LORD

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Mr. David P. Turner, RPM (3HS22)
Western PA Section
United States Environmental Protection Agency, Region 3
1650 Arch Street
Philadelphia, PA 19103-2029

August 10, 2012

Reference: LORD-Shope RA Monthly Progress Report

Dear Mr. Turner:

LORD is hereby submitting two copies of the monthly progress report for the period of July 1, 2012 through July 31, 2012.

The following work was conducted during this period:

REMEDIAL ACTION

NPDES Report:

The July report will be submitted under a separate cover.

Thermal Oxidizer:

The thermal oxidizer was shut down for the year as planned, on October 26, 2011. Startup of ISVS was April 24, 2012. As planned, ISVS was shut down again on May 30 and restarted June 27, 2012. ISVS was shut down as planned on August 1, 2012. ISVS influent was 294.8 ppm and the removal efficiency was 99.9%.

Groundwater Treatment:

The groundwater treatment system was operating normally during this interim. The groundwater TOC effluent concentration was 1.5 mg/l.

Sincerely,

LORD Corporation

George M. Kickel
Director, Environment, Safety, Health, and Regulatory Compliance

GMK12018/cmf

cc: (b) (4) [redacted] ARCADIS, Inc.
John Morettini, PADEP

Test America List	May-12		Jul-12		Sep-12	
	Influent ppb(v)	Effluent ppb(v)	Influent ppb(v)	Effluent ppb(v)	Influent ppb(v)	Effluent ppb(v)
Ethylbenzene	ND	ND	ND	0.36		
Styrene	ND	ND	ND	ND		
cis-1,3-Dichloropropene	ND	ND	ND	ND		
trans-1,3-Dichloropropene	ND	ND	ND	ND		
1,4-Dichlorobenzene	ND	ND	ND	0.15		
1,2-Dibromoethane (EDB)	ND	ND	ND	ND		
1,3-Butadiene	ND	ND	ND	ND		
Acrolein	ND	ND	ND	1.5		
3-Chloropropene	ND	ND	ND	ND		
1,2-Dichloroethane	ND	ND	ND	ND		
Acrylonitrile	ND	ND	ND	1.2		
Vinyl acetate	ND	ND	ND	ND		
4-Methyl-2-pentanone (MIBK)	ND	ND	ND	3.9		
1,3,5-Trimethylbenzene	ND	ND	ND	1.5		
Toluene	510	1.2	ND	1.5		
Chlorobenzene	ND	ND	ND	ND		
Pentane	ND	ND	ND	0.34		
n-Hexane	760	1	ND	0.32		
n-Octane	ND	0.71	ND	ND		
Propene	3400	0.83	4100	0.49		
1,2,4-Trichlorobenzene	ND	ND	ND	ND		
1,4-Dioxane	ND	ND	ND	ND		
Dibromochloromethane	ND	ND	ND	ND		
Tetrachloroethene	5300	ND	6200	ND		
m-Xylene & p-Xylene	1300	ND	ND	1.9		
Ethyl acetate	ND	ND	ND	ND		
n-Heptane	ND	ND	ND	0.49		
cis-1,2-Dichloroethene	92000	ND	110000	0.23		
trans-1,2-Dichloroethene	ND	ND	ND	ND		
Methyl tert-butyl ether	ND	ND	ND	ND		
4-Bromofluorobenzene	107	108	102	105		
2,2,4-Trimethylpentane	ND	ND	ND	ND		
1,3-Dichlorobenzene	ND	ND	ND	ND		
Carbon tetrachloride	ND	ND	ND	0.092		
2-Hexanone	ND	ND	ND	3.5		
4-Ethyltoluene	ND	ND	ND	0.66		
Acetone	ND	ND	ND	43		
Chloroform	540	ND	610	0.44		
Benzene	ND	ND	ND	0.26		
1,1,1-Trichloroethane	450	ND	510	ND		
Bromomethane	ND	ND	ND	ND		
Chloromethane	ND	2.2	ND	1.6		
Dibromomethane	ND	ND	ND	ND		
Chloroethane	ND	ND	ND	ND		
Vinyl chloride	100000	ND	140000	0.33		
Acetonitrile	ND	ND	ND	ND		
Methylene chloride	1300	6	1900	0.38		
Carbon disulfide	ND	ND	ND	2.3		
Bromoform	ND	ND	ND	ND		
Bromodichloromethane	ND	ND	ND	ND		

1,1-Dichloroethane	490	ND	660	ND
1,1-Dichloroethene	820	ND	720	ND
Chlorodifluoromethane	ND	ND	ND	ND
tert-Butyl alcohol	ND	7.7	ND	44
Trichlorofluoromethane	ND	0.67	ND	0.089
Dichlorodifluoromethane	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluor	ND	ND	ND	ND
1,2-Dichloro-1,1,2,2-tetrafluo	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	ND	12
1,1,2-Trichloroethane	ND	ND	ND	ND
Trichloroethene	26000	ND	30000	0.14
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
Methyl methacrylate	ND	1	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
o-Xylene	880	ND	ND	0.81
1,2-Dichlorobenzene	ND	ND	ND	ND
1,2,4-Trimethylbenzene	ND	ND	ND	2.7
Cumene	ND	ND	ND	ND
alpha-Methylstyrene	ND	ND	ND	ND
Totals	233,857	129	294,802	231
		99.94%		99.92%

% Methane Influent	4	2.9

Oct-12

Influent ppb(v)	Effluent ppb(v)

H2G130475 Analytical Report **1**

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Total Number of Pages **269**

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

LORD Shope

Lot #: H2G130475

(b) (4) [redacted]

ARCADIS U.S., Inc.
284 Cramer Creek Court
Dublin, OH 43017

TESTAMERICA LABORATORIES, INC.

(b) (4) [redacted]

July 19, 2012

ANALYTICAL METHODS SUMMARY

H2G130475

PARAMETER	ANALYTICAL METHOD
Method for Analysis of Reformed Gas by GC	ASTM D 1946/E 260
Volatile Organics by TO15	EPA-2 TO-15

References:

ASTM Annual Book Of ASTM Standards.

EPA-2 "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999.

SAMPLE SUMMARY

H2G130475

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MVKXA	001	TOI/071112	07/11/12	12:3
MVKXG	002	TOE/071112	07/11/12	12:4

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H2G130475

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

Custody seals were not present.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

Volatiles

EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by TestAmerica Knoxville.

The EPA method requires that all target analytes in the continuing calibration verification standard be within 30% difference from the initial calibration. According to the laboratory standard operating procedure, the continuing calibration is acceptable if it meets the laboratory control sample acceptance criteria. Even though the calibration verification analyzed on 7/16/12 exhibited a % difference of > 30% for chloromethane and 1,3-butadiene, the results were within the LCS acceptance limits.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	ACLASS	DoD ELAP		ADE-1434
TestAmerica Knoxville	Arkansas	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Indiana	State Program	5	C-TN-02
TestAmerica Knoxville	Iowa	State Program	7	375
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana	NELAC	6	LA110001
TestAmerica Knoxville	Louisiana	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Minnesota	NELAC	5	047-999-429
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina	North Carolina DENR	4	64
TestAmerica Knoxville	North Carolina	North Carolina PHL	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	2014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-TX
TestAmerica Knoxville	USDA	USDA		P330-11-00035
TestAmerica Knoxville	Utah	NELAC	8	QUAN3
TestAmerica Knoxville	Virginia	State Program	3	165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia	West Virginia DEP	3	345
TestAmerica Knoxville	West Virginia	West Virginia DHHR (DW)	3	9955C
TestAmerica Knoxville	Wisconsin	State Program	5	998044300

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Data Summary

ARCADIS U.S., Inc.

Client Sample ID: TOI/071112

GC/MS Volatiles

Lot-Sample # H2G130475 - 001 **Work Order #** MVKXA1AA **Matrix.....:** AIR

Date Sampled...: 07/11/2012 **Date Received..:** 07/13/2012
Prep Date.....: 07/16/2012 **Analysis Date...** 07/16/2012
Prep Batch #.....: 2198129
Dilution Factor.: 12446.68 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
trans-1,3-Dichloropropene	ND	2500	ND	11000
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2500	ND	17000
Acetone	ND	62000	ND	150000
1,4-Dioxane	ND	6200	ND	22000
Ethyl acetate	ND	25000	ND	90000
Ethylbenzene	ND	2500	ND	11000
Trichlorofluoromethane	ND	2500	ND	14000
n-Heptane	ND	6200	ND	26000
Hexachlorobutadiene	ND	12000	ND	130000
n-Hexane	ND	6200	ND	22000
2-Hexanone	ND	6200	ND	25000
2,2,4-Trimethylpentane	ND	6200	ND	29000
Cumene	ND	5000	ND	24000
tert-Butyl alcohol	ND	25000	ND	75000
Methylene chloride	**1900 J B**	**6200**	**6700 J B**	**22000**
Methyl methacrylate	ND	6200	ND	25000
Benzene	ND	2500	ND	8000
Acetonitrile	ND	12000	ND	21000
n-Octane	ND	5000	ND	23000
Pentane	ND	12000	ND	37000
Styrene	ND	2500	ND	11000
1,1,2,2-Tetrachloroethane	ND	2500	ND	17000
Tetrachloroethene	**6200**	**2500**	**42000**	**17000**
Toluene	ND	2500	ND	9400
1,2,4-Trichlorobenzene	ND	12000	ND	92000
1,1,1-Trichloroethane	**510 J**	**2500**	**2800 J**	**14000**
1,1,2-Trichloroethane	ND	2500	ND	14000
Trichloroethene	**30000**	**2500**	**160000**	**13000**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2500	ND	19000
1,2,4-Trimethylbenzene	ND	2500	ND	12000
1,3,5-Trimethylbenzene	ND	2500	ND	12000
Vinyl acetate	ND	12000	ND	44000
Vinyl chloride	**140000**	**2500**	**350000**	**6400**
o-Xylene	ND	2500	ND	11000
Methyl tert-butyl ether	ND	12000	ND	45000
alpha-Methylstyrene	ND	5000	ND	24000
Chlorodifluoromethane	ND	2500	ND	8800

ARCADIS U.S., Inc.

Client Sample ID: TOI/071112

GC/MS Volatiles

Lot-Sample # H2G130475 - 001 **Work Order #** MVKXA1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
m-Xylene & p-Xylene	ND	2500	ND	11000
Bromodichloromethane	ND	2500	ND	17000
1,2-Dibromoethane (EDB)	ND	2500	ND	19000
2-Butanone (MEK)	ND	12000	ND	37000
4-Methyl-2-pentanone (MIBK)	ND	6200	ND	25000
Bromoform	ND	2500	ND	26000
Bromomethane	ND	2500	ND	9700
1,3-Butadiene	ND	5000	ND	11000
4-Ethyltoluene	ND	5000	ND	24000
Acrolein	ND	10000	ND	23000
Carbon disulfide	ND	6200	ND	19000
Acrylonitrile	ND	25000	ND	54000
Carbon tetrachloride	ND	2500	ND	16000
Chlorobenzene	ND	2500	ND	11000
Dibromochloromethane	ND	2500	ND	21000
Chloroethane	ND	2500	ND	6600
Chloroform	**610 J**	**2500**	**3000 J**	**12000**
Chloromethane	ND	6200	ND	13000
3-Chloropropene	ND	2500	ND	7800
Propene	**4100 J**	**6200**	**7000 J**	**11000**
Dibromomethane	ND	5000	ND	35000
1,2-Dichlorobenzene	ND	2500	ND	15000
1,3-Dichlorobenzene	ND	2500	ND	15000
1,4-Dichlorobenzene	ND	2500	ND	15000
Dichlorodifluoromethane	ND	2500	ND	12000
1,1-Dichloroethane	**660 J**	**2500**	**2700 J**	**10000**
1,2-Dichloroethane	ND	2500	ND	10000
1,1-Dichloroethene	**720 J**	**2500**	**2900 J**	**9900**
cis-1,2-Dichloroethene	**110000**	**2500**	**440000**	**9900**
trans-1,2-Dichloroethene	ND	2500	ND	9900
1,2-Dichloropropane	ND	2500	ND	12000
cis-1,3-Dichloropropene	ND	2500	ND	11000

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

ARCADIS U.S., Inc.

Client Sample ID: TOI/071112

GC/MS Volatiles

Lot-Sample #	H2G130475 - 001	**Work Order #**	MVKXA1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: TOE/071112

GC/MS Volatiles

Lot-Sample # H2G130475 - 002 **Work Order #** MVKXG1AA **Matrix.....:** AIR

Date Sampled...: 07/11/2012 **Date Received..:** 07/13/2012
Prep Date.....: 07/16/2012 **Analysis Date...** 07/17/2012
Prep Batch #.....: 2198129
Dilution Factor.: 1.56 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
trans-1,3-Dichloropropene	ND	0.31	ND	1.4
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.31	ND	2.2
Acetone	**43**	**7.8**	**100**	**19**
1,4-Dioxane	ND	0.78	ND	2.8
Ethyl acetate	ND	3.1	ND	11
Ethylbenzene	**0.36**	**0.31**	**1.6**	**1.4**
Trichlorofluoromethane	**0.089 J**	**0.31**	**0.50 J**	**1.8**
n-Heptane	**0.49 J**	**0.78**	**2.0 J**	**3.2**
Hexachlorobutadiene	ND	1.6	ND	17
n-Hexane	**0.32 J**	**0.78**	**1.1 J**	**2.7**
2-Hexanone	**3.5**	**0.78**	**14**	**3.2**
2,2,4-Trimethylpentane	ND	0.78	ND	3.6
Cumene	ND	0.62	ND	3.1
tert-Butyl alcohol	**44**	**3.1**	**130**	**9.5**
Methylene chloride	**0.38 J B**	**0.78**	**1.3 J B**	**2.7**
Methyl methacrylate	ND	0.78	ND	3.2
Benzene	**0.26 J**	**0.31**	**0.82 J**	**1.00**
Acetonitrile	ND	1.6	ND	2.6
n-Octane	ND	0.62	ND	2.9
Pentane	**0.34 J**	**1.6**	**1.0 J**	**4.6**
Styrene	ND	0.31	ND	1.3
1,1,2,2-Tetrachloroethane	ND	0.31	ND	2.1
Tetrachloroethene	ND	0.31	ND	2.1
Toluene	**1.5**	**0.31**	**5.6**	**1.2**
1,2,4-Trichlorobenzene	ND	1.6	ND	12
1,1,1-Trichloroethane	ND	0.31	ND	1.7
1,1,2-Trichloroethane	ND	0.31	ND	1.7
Trichloroethene	**0.14 J**	**0.31**	**0.76 J**	**1.7**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.31	ND	2.4
1,2,4-Trimethylbenzene	**2.7**	**0.31**	**13**	**1.5**
1,3,5-Trimethylbenzene	**1.5**	**0.31**	**7.5**	**1.5**
Vinyl acetate	ND	1.6	ND	5.5
Vinyl chloride	**0.33**	**0.31**	**0.83**	**0.80**
o-Xylene	**0.81**	**0.31**	**3.5**	**1.4**
Methyl tert-butyl ether	ND	1.6	ND	5.6
alpha-Methylstyrene	ND	0.62	ND	3.0
Chlorodifluoromethane	ND	0.31	ND	1.1
m-Xylene & p-Xylene	**1.9**	**0.31**	**8.4**	**1.4**

ARCADIS U.S., Inc.

Client Sample ID: TOE/071112

GC/MS Volatiles

Lot-Sample # H2G130475 - 002 **Work Order #** MVKXG1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Bromodichloromethane	ND	0.31	ND	2.1
1,2-Dibromoethane (EDB)	ND	0.31	ND	2.4
2-Butanone (MEK)	**12**	**1.6**	**34**	**4.6**
4-Methyl-2-pentanone (MIBK)	**3.9**	**0.78**	**16**	**3.2**
Bromoform	ND	0.31	ND	3.2
Bromomethane	ND	0.31	ND	1.2
1,3-Butadiene	ND	0.62	ND	1.4
4-Ethyltoluene	**0.66**	**0.62**	**3.2**	**3.1**
Acrolein	**1.5**	**1.2**	**3.5**	**2.9**
Carbon disulfide	**2.3**	**0.78**	**7.3**	**2.4**
Acrylonitrile	**1.2 J**	**3.1**	**2.6 J**	**6.8**
Carbon tetrachloride	**0.092 J**	**0.31**	**0.58 J**	**2.0**
Chlorobenzene	ND	0.31	ND	1.4
Dibromochloromethane	ND	0.31	ND	2.7
Chloroethane	ND	0.31	ND	0.82
Chloroform	**0.44**	**0.31**	**2.2**	**1.5**
Chloromethane	**1.6**	**0.78**	**3.4**	**1.6**
3-Chloropropene	ND	0.31	ND	0.98
Propene	**0.49 J**	**0.78**	**0.85 J**	**1.3**
Dibromomethane	ND	0.62	ND	4.4
1,2-Dichlorobenzene	ND	0.31	ND	1.9
1,3-Dichlorobenzene	ND	0.31	ND	1.9
1,4-Dichlorobenzene	**0.15 J**	**0.31**	**0.91 J**	**1.9**
Dichlorodifluoromethane	ND	0.31	ND	1.5
1,1-Dichloroethane	ND	0.31	ND	1.3
1,2-Dichloroethane	ND	0.31	ND	1.3
1,1-Dichloroethene	ND	0.31	ND	1.2
cis-1,2-Dichloroethene	**0.23 J**	**0.31**	**0.92 J**	**1.2**
trans-1,2-Dichloroethene	ND	0.31	ND	1.2
1,2-Dichloropropane	ND	0.31	ND	1.4
cis-1,3-Dichloropropene	ND	0.31	ND	1.4

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	105	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

ARCADIS U.S., Inc.

Client Sample ID: TOE/071112

GC/MS Volatiles

Lot-Sample #	H2G130475 - 002	**Work Order #**	MVKXG1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2G160000 - 129B **Work Order #** MVLJH1AA **Matrix.....:** AIR

	06/21/2012	**Date Received..:**	07/13/2012
Prep Date.....:	07/16/2012	**Analysis Date...**	07/16/2012
Prep Batch #.....:	2198129		
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
trans-1,3-Dichloropropene	ND	0.20	ND	0.91
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ND	1.4
Acetone	ND	5.0	ND	12
1,4-Dioxane	ND	0.50	ND	1.8
Ethyl acetate	ND	2.0	ND	7.2
Ethylbenzene	ND	0.20	ND	0.87
Trichlorofluoromethane	ND	0.20	ND	1.1
n-Heptane	ND	0.50	ND	2.0
Hexachlorobutadiene	ND	1.0	ND	11
n-Hexane	ND	0.50	ND	1.8
2-Hexanone	ND	0.50	ND	2.0
2,2,4-Trimethylpentane	ND	0.50	ND	2.3
Cumene	ND	0.40	ND	2.0
tert-Butyl alcohol	ND	2.0	ND	6.1
Methylene chloride	**0.060 J**	**0.50**	**0.21 J**	**1.7**
Methyl methacrylate	ND	0.50	ND	2.0
Benzene	ND	0.20	ND	0.64
Acetonitrile	ND	1.0	ND	1.7
n-Octane	ND	0.40	ND	1.9
Pentane	ND	1.0	ND	3.0
Styrene	ND	0.20	ND	0.85
1,1,2,2-Tetrachloroethane	ND	0.20	ND	1.4
Tetrachloroethene	ND	0.20	ND	1.4
Toluene	ND	0.20	ND	0.75
1,2,4-Trichlorobenzene	ND	1.0	ND	7.4
1,1,1-Trichloroethane	ND	0.20	ND	1.1
1,1,2-Trichloroethane	ND	0.20	ND	1.1
Trichloroethene	ND	0.20	ND	1.1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.20	ND	1.5
1,2,4-Trimethylbenzene	ND	0.20	ND	0.98
1,3,5-Trimethylbenzene	ND	0.20	ND	0.98
Vinyl acetate	ND	1.0	ND	3.5
Vinyl chloride	ND	0.20	ND	0.51
o-Xylene	ND	0.20	ND	0.87
Methyl tert-butyl ether	ND	1.0	ND	3.6
alpha-Methylstyrene	ND	0.40	ND	1.9
Chlorodifluoromethane	ND	0.20	ND	0.71

ARCADIS U.S., Inc.

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H2G160000 - 129B **Work Order #** MVLJH1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
m-Xylene & p-Xylene	ND	0.20	ND	0.87
Bromodichloromethane	ND	0.20	ND	1.3
1,2-Dibromoethane (EDB)	ND	0.20	ND	1.5
2-Butanone (MEK)	ND	1.0	ND	2.9
4-Methyl-2-pentanone (MIBK)	ND	0.50	ND	2.0
Bromoform	ND	0.20	ND	2.1
Bromomethane	ND	0.20	ND	0.78
1,3-Butadiene	ND	0.40	ND	0.88
4-Ethyltoluene	ND	0.40	ND	2.0
Acrolein	ND	0.80	ND	1.8
Carbon disulfide	ND	0.50	ND	1.6
Acrylonitrile	ND	2.0	ND	4.3
Carbon tetrachloride	ND	0.20	ND	1.3
Chlorobenzene	ND	0.20	ND	0.92
Dibromochloromethane	ND	0.20	ND	1.7
Chloroethane	ND	0.20	ND	0.53
Chloroform	ND	0.20	ND	0.98
Chloromethane	ND	0.50	ND	1.0
3-Chloropropene	ND	0.20	ND	0.63
Propene	ND	0.50	ND	0.86
Dibromomethane	ND	0.40	ND	2.8
1,2-Dichlorobenzene	ND	0.20	ND	1.2
1,3-Dichlorobenzene	ND	0.20	ND	1.2
1,4-Dichlorobenzene	ND	0.20	ND	1.2
Dichlorodifluoromethane	ND	0.20	ND	0.99
1,1-Dichloroethane	ND	0.20	ND	0.81
1,2-Dichloroethane	ND	0.20	ND	0.81
1,1-Dichloroethene	ND	0.20	ND	0.79
cis-1,2-Dichloroethene	ND	0.20	ND	0.79
trans-1,2-Dichloroethene	ND	0.20	ND	0.79
1,2-Dichloropropane	ND	0.20	ND	0.92
cis-1,3-Dichloropropene	ND	0.20	ND	0.91

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

Qualifiers

J Estimated result. Result is less than RL.

ARCADIS U.S., Inc.

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H2G160000 - 129B	**Work Order #**	MVLJH1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2G160000 - 129C **Work Order #** MVLJH1AC **Matrix.....:** AIR

	06/21/2012	**Date Received..:**	07/13/2012
Prep Date.....:	07/16/2012	**Analysis Date...**	07/16/2012
Prep Batch #.....:	2198129		
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
trans-1,3-Dichloropropene	5.00	5.23	23	23.7	105	70 - 130
1,2-Dichloro-1,1,2,2-tetrafluoroethane	5.00	6.23	35	43.6	125	60 - 140
Acetone	5.00	3.84	12	9.12	77	60 - 140
1,4-Dioxane	5.00	3.72	18	13.4	74	60 - 140
Ethyl acetate	5.00	4.72	18	17.0	94	60 - 140
Ethylbenzene	5.00	4.94	22	21.5	99	70 - 130
Trichlorofluoromethane	5.00	6.12	28	34.4	122	60 - 140
n-Heptane	5.00	4.46	20	18.3	89	70 - 130
Hexachlorobutadiene	5.00	3.79	53	40.4	76	60 - 140
n-Hexane	5.00	5.53	18	19.5	111	70 - 130
2-Hexanone	5.00	4.43	20	18.2	89	60 - 140
2,2,4-Trimethylpentane	5.00	4.90	23	22.9	98	70 - 130
Cumene	5.00	4.90	25	24.1	98	70 - 130
tert-Butyl alcohol	5.00	5.03	15	15.3	101	60 - 140
Methylene chloride	5.00	5.41	17	18.8	108	70 - 130
Methyl methacrylate	5.00	4.41	20	18.1	88	60 - 140
Benzene	5.00	4.54	16	14.5	91	70 - 130
Acetonitrile	5.00	5.22	8.4	8.77	104	60 - 140
n-Octane	5.00	4.70	23	22.0	94	70 - 130
Pentane	5.00	5.88	15	17.3	118	70 - 130
Styrene	5.00	5.02	21	21.4	100	70 - 130
1,1,2,2-Tetrachloroethane	5.00	4.82	34	33.1	96	70 - 130
Tetrachloroethene	5.00	4.82	34	32.7	96	70 - 130
Toluene	5.00	4.84	19	18.3	97	70 - 130
1,2,4-Trichlorobenzene	5.00	3.51	37	26.0	70	60 - 140
1,1,1-Trichloroethane	5.00	5.74	27	31.3	115	70 - 130
1,1,2-Trichloroethane	5.00	5.01	27	27.4	100	70 - 130
Trichloroethene	5.00	4.87	27	26.2	97	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	5.79	38	44.4	116	70 - 130
1,2,4-Trimethylbenzene	5.00	4.80	25	23.6	96	70 - 130
1,3,5-Trimethylbenzene	5.00	4.83	25	23.8	97	70 - 130
Vinyl acetate	5.00	5.47	18	19.3	109	60 - 140
Vinyl chloride	5.00	6.37	13	16.3	127	70 - 130
o-Xylene	5.00	5.02	22	21.8	100	70 - 130
Methyl tert-butyl ether	5.00	5.44	18	19.6	109	60 - 140
alpha-Methylstyrene	5.00	5.07	24	24.5	101	60 - 140

ARCADIS U.S., Inc.

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H2G160000 - 129C **Work Order #** MVLJH1AC **Matrix.....:** AIR

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Chlorodifluoromethane	5.00	6.14	18	21.7	123	60 - 140
m-Xylene & p-Xylene	10.0	10.0	43	43.6	100	70 - 130
Bromodichloromethane	5.00	5.23	34	35.1	105	70 - 130
2-Butanone (MEK)	5.00	3.78	15	11.2	76	60 - 140
4-Methyl-2-pentanone (MIBK)	5.00	4.55	20	18.6	91	60 - 140
Bromoform	5.00	5.30	52	54.8	106	60 - 140
Bromomethane	5.00	6.16	19	23.9	123	70 - 130
1,3-Butadiene	5.00	6.73	11	14.9	135	60 - 140
4-Ethyltoluene	5.00	4.76	25	23.4	95	70 - 130
Acrolein	5.00	4.98	11	11.4	100	60 - 140
Carbon disulfide	5.00	5.38	16	16.7	108	70 - 130
Acrylonitrile	5.00	5.51	11	12.0	110	60 - 140
Carbon tetrachloride	5.00	5.42	31	34.1	108	70 - 130
Chlorobenzene	5.00	4.75	23	21.9	95	70 - 130
Dibromochloromethane	5.00	5.42	43	46.2	108	70 - 130
Chloroethane	5.00	6.33	13	16.7	127	70 - 130
Chloroform	5.00	5.52	24	26.9	110	70 - 130
Chloromethane	5.00	6.91	10	14.3	138	60 - 140
3-Chloropropene	5.00	4.18	16	13.1	84	60 - 140
Propene	5.00	6.44	8.6	11.1	129	60 - 140
1,2-Dibromoethane (EDB)	5.00	4.97	38	38.2	99	70 - 130
Dibromomethane	5.00	4.90	36	34.8	98	70 - 130
1,2-Dichlorobenzene	5.00	4.54	30	27.3	91	70 - 130
1,3-Dichlorobenzene	5.00	4.68	30	28.1	94	70 - 130
1,4-Dichlorobenzene	5.00	4.51	30	27.1	90	70 - 130
Dichlorodifluoromethane	5.00	6.26	25	30.9	125	60 - 140
1,1-Dichloroethane	5.00	5.71	20	23.1	114	70 - 130
1,2-Dichloroethane	5.00	5.51	20	22.3	110	70 - 130
1,1-Dichloroethene	5.00	5.72	20	22.7	114	70 - 130
cis-1,2-Dichloroethene	5.00	5.25	20	20.8	105	70 - 130
trans-1,2-Dichloroethene	5.00	5.54	20	22.0	111	70 - 130
1,2-Dichloropropane	5.00	4.79	23	22.1	96	70 - 130
cis-1,3-Dichloropropene	5.00	4.98	23	22.6	100	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

ARCADIS U.S., Inc.

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample #	H2G160000 - 129C	**Work Order #**	MVLJH1AC	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Sample Data Summary

ARCADIS U.S., Inc.

Client Sample ID: TOI/071112

GC Volatiles

Lot-Sample #...: H2G130475-001 Work Order #...: MVKXA1AC Matrix.....: AIR
Date Sampled...: 07/11/12 Date Received..: 07/13/12
Prep Date.....: 07/17/12 Analysis Date..: 07/17/12
Prep Batch #...: 2198102
Dilution Factor: 1.84 Method.....: ASTM D 1946/E 260

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	2.9	0.18	%

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: H2G130475 Work Order #...: MVLF91AA Matrix.....: AIR
MB Lot-Sample #: H2G160000-102

Prep Date.....: 07/17/12
Analysis Date..: 07/17/12 Prep Batch #...: 2198102
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Methane	ND	0.10	%	ASTM D 1946/E 260

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: H2G130475 Work Order #...: MVLF91AC Matrix.....: AIR
LCS Lot-Sample#: H2G160000-102
Prep Date.....: 07/17/12 Analysis Date..: 07/17/12
Prep Batch #...: 2198102
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Methane	100	(70 - 130)	ASTM D 1946/E 260

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC Volatiles

Client Lot #...: H2G130475 Work Order #...: MVLF91AC Matrix.....: AIR
LCS Lot-Sample#: H2G160000-102
Prep Date.....: 07/17/12 Analysis Date..: 07/17/12
Prep Batch #...: 2198102
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Methane	4.00	4.02	%	100	ASTM D 1946/E 2

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Sample Receipt Documentation

H2G130475

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: (b) (4) [redacted]	Sampled [redacted] (b) [redacted]
Company: ARCADIS US INC	Phone: 614-764-2310	
Address: 284 CRAMER CREEK COURT	Site Contact:	
City/State/Zip DUBLIN OH 43017	TAL Contact:	
Phone: 614-764-2310		
FAX:		
Project Name: LORD-SHOPE	Analysis Turnaround Time	
Site/location: GIRARD PA	Standard (Specify) X	
PO #	Rush (Specify)	

1 of 2 COCs

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	[redacted]	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
TOI/071112	7/11/12	12:35					11422	X					X	[redacted]				X	
TOE/071112	7/11/12	12:40					21665	X						[redacted]				X	
														[redacted]					
														[redacted]					
														[redacted]					
														[redacted]					

Sampled by :

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

X-OTHER-METHANE EPA 18

1 BOX NO CUSTODY SEAL
RECEIVED @ AMBIENT TEMP
R.H 7/13/12
1 BOX UPS 1Z183X760366047155
2 CANS NO FLOWS

Special Instructions/QC Requirements & Comments:

Canisters Shipped by:	Date/Time:	Canisters Received by: [signature]
Samples Relinquished by: (b) [redacted]	Date/Time: 7/11/12 4:00PM	Received by: [signature] 7/13/12 11:15
Relinquished by:	Date/Time:	Received by:

H2G130475

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location: Knoxville

Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica Laboratories, Inc.

Client Contact				
Company Name: Arcadis US Inc	Client Project Manager: [redacted]	Site Contact: [redacted]	Lab Contact:	COC No: 043886
Address: 284 Cramer Creek Court	Telephone: [redacted]	Telephone: [redacted]	Telephone:	2 of 2 COCs
City/State/Zip: Dublin OH 43017	Email:	Analysis Turnaround Time (In BUS days)		
Phone: 614-764-2310		TAT if different from below ☐ 3 weeks ☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		
Project Name: Cord-Shope	Method of Shipment/Carrier: UPS			
Project Number:	Shipping/Tracking No:			
PO#				

Analyses

Sample Identification	Sample Date	Sample Time	Matrix: Air	Aqueous	Sediment	Solid	Other	Containers & Preservatives: H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Unpres	Other	Filtered Sample (Y/N)	Composite (C/G)	TO-15	Methane-EM18	Sample Specific Notes / Special Instructions:
TOI/071112	7/11/12	12:35	X										X		N	G	X	X	
TOE/071112	7/11/12	12:40	X										X		N	G	X		

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return to Client ☐ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[redacted]	GELLC	7/11/12 4:00PM	[redacted]	TA Knox	7/13/12 11:15

TAL 0018-1 (04/10)

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: H2G130475

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	X			☐ 1a Do not match COC ☐ 1b Incomplete information ☐ 1c Marking smeared ☐ 1d Label torn ☐ 1e No label ☐ 1f COC not received ☐ 1g Other:	4A
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C)			X	☐ 2a Temp Blank = _____ ☐ 2b Cooler Temp = _____ ☐ 2c Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?			X	☐ 3a Sample preservative =	
4. Were custody seals present/intact on cooler and/or containers?		X		X 4a Not present ☐ 4b Not intact ☐ 4c Other:	
5. Were all of the samples listed on the COC received?	X			☐ 5a Samples received-not on COC ☐ 5b Samples not received-on COC	
6. Were all of the sample containers received intact?	X			☐ 6a Leaking ☐ 6b Broken	
7. Were VOA samples received without headspace?			X	☐ 7a Headspace (VOA only)	
8. Were samples received in appropriate containers?	X			☐ 8a Improper container	
9. Did you check for residual chlorine, if necessary?			X	☐ 9a Could not be determined due to matrix interference	
10. Were samples received within holding time?	X			☐ 10a Holding time expired	
11. For rad samples, was sample activity info. provided?			X	☐ Incomplete information	
12. For 1613B water samples is pH<9?			X	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	
13. Are the shipping containers intact?	X			☐ 13a Leaking ☐ 13b Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	X			☐ 14a Not relinquished	
15. Are tests/parameters listed for each sample?	X			☐ 15a Incomplete information	
16. Is the matrix of the samples noted?	X			☐ 15a Incomplete information	
17. Is the date/time of sample collection noted?	X			☐ 15a Incomplete information	
18. Is the client and project name/# identified?	X			☐ 15a Incomplete information	
19. Was the sampler identified on the COC?	X			☐ 19a Other	

Quote #: 79678 PM Instructions: _____

Sample Receiving Associate: (b) (4) [redacted] Date: 7/13/12

QA026R23.doc, 022812

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H2G130475* TO15

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (-in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
NB 7/13/12	NA	28.93	**MVKXA**	**11422**	-4.8	—	NB 7/14/12	S	29.05	-4.9	+7.6				12887	5	+5.8	9963
↓	↓	↓	**MVKXG**	**21665**	-9.7	+0.5												↓

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H2G130475* Methane

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (-in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
MB 7/13/12	AM	28.93	MVKXA	11422	-4.8	—	MB 7/14/12	S	29.05	-4.9	+7.6				12887	5	+5.8	9963
↓	↓	↓	MVKXG	21665	-9.7	+0.5												↓

Volatiles

Raw Sample Data

ARCADIS U.S., Inc.

Client Sample ID: TOI/071112

GC/MS Volatiles

Lot-Sample #	H2G130475 - 001	**Work Order #**	MVKXA1AA	**Matrix.....:**	AIR

Date Sampled...:	07/11/2012	**Date Received..:**	07/13/2012
Prep Date.....:	07/16/2012	**Analysis Date...**	07/16/2012
Prep Batch #.....:	2198129		
Dilution Factor.:	12446.68	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
trans-1,3-Dichloropropene	ND	2500	ND	11000
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2500	ND	17000
Acetone	ND	62000	ND	150000
1,4-Dioxane	ND	6200	ND	22000
Ethyl acetate	ND	25000	ND	90000
Ethylbenzene	ND	2500	ND	11000
Trichlorofluoromethane	ND	2500	ND	14000
n-Heptane	ND	6200	ND	26000
Hexachlorobutadiene	ND	12000	ND	130000
n-Hexane	ND	6200	ND	22000
2-Hexanone	ND	6200	ND	25000
2,2,4-Trimethylpentane	ND	6200	ND	29000
Cumene	ND	5000	ND	24000
tert-Butyl alcohol	ND	25000	ND	75000
Methylene chloride	**1900 J B**	**6200**	**6700 J B**	**22000**
Methyl methacrylate	ND	6200	ND	25000
Benzene	ND	2500	ND	8000
Acetonitrile	ND	12000	ND	21000
n-Octane	ND	5000	ND	23000
Pentane	ND	12000	ND	37000
Styrene	ND	2500	ND	11000
1,1,2,2-Tetrachloroethane	ND	2500	ND	17000
Tetrachloroethene	**6200**	**2500**	**42000**	**17000**
Toluene	ND	2500	ND	9400
1,2,4-Trichlorobenzene	ND	12000	ND	92000
1,1,1-Trichloroethane	**510 J**	**2500**	**2800 J**	**14000**
1,1,2-Trichloroethane	ND	2500	ND	14000
Trichloroethene	**30000**	**2500**	**160000**	**13000**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2500	ND	19000
1,2,4-Trimethylbenzene	ND	2500	ND	12000
1,3,5-Trimethylbenzene	ND	2500	ND	12000
Vinyl acetate	ND	12000	ND	44000
Vinyl chloride	**140000**	**2500**	**350000**	**6400**
o-Xylene	ND	2500	ND	11000
Methyl tert-butyl ether	ND	12000	ND	45000
alpha-Methylstyrene	ND	5000	ND	24000
Chlorodifluoromethane	ND	2500	ND	8800

ARCADIS U.S., Inc.

Client Sample ID: TOI/071112

GC/MS Volatiles

Lot-Sample # H2G130475 - 001 **Work Order #** MVKXA1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
m-Xylene & p-Xylene	ND	2500	ND	11000
Bromodichloromethane	ND	2500	ND	17000
1,2-Dibromoethane (EDB)	ND	2500	ND	19000
2-Butanone (MEK)	ND	12000	ND	37000
4-Methyl-2-pentanone (MIBK)	ND	6200	ND	25000
Bromoform	ND	2500	ND	26000
Bromomethane	ND	2500	ND	9700
1,3-Butadiene	ND	5000	ND	11000
4-Ethyltoluene	ND	5000	ND	24000
Acrolein	ND	10000	ND	23000
Carbon disulfide	ND	6200	ND	19000
Acrylonitrile	ND	25000	ND	54000
Carbon tetrachloride	ND	2500	ND	16000
Chlorobenzene	ND	2500	ND	11000
Dibromochloromethane	ND	2500	ND	21000
Chloroethane	ND	2500	ND	6600
Chloroform	**610 J**	**2500**	**3000 J**	**12000**
Chloromethane	ND	6200	ND	13000
3-Chloropropene	ND	2500	ND	7800
Propene	**4100 J**	**6200**	**7000 J**	**11000**
Dibromomethane	ND	5000	ND	35000
1,2-Dichlorobenzene	ND	2500	ND	15000
1,3-Dichlorobenzene	ND	2500	ND	15000
1,4-Dichlorobenzene	ND	2500	ND	15000
Dichlorodifluoromethane	ND	2500	ND	12000
1,1-Dichloroethane	**660 J**	**2500**	**2700 J**	**10000**
1,2-Dichloroethane	ND	2500	ND	10000
1,1-Dichloroethene	**720 J**	**2500**	**2900 J**	**9900**
cis-1,2-Dichloroethene	**110000**	**2500**	**440000**	**9900**
trans-1,2-Dichloroethene	ND	2500	ND	9900
1,2-Dichloropropane	ND	2500	ND	12000
cis-1,3-Dichloropropene	ND	2500	ND	11000

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

Qualifiers

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

ARCADIS U.S., Inc.

Client Sample ID: TOI/071112

GC/MS Volatiles

Lot-Sample # H2G130475 - 001 **Work Order #** MVKXA1AA **Matrix.....:** AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxa1aa.d
Report Date: 17-Jul-2012 11:20

TestAmerica Knoxville

Modified Method TO-14/TO-15

Data file : /var/chem/gcms/mj.i/J071612A.b/mvkxa1aa.d
Lab Smp Id: MVKXA1AA Client Smp ID: TOI/071112
Inj Date : 16-JUL-2012 18:57
Operator : 403648 Inst ID: mj.i
Smp Info : ,12446.68,0,,,
Misc Info : J071612A,TO15,lord.sub,,,
Comment :
Method : /var/chem/gcms/mj.i/J071612A.b/TO15.m
Meth Date : 17-Jul-2012 11:18 barlozha Quant Type: ISTD
Cal Date : 24-MAY-2012 13:43 Cal File: jice241.d
Als bottle: 1
Dil Factor: 12446.68000
Integrator: HP RTE Compound Sublist: lord.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	12446.68000	Dilution Factor
Vt	500.00000	Default Calibration Volume
Vo	200.00000	Default Sample Volume

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	FINAL (ppb(v/v))
* 1 Bromochloromethane	128	8.953	8.954	(1.000)	207834	4.00000	4.000
* 2 1,4-Difluorobenzene	114	11.137	11.138	(1.000)	960482	4.00000	4.000
* 3 Chlorobenzene-d5	117	15.871	15.872	(1.000)	846468	4.00000	4.000
§ 4 4-Bromofluorobenzene	95	17.507	17.507	(1.103)	682374	4.08351	10.21
6 Propene	41	3.854	3.849	(0.430)	7870	0.13147	4091
12 Vinyl Chloride	62	4.246	4.252	(0.474)	354100	4.41457	137400
27 1,1-Dichloroethene	96	6.091	6.082	(0.680)	1267	0.02329	724.7
31 Methylene Chloride	84	6.420	6.420	(0.717)	3239	0.06165	1918
37 1,1-Dichloroethane	63	7.646	7.647	(0.854)	2624	0.02135	664.3
41 cis 1,2-Dichloroethene	96	8.630	8.626	(0.964)	216963	3.55288	110600
43 Chloroform	83	8.969	8.970	(1.002)	3276	0.01958	609.4
45 1,1,1-Trichloroethane	97	10.008	10.008	(1.118)	3300	0.01645	512.0
56 Trichloroethene	130	11.847	11.854	(1.064)	96482	0.97323	30280
73 Tetrachloroethene	129	15.048	15.049	(0.948)	19048	0.19920	6198

Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxa1aa.d
Report Date: 17-Jul-2012 11:20

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mvkxa1aa.d
Lab Smp Id: MVKXA1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 403648
Method File: /var/chem/gcms/mj.i/J071612A.b/TO15.m
Misc Info: J071612A,TO15,lord.sub,,,

Calibration Date: 16-JUL-2012
Calibration Time: 14:17
Client Smp ID: TOI/071112
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	245907	146315	345499	207834	-15.48
2 1,4-Difluorobenze	1075688	640034	1511342	960482	-10.71
3 Chlorobenzene-d5	907373	539887	1274859	846468	-6.71

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.95	8.62	9.28	8.95	-0.01
2 1,4-Difluorobenze	11.14	10.81	11.47	11.14	-0.01
3 Chlorobenzene-d5	15.87	15.54	16.20	15.87	-0.01

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

Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxa1aa.d
Report Date: 17-Jul-2012 11:20

TestAmerica Knoxville

RECOVERY REPORT

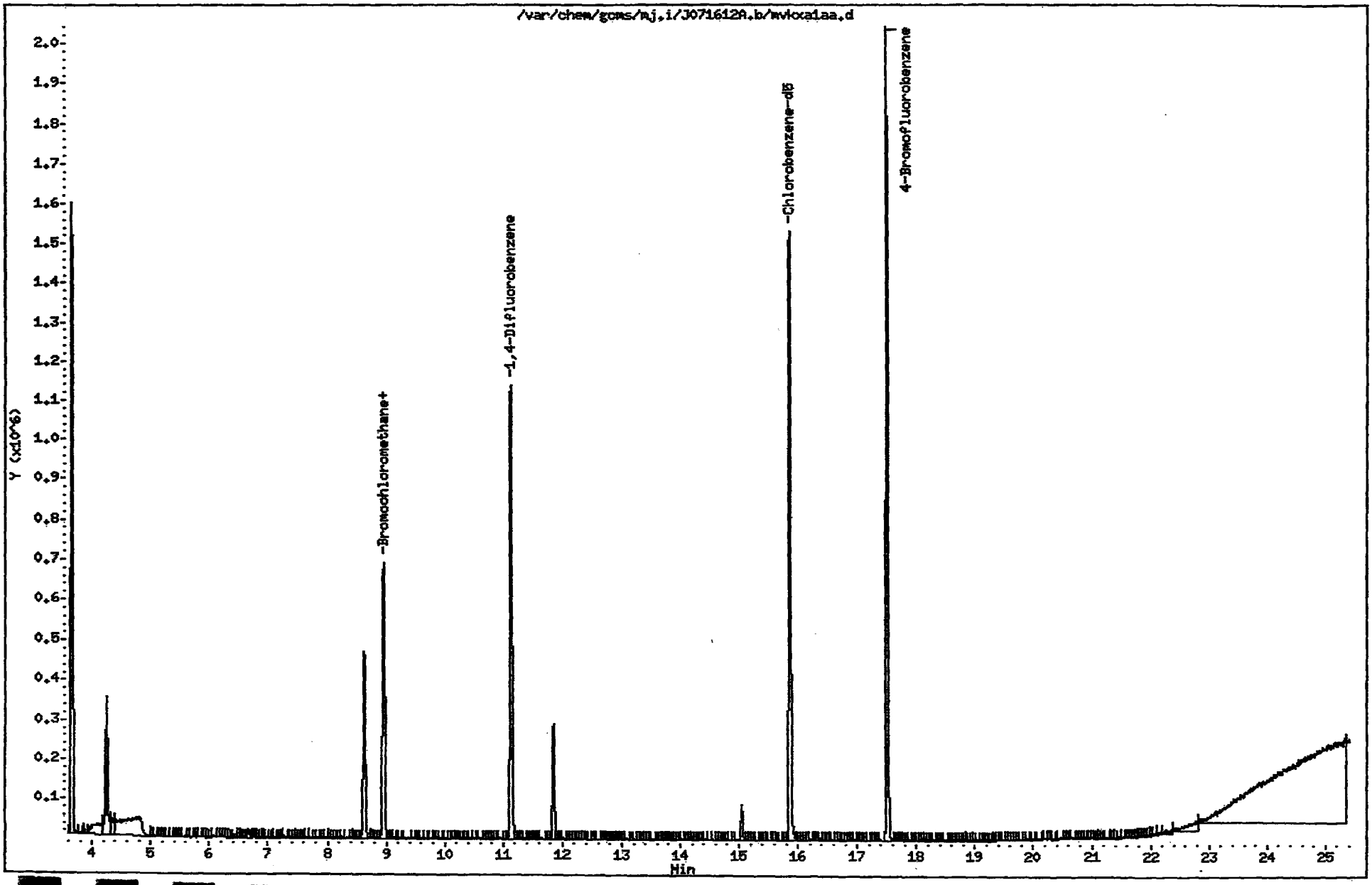
Client Name: ARCADIS U.S., Inc.
Sample Matrix: GAS
Lab Smp Id: MVKXA1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: lord.sub
Method File: /var/chem/gcms/mj.i/J071612A.b/TO15.m
Misc Info: J071612A,TO15,lord.sub,,,

Client SDG: H2G130475
Fraction: OTHER
Client Smp ID: TOI/071112
Operator: 403648
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	10.00	10.21	102.09	70-130

Data File: /var/chem/gcms/mj.i/J071612A.b/mvlcxa1aa.d
Date : 16-JUL-2012 18:57
Client ID: TOI/071112
Sample Info: ,12446.68,0,,,
Purge Volume: 200.0
Column phase: Rtx-5

Instrument: mj.i
Operator: 403648
Column diameter: 0.32



Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxa1aa.d

Date : 16-JUL-2012 18:57

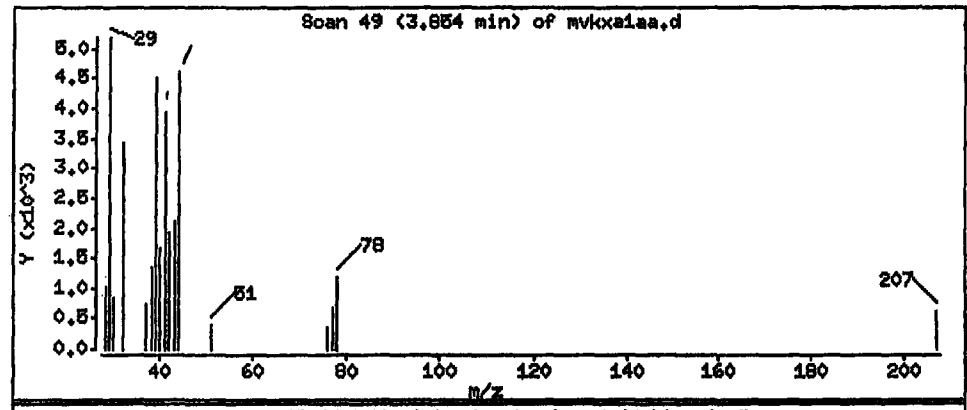
Client ID: TOI/071112 Instrument: mj.i

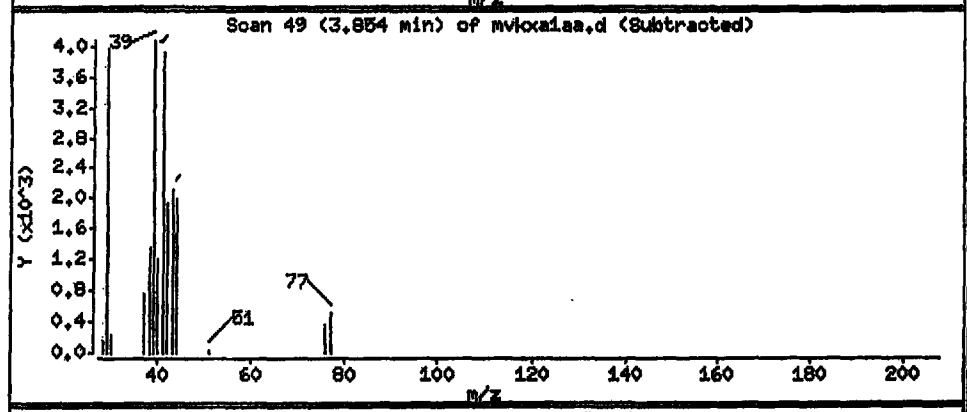
Sample Info: ,12446.68,0,,,

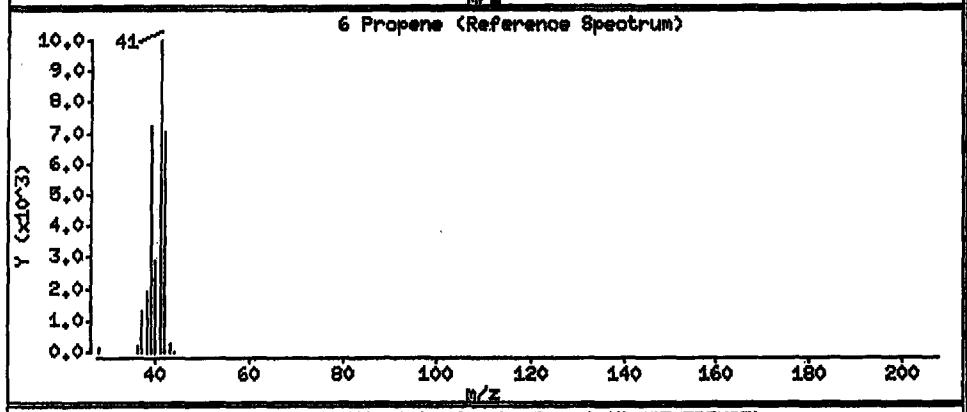
Purge Volume: 200.0 Operator: 403648

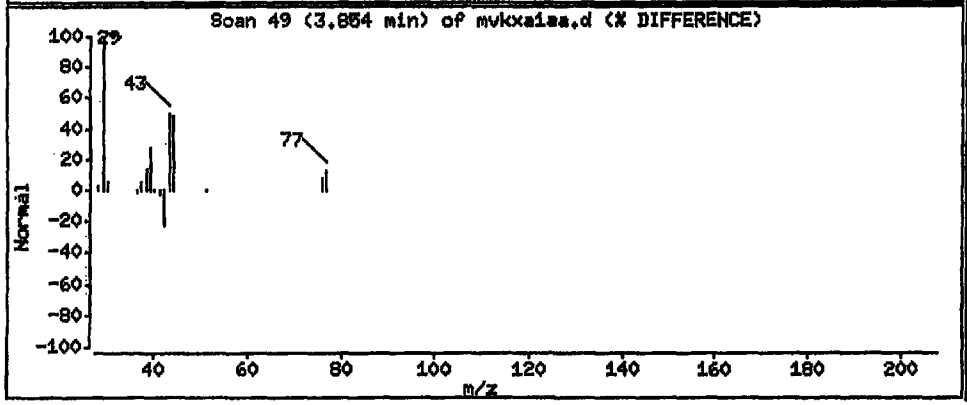
Column phase: Rtx-5 Column diameter: 0.32

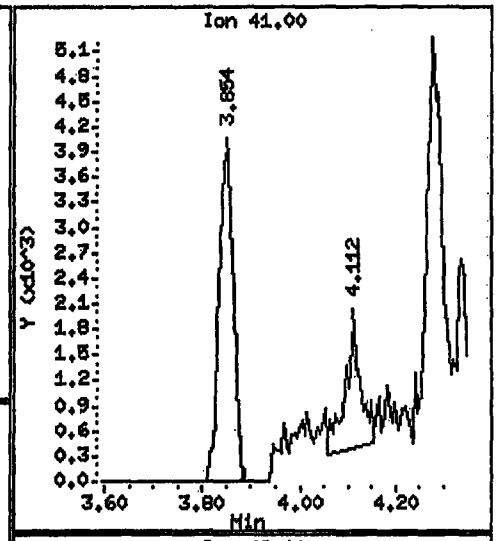
6 Propene Concentration: 4091 ppb(v/v)

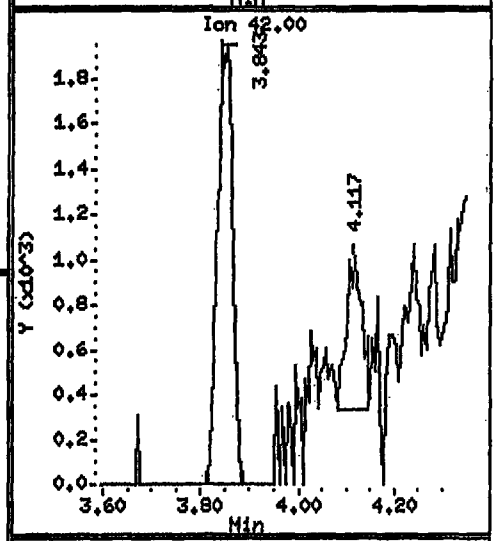


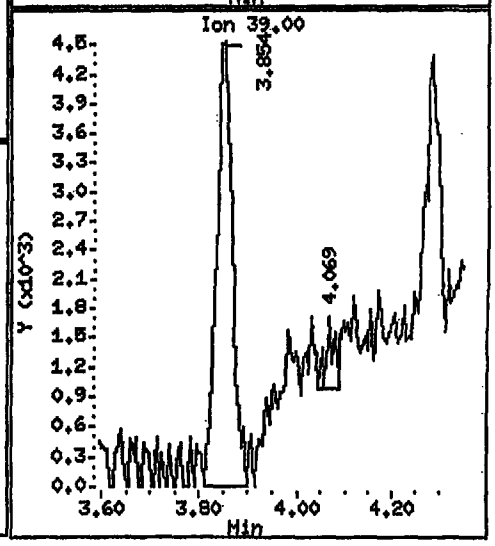












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxa1aa.d

Date : 16-JUL-2012 18:57

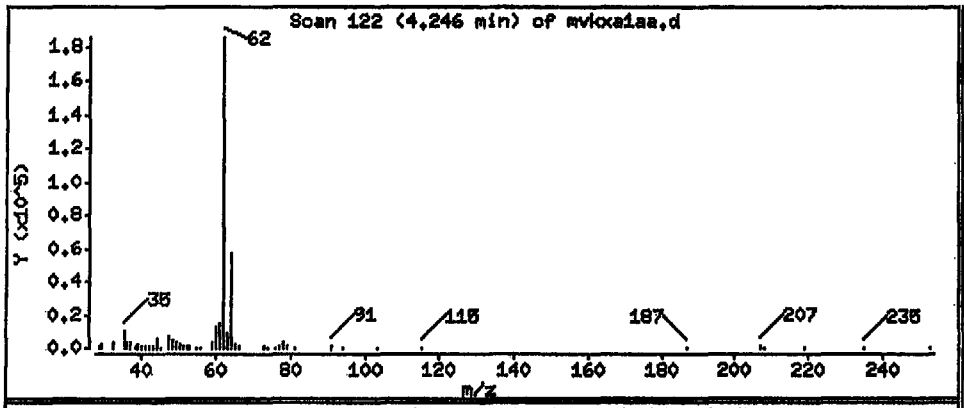
Client ID: TOI/071112 Instrument: mj.i

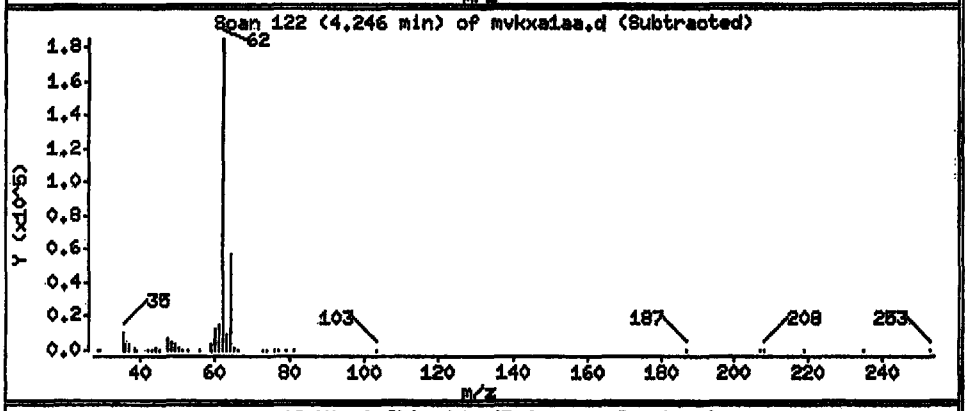
Sample Info: ,12446.68,0,,,

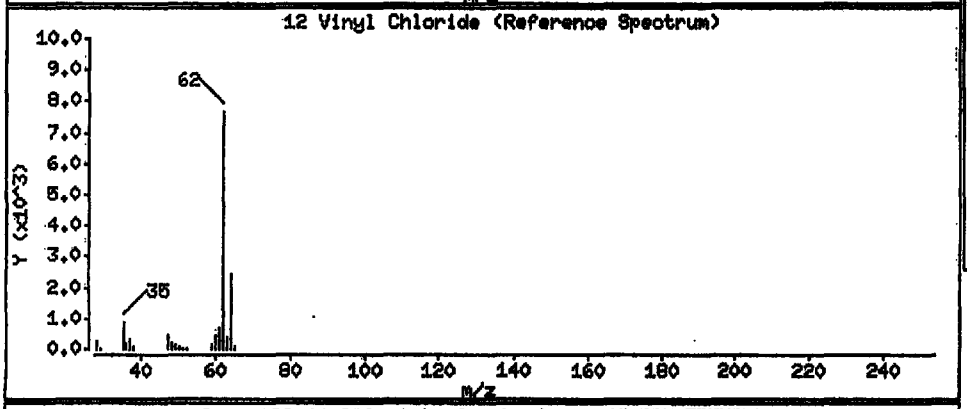
Purge Volume: 200.0 Operator: 403648

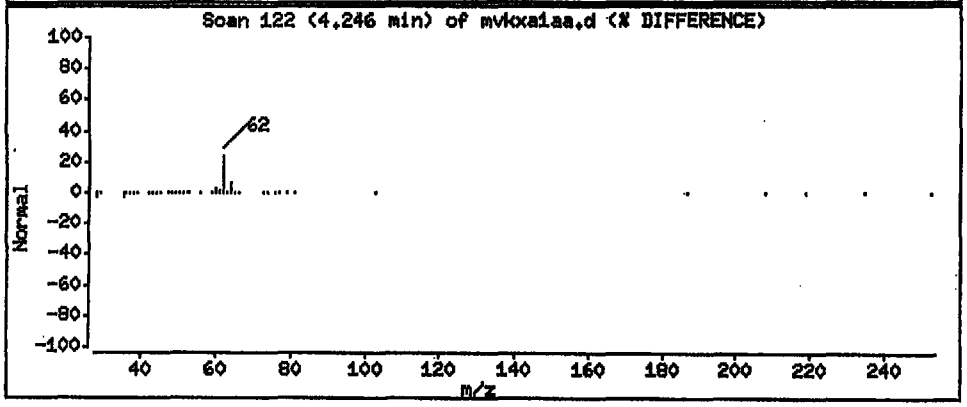
Column phase: Rtx-5 Column diameter: 0.32

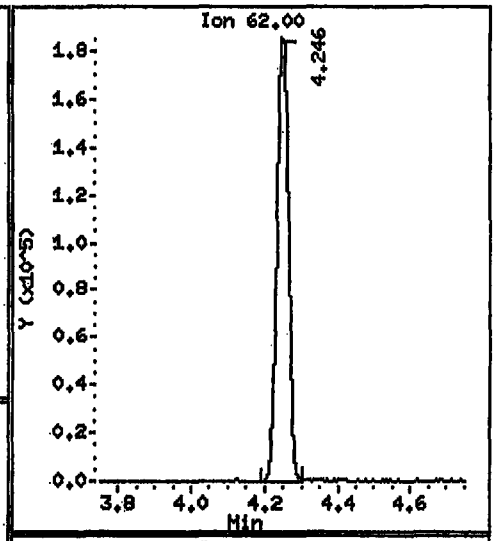
12 Vinyl Chloride Concentration: 137400 ppb(v/v)

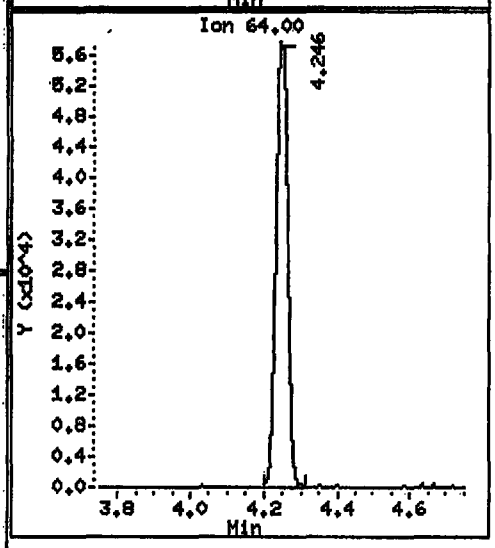












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxa1aa.d

Date : 16-JUL-2012 18:57

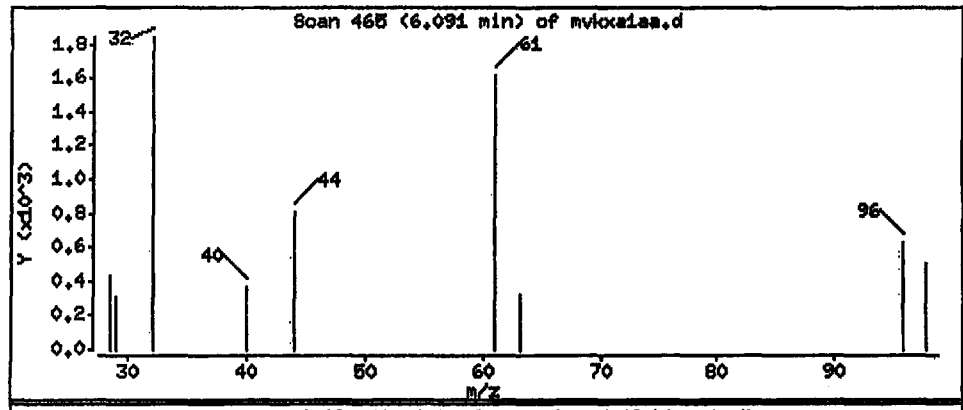
Client ID: TOI/071112 | Instrument: mj.i

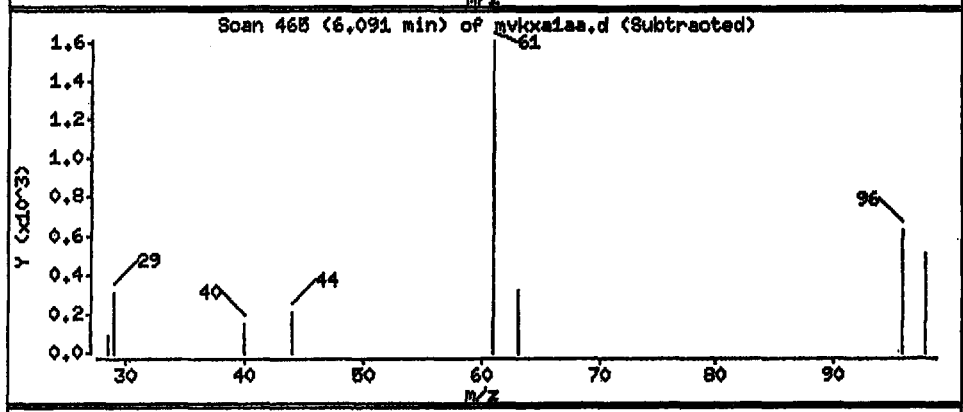
Sample Info: ,12446.68,0,,,

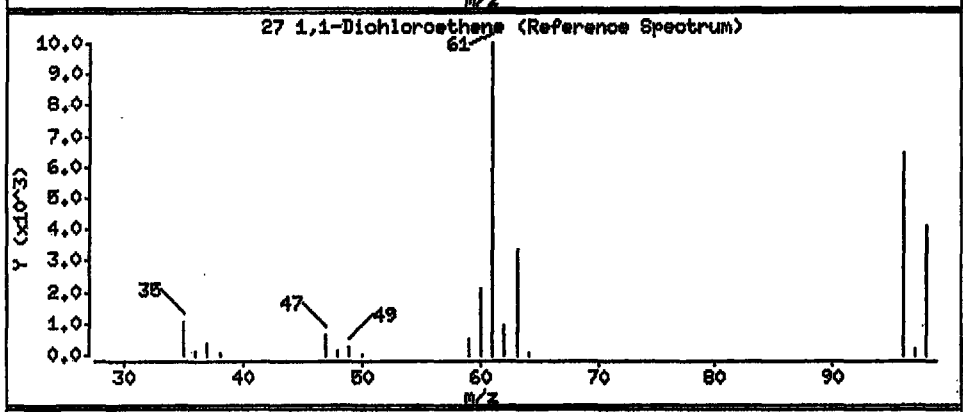
Purge Volume: 200.0 | Operator: 403648

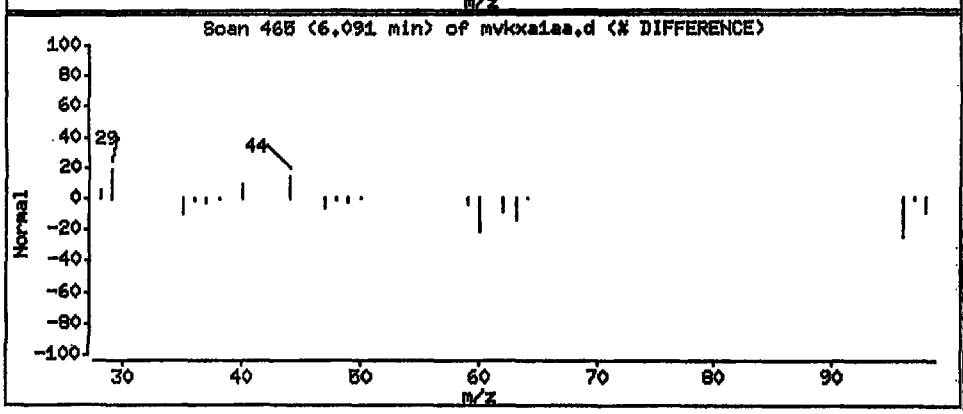
Column phase: Rtx-5 | Column diameter: 0.32

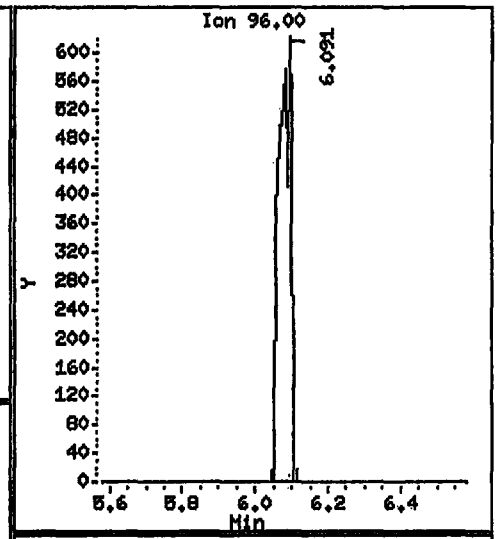
27 1,1-Dichloroethene | Concentration: 724.7 ppb(v/v)

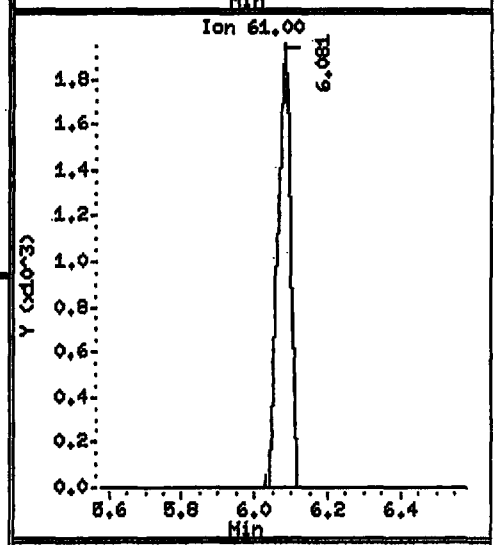


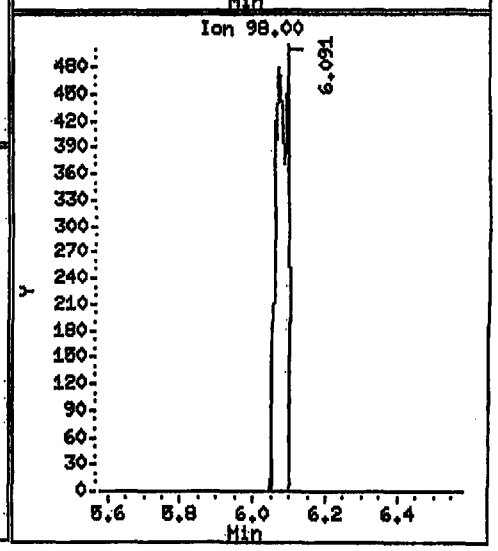












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxa1aa.d

Date : 16-JUL-2012 18:57

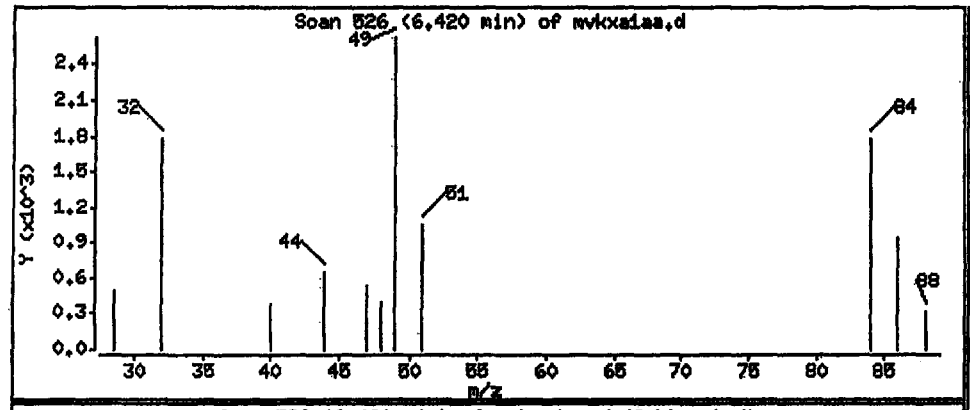
Client ID: TOI/071112 | Instrument: mj.i

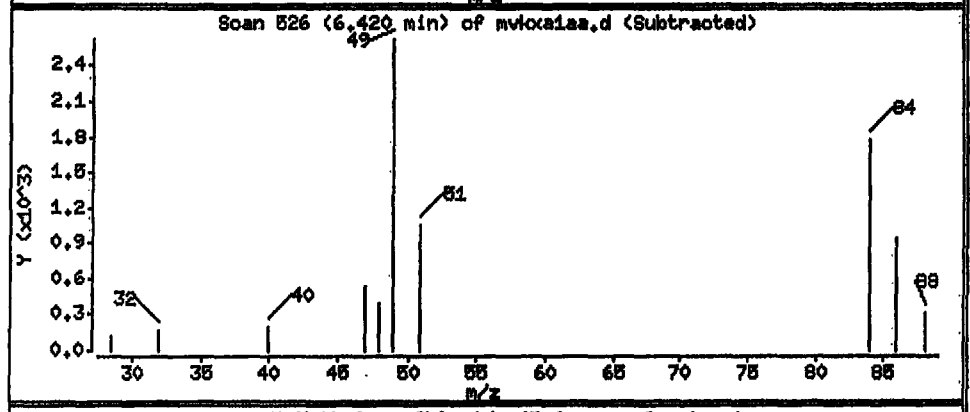
Sample Info: ,12446.68,0,,,

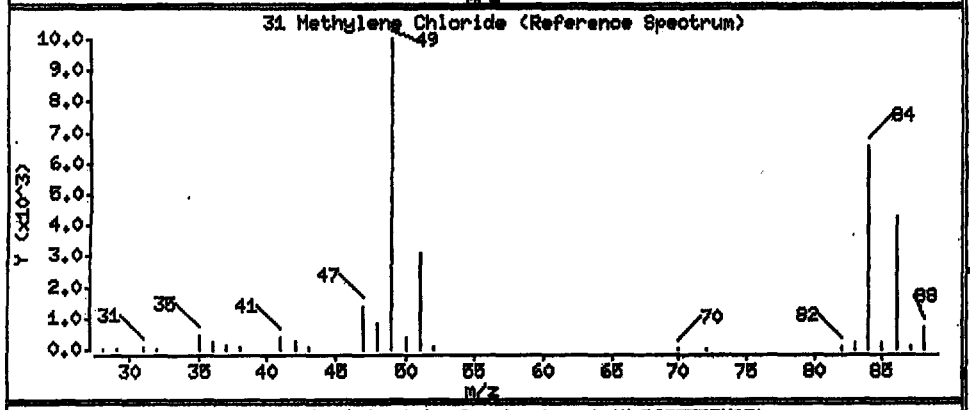
Purge Volume: 200.0 | Operator: 403648

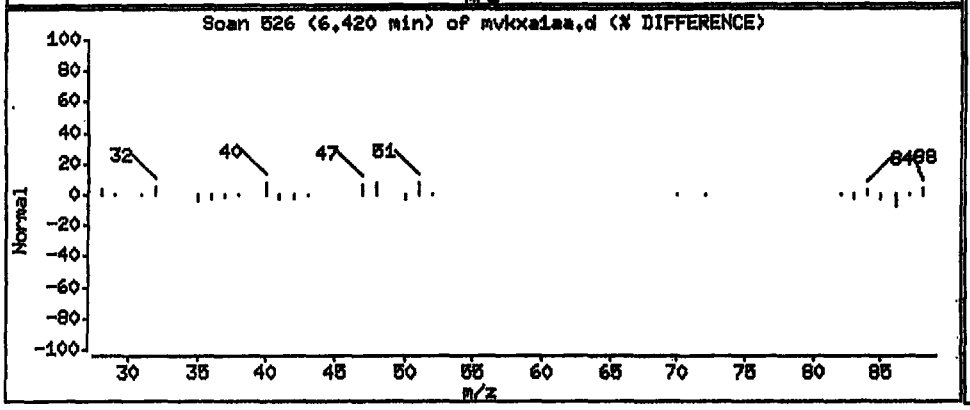
Column phase: Rtx-5 | Column diameter: 0.32

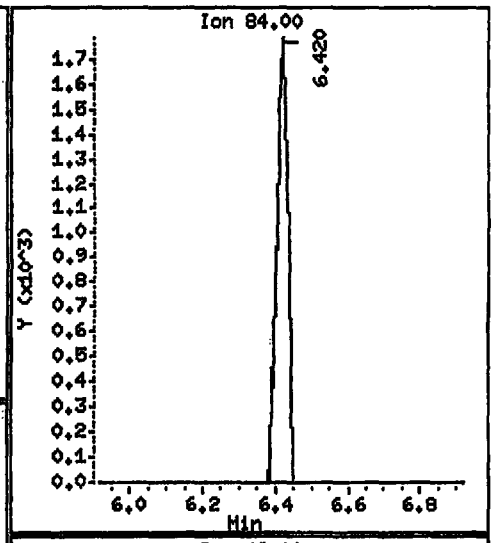
31 Methylene Chloride | Concentration: 1918 ppb(v/v)

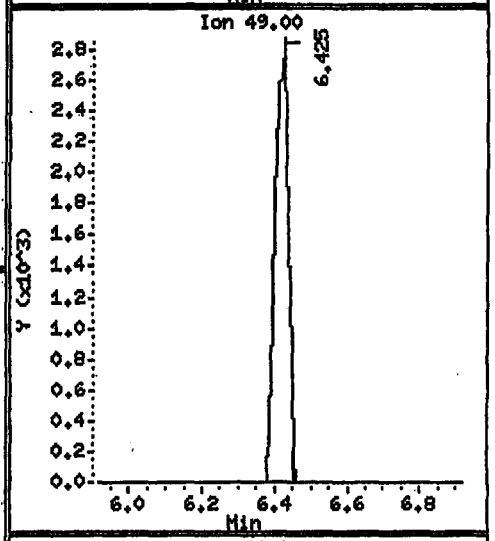


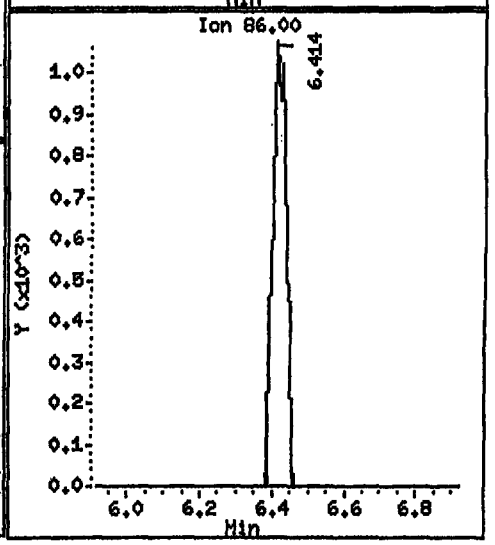












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxa1aa.d

Date : 16-JUL-2012 18:57

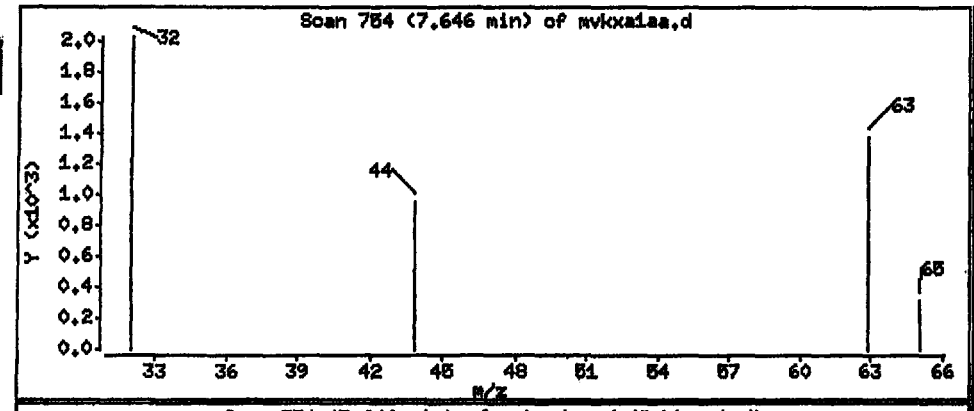
Client ID: TOI/071112 | Instrument: mj.i

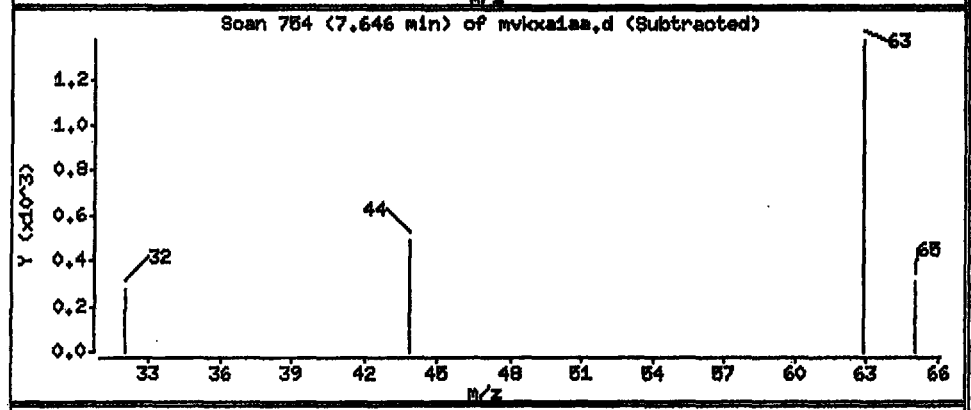
Sample Info: ,12446.68,0,,,

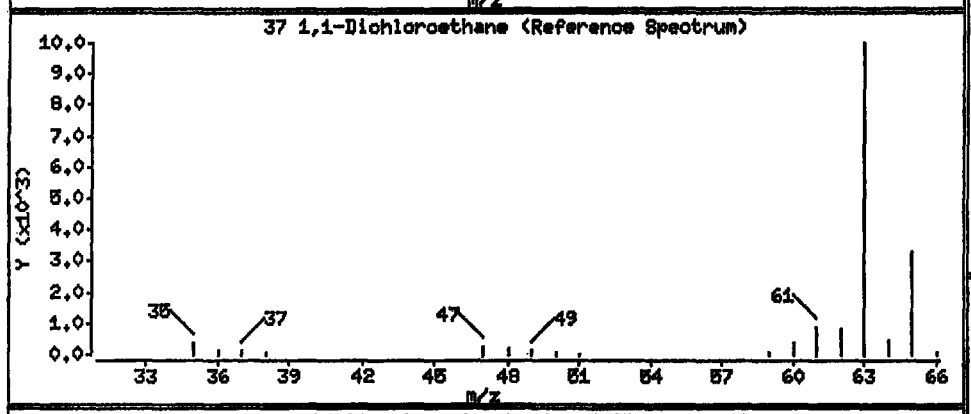
Purge Volume: 200.0 | Operator: 403648

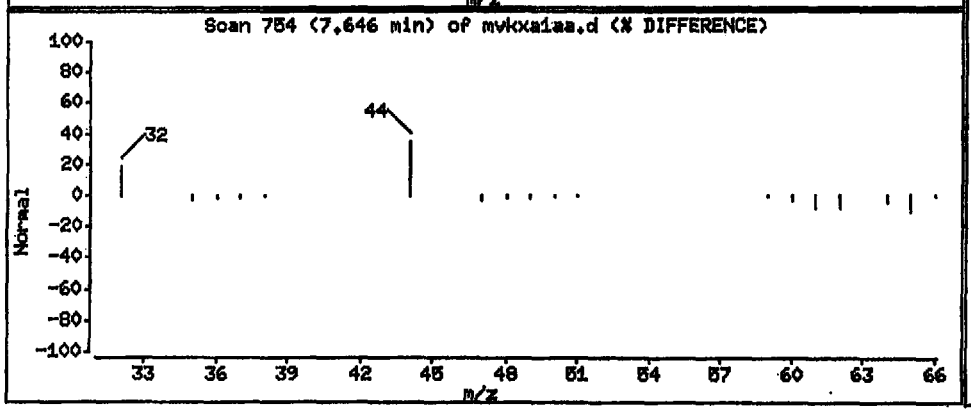
Column phase: Rtx-5 | Column diameter: 0.32

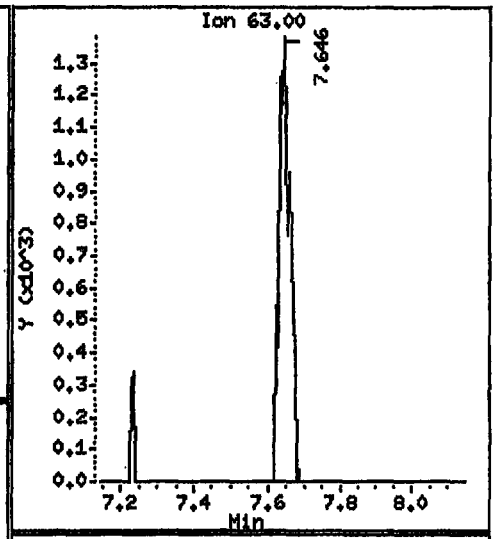
37 1,1-Dichloroethane | Concentration: 664.3 ppb(v/v)

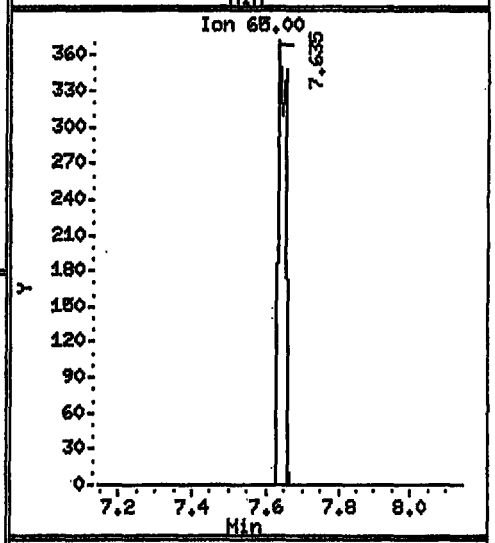


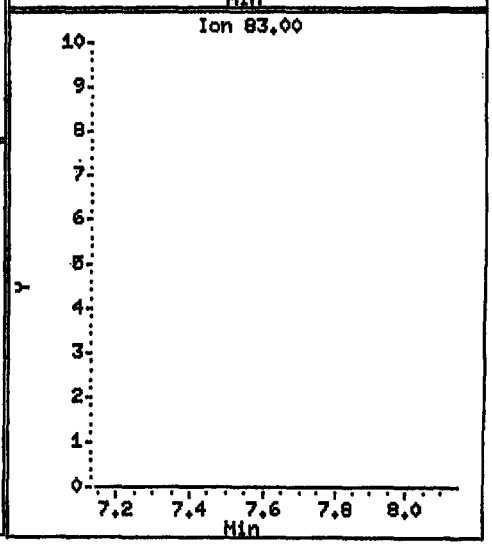












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxa1aa.d

Date : 16-JUL-2012 18:57

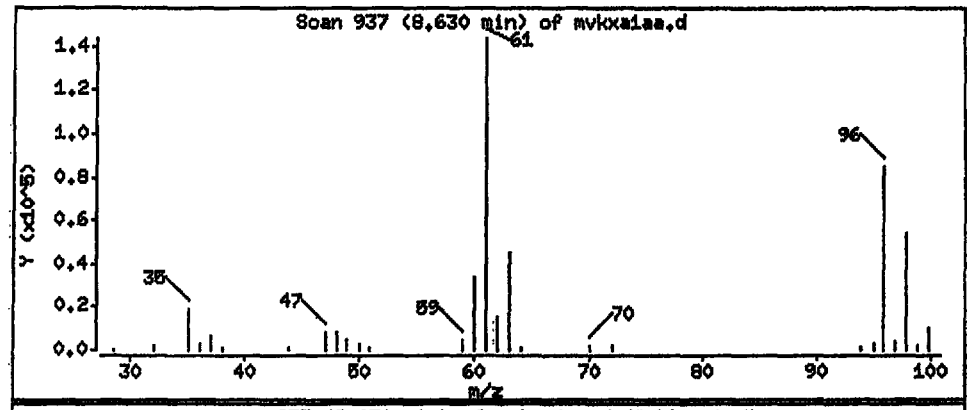
Client ID: TOI/071112 | Instrument: mj.i

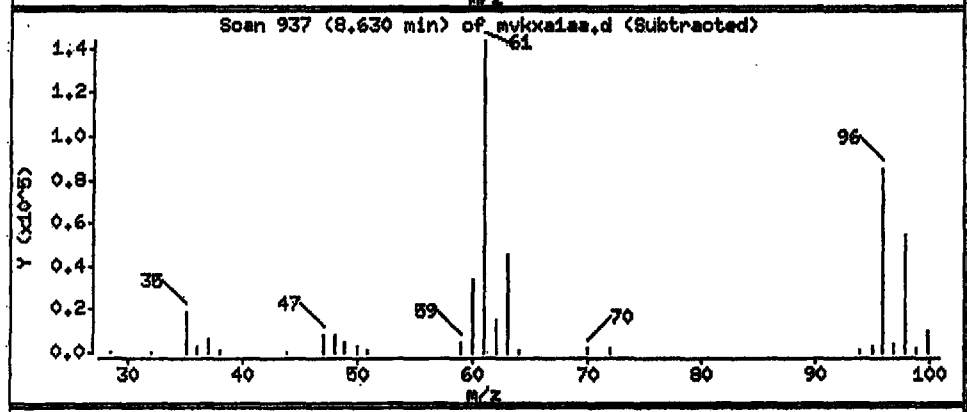
Sample Info: ,12446.68,0,,,

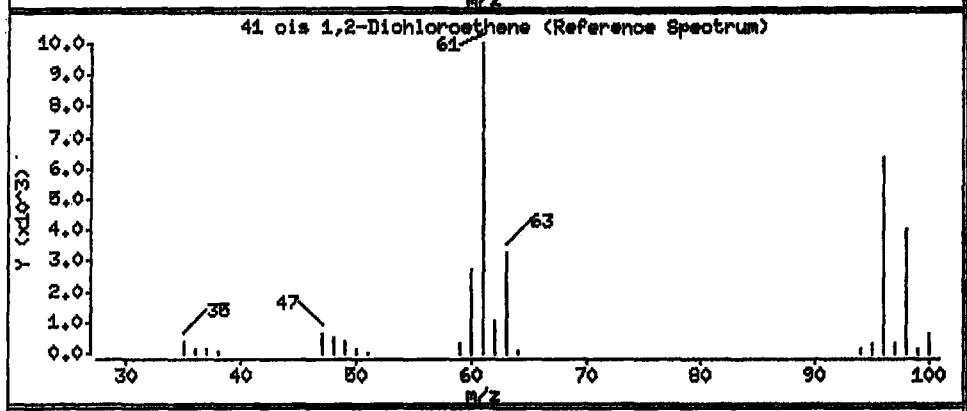
Purge Volume: 200.0 | Operator: 403648

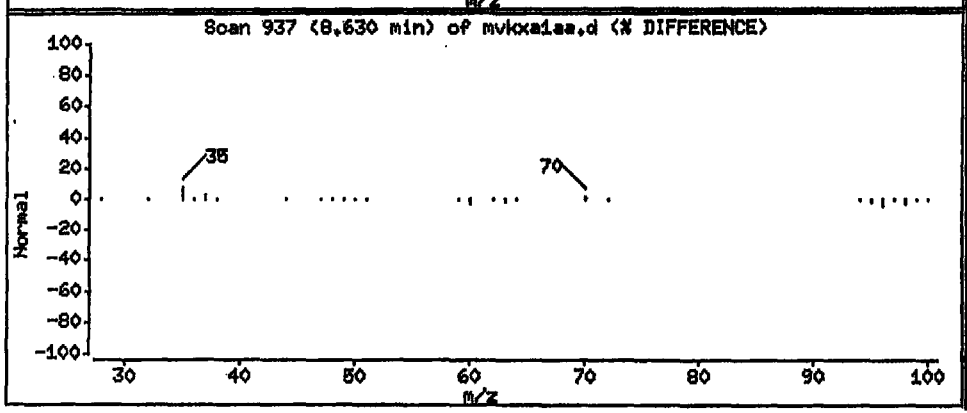
Column phase: Rtx-5 | Column diameter: 0.32

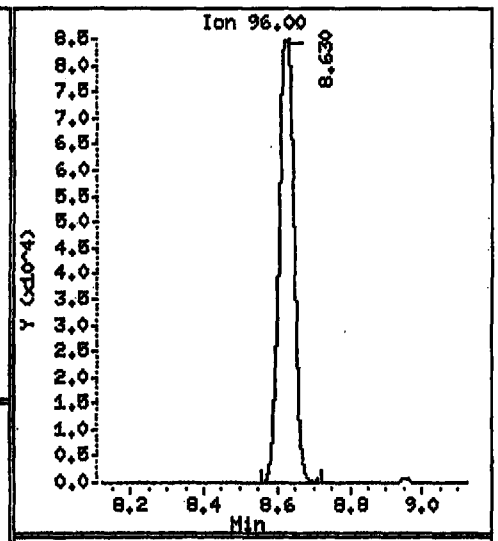
41 cis 1,2-Dichloroethene | Concentration: 110600 ppb(v/v)

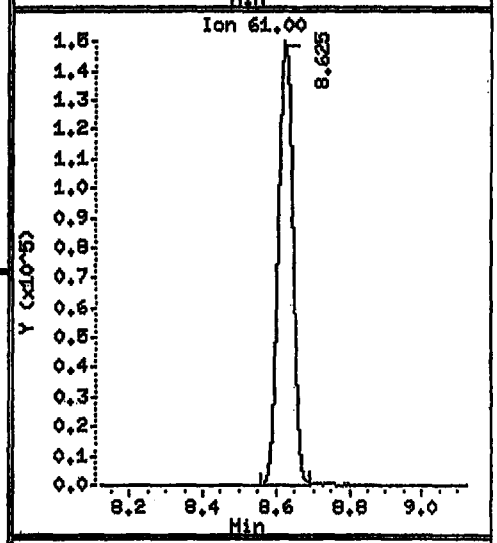


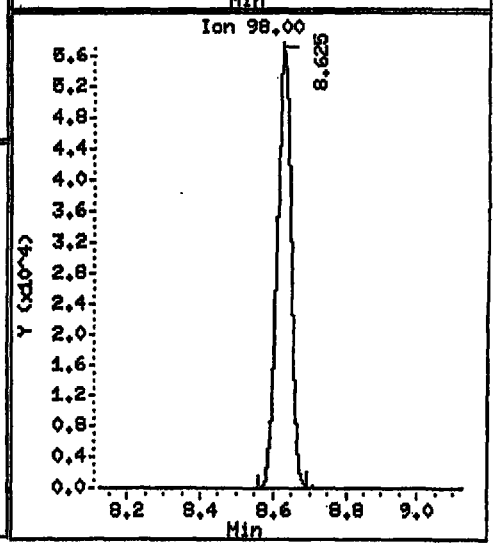












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxa1aa.d

Date : 16-JUL-2012 18:57

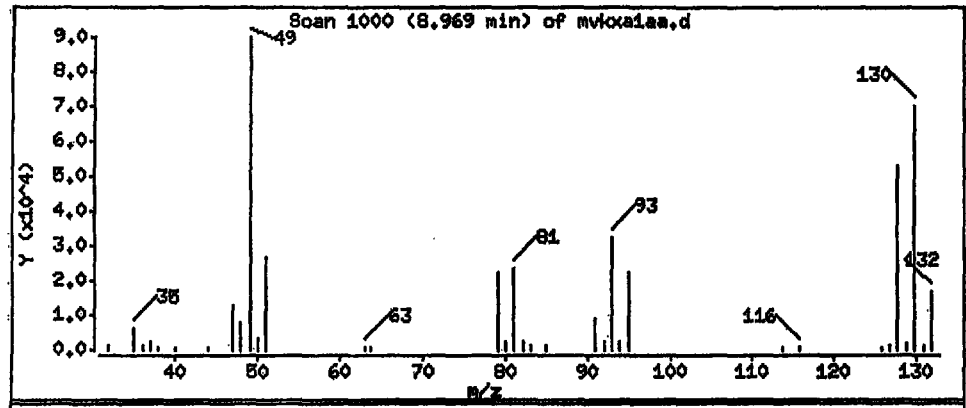
Client ID: TOI/071112 | Instrument: mj.i

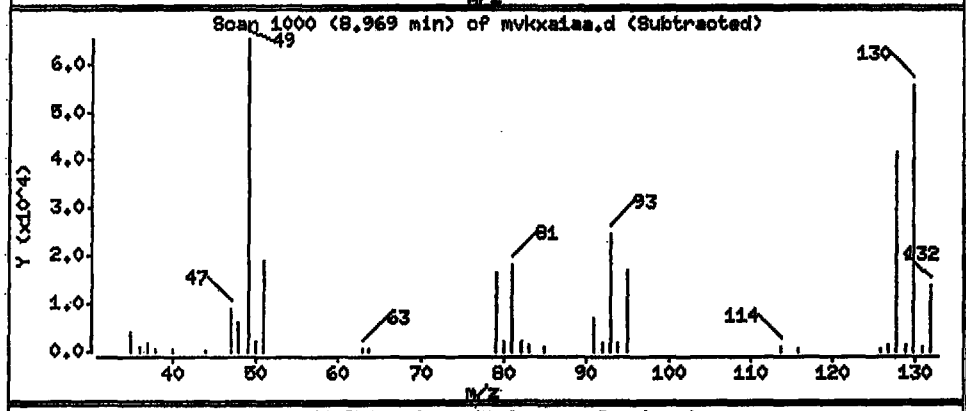
Sample Info: ,12446.68,0,,,

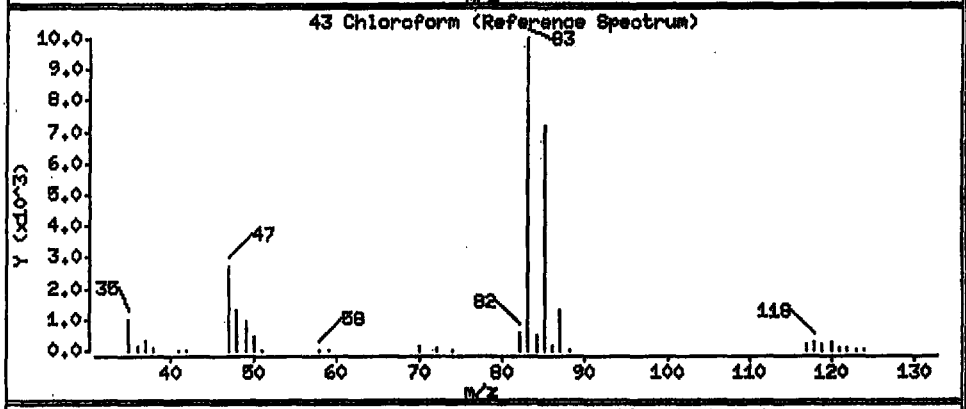
Purge Volume: 200.0 | Operator: 403648

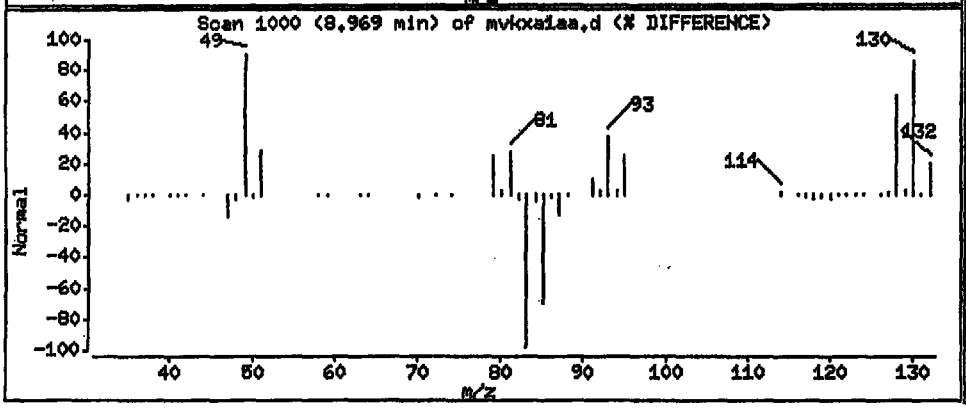
Column phase: Rtx-5 | Column diameter: 0.32

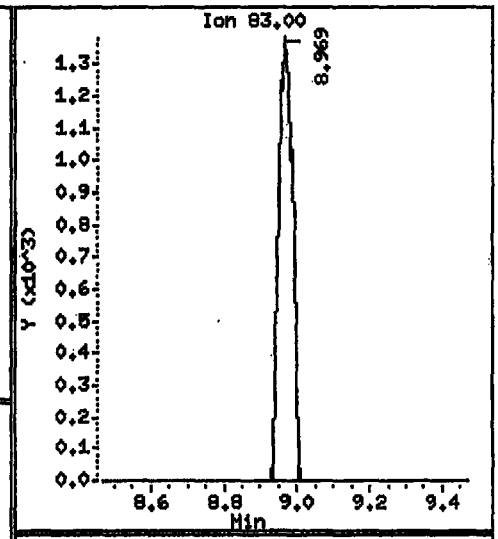
43 Chloroform | Concentration: 609.4 ppb(v/v)

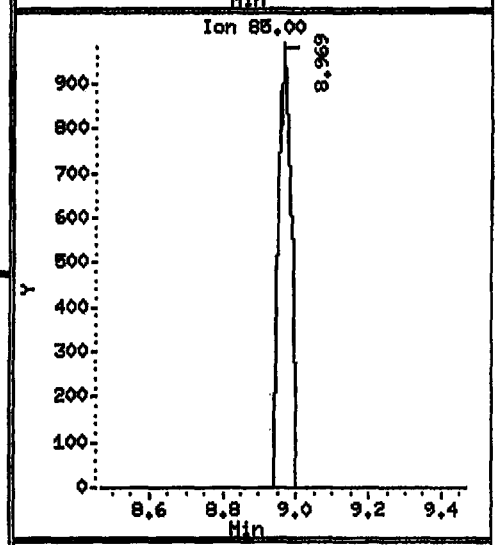


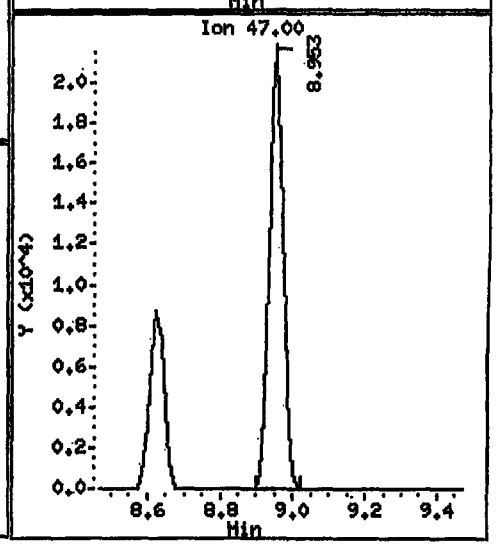












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxa1aa.d

Date : 16-JUL-2012 18:57

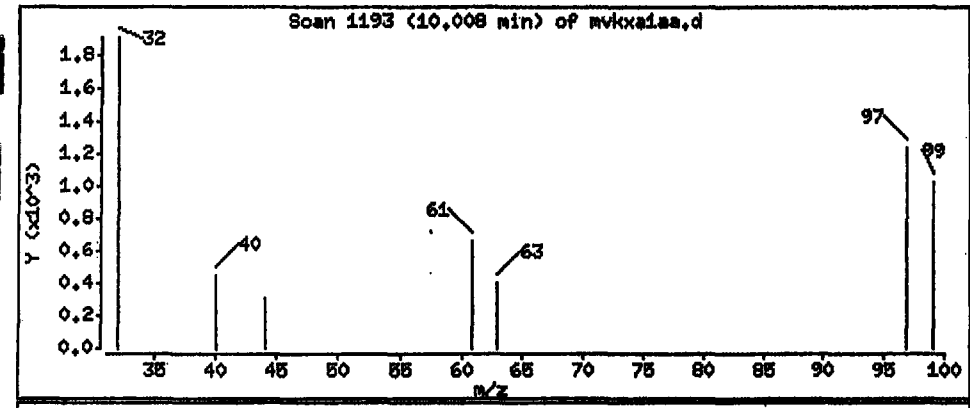
Client ID: TOI/071112 | Instrument: mj.i

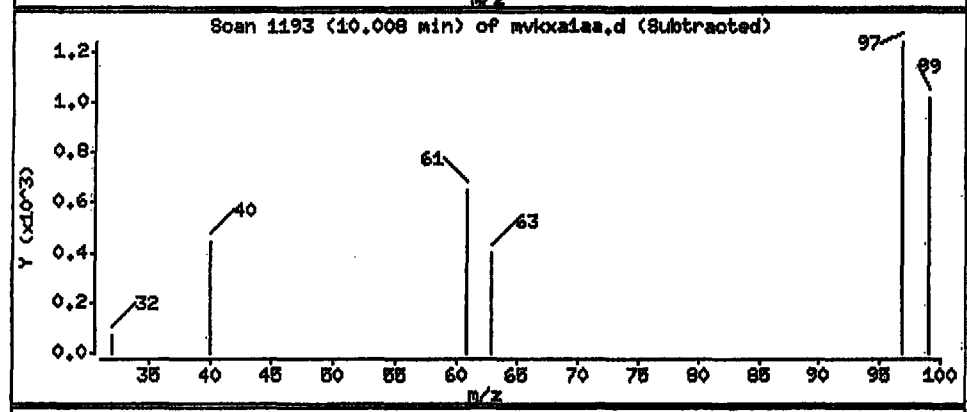
Sample Info: ,12446.68,0,,,

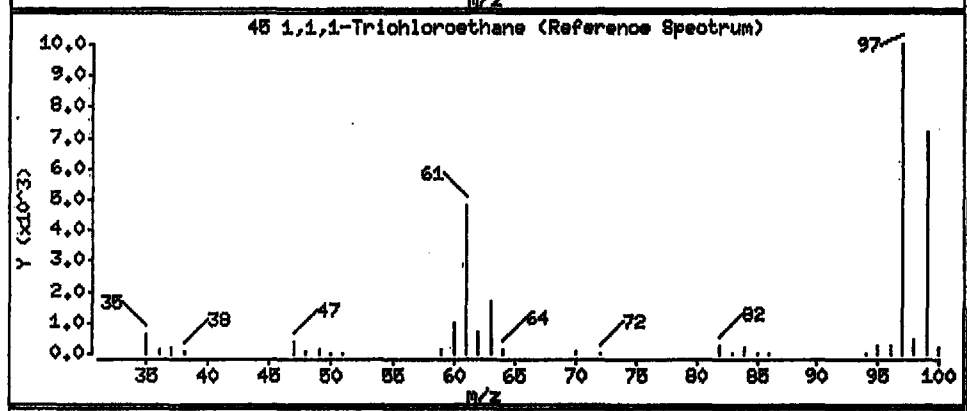
Purge Volume: 200.0 | Operator: 403648

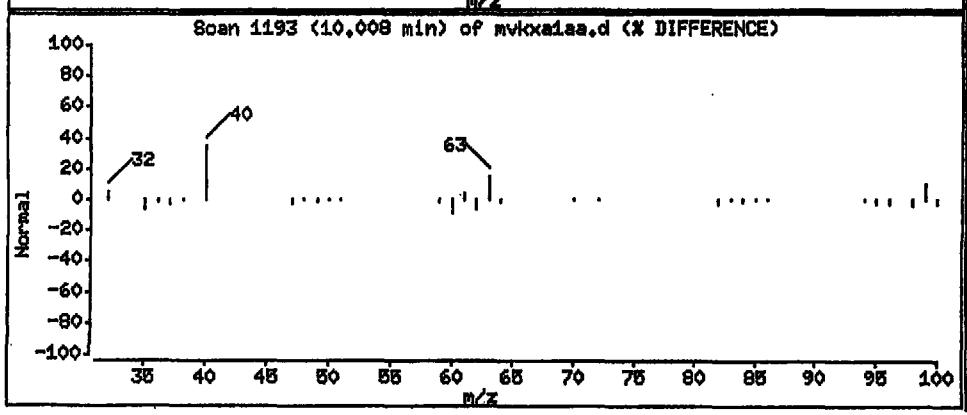
Column phase: Rtx-5 | Column diameter: 0.32

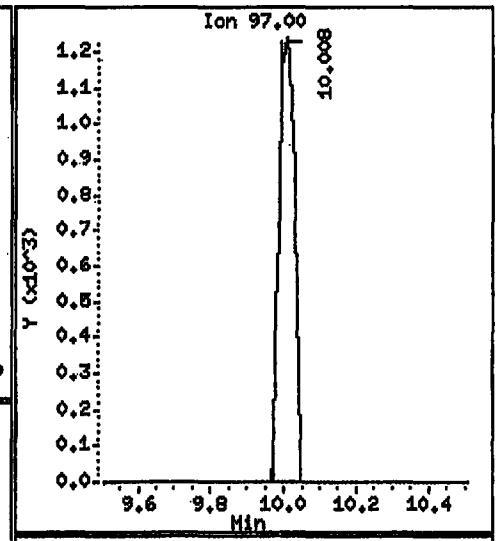
45 1,1,1-Trichloroethane | Concentration: 512.0 ppb(v/v)

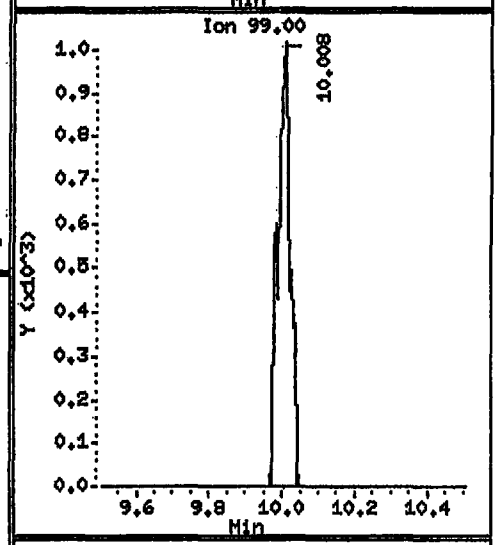


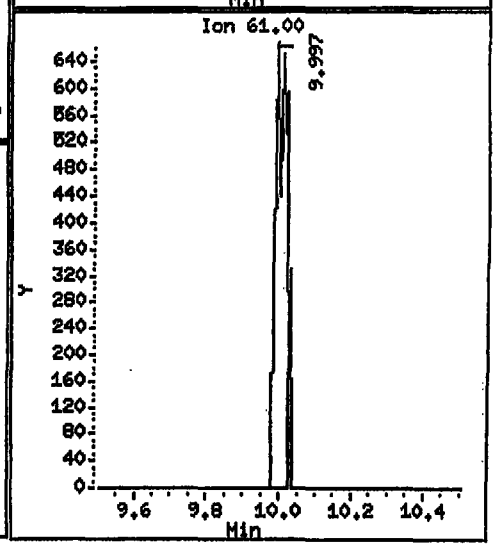












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxa1aa.d

Date : 16-JUL-2012 18:57

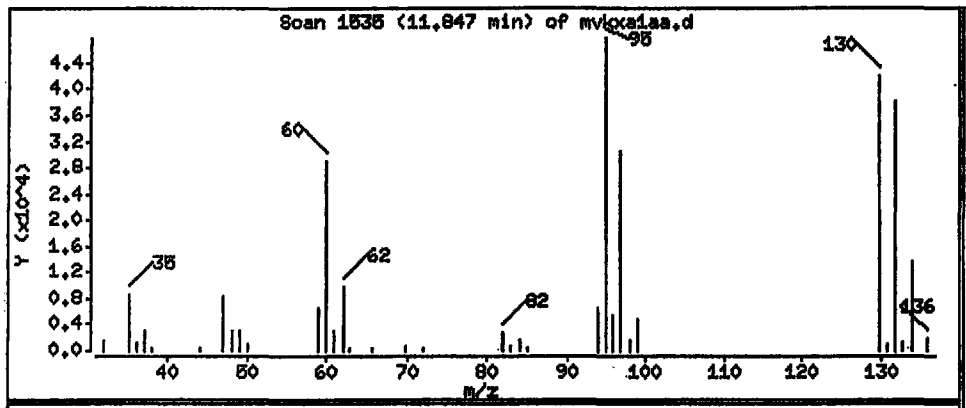
Client ID: TOI/071112 Instrument: mj.i

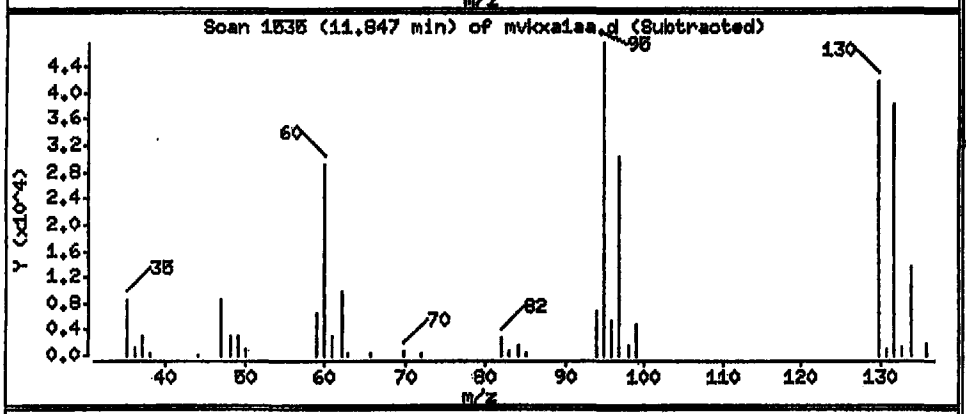
Sample Info: ,12446.68,0,,,

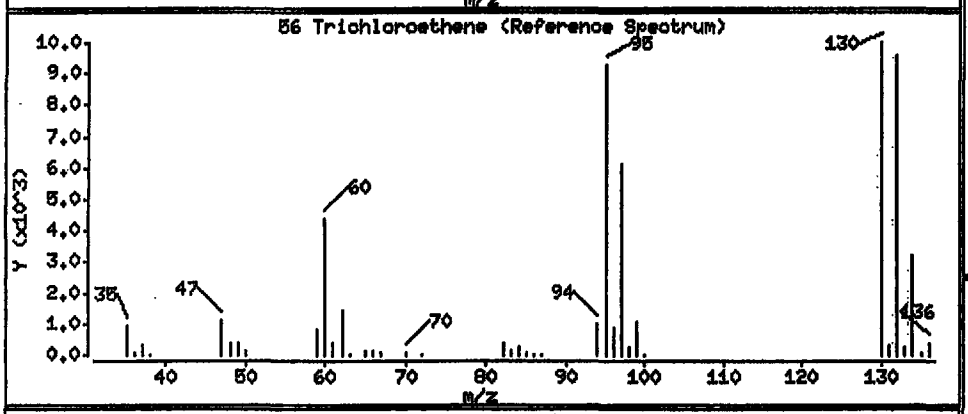
Purge Volume: 200.0 Operator: 403648

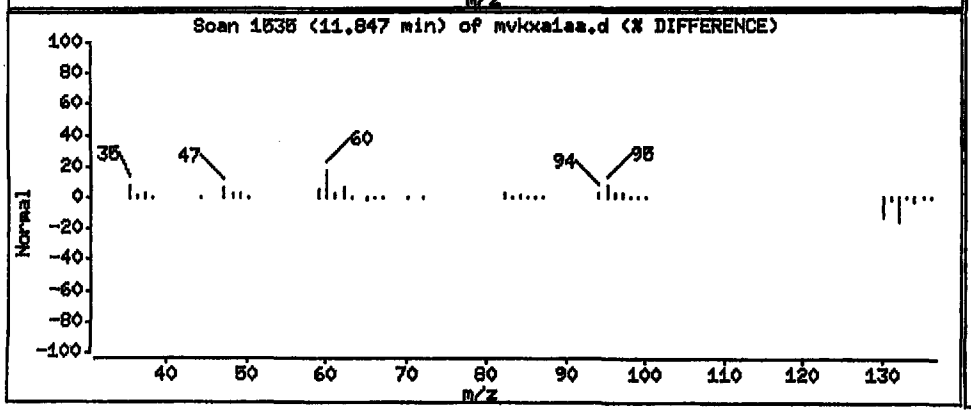
Column phase: Rtx-5 Column diameter: 0.32

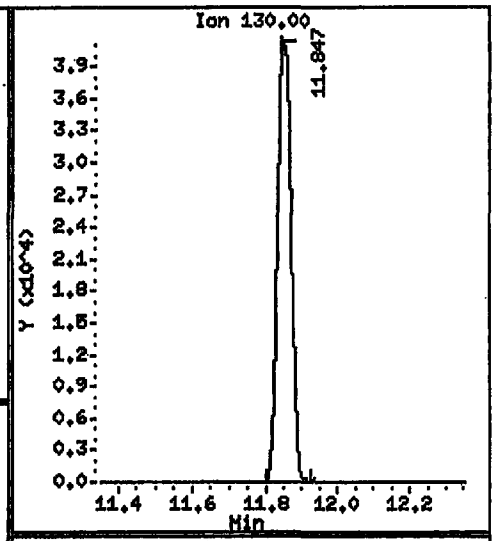
56 Trichloroethene Concentration: 30280 ppb(v/v)

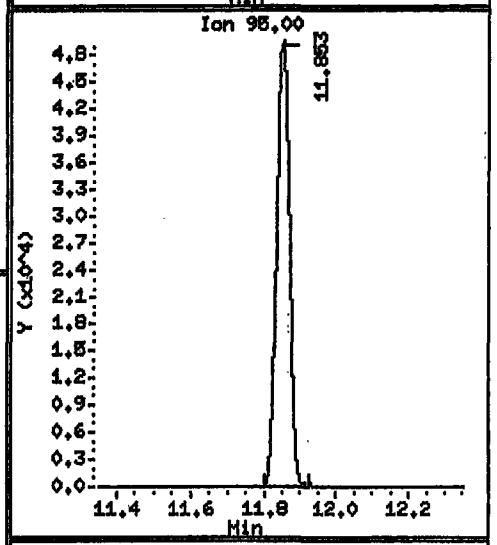


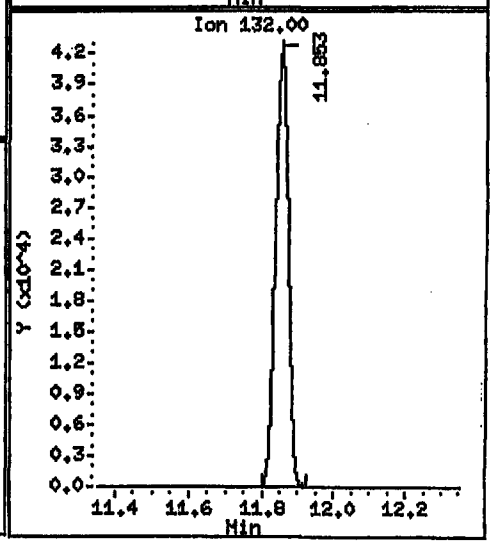












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxa1aa.d

Date : 16-JUL-2012 18:57

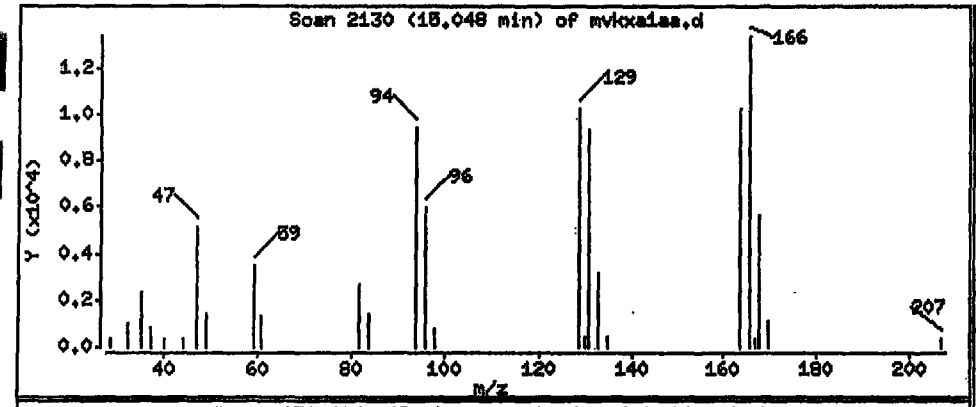
Client ID: TOI/071112 Instrument: mj.i

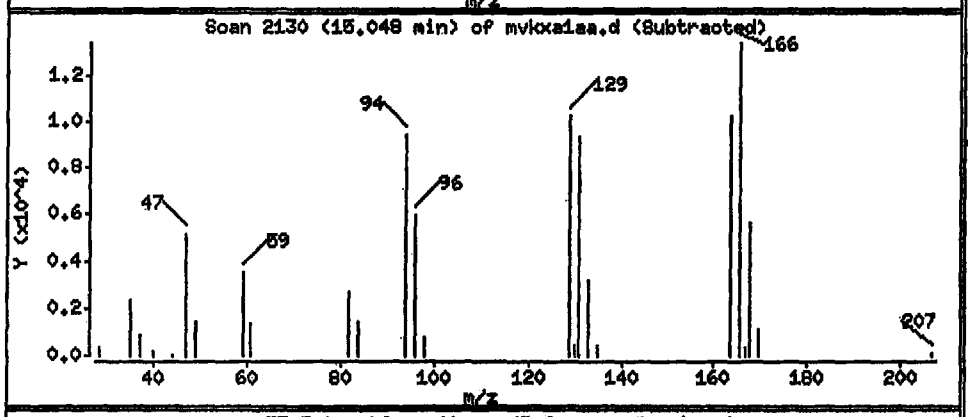
Sample Info: ,12446.68,0,,,

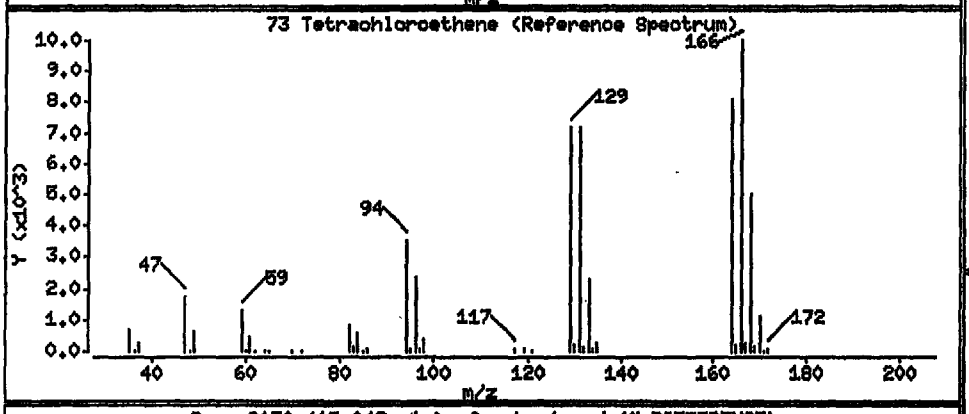
Purge Volume: 200.0 Operator: 403648

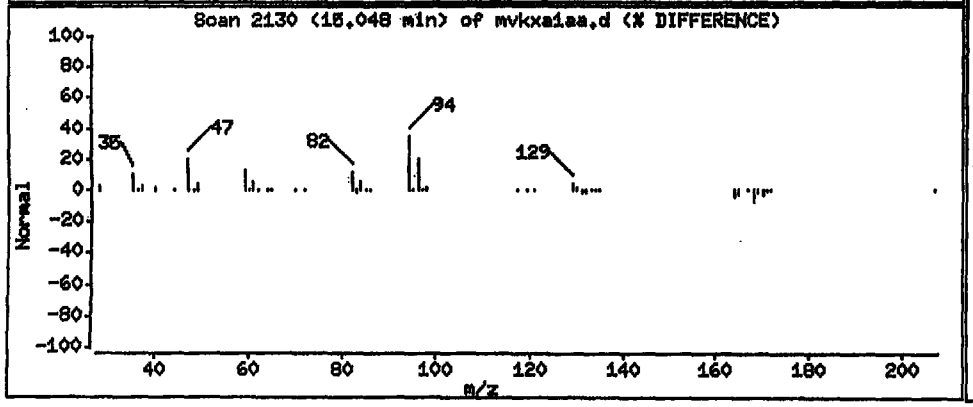
Column phase: Rtx-5 Column diameter: 0.32

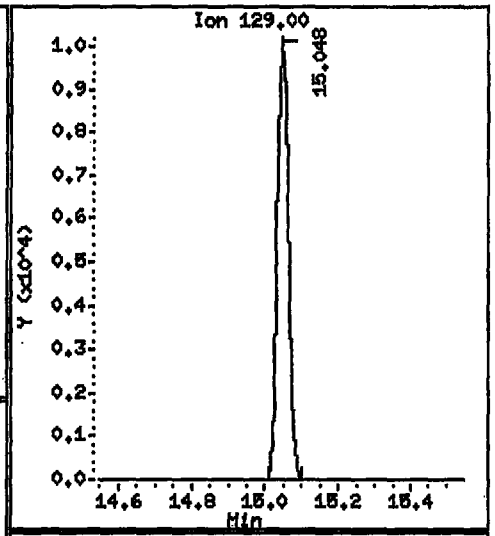
73 Tetrachloroethene Concentration: 6198 ppb(v/v)

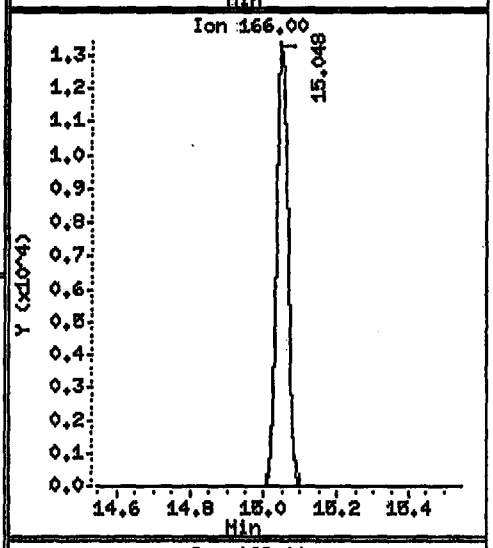


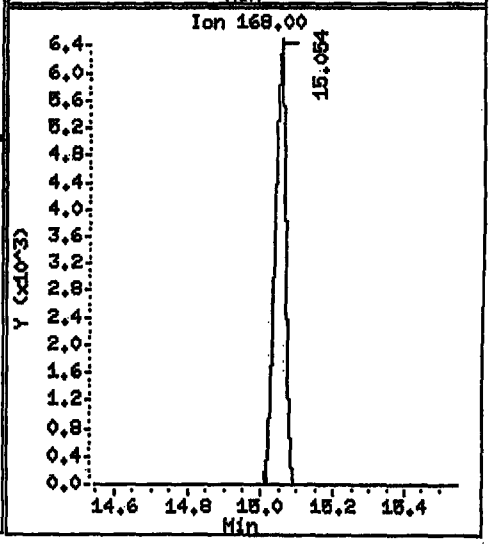












ARCADIS U.S., Inc.

Client Sample ID: TOE/071112

GC/MS Volatiles

Lot-Sample #	H2G130475 - 002	**Work Order #**	MVKXG1AA	**Matrix.....:**	AIR

Date Sampled...:	07/11/2012	**Date Received..:**	07/13/2012
Prep Date.....:	07/16/2012	**Analysis Date...**	07/17/2012
Prep Batch #.....:	2198129		
Dilution Factor.:	1.56	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
trans-1,3-Dichloropropene	ND	0.31	ND	1.4
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.31	ND	2.2
Acetone	**43**	**7.8**	**100**	**19**
1,4-Dioxane	ND	0.78	ND	2.8
Ethyl acetate	ND	3.1	ND	11
Ethylbenzene	**0.36**	**0.31**	**1.6**	**1.4**
Trichlorofluoromethane	**0.089 J**	**0.31**	**0.50 J**	**1.8**
n-Heptane	**0.49 J**	**0.78**	**2.0 J**	**3.2**
Hexachlorobutadiene	ND	1.6	ND	17
n-Hexane	**0.32 J**	**0.78**	**1.1 J**	**2.7**
2-Hexanone	**3.5**	**0.78**	**14**	**3.2**
2,2,4-Trimethylpentane	ND	0.78	ND	3.6
Cumene	ND	0.62	ND	3.1
tert-Butyl alcohol	**44**	**3.1**	**130**	**9.5**
Methylene chloride	**0.38 J B**	**0.78**	**1.3 J B**	**2.7**
Methyl methacrylate	ND	0.78	ND	3.2
Benzene	**0.26 J**	**0.31**	**0.82 J**	**1.00**
Acetonitrile	ND	1.6	ND	2.6
n-Octane	ND	0.62	ND	2.9
Pentane	**0.34 J**	**1.6**	**1.0 J**	**4.6**
Styrene	ND	0.31	ND	1.3
1,1,2,2-Tetrachloroethane	ND	0.31	ND	2.1
Tetrachloroethene	ND	0.31	ND	2.1
Toluene	**1.5**	**0.31**	**5.6**	**1.2**
1,2,4-Trichlorobenzene	ND	1.6	ND	12
1,1,1-Trichloroethane	ND	0.31	ND	1.7
1,1,2-Trichloroethane	ND	0.31	ND	1.7
Trichloroethene	**0.14 J**	**0.31**	**0.76 J**	**1.7**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.31	ND	2.4
1,2,4-Trimethylbenzene	**2.7**	**0.31**	**13**	**1.5**
1,3,5-Trimethylbenzene	**1.5**	**0.31**	**7.5**	**1.5**
Vinyl acetate	ND	1.6	ND	5.5
Vinyl chloride	**0.33**	**0.31**	**0.83**	**0.80**
o-Xylene	**0.81**	**0.31**	**3.5**	**1.4**
Methyl tert-butyl ether	ND	1.6	ND	5.6
alpha-Methylstyrene	ND	0.62	ND	3.0
Chlorodifluoromethane	ND	0.31	ND	1.1
m-Xylene & p-Xylene	**1.9**	**0.31**	**8.4**	**1.4**

ARCADIS U.S., Inc.

Client Sample ID: TOE/071112

GC/MS Volatiles

Lot-Sample # H2G130475 - 002 **Work Order #** MVKXG1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Bromodichloromethane	ND	0.31	ND	2.1
1,2-Dibromoethane (EDB)	ND	0.31	ND	2.4
2-Butanone (MEK)	**12**	**1.6**	**34**	**4.6**
4-Methyl-2-pentanone (MIBK)	**3.9**	**0.78**	**16**	**3.2**
Bromoform	ND	0.31	ND	3.2
Bromomethane	ND	0.31	ND	1.2
1,3-Butadiene	ND	0.62	ND	1.4
4-Ethyltoluene	**0.66**	**0.62**	**3.2**	**3.1**
Acrolein	**1.5**	**1.2**	**3.5**	**2.9**
Carbon disulfide	**2.3**	**0.78**	**7.3**	**2.4**
Acrylonitrile	**1.2 J**	**3.1**	**2.6 J**	**6.8**
Carbon tetrachloride	**0.092 J**	**0.31**	**0.58 J**	**2.0**
Chlorobenzene	ND	0.31	ND	1.4
Dibromochloromethane	ND	0.31	ND	2.7
Chloroethane	ND	0.31	ND	0.82
Chloroform	**0.44**	**0.31**	**2.2**	**1.5**
Chloromethane	**1.6**	**0.78**	**3.4**	**1.6**
3-Chloropropene	ND	0.31	ND	0.98
Propene	**0.49 J**	**0.78**	**0.85 J**	**1.3**
Dibromomethane	ND	0.62	ND	4.4
1,2-Dichlorobenzene	ND	0.31	ND	1.9
1,3-Dichlorobenzene	ND	0.31	ND	1.9
1,4-Dichlorobenzene	**0.15 J**	**0.31**	**0.91 J**	**1.9**
Dichlorodifluoromethane	ND	0.31	ND	1.5
1,1-Dichloroethane	ND	0.31	ND	1.3
1,2-Dichloroethane	ND	0.31	ND	1.3
1,1-Dichloroethene	ND	0.31	ND	1.2
cis-1,2-Dichloroethene	**0.23 J**	**0.31**	**0.92 J**	**1.2**
trans-1,2-Dichloroethene	ND	0.31	ND	1.2
1,2-Dichloropropane	ND	0.31	ND	1.4
cis-1,3-Dichloropropene	ND	0.31	ND	1.4

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	105	60 - 140

Qualifiers

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than RL.

ARCADIS U.S., Inc.

Client Sample ID: TOE/071112

GC/MS Volatiles

Lot-Sample #	H2G130475 - 002	**Work Order #**	MVKXG1AA	**Matrix.....:**	AIR

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d
Report Date: 17-Jul-2012 12:01

TestAmerica Knoxville

Modified Method TO-14/TO-15

Data file : /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d
Lab Smp Id: MVKXG1AA Client Smp ID: TOE/071112
Inj Date : 17-JUL-2012 11:17
Operator : 403648 Inst ID: mj.i
Smp Info : MVKXG1AA,1.56,0,,,
Misc Info : J071612A,TO15,lord.sub,,,
Comment :
Method : /var/chem/gcms/mj.i/J071612A.b/TO15.m
Meth Date : 17-Jul-2012 11:18 barlozha Quant Type: ISTD
Cal Date : 24-MAY-2012 13:43 Cal File: jice241.d
Als bottle: 2
Dil Factor: 1.56000
Integrator: HP RTE Compound Sublist: lord.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.56000	Dilution Factor
Vt	500.00000	Default Calibration Volume
Vo	200.00000	Default Sample Volume

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	FINAL (ppb(v/v))
* 1 Bromochloromethane	128	8.962	8.954	(1.000)	222988	4.00000	4.000
* 2 1,4-Difluorobenzene	114	11.141	11.138	(1.000)	1028394	4.00000	4.000
* 3 Chlorobenzene-d5	117	15.870	15.872	(1.000)	915656	4.00000	4.000
§ 4 4-Bromofluorobenzene	95	17.505	17.507	(1.103)	760093	4.20491	10.51
6 Propene	41	3.852	3.849	(0.430)	8147	0.12685	0.4947
8 Chloromethane	52	4.078	4.080	(0.455)	9348	0.42215	1.646
12 Vinyl Chloride	62	4.255	4.252	(0.475)	7203	0.08370	0.3264
20 Trichlorofluoromethane	101	5.385	5.377	(0.601)	6710	0.02289	0.08927
21 Acrolein	56	5.390	5.371	(0.601)	7687	0.38944	1.519
23 Acetone	58	5.493	5.484	(0.613)	341191	10.9466	42.69
25 Pentane	72	5.611	5.603	(0.626)	839	0.08695	0.3391
28 tert-butanol	59	6.160	6.151	(0.687)	1321542	11.4063	44.48
29 Acrylonitrile	53	6.160	6.157	(0.687)	11047	0.30911	1.206
31 Methylene Chloride	84	6.434	6.420	(0.718)	5502	0.09760	0.3806
33 Carbon Disulfide	76	6.595	6.587	(0.736)	119184	0.59937	2.338
39 2-Butanone	72	8.188	8.179	(0.914)	71536	2.95576	11.53

Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d
Report Date: 17-Jul-2012 12:01

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	FINAL (ppb(v/v))
40 Hexane	56	8.258	8.249	(0.921)	4635	0.08204	0.3200
41 cis 1,2-Dichloroethene	96	8.634	8.626	(0.963)	3913	0.05972	0.2329
43 Chloroform	83	8.978	8.970	(1.002)	20422	0.11379	0.4438
48 Benzene	78	10.608	10.606	(0.952)	12706	0.06583	0.2567
50 Carbon Tetrachloride	117	10.646	10.633	(0.956)	4885	0.02359	0.09199
54 Heptane	71	11.749	11.757	(1.055)	8065	0.12453	0.4857
56 Trichloroethene	130	11.856	11.854	(1.064)	3859	0.03636	0.1418
62 4-Methyl-2-pentanone	43	13.008	13.010	(1.168)	116503	1.00094	3.904
65 Toluene	91	13.901	13.903	(0.876)	79390	0.37960	1.480
69 2-Hexanone	58	14.347	14.350	(0.904)	49530	0.89538	3.492
76 Ethylbenzene	91	16.208	16.211	(1.021)	24282	0.09161	0.3573
78 m&p-Xylene	91	16.364	16.372	(1.031)	104834	0.49686	1.938
82 o-Xylene	91	16.897	16.894	(1.065)	45286	0.20834	0.8125
89 4-Ethyltoluene	105	18.167	18.169	(1.145)	47717	0.16919	0.6598
90 1,3,5-Trimethylbenzene	120	18.237	18.239	(1.149)	47482	0.39216	1.529
94 1,2,4-Trimethylbenzene	105	18.672	18.675	(1.177)	161832	0.70067	2.733
98 1,4-Dichlorobenzene	146	19.027	19.024	(1.199)	6303	0.03860	0.1506

Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d
Report Date: 17-Jul-2012 12:01

TestAmerica Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mj.i
Lab File ID: mvkxgr.d
Lab Smp Id: MVKXG1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 403648
Method File: /var/chem/gcms/mj.i/J071612A.b/TO15.m
Misc Info: J071612A,TO15,lord.sub,,,

Calibration Date: 16-JUL-2012
Calibration Time: 14:17
Client Smp ID: TOE/071112
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	245907	146315	345499	222988	-9.32
2 1,4-Difluorobenze	1075688	640034	1511342	1028394	-4.40
3 Chlorobenzene-d5	907373	539887	1274859	915656	0.91

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	8.95	8.62	9.28	8.96	0.09
2 1,4-Difluorobenze	11.14	10.81	11.47	11.14	0.03
3 Chlorobenzene-d5	15.87	15.54	16.20	15.87	-0.02

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

Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d
Report Date: 17-Jul-2012 12:01

TestAmerica Knoxville

RECOVERY REPORT

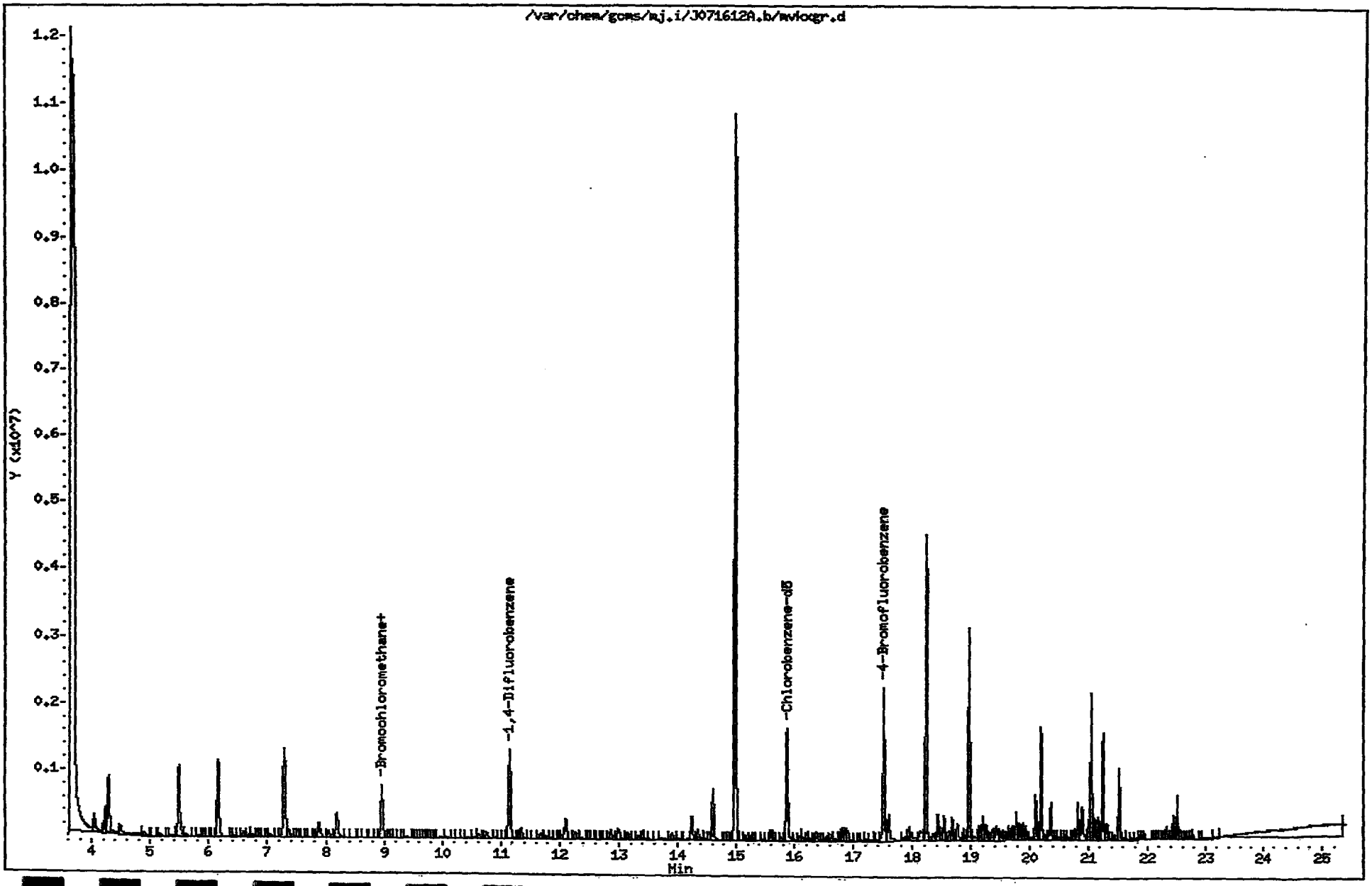
Client Name: ARCADIS U.S., Inc.
Sample Matrix: GAS
Lab Smp Id: MVKXG1AA
Level: LOW
Data Type: MS DATA
SpikeList File: allnew.spk
Sublist File: lord.sub
Method File: /var/chem/gcms/mj.i/J071612A.b/TO15.m
Misc Info: J071612A,TO15,lord.sub,,,

Client SDG: H2G130475
Fraction: OTHER
Client Smp ID: TOE/071112
Operator: 403648
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 4-Bromofluorobenze	10.00	10.51	105.12	70-130

Data File: /var/chem/gcms/mj.i/J071612A.b/mvlocgr.d
Date : 17-JUL-2012 11:17
Client ID: TOE/071112
Sample Info: MVKXG1AA,1.56,0,,,
Purge Volume: 200.0
Column phase: Rtx-5

Instrument: mj.i
Operator: 403648
Column diameter: 0.32



Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

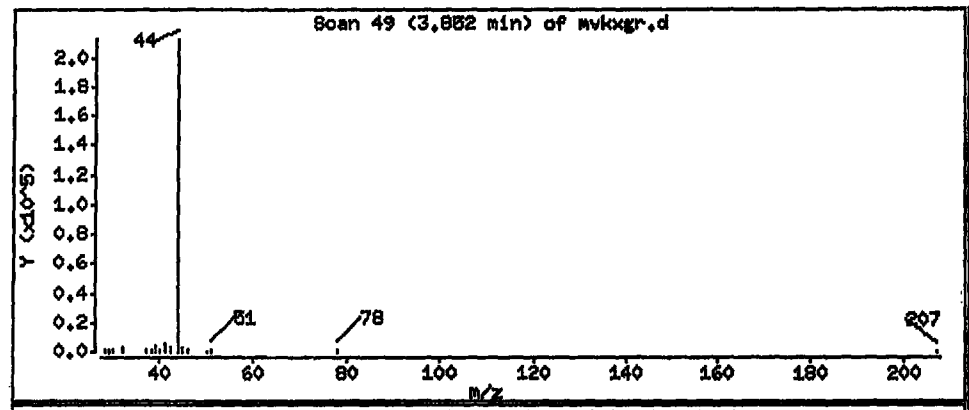
Client ID: TOE/071112 Instrument: mj.i

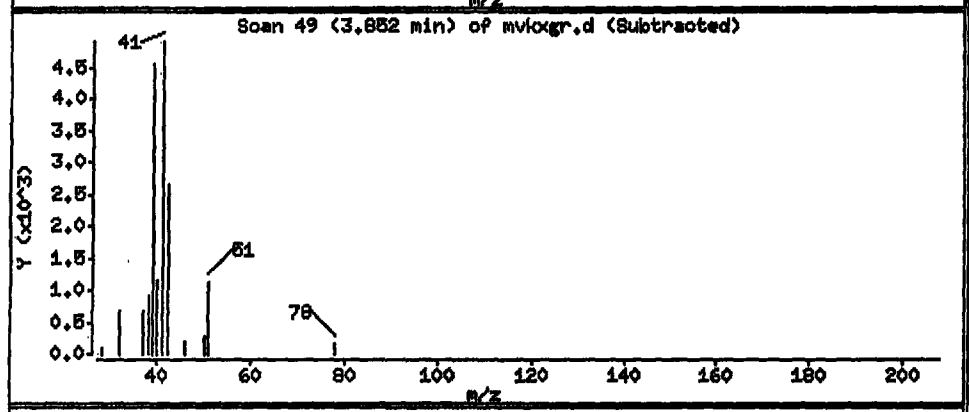
Sample Info: MVKXG1AA,1.56,0,,,

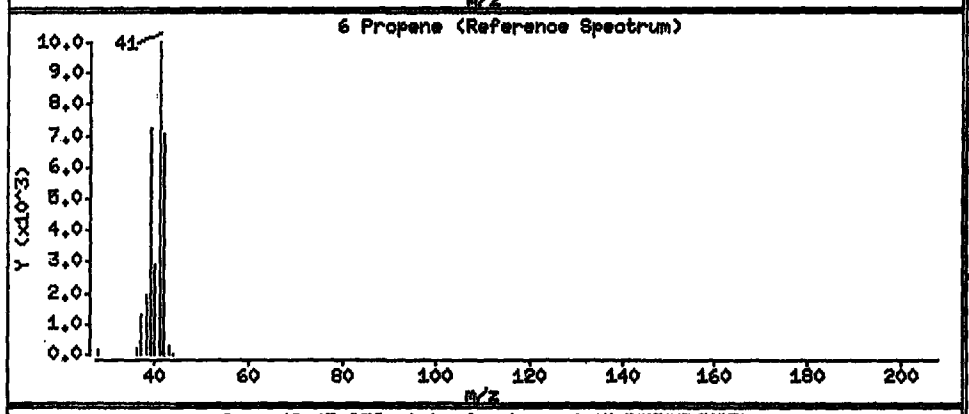
Purge Volume: 200.0 Operator: 403648

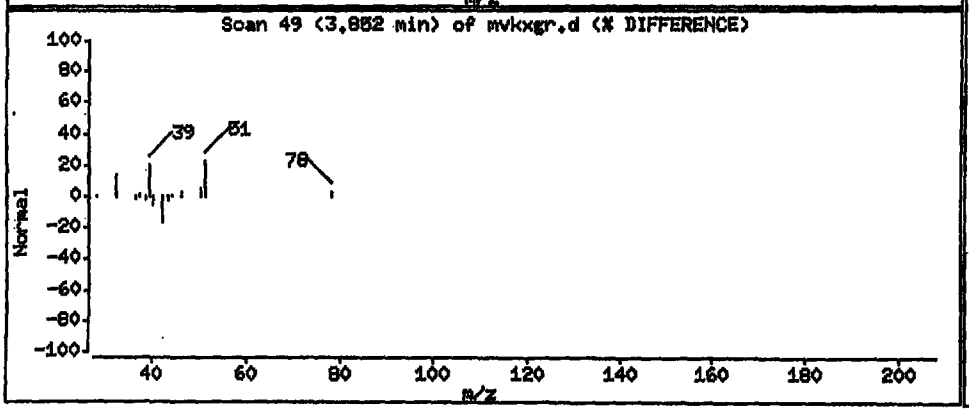
Column phase: Rtx-5 Column diameter: 0.32

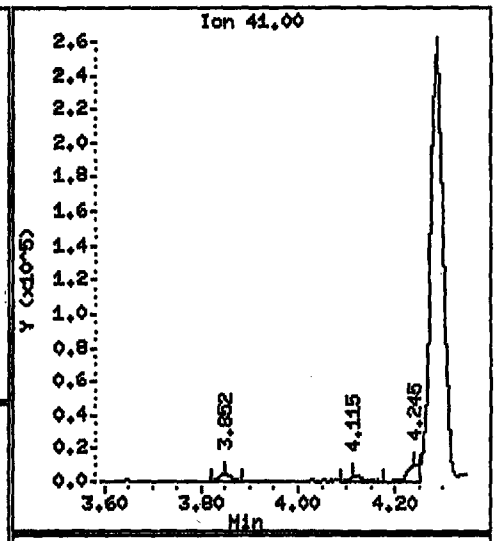
6 Propene Concentration: 0.4947 ppb(v/v)

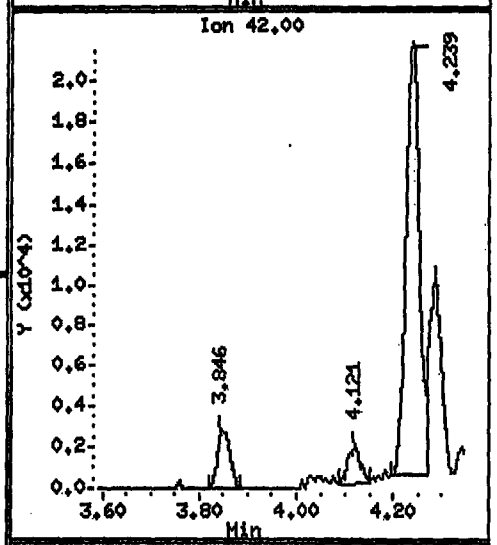


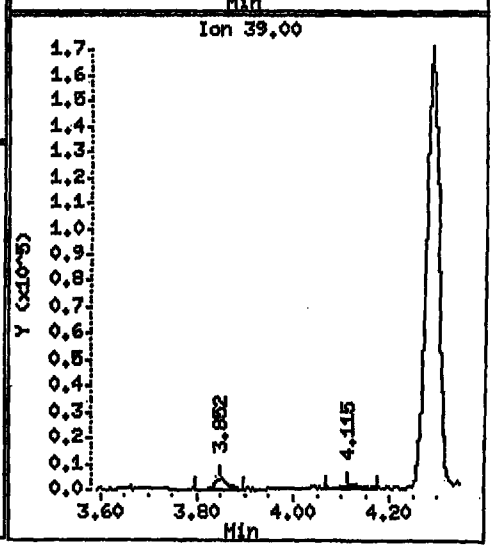












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

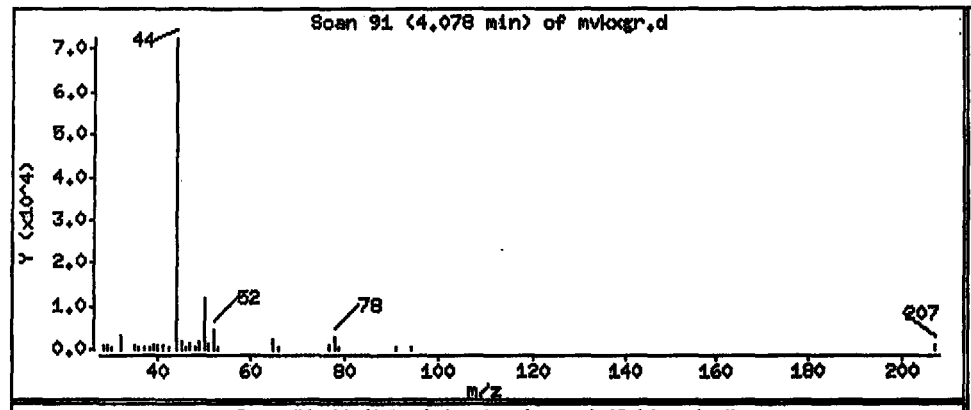
Client ID: TOE/071112 Instrument: mj.i

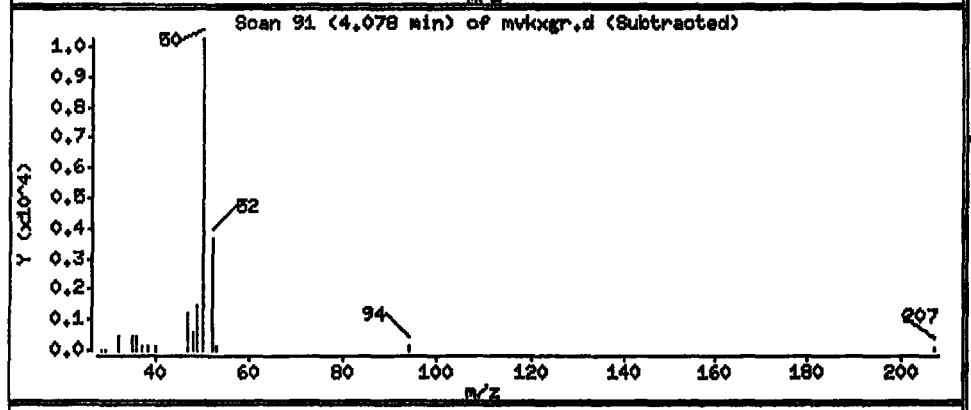
Sample Info: MVKXG1AA,1.56,0,,,

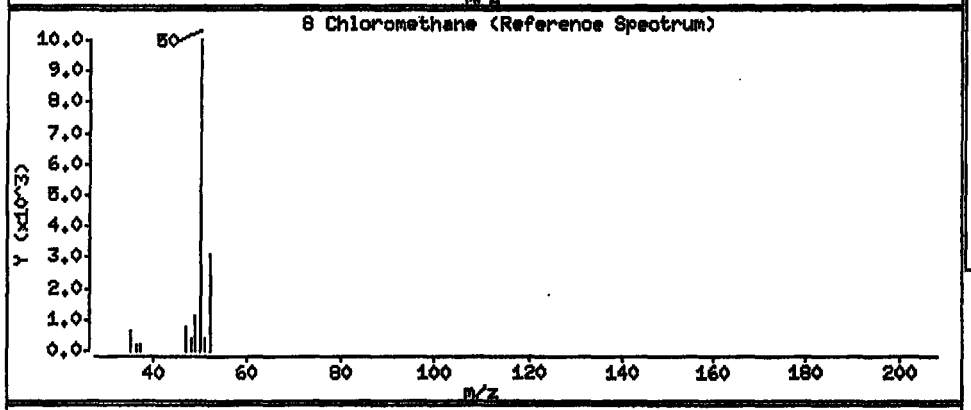
Purge Volume: 200.0 Operator: 403648

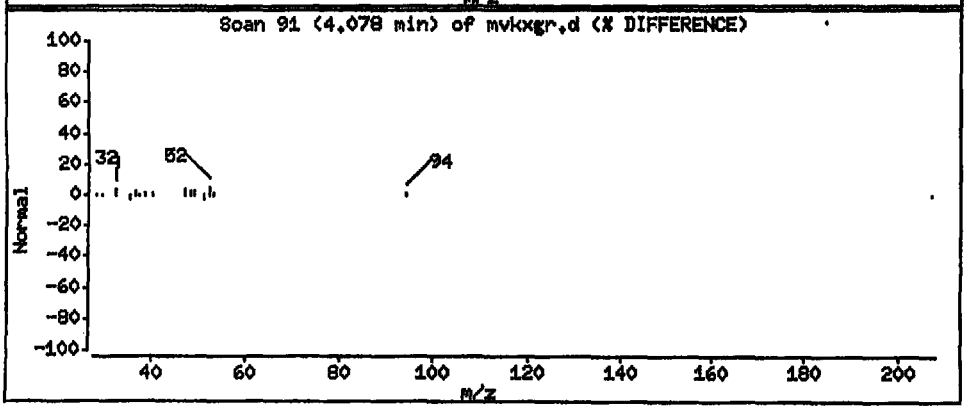
Column phase: Rtx-5 Column diameter: 0.32

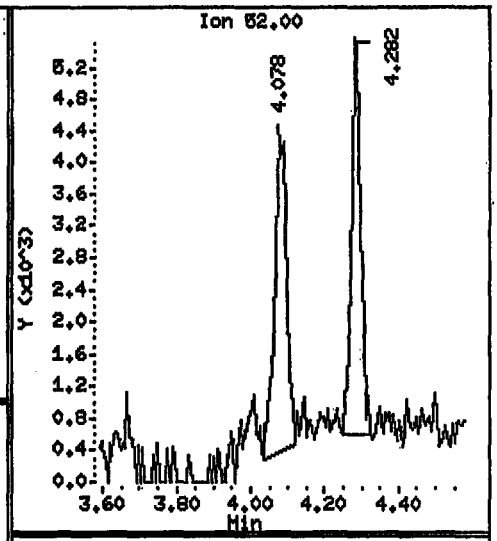
8 Chloromethane Concentration: 1.646 ppb(v/v)

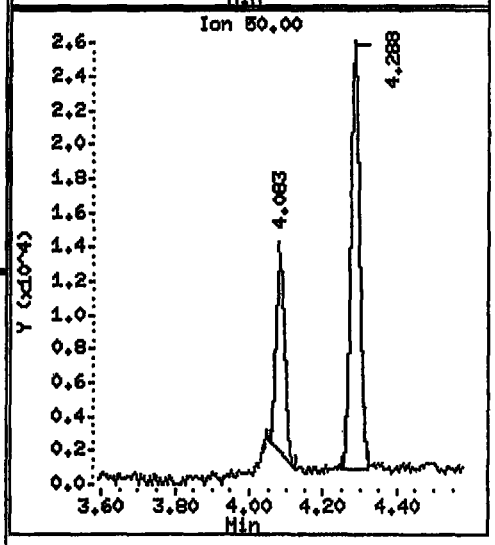












Data File: /var/chem/gcms/mj.i/J071612A.b/mvlcxgr.d

Date : 17-JUL-2012 11:17

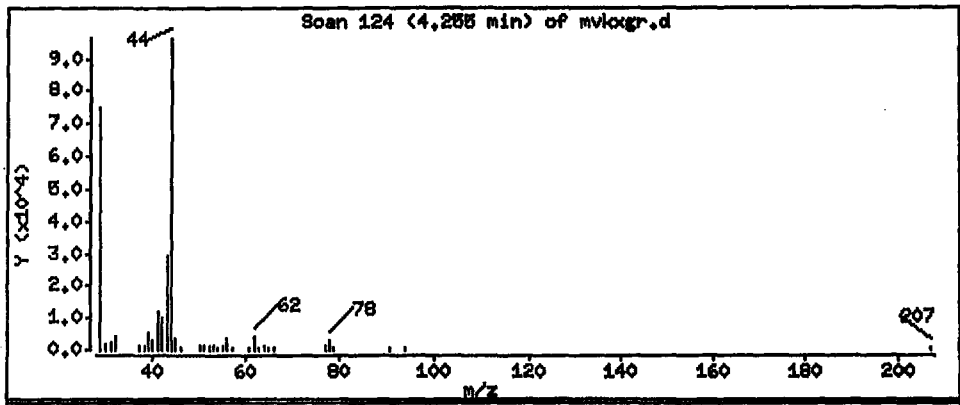
Client ID: TOE/071112 | Instrument: mj.i

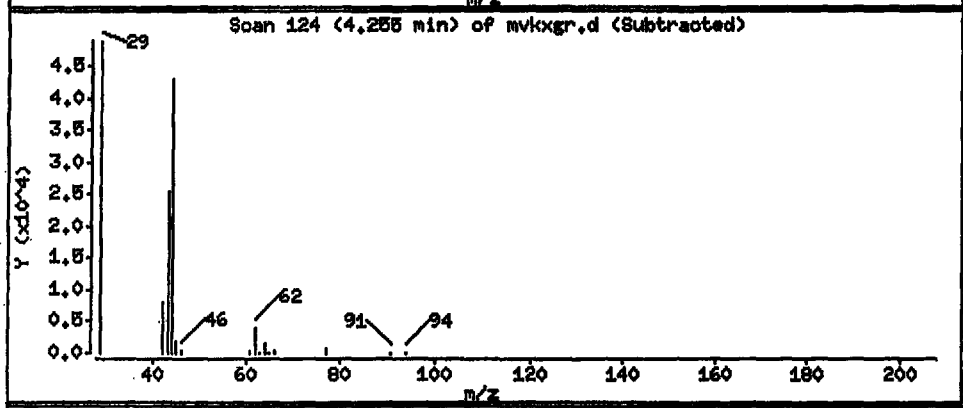
Sample Info: MVKXG1AA,1.56,0,,,

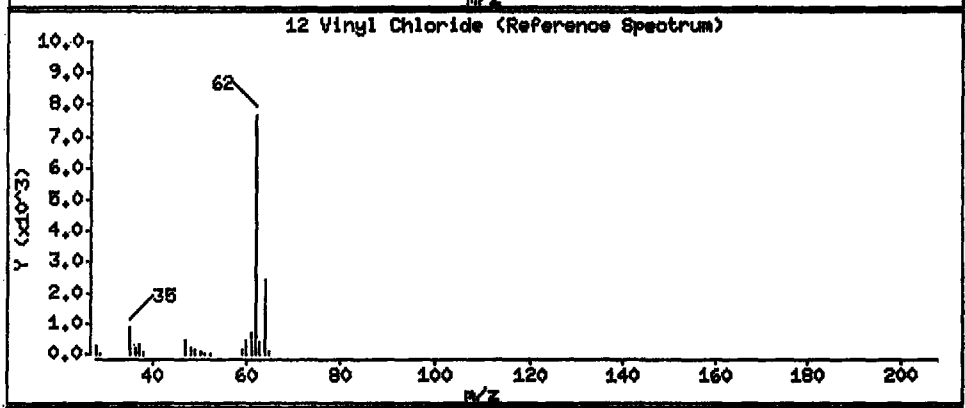
Purge Volume: 200.0 | Operator: 403648

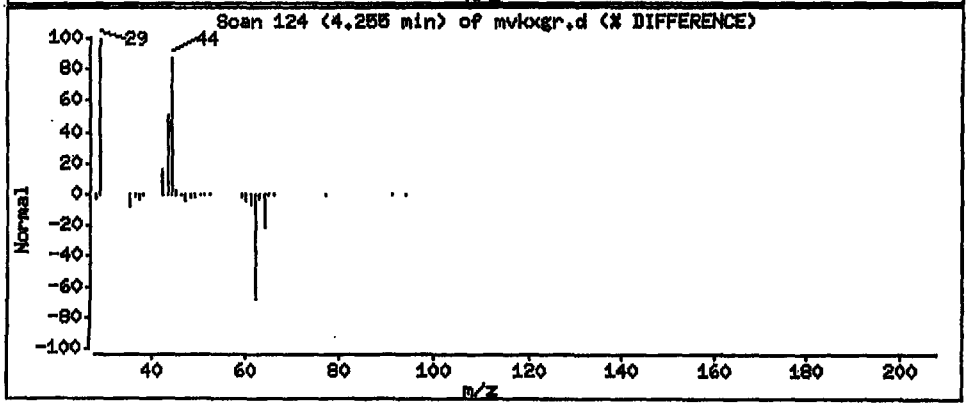
Column phase: Rtx-5 | Column diameter: 0.32

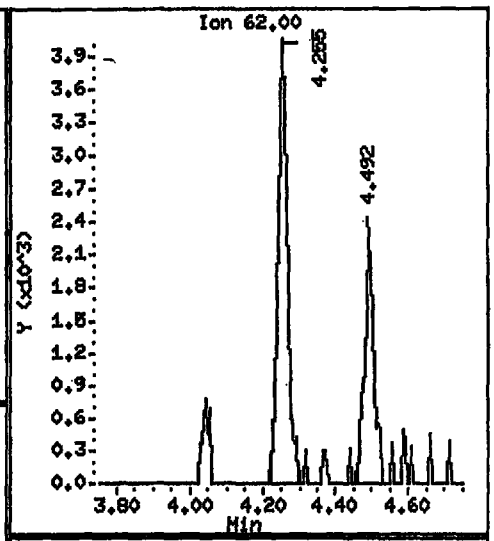
12 Vinyl Chloride | Concentration: 0.3264 ppb(v/v)

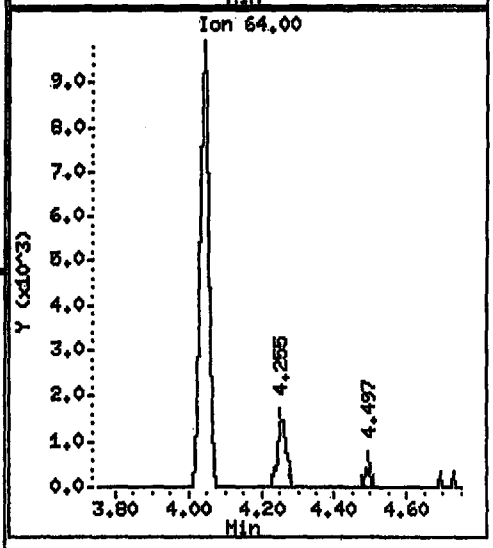












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

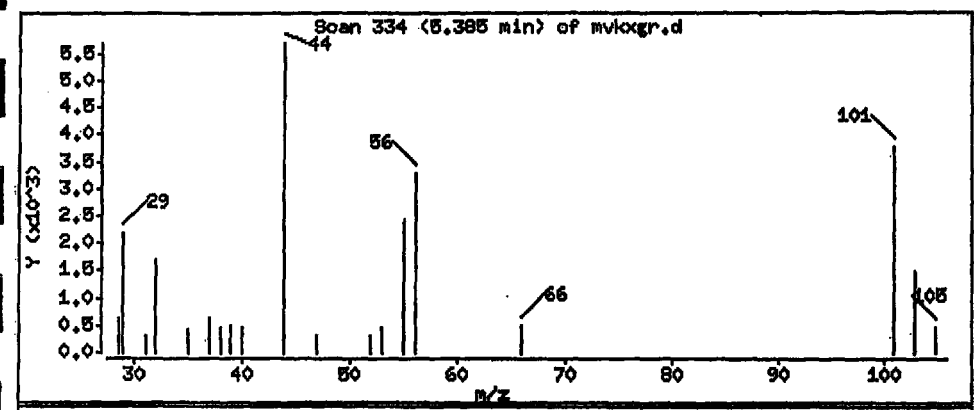
Client ID: TOE/071112 Instrument: mj.i

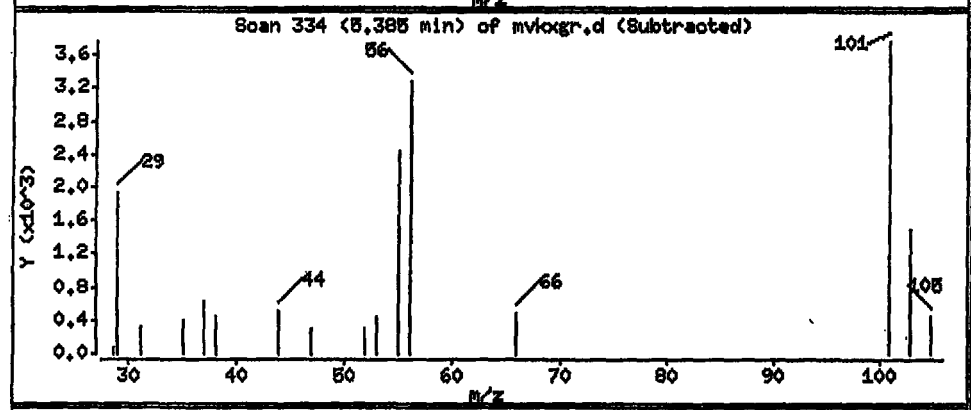
Sample Info: MVKXG1AA,1.56,0,,,

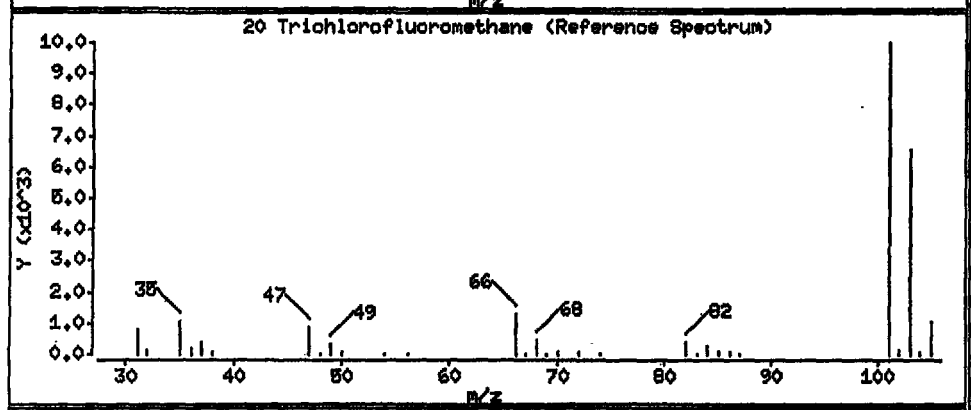
Purge Volume: 200.0 Operator: 403648

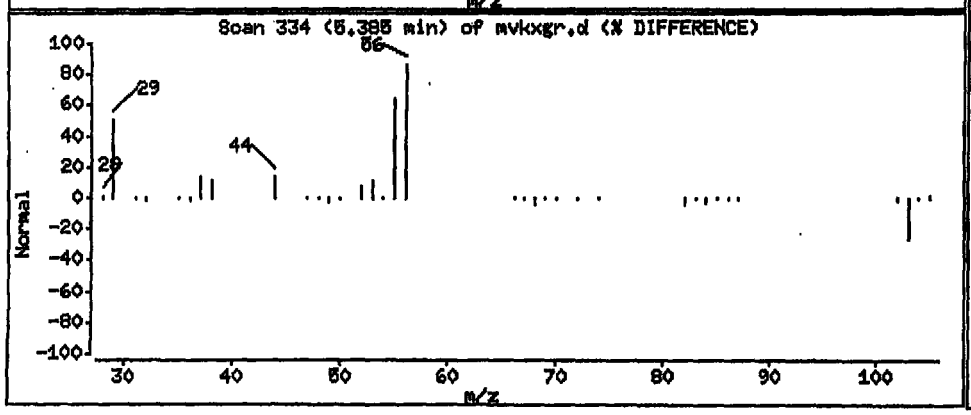
Column phase: Rtx-5 Column diameter: 0.32

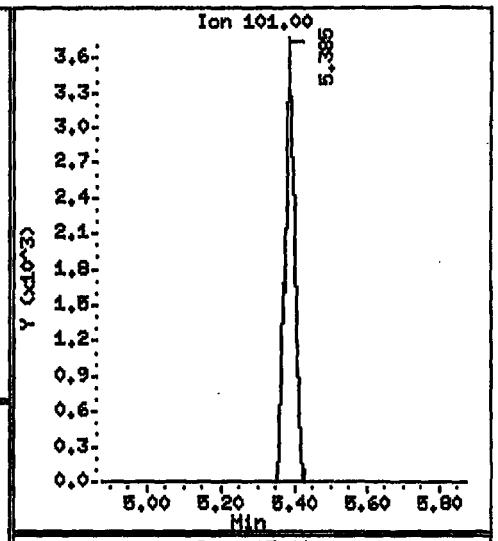
20 Trichlorofluoromethane Concentration: 0.08927 ppb(v/v)

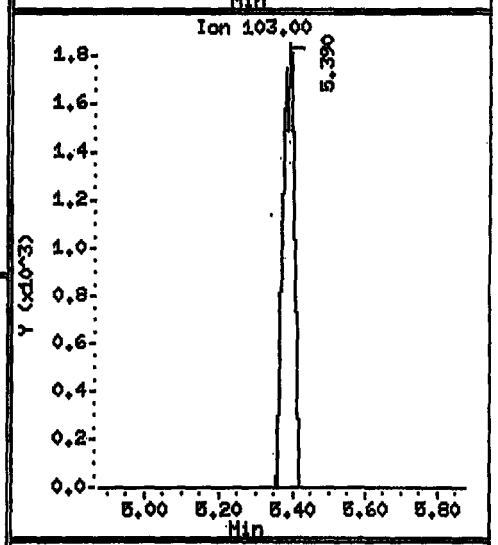


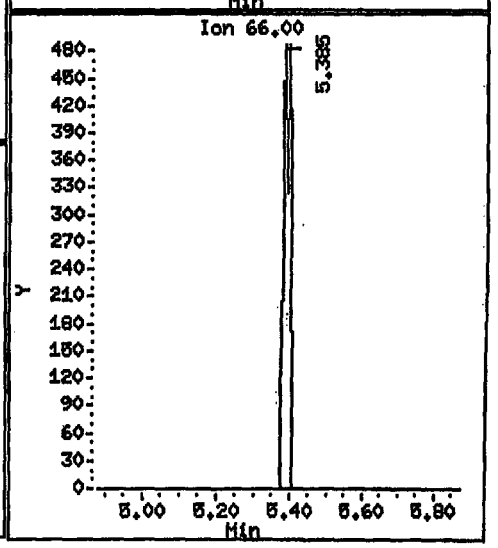












Data File: /var/chem/gcms/mj.i/J071612A.b/mvlxgr.d

Date : 17-JUL-2012 11:17

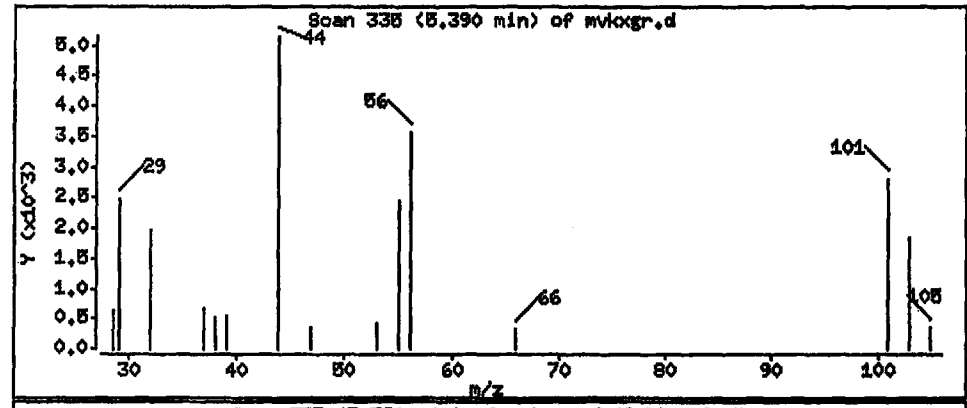
Client ID: TOE/071112 Instrument: mj.i

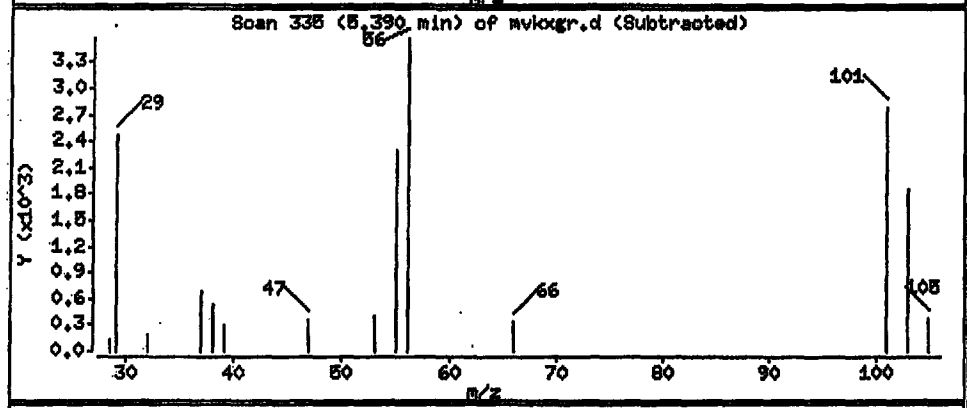
Sample Info: MVKXG1AA,1.56,0,,,

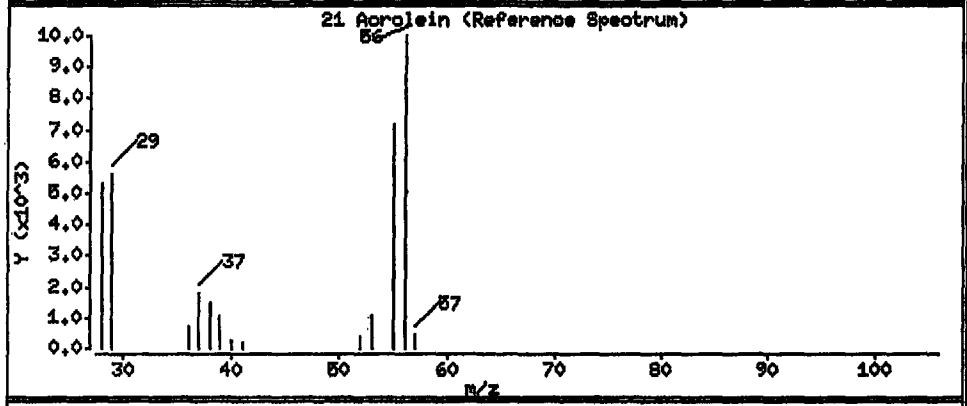
Purge Volume: 200.0 Operator: 403648

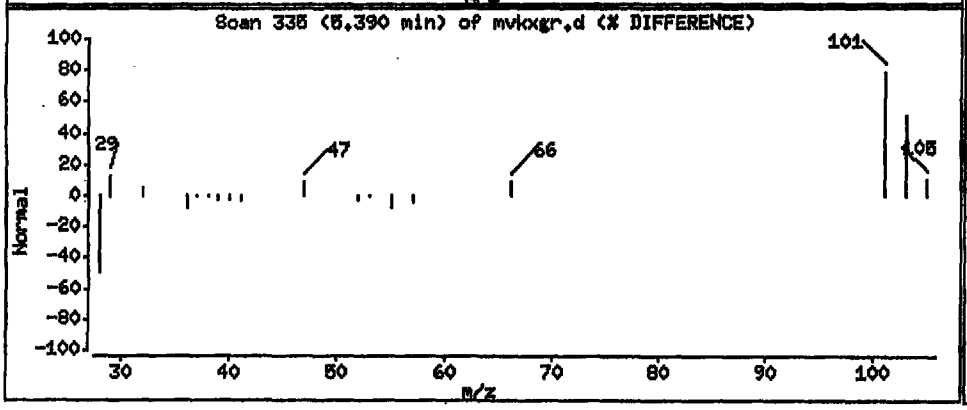
Column phase: Rtx-5 Column diameter: 0.32

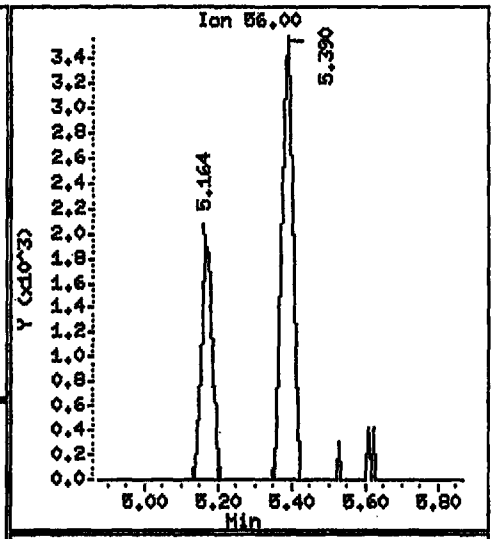
21 Acrolein Concentration: 1.519 ppb(v/v)

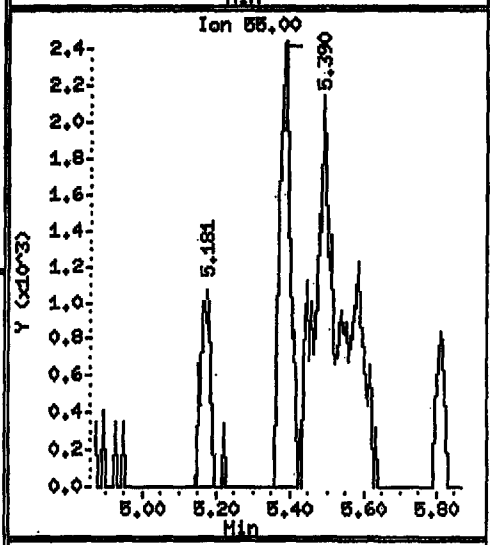


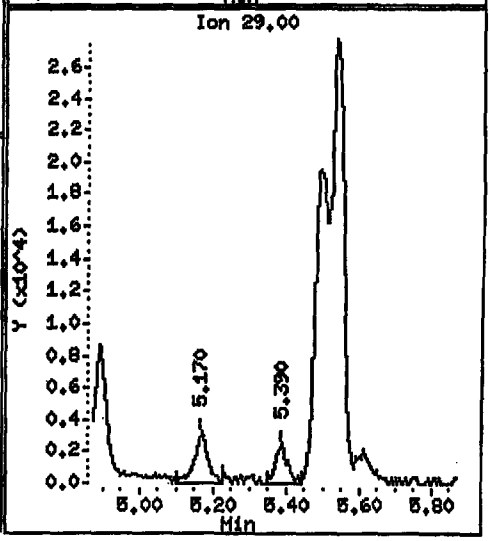












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

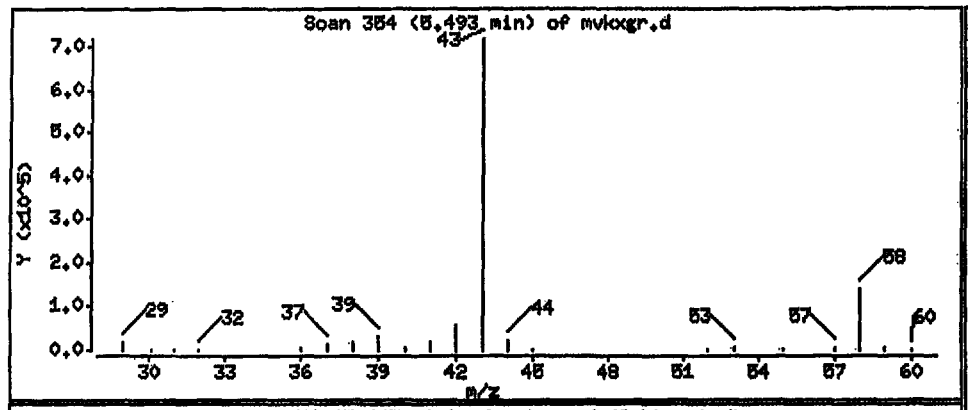
Client ID: TOE/071112 Instrument: mj.i

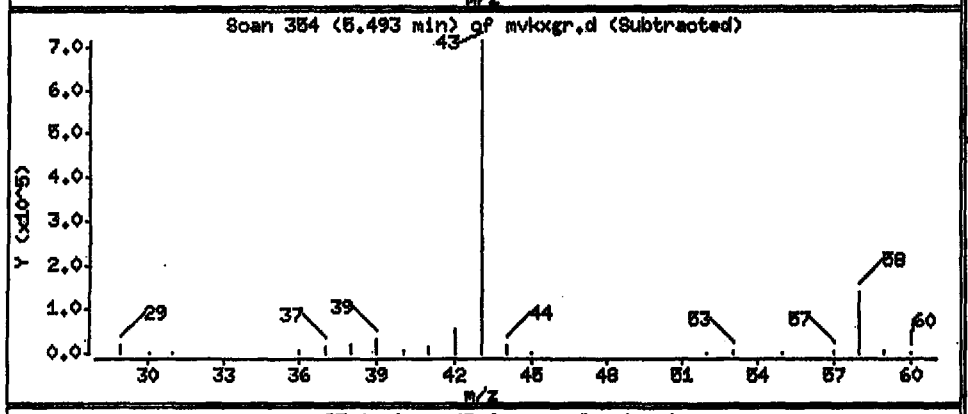
Sample Info: MVKXG1AA,1.56,0,,,

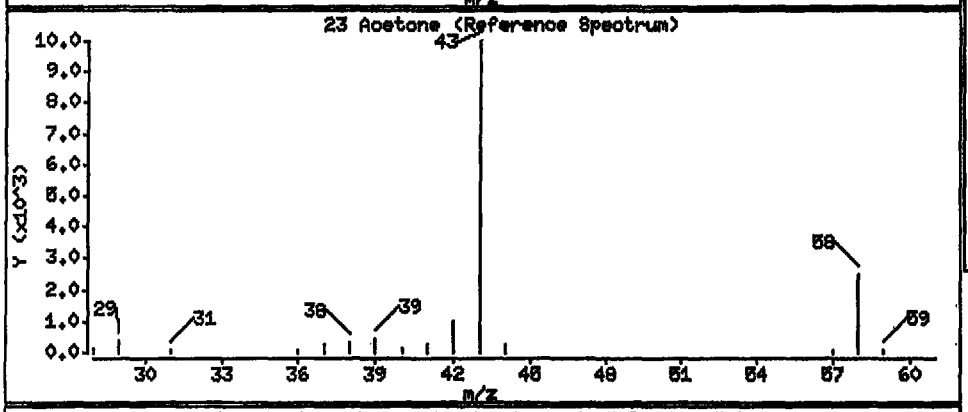
Purge Volume: 200.0 Operator: 403648

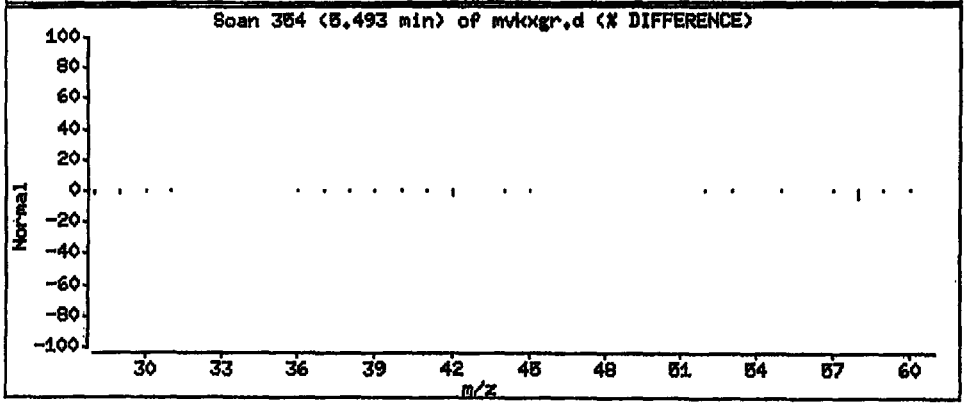
Column phase: Rtx-5 Column diameter: 0.32

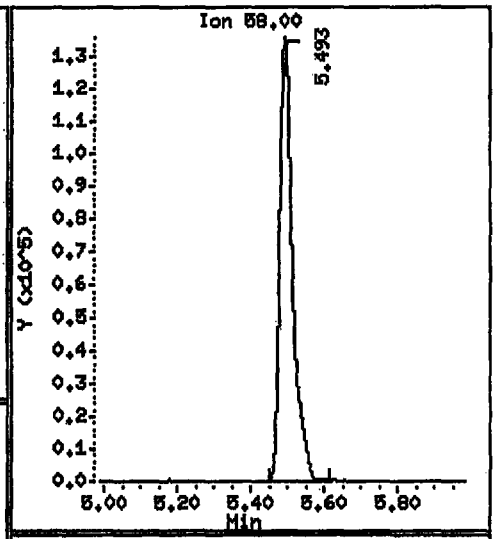
23 Acetone Concentration: 42.69 ppb(v/v)

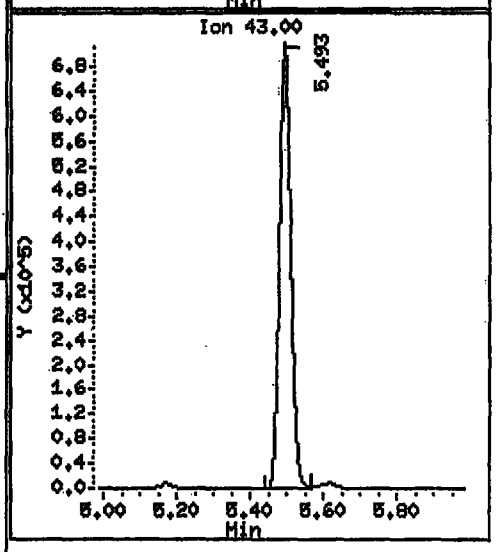












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

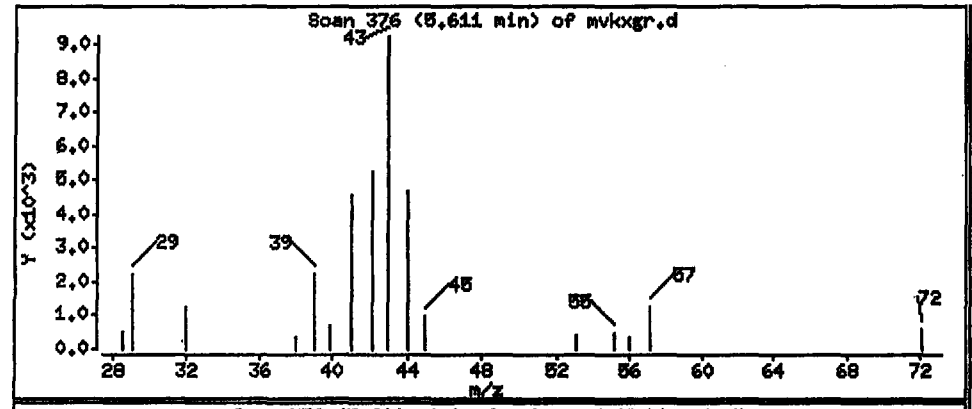
Client ID: TOE/071112 Instrument: mj.i

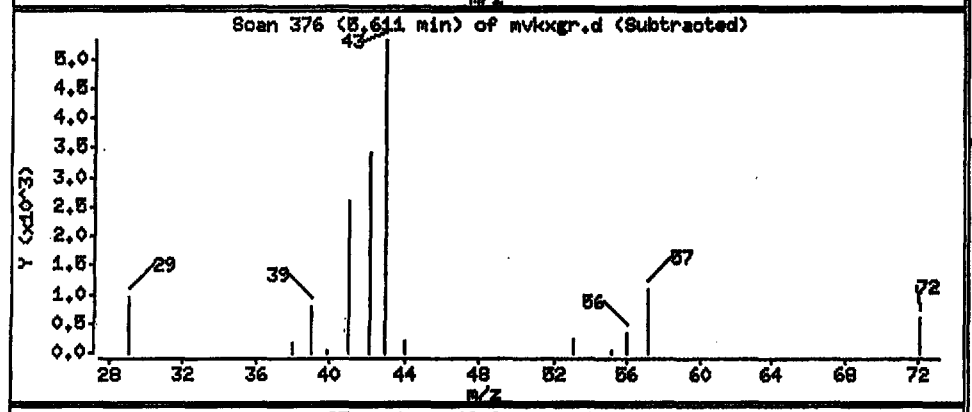
Sample Info: MVKXG1AA,1.56,0,,,

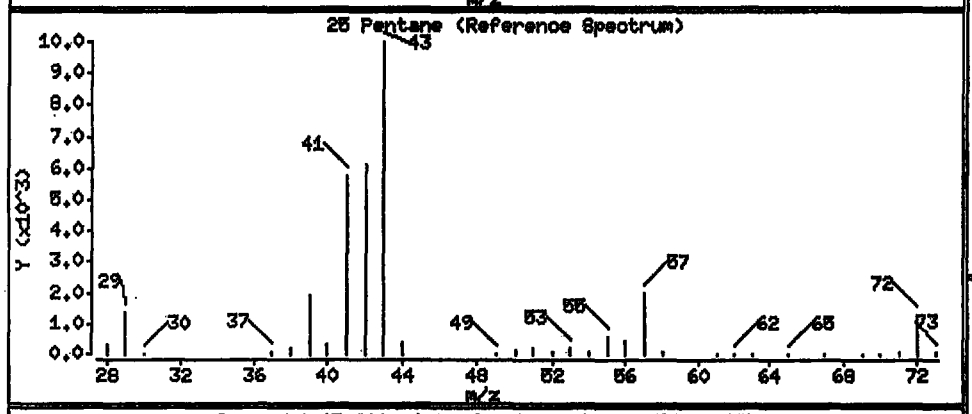
Purge Volume: 200.0 Operator: 403648

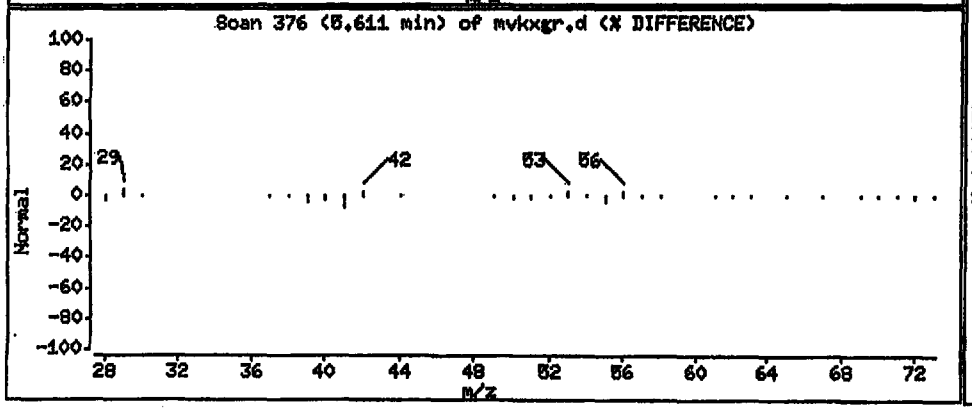
Column phase: Rtx-5 Column diameter: 0.32

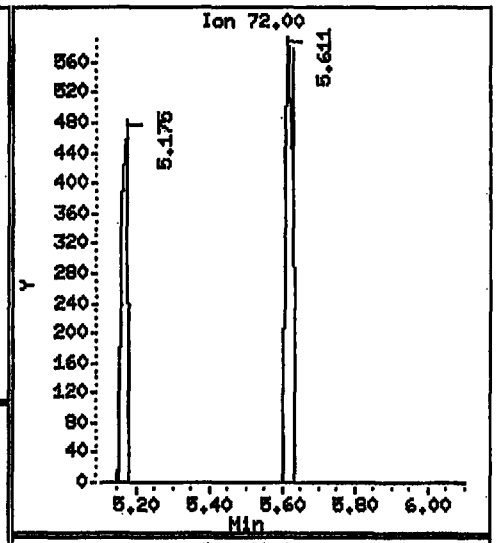
25 Pentane Concentration: 0.3391 ppb(v/v)

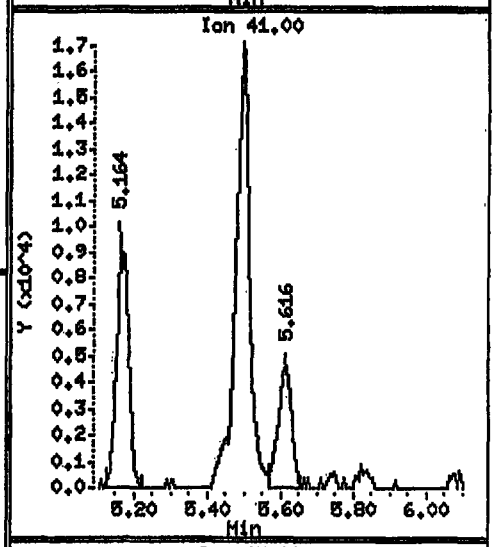


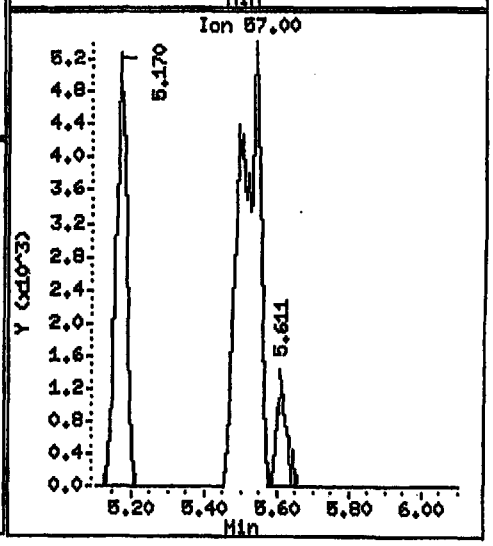












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

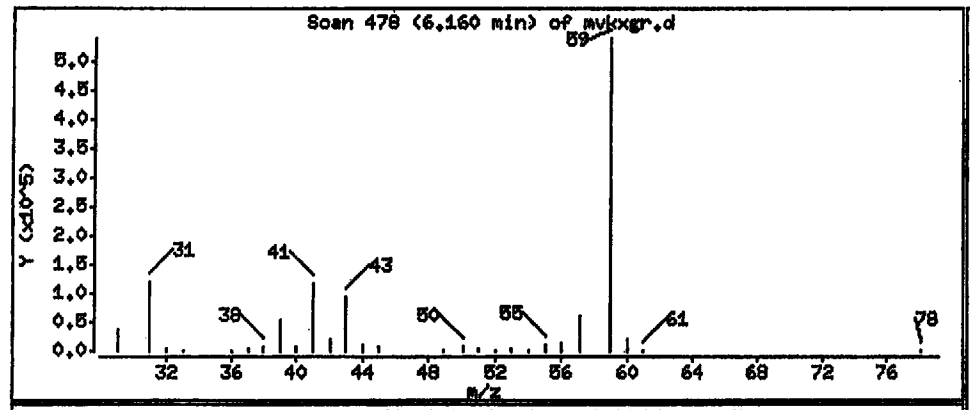
Client ID: TOE/071112 Instrument: mj.i

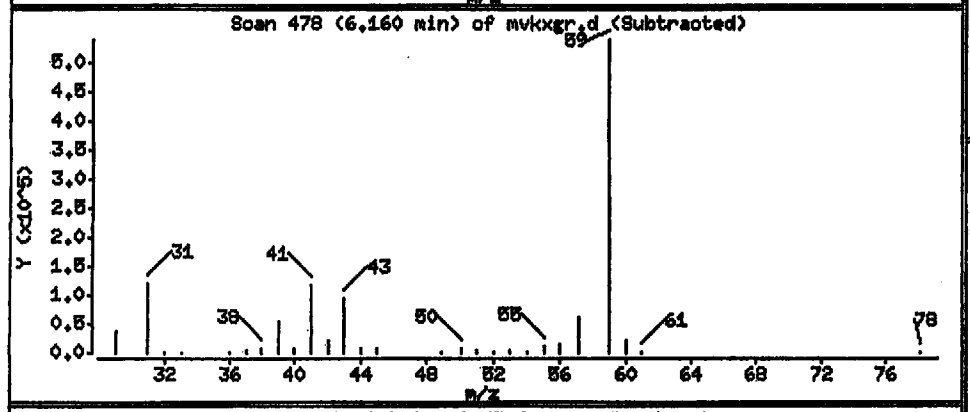
Sample Info: MVKXG1AA,1.56,0,,,

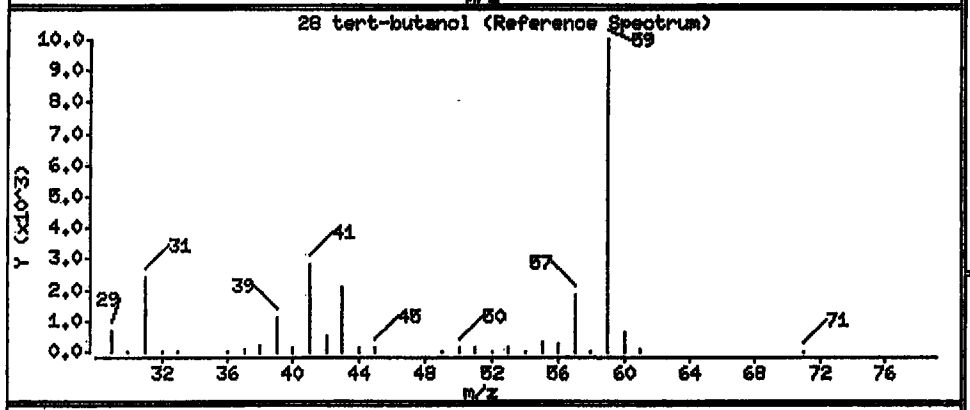
Purge Volume: 200.0 Operator: 403648

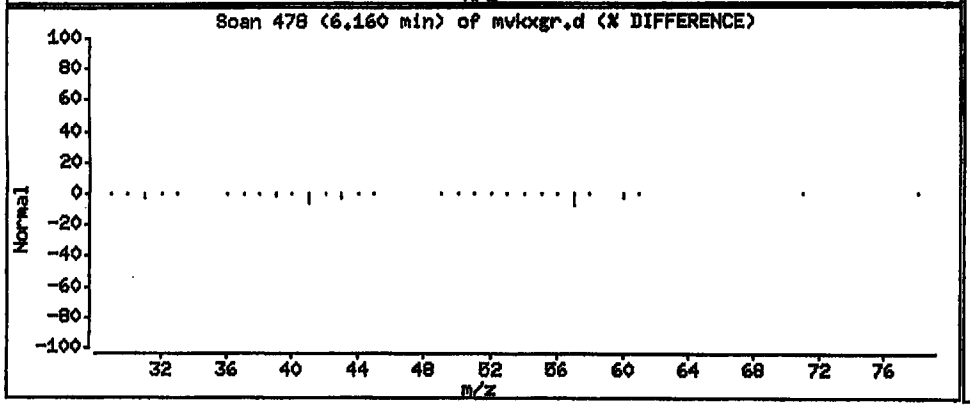
Column phase: Rtx-5 Column diameter: 0.32

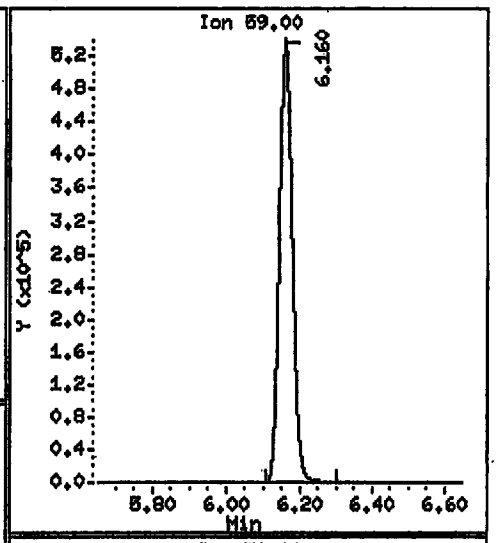
28 tert-butanol Concentration: 44.48 ppb(v/v)

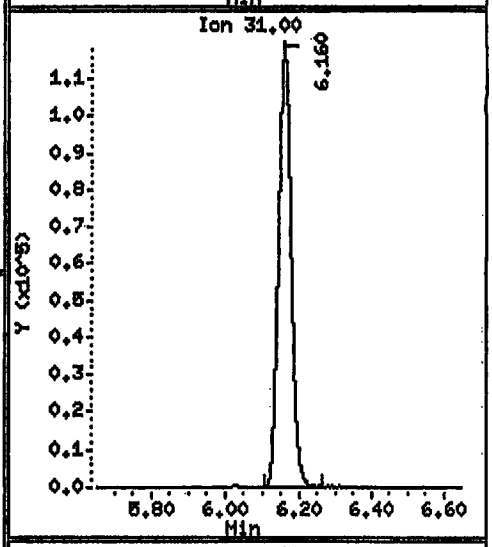


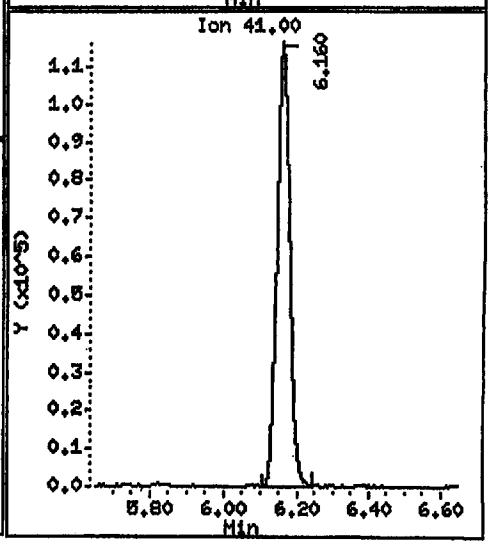












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

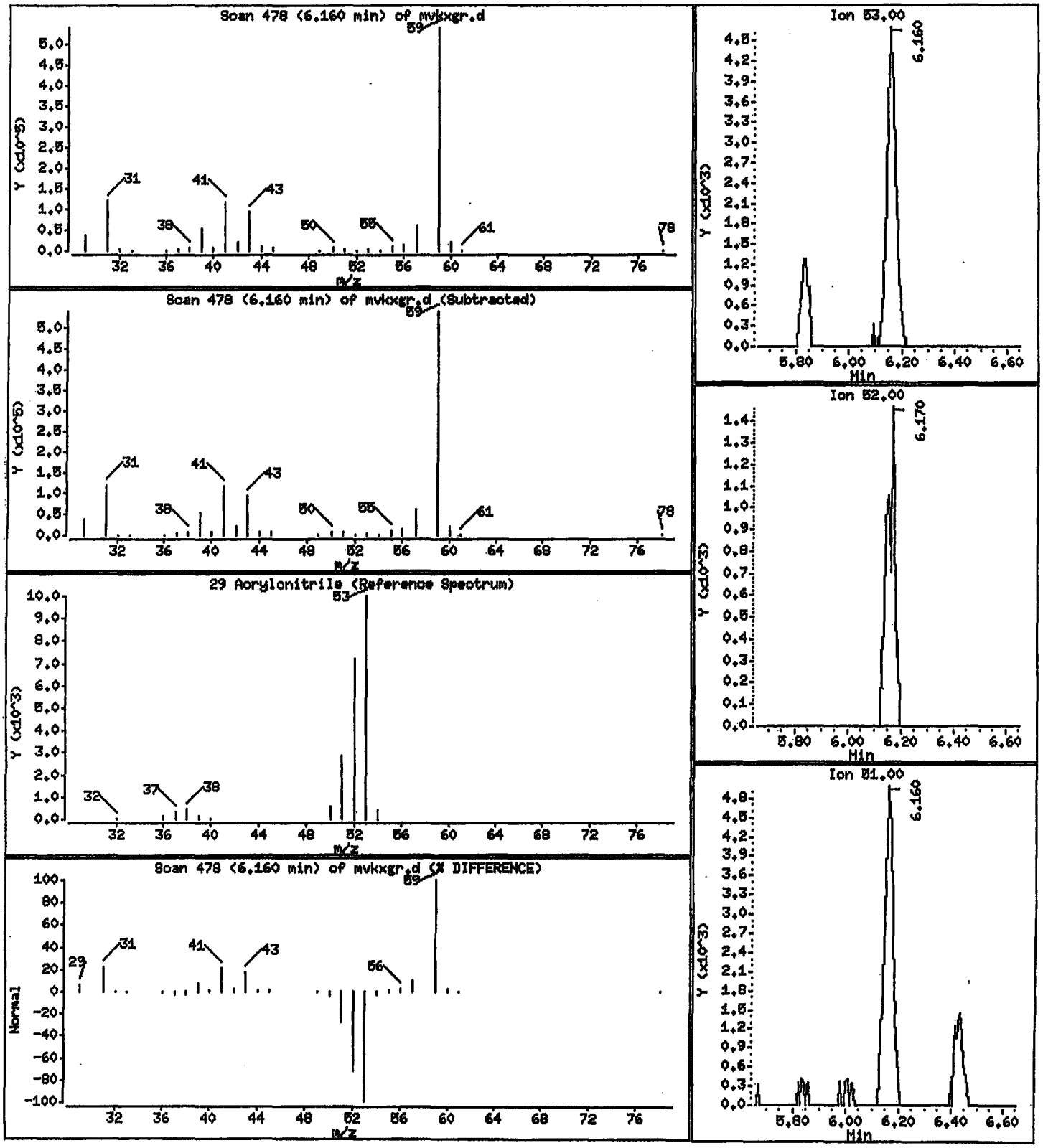
Client ID: TOE/071112 Instrument: mj.i

Sample Info: MVKXG1AA,1.56,0,,,

Purge Volume: 200.0 Operator: 403648

Column phase: Rtx-5 Column diameter: 0.32

29 Acrylonitrile Concentration: 1.206 ppb(v/v)



Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

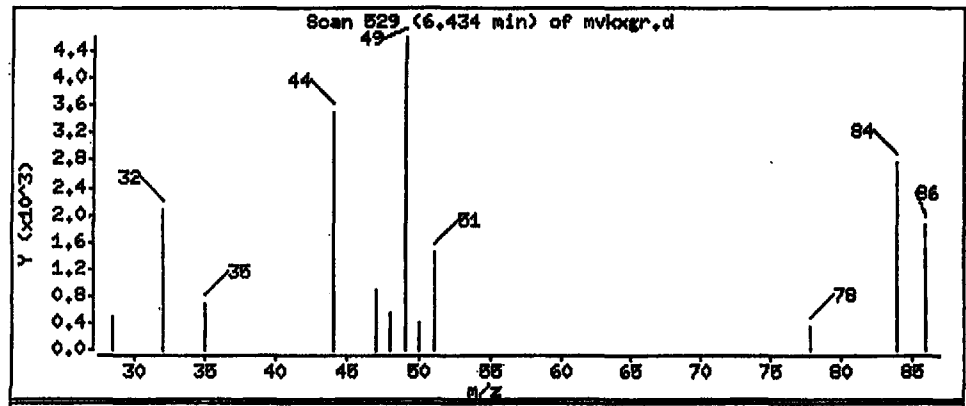
Client ID: TOE/071112 Instrument: mj.i

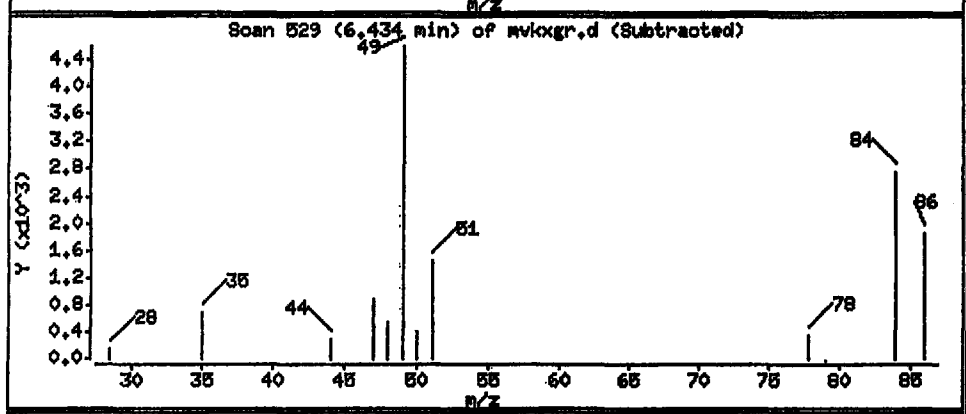
Sample Info: MVKXG1AA,1.56,0,,,

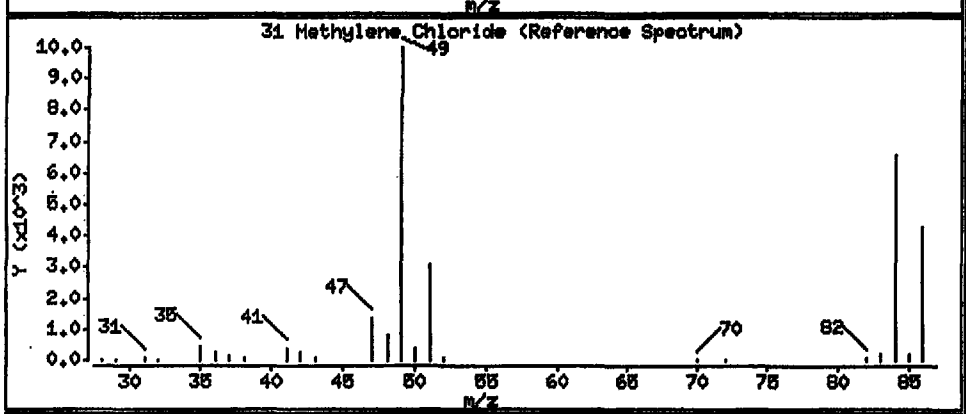
Purge Volume: 200.0 Operator: 403648

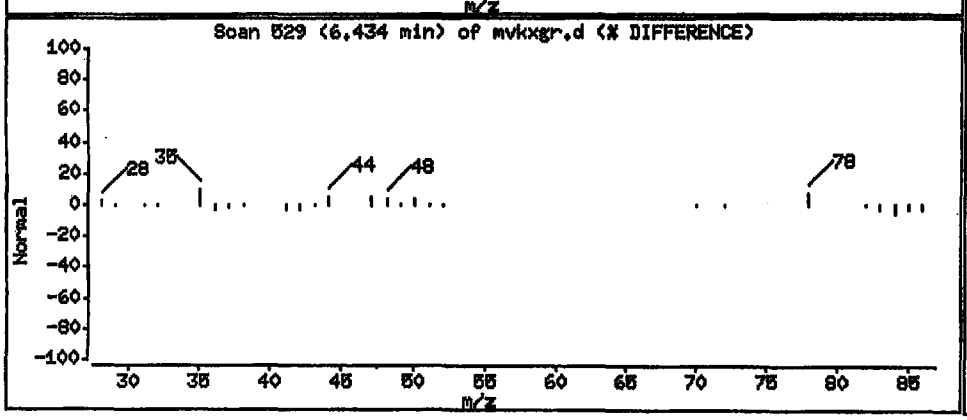
Column phase: Rtx-5 Column diameter: 0.32

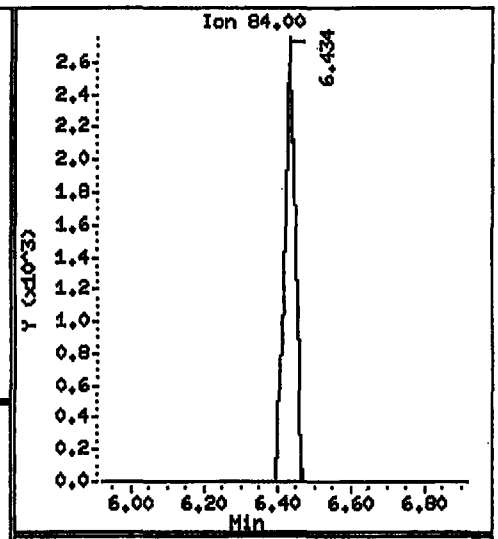
31 Methylene Chloride Concentration: 0.3806 ppb(v/v)

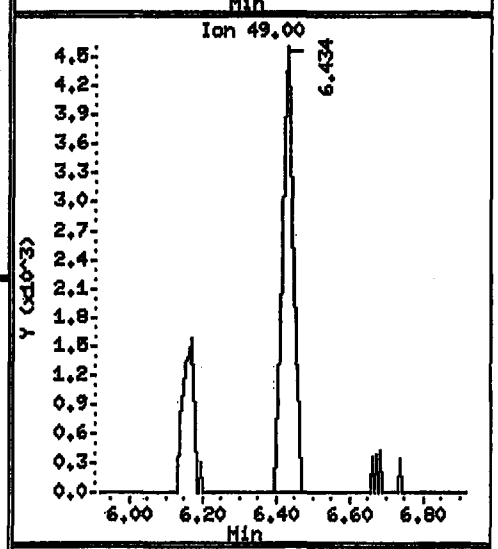


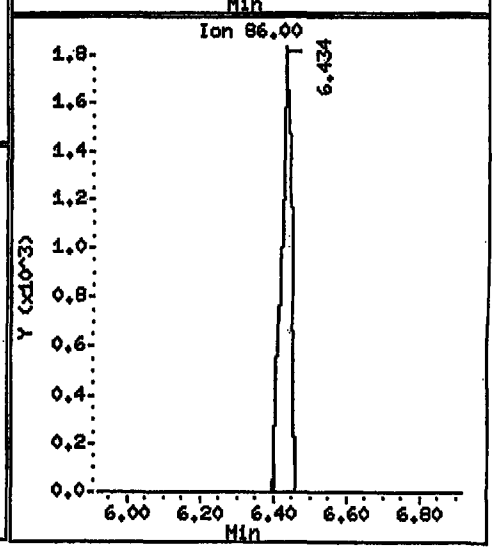












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

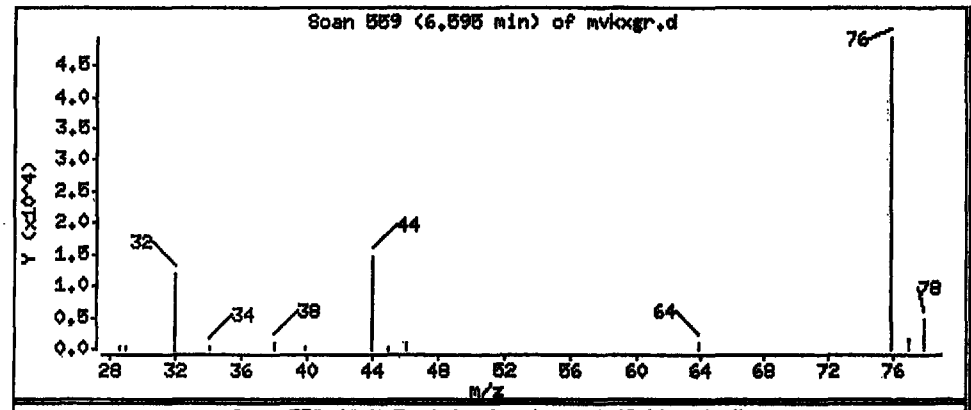
Client ID: TOE/071112 Instrument: mj.i

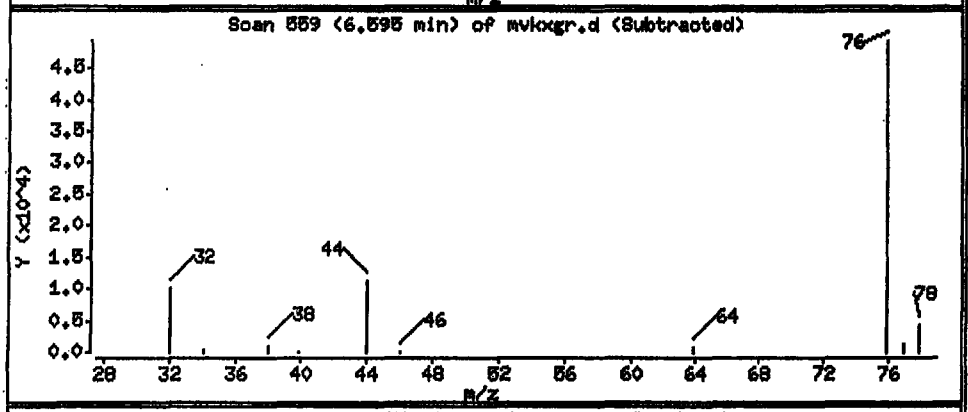
Sample Info: MVKXC1AA,1.56,0,,,

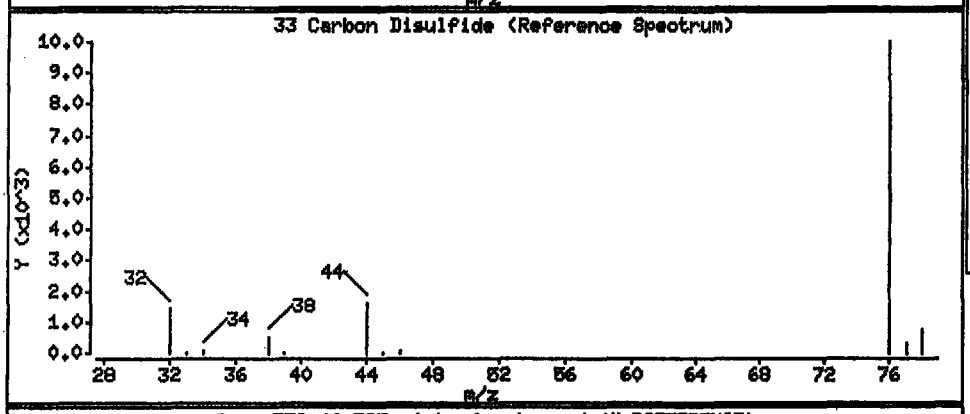
Purge Volume: 200.0 Operator: 403648

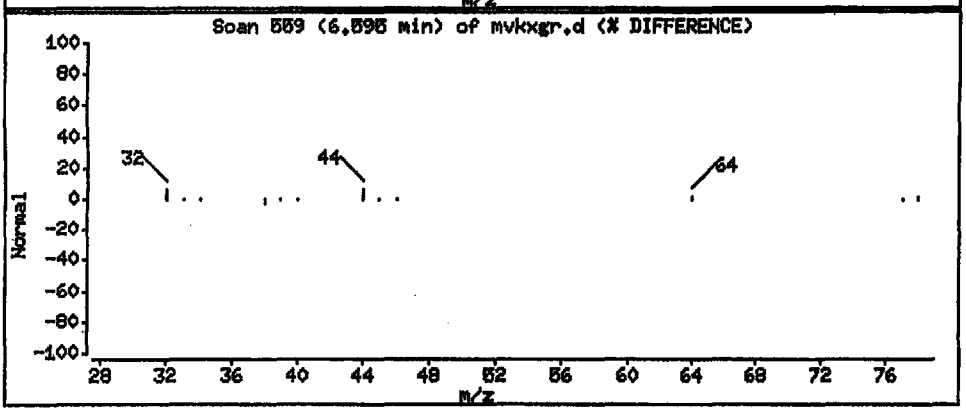
Column phase: Rtx-5 Column diameter: 0.32

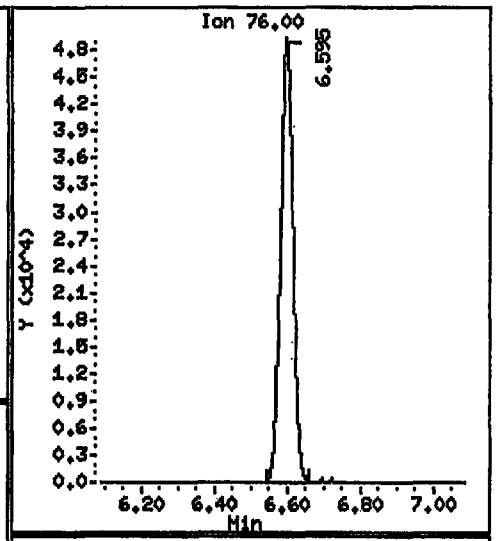
33 Carbon Disulfide Concentration: 2.338 ppb(v/v)

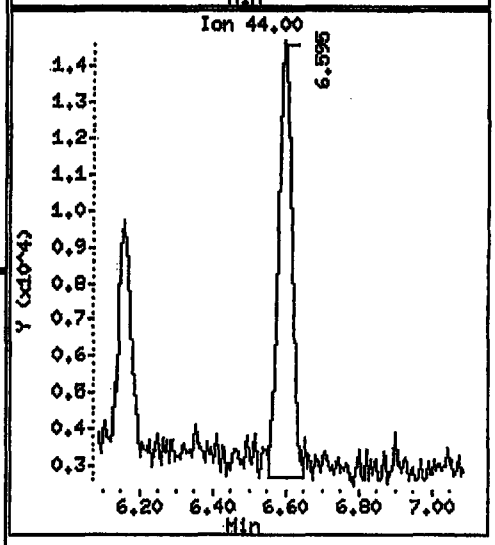












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

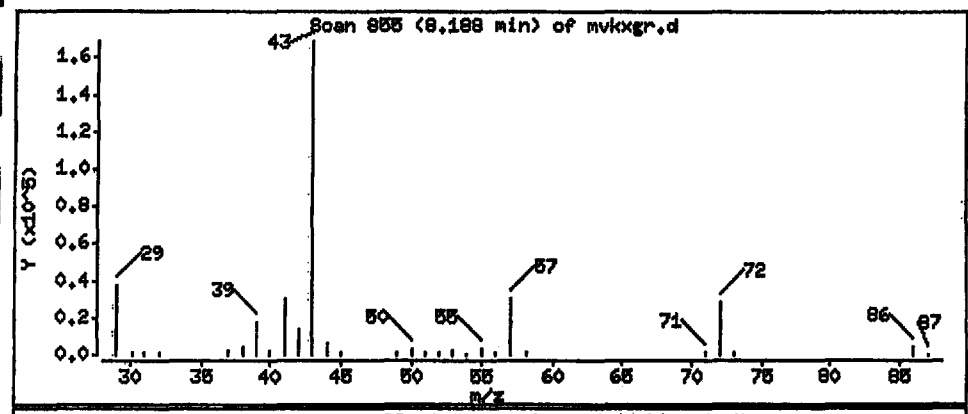
Client ID: TOE/071112 Instrument: mj.i

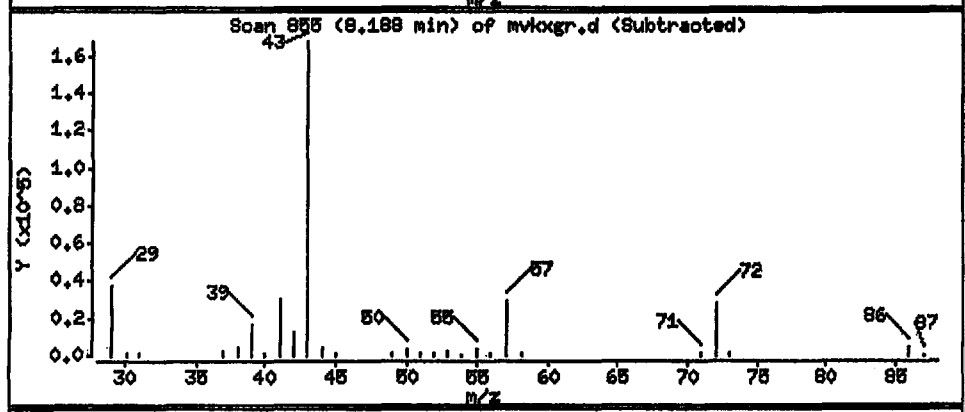
Sample Info: MVKXG1AA,1.56,0,,,

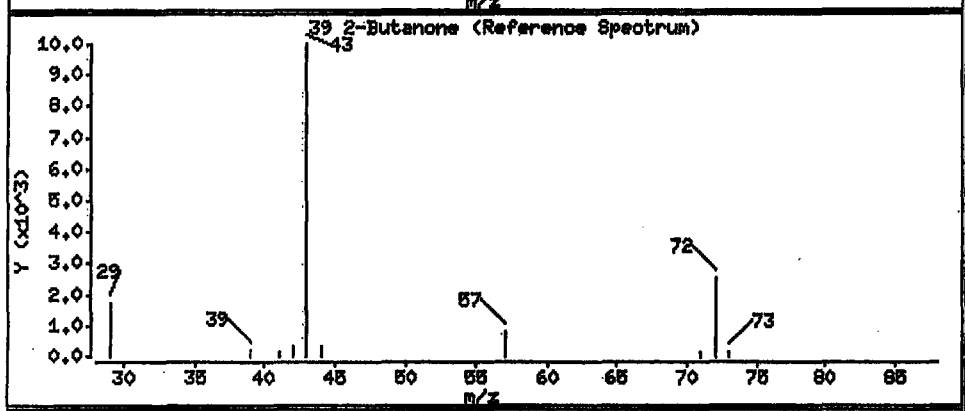
Purge Volume: 200.0 Operator: 403648

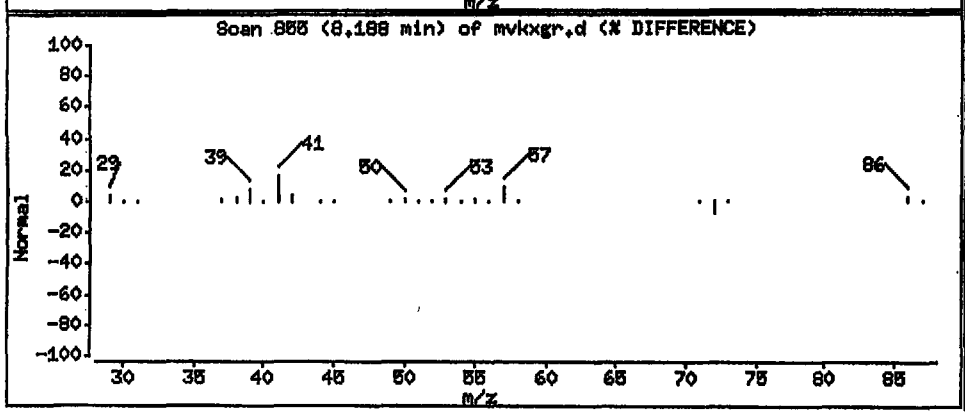
Column phase: Rtx-5 Column diameter: 0.32

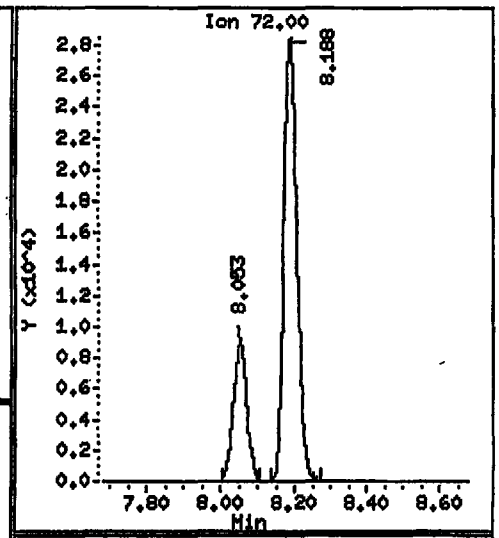
39 2-Butanone Concentration: 11.53 ppb(v/v)

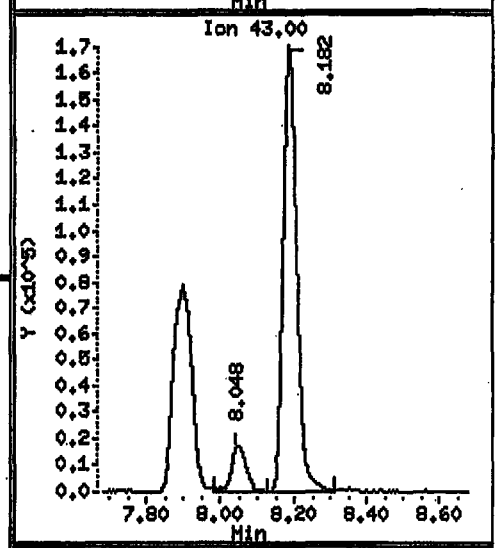


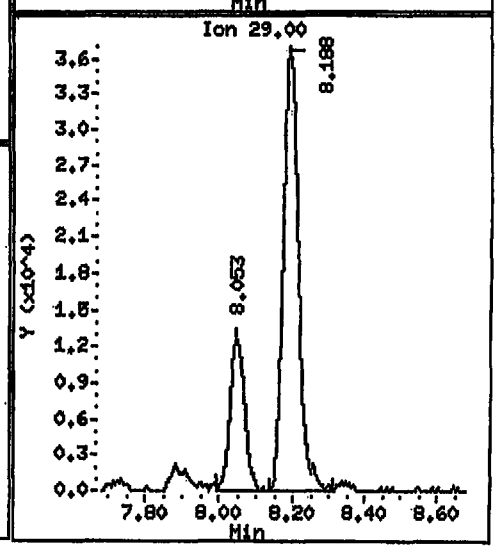












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

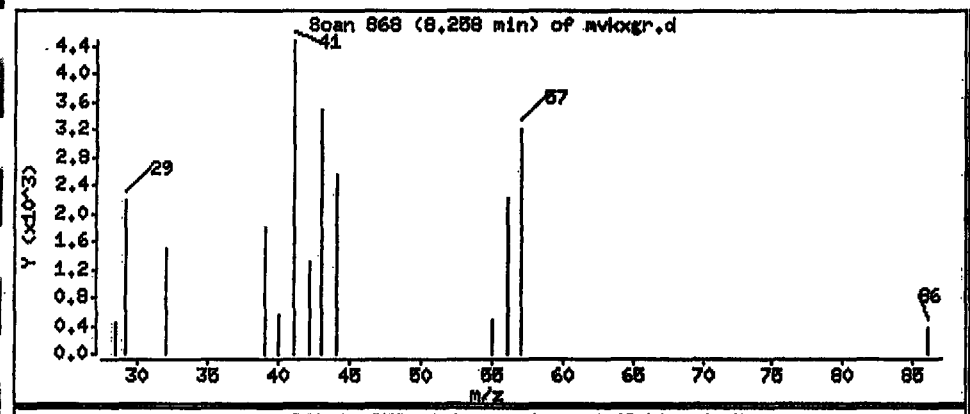
Client ID: TOE/071112 | Instrument: mj.i

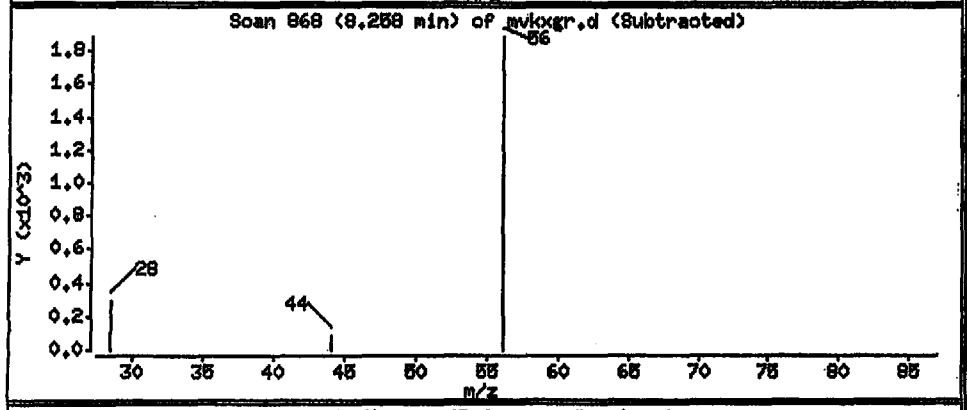
Sample Info: MVKXG1AA,1.56,0,,,

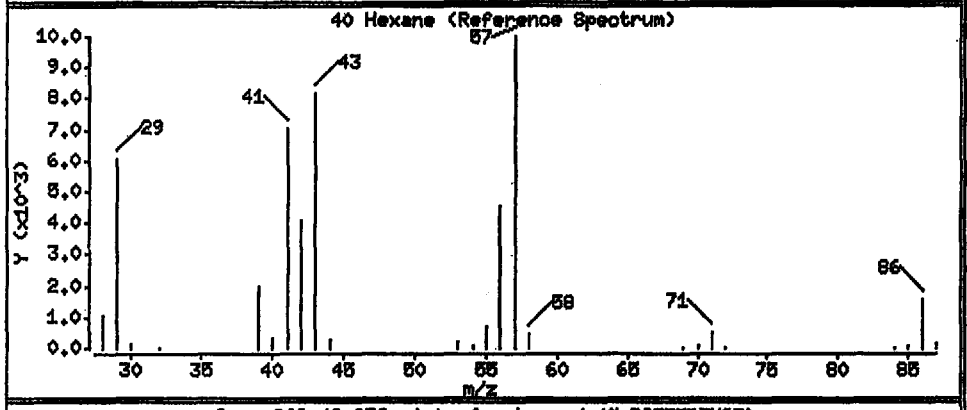
Purge Volume: 200.0 | Operator: 403648

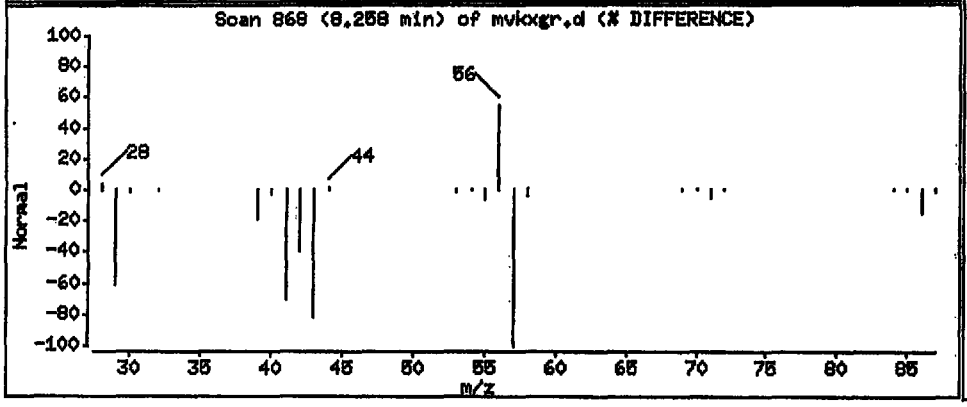
Column phase: Rtx-5 | Column diameter: 0.32

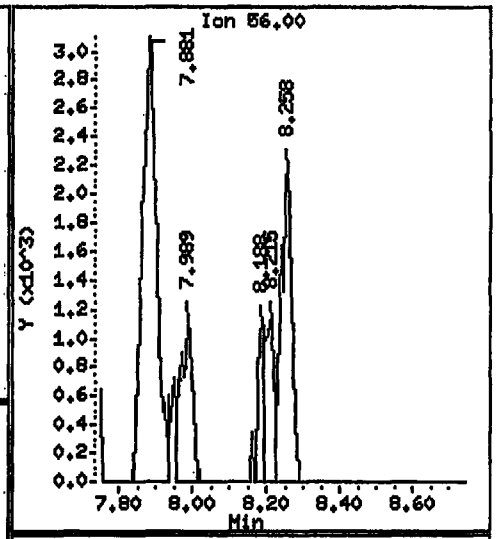
40 Hexane | Concentration: 0.3200 ppb(v/v)

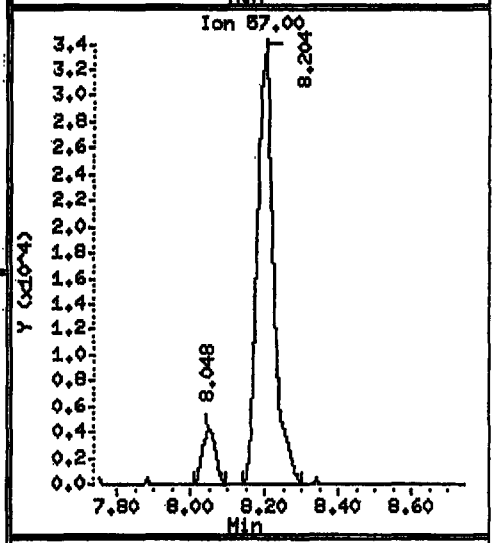


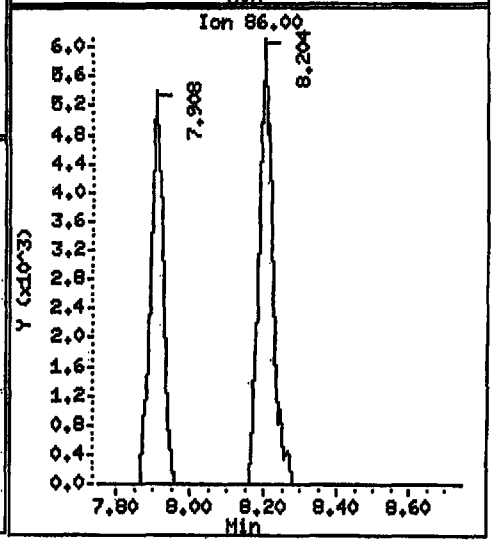












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

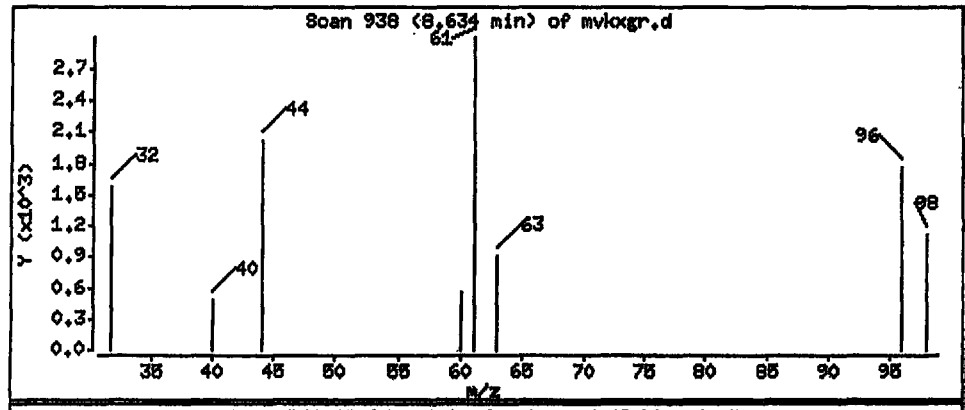
Client ID: TOE/071112 Instrument: mj.i

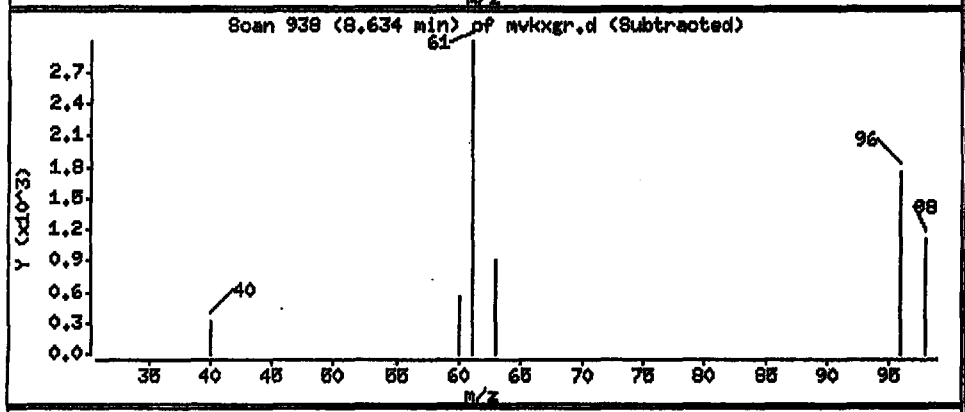
Sample Info: MVKXG1AA,1.56,0,,,

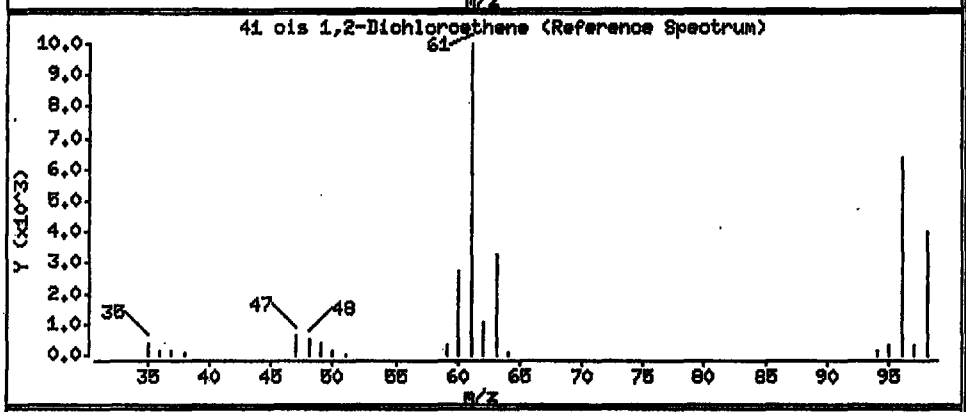
Purge Volume: 200.0 Operator: 403648

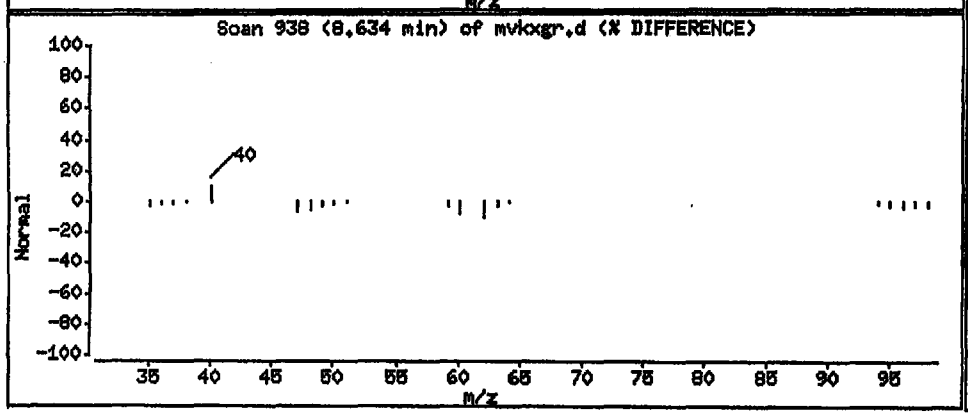
Column phase: Rtx-5 Column diameter: 0.32

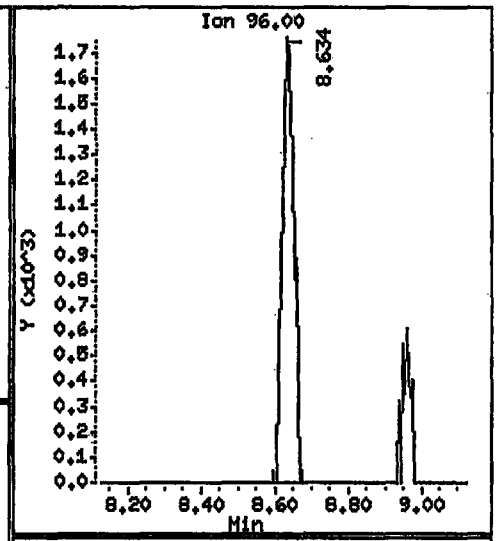
41 cis 1,2-Dichloroethene Concentration: 0.2329 ppb(v/v)

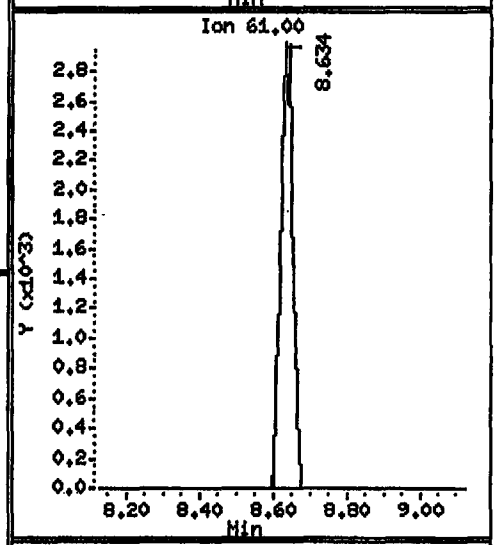


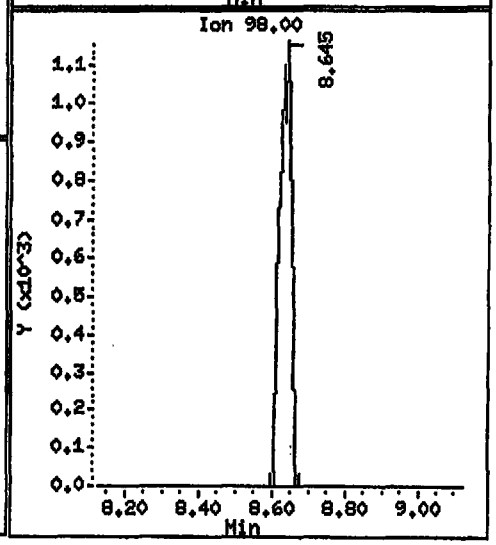












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

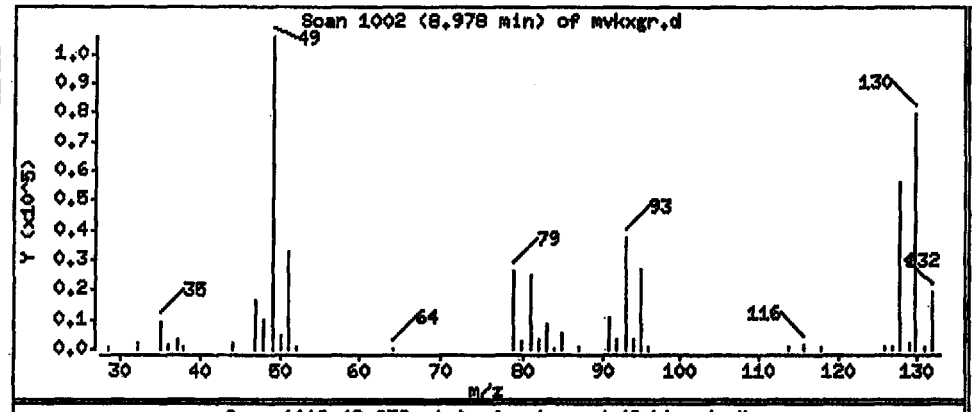
Client ID: TOE/071112 Instrument: mj.i

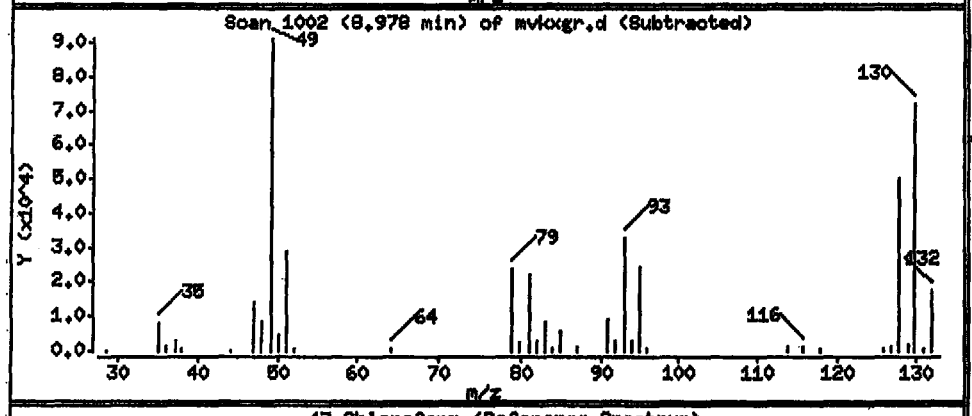
Sample Info: MVKXG1AA,1.56,0,,,

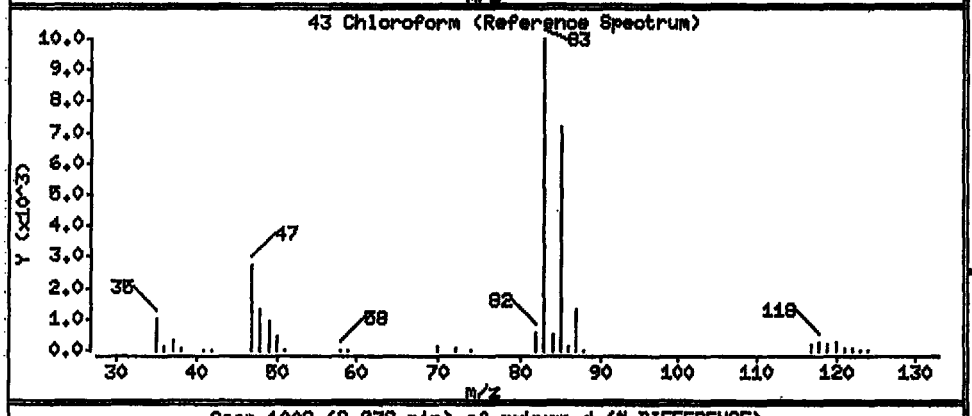
Purge Volume: 200.0 Operator: 403648

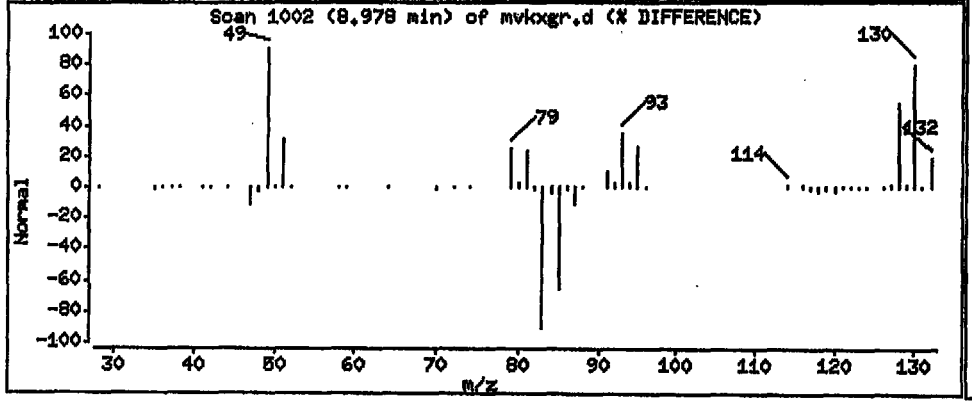
Column phase: Rtx-5 Column diameter: 0.32

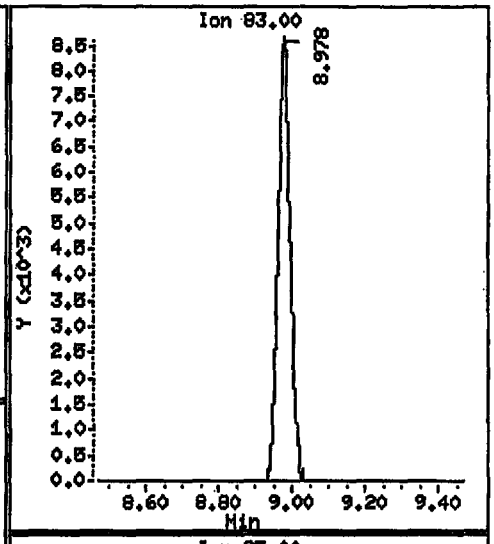
43 Chloroform Concentration: 0.4438 ppb(v/v)

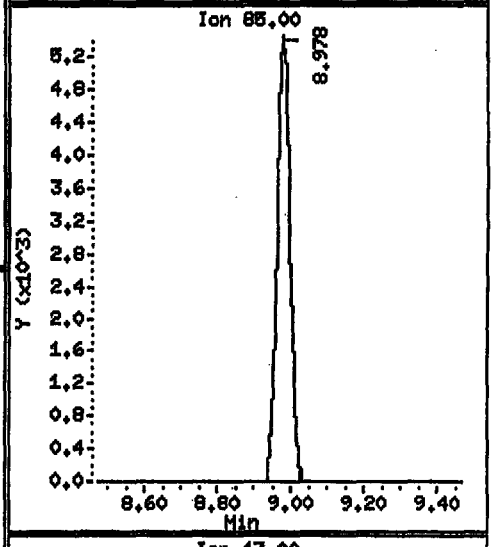


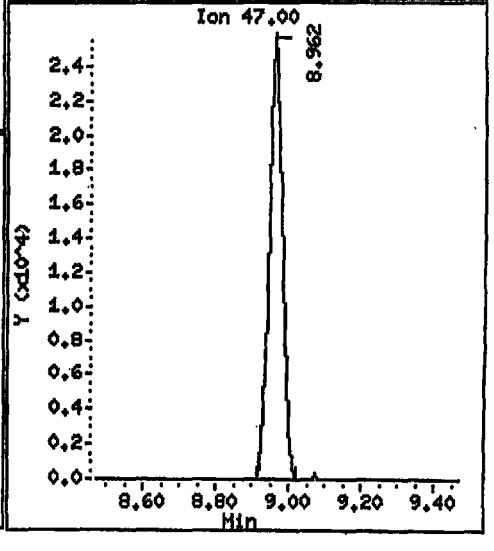












Data File: /var/chem/gcms/mj.i/J071612A.b/mvlxgr.d

Date : 17-JUL-2012 11:17

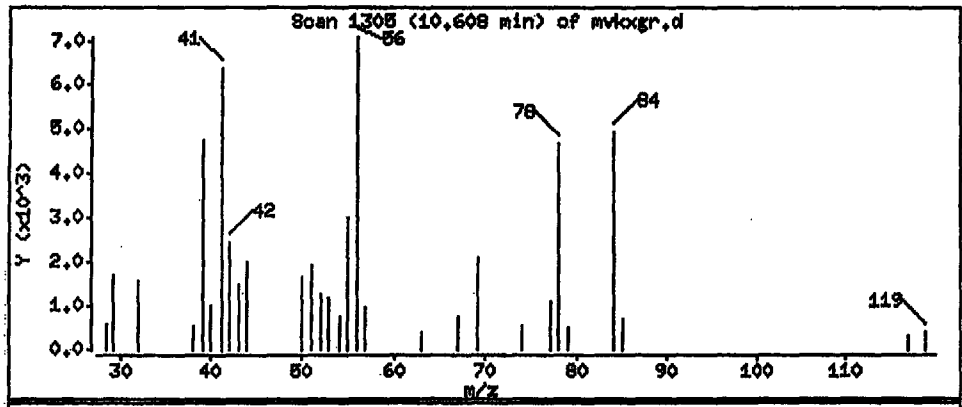
Client ID: TOE/071112 Instrument: mj.i

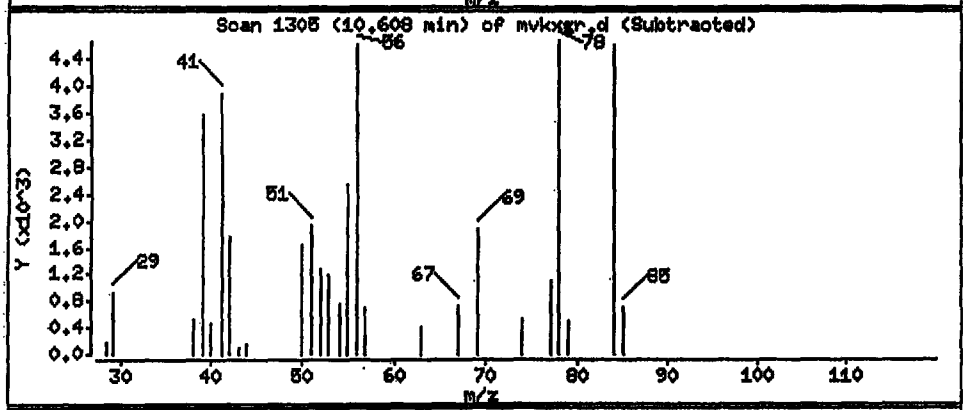
Sample Info: MVKXG1AA,1.56,0,,,

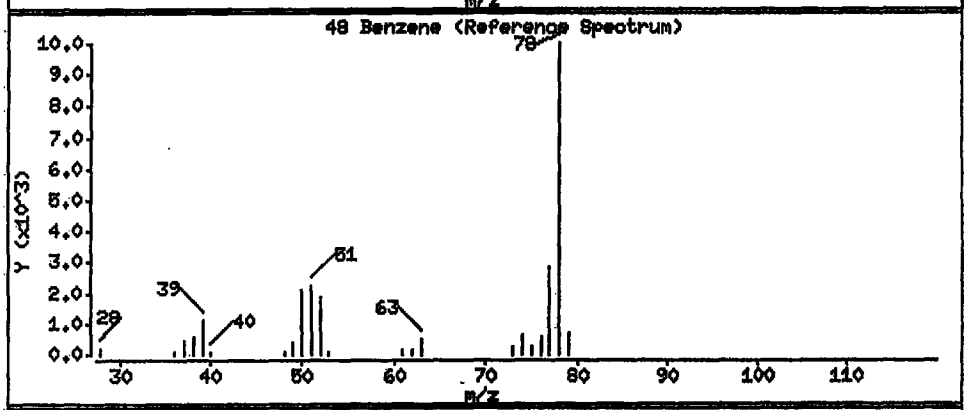
Purge Volume: 200.0 Operator: 403648

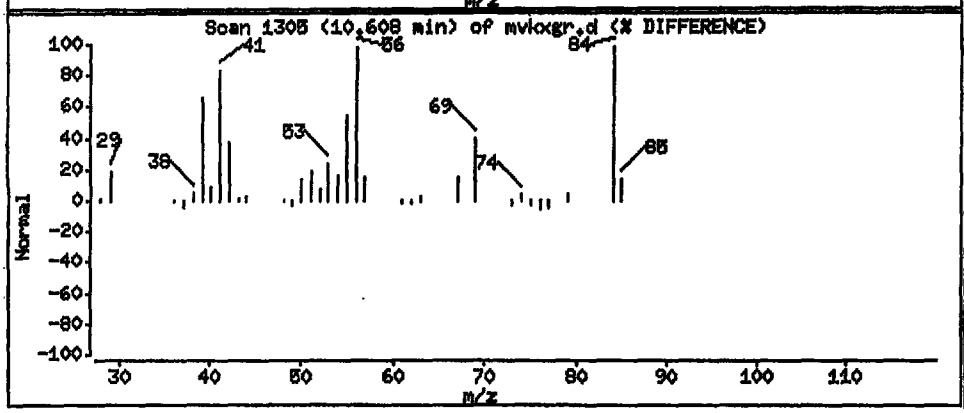
Column phase: Rtx-5 Column diameter: 0.32

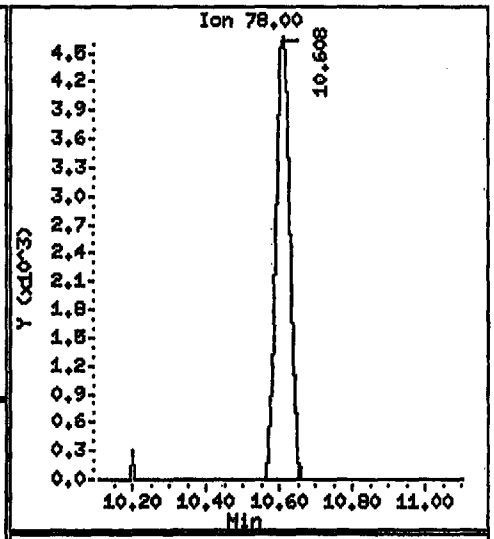
48 Benzene Concentration: 0.2567 ppb(v/v)

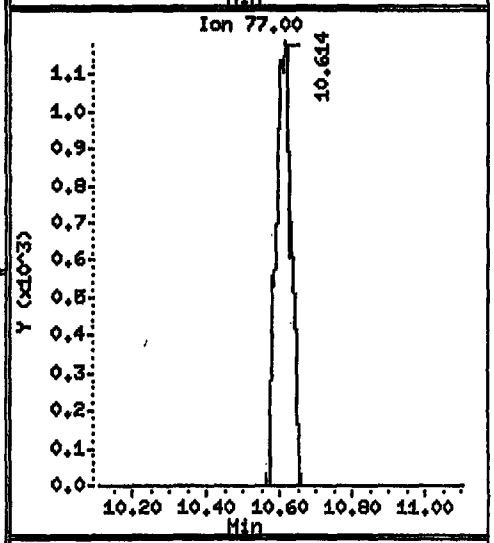


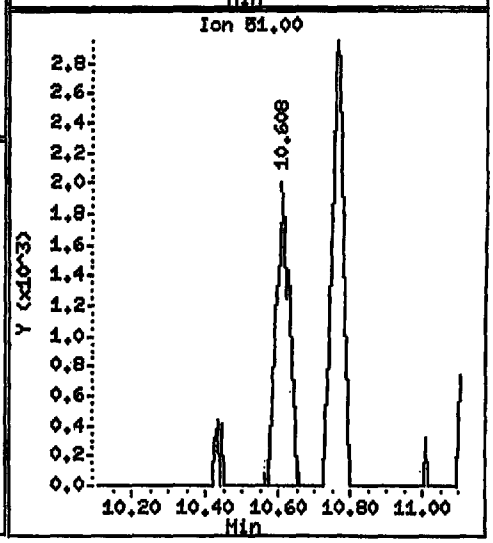












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

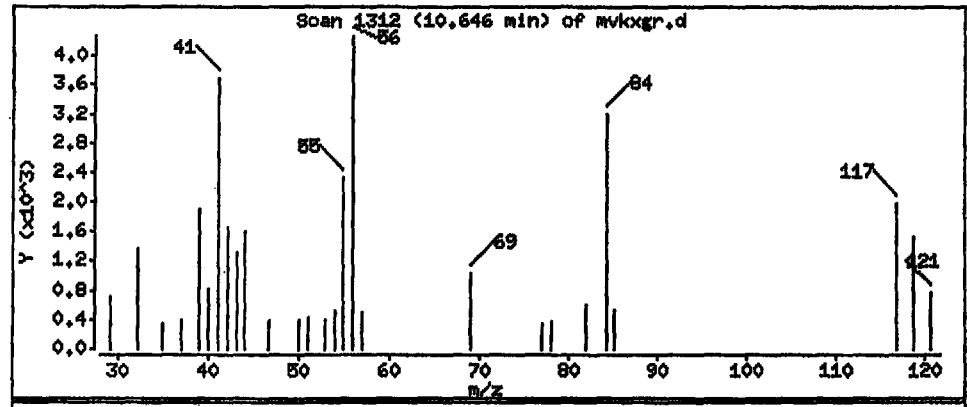
Client ID: TOE/071112 Instrument: mj.i

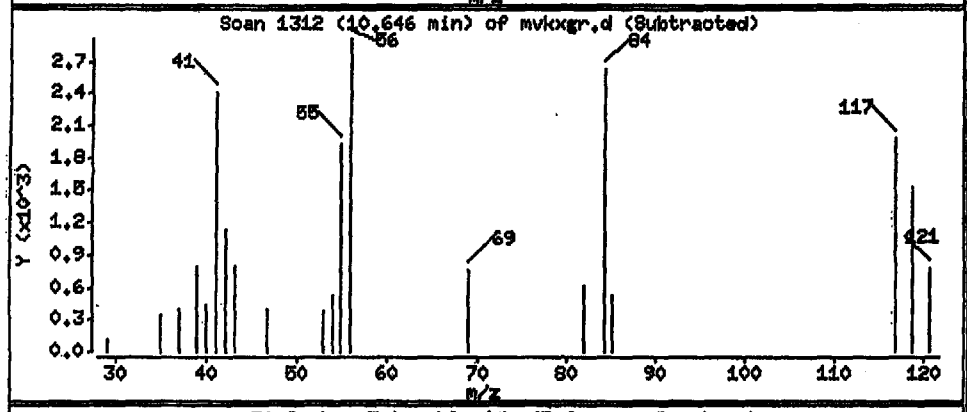
Sample Info: MVKXG1AA,1.56,0,,,

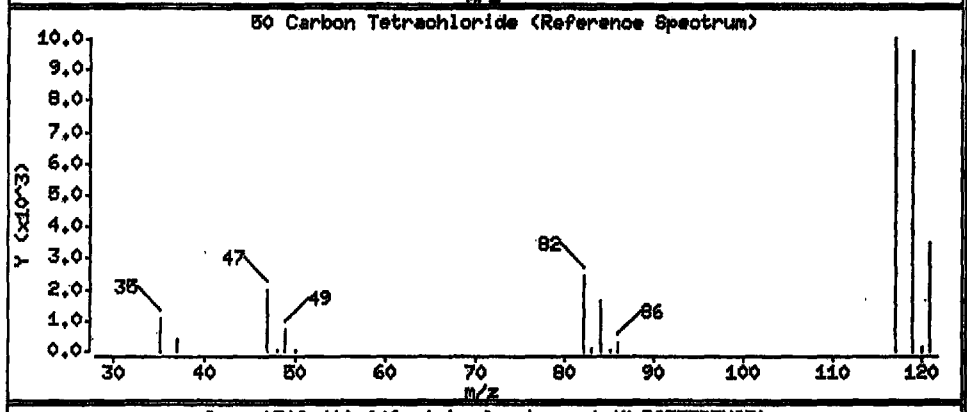
Purge Volume: 200.0 Operator: 403648

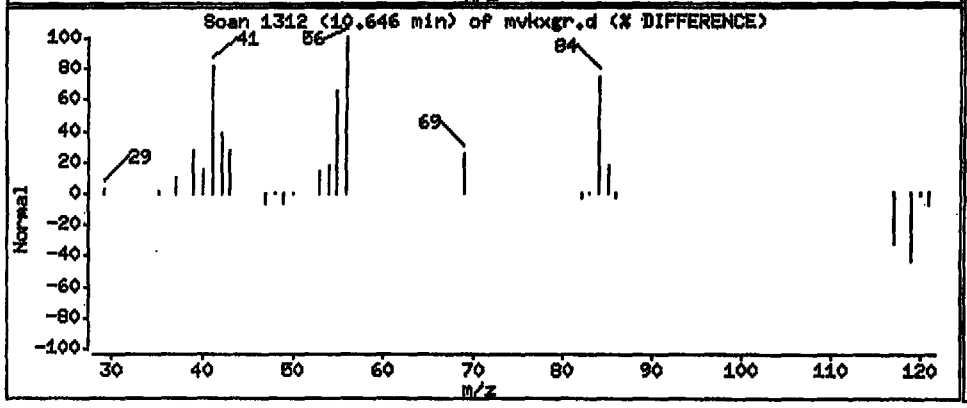
Column phase: Rtx-5 Column diameter: 0.32

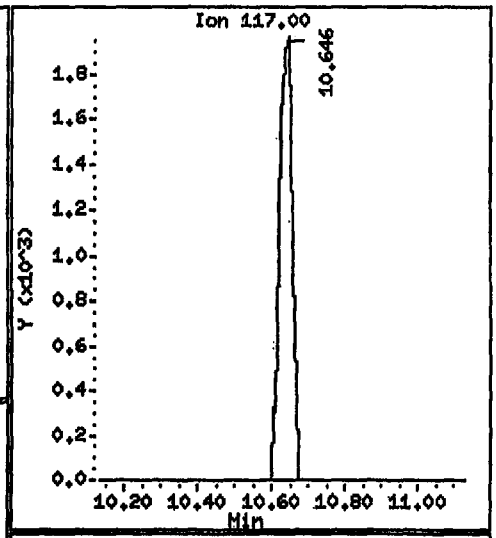
50 Carbon Tetrachloride Concentration: 0.09199 ppb(v/v)

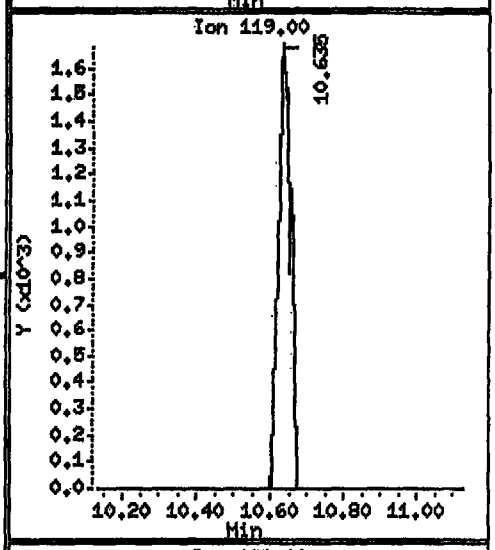


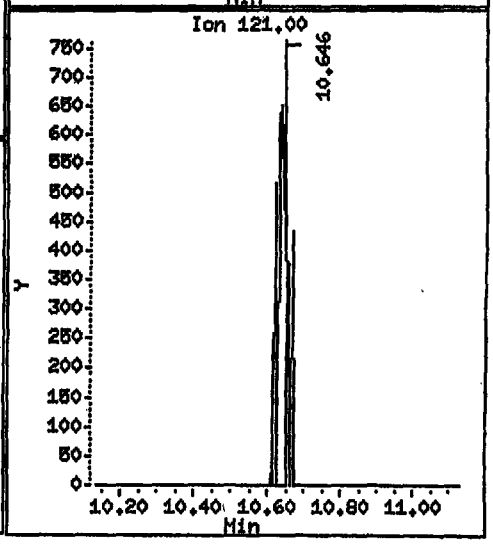












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

Client ID: TOE/071112

Instrument: mj.i

Sample Info: MVKXG1AA,1.56,0,,,

Purge Volume: 200.0

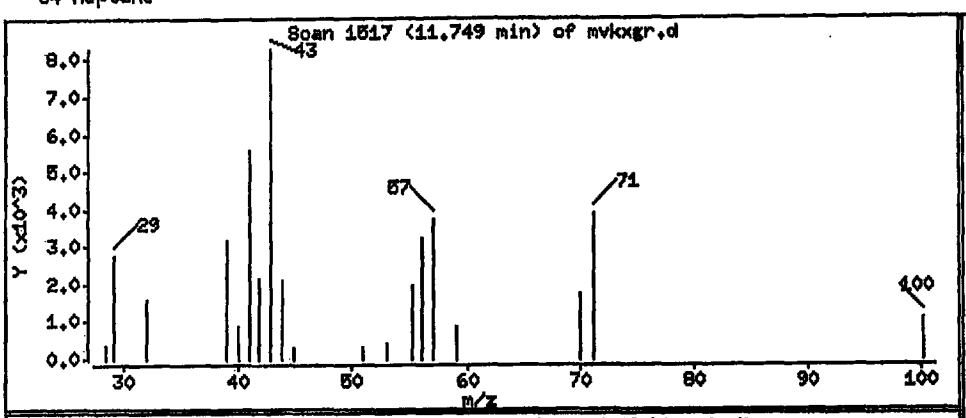
Operator: 403648

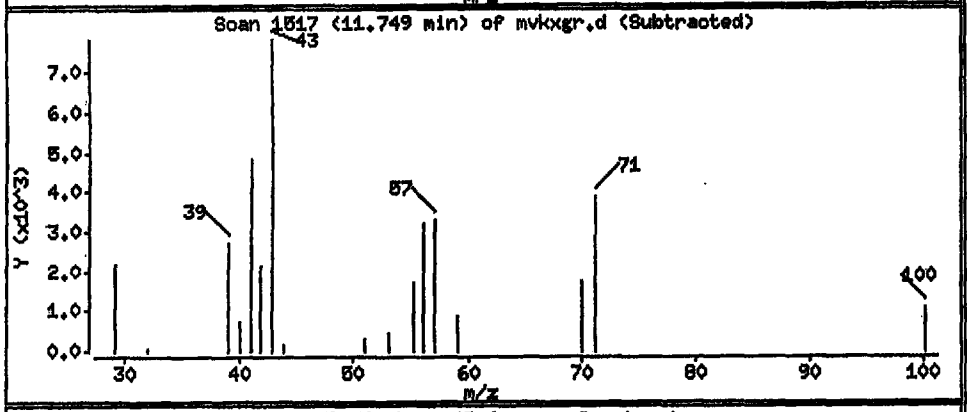
Column phase: Rtx-5

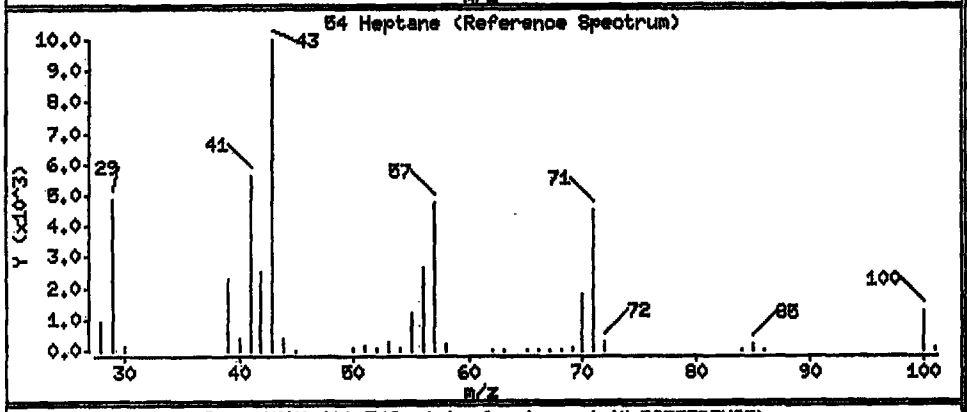
Column diameter: 0.32

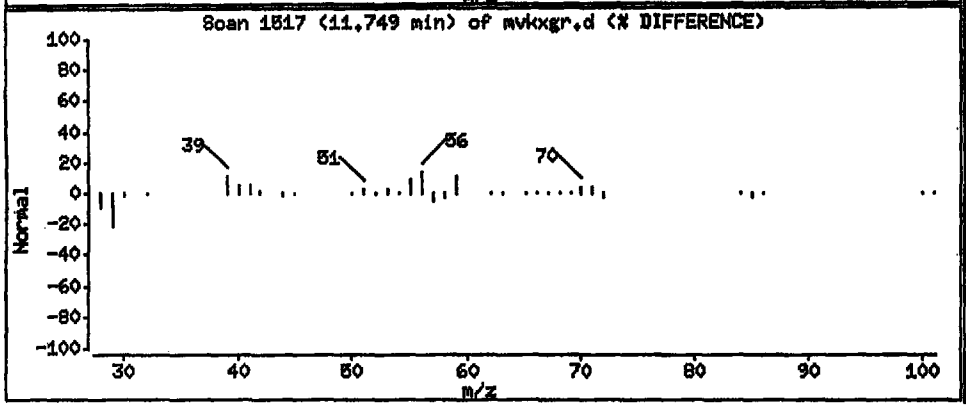
54 Heptane

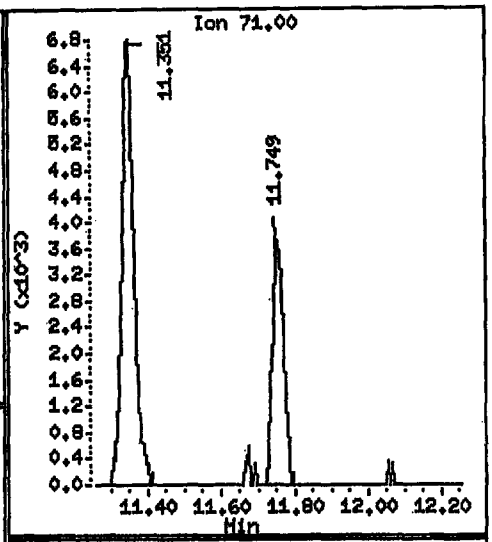
Concentration: 0.4857 ppb(v/v)

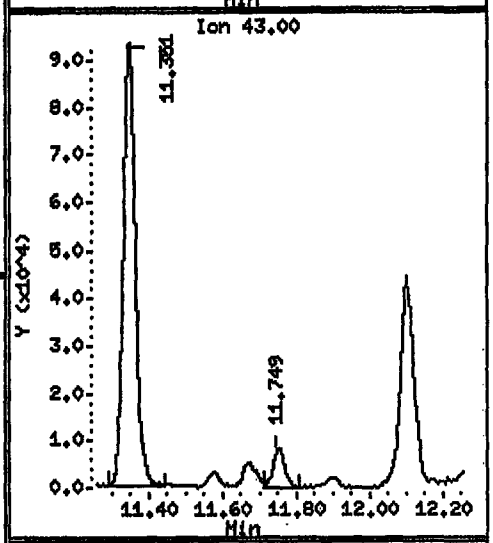


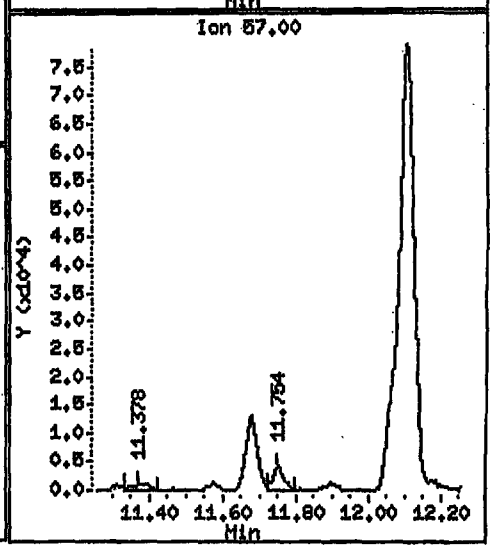












Data File: /var/chem/gcms/mj.i/J071612A.b/mvlocgr.d

Date : 17-JUL-2012 11:17

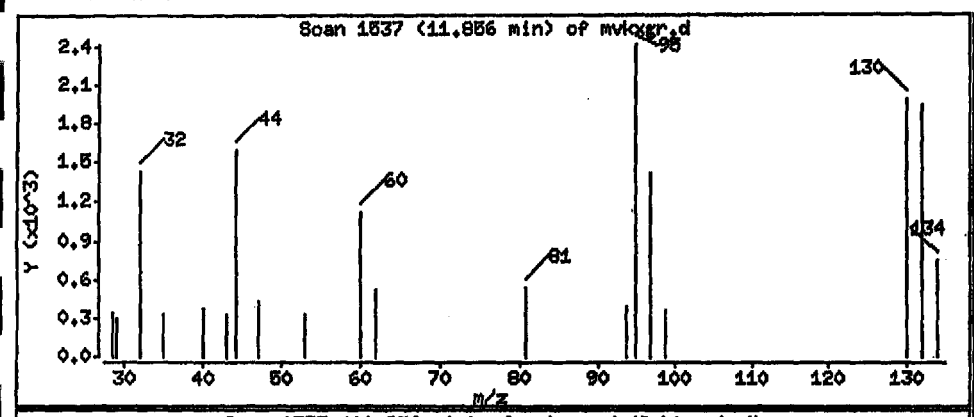
Client ID: TOE/071112 | Instrument: mj.i

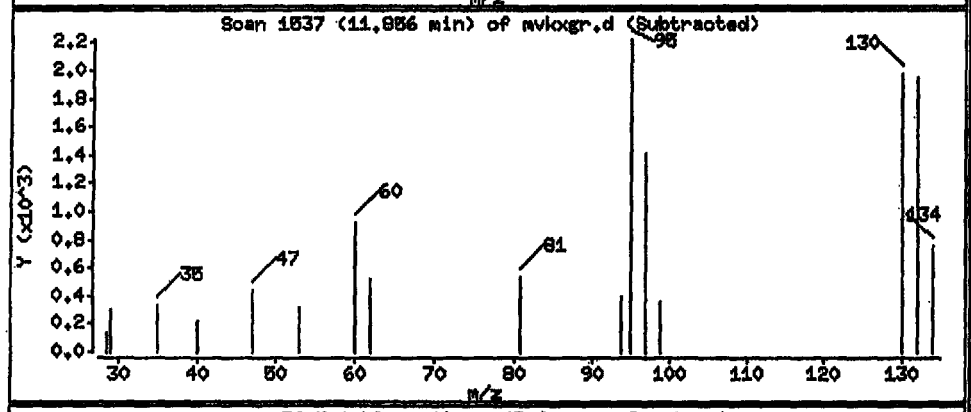
Sample Info: MVKXG1AA,1.56,0,,,

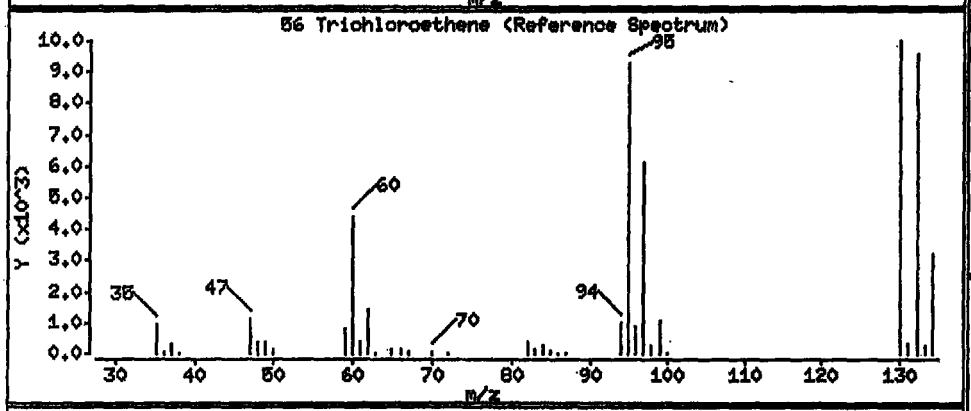
Purge Volume: 200.0 | Operator: 403648

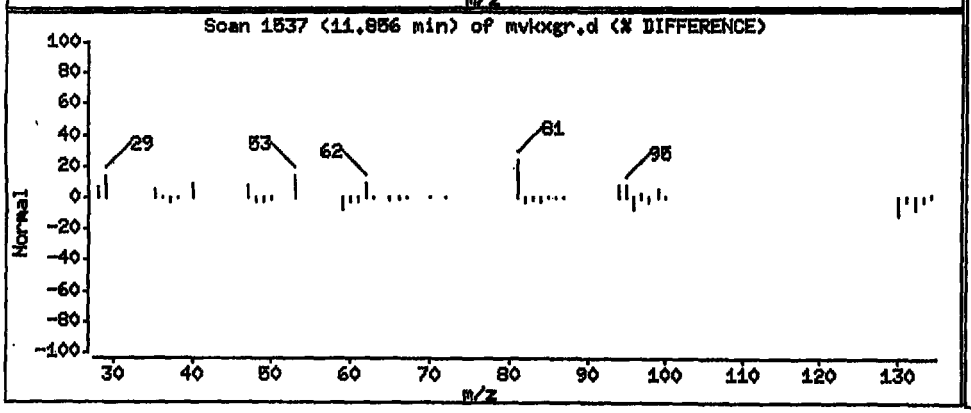
Column phase: Rtx-5 | Column diameter: 0.32

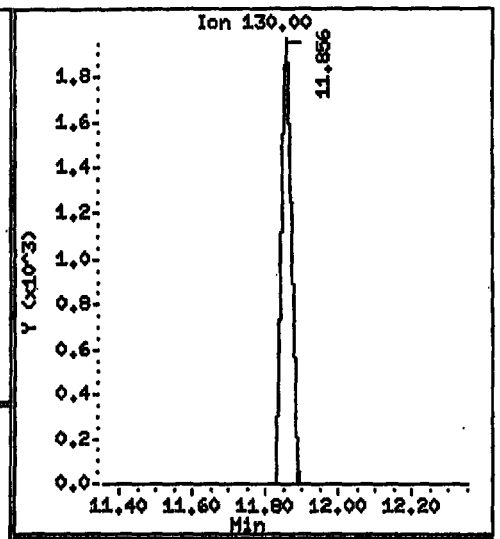
56 Trichloroethene | Concentration: 0.1418 ppb(v/v)

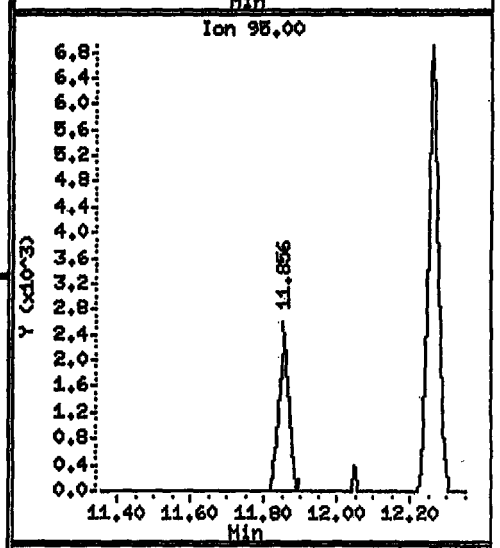


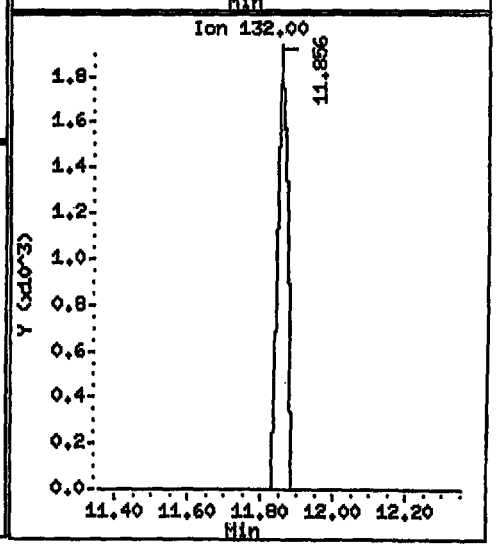












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

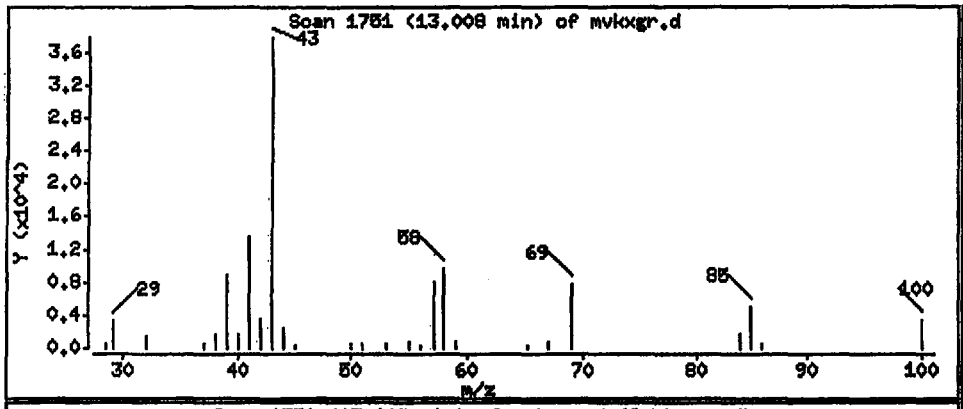
Client ID: TOE/071112 Instrument: mj.i

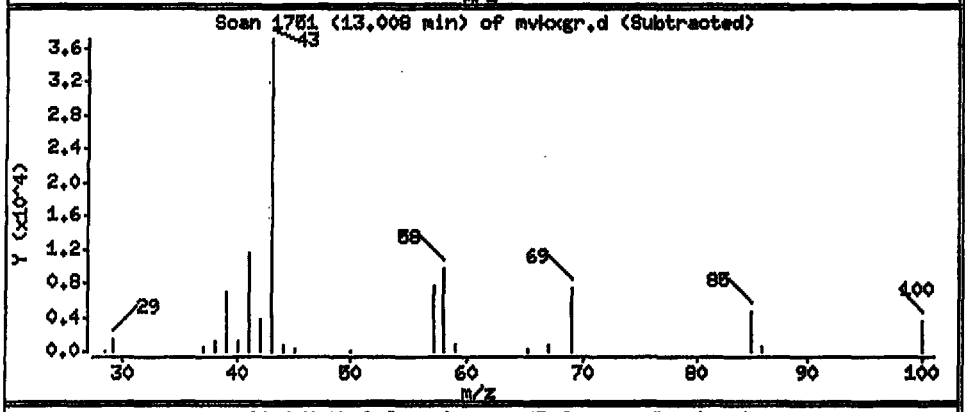
Sample Info: MVKXG1AA,1.56,0,,,

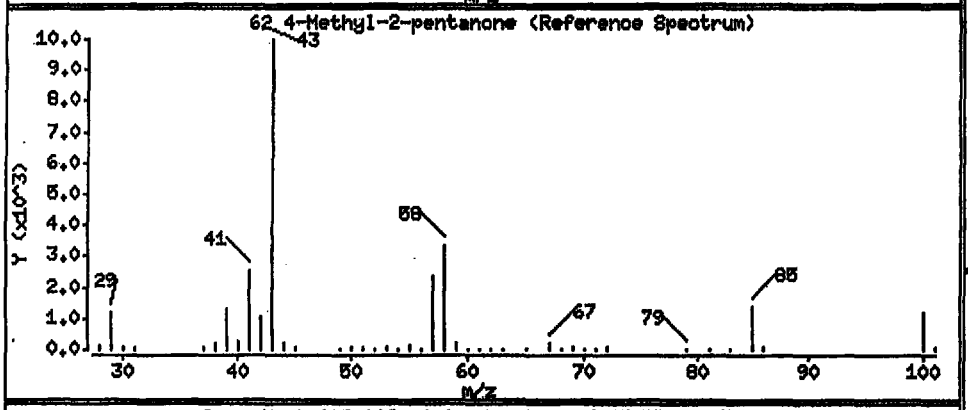
Purge Volume: 200.0 Operator: 403648

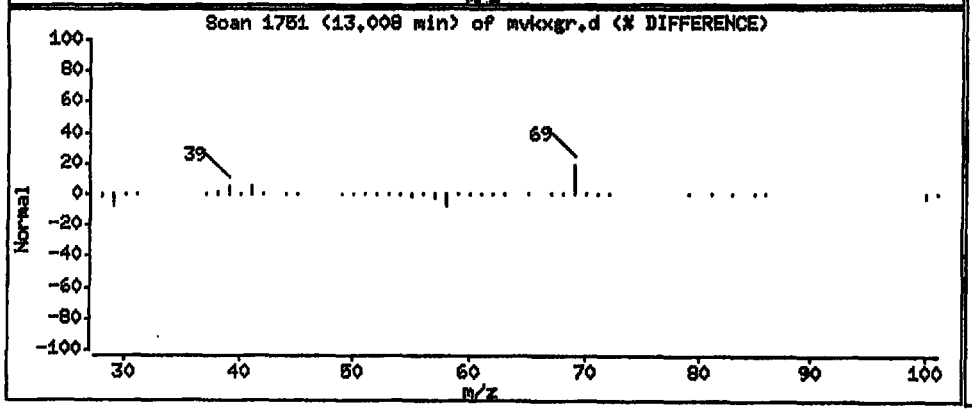
Column phase: Rtx-5 Column diameter: 0.32

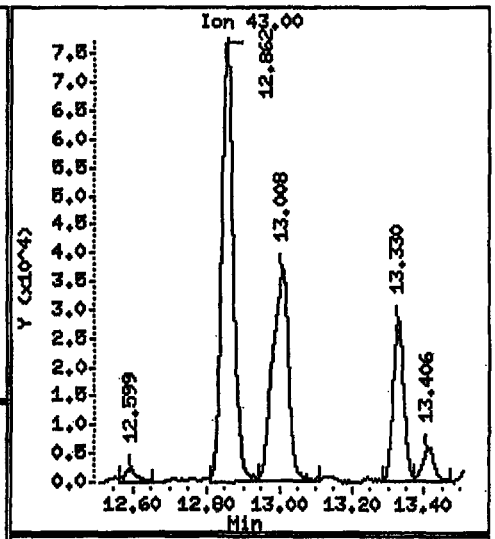
62 4-Methyl-2-pentanone Concentration: 3.904 ppb(v/v)

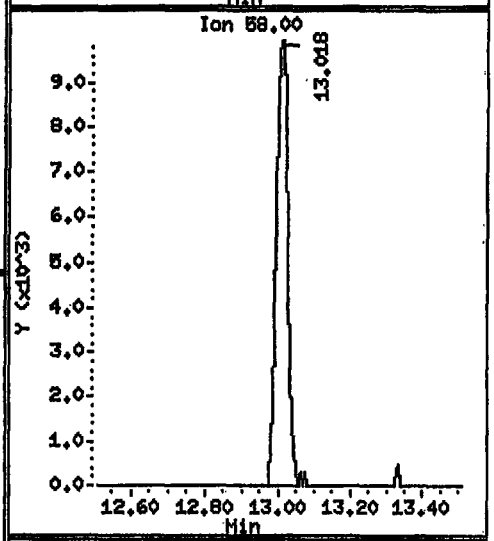


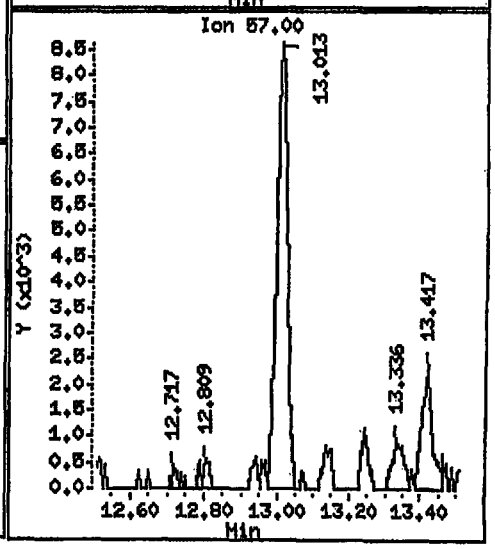












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

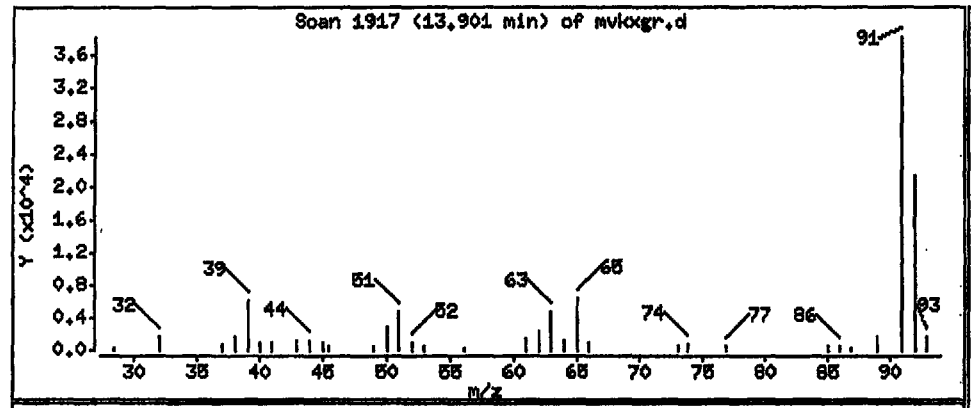
Client ID: TOE/071112 Instrument: mj.i

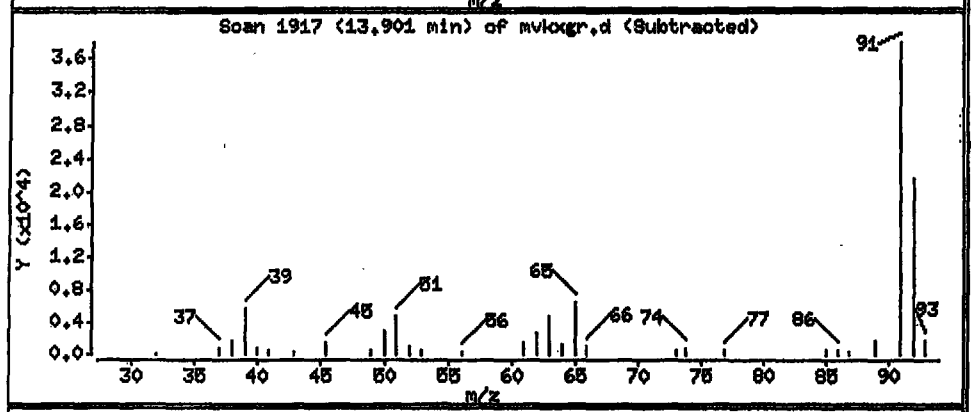
Sample Info: MVKXG1AA,1.56,0,,,

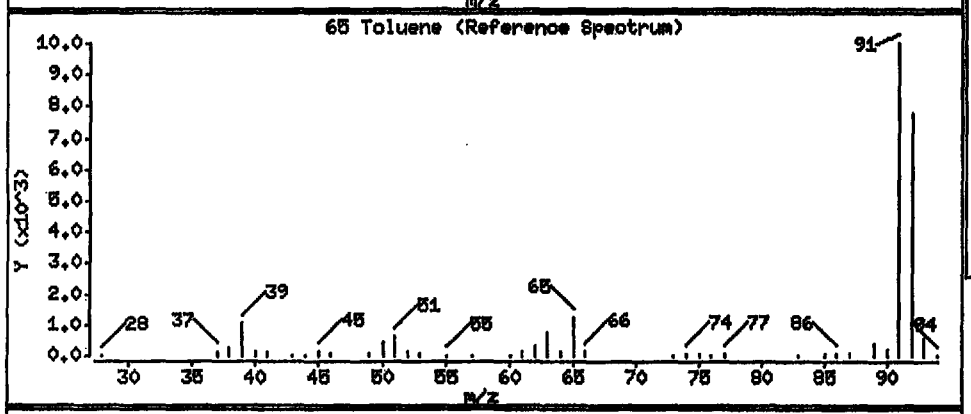
Purge Volume: 200.0 Operator: 403648

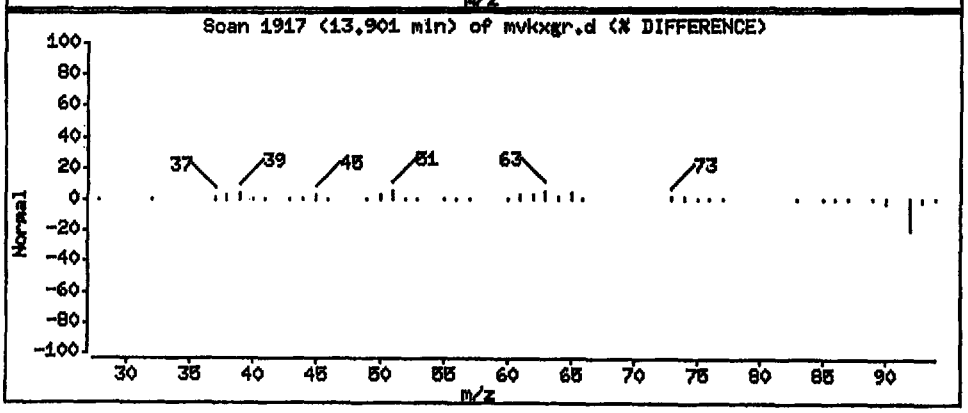
Column phase: Rtx-5 Column diameter: 0.32

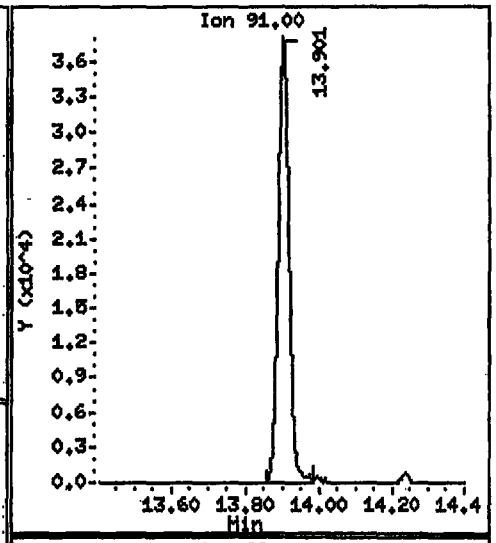
65 Toluene Concentration: 1.480 ppb(v/v)

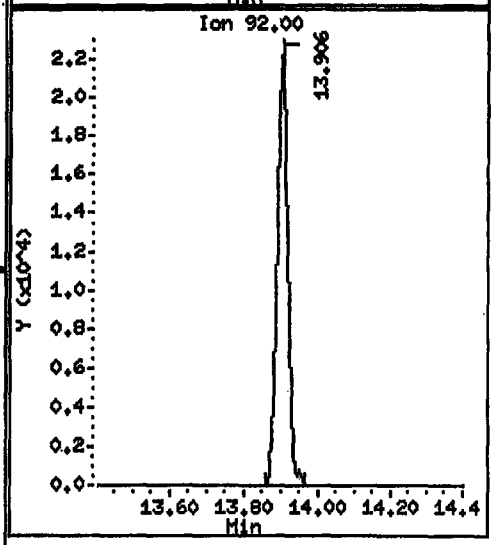












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

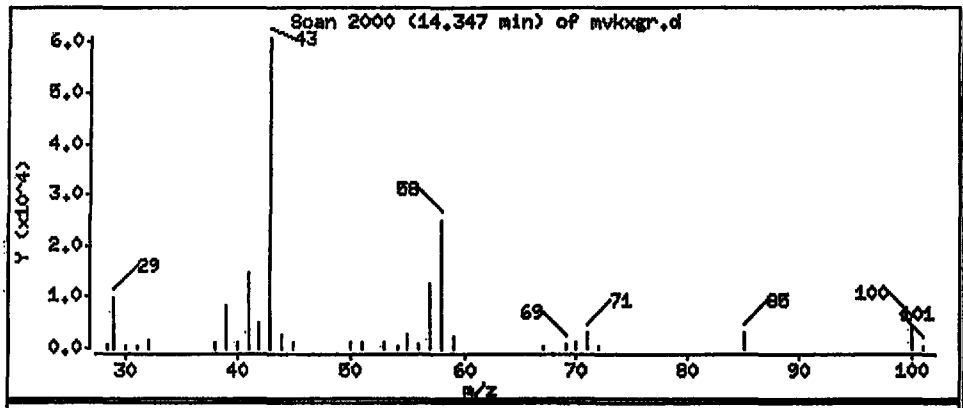
Client ID: TOE/071112 | Instrument: mj.i

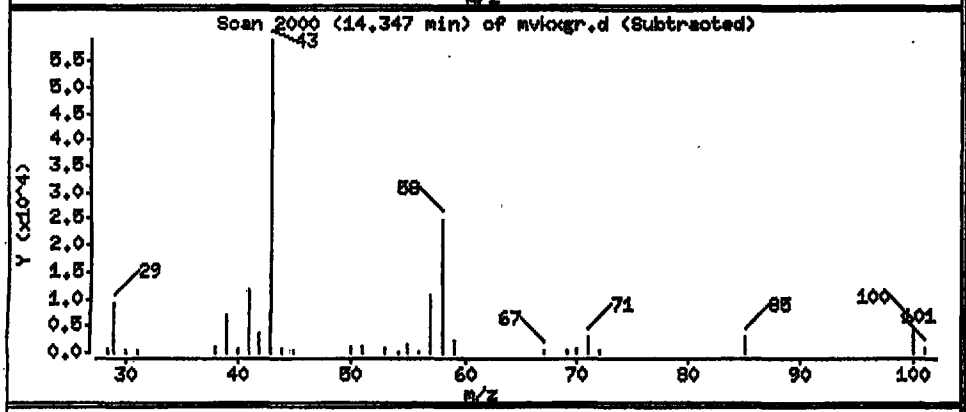
Sample Info: MVKXG1AA,1.56,0,,,

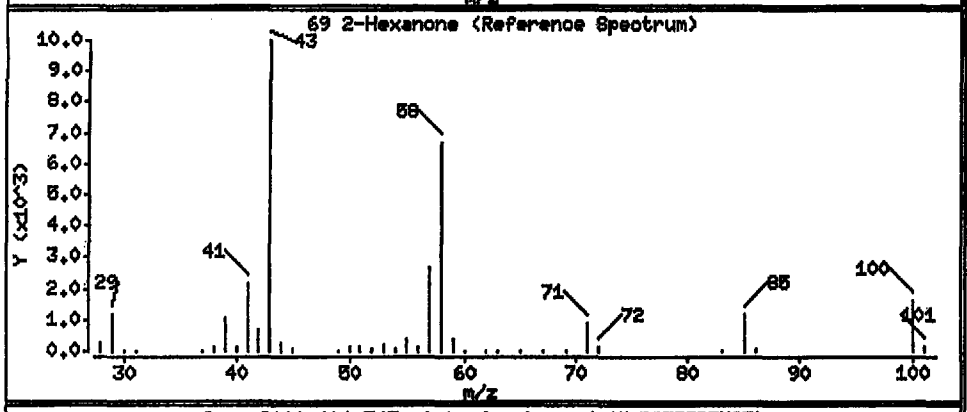
Purge Volume: 200.0 | Operator: 403648

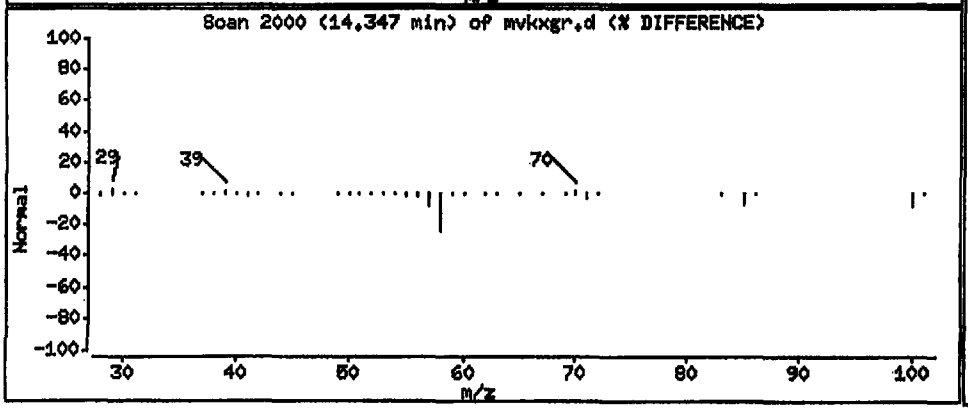
Column phase: Rtx-5 | Column diameter: 0.32

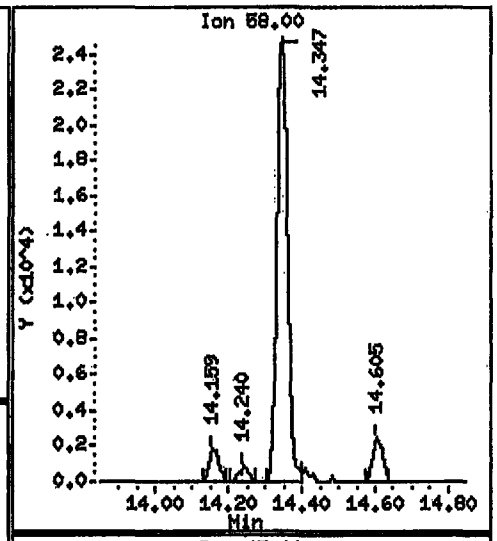
69 2-Hexanone | Concentration: 3.492 ppb(v/v)

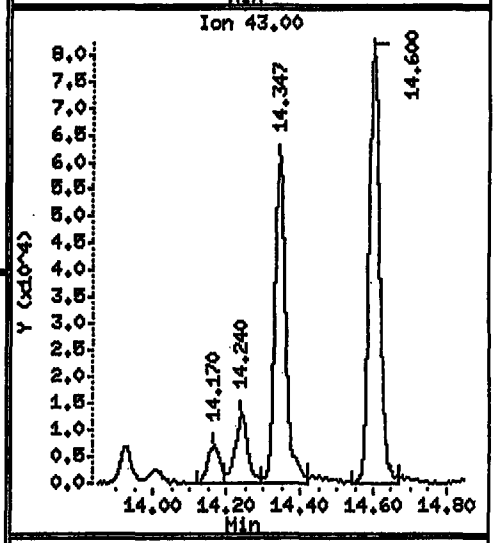


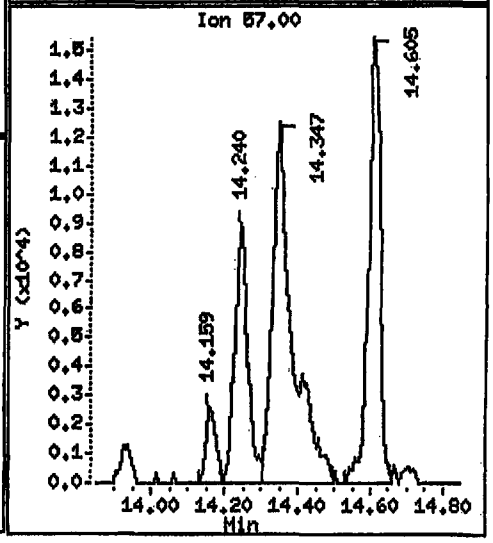












Data File: /var/chem/gcms/mj.i/J071612A.b/mvlxgr.d

Date : 17-JUL-2012 11:17

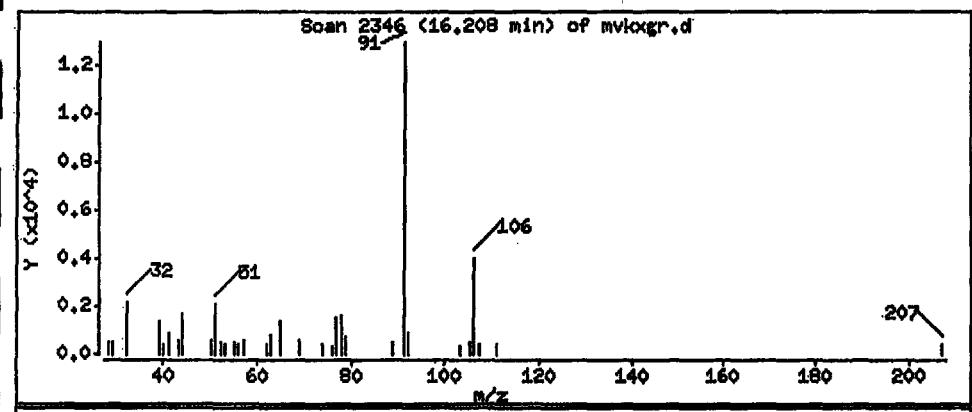
Client ID: TOE/071112 Instrument: mj.i

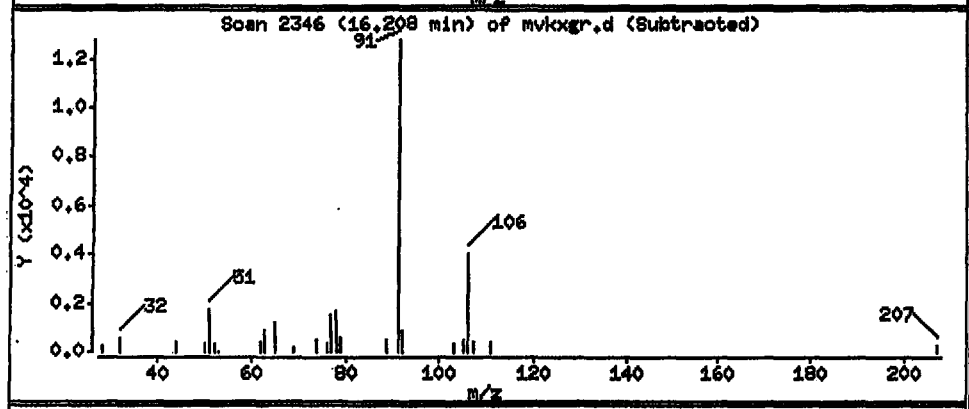
Sample Info: MVKXG1AA,1.56,0,,,

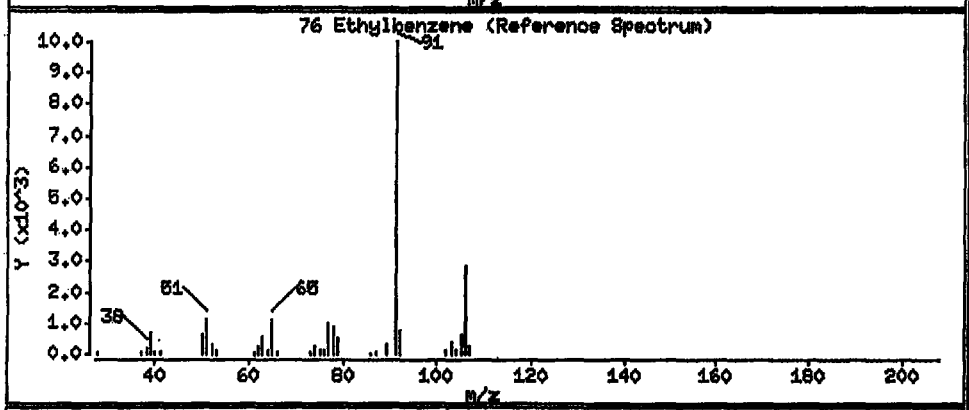
Purge Volume: 200.0 Operator: 403648

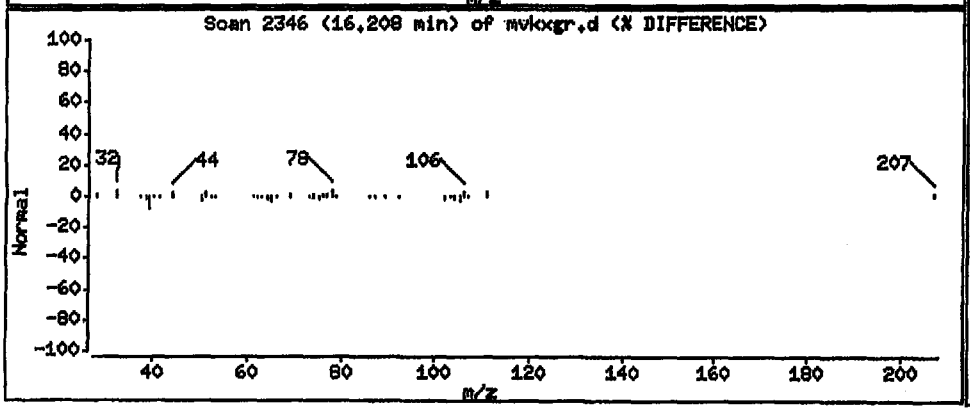
Column phase: Rtx-5 Column diameter: 0.32

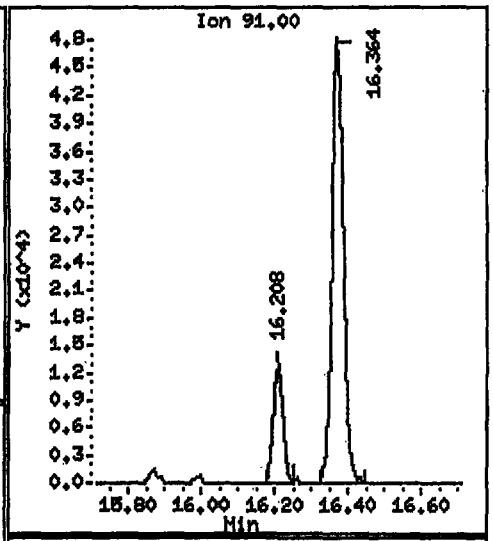
76 Ethylbenzene Concentration: 0.3673 ppb(v/v)

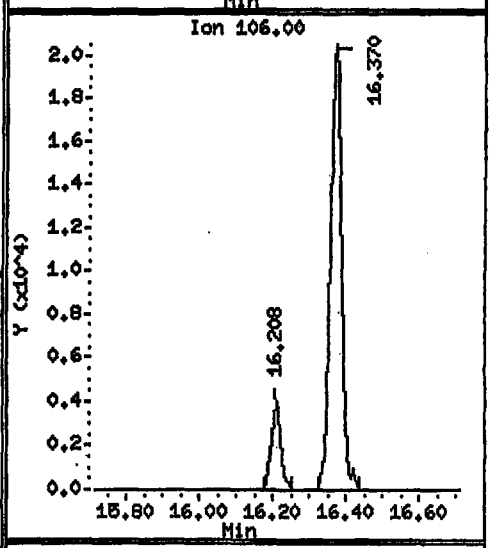


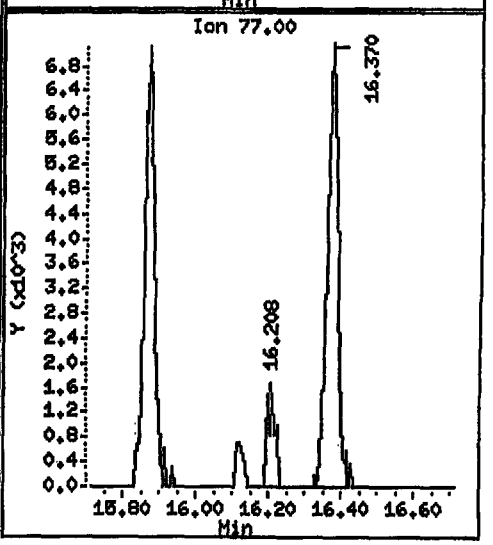












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

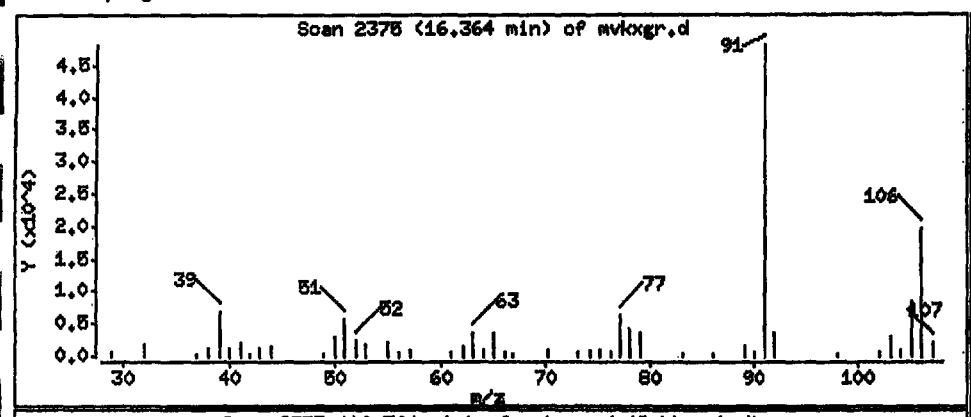
Client ID: TOE/071112 | Instrument: mj.i

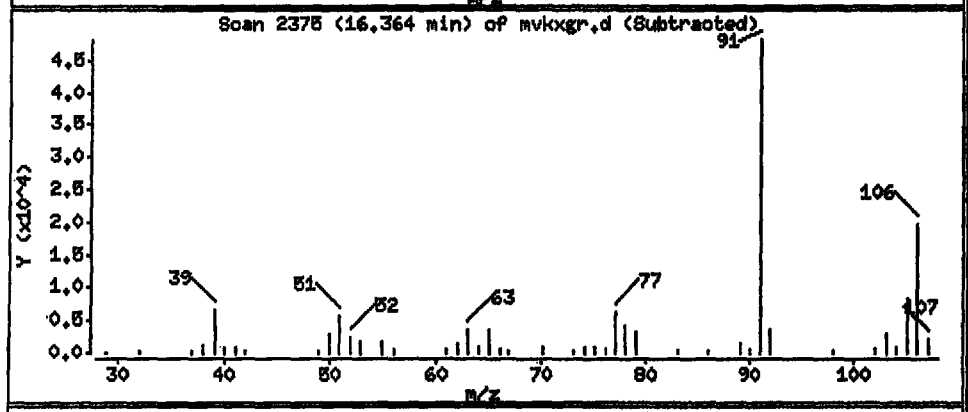
Sample Info: MVKXG1AA,1.56,0,,,

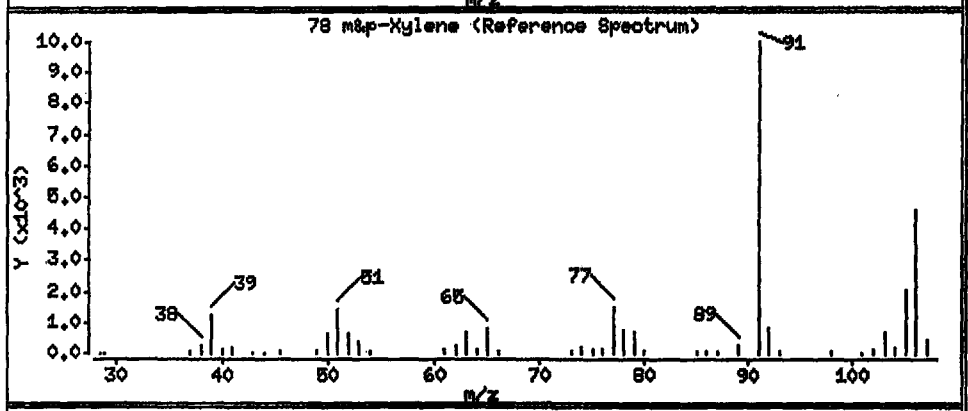
Purge Volume: 200.0 | Operator: 403648

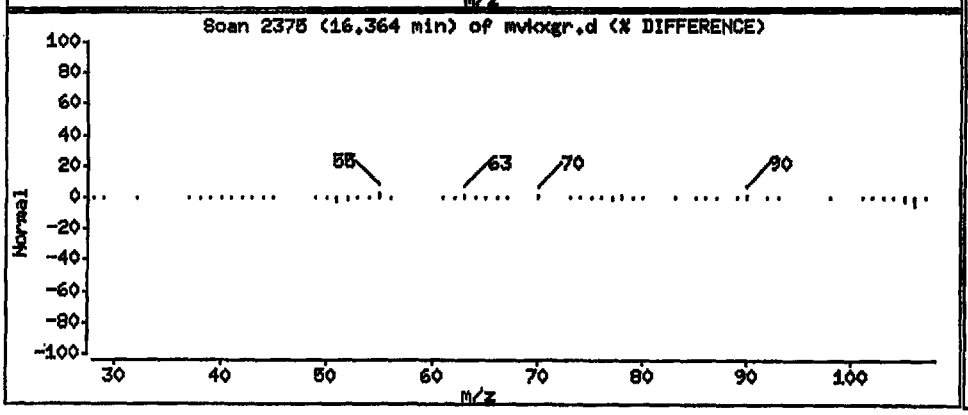
Column phase: Rtx-5 | Column diameter: 0.32

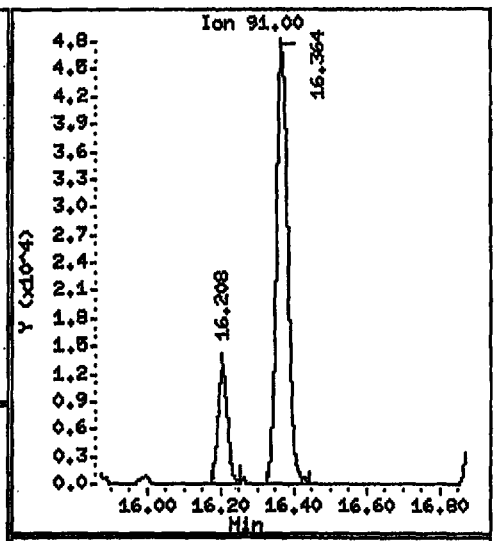
78 m&p-Xylene | Concentration: 1.938 ppb(v/v)

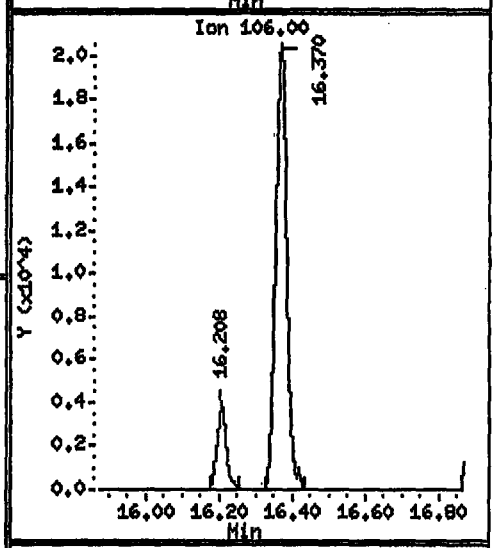


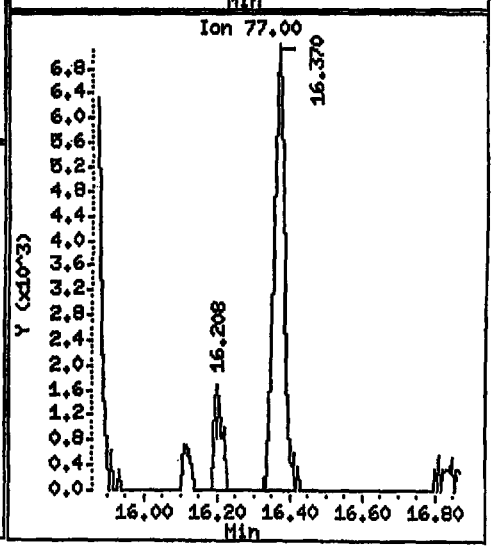












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

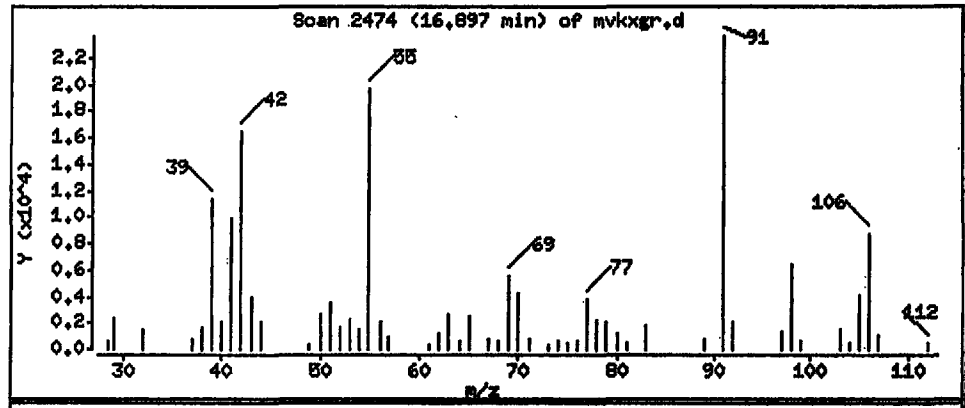
Client ID: TOE/071112 Instrument: mj.i

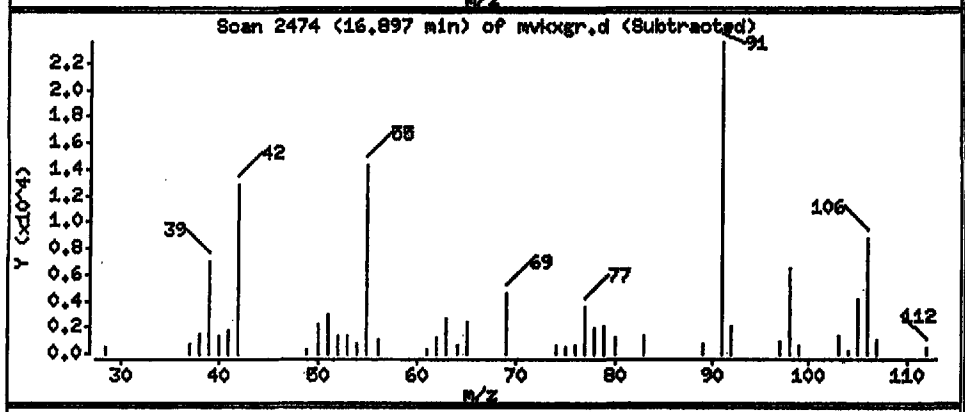
Sample Info: MVKXG1AA,1.56,0,,,

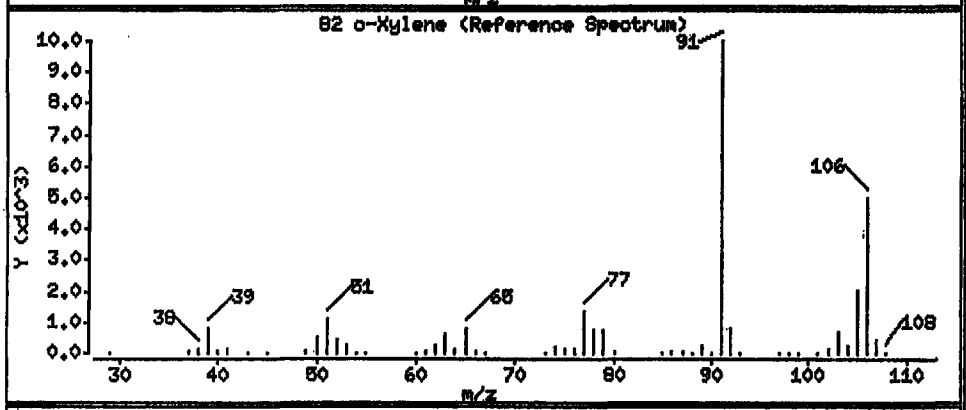
Purge Volume: 200.0 Operator: 403648

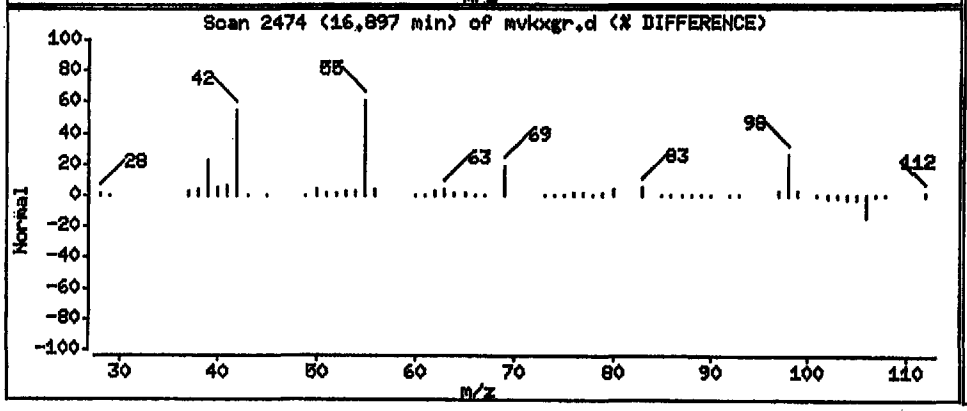
Column phase: Rtx-5 Column diameter: 0.32

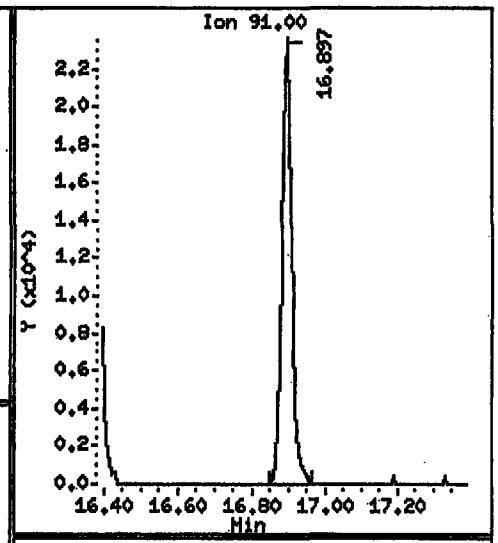
82 o-Xylene Concentration: 0.8125 ppb(v/v)

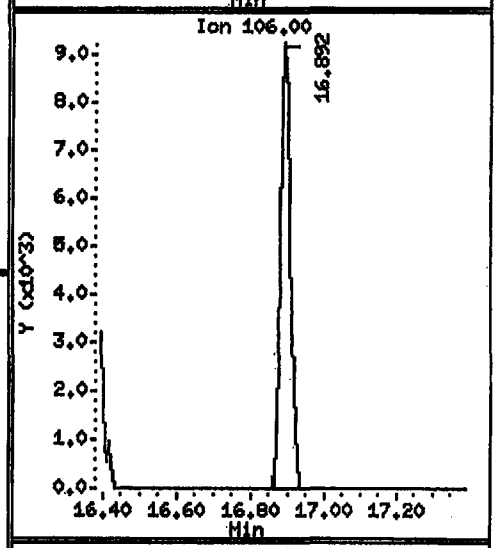


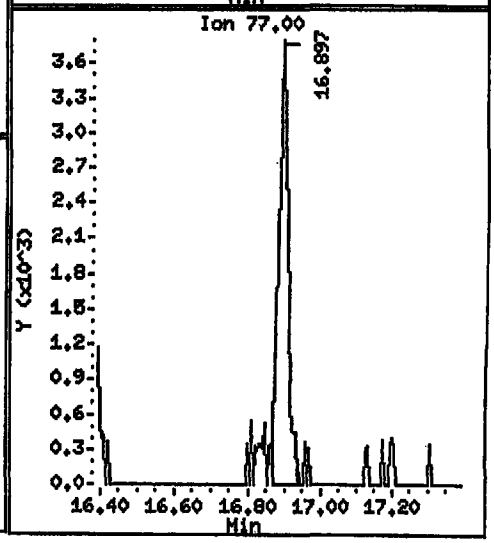












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

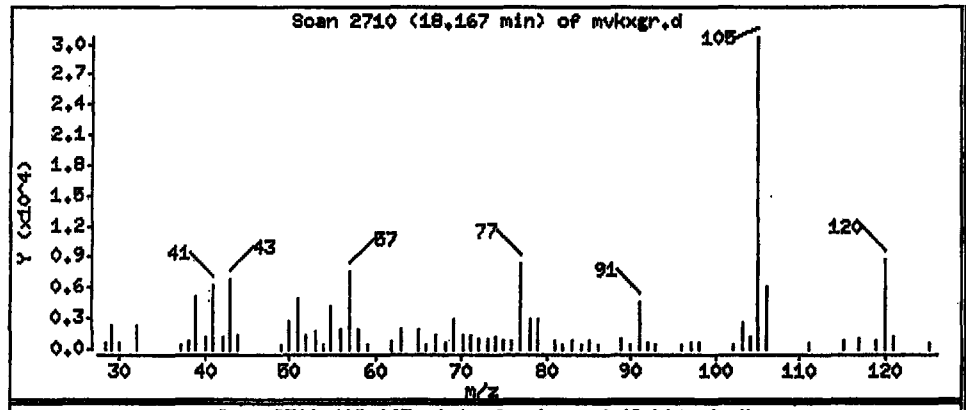
Client ID: TOE/071112 Instrument: mj.i

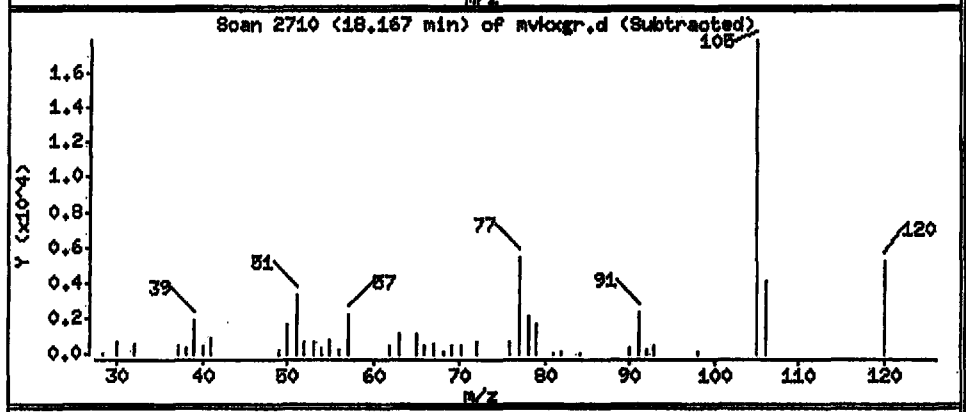
Sample Info: MVKXG1AA,1.56,0,,,

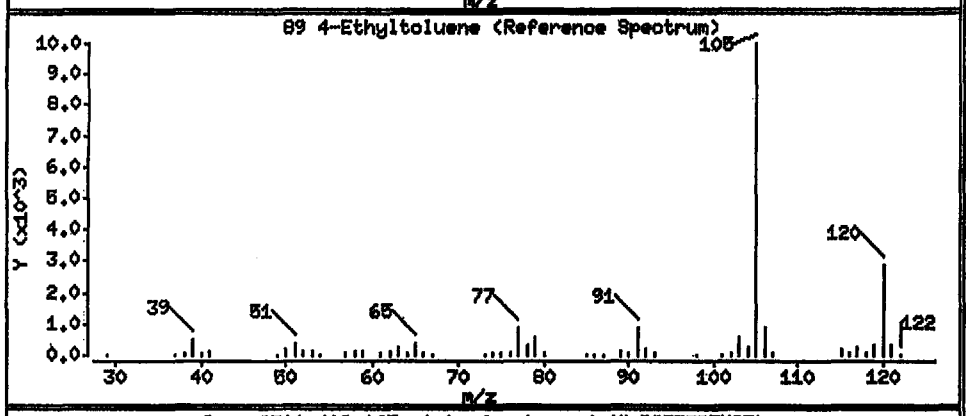
Purge Volume: 200.0 Operator: 403648

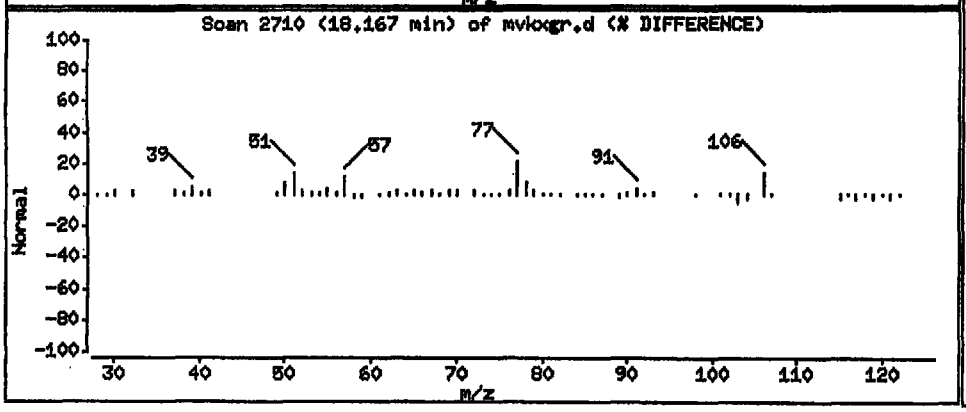
Column phase: Rtx-5 Column diameter: 0.32

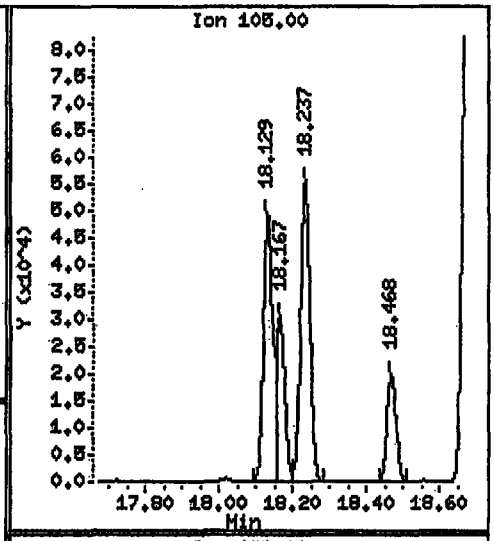
89 4-Ethyltoluene Concentration: 0.6598 ppb(v/v)

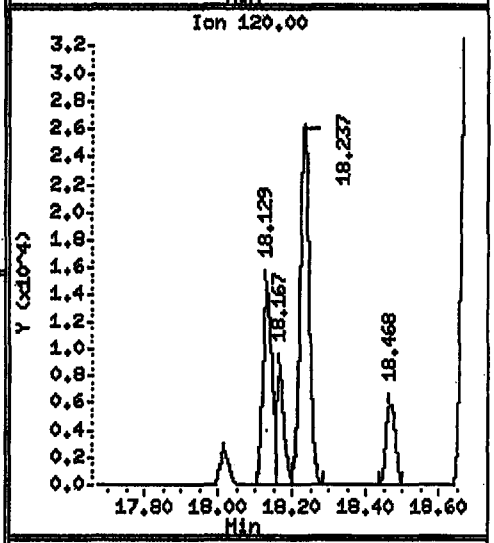


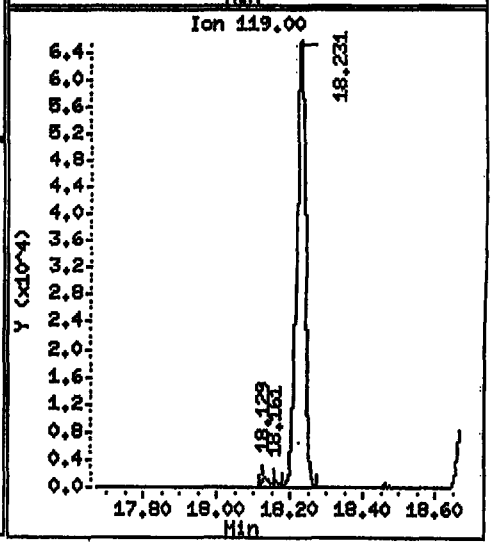












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

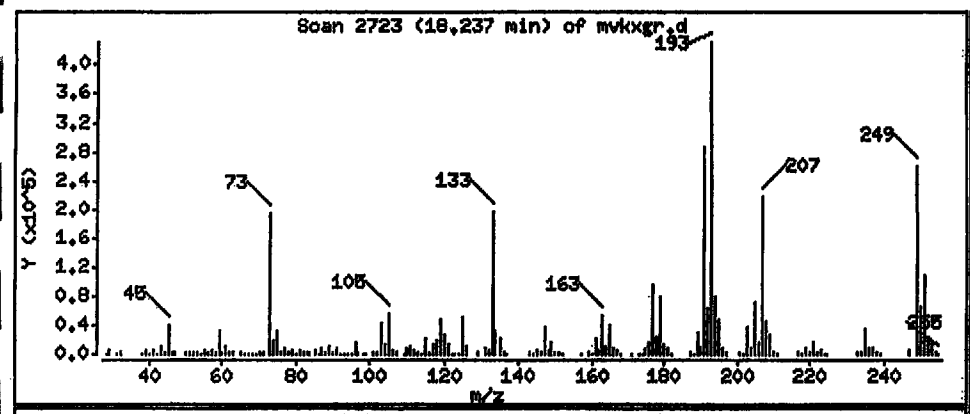
Client ID: TOE/071112 | Instrument: mj.i

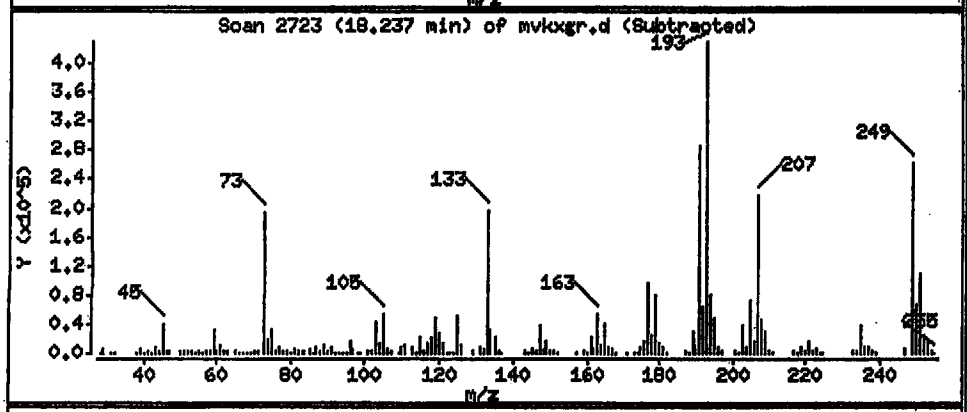
Sample Info: MVKXG1AA,1.56,0,,,

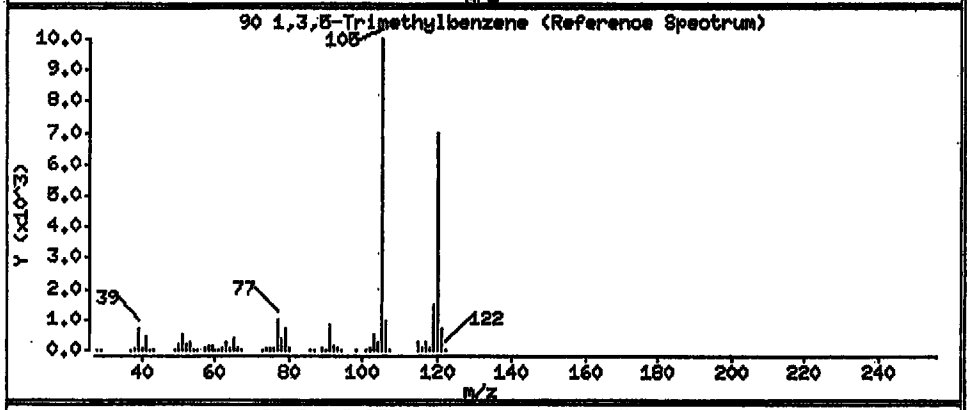
Purge Volume: 200.0 | Operator: 403648

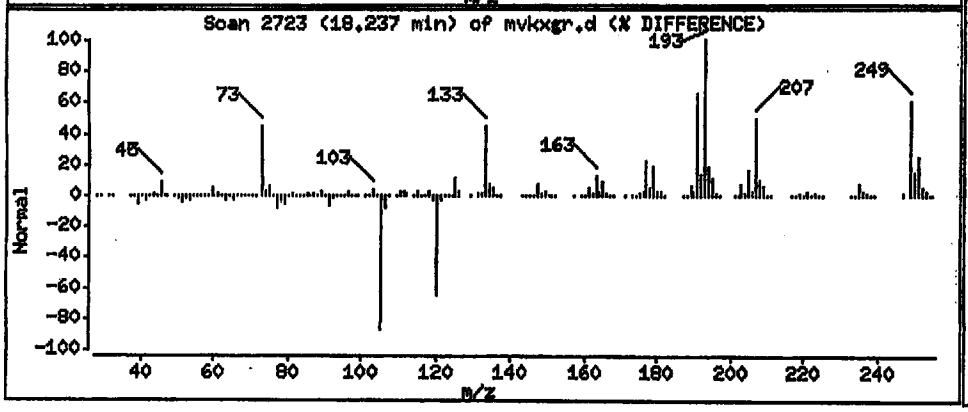
Column phase: Rtx-5 | Column diameter: 0.32

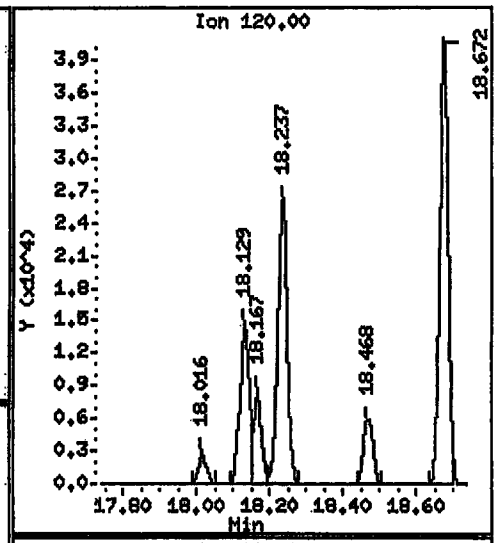
90 1,3,5-Trimethylbenzene | Concentration: 1.529 ppb(v/v)

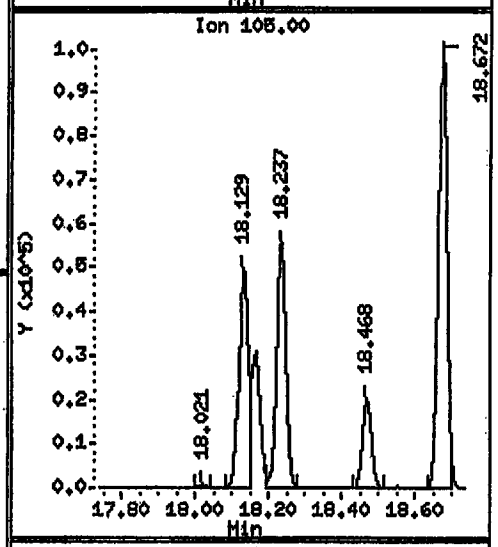


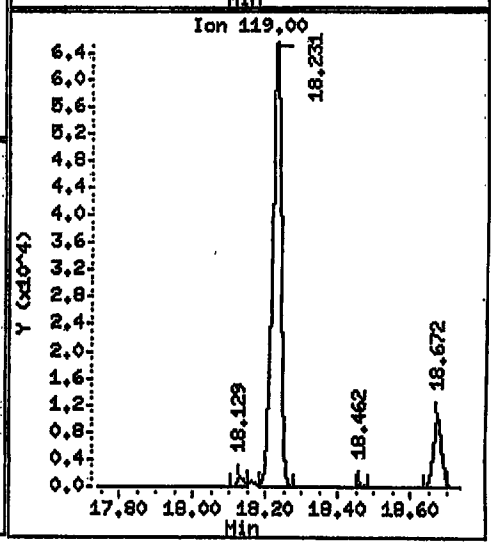












Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

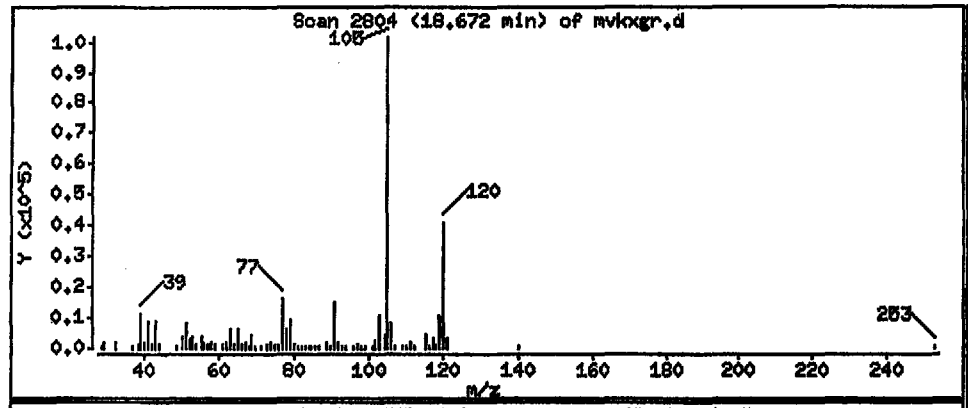
Client ID: TOE/071112 Instrument: mj.i

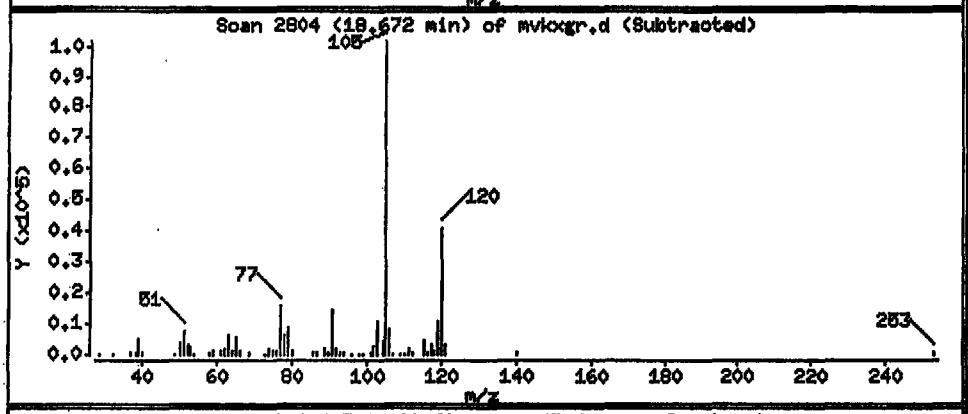
Sample Info: MVKXG1AA,1.56,0,,,

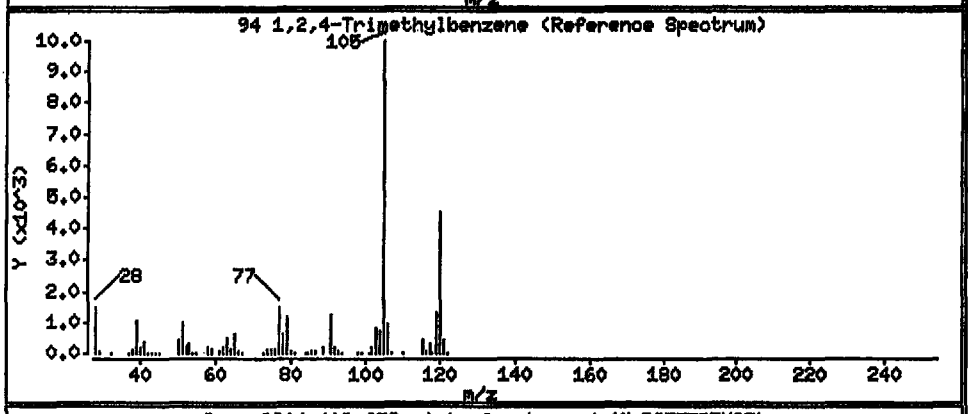
Purge Volume: 200.0 Operator: 403648

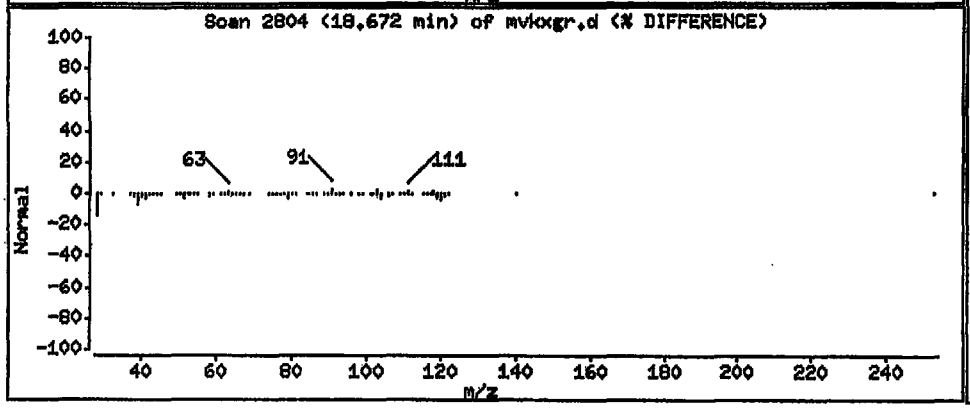
Column phase: Rtx-5 Column diameter: 0.32

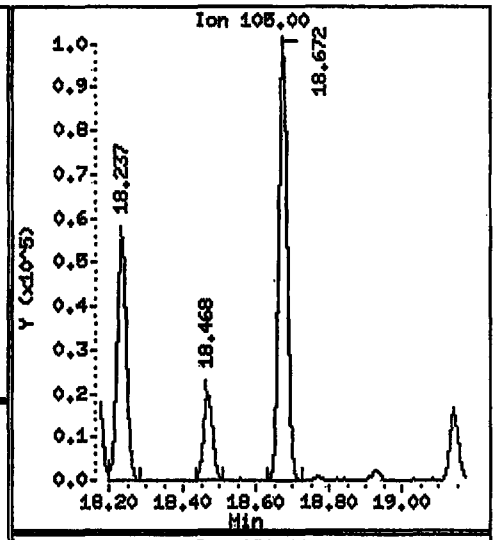
94 1,2,4-Trimethylbenzene Concentration: 2.733 ppb(v/v)

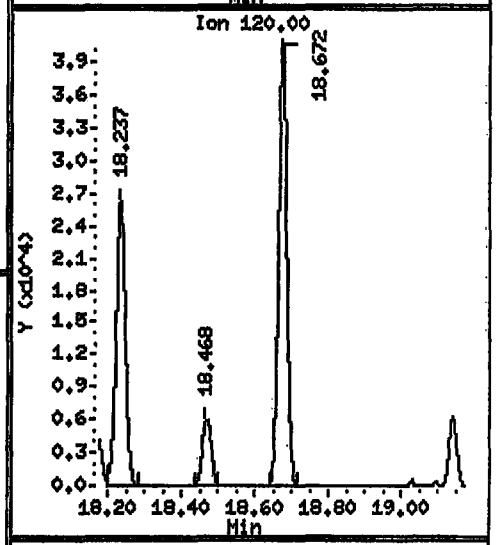


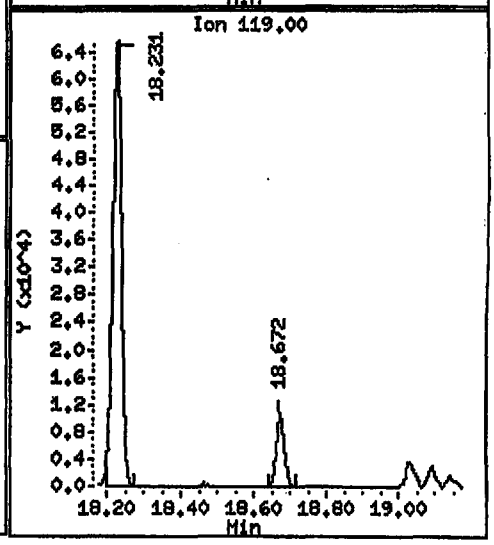












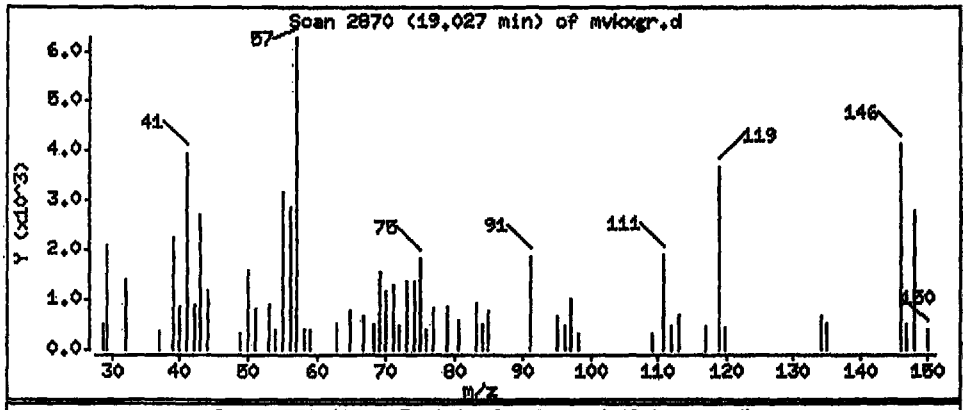
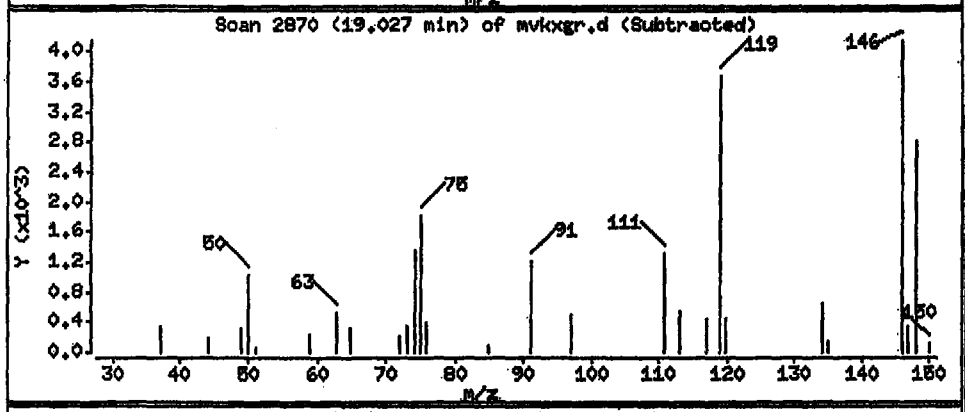
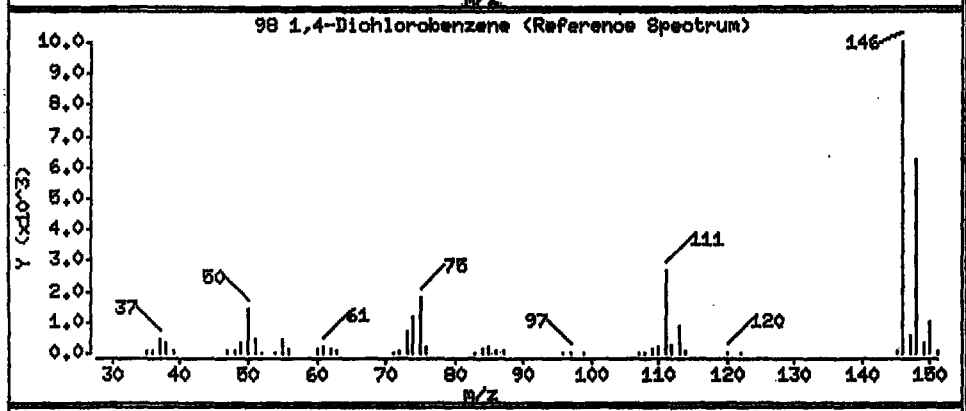
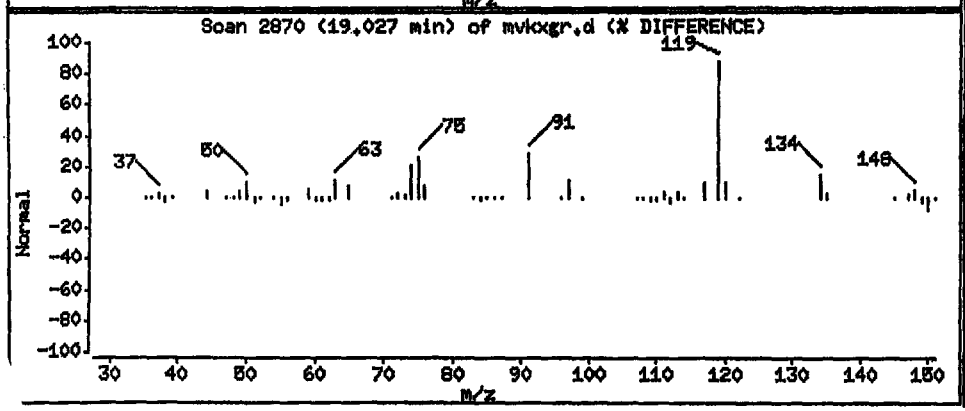
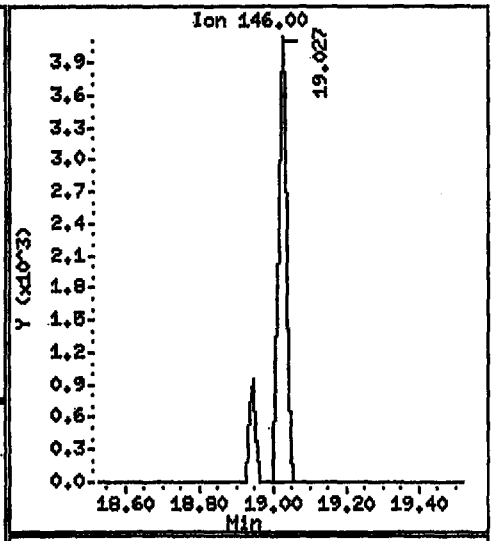
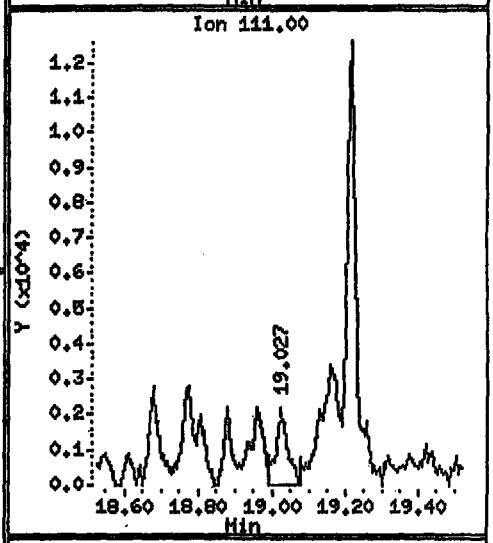
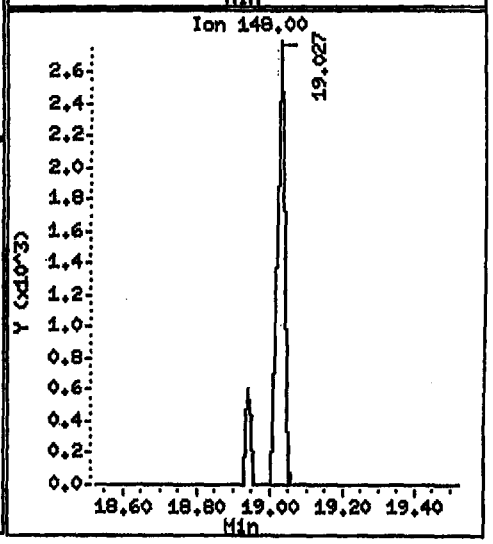
Data File: /var/chem/gcms/mj.i/J071612A.b/mvkxgr.d

Date : 17-JUL-2012 11:17

Client ID: TOE/071112 | Instrument: mj.i

Sample Info: MVKXG1AA,1.56,0,,,

Purge Volume: 200.0 | Operator: 403648

Column phase: Rtx-5 | Column diameter: 0.32

98 1,4-Dichlorobenzene | Concentration: 0.1506 ppb(v/v)