

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL032519\
 Data File : VL033460.D
 Acq On : 26 Mar 2019 6:47
 Operator : SY/AP
 Sample : K1991-12
 Misc : 400ml/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :

Quant Time: Mar 26 07:22:40 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	636118	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.29	114	1458069	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.24	117	1463374	10.00	ppbv	0.00

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.57	95	1150384	10.03	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	100.30%

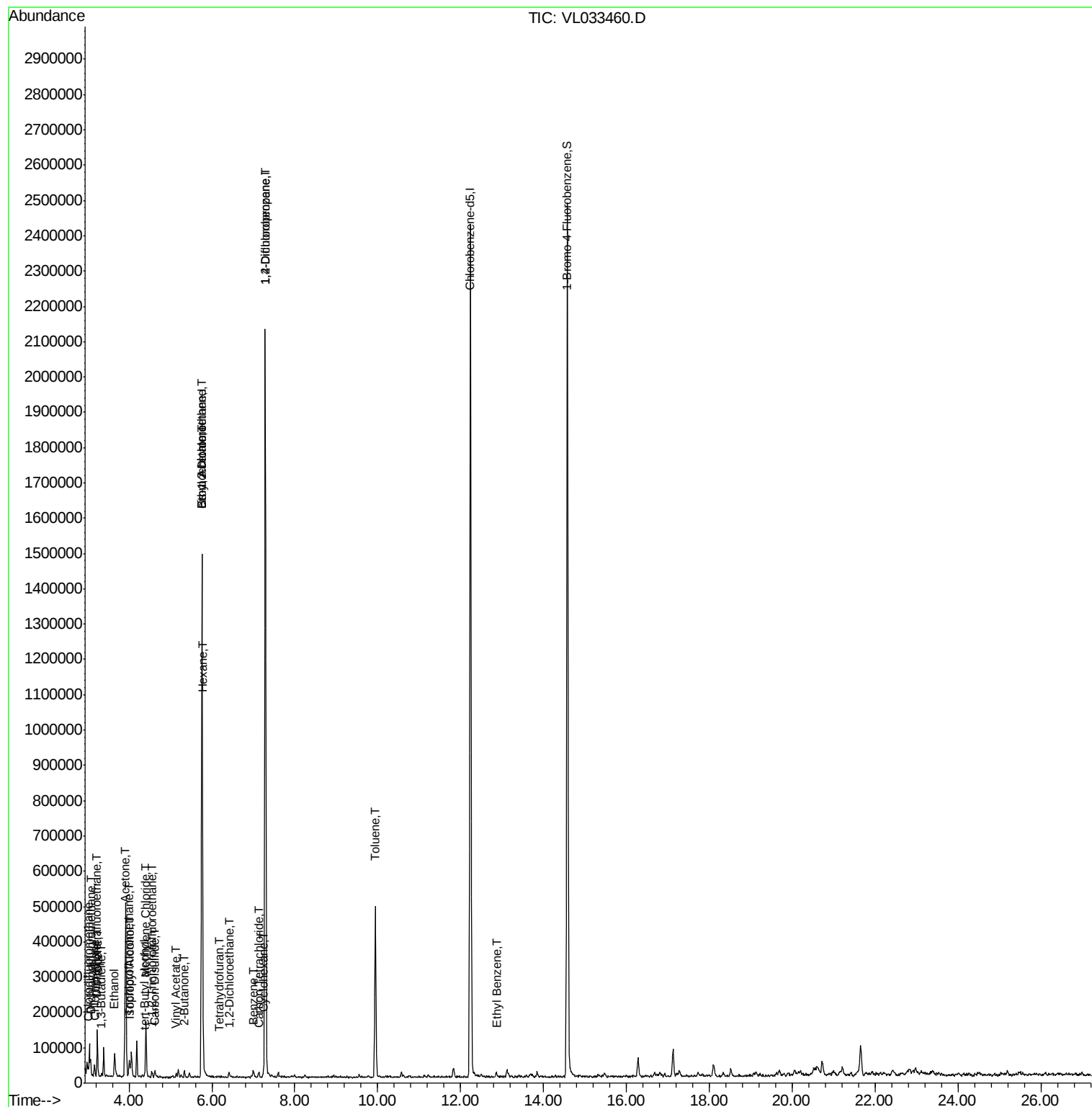
Target Compounds					Ovalue
2) Dichlorodifluoromethane	3.07	85	28664	0.309 ppbv	97
3) Chlorodifluoromethane	3.01	51	42045	0.574 ppbv #	79
4) Chloromethane	3.16	50	23330	0.602 ppbv	91
8) Dichlorotetrafluoroethane	3.22	85	2412	0.024 ppbv #	75
9) Propene	3.24	41	27900	0.907 ppbv	83
11) Trichlorofluoromethane	4.00	101	28466	0.249 ppbv	96
12) 1,1,2-Trichlorotrifluoroet	4.55	101	4413	0.057 ppbv #	73
13) Ethanol	3.66	45	70212	8.822 ppbv	67
15) Acetone	3.90	43	169587	2.217 ppbv	96
16) 1,3-Butadiene	3.35	39	900	0.030 ppbv #	34
17) tert-Butyl alcohol	4.36	59	721	0.051 ppbv #	73
19) Isopropyl Alcohol	4.03	45	26995	0.558 ppbv #	88
20) Methylene Chloride	4.41	84	53716	1.654 ppbv	93
23) Vinyl Acetate	5.15	43	3323	0.031 ppbv #	72
25) Ethyl Acetate	5.77	43	89884	0.633 ppbv	97
26) Hexane	5.78	57	51183	0.811 ppbv #	79
27) Carbon Disulfide	4.62	76	19615	0.261 ppbv #	86
30) Cyclohexane	7.25	84	1593	0.032 ppbv #	1
31) cis-1,2-Dichloroethene	5.76	61	6134	0.098 ppbv #	34
34) 2-Butanone	5.34	43	21534	0.246 ppbv	100
35) Carbon Tetrachloride	7.12	117	5378	0.052 ppbv #	83
36) Benzene	7.00	78	3504	0.029 ppbv #	59
37) 1,2-Dichloroethane	6.41	62	2913	0.036 ppbv	98
39) 1,2-Dichloropropane	7.29	63	387094	8.077 ppbv #	24
41) Tetrahydrofuran	6.17	42	1062	0.022 ppbv #	58
53) Toluene	9.94	91	340131	2.392 ppbv	99
58) Ethyl Benzene	12.85	91	4449	0.023 ppbv	98

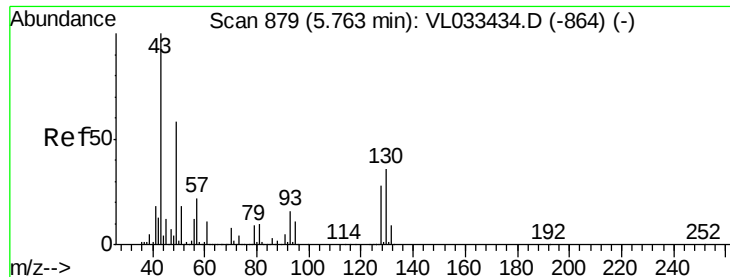
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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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: VL033460.D

Acq: 26 Mar 2019 6:47

Instrument :

MSVOA_L

ClientSampleId :

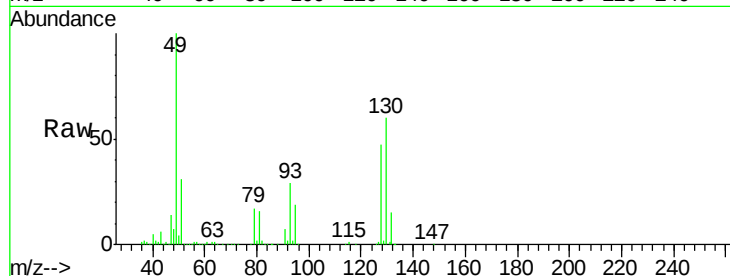
Tot Ion: 49 Resp: 636118

Ion Ratio Lower Upper

49 100

128 46.9 24.0 72.0

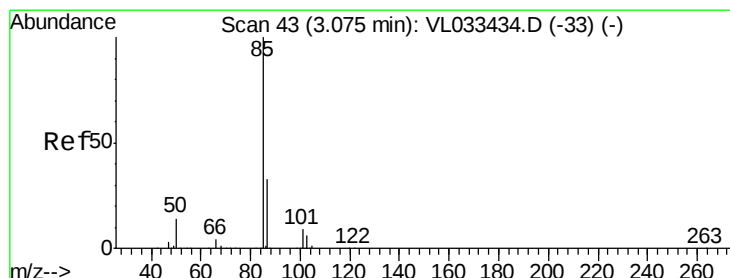
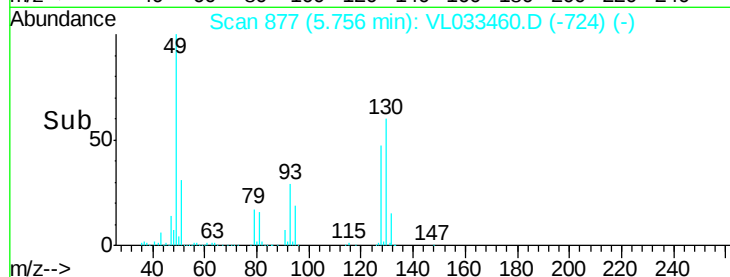
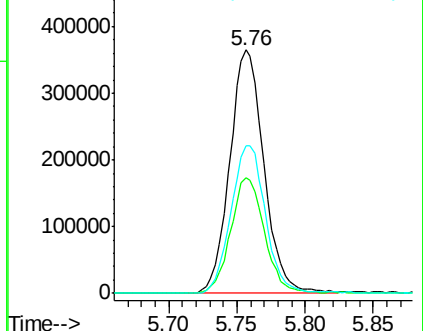
130 61.9 31.2 93.6



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



#2

Dichlorodifluoromethane

Concen: 0.309 ppbv

RT: 3.07 min Scan# 43

Delta R.T. -0.00 min

Lab File: VL033460.D

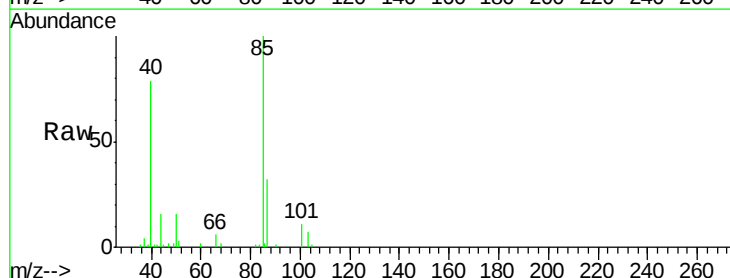
Acq: 26 Mar 2019 6:47

Tgt Ion: 85 Resp: 28664

Ion Ratio Lower Upper

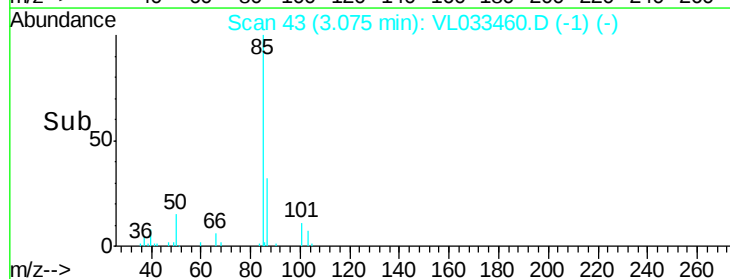
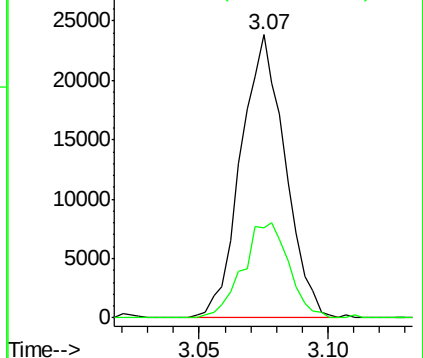
85 100

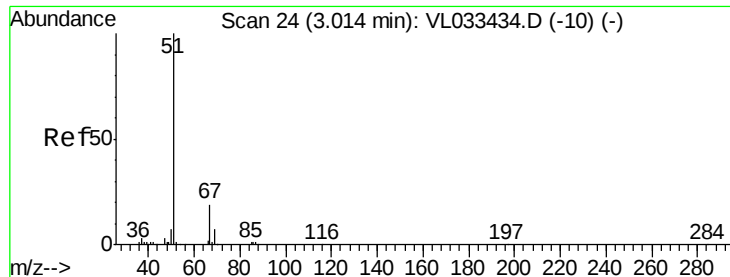
87 31.8 26.7 40.1



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0

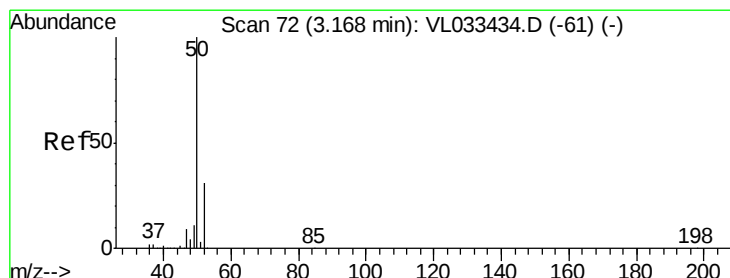
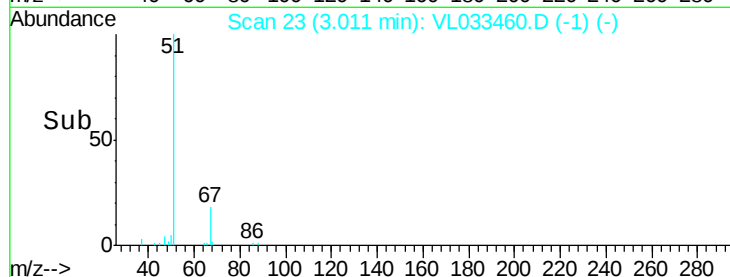
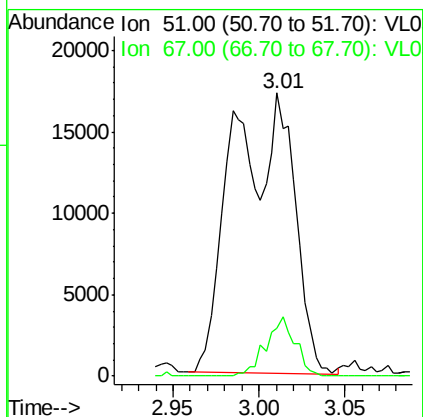
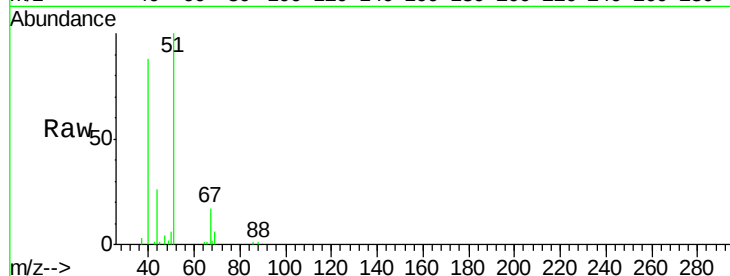




#3
Chlorodifluoromethane
Concen: 0.574 ppbv
RT: 3.01 min Scan# 23
Delta R.T. -0.00 min
Lab File: VL033460.D
Acq: 26 Mar 2019 6:47

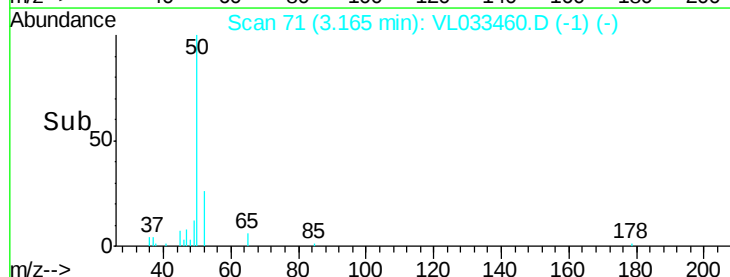
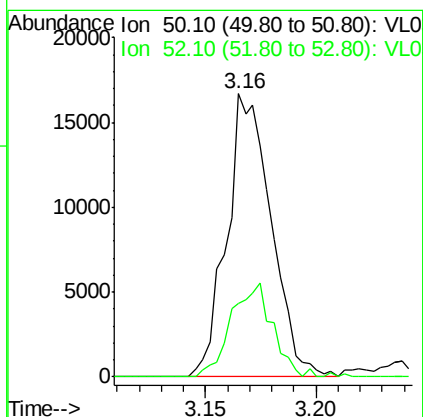
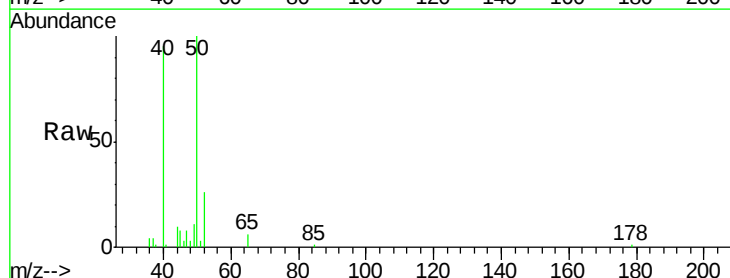
Instrument :
MSVOA_L
ClientSampleId :

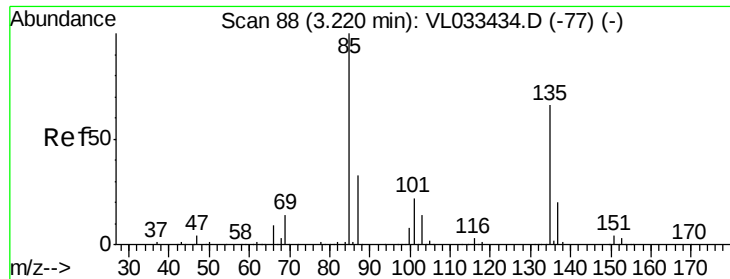
Tot Ion: 51 Resp: 42045
Ion Ratio Lower Upper
51 100
67 10.1 15.7 23.5#



#4
Chloromethane
Concen: 0.602 ppbv
RT: 3.16 min Scan# 71
Delta R.T. -0.00 min
Lab File: VL033460.D
Acq: 26 Mar 2019 6:47

Tgt Ion: 50 Resp: 23330
Ion Ratio Lower Upper
50 100
52 26.1 25.0 37.6





#8

Dichlorotetrafluoroethane

Concen: 0.024 ppbv

RT: 3.22 min Scan# 88

Delta R.T. -0.00 min

Lab File: VL033460.D

Acq: 26 Mar 2019 6:47

Instrument :

MSVOA_L

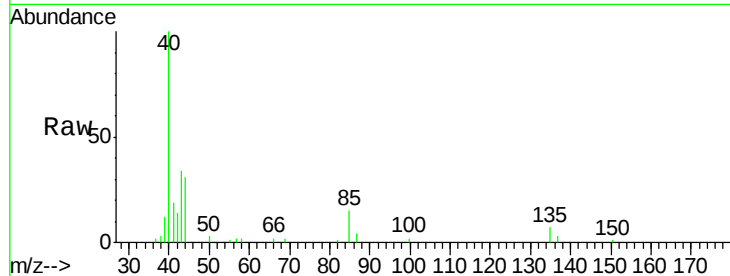
ClientSampled :

Tot Ion: 85 Resp: 2412

Ion Ratio Lower Upper

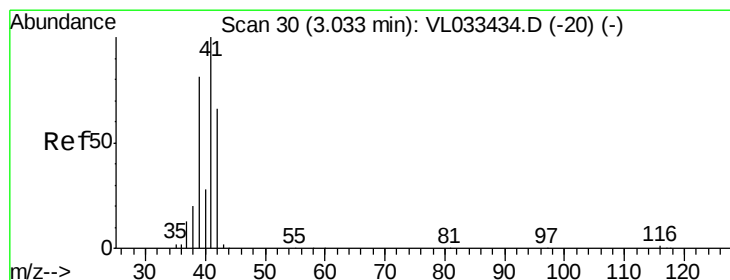
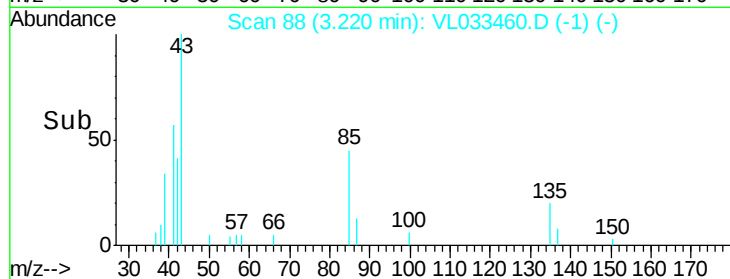
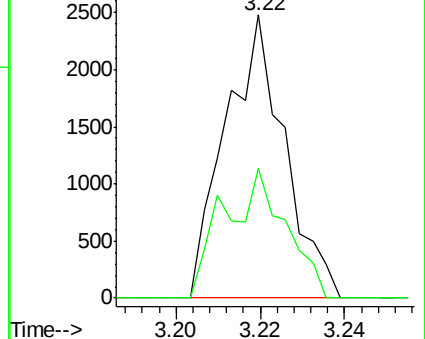
85 100

135 47.5 54.0 81.0#



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 135.00 (134.70 to 135.70): VL0



#9

Propene

Concen: 0.907 ppbv

RT: 3.24 min Scan# 94

Delta R.T. 0.21 min

Lab File: VL033460.D

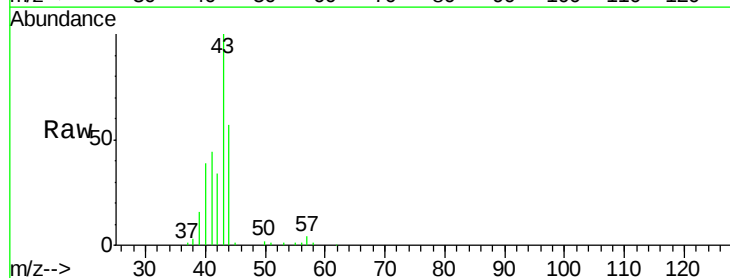
Acq: 26 Mar 2019 6:47

Tgt Ion: 41 Resp: 27900

Ion Ratio Lower Upper

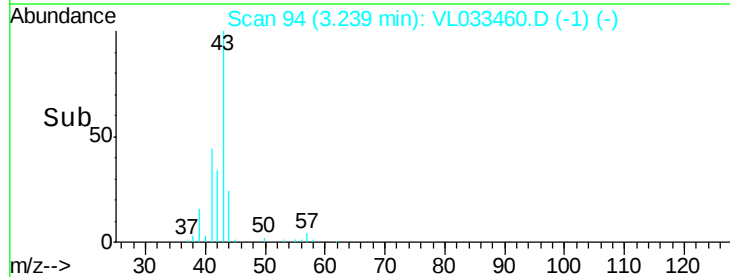
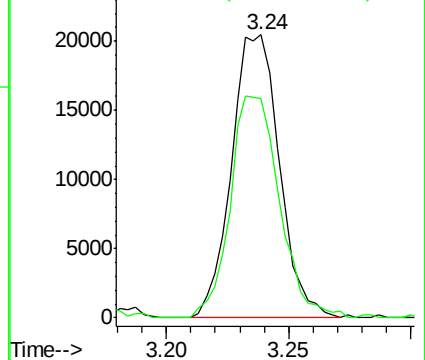
41 100

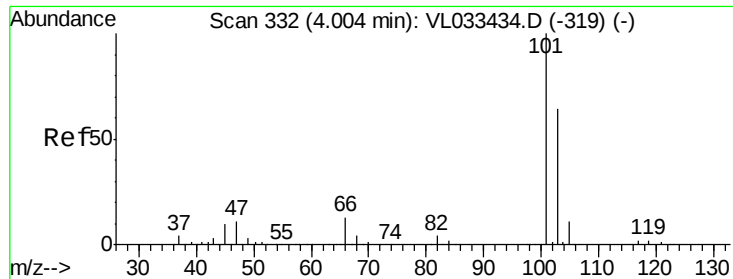
42 80.7 53.9 80.9



Abundance Ion 41.10 (40.80 to 41.80): VL0

Ion 42.10 (41.80 to 42.80): VL0

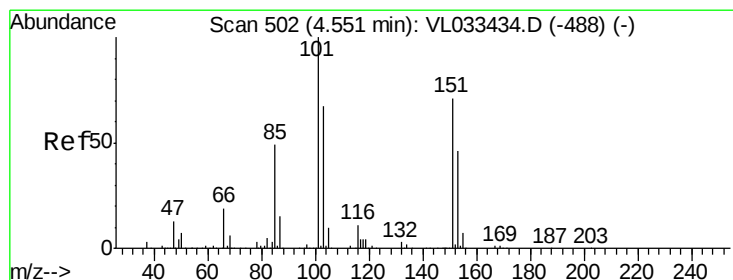
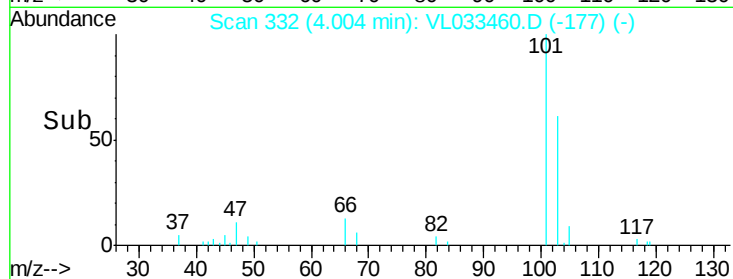
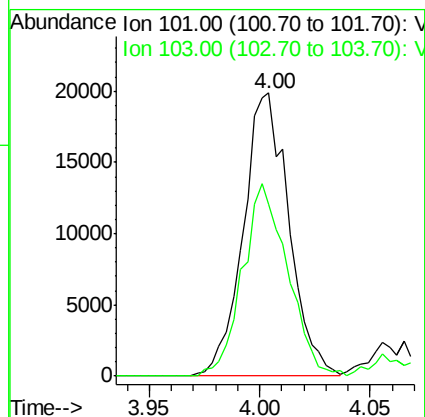
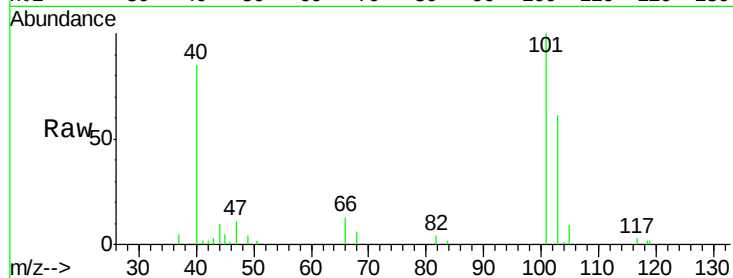




#11
 Trichlorofluoromethane
 Concen: 0.249 ppbv
 RT: 4.00 min Scan# 332
 Delta R.T. -0.00 min
 Lab File: VL033460.D
 Acq: 26 Mar 2019 6:47

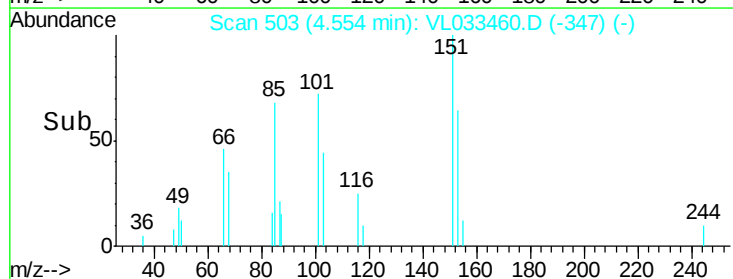
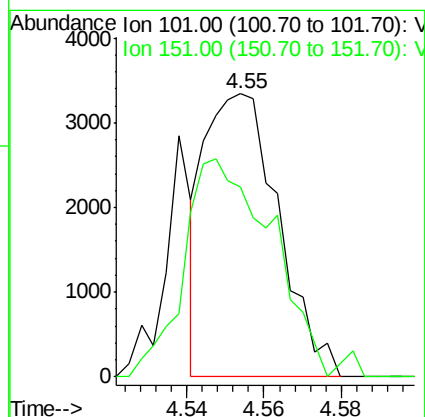
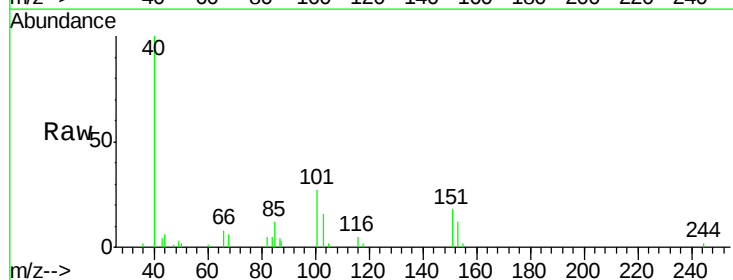
Instrument :
 MSVOA_L
 ClientSampled :

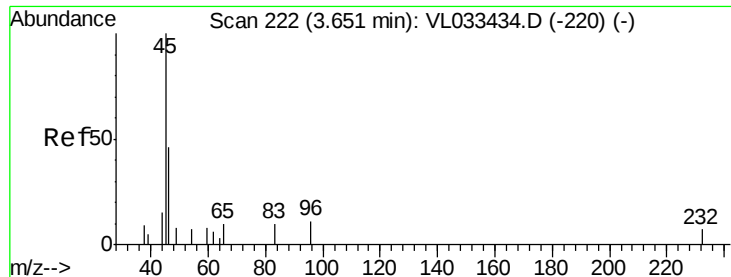
Tot Ion:101 Resp: 28466
 Ion Ratio Lower Upper
 101 100
 103 60.8 51.3 76.9



#12
 1,1,2-Trichlorotrifluoroethane
 Concen: 0.057 ppbv
 RT: 4.55 min Scan# 503
 Delta R.T. 0.00 min
 Lab File: VL033460.D
 Acq: 26 Mar 2019 6:47

Tgt Ion:101 Resp: 4413
 Ion Ratio Lower Upper
 101 100
 151 94.5 57.7 86.5#





#13

Ethanol

Concen: 8.822 ppbv

RT: 3.66 min Scan# 224

Delta R.T. 0.01 min

Lab File: VL033460.D

Acq: 26 Mar 2019 6:47

Instrument :

MSVOA_L

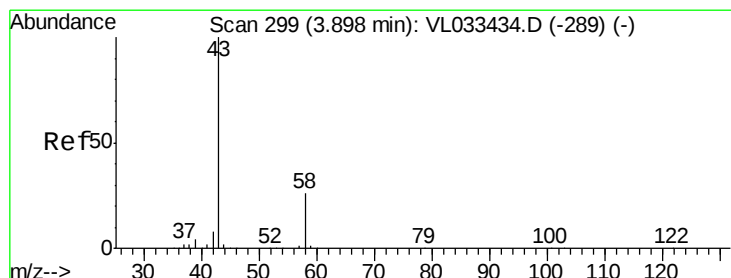
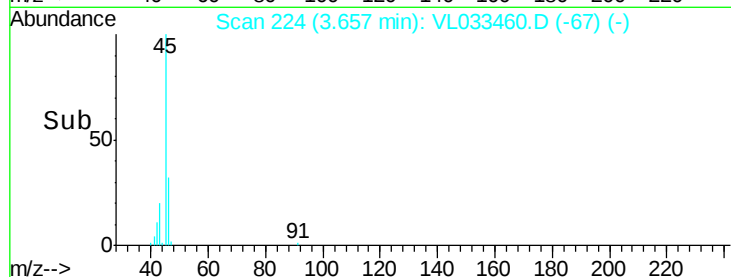
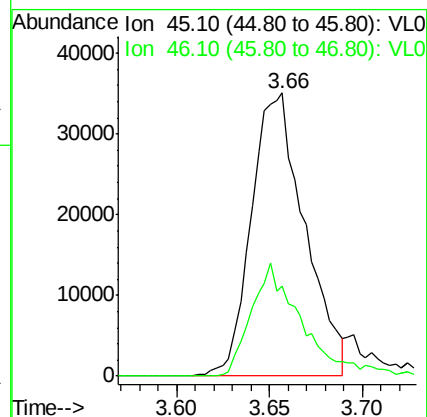
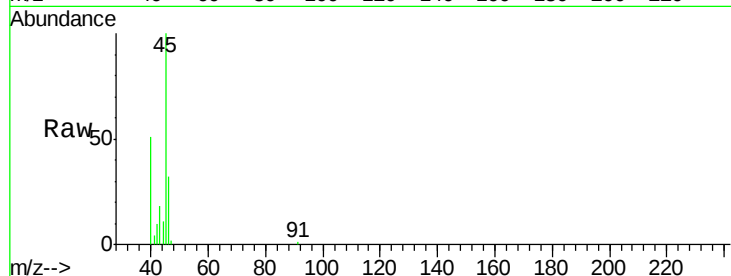
ClientSampled :

Tot Ion: 45 Resp: 70212

Ion Ratio Lower Upper

45 100

46 38.1 25.4 101.8



#15

Acetone

Concen: 2.217 ppbv

RT: 3.90 min Scan# 301

Delta R.T. 0.01 min

Lab File: VL033460.D

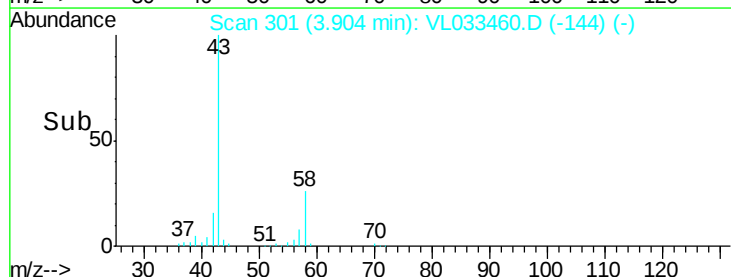
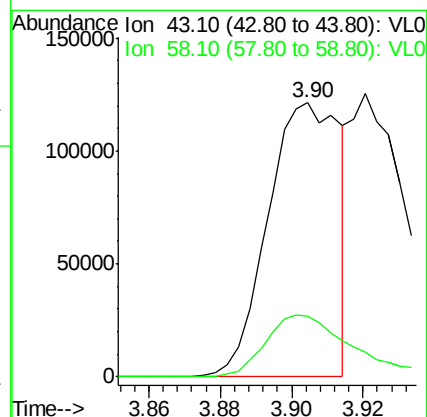
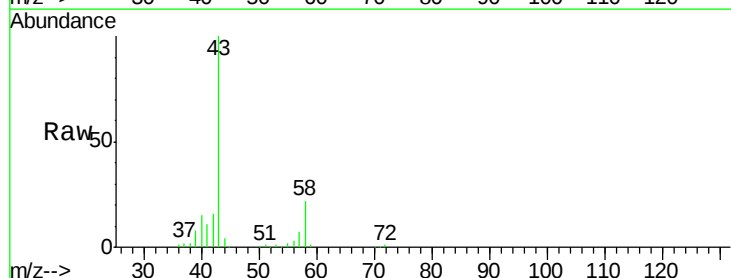
Acq: 26 Mar 2019 6:47

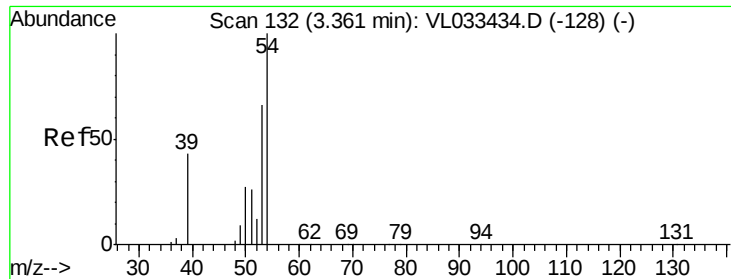
Tgt Ion: 43 Resp: 169587

Ion Ratio Lower Upper

43 100

58 27.5 20.5 30.7

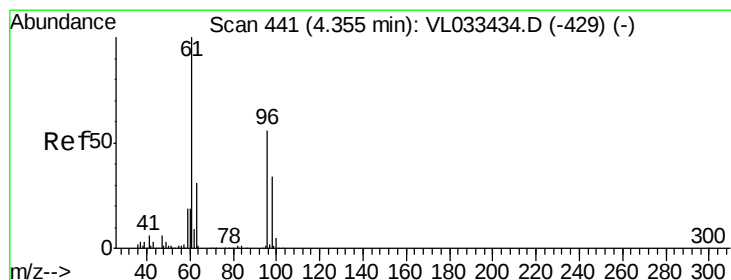
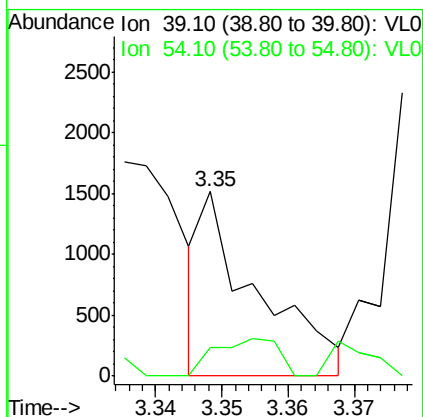
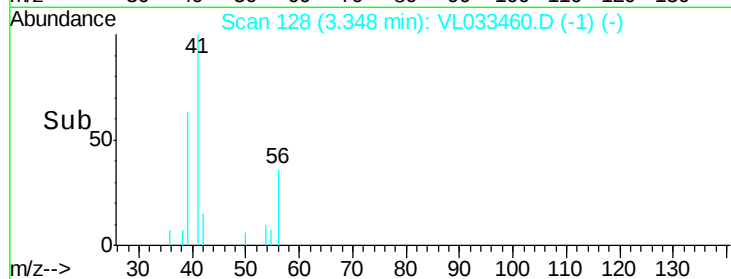
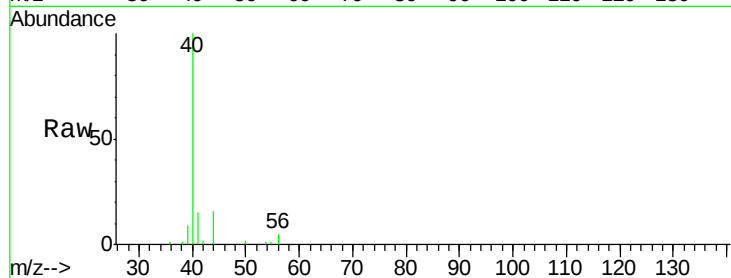




#16
1,3-Butadiene
Concen: 0.030 ppbv
RT: 3.35 min Scan# 128
Delta R.T. -0.01 min
Lab File: VL033460.D
Acq: 26 Mar 2019 6:47

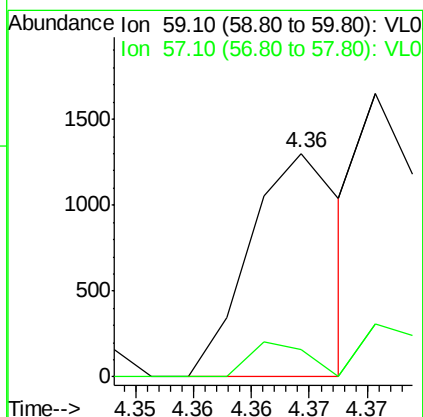
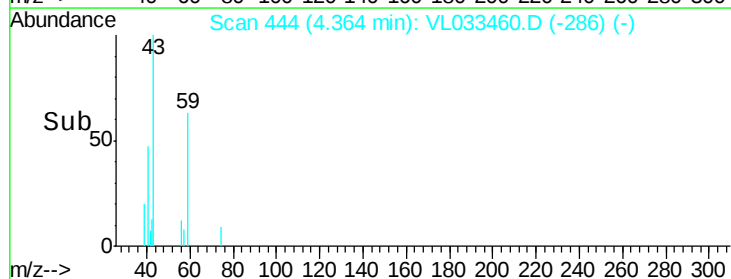
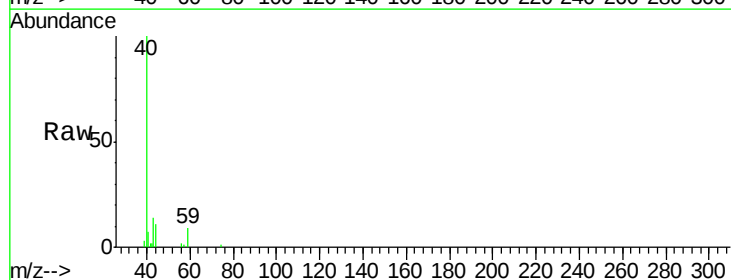
Instrument :
MSVOA_L
ClientSampled :

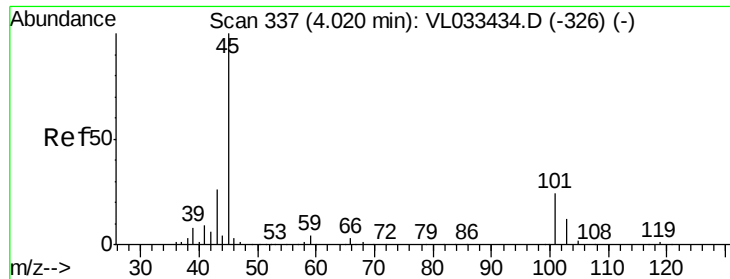
Tot Ion: 39 Resp: 900
Ion Ratio Lower Upper
39 100
54 26.1 69.4 104.2#



#17
tert-Butyl alcohol
Concen: 0.051 ppbv
RT: 4.36 min Scan# 444
Delta R.T. 0.01 min
Lab File: VL033460.D
Acq: 26 Mar 2019 6:47

Tgt Ion: 59 Resp: 721
Ion Ratio Lower Upper
59 100
57 0.0 7.8 11.8#





#19

Isopropyl Alcohol

Concen: 0.558 ppbv

RT: 4.03 min Scan# 340

Delta R.T. 0.01 min

Lab File: VL033460.D

Acq: 26 Mar 2019 6:47

Instrument :

MSVOA_L

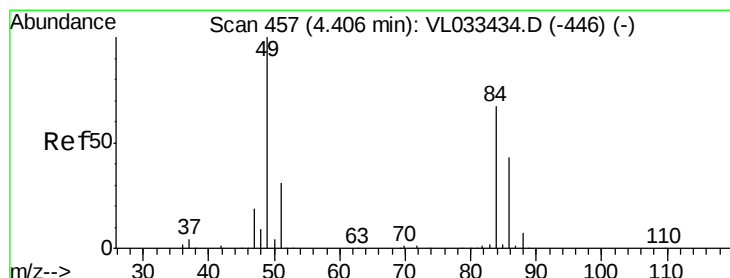
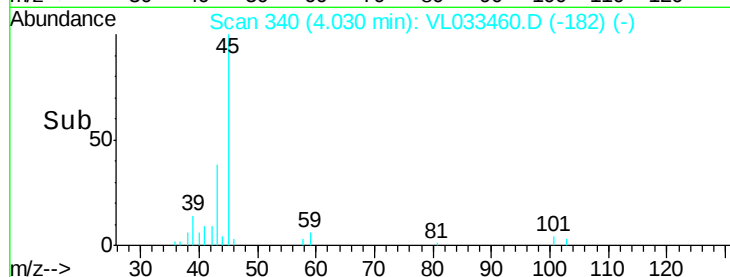
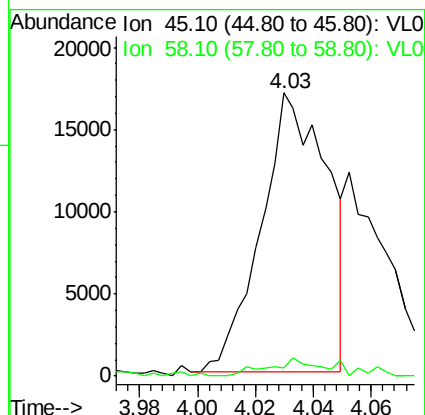
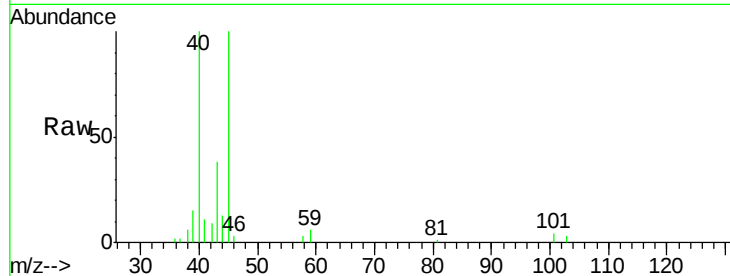
ClientSampleId :

Tot Ion: 45 Resp: 26995

Ion Ratio Lower Upper

45 100

58 6.2 1.4 2.2#



#20

Methylene Chloride

Concen: 1.654 ppbv

RT: 4.41 min Scan# 457

Delta R.T. -0.00 min

Lab File: VL033460.D

Acq: 26 Mar 2019 6:47

Tgt Ion: 84 Resp: 53716

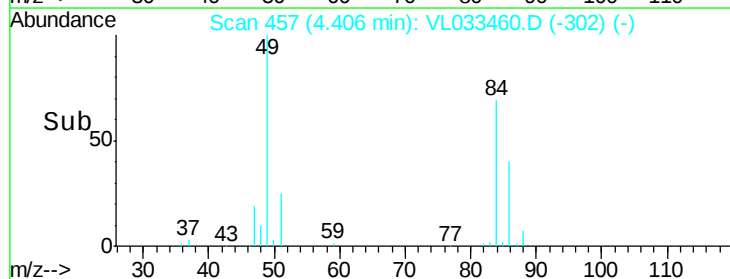
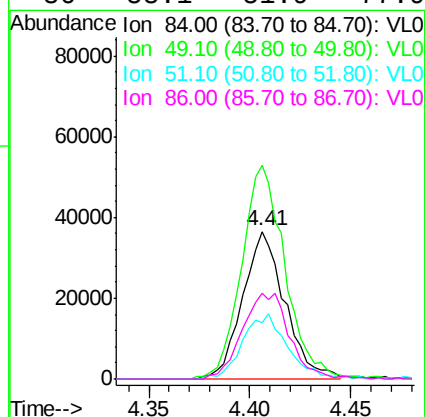
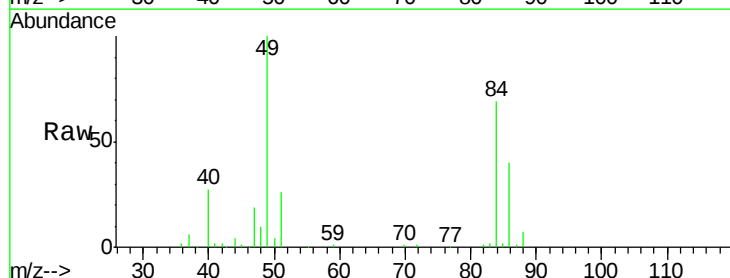
Ion Ratio Lower Upper

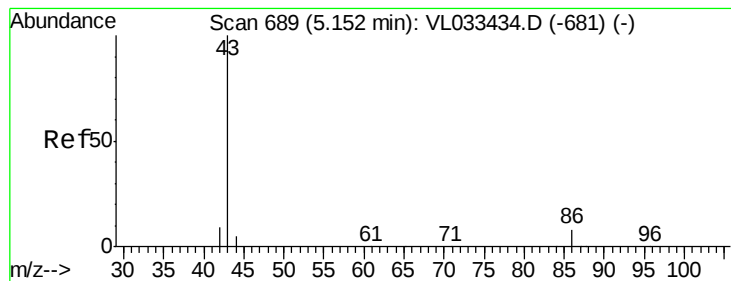
84 100

49 144.5 120.0 180.0

51 38.0 36.7 55.1

86 58.1 51.9 77.9





#23

Vinyl Acetate

Concen: 0.031 ppbv

RT: 5.15 min Scan# 687

Delta R.T. -0.01 min

Lab File: VL033460.D

Acq: 26 Mar 2019 6:47

Instrument :

MSVOA_L

ClientSampleId :

Tot Ion: 43 Resp: 3323

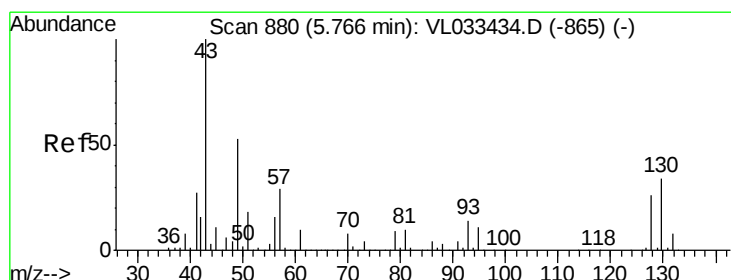
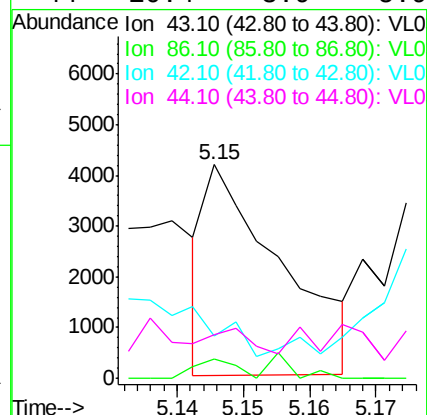
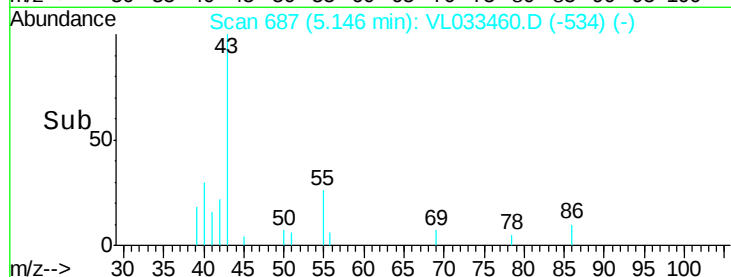
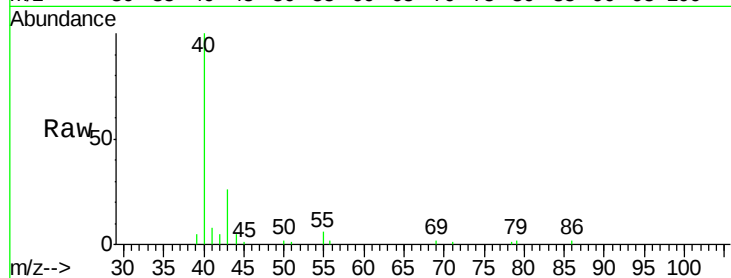
Ion Ratio Lower Upper

43 100

86 22.3 5.6 8.4#

42 1.9 8.0 12.0#

44 10.4 3.9 5.9#



#25

Ethyl Acetate

Concen: 0.633 ppbv

RT: 5.77 min Scan# 881

Delta R.T. 0.00 min

Lab File: VL033460.D

Acq: 26 Mar 2019 6:47

Tgt Ion: 43 Resp: 89884

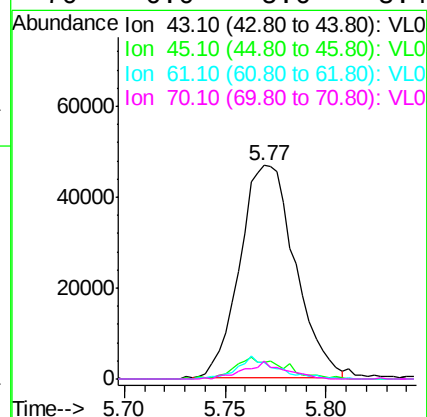
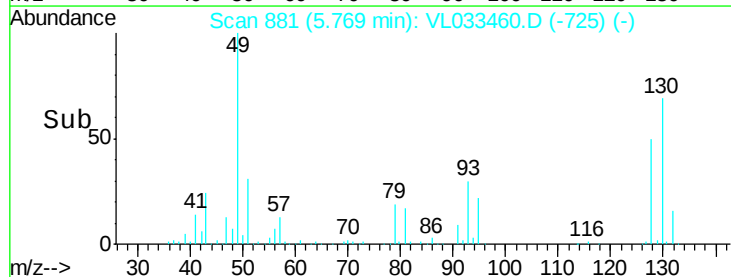
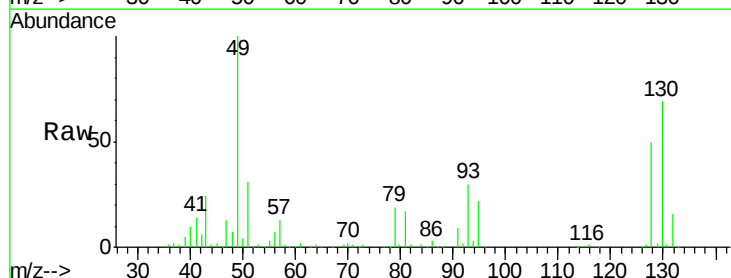
Ion Ratio Lower Upper

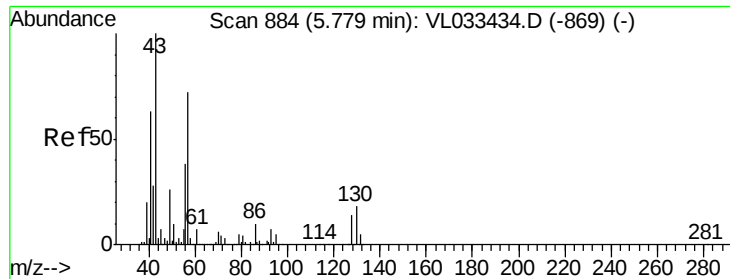
43 100

45 9.2 7.8 11.6

61 7.5 7.3 10.9

70 6.0 5.6 8.4

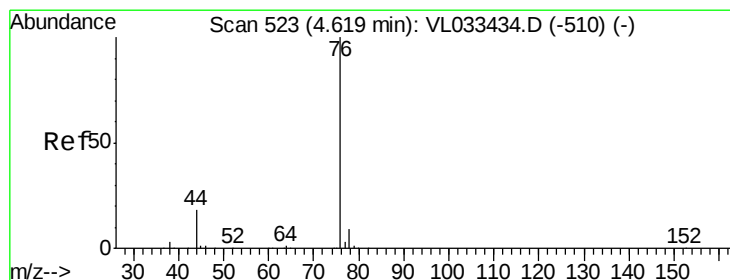
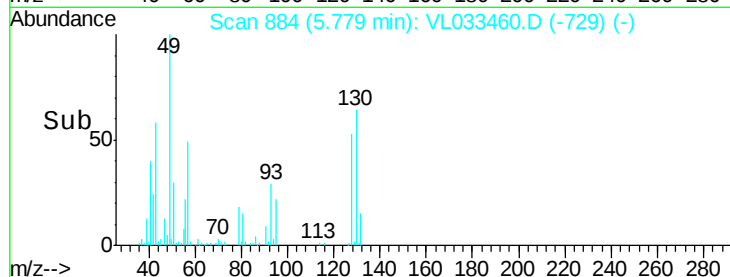
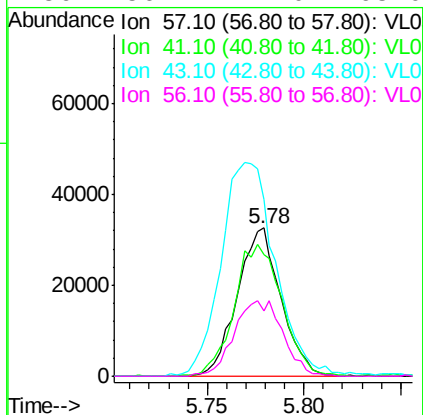
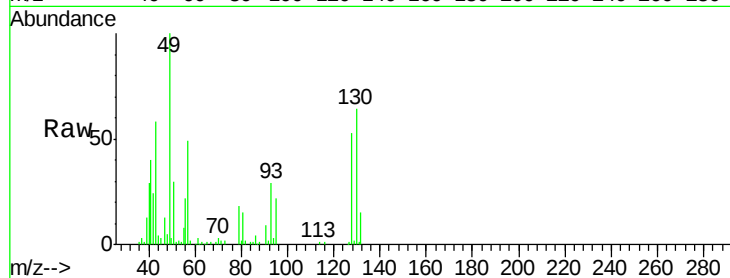




#26
Hexane
Concen: 0.811 ppbv
RT: 5.78 min Scan# 884
Delta R.T. -0.00 min
Lab File: VL033460.D
Acq: 26 Mar 2019 6:47

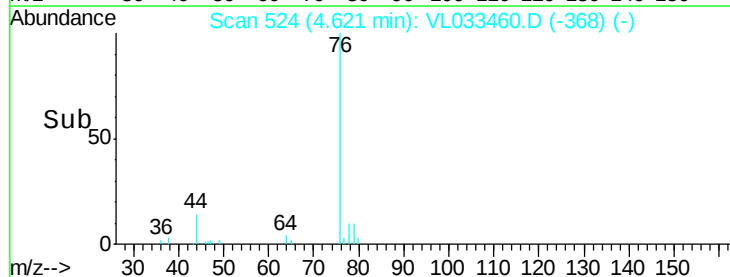
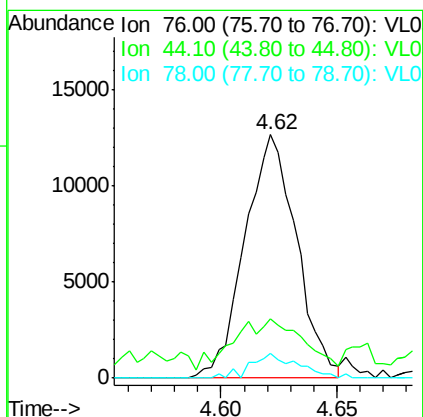
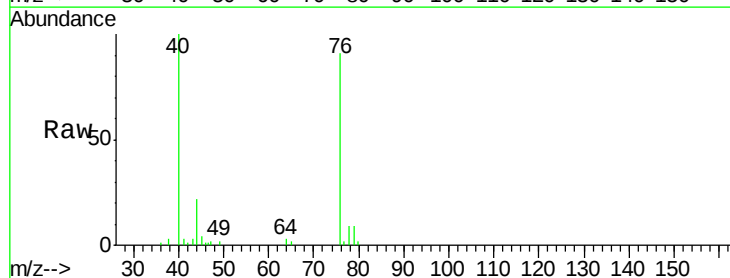
Instrument :
MSVOA_L
ClientSampleId :

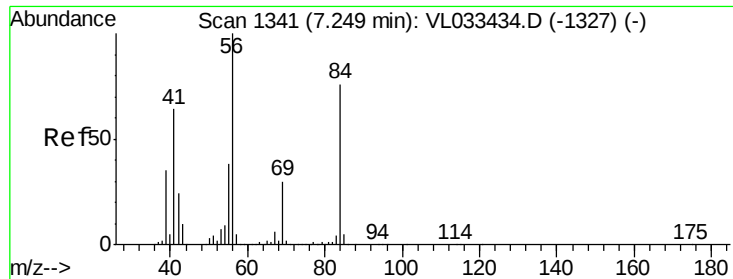
Tot Ion: 57 Resp: 51183
Ion Ratio Lower Upper
57 100
41 97.7 70.7 106.1
43 182.2 182.6 274.0#
56 56.7 42.0 63.0



#27
Carbon Disulfide
Concen: 0.261 ppbv
RT: 4.62 min Scan# 524
Delta R.T. 0.00 min
Lab File: VL033460.D
Acq: 26 Mar 2019 6:47

Tgt Ion: 76 Resp: 19615
Ion Ratio Lower Upper
76 100
44 27.6 14.8 22.2#
78 9.3 7.6 11.4

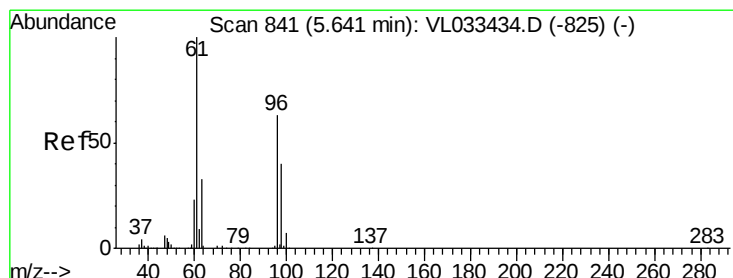
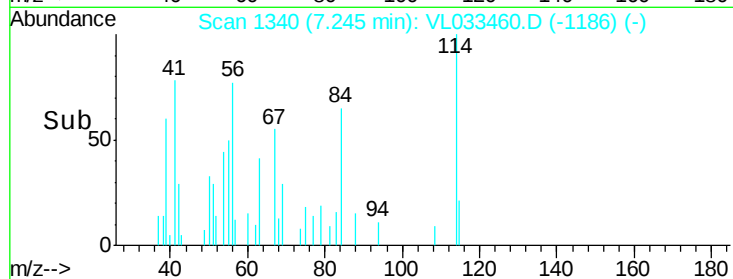
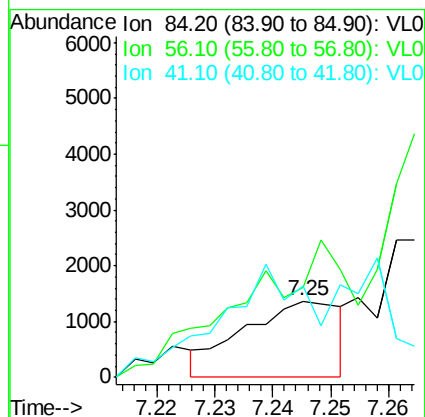
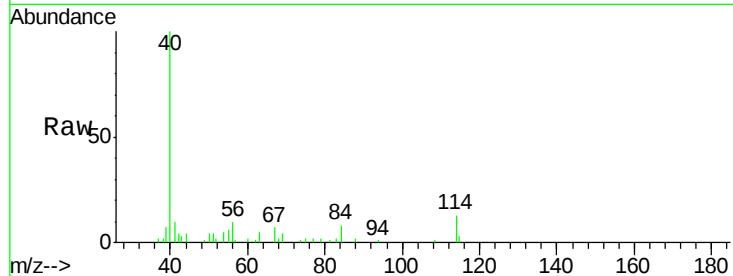




#30
Cvclohexane
Concen: 0.032 ppbv
RT: 7.25 min Scan# 1340
Delta R.T. -0.00 min
Lab File: VL033460.D
Acq: 26 Mar 2019 6:47

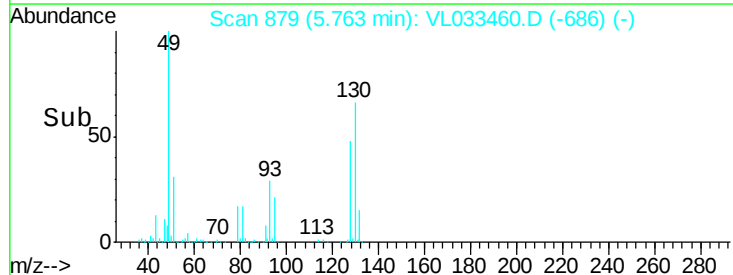
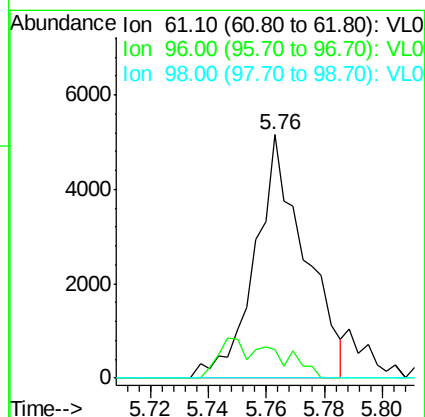
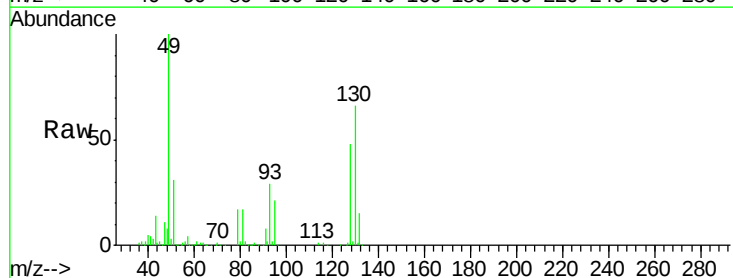
Instrument :
MSVOA_L
ClientSampled :

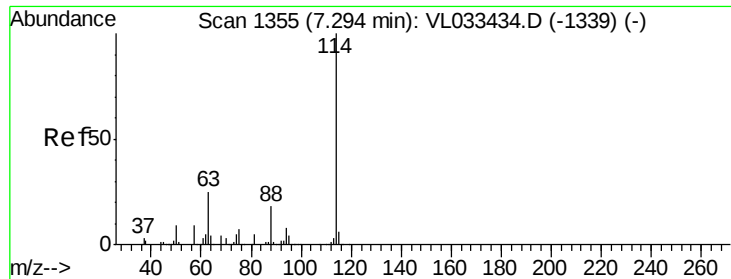
Tot Ion: 84 Resp: 1593
Ion Ratio Lower Upper
84 100
56 0.0 109.7 164.5#
41 0.0 68.2 102.2#



#31
cis-1,2-Dichloroethene
Concen: 0.098 ppbv
RT: 5.76 min Scan# 879
Delta R.T. 0.12 min
Lab File: VL033460.D
Acq: 26 Mar 2019 6:47

Tgt Ion: 61 Resp: 6134
Ion Ratio Lower Upper
61 100
96 11.5 50.6 76.0#
98 0.0 32.2 48.2#

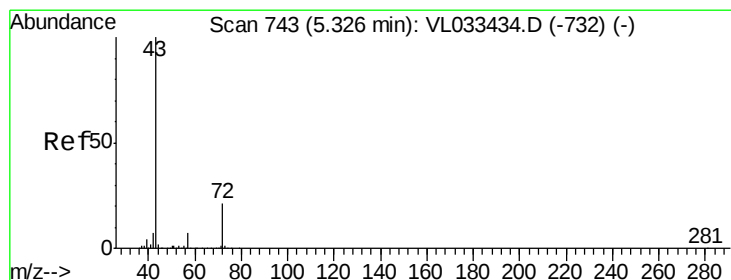
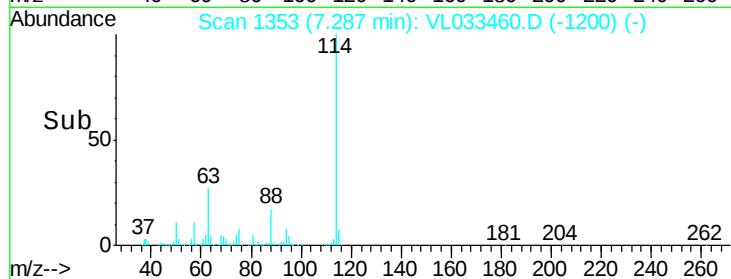
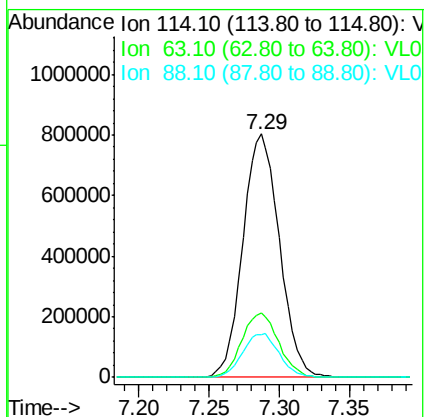
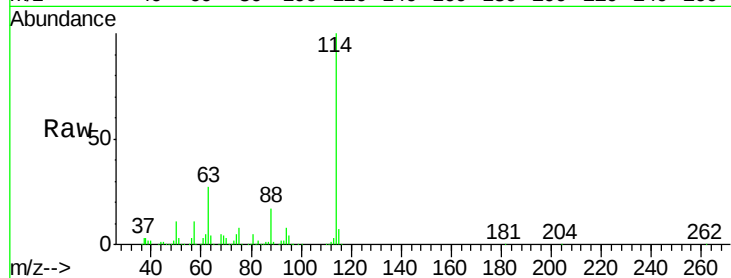




#33
 1,4-Difluorobenzene
 Concen: 10.000 ppbv
 RT: 7.29 min Scan# 1353
 Delta R.T. -0.01 min
 Lab File: VL033460.D
 Acq: 26 Mar 2019 6:47

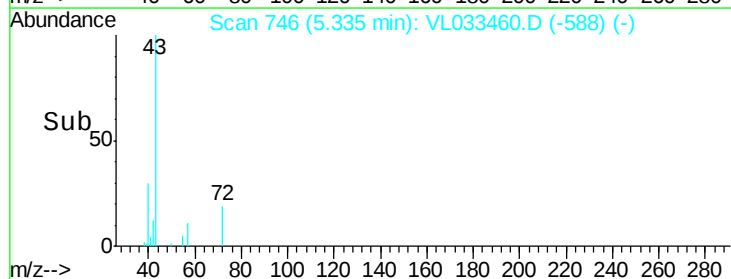
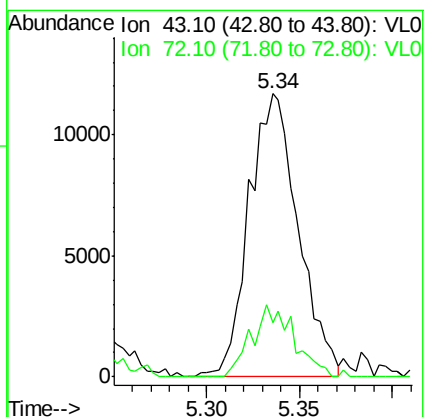
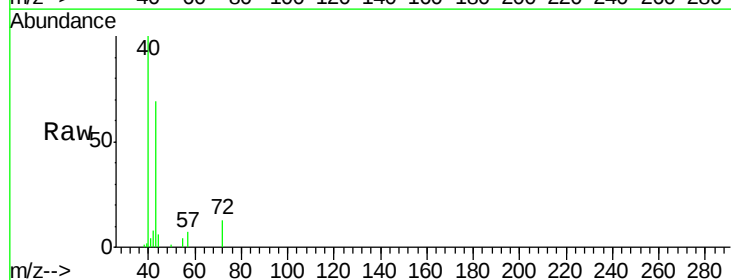
Instrument :
 MSVOA_L
 ClientSampleId :

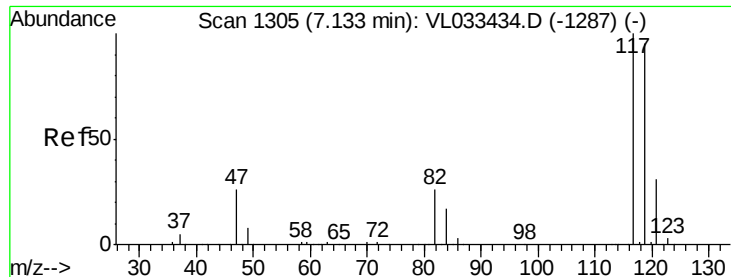
Tot Ion:114 Resp: 1458069
 Ion Ratio Lower Upper
 114 100
 63 26.8 21.5 32.3
 88 18.1 14.5 21.7



#34
 2-Butanone
 Concen: 0.246 ppbv
 RT: 5.34 min Scan# 746
 Delta R.T. 0.01 min
 Lab File: VL033460.D
 Acq: 26 Mar 2019 6:47

Tgt Ion: 43 Resp: 21534
 Ion Ratio Lower Upper
 43 100
 72 22.0 17.4 26.2





#35

Carbon Tetrachloride

Concen: 0.052 ppbv

RT: 7.12 min Scan# 1302

Delta R.T. -0.01 min

Lab File: VL033460.D

Acq: 26 Mar 2019 6:47

Instrument :

MSVOA_L

ClientSampleId :

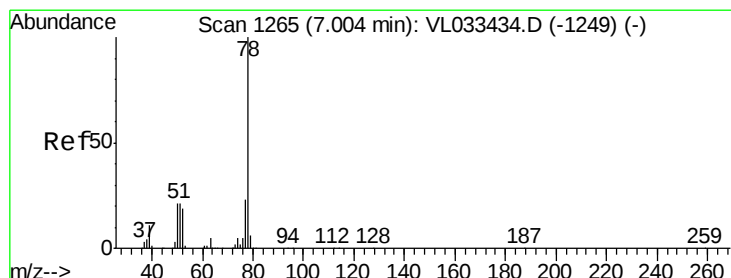
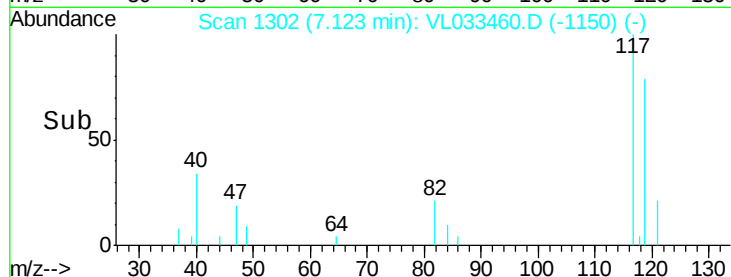
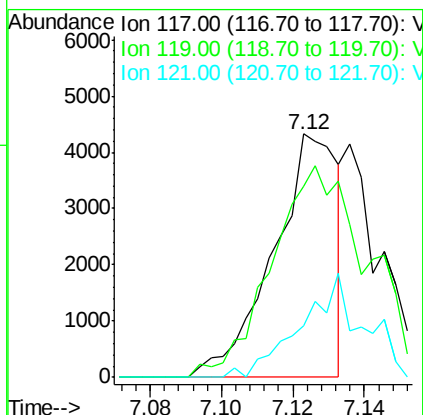
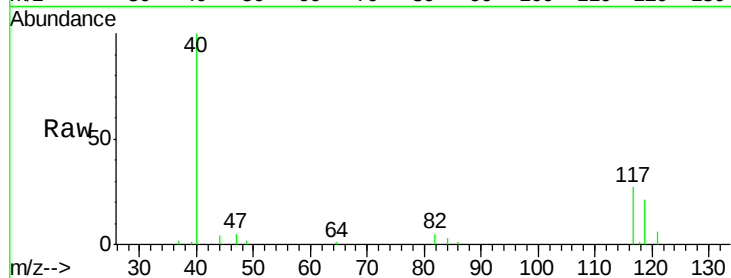
Tot Ion:117 Resp: 5378

Ion Ratio Lower Upper

117 100

119 78.7 75.8 113.8

121 21.0 24.7 37.1#



#36

Benzene

Concen: 0.029 ppbv

RT: 7.00 min Scan# 1264

Delta R.T. -0.00 min

Lab File: VL033460.D

Acq: 26 Mar 2019 6:47

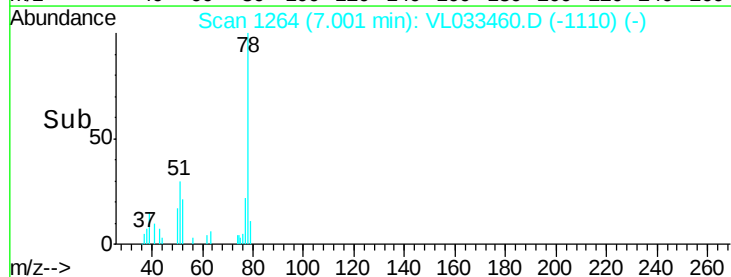
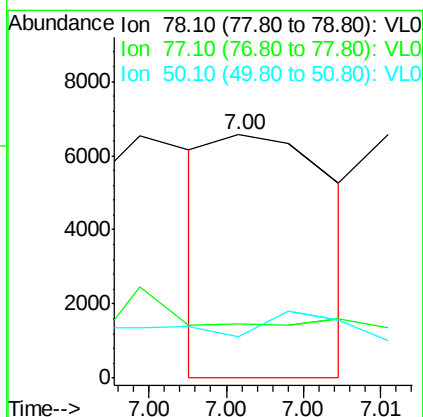
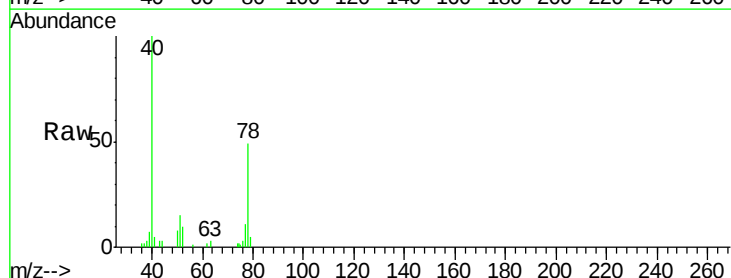
Tgt Ion: 78 Resp: 3504

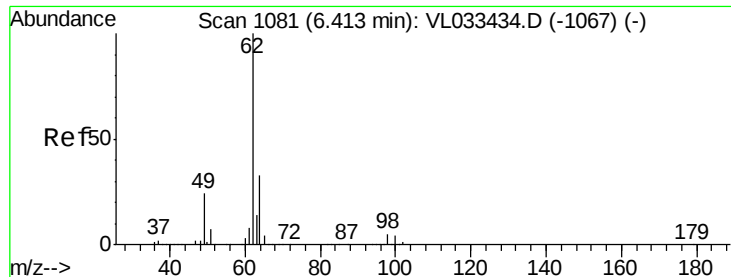
Ion Ratio Lower Upper

78 100

77 4.2 18.1 27.1#

50 0.0 16.7 25.1#

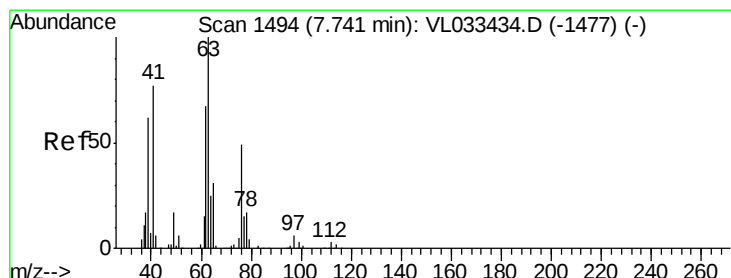
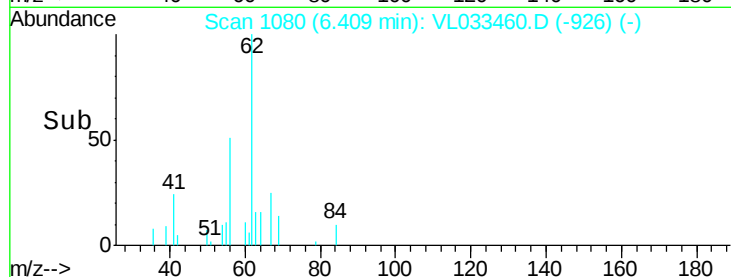
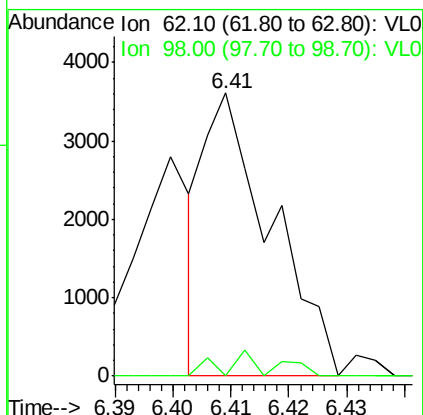
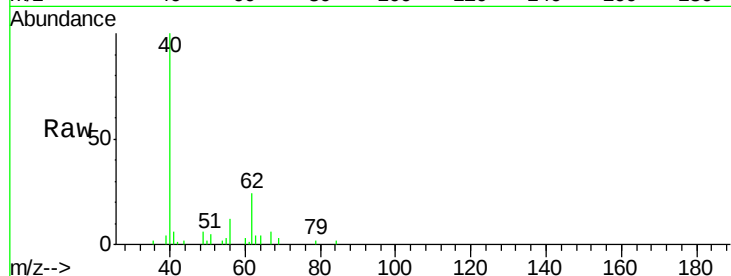




#37
 1,2-Dichloroethane
 Concen: 0.036 ppbv
 RT: 6.41 min Scan# 1080
 Delta R.T. -0.00 min
 Lab File: VL033460.D
 Acq: 26 Mar 2019 6:47

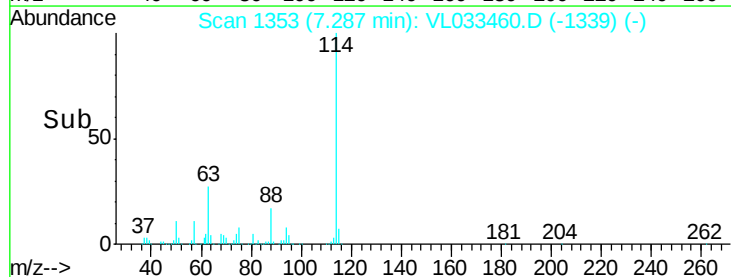
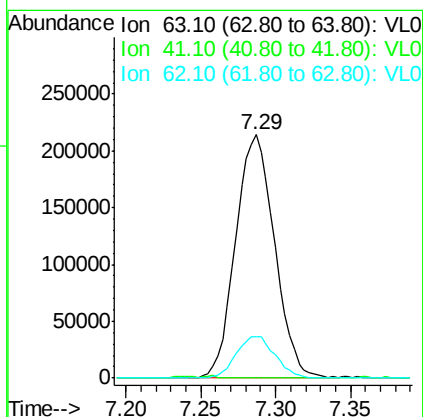
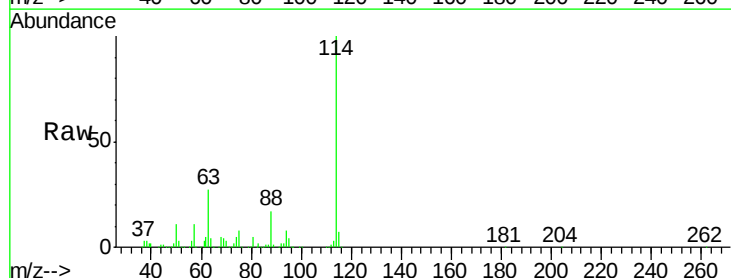
Instrument :
 MSVOA_L
 ClientSampleId :

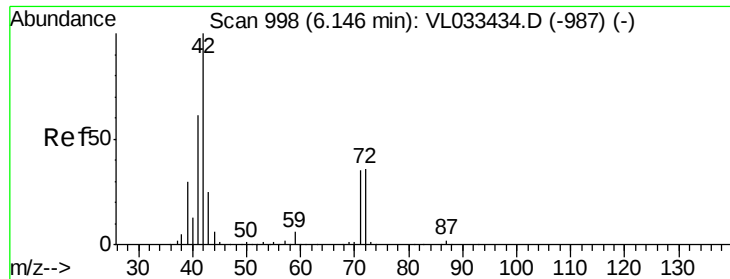
Tot Ion: 62 Resp: 2913
 Ion Ratio Lower Upper
 62 100
 98 6.1 4.4 6.6



#39
 1,2-Dichloropropane
 Concen: 8.077 ppbv
 RT: 7.29 min Scan# 1353
 Delta R.T. -0.45 min
 Lab File: VL033460.D
 Acq: 26 Mar 2019 6:47

Tgt Ion: 63 Resp: 387094
 Ion Ratio Lower Upper
 63 100
 41 0.0 61.2 91.8#
 62 17.3 54.0 81.0#





#41

Tetrahydrofuran

Concen: 0.022 ppbv

RT: 6.17 min Scan# 1007

Delta R.T. 0.03 min

Lab File: VL033460.D

Acq: 26 Mar 2019 6:47

Instrument :
MSVOA_L
ClientSampled :

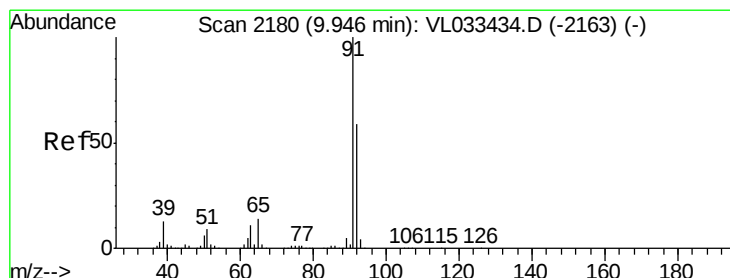
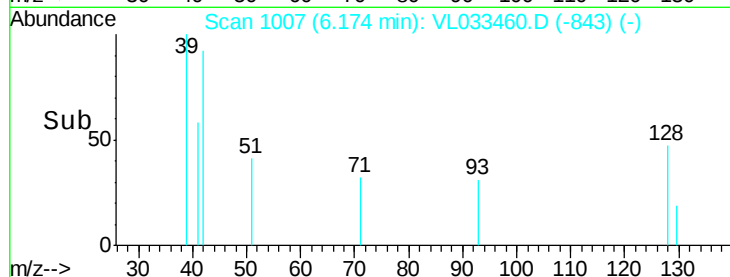
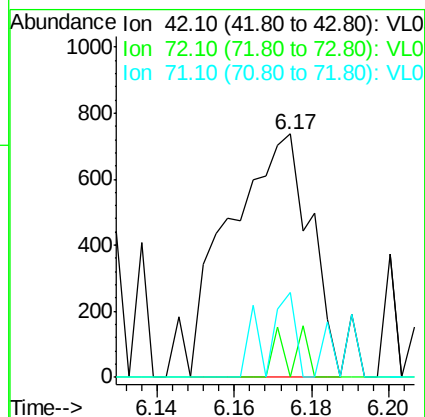
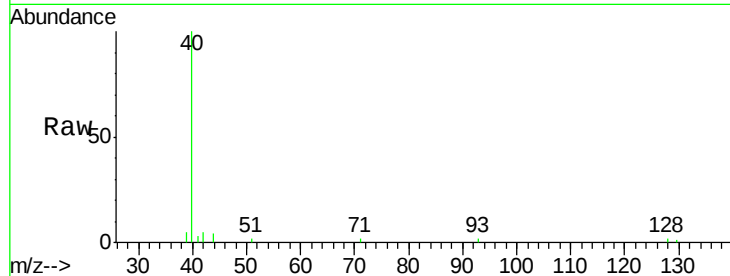
Tot Ion: 42 Resp: 1062

Ion Ratio Lower Upper

42 100

72 5.6 30.2 45.2#

71 18.8 29.4 44.2#



#53

Toluene

Concen: 2.392 ppbv

RT: 9.94 min Scan# 2179

Delta R.T. -0.00 min

Lab File: VL033460.D

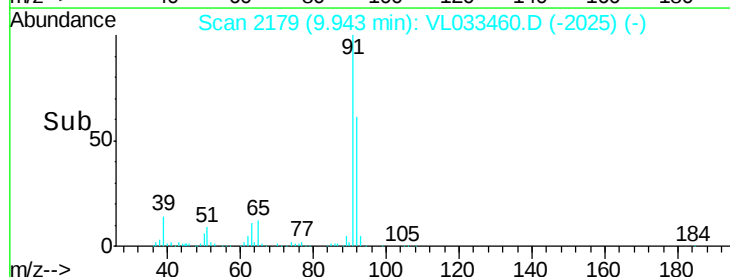
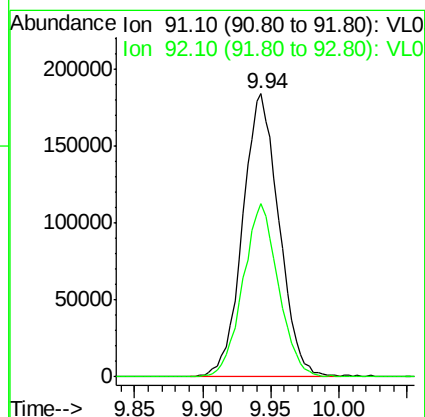
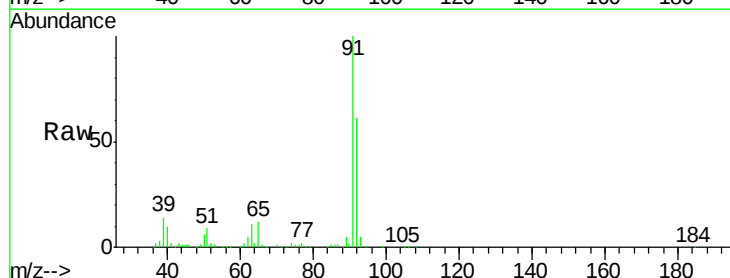
Acq: 26 Mar 2019 6:47

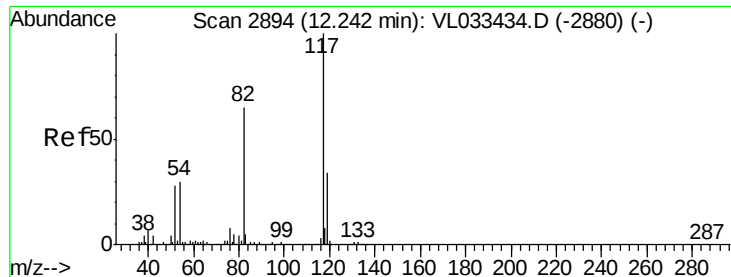
Tgt Ion: 91 Resp: 340131

Ion Ratio Lower Upper

91 100

92 59.9 47.4 71.0

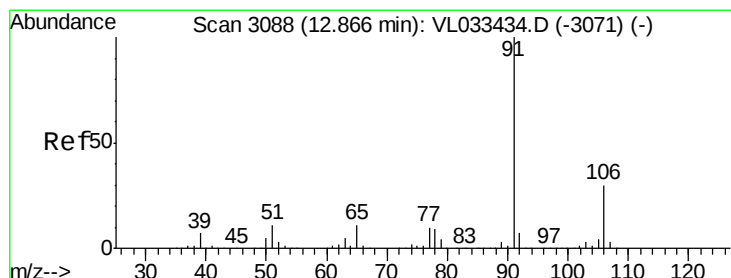
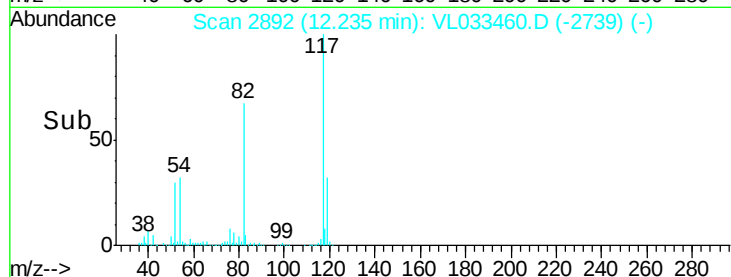
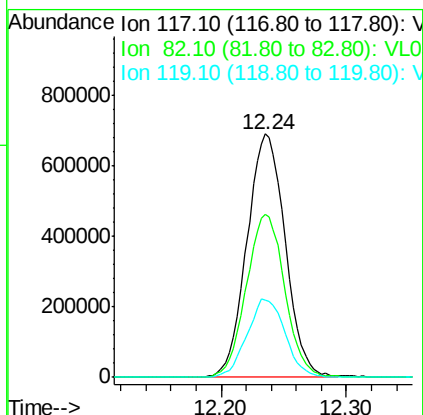
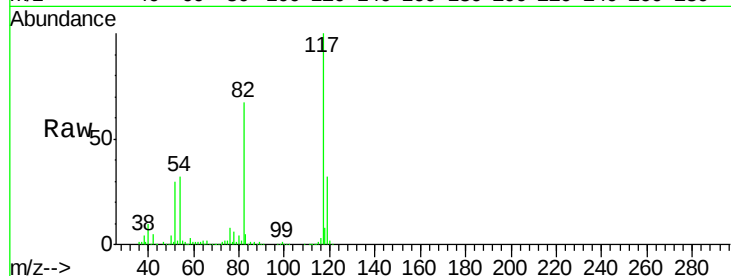




#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 12.24 min Scan# 2892
Delta R.T. -0.01 min
Lab File: VL033460.D
Acq: 26 Mar 2019 6:47

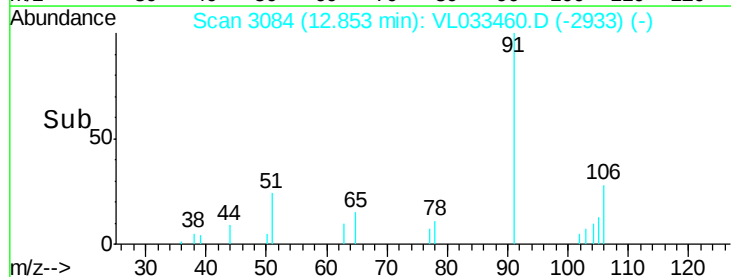
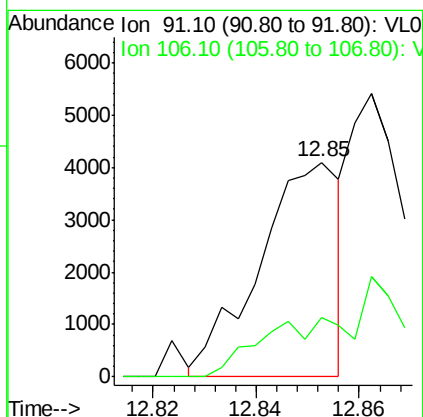
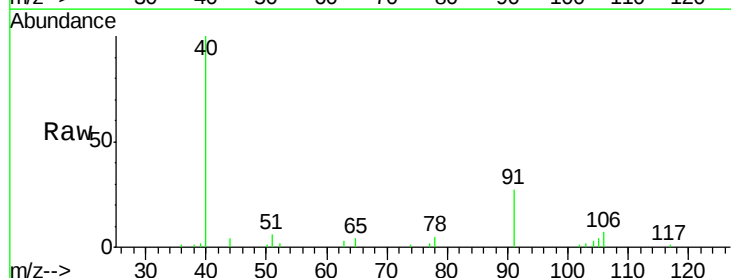
Instrument :
MSVOA_L
ClientSampleId :

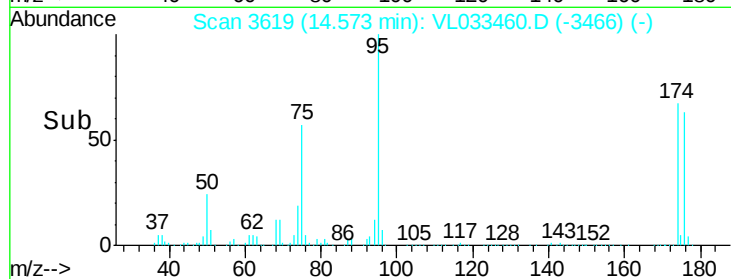
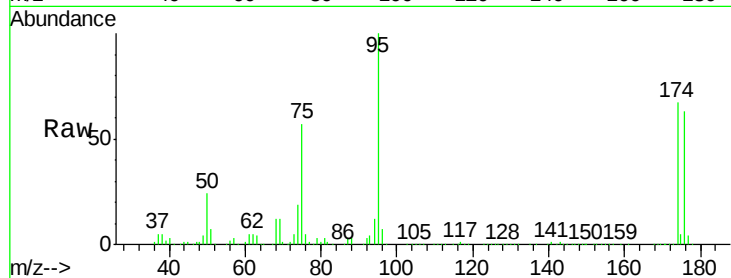
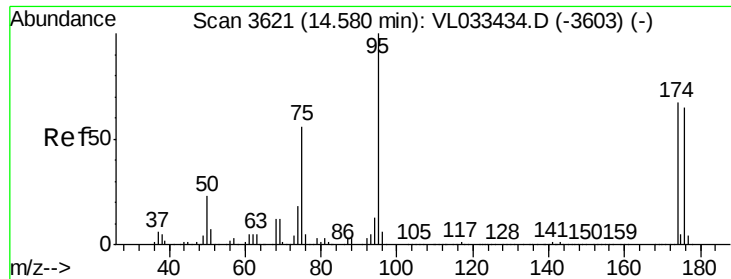
Tot Ion:117 Resp: 1463374
Ion Ratio Lower Upper
117 100
82 67.3 51.5 77.3
119 32.3 25.5 38.3



#58
Ethyl Benzene
Concen: 0.023 ppbv
RT: 12.85 min Scan# 3084
Delta R.T. -0.01 min
Lab File: VL033460.D
Acq: 26 Mar 2019 6:47

Tgt Ion: 91 Resp: 4449
Ion Ratio Lower Upper
91 100
106 28.8 23.8 35.6





#68

1-Bromo-4-Fluorobenzene

Concen: 10.027 ppbv

RT: 14.57 min Scan# 3619

Delta R.T. -0.01 min

Lab File: VL033460.D

Acq: 26 Mar 2019 6:47

Instrument :

MSVOA_L

ClientSampleId :

Tot Ion: 95 Resp: 1150384

Ion Ratio Lower Upper

95 100

174 65.2 52.9 79.3

175 4.7 3.8 5.6

