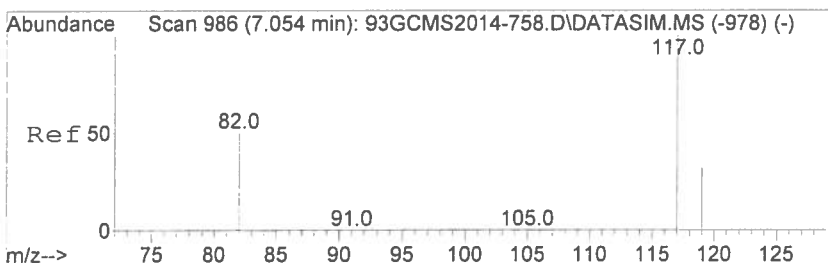
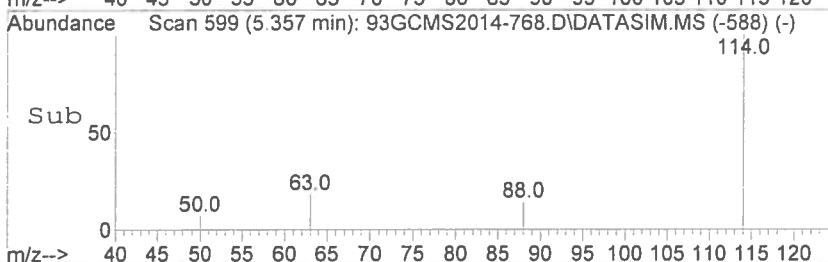
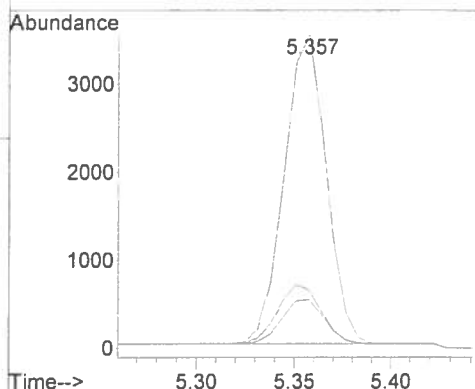
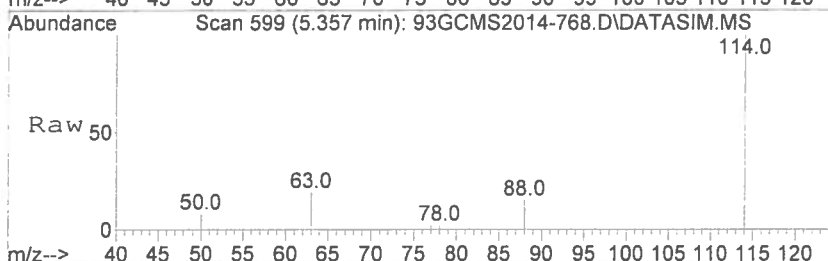
Tgt Ion:	83	Resp:	282
Ion Ratio	Lower	Upper	
83	100		
85	68.1	51.8	77.6
47	27.0	20.5	30.7





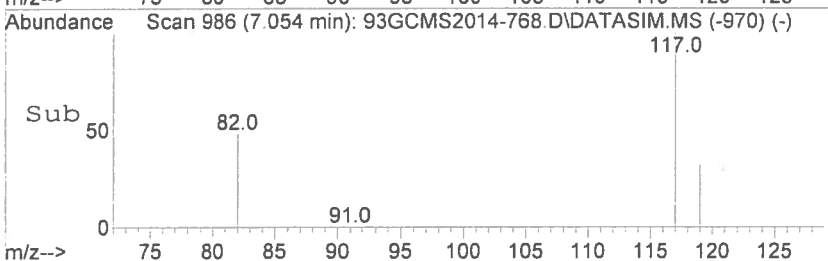
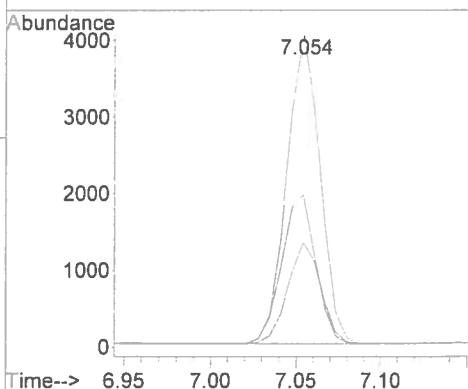
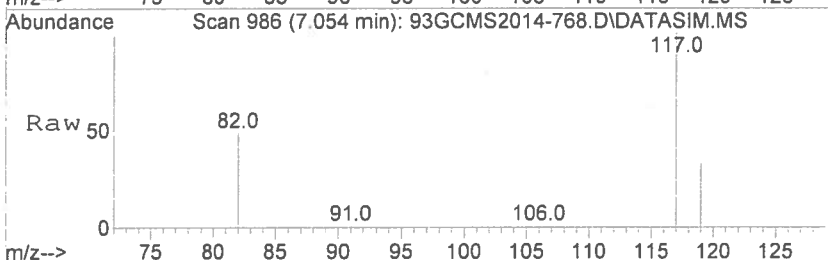
#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.357 min Scan# 599
Delta R.T. -0.002 min
Lab File: 93GCMS2014-768.D
Acq: 29 Sep 2014 20:01

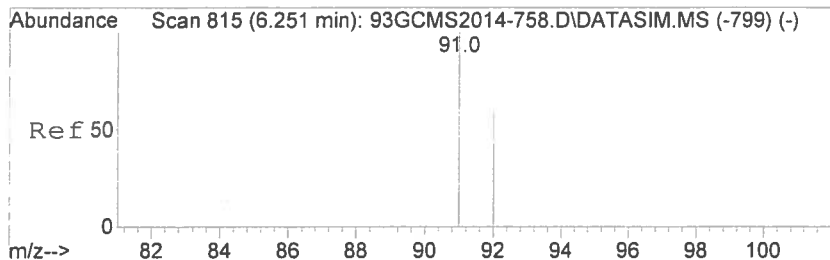
Tgt Ion:114	Resp:	5275
Ion Ratio	Lower	Upper
114 100		
63 19.5	15.7	23.5
88 14.6	11.8	17.6



#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.054 min Scan# 986
Delta R.T. 0.000 min
Lab File: 93GCMS2014-768.D
Acq: 29 Sep 2014 20:01

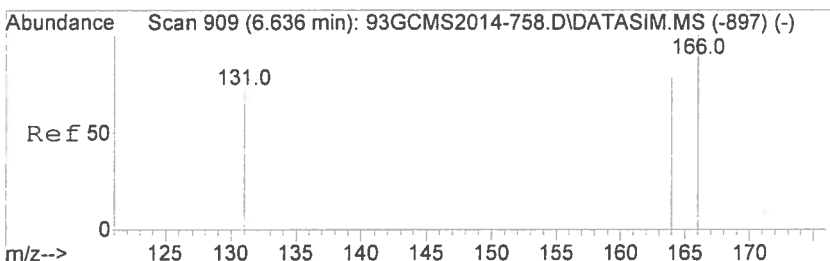
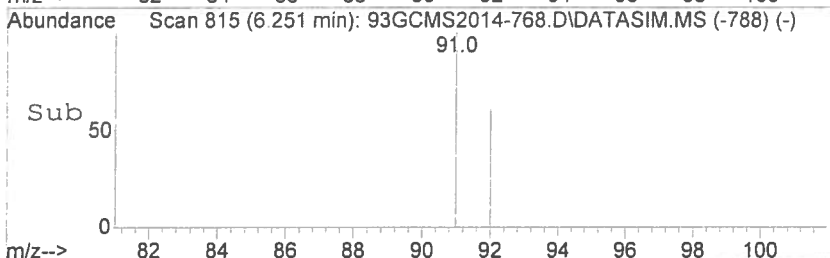
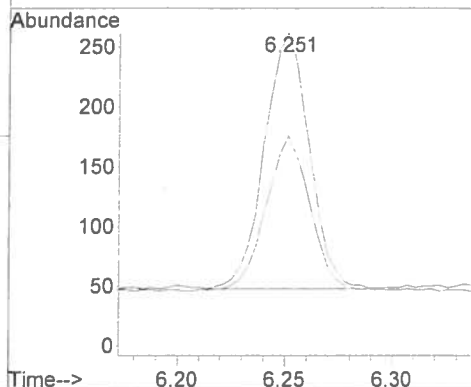
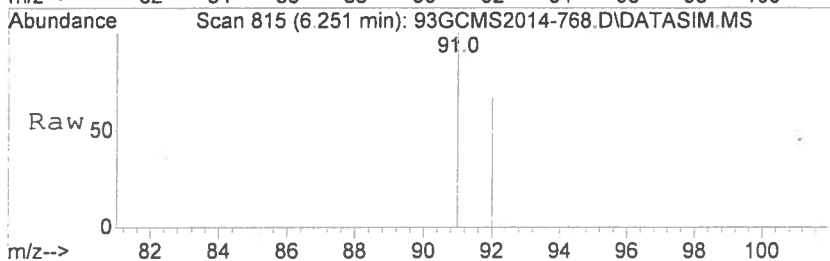
Tgt Ion:117	Resp:	5419
Ion Ratio	Lower	Upper
117 100		
82 49.2	39.5	59.3
119 32.4	25.8	38.6





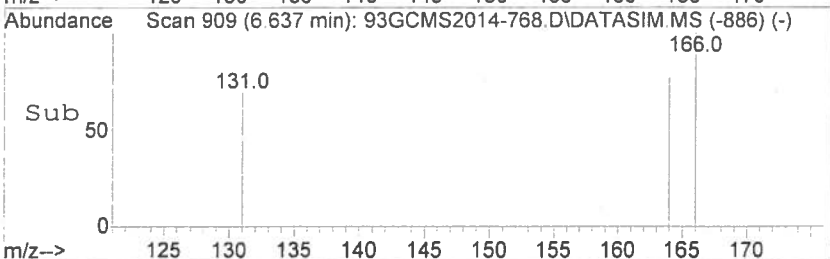
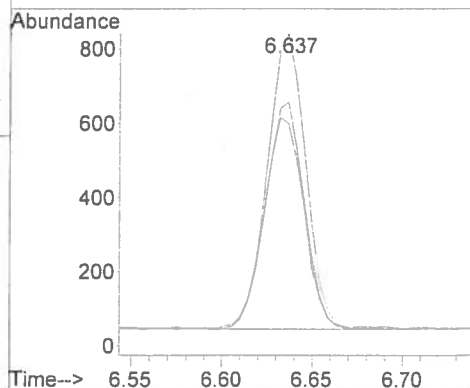
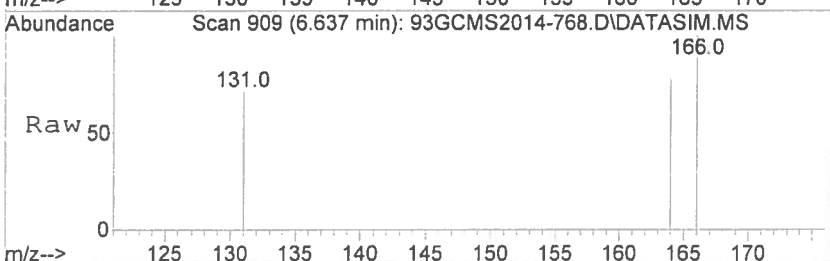
#14
Toluene
Concen: 0.82 ppbv
RT: 6.251 min Scan# 815
Delta R.T. 0.000 min
Lab File: 93GCMS2014-768.D
Acq: 29 Sep 2014 20:01

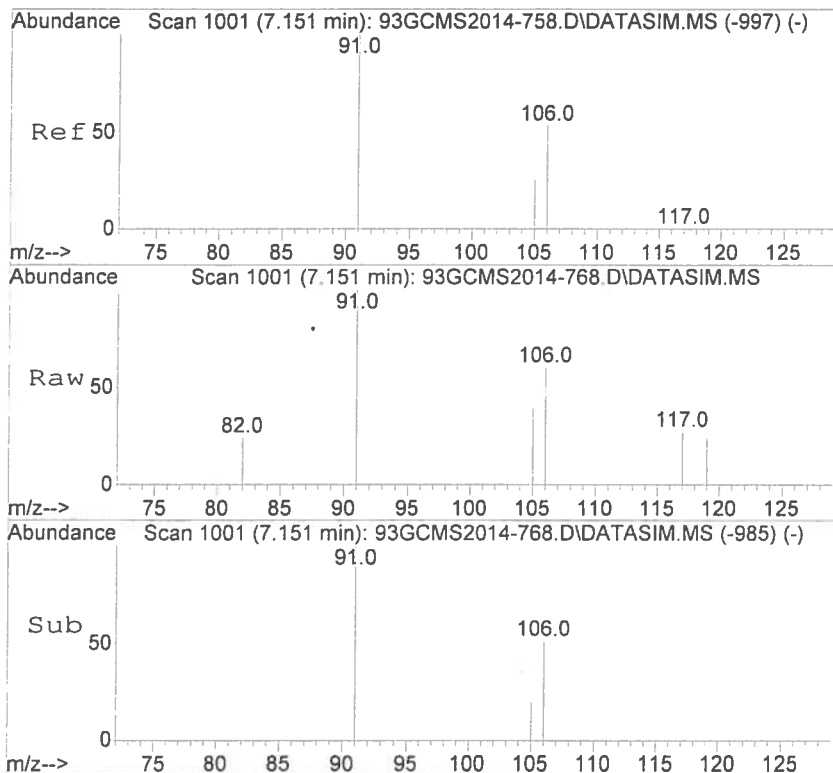
Tgt Ion	Ratio	Lower	Upper
91	100		
92	59.9	47.4	71.2



#15
Tetrachloroethene
Concen: 5.88 ppbv
RT: 6.637 min Scan# 909
Delta R.T. 0.000 min
Lab File: 93GCMS2014-768.D
Acq: 29 Sep 2014 20:01

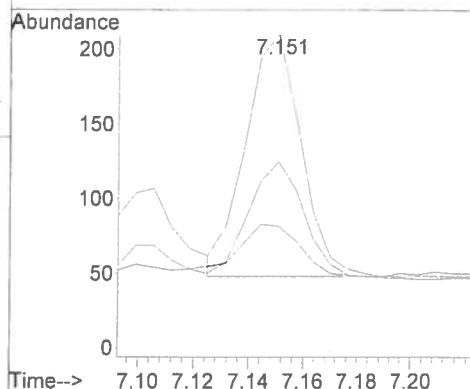
Tgt Ion	Ratio	Lower	Upper
166	100		
164	77.8	62.6	93.8
131	73.0	57.9	86.9



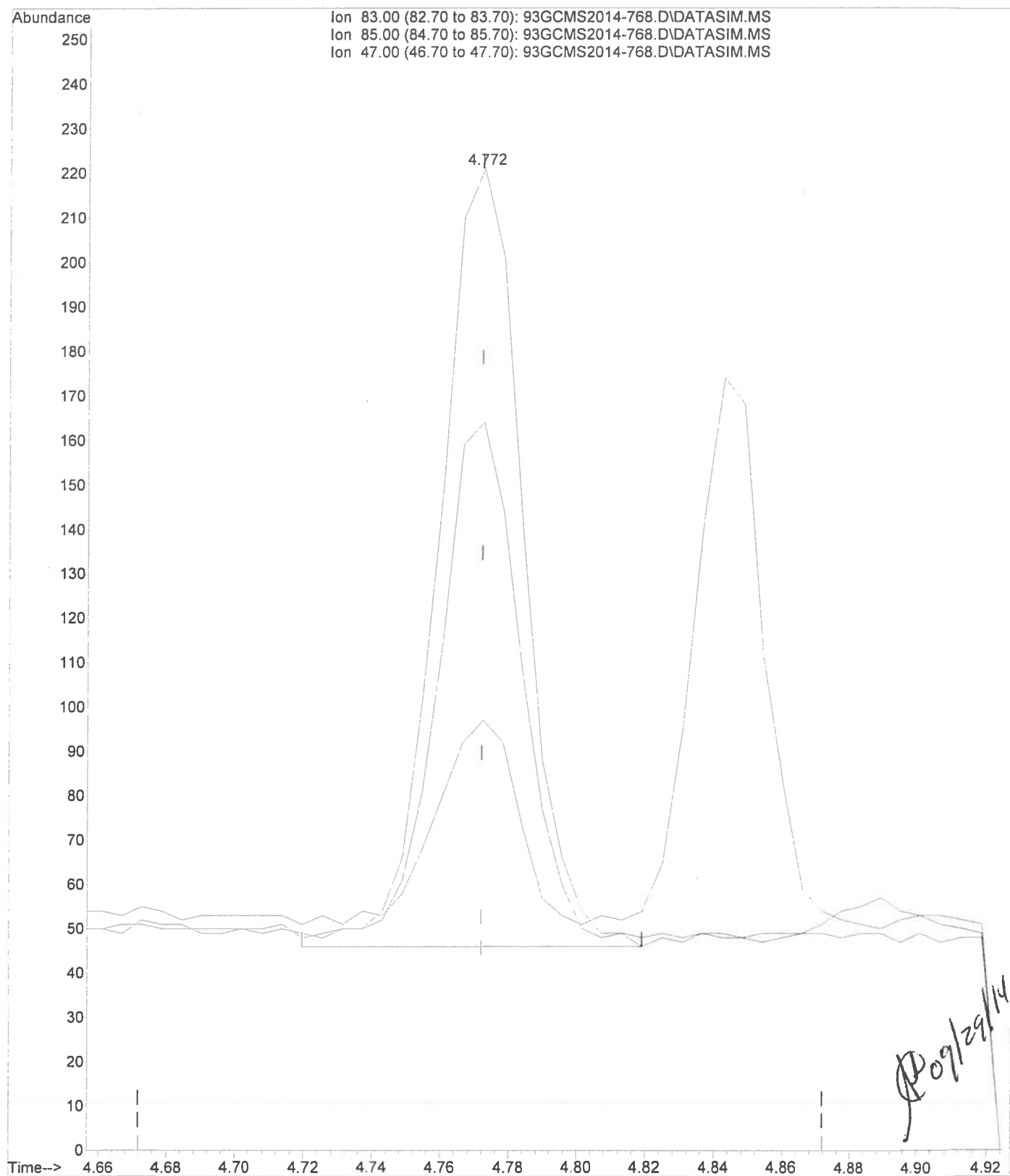


#17
 m,p-Xylene
 Concen: 0.62 ppbv
 RT: 7.151 min Scan# 1001
 Delta R.T. 0.000 min
 Lab File: 93GCMS2014-768.D
 Acq: 29 Sep 2014 20:01

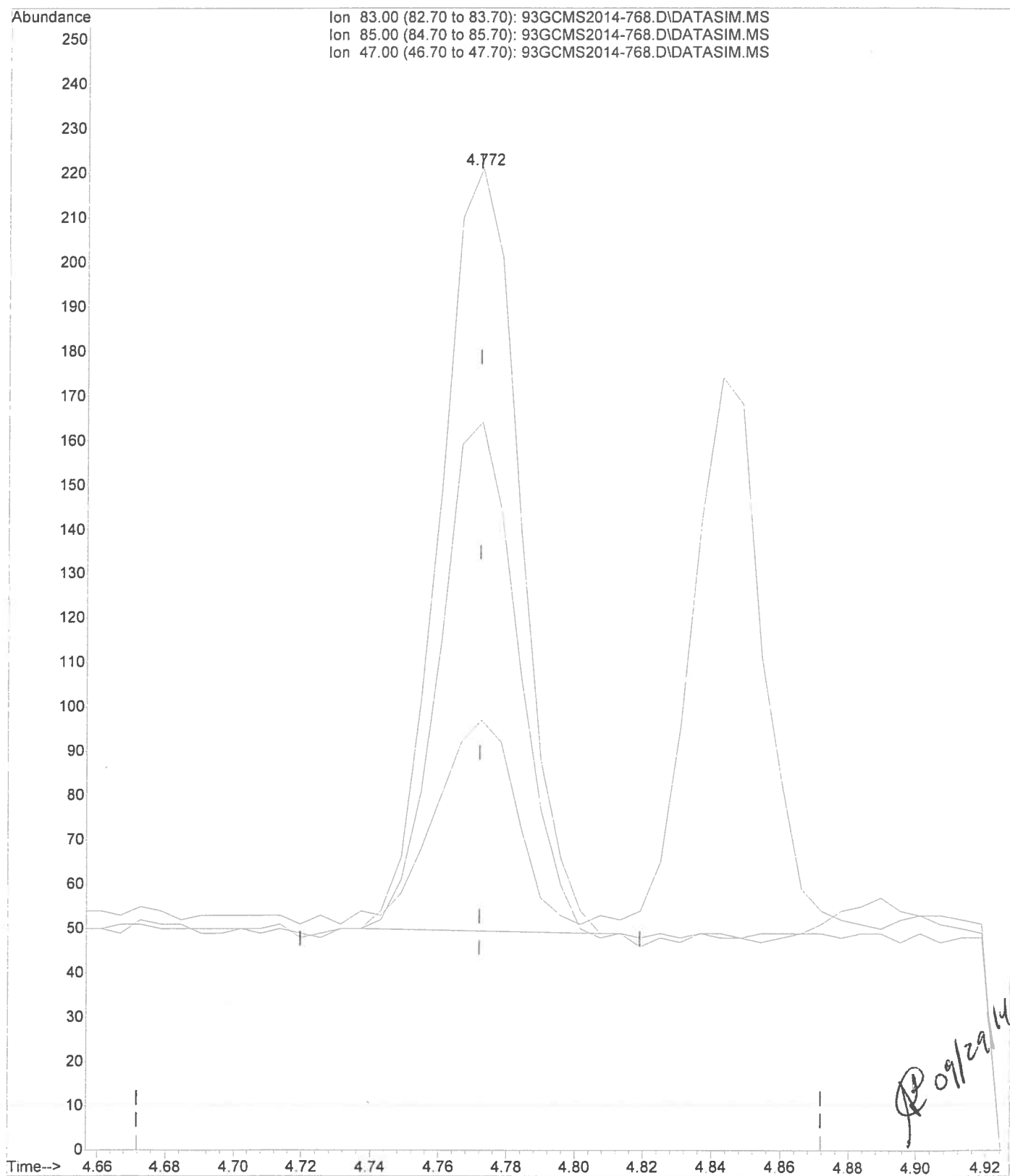
Tgt Ion	Ratio	Lower	Upper
91	100		
106	59.5	41.2	61.8
105	39.0	18.4	27.6#



File :D:\msdchem\1\data\2014\20140929\93GCMS2014-768.D
Operator : SJT
Acquired : 29 Sep 2014 20:01 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: 53632 \ V13
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



File :D:\msdchem\1\data\2014\20140929\93GCMS2014-768.D
Operator : SJT
Acquired : 29 Sep 2014 20:01 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: 53632 \ V13
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-769.D
 Acq On : 29 Sep 2014 20:12
 Operator : SJT
 Sample : 53633 \ V14
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 21:02:52 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014

QLast Update : Mon Sep 29 18:48:25 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	4.848	49	1846	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	5252	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5387	10.00	ppbv	0.00

System Monitoring Compounds

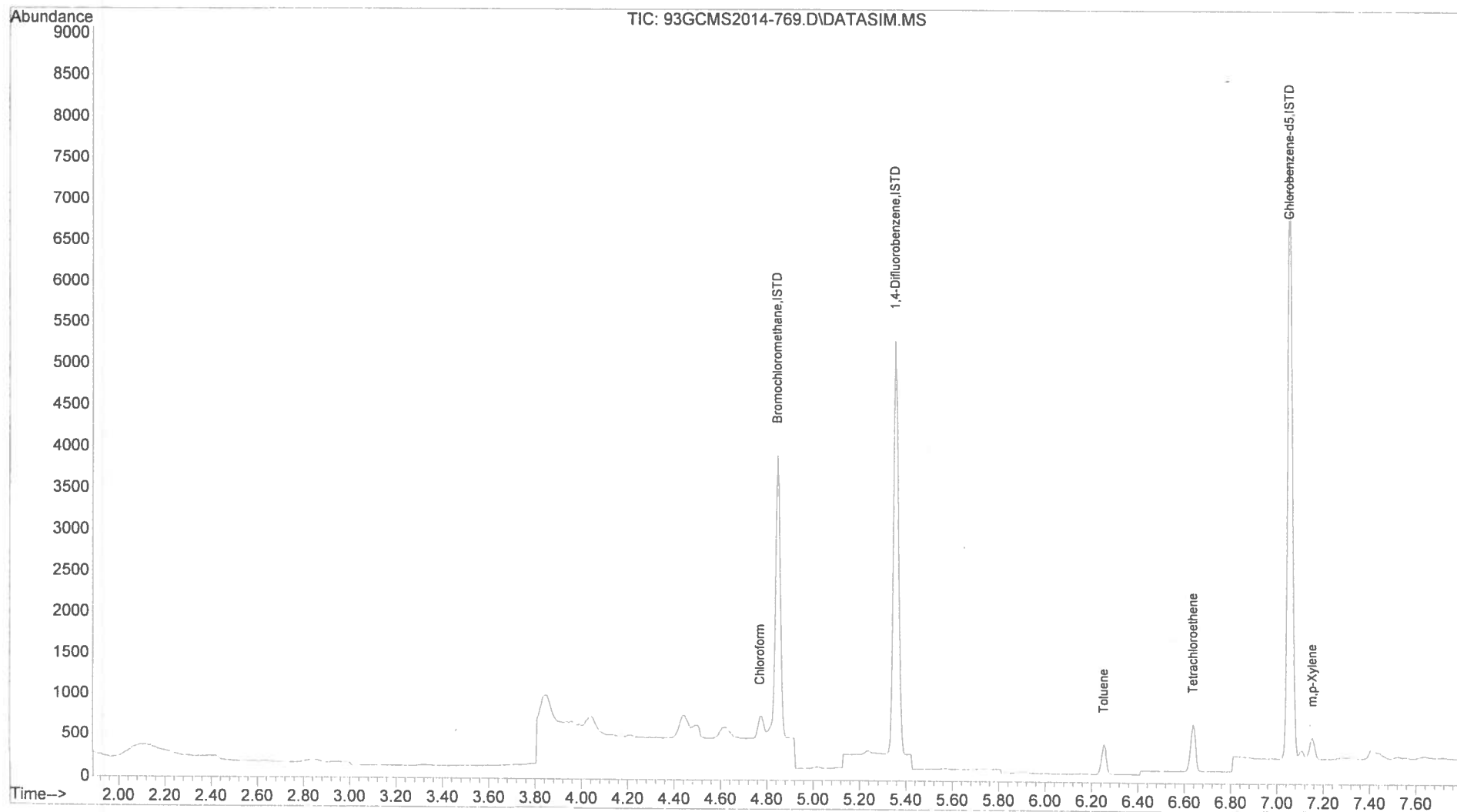
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
8) Chloroform	4.772	83	230m	1.23	ppbv	
14) Toluene	6.251	91	320	0.85	ppbv	99
15) Tetrachloroethene	6.636	166	319	1.60	ppbv	98
17) m,p-Xylene	7.151	91	192	0.52	ppbv #	80

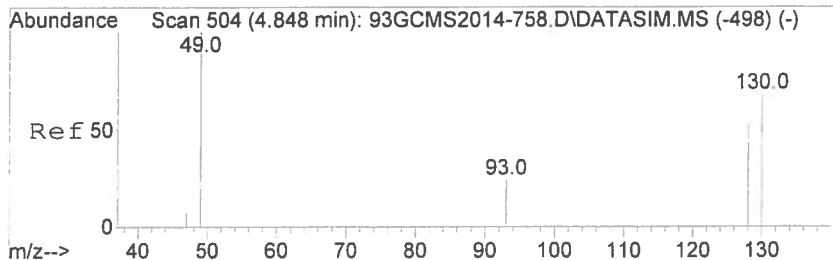
(#) = qualifier out of range (m) = manual integration (+) = signals summed

09/29/14

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-769.D
 Acq On : 29 Sep 2014 20:12
 Operator : SJT
 Sample : 53633 \ V14
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

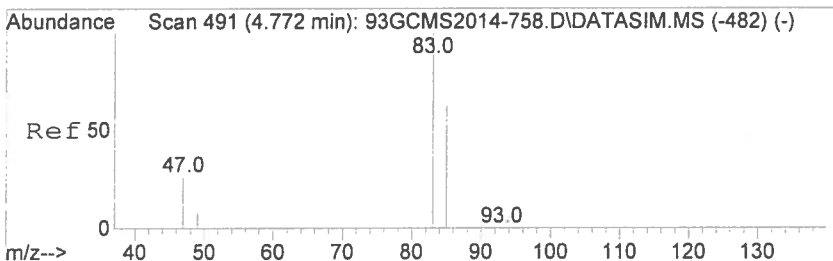
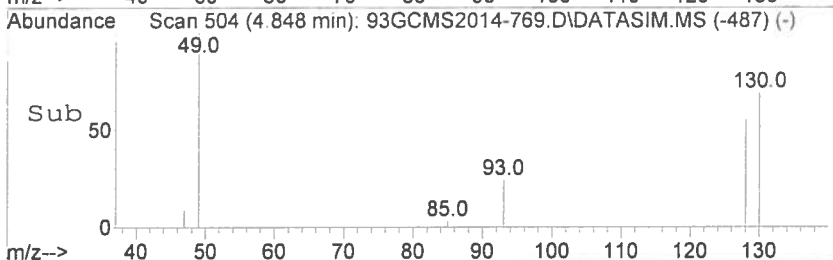
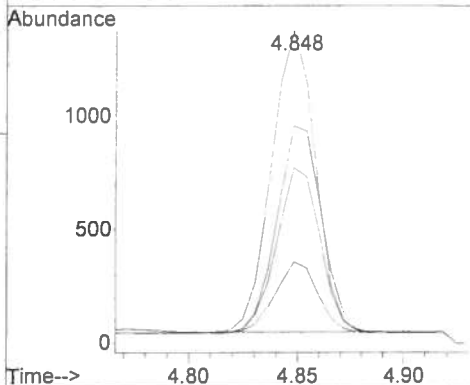
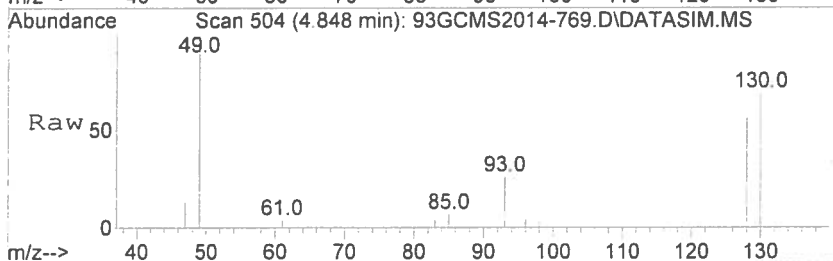
Quant Time: Sep 29 21:02:52 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014
 QLast Update : Mon Sep 29 18:48:25 2014
 Response via : Initial Calibration





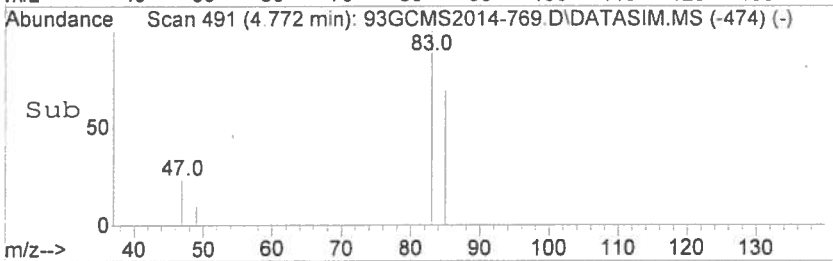
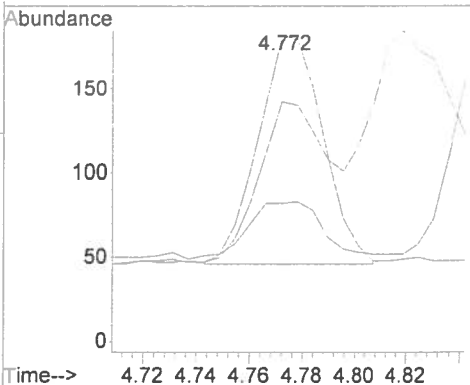
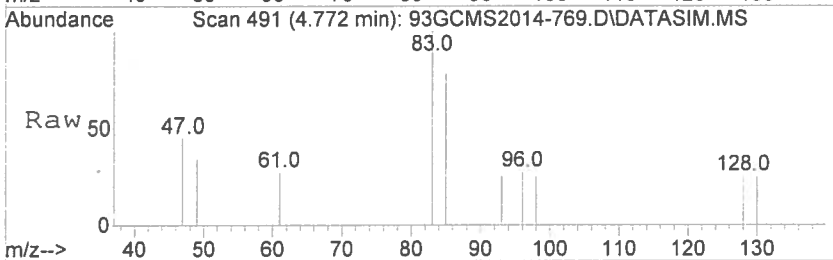
#1
 Bromochloromethane
 Concen: 10.00 ppbv
 RT: 4.848 min Scan# 504
 Delta R.T. -0.000 min
 Lab File: 93GCMS2014-769.D
 Acq: 29 Sep 2014 20:12

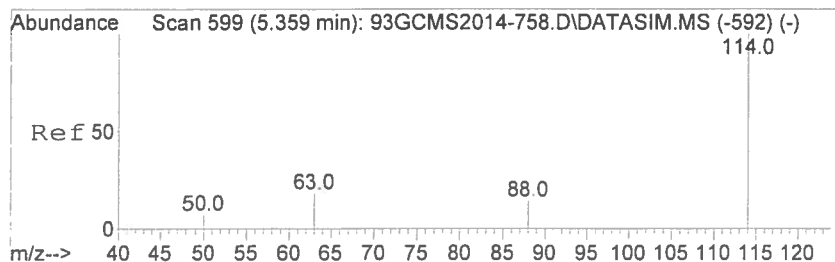
Tgt Ion: 49	Resp: 1846
Ion Ratio	Lower Upper
49 100	
130 69.4	54.4 81.6
93 26.1	21.1 31.7
128 56.2	43.2 64.8



#8
 Chloroform
 Concen: 1.23 ppbv m
 RT: 4.772 min Scan# 491
 Delta R.T. 0.000 min
 Lab File: 93GCMS2014-769.D
 Acq: 29 Sep 2014 20:12

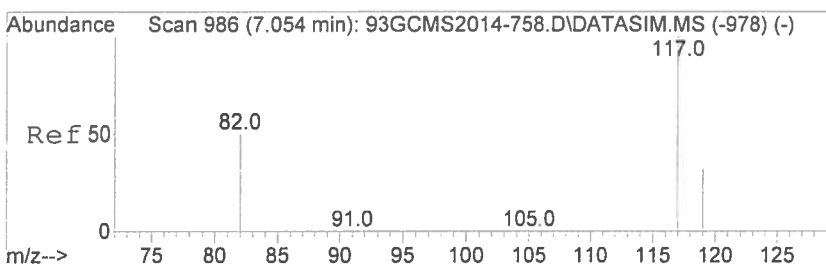
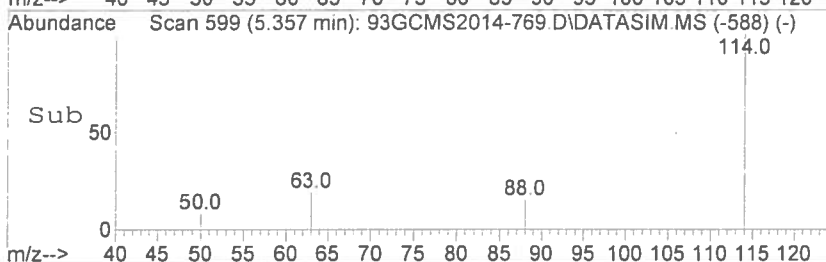
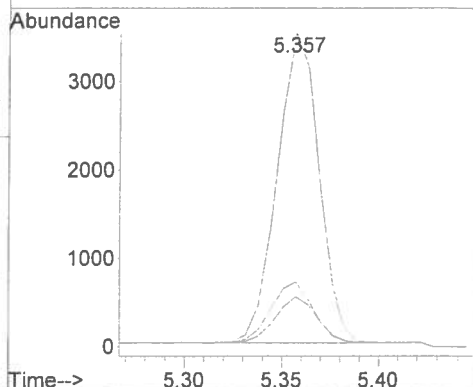
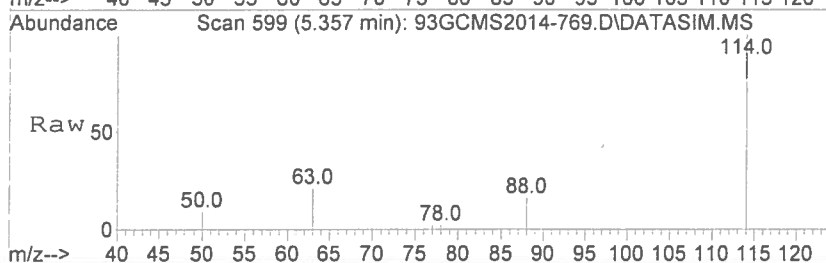
Tgt Ion: 83	Resp: 230
Ion Ratio	Lower Upper
83 100	
85 76.1	51.8 77.6
47 29.1	20.5 30.7





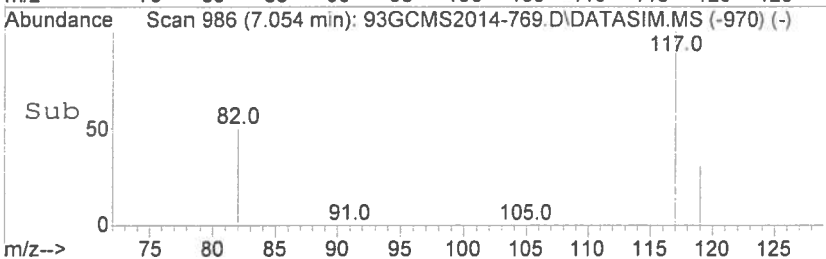
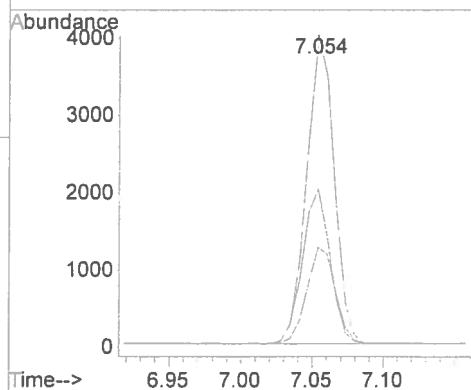
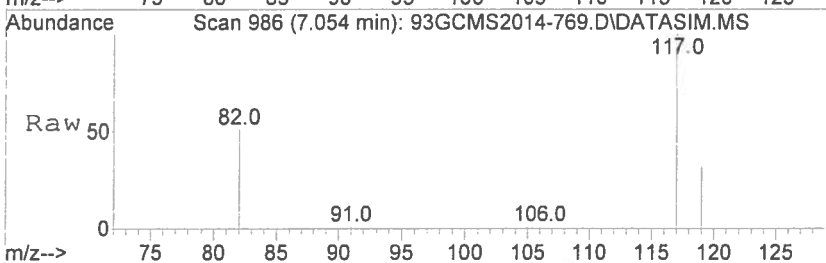
#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.357 min Scan# 599
Delta R.T. -0.002 min
Lab File: 93GCMS2014-769.D
Acq: 29 Sep 2014 20:12

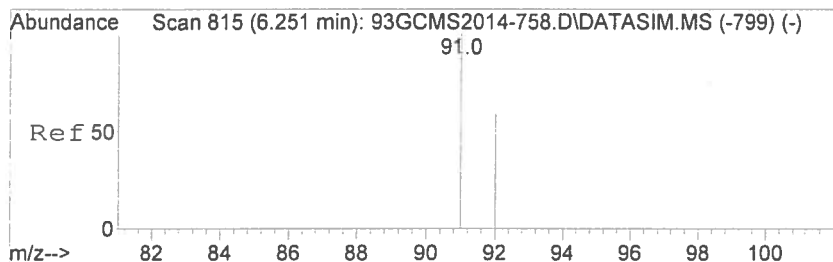
Tgt Ion:114	Resp:	5252
Ion Ratio	Lower	Upper
114 100		
63 19.6	15.7	23.5
88 14.8	11.8	17.6



#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.054 min Scan# 986
Delta R.T. 0.000 min
Lab File: 93GCMS2014-769.D
Acq: 29 Sep 2014 20:12

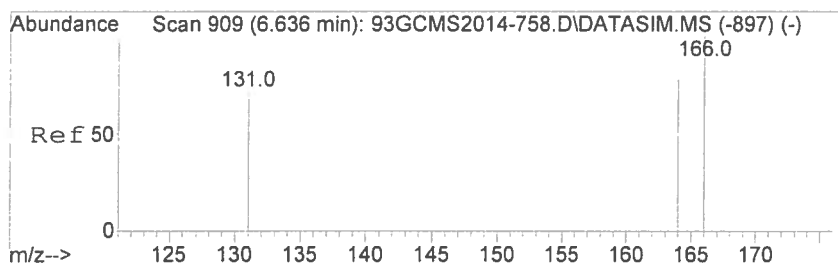
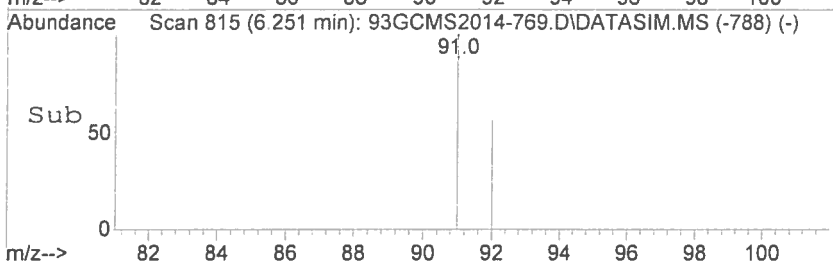
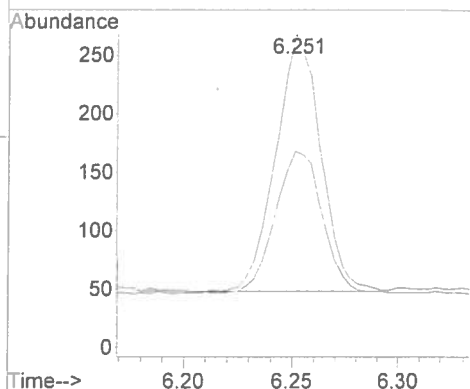
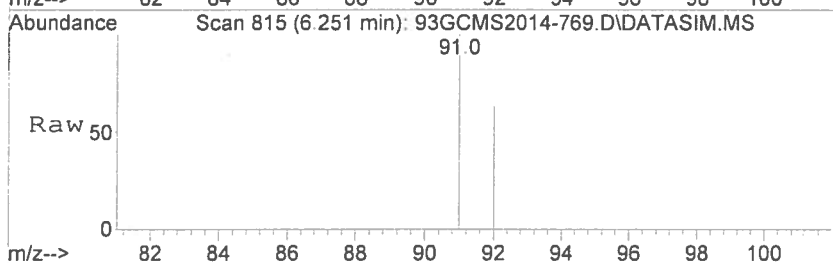
Tgt Ion:117	Resp:	5387
Ion Ratio	Lower	Upper
117 100		
82 50.0	39.5	59.3
119 32.3	25.8	38.6





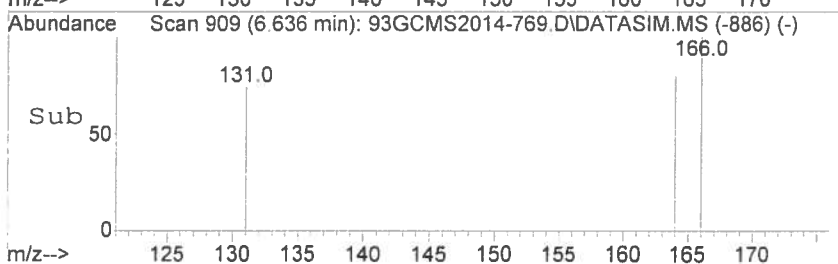
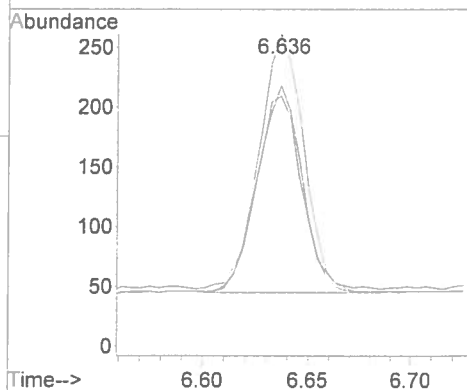
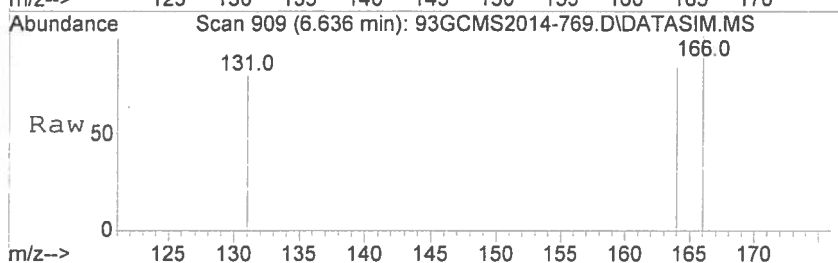
#14
Toluene
Concen: 0.85 ppbv
RT: 6.251 min Scan# 815
Delta R.T. 0.000 min
Lab File: 93GCMS2014-769.D
Acq: 29 Sep 2014 20:12

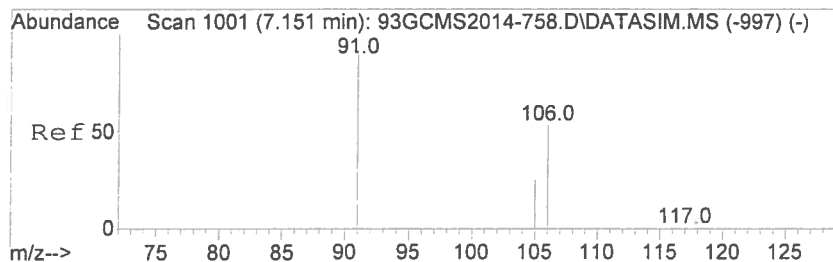
Tgt Ion: 91 Resp: 320
Ion Ratio Lower Upper
91 100
92 58.8 47.4 71.2



#15
Tetrachloroethene
Concen: 1.60 ppbv
RT: 6.636 min Scan# 909
Delta R.T. 0.000 min
Lab File: 93GCMS2014-769.D
Acq: 29 Sep 2014 20:12

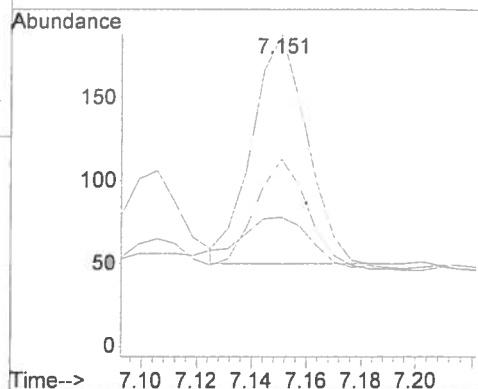
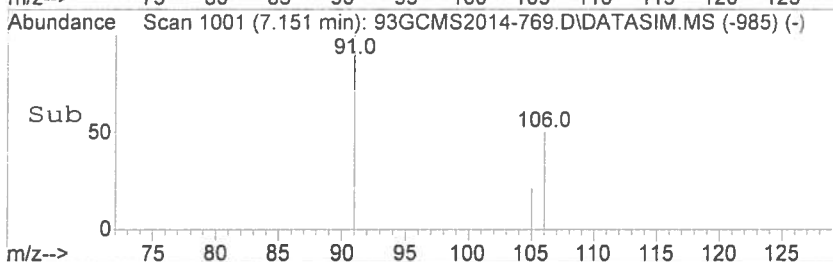
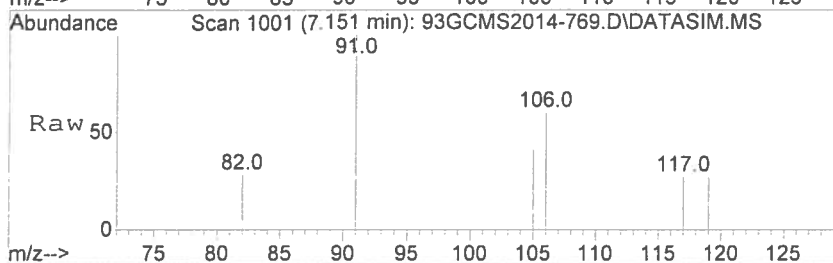
Tgt Ion: 166 Resp: 319
Ion Ratio Lower Upper
166 100
164 77.7 62.6 93.8
131 75.5 57.9 86.9



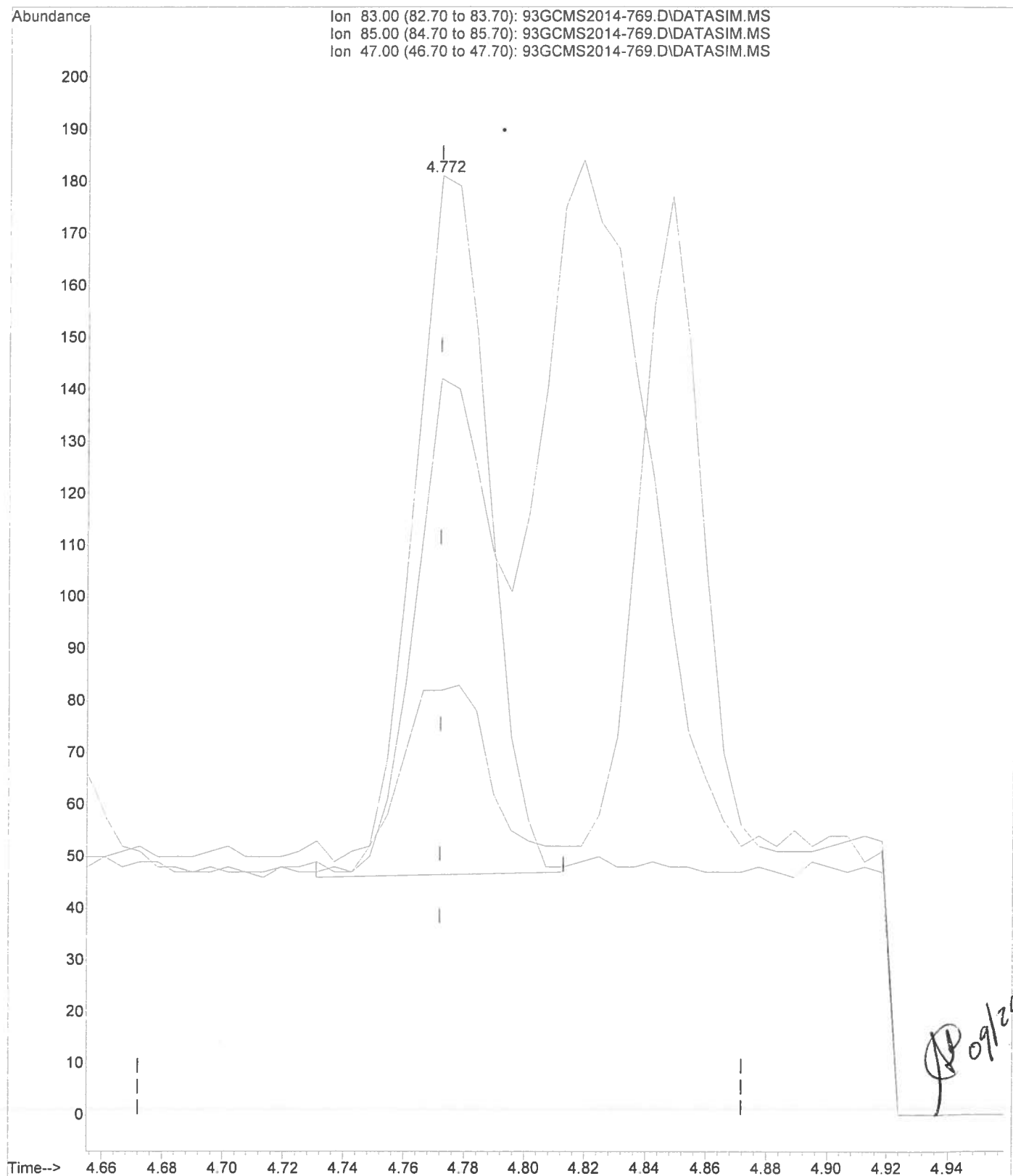


#17
 m,p-Xylene
 Concen: 0.52 ppbv
 RT: 7.151 min Scan# 1001
 Delta R.T. 0.000 min
 Lab File: 93GCMS2014-769.D
 Acq: 29 Sep 2014 20:12

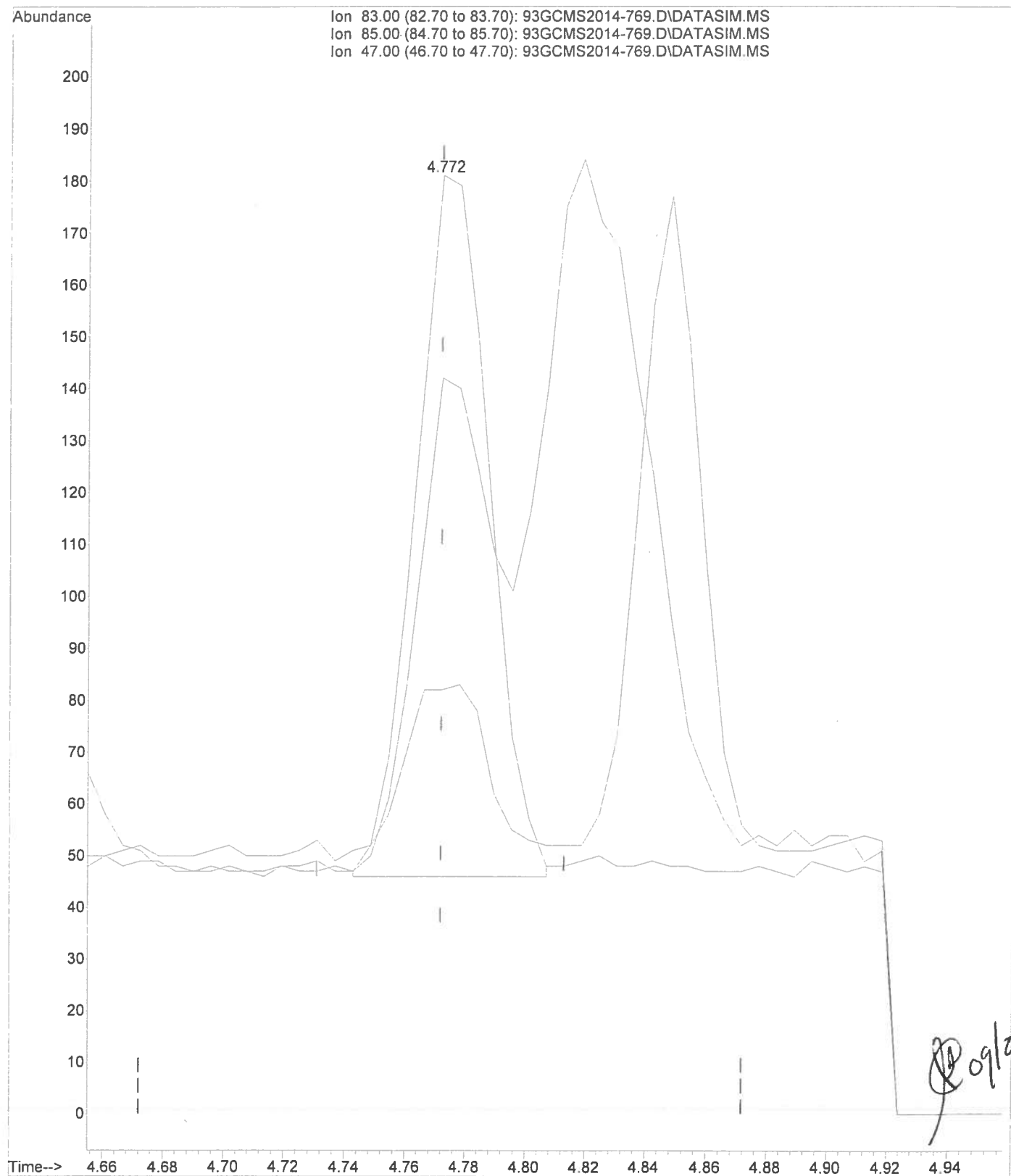
Tgt Ion: 91	Resp:	192
Ion Ratio	Lower	Upper
91 100		
106 60.1	41.2	61.8
105 41.5	18.4	27.6#



File :D:\msdchem\1\data\2014\20140929\93GCMS2014-769.D
Operator : SJT
Acquired : 29 Sep 2014 20:12 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: 53633 \ V14
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



File :D:\msdchem\1\data\2014\20140929\93GCMS2014-769.D
Operator : SJT
Acquired : 29 Sep 2014 20:12 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: 53633 \ V14
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-770.D
 Acq On : 29 Sep 2014 20:25
 Operator : SJT
 Sample : 53634 \ V02
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 20:32:07 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014

QLast Update : Mon Sep 29 18:48:25 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.848	49	1852	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	5207	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5407	10.00	ppbv	0.00

System Monitoring Compounds

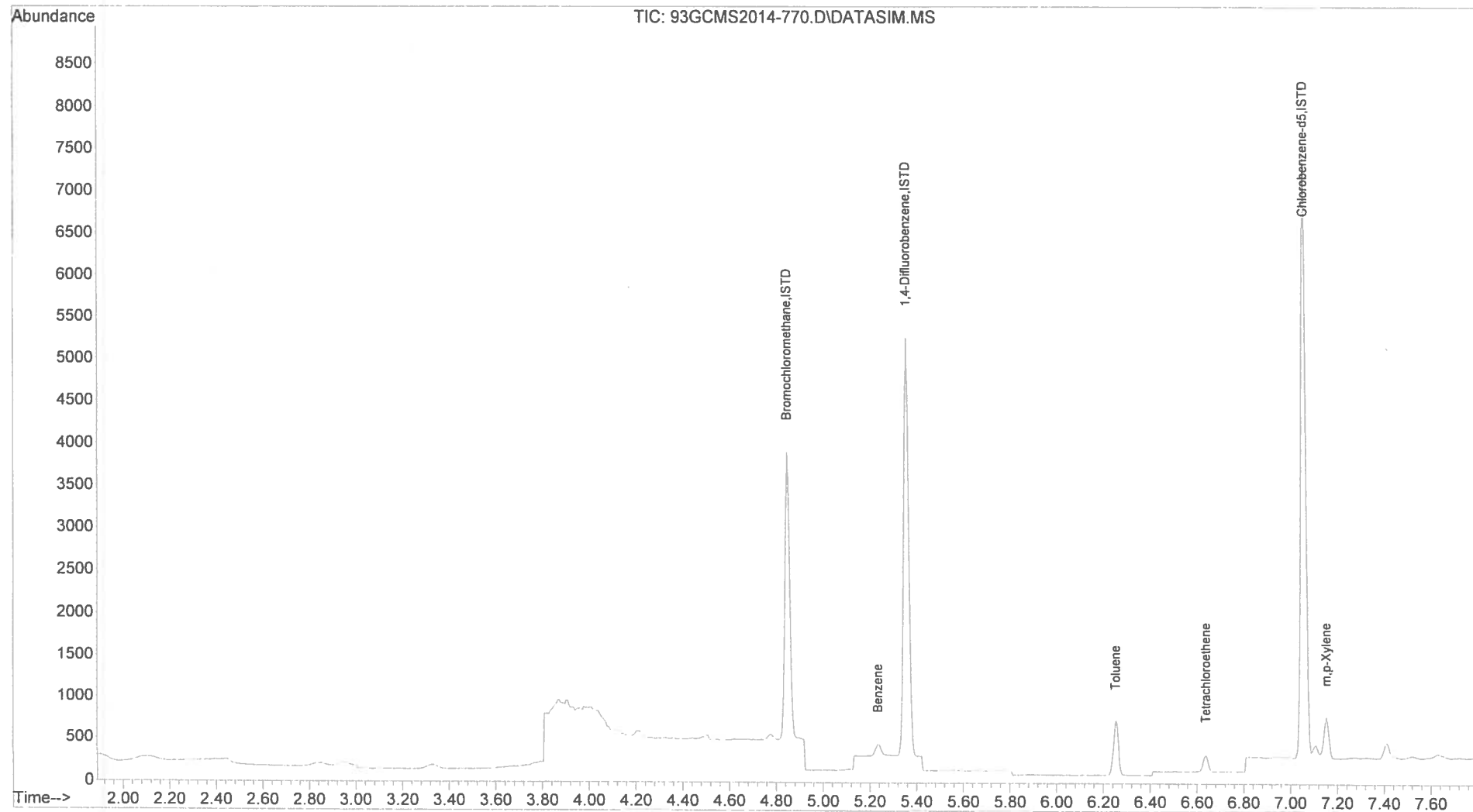
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
11) Benzene	5.235	78	148m	0.50	ppbv	
14) Toluene	6.251	91	574	1.52	ppbv	98
15) Tetrachloroethene	6.637	166	111	0.56	ppbv	97
17) m,p-Xylene	7.151	91	374	1.00	ppbv #	86

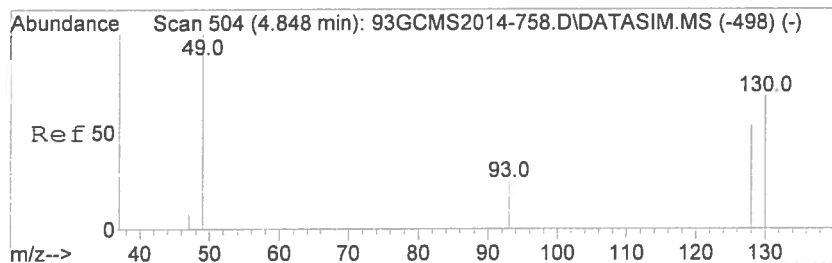
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Handwritten signature and date: 9/29/14

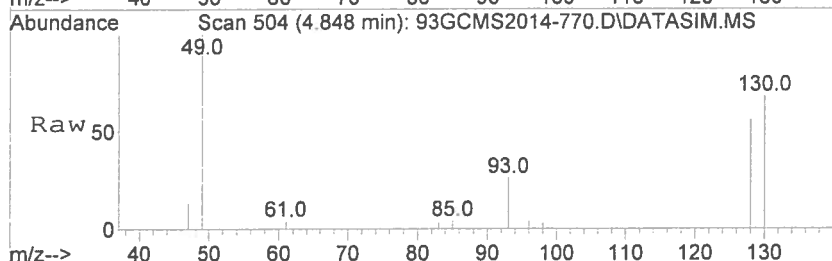
Data Path : D:\msdchem\1\data\2014\20140929\
Data File : 93GCMS2014-770.D
Acq On : 29 Sep 2014 20:25
Operator : SJT
Sample : 53634 \ V02
Misc : 5mL \ 29 Sept 2014
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 20:32:07 2014
Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014
QLast Update : Mon Sep 29 18:48:25 2014
Response via : Initial Calibration

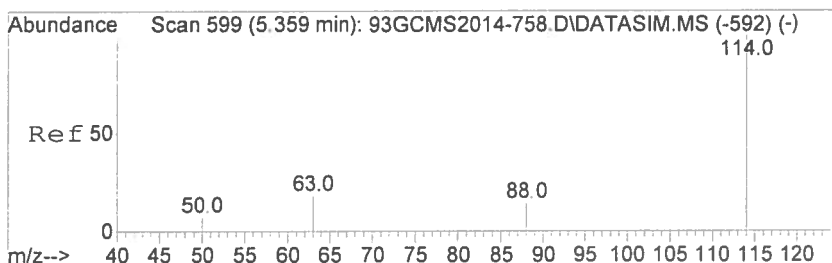
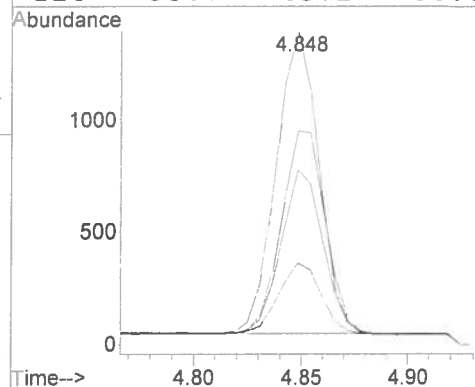
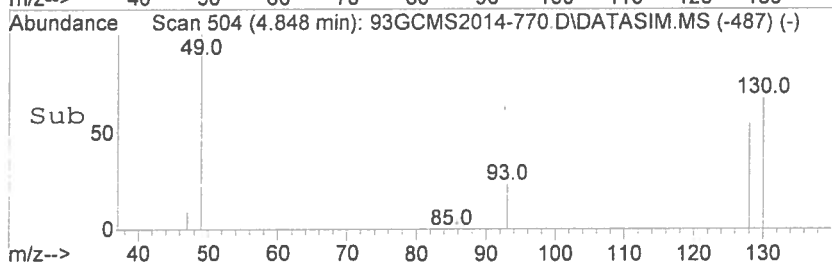




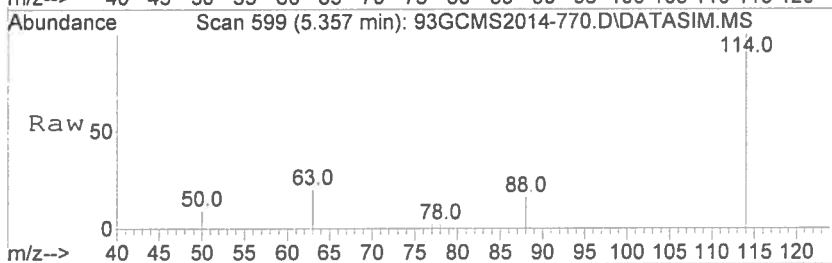
#1
 Bromochloromethane
 Concen: 10.00 ppbv
 RT: 4.848 min Scan# 504
 Delta R.T. 0.000 min
 Lab File: 93GCMS2014-770.D
 Acq: 29 Sep 2014 20:25



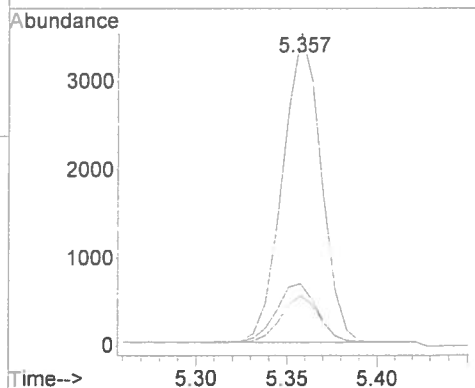
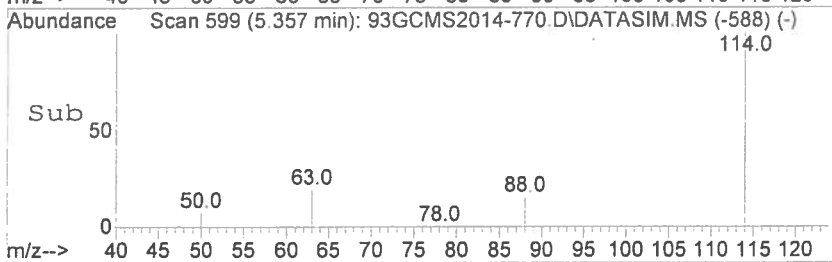
Tgt Ion: 49 Resp: 1852
 Ion Ratio Lower Upper
 49 100
 130 68.1 54.4 81.6
 93 26.0 21.1 31.7
 128 55.7 43.2 64.8

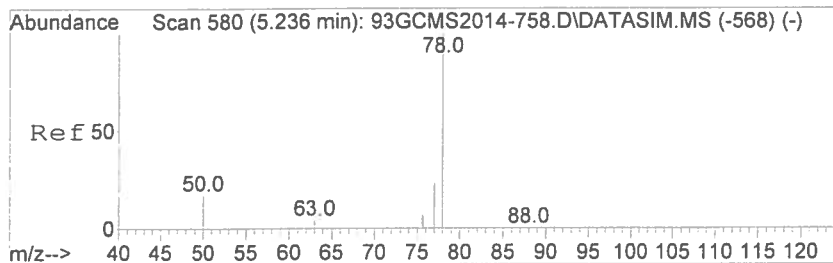


#10
 1,4-Difluorobenzene
 Concen: 10.00 ppbv
 RT: 5.357 min Scan# 599
 Delta R.T. -0.002 min
 Lab File: 93GCMS2014-770.D
 Acq: 29 Sep 2014 20:25



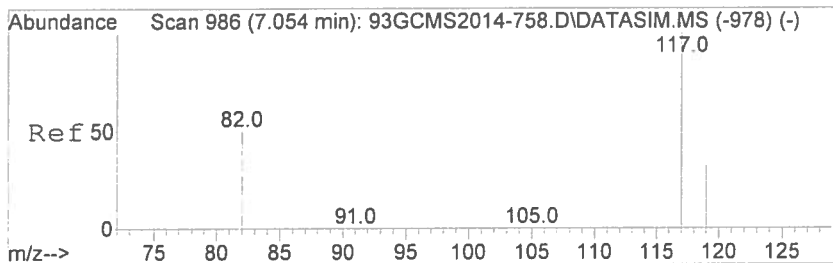
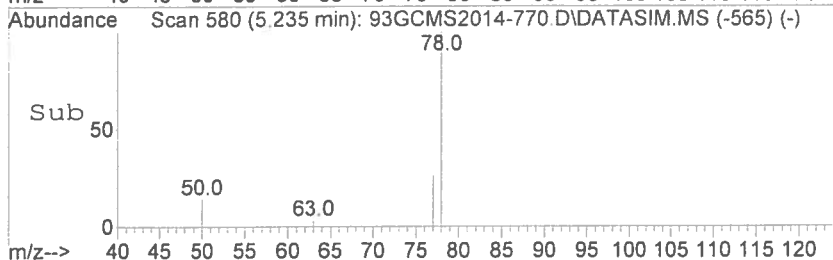
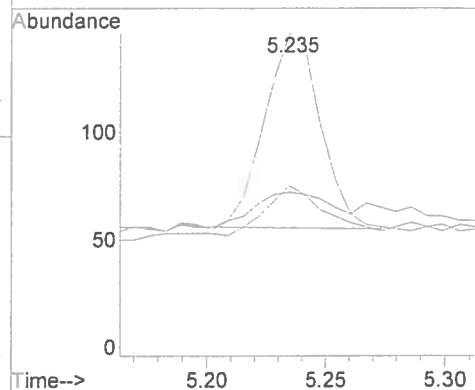
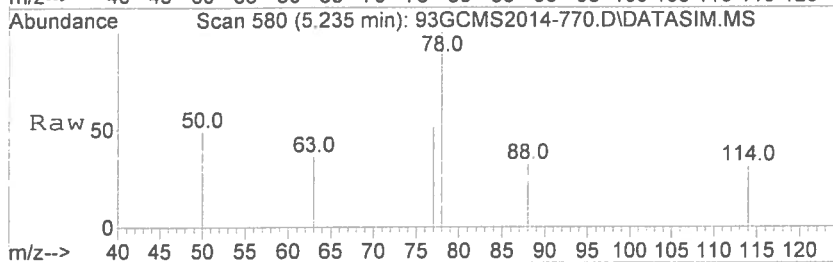
Tgt Ion: 114 Resp: 5207
 Ion Ratio Lower Upper
 114 100
 63 19.5 15.7 23.5
 88 14.7 11.8 17.6





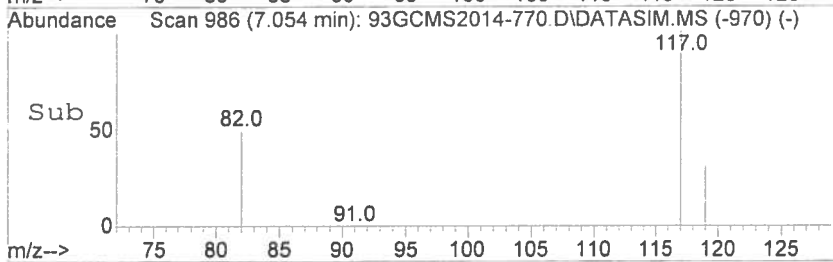
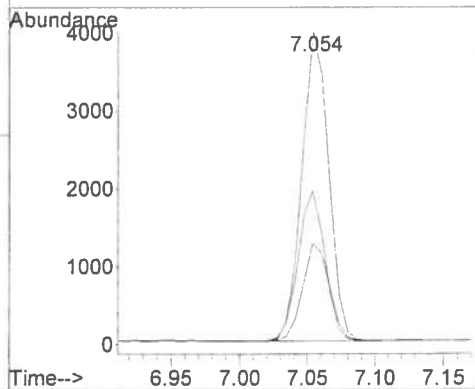
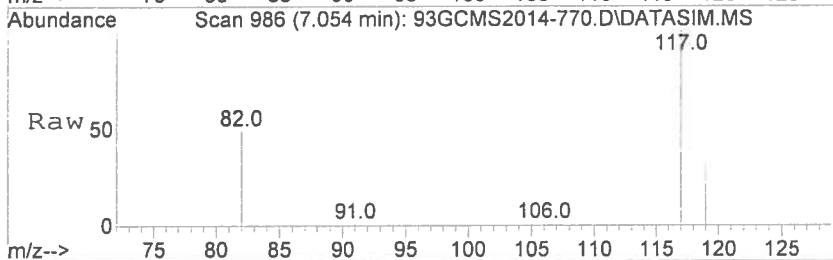
#11
Benzene
Concen: 0.50 ppbv m
RT: 5.235 min Scan# 580
Delta R.T. -0.002 min
Lab File: 93GCMS2014-770.D
Acq: 29 Sep 2014 20:25

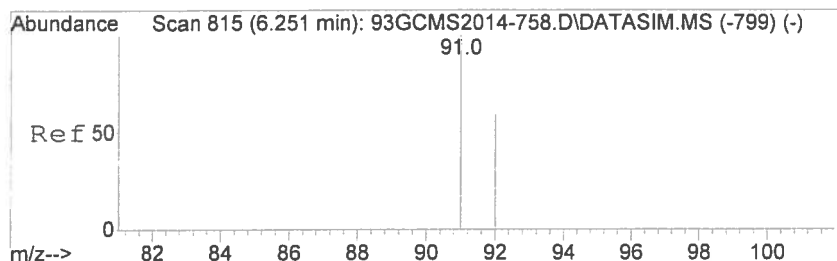
Tgt Ion	Ratio	Lower	Upper
78	100		
77	26.4	18.3	27.5
50	28.4	14.4	21.6#



#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.054 min Scan# 986
Delta R.T. 0.000 min
Lab File: 93GCMS2014-770.D
Acq: 29 Sep 2014 20:25

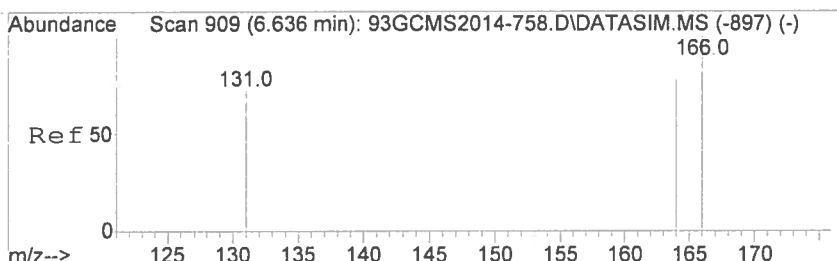
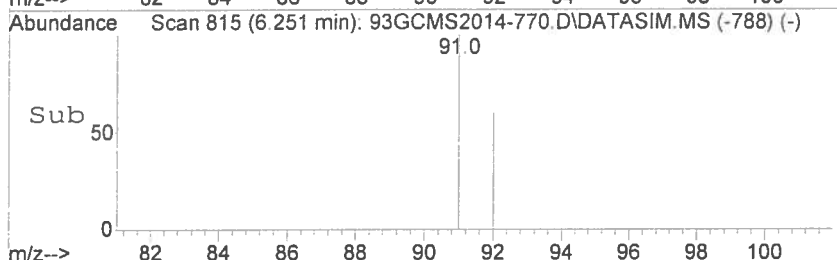
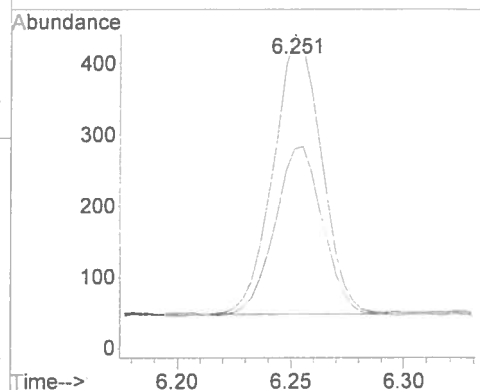
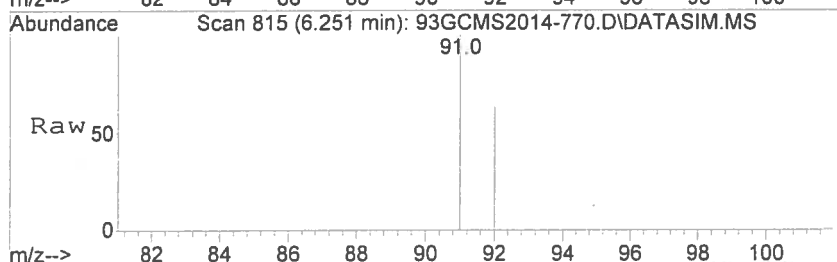
Tgt Ion	Ratio	Lower	Upper
117	100		
82	48.9	39.5	59.3
119	31.9	25.8	38.6





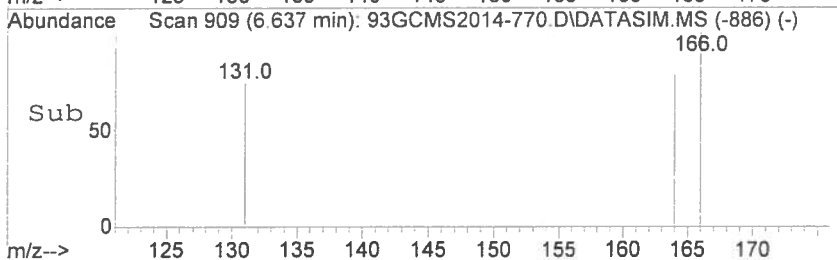
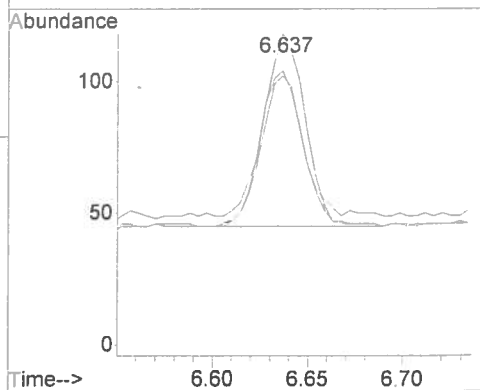
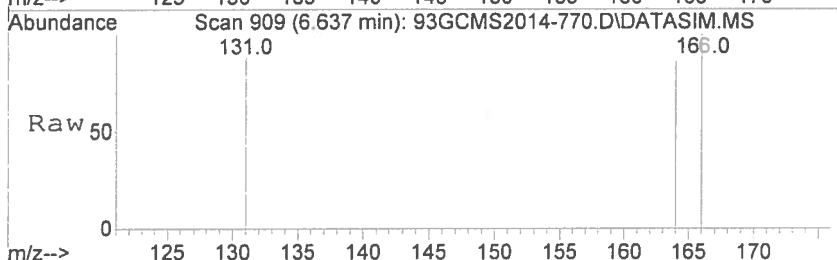
#14
Toluene
Concen: 1.52 ppbv
RT: 6.251 min Scan# 815
Delta R.T. 0.000 min
Lab File: 93GCMS2014-770.D
Acq: 29 Sep 2014 20:25

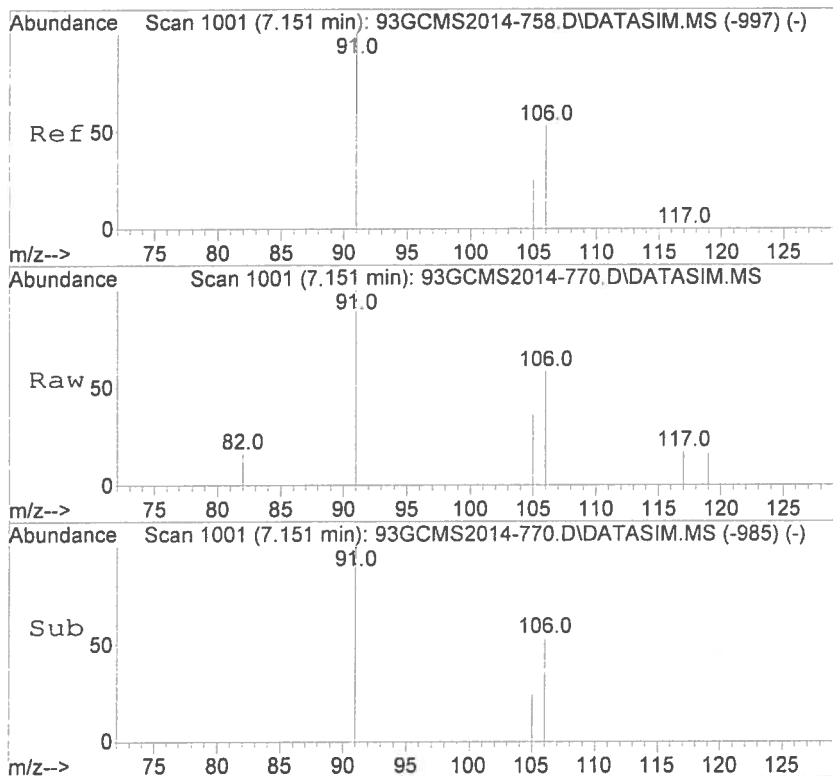
Tgt Ion: 91 Resp: 574
Ion Ratio Lower Upper
91 100
92 61.0 47.4 71.2



#15
Tetrachloroethene
Concen: 0.56 ppbv
RT: 6.637 min Scan# 909
Delta R.T. 0.000 min
Lab File: 93GCMS2014-770.D
Acq: 29 Sep 2014 20:25

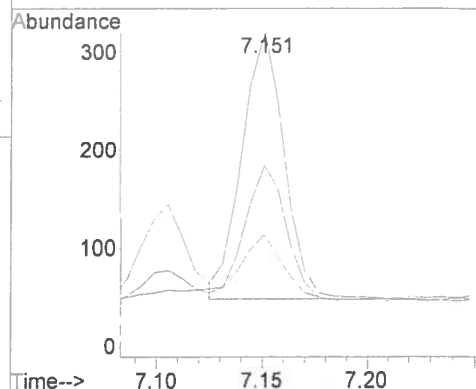
Tgt Ion: 166 Resp: 111
Ion Ratio Lower Upper
166 100
164 80.2 62.6 93.8
131 75.7 57.9 86.9



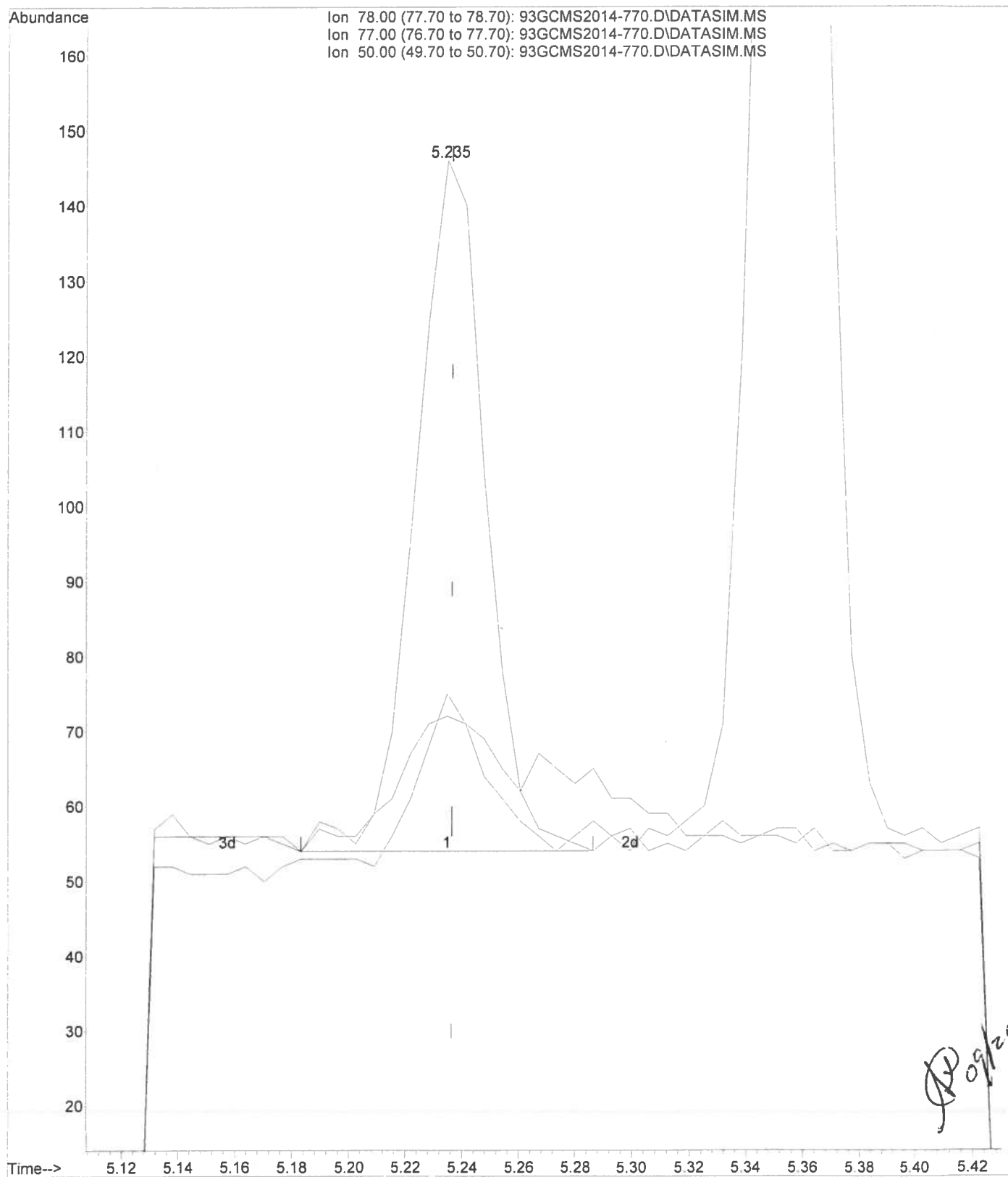


#17
 m,p-Xylene
 Concen: 1.00 ppbv
 RT: 7.151 min Scan# 1001
 Delta R.T. 0.000 min
 Lab File: 93GCMS2014-770.D
 Acq: 29 Sep 2014 20:25

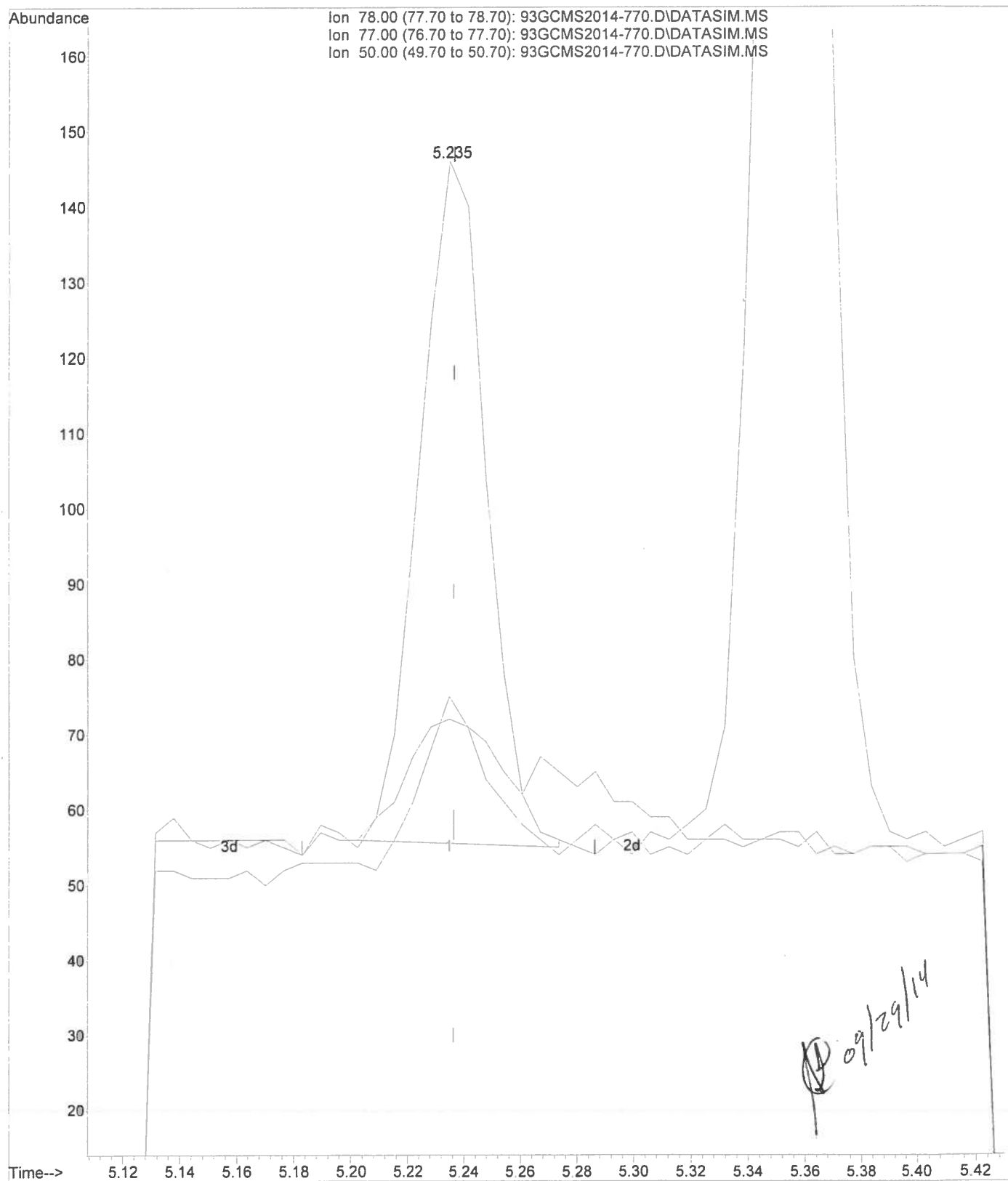
Tgt Ion: 91 Resp: 374
 Ion Ratio Lower Upper
 91 100
 106 57.7 41.2 61.8
 105 35.7 18.4 27.6#



File :D:\msdchem\1\data\2014\20140929\93GCMS2014-770.D
Operator : SJT
Acquired : 29 Sep 2014 20:25 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: 53634 \ V02
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



File : D:\msdchem\1\data\2014\20140929\93GCMS2014-770.D
Operator : SJT
Acquired : 29 Sep 2014 20:25 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: 53634 \ V02
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-771.D
 Acq On : 29 Sep 2014 20:49
 Operator : SJT
 Sample : 53635 \ V01
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 20:55:44 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014

QLast Update : Mon Sep 29 18:48:25 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	4.848	49	1801	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	5079	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5230	10.00	ppbv	0.00

System Monitoring Compounds

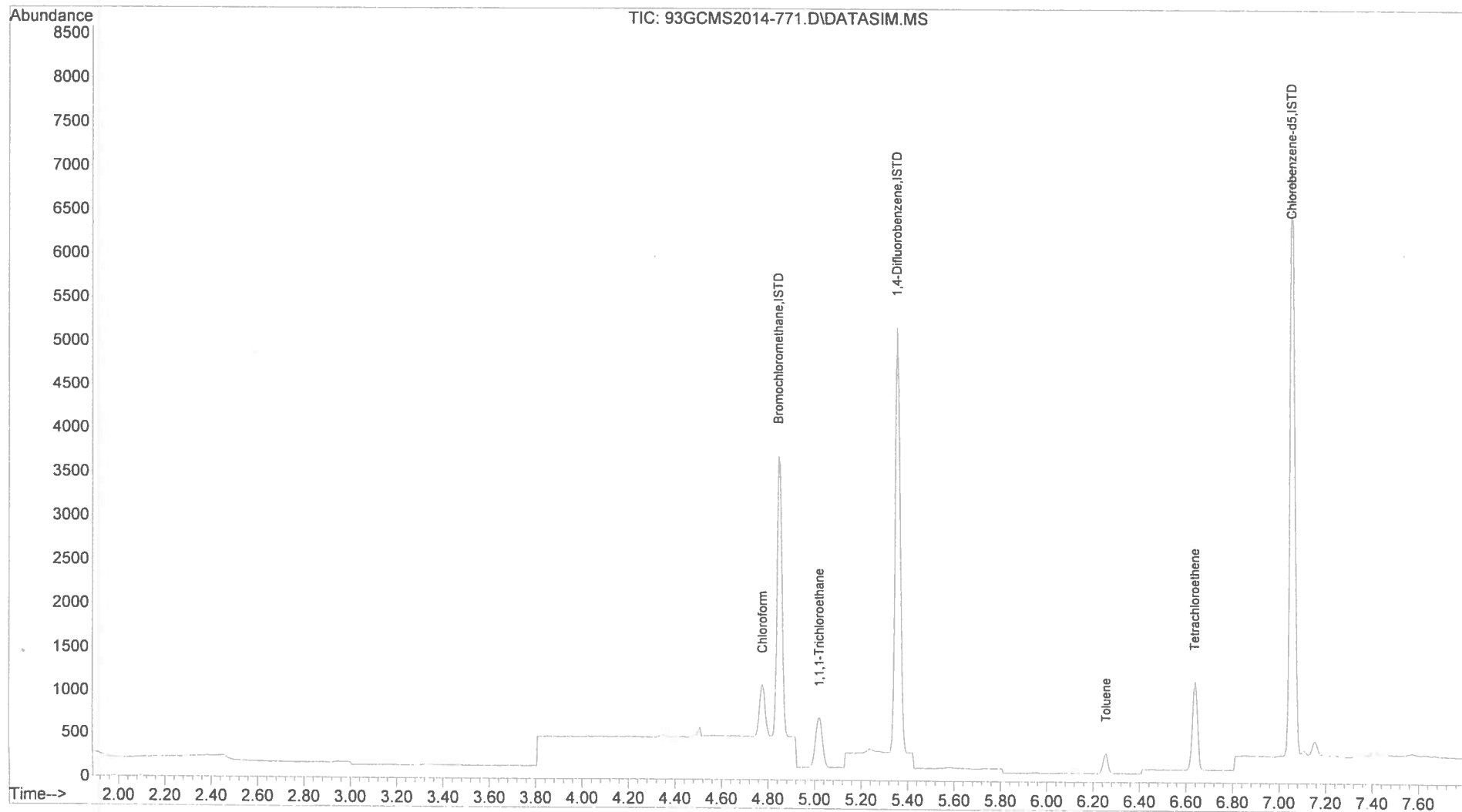
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
8) Chloroform	4.778	83	525	2.87	ppbv	99
9) 1,1,1-Trichloroethane	5.021	97	553	2.78	ppbv	97
14) Toluene	6.255	91	214	0.59	ppbv	99
15) Tetrachloroethene	6.637	166	601	3.11	ppbv	99

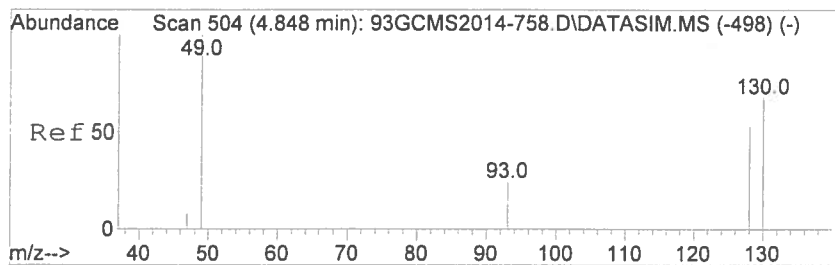
(#) = qualifier out of range (m) = manual integration (+) = signals summed

JP 09/29/14

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-771.D
 Acq On : 29 Sep 2014 20:49
 Operator : SJT
 Sample : 53635 \ V01
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

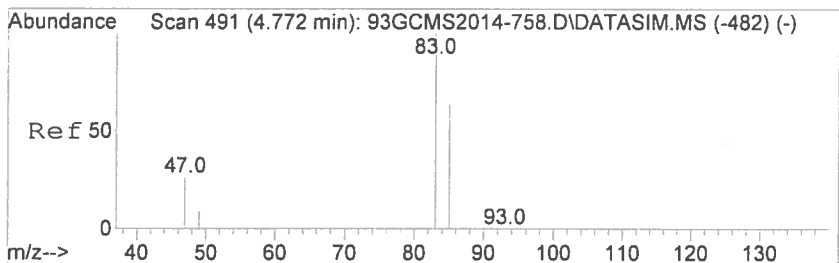
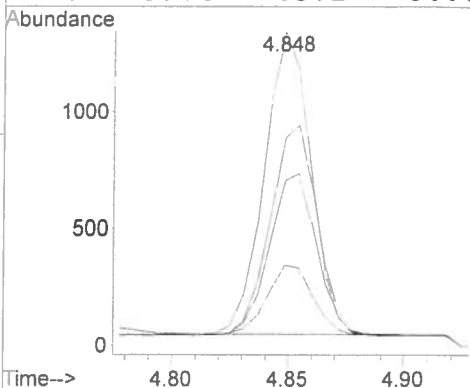
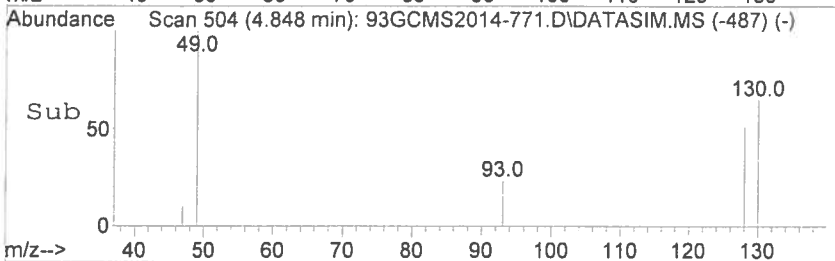
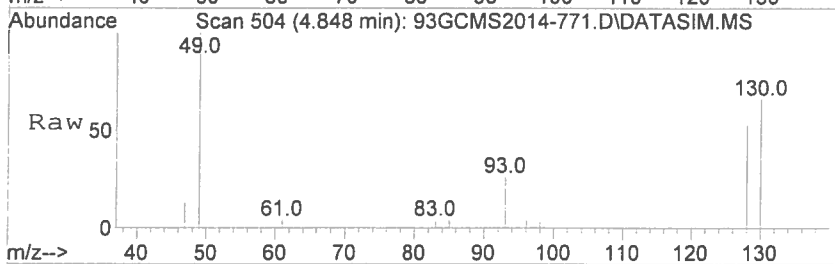
Quant Time: Sep 29 20:55:44 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014
 QLast Update : Mon Sep 29 18:48:25 2014
 Response via : Initial Calibration





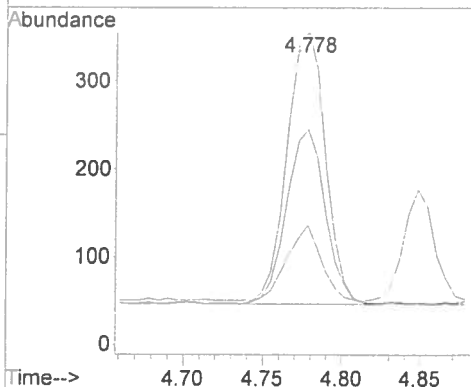
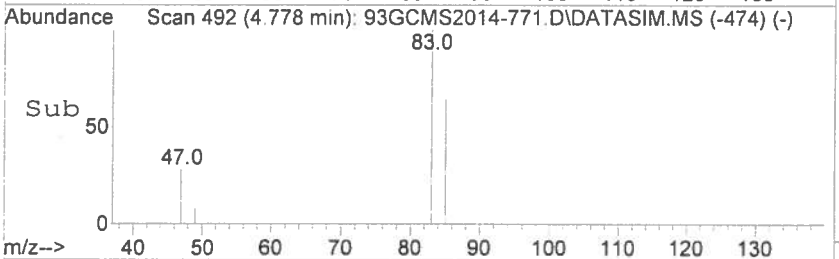
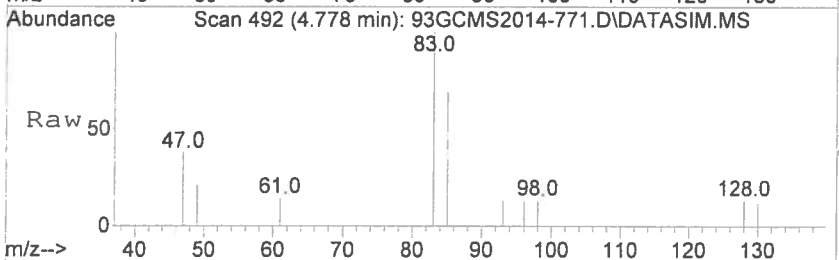
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. 0.000 min
Lab File: 93GCMS2014-771.D
Acq: 29 Sep 2014 20:49

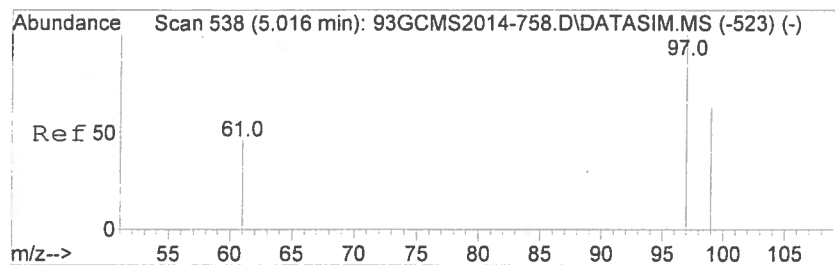
Tgt Ion: 49 Resp: 1801
Ion Ratio Lower Upper
49 100
130 66.1 54.4 81.6
93 25.5 21.1 31.7
128 52.6 43.2 64.8



#8
Chloroform
Concen: 2.87 ppbv
RT: 4.778 min Scan# 492
Delta R.T. 0.006 min
Lab File: 93GCMS2014-771.D
Acq: 29 Sep 2014 20:49

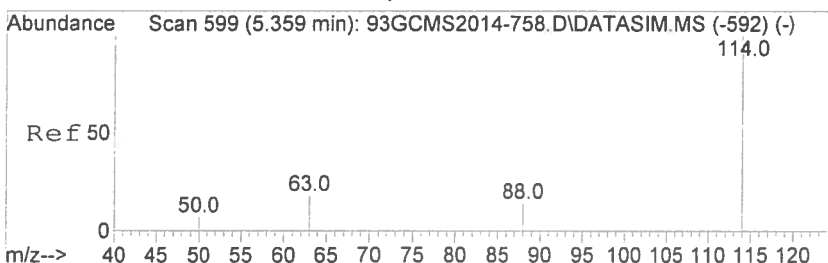
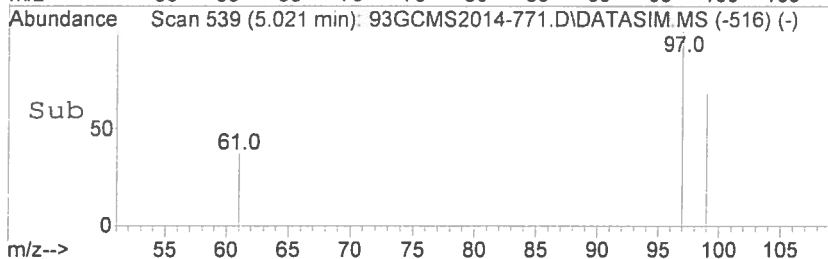
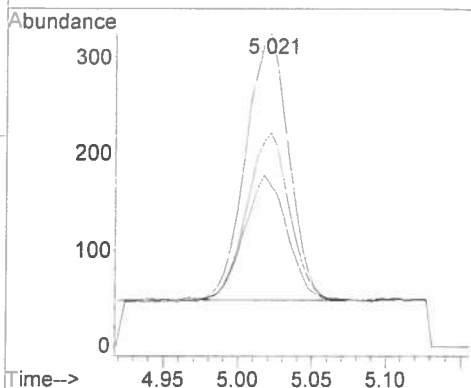
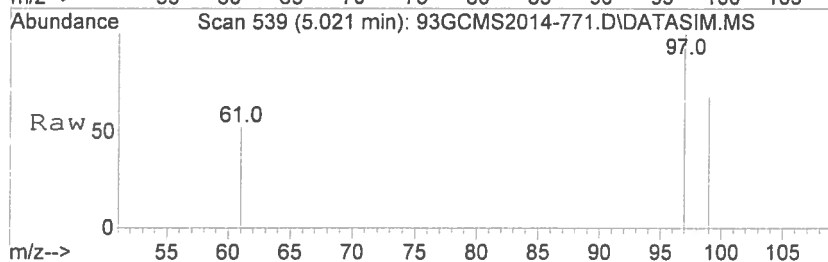
Tgt Ion: 83 Resp: 525
Ion Ratio Lower Upper
83 100
85 64.2 51.8 77.6
47 25.1 20.5 30.7





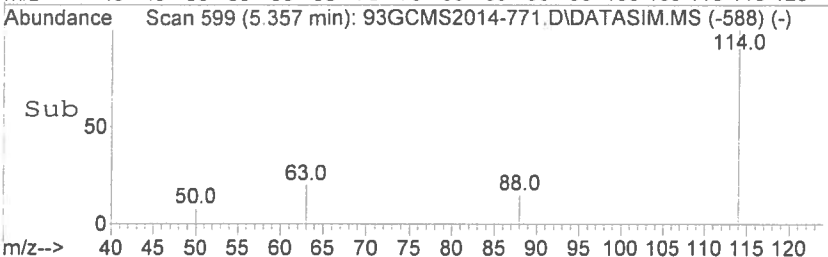
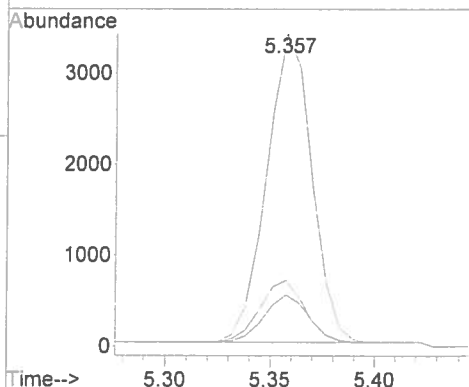
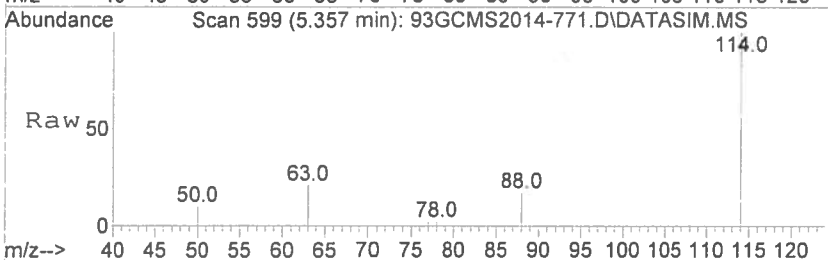
#9
1,1,1-Trichloroethane
Concen: 2.78 ppbv
RT: 5.021 min Scan# 539
Delta R.T. 0.005 min
Lab File: 93GCMS2014-771.D
Acq: 29 Sep 2014 20:49

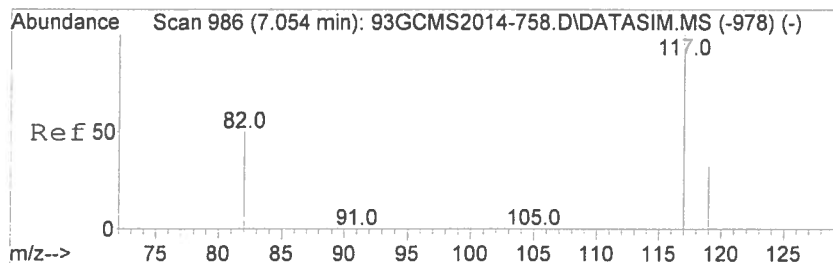
Tgt Ion	Ratio	Lower	Upper
97	100		
99	62.2	51.4	77.2
61	47.2	36.6	54.8



#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.357 min Scan# 599
Delta R.T. -0.002 min
Lab File: 93GCMS2014-771.D
Acq: 29 Sep 2014 20:49

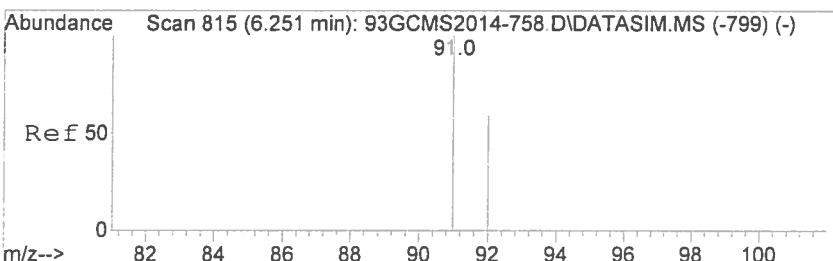
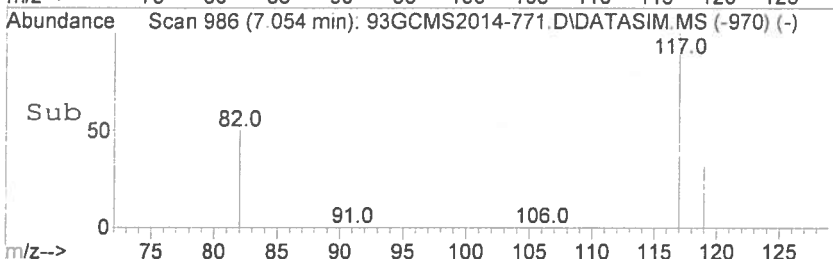
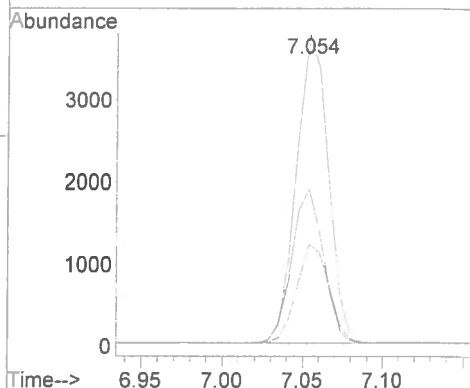
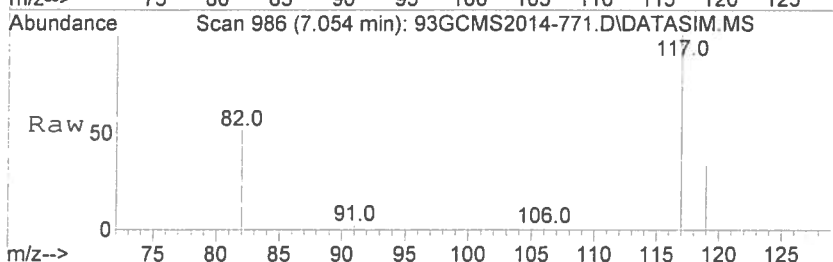
Tgt Ion	Ratio	Lower	Upper
114	100		
63	19.7	15.7	23.5
88	14.9	11.8	17.6





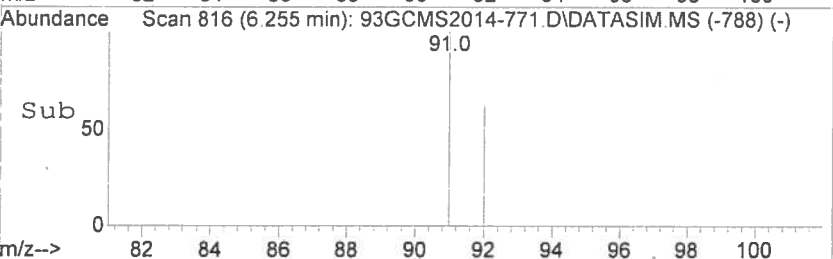
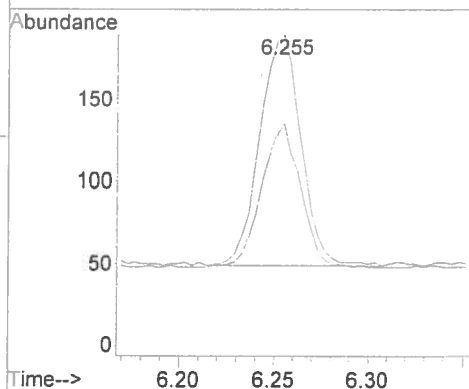
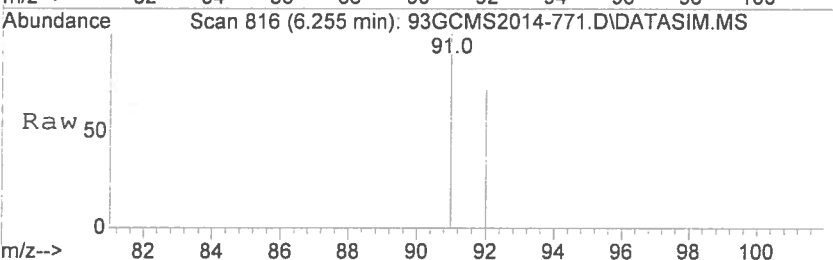
#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.054 min Scan# 986
Delta R.T. 0.000 min
Lab File: 93GCMS2014-771.D
Acq: 29 Sep 2014 20:49

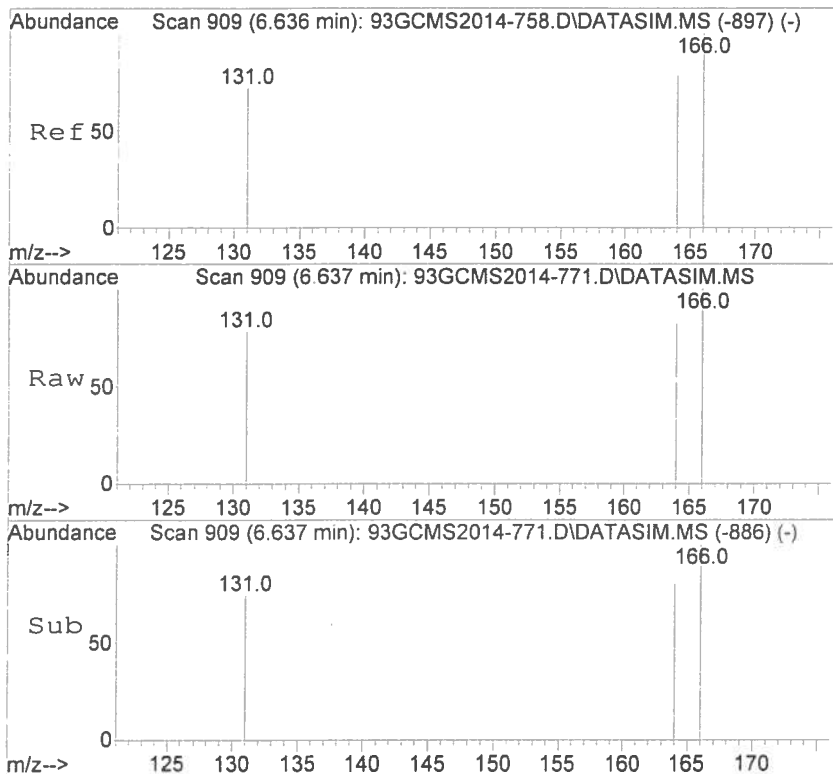
Tgt Ion	Ratio	Lower	Upper
117	100		
82	49.6	39.5	59.3
119	32.4	25.8	38.6



#14
Toluene
Concen: 0.59 ppbv
RT: 6.255 min Scan# 816
Delta R.T. 0.004 min
Lab File: 93GCMS2014-771.D
Acq: 29 Sep 2014 20:49

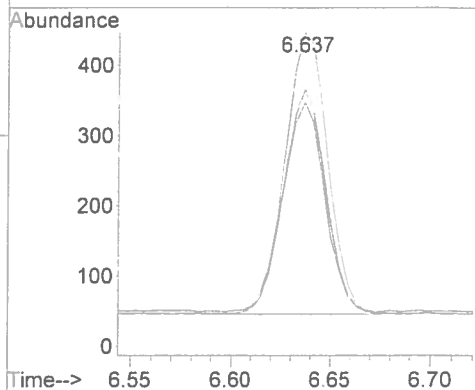
Tgt Ion	Ratio	Lower	Upper
91	100		
92	58.4	47.4	71.2





#15
 Tetrachloroethene
 Concen: 3.11 ppbv
 RT: 6.637 min Scan# 909
 Delta R.T. 0.000 min
 Lab File: 93GCMS2014-771.D
 Acq: 29 Sep 2014 20:49

Tgt Ion	Ratio	Lower	Upper
166	100		
164	78.5	62.6	93.8
131	73.2	57.9	86.9



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-772.D
 Acq On : 29 Sep 2014 21:00
 Operator : SJT
 Sample : 53636 \ V06
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 21:07:32 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014

QLast Update : Mon Sep 29 18:48:25 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	4.848	49	1825	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.356	114	5143	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.053	117	5367	10.00	ppbv	0.00

System Monitoring Compounds

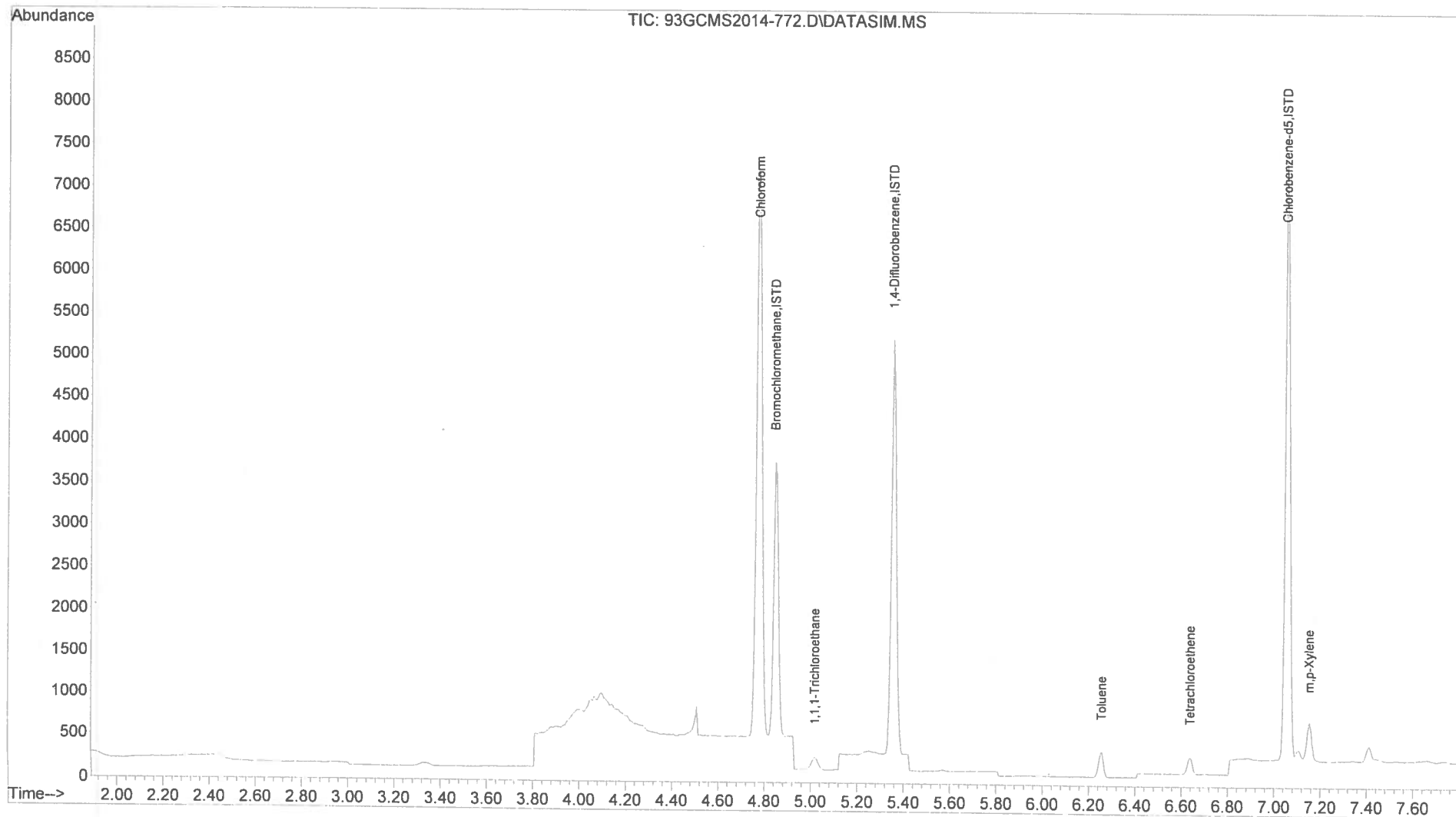
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
8) Chloroform	4.778	83	5599	30.20	ppbv	100
9) 1,1,1-Trichloroethane	5.018	97	129m	0.64	ppbv	
14) Toluene	6.254	91	262	0.70	ppbv	99
15) Tetrachloroethene	6.636	166	116	0.59	ppbv	96
17) m,p-Xylene	7.150	91	355	0.96	ppbv #	83

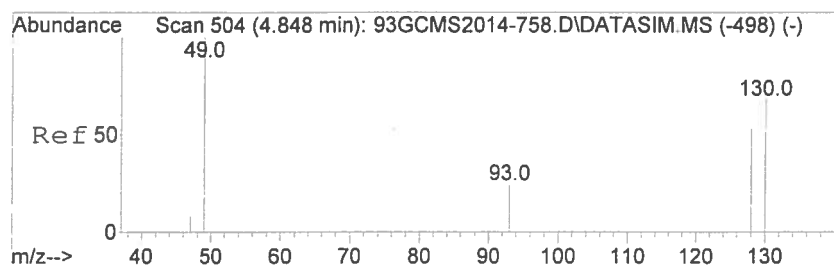
(#) = qualifier out of range (m) = manual integration (+) = signals summed

09/29/14

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-772.D
 Acq On : 29 Sep 2014 21:00
 Operator : SJT
 Sample : 53636 \ V06
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

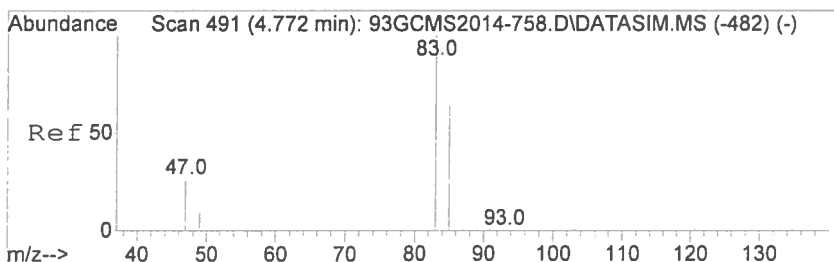
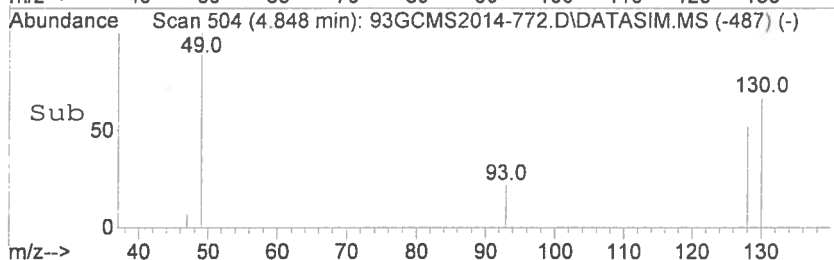
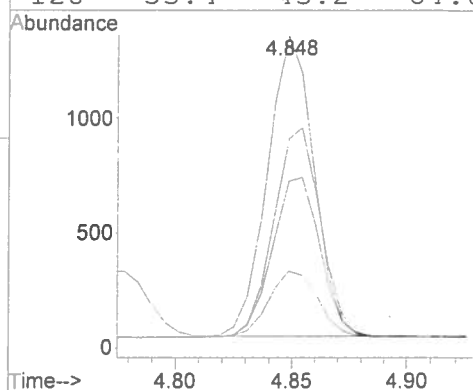
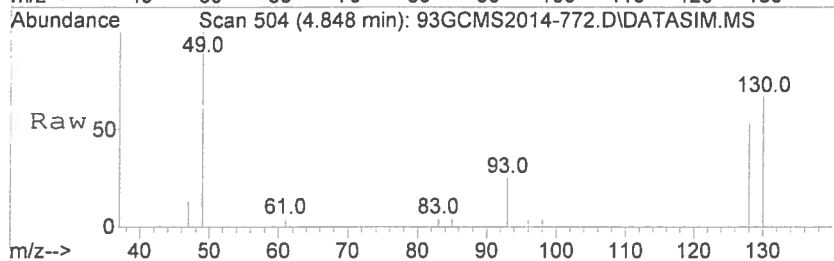
Quant Time: Sep 29 21:07:32 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014
 QLast Update : Mon Sep 29 18:48:25 2014
 Response via : Initial Calibration





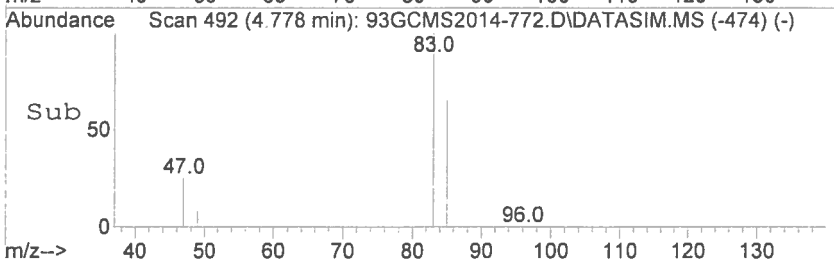
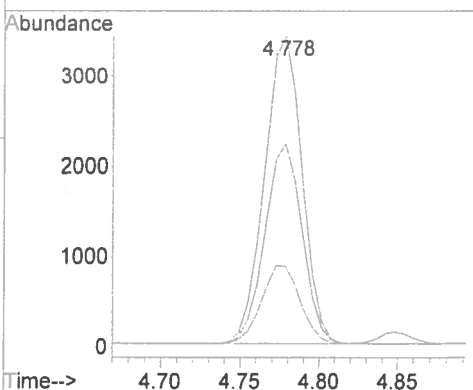
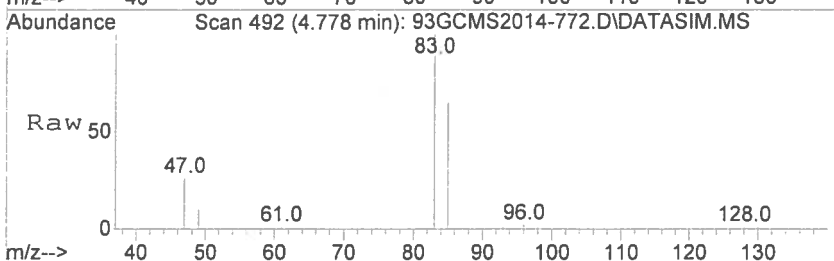
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. 0.000 min
Lab File: 93GCMS2014-772.D
Acq: 29 Sep 2014 21:00

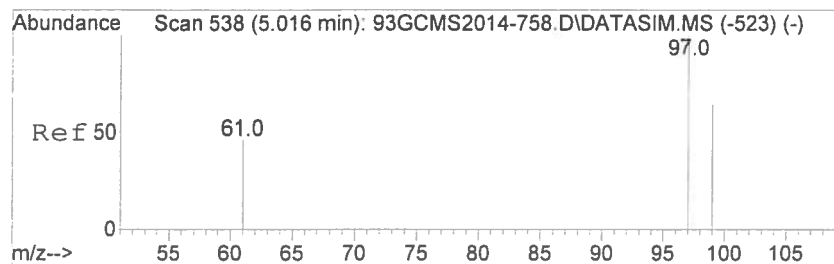
Tgt Ion	Ratio	Lower	Upper
49	100		
130	67.1	54.4	81.6
93	24.7	21.1	31.7
128	53.4	43.2	64.8



#8
Chloroform
Concen: 30.20 ppbv
RT: 4.778 min Scan# 492
Delta R.T. 0.006 min
Lab File: 93GCMS2014-772.D
Acq: 29 Sep 2014 21:00

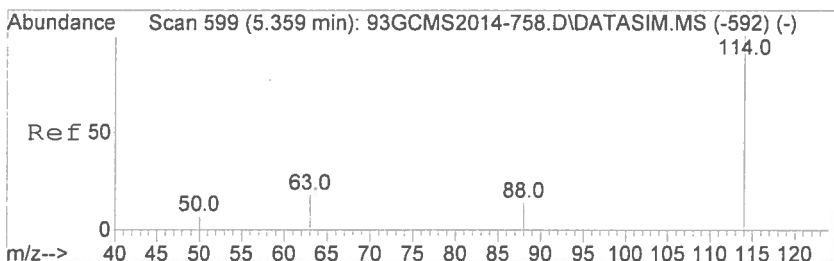
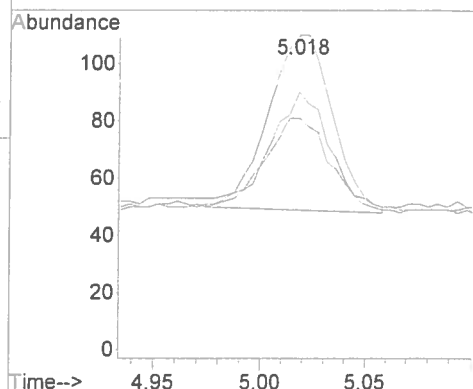
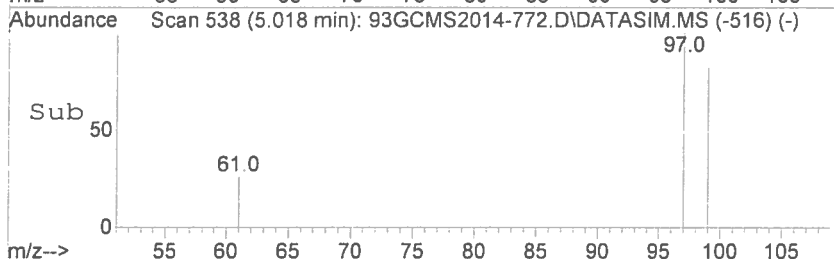
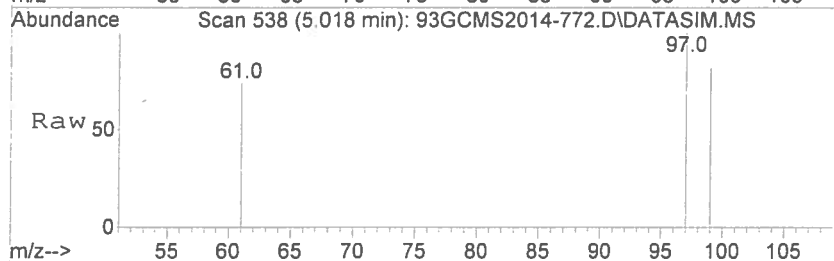
Tgt Ion	Ratio	Lower	Upper
83	100		
85	64.7	51.8	77.6
47	25.8	20.5	30.7





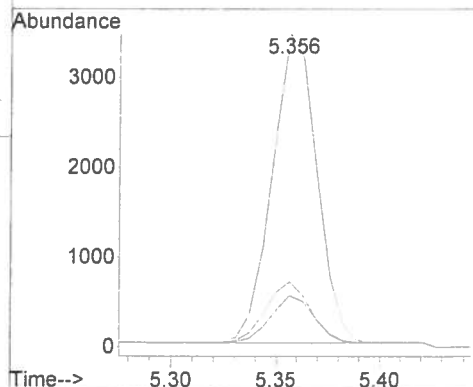
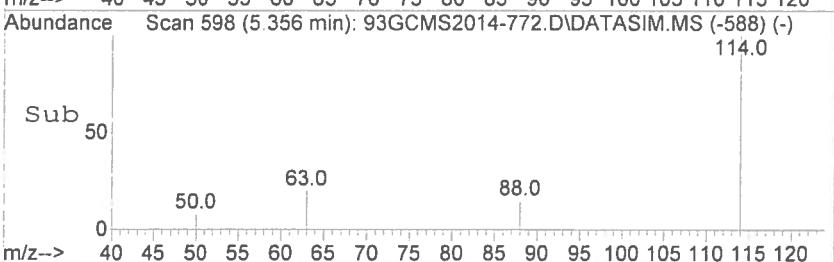
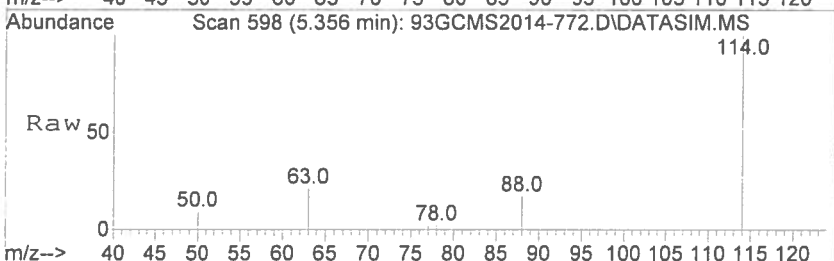
#9
1,1,1-Trichloroethane
Concen: 0.64 ppbv m
RT: 5.018 min Scan# 538
Delta R.T. 0.002 min
Lab File: 93GCMS2014-772.D
Acq: 29 Sep 2014 21:00

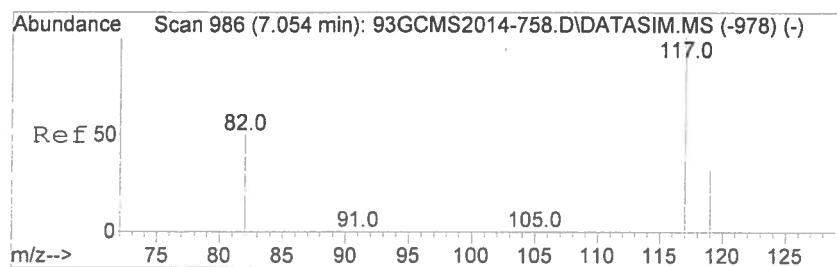
Tgt Ion	Ratio	Lower	Upper
97	100		
99	64.3	51.4	77.2
61	50.4	36.6	54.8



#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.356 min Scan# 598
Delta R.T. -0.003 min
Lab File: 93GCMS2014-772.D
Acq: 29 Sep 2014 21:00

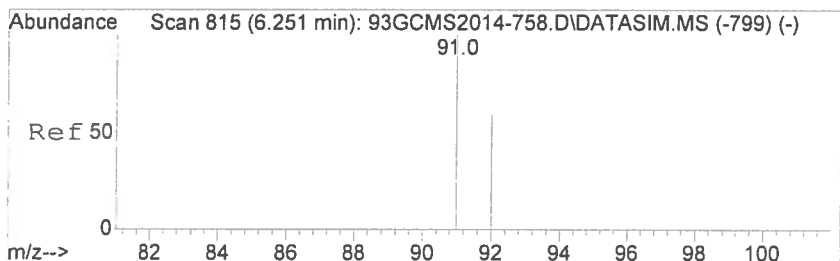
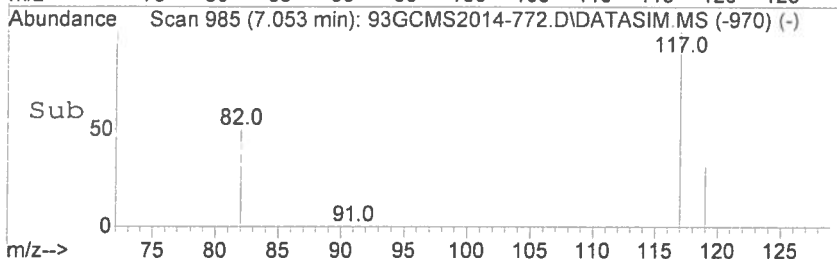
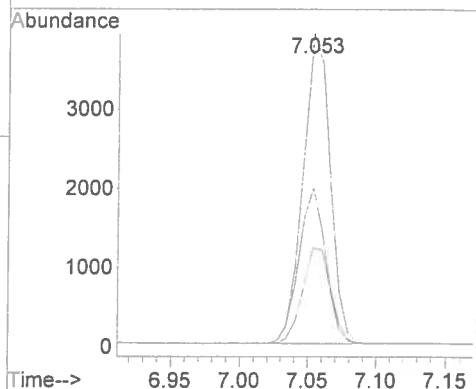
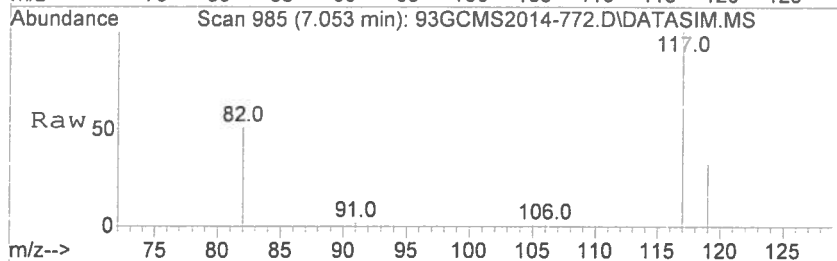
Tgt Ion	Ratio	Lower	Upper
114	100		
63	19.3	15.7	23.5
88	14.9	11.8	17.6





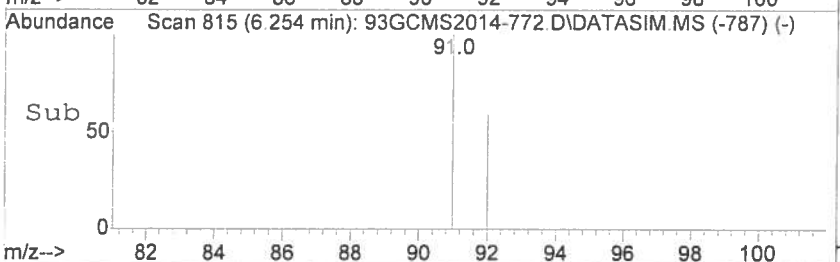
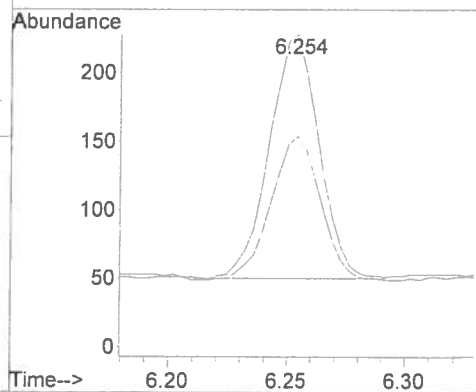
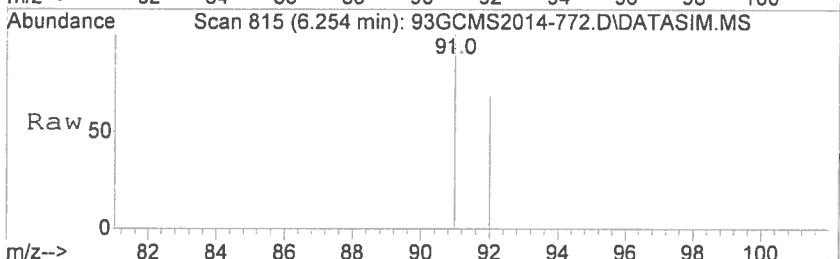
#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.053 min Scan# 985
Delta R.T. -0.000 min
Lab File: 93GCMS2014-772.D
Acq: 29 Sep 2014 21:00

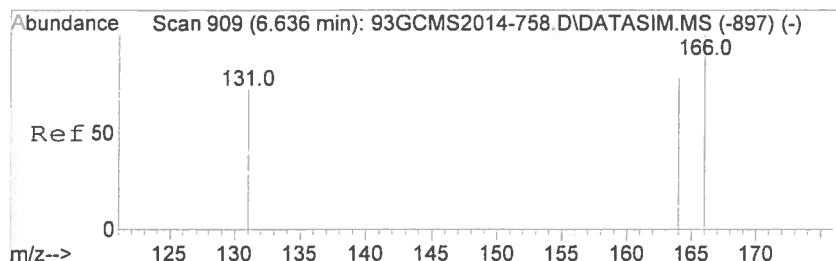
Tgt Ion	Ratio	Lower	Upper
117	100		
82	49.1	39.5	59.3
119	32.0	25.8	38.6



#14
Toluene
Concen: 0.70 ppbv
RT: 6.254 min Scan# 815
Delta R.T. 0.003 min
Lab File: 93GCMS2014-772.D
Acq: 29 Sep 2014 21:00

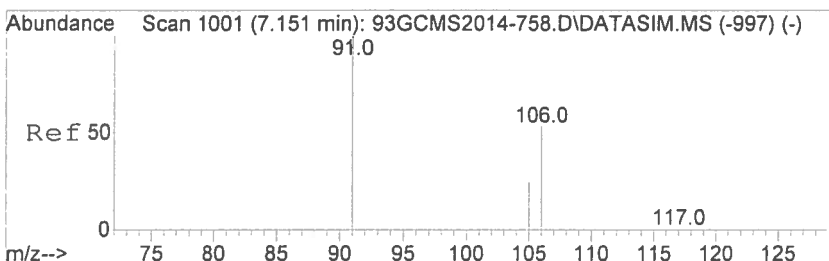
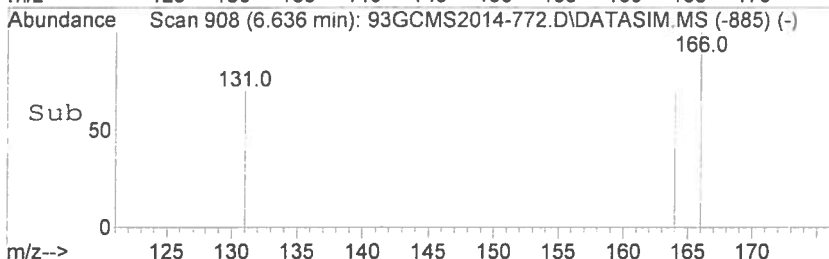
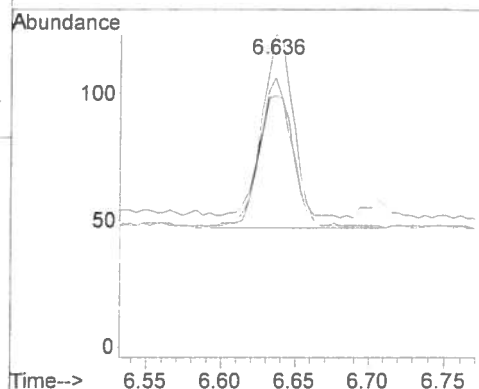
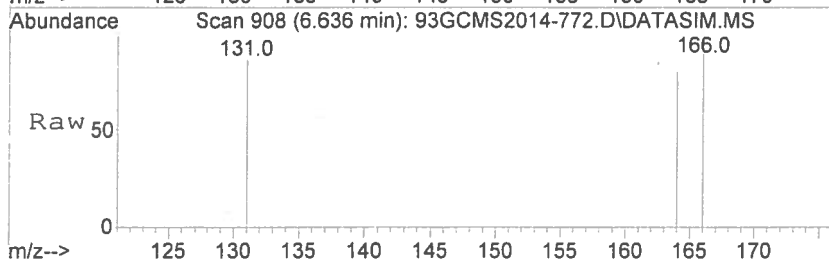
Tgt Ion	Ratio	Lower	Upper
91	100		
92	58.4	47.4	71.2





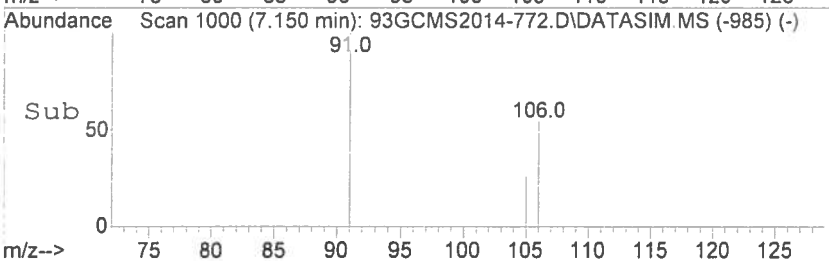
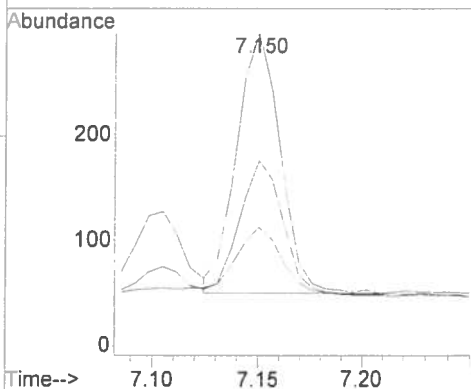
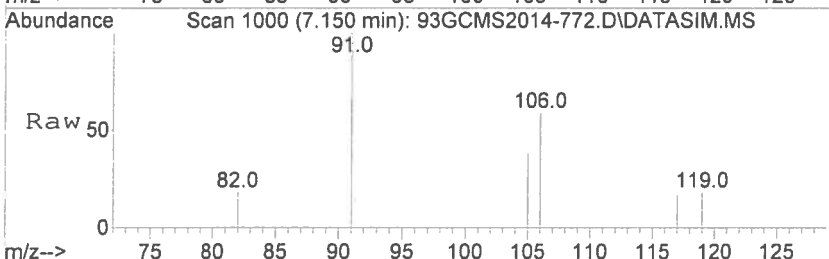
#15
Tetrachloroethene
Concen: 0.59 ppbv
RT: 6.636 min Scan# 908
Delta R.T. -0.000 min
Lab File: 93GCMS2014-772.D
Acq: 29 Sep 2014 21:00

Tgt Ion	Ratio	Lower	Upper
166	100		
164	75.0	62.6	93.8
131	69.0	57.9	86.9

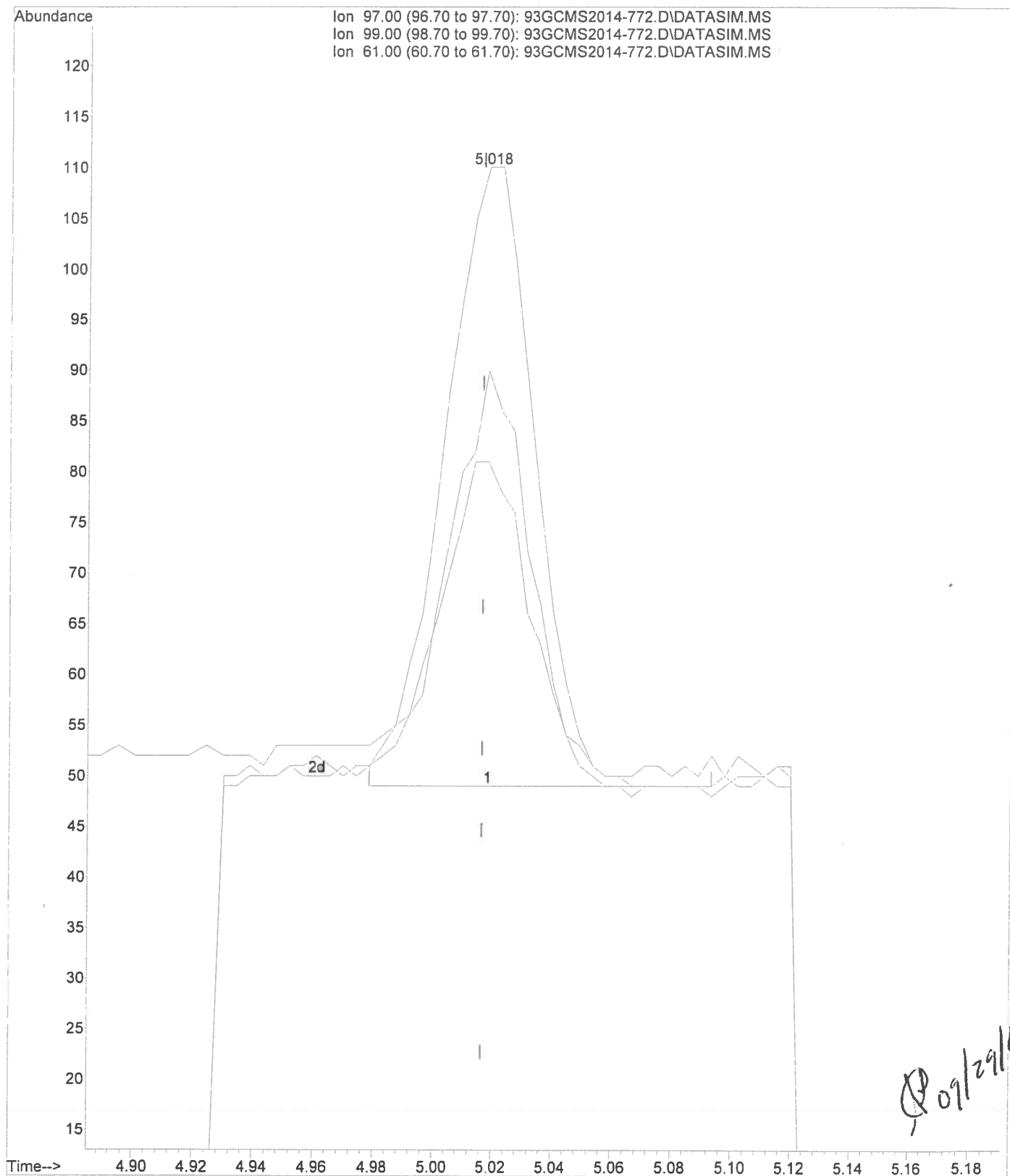


#17
m,p-Xylene
Concen: 0.96 ppbv
RT: 7.150 min Scan# 1000
Delta R.T. -0.000 min
Lab File: 93GCMS2014-772.D
Acq: 29 Sep 2014 21:00

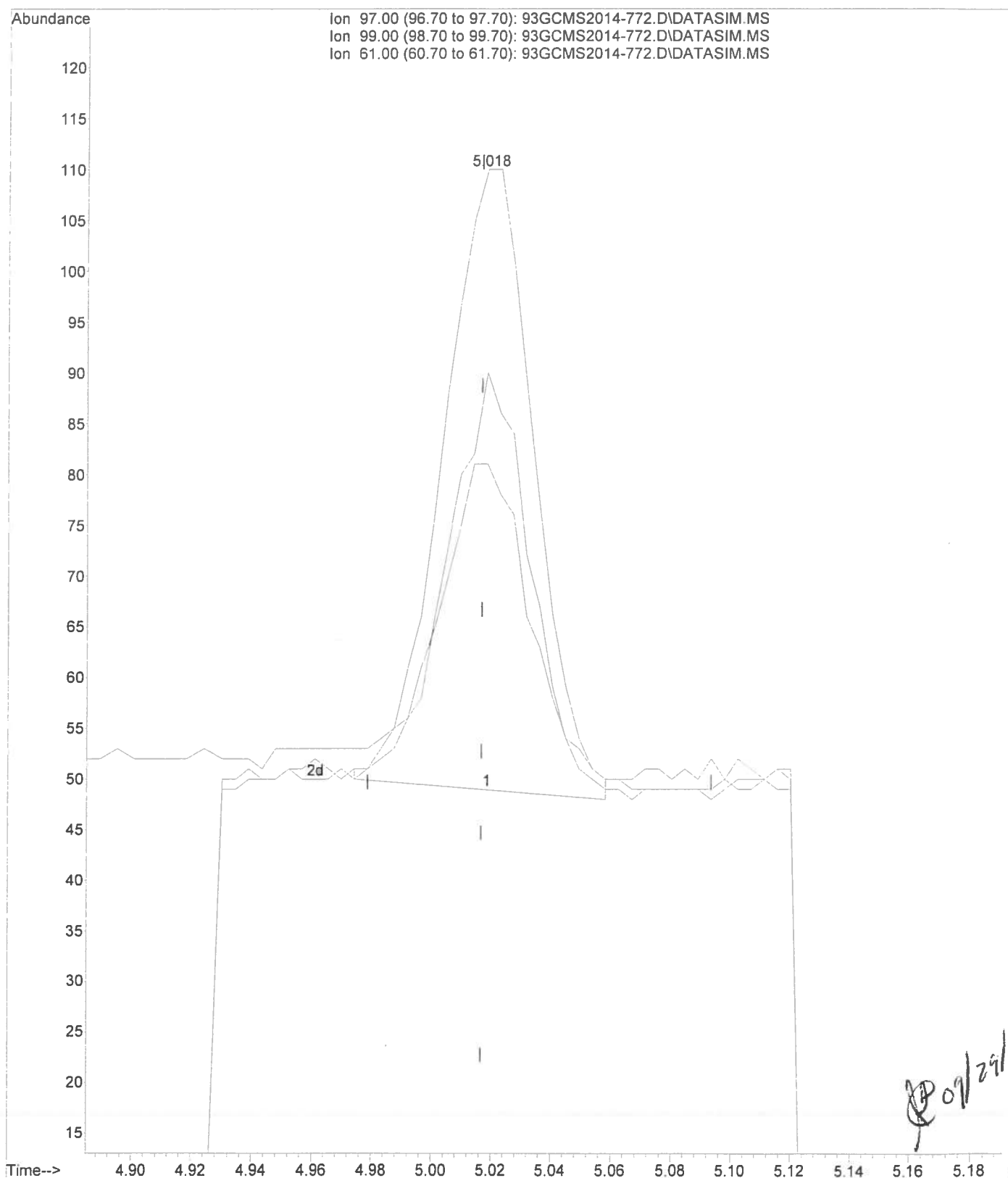
Tgt Ion	Ratio	Lower	Upper
91	100		
106	59.3	41.2	61.8
105	38.0	18.4	27.6#



File : D:\msdchem\1\data\2014\20140929\93GCMS2014-772.D
Operator : SJT
Acquired : 29 Sep 2014 21:00 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: 53636 \ V06
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



File : D:\msdchem\1\data\2014\20140929\93GCMS2014-772.D
Operator : SJT
Acquired : 29 Sep 2014 21:00 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: 53636 \ V06
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-773.D
 Acq On : 29 Sep 2014 21:12
 Operator : SJT
 Sample : 53636 \ V06 RS
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 21:20:00 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014

QLast Update : Mon Sep 29 18:48:25 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.848	49	1890	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	5242	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5322	10.00	ppbv	0.00

System Monitoring Compounds

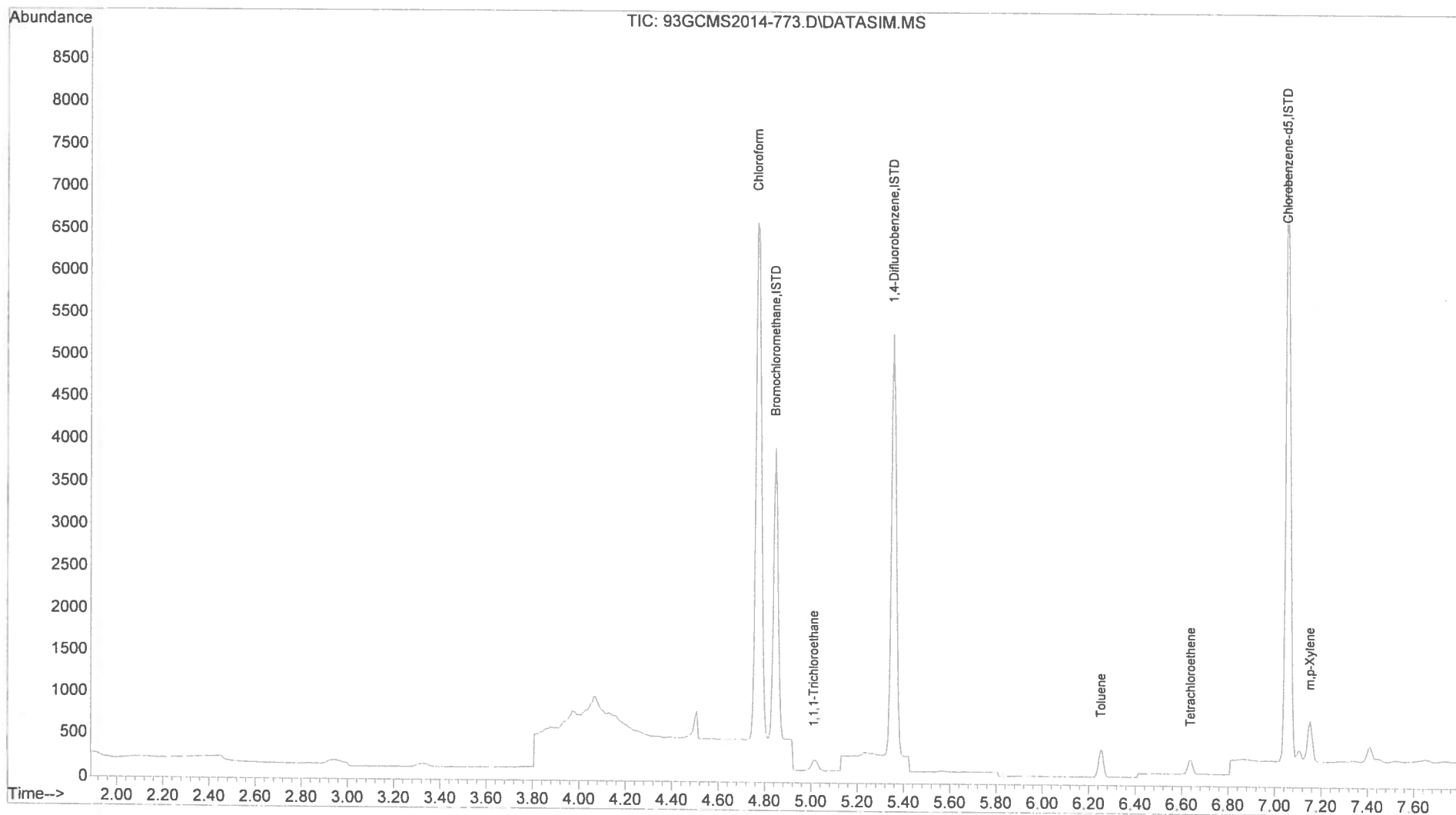
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
8) Chloroform	4.772	83	5175	26.95	ppbv	100
9) 1,1,1-Trichloroethane	5.012	97	112m	0.54	ppbv	
14) Toluene	6.251	91	292	0.79	ppbv	99
15) Tetrachloroethene	6.636	166	99	0.50	ppbv	98
17) m,p-Xylene	7.151	91	365	1.00	ppbv #	87

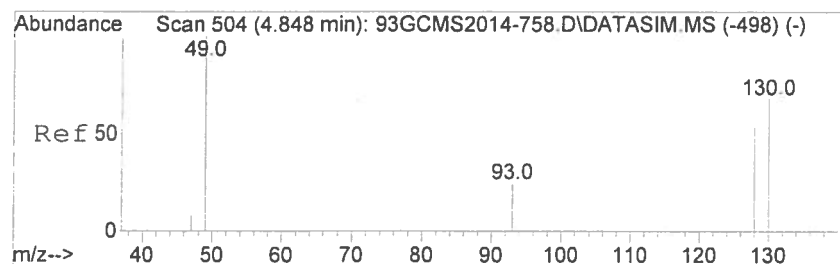
(#) = qualifier out of range (m) = manual integration (+) = signals summed

P 09/29/14

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-773.D
 Acq On : 29 Sep 2014 21:12
 Operator : SJT
 Sample : 53636 \ V06 RS
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

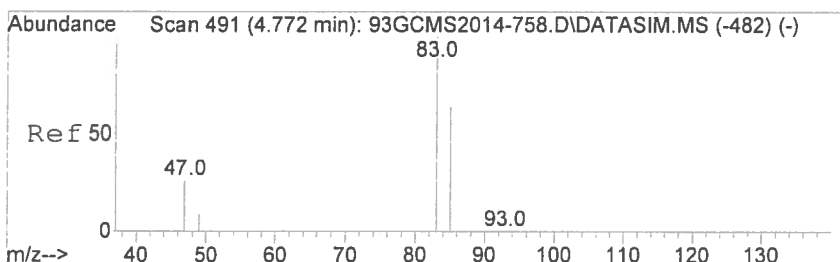
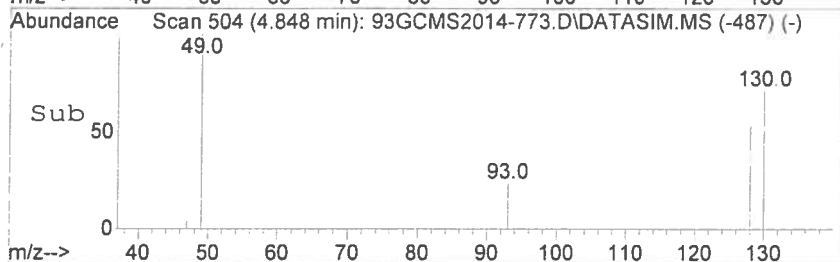
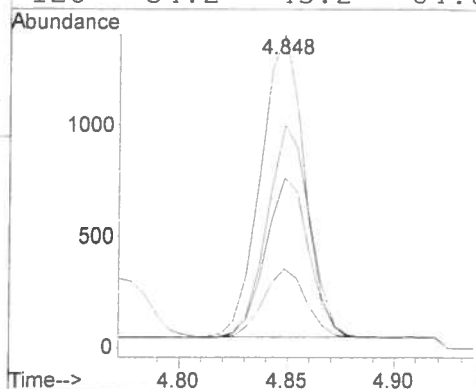
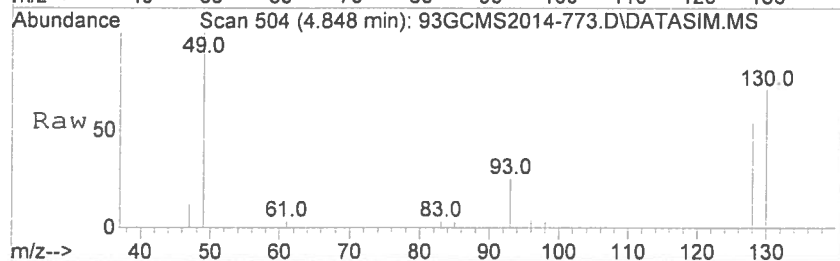
Quant Time: Sep 29 21:20:00 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014
 QLast Update : Mon Sep 29 18:48:25 2014
 Response via : Initial Calibration





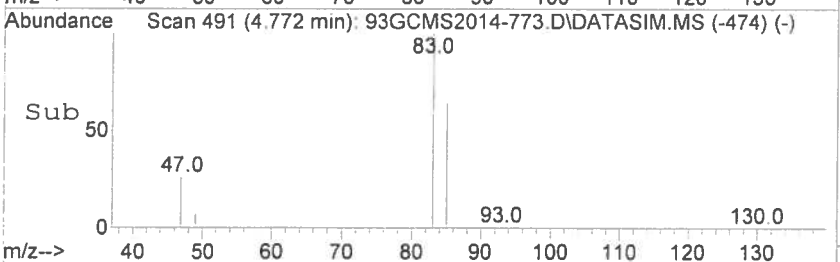
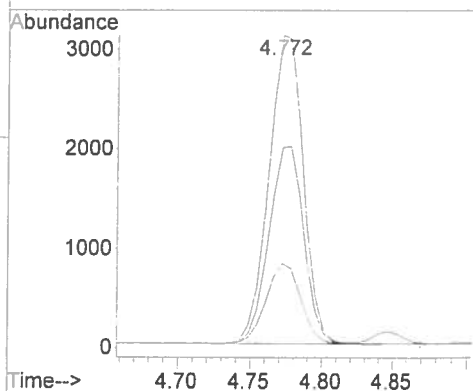
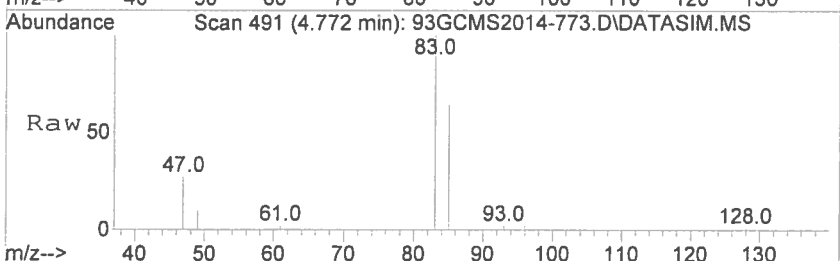
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. 0.000 min
Lab File: 93GCMS2014-773.D
Acq: 29 Sep 2014 21:12

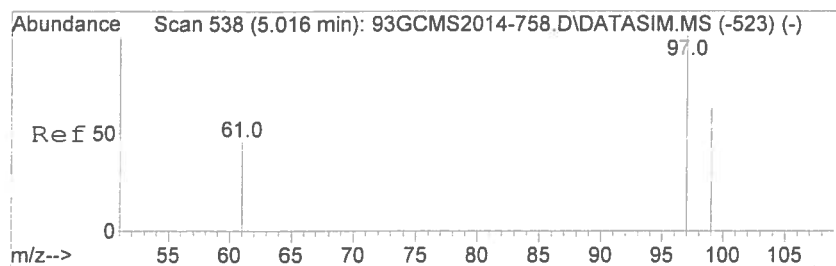
Tgt Ion	Ratio	Lower	Upper
49	100		
130	71.0	54.4	81.6
93	25.3	21.1	31.7
128	54.2	43.2	64.8



#8
Chloroform
Concen: 26.95 ppbv
RT: 4.772 min Scan# 491
Delta R.T. 0.000 min
Lab File: 93GCMS2014-773.D
Acq: 29 Sep 2014 21:12

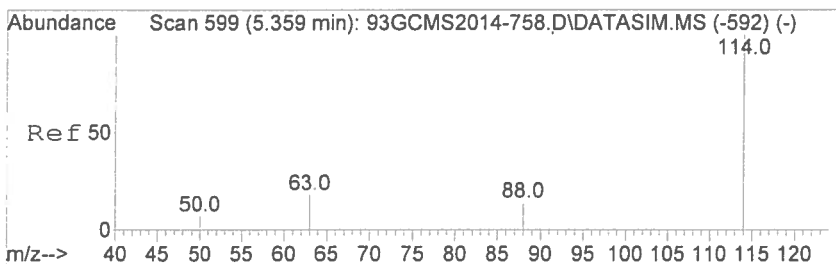
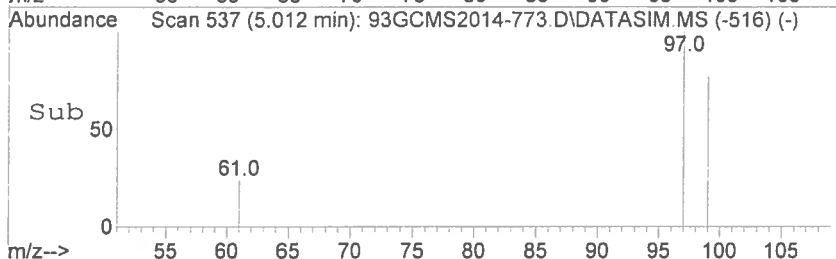
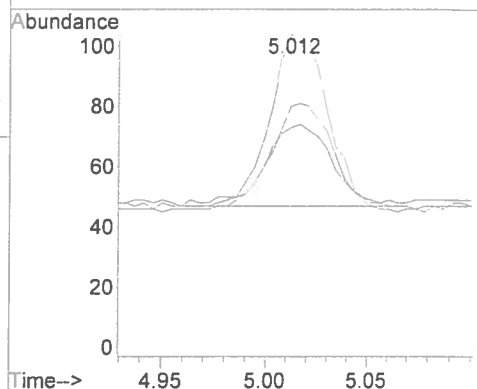
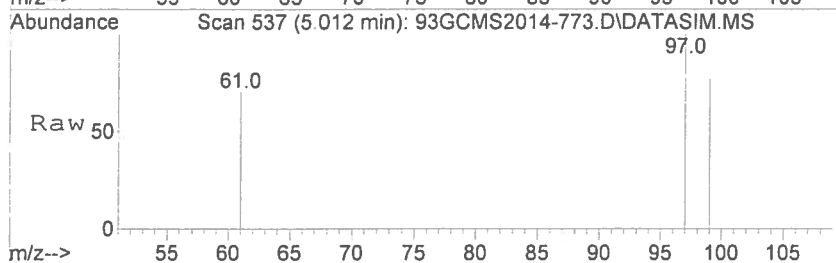
Tgt Ion	Ratio	Lower	Upper
83	100		
85	64.7	51.8	77.6
47	25.8	20.5	30.7





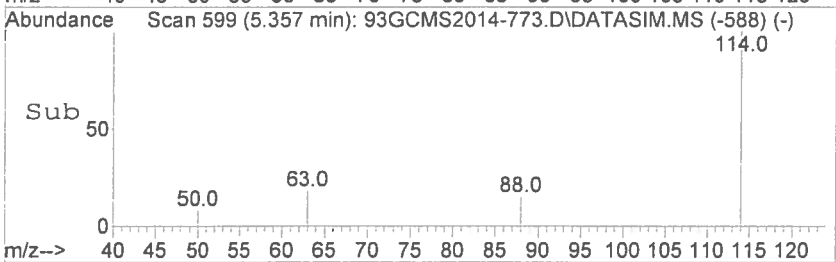
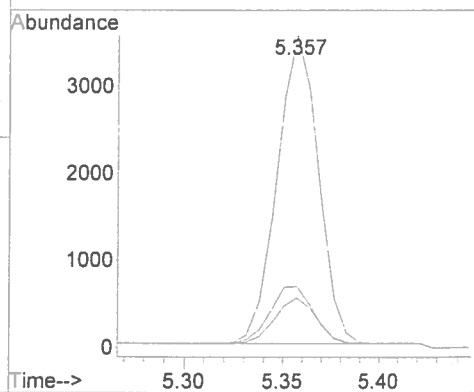
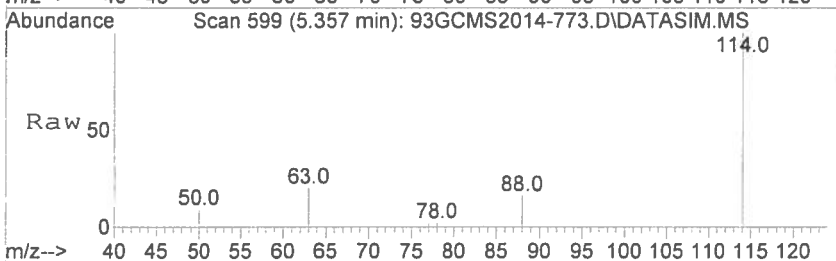
#9
1,1,1-Trichloroethane
Concen: 0.54 ppbv m
RT: 5.012 min Scan# 537
Delta R.T. -0.004 min
Lab File: 93GCMS2014-773.D
Acq: 29 Sep 2014 21:12

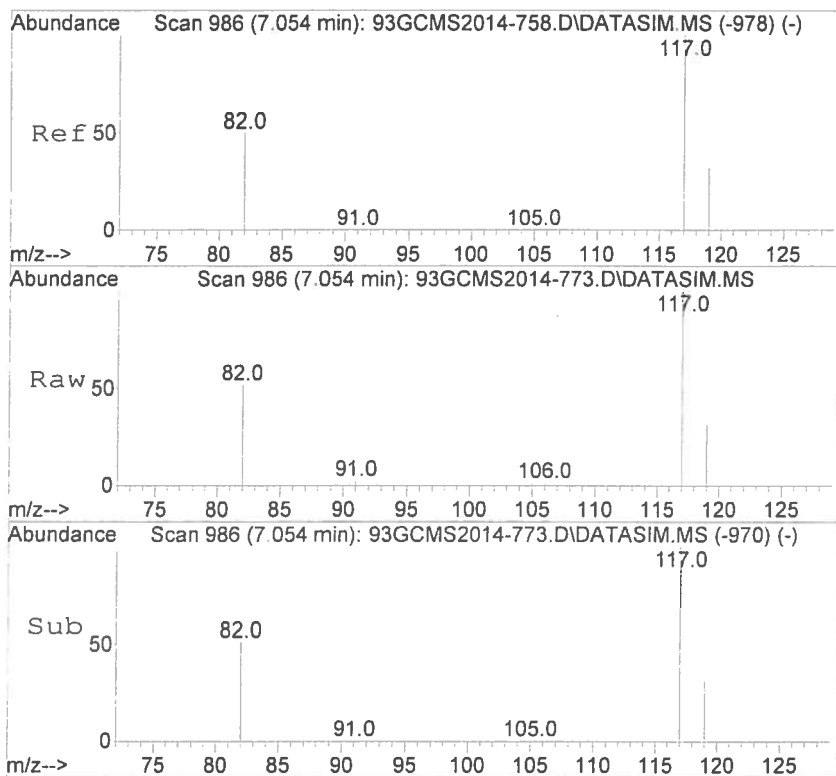
Tgt Ion	Ratio	Lower	Upper
97	100		
99	58.9	51.4	77.2
61	54.5	36.6	54.8



#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.357 min Scan# 599
Delta R.T. -0.002 min
Lab File: 93GCMS2014-773.D
Acq: 29 Sep 2014 21:12

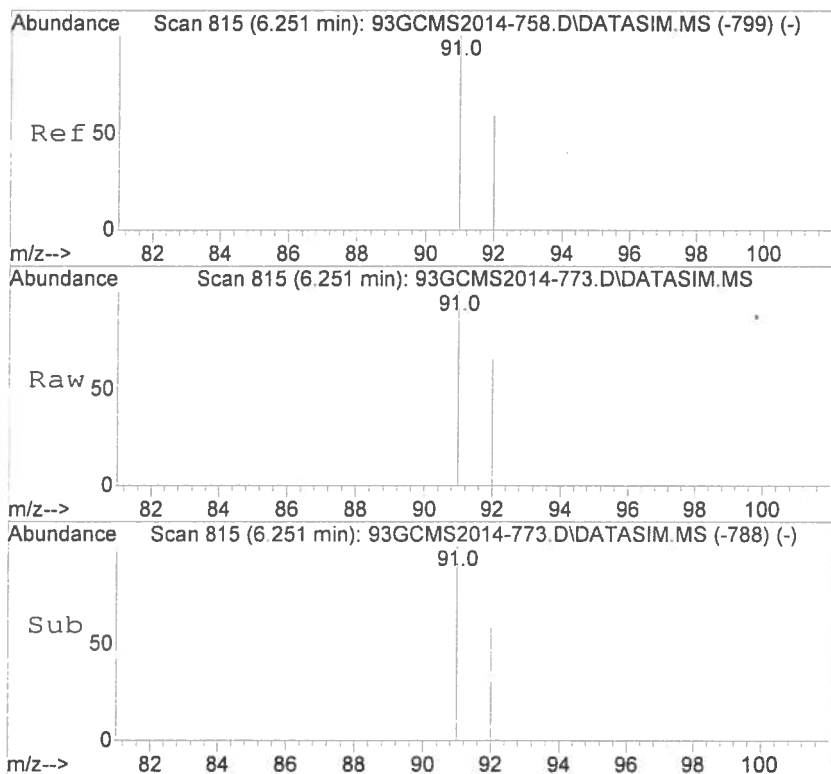
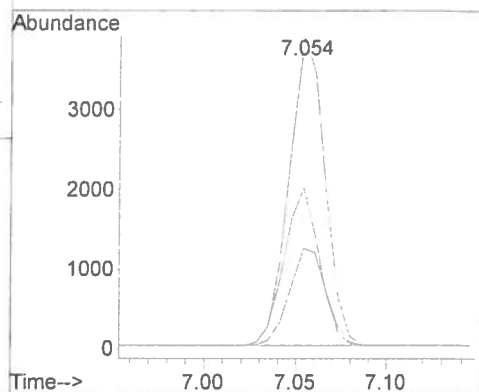
Tgt Ion	Ratio	Lower	Upper
114	100		
63	19.4	15.7	23.5
88	14.9	11.8	17.6





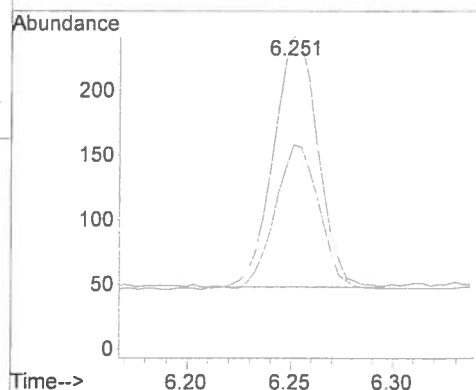
#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.054 min Scan# 986
Delta R.T. 0.000 min
Lab File: 93GCMS2014-773.D
Acq: 29 Sep 2014 21:12

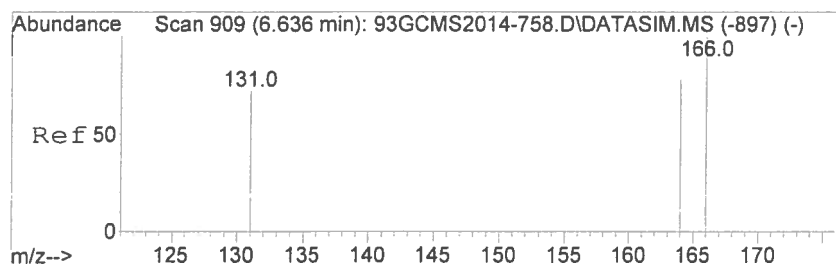
Tgt Ion	Ratio	Resp	Lower	Upper
117	100	5322		
82	50.1		39.5	59.3
119	32.4		25.8	38.6



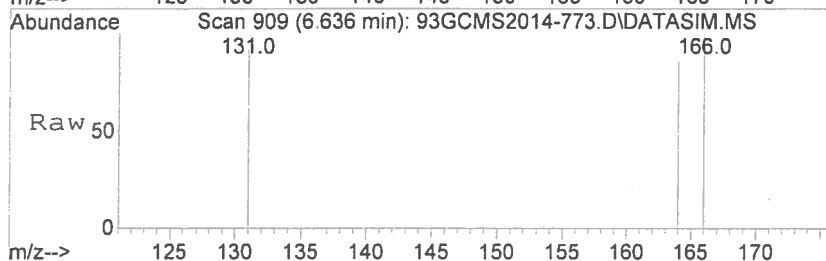
#14
Toluene
Concen: 0.79 ppbv
RT: 6.251 min Scan# 815
Delta R.T. 0.000 min
Lab File: 93GCMS2014-773.D
Acq: 29 Sep 2014 21:12

Tgt Ion	Ratio	Resp	Lower	Upper
91	100	292		
92	58.6		47.4	71.2

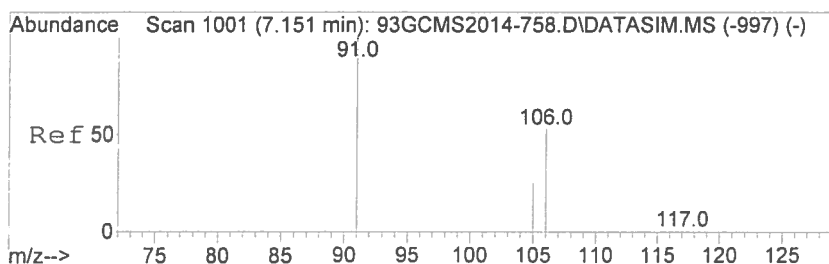
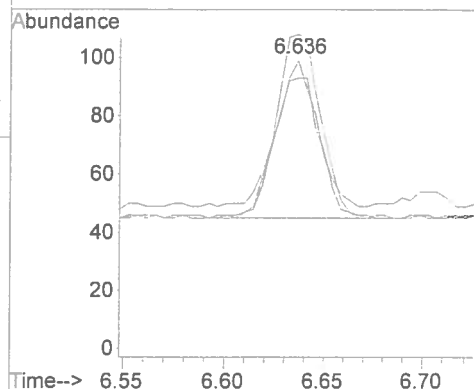
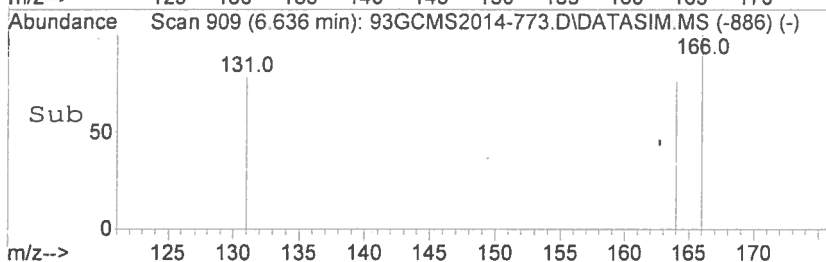




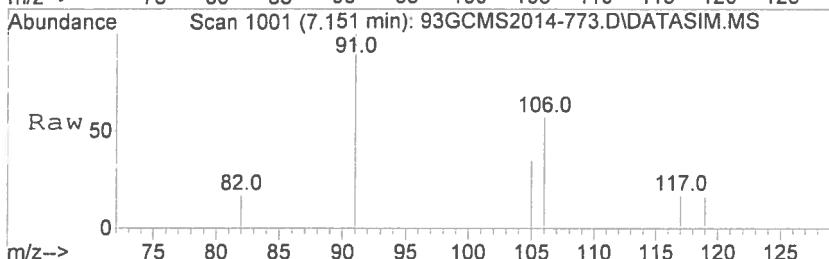
#15
Tetrachloroethene
Concen: 0.50 ppbv
RT: 6.636 min Scan# 909
Delta R.T. 0.000 min
Lab File: 93GCMS2014-773.D
Acq: 29 Sep 2014 21:12



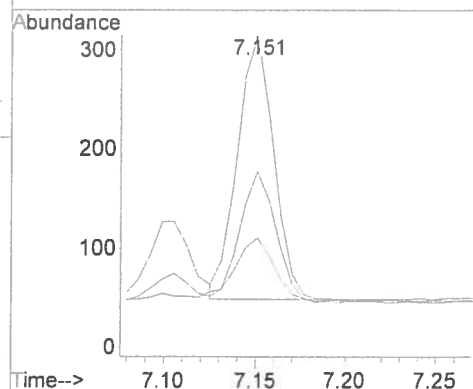
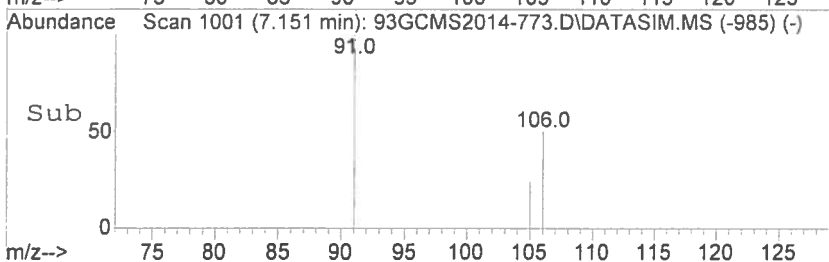
Tgt Ion: 166 Resp: 99
Ion Ratio Lower Upper
166 100
164 77.8 62.6 93.8
131 74.7 57.9 86.9



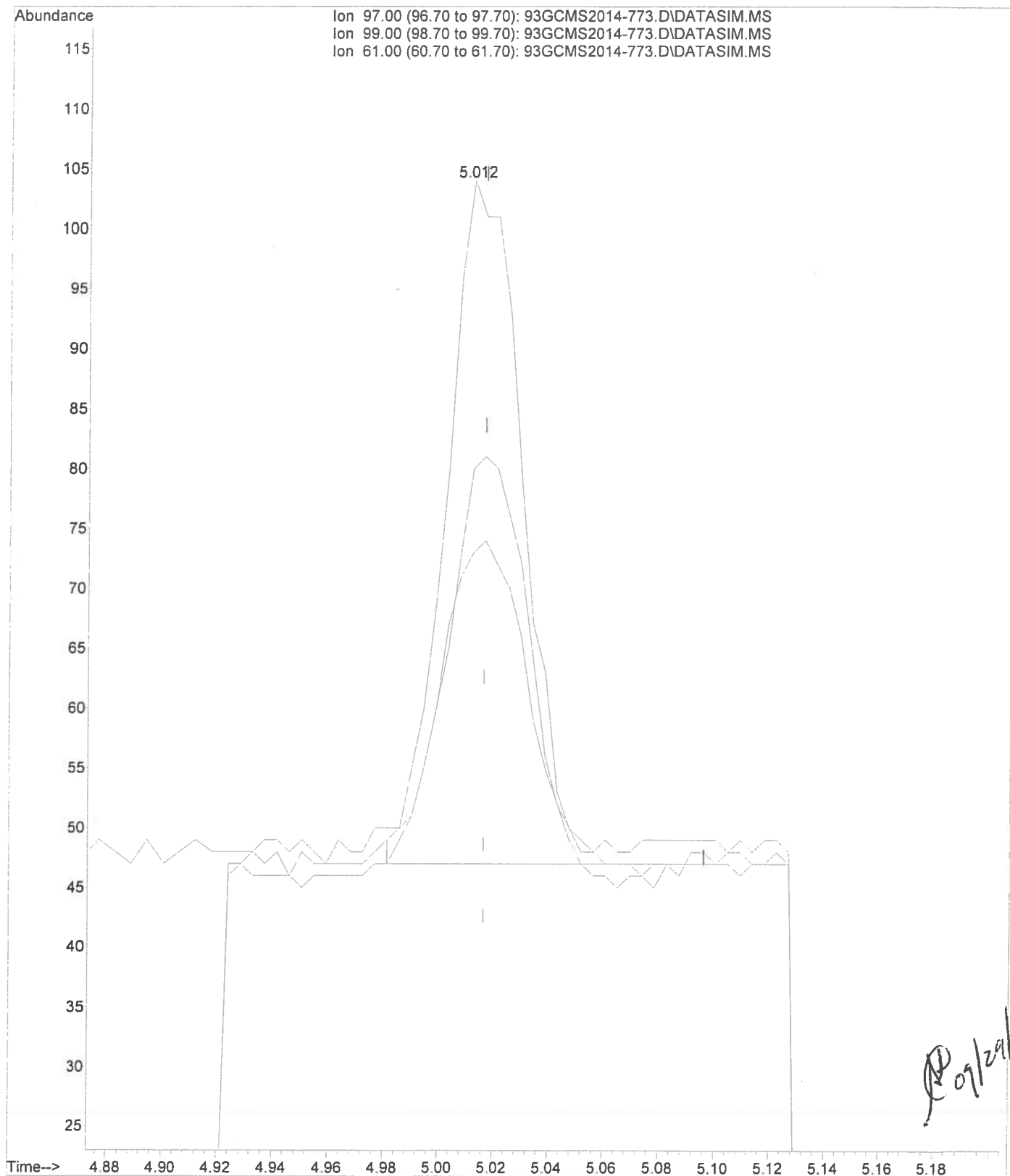
#17
m,p-Xylene
Concen: 1.00 ppbv
RT: 7.151 min Scan# 1001
Delta R.T. 0.000 min
Lab File: 93GCMS2014-773.D
Acq: 29 Sep 2014 21:12



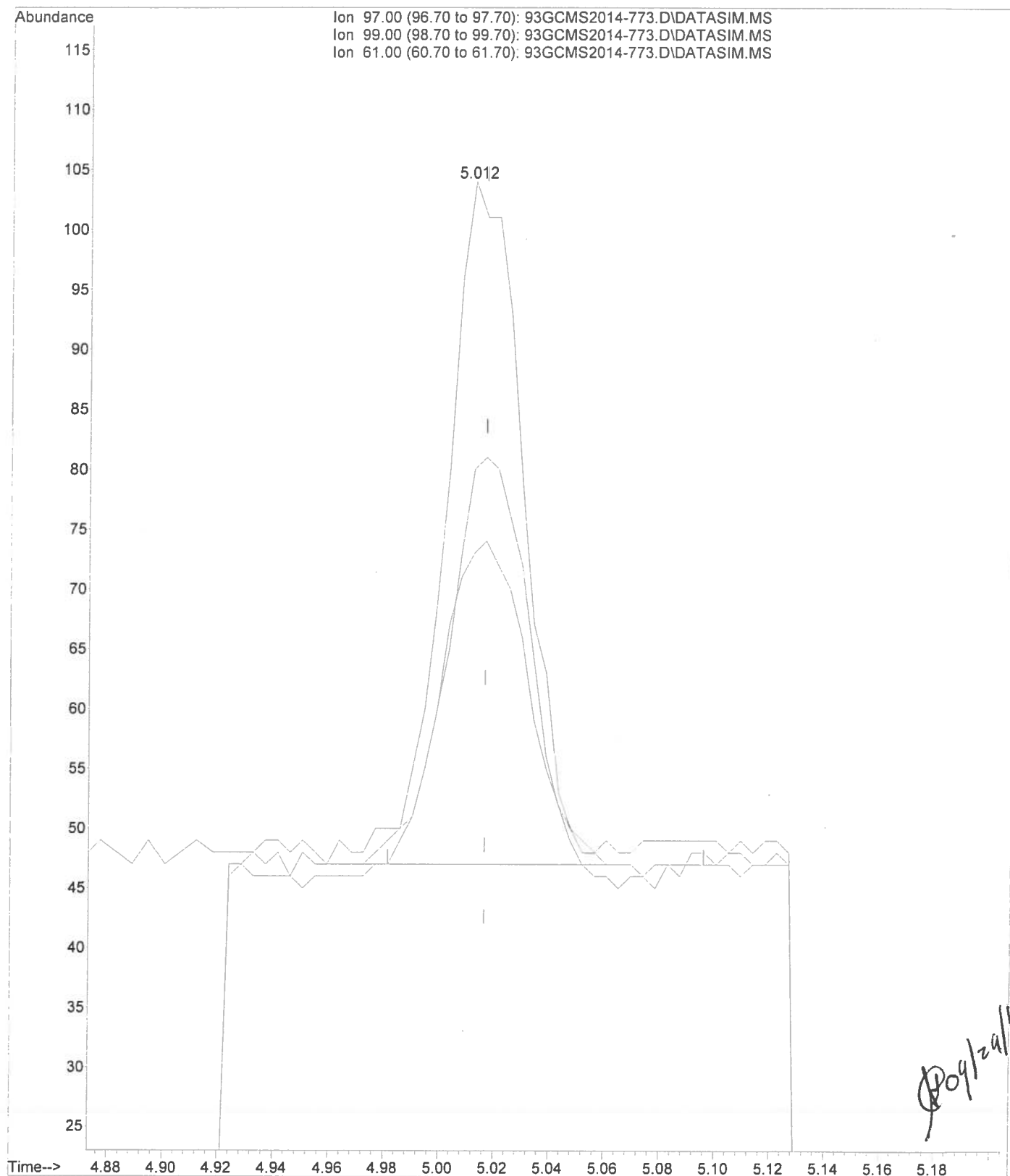
Tgt Ion: 91 Resp: 365
Ion Ratio Lower Upper
91 100
106 56.5 41.2 61.8
105 35.2 18.4 27.6#



File :D:\msdchem\1\data\2014\20140929\93GCMS2014-773.D
Operator : SJT
Acquired : 29 Sep 2014 21:12 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: 53636 \ V06 RS
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



File : D:\msdchem\1\data\2014\20140929\93GCMS2014-773.D
Operator : SJT
Acquired : 29 Sep 2014 21:12 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: 53636 \ V06 RS
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-774.D
 Acq On : 29 Sep 2014 21:24
 Operator : SJT
 Sample : 53637 \ V03
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 21:31:24 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014

QLast Update : Mon Sep 29 18:48:25 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	4.848	49	1850	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	5196	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5285	10.00	ppbv	0.00

System Monitoring Compounds

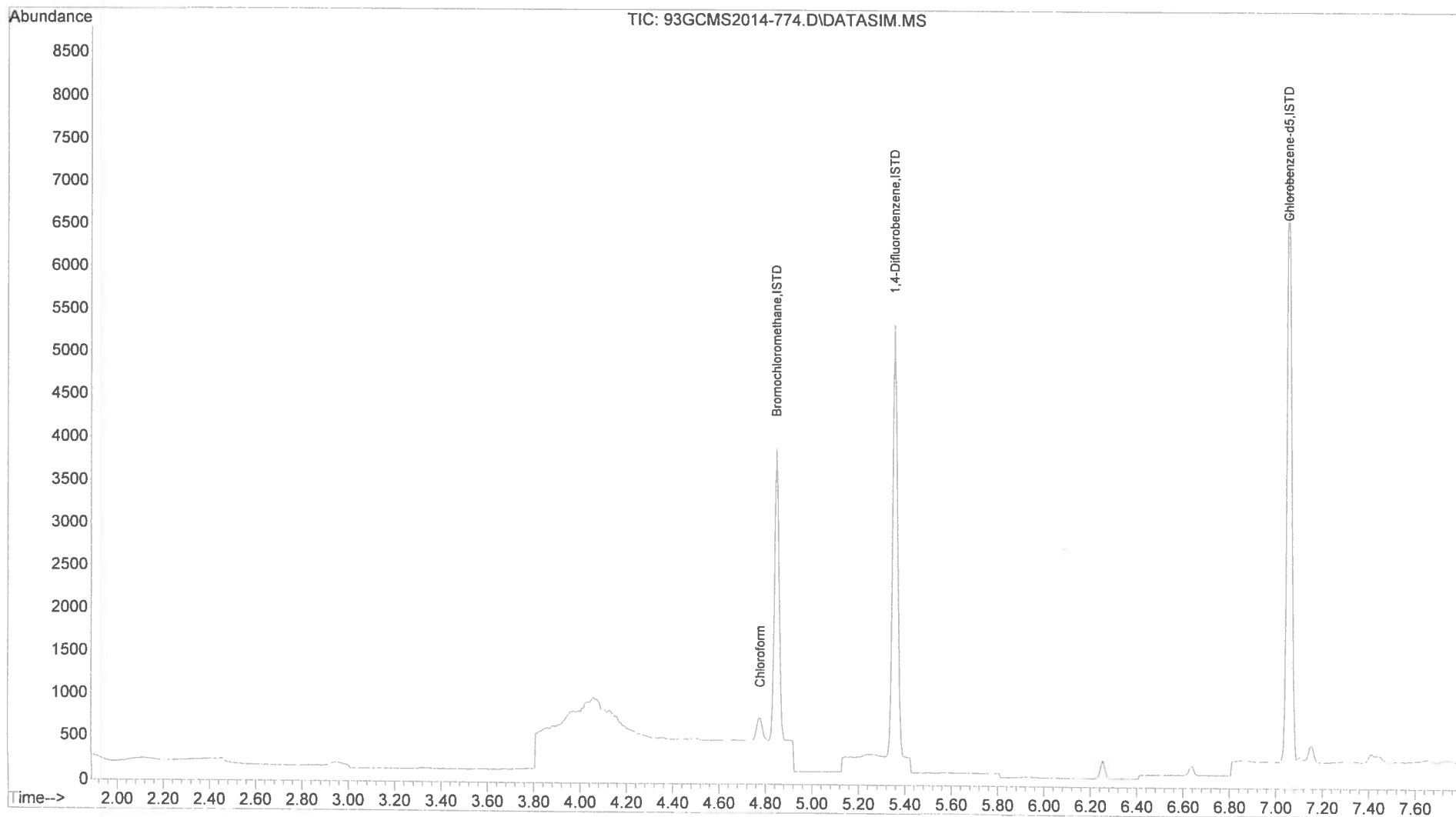
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
8) Chloroform	4.778	83	222m	1.18	ppbv	

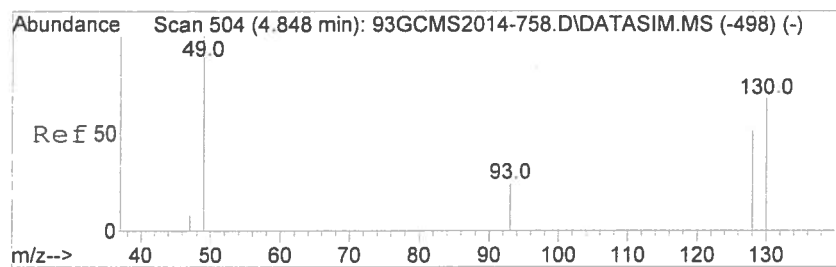
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Q09/1

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-774.D
 Acq On : 29 Sep 2014 21:24
 Operator : SJT
 Sample : 53637 \ V03
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

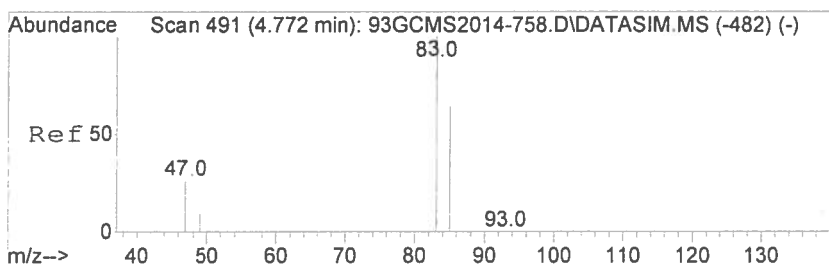
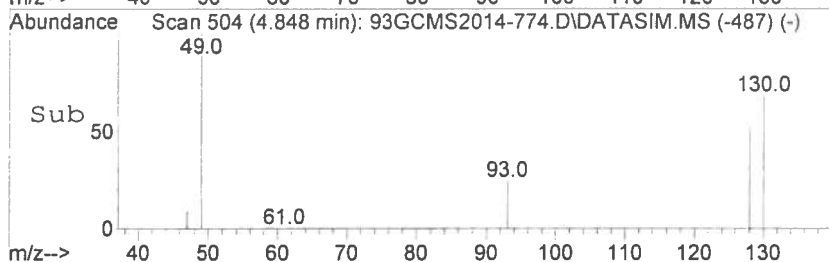
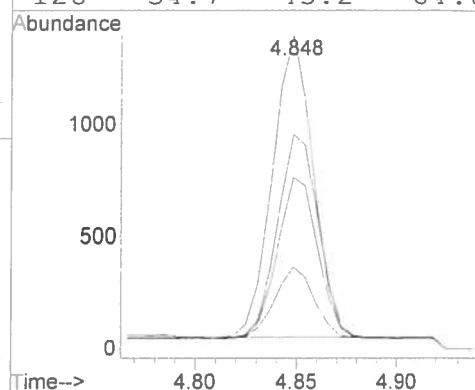
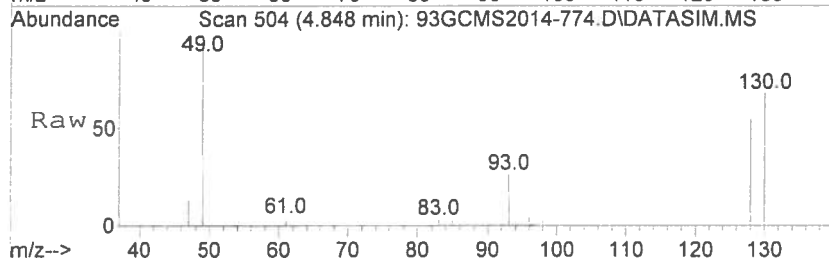
Quant Time: Sep 29 21:31:24 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014
 QLast Update : Mon Sep 29 18:48:25 2014
 Response via : Initial Calibration





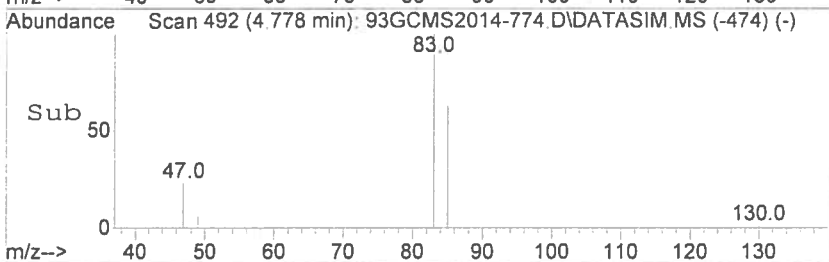
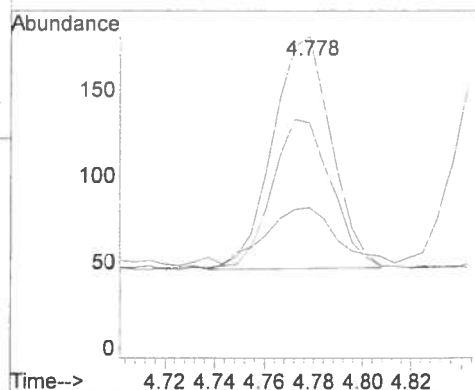
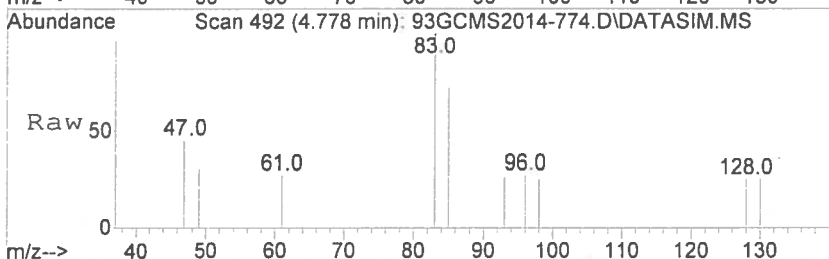
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. 0.000 min
Lab File: 93GCMS2014-774.D
Acq: 29 Sep 2014 21:24

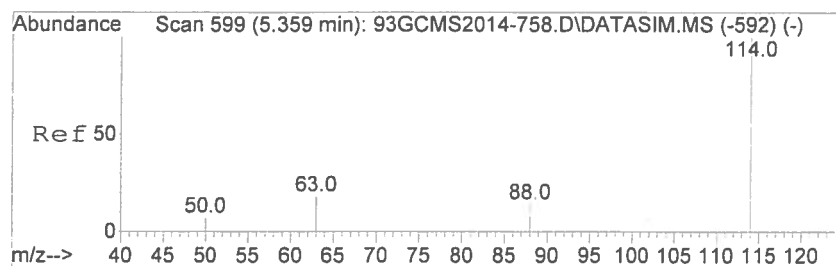
Tgt Ion:	49	Resp:	1850
Ion Ratio	Lower	Upper	
49	100		
130	68.4	54.4	81.6
93	26.2	21.1	31.7
128	54.7	43.2	64.8



#8
Chloroform
Concen: 1.18 ppbv m
RT: 4.778 min Scan# 492
Delta R.T. 0.006 min
Lab File: 93GCMS2014-774.D
Acq: 29 Sep 2014 21:24

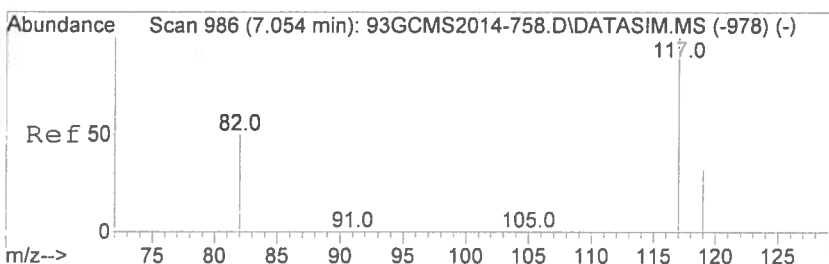
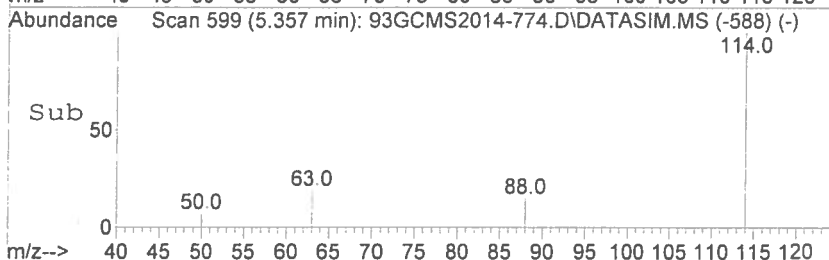
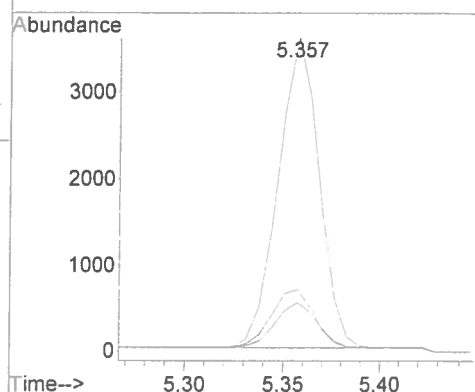
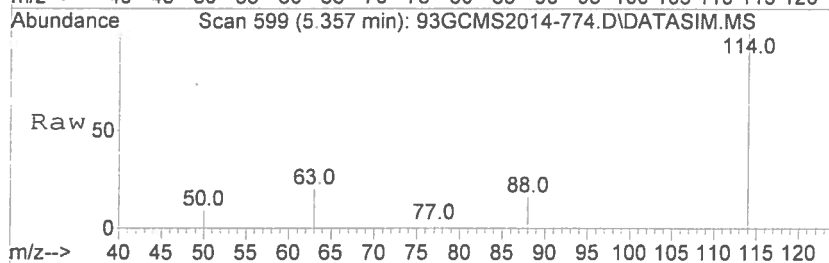
Tgt Ion:	83	Resp:	222
Ion Ratio	Lower	Upper	
83	100		
85	67.1	51.8	77.6
47	32.9	20.5	30.7#





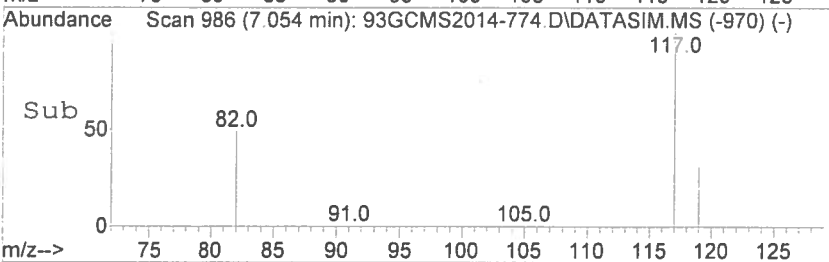
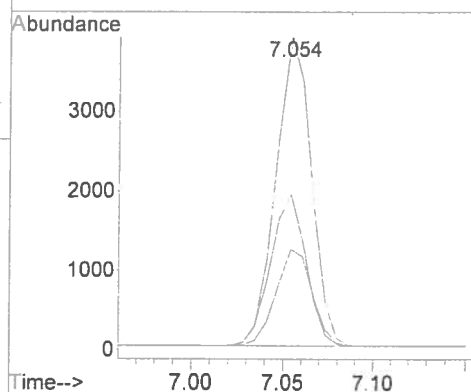
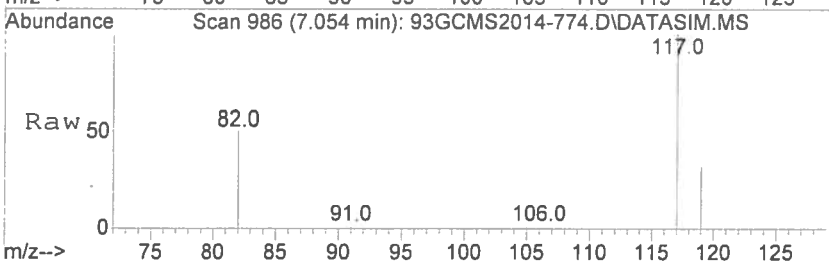
#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.357 min Scan# 599
Delta R.T. -0.002 min
Lab File: 93GCMS2014-774.D
Acq: 29 Sep 2014 21:24

Tgt Ion: 114 Resp: 5196
Ion Ratio Lower Upper
114 100
63 19.3 15.7 23.5
88 14.9 11.8 17.6

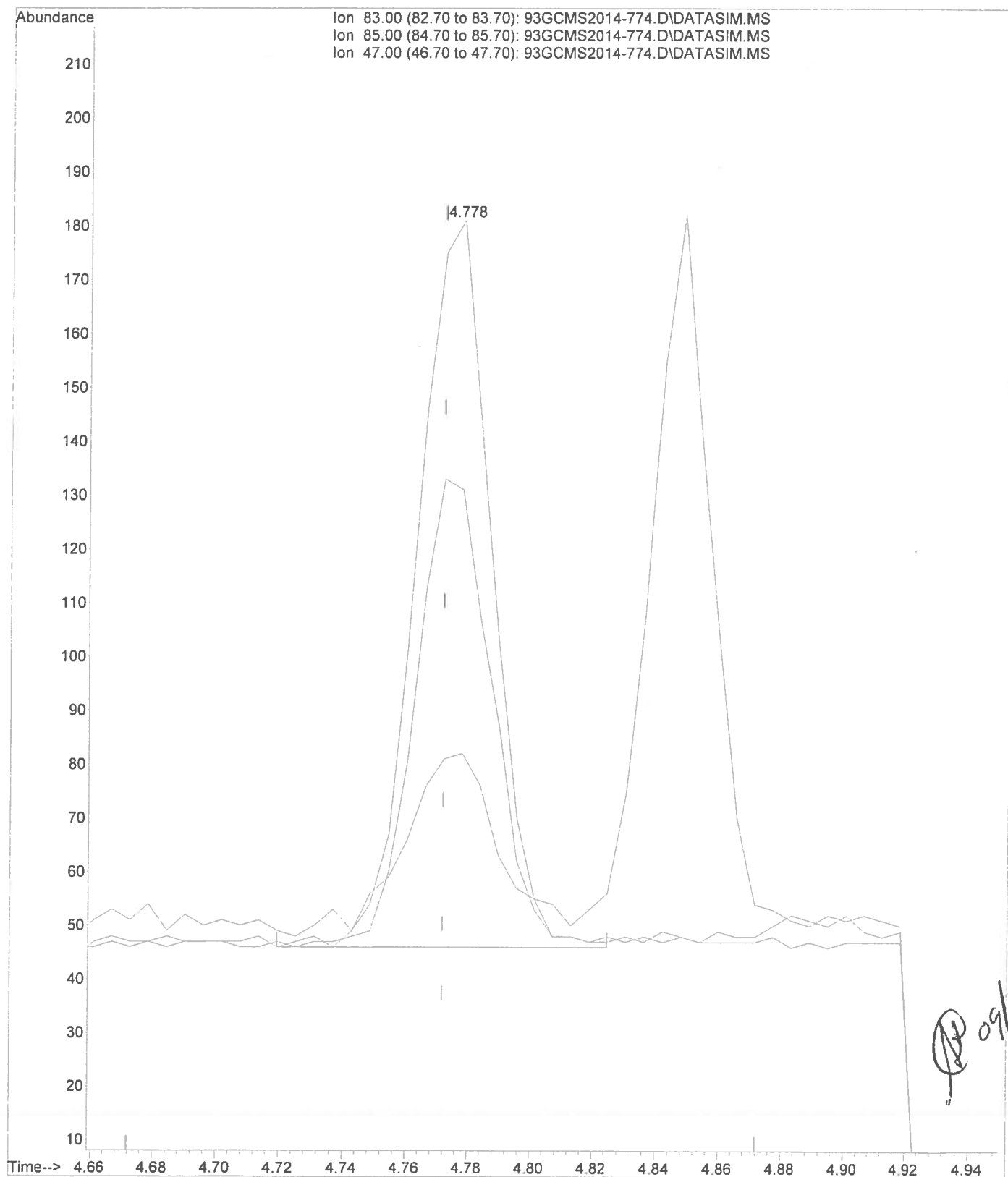


#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.054 min Scan# 986
Delta R.T. 0.000 min
Lab File: 93GCMS2014-774.D
Acq: 29 Sep 2014 21:24

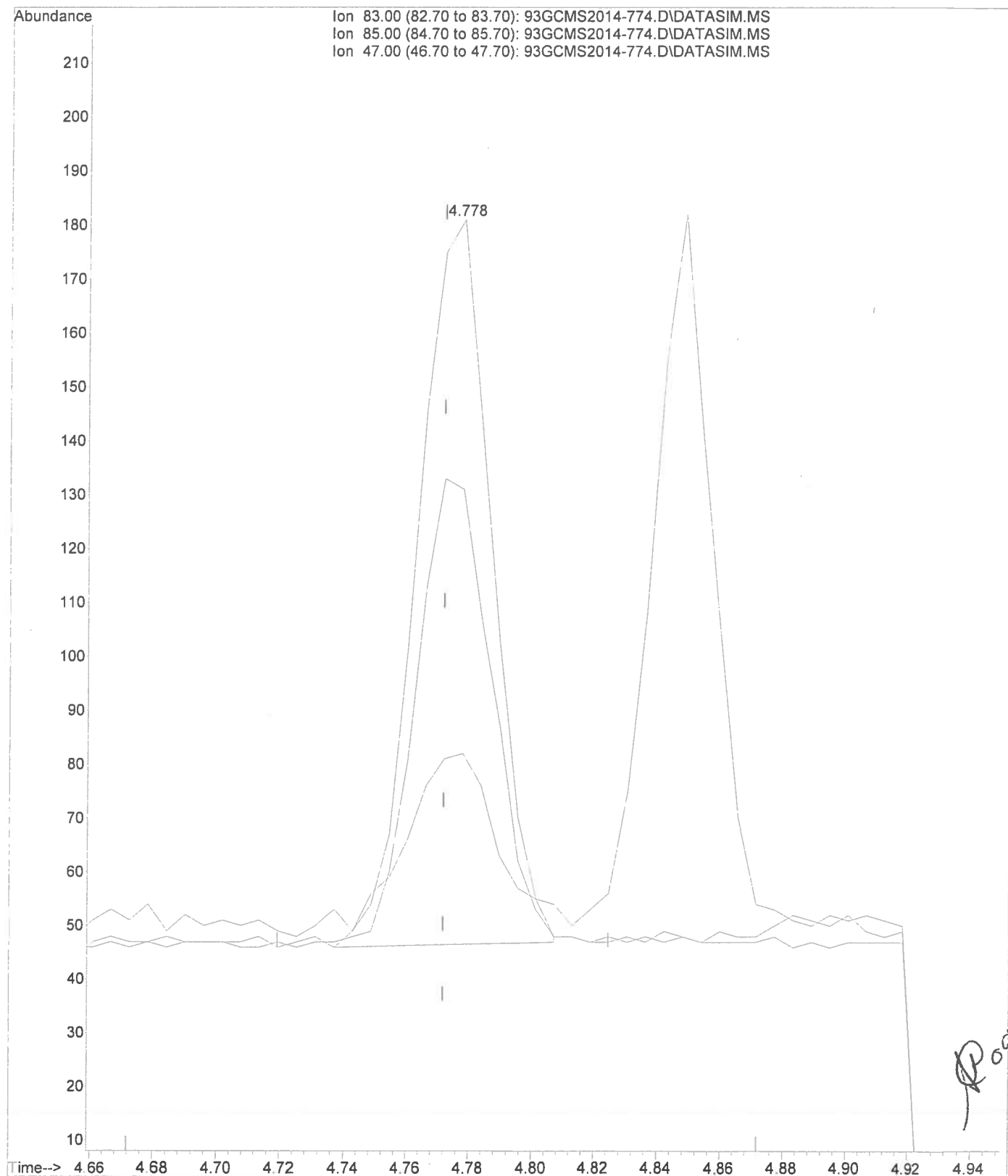
Tgt Ion: 117 Resp: 5285
Ion Ratio Lower Upper
117 100
82 48.9 39.5 59.3
119 32.0 25.8 38.6



File : D:\msdchem\1\data\2014\20140929\93GCMS2014-774.D
Operator : SJT
Acquired : 29 Sep 2014 21:24 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: 53637 \ V03
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



File : D:\msdchem\1\data\2014\20140929\93GCMS2014-774.D
Operator : SJT
Acquired : 29 Sep 2014 21:24 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: 53637 \ V03
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-775.D
 Acq On : 29 Sep 2014 21:36
 Operator : SJT
 Sample : 53639 \ V17
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 21:43:35 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014

QLast Update : Mon Sep 29 18:48:25 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	4.848	49	1930	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	5243	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5410	10.00	ppbv	0.00

System Monitoring Compounds

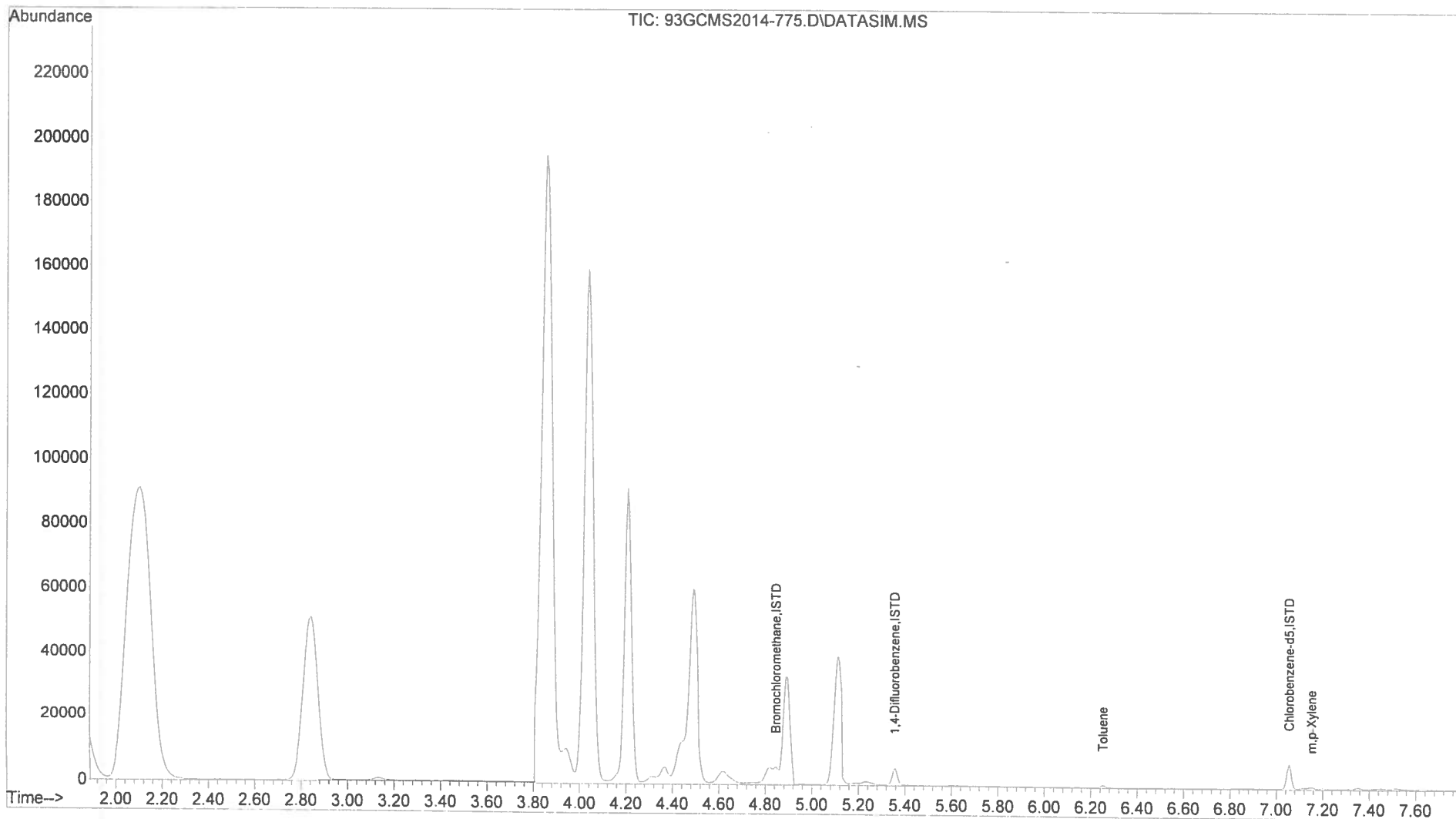
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
14) Toluene	6.251	91	711	1.88	ppbv	99
17) m,p-Xylene	7.151	91	382	1.02	ppbv #	85

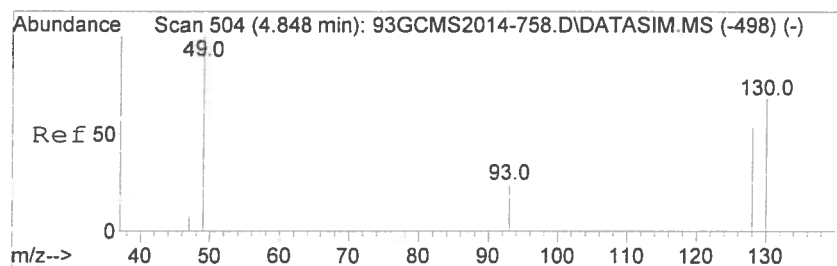
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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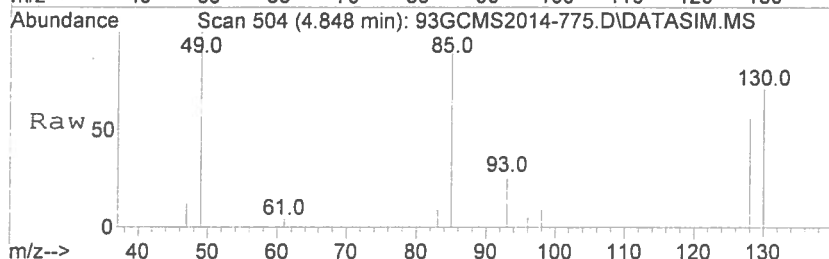
Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-775.D
 Acq On : 29 Sep 2014 21:36
 Operator : SJT
 Sample : 53639 \ V17
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 21:43:35 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014
 QLast Update : Mon Sep 29 18:48:25 2014
 Response via : Initial Calibration

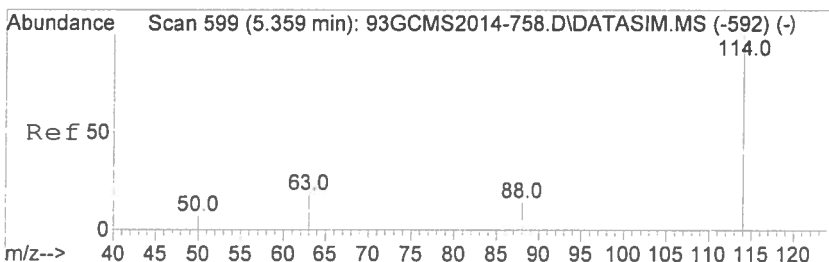
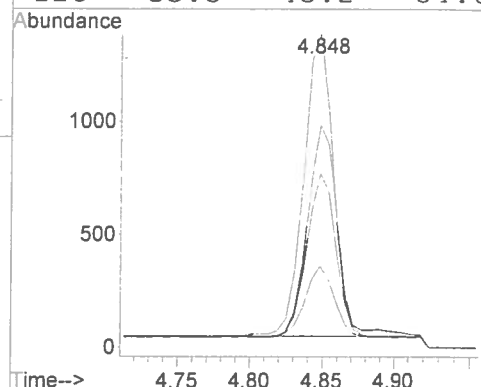
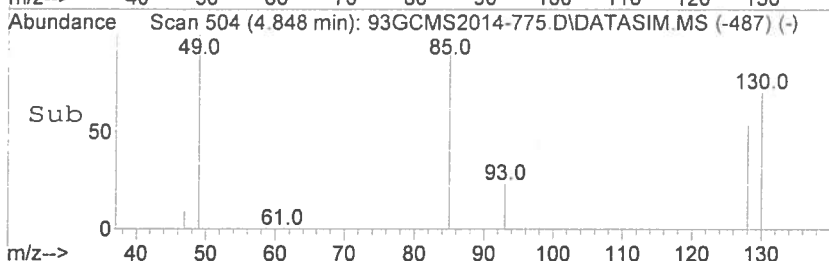




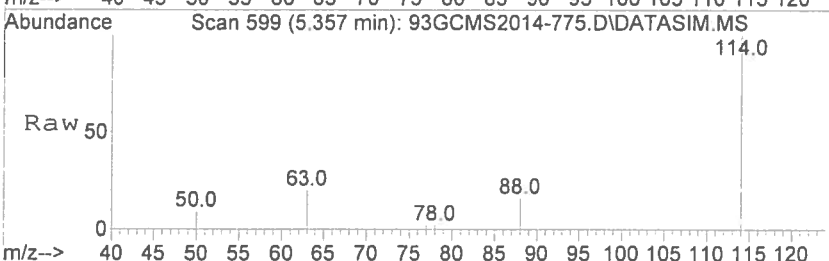
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. 0.000 min
Lab File: 93GCMS2014-775.D
Acq: 29 Sep 2014 21:36



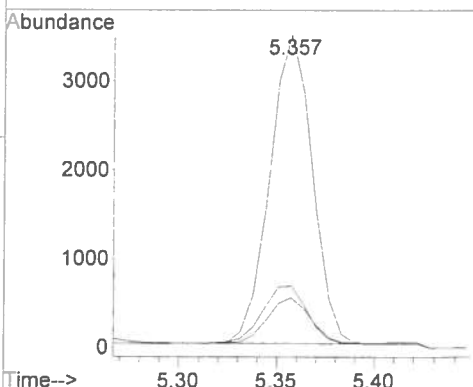
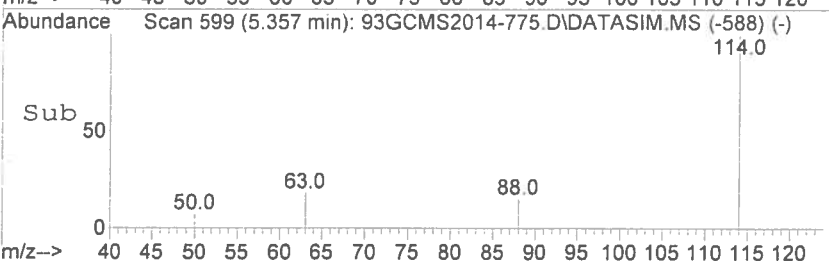
Tgt Ion	Ratio	Lower	Upper
49	100		
130	70.9	54.4	81.6
93	26.0	21.1	31.7
128	55.5	43.2	64.8

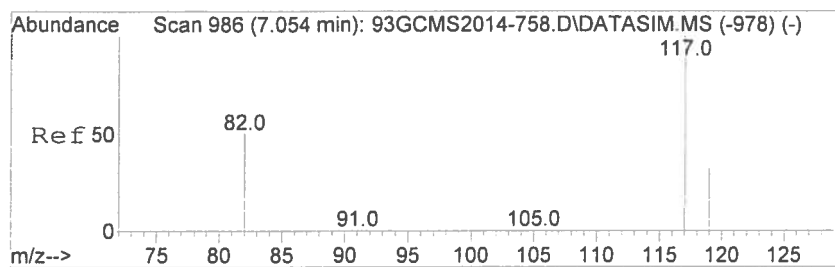


#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.357 min Scan# 599
Delta R.T. -0.002 min
Lab File: 93GCMS2014-775.D
Acq: 29 Sep 2014 21:36



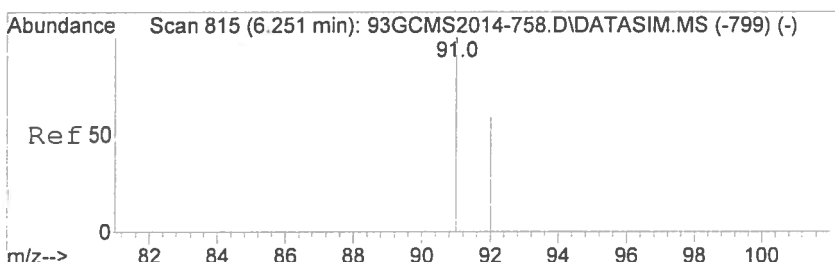
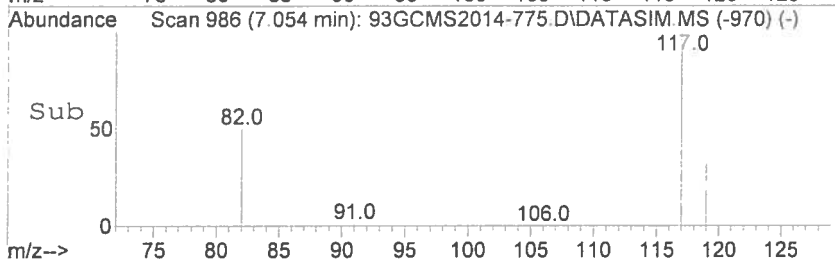
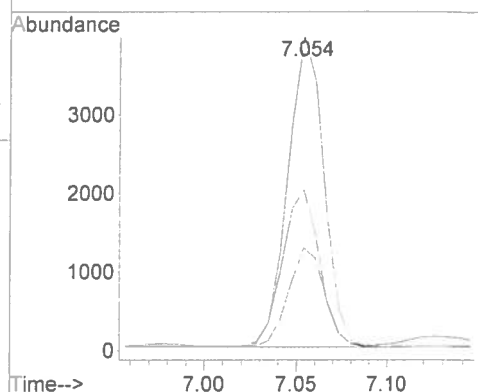
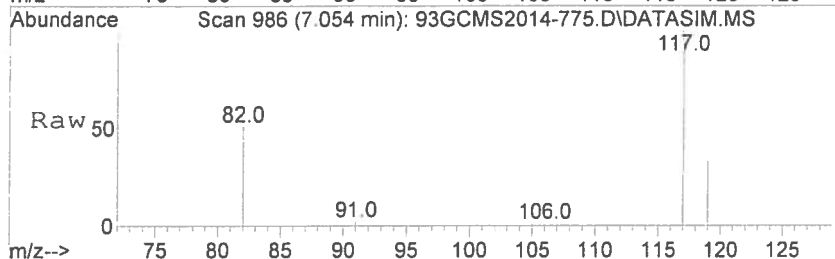
Tgt Ion	Ratio	Lower	Upper
114	100		
63	19.2	15.7	23.5
88	14.8	11.8	17.6





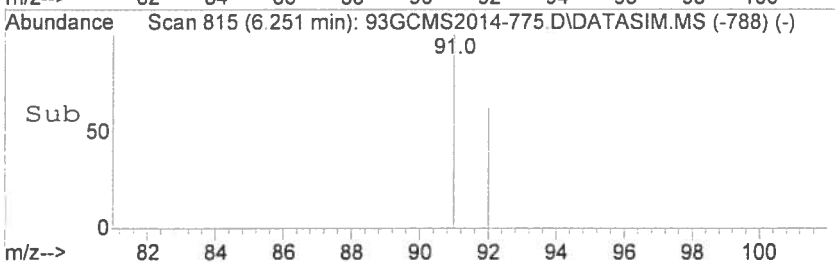
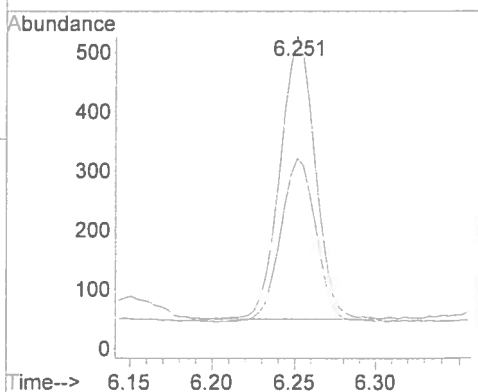
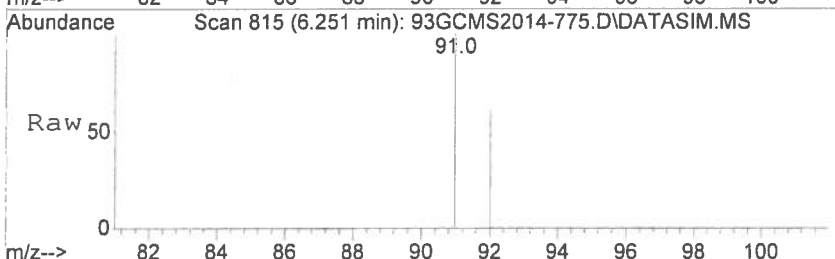
#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.054 min Scan# 986
Delta R.T. 0.000 min
Lab File: 93GCMS2014-775.D
Acq: 29 Sep 2014 21:36

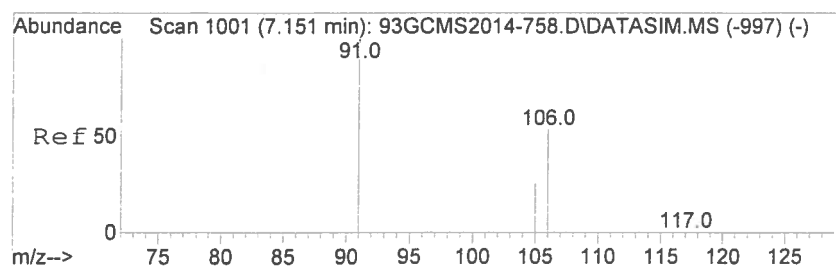
Tgt Ion	Ratio	Resp	Lower	Upper
117	100	5410		
82	51.8		39.5	59.3
119	32.0		25.8	38.6



#14
Toluene
Concen: 1.88 ppbv
RT: 6.251 min Scan# 815
Delta R.T. 0.000 min
Lab File: 93GCMS2014-775.D
Acq: 29 Sep 2014 21:36

Tgt Ion	Ratio	Resp	Lower	Upper
91	100	711		
92	58.4		47.4	71.2





#17

m,p-Xylene

Concen: 1.02 ppbv

RT: 7.151 min Scan# 1001

Delta R.T. 0.000 min

Lab File: 93GCMS2014-775.D

Acq: 29 Sep 2014 21:36

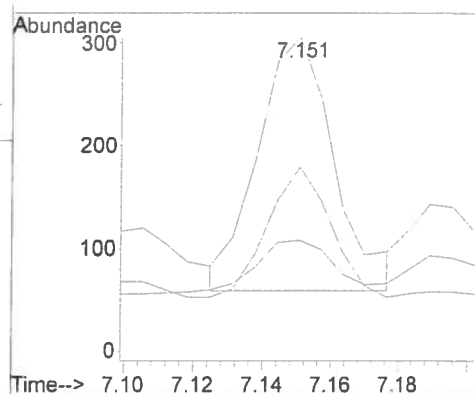
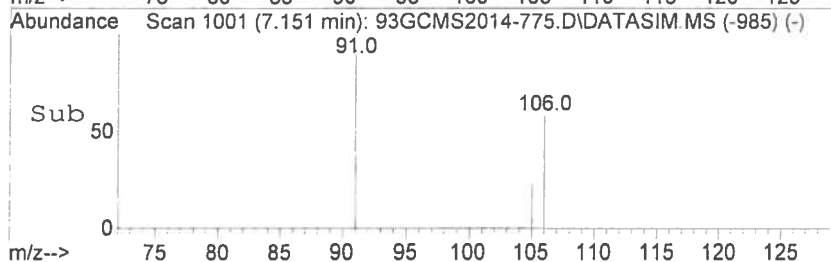
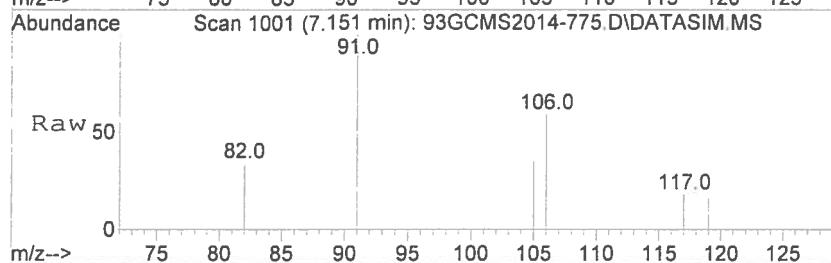
Tgt Ion: 91 Resp: 382

Ion Ratio Lower Upper

91 100

106 58.7 41.2 61.8

105 35.4 18.4 27.6#



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-776.D
 Acq On : 29 Sep 2014 21:48
 Operator : SJT
 Sample : 53640 \ V18
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 21:55:06 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014

QLast Update : Mon Sep 29 18:48:25 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	4.848	49	1848	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	5150	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5292	10.00	ppbv	0.00

System Monitoring Compounds

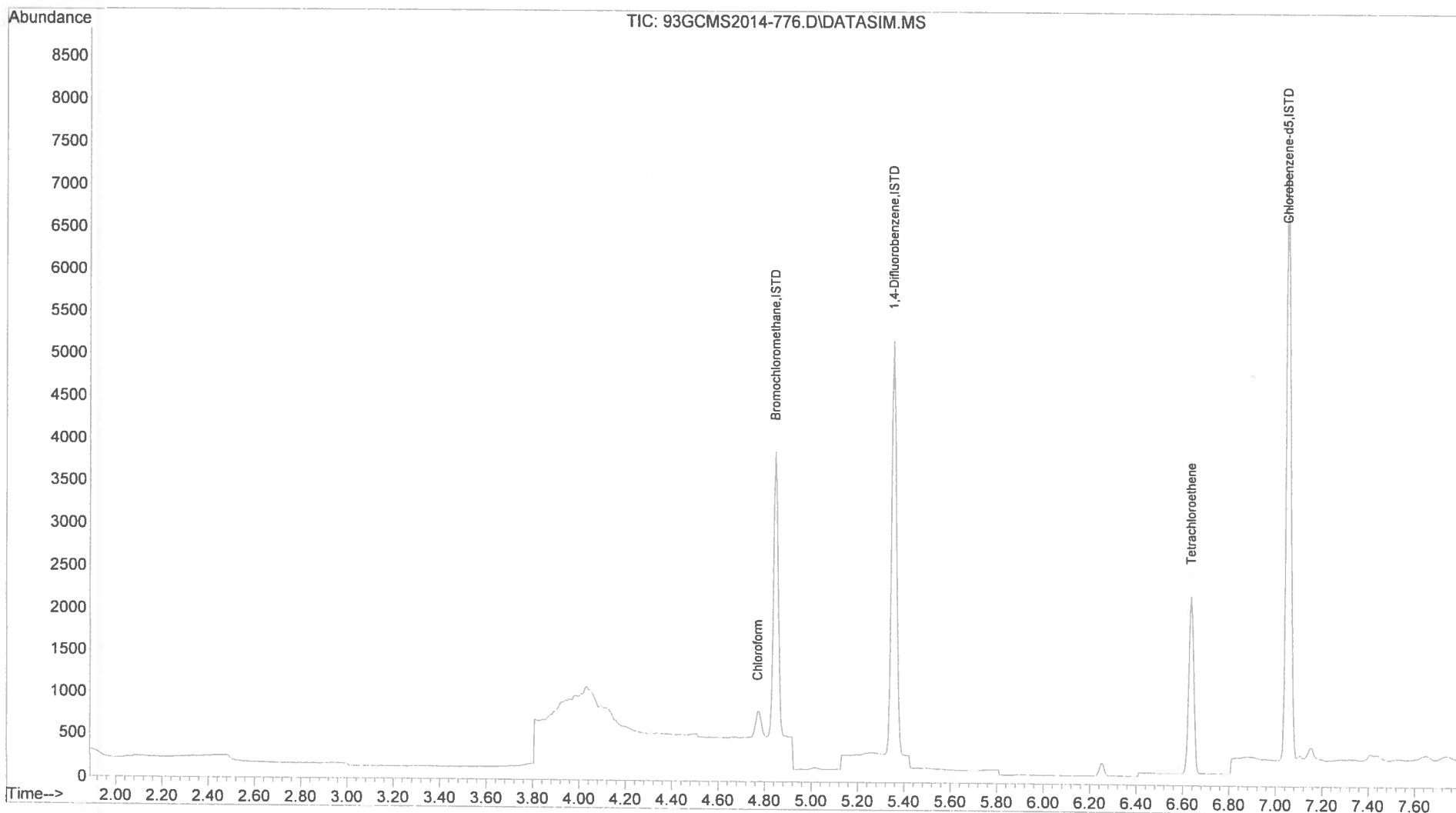
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
8) Chloroform	4.772	83	265m	1.41	ppbv	
15) Tetrachloroethene	6.637	166	1232	6.31	ppbv	100

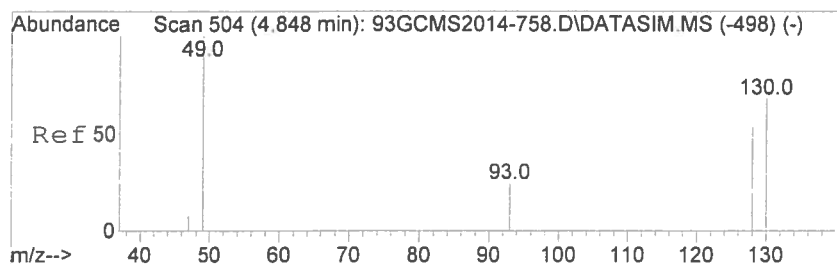
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Handwritten signature/initials

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-776.D
 Acq On : 29 Sep 2014 21:48
 Operator : SJT
 Sample : 53640 \ V18
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

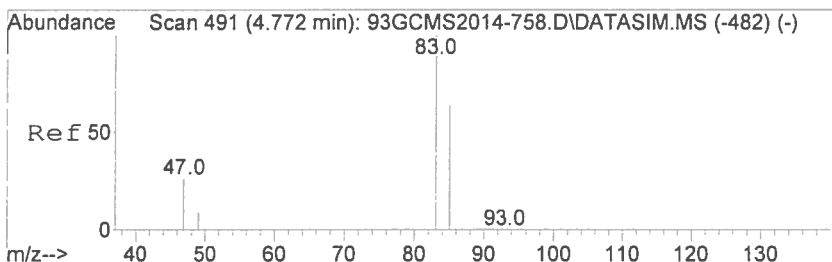
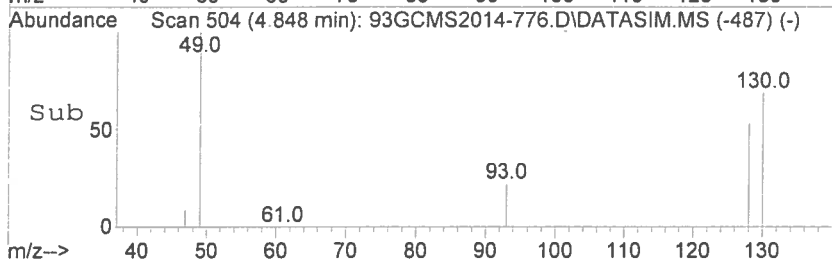
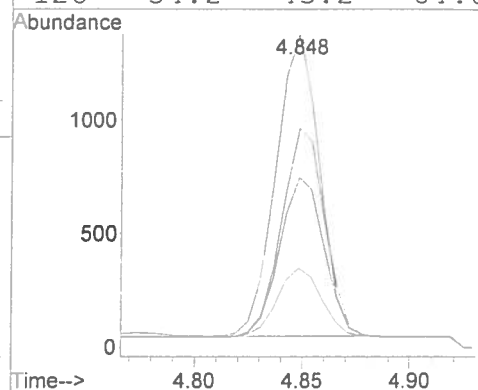
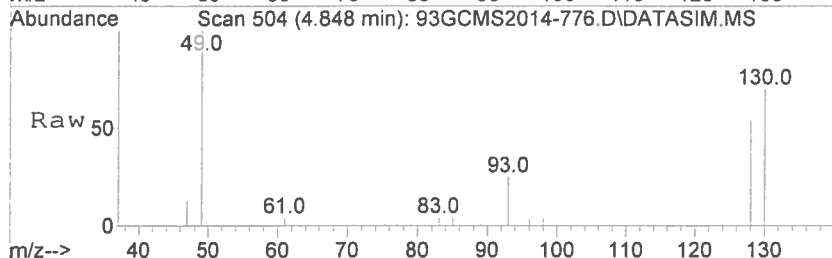
Quant Time: Sep 29 21:55:06 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014
 QLast Update : Mon Sep 29 18:48:25 2014
 Response via : Initial Calibration





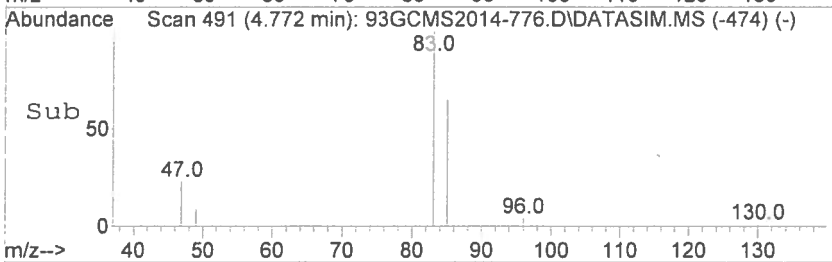
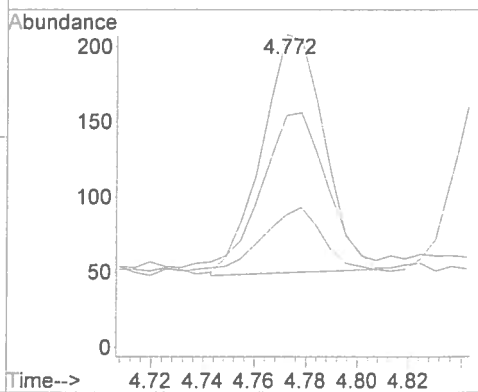
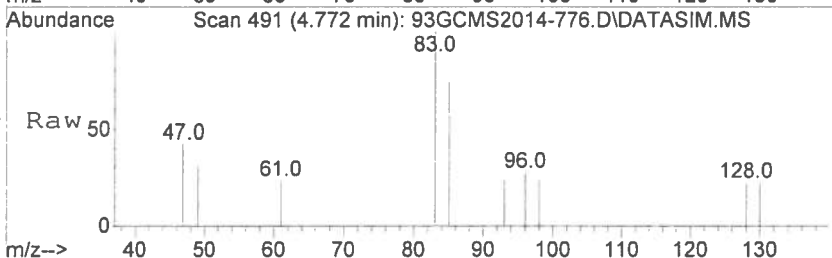
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. 0.000 min
Lab File: 93GCMS2014-776.D
Acq: 29 Sep 2014 21:48

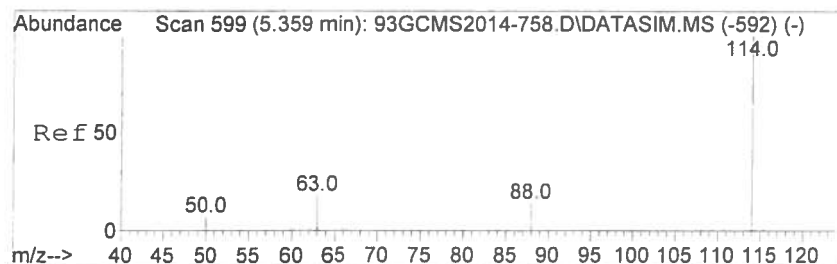
Tgt Ion	Ratio	Lower	Upper
49	100		
130	69.8	54.4	81.6
93	25.2	21.1	31.7
128	54.2	43.2	64.8



#8
Chloroform
Concen: 1.41 ppbv m
RT: 4.772 min Scan# 491
Delta R.T. 0.000 min
Lab File: 93GCMS2014-776.D
Acq: 29 Sep 2014 21:48

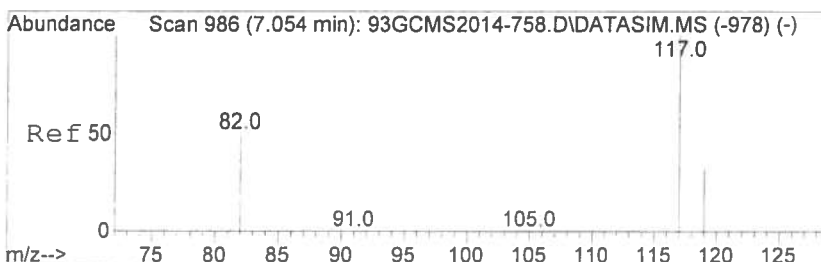
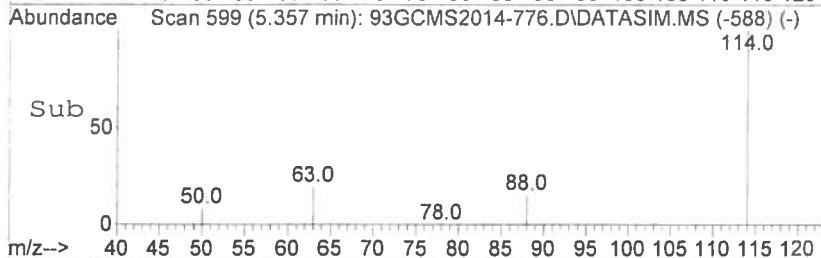
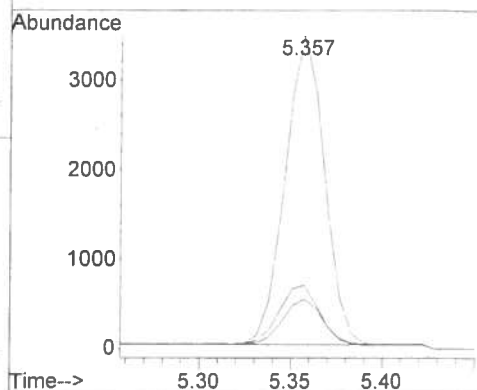
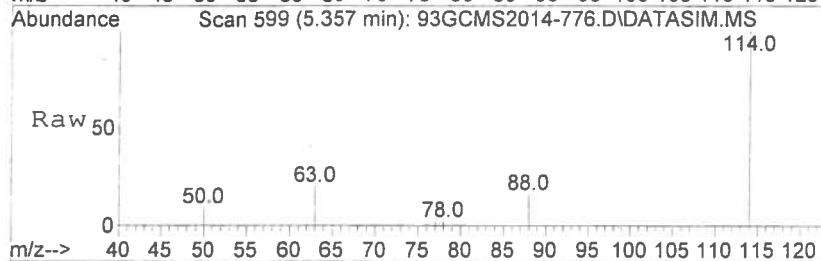
Tgt Ion	Ratio	Lower	Upper
83	100		
85	67.9	51.8	77.6
47	26.4	20.5	30.7





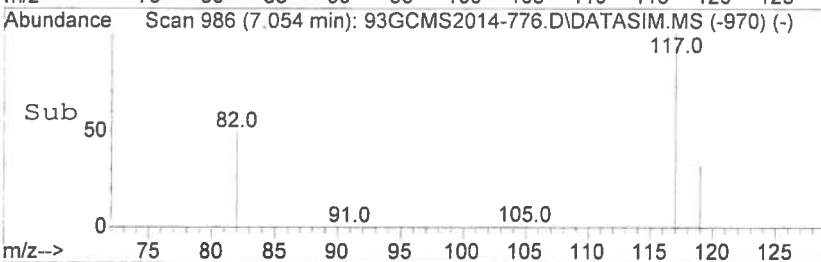
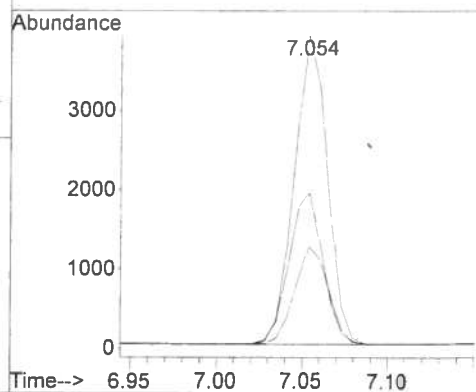
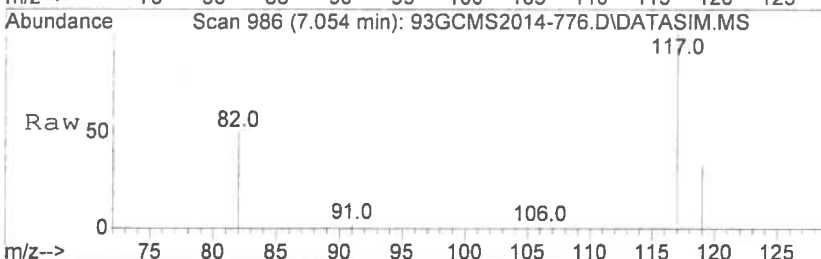
#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.357 min Scan# 599
Delta R.T. -0.002 min
Lab File: 93GCMS2014-776.D
Acq: 29 Sep 2014 21:48

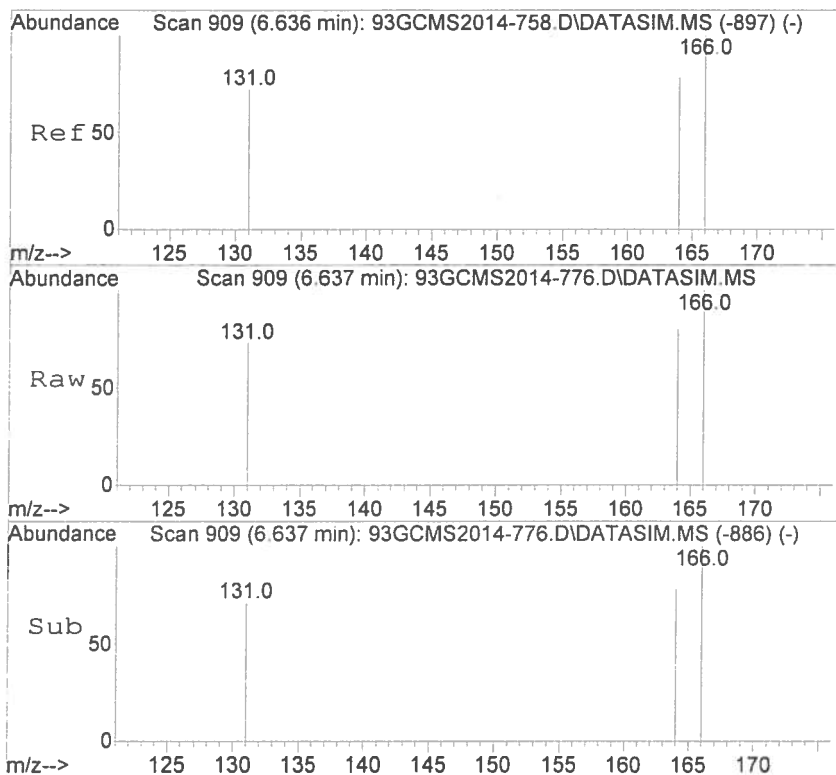
Tgt Ion	Ratio	Lower	Upper
114	100		
63	19.4	15.7	23.5
88	14.9	11.8	17.6



#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.054 min Scan# 986
Delta R.T. 0.000 min
Lab File: 93GCMS2014-776.D
Acq: 29 Sep 2014 21:48

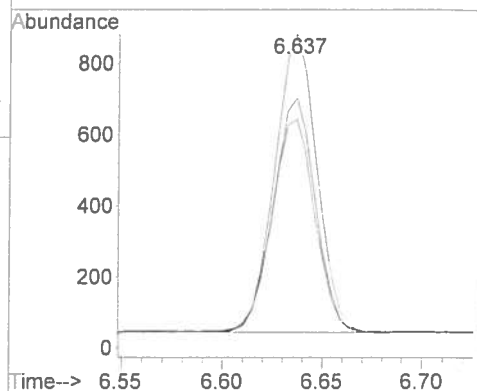
Tgt Ion	Ratio	Lower	Upper
117	100		
82	49.9	39.5	59.3
119	32.0	25.8	38.6



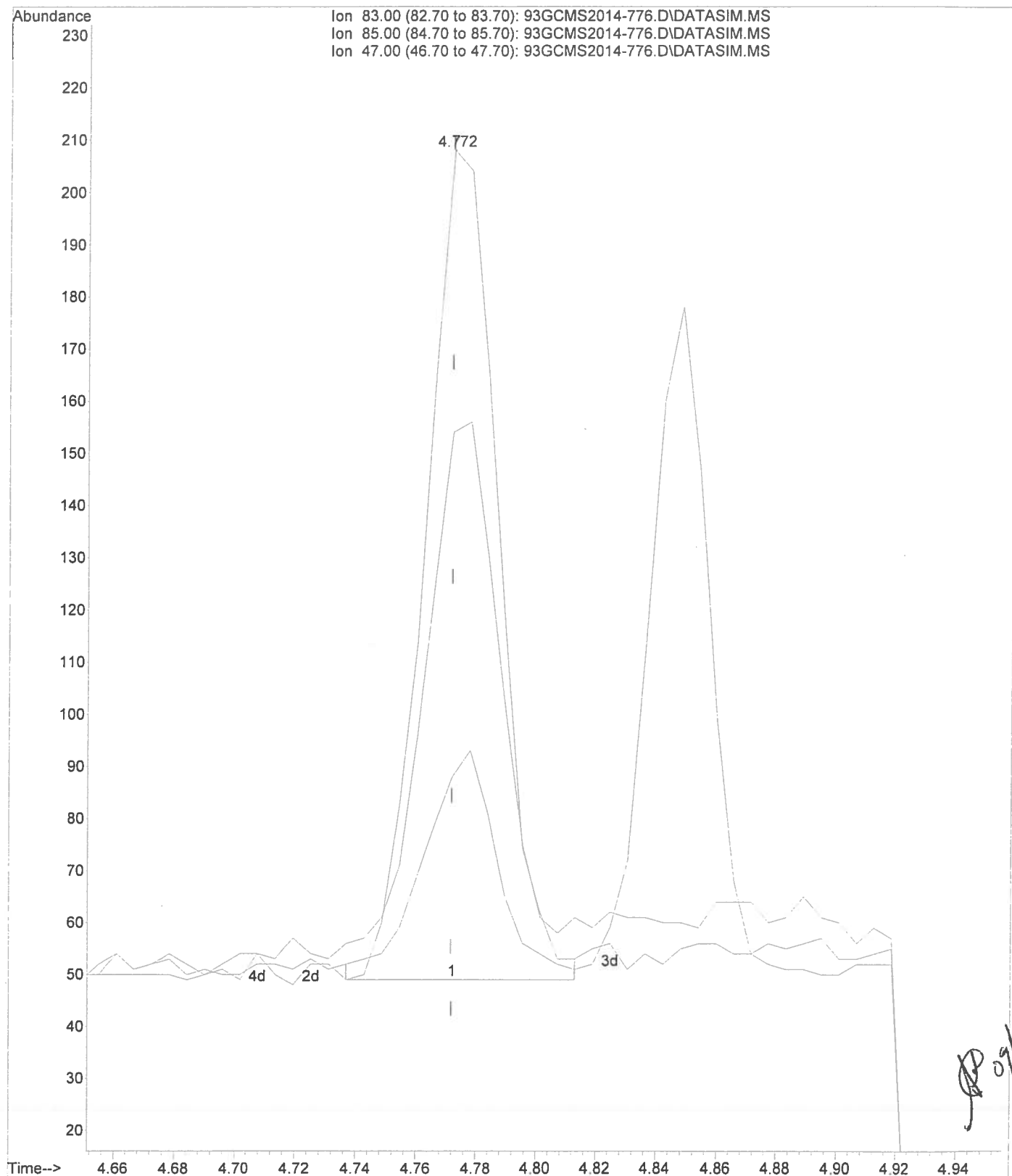


#15
Tetrachloroethene
Concen: 6.31 ppbv
RT: 6.637 min Scan# 909
Delta R.T. 0.000 min
Lab File: 93GCMS2014-776.D
Acq: 29 Sep 2014 21:48

Tgt Ion	Ratio	Resp	Lower	Upper
166	100	1232		
164	78.0	62.6	93.8	
131	72.5	57.9	86.9	

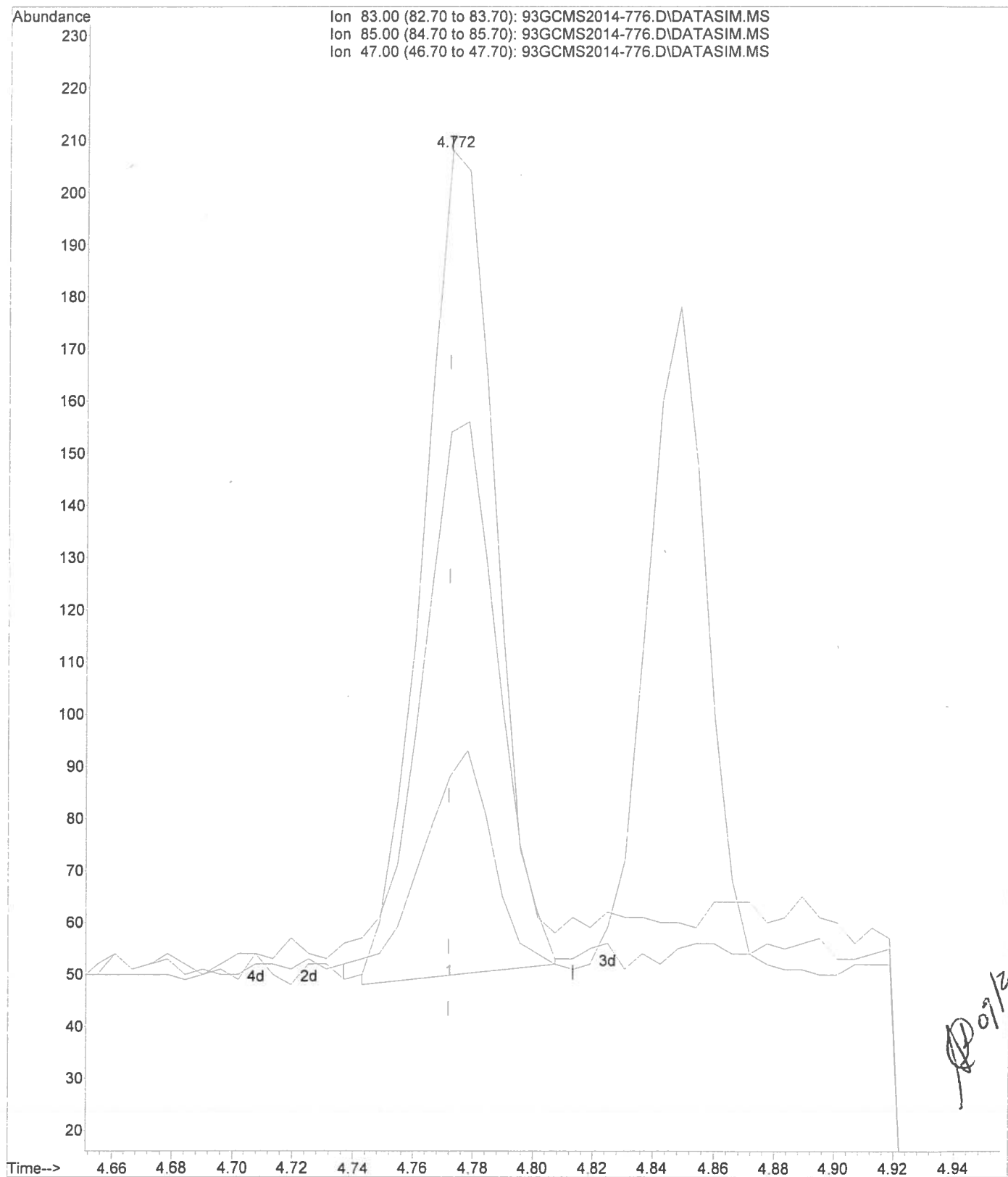


File :D:\msdchem\1\data\2014\20140929\93GCMS2014-776.D
Operator : SJT
Acquired : 29 Sep 2014 21:48 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: 53640 \ V18
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



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File : D:\msdchem\1\data\2014\20140929\93GCMS2014-776.D
Operator : SJT
Acquired : 29 Sep 2014 21:48 using AcqMethod LOOPSOP1741+HCCL3.M
Instrument : Instrument 2
Sample Name: 53640 \ V18
Misc Info : 5mL \ 29 Sept 2014
Vial Number: 1



09/27/14

Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-777.D
 Acq On : 29 Sep 2014 22:00
 Operator : SJT
 Sample : 53641 \ V20
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 29 22:06:44 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014

QLast Update : Mon Sep 29 18:48:25 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	4.848	49	1853	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	5160	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5312	10.00	ppbv	0.00

System Monitoring Compounds

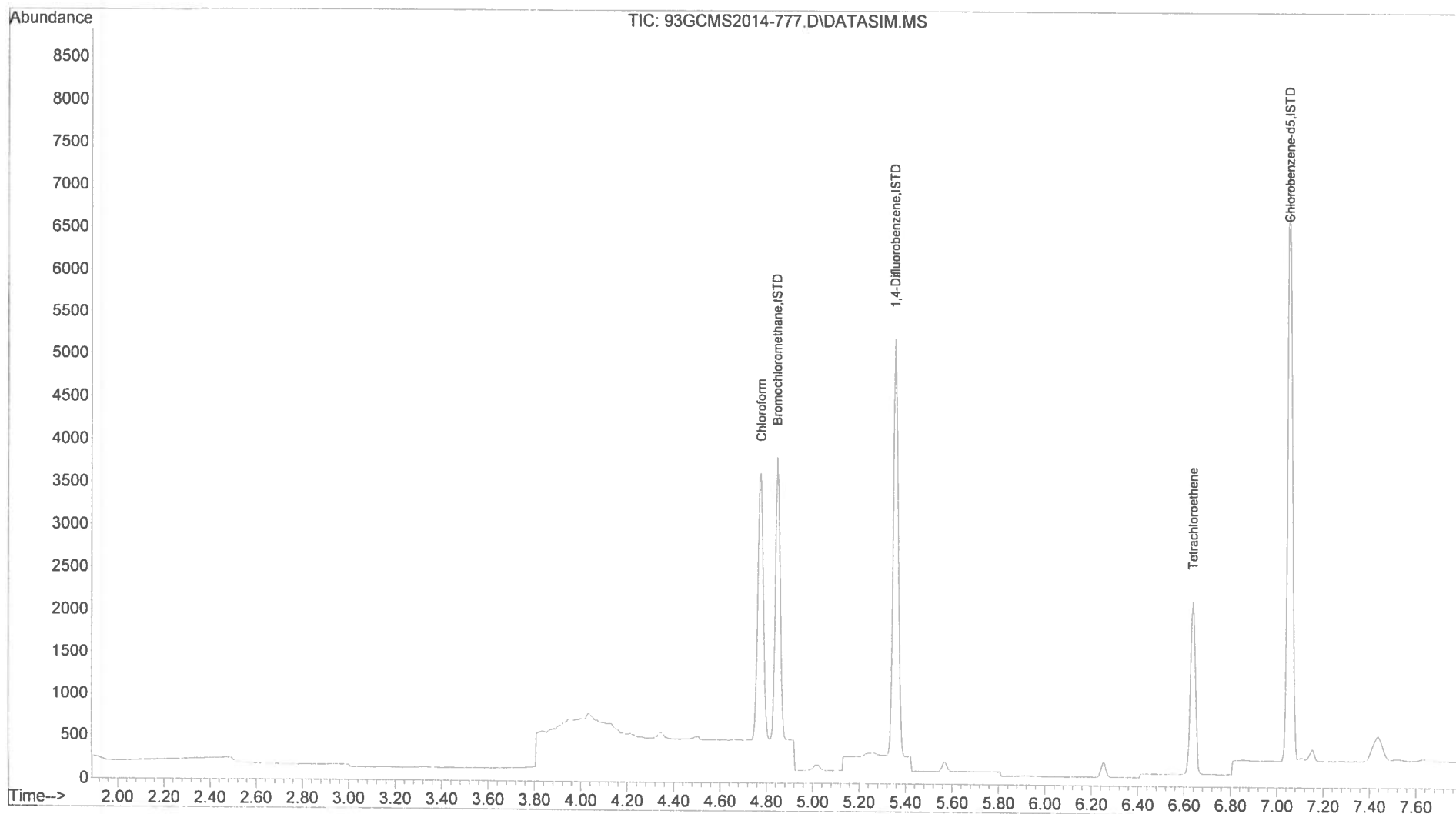
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
8) Chloroform	4.778	83	2633	13.99	ppbv	99
15) Tetrachloroethene	6.636	166	1199	6.12	ppbv	100

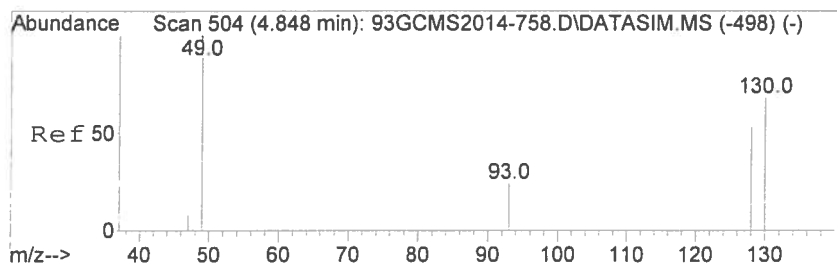
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Handwritten signature and date: 09/29/14

Data Path : D:\msdchem\1\data\2014\20140929\
 Data File : 93GCMS2014-777.D
 Acq On : 29 Sep 2014 22:00
 Operator : SJT
 Sample : 53641 \ V20
 Misc : 5mL \ 29 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

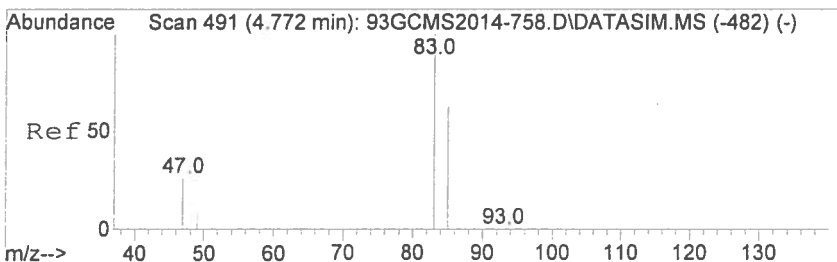
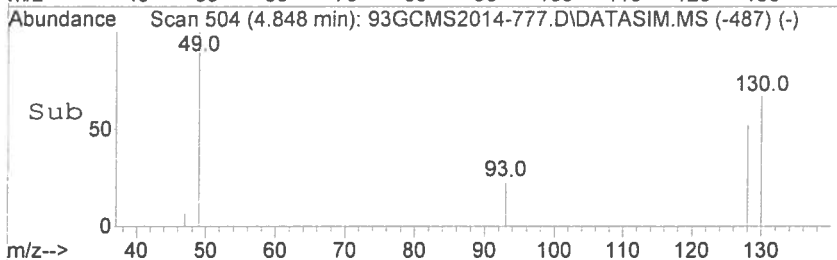
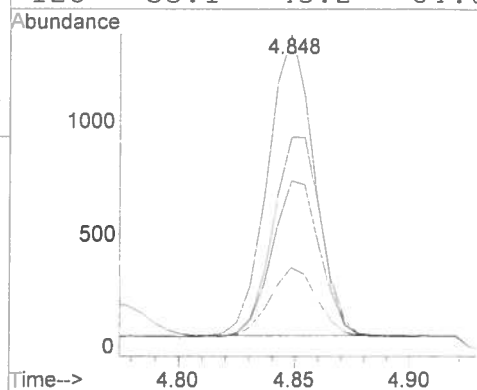
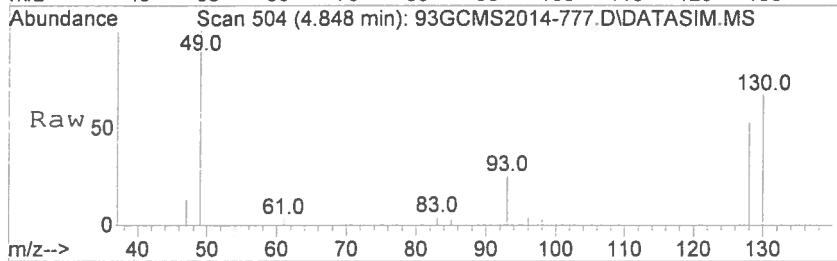
Quant Time: Sep 29 22:06:44 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjMon Sep 29 18:48:25 2014
 QLast Update : Mon Sep 29 18:48:25 2014
 Response via : Initial Calibration





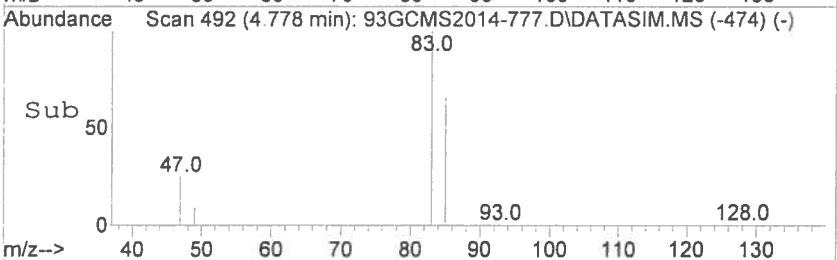
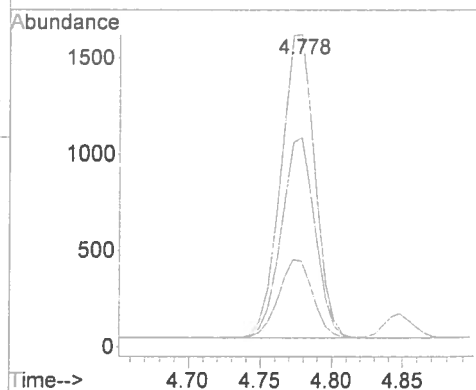
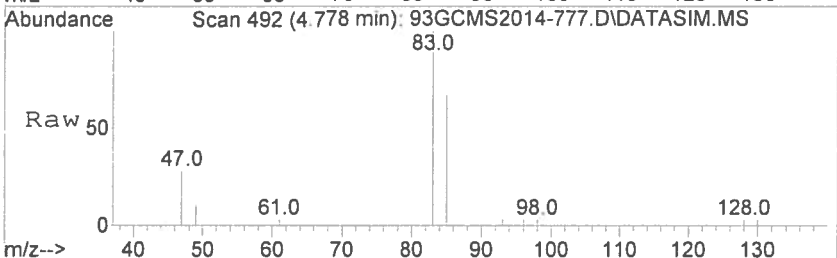
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. 0.000 min
Lab File: 93GCMS2014-777.D
Acq: 29 Sep 2014 22:00

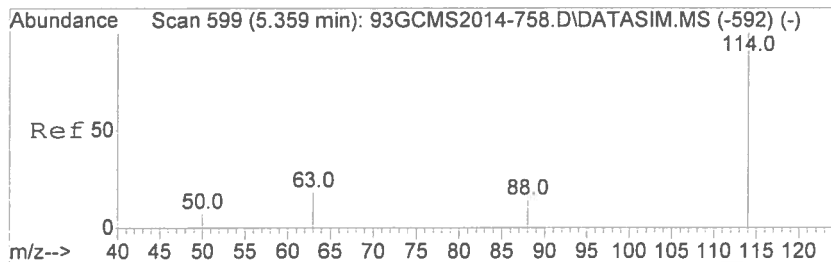
Tgt Ion: 49 Resp: 1853
Ion Ratio Lower Upper
49 100
130 67.1 54.4 81.6
93 25.4 21.1 31.7
128 53.1 43.2 64.8



#8
Chloroform
Concen: 13.99 ppbv
RT: 4.778 min Scan# 492
Delta R.T. 0.006 min
Lab File: 93GCMS2014-777.D
Acq: 29 Sep 2014 22:00

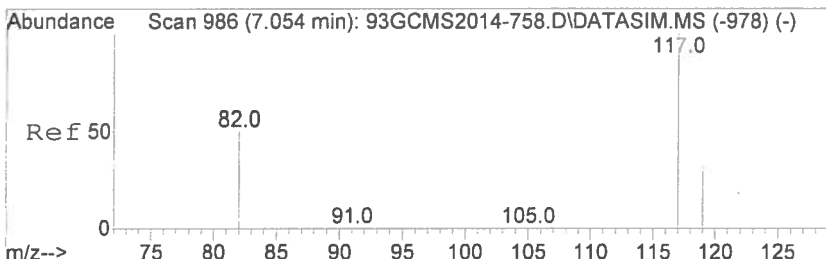
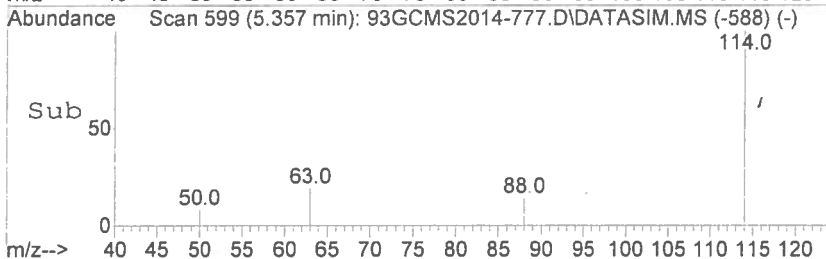
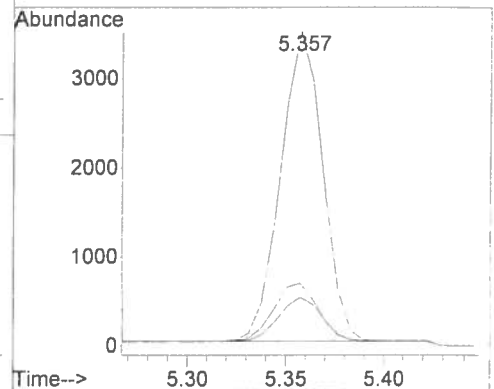
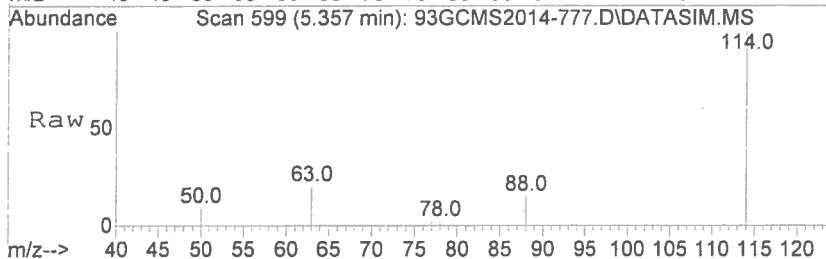
Tgt Ion: 83 Resp: 2633
Ion Ratio Lower Upper
83 100
85 65.6 51.8 77.6
47 25.6 20.5 30.7





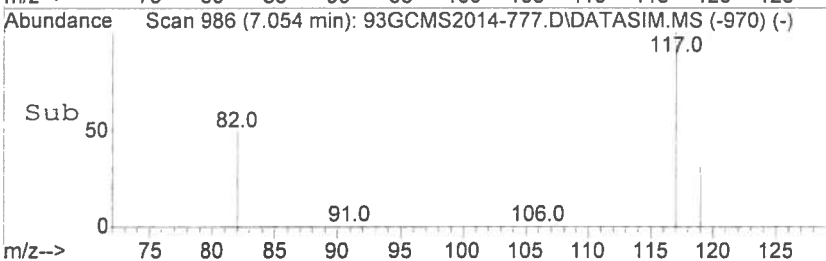
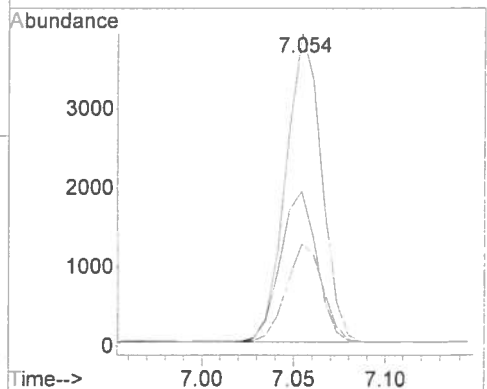
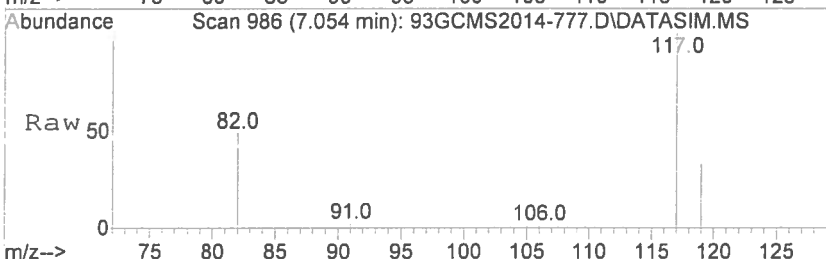
#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.357 min Scan# 599
Delta R.T. -0.002 min
Lab File: 93GCMS2014-777.D
Acq: 29 Sep 2014 22:00

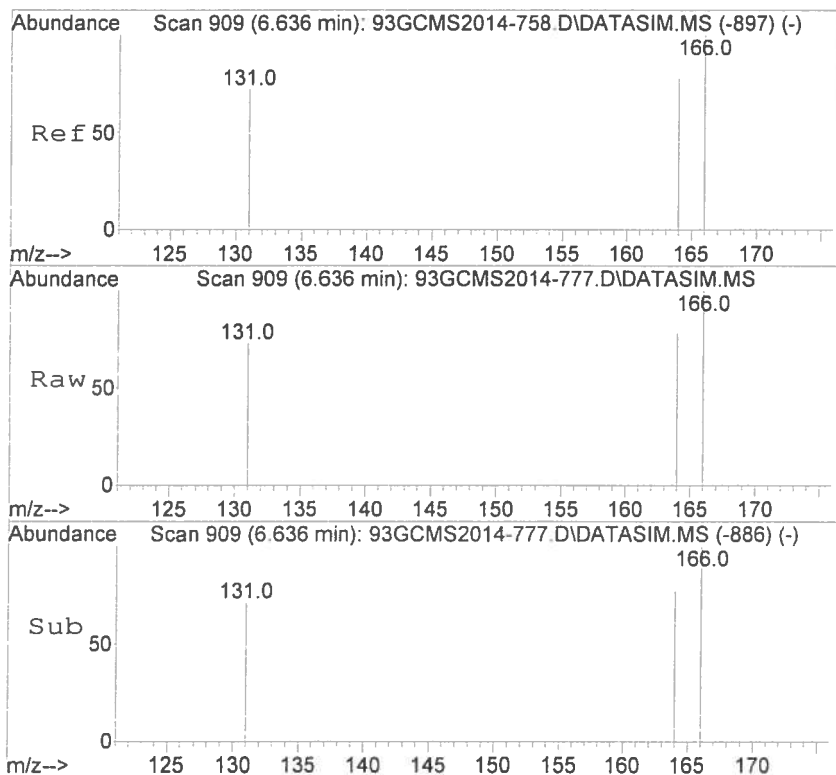
Tgt Ion	Ratio	Resp	Lower	Upper
114	100	5160		
63	19.4	15.7	23.5	
88	14.6	11.8	17.6	



#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.054 min Scan# 986
Delta R.T. 0.000 min
Lab File: 93GCMS2014-777.D
Acq: 29 Sep 2014 22:00

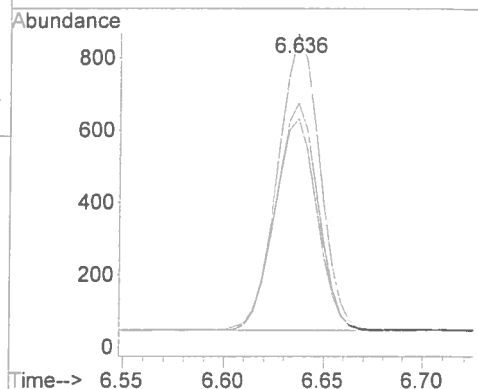
Tgt Ion	Ratio	Resp	Lower	Upper
117	100	5312		
82	49.1	39.5	59.3	
119	32.3	25.8	38.6	





#15
 Tetrachloroethene
 Concen: 6.12 ppbv
 RT: 6.636 min Scan# 909
 Delta R.T. 0.000 min
 Lab File: 93GCMS2014-777.D
 Acq: 29 Sep 2014 22:00

Tgt Ion	Ratio	Resp	Lower	Upper
166	100	1199		
164	77.6		62.6	93.8
131	72.2		57.9	86.9



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140930\
 Data File : 93GCMS2014-782.D
 Acq On : 30 Sep 2014 10:06
 Operator : SJT
 Sample : 20140930-MB \ Methgod Blank
 Misc : 5mL \ 30 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 30 10:13:10 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjTue Sep 30 09:39:46 2014
 QLast Update : Tue Sep 30 09:39:46 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)

Internal Standards						
1) Bromochloromethane	4.848	49	1843	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	5085	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5169	10.00	ppbv	0.00

System Monitoring Compounds

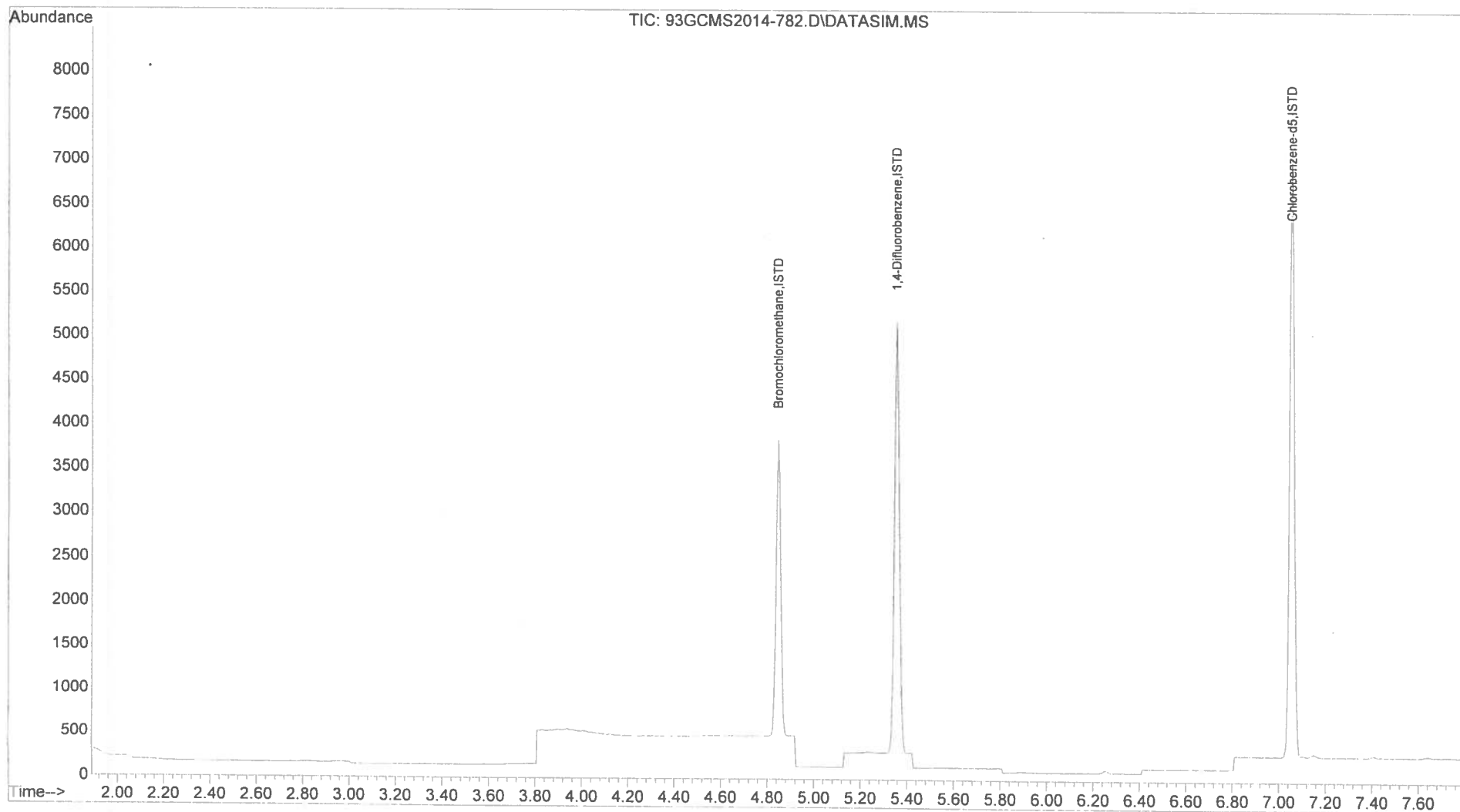
Target Compounds	Qvalue

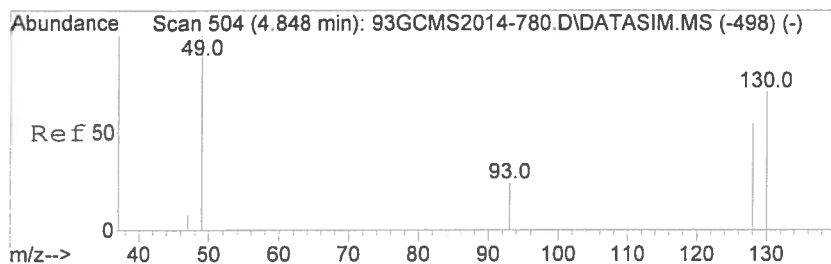
(#) = qualifier out of range (m) = manual integration (+) = signals summed

09/30/14

Data Path : D:\msdchem\1\data\2014\20140930\
Data File : 93GCMS2014-782.D
Acq On : 30 Sep 2014 10:06
Operator : SJT
Sample : 20140930-MB \ Methgod Blank
Misc : 5mL \ 30 Sept 2014
ALS Vial : 1 Sample Multiplier: 1

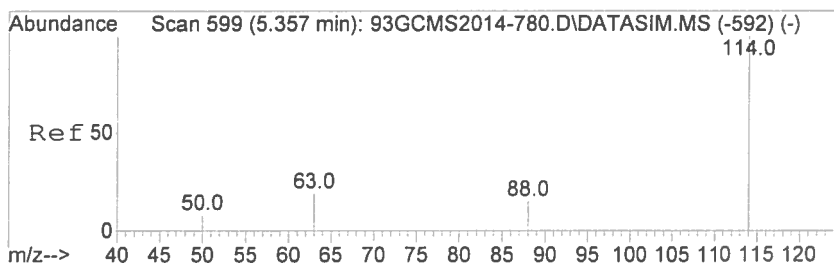
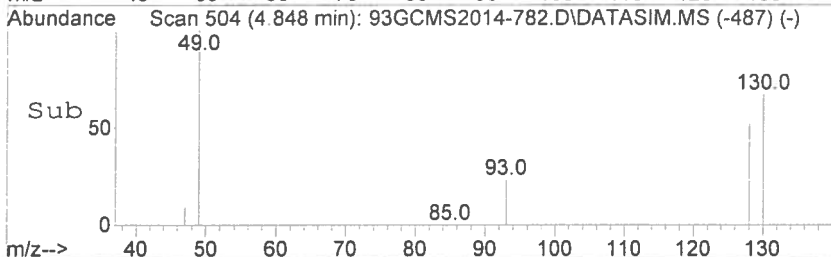
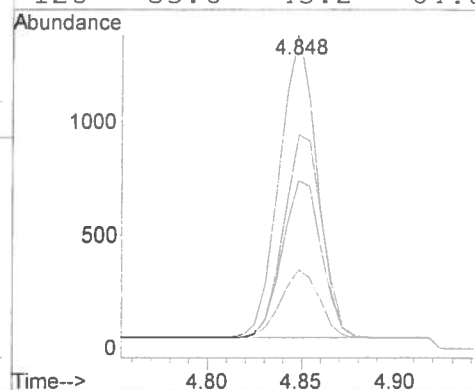
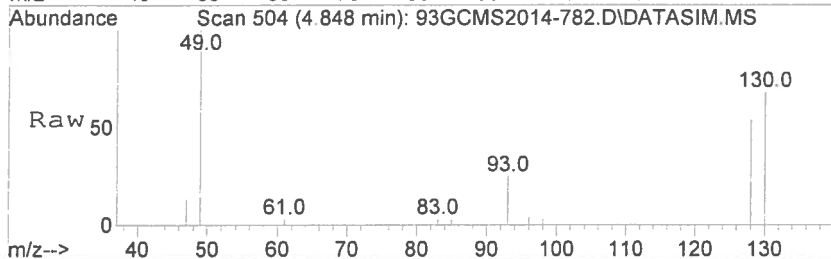
Quant Time: Sep 30 10:13:10 2014
Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjTue Sep 30 09:39:46 2014
QLast Update : Tue Sep 30 09:39:46 2014
Response via : Initial Calibration





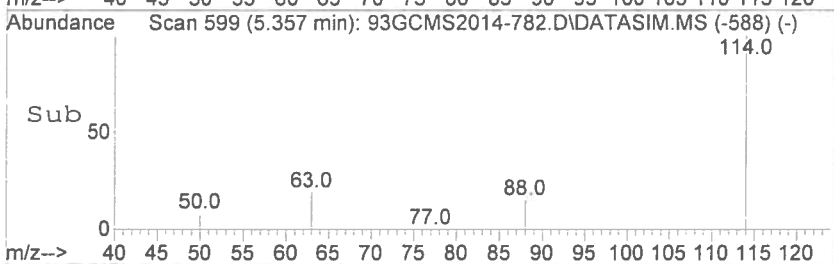
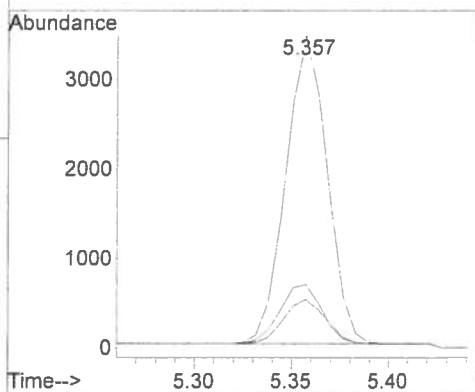
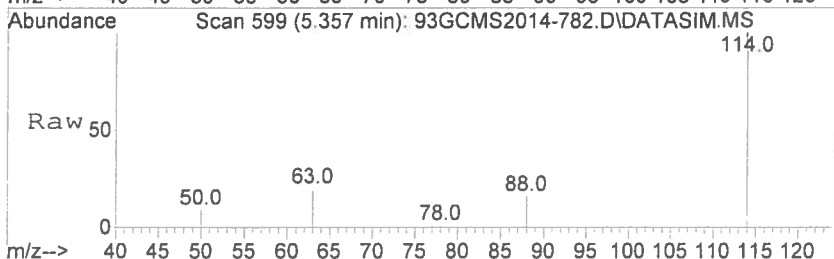
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. -0.000 min
Lab File: 93GCMS2014-782.D
Acq: 30 Sep 2014 10:06

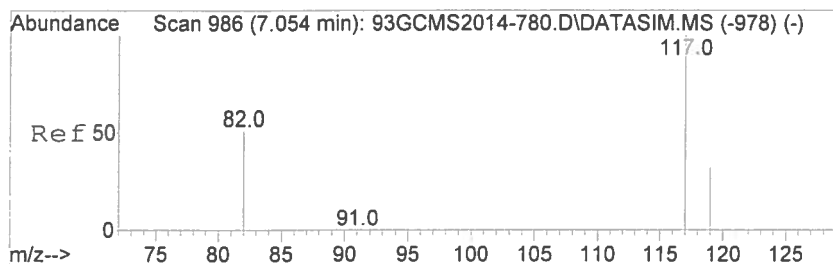
Tgt Ion	Ratio	Lower	Upper
49	100		
130	68.2	54.4	81.6
93	25.1	21.1	31.7
128	53.6	43.2	64.8



#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.357 min Scan# 599
Delta R.T. -0.000 min
Lab File: 93GCMS2014-782.D
Acq: 30 Sep 2014 10:06

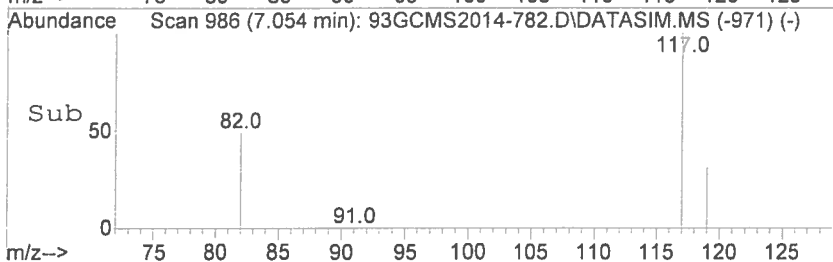
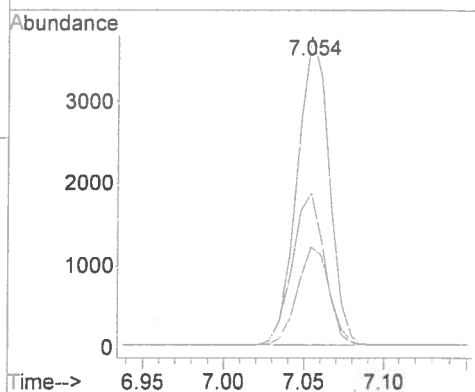
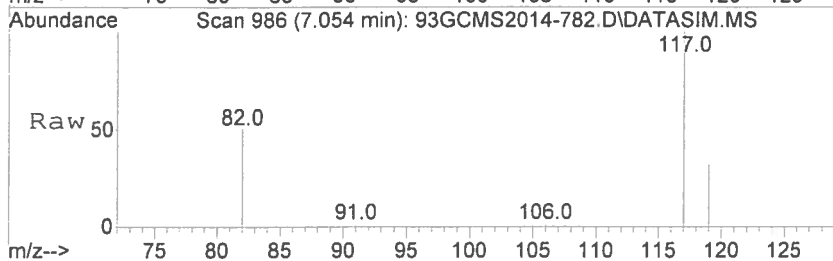
Tgt Ion	Ratio	Lower	Upper
114	100		
63	19.7	15.7	23.5
88	14.8	11.8	17.6





#13
 Chlorobenzene-d5
 Concen: 10.00 ppbv
 RT: 7.054 min Scan# 986
 Delta R.T. -0.000 min
 Lab File: 93GCMS2014-782.D
 Acq: 30 Sep 2014 10:06

Tgt Ion: 117	Resp: 5169
Ion Ratio	Lower Upper
117 100	
82 49.3	39.5 59.3
119 32.0	25.8 38.6



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140930\
 Data File : 93GCMS2014-784.D
 Acq On : 30 Sep 2014 10:30
 Operator : SJT
 Sample : 53643 \ Unit 84
 Misc : 5mL \ 30 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 30 10:38:25 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjTue Sep 30 09:39:46 2014

QLast Update : Tue Sep 30 09:39:46 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)

Internal Standards						
1) Bromochloromethane	4.854	49	1840	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	5036	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5079	10.00	ppbv	0.00

System Monitoring Compounds

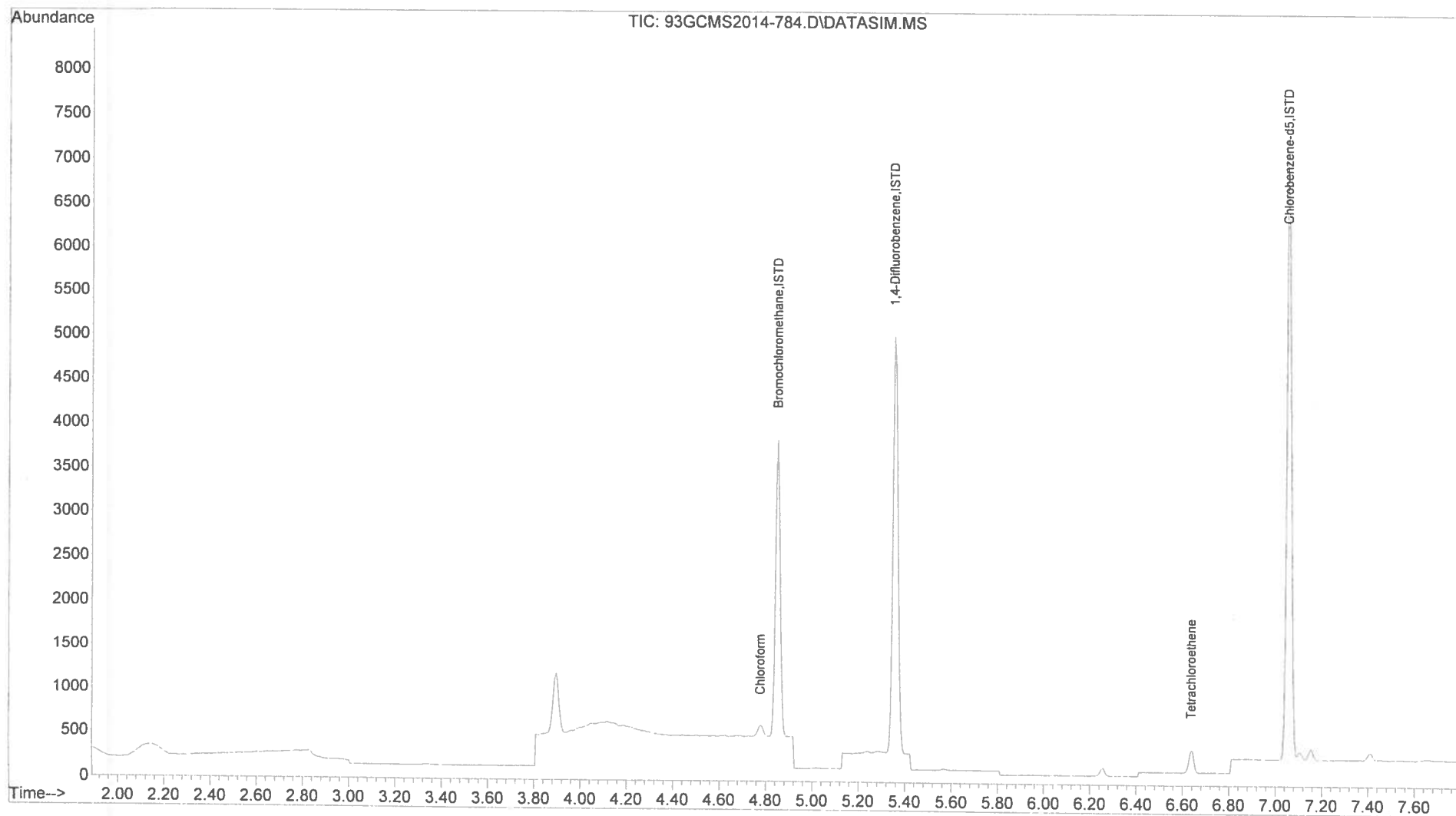
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
8) Chloroform	4.778	83	106	0.57	ppbv	96
15) Tetrachloroethene	6.636	166	146	0.78	ppbv	99

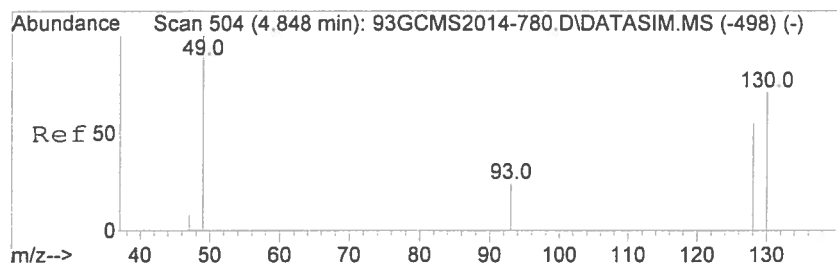
(#) = qualifier out of range (m) = manual integration (+) = signals summed

09/29

Data Path : D:\msdchem\1\data\2014\20140930\
Data File : 93GCMS2014-784.D
Acq On : 30 Sep 2014 10:30
Operator : SJT
Sample : 53643 \ Unit 84
Misc : 5mL \ 30 Sept 2014
ALS Vial : 1 Sample Multiplier: 1

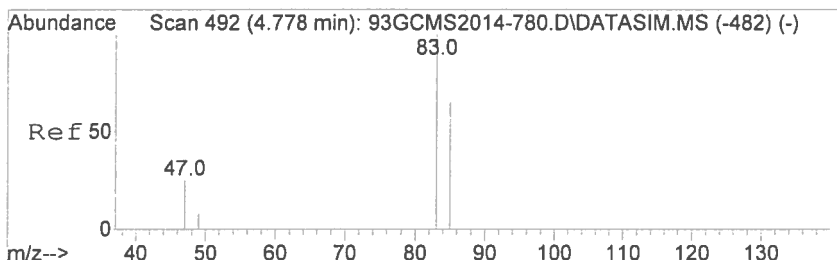
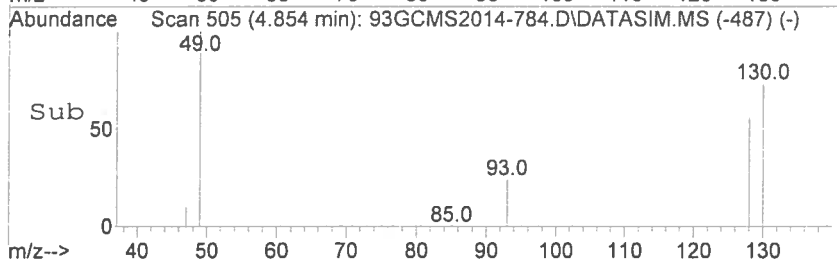
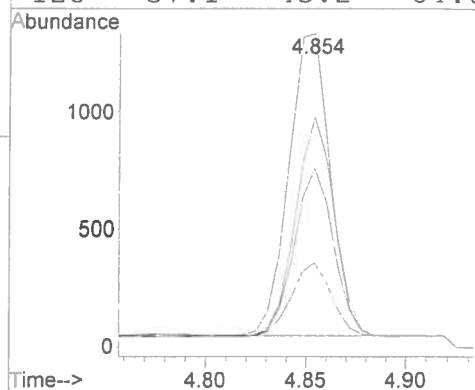
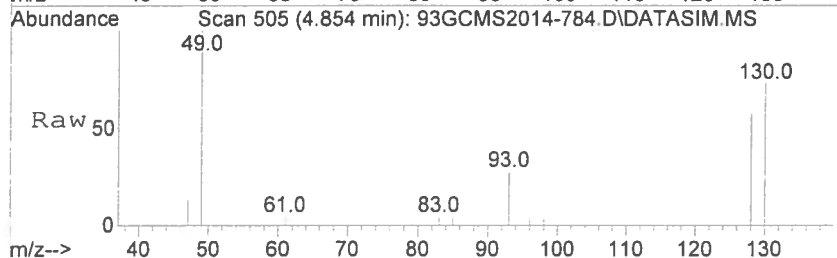
Quant Time: Sep 30 10:38:25 2014
Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjTue Sep 30 09:39:46 2014
QLast Update : Tue Sep 30 09:39:46 2014
Response via : Initial Calibration





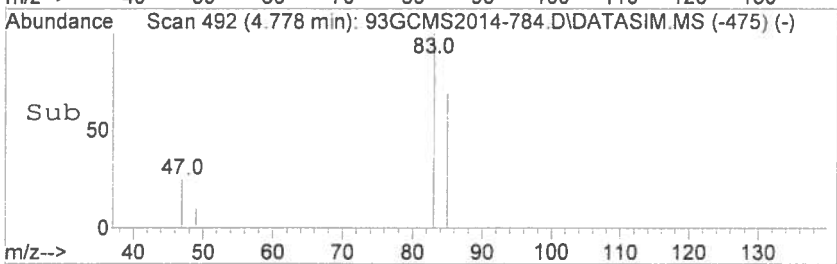
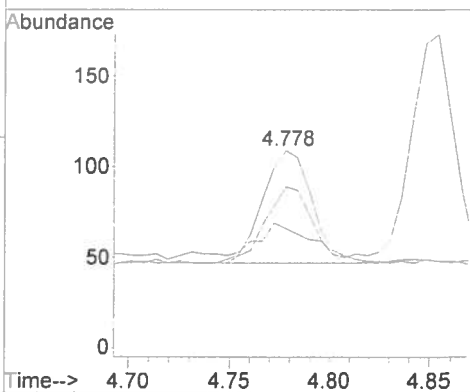
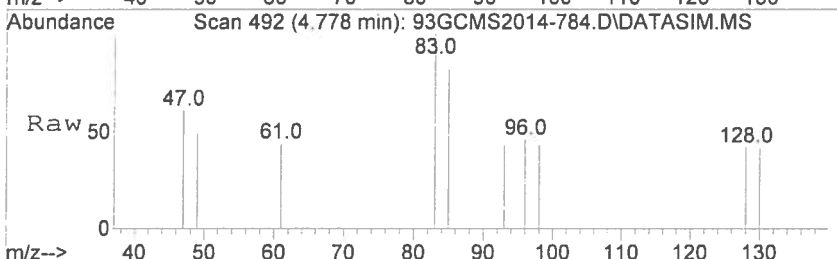
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.854 min Scan# 505
Delta R.T. 0.006 min
Lab File: 93GCMS2014-784.D
Acq: 30 Sep 2014 10:30

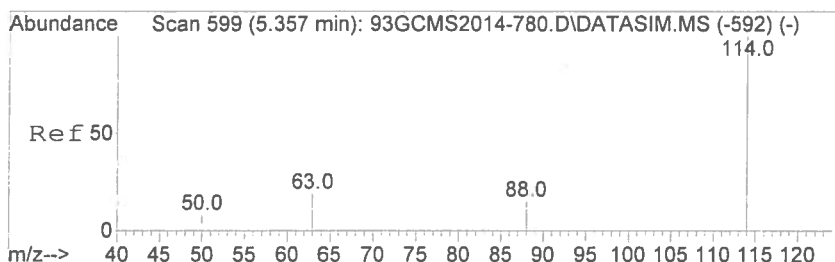
Tgt Ion: 49 Resp: 1840
Ion Ratio Lower Upper
49 100
130 73.5 54.4 81.6
93 27.0 21.1 31.7
128 57.1 43.2 64.8



#8
Chloroform
Concen: 0.57 ppbv
RT: 4.778 min Scan# 492
Delta R.T. -0.000 min
Lab File: 93GCMS2014-784.D
Acq: 30 Sep 2014 10:30

Tgt Ion: 83 Resp: 106
Ion Ratio Lower Upper
83 100
85 63.2 51.8 77.6
47 30.2 20.5 30.7





#10

1,4-Difluorobenzene

Concen: 10.00 ppbv

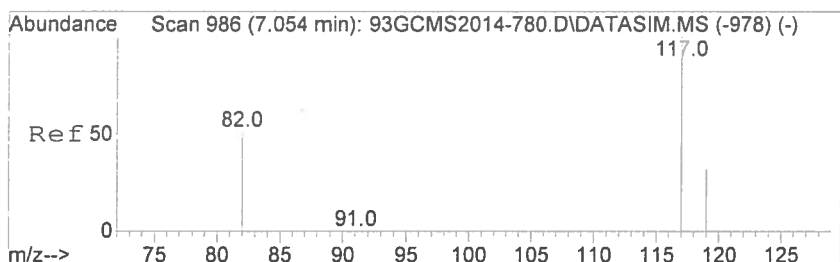
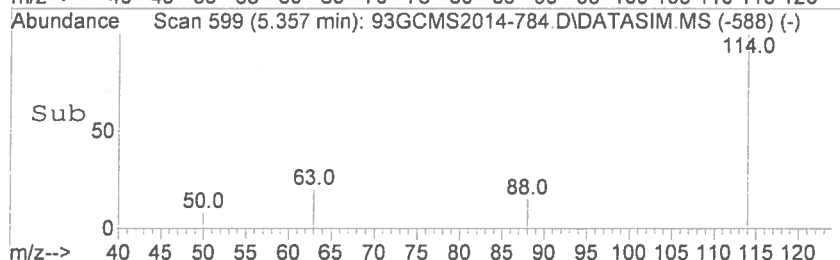
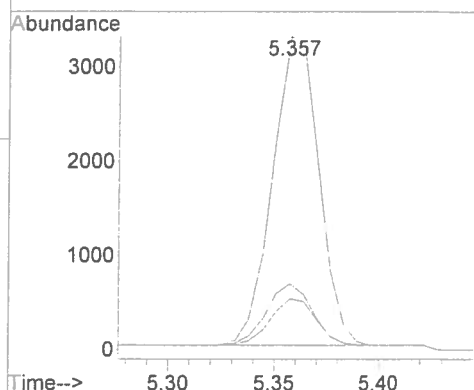
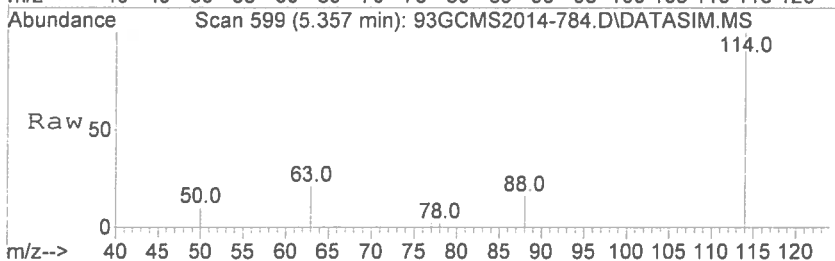
RT: 5.357 min Scan# 599

Delta R.T. -0.000 min

Lab File: 93GCMS2014-784.D

Acq: 30 Sep 2014 10:30

Tgt Ion: 114	Resp: 5036
Ion Ratio	Lower Upper
114 100	
63 19.5	15.7 23.5
88 14.9	11.8 17.6



#13

Chlorobenzene-d5

Concen: 10.00 ppbv

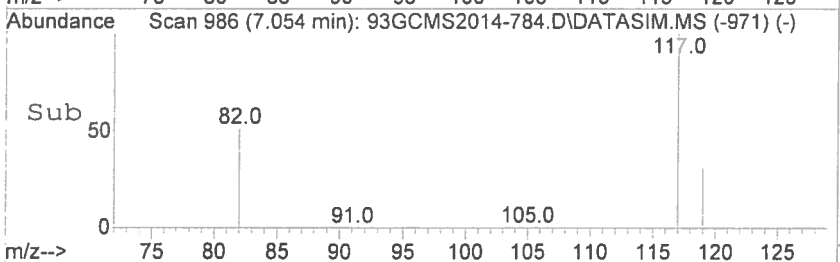
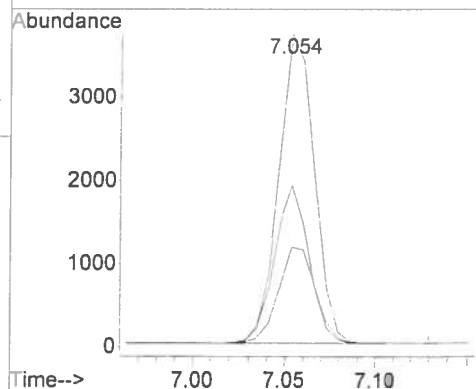
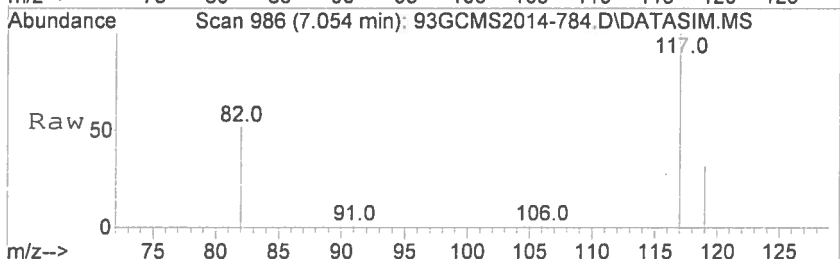
RT: 7.054 min Scan# 986

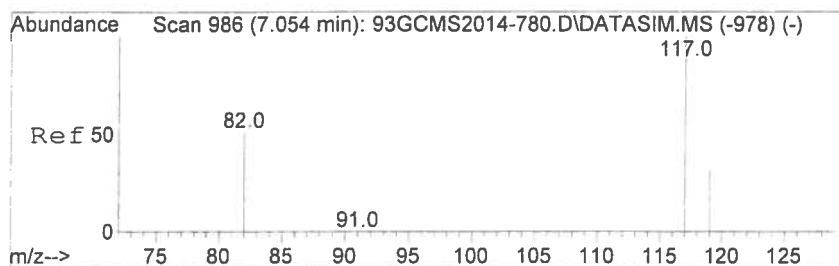
Delta R.T. -0.000 min

Lab File: 93GCMS2014-784.D

Acq: 30 Sep 2014 10:30

Tgt Ion: 117	Resp: 5079
Ion Ratio	Lower Upper
117 100	
82 49.7	39.5 59.3
119 32.1	25.8 38.6





#13

Chlorobenzene-d5

Concen: 10.00 ppbv

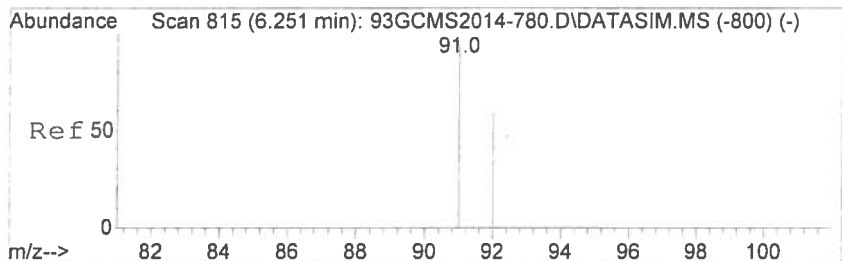
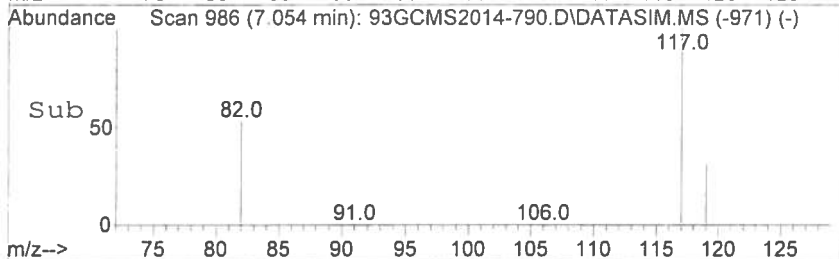
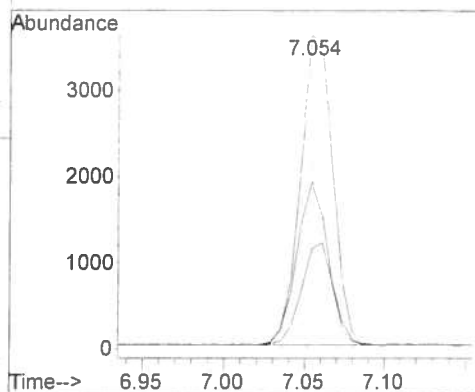
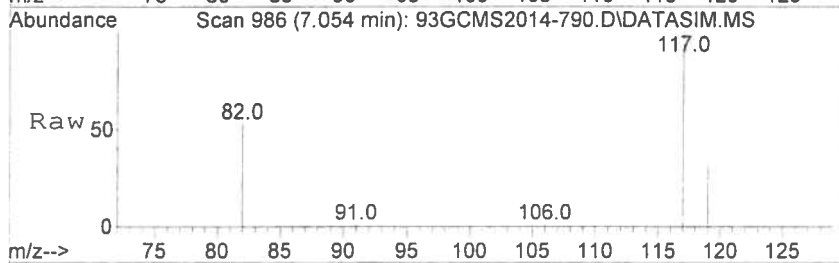
RT: 7.054 min Scan# 986

Delta R.T. -0.000 min

Lab File: 93GCMS2014-790.D

Acq: 30 Sep 2014 15:33

Tgt Ion: 117	Resp: 5091
Ion Ratio Lower Upper	
117 100	
82 50.4	39.5 59.3
119 32.3	25.8 38.6



#14

Toluene

Concen: 0.56 ppbv

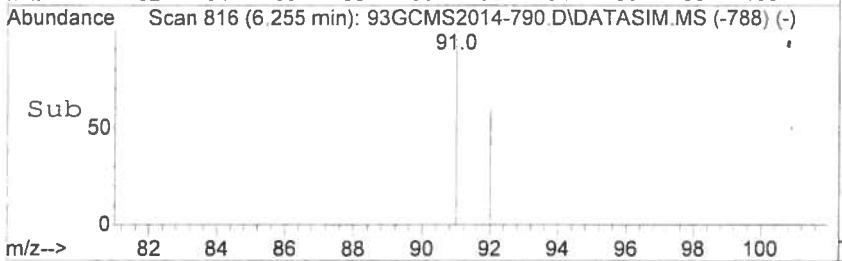
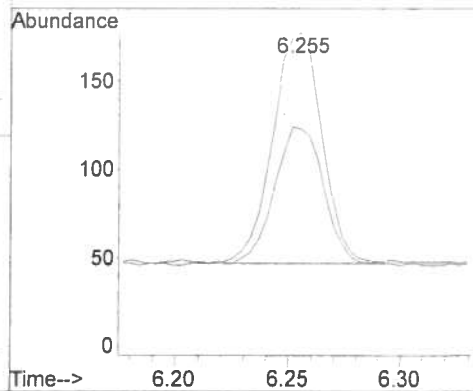
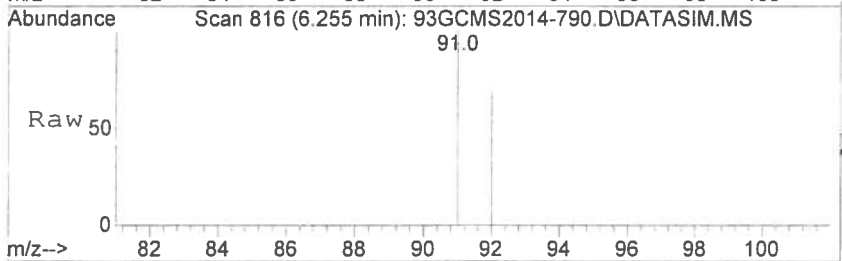
RT: 6.255 min Scan# 816

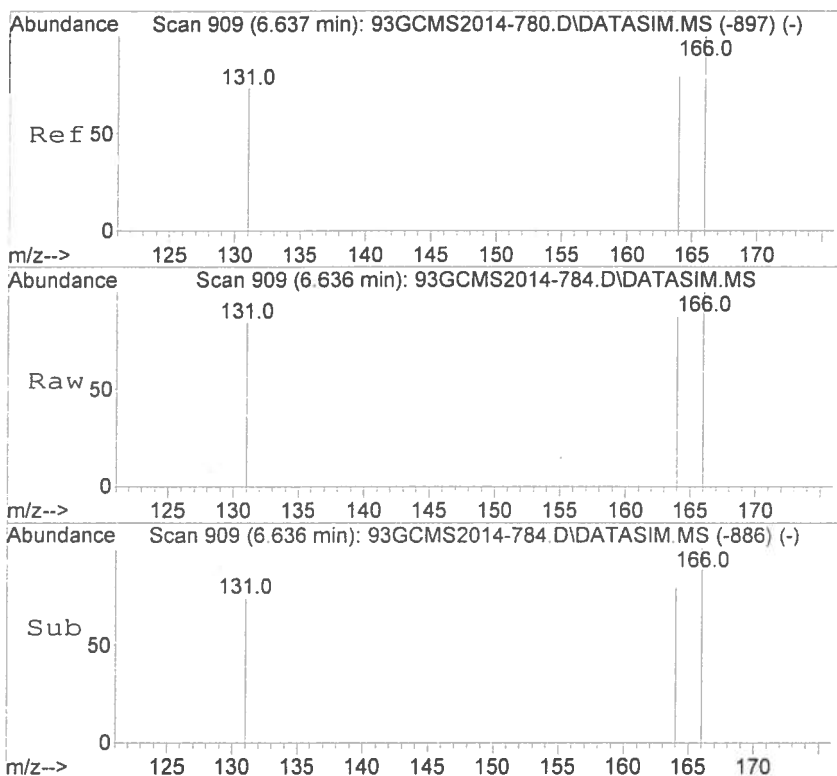
Delta R.T. 0.004 min

Lab File: 93GCMS2014-790.D

Acq: 30 Sep 2014 15:33

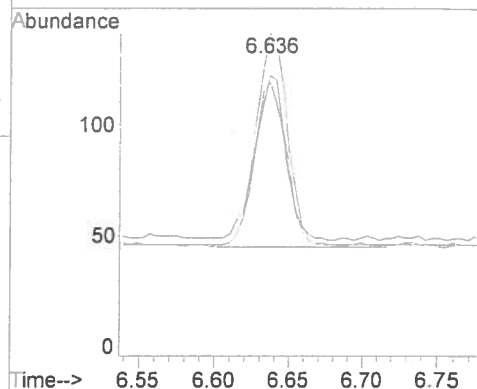
Tgt Ion: 91	Resp: 200
Ion Ratio Lower Upper	
91 100	
92 60.5	47.4 71.2





#15
Tetrachloroethene
Concen: 0.78 ppbv
RT: 6.636 min Scan# 909
Delta R.T. -0.000 min
Lab File: 93GCMS2014-784.D
Acq: 30 Sep 2014 10:30

Tgt Ion	Ratio	Lower	Upper
166	100		
164	76.7	62.6	93.8
131	72.6	57.9	86.9



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140930\
 Data File : 93GCMS2014-785.D
 Acq On : 30 Sep 2014 11:24
 Operator : SJT
 Sample : 53642 \ Unit 34
 Misc : 5mL \ 30 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 30 11:43:35 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjTue Sep 30 09 39:46 2014

QLast Update : Tue Sep 30 09:39:46 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Bromochloromethane	4.848	49	1895	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	5185	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5261	10.00	ppbv	0.00

System Monitoring Compounds

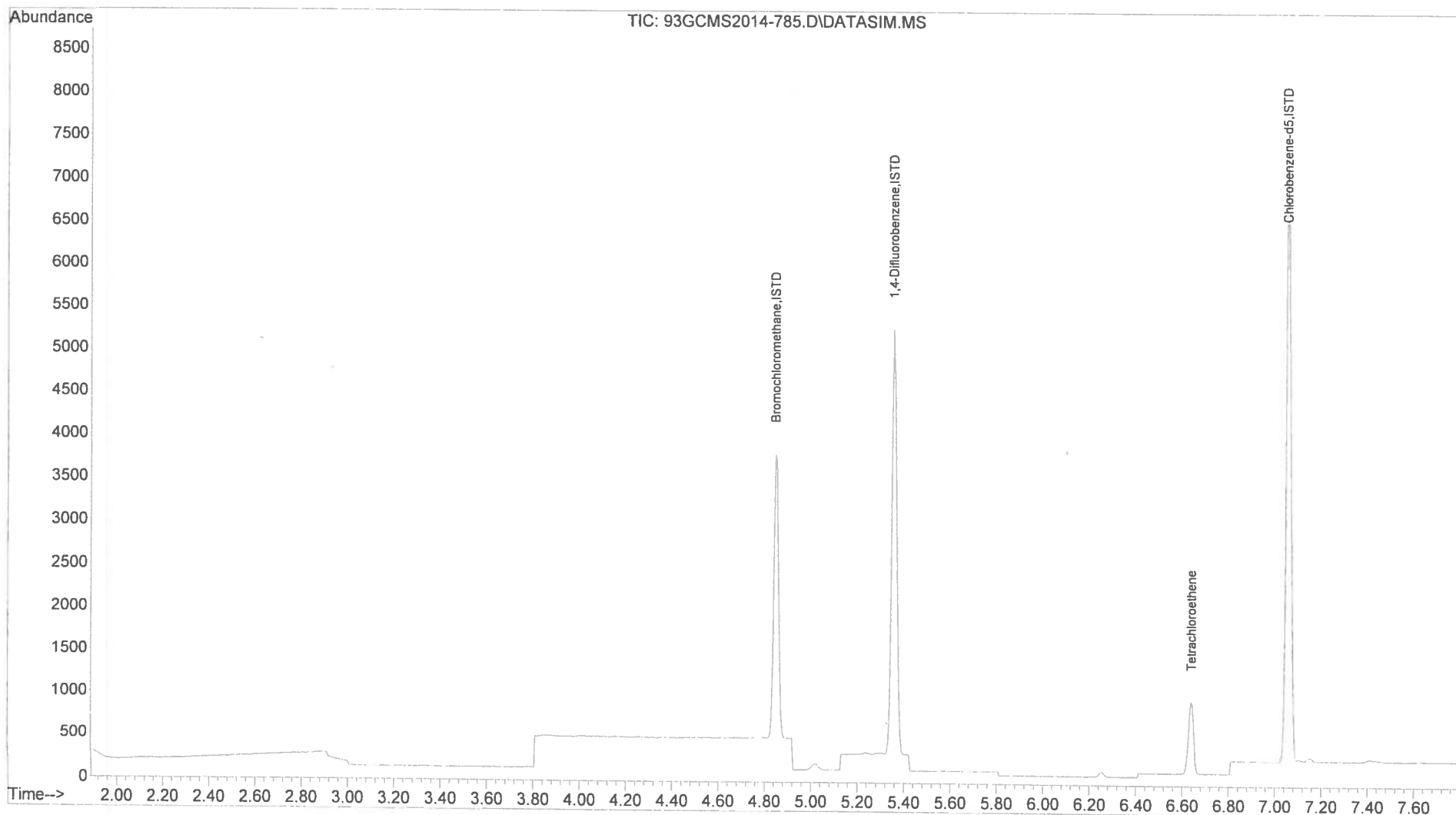
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
15) Tetrachloroethene	6.636	166	502	2.59	ppbv	99

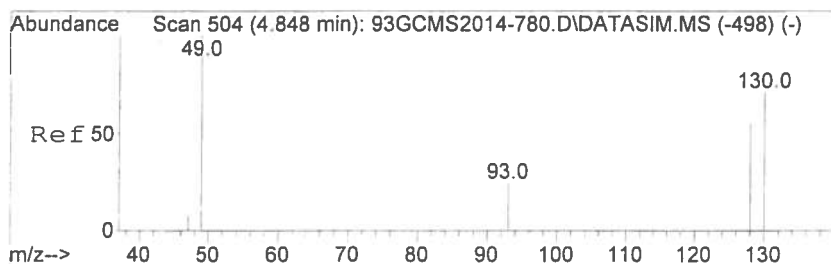
(#) = qualifier out of range (m) = manual integration (+) = signals summed

[Handwritten Signature] 09/30/14

Data Path : D:\msdchem\1\data\2014\20140930\
 Data File : 93GCMS2014-785.D
 Acq On : 30 Sep 2014 11:24
 Operator : SJT
 Sample : 53642 \ Unit 34
 Misc : 5mL \ 30 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

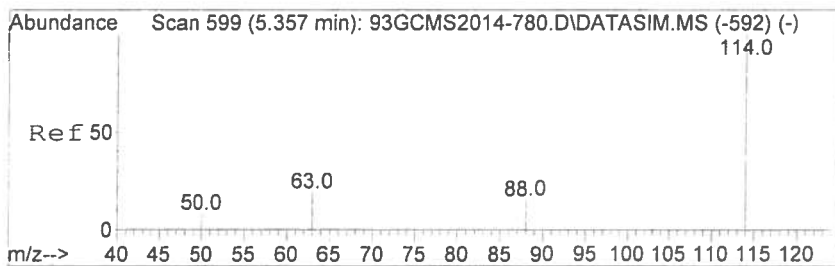
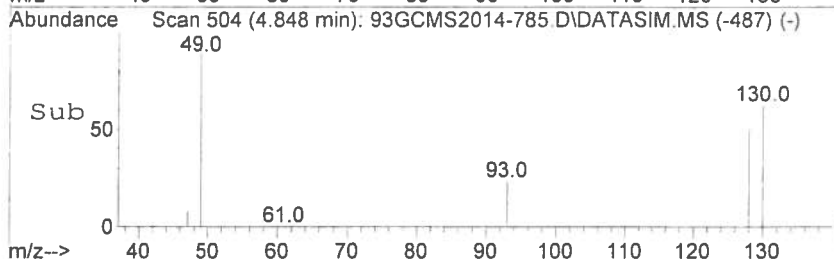
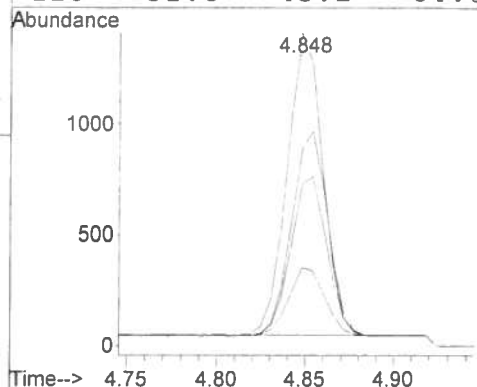
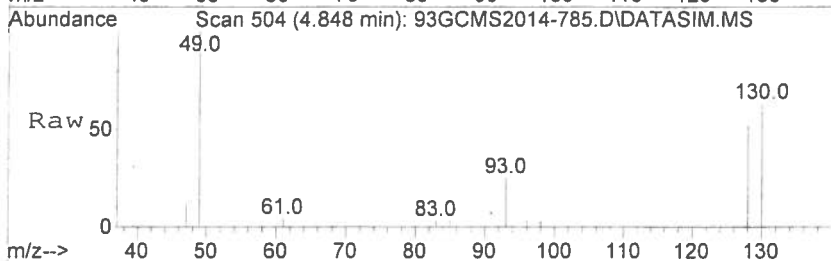
Quant Time: Sep 30 11:43:35 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjTue Sep 30 09:39:46 2014
 QLast Update : Tue Sep 30 09:39:46 2014
 Response via : Initial Calibration





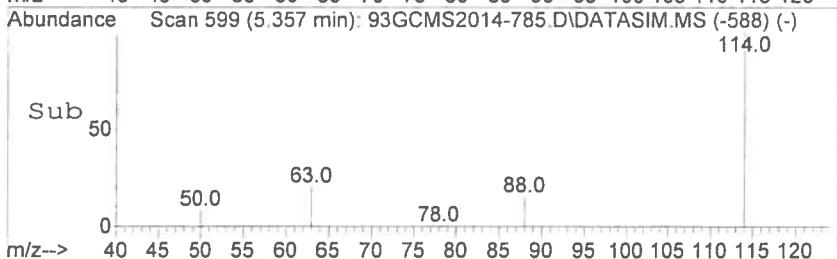
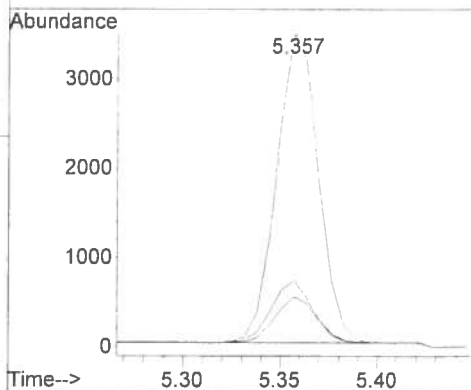
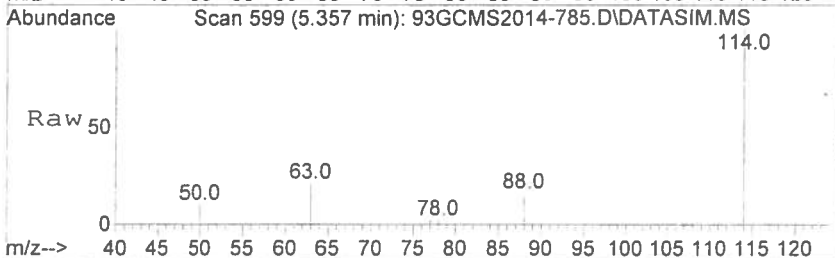
#1
 Bromochloromethane
 Concen: 10.00 ppbv
 RT: 4.848 min Scan# 504
 Delta R.T. -0.000 min
 Lab File: 93GCMS2014-785.D
 Acq: 30 Sep 2014 11:24

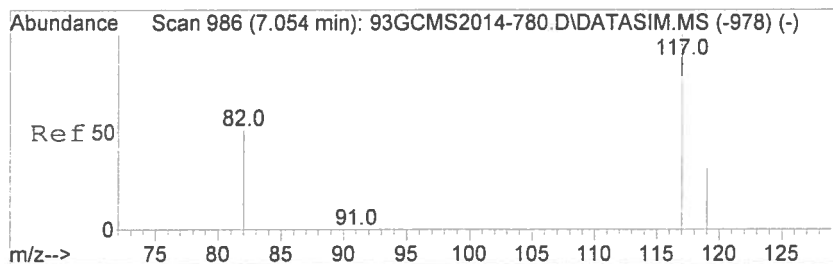
Tgt Ion:	49	Resp:	1895
Ion Ratio	Lower	Upper	
49	100		
130	63.4	54.4	81.6
93	25.1	21.1	31.7
128	51.8	43.2	64.8



#10
 1,4-Difluorobenzene
 Concen: 10.00 ppbv
 RT: 5.357 min Scan# 599
 Delta R.T. -0.000 min
 Lab File: 93GCMS2014-785.D
 Acq: 30 Sep 2014 11:24

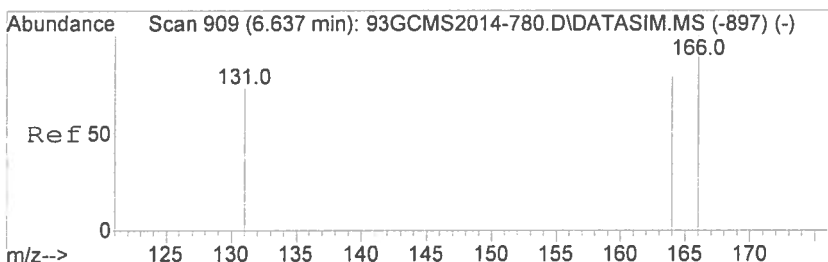
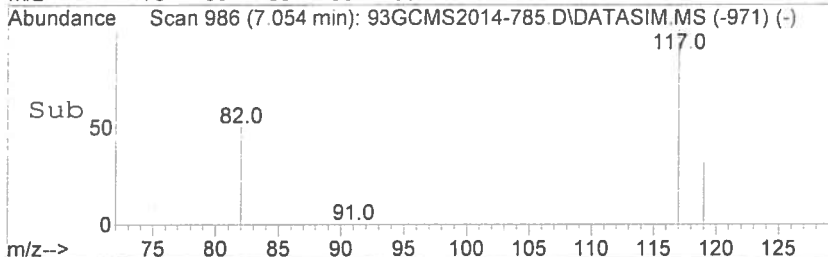
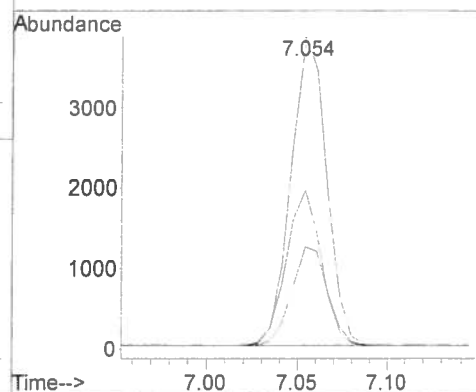
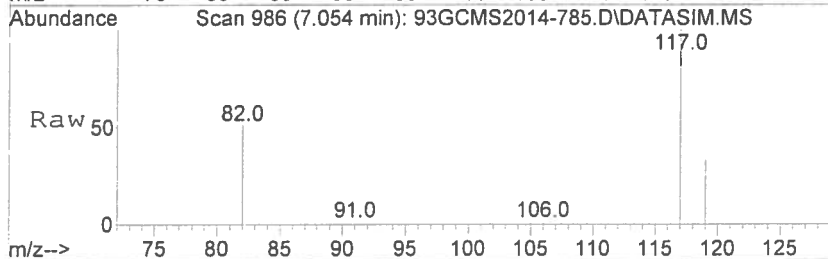
Tgt Ion:	114	Resp:	5185
Ion Ratio	Lower	Upper	
114	100		
63	19.7	15.7	23.5
88	14.8	11.8	17.6





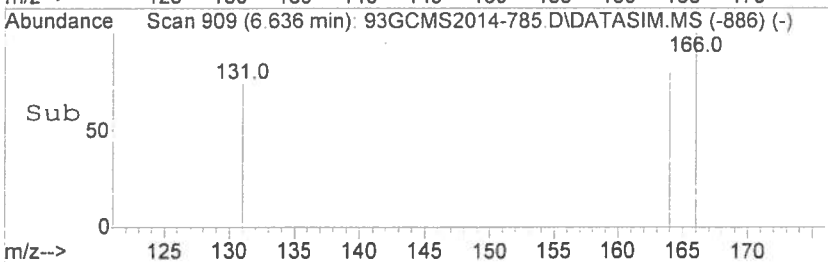
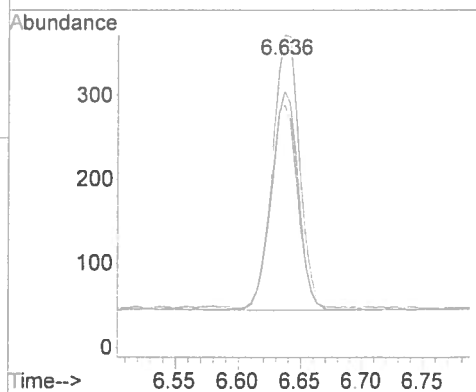
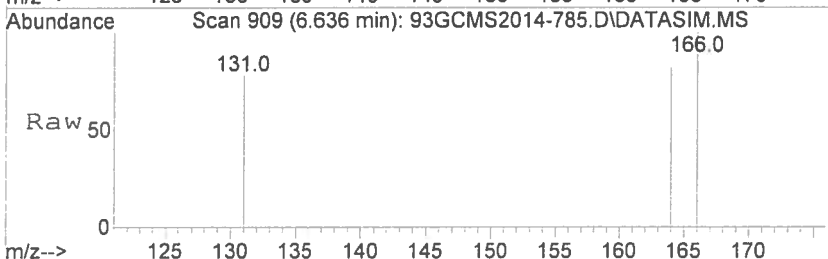
#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.054 min Scan# 986
Delta R.T. -0.000 min
Lab File: 93GCMS2014-785.D
Acq: 30 Sep 2014 11:24

Tgt Ion:	117	Resp:	5261
Ion Ratio	Lower	Upper	
117	100		
82	49.5	39.5	59.3
119	32.3	25.8	38.6



#15
Tetrachloroethene
Concen: 2.59 ppbv
RT: 6.636 min Scan# 909
Delta R.T. -0.000 min
Lab File: 93GCMS2014-785.D
Acq: 30 Sep 2014 11:24

Tgt Ion:	166	Resp:	502
Ion Ratio	Lower	Upper	
166	100		
164	76.9	62.6	93.8
131	72.9	57.9	86.9



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140930\
 Data File : 93GCMS2014-786.D
 Acq On : 30 Sep 2014 11:44
 Operator : SJT
 Sample : 53644 \ Unit 70
 Misc : 5mL \ 30 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 30 11:51:15 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjTue Sep 30 09 39:46 2014

QLast Update : Tue Sep 30 09:39:46 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.848	49	1883	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	5176	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5248	10.00	ppbv	0.00

System Monitoring Compounds

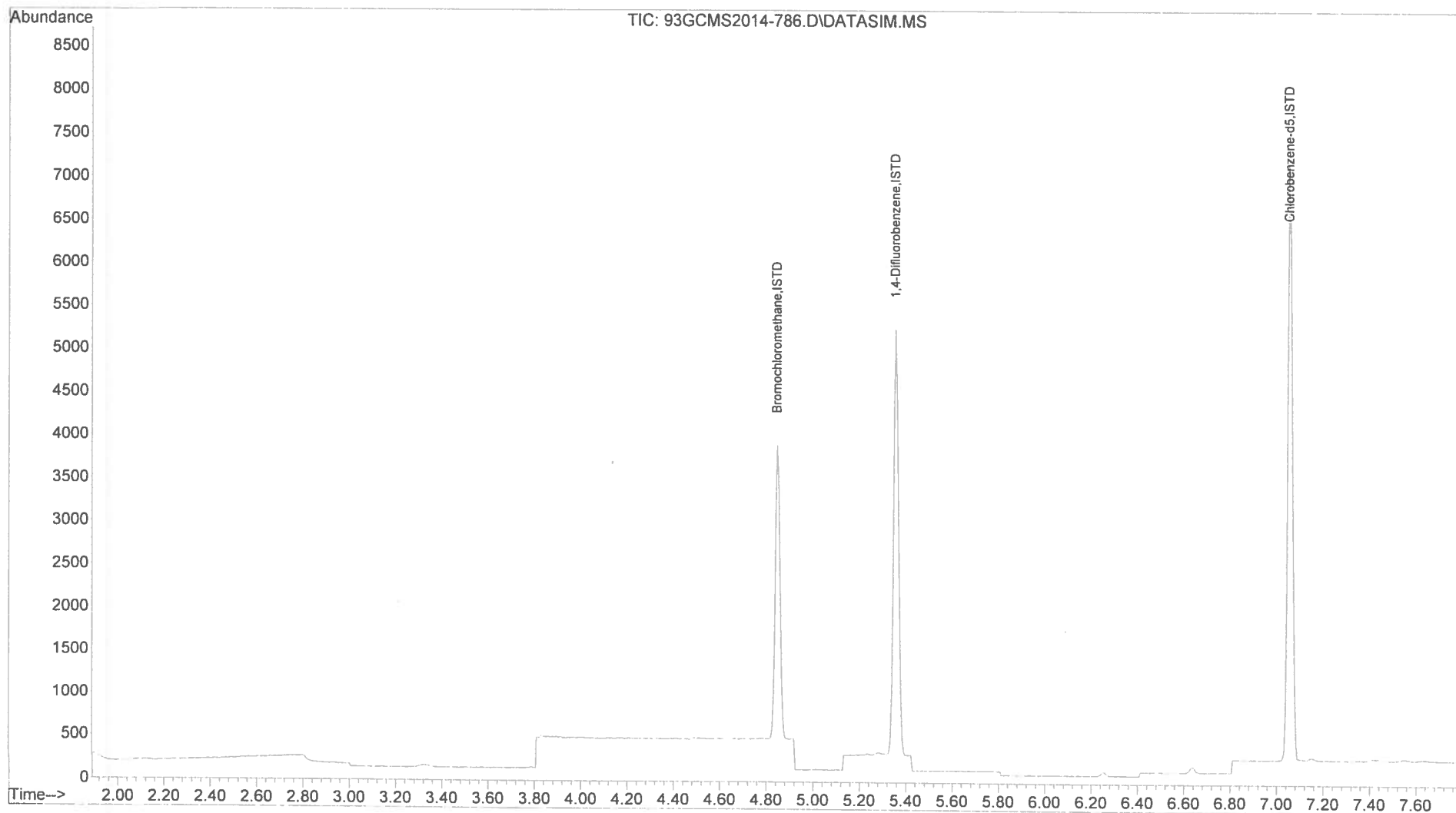
Target Compounds	Qvalue
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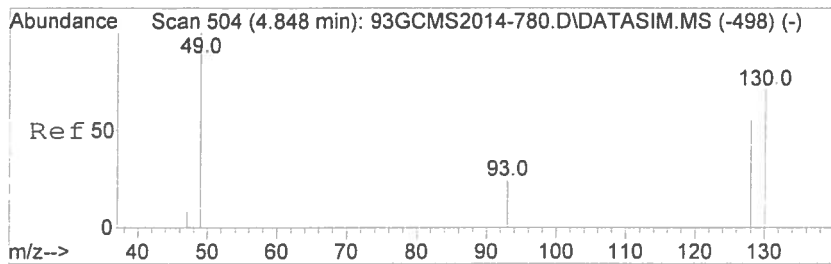
(#) = qualifier out of range (m) = manual integration (+) = signals summed

09/30

Data Path : D:\msdchem\1\data\2014\20140930\
Data File : 93GCMS2014-786.D
Acq On : 30 Sep 2014 11:44
Operator : SJT
Sample : 53644 \ Unit 70
Misc : 5mL \ 30 Sept 2014
ALS Vial : 1 Sample Multiplier: 1

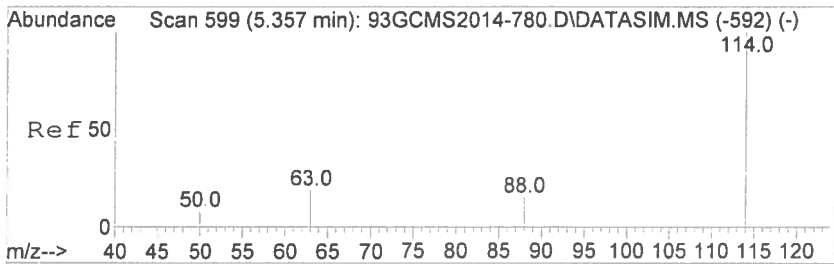
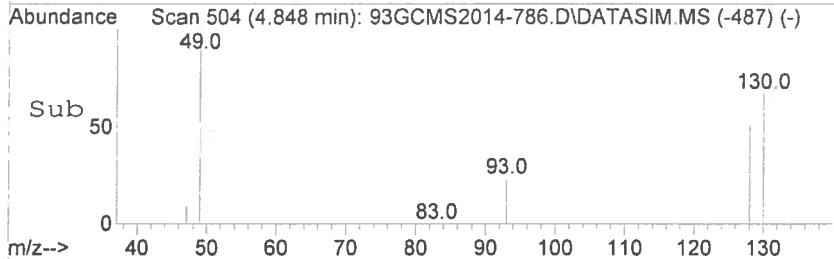
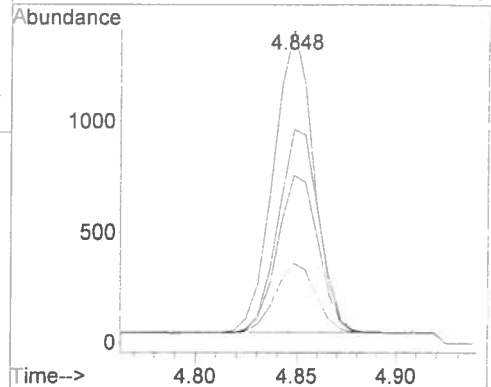
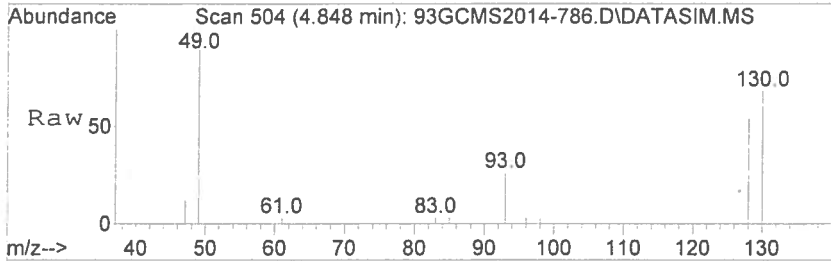
Quant Time: Sep 30 11:51:15 2014
Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjTue Sep 30 09:39:46 2014
QLast Update : Tue Sep 30 09:39:46 2014
Response via : Initial Calibration





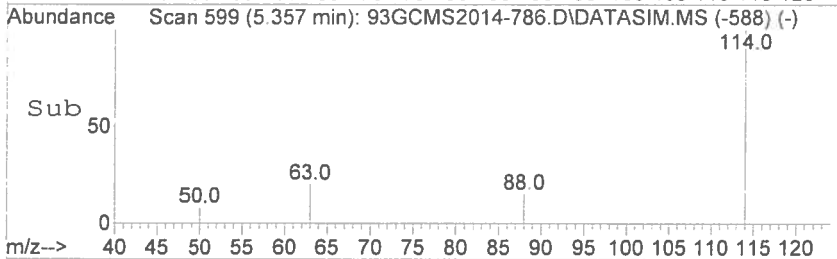
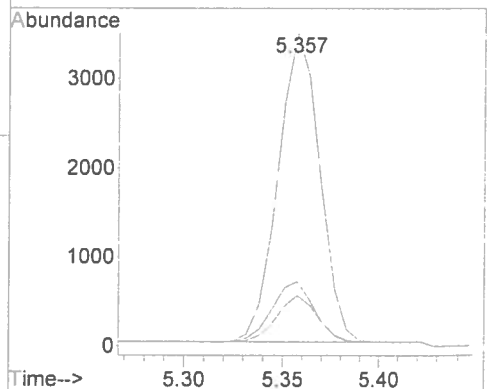
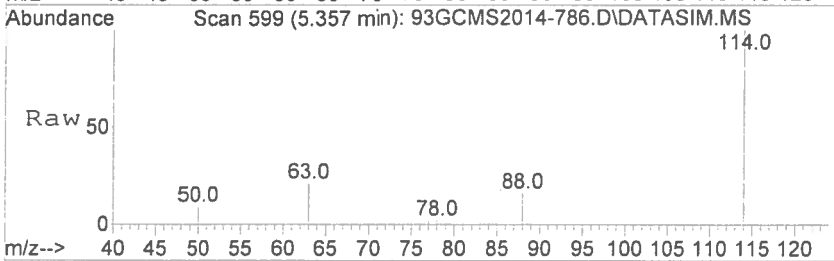
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. 0.000 min
Lab File: 93GCMS2014-786.D
Acq: 30 Sep 2014 11:44

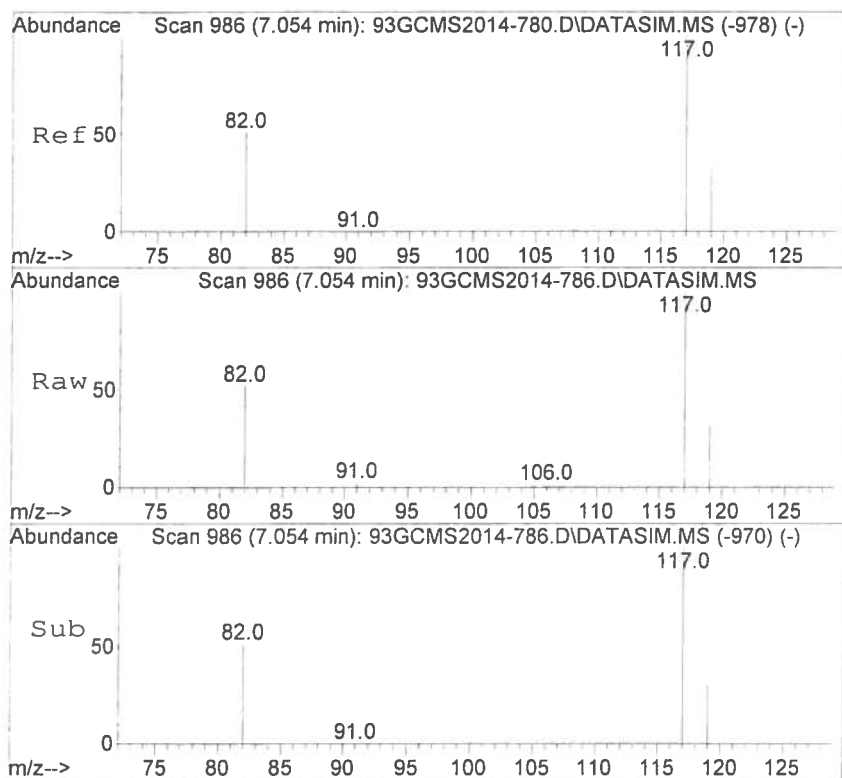
Tgt Ion: 49	Resp: 1883
Ion Ratio	Lower Upper
49 100	
130 68.2	54.4 81.6
93 25.6	21.1 31.7
128 53.6	43.2 64.8



#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.357 min Scan# 599
Delta R.T. 0.000 min
Lab File: 93GCMS2014-786.D
Acq: 30 Sep 2014 11:44

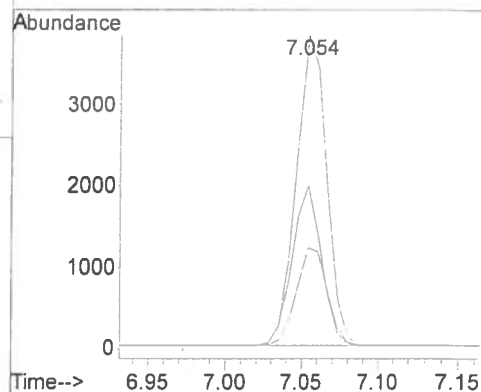
Tgt Ion: 114	Resp: 5176
Ion Ratio	Lower Upper
114 100	
63 19.5	15.7 23.5
88 14.6	11.8 17.6





#13
 Chlorobenzene-d5
 Concen: 10.00 ppbv
 RT: 7.054 min Scan# 986
 Delta R.T. 0.000 min
 Lab File: 93GCMS2014-786.D
 Acq: 30 Sep 2014 11:44

Tgt	Ion	Ratio	Resp	Lower	Upper
117	117	100	5248		
82	82	49.9		39.5	59.3
119	119	32.0		25.8	38.6



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140930\
 Data File : 93GCMS2014-787.D
 Acq On : 30 Sep 2014 12:00
 Operator : SJT
 Sample : 53642 \ Unit 34 RS
 Misc : 5mL \ 30 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 30 12:06:32 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjTue Sep 30 09 39:46 2014

QLast Update : Tue Sep 30 09:39:46 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	4.848	49	1888	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	5205	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5258	10.00	ppbv	0.00

System Monitoring Compounds

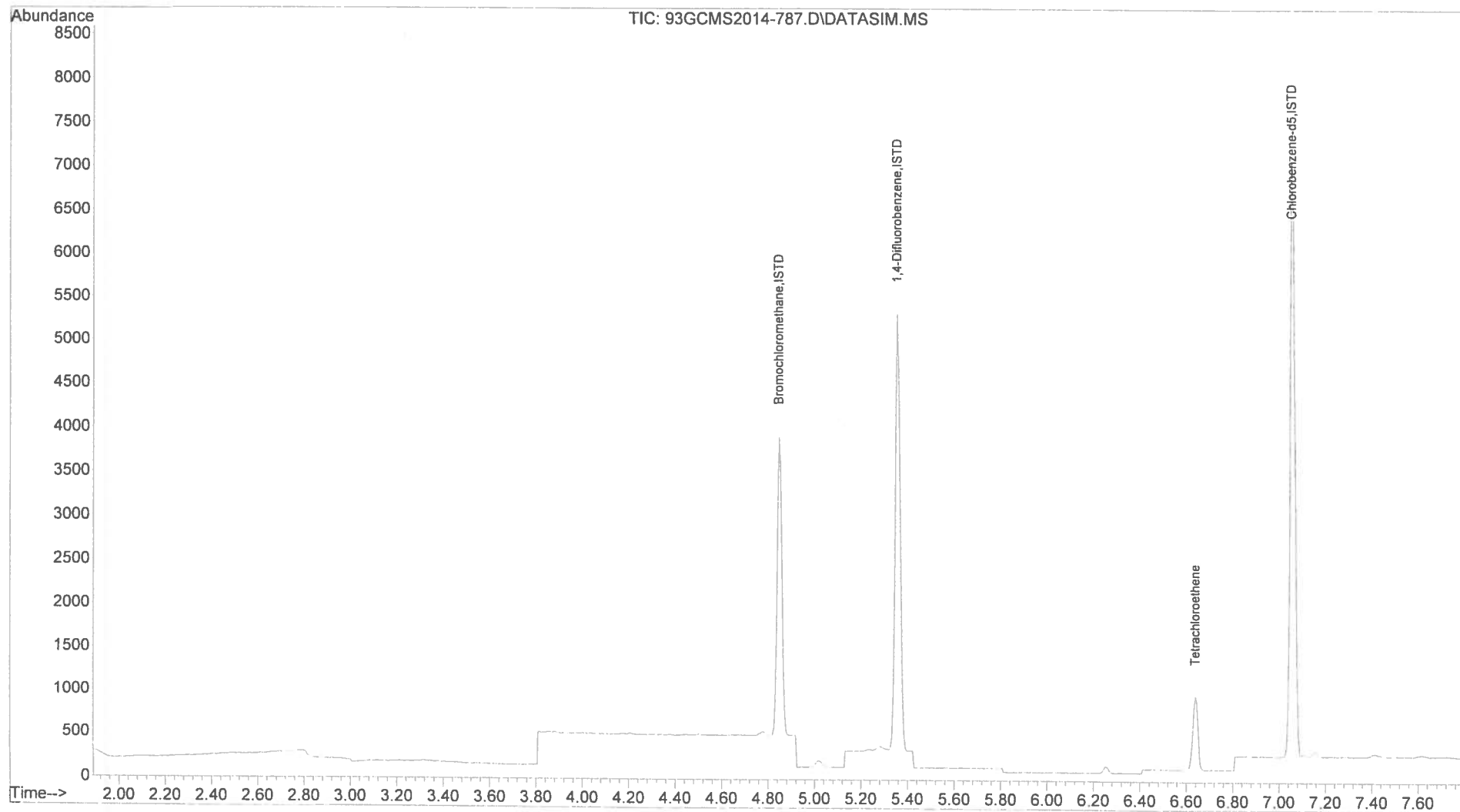
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
15) Tetrachloroethene	6.637	166	488	2.52	ppbv	99

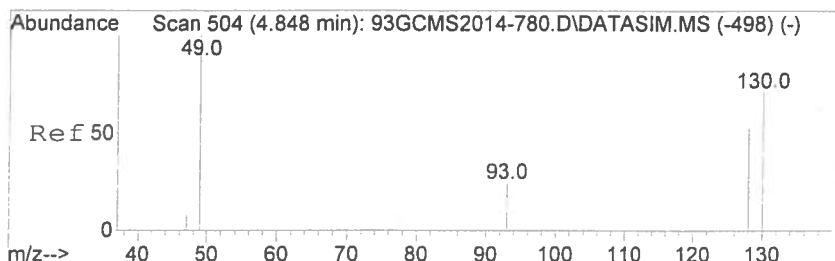
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Data Path : D:\msdchem\1\data\2014\20140930\
Data File : 93GCMS2014-787.D
Acq On : 30 Sep 2014 12:00
Operator : SJT
Sample : 53642 \ Unit 34 RS
Misc : 5mL \ 30 Sept 2014
ALS Vial : 1 Sample Multiplier: 1

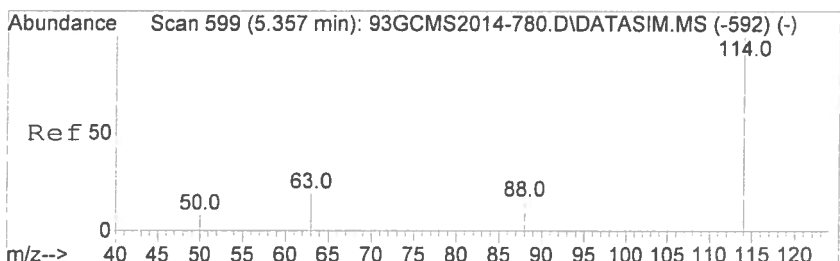
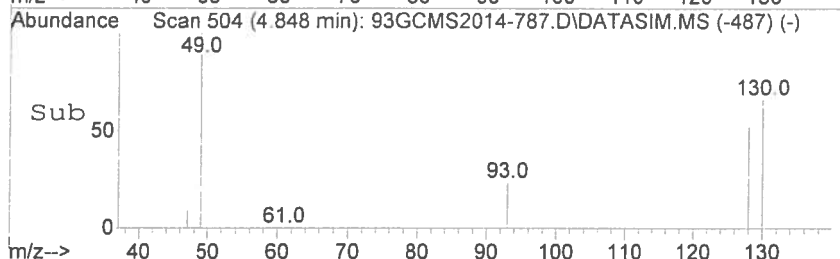
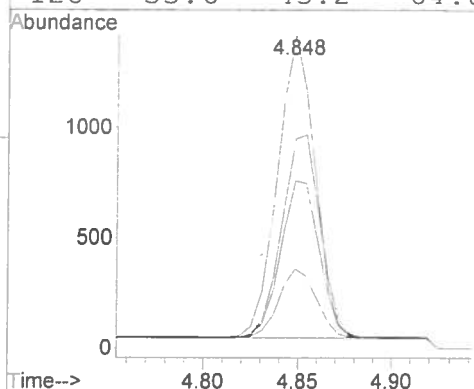
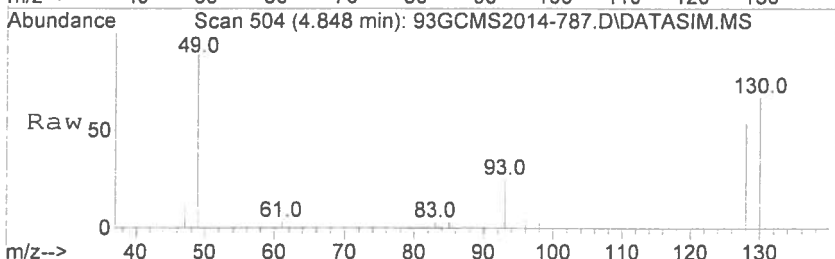
Quant Time: Sep 30 12:06:32 2014
Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjTue Sep 30 09:39:46 2014
QLast Update : Tue Sep 30 09:39:46 2014
Response via : Initial Calibration





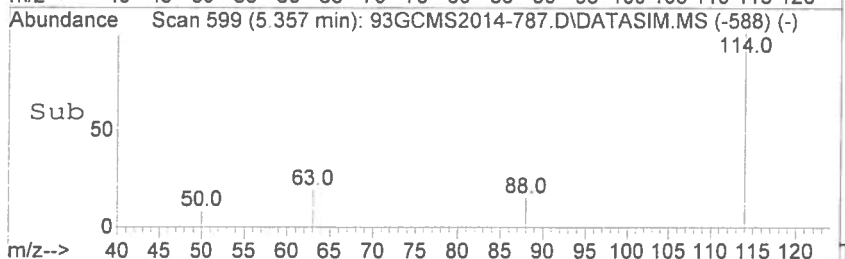
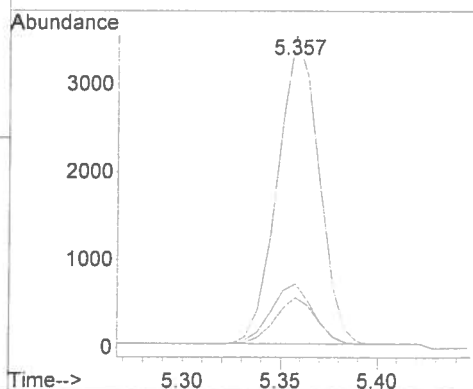
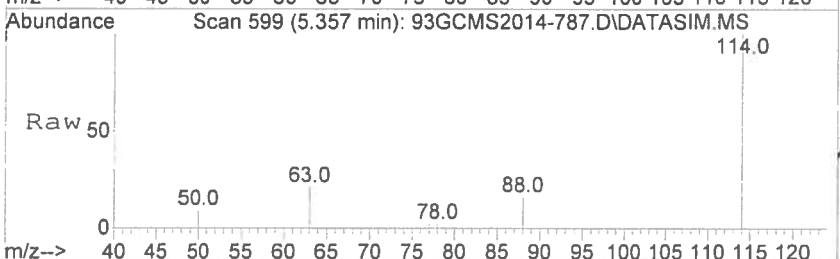
#1
 Bromochloromethane
 Concen: 10.00 ppbv
 RT: 4.848 min Scan# 504
 Delta R.T. 0.000 min
 Lab File: 93GCMS2014-787.D
 Acq: 30 Sep 2014 12:00

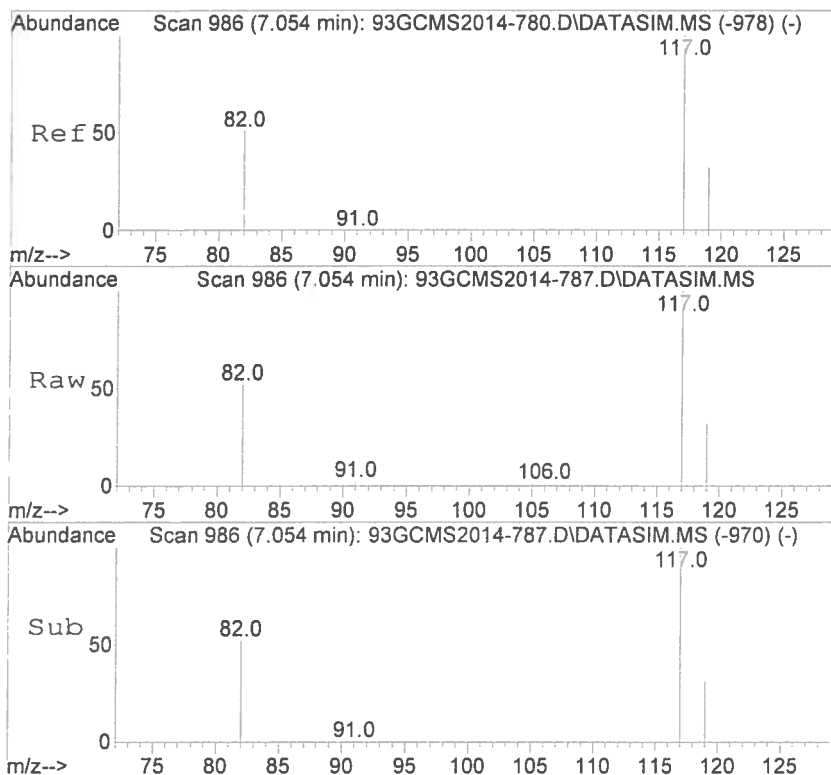
Tgt Ion	Ratio	Lower	Upper
49	100		
130	67.1	54.4	81.6
93	25.5	21.1	31.7
128	53.6	43.2	64.8



#10
 1,4-Difluorobenzene
 Concen: 10.00 ppbv
 RT: 5.357 min Scan# 599
 Delta R.T. 0.000 min
 Lab File: 93GCMS2014-787.D
 Acq: 30 Sep 2014 12:00

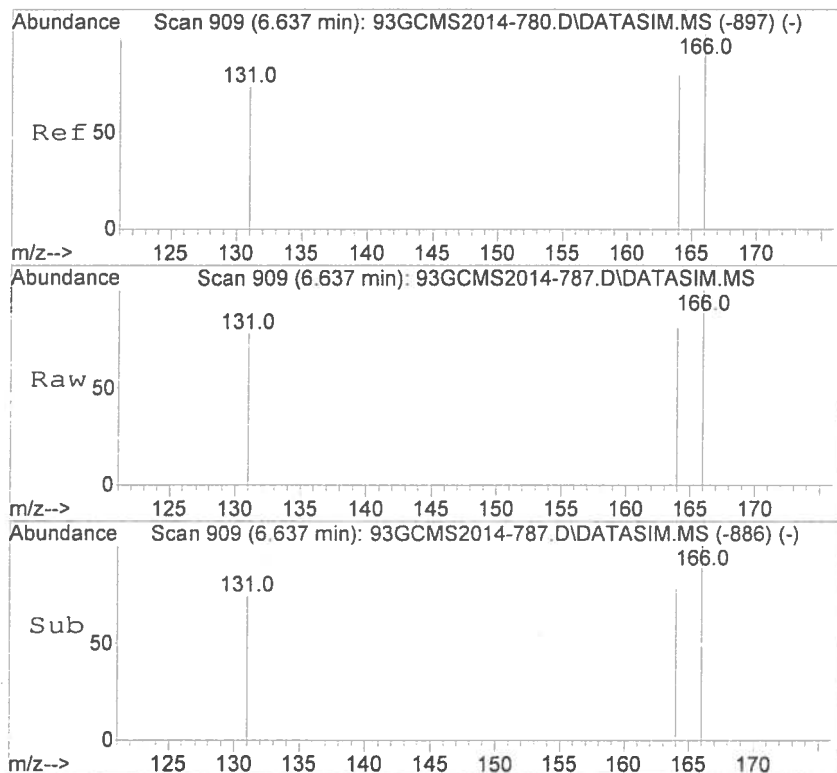
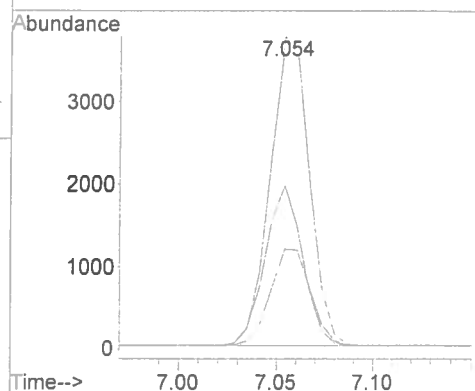
Tgt Ion	Ratio	Lower	Upper
114	100		
63	19.7	15.7	23.5
88	15.0	11.8	17.6





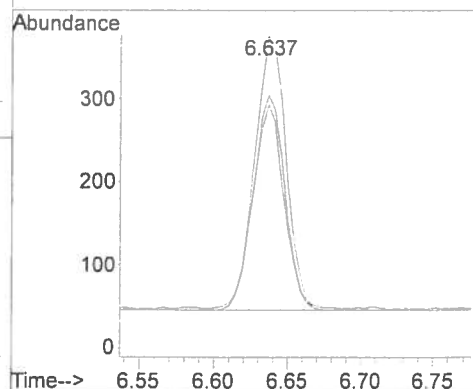
#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.054 min Scan# 986
Delta R.T. 0.000 min
Lab File: 93GCMS2014-787.D
Acq: 30 Sep 2014 12:00

Tgt Ion	Ratio	Resp	Lower	Upper
117	100	5258		
82	49.6		39.5	59.3
119	32.2		25.8	38.6



#15
Tetrachloroethene
Concen: 2.52 ppbv
RT: 6.637 min Scan# 909
Delta R.T. 0.000 min
Lab File: 93GCMS2014-787.D
Acq: 30 Sep 2014 12:00

Tgt Ion	Ratio	Resp	Lower	Upper
166	100	488		
164	78.9		62.6	93.8
131	73.6		57.9	86.9



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140930\
 Data File : 93GCMS2014-788.D
 Acq On : 30 Sep 2014 12:20
 Operator : SJT
 Sample : 53645 \ Unit 175
 Misc : 5mL \ 30 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 30 12:27:50 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjTue Sep 30 09 39:46 2014

QLast Update : Tue Sep 30 09:39:46 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.848	49	2073	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	4692	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	4948	10.00	ppbv	0.00

System Monitoring Compounds

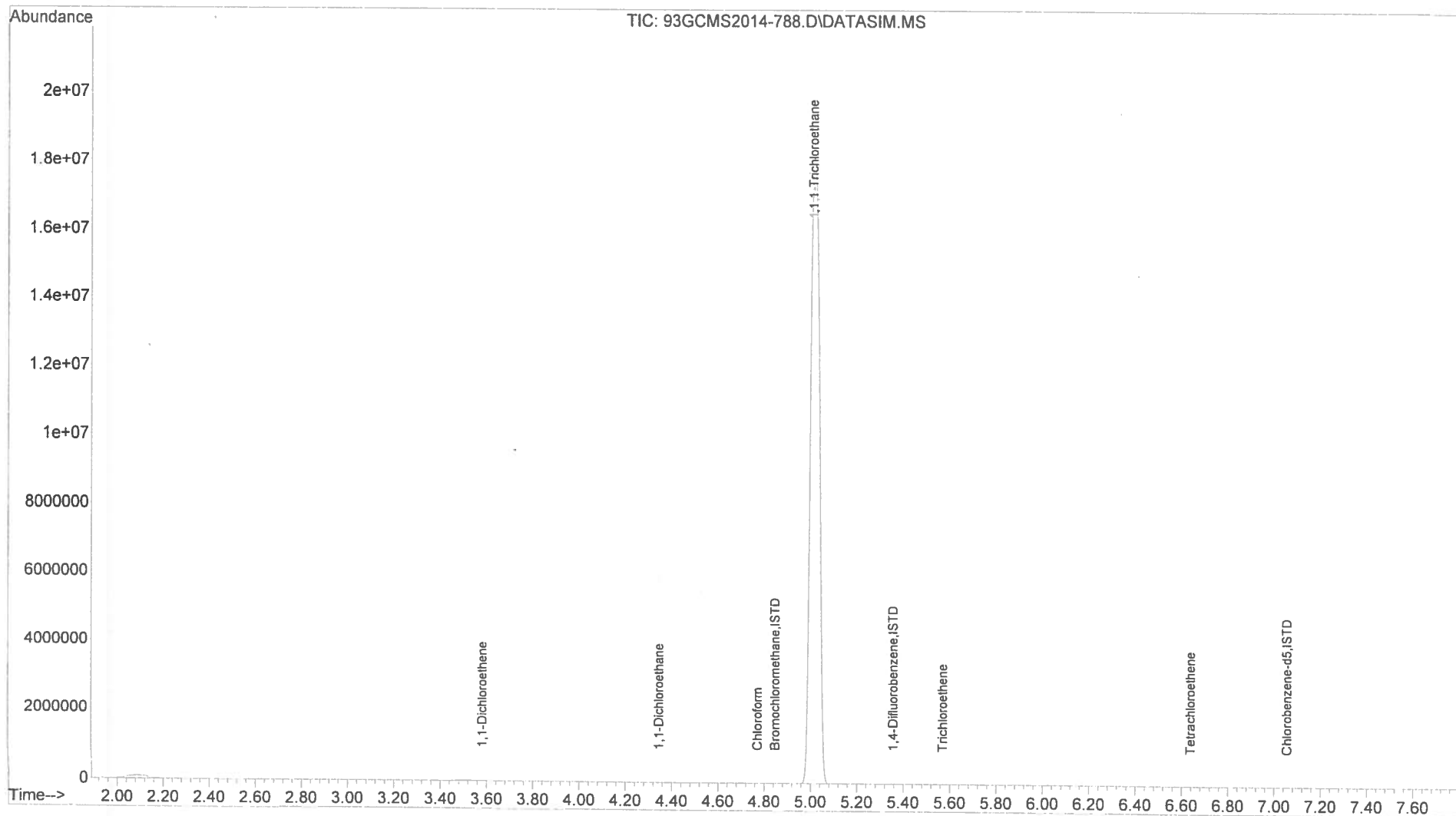
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
3) 1,1-Dichloroethene	3.584	61	8938	49.11	ppbv	94
6) 1,1-Dichloroethane	4.346	63	780	3.81	ppbv	97
8) Chloroform	4.772	83	189	0.90	ppbv	94
9) 1,1,1-Trichloroethane	5.012	97	23252221	101569.11	ppbv	95
12) Trichloroethene	5.569	130	124	0.89	ppbv	98
15) Tetrachloroethene	6.636	166	258	1.41	ppbv	100

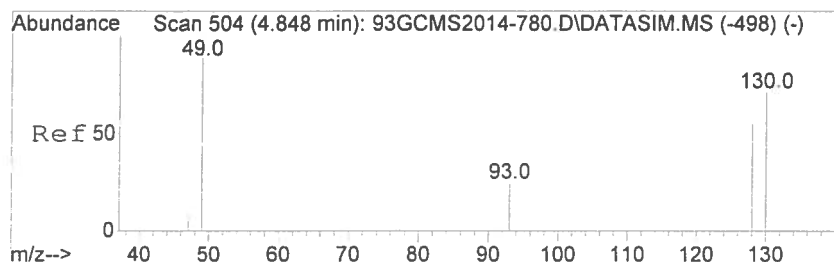
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Data Path : D:\msdchem\1\data\2014\20140930\
Data File : 93GCMS2014-788.D
Acq On : 30 Sep 2014 12:20
Operator : SJT
Sample : 53645 \ Unit 175
Misc : 5mL \ 30 Sept 2014
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 30 12:27:50 2014
Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjTue Sep 30 09:39:46 2014
QLast Update : Tue Sep 30 09:39:46 2014
Response via : Initial Calibration





#1

Bromochloromethane

Concen: 10.00 ppbv

RT: 4.848 min Scan# 504

Delta R.T. -0.000 min

Lab File: 93GCMS2014-788.D

Acq: 30 Sep 2014 12:20

Tgt Ion: 49 Resp: 2073

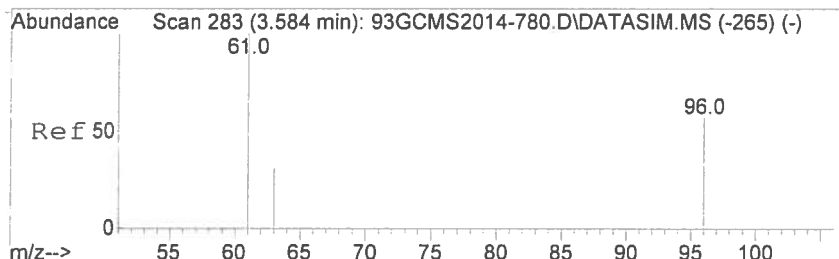
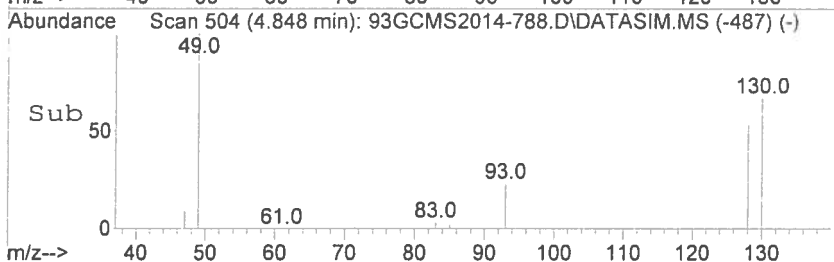
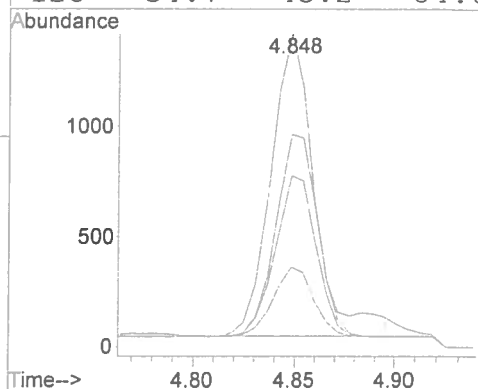
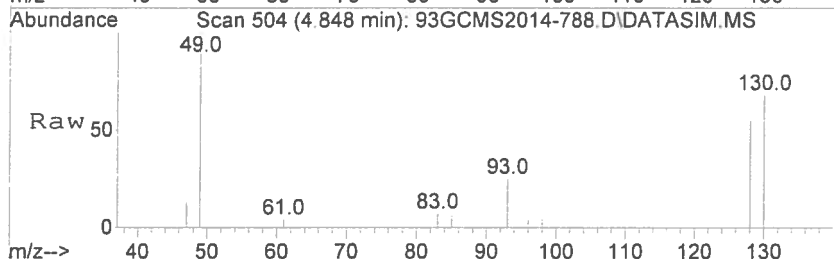
Ion Ratio Lower Upper

49 100

130 67.9 54.4 81.6

93 25.4 21.1 31.7

128 54.7 43.2 64.8



#3

1,1-Dichloroethene

Concen: 49.11 ppbv

RT: 3.584 min Scan# 283

Delta R.T. -0.000 min

Lab File: 93GCMS2014-788.D

Acq: 30 Sep 2014 12:20

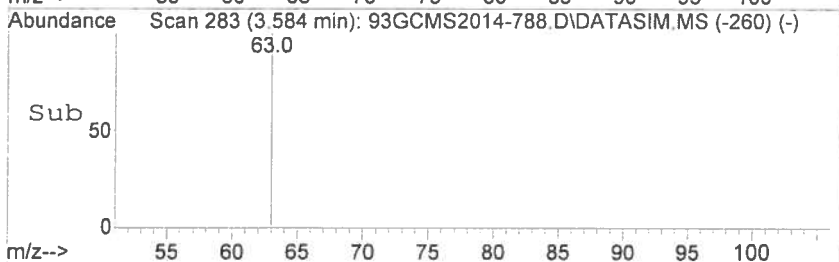
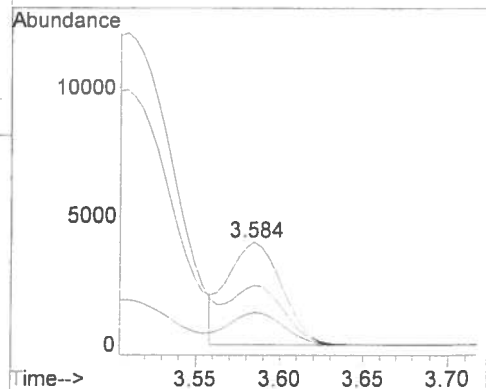
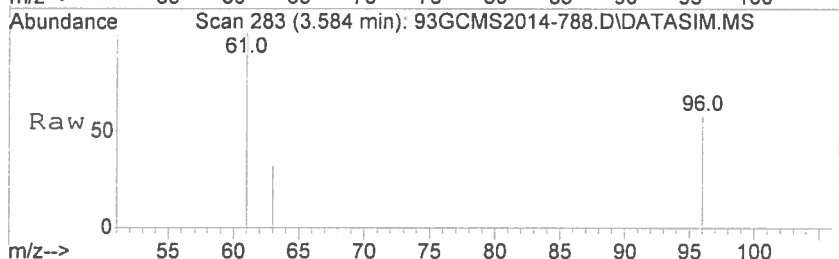
Tgt Ion: 61 Resp: 8938

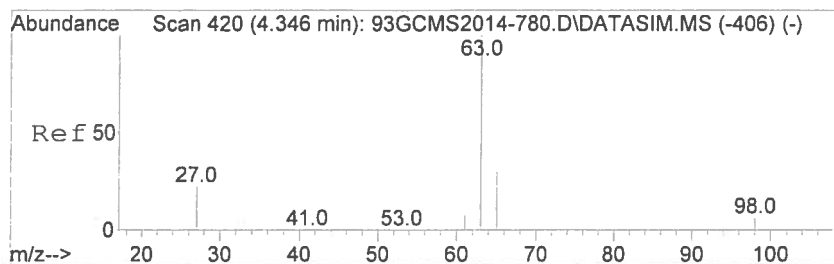
Ion Ratio Lower Upper

61 100

96 52.5 46.7 70.1

63 32.9 25.3 37.9





#6

1,1-Dichloroethane

Concen: 3.81 ppbv

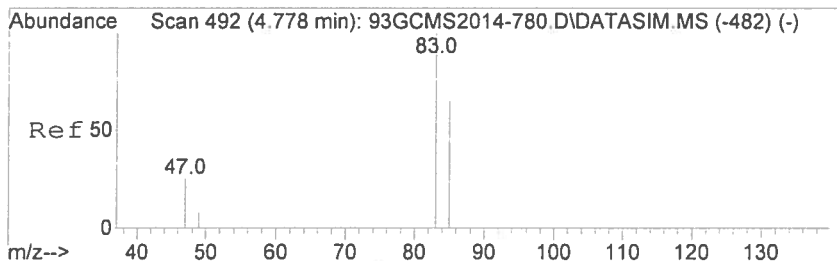
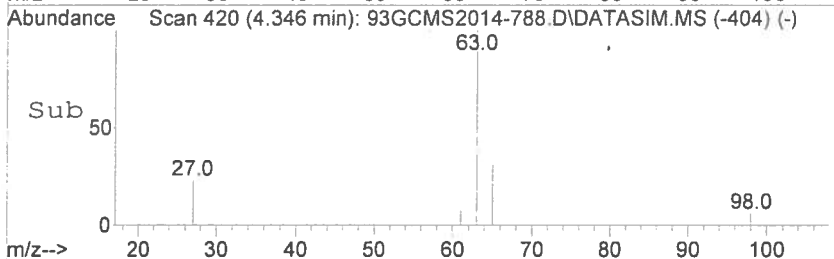
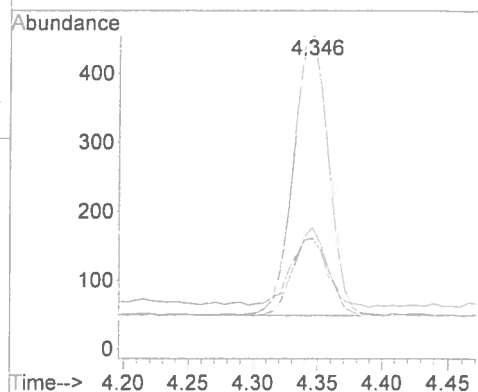
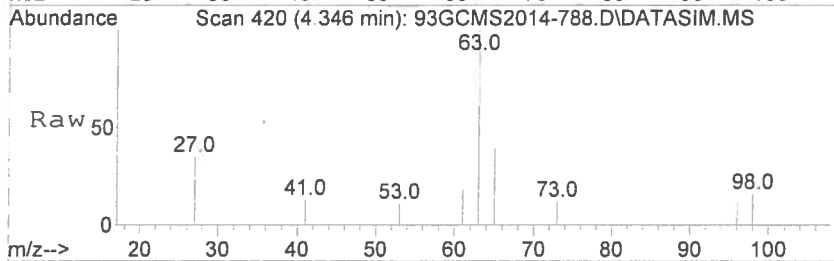
RT: 4.346 min Scan# 420

Delta R.T. -0.000 min

Lab File: 93GCMS2014-788.D

Acq: 30 Sep 2014 12:20

Tgt Ion: 63	Resp:	780
63	Ratio	Lower Upper
65	30.6	24.2 36.2
27	25.9	18.6 28.0



#8

Chloroform

Concen: 0.90 ppbv

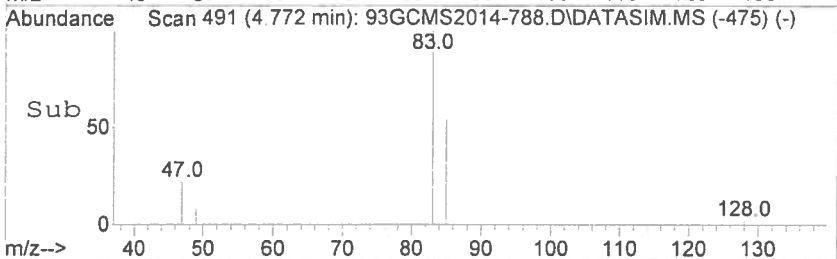
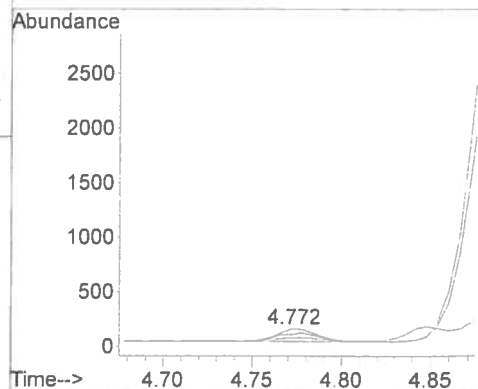
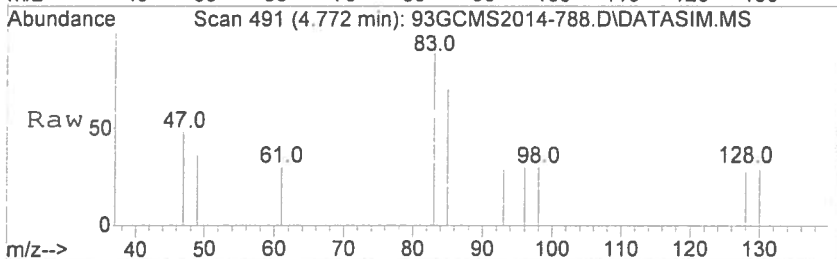
RT: 4.772 min Scan# 491

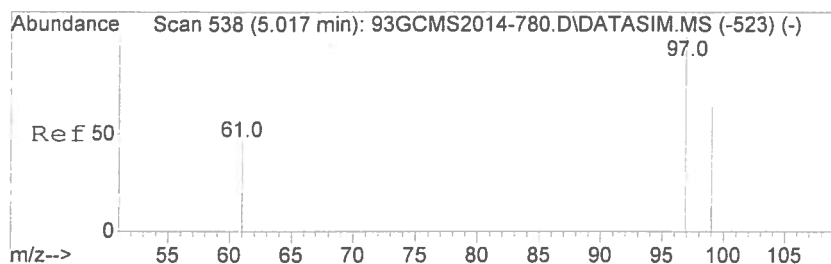
Delta R.T. -0.006 min

Lab File: 93GCMS2014-788.D

Acq: 30 Sep 2014 12:20

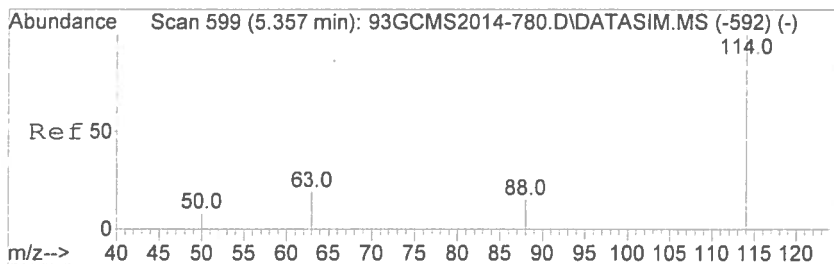
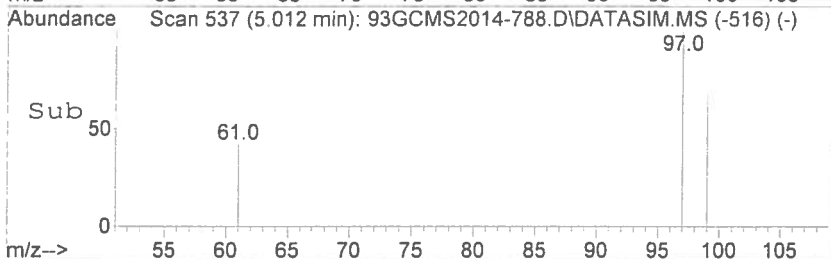
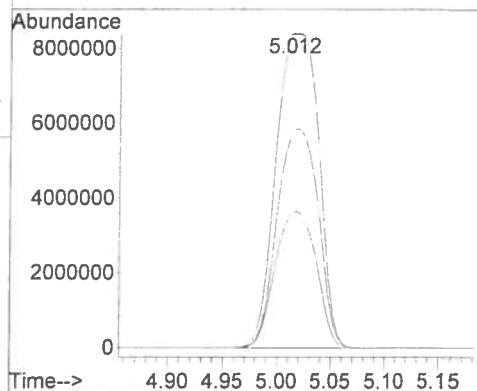
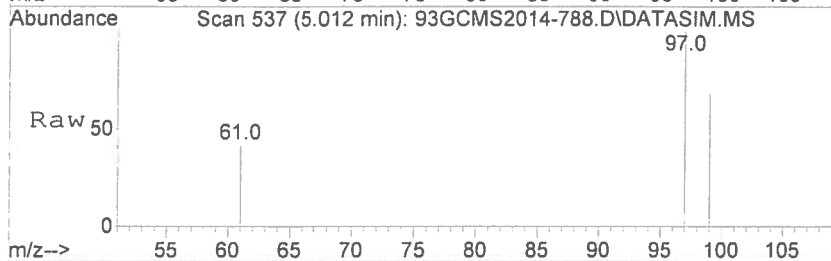
Tgt Ion: 83	Resp:	189
83	Ratio	Lower Upper
85	69.3	51.8 77.6
47	28.0	20.5 30.7





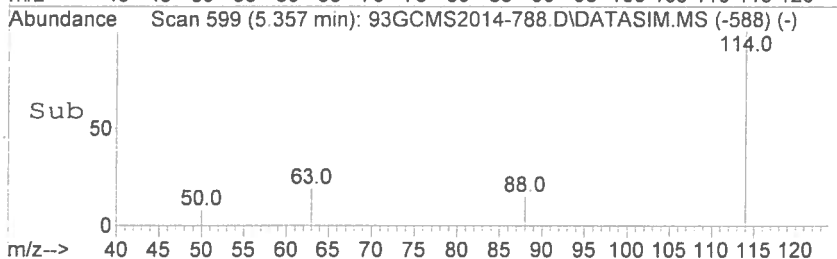
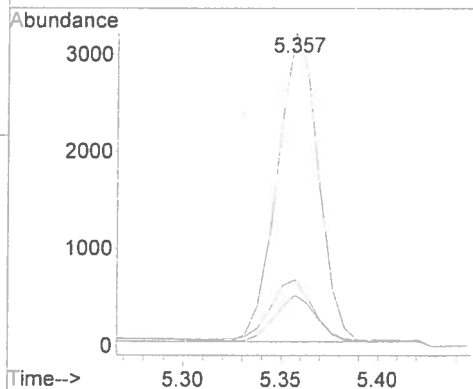
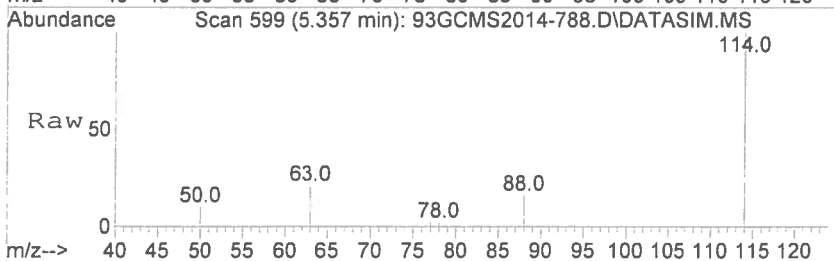
#9
1,1,1-Trichloroethane
Concen: 101569.11 ppbv
RT: 5.012 min Scan# 537
Delta R.T. -0.005 min
Lab File: 93GCMS2014-788.D
Acq: 30 Sep 2014 12:20

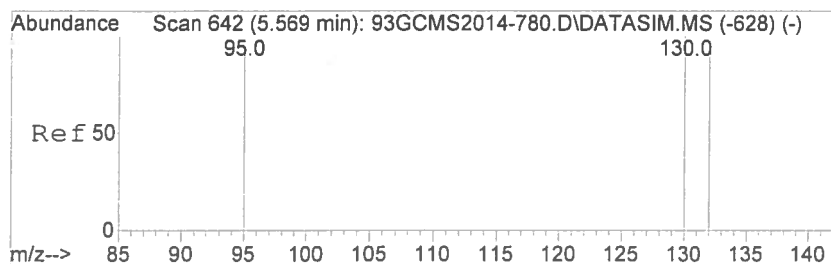
Tgt Ion: 97 Resp: 23252221
Ion Ratio Lower Upper
97 100
99 67.1 51.4 77.2
61 41.7 36.6 54.8



#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.357 min Scan# 599
Delta R.T. -0.000 min
Lab File: 93GCMS2014-788.D
Acq: 30 Sep 2014 12:20

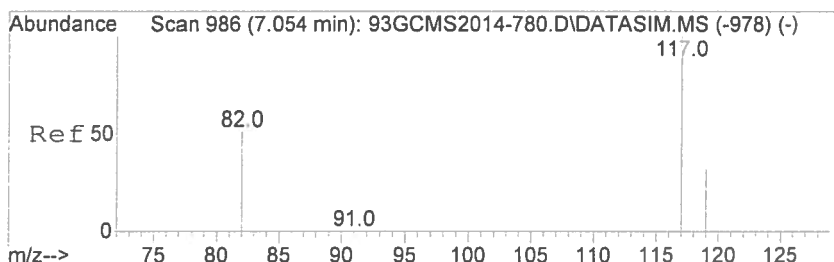
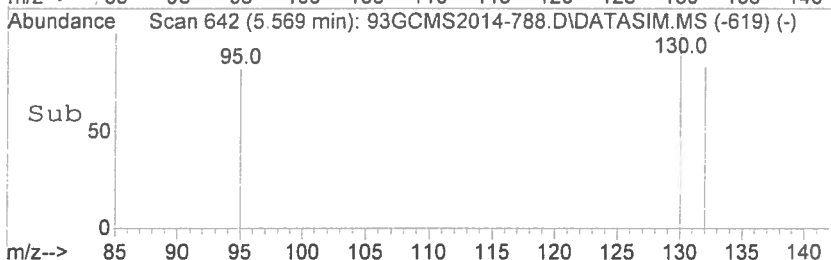
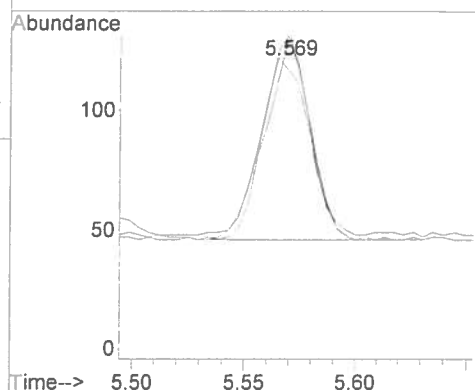
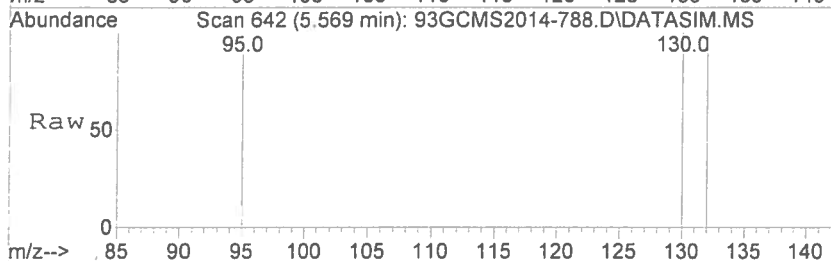
Tgt Ion: 114 Resp: 4692
Ion Ratio Lower Upper
114 100
63 20.0 15.7 23.5
88 15.0 11.8 17.6





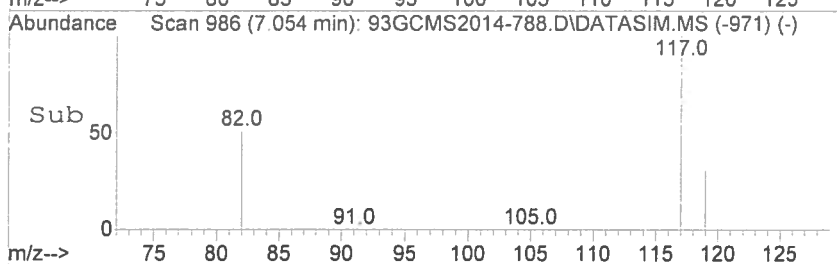
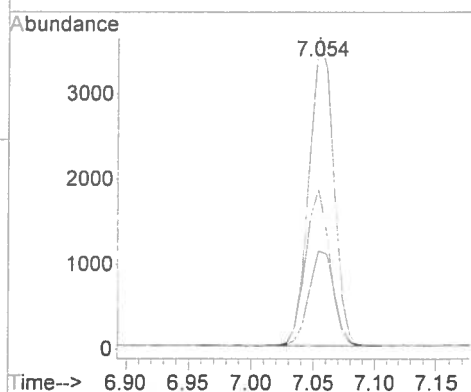
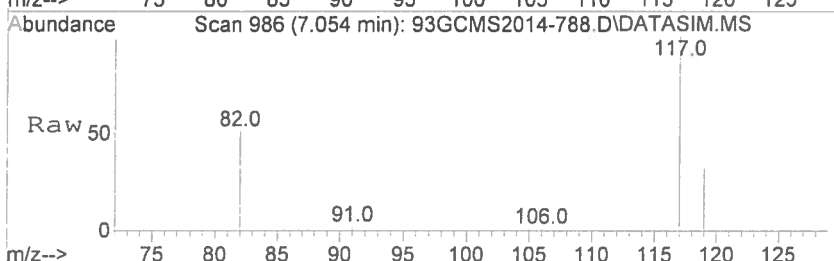
#12
Trichloroethene
Concen: 0.89 ppbv
RT: 5.569 min Scan# 642
Delta R.T. -0.000 min
Lab File: 93GCMS2014-788.D
Acq: 30 Sep 2014 12:20

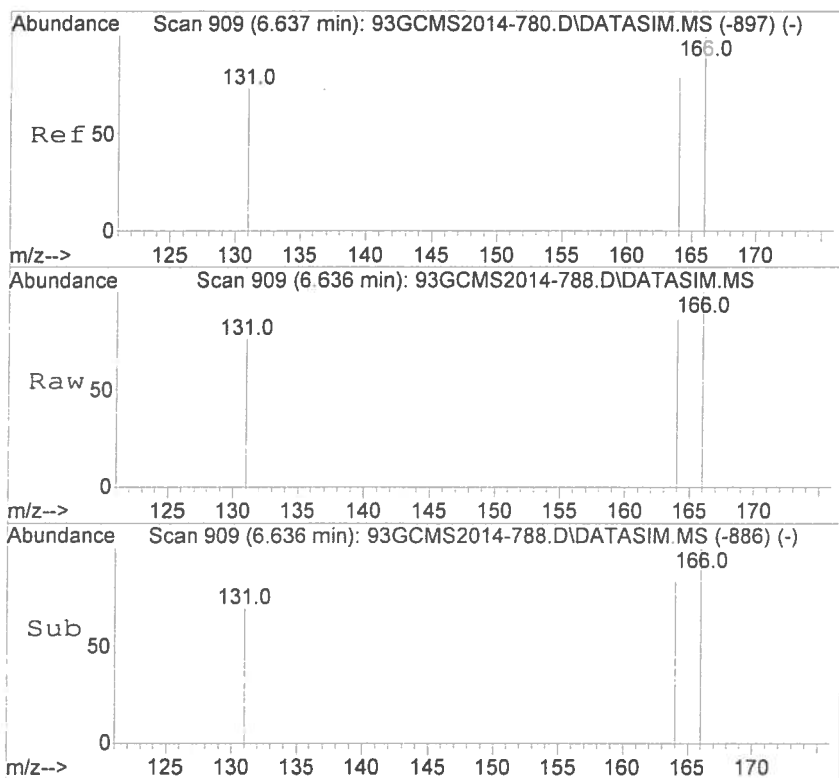
Tgt Ion	Ratio	Lower	Upper
130	100		
132	92.7	77.0	115.6
95	91.9	73.2	109.8



#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.054 min Scan# 986
Delta R.T. -0.000 min
Lab File: 93GCMS2014-788.D
Acq: 30 Sep 2014 12:20

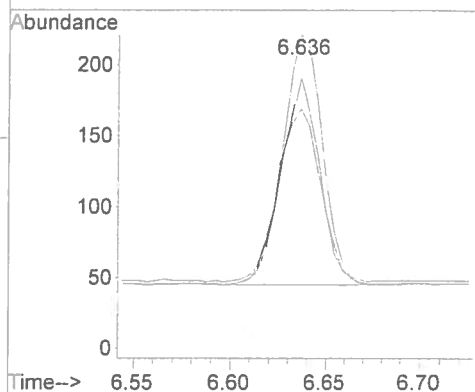
Tgt Ion	Ratio	Lower	Upper
117	100		
82	49.7	39.5	59.3
119	31.8	25.8	38.6





#15
Tetrachloroethene
Concen: 1.41 ppbv
RT: 6.636 min Scan# 909
Delta R.T. -0.000 min
Lab File: 93GCMS2014-788.D
Acq: 30 Sep 2014 12:20

Tgt Ion	Ratio	Lower	Upper
166	100		
164	78.7	62.6	93.8
131	72.1	57.9	86.9



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140930\
 Data File : 93GCMS2014-789.D
 Acq On : 30 Sep 2014 12:37
 Operator : SJT
 Sample : 53645 \ Unit 175
 Misc : 0.05mL \ 30 Sept 2014
 ALS Vial : 1 Sample Multiplier: 100

Quant Time: Sep 30 13:10:42 2014

Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M

Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjTue Sep 30 09 39:46 2014

QLast Update : Tue Sep 30 09:39:46 2014

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Bromochloromethane	4.848	49	1721	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	4712	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	4818	10.00	ppbv	0.00

System Monitoring Compounds

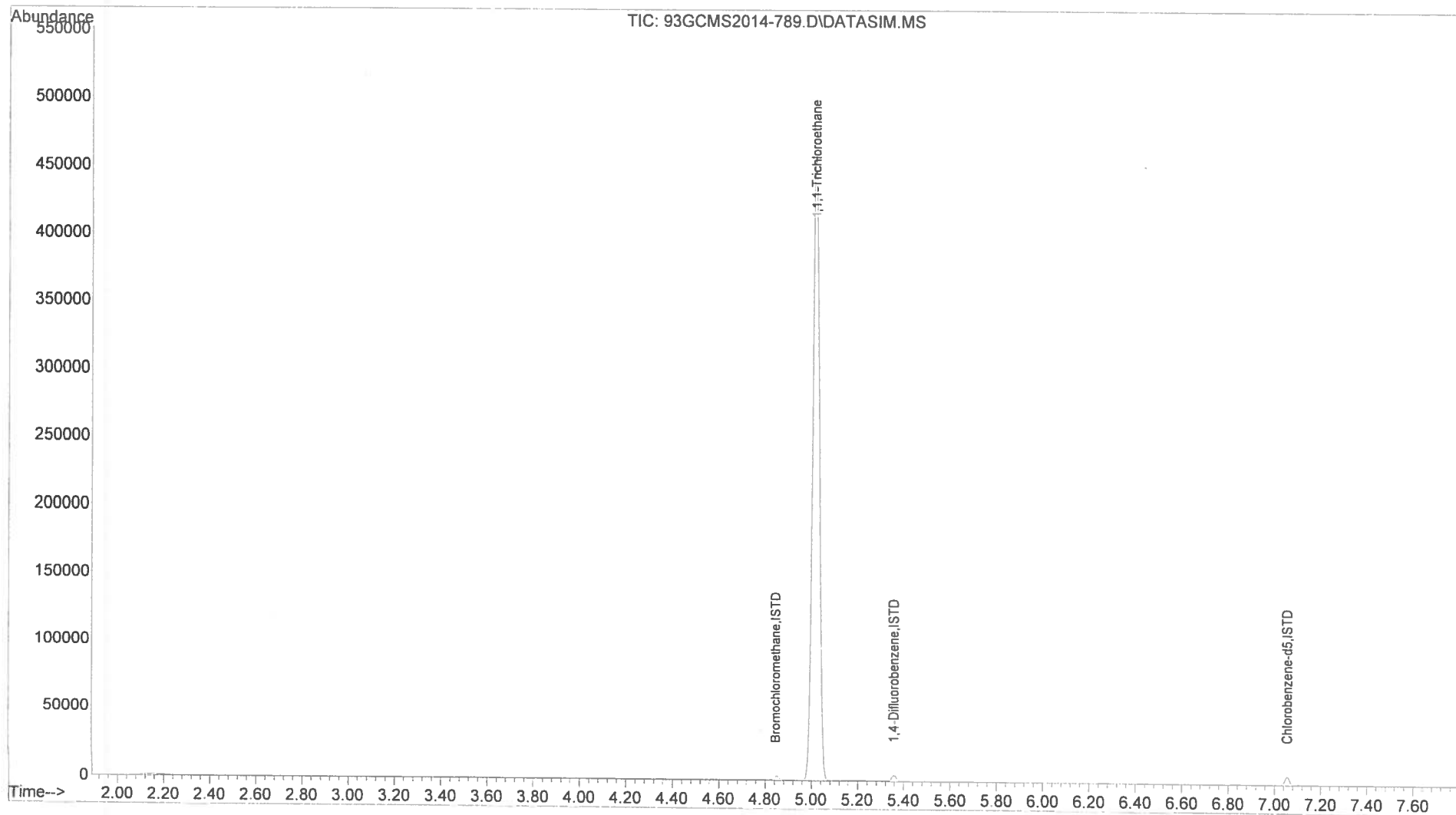
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
9) 1,1,1-Trichloroethane	5.021	97	441073	232073.79	ppbv	100

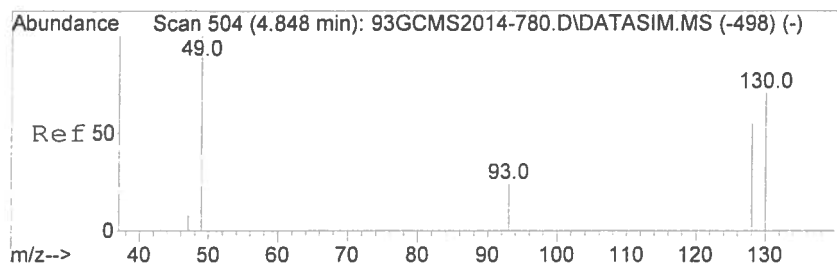
(#) = qualifier out of range (m) = manual integration (+) = signals summed

09/30/14

Data Path : D:\msdchem\1\data\2014\20140930\
Data File : 93GCMS2014-789.D
Acq On : 30 Sep 2014 12:37
Operator : SJT
Sample : 53645 \ Unit 175
Misc : 0.05mL \ 30 Sept 2014
ALS Vial : 1 Sample Multiplier: 100

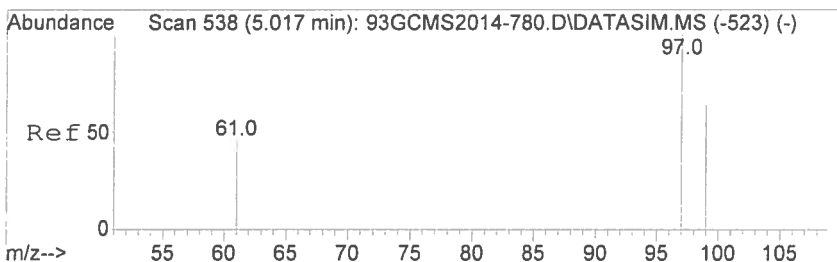
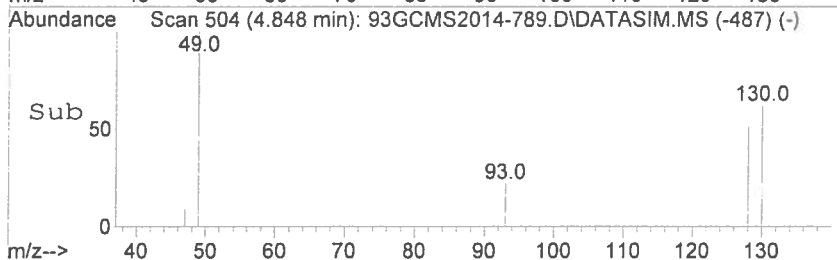
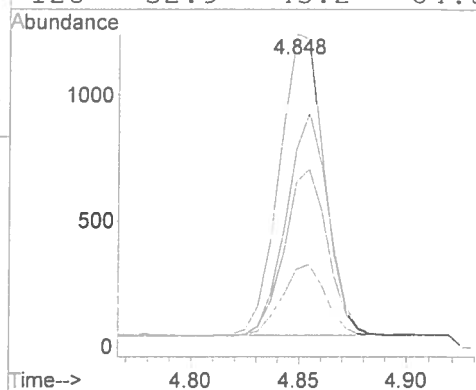
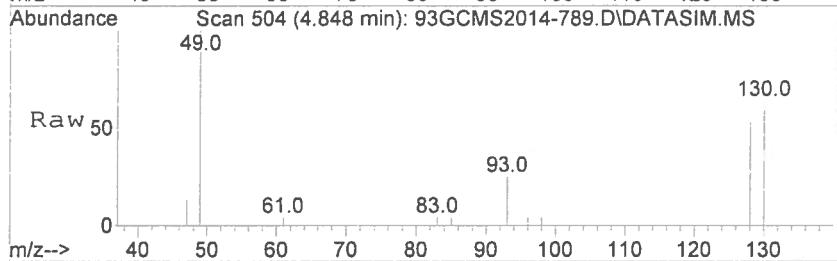
Quant Time: Sep 30 13:10:42 2014
Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjTue Sep 30 09:39:46 2014
QLast Update : Tue Sep 30 09:39:46 2014
Response via : Initial Calibration





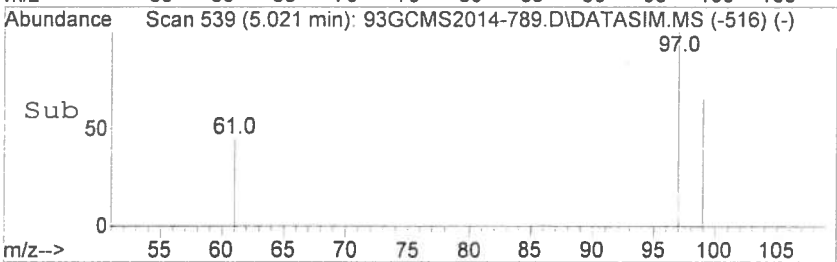
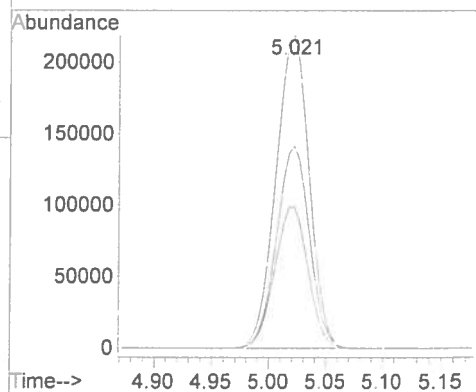
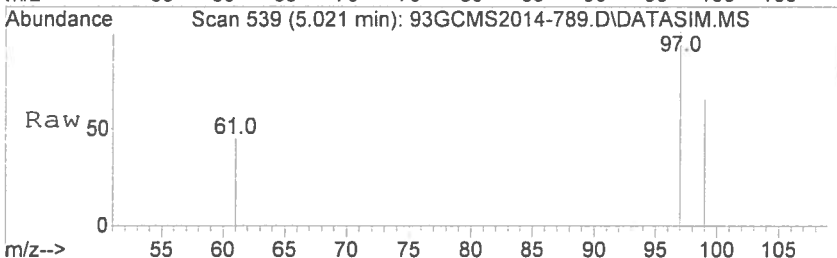
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. 0.000 min
Lab File: 93GCMS2014-789.D
Acq: 30 Sep 2014 12:37

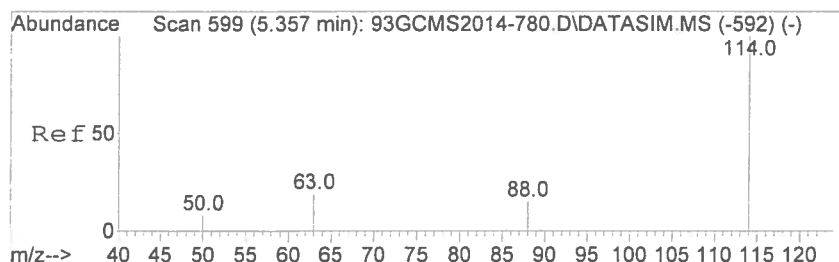
Tgt Ion	Ratio	Lower	Upper
49	100		
130	63.5	54.4	81.6
93	24.9	21.1	31.7
128	52.9	43.2	64.8



#9
1,1,1-Trichloroethane
Concen: 232073.79 ppbv
RT: 5.021 min Scan# 539
Delta R.T. 0.004 min
Lab File: 93GCMS2014-789.D
Acq: 30 Sep 2014 12:37

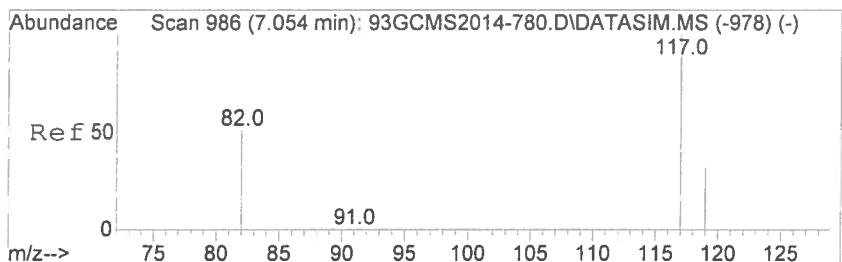
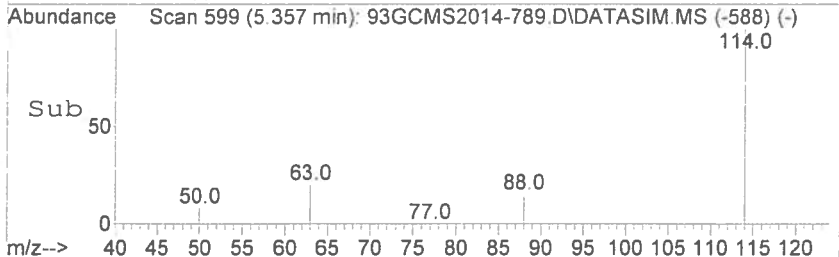
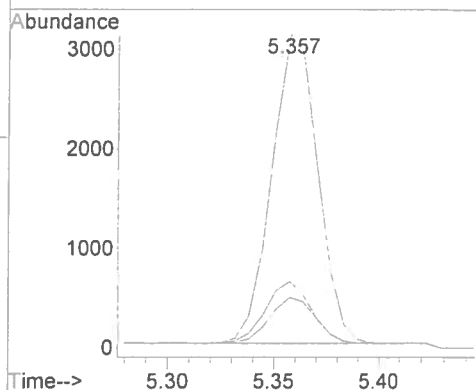
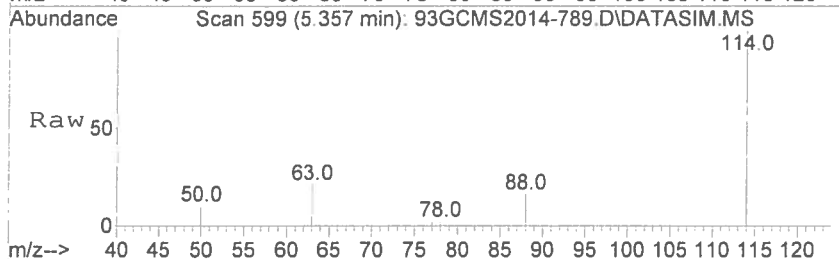
Tgt Ion	Ratio	Lower	Upper
97	100		
99	64.4	51.4	77.2
61	45.6	36.6	54.8





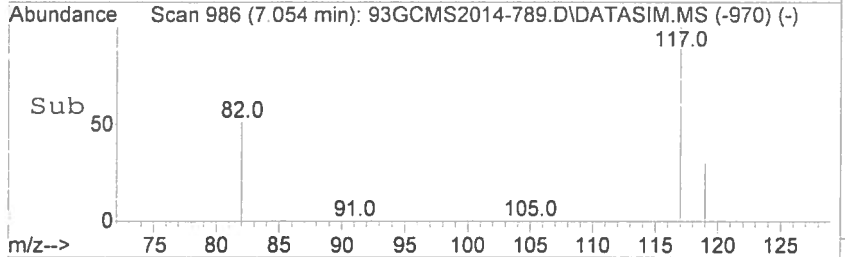
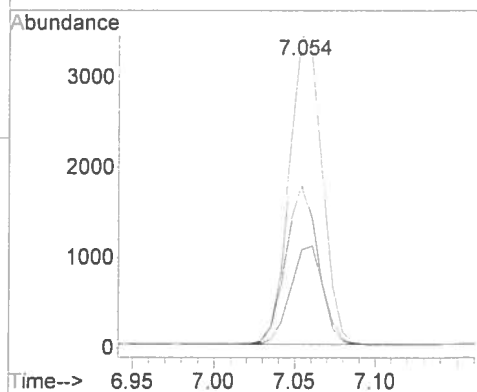
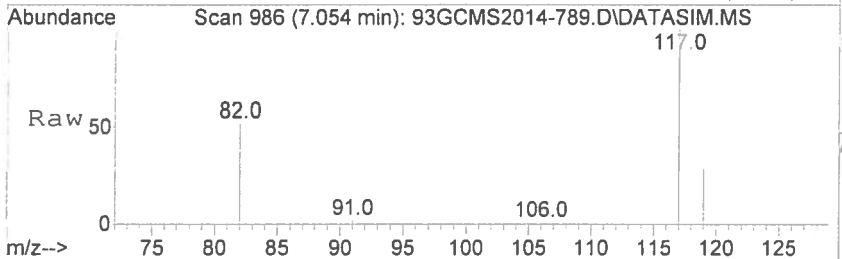
#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.357 min Scan# 599
Delta R.T. 0.000 min
Lab File: 93GCMS2014-789.D
Acq: 30 Sep 2014 12:37

Tgt Ion	Ratio	Resp	Lower	Upper
114	100	4712		
63	19.6		15.7	23.5
88	14.7		11.8	17.6



#13
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 7.054 min Scan# 986
Delta R.T. 0.000 min
Lab File: 93GCMS2014-789.D
Acq: 30 Sep 2014 12:37

Tgt Ion	Ratio	Resp	Lower	Upper
117	100	4818		
82	49.9		39.5	59.3
119	32.0		25.8	38.6



Quantitation Report (QT Reviewed)

Data Path : D:\msdchem\1\data\2014\20140930\
 Data File : 93GCMS2014-790.D
 Acq On : 30 Sep 2014 15:33
 Operator : SJT
 Sample : 53646 \ Unit 50
 Misc : 5mL \ 30 Sept 2014
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 30 15:39:39 2014
 Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
 Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjTue Sep 30 09
 39:46 2014
 QLast Update : Tue Sep 30 09:39:46 2014
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.848	49	1841	10.00	ppbv	0.00
10) 1,4-Difluorobenzene	5.357	114	4997	10.00	ppbv	0.00
13) Chlorobenzene-d5	7.054	117	5091	10.00	ppbv	0.00

System Monitoring Compounds

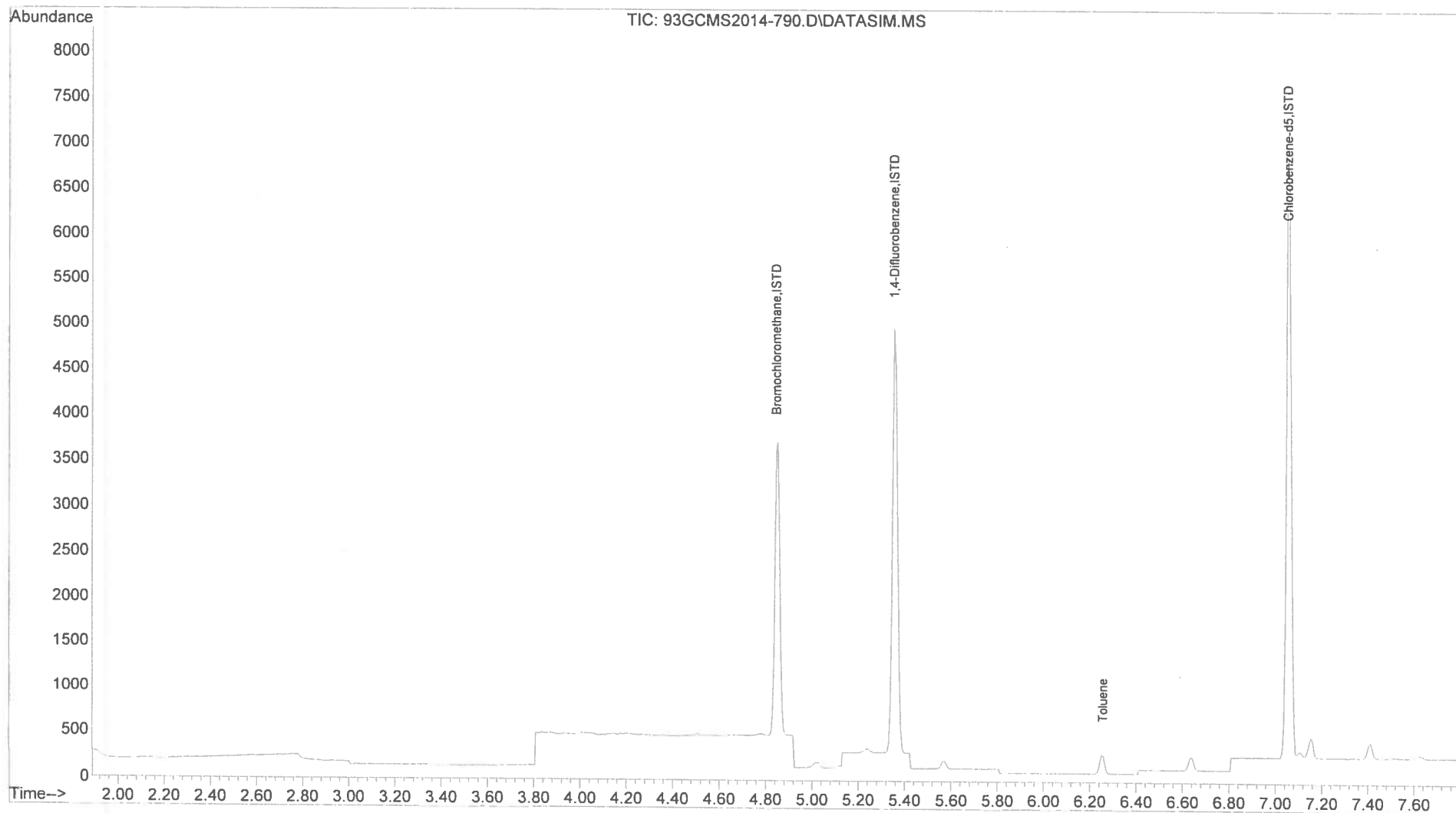
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
14) Toluene	6.255	91	200	0.56	ppbv	98

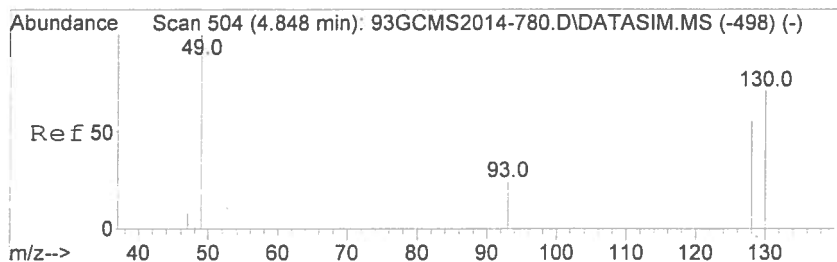
(#) = qualifier out of range (m) = manual integration (+) = signals summed

P 09/30/14

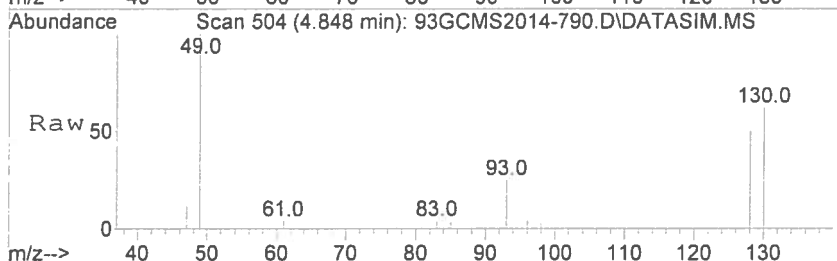
Data Path : D:\msdchem\1\data\2014\20140930\
Data File : 93GCMS2014-790.D
Acq On : 30 Sep 2014 15:33
Operator : SJT
Sample : 53646 \ Unit 50
Misc : 5mL \ 30 Sept 2014
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 30 15:39:39 2014
Quant Method : C:\msdchem\1\METHODS\LOOP20140929-QUANT.M
Quant Title : Modified EPA TO-15, Loop GC/MS Pulse Splitless InjTue Sep 30 09:39:46 2014
QLast Update : Tue Sep 30 09:39:46 2014
Response via : Initial Calibration

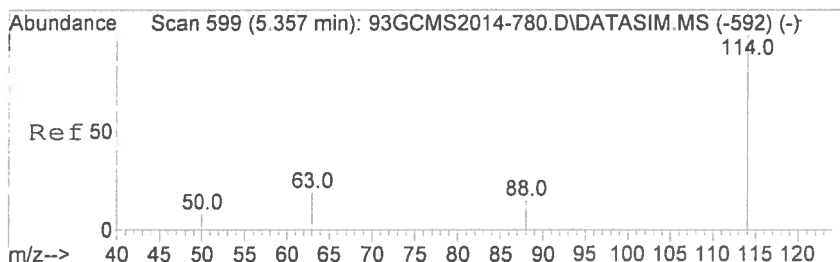
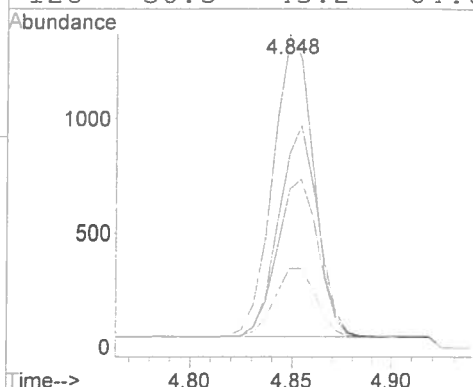
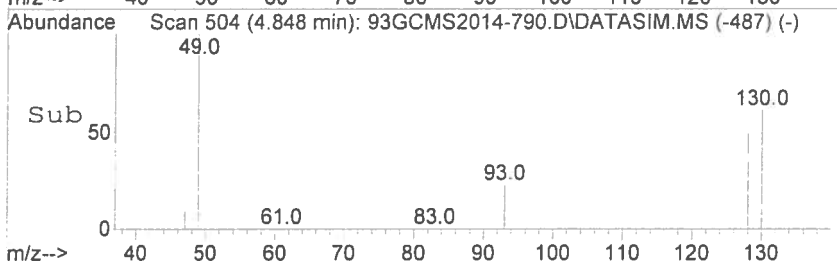




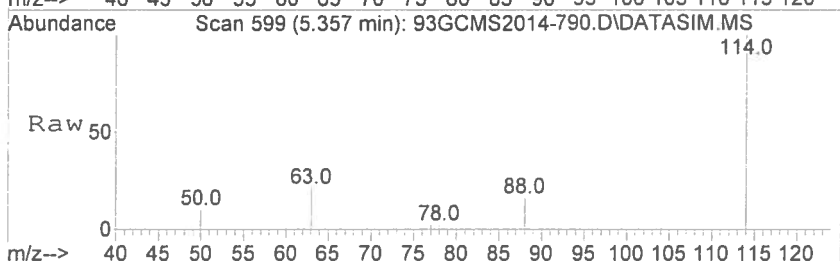
#1
Bromochloromethane
Concen: 10.00 ppbv
RT: 4.848 min Scan# 504
Delta R.T. -0.000 min
Lab File: 93GCMS2014-790.D
Acq: 30 Sep 2014 15:33



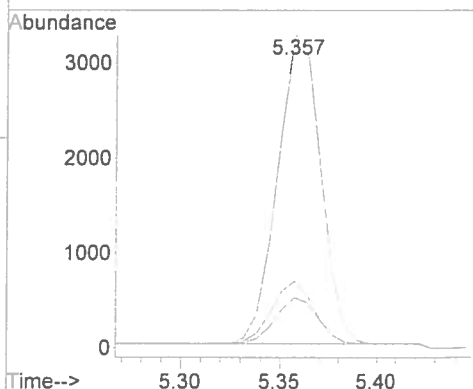
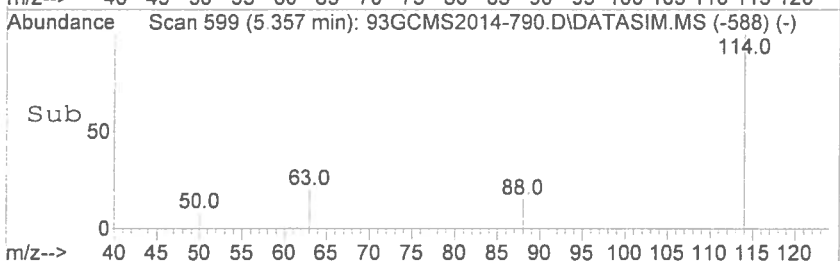
Tgt Ion	Ratio	Lower	Upper
49	100		
130	62.0	54.4	81.6
93	25.2	21.1	31.7
128	50.5	43.2	64.8



#10
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 5.357 min Scan# 599
Delta R.T. -0.000 min
Lab File: 93GCMS2014-790.D
Acq: 30 Sep 2014 15:33



Tgt Ion	Ratio	Lower	Upper
114	100		
63	19.8	15.7	23.5
88	14.7	11.8	17.6



APPENDIX D

Final Analytical Report for Samples Collected in SUMMA[®] Canisters

Passyunk Soil Gas Site

Final Report

February 2018

ANALYTICAL REPORT

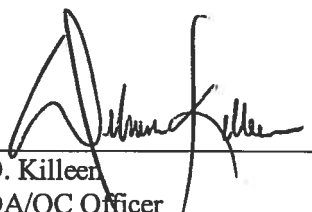
Prepared by
Lockheed Martin Information Systems and Global Services/Environmental Services
Scientific, Engineering, Response and Analytical Services

Passyunk Soil Gas Site
Philadelphia PA


February 2017

EPA Work Assignment No. SERAS-219
LOCKHEED MARTIN Work Order SER0219
EPA Contract No. EP-W-09-031

Submitted to
D. Mickunas
EPA/ERT
109 T.W. Alexander Dr
Research Triangle Park, NC


D. Killeen
QA/QC Officer
2/13/17
Date

Analysis by:
ERT/SERAS


K. Taylor
SERAS Program Manager
2/13/17
Date

Prepared by:/ Validated by:
J Soroka/ R. Varsolona





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Correspondence
Chains of Custody

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Appendix A Data for VOC in Air	Z 126
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Appendix A will be furnished on request.





TESTING LABORATORIES INFORMATION

Analysis of Volatile Organic Compounds in Air by SERAS Method 1814 “*Analysis of Volatile Organic Compounds (VOCs) in Summa Canister Air Samples by Gas Chromatography/Mass Spectrometry (GC/MS)*”

ERT/SERAS Laboratory
2890 Woodbridge Avenue
Edison, NJ 08837

All analyses were performed according to our NELAP-approved quality assurance program. The test results meet the requirements of the current NELAP standards, where applicable, except as noted in the laboratory case narrative provided. Results are intended to be considered in their entirety and apply only to those analyzed and reported herein.

ERT/SERAS Laboratory is certified by the New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID # 12023 for VOC analysis in air.





Detailed Sample Information

<u>Laboratory Sample #</u>	<u>Field Sample #</u>
R410002-01	219-AA-040
R410002-02	219-AA-044
R410002-03	219-IA-025
R410002-04	219-IA-027
R410002-05	219-IA-028
R410002-06	219-IA-029
R410002-07	219-IA-030
R410002-08	219-IA-031
R410002-09	219-IA-033
R410002-10	219-IA-034
R410002-11	219-IA-036
R410002-12	219-IA-037
R410002-13	219-IA-038
R410002-14	219-IA-041
R410002-15	219-IA-042
R410002-16	219-SS-024
R410002-17	219-SS-026
R410002-18	219-SS-032
R410002-19	219-SS-035
R410002-20	219-SS-039
R410002-21	219-SS-043
R410002-22	219-TB-023

REPORT OF LABORATORY ANALYSIS

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without the written consent of the ERT/SERAS Laboratory





Introduction

SERAS personnel, in response to WA# SERAS-219, provided analytical support for environmental samples collected from the Passyunk Soil Gas Site in Philadelphia, PA, as described in the following table. The support also included QA/QC, data review and preparation of an analytical report containing analytical and QA/QC results.

The samples analyzed at SERAS were treated with procedures consistent with those specified in SERAS SOP#1008, *Sample Receiving, Handling and Storage*.

Chain of Custody #	Number of Samples	Sampling Date	Date Received	Date Analyzed	Matrix	Analysis/ Method	Laboratory	Data Package
3-100314-115959-0009	13	10/01/14	10/03/14	10/08/14 through 10/16/14	Indoor Air	VOC/SERAS Method 1814	ERT/SERAS Laboratory	Z 126
	2				Air			
	6				Soil Gas			
	1				Blank			

Case Narrative

Sampling was conducted as per the site-specific Quality Assurance Project Plan (QAPP) and analyzed by the analytical methods as stated in the QAPP. The laboratory reported the data to three significant figures. Any other representation of the data is the responsibility of the user. Data were validated using a Stage 4 validation done manually (S4VM) in accordance with the "Guidance for Labeling Externally Validated Data for Superfund Use." All data validation flags have been inserted into the results tables.

VOC in Air Package Z126

For compounds whose reporting limits (RLs) exceeded the project action limits, the laboratory reported estimated (J) concentrations if the compound exceeded the method detection limit (MDL) but were less than the RL. It should be noted that these data should be used with caution since the SUMMA canisters are certified to only 0.02 ppbv. Any concentrations less than this value are reported to alert the end user of the possible presence in the sample.

The required benchmarks could not be achieved for 1,2-dibromoethane for samples: 219-AA-040, 219-AA-044, 219-IA-025, 219-IA-027, 219-IA-028, 219-IA-029, 219-IA-030, 219-IA-031, 219-IA-033, 219-IA-034, 219-IA-036, 219-IA-037, 219-IA-038, 219-IA-041, 219-IA-042 and 219-TB-023. This compound was not detected in any of the above samples at a concentration greater than the method detection limit (MDL) and less than the reporting limit (RL).

The RLs exceeded the project action limits for chloroform, ethylbenzene, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,2-dichloroethane, 1,2-dichloropropane, 1,3-butadiene, 1,4-dichlorobenzene, carbon tetrachloride, Dibromochloromethane, trichloroethene and vinyl chloride for samples: 219-IA-025, 219-IA-



028, 219-IA-033 and trichloroethene for samples: 219-IA-028, 219-IA-029 and 219-IA-033 due to the presence of high concentrations of target compounds. The following samples contained estimated (J) concentrations above the MDL but less than the RL: Carbon tetrachloride and trichloroethene for sample 219-IA-025, carbon tetrachloride, chloroform and 1,4-dichlorobenzene for sample 219-IA-028 and carbon tetrachloride for sample 219-IA-033.

The RLs exceeded the project action limits for 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,2-dibromoethane, 1,2-dichloroethane, 1,2-dichloropropane, 1,3-butadiene, 1,4-dichlorobenzene, dibromochloromethane, trichloroethene and vinyl chloride for sample 219-SS-043 due to the presence of high concentrations of target compounds. These compounds were not detected above the MDL and less than the RL.

Heptane and methyl isobutyl ketone were below the % recovery criterion for the LCS of 10/8/2014 and 10/9/2014. Heptane and methyl isobutyl ketone results are estimated (J or UJ) for all samples.

Propylene, acetone, tetrahydrofuran, methyl isobutyl ketone and styrene were above the %RPD for the replicate analysis of sample 219-IA-034. These compounds are estimated (J) for sample 219-IA-034.

Acetone and tetrahydrofuran were above the %RPD for the replicate analysis of sample 219-SS-035. These compounds are estimated (J) for sample 219-SS-035.

Methylene Chloride and ethyl acetate were above the %RPD for the replicate analysis of sample 219-IA-033. These compounds are estimated (J) for sample 219-IA-033.

The results presented in this report only relate to the samples analyzed. All results are intended to be considered in their entirety. The Environmental Response Team/Scientific, Engineering, Response and Analytical Services laboratory is not responsible for utilization of less than the complete report.



Summary of Abbreviations

BFB	Bromofluorobenzene
C	Centigrade
CLP	Contract Laboratory Program
COC	Chain of Custody
conc	concentration
cont	continued
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
D	(Surrogate Table) value is from a diluted sample and was not calculated
Dioxin	Polychlorinated dibenzo-p-dioxins (PCDD) and Polychlorinated dibenzofurans (PCDF)
DFTPP	Decafluorotriphenylphosphine
EMPC	Estimated maximum possible concentration
GC/MS	Gas Chromatography/ Mass Spectrometry
IS	Internal Standard
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MDA	Minimum Detectable Activity
MS (BS)	Matrix Spike (Blank Spike)
MSD (BSD)	Matrix Spike Duplicate (Blank Spike Duplicate)
MW	Molecular Weight
NA	Not Applicable or Not Available
NAD	Normalized Absolute Difference
NC	Not Calculated
NR	Not Requested/Not Reported
NS	Not Spiked
% D	Percent Difference
% REC	Percent Recovery
SOP	Standard Operating Procedure
ppbv	parts per billion by volume
ppm	parts per million
pptv	parts per trillion by volume
PQL	Practical Quantitation Limit
PAL	Performance Acceptance Limit
QA/QC	Quality Assurance/Quality Control
QL	Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
SERAS	Scientific, Engineering, Response and Analytical Services
SIM	Selected Ion Monitoring
Sur	Surrogate
TIC	Tentatively Identified Compound
TCLP	Toxicity Characteristic Leaching Procedure
VOC	Volatile Organic Compound
*	Value exceeds the acceptable QC limits

m ³	cubic meter	g	gram	kg	kilogram	L	liter
μg	microgram	μL	microliter	mg	milligram	mL	milliliter
ng	nanogram	pg	picogram	pCi	picocurie	s	sigma

Data Validation Flags

J	Value is estimated	R	Value is unusable
J+	Value is estimated high (metals only)	U	Not detected
J-	Value is estimated low (metals only)	UJ	Not detected and RL is estimated
N	Presumptively present (Aroclors only)		

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Table 1.1a Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-219 Passyunk Soil Gas Site

Method: SERAS SOP#1814

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SERAS Sample Number	100814-01	R410002-01	R410002-02	R410002-04
Sample Number	PS-Method Blank	219-AA-040	219-AA-044	219-IA-027
Sample Location	N/A	Ernst Street	Unit 175	Unit 116
Sublocation	N/A	Ambient	Ambient	Basement IA

Analyte	Results ppbv	RL ppbv	Results ppbv	RL ppbv	Results ppbv	RL ppbv	Results ppbv	RL ppbv
Propylene	U	0.0200	0.667	0.0200	0.545	0.0200	37.9	0.200
Dichlorodifluoromethane	U	0.0200	0.224	0.0200	0.227	0.0200	U	0.0200
Chloromethane	U	0.0200	0.497	0.0200	0.497	0.0200	0.496	0.0200
Dichlorotetrafluoroethane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Vinyl Chloride	U	0.0200	U	0.0200	U	0.0200	U	0.0200
1,3-Butadiene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Bromomethane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Chloroethane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Acetone	U	0.500	5.65	0.500	4.63	0.500	U	0.500
Trichlorofluoromethane	U	0.0200	0.241	0.0200	0.274	0.0200	0.258	0.0200
Isopropyl Alcohol	U	0.500	0.646	0.500	U	0.500	U	0.500
1,1-Dichloroethene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Methylene Chloride	U	0.0200	0.100	0.0200	0.116	0.0200	5.53	0.0200
Trichlorotrifluoroethane	U	0.0200	0.0830	0.0200	0.0882	0.0200	0.0786	0.0200
trans-1,2-Dichloroethene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
1,1-Dichloroethane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
MTBE	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Vinyl Acetate	U	0.0200	0.236	0.0200	U	0.0200	U	0.0200
2-Butanone	U	0.0200	0.371	0.0200	0.261	0.0200	0.365	0.0200
cis-1,2-Dichloroethene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Ethyl Acetate	U	0.0200	0.188	0.0200	0.155	0.0200	U	0.0200
Hexane	U	0.0200	0.311	0.0200	0.195	0.0200	0.431	0.0200
Chloroform	U	0.0200	0.0266	0.0200	0.0255	0.0200	0.120	0.0200
Tetrahydrofuran	U	0.0200	0.119	0.0200	0.0585	0.0200	0.0941	0.0200
1,2-Dichloroethane	U	0.0200	U	0.0200	U	0.0200	0.0264	0.0200
1,1,1-Trichloroethane	U	0.0200	U	0.0200	0.0252	0.0200	U	0.0200
Benzene	U	0.0200	0.162	0.0200	0.124	0.0200	0.185	0.0200
Carbon Tetrachloride	U	0.0200	0.0691	0.0200	0.0693	0.0200	0.0702	0.0200
Cyclohexane	U	0.0200	0.0383	0.0200	0.0277	0.0200	0.172	0.0200
1,2-Dichloropropane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
1,4-Dioxane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Trichloroethene	U	0.0200	0.113	0.0200	0.0247	0.0200	0.107	0.0200
Heptane	U	0.0200	0.0799	J 0.0200	0.0664	J 0.0200	0.0830	J 0.0200
cis-1,3-Dichloropropene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Methyl Isobutyl Ketone	U	0.0200	0.0346	J 0.0200	0.148	J 0.0200	0.217	J 0.0200
trans-1,3-Dichloropropene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
1,1,2-Trichloroethane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Toluene	U	0.0200	0.364	0.0200	0.312	0.0200	0.689	0.0200
2-Hexanone	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Dibromochloromethane	U	0.0200	U	0.0200	U	0.0200	0.0197	J 0.0200
1,2-Dibromoethane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Tetrachloroethene	U	0.0200	0.0217	0.0200	U	0.0200	0.0776	0.0200
Chlorobenzene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Ethylbenzene	U	0.0200	0.0630	0.0200	0.0545	0.0200	0.257	0.0200
m&p-Xylene	U	0.0200	0.210	0.0200	0.172	0.0200	0.843	0.0200
Bromoform	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Styrene	U	0.0200	0.0599	0.0200	0.0659	0.0200	0.301	0.0200
1,1,2,2-Tetrachloroethane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
o-Xylene	U	0.0200	0.0837	0.0200	0.0701	0.0200	0.200	0.0200
p-Ethyltoluene	U	0.0200	0.0278	0.0200	0.0224	0.0200	0.0453	0.0200
1,3,5-Trimethylbenzene	U	0.0200	0.0349	0.0200	0.0272	0.0200	0.0607	0.0200
1,2,4-Trimethylbenzene	U	0.0200	0.111	0.0200	0.0871	0.0200	0.187	0.0200
1,3-Dichlorobenzene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
1,4-Dichlorobenzene	U	0.0200	U	0.0200	U	0.0200	0.218	0.0200
1,2-Dichlorobenzene	U	0.0200	U	0.0200	U	0.0200	U	0.0200

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Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-219 Passyunk Soil Gas Site

Method: SERAS SOP#1814

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SERAS Sample Number	R410002-07		R410002-08		R410002-10		R410002-11	
Sample Number	219-IA-030		219-IA-031		219-IA-034		219-IA-036	
Sample Location	Unit 50		Unit 50		Unit 70		Unit 34	
Sublocation	1st Floor IA		Basement IA		Basement IA		1st Floor IA	
	Results	RL	Results	RL	Results	RL	Results	RL
Analyte	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Propylene	3.42	0.0200	7.14	0.0200	16.9	J 0.0200	11.3	0.0200
Dichlorodifluoromethane	0.211	0.0200	0.216	0.0200	0.243	0.0200	0.210	0.0200
Chloromethane	0.390	0.0200	0.390	0.0200	0.713	0.0200	0.554	0.0200
Dichlorotetrafluoroethane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Vinyl Chloride	U	0.0200	U	0.0200	U	0.0200	U	0.0200
1,3-Butadiene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Bromomethane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Chloroethane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Acetone	3.33	0.500	109	5.00	12.5	J 0.500	13.5	0.500
Trichlorofluoromethane	0.267	0.0200	0.309	0.0200	0.238	0.0200	0.208	0.0200
Isopropyl Alcohol	U	0.500	U	0.500	0.761	J 0.500	0.705	0.500
1,1-Dichloroethene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Methylene Chloride	0.564	0.0200	1.33	0.0200	0.299	0.0200	0.283	0.0200
Trichlorotrifluoroethane	0.0713	0.0200	0.0768	0.0200	0.0820	0.0200	0.0705	0.0200
trans-1,2-Dichloroethene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
1,1-Dichloroethane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
MTBE	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Vinyl Acetate	U	0.0200	U	0.0200	U	0.0200	U	0.0200
2-Butanone	U	0.0200	5.42	0.0200	0.440	0.0200	0.644	0.0200
cis-1,2-Dichloroethene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Ethyl Acetate	U	0.0200	0.596	0.0200	0.234	0.0200	0.199	0.0200
Hexane	1.03	0.0200	1.86	0.0200	0.268	0.0200	0.289	0.0200
Chloroform	0.0342	0.0200	0.0438	0.0200	0.155	0.0200	0.126	0.0200
Tetrahydrofuran	2.81	0.0200	83.1	0.200	0.126	J 0.0200	0.139	0.0200
1,2-Dichloroethane	0.0281	0.0200	0.0412	0.0200	0.391	0.0200	0.319	0.0200
1,1,1-Trichloroethane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Benzene	0.295	0.0200	0.430	0.0200	0.342	0.0200	0.357	0.0200
Carbon Tetrachloride	0.0741	0.0200	0.0681	0.0200	0.0703	0.0200	0.0659	0.0200
Cyclohexane	0.421	0.0200	0.888	0.0200	0.0567	0.0200	0.0535	0.0200
1,2-Dichloropropane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
1,4-Dioxane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Trichloroethene	0.116	0.0200	0.103	0.0200	0.0460	0.0200	0.0420	0.0200
Heptane	0.443	J 0.0200	1.01	J 0.0200	0.120	J 0.0200	0.116	J 0.0200
cis-1,3-Dichloropropene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Methyl Isobutyl Ketone	U	J 0.0200	0.0357	J 0.0200	0.276	J 0.0200	0.112	J 0.0200
trans-1,3-Dichloropropene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
1,1,2-Trichloroethane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Toluene	2.08	0.0200	3.44	0.0200	1.32	0.0200	1.05	0.0200
2-Hexanone	U	0.0200	U	0.0200	0.0371	0.0200	0.0251	0.0200
Dibromochloromethane	U	J 0.0200	U	0.0200	0.0284	0.0200	0.0204	0.0200
1,2-Dibromoethane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Tetrachloroethene	0.0264	0.0200	0.0350	0.0200	0.0291	0.0200	0.0262	0.0200
Chlorobenzene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Ethylbenzene	0.478	0.0200	0.910	0.0200	0.202	0.0200	0.166	0.0200
m&p-Xylene	1.80	0.0200	3.30	0.0200	0.544	0.0200	0.428	0.0200
Bromoform	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Styrene	0.133	0.0200	0.174	0.0200	0.402	J 0.0200	0.283	0.0200
1,1,2,2-Tetrachloroethane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
o-Xylene	0.752	0.0200	1.43	0.0200	0.229	0.0200	0.173	0.0200
p-Ethyltoluene	0.194	0.0200	0.321	0.0200	0.0500	0.0200	0.0441	0.0200
1,3,5-Trimethylbenzene	0.367	0.0200	0.687	0.0200	0.0638	0.0200	0.0528	0.0200
1,2,4-Trimethylbenzene	0.989	0.0200	1.76	0.0200	0.211	0.0200	0.194	0.0200
1,3-Dichlorobenzene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
1,4-Dichlorobenzene	0.0401	0.0200	0.0628	0.0200	0.437	0.0200	0.440	0.0200
1,2-Dichlorobenzene	U	0.0200	U	0.0200	U	0.0200	U	0.0200

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Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-219 Passyunk Soil Gas Site

Method: SERAS SOP#1814

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SERAS Sample Number	R410002-12		R410002-13		R410002-14		R410002-15	
Sample Number	219-IA-037		219-IA-038		219-IA-041		219-IA-042	
Sample Location	Unit 34		Unit 34		Unit 175		Unit 175	
Sublocation	1st Floor IA		Basement IA		1st Floor IA		Basement IA	
	Results	RL	Results	RL	Results	RL	Results	RL
Analyte	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Propylene	0.841	0.0200	0.755	0.0200	2.08	0.0200	9.20	0.0200
Dichlorodifluoromethane	0.273	0.0200	0.242	0.0200	0.223	0.0200	0.223	0.0200
Chloromethane	0.555	0.0200	0.455	0.0200	0.446	0.0200	1.17	0.0200
Dichlorotetrafluoroethane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Vinyl Chloride	U	0.0200	U	0.0200	U	0.0200	U	0.0200
1,3-Butadiene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Bromomethane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Chloroethane	U	0.0200	U	0.0200	0.0321	0.0200	0.126	0.0200
Acetone	7.40	0.500	7.45	0.500	8.80	0.500	4.55	0.500
Trichlorofluoromethane	0.261	0.0200	0.243	0.0200	0.255	0.0200	0.951	0.0200
Isopropyl Alcohol	1.11	0.500	0.987	0.500	0.840	0.500	4.39	0.500
1,1-Dichloroethene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Methylene Chloride	0.224	0.0200	0.228	0.0200	0.291	0.0200	0.249	0.0200
Trichlorotrifluoroethane	0.0911	0.0200	0.0806	0.0200	0.0748	0.0200	2.04	0.0200
trans-1,2-Dichloroethene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
1,1-Dichloroethane	U	0.0200	U	0.0200	0.0460	0.0200	U	0.0200
MTBE	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Vinyl Acetate	U	0.0200	U	0.0200	U	0.0200	U	0.0200
2-Butanone	0.273	0.0200	0.285	0.0200	0.505	0.0200	0.286	0.0200
cis-1,2-Dichloroethene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Ethyl Acetate	2.87	0.0200	2.67	0.0200	1.34	0.0200	5.76	0.0200
Hexane	0.263	0.0200	0.231	0.0200	0.254	0.0200	0.312	0.0200
Chloroform	0.0672	0.0200	0.0546	0.0200	1.90	0.0200	0.172	0.0200
Tetrahydrofuran	0.116	0.0200	0.107	0.0200	0.200	0.0200	0.0708	0.0200
1,2-Dichloroethane	0.0214	0.0200	U	0.0200	0.0596	0.0200	0.0227	0.0200
1,1,1-Trichloroethane	U	0.0200	U	0.0200	U	0.0200	5.12	0.0200
Benzene	0.212	0.0200	0.190	0.0200	4.44	0.0200	0.702	0.0200
Carbon Tetrachloride	0.0737	0.0200	0.0663	0.0200	0.0707	0.0200	0.0743	0.0200
Cyclohexane	0.0456	0.0200	0.0387	0.0200	0.0684	0.0200	0.0416	0.0200
1,2-Dichloropropane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
1,4-Dioxane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Trichloroethene	0.0601	0.0200	0.0543	0.0200	0.117	0.0200	U	0.0200
Heptane	0.127 J	0.0200	0.113 J	0.0200	0.145 J	0.0200	0.163 J	0.0200
cis-1,3-Dichloropropene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Methyl Isobutyl Ketone	4.45 J	0.0200	4.48 J	0.0200	6.39 J	0.0200	0.0588 J	0.0200
trans-1,3-Dichloropropene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
1,1,2-Trichloroethane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Toluene	0.465	0.0200	0.408	0.0200	0.930	0.0200	1.03	0.0200
2-Hexanone	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Dibromochloromethane	0.0077 J	0.0200	0.0068 J	0.0200	0.276	0.0200	0.0345	0.0200
1,2-Dibromoethane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Tetrachloroethene	0.0391	0.0200	0.0345	0.0200	0.167	0.0200	0.0478	0.0200
Chlorobenzene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
Ethylbenzene	0.131	0.0200	0.117	0.0200	2.73	0.0200	0.152	0.0200
m&p-Xylene	0.355	0.0200	0.321	0.0200	2.56	0.0200	0.361	0.0200
Bromoform	U	0.0200	U	0.0200	0.0316	0.0200	U	0.0200
Styrene	0.0760	0.0200	0.0654	0.0200	0.122	0.0200	0.121	0.0200
1,1,2,2-Tetrachloroethane	U	0.0200	U	0.0200	U	0.0200	U	0.0200
o-Xylene	0.147	0.0200	0.132	0.0200	1.55	0.0200	0.146	0.0200
p-Ethyltoluene	0.0346	0.0200	0.0312	0.0200	0.295	0.0200	0.0437	0.0200
1,3,5-Trimethylbenzene	0.0483	0.0200	0.0427	0.0200	0.271	0.0200	0.0494	0.0200
1,2,4-Trimethylbenzene	0.157	0.0200	0.140	0.0200	0.580	0.0200	0.137	0.0200
1,3-Dichlorobenzene	U	0.0200	U	0.0200	U	0.0200	U	0.0200
1,4-Dichlorobenzene	0.0320	0.0200	0.0295	0.0200	0.470	0.0200	0.0219	0.0200
1,2-Dichlorobenzene	U	0.0200	U	0.0200	U	0.0200	U	0.0200

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Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-219 Passyunk Soil Gas Site

Method: SERAS SOP#1814

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SERAS Sample Number	N/A		R410002-22		R410002-03		R410002-05	
Sample Number	Methodblank 100914-01		219-TB-023		219-IA-025		219-IA-028	
Sample Location	N/A		Blank		Unit 84		Unit 84	
Sublocation	N/A		N/A		Basement IA		1st Floor IA	
Analyte	Results ppbv	RL ppbv	Results ppbv	RL ppbv	Results ppbv	RL ppbv	Results ppbv	RL ppbv
Propylene	U	0.0200	U	0.0200	19.9	0.100	4.18	0.100
Dichlorodifluoromethane	U	0.0200	U	0.0200	0.409	0.100	0.442	0.100
Chloromethane	U	0.0200	U	0.0200	0.263	0.100	0.475	0.100
Dichlorotetrafluoroethane	U	0.0200	U	0.0200	U	0.100	U	0.100
Vinyl Chloride	U	0.0200	U	0.0200	U	0.100	U	0.100
1,3-Butadiene	U	0.0200	U	0.0200	U	0.100	U	0.100
Bromomethane	U	0.0200	U	0.0200	U	0.100	U	0.100
Chloroethane	U	0.0200	U	0.0200	U	0.100	U	0.100
Acetone	U	0.500	U	0.500	11.4	2.50	6.71	2.50
Trichlorofluoromethane	U	0.0200	U	0.0200	0.268	0.100	0.274	0.100
Isopropyl Alcohol	U	0.500	U	0.500	U	2.50	U	2.50
1,1-Dichloroethene	U	0.0200	U	0.0200	U	0.100	U	0.100
Methylene Chloride	U	0.0200	U	0.0200	10.2	0.100	2.27	0.100
Trichlorotrifluoroethane	U	0.0200	U	0.0200	U	0.100	U	0.100
trans-1,2-Dichloroethene	U	0.0200	U	0.0200	U	0.100	U	0.100
1,1-Dichloroethane	U	0.0200	U	0.0200	U	0.100	U	0.100
MTBE	U	0.0200	U	0.0200	U	0.100	U	0.100
Vinyl Acetate	U	0.0200	U	0.0200	U	0.100	U	0.100
2-Butanone	U	0.0200	U	0.0200	1.01	0.100	0.671	0.100
cis-1,2-Dichloroethene	U	0.0200	U	0.0200	U	0.100	U	0.100
Ethyl Acetate	U	0.0200	U	0.0200	U	0.100	0.287	0.100
Hexane	U	0.0200	U	0.0200	0.462	0.100	0.340	0.100
Chloroform	U	0.0200	U	0.0200	0.118	0.100	0.0477	J 0.100
Tetrahydrofuran	U	0.0200	U	0.0200	0.487	0.100	0.141	0.100
1,2-Dichloroethane	U	0.0200	U	0.0200	U	0.100	U	0.100
1,1,1-Trichloroethane	U	0.0200	U	0.0200	U	0.100	U	0.100
Benzene	U	0.0200	U	0.0200	0.177	0.100	0.171	0.100
Carbon Tetrachloride	U	0.0200	U	0.0200	0.0682	J 0.100	0.0134	J 0.100
Cyclohexane	U	0.0200	U	0.0200	U	0.100	U	0.100
1,2-Dichloropropane	U	0.0200	U	0.0200	U	0.100	U	0.100
1,4-Dioxane	U	0.0200	U	0.0200	U	0.100	U	0.100
Trichloroethene	U	0.0200	U	0.0200	0.0999	J 0.100	U	0.100
Heptane	U	0.0200	U	J 0.0200	U	J 0.100	U	J 0.100
cis-1,3-Dichloropropene	U	0.0200	U	0.0200	U	0.100	U	0.100
Methyl Isobutyl Ketone	U	0.0200	U	J 0.0200	0.363	J 0.100	0.139	J 0.100
trans-1,3-Dichloropropene	U	0.0200	U	0.0200	U	0.100	U	0.100
1,1,2-Trichloroethane	U	0.0200	U	0.0200	U	0.100	U	0.100
Toluene	U	0.0200	U	0.0200	0.769	0.100	0.481	0.100
2-Hexanone	U	0.0200	U	0.0200	U	0.100	U	0.100
Dibromochloromethane	U	0.0200	U	0.0200	U	0.100	U	0.100
1,2-Dibromoethane	U	0.0200	0.0025	J 0.0200	U	0.100	U	0.100
Tetrachloroethene	U	0.0200	U	0.0200	U	0.100	U	0.100
Chlorobenzene	U	0.0200	U	0.0200	U	0.100	U	0.100
Ethylbenzene	U	0.0200	U	0.0200	0.337	0.100	0.106	0.100
m&p-Xylene	U	0.0200	U	0.0200	1.14	0.100	0.366	0.100
Bromoform	U	0.0200	U	0.0200	U	0.100	U	0.100
Styrene	U	0.0200	U	0.0200	0.336	0.100	0.214	0.100
1,1,2,2-Tetrachloroethane	U	0.0200	U	0.0200	U	0.100	U	0.100
o-Xylene	U	0.0200	U	0.0200	0.230	0.100	0.122	0.100
p-Ethyltoluene	U	0.0200	U	0.0200	U	0.100	U	0.100
1,3,5-Trimethylbenzene	U	0.0200	U	0.0200	U	0.100	U	0.100
1,2,4-Trimethylbenzene	U	0.0200	U	0.0200	0.183	0.100	0.157	0.100
1,3-Dichlorobenzene	U	0.0200	U	0.0200	U	0.100	U	0.100
1,4-Dichlorobenzene	U	0.0200	U	0.0200	0.200	0.100	0.0615	J 0.100
1,2-Dichlorobenzene	U	0.0200	U	0.0200	U	0.100	U	0.100

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Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-219 Passyunk Soil Gas Site

Method: SERAS SOP#1814

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SERAS Sample Number	R410002-09		R410002-16		R410002-17		R410002-18	
Sample Number	219-IA-033		219-SS-024		219-SS-026		219-SS-032	
Sample Location	Unit 70		Unit 84		Unit 116		Unit 50	
Sublocation	1st Floor IA		Sub Slab		Sub Slab		Sub Slab	
	Results	RL	Results	RL	Results	RL	Results	RL
Analyte	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Propylene	20.8	0.100	2.32	0.0200	5.20	0.0200	2.27	0.0200
Dichlorodifluoromethane	0.425	0.100	0.298	0.0200	0.251	0.0200	0.335	0.0200
Chloromethane	0.618	0.100	0.270	0.0200	0.333	0.0200	0.0528	0.0200
Dichlorotetrafluoroethane	U	0.100	U	0.0200	U	0.0200	U	0.0200
Vinyl Chloride	U	0.100	U	0.0200	U	0.0200	U	0.0200
1,3-Butadiene	U	0.100	U	0.0200	U	0.0200	U	0.0200
Bromomethane	U	0.100	U	0.0200	U	0.0200	U	0.0200
Chloroethane	U	0.100	U	0.0200	U	0.0200	U	0.0200
Acetone	25.8	2.50	6.55	0.500	8.68	0.500	5.75	0.500
Trichlorofluoromethane	0.229	0.100	0.257	0.0200	0.320	0.0200	0.410	0.0200
Isopropyl Alcohol	6.89	2.50	U	0.500	U	0.500	U	0.500
1,1-Dichloroethene	U	0.100	U	0.0200	U	0.0200	U	0.0200
Methylene Chloride	0.660	0.100	146	0.200	1.35	0.0200	0.0577	0.0200
Trichlorotrifluoroethane	U	0.100	0.0925	0.0200	0.0951	0.0200	0.0899	0.0200
trans-1,2-Dichloroethene	U	0.100	U	0.0200	U	0.0200	U	0.0200
1,1-Dichloroethane	U	0.100	U	0.0200	U	0.0200	U	0.0200
MTBE	U	0.100	U	0.0200	U	0.0200	U	0.0200
Vinyl Acetate	0.561	0.100	U	0.0200	U	0.0200	U	0.0200
2-Butanone	0.849	0.100	0.896	0.0200	0.475	0.0200	0.955	0.0200
cis-1,2-Dichloroethene	U	0.100	U	0.0200	U	0.0200	U	0.0200
Ethyl Acetate	0.255	0.100	0.0802	0.0200	0.122	0.0200	0.118	0.0200
Hexane	0.253	0.100	0.155	0.0200	0.261	0.0200	0.303	0.0200
Chloroform	0.161	0.100	0.403	0.0200	3.51	0.0200	0.105	0.0200
Tetrahydrofuran	0.319	0.100	0.155	0.0200	0.181	0.0200	1.60	0.0200
1,2-Dichloroethane	0.387	0.100	U	0.0200	U	0.0200	U	0.0200
1,1,1-Trichloroethane	U	0.100	U	0.0200	0.0619	0.0200	U	0.0200
Benzene	0.324	0.100	0.0261	0.0200	0.0832	0.0200	0.133	0.0200
Carbon Tetrachloride	0.0124	0.100	0.0709	0.0200	0.0314	0.0200	0.0703	0.0200
Cyclohexane	U	0.100	U	0.0200	0.0509	0.0200	0.134	0.0200
1,2-Dichloropropane	U	0.100	U	0.0200	U	0.0200	U	0.0200
1,4-Dioxane	U	0.100	0.0643	0.0200	U	0.0200	U	0.0200
Trichloroethene	U	0.100	U	0.0200	U	0.0200	0.289	0.0200
Heptane	0.134	0.100	U	0.0200	0.0715	0.0200	0.127	0.0200
cis-1,3-Dichloropropene	U	0.100	U	0.0200	U	0.0200	U	0.0200
Methyl Isobutyl Ketone	0.296	0.100	0.0587	0.0200	0.425	0.0200	0.178	0.0200
trans-1,3-Dichloropropene	U	0.100	U	0.0200	U	0.0200	U	0.0200
1,1,2-Trichloroethane	U	0.100	U	0.0200	U	0.0200	U	0.0200
Toluene	1.30	0.100	0.154	0.0200	0.328	0.0200	0.411	0.0200
2-Hexanone	U	0.100	0.726	0.0200	0.0678	0.0200	0.0697	0.0200
Dibromochloromethane	U	0.100	U	0.0200	U	0.0200	U	0.0200
1,2-Dibromoethane	U	0.100	U	0.0200	U	0.0200	U	0.0200
Tetrachloroethene	U	0.100	0.651	0.0200	3.99	0.0200	0.371	0.0200
Chlorobenzene	U	0.100	U	0.0200	U	0.0200	U	0.0200
Ethylbenzene	0.183	0.100	0.0321	0.0200	0.111	0.0200	0.112	0.0200
m&p-Xylene	0.508	0.100	0.0629	0.0200	0.311	0.0200	0.356	0.0200
Bromoform	U	0.100	U	0.0200	U	0.0200	U	0.0200
Styrene	0.364	0.100	0.0374	0.0200	0.0748	0.0200	0.0809	0.0200
1,1,2,2-Tetrachloroethane	U	0.100	U	0.0200	U	0.0200	U	0.0200
o-Xylene	0.222	0.100	0.0283	0.0200	0.122	0.0200	0.456	0.0200
p-Ethyltoluene	U	0.100	U	0.0200	0.0328	0.0200	0.0812	0.0200
1,3,5-Trimethylbenzene	U	0.100	U	0.0200	0.0349	0.0200	0.144	0.0200
1,2,4-Trimethylbenzene	0.208	0.100	0.0536	0.0200	0.147	0.0200	0.373	0.0200
1,3-Dichlorobenzene	U	0.100	U	0.0200	U	0.0200	U	0.0200
1,4-Dichlorobenzene	0.457	0.100	U	0.0200	0.0796	0.0200	U	0.0200
1,2-Dichlorobenzene	U	0.100	U	0.0200	U	0.0200	U	0.0200

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Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-219 Passyunk Soil Gas Site

Method: SERAS SOP#1814

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SERAS Sample Number	R410002-19		R410002-20		R410002-21		R410002-06	
Sample Number	219-SS-035		219-SS-039		219-SS-043		219-IA-029	
Sample Location	Unit 70		Unit 34		Unit 175		Unit 116	
Sublocation	Sub Slab		Sub Slab		Sub Slab		1st Floor IA	
	Results	RL	Results	RL	Results	RL	Results	RL
Analyte	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
Propylene	0.168	0.0200	0.131	0.0200	4770	50.0	3.40	0.100
Dichlorodifluoromethane	0.354	0.0200	0.271	0.0200	2.22	1.00	0.442	0.100
Chloromethane	0.0542	0.0200	0.103	0.0200	2.34	1.00	0.453	0.100
Dichlorotetrafluoroethane	U	0.0200	U	0.0200	U	1.00	U	0.100
Vinyl Chloride	U	0.0200	U	0.0200	U	1.00	U	0.100
1,3-Butadiene	U	0.0200	U	0.0200	U	1.00	U	0.100
Bromomethane	U	0.0200	U	0.0200	U	1.00	U	0.100
Chloroethane	U	0.0200	U	0.0200	U	1.00	U	0.100
Acetone	4.61 J	0.500	4.09	0.500	U	25.0	6.12	2.50
Trichlorofluoromethane	0.259	0.0200	0.305	0.0200	1.92	1.00	0.256	0.100
Isopropyl Alcohol	U	0.500	U	0.500	U	25.0	U	2.50
1,1-Dichloroethene	U	0.0200	U	0.0200	27.6	1.00	U	0.100
Methylene Chloride	U	0.0200	U	0.0200	U	1.00	1.05	0.100
Trichlorotrifluoroethane	0.0889	0.0200	0.0884	0.0200	107000	500	4.40	0.100
trans-1,2-Dichloroethene	U	0.0200	U	0.0200	U	1.00	U	0.100
1,1-Dichloroethane	U	0.0200	U	0.0200	2.67	1.00	U	0.100
MTBE	U	0.0200	U	0.0200	U	1.00	U	0.100
Vinyl Acetate	U	0.0200	U	0.0200	U	1.00	U	0.100
2-Butanone	0.366	0.0200	0.353	0.0200	U	1.00	0.430	0.100
cis-1,2-Dichloroethene	U	0.0200	U	0.0200	U	1.00	U	0.100
Ethyl Acetate	U	0.0200	0.0669	0.0200	U	1.00	0.268	0.100
Hexane	0.114	0.0200	0.113	0.0200	U	1.00	0.330	0.100
Chloroform	0.0252	0.0200	0.144	0.0200	1.06	1.00	U	0.100
Tetrahydrofuran	0.0921 J	0.0200	0.100	0.0200	U	1.00	0.159	0.100
1,2-Dichloroethane	U	0.0200	U	0.0200	U	1.00	U	0.100
1,1,1-Trichloroethane	U	0.0200	0.272	0.0200	143000	500	5.97	0.100
Benzene	0.0326	0.0200	0.0363	0.0200	U	1.00	0.170	0.100
Carbon Tetrachloride	0.0698	0.0200	0.101	0.0200	21.5	1.00	U	0.100
Cyclohexane	U	0.0200	U	0.0200	U	1.00	U	0.100
1,2-Dichloropropane	U	0.0200	U	0.0200	U	1.00	U	0.100
1,4-Dioxane	U	0.0200	U	0.0200	U	1.00	U	0.100
Trichloroethene	U	0.0200	U	0.0200	U	1.00	U	0.100
Heptane	0.0413 J	0.0200	0.0312 J	0.0200	U J	1.00	U J	0.100
cis-1,3-Dichloropropene	U	0.0200	U	0.0200	U	1.00	U	0.100
Methyl Isobutyl Ketone	0.246 J	0.0200	0.573 J	0.0200	U J	1.00	U J	0.100
trans-1,3-Dichloropropene	U	0.0200	U	0.0200	U	1.00	U	0.100
1,1,2-Trichloroethane	U	0.0200	U	0.0200	U	1.00	U	0.100
Toluene	0.0909	0.0200	0.106	0.0200	U	1.00	0.508	0.100
2-Hexanone	0.0328	0.0200	0.0850	0.0200	U	1.00	U	0.100
Dibromochloromethane	U	0.0200	U	0.0200	U	1.00	U	0.100
1,2-Dibromoethane	U	0.0200	U	0.0200	U	1.00	U	0.100
Tetrachloroethene	0.187	0.0200	2.11	0.0200	1.26	1.00	U	0.100
Chlorobenzene	U	0.0200	U	0.0200	U	1.00	U	0.100
Ethylbenzene	U	0.0200	U	0.0200	U	1.00	U	0.100
m&p-Xylene	0.0392	0.0200	0.0514	0.0200	U	1.00	0.304	0.100
Bromoform	U	0.0200	U	0.0200	U	1.00	U	0.100
Styrene	0.0300	0.0200	0.0346	0.0200	U	1.00	U	0.100
1,1,2,2-Tetrachloroethane	U	0.0200	U	0.0200	U	1.00	U	0.100
o-Xylene	U	0.0200	U	0.0200	U	1.00	0.112	0.100
p-Ethyltoluene	U	0.0200	U	0.0200	U	1.00	U	0.100
1,3,5-Trimethylbenzene	U	0.0200	U	0.0200	U	1.00	U	0.100
1,2,4-Trimethylbenzene	0.0393	0.0200	0.0579	0.0200	U	1.00	0.152	0.100
1,3-Dichlorobenzene	U	0.0200	U	0.0200	U	1.00	U	0.100
1,4-Dichlorobenzene	U	0.0200	U	0.0200	U	1.00	U	0.100
1,2-Dichlorobenzene	U	0.0200	U	0.0200	U	1.00	U	0.100

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Table 1.1b Results of the Analysis for VOC (µg/m3) in Air
WA# SERAS-219 Passyunk Soil Gas Site

Method: SERAS SOP#1814

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SERAS Sample Number	N/A	R410002-01	R410002-02	R410002-04
Sample Number	PS-Method blank 100814-01	219-AA-040	219-AA-044	219-IA-027
Sample Location	N/A	Ernst Street	Unit 175	Unit 116
Sublocation	N/A	Ambient	Ambient	Basement IA

Analyte	Results	RL	Results	RL	Results	RL	Results	RL
	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
Propylene	U	0.0344	1.15	0.0344	0.938	0.0344	65.3	0.0344
Dichlorodifluoromethane	U	0.0989	1.11	0.0989	1.12	0.0989	U	0.0989
Chloromethane	U	0.0413	1.03	0.0413	1.03	0.0413	1.03	0.0413
Dichlorotetrafluoroethane	U	0.140	U	0.140	U	0.140	U	0.140
Vinyl Chloride	U	0.0511	U	0.0511	U	0.0511	U	0.0511
1,3-Butadiene	U	0.0442	U	0.0442	U	0.0442	U	0.0442
Bromomethane	U	0.0777	U	0.0777	U	0.0777	U	0.0777
Chloroethane	U	0.0528	U	0.0528	U	0.0528	U	0.0528
Acetone	U	1.19	13.4	1.19	11.0	1.19	U	1.19
Trichlorofluoromethane	U	0.112	1.36	0.112	1.54	0.112	1.45	0.112
Isopropyl Alcohol	U	1.23	1.59	1.23	U	1.23	U	1.23
1,1-Dichloroethene	U	0.0793	U	0.0793	U	0.0793	U	0.0793
Methylene Chloride	U	0.0695	0.348	0.0695	0.404	0.0695	19.2	0.0695
Trichlorotrifluoroethane	U	0.153	0.636	0.153	0.676	0.153	0.602	0.153
trans-1,2-Dichloroethene	U	0.0793	U	0.0793	U	0.0793	U	0.0793
1,1-Dichloroethane	U	0.0809	U	0.0809	U	0.0809	U	0.0809
MTBE	U	0.0721	U	0.0721	U	0.0721	U	0.0721
Vinyl Acetate	U	0.0704	0.830	0.0704	U	0.0704	U	0.0704
2-Butanone	U	0.0590	1.09	0.0590	0.770	0.0590	1.08	0.0590
cis-1,2-Dichloroethene	U	0.0793	U	0.0793	U	0.0793	U	0.0793
Ethyl Acetate	U	0.0721	0.678	0.0721	0.559	0.0721	U	0.0721
Hexane	U	0.0705	1.10	0.0705	0.688	0.0705	1.52	0.0705
Chloroform	U	0.0977	0.130	0.0977	0.125	0.0977	0.588	0.0977
Tetrahydrofuran	U	0.0590	0.350	0.0590	0.172	0.0590	0.277	0.0590
1,2-Dichloroethane	U	0.0809	U	0.0809	U	0.0809	0.107	0.0809
1,1,1-Trichloroethane	U	0.109	U	0.109	0.137	0.109	U	0.109
Benzene	U	0.0639	0.519	0.0639	0.395	0.0639	0.591	0.0639
Carbon Tetrachloride	U	0.126	0.435	0.126	0.436	0.126	0.442	0.126
Cyclohexane	U	0.0688	0.132	0.0688	0.0955	0.0688	0.594	0.0688
1,2-Dichloropropane	U	0.0924	U	0.0924	U	0.0924	U	0.0924
1,4-Dioxane	U	0.0721	U	0.0721	U	0.0721	U	0.0721
Trichloroethene	U	0.107	0.607	0.107	0.132	0.107	0.573	0.107
Heptane	U	0.0820	0.327	0.0820	0.272	0.0820	0.340	0.0820
cis-1,3-Dichloropropene	U	0.0908	U	0.0908	U	0.0908	U	0.0908
Methyl Isobutyl Ketone	U	0.0819	0.142	0.0819	0.606	0.0819	0.890	0.0819
trans-1,3-Dichloropropene	U	0.0908	U	0.0908	U	0.0908	U	0.0908
1,1,2-Trichloroethane	U	0.109	U	0.109	U	0.109	U	0.109
Toluene	U	0.0754	1.37	0.0754	1.17	0.0754	2.60	0.0754
2-Hexanone	U	0.0819	U	0.0819	U	0.0819	U	0.0819
Dibromochloromethane	U	0.170	U	0.170	U	0.170	0.168	0.170
1,2-Dibromoethane	U	0.154	U	0.154	U	0.154	U	0.154
Tetrachloroethene	U	0.136	0.147	0.136	U	0.136	0.526	0.136
Chlorobenzene	U	0.0921	U	0.0921	U	0.0921	U	0.0921
Ethylbenzene	U	0.0868	0.274	0.0868	0.237	0.0868	1.11	0.0868
m&p-Xylene	U	0.0868	0.913	0.0868	0.746	0.0868	3.66	0.0868
Bromoform	U	0.207	U	0.207	U	0.207	U	0.207
Styrene	U	0.0852	0.255	0.0852	0.281	0.0852	1.28	0.0852
1,1,2,2-Tetrachloroethane	U	0.137	U	0.137	U	0.137	U	0.137
o-Xylene	U	0.0868	0.363	0.0868	0.304	0.0868	0.868	0.0868
p-Ethyltoluene	U	0.0983	0.137	0.0983	0.110	0.0983	0.223	0.0983
1,3,5-Trimethylbenzene	U	0.0983	0.171	0.0983	0.134	0.0983	0.298	0.0983
1,2,4-Trimethylbenzene	U	0.0983	0.544	0.0983	0.428	0.0983	0.918	0.0983
1,3-Dichlorobenzene	U	0.120	U	0.120	U	0.120	U	0.120
1,4-Dichlorobenzene	U	0.120	U	0.120	U	0.120	1.31	0.120
1,2-Dichlorobenzene	U	0.120	U	0.120	U	0.120	U	0.120

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Table 1.1b (cont) Results of the Analysis for VOC (µg/m3) in Air
WA# SERAS-219 Passyunk Soil Gas Site

Method: SERAS SOP#1814

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SERAS Sample Number	R410002-07		R410002-08		R410002-10		R410002-11	
Sample Number	219-IA-030		219-IA-031		219-IA-034		219-IA-036	
Sample Location	Unit 50		Unit 50		Unit 70		Unit 34	
Sublocation	1st Floor IA		Basement IA		Basement IA		1st Floor IA	
Analyte	Results	RL	Results	RL	Results	RL	Results	RL
	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
Propylene	5.88	0.0344	12.3	0.0344	29.2 J	0.0344	19.5	0.0344
Dichlorodifluoromethane	1.04	0.0989	1.07	0.0989	1.20	0.0989	1.04	0.0989
Chloromethane	0.806	0.0413	0.805	0.0413	1.47	0.0413	1.14	0.0413
Dichlorotetrafluoroethane	U	0.140	U	0.140	U	0.140	U	0.140
Vinyl Chloride	U	0.0511	U	0.0511	U	0.0511	U	0.0511
1,3-Butadiene	U	0.0442	U	0.0442	U	0.0442	U	0.0442
Bromomethane	U	0.0777	U	0.0777	U	0.0777	U	0.0777
Chloroethane	U	0.0528	U	0.0528	U	0.0528	U	0.0528
Acetone	7.92	1.19	260	11.9	29.7 J	1.19	32.2	1.19
Trichlorofluoromethane	1.50	0.112	1.74	0.112	1.34	0.112	1.17	0.112
Isopropyl Alcohol	U	1.23	U	1.23	1.87 J	1.23	1.73	1.23
1,1-Dichloroethene	U	0.0793	U	0.0793	U	0.0793	U	0.0793
Methylene Chloride	1.96	0.0695	4.62	0.0695	1.04	0.0695	0.983	0.0695
Trichlorotrifluoroethane	0.546	0.153	0.588	0.153	0.628	0.153	0.540	0.153
trans-1,2-Dichloroethene	U	0.0793	U	0.0793	U	0.0793	U	0.0793
1,1-Dichloroethane	U	0.0809	U	0.0809	U	0.0809	U	0.0809
MTBE	U	0.0721	U	0.0721	U	0.0721	U	0.0721
Vinyl Acetate	U	0.0704	U	0.0704	U	0.0704	U	0.0704
2-Butanone	U	0.0590	16.0	0.0590	1.30	0.0590	1.90	0.0590
cis-1,2-Dichloroethene	U	0.0793	U	0.0793	U	0.0793	U	0.0793
Ethyl Acetate	U	0.0721	2.15	0.0721	0.844	0.0721	0.717	0.0721
Hexane	3.65	0.0705	6.55	0.0705	0.945	0.0705	1.02	0.0705
Chloroform	0.167	0.0977	0.214	0.0977	0.758	0.0977	0.616	0.0977
Tetrahydrofuran	8.29	0.0590	245	0.590	0.372 J	0.0590	0.411	0.0590
1,2-Dichloroethane	0.114	0.0809	0.167	0.0809	1.58	0.0809	1.29	0.0809
1,1,1-Trichloroethane	U	0.109	U	0.109	U	0.109	U	0.109
Benzene	0.941	0.0639	1.37	0.0639	1.09	0.0639	1.14	0.0639
Carbon Tetrachloride	0.466	0.126	0.428	0.126	0.442	0.126	0.415	0.126
Cyclohexane	1.45	0.0688	3.06	0.0688	0.195	0.0688	0.184	0.0688
1,2-Dichloropropane	U	0.0924	U	0.0924	U	0.0924	U	0.0924
1,4-Dioxane	U	0.0721	U	0.0721	U	0.0721	U	0.0721
Trichloroethene	0.622	0.107	0.553	0.107	0.247	0.107	0.226	0.107
Heptane	1.81 J	0.0820	4.16 J	0.0820	0.492 J	0.0820	0.475 J	0.0820
cis-1,3-Dichloropropene	U	0.0908	U	0.0908	U	0.0908	U	0.0908
Methyl Isobutyl Ketone	U J	0.0819	0.146 J	0.0819	1.13 J	0.0819	0.459 J	0.0819
trans-1,3-Dichloropropene	U	0.0908	U	0.0908	U	0.0908	U	0.0908
1,1,2-Trichloroethane	U	0.109	U	0.109	U	0.109	U	0.109
Toluene	7.83	0.0754	13.0	0.0754	4.99	0.0754	3.96	0.0754
2-Hexanone	U	0.0819	U	0.0819	0.152	0.0819	0.103	0.0819
Dibromochloromethane	U J	0.170	U	0.170	0.242	0.170	0.173	0.170
1,2-Dibromoethane	U	0.154	U	0.154	U	0.154	U	0.154
Tetrachloroethene	0.179	0.136	0.237	0.136	0.197	0.136	0.178	0.136
Chlorobenzene	U	0.0921	U	0.0921	U	0.0921	U	0.0921
Ethylbenzene	2.07	0.0868	3.95	0.0868	0.876	0.0868	0.720	0.0868
m&p-Xylene	7.80	0.0868	14.3	0.0868	2.36	0.0868	1.86	0.0868
Bromoform	U	0.207	U	0.207	U	0.207	U	0.207
Styrene	0.567	0.0852	0.740	0.0852	1.71 J	0.0852	1.21	0.0852
1,1,2,2-Tetrachloroethane	U	0.137	U	0.137	U	0.137	U	0.137
o-Xylene	3.27	0.0868	6.20	0.0868	0.994	0.0868	0.752	0.0868
p-Ethyltoluene	0.952	0.0983	1.58	0.0983	0.246	0.0983	0.217	0.0983
1,3,5-Trimethylbenzene	1.80	0.0983	3.38	0.0983	0.314	0.0983	0.260	0.0983
1,2,4-Trimethylbenzene	4.86	0.0983	8.66	0.0983	1.04	0.0983	0.954	0.0983
1,3-Dichlorobenzene	U	0.120	U	0.120	U	0.120	U	0.120
1,4-Dichlorobenzene	0.241	0.120	0.378	0.120	2.63	0.120	2.65	0.120
1,2-Dichlorobenzene	U	0.120	U	0.120	U	0.120	U	0.120

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Table 1.1b (cont) Results of the Analysis for VOC (µg/m3) in Air
WA# SERAS-219 Passyunk Soil Gas Site

Method: SERAS SOP#1814

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SERAS Sample Number	R410002-12		R410002-13		R410002-14		R410002-15	
Sample Number	219-IA-037		219-IA-038		219-IA-041		219-IA-042	
Sample Location	Unit 34		Unit 34		Unit 175		Unit 175	
Sublocation	1st Floor IA		Basement IA		1st Floor IA		Basement IA	
	Results	RL	Results	RL	Results	RL	Results	RL
Analyte	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
Propylene	1.45	0.0344	1.30	0.0344	3.59	0.0344	15.8	0.0344
Dichlorodifluoromethane	1.35	0.0989	1.19	0.0989	1.10	0.0989	1.10	0.0989
Chloromethane	1.15	0.0413	0.940	0.0413	0.921	0.0413	2.41	0.0413
Dichlorotetrafluoroethane	U	0.140	U	0.140	U	0.140	U	0.140
Vinyl Chloride	U	0.0511	U	0.0511	U	0.0511	U	0.0511
1,3-Butadiene	U	0.0442	U	0.0442	U	0.0442	U	0.0442
Bromomethane	U	0.0777	U	0.0777	U	0.0777	U	0.0777
Chloroethane	U	0.0528	U	0.0528	0.0846	0.0528	0.331	0.0528
Acetone	17.6	1.19	17.7	1.19	20.9	1.19	10.8	1.19
Trichlorofluoromethane	1.47	0.112	1.36	0.112	1.43	0.112	5.35	0.112
Isopropyl Alcohol	2.73	1.23	2.43	1.23	2.06	1.23	10.8	1.23
1,1-Dichloroethene	U	0.0793	U	0.0793	U	0.0793	U	0.0793
Methylene Chloride	0.779	0.0695	0.791	0.0695	1.01	0.0695	0.866	0.0695
Trichlorotrifluoroethane	0.698	0.153	0.618	0.153	0.574	0.153	15.7	0.153
trans-1,2-Dichloroethene	U	0.0793	U	0.0793	U	0.0793	U	0.0793
1,1-Dichloroethane	U	0.0809	U	0.0809	0.186	0.0809	U	0.0809
MTBE	U	0.0721	U	0.0721	U	0.0721	U	0.0721
Vinyl Acetate	U	0.0704	U	0.0704	U	0.0704	U	0.0704
2-Butanone	0.805	0.0590	0.840	0.0590	1.49	0.0590	0.845	0.0590
cis-1,2-Dichloroethene	U	0.0793	U	0.0793	U	0.0793	U	0.0793
Ethyl Acetate	10.3	0.0721	9.61	0.0721	4.83	0.0721	20.8	0.0721
Hexane	0.927	0.0705	0.815	0.0705	0.894	0.0705	1.10	0.0705
Chloroform	0.328	0.0977	0.266	0.0977	9.26	0.0977	0.841	0.0977
Tetrahydrofuran	0.342	0.0590	0.315	0.0590	0.591	0.0590	0.209	0.0590
1,2-Dichloroethane	0.0867	0.0809	U	0.0809	0.241	0.0809	0.0919	0.0809
1,1,1-Trichloroethane	U	0.109	U	0.109	U	0.109	27.9	0.109
Benzene	0.676	0.0639	0.606	0.0639	14.2	0.0639	2.24	0.0639
Carbon Tetrachloride	0.463	0.126	0.417	0.126	0.445	0.126	0.467	0.126
Cyclohexane	0.157	0.0688	0.133	0.0688	0.236	0.0688	0.143	0.0688
1,2-Dichloropropane	U	0.0924	U	0.0924	U	0.0924	U	0.0924
1,4-Dioxane	U	0.0721	U	0.0721	U	0.0721	U	0.0721
Trichloroethene	0.323	0.107	0.292	0.107	0.627	0.107	U	0.107
Heptane	0.521	J 0.0820	0.465	J 0.0820	0.594	J 0.0820	0.668	J 0.0820
cis-1,3-Dichloropropene	U	0.0908	U	0.0908	U	0.0908	U	0.0908
Methyl Isobutyl Ketone	18.2	J 0.0819	18.4	J 0.0819	26.2	J 0.0819	0.241	J 0.0819
trans-1,3-Dichloropropene	U	0.0908	U	0.0908	U	0.0908	U	0.0908
1,1,2-Trichloroethane	U	0.109	U	0.109	U	0.109	U	0.109
Toluene	1.75	0.0754	1.54	0.0754	3.50	0.0754	3.88	0.0754
2-Hexanone	U	0.0819	U	0.0819	U	0.0819	U	0.0819
Dibromochloromethane	0.0656	J 0.170	0.0579	J 0.170	2.35	0.170	0.294	0.170
1,2-Dibromoethane	U	0.154	U	0.154	U	0.154	U	0.154
Tetrachloroethene	0.265	0.136	0.234	0.136	1.13	0.136	0.324	0.136
Chlorobenzene	U	0.0921	U	0.0921	U	0.0921	U	0.0921
Ethylbenzene	0.569	0.0868	0.508	0.0868	11.8	0.0868	0.661	0.0868
m&p-Xylene	1.54	0.0868	1.39	0.0868	11.1	0.0868	1.57	0.0868
Bromoform	U	0.207	U	0.207	0.327	0.207	U	0.207
Styrene	0.324	0.0852	0.279	0.0852	0.519	0.0852	0.515	0.0852
1,1,2,2-Tetrachloroethane	U	0.137	U	0.137	U	0.137	U	0.137
o-Xylene	0.638	0.0868	0.574	0.0868	6.73	0.0868	0.633	0.0868
p-Ethyltoluene	0.170	0.0983	0.153	0.0983	1.45	0.0983	0.215	0.0983
1,3,5-Trimethylbenzene	0.238	0.0983	0.210	0.0983	1.33	0.0983	0.243	0.0983
1,2,4-Trimethylbenzene	0.770	0.0983	0.690	0.0983	2.85	0.0983	0.675	0.0983
1,3-Dichlorobenzene	U	0.120	U	0.120	U	0.120	U	0.120
1,4-Dichlorobenzene	0.192	0.120	0.177	0.120	2.83	0.120	0.132	0.120
1,2-Dichlorobenzene	U	0.120	U	0.120	U	0.120	U	0.120

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Table 1.1b (cont) Results of the Analysis for VOC (µg/m3) in Air
WA# SERAS-219 Passyunk Soil Gas Site

Method: SERAS SOP#1814

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SERAS Sample Number	N/A		R410002-22		R410002-03		R410002-05	
Sample Number	Methodblank 100914-01		219-TB-023		219-IA-025		219-IA-028	
Sample Location	N/A		Blank		Unit 84		Unit 84	
Sublocation	N/A		N/A		Basement IA		1st Floor IA	
Analyte	Results µg/m3	RL µg/m3	Results µg/m3	RL µg/m3	Results µg/m3	RL µg/m3	Results µg/m3	RL µg/m3
Propylene	U	0.0344	U	0.0344	34.2	0.172	7.20	0.172
Dichlorodifluoromethane	U	0.0989	U	0.0989	2.02	0.495	2.19	0.495
Chloromethane	U	0.0413	U	0.0413	0.544	0.207	0.981	0.207
Dichlorotetrafluoroethane	U	0.140	U	0.140	U	0.699	U	0.699
Vinyl Chloride	U	0.0511	U	0.0511	U	0.256	U	0.256
1,3-Butadiene	U	0.0442	U	0.0442	U	0.221	U	0.221
Bromomethane	U	0.0777	U	0.0777	U	0.388	U	0.388
Chloroethane	U	0.0528	U	0.0528	U	0.264	U	0.264
Acetone	U	1.19	U	1.19	27.0	5.94	15.9	5.94
Trichlorofluoromethane	U	0.112	U	0.112	1.51	0.562	1.54	0.562
Isopropyl Alcohol	U	1.23	U	1.23	U	6.15	U	6.15
1,1-Dichloroethene	U	0.0793	U	0.0793	U	0.396	U	0.396
Methylene Chloride	U	0.0695	U	0.0695	35.6	0.347	7.88	0.347
Trichlorotrifluoroethane	U	0.153	U	0.153	U	0.766	U	0.766
trans-1,2-Dichloroethene	U	0.0793	U	0.0793	U	0.396	U	0.396
1,1-Dichloroethane	U	0.0809	U	0.0809	U	0.405	U	0.405
MTBE	U	0.0721	U	0.0721	U	0.361	U	0.361
Vinyl Acetate	U	0.0704	U	0.0704	U	0.352	U	0.352
2-Butanone	U	0.0590	U	0.0590	2.98	0.295	1.98	0.295
cis-1,2-Dichloroethene	U	0.0793	U	0.0793	U	0.396	U	0.396
Ethyl Acetate	U	0.0721	U	0.0721	U	0.360	1.03	0.360
Hexane	U	0.0705	U	0.0705	1.63	0.352	1.20	0.352
Chloroform	U	0.0977	U	0.0977	0.578	0.488	0.235	0.488
Tetrahydrofuran	U	0.0590	U	0.0590	1.43	0.295	0.415	0.295
1,2-Dichloroethane	U	0.0809	U	0.0809	U	0.405	U	0.405
1,1,1-Trichloroethane	U	0.109	U	0.109	U	0.546	U	0.546
Benzene	U	0.0639	U	0.0639	0.567	0.319	0.547	0.319
Carbon Tetrachloride	U	0.126	U	0.126	0.429	0.629	0.0843	0.629
Cyclohexane	U	0.0688	U	0.0688	U	0.344	U	0.344
1,2-Dichloropropane	U	0.0924	U	0.0924	U	0.462	U	0.462
1,4-Dioxane	U	0.0721	U	0.0721	U	0.360	U	0.360
Trichloroethene	U	0.107	U	0.107	0.537	0.537	U	0.537
Heptane	U	0.0820	U	0.0820	U	0.410	U	0.410
cis-1,3-Dichloropropene	U	0.0908	U	0.0908	U	0.454	U	0.454
Methyl Isobutyl Ketone	U	0.0819	U	0.0819	1.49	0.410	0.571	0.410
trans-1,3-Dichloropropene	U	0.0908	U	0.0908	U	0.454	U	0.454
1,1,2-Trichloroethane	U	0.109	U	0.109	U	0.546	U	0.546
Toluene	U	0.0754	U	0.0754	2.90	0.377	1.81	0.377
2-Hexanone	U	0.0819	U	0.0819	U	0.410	U	0.410
Dibromochloromethane	U	0.170	U	0.170	U	0.852	U	0.852
1,2-Dibromoethane	U	0.154	0.0192	0.154	U	0.768	U	0.768
Tetrachloroethene	U	0.136	U	0.136	U	0.678	U	0.678
Chlorobenzene	U	0.0921	U	0.0921	U	0.460	U	0.460
Ethylbenzene	U	0.0868	U	0.0868	1.46	0.434	0.459	0.434
m&p-Xylene	U	0.0868	U	0.0868	4.97	0.434	1.59	0.434
Bromoform	U	0.207	U	0.207	U	1.03	U	1.03
Styrene	U	0.0852	U	0.0852	1.43	0.426	0.910	0.426
1,1,2,2-Tetrachloroethane	U	0.137	U	0.137	U	0.687	U	0.687
o-Xylene	U	0.0868	U	0.0868	0.999	0.434	0.532	0.434
p-Ethyltoluene	U	0.0983	U	0.0983	U	0.492	U	0.492
1,3,5-Trimethylbenzene	U	0.0983	U	0.0983	U	0.492	U	0.492
1,2,4-Trimethylbenzene	U	0.0983	U	0.0983	0.901	0.492	0.770	0.492
1,3-Dichlorobenzene	U	0.120	U	0.120	U	0.601	U	0.601
1,4-Dichlorobenzene	U	0.120	U	0.120	1.20	0.601	0.370	0.601
1,2-Dichlorobenzene	U	0.120	U	0.120	U	0.601	U	0.601

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Table 1.1b (cont) Results of the Analysis for VOC (µg/m3) in Air
WA# SERAS-219 Passyunk Soil Gas Site

Method: SERAS SOP#1814

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SERAS Sample Number	R410002-09		R410002-16		R410002-17		R410002-18	
Sample Number	219-IA-033		219-SS-024		219-SS-026		219-SS-032	
Sample Location	Unit 70		Unit 84		Unit 116		Unit 50	
Sublocation	1st Floor IA		Sub Slab		Sub Slab		Sub Slab	
Analyte	Results	RL	Results	RL	Results	RL	Results	RL
	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
Propylene	35.7	0.172	3.99	0.0344	8.95	0.0344	3.91	0.0344
Dichlorodifluoromethane	2.10	0.495	1.47	0.0989	1.24	0.0989	1.66	0.0989
Chloromethane	1.28	0.207	0.558	0.0413	0.688	0.0413	0.109	0.0413
Dichlorotetrafluoroethane	U	0.699	U	0.140	U	0.140	U	0.140
Vinyl Chloride	U	0.256	U	0.0511	U	0.0511	U	0.0511
1,3-Butadiene	U	0.221	U	0.0442	U	0.0442	U	0.0442
Bromomethane	U	0.388	U	0.0777	U	0.0777	U	0.0777
Chloroethane	U	0.264	U	0.0528	U	0.0528	U	0.0528
Acetone	61.3	5.94	15.6	1.19	20.6	1.19	13.7	1.19
Trichlorofluoromethane	1.29	0.562	1.45	0.112	1.80	0.112	2.30	0.112
Isopropyl Alcohol	16.9	6.15	U	1.23	U	1.23	U	1.23
1,1-Dichloroethene	U	0.396	U	0.0793	U	0.0793	U	0.0793
Methylene Chloride	2.29	0.347	506	0.695	4.67	0.0695	0.200	0.0695
Trichlorotrifluoroethane	U	0.766	0.709	0.153	0.729	0.153	0.689	0.153
trans-1,2-Dichloroethene	U	0.396	U	0.0793	U	0.0793	U	0.0793
1,1-Dichloroethane	U	0.405	U	0.0809	U	0.0809	U	0.0809
MTBE	U	0.361	U	0.0721	U	0.0721	U	0.0721
Vinyl Acetate	1.98	0.352	U	0.0704	U	0.0704	U	0.0704
2-Butanone	2.50	0.295	2.64	0.0590	1.40	0.0590	2.82	0.0590
cis-1,2-Dichloroethene	U	0.396	U	0.0793	U	0.0793	U	0.0793
Ethyl Acetate	0.918	0.360	0.289	0.0721	0.438	0.0721	0.426	0.0721
Hexane	0.890	0.352	0.547	0.0705	0.919	0.0705	1.07	0.0705
Chloroform	0.788	0.488	1.97	0.0977	17.1	0.0977	0.511	0.0977
Tetrahydrofuran	0.940	0.295	0.458	0.0590	0.534	0.0590	4.72	0.0590
1,2-Dichloroethane	1.57	0.405	U	0.0809	U	0.0809	U	0.0809
1,1,1-Trichloroethane	U	0.546	U	0.109	0.337	0.109	U	0.109
Benzene	1.04	0.319	0.0835	0.0639	0.266	0.0639	0.426	0.0639
Carbon Tetrachloride	0.078	0.629	0.446	0.126	0.197	0.126	0.442	0.126
Cyclohexane	U	0.344	U	0.0688	0.175	0.0688	0.460	0.0688
1,2-Dichloropropane	U	0.462	U	0.0924	U	0.0924	U	0.0924
1,4-Dioxane	U	0.360	0.232	0.0721	U	0.0721	U	0.0721
Trichloroethene	U	0.537	U	0.107	U	0.107	1.55	0.107
Heptane	0.548	0.410	U	0.0820	0.293	0.0820	0.519	0.0820
cis-1,3-Dichloropropene	U	0.454	U	0.0908	U	0.0908	U	0.0908
Methyl Isobutyl Ketone	1.21	0.410	0.240	0.0819	1.74	0.0819	0.731	0.0819
trans-1,3-Dichloropropene	U	0.454	U	0.0908	U	0.0908	U	0.0908
1,1,2-Trichloroethane	U	0.546	U	0.109	U	0.109	U	0.109
Toluene	4.91	0.377	0.582	0.0754	1.24	0.0754	1.55	0.0754
2-Hexanone	U	0.410	2.97	0.0819	0.278	0.0819	0.285	0.0819
Dibromochloromethane	U	0.852	U	0.170	U	0.170	U	0.170
1,2-Dibromoethane	U	0.768	U	0.154	U	0.154	U	0.154
Tetrachloroethene	U	0.678	4.42	0.136	27.1	0.136	2.52	0.136
Chlorobenzene	U	0.460	U	0.0921	U	0.0921	U	0.0921
Ethylbenzene	0.795	0.434	0.140	0.0868	0.480	0.0868	0.488	0.0868
m&p-Xylene	2.21	0.434	0.273	0.0868	1.35	0.0868	1.55	0.0868
Bromoform	U	1.03	U	0.207	U	0.207	U	0.207
Styrene	1.55	0.426	0.159	0.0852	0.319	0.0852	0.344	0.0852
1,1,2,2-Tetrachloroethane	U	0.687	U	0.137	U	0.137	U	0.137
o-Xylene	0.963	0.434	0.123	0.0868	0.530	0.0868	1.98	0.0868
p-Ethyltoluene	U	0.492	U	0.0983	0.161	0.0983	0.399	0.0983
1,3,5-Trimethylbenzene	U	0.492	U	0.0983	0.172	0.0983	0.709	0.0983
1,2,4-Trimethylbenzene	1.02	0.492	0.263	0.0983	0.721	0.0983	1.84	0.0983
1,3-Dichlorobenzene	U	0.601	U	0.120	U	0.120	U	0.120
1,4-Dichlorobenzene	2.75	0.601	U	0.120	0.479	0.120	U	0.120
1,2-Dichlorobenzene	U	0.601	U	0.120	U	0.120	U	0.120

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Table 1.1b (cont) Results of the Analysis for VOC (µg/m3) in Air
WA# SERAS-219 Passyunk Soil Gas Site

Method: SERAS SOP#1814

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SERAS Sample Number	R410002-19		R410002-20		R410002-21		R410002-06	
Sample Number	219-SS-035		219-SS-039		219-SS-043		219-IA-029	
Sample Location	Unit 70		Unit 34		Unit 175		Unit 116	
Sublocation	Sub Slab		Sub Slab		Sub Slab		1st Floor IA	
	Results	RL	Results	RL	Results	RL	Results	RL
Analyte	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
Propylene	0.290	0.0344	0.226	0.0344	8210	86.1	5.85	0.172
Dichlorodifluoromethane	1.75	0.0989	1.34	0.0989	11.0	4.95	2.18	0.495
Chloromethane	0.112	0.0413	0.213	0.0413	4.82	2.07	0.935	0.207
Dichlorotetrafluoroethane	U	0.140	U	0.140	U	6.99	U	0.699
Vinyl Chloride	U	0.0511	U	0.0511	U	2.56	U	0.256
1,3-Butadiene	U	0.0442	U	0.0442	U	2.21	U	0.221
Bromomethane	U	0.0777	U	0.0777	U	3.88	U	0.388
Chloroethane	U	0.0528	U	0.0528	U	2.64	U	0.264
Acetone	11.0	J 1.19	9.71	1.19	U	59.4	14.5	5.94
Trichlorofluoromethane	1.46	0.112	1.72	0.112	10.8	5.62	1.44	0.562
Isopropyl Alcohol	U	1.23	U	1.23	U	61.5	U	6.15
1,1-Dichloroethene	U	0.0793	U	0.0793	109	3.96	U	0.396
Methylene Chloride	U	0.0695	U	0.0695	U	3.47	3.66	0.347
Trichlorotrifluoroethane	0.681	0.153	0.677	0.153	822000	3830	33.7	0.766
trans-1,2-Dichloroethene	U	0.0793	U	0.0793	U	3.96	U	0.396
1,1-Dichloroethane	U	0.0809	U	0.0809	10.8	4.05	U	0.405
MTBE	U	0.0721	U	0.0721	U	3.61	U	0.361
Vinyl Acetate	U	0.0704	U	0.0704	U	3.52	U	0.352
2-Butanone	1.08	0.0590	1.04	0.0590	U	2.95	1.27	0.295
cis-1,2-Dichloroethene	U	0.0793	U	0.0793	U	3.96	U	0.396
Ethyl Acetate	U	0.0721	0.241	0.0721	U	3.60	0.964	0.360
Hexane	0.403	0.0705	0.397	0.0705	U	3.52	1.16	0.352
Chloroform	0.123	0.0977	0.705	0.0977	5.19	4.88	U	0.488
Tetrahydrofuran	0.272	J 0.0590	0.296	0.0590	U	2.95	0.468	0.295
1,2-Dichloroethane	U	0.0809	U	0.0809	U	4.05	U	0.405
1,1,1-Trichloroethane	U	0.109	1.49	0.109	780000	2730	32.6	0.546
Benzene	0.104	0.0639	0.116	0.0639	U	3.19	0.542	0.319
Carbon Tetrachloride	0.439	0.126	0.636	0.126	135	6.29	U	0.629
Cyclohexane	U	0.0688	U	0.0688	U	3.44	U	0.344
1,2-Dichloropropane	U	0.0924	U	0.0924	U	4.62	U	0.462
1,4-Dioxane	U	0.0721	U	0.0721	U	3.60	U	0.360
Trichloroethene	U	0.107	U	0.107	U	5.37	U	0.537
Heptane	0.169	J 0.0820	0.128	J 0.0820	U	J 4.10	U	J 0.410
cis-1,3-Dichloropropene	U	0.0908	U	0.0908	U	4.54	U	0.454
Methyl Isobutyl Ketone	1.01	J 0.0819	2.35	J 0.0819	U	J 4.10	U	J 0.410
trans-1,3-Dichloropropene	U	0.0908	U	0.0908	U	4.54	U	0.454
1,1,2-Trichloroethane	U	0.109	U	0.109	U	5.46	U	0.546
Toluene	0.342	0.0754	0.401	0.0754	U	3.77	1.92	0.377
2-Hexanone	0.134	0.0819	0.348	0.0819	U	4.10	U	0.410
Dibromochloromethane	U	0.170	U	0.170	U	8.52	U	0.852
1,2-Dibromoethane	U	0.154	U	0.154	U	7.68	U	0.768
Tetrachloroethene	1.26	0.136	14.3	0.136	8.56	6.78	U	0.678
Chlorobenzene	U	0.0921	U	0.0921	U	4.60	U	0.460
Ethylbenzene	U	0.0868	U	0.0868	U	4.34	U	0.434
m&p-Xylene	0.170	0.0868	0.223	0.0868	U	4.34	1.32	0.434
Bromoform	U	0.207	U	0.207	U	10.3	U	1.03
Styrene	0.128	0.0852	0.147	0.0852	U	4.26	U	0.426
1,1,2,2-Tetrachloroethane	U	0.137	U	0.137	U	6.87	U	0.687
o-Xylene	U	0.0868	U	0.0868	U	4.34	0.487	0.434
p-Ethyltoluene	U	0.0983	U	0.0983	U	4.92	U	0.492
1,3,5-Trimethylbenzene	U	0.0983	U	0.0983	U	4.92	U	0.492
1,2,4-Trimethylbenzene	0.193	0.0983	0.285	0.0983	U	4.92	0.746	0.492
1,3-Dichlorobenzene	U	0.120	U	0.120	U	6.01	U	0.601
1,4-Dichlorobenzene	U	0.120	U	0.120	U	6.01	U	0.601
1,2-Dichlorobenzene	U	0.120	U	0.120	U	6.01	U	0.601

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Table 2.1 Results of the LCS Analysis for VOC in Air
WA# SERAS-219 Passyunk Soil Gas Site

Sample LCS: 10/08/2014

Page 1 of 2

Analyte	LCS Spike Amount ppbv	LCS Recovered ppbv	% Recovery	QC Limits % Recovery
Propylene	1.00	0.875	88	73 - 146
Dichlorodifluoromethane	1.00	1.02	102	49 - 140
Chloromethane	1.00	0.983	98	72 - 144
Dichlorotetrafluoroethane	1.00	0.933	93	59 - 115
Vinyl Chloride	1.00	1.11	111	75 - 138
1,3-Butadiene	1.00	0.912	91	65 - 130
Bromomethane	1.00	1.32	132	72 - 146
Chloroethane	1.00	1.18	118	69 - 141
Acetone	1.00	1.23	123	71 - 151
Trichlorofluoromethane	1.00	1.28	128	62 - 136
Isopropyl Alcohol	1.00	1.17	117	64 - 166
1,1-Dichloroethene	1.00	1.18	118	73 - 132
Methylene Chloride	1.00	1.13	113	71 - 131
Trichlorotrifluoroethane	1.00	1.37	137	64 - 149
trans-1,2-Dichloroethene	1.00	1.02	102	74 - 142
1,1-Dichloroethane	1.00	1.06	106	76 - 138
MTBE	1.00	1.10	110	55 - 151
Vinyl Acetate	1.00	0.889	89	80 - 137
2-Butanone	1.00	0.966	97	75 - 149
cis-1,2-Dichloroethene	1.00	1.00	100	72 - 137
Ethyl Acetate	1.00	1.03	103	97 - 142
Hexane	1.00	1.03	103	77 - 143
Chloroform	1.00	1.12	112	76 - 139
Tetrahydrofuran	1.00	0.963	96	77 - 150
1,2-Dichloroethane	1.00	1.04	104	69 - 137
1,1,1-Trichloroethane	1.00	0.979	98	84 - 139
Benzene	1.00	0.916	92	82 - 136
Carbon Tetrachloride	1.00	1.03	103	78 - 136
Cyclohexane	1.00	0.969	97	85 - 142
1,2-Dichloropropane	1.00	0.873	87	83 - 137
1,4-Dioxane	1.00	1.08	108	53 - 177
Trichloroethene	1.00	1.05	105	79 - 138
Heptane	1.00	0.824	82	* 87 - 146
cis-1,3-Dichloropropene	1.00	1.05	105	93 - 155
Methyl Isobutyl Ketone	1.00	0.854	85	* 86 - 152
trans-1,3-Dichloropropene	1.00	0.961	96	85 - 138
1,1,2-Trichloroethane	1.00	0.972	97	63 - 137
Toluene	1.00	0.977	98	61 - 134
2-Hexanone	1.00	0.819	82	71 - 147
Dibromochloromethane	1.00	1.05	105	67 - 134
1,2-Dibromoethane	1.00	1.00	100	62 - 132
Tetrachloroethene	1.00	1.09	109	52 - 136
Chlorobenzene	1.00	0.995	100	59 - 133
Ethylbenzene	1.00	1.02	102	65 - 133
m&p-Xylene	2.00	1.82	91	63 - 171
Bromoform	1.00	1.09	109	62 - 130
Styrene	1.00	1.10	110	69 - 144
1,1,2,2-Tetrachloroethane	1.00	0.945	95	66 - 134
o-Xylene	1.00	1.02	102	70 - 133
p-Ethyltoluene	1.00	1.12	112	68 - 136
1,3,5-Trimethylbenzene	1.00	1.06	106	66 - 129
1,2,4-Trimethylbenzene	1.00	1.04	104	69 - 131
1,3-Dichlorobenzene	1.00	1.04	104	63 - 130
1,4-Dichlorobenzene	1.00	1.02	102	65 - 131
1,2-Dichlorobenzene	1.00	0.969	97	58 - 124

*Indicates out of the criteria

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Table 2.1 (cont) Results of the LCS Analysis for VOC in Air
WA# SERAS-219 PGW Passyunk Soil Gas Site

Sample LCS: 10/09/2014

Page 2 of 2

Analyte	LCS Spike Amount ppbv	LCS Recovered ppbv	% Recovery	QC Limits % Recovery
Propylene	1.00	0.868	87	73 - 146
Dichlorodifluoromethane	1.00	1.06	106	49 - 140
Chloromethane	1.00	0.962	96	72 - 144
Dichlorotetrafluoroethane	1.00	0.928	93	59 - 115
Vinyl Chloride	1.00	1.09	109	75 - 138
1,3-Butadiene	1.00	0.858	86	65 - 130
Bromomethane	1.00	1.16	116	72 - 146
Chloroethane	1.00	1.02	102	69 - 141
Acetone	1.00	1.06	106	71 - 151
Trichlorofluoromethane	1.00	1.17	117	62 - 136
Isopropyl Alcohol	1.00	1.09	109	64 - 166
1,1-Dichloroethene	1.00	0.997	100	73 - 132
Methylene Chloride	1.00	0.890	89	71 - 131
Trichlorotrifluoroethane	1.00	1.33	133	64 - 149
trans-1,2-Dichloroethene	1.00	1.04	104	74 - 142
1,1-Dichloroethane	1.00	1.05	105	76 - 138
MTBE	1.00	1.15	115	55 - 151
Vinyl Acetate	1.00	0.885	89	80 - 137
2-Butanone	1.00	0.946	95	75 - 149
cis-1,2-Dichloroethene	1.00	1.01	101	72 - 137
Ethyl Acetate	1.00	1.03	103	97 - 142
Hexane	1.00	1.03	103	77 - 143
Chloroform	1.00	1.14	114	76 - 139
Tetrahydrofuran	1.00	0.967	97	77 - 150
1,2-Dichloroethane	1.00	1.06	106	69 - 137
1,1,1-Trichloroethane	1.00	0.996	100	84 - 139
Benzene	1.00	0.897	90	82 - 136
Carbon Tetrachloride	1.00	1.03	103	78 - 136
Cyclohexane	1.00	0.962	96	85 - 142
1,2-Dichloropropane	1.00	0.844	84	83 - 137
1,4-Dioxane	1.00	1.13	113	53 - 177
Trichloroethene	1.00	1.05	105	79 - 138
Heptane	1.00	0.820	82	* 87 - 146
cis-1,3-Dichloropropene	1.00	1.03	103	93 - 155
Methyl Isobutyl Ketone	1.00	0.829	83	* 86 - 152
trans-1,3-Dichloropropene	1.00	0.937	94	85 - 138
1,1,2-Trichloroethane	1.00	0.978	98	63 - 137
Toluene	1.00	0.979	98	61 - 134
2-Hexanone	1.00	0.788	79	71 - 147
Dibromochloromethane	1.00	1.06	106	67 - 134
1,2-Dibromoethane	1.00	0.986	99	62 - 132
Tetrachloroethene	1.00	1.13	113	52 - 136
Chlorobenzene	1.00	0.992	99	59 - 133
Ethylbenzene	1.00	1.01	101	65 - 133
m&p-Xylene	2.00	1.85	93	63 - 171
Bromoform	1.00	1.13	113	62 - 130
Styrene	1.00	1.12	112	69 - 144
1,1,2,2-Tetrachloroethane	1.00	0.881	88	66 - 134
o-Xylene	1.00	1.01	101	70 - 133
p-Ethyltoluene	1.00	1.12	112	68 - 136
1,3,5-Trimethylbenzene	1.00	1.08	108	66 - 129
1,2,4-Trimethylbenzene	1.00	1.05	105	69 - 131
1,3-Dichlorobenzene	1.00	1.07	107	63 - 130
1,4-Dichlorobenzene	1.00	1.06	106	65 - 131
1,2-Dichlorobenzene	1.00	1.00	100	58 - 124

*Indicates out of the criteria

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Table 2.2 Results of the Duplicate Analysis for VOC in Air
WA# SERAS-219 Passyunk Soil Gas Site

Sample ID: 219-IA-033

Page 1 of 3

Analyte	Initial Analysis ppbv	Duplicate Analysis ppbv	RPD	QC Limit RPD
Propylene	20.8	21.5	3	≤25
Dichlorodifluoromethane	0.425	0.430	1	≤25
Chloromethane	0.618	0.702	13	≤25
Dichlorotetrafluoroethane	U	U	NC	≤25
Vinyl Chloride	U	U	NC	≤25
1,3-Butadiene	U	U	NC	≤25
Bromomethane	U	U	NC	≤25
Chloroethane	U	U	NC	≤25
Acetone	25.8	29.5	13	≤25
Trichlorofluoromethane	0.229	0.272	17	≤25
Isopropyl Alcohol	6.89	6.49	6	≤25
1,1-Dichloroethene	U	U	NC	≤25
Methylene Chloride	0.660	0.232	96 *	≤25
Trichlorotrifluoroethane	U	0.108	NC	≤25
trans-1,2-Dichloroethene	U	U	NC	≤25
1,1-Dichloroethane	U	U	NC	≤25
MTBE	U	U	NC	≤25
Vinyl Acetate	0.561	0.589	5	≤25
2-Butanone	0.849	0.827	3	≤25
cis-1,2-Dichloroethene	U	U	NC	≤25
Ethyl Acetate	0.255	0.175	37 *	≤25
Hexane	0.253	0.251	0.8	≤25
Chloroform	0.161	0.186	14	≤25
Tetrahydrofuran	0.319	0.264	19	≤25
1,2-Dichloroethane	0.387	0.430	11	≤25
1,1,1-Trichloroethane	U	U	NC	≤25
Benzene	0.324	0.339	5	≤25
Carbon Tetrachloride	0.0124	U	NC	≤25
Cyclohexane	U	U	NC	≤25
1,2-Dichloropropane	U	U	NC	≤25
1,4-Dioxane	U	U	NC	≤25
Trichloroethene	U	U	NC	≤25
Heptane	0.134	0.131	2	≤25
cis-1,3-Dichloropropene	U	U	NC	≤25
Methyl Isobutyl Ketone	0.296	0.306	3	≤25
trans-1,3-Dichloropropene	U	U	NC	≤25
1,1,2-Trichloroethane	U	U	NC	≤25
Toluene	1.30	1.28	2	≤25
2-Hexanone	U	U	NC	≤25
Dibromochloromethane	U	U	NC	≤25
1,2-Dibromoethane	U	U	NC	≤25
Tetrachloroethene	U	U	NC	≤25
Chlorobenzene	U	U	NC	≤25
Ethylbenzene	0.183	0.201	9	≤25
m&p-Xylene	0.508	0.527	4	≤25
Bromoform	U	U	NC	≤25
Styrene	0.364	0.388	6	≤25
1,1,2,2-Tetrachloroethane	U	U	NC	≤25
o-Xylene	0.222	0.237	7	≤25
p-Ethyltoluene	U	U	NC	≤25
1,3,5-Trimethylbenzene	U	U	NC	≤25
1,2,4-Trimethylbenzene	0.208	0.225	8	≤25
1,3-Dichlorobenzene	U	U	NC	≤25
1,4-Dichlorobenzene	0.457	0.460	0.7	≤25
1,2-Dichlorobenzene	U	U	NC	≤25

REPORT OF LABORATORY ANALYSIS

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Table 2.2 (cont) Results of the Duplicate Analysis for VOC in Air
WA# SERAS-219 Passyunk Soil Gas Site

Sample ID: 219-IA-034

Page 2 of 3

Analyte	Initial Analysis ppbv	Duplicate Analysis ppbv	RPD	QC Limit RPD
Propylene	16.9	12.3	32 *	≤25
Dichlorodifluoromethane	0.243	0.237	3	≤25
Chloromethane	0.713	0.615	15	≤25
Dichlorotetrafluoroethane	U	U	NC	≤25
Vinyl Chloride	U	U	NC	≤25
1,3-Butadiene	U	U	NC	≤25
Bromomethane	U	U	NC	≤25
Chloroethane	U	U	NC	≤25
Acetone	12.5	8.07	43 *	≤25
Trichlorofluoromethane	0.238	0.256	7	≤25
Isopropyl Alcohol	0.761	U	NC	≤25
1,1-Dichloroethene	U	U	NC	≤25
Methylene Chloride	0.299	0.290	3	≤25
Trichlorotrifluoroethane	0.0820	0.0858	5	≤25
trans-1,2-Dichloroethene	U	U	NC	≤25
1,1-Dichloroethane	U	U	NC	≤25
MTBE	U	U	NC	≤25
Vinyl Acetate	U	U	NC	≤25
2-Butanone	0.440	0.380	15	≤25
cis-1,2-Dichloroethene	U	U	NC	≤25
Ethyl Acetate	0.234	0.187	22	≤25
Hexane	0.268	0.313	15	≤25
Chloroform	0.155	0.141	9	≤25
Tetrahydrofuran	0.126	0.0803	44 *	≤25
1,2-Dichloroethane	0.391	0.340	14	≤25
1,1,1-Trichloroethane	U	U	NC	≤25
Benzene	0.342	0.367	7	≤25
Carbon Tetrachloride	0.0703	0.0707	0.6	≤25
Cyclohexane	0.0567	0.0552	3	≤25
1,2-Dichloropropane	U	U	NC	≤25
1,4-Dioxane	U	U	NC	≤25
Trichloroethene	0.0460	0.0466	1	≤25
Heptane	0.120	0.107	11	≤25
cis-1,3-Dichloropropene	U	U	NC	≤25
Methyl Isobutyl Ketone	0.276	0.0842	106 *	≤25
trans-1,3-Dichloropropene	U	U	NC	≤25
1,1,2-Trichloroethane	U	U	NC	≤25
Toluene	1.32	1.12	16	≤25
2-Hexanone	0.0371	U	NC	≤25
Dibromochloromethane	0.0284	0.0228	22	≤25
1,2-Dibromoethane	U	U	NC	≤25
Tetrachloroethene	0.0291	0.0292	0.3	≤25
Chlorobenzene	U	U	NC	≤25
Ethylbenzene	0.202	0.171	17	≤25
m&p-Xylene	0.544	0.446	20	≤25
Bromoform	U	U	NC	≤25
Styrene	0.402	0.295	31 *	≤25
1,1,2,2-Tetrachloroethane	U	U	NC	≤25
o-Xylene	0.229	0.183	22	≤25
p-Ethyltoluene	0.0500	0.0448	11	≤25
1,3,5-Trimethylbenzene	0.0638	0.0542	16	≤25
1,2,4-Trimethylbenzene	0.211	0.206	2	≤25
1,3-Dichlorobenzene	U	U	NC	≤25
1,4-Dichlorobenzene	0.437	0.455	4	≤25
1,2-Dichlorobenzene	U	U	NC	≤25

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Table 2.2 (cont) Results of the Duplicate Analysis for VOC in Air
WA# SERAS-219 Passyunk Soil Gas Site

Sample ID: 219-SS-035

Page 3 of 3

Analyte	Initial Analysis ppbv	Duplicate Analysis ppbv	RPD	QC Limit RPD
Propylene	0.168	0.172	2	≤25
Dichlorodifluoromethane	0.354	0.301	16	≤25
Chloromethane	0.0542	0.0555	2	≤25
Dichlorotetrafluoroethane	U	U	NC	≤25
Vinyl Chloride	U	U	NC	≤25
1,3-Butadiene	U	U	NC	≤25
Bromomethane	U	U	NC	≤25
Chloroethane	U	U	NC	≤25
Acetone	4.61	3.12	39 *	≤25
Trichlorofluoromethane	0.259	0.270	4	≤25
Isopropyl Alcohol	U	U	NC	≤25
1,1-Dichloroethene	U	U	NC	≤25
Methylene Chloride	U	U	NC	≤25
Trichlorotrifluoroethane	0.0889	0.0871	2	≤25
trans-1,2-Dichloroethene	U	U	NC	≤25
1,1-Dichloroethane	U	U	NC	≤25
MTBE	U	U	NC	≤25
Vinyl Acetate	U	U	NC	≤25
2-Butanone	0.366	0.292	22	≤25
cis-1,2-Dichloroethene	U	U	NC	≤25
Ethyl Acetate	U	0.0213	NC	≤25
Hexane	0.114	0.114	0	≤25
Chloroform	0.0252	0.0239	5	≤25
Tetrahydrofuran	0.0921	0.0702	27 *	≤25
1,2-Dichloroethane	U	U	NC	≤25
1,1,1-Trichloroethane	U	U	NC	≤25
Benzene	0.0326	0.0313	4	≤25
Carbon Tetrachloride	0.0698	0.0696	0.3	≤25
Cyclohexane	U	U	NC	≤25
1,2-Dichloropropane	U	U	NC	≤25
1,4-Dioxane	U	U	NC	≤25
Trichloroethene	U	U	NC	≤25
Heptane	0.0413	0.0440	6	≤25
cis-1,3-Dichloropropene	U	U	NC	≤25
Methyl Isobutyl Ketone	0.246	0.240	2	≤25
trans-1,3-Dichloropropene	U	U	NC	≤25
1,1,2-Trichloroethane	U	U	NC	≤25
Toluene	0.0909	0.0907	0.2	≤25
2-Hexanone	0.0328	0.0274	18	≤25
Dibromochloromethane	U	U	NC	≤25
1,2-Dibromoethane	U	U	NC	≤25
Tetrachloroethene	0.187	0.190	2	≤25
Chlorobenzene	U	U	NC	≤25
Ethylbenzene	U	U	NC	≤25
m&p-Xylene	0.0392	0.0401	2	≤25
Bromoform	U	U	NC	≤25
Styrene	0.0300	0.0296	1	≤25
1,1,2,2-Tetrachloroethane	U	U	NC	≤25
o-Xylene	U	U	NC	≤25
p-Ethyltoluene	U	U	NC	≤25
1,3,5-Trimethylbenzene	U	U	NC	≤25
1,2,4-Trimethylbenzene	0.0393	0.0423	7	≤25
1,3-Dichlorobenzene	U	U	NC	≤25
1,4-Dichlorobenzene	U	U	NC	≤25
1,2-Dichlorobenzene	U	U	NC	≤25

REPORT OF LABORATORY ANALYSIS

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USEPA

Date Shipped: 10/3/2014

Carrier Name:

Airbill No:

CHAIN OF CUSTODY RECORD

Site #: 219

Contact Name: Colleen Steffensen

Contact Phone: 732-321-4211

No: 3-100314-115959-0009

Case #:

Lab: ERT/SERAS

Lab Phone: 732-321-4200

 SERAS-219-DARR1-021317
 WO# R410002

Lab #	Sample #	Location	Sub Location	Analyses	Matrix	Pump #	OrificeID	Start_Date	Start_Time	Stop_Date	Stop_Time
01	219-AA-040	Ernst Street	Ambient	TO-15	Air	53	13763	10/1/2014	2:46:00 PM	10/2/2014	2:12:00 PM
02	219-AA-044	Unit 175	Ambient	TO-15	Air	95	14208	10/1/2014	4:37:00 PM	10/2/2014	4:04:00 PM
03	219-IA-025	Unit 84	Basement IA	TO-15	Indoor Air	200	14032	10/1/2014	12:01:00 PM	10/2/2014	11:22:00 AM
04	219-IA-027	Unit 116	Basement IA	TO-15	Indoor Air	139	13989	10/1/2014	12:03:00 PM	10/2/2014	11:22:00 AM
05	219-IA-028	Unit 84	1st Floor IA	TO-15	Indoor Air	98	13983	10/1/2014	12:08:00 PM	10/2/2014	11:20:00 AM
06	219-IA-029	Unit 116	1st Floor IA	TO-15	Indoor Air	10	13936	10/1/2014	12:08:00 PM	10/2/2014	11:19:00 AM
07	219-IA-030	Unit 50	1st Floor IA	TO-15	Indoor Air	195	13933	10/1/2014	1:03:00 PM	10/2/2014	1:01:00 PM
08	219-IA-031	Unit 50	Basement IA	TO-15	Indoor Air	246	13926	10/1/2014	1:07:00 PM	10/2/2014	1:02:00 PM
09	219-IA-033	Unit 70	1st Floor IA	TO-15	Indoor Air	181	13985	10/1/2014	1:35:00 PM	10/2/2014	1:13:00 PM
10	219-IA-034	Unit 70	Basement IA	TO-15	Indoor Air	14247	13913	10/1/2014	1:36:00 PM	10/2/2014	1:14:00 PM
11	219-IA-036	Unit 34	1st Floor IA	TO-15	Indoor Air	135	14000	10/1/2014	2:40:00 PM	10/2/2014	2:02:00 PM
12	219-IA-037	Unit 34	1st Floor IA	TO-15	Indoor Air	209	14019	10/1/2014	2:40:00 PM	10/2/2014	2:02:00 PM
13	219-IA-038	Unit 34	Basement IA	TO-15	Indoor Air	163	13997	10/1/2014	2:42:00 PM	10/2/2014	2:03:00 PM
14	219-IA-041	Unit 175	1st Floor IA	TO-15	Indoor Air	14242	13922	10/1/2014	4:34:00 PM	10/2/2014	4:03:00 PM
15	219-IA-042	Unit 175	Basement IA	TO-15	Indoor Air	230	14047	10/1/2014	4:40:00 PM	10/2/2014	4:06:00 PM
16	219-SS-024	Unit 84	Sub-Slab	TO-15	Soil Gas	247	13952	10/1/2014	12:00:00 PM	10/2/2014	11:22:00 AM
17	219-SS-026	Unit 116	Sub-Slab	TO-15	Soil Gas	241	13996	10/1/2014	12:05:00 PM	10/2/2014	11:22:00 AM
18	219-SS-032	Unit 50	Sub-Slab	TO-15	Soil Gas	66	13988	10/1/2014	1:07:00 PM	10/2/2014	1:02:00 PM
19	219-SS-035	Unit 70	Sub-Slab	TO-15	Soil Gas	55	14001	10/1/2014	1:37:00 PM	10/2/2014	1:14:00 PM
20	219-SS-039	Unit 34	Sub-Slab	TO-15	Soil Gas	258	14051	10/1/2014	2:44:00 PM	10/2/2014	2:03:00 PM

Special Instructions: Sample 219-SS-043 MAY CONTAIN HIGH CONCENTRATION OF 1,1,1-TCA

Summa # 13

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
All/Analysis	CSA	10/3/14	Tracy Pham	10/3/14	12:30	All/Analysis	Tracy Pham	10/3/14	J. G. S.	10/6/14	14:30

SERAS-219-DARR1-021317

USEPA

Date Shipped: 10/3/2014

Carrier Name:

Airbill No:

WO# R410002

CHAIN OF CUSTODY RECORD

Site #: 219

Contact Name: Colleen Steffensen

Contact Phone: 732-321-4211

No: 3-100314-115959-0009

Case #:

Lab: ERT/SERAS

Lab Phone: 732-321-4200

Lab #	Sample #	Location	Sub Location	Analyses	Matrix	Pump #	OrificeID	Start Date	Start Time	Stop Date	Stop Time
21	219-SS-043	Unit 175	Sub-Slab	TO-15	Soil Gas	13	13956	10/1/2014	4:40:00 PM	10/2/2014	4:06:00 PM
22	219-TB-023	Blank		TO-15	Blank	192		10/1/2014	12:00:00 PM	10/1/2014	
<div style="text-align: center;"> <p>10/3/14</p> <p>CS</p> </div>											

Special Instructions: Sample 219-SS-043 MAY CONTAIN HIGH CONCENTRATION OF 1,1,1-TCA

Summa #13

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
All/Analysis	CSH	10/3/14	Tracy Martin	10/3/14	12:30	All/Analysis	Tracy Martin	10/3/14	R. Lee	10/6/14	11:30

0222

APPENDIX E

Final TAGA MS/MS Analytical Report for Indoor Air Monitoring

Passyunk Soil Gas Site

Final Report


February 2018

FINAL ANALYTICAL TAGA REPORT
PASSYUNK SOIL GAS SITE
PHILADELPHIA, PENNSYLVANIA
OCTOBER 2014

U.S. EPA Work Assignment No.: SERAS-219
LOCKHEED MARTIN Work Order No.: SER00219
U.S. EPA Contract No.: EP-W-09-031


Submitted to
David Mickunas
U.S. EPA/ERT

Prepared by:
Lockheed Martin/SERAS


Colleen Steffensen
SERAS Task Leader

10/20/14
Date

Analyzed and prepared by:
Scott J. Thompson


Kevin C. Taylor
SERAS Program Manager

10/20/14
Date

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1.0 INTRODUCTION

The Environmental Protection Agency (EPA)/Environmental Response Team (ERT) issued Work Assignment (WA) Number SERAS-219, Passyunk Soil Gas Site (Site) in Philadelphia, Pennsylvania (PA), to Lockheed Martin under the Scientific, Engineering, Response, and Analytical Services (SERAS) contract. As an element of this WA, SERAS personnel will conduct target compound monitoring using the ECA Trace Atmospheric Gas Analyzer (TAGA) IIe, to assist EPA Region III in its investigation of residential indoor air quality.

The TAGA air monitoring events conducted on 01 October 2014 were screening in nature. Indoor air monitoring events for tetrachloroethene (PCE), trichloroethene (TCE), total-dichloroethene (DCE), vinyl chloride (VCL), chloroform (HCCL3), and benzene, toluene and total-xylenes (BTX) were performed in accordance with the SERAS Standard Operating Procedure (SOP) # 1711, *Trace Atmospheric Gas Analyzer (TAGA) IIe Operation*. Real-time monitoring for the target compounds was performed using a selected ion technique.

2.0 METHODOLOGY

2.1 Mass Spectrometer/Mass Spectrometer General Theory

The ECA TAGA IIe is based upon the Perkin-Elmer API 365 mass spectrometer/mass spectrometer (MS/MS) and is a direct air-monitoring instrument capable of detecting, in real time, trace levels of many organic compounds in ambient air. The technique of triple quadrupole MS/MS is used to differentiate and quantitate compounds.

The initial step in the MS/MS process involves simultaneous chemical ionization of the compounds present in a sample of ambient air. The ionization produces both positive and negative ions by removing or donating one or more electrons. The chemical ionization is a "soft" ionization technique, which allows ions to be formed with little or no structural fragmentation. These ions are called parent ions. The parent ions with different mass-to-charge (m/z) ratios are separated by the first quadrupole (the first MS of the MS/MS system). The quadrupole scans selected m/z ratios allowing only the parent ions with these ratios to pass through the quadrupole. Parent ions with m/z ratios different from those selected are discriminated electronically and fail to pass through the quadrupole.

The parent ions selected in the first quadrupole are accelerated through a collision cell containing uncharged nitrogen molecules in the second quadrupole. A portion of the parent ions entering the second quadrupole fragments as they collide with the nitrogen molecules. These fragment ions are called daughter ions. This process, in the second quadrupole, is called collision induced dissociation. The daughter ions are separated according to their m/z ratios by the third quadrupole (the second MS of the MS/MS system). The quadrupole scans selected m/z ratios, allowing only the daughter ions with these ratios to pass through the quadrupole. Daughter ions with m/z ratios different from those selected are discriminated electronically and fail to pass through the quadrupole. Daughter ions with the selected m/z ratios are then counted by an electron multiplier. The resulting signals are measured in ion counts per second (icps) for each parent/daughter ion pair selected. The intensity of the icps for each parent/daughter ion pair is directly proportional to the ambient air concentration of the organic compound that produced the ion pair. All of the ions discussed in this report have a single charge. The m/z ratios of all of the ions discussed are equal to the ion masses in atomic mass units (amu). Therefore, the terms parent and daughter masses are synonymous with parent and daughter ion m/z ratios.

2.2 TAGA Procedure

The TAGA was used to analyze indoor air and outdoor ambient air during stationary monitoring events. Indoor air monitoring utilized a 300-foot corrugated Teflon[®] sampling hose. The proximal end was attached to the TAGA source inlet, while the distal end was taken inside a unit.

Air was continuously drawn through the hose at a set flow rate and transported to the TAGA source during the monitoring event.

2.2.1 TAGA Mass Calibration

At the beginning of the monitoring period, a gas mixture containing PCE, TCE, DCE, VCL, HCCL₃, and BTX was introduced by a mass flow controller (MFC) into the sample air flow (SAF). The tuning parameters for the first quadrupole at 30, 78, 106, 130, and 166 amu, and the third quadrupole at 30, 78, 105, 129, and 166 amu were optimized for sensitivity and mass assignment. The peak widths were limited between 0.55 amu and 0.80 amu. The mass assignments were set to the correct values within 0.15 amu.

2.2.2 TAGA Response Factor Measurements

The TAGA was calibrated for the target compounds at the beginning and end of the day. The calibration system consisted of a regulated gas cylinder containing a gas standard mixture of the target compounds connected to an in-line MFC. The MFC was calibrated with a National Institute of Standards and Technology (NIST) traceable flow rate meter. The gas standard certification is presented in Appendix A. The gas standard containing a known mixture of target compounds, certified by the supplier, was regulated at preset flow rates, and diluted with ambient air. The dilution of the gas standard resulted in known analyte concentrations. The calibration consisted of a zero point and five known concentrations obtained by setting the MFC to 0, 10, 20, 40, 80, and 90 milliliters per minute (mL/min) with the SAF at 1,500 milliliters per second (mL/sec).

The approximate concentration range of standards introduced into the TAGA was between 2 and 20 parts per billion by volume (ppbv). Utilizing the analytes' concentrations, gas flow rates, and air sampling flow rates, the response factors (RFs), in units of ion counts per second per part per billion by volume (icps/ppbv), were calculated for each ion pair by using a least-square-fit algorithm to calculate the slope of its curve. The coefficient of correlation was checked for each ion pair's RF to ensure that it was greater than 0.90. The intermediate response factor (IRF) was calculated between pairs of calibrations and used to quantify target compounds in ambient air.

2.2.3 Transport Efficiency

The transport efficiency and residence time for the target compounds through the 300-foot length of corrugated Teflon[®] sampling hose was determined prior to and at the conclusion of indoor air monitoring activities each day. The transport efficiency was determined by introducing a known concentration of the target compounds into the proximal end and then into the distal end of the sampling hose. The signal intensity of each ion pair for each compound was measured in icps and the percent (%) transport efficiency calculated using the equation below:

$$\% \text{ transport efficiency} = \frac{\text{signal intensity at the distal end of the hose}}{\text{signal intensity at the proximal end of the hose}} \times 100$$

A transport efficiency of 85% is considered acceptable and results are summarized in Table 1.

The residence time is the interval, in seconds; it takes the air sample to travel the length of the sampling hose. The residence time, which reflects a time difference between the sampling and the instrument response, is incorporated in the offset. The offset, which is the total number of sequences acquired during the residence time, is applied to the monitoring files (Figures 1b to 8b and Figures 1c to 8c). Therefore, the observations and

instrument responses are temporally coordinated.

2.2.4 TAGA Air Monitoring

TAGA monitoring was performed by continuously drawing air through the Teflon[®] hose at a flow-rate of approximately 1,500 mL/sec. The air was then passed through a glass splitter where the pressure gradient between the mass spectrometer core and the atmosphere causes a sample flow of approximately 10 mL/min into the ionization source through a heated transfer line. The flow into the TAGA source was controlled so that the ionization source pressure was maintained at an optimum value of approximately 0.95 torr. The remaining airflow was drawn through the air pump and vented from the TAGA bus.

Monitoring was performed in the parent/daughter ion-monitoring mode. As monitoring proceeded, the operator pressed letter keys (flags), alphabetically on a computer keyboard, to denote events or locations during the monitoring event. This information was also recorded on an event log sheet. The intensity of each parent/daughter ion pair monitored by the TAGA was recorded in a permanent file on the computer's hard drive. One set of recorded measurements of all the ion pairs is called a sequence.

At the beginning of each unit survey or investigation, a one-minute pre-entry ambient data segment was collected. At the operator's signal, the sampler then entered the unit while holding the distal end of the hose at breathing height. The sampler proceeded to each room in the unit where one-minute data segments were collected. After the rooms in the unit were monitored, a one-minute post-exit ambient data segment was collected. Upon completion of the one-minute post-exit ambient data segment, the instrumentation was challenged with the calibration standard, which was introduced at 30 mL/min (approximately 6.8 ppbv), to verify that the system was functioning properly.

2.3 Meteorological Monitoring

United States Department of Commerce, National Oceanic and Atmospheric Administration, National Climatic Data Center provided the meteorological data for 01 October 2014. Data were collected from the Philadelphia International Airport. The airport is located approximately 6 miles southwest of the Passyunk Soil Gas Site. Meteorological data, such as wind speed, wind direction, and rainfall, are summarized in Table 2 for the periods during which monitoring occurred. The compiled meteorological data are presented in Appendix B. The reported data for rainfall is an average of the data recorded during the hour preceding the time recorded in the table. The reported meteorological data for wind speed and direction represent a five-minute average collected prior to the time recorded in the table. Because of the distance of the meteorological monitoring location from the study location and the short averaging period, care should be exercised in relating meteorological conditions existing at the Site.

3.0 TAGA AIR MONITORING RESULTS

The TAGA was used to survey and investigate indoor air within residential units in the vicinity of the Site.

3.1 Unit Surveys and Investigations

Figures 1a through 8a, present the approximate floor plans of each unit. The monitoring locations marked by letters are the "flags" that the TAGA operator placed into the file. These "flags" mark events and are carried through the rest of the data presentation.

3.2 TAGA File Event Summaries

Figures 1b through 8b present the TAGA file event summaries. These are the observations made during the file acquisition by the TAGA operator, along with the times from the TAGA file and the letter "flags" used to mark the data, which are recorded by the TAGA computer.

3.3 Graphical Presentations

Figures 1c through 8c are the graphical representations of the TAGA files. A graph of each target compound concentration is presented with ppbv plotted on the vertical axis, and time into the acquisition, in minutes, on the horizontal axis. The target compound concentration was calculated by averaging the concentrations obtained from the ion pairs that were monitored for each target compound. There are two horizontal lines on each graph. The lower line is set at the detection limit (DL) for the compound. The higher line is set at the concentration equal to the quantitation limit (QL) for the target compound. When high concentrations are represented, the lower DL line may not be readily discerned. Transient, momentary spikes above the QL line are occasionally observed. These spikes, electronic in nature, do not affect average concentrations. They may be distinguished from elevated concentrations because the spikes are only present for one sequence and are often only present for one ion pair of the monitored compound.

3.4 TAGA Target Compound Summaries

The TAGA target compound summaries are presented in Figures 1d through 8d. These figures contain the concentrations of the target compounds averaged over time, at the various locations logged into the TAGA file event summaries.

4.0 DISCUSSION OF RESULTS

The TAGA target compound summaries are represented in Figures 1d through 8d. During each survey or investigation, a one-minute average was measured in each room, or at various locations within a room. Only the highest average concentrations above the QL are listed below. The End of Day Transport Efficiency for vinyl chloride and chloroform were lower than the 85% acceptance criteria at 68.0 % and 82.4 %, respectively. Vinyl Chloride and chloroform data should be used with caution and may be biased low.

4.1 Unit 116 and Unit 84 Survey, 93MSMS359

Unit 116 and Unit 84 were surveyed on 01 October 2014 at 11:58:34 and are represented in Figures 1a through 1d. The average wind speed and direction at the airport for the five-minute period ending at 11:54 were 10 miles per hour (mph) from 40 degrees. There was no precipitation during the preceding hour. The average concentrations of tetrachloroethene, trichloroethene, total dichloroethene, vinyl chloride, chloroform, benzene, toluene, and total xylenes were not detected above their quantitation limits at any of the monitoring locations.

4.2 Unit 116 and Unit 84 Investigation, 93MSMS360

Unit 116 and Unit 84 were investigated on 01 October 2014 at 12:28:06 and are represented in Figures 2a through 2d. The average wind speed and direction at the airport for the five-minute period ending at 11:54 were 10 miles per hour (mph) from 40 degrees. There was no precipitation during the preceding hour. The average concentrations of tetrachloroethene, trichloroethene, total dichloroethene, vinyl chloride, chloroform, benzene, and toluene were not detected above their quantitation limits at any of the monitoring locations. The highest average concentration of total xylenes was 3.1 ppbv in basement room one between flags E and F.

4.3 Unit 50 Survey, 93MSMS361

Unit 50 was surveyed on 01 October 2014 at 12:52:53 and is represented in Figures 3a through 3d. The average wind speed and direction at the airport for the five-minute period ending at 12:54 were 7 mph from 60 degrees. There was no precipitation during the preceding hour. The average concentrations of tetrachloroethene, trichloroethene, total dichloroethene, vinyl chloride, benzene, and toluene were not detected above their quantitation limits at any of the monitoring locations. The highest average concentrations of total xylene were 9.7 ppbv and 7.9 ppbv at the sump between flags I and J and in room one (under construction) between flags D and E, respectively.

4.4 Unit 70 Survey, 93MSMS362

Unit 70 was surveyed on 01 October 2014 at 13:29:48 and is represented in Figures 4a through 4d. The average wind speed and direction at the airport for the five-minute period ending at 12:54 were 7 mph from 60 degrees. There was no precipitation during the preceding hour. The average concentrations of tetrachloroethene, trichloroethene, total dichloroethene, vinyl chloride, chloroform, benzene, toluene, and total xylenes were not detected above their quantitation limits at any of the monitoring locations.

4.5 Unit 70 Investigation, 93MSMS363

Unit 70 was investigated on 01 October 2014 at 13:48:33 and is represented in Figures 5a through 5d. The average wind speed and direction at the airport for the five-minute period ending at 13:54 were 8 mph from 60 degrees. There was no precipitation during the preceding hour. The average concentrations of tetrachloroethene, trichloroethene, total dichloroethene, vinyl chloride, benzene, toluene, and total xylenes were not detected above their quantitation limits at any of the monitoring locations. The highest average concentrations of chloroform were 23 ppbv with the hot and cold water running in the sink between flags H and I and 19 ppbv and 15 ppbv with the cold water running in the sink between flags F and G and between flags J and K respectively.

4.6 Unit 34 Survey, 93MSMS364

Unit 34 was surveyed on 01 October 2014 at 14:08:31 and is represented in Figures 6a through 6d. The average wind speed and direction at the airport for the five-minute period ending at 13:54 were 8 mph from 60 degrees. There was no precipitation during the preceding hour. The average concentrations of tetrachloroethene, trichloroethene, total dichloroethene, vinyl chloride, benzene, and toluene were not detected above their quantitation limits at any of the monitoring locations. The highest average concentrations of total xylene were 7.4 ppbv and 7.3 ppbv in the front basement between flags I and J and in the back basement between flags K and L, respectively.

4.7 Unit 34 Investigation, 93MSMS365

Unit 34 was investigated on 01 October 2014 at 14:30:00 and is represented in Figures 7a through 7d. The average wind speed and direction at the airport for the five-minute period ending at 13:54 were 8 mph from 60 degrees. There was no precipitation during the preceding hour. There was no precipitation during the preceding hour. The average concentrations of tetrachloroethene, trichloroethene, total dichloroethene, vinyl chloride, chloroform, benzene, toluene, and total xylenes were not detected above their quantitation limits at any of the monitoring locations.

4.8 Unit 175 Survey, 93MSMS367

Unit 175 was surveyed on 01 October 2014 at 16:20:39 and is represented in Figures 8a through 8d. The average wind speed and direction at the airport for the five-minute period ending at 15:54 were 10 mph from 50 degrees. There was no precipitation during the preceding hour. The average concentrations of tetrachloroethene, trichloroethene, vinyl chloride, chloroform, benzene, toluene, and total xylenes were not detected above their quantitation limits at any of the

monitoring locations. The highest average concentrations of total dichloroethene were 3.7 ppbv in hole one between flags M and N and 3.5 ppbv in the basement and floor drain between flags I and J and between flags K and L, respectively.

5.0 QUALITY ASSURANCE/QUALITY CONTROL

The compound parent/daughter ion pairs used are listed below.

Compound	Parent Ion Mass	Daughter Ion Mass	Compound	Parent Ion Mass	Daughter Ion Mass
Tetrachloroethene	164	129	Chloroform	83	47
Tetrachloroethene	166	129	Chloroform	85	47
Tetrachloroethene	166	131	Chloroform	85	49
Trichloroethene	130	95	Benzene	78	39
Trichloroethene	132	95	Benzene	78	52
Trichloroethene	132	97	Toluene	92	39
Dichloroethene	96	61	Toluene	92	51
Dichloroethene	98	61	Xylenes	106	65
Vinyl Chloride	62	27	Xylenes	106	91
Vinyl Chloride	64	27			

Tables 3 and 4 documents the RFs and IRFs generated during the calibration procedure for the individual ion pairs. Intermediate response factors were used to quantitate the ion pair concentrations.

The summaries of detection and quantitation limit data for the monitoring periods (Sections 5.3 and 5.4 and Table 4) document the concentration, in ppbv, required for a compound's ion pair to be considered detectable and quantifiable during the specified monitoring period. The DL is defined as three times the standard deviation of the concentration for a compound's ion pair measured in an ambient air sample. The QL is defined as 10 times the standard deviation of the concentration for the same conditions. The detection and quantitation limits for a compound result from averaging the appropriate detection and quantitation limits of the compound's ion pairs.

5.1 Intermediate Response Factor for Ion Pairs

Response factors were generated from two calibration events, as described in the procedure (Section 2.2.2.). Table 3 contains the RFs in units of icps/ppbv. The initial and final RFs were used to calculate the IRFs, which were used to calculate the reported concentration results.

The following equation was used to calculate the IRFs found in Tables 3 and 4:

$$IRF = \frac{2(RF_1 \times RF_2)}{(RF_1 + RF_2)}$$

where:

IRF = Intermediate response factor (icps/ppbv)

RF₁ = The RF for an ion pair measured during the first calibration event (icps/ppbv)

RF₂ = The RF for the same ion pair measured during the second calibration event (icps/ppbv)

For example, the entry for the 83/47 ion pair of chloroform from Table 3 for files 93MSMS358 and 93MSMS366 on 01 October 2014 is:

$$\begin{aligned} \text{RF}_1 &= 16.034 \text{ icps/ppbv} \\ \text{RF}_2 &= 12.146 \text{ icps/ppbv} \end{aligned}$$

therefore,

$$\text{IRF} = \frac{2(16.034 \times 12.146)}{(16.034 + 12.146)} = \frac{389.498}{28.180} = 13.822 \text{ icps/ppbv}$$

The result, 13.822 icps/ppbv, is the IRF reported in Table 3 and used in Table 4.

5.2 Error Bars

The potential maximum concentration percent deviations for each target compound are presented in Table 3 and are called “error bars” for simplicity. They represent the potential bias in the concentration due to changes in the sensitivity of the TAGA instrument. Errors bars were calculated using the following equation:

$$\text{error bar} = \frac{|\text{RF}_1 - \text{RF}_2|}{(\text{RF}_1 + \text{RF}_2)} \times 100$$

where:

error bar = Maximum concentration percent deviation
 RF_1 = The RF for an ion pair measured during the first calibration event (icps/ppbv)
 RF_2 = The RF for the same ion pair measured during the second calibration event (icps/ppbv)

For example, the entry for the 83/47 ion pair of chloroform from Table 3 for files 93MSMS358 and 93MSMS366 on 01 October 2014 is:

$$\begin{aligned} \text{RF}_1 &= 16.034 \text{ icps/ppbv} \\ \text{RF}_2 &= 12.146 \text{ icps/ppbv} \end{aligned}$$

$$\text{error bar} = \frac{|16.034 - 12.146|}{(16.034 + 12.146)} \times 100 = 13.8 \%$$

The % error bar calculated for the 83/47 ion pair of chloroform is 13.8 % for files 93MSMS358 and 93MSMS366 on 01 October 2014.

The above calculation was repeated for each ion pair. The error bars for each compound’s ions were averaged to give a single value for the compound. This averaged error bar can be applied to the samples analyzed between the two calibrations of the monitoring period.

5.3 Ion Pair Detection and Quantitation Limits

The DLs and QLs were calculated using the standard deviation (SD) of the compound's ion pair intensity measured in an ambient air sample and its RF. The SD reflects the variability of the instrument’s response to the ambient air sample.

The following equation was used to calculate the DLs found in Table 4:

$$DL = \frac{3 \times SD}{IRF}$$

where:

DL = Detection limit for an ion pair (ppbv)
SD = Standard deviation of the ion intensity measured in an ambient air sample (icps)
IRF = Intermediate response factor for an ion pair (icps/ppbv)

For example, the entry for the 83/47 ion pair of chloroform from Table 4 for files 93MSMS358 and 93MSMS366 on 01 October 2014 is:

SD = 18.452 icps
IRF = 13.822 icps/ppbv

$$DL = \frac{3 \times 18.452}{13.822} = 4.01 \text{ ppbv}$$

The following equation was used to calculate the QLs found in Table 4:

$$QL = \frac{10 \times SD}{IRF}$$

where:

QL = Quantitation limit concentration for an ion pair (ppbv)
SD = Standard deviation of the ion intensity measured in an ambient air sample (icps)
IRF = Intermediate response factor for an ion pair (icps/ppbv)

For example, the entry for the 83/47 ion pair of chloroform from Table 4 for files 93MSMS358 and 93MSMS366 on 01 October 2014 is:

SD = 18.452 icps
IRF = 13.822 icps/ppbv

$$QL = \frac{10 \times 18.452}{13.822} = 13.4 \text{ ppbv}$$

5.4 Compound Detection and Quantitation Limits

Averaging the respective DLs and QLs of the target compound's ion pairs found in Table 4 generated the DLs and QLs found in Table 4.

The following equation was used to calculate the compound's DL:

$$DL_c = \frac{DL_1 + DL_2 + \dots + DL_n}{n}$$

where:

DL_c = Detection limit for a compound (ppbv)
DL₁ = Detection limit for the first ion pair (ppbv)
DL₂ = Detection limit for the second ion pair (ppbv)
DL_n = Detection limit for the nth ion pair (ppbv)
n = Number of ion pairs to be averaged

For example, the entry for the 83/47, 83/47, and 83/49 ion pairs of chloroform from Table 4 for files 93MSMS358 and 93MSMS366 on 01 October 2014 is:

$$DL_c = \frac{4.01 + 3.01 + 1.88}{3} = \frac{8.90}{3} = 2.96 \text{ ppbv}$$

This result, 2.96 ppbv, rounded to 3.0 ppbv is the DL for chloroform found in Table 4.

The following equation was used to calculate the compound's QL:

$$QL_c = \frac{QL_1 + QL_2 + \dots + QL_n}{n}$$

where:

- QL_c = Quantitation limit for a compound (ppbv)
- QL₁ = Quantitation limit for the first ion pair (ppbv)
- QL₂ = Quantitation limit for the second ion pair (ppbv)
- QL_n = Quantitation limit for the nth ion pair (ppbv)
- n = Number of ion pairs to be averaged

For example, the entry for the 83/47, 83/47, and 83/49 ion pairs of chloroform from Table 4 for files 93MSMS358 and 93MSMS366 on 01 October 2014 is:

$$QL_c = \frac{13.4 + 10.0 + 6.27}{3} = \frac{29.67}{3} = 9.89 \text{ ppbv}$$

This result, 9.89 ppbv, rounded to 9.9 ppbv is the QL for chloroform found in Table 4.

TABLES

TABLE 1
Summary of Transport Efficiencies Measured on 01 October 2014
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Begin of Day Transport Efficiency for 01 October 2014 at 08:29:59 File: 93MSMS357				
Start Sequence:		108	274	
End Sequence:		138	304	
Compound	PM/DM	Proximal Intensity (icps)	Distal Intensity (icps)	Transport Efficiency (%)
Tetrachloroethene	164/129	928.7	909.7	98.0
Tetrachloroethene	166/129	501.6	476.5	95.0
Tetrachloroethene	166/131	1432.3	1428.4	99.7
Average Tetrachloroethene Transport Efficiency:				97.6
Trichloroethene	130/95	3661.3	3236.1	88.4
Trichloroethene	132/95	1085.5	1019.4	93.9
Trichloroethene	132/97	2203.9	2050.6	93.0
Average Trichloroethene Transport Efficiency:				91.8
Dichloroethene	96/61	1920.6	1822.3	94.9
Dichloroethene	98/61	825.2	761.6	92.3
Average Dichloroethene Transport Efficiency:				93.6
Vinyl Chloride	62/27	7.4	8.1	108.7
Vinyl Chloride	64/27	5.2	3.5	68.8
Average Vinyl Chloride Transport Efficiency:				88.7
Chloroform	83/47	247.4	228.1	92.2
Chloroform	85/47	78.1	73.9	94.6
Chloroform	85/49	83.2	77.4	93.0
Average Chloroform Transport Efficiency:				93.3
Benzene	78/39	126.8	120.6	95.2
Benzene	78/52	743.5	662.9	89.2
Average Benzene Transport Efficiency:				92.2
Toluene	92/39	39.7	37.1	93.5
Toluene	92/51	114.8	102.6	89.3
Average Toluene Transport Efficiency:				91.4
Xylene	106/65	1940.0	1756.5	90.5
Xylene	106/91	7748.7	6951.3	89.7
Average Xylene Transport Efficiency:				91.3

PM/DM = Parent mass/Daughter mass
icps = Ion counts per second
% = Percent

TABLE 1 (continued)
Summary of Transport Efficiencies Measured on 01 October 2014
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

End of Day Transport Efficiency for 01 October 2014 at 17:18:39				
File: 93MSMS369				
Start Sequence:		93	252	
End Sequence:		123	281	
Compound	PM/DM	Proximal Intensity (icps)	Distal Intensity (icps)	Transport Efficiency (%)
Tetrachloroethene	164/129	1007.1	961.3	95.5
Tetrachloroethene	166/129	391.0	400.7	102.5
Tetrachloroethene	166/131	1187.4	1190.7	100.3
Average Tetrachloroethene Transport Efficiency:				99.4
Trichloroethene	130/95	2752.6	2595.3	94.3
Trichloroethene	132/95	723.9	694.3	95.9
Trichloroethene	132/97	1453.9	1383.0	95.1
Average Trichloroethene Transport Efficiency:				95.1
Dichloroethene	96/61	970.6	925.3	95.3
Dichloroethene	98/61	401.0	378.7	94.4
Average Dichloroethene Transport Efficiency:				94.9
Vinyl Chloride	62/27	5.5	2.7	48.6
Vinyl Chloride	64/27	4.2	3.7	87.4
Average Vinyl Chloride Transport Efficiency:				68.0
Chloroform	83/47	113.5	108.7	95.7
Chloroform	85/47	33.2	26.0	78.3
Chloroform	85/49	37.7	27.7	73.3
Average Chloroform Transport Efficiency:				82.4
Benzene	78/39	41.6	41.7	100.1
Benzene	78/52	216.1	204.3	94.5
Average Benzene Transport Efficiency:				97.3
Toluene	92/39	21.3	14.7	68.9
Toluene	92/51	49.0	58.7	119.6
Average Toluene Transport Efficiency:				94.3
Xylene	106/65	947.4	949.7	100.2
Xylene	106/91	3520.0	3357.0	95.4
Average Xylene Transport Efficiency:				86.9

PM/DM = Parent mass/Daughter mass
icps = Ion counts per second
% = Percent

TABLE 2
Summary of Meteorological Conditions during Monitoring on 01 October 2014
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Unit #	File	Date	Time (LST)	Relative Humidity (%)	Wind Speed (MPH)	Wind Direction (deg.)	Precipitation Total (inches)
Unit 116 and Unit 84 Survey	93MSMS359	10/01/2014	11:54	61	10	40	
Unit 116 and Unit 84 Investigation	93MSMS360	10/01/2014	11:54	61	10	40	
Unit 50 Survey	93MSMS361	10/01/2014	12:54	59	7	60	
Unit 70 Survey	93MSMS362	10/01/2014	12:54	59	7	60	
Unit 70 Investigation	93MSMS363	10/01/2014	13:54	57	8	60	
Unit 34 Survey	93MSMS364	10/01/2014	13:54	57	8	60	
Unit 34 Investigation	93MSMS365	10/01/2014	13:54	57	8	60	
Unit 175 Survey	93MSMS482	10/01/2014	15:54	61	10	50	

Note: The wind direction is the direction from which the wind is blowing

MPH = mile per hour
LST = Local Standard Time
% = Percentage
deg. = Degree
In. Hg = inch Mercury

TABLE 3
Summary of Response Factors and Error Bars for 01 October 2014
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Calibration Files: 93MSMS358 and 93MSMS366 on 01 October 2014 Used for Survey Files: 93MSMS359, 93MSMS360, 93MSMS361, 93MSMS362, 93MSMS363, 93MSMS364, and 93MSMS365					
Compound	PM/DM	Initial Response Factor (icps/ppbv)	Final Response Factor (icps/ppbv)	Intermediate Response Factor (icps/ppbv)	Error Bar (%)
Tetrachloroethene	164/129	197.22	187.48	192.22	2.53
Tetrachloroethene	166/129	72.957	70.280	71.593	1.87
Tetrachloroethene	166/131	207.07	202.27	204.65	1.17
Average:					1.9
Trichloroethene	130/95	367.78	344.36	355.69	3.29
Trichloroethene	132/95	117.61	107.92	112.56	4.30
Trichloroethene	132/97	230.73	210.22	219.99	4.65
Average:					4.1
Dichloroethene	96/61	178.75	149.24	162.66	9.00
Dichloroethene	98/61	70.969	63.070	66.787	5.89
Average:					7.4
Vinyl Chloride	62/27	0.50930	0.44720	0.47623	6.49
Vinyl Chloride	64/27	0.11180	0.28570	0.16071	43.7
Average:					25.
Chloroform	83/47	16.034	12.146	13.822	13.8
Chloroform	85/47	5.9293	4.4875	5.1086	13.8
Chloroform	85/49	6.8467	5.2989	5.9742	12.7
Average:					13.
Benzene	78/39	7.8796	6.4286	7.0805	10.1
Benzene	78/52	43.298	30.429	35.740	17.5
Average:					14.
Toluene	92/39	3.1066	2.4545	2.7423	11.7
Toluene	92/51	9.6152	7.7512	8.5832	10.7
Average:					11.
Xylene	106/65	112.96	91.935	101.37	10.3
Xylene	106/91	419.06	329.52	368.93	12.0
Average:					11.

PM/DM = Parent Mass/Daughter Mass
 icps = ion counts per second
 ppbv = parts per billion by volume
 % = Percent

TABLE 3 (continued)
Summary of Response Factors and Error Bars for 01 October 2014
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Calibration Files: 93MSMS366 and 93MSMS368 on 01 October 2014 Used for Survey File: 93MSMS367					
Compound	PM/DM	Initial Response Factor (icps/ppbv)	Final Response Factor (icps/ppbv)	Intermediate Response Factor (icps/ppbv)	Error Bar (%)
Tetrachloroethene	164/129	187.48	166.74	176.50	5.85
Tetrachloroethene	166/129	70.280	64.876	67.470	4.00
Tetrachloroethene	166/131	202.27	194.19	198.15	2.04
Average:					4.0
Trichloroethene	130/95	344.36	351.37	347.83	1.01
Trichloroethene	132/95	107.92	103.02	105.41	2.33
Trichloroethene	132/97	210.22	203.09	206.59	1.73
Average:					1.7
Dichloroethene	96/61	149.24	140.70	144.84	2.95
Dichloroethene	98/61	63.070	54.834	58.664	6.99
Average:					5.0
Vinyl Chloride	62/27	0.44720	0.62730	0.52216	16.8
Vinyl Chloride	64/27	0.28570	0.21120	0.24287	15.0
Average:					16.
Chloroform	83/47	12.146	10.592	11.315	6.84
Chloroform	85/47	4.4875	3.9320	4.1914	6.60
Chloroform	85/49	5.2989	4.7184	4.9918	5.79
Average:					6.4
Benzene	78/39	6.4286	5.4612	5.9055	8.14
Benzene	78/52	30.429	29.639	30.029	1.31
Average:					4.7
Toluene	92/39	2.4545	1.9993	2.2036	10.2
Toluene	92/51	7.7512	6.2932	6.9465	10.4
Average:					10.
Xylene	106/65	91.935	85.751	88.735	3.48
Xylene	106/91	329.52	312.93	321.01	2.58
Average:					3.0

PM/DM = Parent Mass/Daughter Mass
icps = ion counts per second
ppbv = parts per billion by volume
% = Percent

TABLE 4
Summary of Detection and Quantitation Limit Data for 01 October 2014
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Calibration Files: 93MSMS358 and 93MSMS366 on 01 October 2014 Used for Survey Files: 93MSMS359, 93MSMS360, 93MSMS361, 93MSMS362, 93MSMS363, 93MSMS364, and 93MSMS365					
Compound	PM/DM	Intermediate Response Factor (icps/ppbv)	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
Tetrachloroethene	164/129	192.22	8.0925	0.126	0.421
Tetrachloroethene	166/129	71.593	4.4857	0.188	0.627
Tetrachloroethene	166/131	204.65	10.006	0.147	0.489
Average:				0.15	0.51
Trichloroethene	130/95	355.69	6.3630	0.0537	0.179
Trichloroethene	132/95	112.56	8.6743	0.231	0.771
Trichloroethene	132/97	219.99	5.9264	0.0808	0.269
Average:				0.12	0.41
Dichloroethene	96/61	162.66	5.5874	0.103	0.343
Dichloroethene	98/61	66.787	3.9970	0.180	0.598
Average:				0.14	0.47
Vinyl Chloride	62/27	0.47623	3.3129	20.9	69.6
Vinyl Chloride	64/27	0.16071	5.2499	98.0	327.
Average:				59.	200
Chloroform	83/47	13.822	18.452	4.01	13.4
Chloroform	85/47	5.1086	5.1205	3.01	10.0
Chloroform	85/49	5.9742	3.7449	1.88	6.27
Average:				3.0	9.9
Benzene	78/39	7.0805	5.9674	2.53	8.43
Benzene	78/52	35.740	20.731	1.74	5.80
Average:				2.1	7.1
Toluene	92/39	2.7423	7.1568	7.83	26.1
Toluene	92/51	8.5832	9.2723	3.24	10.8
Average:				5.5	18.
Xylene	106/65	101.37	35.770	1.06	3.53
Xylene	106/91	368.93	73.602	0.598	1.99
Average:				0.83	2.8

PM/DM = Parent Mass/Daughter Mass
 icps = ion counts per second
 ppbv = parts per billion by volume

TABLE 4 (continued)
Summary of Detection and Quantitation Limit Data for 01 October 2014
Passyunk Soil Gas Site
Philadelphia, Pennsylvania
October 2014

Calibration Files: 93MSMS366 and 93MSMS368 on 01 October 2014 Used for Survey File: 93MSMS367					
Compound	PM/DM	Intermediate Response Factor (icps/ppbv)	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
Tetrachloroethene	164/129	176.50	6.5612	0.112	0.372
Tetrachloroethene	166/129	67.470	4.4857	0.199	0.665
Tetrachloroethene	166/131	198.15	8.4030	0.127	0.424
Average:				0.15	0.49
Trichloroethene	130/95	347.83	7.4080	0.0639	0.213
Trichloroethene	132/95	105.41	3.3129	0.0943	0.314
Trichloroethene	132/97	206.59	4.1906	0.0609	0.203
Average:				0.073	0.24
Dichloroethene	96/61	144.84	4.4173	0.0915	0.305
Dichloroethene	98/61	58.664	3.0041	0.154	0.512
Average:				0.12	0.41
Vinyl Chloride	62/27	0.52216	5.7062	32.8	109.
Vinyl Chloride	64/27	0.24287	3.5784	44.2	147.
Average:				38.	130
Chloroform	83/47	11.315	15.258	4.05	13.5
Chloroform	85/47	4.1914	4.4173	3.16	10.5
Chloroform	85/49	4.9918	3.0041	1.81	6.02
Average:				3.0	10.
Benzene	78/39	5.9055	6.9843	3.55	11.8
Benzene	78/52	30.029	8.5967	0.859	2.86
Average:				2.2	7.3
Toluene	92/39	2.2036	4.1906	5.70	19.0
Toluene	92/51	6.9465	6.8699	2.97	9.89
Average:				4.3	14.
Xylene	106/65	88.735	19.130	0.647	2.16
Xylene	106/91	321.01	29.485	0.276	0.919
Average:				0.46	1.5

PM/DM = Parent Mass/Daughter Mass
icps = ion counts per second
ppbv = parts per billion by volume

FIGURES

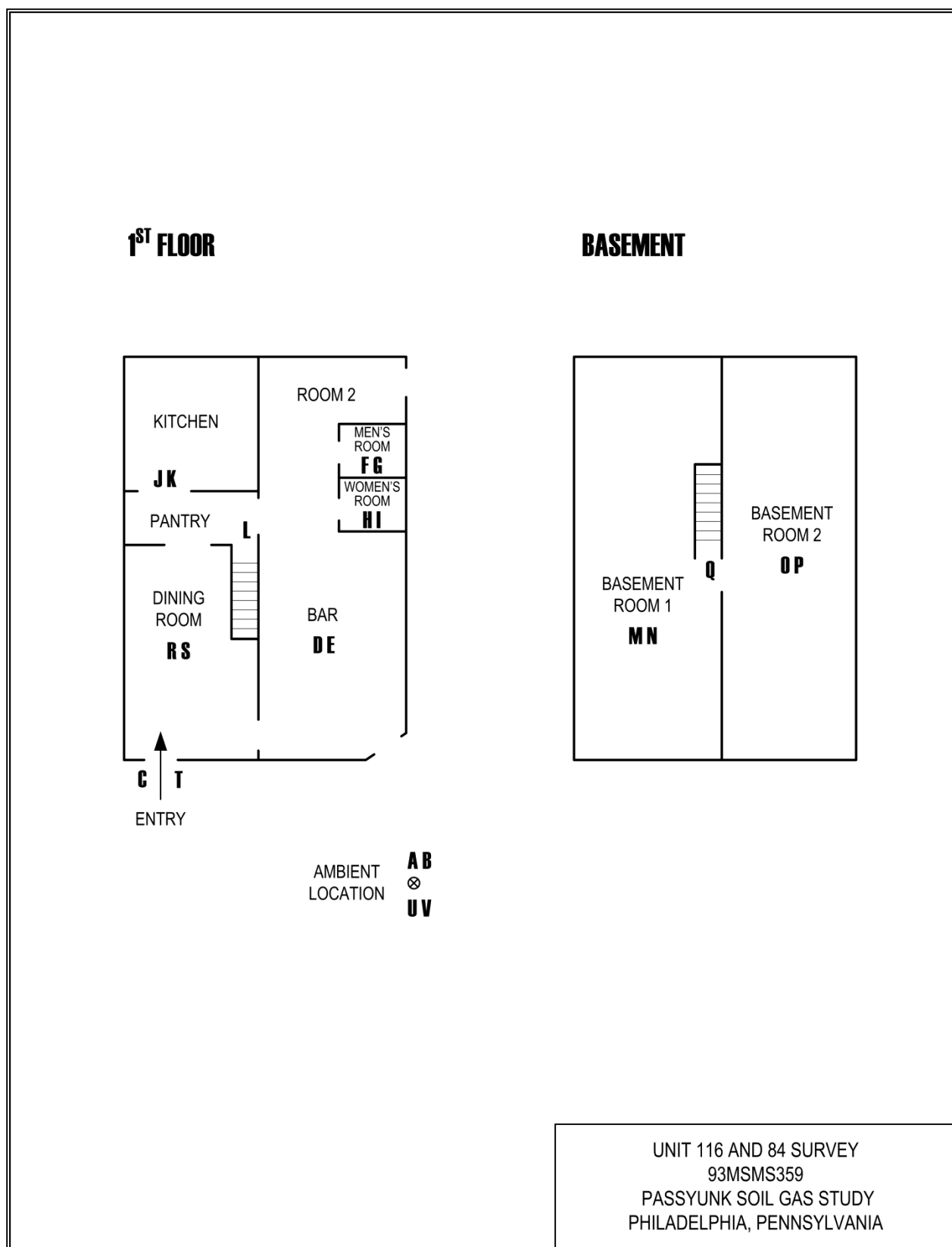


Figure 1a Unit 116 and Unit 84 Floor Plan, 93MSMS359

Figure 1b

TAGA File Event Summary File: 93MSMS359 Acquired on 01 October 2014 at 11:58:34 Title: Unit 116 and Unit 84 Survey			
Flag	Offset Time	Offset Sequence	Description
A	1.5	46	Start of the pre-entry ambient
B	2.4	74	End of the pre-entry ambient
C	3.6	109	Entering the unit
D	4.1	124	Start of the bar
E	5.1	155	End of the bar
F	7.3	219	Start of the men's room
G	8.3	251	End of the men's room
H	8.6	259	Start of the women's room
I	9.7	291	End of the women's room
J	10.0	303	Start of the kitchen/pantry
K	11.1	335	End of the kitchen/pantry
L	11.5	347	Descending the stairs to the basement
M	12.2	367	Start of basement room one
N	13.3	401	End of basement room one
O	13.5	407	Start of basement room two
P	15.4	463	End of basement room two
Q	16.0	483	Ascending the stairs from the basement
R	16.6	501	Start of the dining room
S	17.7	532	End of the dining room
T	18.0	541	Exiting the unit
U	18.9	570	Start of the post-exit ambient
V	21.3	642	End of the post-exit ambient
W	25.6	771	Start of 30 mL/min spike
X	27.2	819	End of 30 mL/min spike

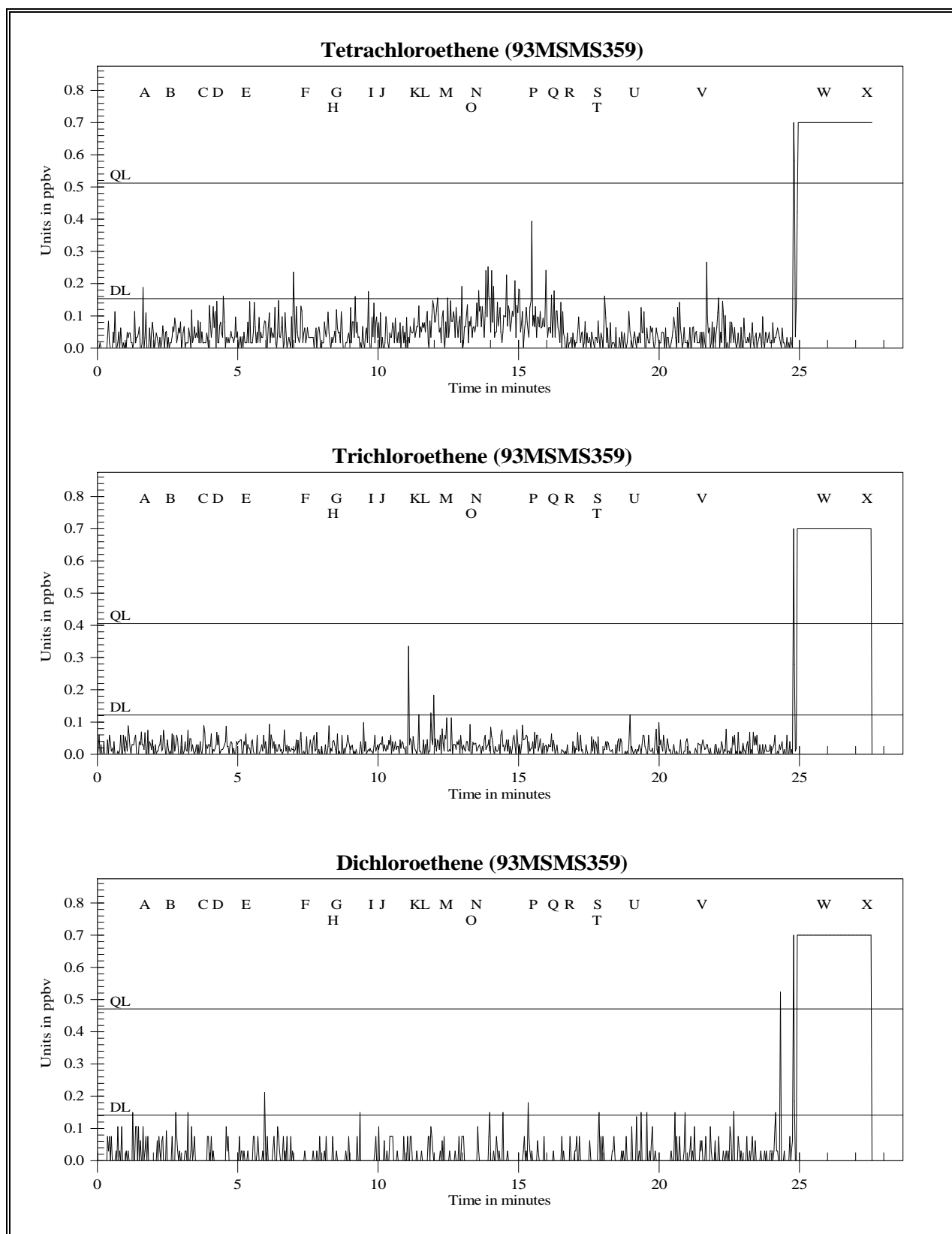


Figure 1c Unit 116 and Unit 84 Survey for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

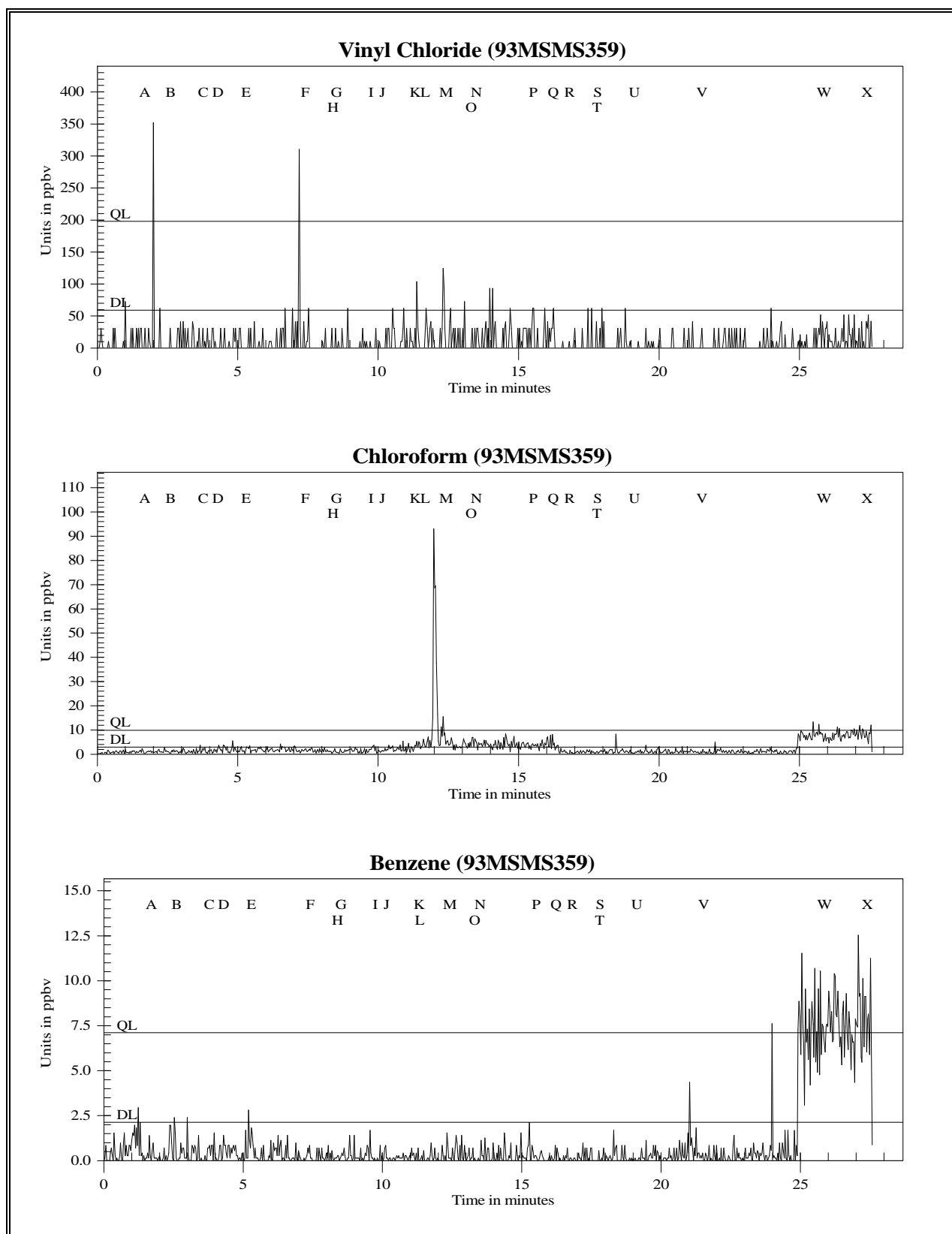


Figure 1c (continued) Unit 116 and Unit 84 Survey for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

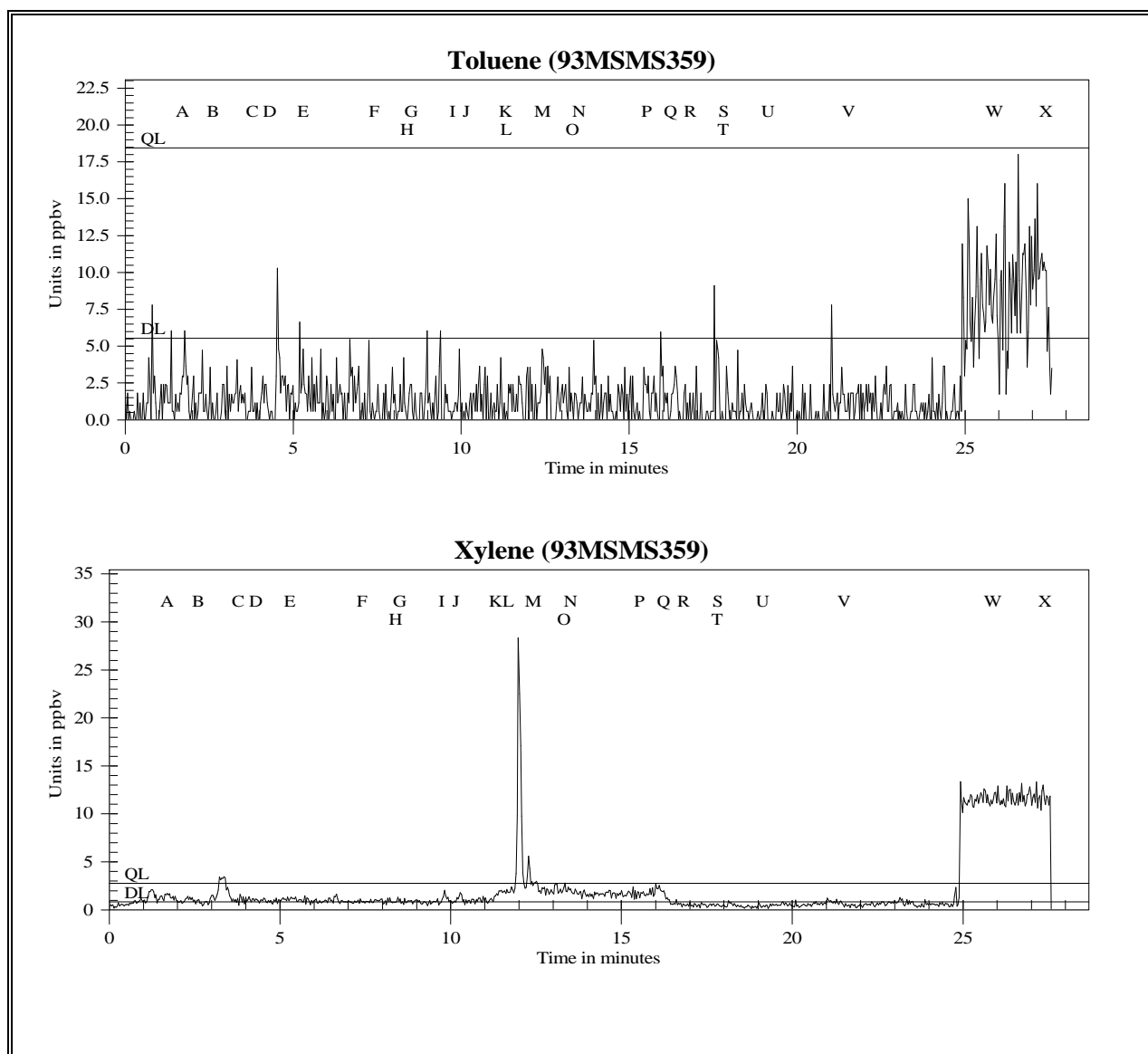


Figure 1c (continued) Unit 116 and Unit 84 Survey for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

Figure 1d

TAGA Target Compound Summary for Unit 116 and Unit 84 Survey File: 93MSMS359 Acquired on 01 October 2014 at 11:58:34									
		Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
Detection Limits - DL:		0.15	0.12	0.14	59.	3.0	2.1	5.5	0.83
Quantitation Limits - QL:		0.51	0.41	0.47	200	9.9	7.1	18.	2.8
Flags	Description	Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
A - B	Pre-entry ambient	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	1.2J
D - E	Bar	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	0.99J
F - G	Men's room	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	0.91J
H - I	Women's room	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	0.83J
J - K	Kitchen/pantry	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	1.0J
M - N	Basement room one	DL=0.15	DL=0.12	DL=0.14	DL=59.	4.8J	DL=2.1	DL=5.5	2.4J
O - P	Basement room two	DL=0.15	DL=0.12	DL=0.14	DL=59.	4.0J	DL=2.1	DL=5.5	1.7J
R - S	Dining room	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	DL=0.83
U - V	Post-exit ambient	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	DL=0.83
W - X	30 mL/min spike	6.6	6.4	7.1	DL=59.	8.0J	7.5	9.0J	12.

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

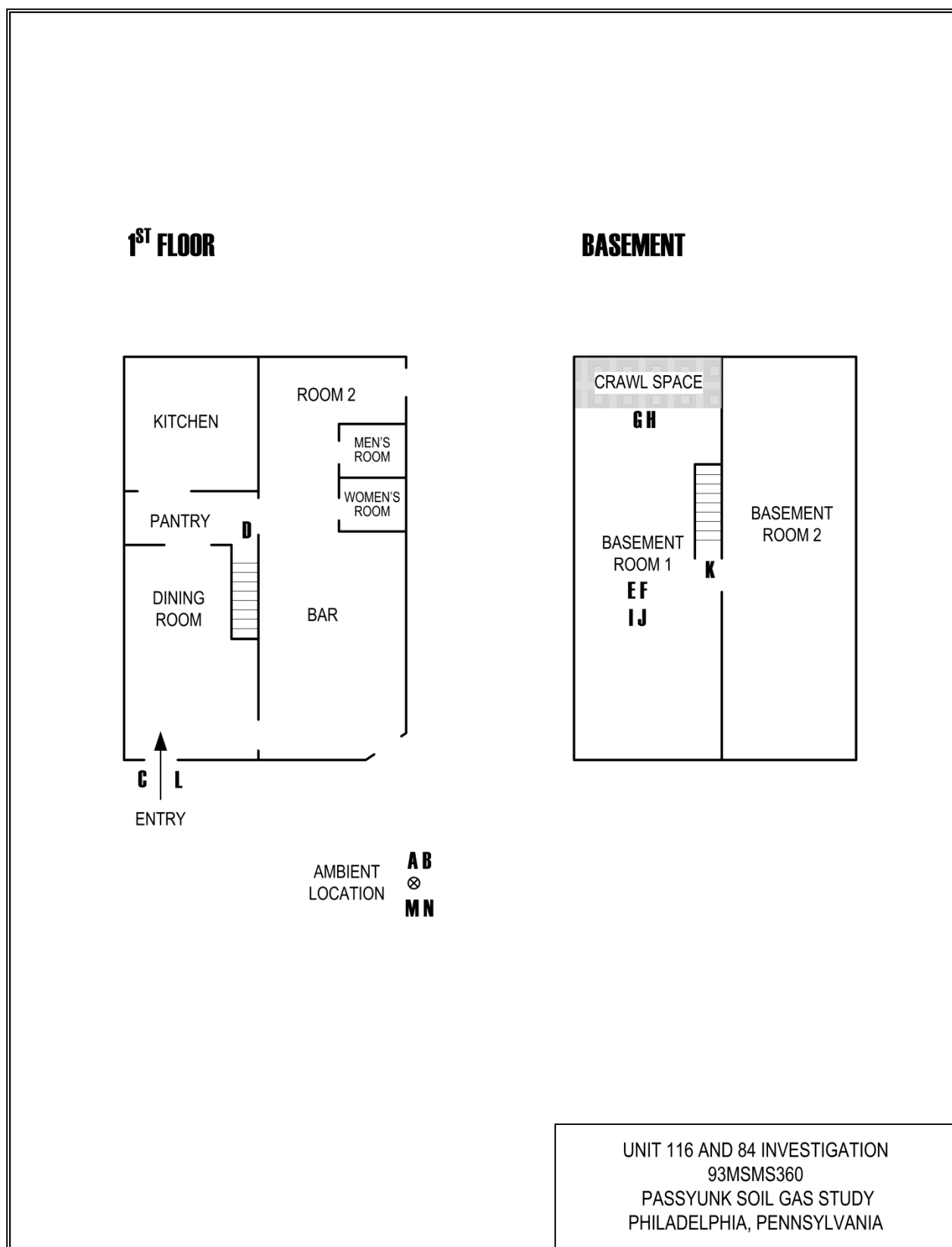


Figure 2a Unit 116 and Unit 84 Floor Plan, 93MSMS360

Figure 2b

TAGA File Event Summary File: 93MSMS360 Acquired on 01 October 2014 at 12:28:06 Title: Unit 116 and Unit 84 Investigation			
Flag	Offset Time	Offset Sequence	Description
A	1.5	45	Start of the pre-entry ambient
B	2.4	73	End of the pre-entry ambient
C	3.8	115	Entering the unit
D	5.1	155	Descending the stairs to the basement
E	6.7	203	Start of basement room one
F	8.0	242	End of basement room one
G	9.0	272	Start of the crawl space
H	10.0	302	End of the crawl space
I	10.4	313	Start of basement room one
J	11.5	348	End of basement room one
K	12.1	366	Ascending the stairs from the basement
L	13.8	415	Exiting the unit
M	14.8	447	Start of the post-exit ambient
N	15.9	478	End of the post-exit ambient
O	17.4	525	Start of 30 mL/min spike
P	18.8	567	End of 30 mL/min spike

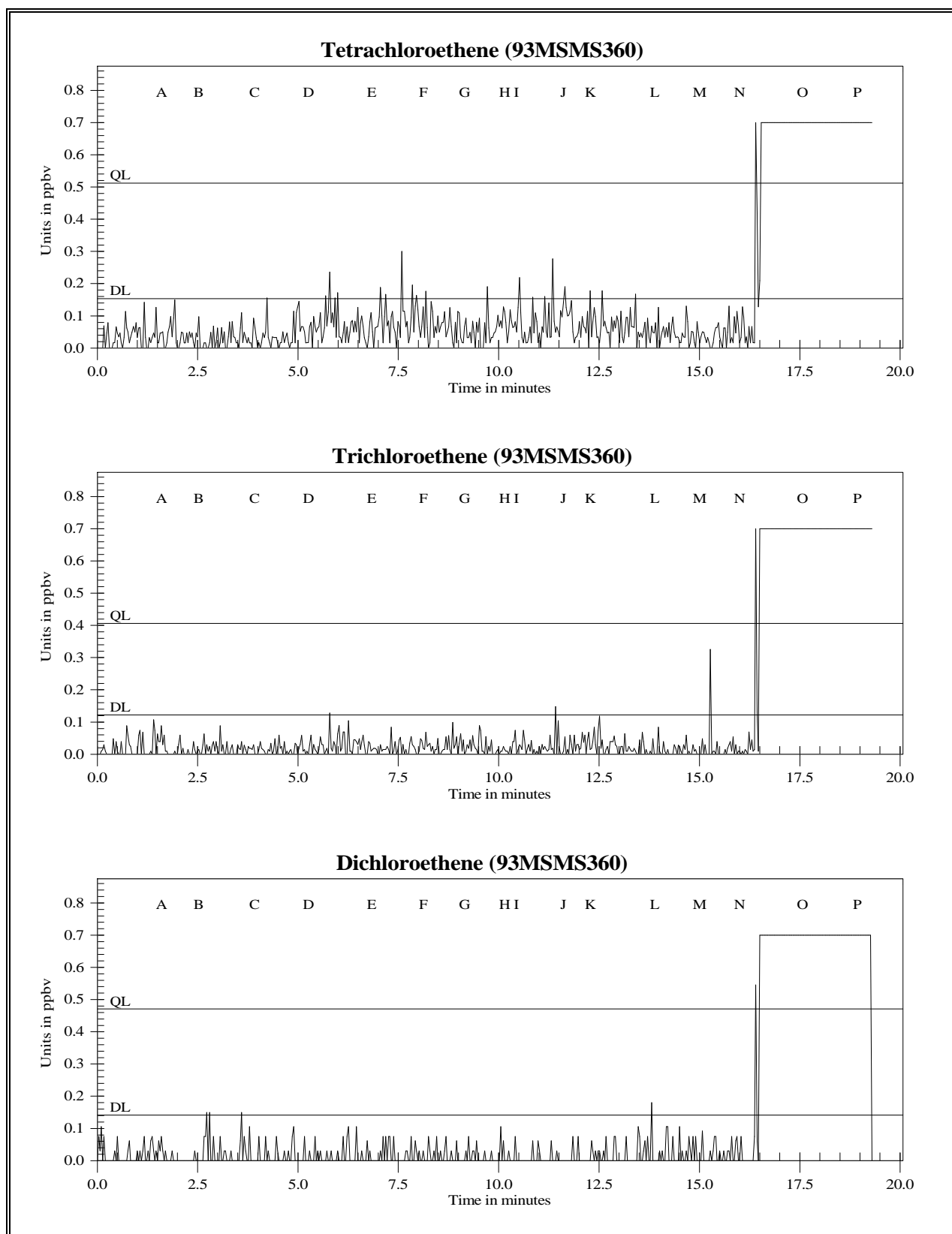


Figure 2c Unit 116 and Unit 84 Investigation for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

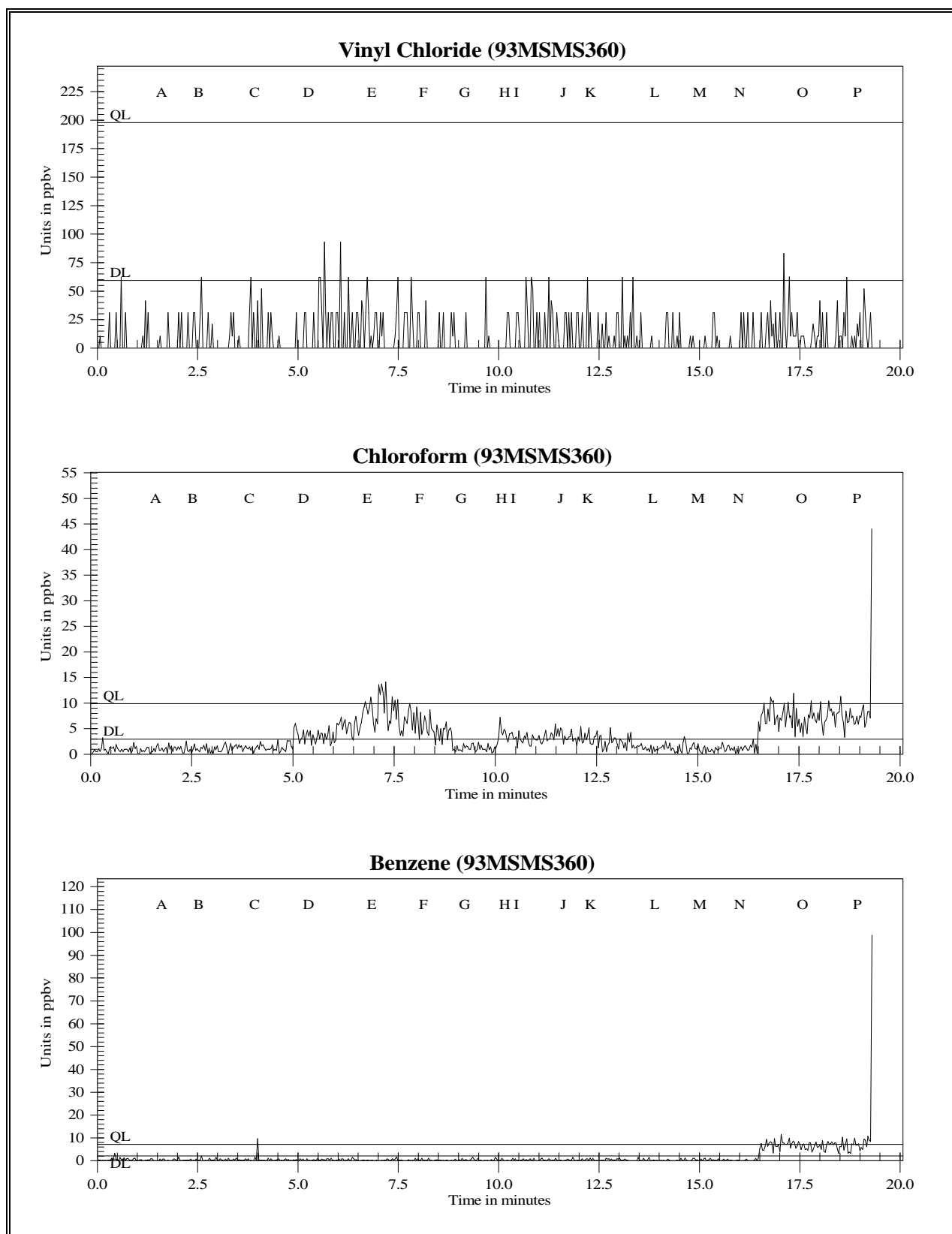


Figure 2c (continued) Unit 116 and Unit 84 Investigation for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

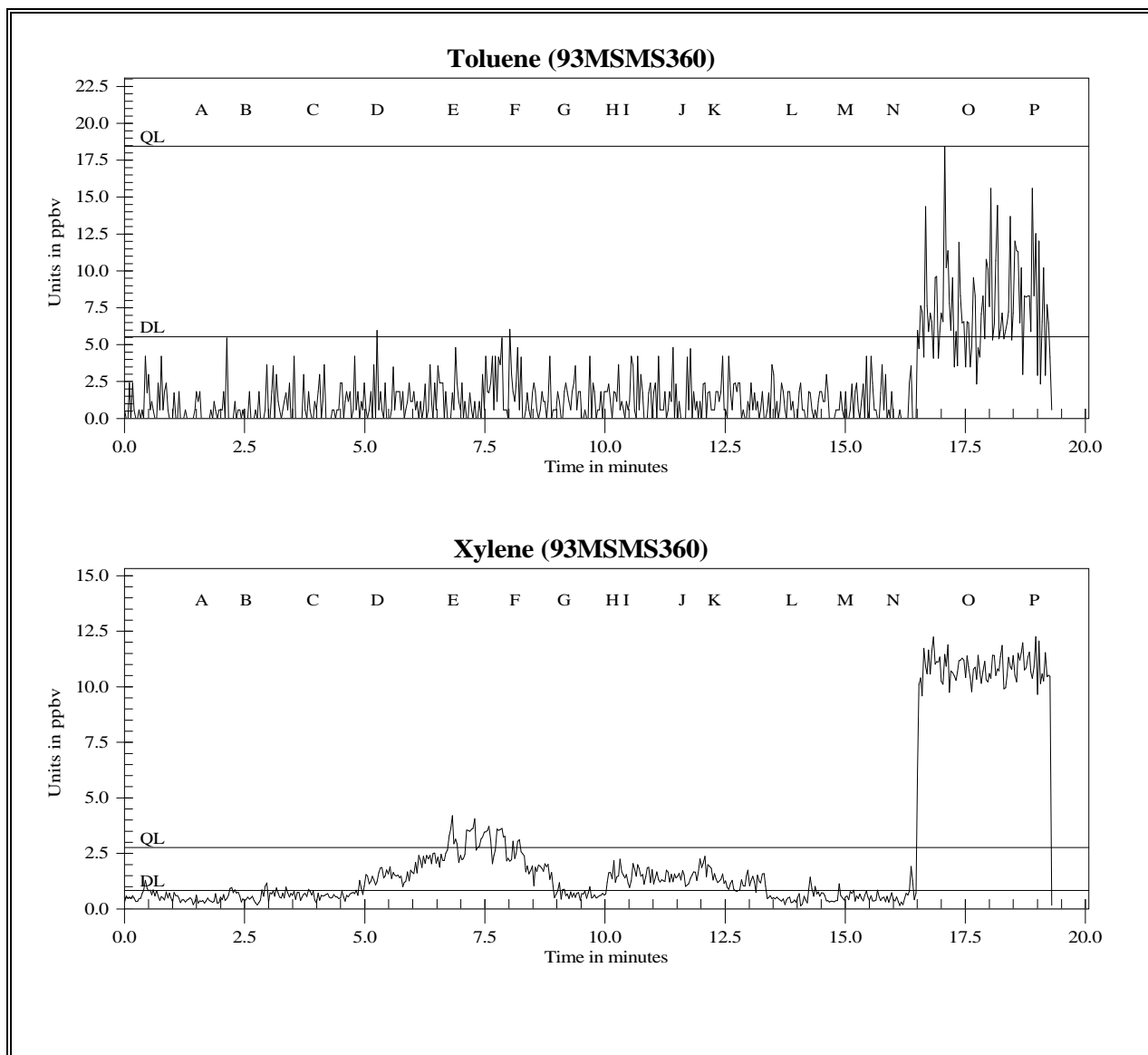


Figure 2c (continued) Unit 116 and Unit 84 Investigation for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylene

Figure 2d

TAGA Target Compound Summary for Unit 116 and Unit 84 Investigation File: 93MSMS360 Acquired on 01 October 2014 at 12:28:06									
		Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
Detection Limits - DL:		0.15	0.12	0.14	59.	3.0	2.1	5.5	0.83
Quantitation Limits - QL:		0.51	0.41	0.47	200	9.9	7.1	18.	2.8
Flags	Description	Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
A - B	Pre-entry ambient	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	DL=0.83
E - F	Basement room one	DL=0.15	DL=0.12	DL=0.14	DL=59.	8.1J	DL=2.1	DL=5.5	3.1
G - H	Crawl space	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	DL=0.83
I - J	Basement room one	DL=0.15	DL=0.12	DL=0.14	DL=59.	3.2J	DL=2.1	DL=5.5	1.5J
M - N	Post-exit ambient	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	DL=0.83
O - P	30 mL/min spike	6.3	6.3	6.8	DL=59.	7.1J	6.3J	7.6J	11.

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

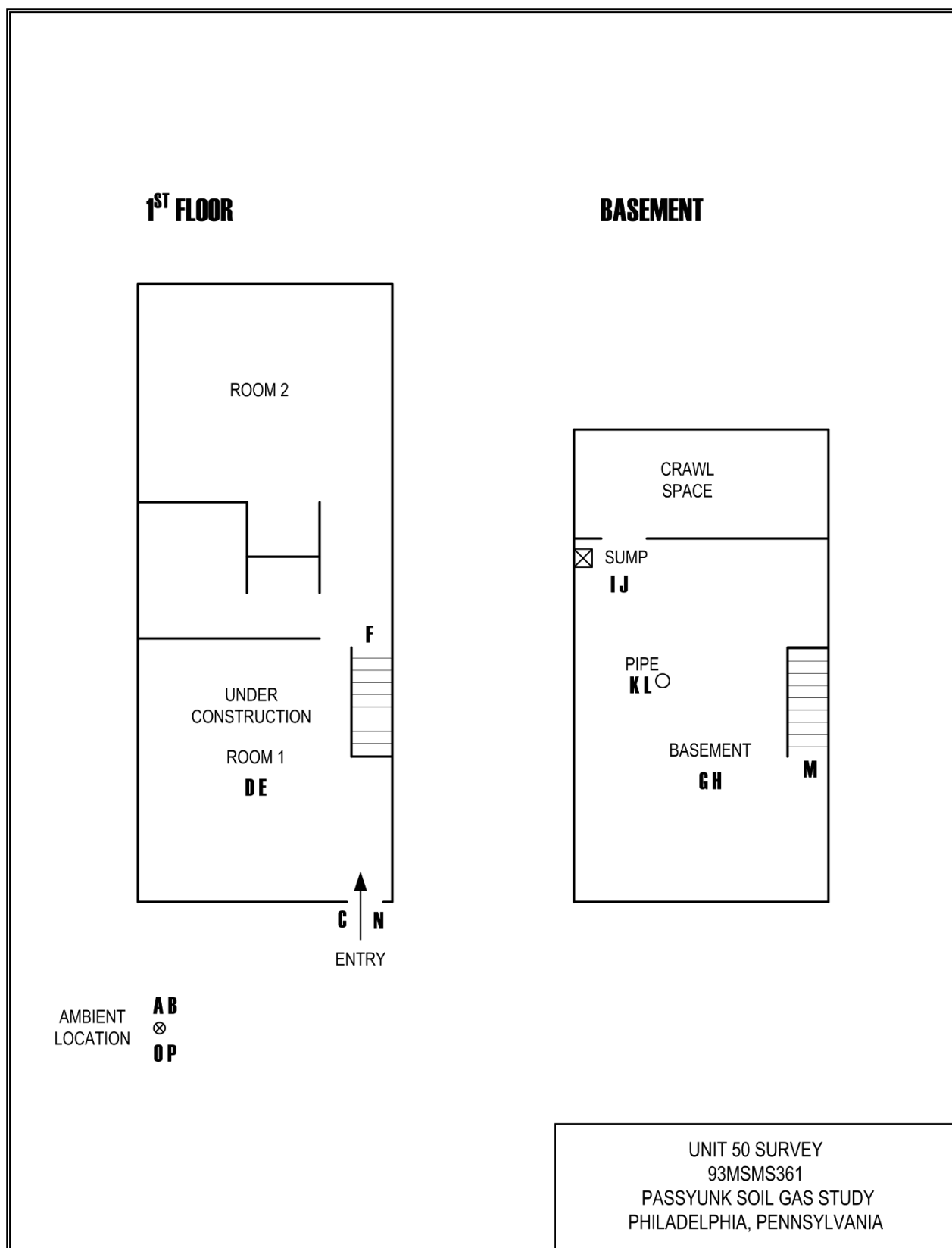


Figure 3a Unit 50 Floor Plan, 93MSMS361

Figure 3b

TAGA File Event Summary File: 93MSMS361 Acquired on 01 October 2014 at 12:52:53 Title: Unit 50 Survey			
Flag	Offset Time	Offset Sequence	Description
A	1.5	45	Start of the pre-entry ambient
B	2.4	74	End of the pre-entry ambient
C	3.7	113	Entering the unit
D	4.6	138	Start of room one (under construction)
E	5.6	169	End of room one (under construction)
F	5.9	178	Descending the stairs to the basement
G	6.5	196	Start of the basement
H	7.6	228	End of the basement
I	8.2	246	Start of the sump
J	9.3	280	End of the sump
K	9.8	297	Start of the pipe through the floor
L	11.0	332	End of the pipe through the floor
M	11.9	360	Ascending the stairs from the basement
N	12.6	381	Exiting the unit
O	14.0	423	Start of the post-exit ambient
P	15.4	463	End of the post-exit ambient
Q	17.5	526	Start of 30 mL/min spike
R	18.5	556	End of 30 mL/min spike

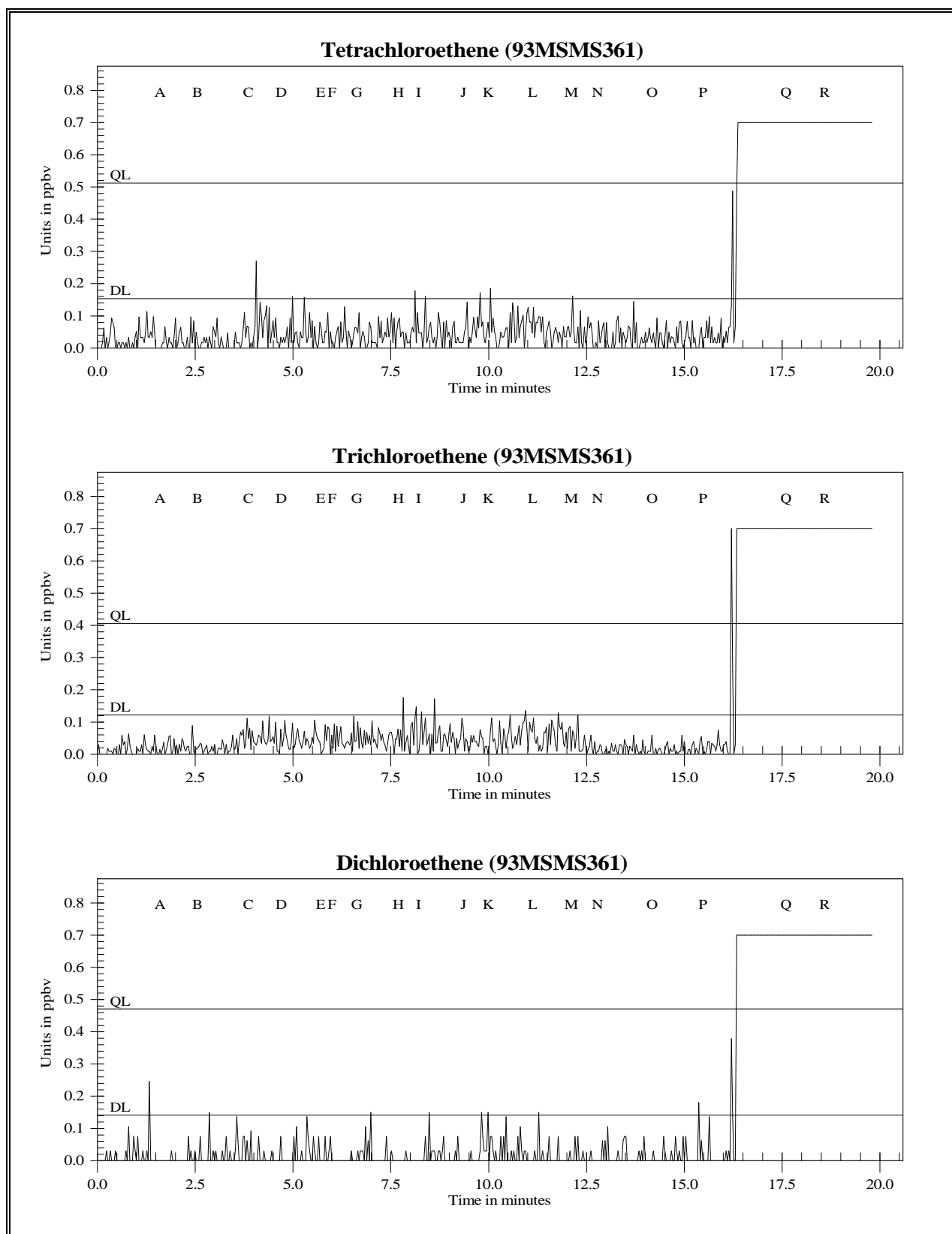


Figure 3c Unit 50 Survey for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

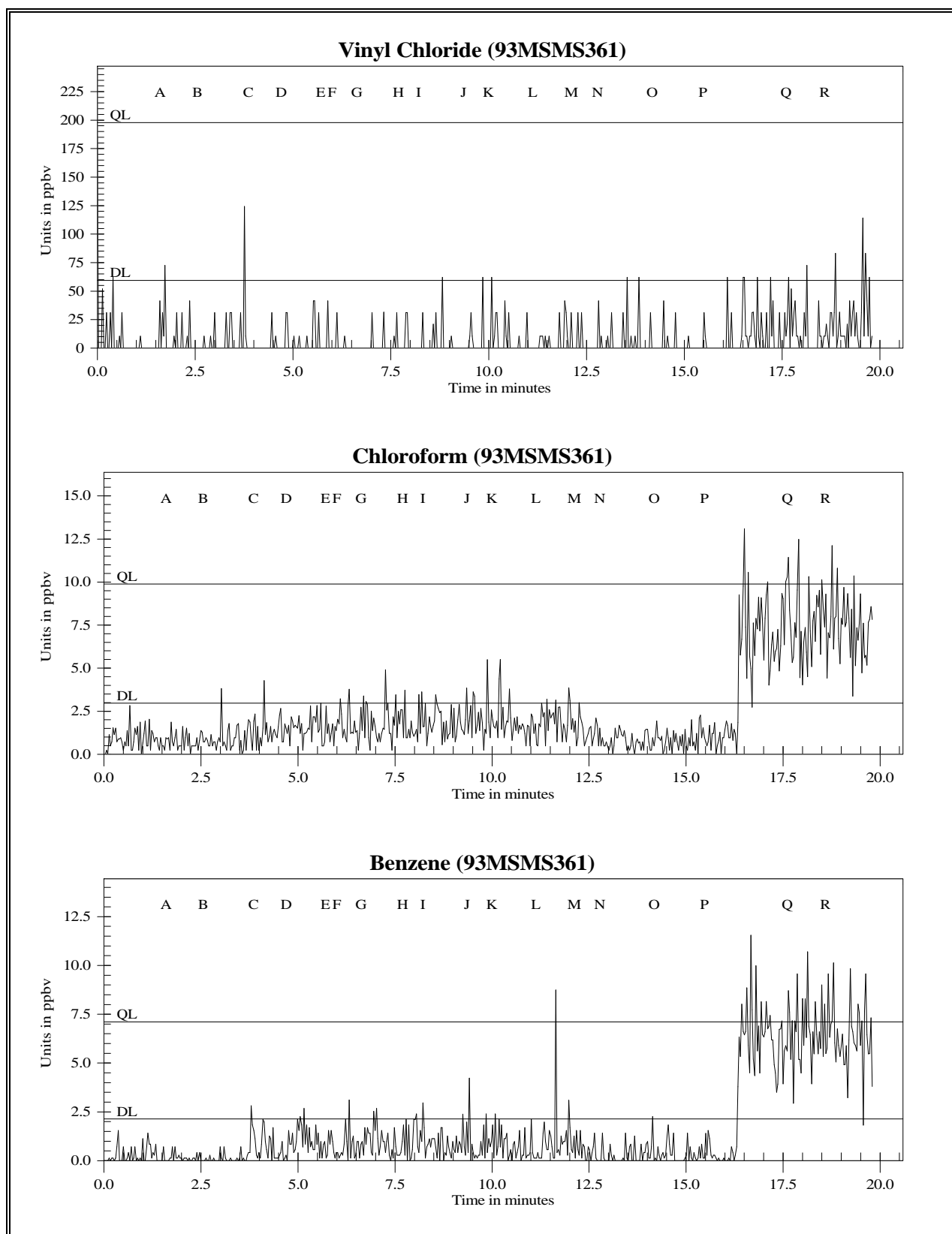


Figure 3c (continued) Unit 50 Survey for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

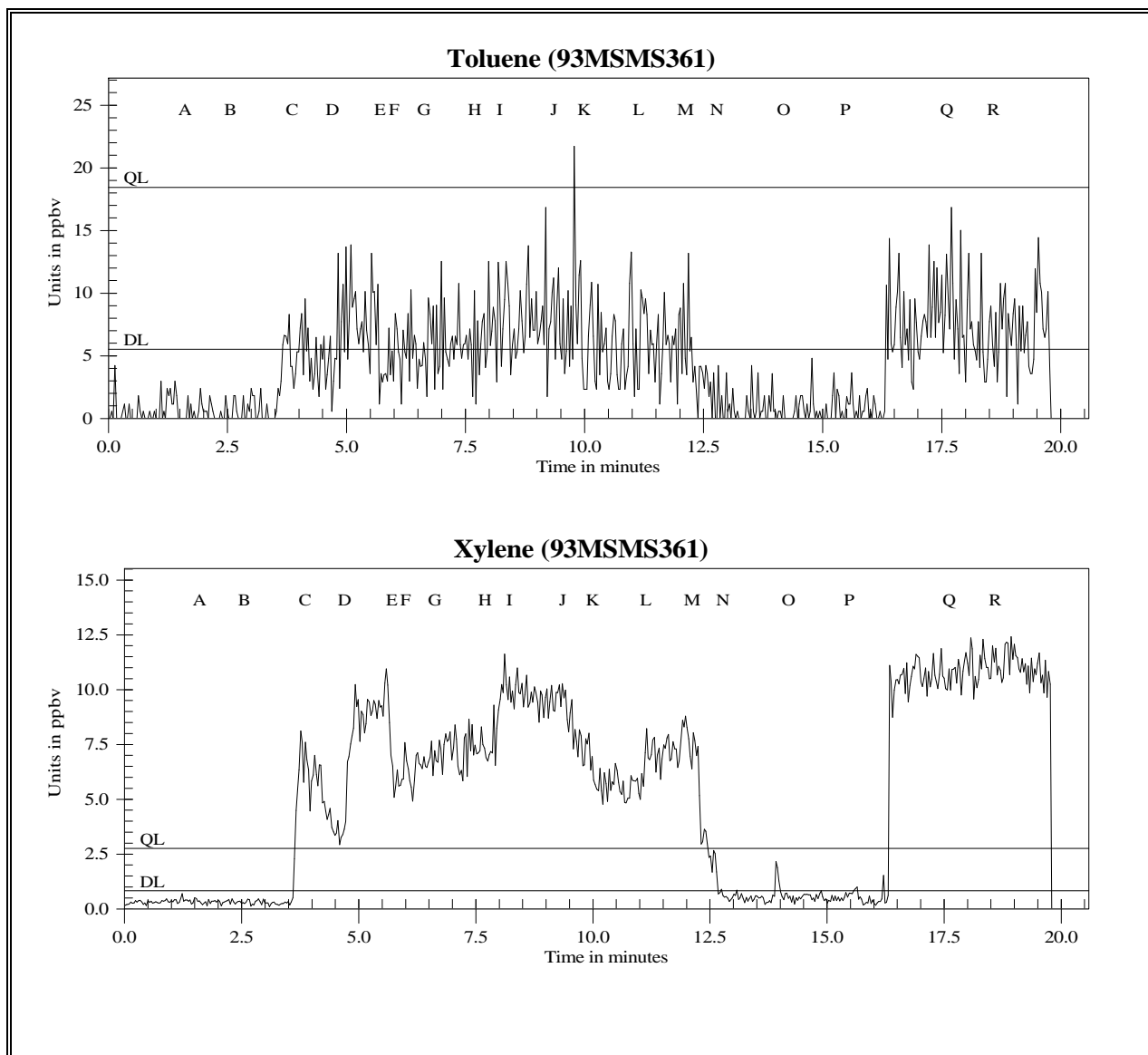


Figure 3c (continued) Unit 50 Survey for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

Figure 3d

TAGA Target Compound Summary for Unit 50 Survey File: 93MSMS361 Acquired on 01 October 2014 at 12:52:53									
		Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
Detection Limits - DL:		0.15	0.12	0.14	59.	3.0	2.1	5.5	0.83
Quantitation Limits - QL:		0.51	0.41	0.47	200	9.9	7.1	18.	2.8
Flags	Description	Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
A - B	Pre-entry ambient	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	DL=0.83
D - E	Room one (under construction)	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	7.2J	7.9
G - H	Basement	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	5.9J	7.2
I - J	Sump	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	7.9J	9.7
K - L	Pipe through the floor	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	6.0J	5.8
O - P	Post-exit ambient	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	DL=0.83
Q - R	30 mL/min spike	6.5	6.3	6.8	DL=59.	7.7 J	6.4	7.8	11.

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

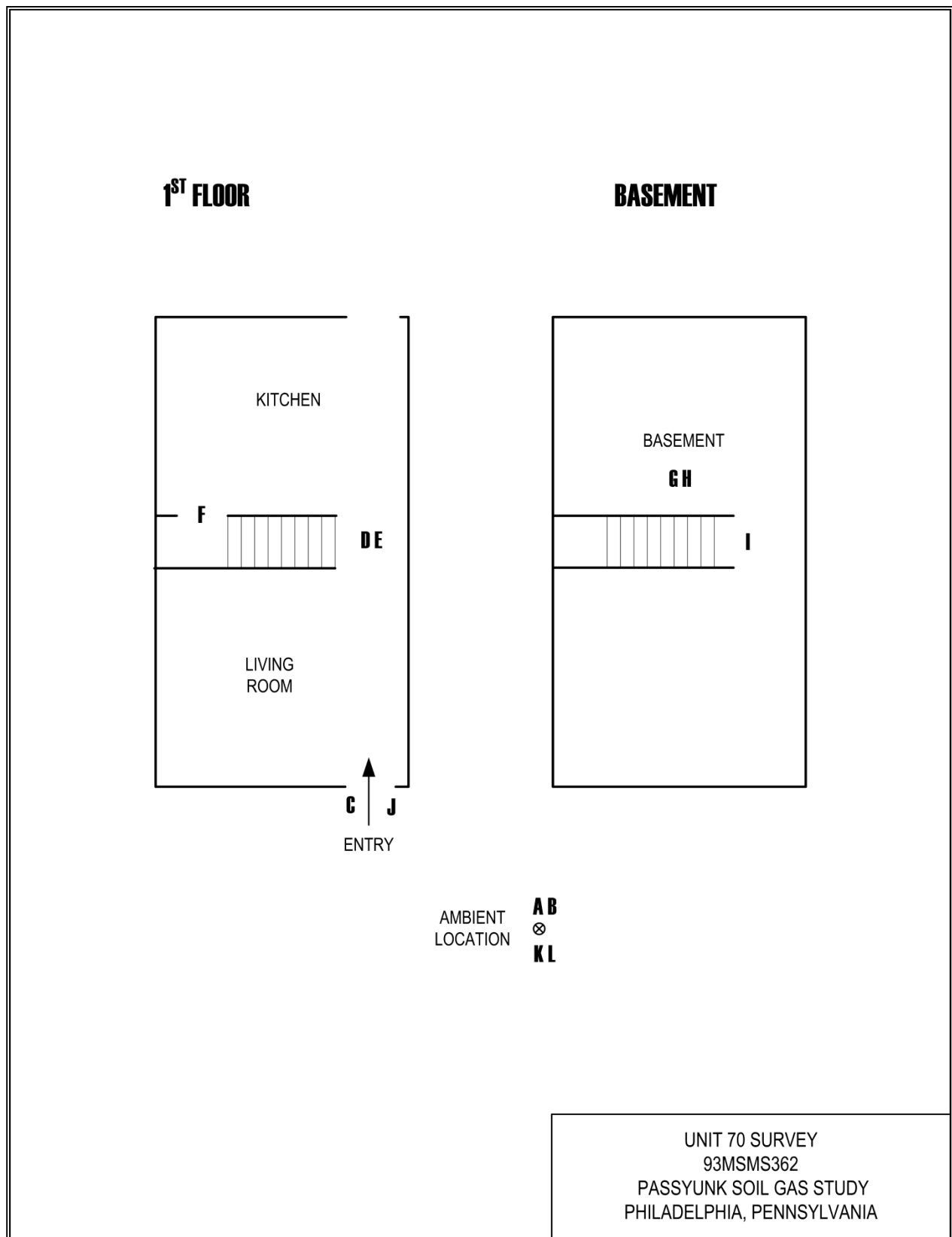


Figure 4a Unit 70 Floor Plan, 93MSMS362

Figure 4b

TAGA File Event Summary File: 93MSMS362 Acquired on 01 October 2014 at 13:29:48 Title: Unit 70 Survey			
Flag	Offset Time	Offset Sequence	Description
A	1.4	44	Start of the pre-entry ambient
B	2.4	73	End of the pre-entry ambient
C	3.0	91	Entering the unit
D	3.6	108	Start of the living room/kitchen
E	4.6	139	End of the living room/kitchen
F	5.0	150	Descending the stairs to the basement
G	5.4	163	Start of the basement
H	6.4	194	End of the basement
I	6.8	205	Ascending the stairs to the basement
J	7.4	224	Exiting the unit
K	8.5	255	Start of the post-exit ambient
L	9.5	285	End of the post-exit ambient
M	11.5	346	Start of 30 mL/min spike
N	12.5	376	End of 30 mL/min spike

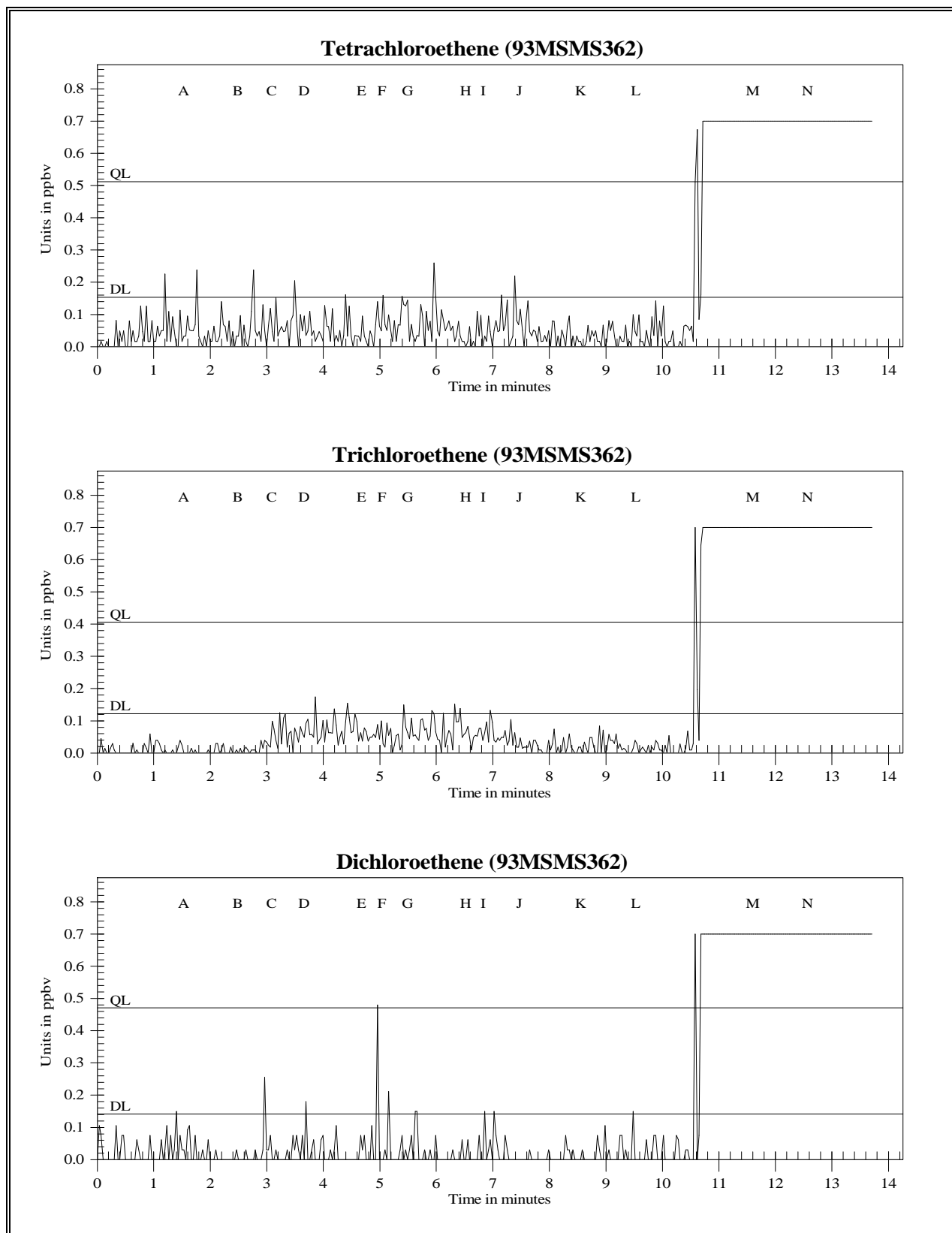


Figure 4c Unit 70 Survey for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

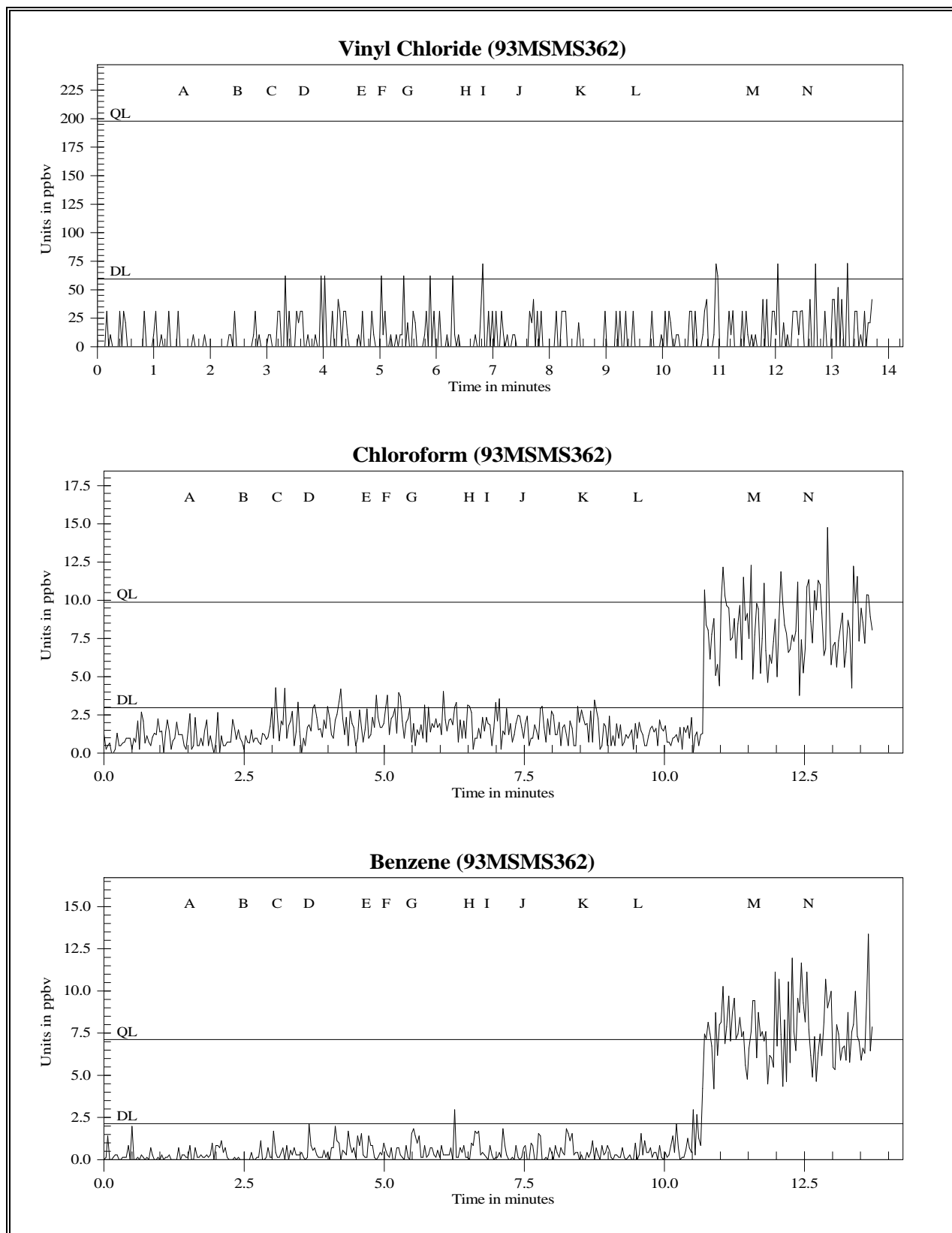


Figure 4c (continued) Unit 70 Survey for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

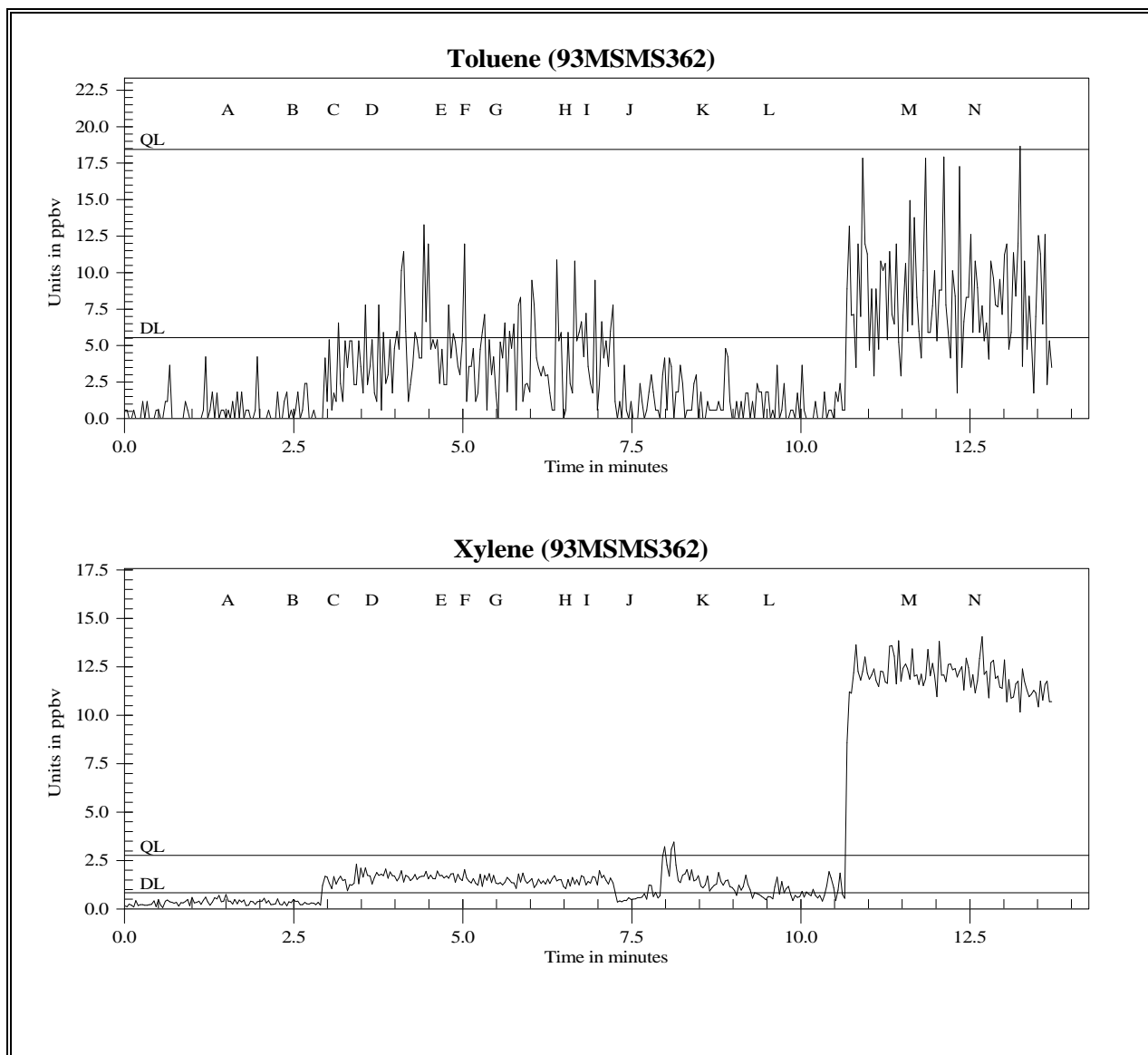


Figure 4c (continued) Unit 70 Survey for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

Figure 4d

TAGA Target Compound Summary for Unit 70 Survey File: 93MSMS362 Acquired on 01 October 2014 at 13:29:48									
		Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
Detection Limits - DL:		0.15	0.12	0.14	59.	3.0	2.1	5.5	0.83
Quantitation Limits - QL:		0.51	0.41	0.47	200	9.9	7.1	18.	2.8
Flags	Description	Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
A - B	Pre-entry ambient	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	DL=0.83
D - E	Living room/kitchen	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	1.7J
G - H	Basement	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	1.4J
K - L	Post-exit ambient	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	1.2J
M - N	30 mL/min spike	6.9	6.9	7.5	DL=59.	7.7J	7.7	8.4J	12.

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

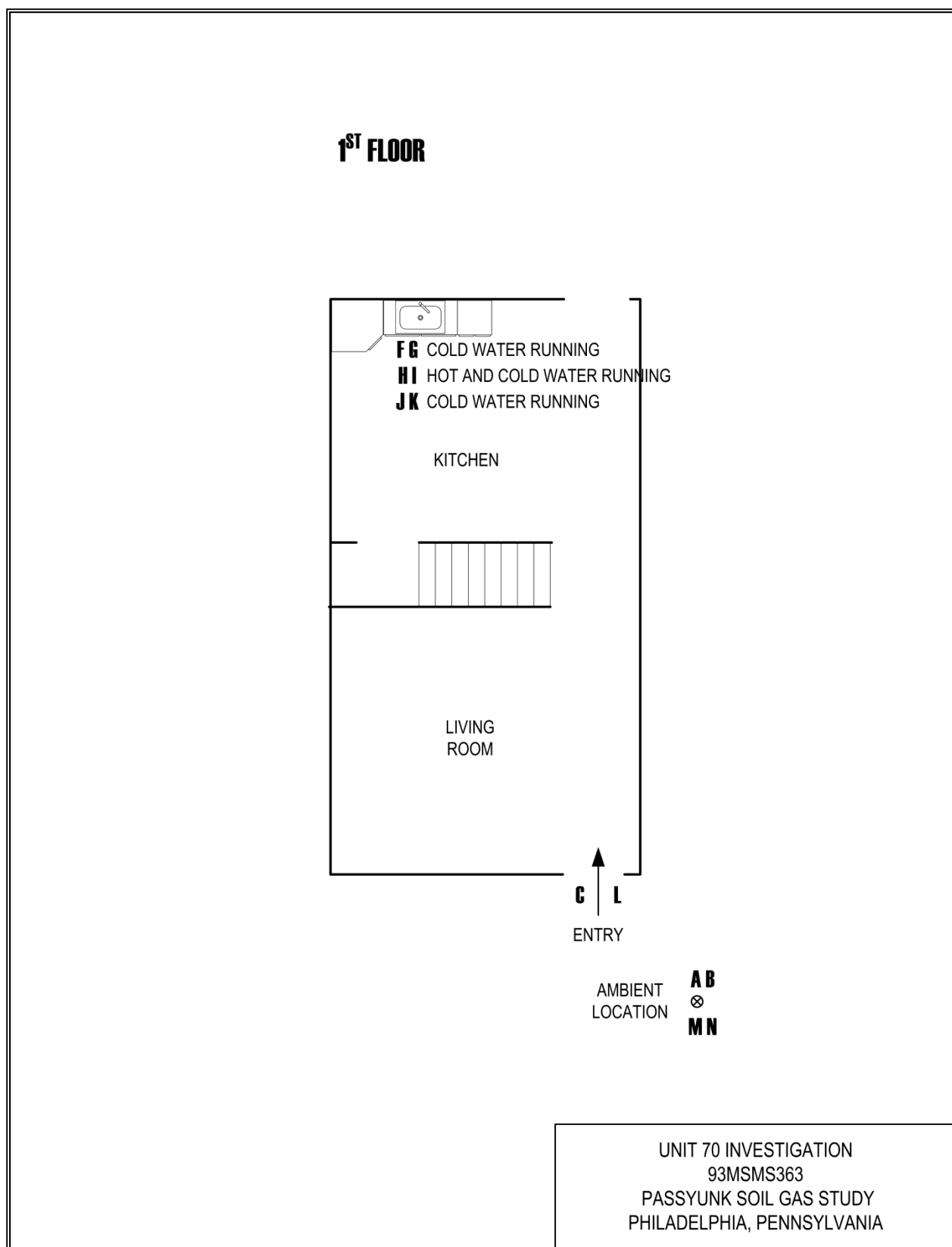


Figure 5a Unit 70 Floor Plan, 93MSMS363

Figure 5b

TAGA File Event Summary File: 93MSMS363 Acquired on 01 October 2014 at 13:48:33 Title: Unit 70 Investigation			
Flag	Offset Time	Offset Sequence	Description
A	1.4	44	Start of the pre-entry ambient
B	2.4	73	End of the pre-entry ambient
C	2.8	86	Entering the unit
D	3.6	108	Start of the kitchen
E	4.7	141	End of the kitchen
F	4.9	149	Start of the cold water running in sink
G	7.0	212	End of the cold water running in sink
H	7.4	224	Start of the hot water and cold water running in sink
I	8.5	257	End of the hot water and cold water running in sink
J	9.1	274	Start of the cold water running in sink
K	10.1	306	End of the cold water running in sink
L	11.1	336	Exiting the unit
M	12.2	368	Start of the post-exit ambient
N	13.2	399	End of the post-exit ambient
O	15.9	479	Start of 30 mL/min spike
P	16.9	510	End of 30 mL/min spike

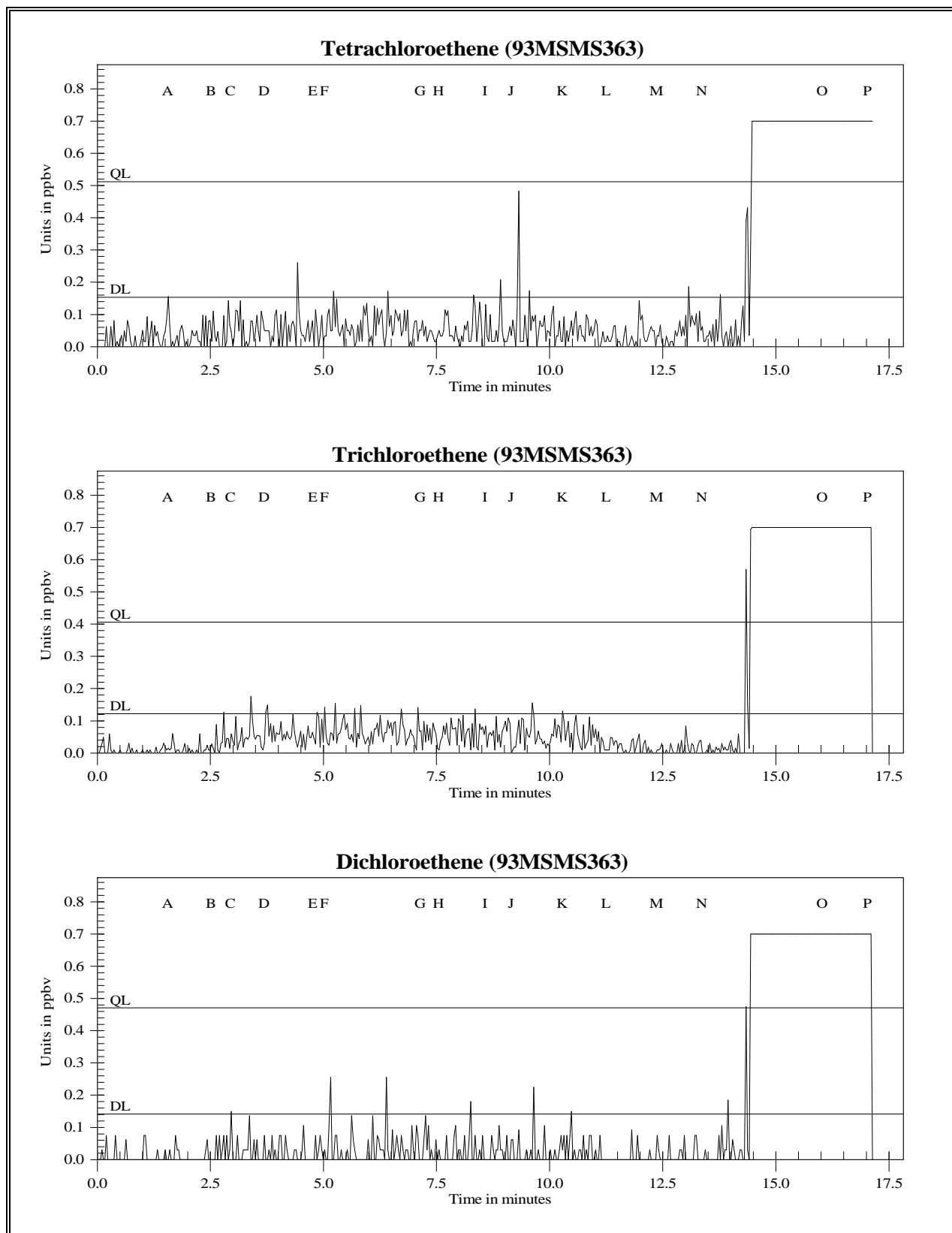


Figure 5c Unit 70 Investigation for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

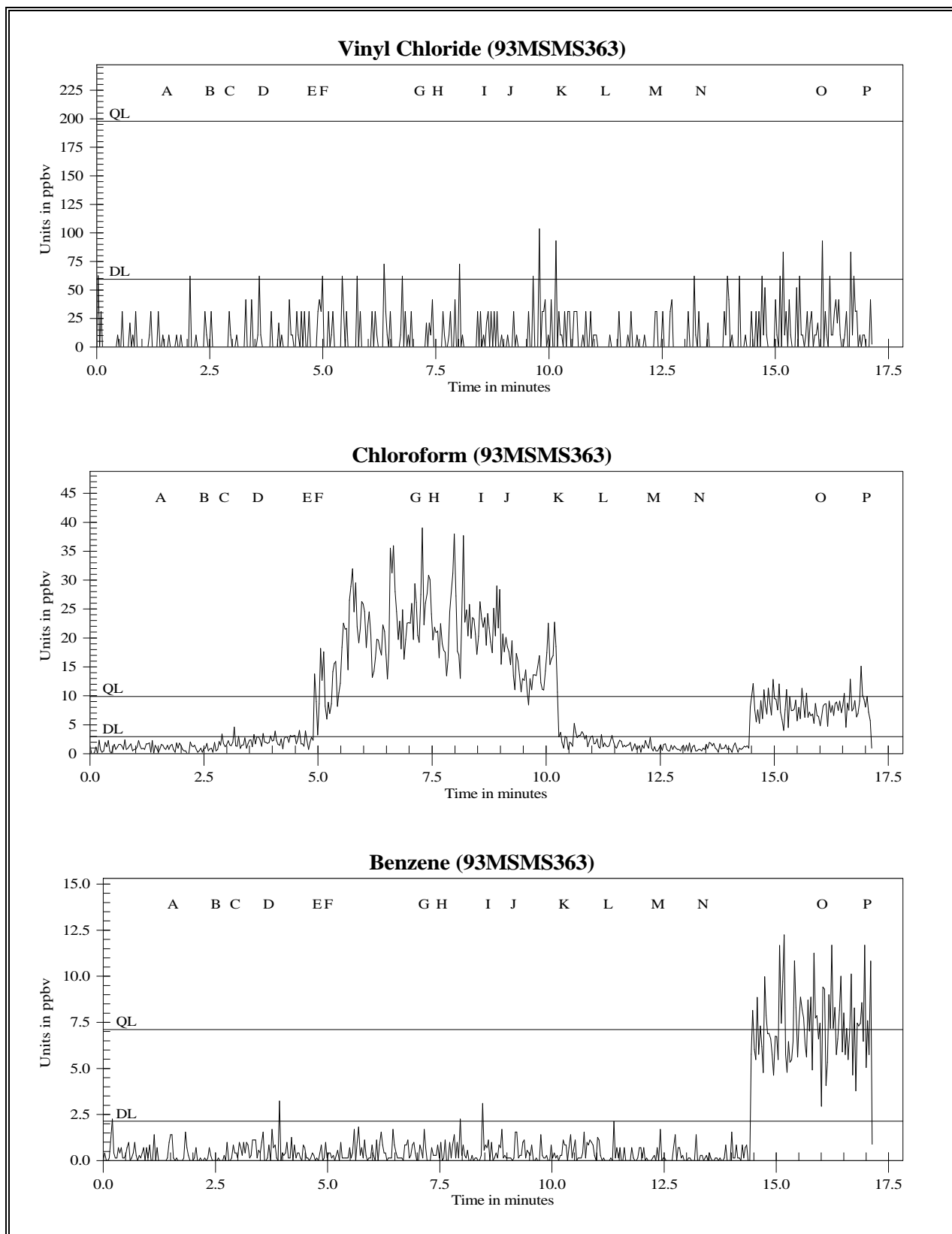


Figure 5c (continued) Unit 70 Investigation for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

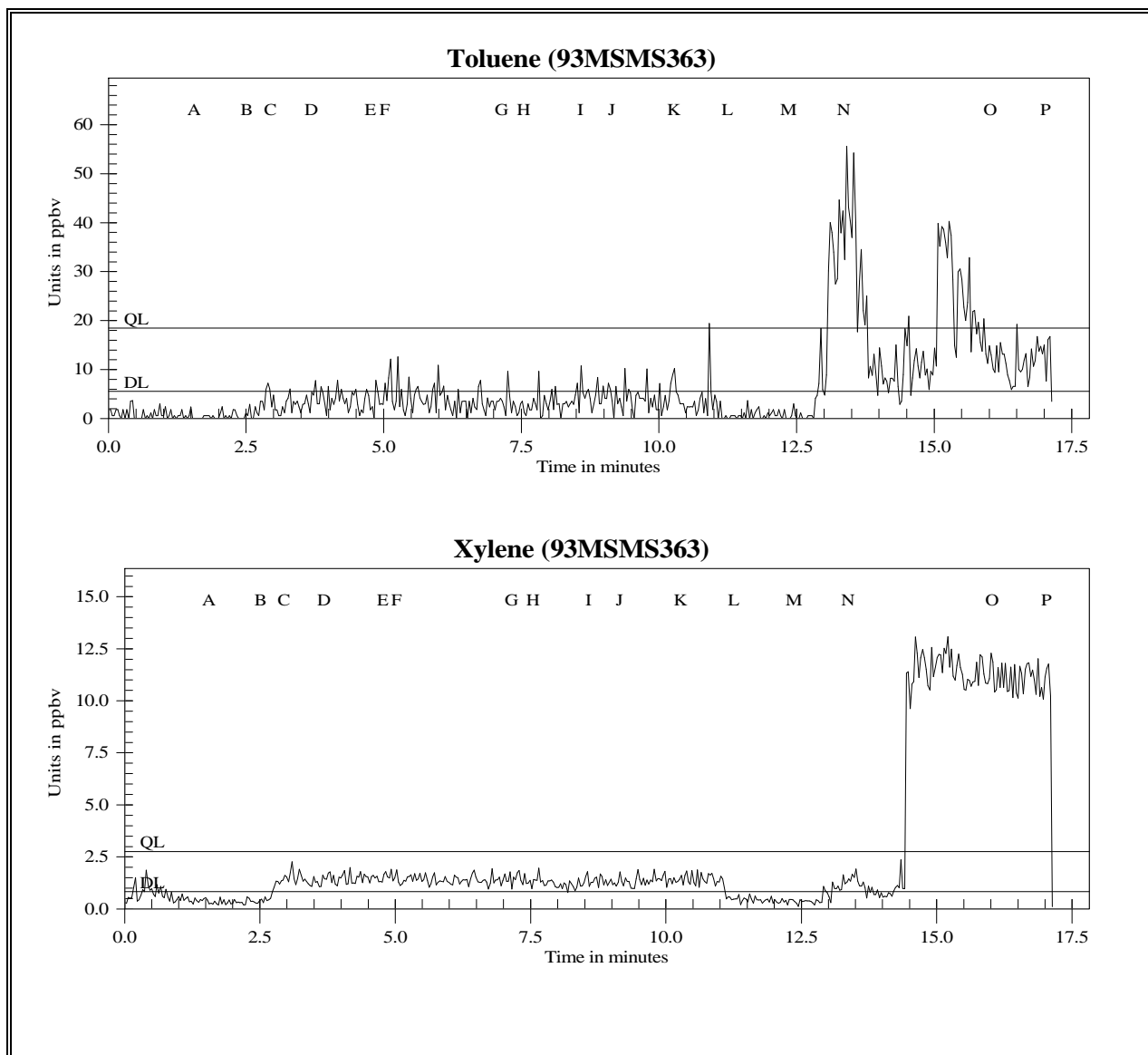


Figure 5c (continued) Unit 70 Investigation for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

Figure 5d

TAGA Target Compound Summary for Unit 70 Investigation File: 93MSMS363 Acquired on 01 October 2014 at 13:48:33									
		Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
Detection Limits - DL:		0.15	0.12	0.14	59.	3.0	2.1	5.5	0.83
Quantitation Limits - QL:		0.51	0.41	0.47	200	9.9	7.1	18.	2.8
Flags	Description	Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
A - B	Pre-entry ambient	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	DL=0.83
D - E	Kitchen	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	1.5J
F - G	Cold water running in sink	DL=0.15	DL=0.12	DL=0.14	DL=59.	19.	DL=2.1	DL=5.5	1.4J
H - I	Hot water and cold water running in sink	DL=0.15	DL=0.12	DL=0.14	DL=59.	23.	DL=2.1	DL=5.5	1.2J
J - K	Cold water running in sink	DL=0.15	DL=0.12	DL=0.14	DL=59.	15.	DL=2.1	DL=5.5	1.4J
M - N	Post-exit ambient	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	8.2J	DL=0.83
O - P	30 mL/min spike	6.7	6.6	7.0	DL=59.	8.1J	7.2	12.J	11.

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

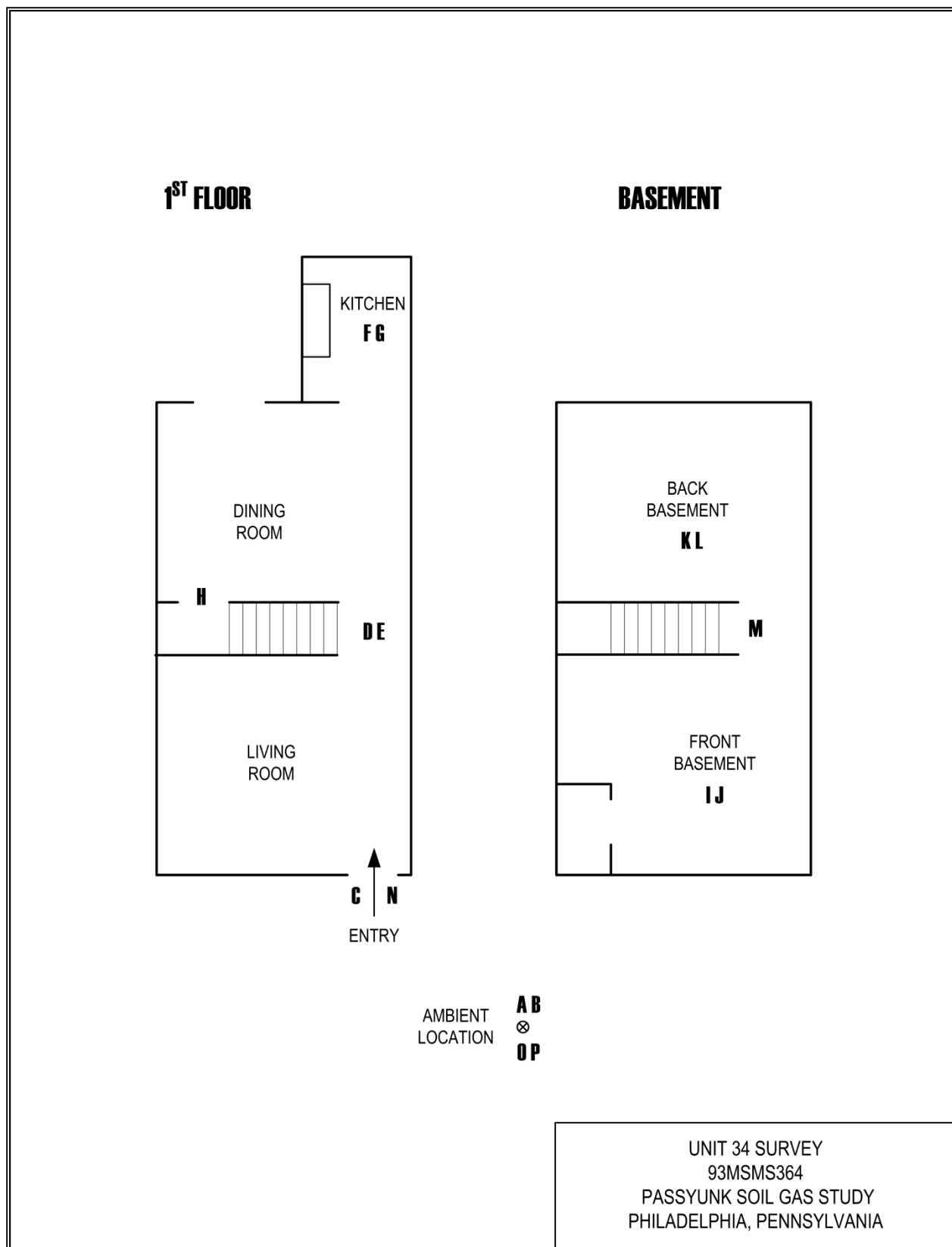


Figure 6a Unit 34 Floor Plan, 93MSMS364

Figure 6b

TAGA File Event Summary File: 93MSMS364 Acquired on 01 October 2014 at 14:08:31 Title: Unit 34 Survey			
Flag	Offset Time	Offset Sequence	Description
A	1.4	44	Start of the pre-entry ambient
B	2.4	73	End of the pre-entry ambient
C	5.0	151	Entering the unit
D	5.6	170	Start of the living room/dining room
E	6.7	203	End of the living room/dining room
F	7.2	217	Start of the kitchen
G	8.3	249	End of the kitchen
H	9.5	285	Descending the stairs to the basement
I	10.3	310	Start of the front basement
J	11.2	337	End of the front basement
K	11.4	344	Start of the back basement
L	12.4	375	End of the back basement
M	12.7	382	Ascending the stairs from the basement
N	13.9	419	Exiting the unit
O	15.1	454	Start of the post-exit ambient
P	16.1	485	End of the post-exit ambient
Q	18.1	546	Start of 30 mL/min spike
R	19.1	575	End of 30 mL/min spike

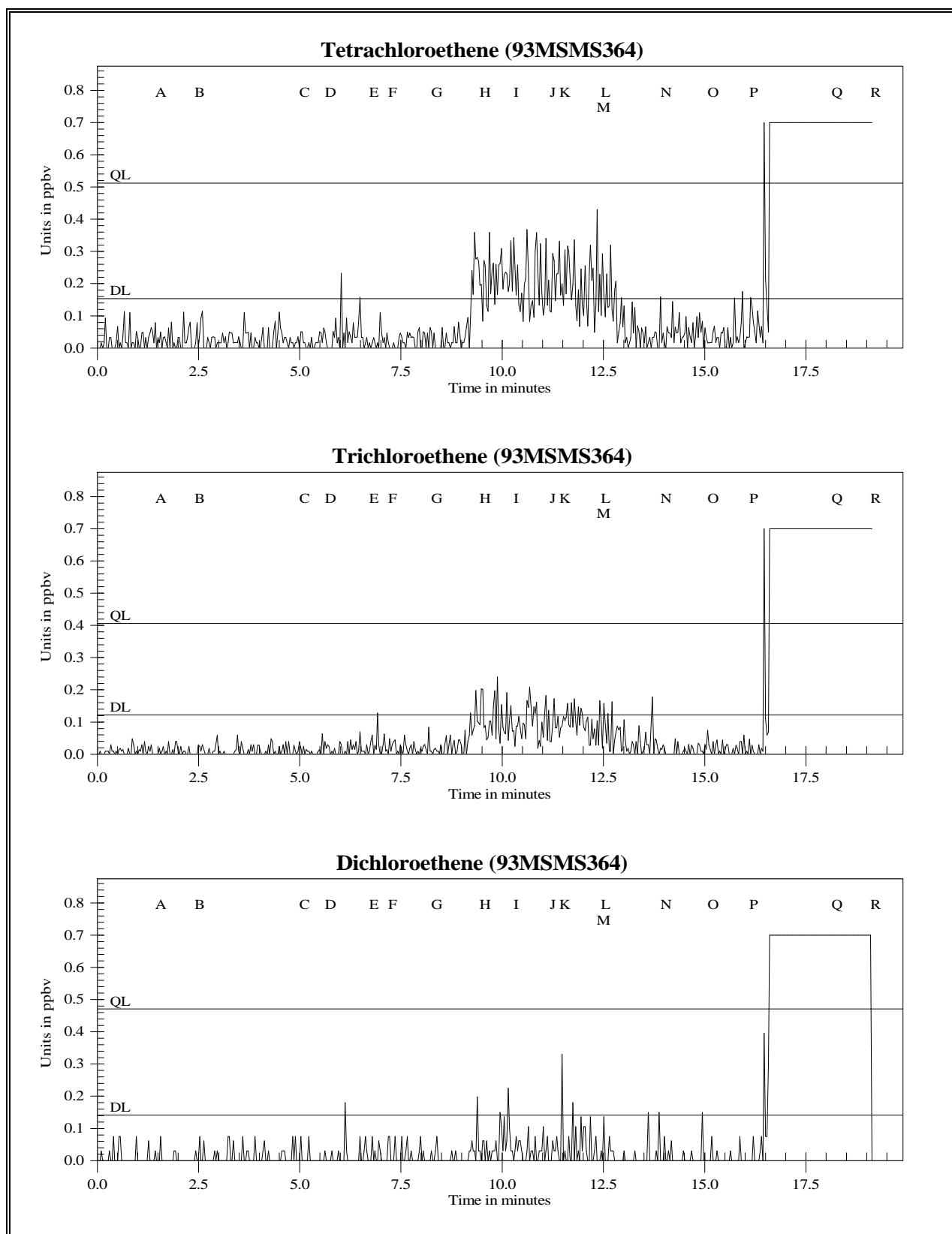


Figure 6c Unit 34 Survey for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

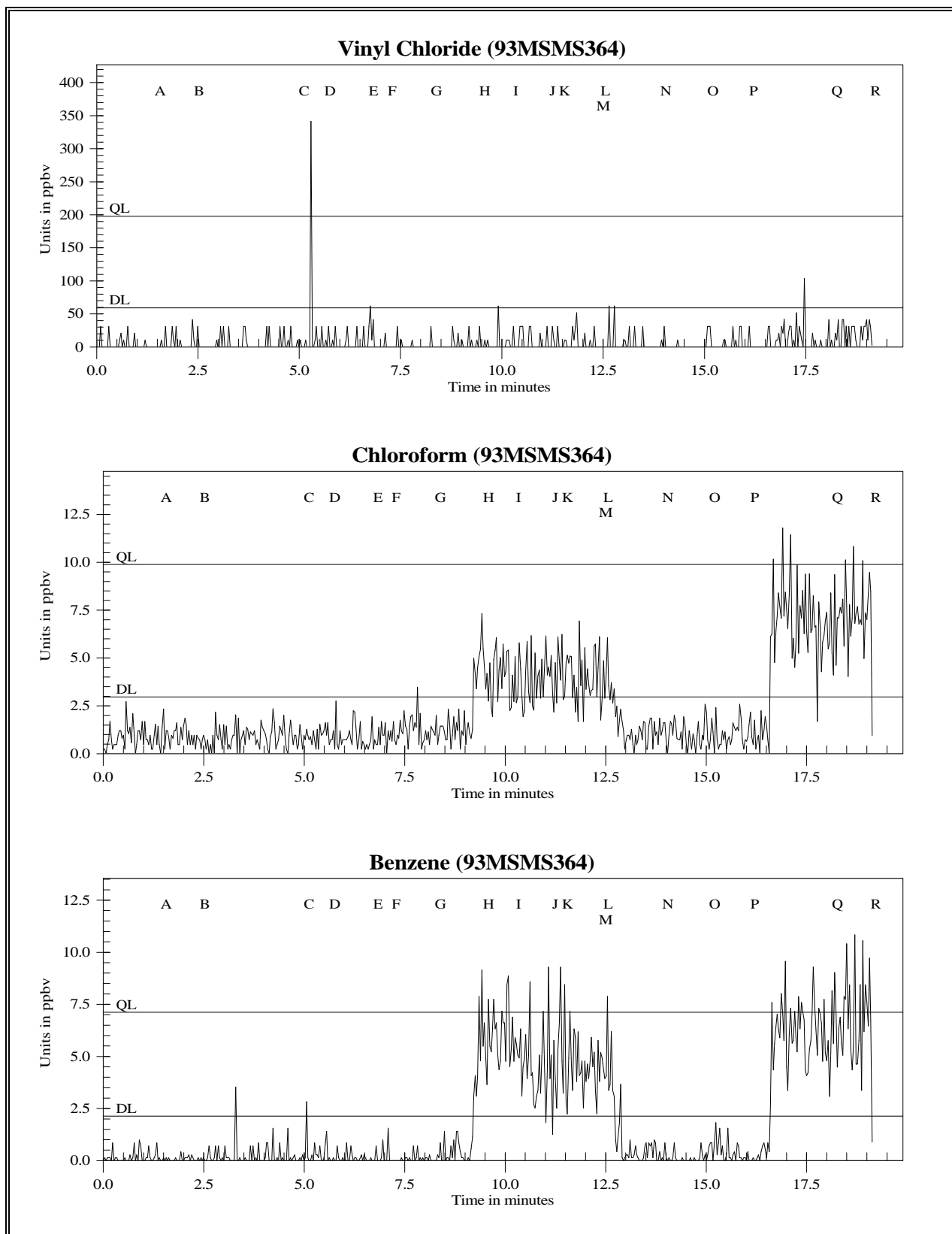


Figure 6c (continued) Unit 34 Survey for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

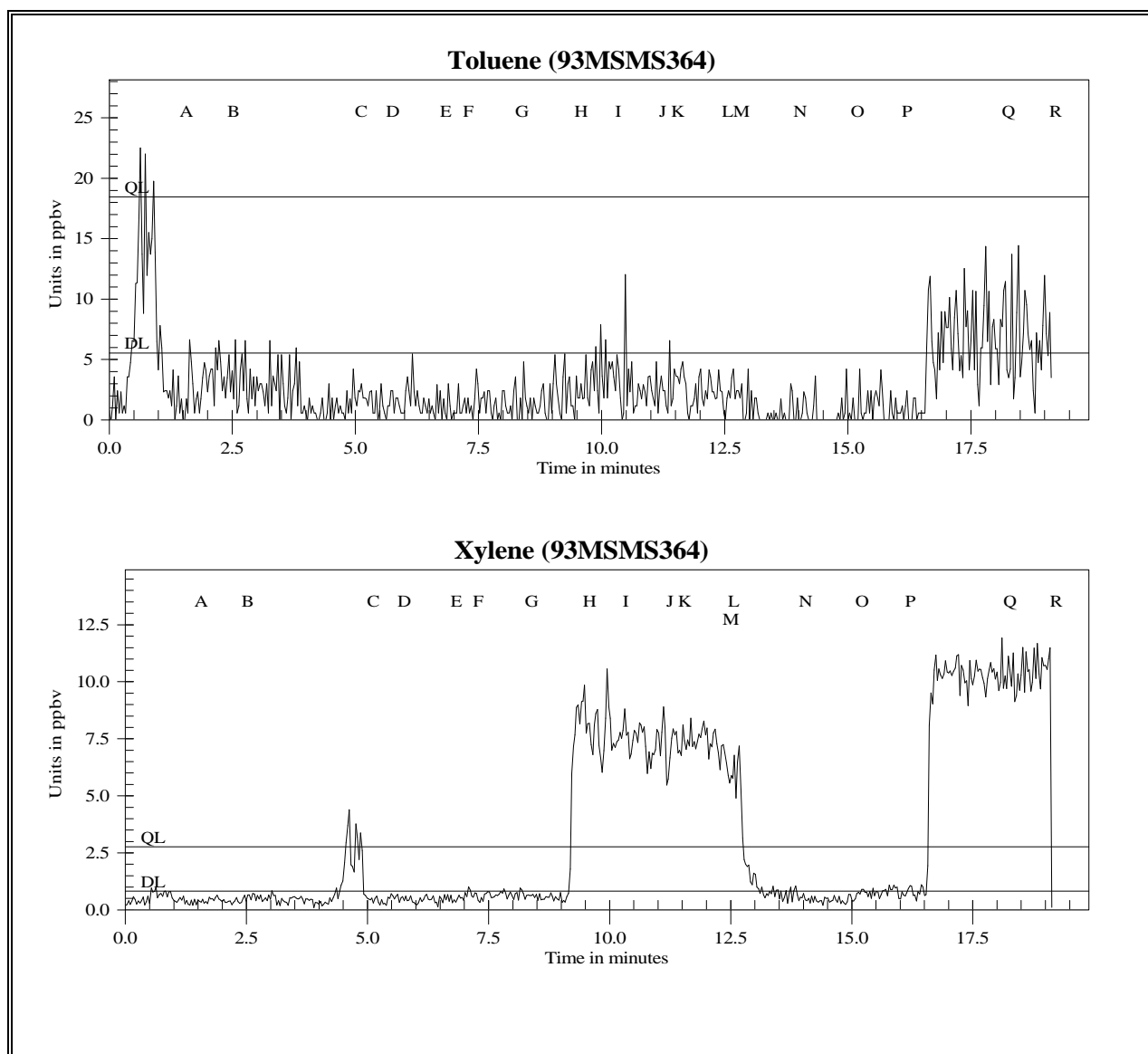


Figure 6c (continued) Unit 34 Survey for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

Figure 6d

TAGA Target Compound Summary for Unit 34 Survey File: 93MSMS364 Acquired on 01 October 2014 at 14:08:31									
		Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
Detection Limits - DL:		0.15	0.12	0.14	59.	3.0	2.1	5.5	0.83
Quantitation Limits - QL:		0.51	0.41	0.47	200	9.9	7.1	18.	2.8
Flags	Description	Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
A - B	Pre-entry ambient	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	DL=0.83
D - E	Living room/dining room	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	DL=0.83
F - G	Kitchen	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	DL=0.83
I - J	Front basement	0.20J	DL=0.12	DL=0.14	DL=59.	3.9J	4.6J	DL=5.5	7.4
K - L	Back basement	0.20J	DL=0.12	DL=0.14	DL=59.	4.0J	4.6J	DL=5.5	7.3
O - P	Post-exit ambient	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	DL=0.83
Q - R	30 mL/min spike	6.5	6.4	6.7	DL=59.	7.3J	6.9J	6.9J	10.

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

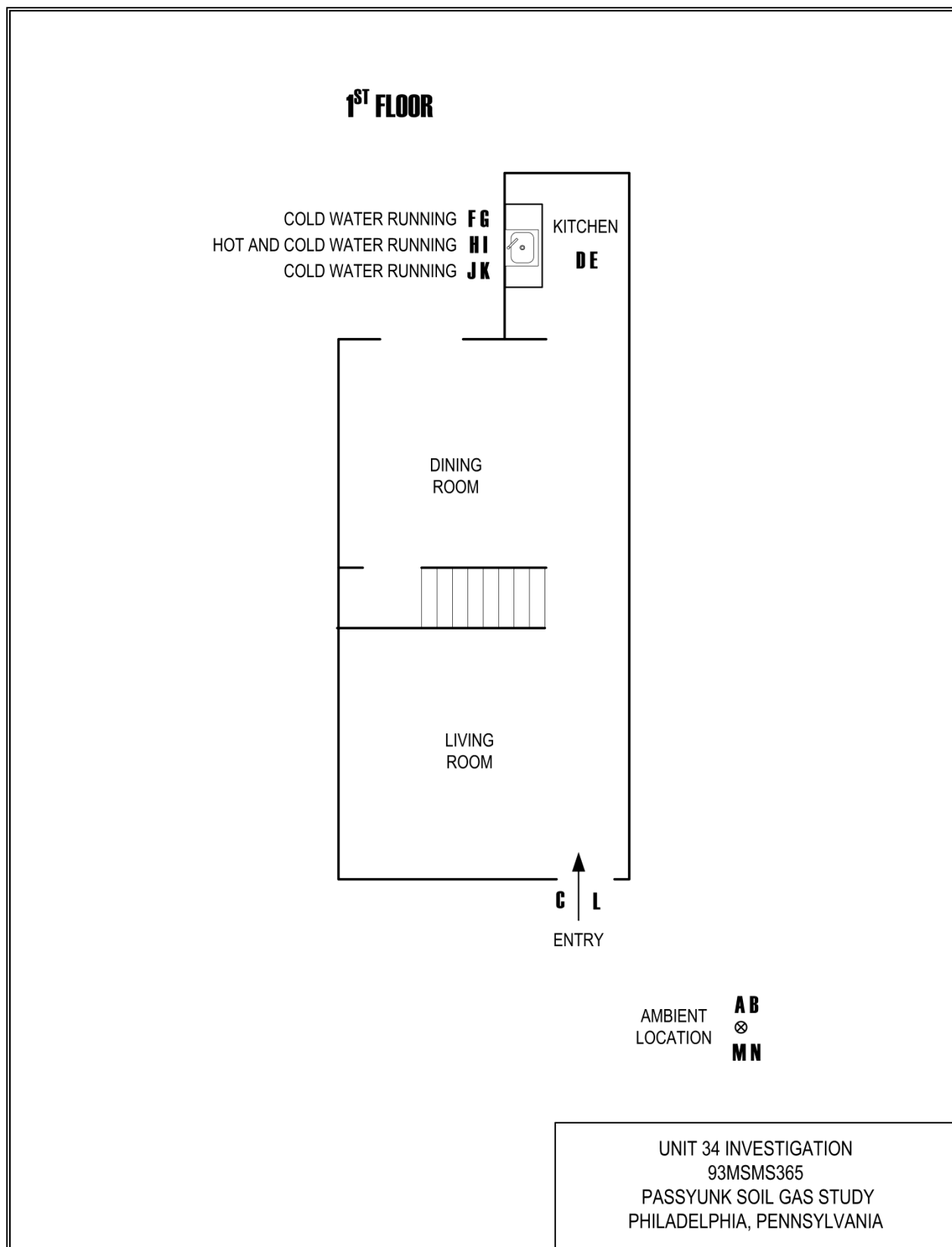


Figure 7a Unit 34 Floor Plan, 93MSMS365

Figure 7b

TAGA File Event Summary File: 93MSMS365 Acquired on 01 October 2014 at 14:30:00 Title: Unit 34 Investigation			
Flag	Offset Time	Offset Sequence	Description
A	1.4	44	Start of the pre-entry ambient
B	2.4	74	End of the pre-entry ambient
C	4.5	137	Entering the unit
D	5.0	152	Start of the kitchen
E	6.1	183	End of the kitchen
F	6.5	196	Start of the cold water running in sink
G	8.8	265	End of the cold water running in sink
H	9.0	271	Start of the hot water and cold water running in sink
I	10.5	318	End of the hot water and cold water running in sink
J	10.9	329	Start of the cold water running in sink
K	11.9	360	End of the cold water running in sink
L	13.0	391	Exiting the unit
M	13.5	408	Start of the post-exit ambient
N	14.6	440	End of the post-exit ambient
O	17.7	534	Start of 30 mL/min spike
P	18.7	564	End of 30 mL/min spike

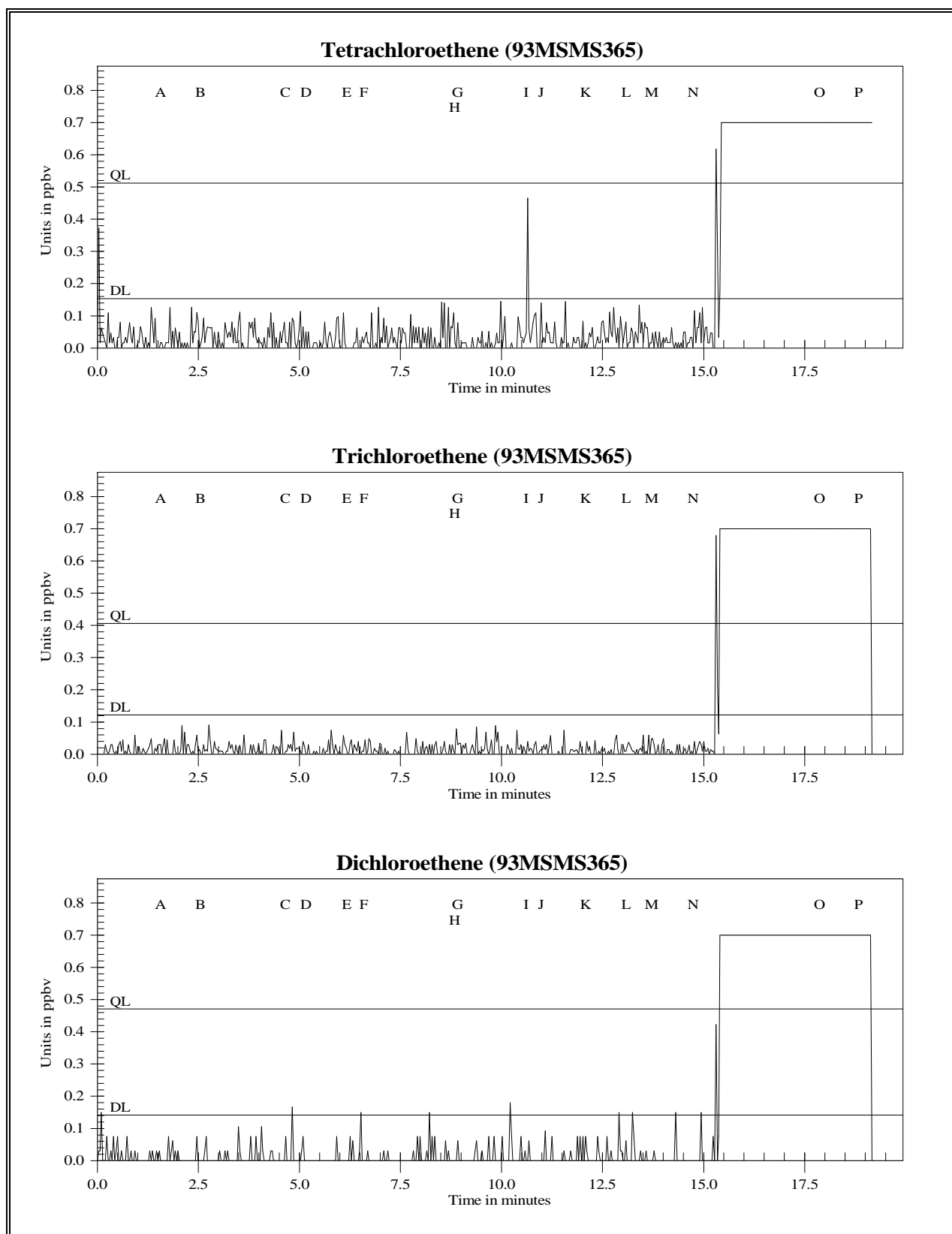


Figure 7c Unit 34 Investigation for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

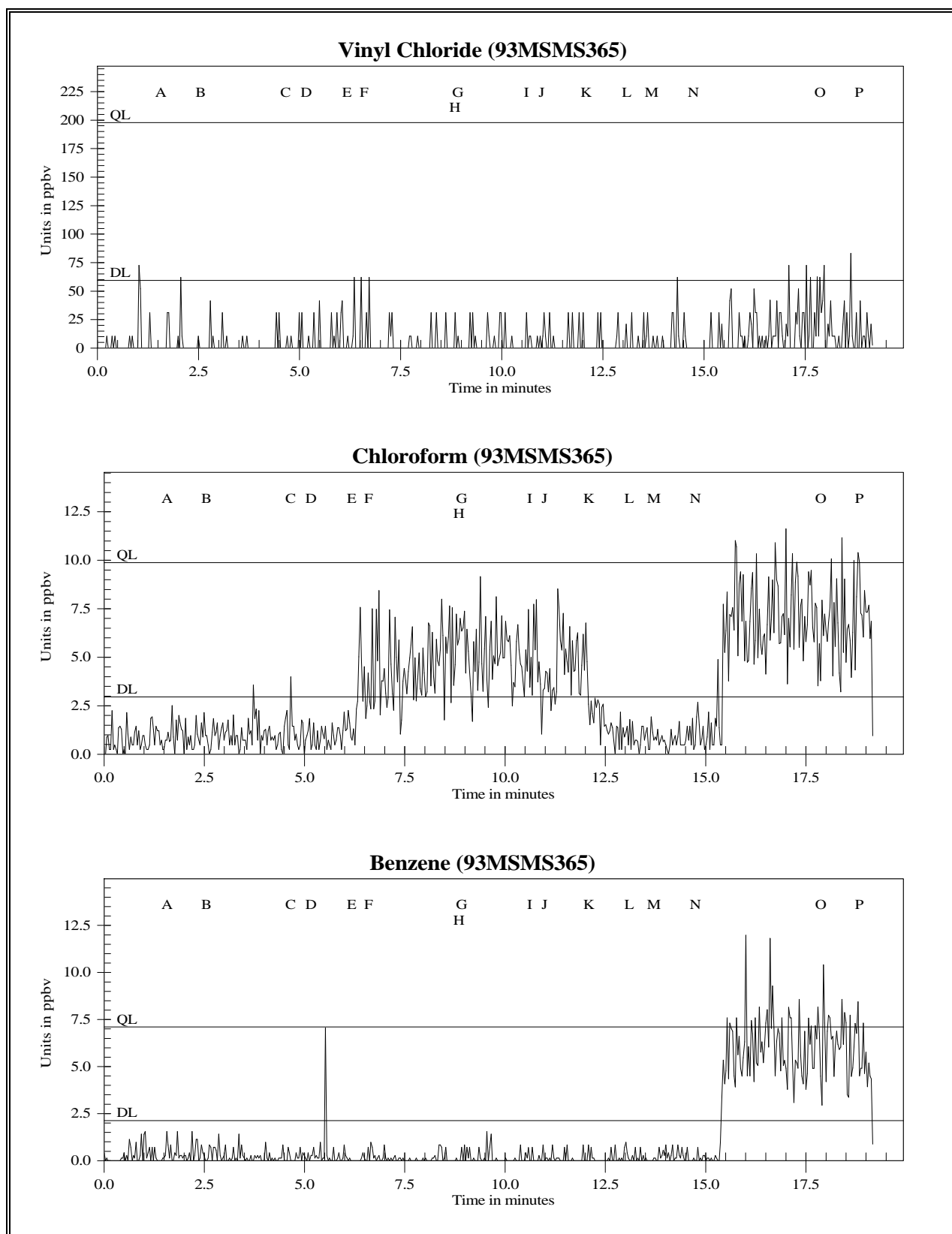


Figure 7c (continued) Unit 34 Investigation for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

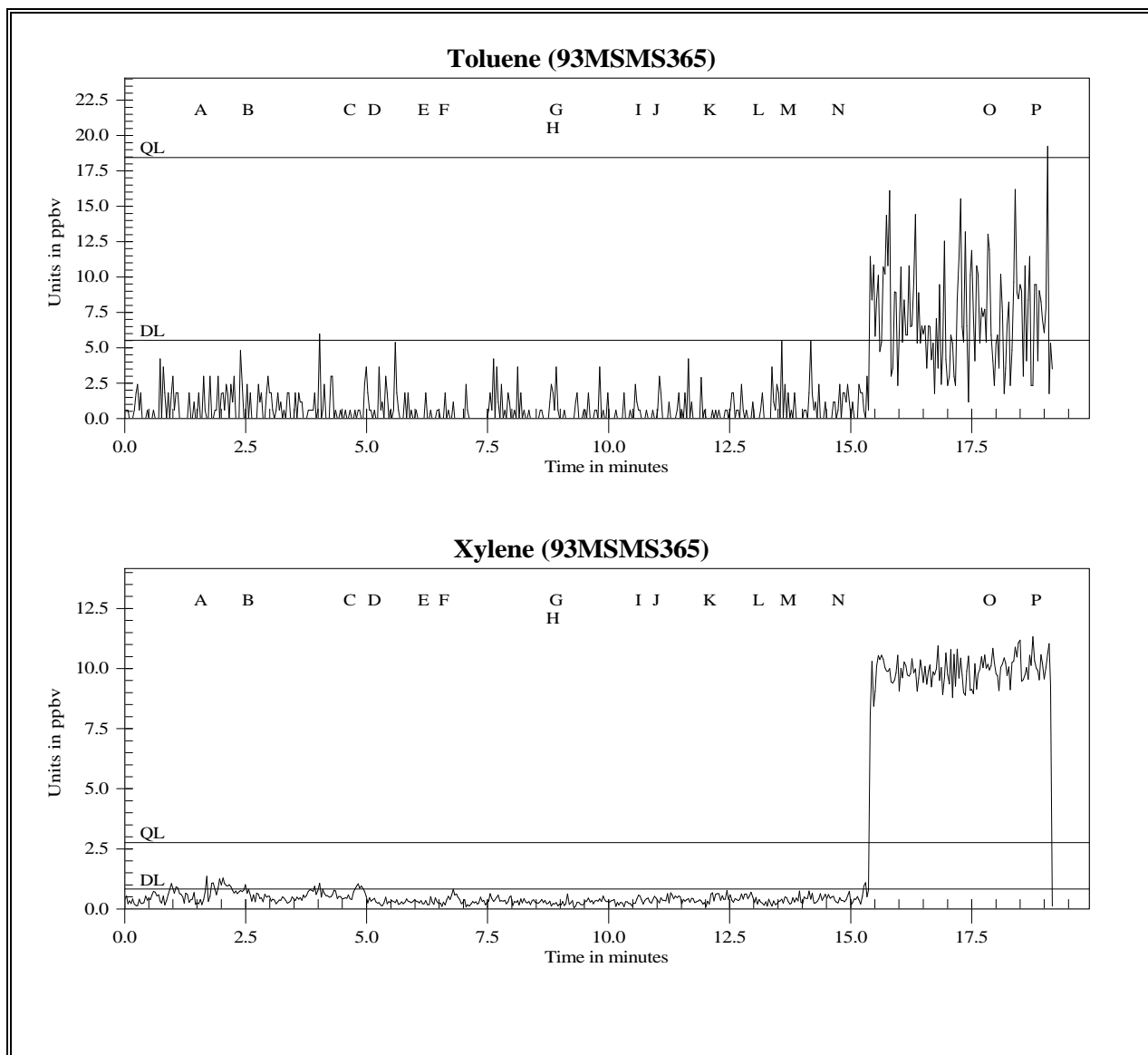


Figure 7c (continued) Unit 34 Investigation for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

Figure 7d

TAGA Target Compound Summary for Unit 34 Investigation File: 93MSMS365 Acquired on 01 October 2014 at 14:30:00									
		Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
Detection Limits - DL:		0.15	0.12	0.14	59.	3.0	2.1	5.5	0.83
Quantitation Limits - QL:		0.51	0.41	0.47	200	9.9	7.1	18.	2.8
Flags	Description	Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
A - B	Pre-entry ambient	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	DL=0.83
D - E	Kitchen	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	DL=0.83
F - G	Cold water running in sink	DL=0.15	DL=0.12	DL=0.14	DL=59.	4.5J	DL=2.1	DL=5.5	DL=0.83
H - I	Hot water and cold water running in sink	DL=0.15	DL=0.12	DL=0.14	DL=59.	5.0J	DL=2.1	DL=5.5	DL=0.83
J - K	Cold water running in sink	DL=0.15	DL=0.12	DL=0.14	DL=59.	4.5J	DL=2.1	DL=5.5	DL=0.83
M - N	Post-exit ambient	DL=0.15	DL=0.12	DL=0.14	DL=59.	DL=3.0	DL=2.1	DL=5.5	DL=0.83
O - P	30 mL/min spike	6.4	6.2	6.3	DL=59.	6.5J	6.3J	7.1J	10.

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

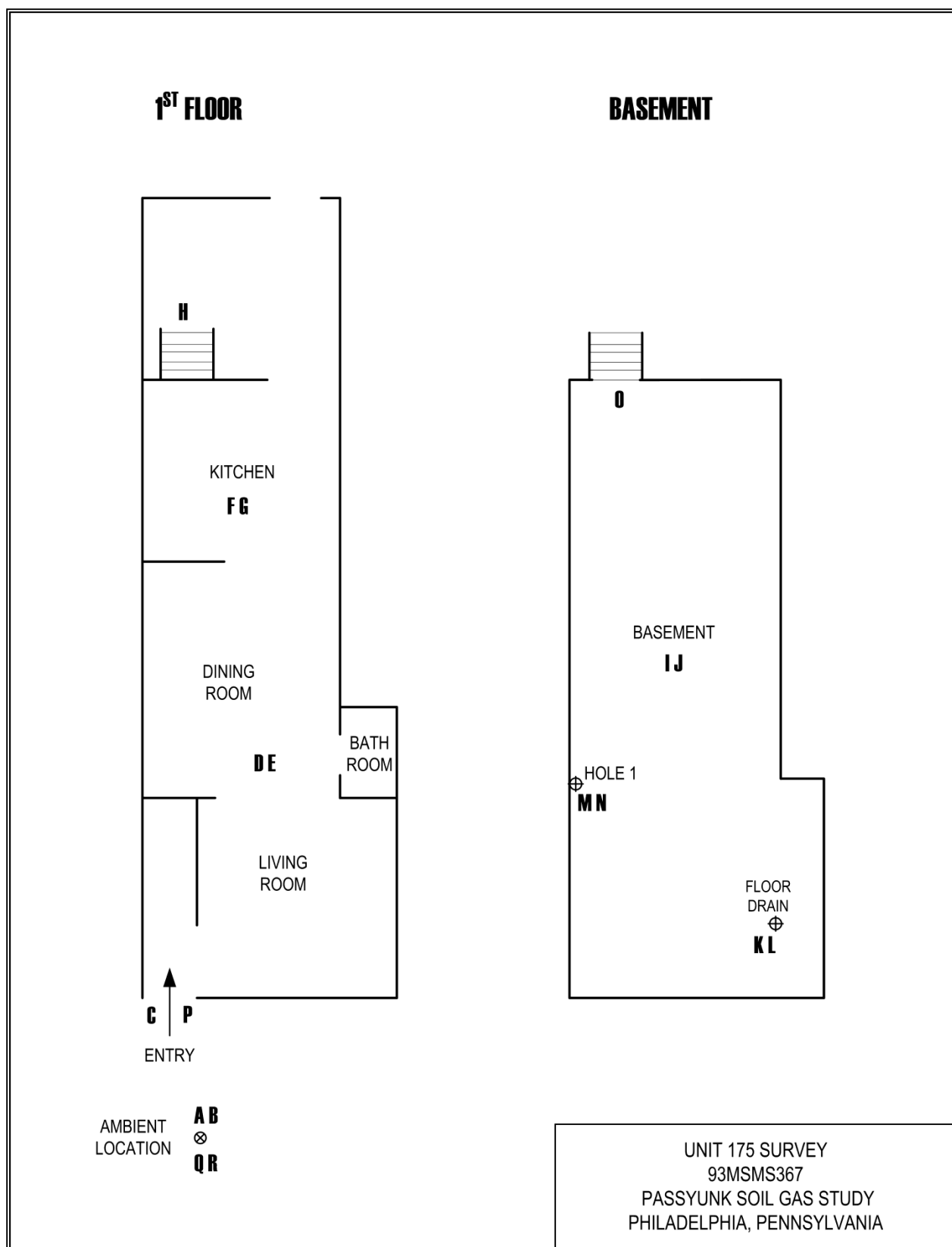


Figure 8a Unit 175 Floor Plan, 93MSMS367

Figure 8b

TAGA File Event Summary File: 93MSMS367 Acquired on 01 October 2014 at 16:20:39 Title: Unit 175 Survey			
Flag	Offset Time	Offset Sequence	Description
A	1.4	44	Start of the pre-entry ambient
B	2.4	74	End of the pre-entry ambient
C	3.2	98	Entering the unit
D	3.8	115	Start of the living room/dining room
E	4.9	148	End of the living room/dining room
F	5.4	164	Start of the kitchen
G	6.5	196	End of the kitchen
H	6.9	209	Descending the stairs to the basement
I	8.2	248	Start of the basement
J	9.4	283	End of the basement
K	10.1	306	Start of the floor drain
L	11.2	337	End of the floor drain
M	12.1	366	Start of hole one
N	13.2	398	End of hole one
O	15.2	458	Ascending the stairs from the basement
P	16.3	490	Exiting the unit
Q	18.2	548	Start of the post-exit ambient
R	19.2	578	End of the post-exit ambient
S	20.9	630	Start of 30 mL/min spike
T	21.9	660	End of 30 mL/min spike

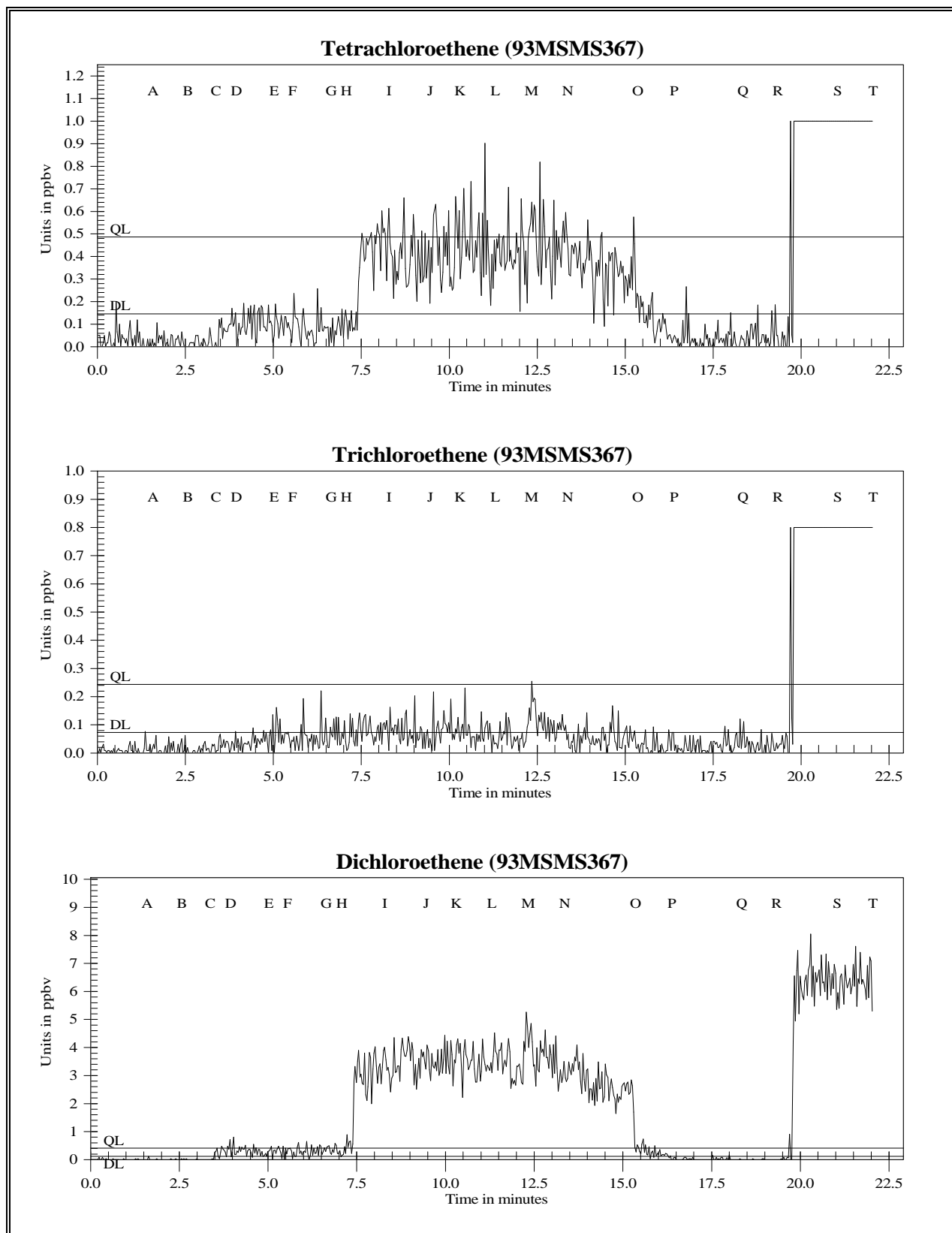


Figure 8c Unit 175 Survey for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

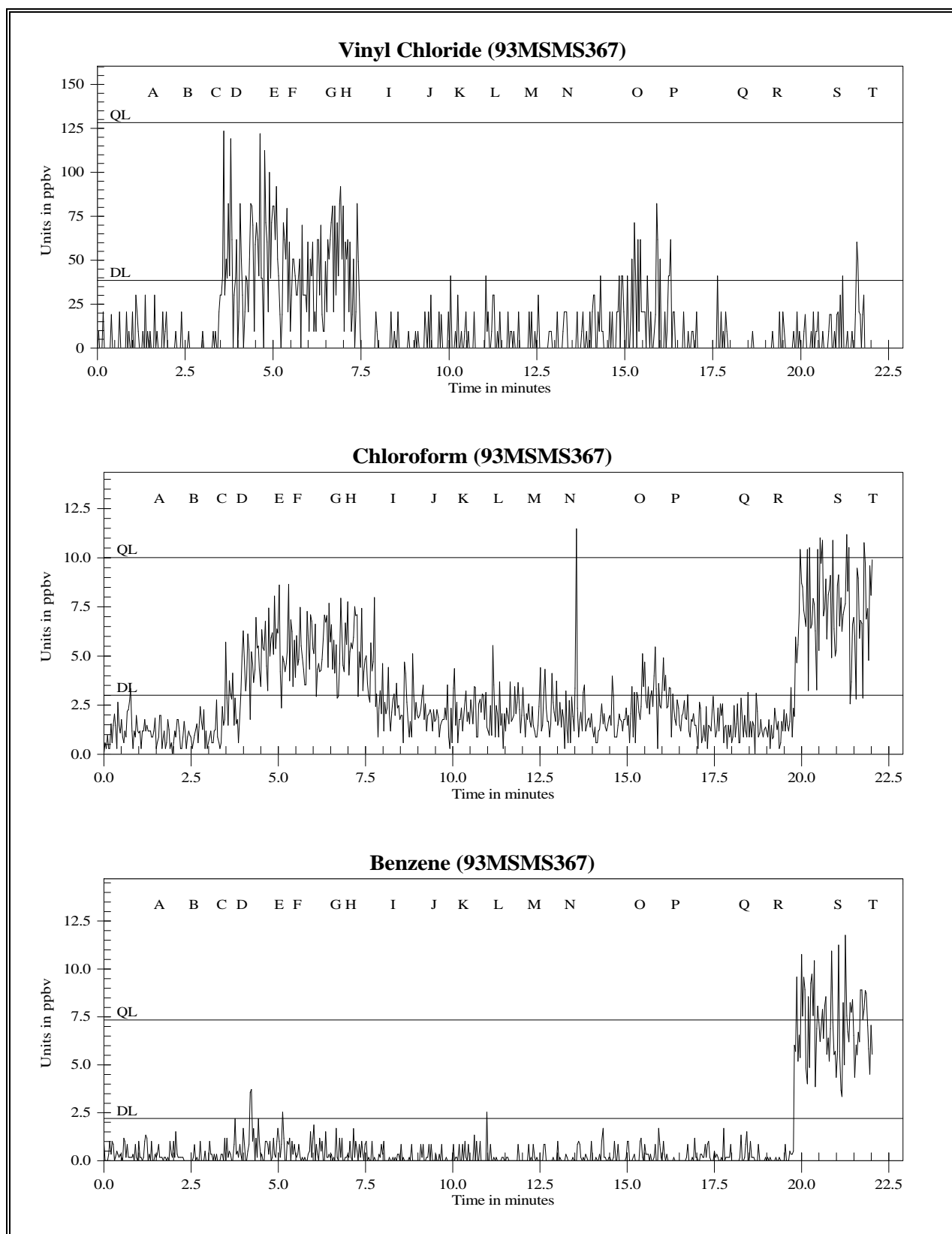


Figure 8c (continued) Unit 175 Survey for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

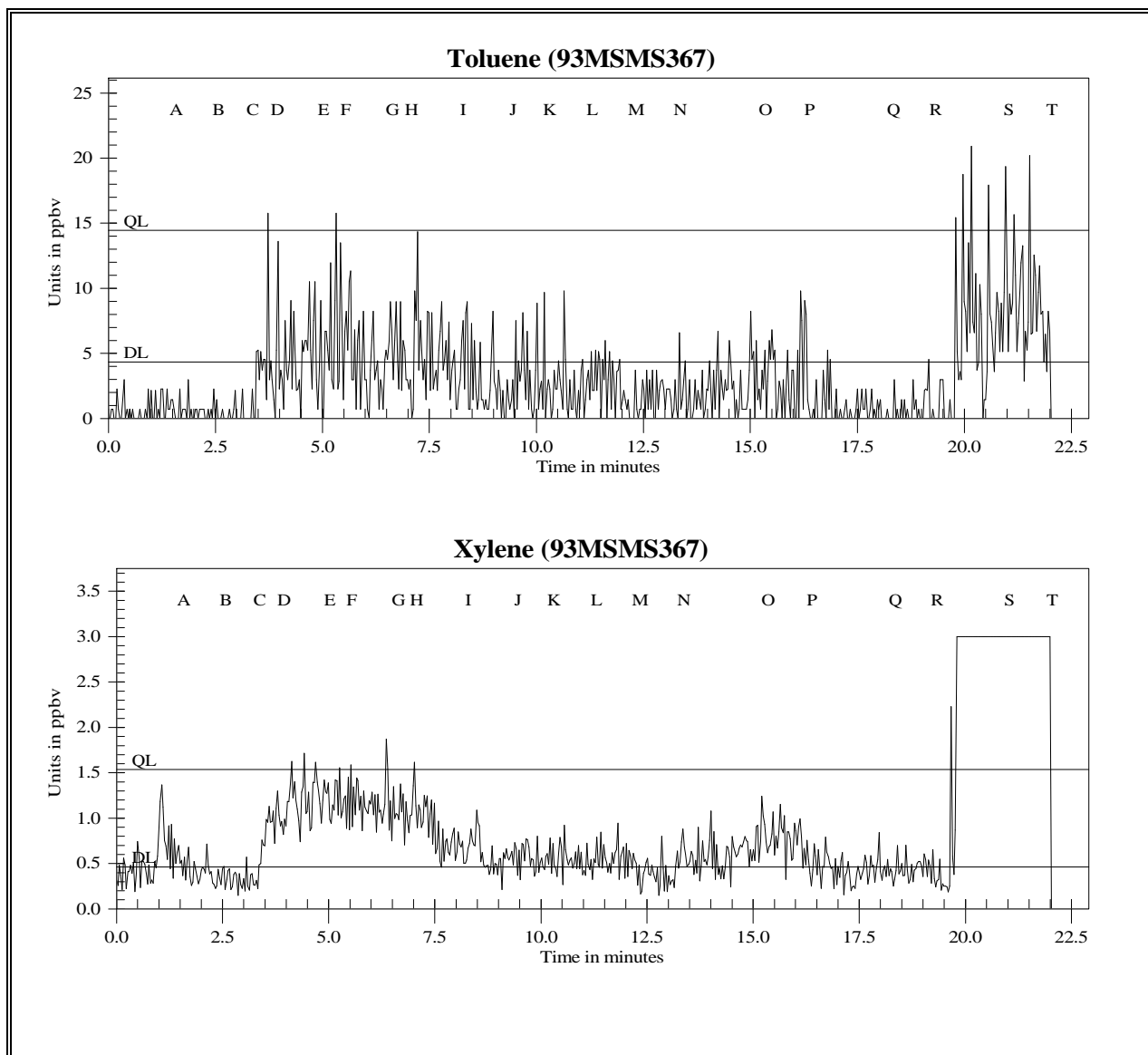


Figure 8c (continued) Unit 175 Survey for Tetrachloroethene, Trichloroethene, total-Dichloroethene, Vinyl Chloride, Chloroform, Benzene, Toluene, and total Xylenes.

Figure 8d

TAGA Target Compound Summary for Unit 175 Survey File: 93MSMS367 Acquired on 01 October 2014 at 16:20:39									
		Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
Detection Limits - DL:		0.15	0.073	0.12	38.	3.0	2.2	4.3	0.46
Quantitation Limits - QL:		0.49	0.24	0.41	130	10.	7.3	14.	1.5
Flags	Description	Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	Chloroform	Benzene	Toluene	Xylene
A - B	Pre-entry ambient	DL=0.15	DL=0.073	DL=0.12	DL=38.	DL=3.0	DL=2.2	DL=4.3	DL=0.46
D - E	Living room/dining room	DL=0.15	DL=0.073	0.32J	50.J	4.6J	DL=2.2	4.6J	1.2J
F - G	Kitchen	DL=0.15	DL=0.073	0.30J	DL=38.	5.3J	DL=2.2	4.7J	1.2J
I - J	Basement	0.39J	0.075J	3.5	DL=38.	DL=3.0	DL=2.2	DL=4.3	0.60J
K - L	Floor drain	0.46J	0.076J	3.5	DL=38.	DL=3.0	DL=2.2	DL=4.3	0.55J
M - N	Hole one	0.45J	0.11J	3.7	DL=38.	DL=3.0	DL=2.2	DL=4.3	DL=0.46
Q - R	Post-exit ambient	DL=0.15	DL=0.073	DL=0.12	DL=38.	DL=3.0	DL=2.2	DL=4.3	DL=0.46
S - T	30 mL/min spike	5.7	6.2	6.3	DL=38.	7.0J	6.9J	9.2J	10.

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

APPENDIX A

Standard Gas Cylinder Certification

Passyunk Soil Gas Site

Final Analytical TAGA Report

October 2014

THE LINDE GROUP



SHIPPED TO: Lockheed Martin
2890 Woodbridge Ave.
Edison, NJ 08837-3679

PAGE: 1 of 1

CERTIFICATE OF ANALYSIS

Sales#:	111074597	Cylinder Size:	2A (8" X 47.5")
Production#:	1278990	Cylinder #:	CC-128284
Certification Date:	Nov-22-2013	Cylinder Pressure:	2000 psig
P.O.# :	Scott Thompson	Cylinder Valve:	CGA 350 / Steel
Blend Type:	CERTIFIED	Cylinder Volume:	29.5 Liter
Material#:	24086389	Cylinder Material:	Aluminum
Traceability:	NIST by weight	Gas Volume:	4000 Liter
Expiration Date:	Nov-22-2014	Blend Tolerance:	5% Relative
Do NOT use under:	150 psig	Analytical Accuracy:	2% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	CERTIFIED CONC
Chloroform	67-66-3	20.0 ppm	20.6 ppm
Nitrogen	7727-37-9	Balance	Balance

ANALYST: 
Lou Lorenzetti

DATE: Nov-22-2013

APPENDIX B

Compiled Meteorological Data

Passyunk Soil Gas Site

Final Analytical TAGA Report

October 2014

**Local Climatological Data – Hourly Observations Table
Philadelphia International Airport (13739)**

Elevation: 10 ft. above sea level

Latitude: 39.868

Longitude: -75.231

01 October 2014

Date	Time (LST)	Dry Bulb Temperature (F)	Dew Point Temperature (F)	Relative Humidity (%)	Wind Speed (MPH)	Wind Direction (deg.)	Station Pressure (in. Hg)	Precipitation Total (inches)
10/01/2014	5:54	64	58	81	9	50	29.96	
10/01/2014	6:54	64	58	81	6	60	29.98	
10/01/2014	7:54	66	58	76	8	40	29.99	
10/01/2014	8:18	66	58	76	7	50	30.00	
10/01/2014	8:54	67	57	70	8	70	30.01	
10/01/2014	9:54	69	57	66	9	70	30.02	
10/01/2014	10:38	69	57	66	7	70	30.02	
10/01/2014	10:54	71	57	61	10	80	30.02	
10/01/2014	11:54	71	57	61	10	40	30.00	
10/01/2014	12:54	72	57	59	7	60	29.98	
10/01/2014	13:54	73	57	57	8	60	29.98	
10/01/2014	14:54	71	57	61	9	60	29.98	
10/01/2014	15:54	71	57	61	10	50	29.98	
10/01/2014	16:54	70	58	66	8	60	29.99	
10/01/2014	17:54	66	57	73	8	70	30.01	
10/01/2014	18:54	67	57	70	9	70	30.02	

Wind direction is the direction from which the wind is blowing.

LST = Local standard time

F = Fahrenheit

% = Percent

MPH = Miles per hour

deg = degree

in. Hg = inches of mercury