

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL032519\
 Data File : VL033456.D
 Acq On : 26 Mar 2019 4:07
 Operator : SY/AP
 Sample : K1991-08
 Misc : 400ml/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 IA-4

Quant Time: Mar 26 07:21:44 2019
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL032519AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Tue Mar 26 05:43:39 2019
 QLast Update : Tue Mar 26 05:43:39 2019
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.76	49	678620	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.29	114	1585611	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.24	117	1634543	10.00	ppbv	0.00

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.58	95	1253517	9.78	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	97.80%

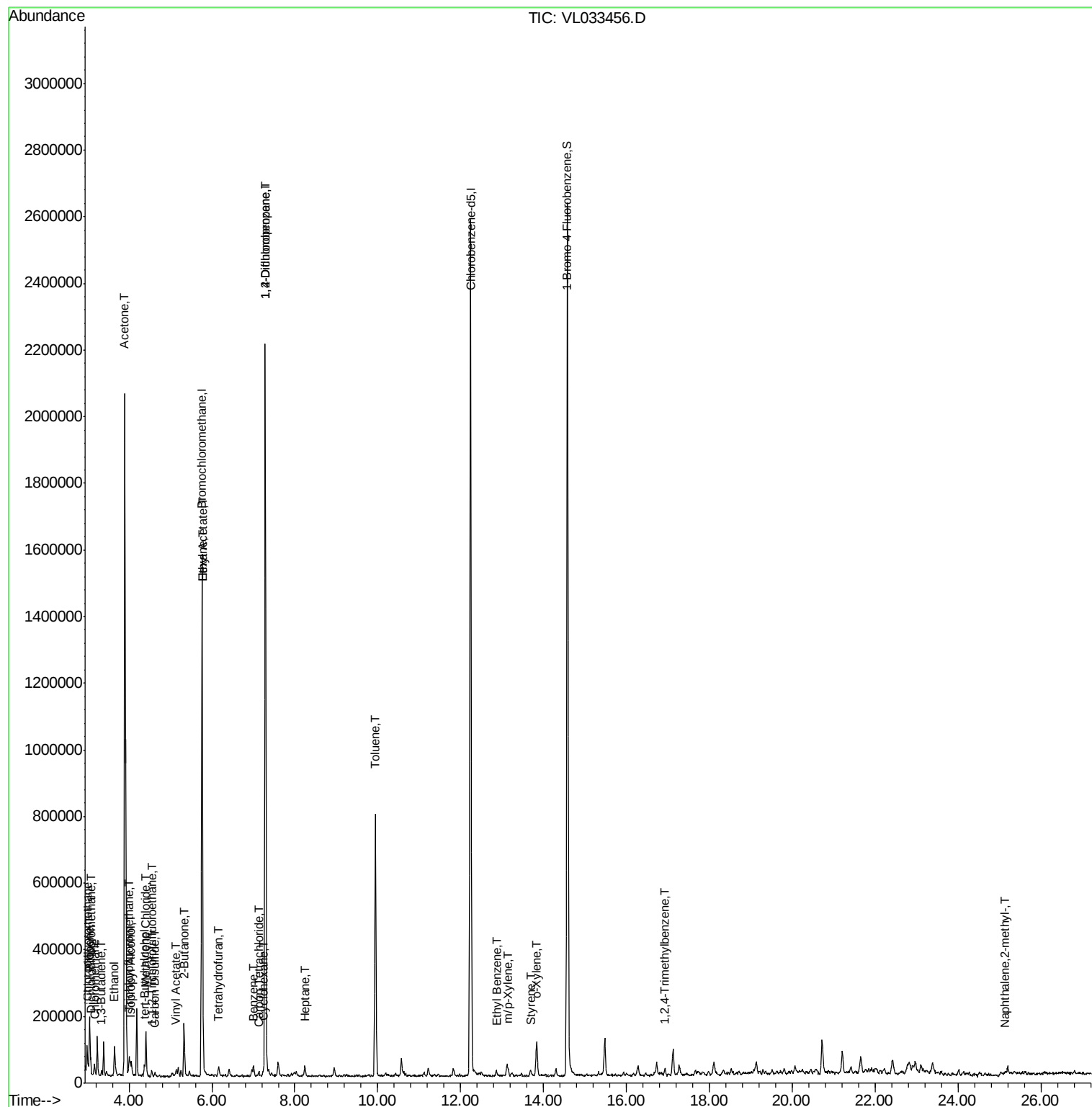
Target Compounds					Ovalue
2) Dichlorodifluoromethane	3.08	85	31229	0.316	ppbv 96
3) Chlorodifluoromethane	2.99	51	72246	0.925	ppbv # 71
4) Chloromethane	3.17	50	25758	0.623	ppbv 99
9) Propene	3.05	41	33550	1.023	ppbv # 73
10) Heptane	8.25	43	9963	0.121	ppbv 93
11) Trichlorofluoromethane	4.00	101	31027	0.254	ppbv 95
12) 1,1,2-Trichlorotrifluoroet	4.54	101	3267	0.040	ppbv # 14
13) Ethanol	3.65	45	95632	11.264	ppbv 68
15) Acetone	3.89	43	2303120	28.225	ppbv 97
16) 1,3-Butadiene	3.34	39	1685	0.052	ppbv # 34
17) tert-Butyl alcohol	4.37	59	10424	0.695	ppbv # 73
19) Isopropyl Alcohol	4.03	45	14694	0.285	ppbv # 95
20) Methylene Chloride	4.40	84	46151	1.332	ppbv # 87
23) Vinyl Acetate	5.15	43	3633	0.031	ppbv # 49
25) Ethyl Acetate	5.78	43	71383	0.472	ppbv # 92
26) Hexane	5.78	57	61328	0.911	ppbv # 59
27) Carbon Disulfide	4.62	76	3974	0.050	ppbv # 64
30) Cyclohexane	7.24	84	3372	0.063	ppbv # 1
34) 2-Butanone	5.33	43	174539	1.832	ppbv 99
35) Carbon Tetrachloride	7.13	117	7342	0.065	ppbv 88
36) Benzene	7.00	78	10882	0.082	ppbv # 92
39) 1,2-Dichloropropane	7.29	63	400377	7.682	ppbv # 23
41) Tetrahydrofuran	6.16	42	13550	0.259	ppbv 92
53) Toluene	9.94	91	600975	3.887	ppbv 100
58) Ethyl Benzene	12.86	91	12694	0.058	ppbv 94
59) m/p-Xylene	13.15	91	9301	0.048	ppbv # 100
60) o-Xylene	13.85	91	21121	0.112	ppbv 99
61) Styrene	13.69	104	5082	0.039	ppbv # 26
74) 1,2,4-Trimethylbenzene	16.93	105	5420	0.025	ppbv # 60
80) Naphthalene,2-methyl-	25.11	142	1381	0.022	ppbv # 75

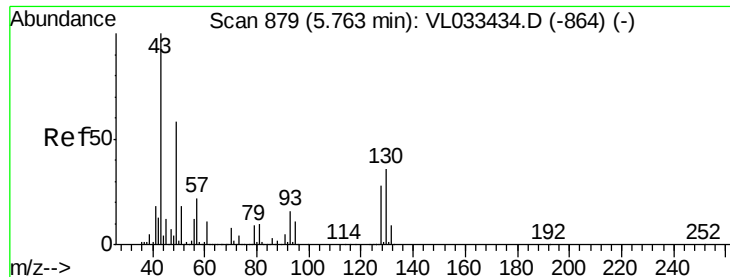
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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QLast Update : Tue Mar 26 05:43:39 2019
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#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.76 min Scan# 877

Delta R.T. -0.01 min

Lab File: VL033456.D

Acq: 26 Mar 2019 4:07

Instrument :

MSVOA_L

ClientSampleId :

IA-4

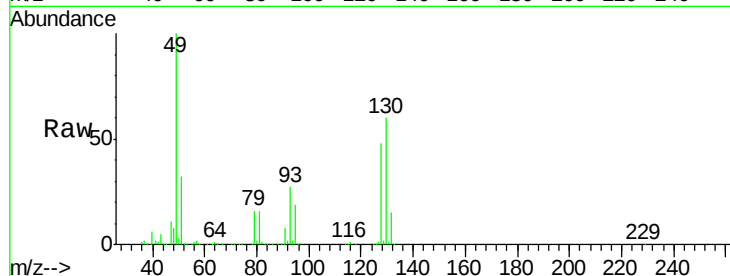
Tot Ion: 49 Resp: 678620

Ion Ratio Lower Upper

49 100

128 48.4 24.0 72.0

130 62.9 31.2 93.6



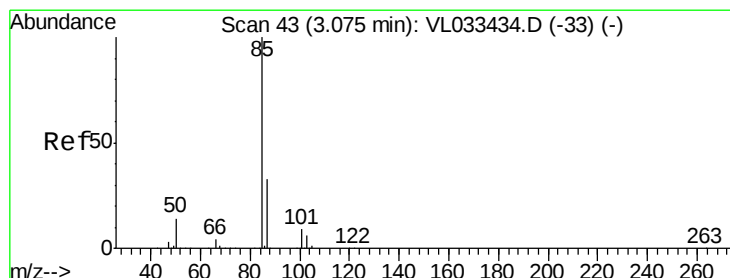
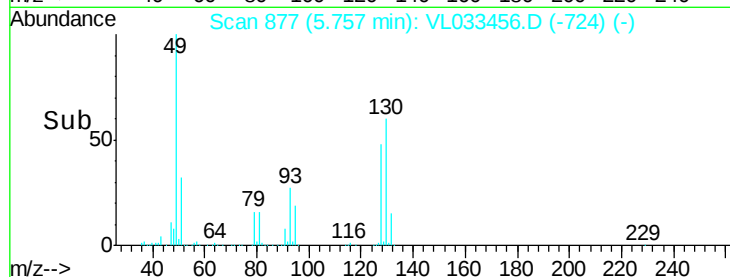
Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): VL0

Ion 130.00 (129.70 to 130.70): VL0

5.76

Time-->



#2

Dichlorodifluoromethane

Concen: 0.316 ppbv

RT: 3.08 min Scan# 43

Delta R.T. -0.00 min

Lab File: VL033456.D

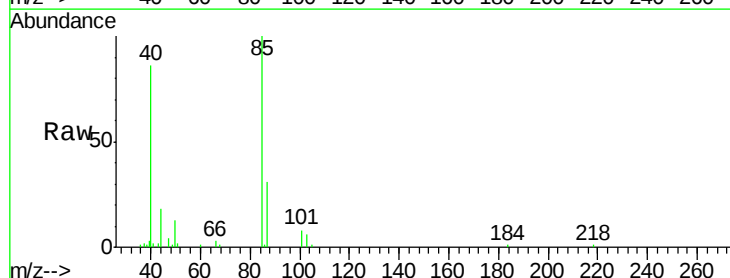
Acq: 26 Mar 2019 4:07

Tgt Ion: 85 Resp: 31229

Ion Ratio Lower Upper

85 100

87 31.0 26.7 40.1

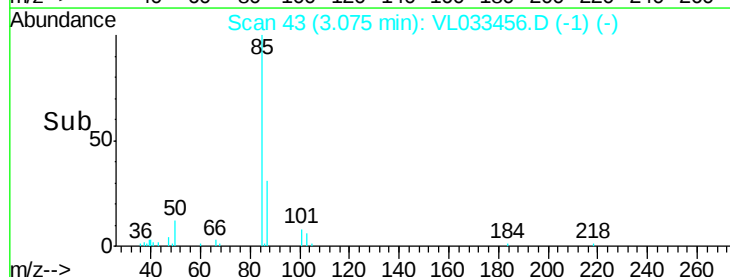


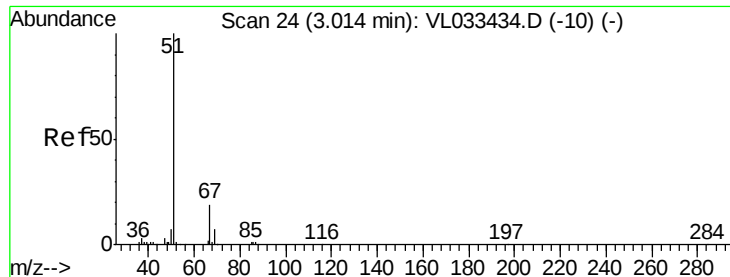
Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0

3.08

Time-->

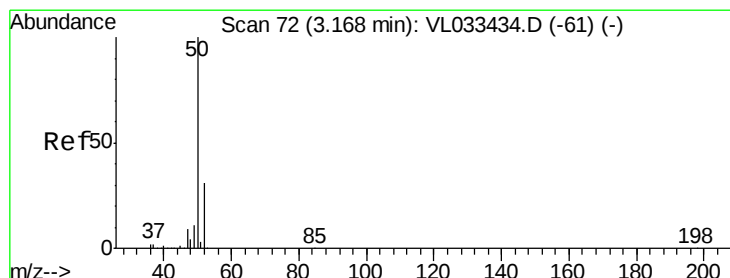
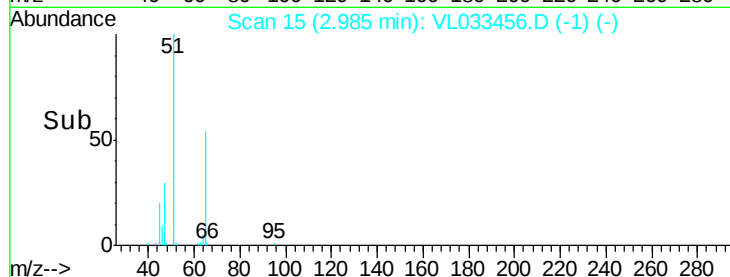
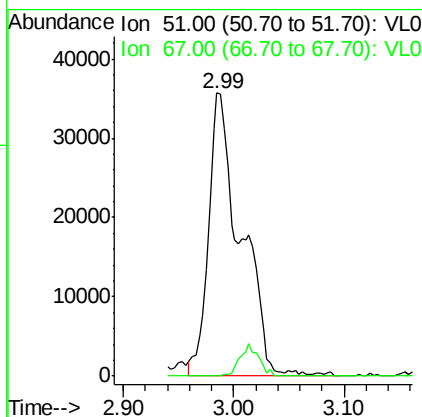
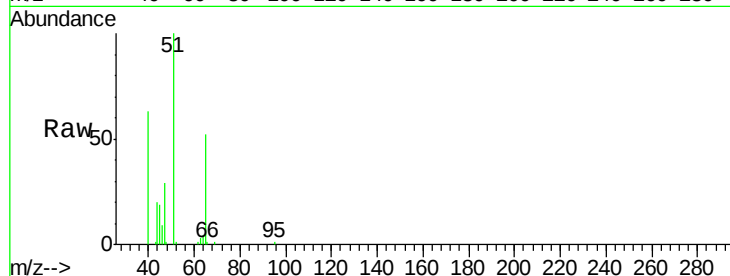




#3
 Chlorodifluoromethane
 Concen: 0.925 ppbv
 RT: 2.99 min Scan# 15
 Delta R.T. -0.03 min
 Lab File: VL033456.D
 Acq: 26 Mar 2019 4:07

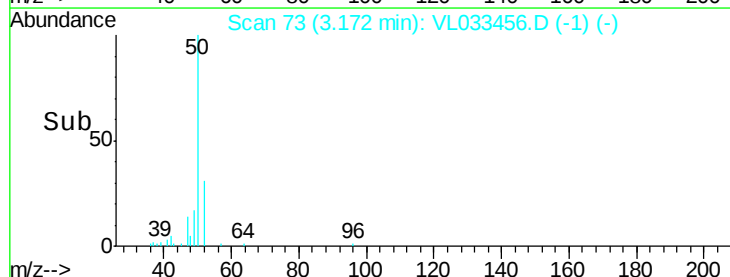
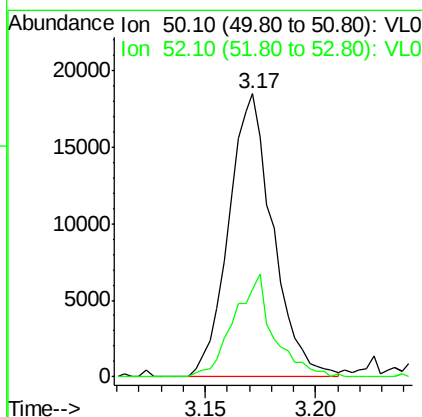
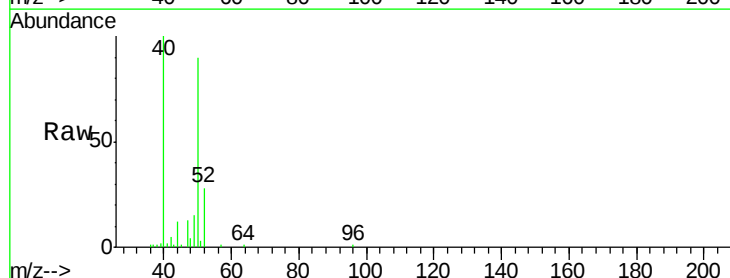
Instrument :
 MSVOA_L
 ClientSampleId :
 IA-4

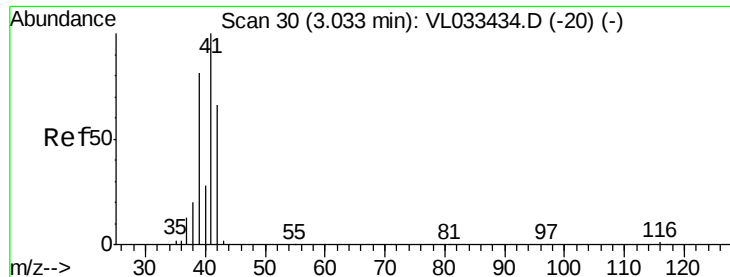
Tot Ion: 51 Resp: 72246
 Ion Ratio Lower Upper
 51 100
 67 6.6 15.7 23.5#



#4
 Chloromethane
 Concen: 0.623 ppbv
 RT: 3.17 min Scan# 73
 Delta R.T. 0.00 min
 Lab File: VL033456.D
 Acq: 26 Mar 2019 4:07

Tgt Ion: 50 Resp: 25758
 Ion Ratio Lower Upper
 50 100
 52 30.8 25.0 37.6





#9

Propene

Concen: 1.023 ppbv

RT: 3.05 min Scan# 35

Delta R.T. 0.02 min

Lab File: VL033456.D

Acq: 26 Mar 2019 4:07

Instrument :

MSVOA_L

ClientSampleId :

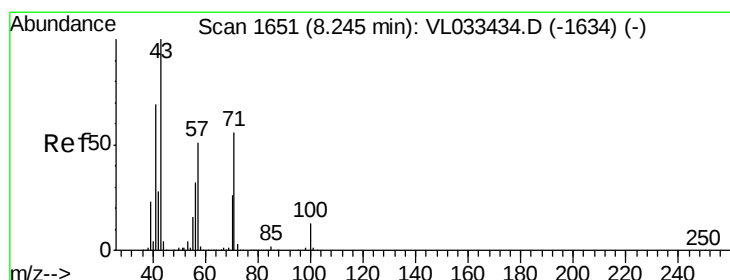
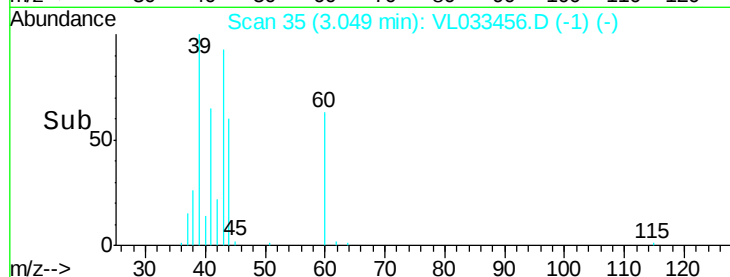
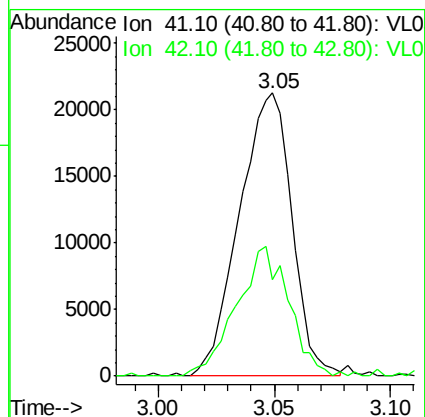
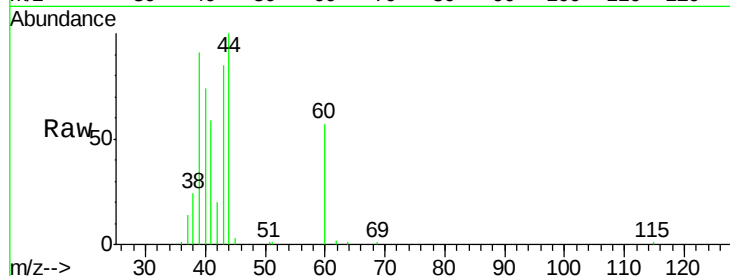
IA-4

Tot Ion: 41 Resp: 33550

Ion Ratio Lower Upper

41 100

42 45.8 53.9 80.9#



#10

Heptane

Concen: 0.121 ppbv

RT: 8.25 min Scan# 1651

Delta R.T. -0.00 min

Lab File: VL033456.D

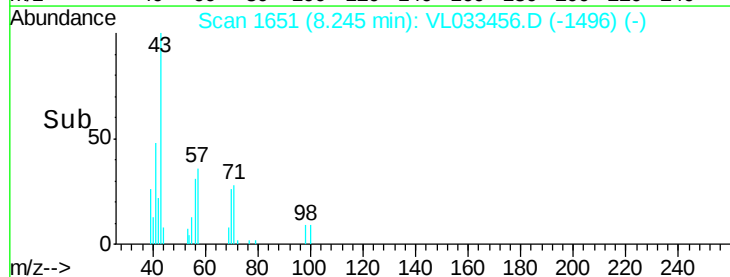
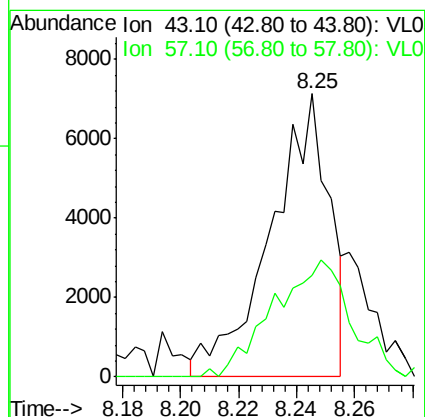
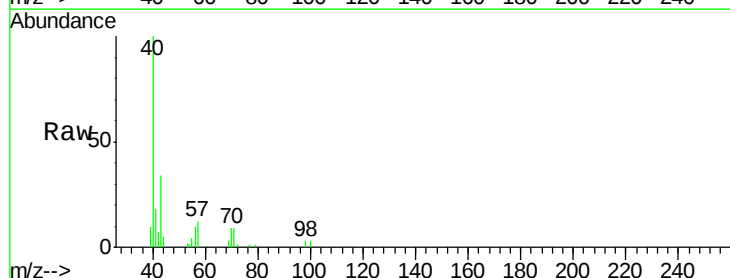
Acq: 26 Mar 2019 4:07

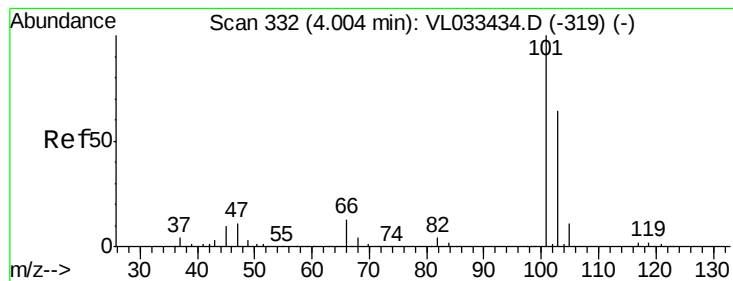
Tgt Ion: 43 Resp: 9963

Ion Ratio Lower Upper

43 100

57 55.3 40.6 60.8





#11

Trichlorofluoromethane

Concen: 0.254 ppbv

RT: 4.00 min Scan# 331

Delta R.T. -0.00 min

Lab File: VL033456.D

Acq: 26 Mar 2019 4:07

Instrument :

MSVOA_L

ClientSampleId :

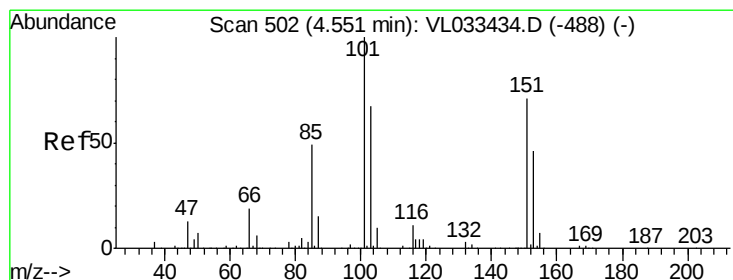
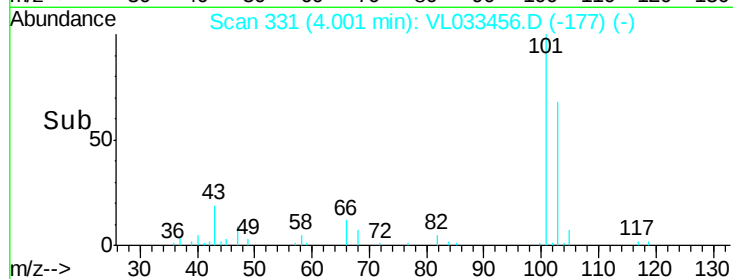
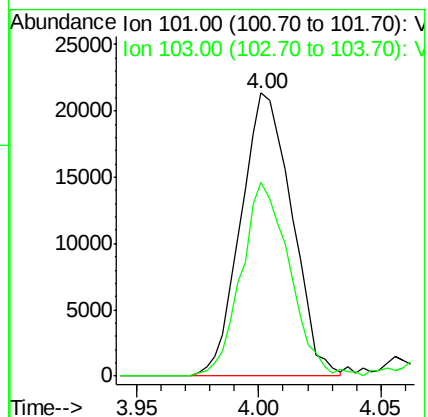
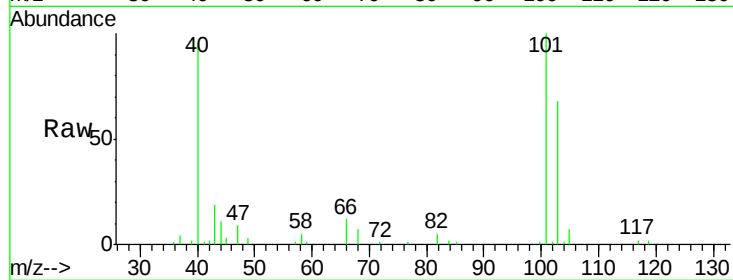
IA-4

Tot Ion:101 Resp: 31027

Ion Ratio Lower Upper

101 100

103 68.3 51.3 76.9



#12

1,1,2-Trichlorotrifluoroethane

Concen: 0.040 ppbv

RT: 4.54 min Scan# 500

Delta R.T. -0.01 min

Lab File: VL033456.D

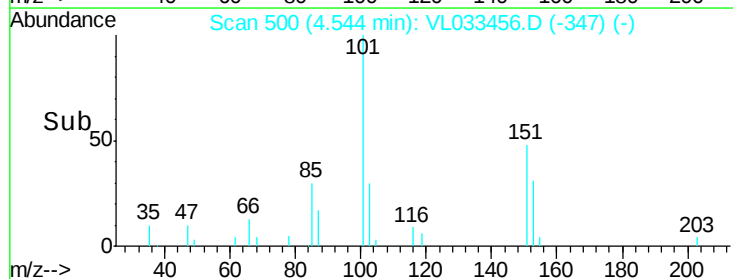
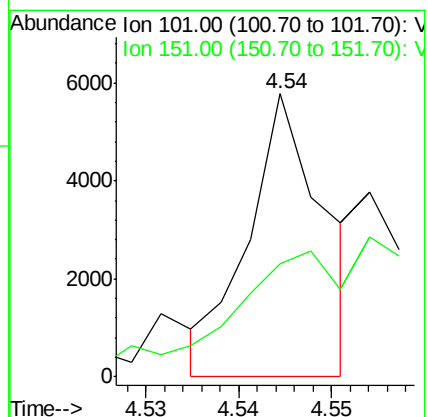
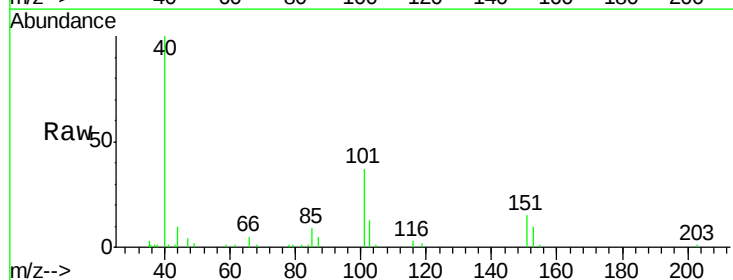
Acq: 26 Mar 2019 4:07

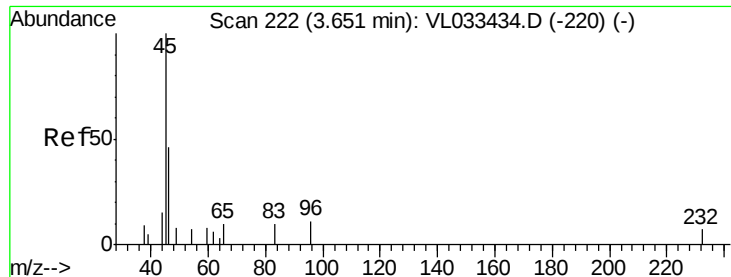
Tgt Ion:101 Resp: 3267

Ion Ratio Lower Upper

101 100

151 0.0 57.7 86.5#

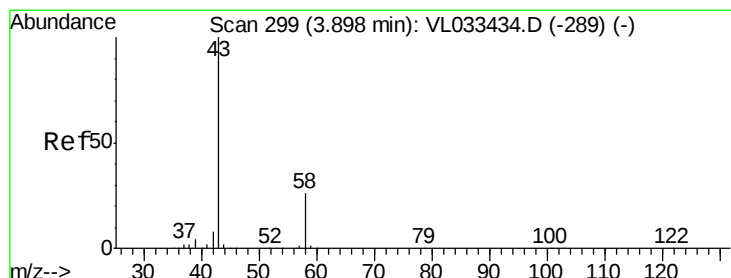
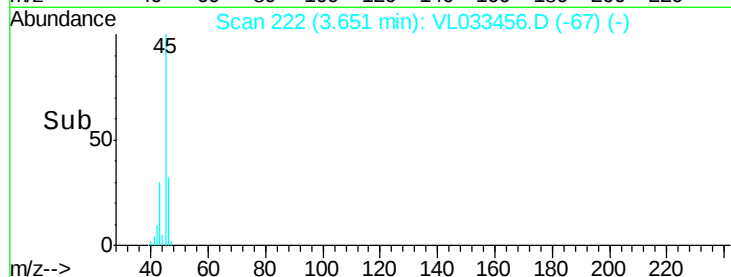
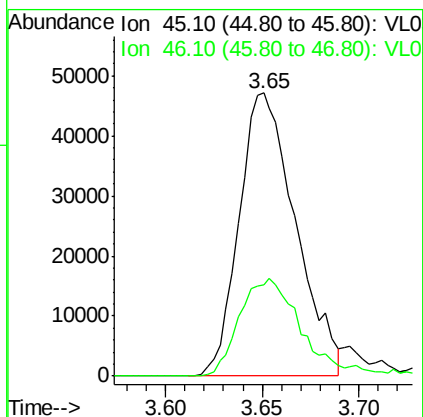
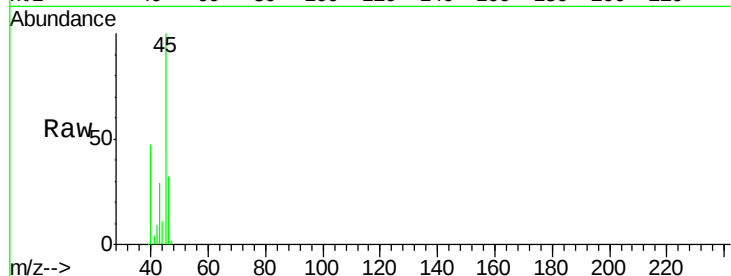




#13
Ethanol
Concen: 11.264 ppbv
RT: 3.65 min Scan# 222
Delta R.T. -0.00 min
Lab File: VL033456.D
Acq: 26 Mar 2019 4:07

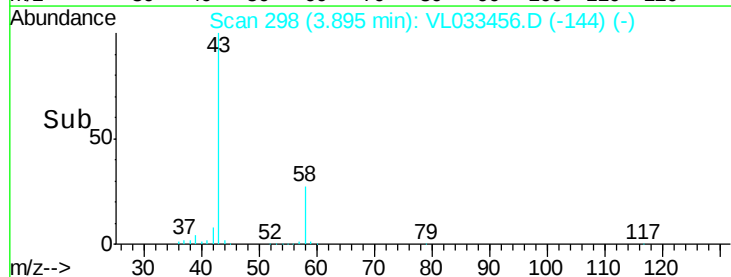
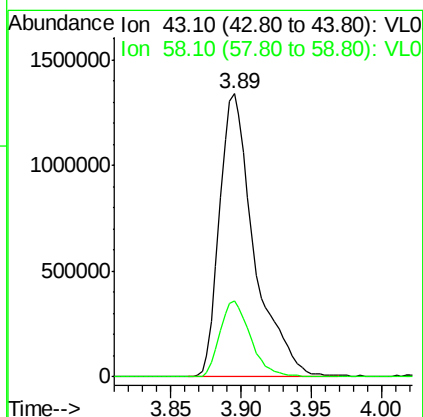
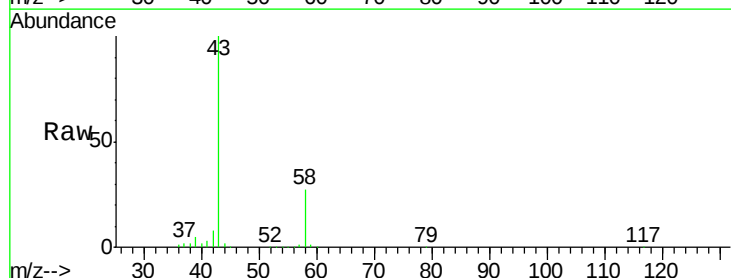
Instrument :
MSVOA_L
ClientSampleId :
IA-4

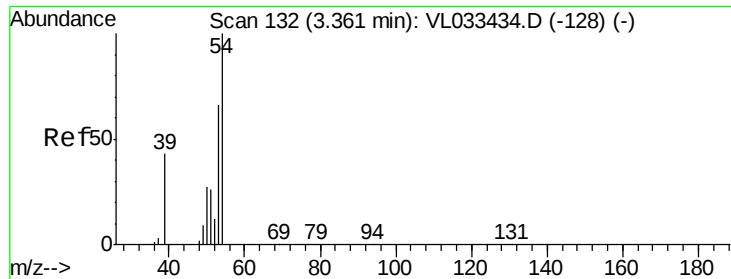
Tot Ion: 45 Resp: 95632
Ion Ratio Lower Upper
45 100
46 38.6 25.4 101.8



#15
Acetone
Concen: 28.225 ppbv
RT: 3.89 min Scan# 298
Delta R.T. -0.00 min
Lab File: VL033456.D
Acq: 26 Mar 2019 4:07

Tgt Ion: 43 Resp: 2303120
Ion Ratio Lower Upper
43 100
58 24.1 20.5 30.7

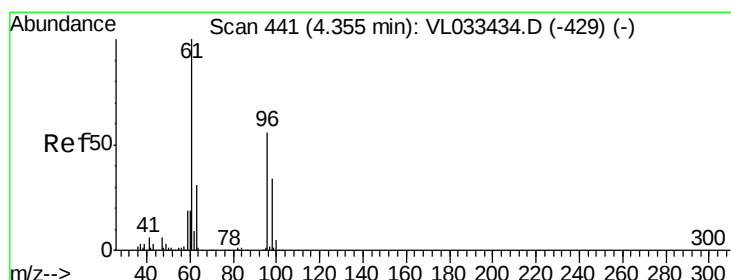
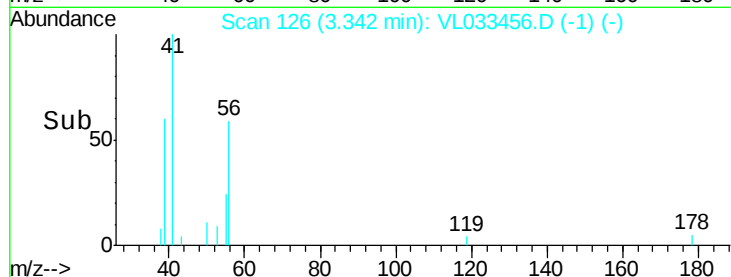
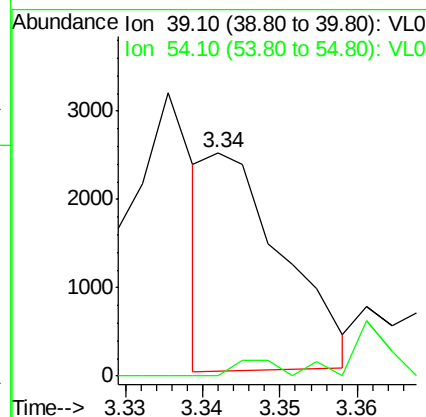
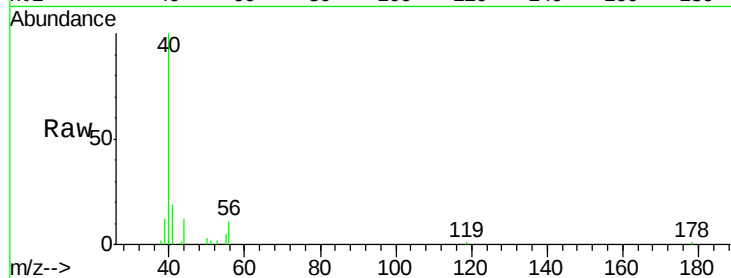




#16
1,3-Butadiene
Concen: 0.052 ppbv
RT: 3.34 min Scan# 126
Delta R.T. -0.02 min
Lab File: VL033456.D
Acq: 26 Mar 2019 4:07

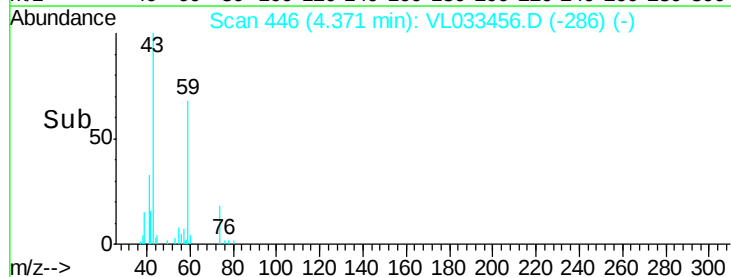
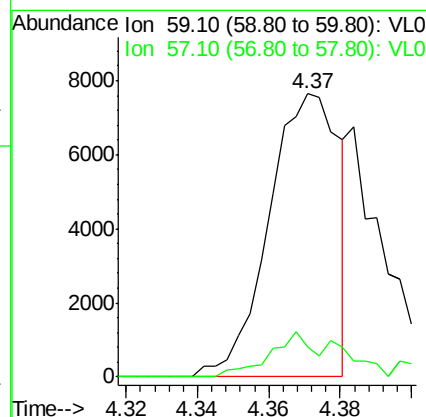
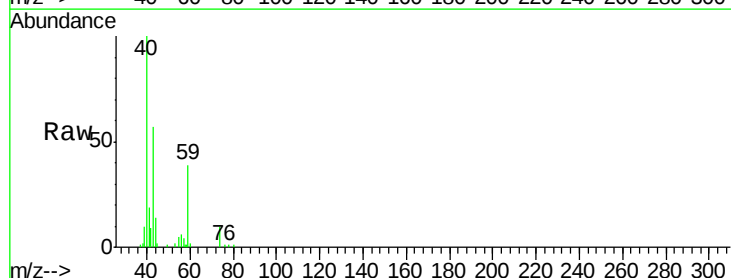
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MSVOA_L
ClientSampleId :
IA-4

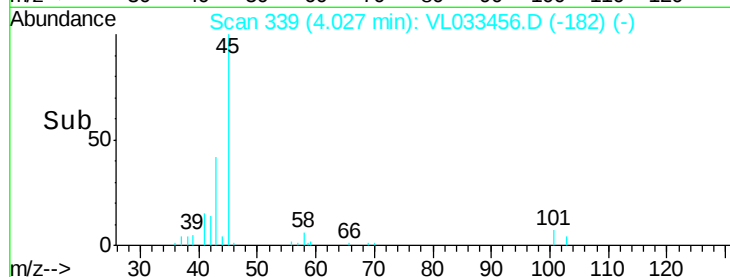
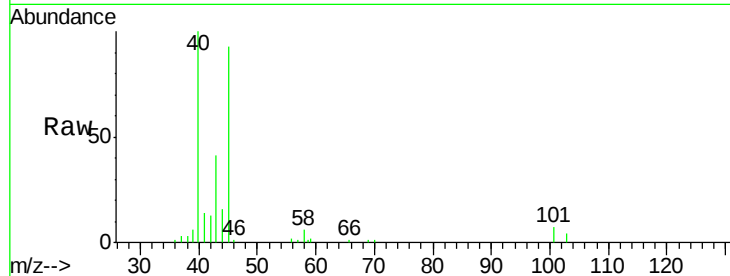
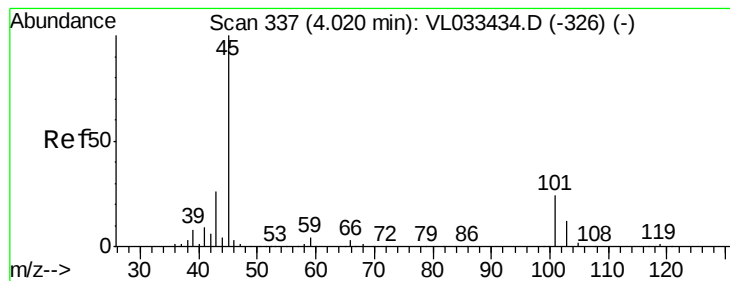
Tot Ion: 39 Resp: 1685
Ion Ratio Lower Upper
39 100
54 25.6 69.4 104.2#



#17
tert-Butyl alcohol
Concen: 0.695 ppbv
RT: 4.37 min Scan# 446
Delta R.T. 0.02 min
Lab File: VL033456.D
Acq: 26 Mar 2019 4:07

Tgt Ion: 59 Resp: 10424
Ion Ratio Lower Upper
59 100
57 0.0 7.8 11.8#





#19

Isopropyl Alcohol

Concen: 0.285 ppbv

RT: 4.03 min Scan# 339

Delta R.T. 0.01 min

Lab File: VL033456.D

Acq: 26 Mar 2019 4:07

Instrument :

MSVOA_L

ClientSampleId :

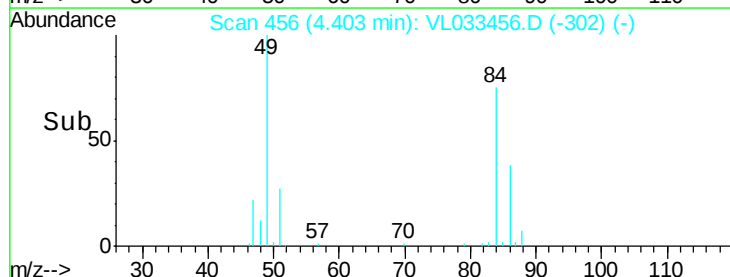
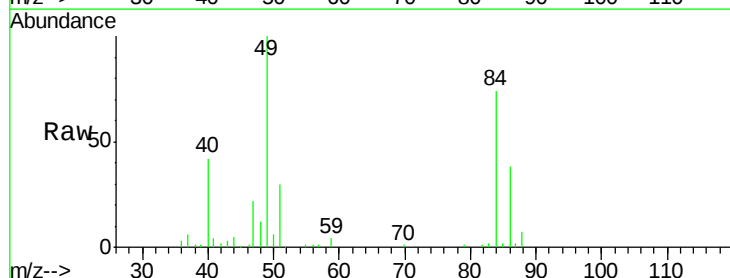
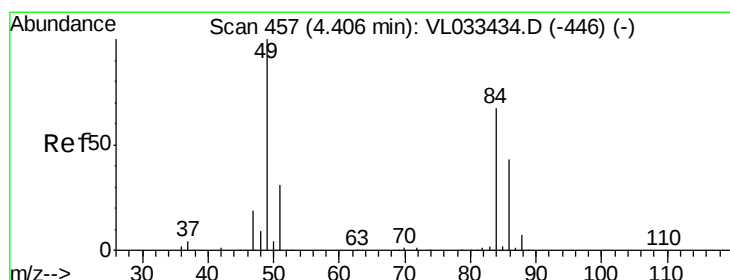
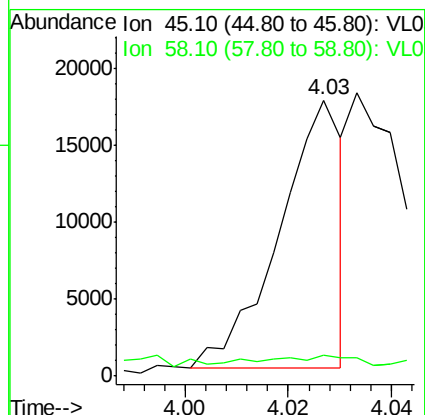
IA-4

Tot Ion: 45 Resp: 14694

Ion Ratio Lower Upper

45 100

58 0.0 1.4 2.2#



#20

Methylene Chloride

Concen: 1.332 ppbv

RT: 4.40 min Scan# 456

Delta R.T. -0.00 min

Lab File: VL033456.D

Acq: 26 Mar 2019 4:07

Tgt Ion: 84 Resp: 46151

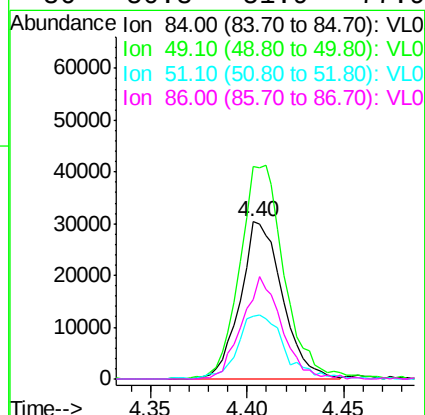
Ion Ratio Lower Upper

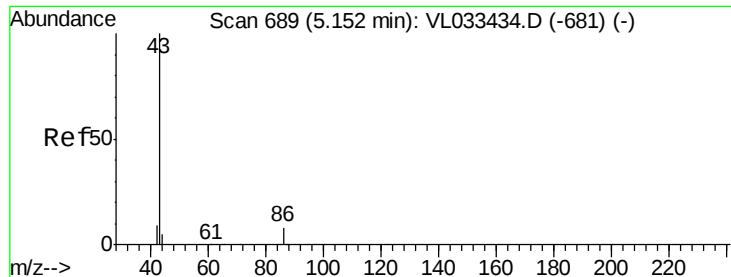
84 100

49 134.4 120.0 180.0

51 40.4 36.7 55.1

86 50.8 51.9 77.9#





#23

Vinyl Acetate

Concen: 0.031 ppbv

RT: 5.15 min Scan# 688

Delta R.T. -0.00 min

Lab File: VL033456.D

Acq: 26 Mar 2019 4:07

Instrument :

MSVOA_L

ClientSampleId :

IA-4

Tot Ion: 43 Resp: 3633

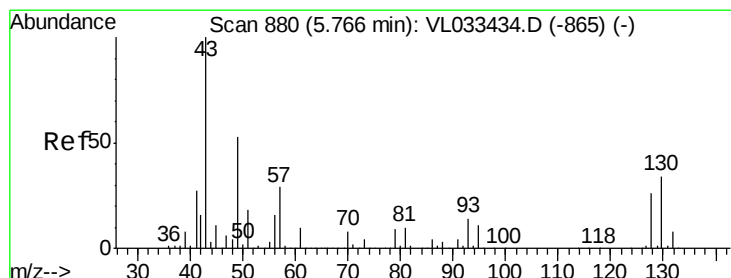
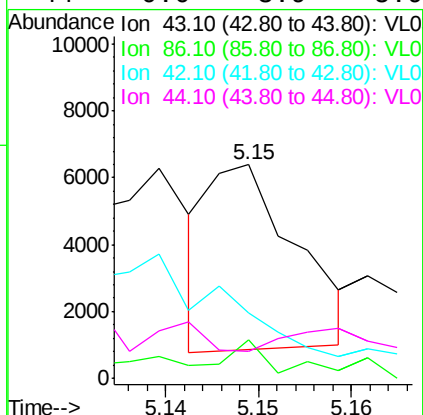
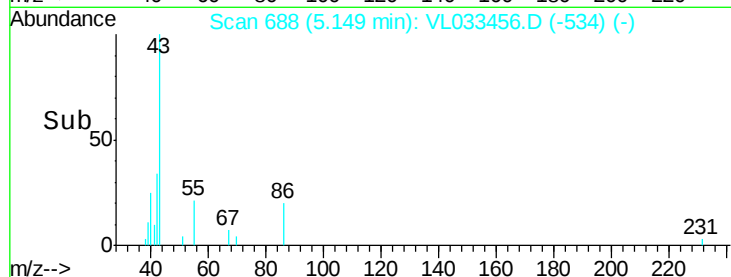
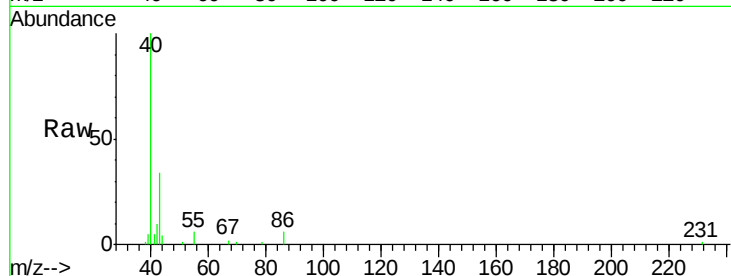
Ion Ratio Lower Upper

43 100

86 25.2 5.6 8.4#

42 35.3 8.0 12.0#

44 0.0 3.9 5.9#



#25

Ethyl Acetate

Concen: 0.472 ppbv

RT: 5.78 min Scan# 883

Delta R.T. 0.01 min

Lab File: VL033456.D

Acq: 26 Mar 2019 4:07

Tgt Ion: 43 Resp: 71383

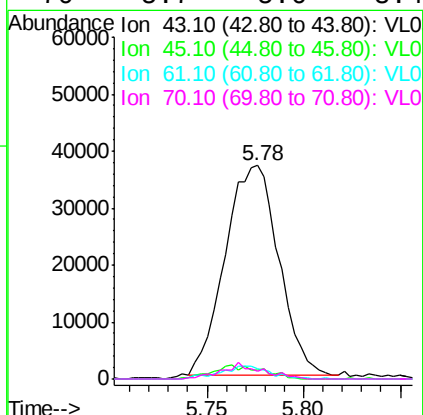
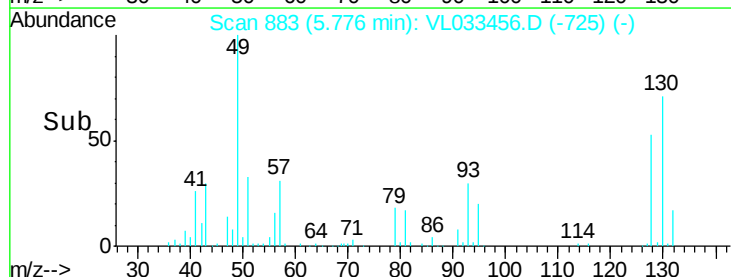
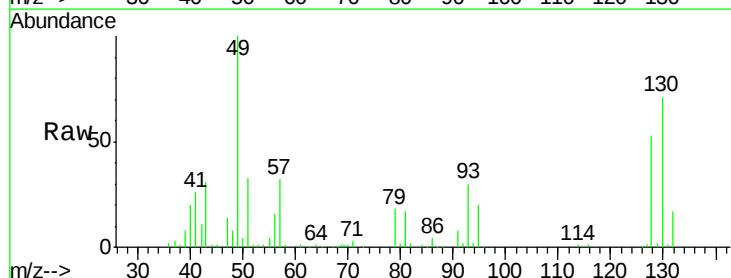
Ion Ratio Lower Upper

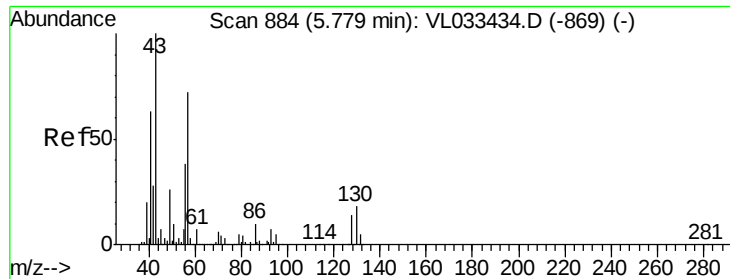
43 100

45 6.1 7.8 11.6#

61 5.8 7.3 10.9#

70 5.7 5.6 8.4

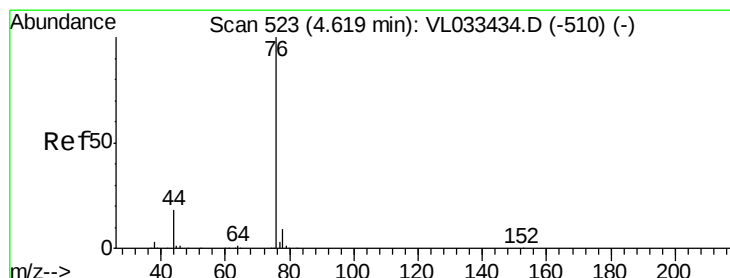
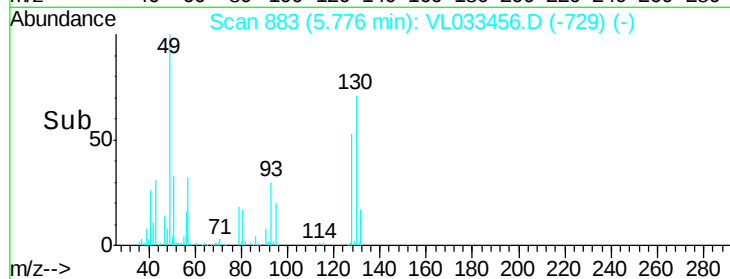
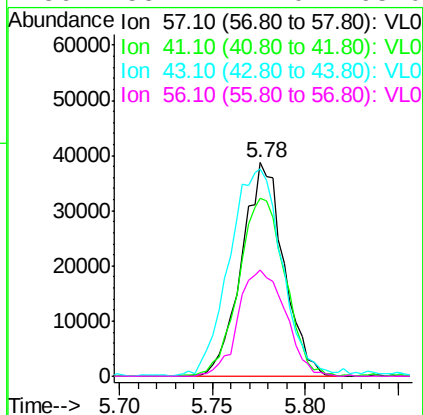
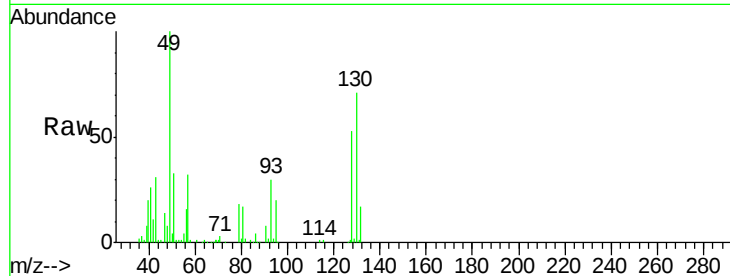




#26
Hexane
Concen: 0.911 ppbv
RT: 5.78 min Scan# 883
Delta R.T. -0.00 min
Lab File: VL033456.D
Acq: 26 Mar 2019 4:07

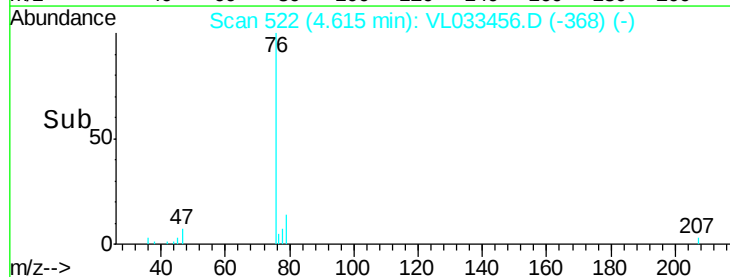
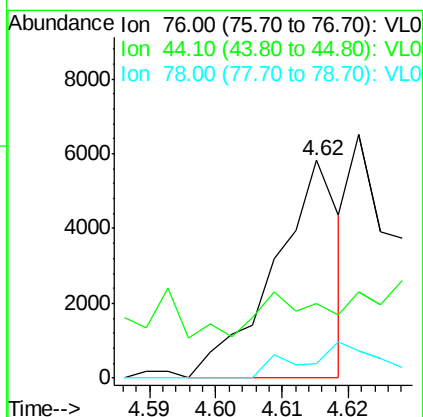
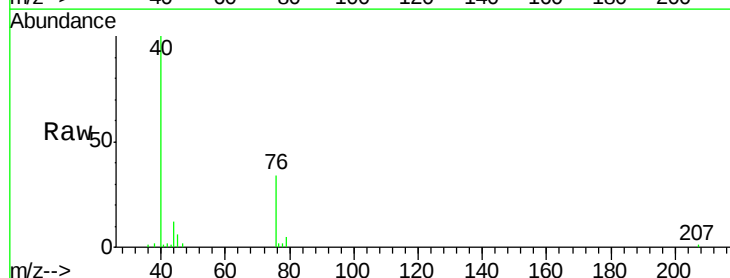
Instrument :
MSVOA_L
ClientSampled :
IA-4

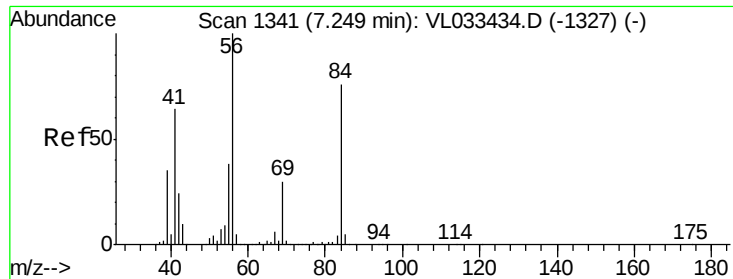
Tot Ion: 57 Resp: 61328
Ion Ratio Lower Upper
57 100
41 91.8 70.7 106.1
43 122.4 182.6 274.0#
56 55.7 42.0 63.0



#27
Carbon Disulfide
Concen: 0.050 ppbv
RT: 4.62 min Scan# 522
Delta R.T. -0.00 min
Lab File: VL033456.D
Acq: 26 Mar 2019 4:07

Tgt Ion: 76 Resp: 3974
Ion Ratio Lower Upper
76 100
44 0.0 14.8 22.2#
78 0.0 7.6 11.4#

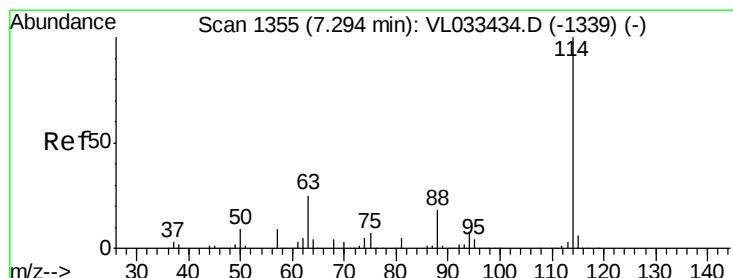
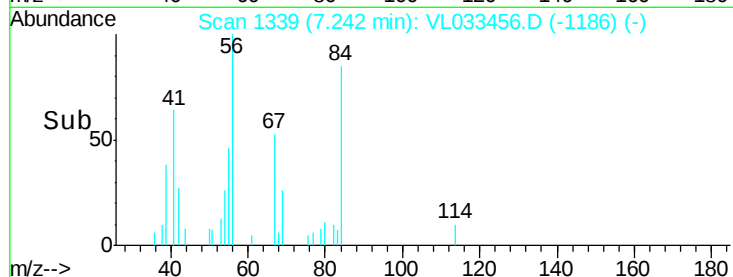
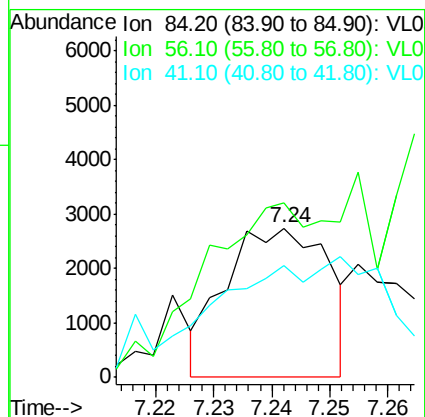
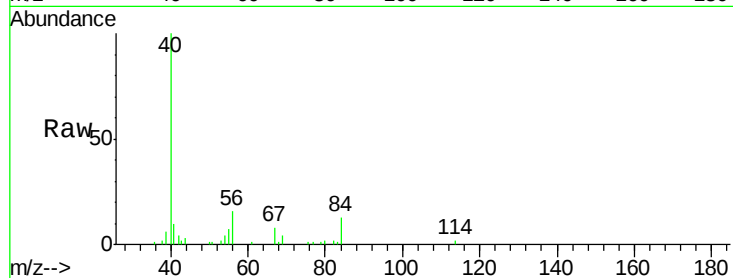




#30
Cvclohexane
Concen: 0.063 ppbv
RT: 7.24 min Scan# 1339
Delta R.T. -0.01 min
Lab File: VL033456.D
Acq: 26 Mar 2019 4:07

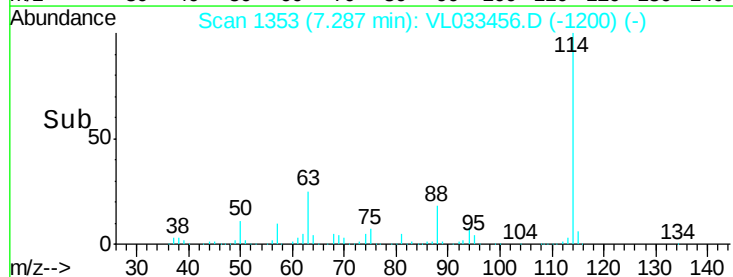
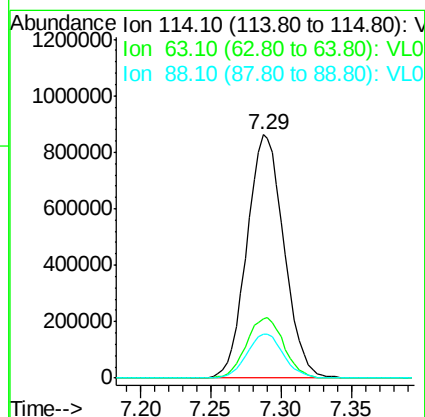
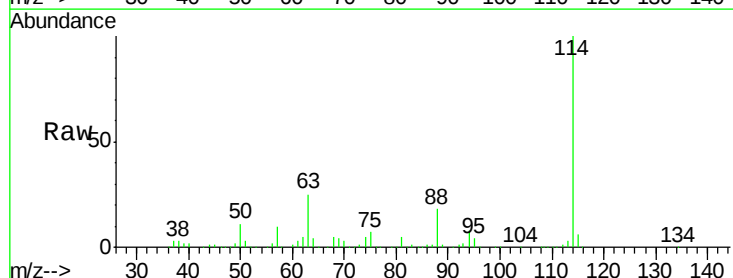
Instrument :
MSVOA_L
ClientSampled :
IA-4

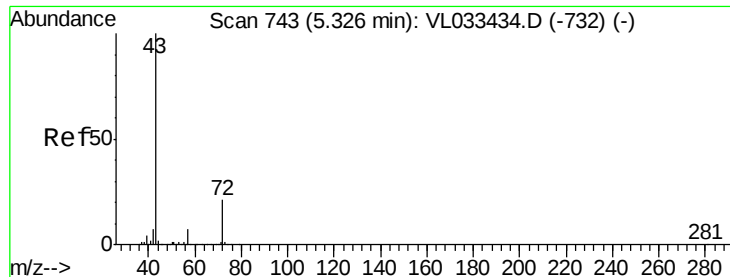
Tot Ion: 84 Resp: 3372
Ion Ratio Lower Upper
84 100
56 0.0 109.7 164.5#
41 0.0 68.2 102.2#



#33
1,4-Difluorobenzene
Concen: 10.000 ppbv
RT: 7.29 min Scan# 1353
Delta R.T. -0.01 min
Lab File: VL033456.D
Acq: 26 Mar 2019 4:07

Tgt Ion: 114 Resp: 1585611
Ion Ratio Lower Upper
114 100
63 25.4 21.5 32.3
88 17.9 14.5 21.7

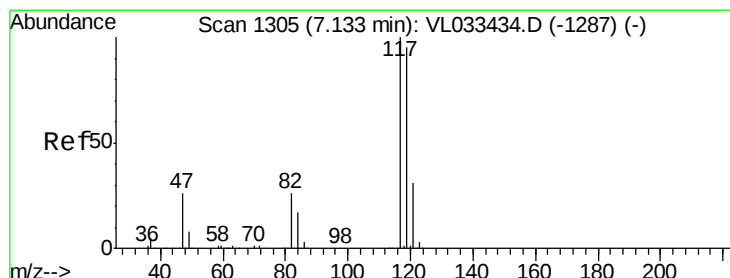
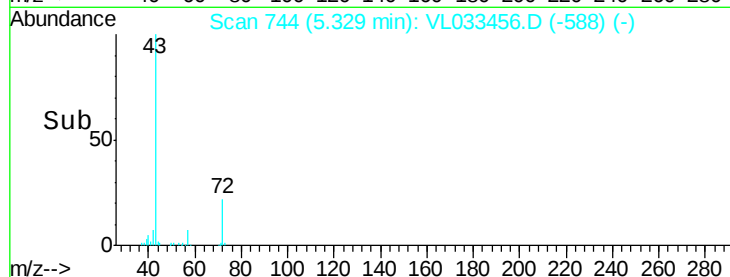
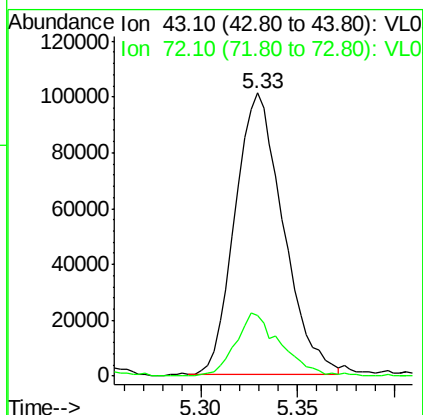
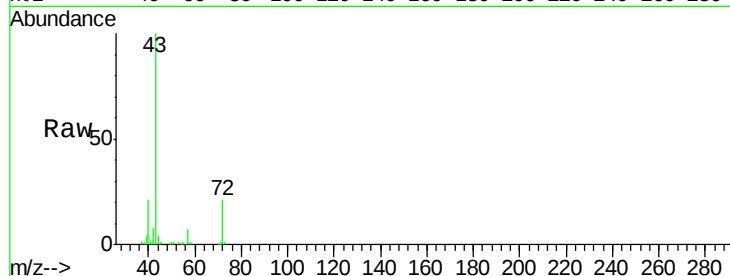




#34
2-Butanone
Concen: 1.832 ppbv
RT: 5.33 min Scan# 744
Delta R.T. 0.00 min
Lab File: VL033456.D
Acq: 26 Mar 2019 4:07

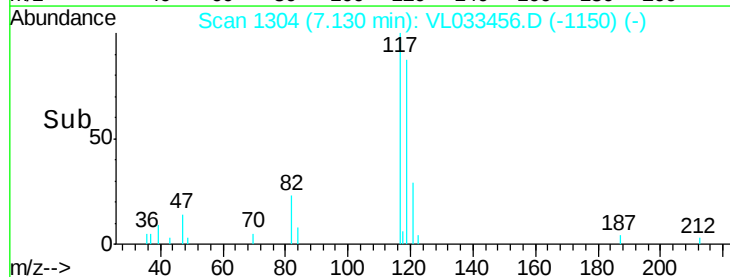
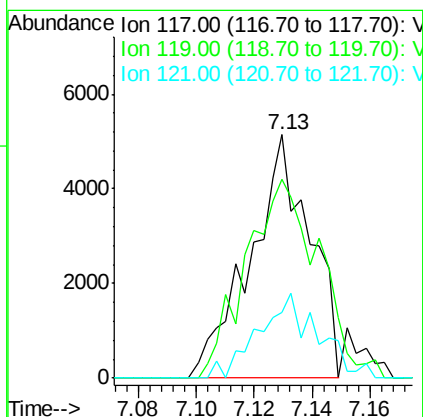
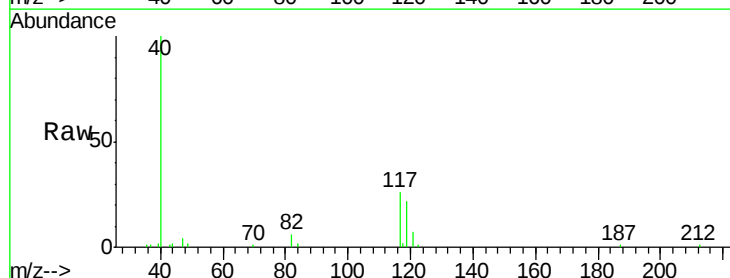
Instrument :
MSVOA_L
ClientSampleId :
IA-4

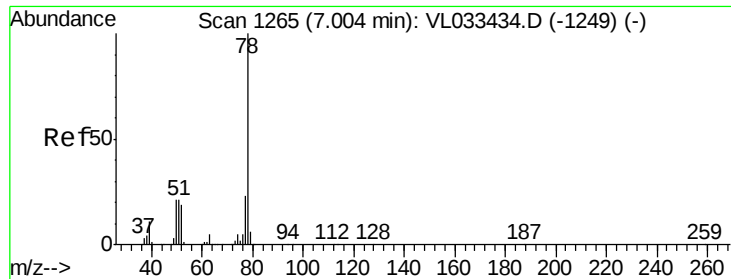
Tot Ion: 43 Resp: 174539
Ion Ratio Lower Upper
43 100
72 21.3 17.4 26.2



#35
Carbon Tetrachloride
Concen: 0.065 ppbv
RT: 7.13 min Scan# 1304
Delta R.T. -0.00 min
Lab File: VL033456.D
Acq: 26 Mar 2019 4:07

Tgt Ion: 117 Resp: 7342
Ion Ratio Lower Upper
117 100
119 81.6 75.8 113.8
121 27.0 24.7 37.1





#36

Benzene

Concen: 0.082 ppbv

RT: 7.00 min Scan# 1265

Delta R.T. -0.00 min

Lab File: VL033456.D

Acq: 26 Mar 2019 4:07

Instrument :

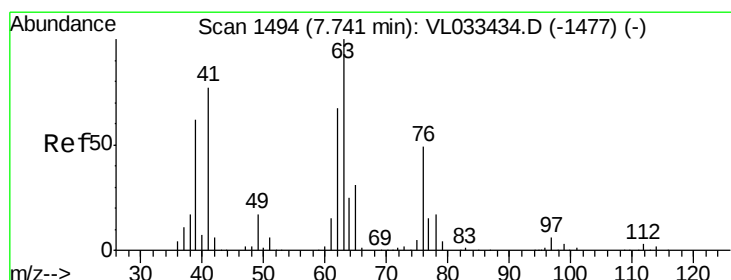
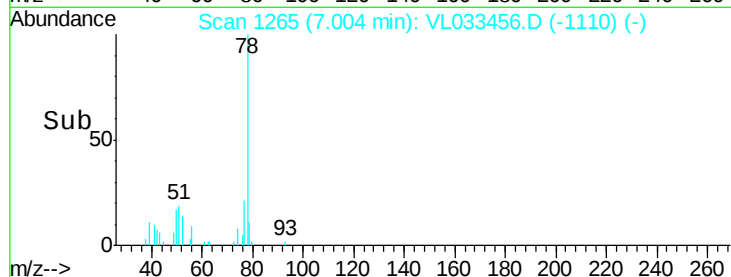
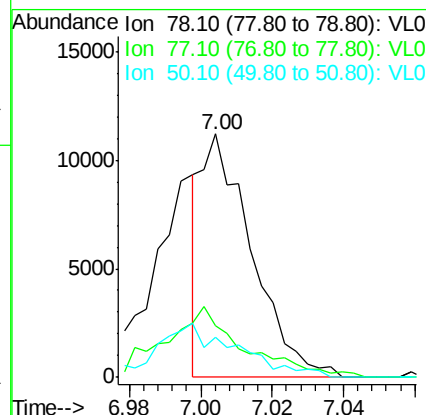
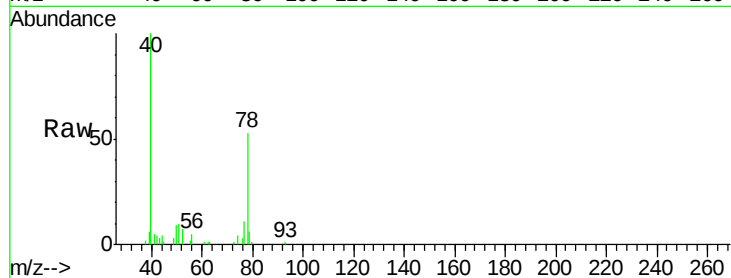
MSVOA_L

ClientSampled :

IA-4

Tot Ion: 78 Resp: 10882

Ion	Ratio	Lower	Upper
78	100		
77	18.9	18.1	27.1
50	16.5	16.7	25.1#



#39

1,2-Dichloropropane

Concen: 7.682 ppbv

RT: 7.29 min Scan# 1354

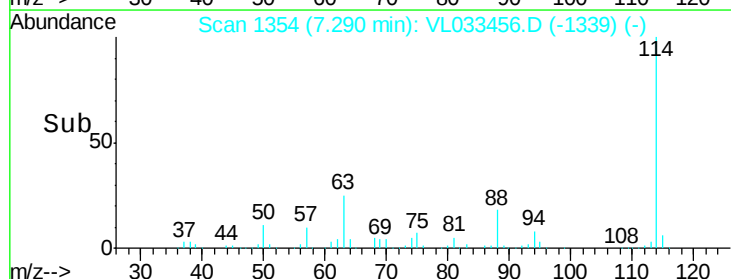
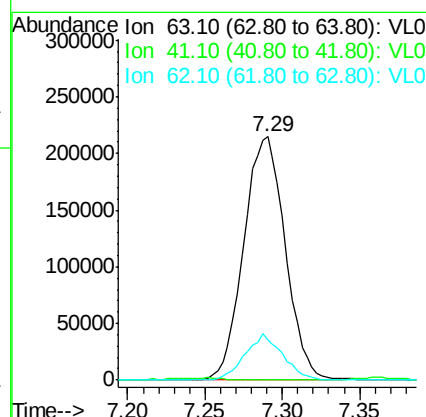
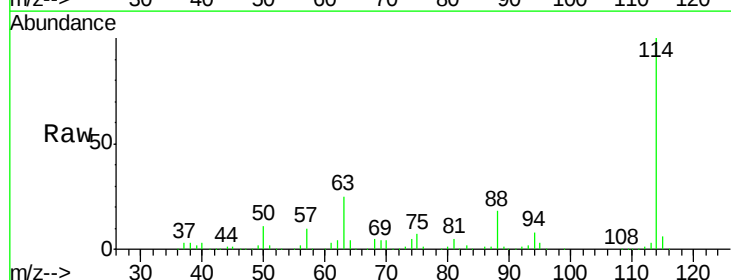
Delta R.T. -0.45 min

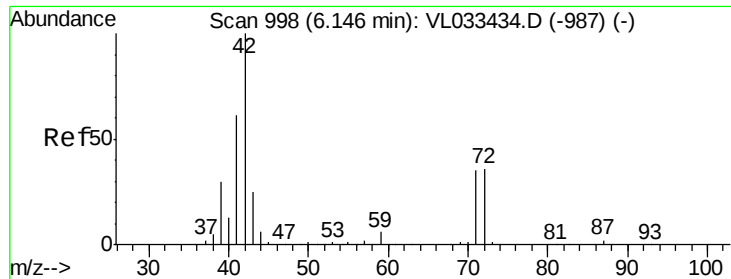
Lab File: VL033456.D

Acq: 26 Mar 2019 4:07

Tgt Ion: 63 Resp: 400377

Ion	Ratio	Lower	Upper
63	100		
41	0.0	61.2	91.8#
62	16.3	54.0	81.0#





#41

Tetrahydrofuran

Concen: 0.259 ppbv

RT: 6.16 min Scan# 1002

Delta R.T. 0.01 min

Lab File: VL033456.D

Acq: 26 Mar 2019 4:07

Instrument :

MSVOA_L

ClientSampleId :

IA-4

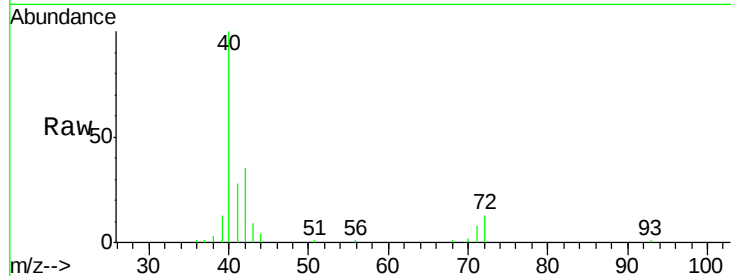
Tot Ion: 42 Resp: 13550

Ion Ratio Lower Upper

42 100

72 43.9 30.2 45.2

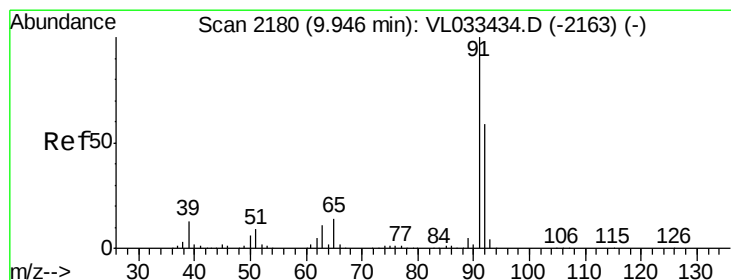
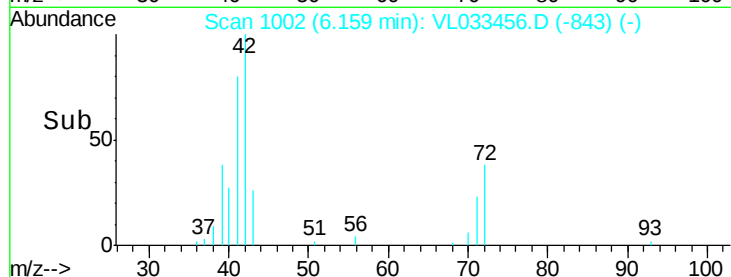
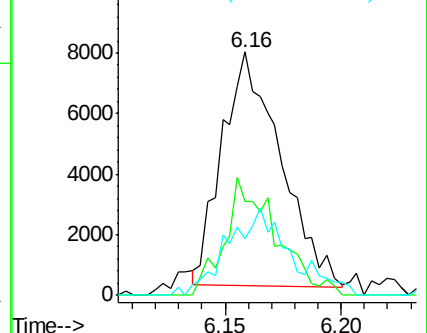
71 40.1 29.4 44.2



Abundance Ion 42.10 (41.80 to 42.80): VL0

Ion 72.10 (71.80 to 72.80): VL0

Ion 71.10 (70.80 to 71.80): VL0



#53

Toluene

Concen: 3.887 ppbv

RT: 9.94 min Scan# 2179

Delta R.T. -0.00 min

Lab File: VL033456.D

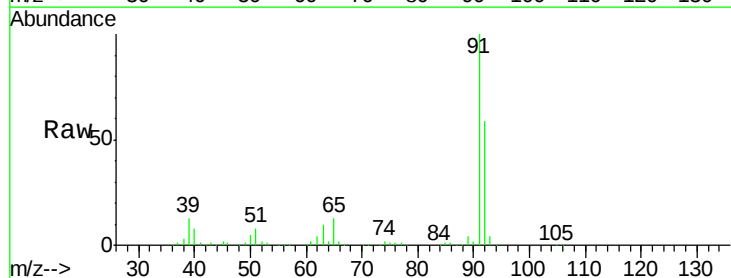
Acq: 26 Mar 2019 4:07

Tgt Ion: 91 Resp: 600975

Ion Ratio Lower Upper

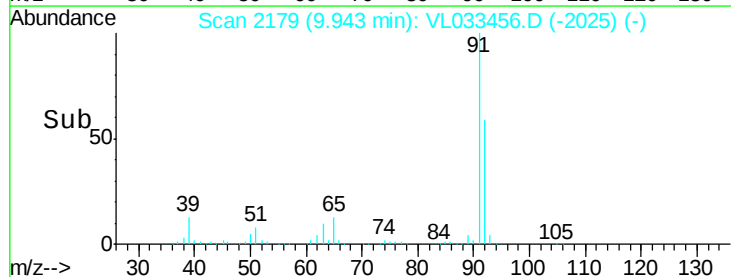
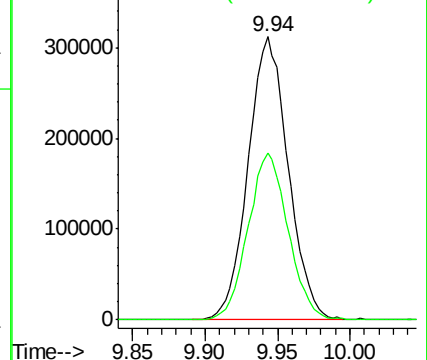
91 100

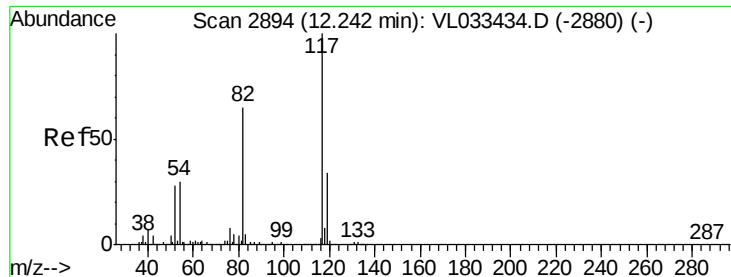
92 59.0 47.4 71.0



Abundance Ion 91.10 (90.80 to 91.80): VL0

Ion 92.10 (91.80 to 92.80): VL0





#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.24 min Scan# 2893

Delta R.T. -0.00 min

Lab File: VL033456.D

Acq: 26 Mar 2019 4:07

Instrument :

MSVOA_L

ClientSampleId :

IA-4

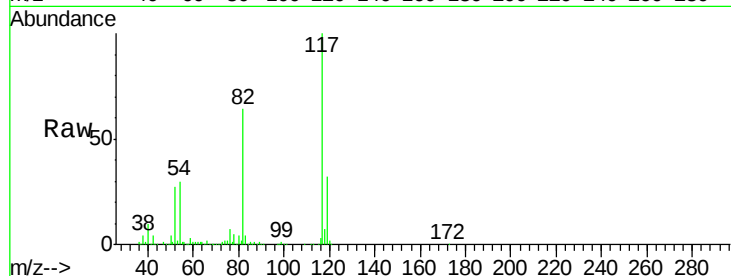
Tot Ion:117 Resp: 1634543

Ion Ratio Lower Upper

117 100

82 65.3 51.5 77.3

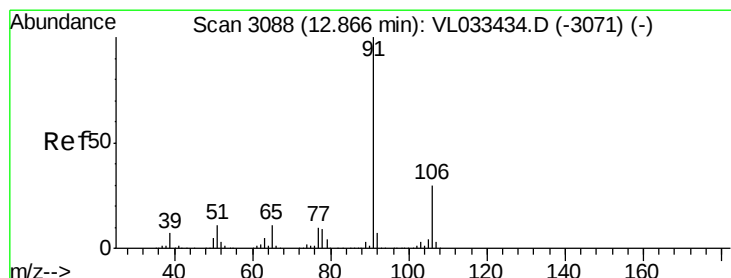
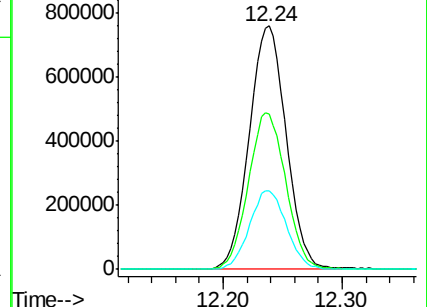
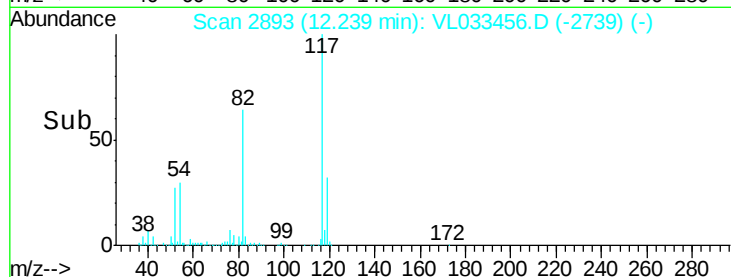
119 32.5 25.5 38.3



Abundance Ion 117.10 (116.80 to 117.80): V

Ion 82.10 (81.80 to 82.80): VL0

Ion 119.10 (118.80 to 119.80): V



#58

Ethyl Benzene

Concen: 0.058 ppbv

RT: 12.86 min Scan# 3087

Delta R.T. -0.00 min

Lab File: VL033456.D

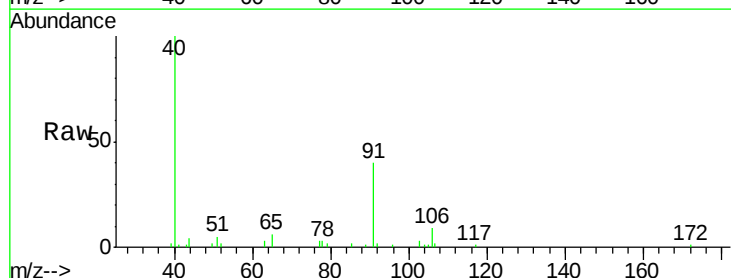
Acq: 26 Mar 2019 4:07

Tgt Ion: 91 Resp: 12694

Ion Ratio Lower Upper

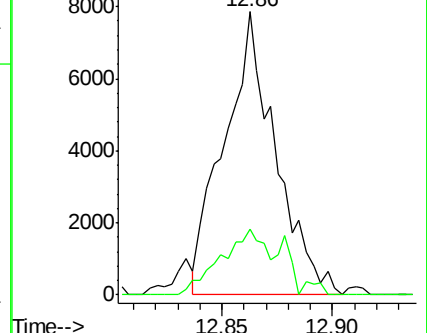
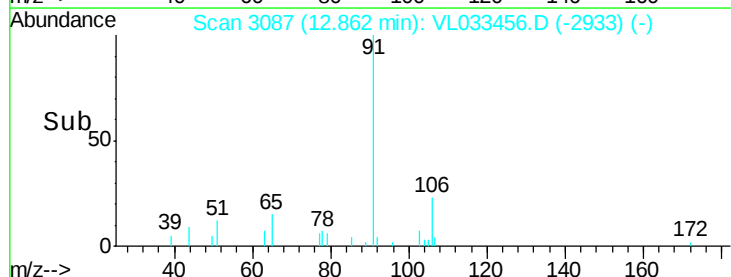
91 100

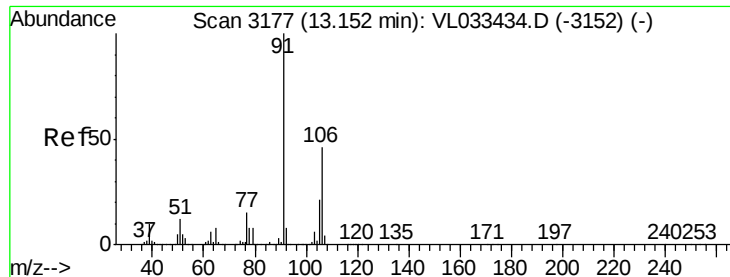
106 26.6 23.8 35.6



Abundance Ion 91.10 (90.80 to 91.80): VL0

Ion 106.10 (105.80 to 106.80): V

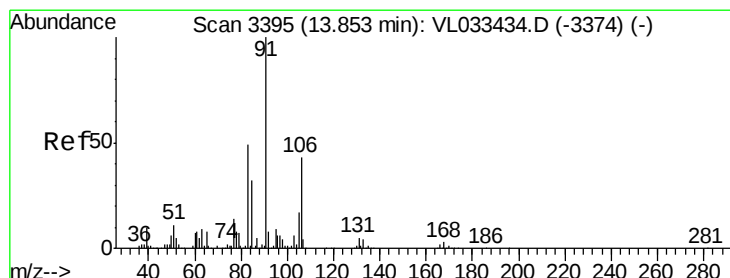
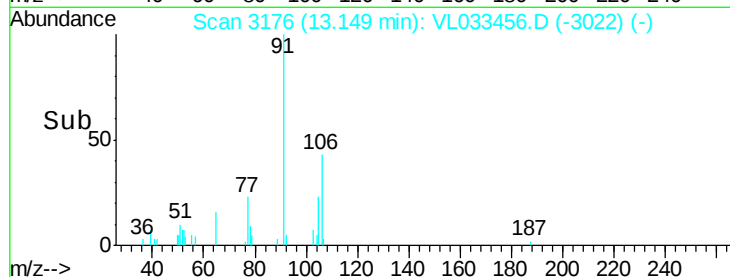
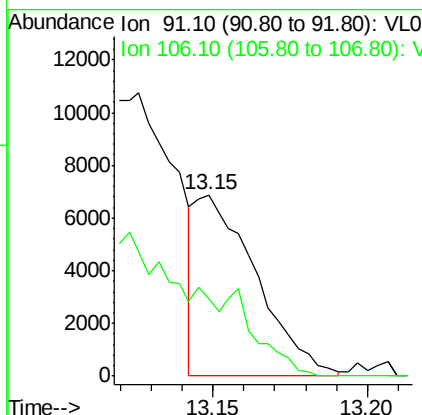
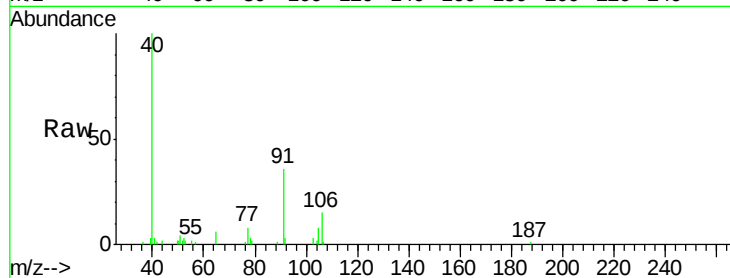




#59
m/p-Xylene
Concen: 0.048 ppbv
RT: 13.15 min Scan# 3176
Delta R.T. -0.00 min
Lab File: VL033456.D
Acq: 26 Mar 2019 4:07

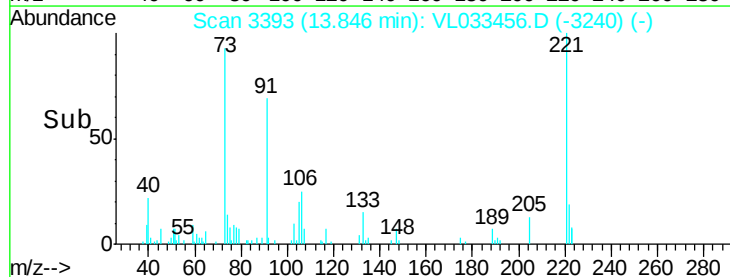
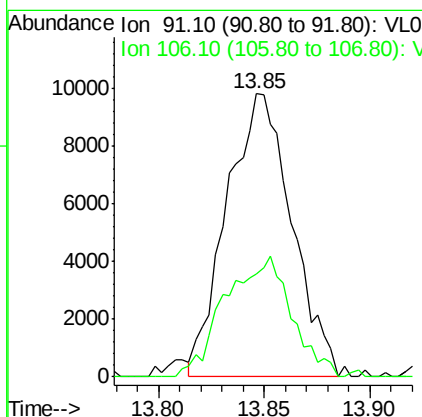
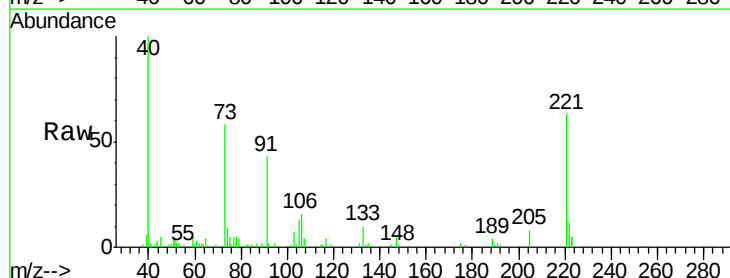
Instrument :
MSVOA_L
ClientSampleId :
IA-4

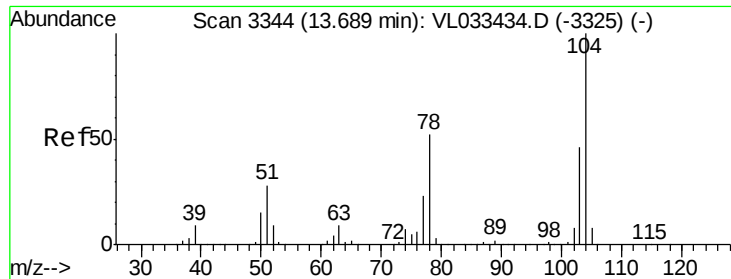
Tot Ion: 91 Resp: 9301
Ion Ratio Lower Upper
91 100
106 0.0 0.0 0.0



#60
o-Xylene
Concen: 0.112 ppbv
RT: 13.85 min Scan# 3393
Delta R.T. -0.01 min
Lab File: VL033456.D
Acq: 26 Mar 2019 4:07

Tgt Ion: 91 Resp: 21121
Ion Ratio Lower Upper
91 100
106 43.7 21.4 64.3





#61

Stvrene

Concen: 0.039 ppbv

RT: 13.69 min Scan# 3343

Delta R.T. -0.00 min

Lab File: VL033456.D

Acq: 26 Mar 2019 4:07

Instrument :

MSVOA_L

ClientSampleId :

IA-4

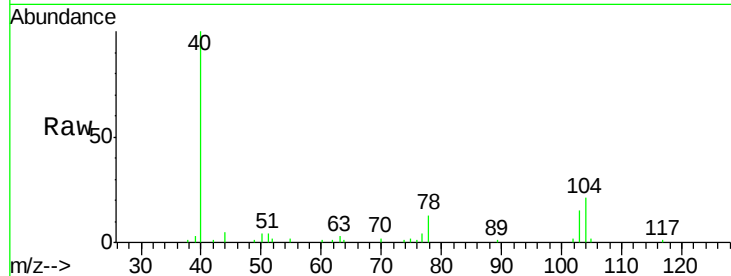
Tot Ion:104 Resp: 5082

Ion Ratio Lower Upper

104 100

78 0.0 43.2 64.8#

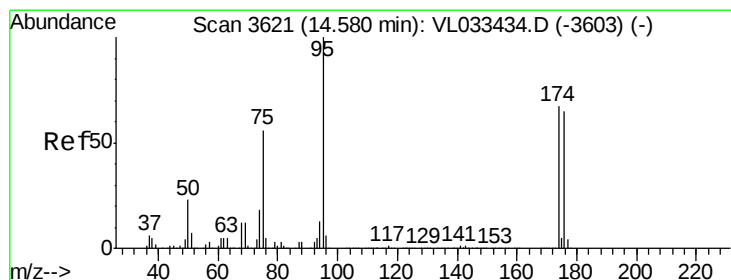
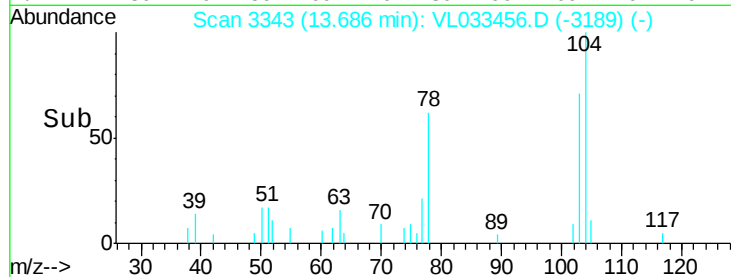
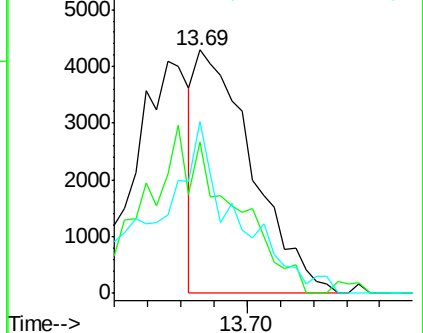
103 95.8 37.8 56.8#



Abundance Ion 104.10 (103.80 to 104.80): V

Ion 78.10 (77.80 to 78.80): VL0

Ion 103.10 (102.80 to 103.80): V



#68

1-Bromo-4-Fluorobenzene

Concen: 9.782 ppbv

RT: 14.58 min Scan# 3620

Delta R.T. -0.00 min

Lab File: VL033456.D

Acq: 26 Mar 2019 4:07

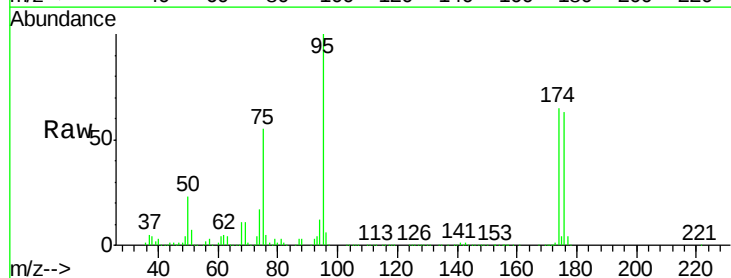
Tgt Ion: 95 Resp: 1253517

Ion Ratio Lower Upper

95 100

174 67.0 52.9 79.3

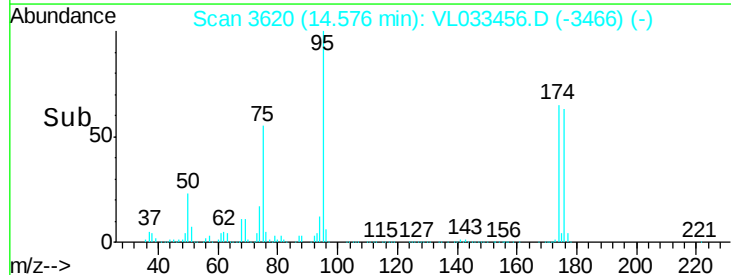
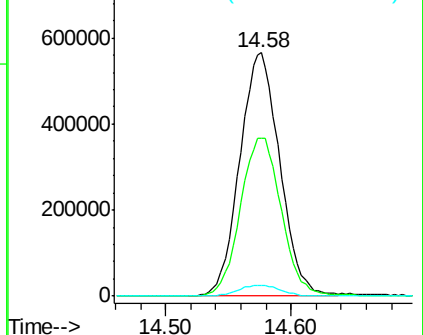
175 4.7 3.8 5.6

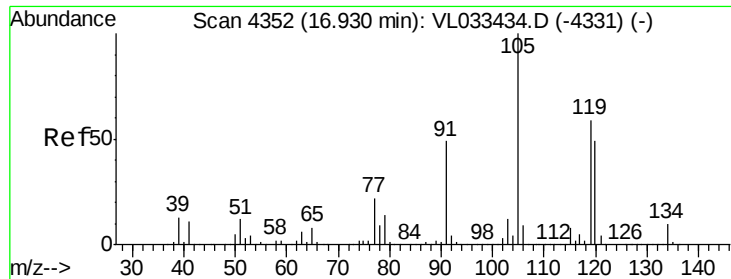


Abundance Ion 95.10 (94.80 to 95.80): VL0

Ion 174.00 (173.70 to 174.70): V

Ion 175.00 (174.70 to 175.70): V





#74

1,2,4-Trimethylbenzene

Concen: 0.025 ppbv

RT: 16.93 min Scan# 4352

Delta R.T. -0.00 min

Lab File: VL033456.D

Acq: 26 Mar 2019 4:07

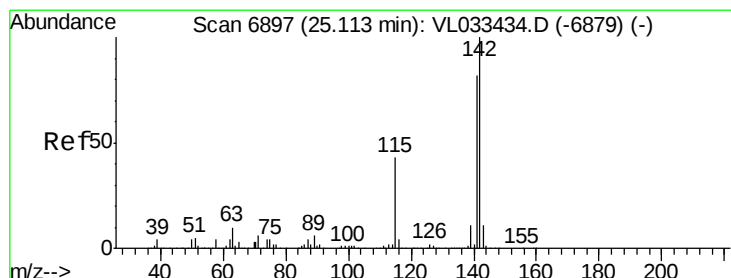
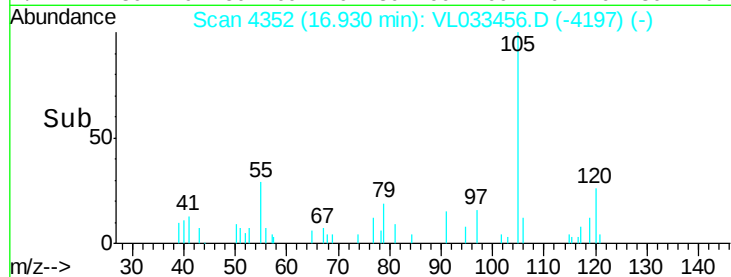
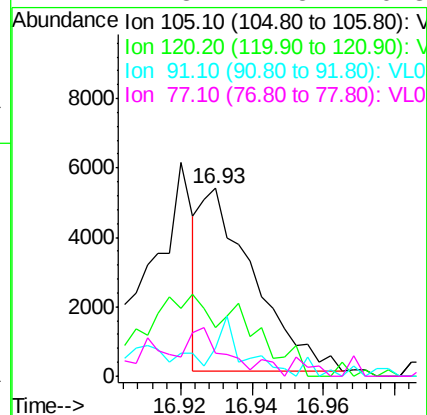
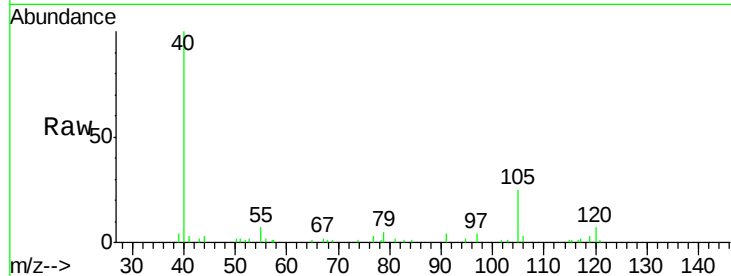
Instrument :

MSVOA_L

ClientSampleId :

IA-4

Tot Ion:	105	Resp:	5420
Ion	Ratio	Lower	Upper
105	100		
120	23.1	39.0	58.6#
91	15.2	40.0	60.0#
77	12.8	17.5	26.3#



#80

Naphthalene, 2-methyl-

Concen: 0.022 ppbv

RT: 25.11 min Scan# 6897

Delta R.T. -0.00 min

Lab File: VL033456.D

Acq: 26 Mar 2019 4:07

Tgt Ion:	142	Resp:	1381
Ion	Ratio	Lower	Upper
142	100		
141	107.1	66.6	99.8#
115	29.1	34.4	51.6#

