

Data Path : Z:\VOASRV\HPCHEM1\MSVOA_L\DATA\VL100521\
 Data File : VL037779.D
 Acq On : 5 Oct 2021 18:37
 Operator : SY/AP
 Sample : M4012-09
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 C0P27

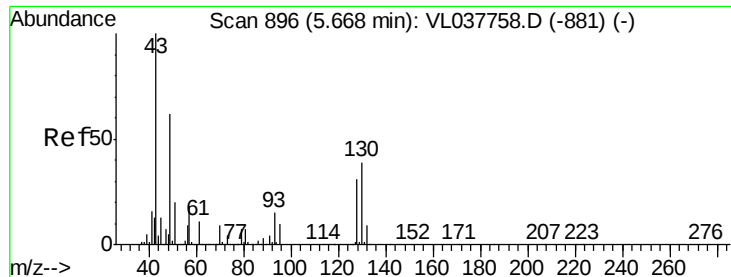
Quant Time: Oct 06 04:47:33 2021
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA_L\METHODS\VL100421AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Mon Oct 04 17:43:54 2021
 QLast Update : Mon Oct 04 17:43:54 2021
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.65	49	1313584	10.00	ppbv	-0.02
33) 1,4-Difluorobenzene	7.15	114	3756449	10.00	ppbv	-0.02
55) Chlorobenzene-d5	12.06	117	3258159	10.00	ppbv	-0.03

System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	14.39	95	2199187	9.65	ppbv	-0.03
Spiked Amount	10.000	Range	65 - 135	Recovery	=	96.50%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.04	85	41791	0.199	ppbv #	85
3) Chlorodifluoromethane	2.98	51	58557	0.232	ppbv	97
4) Chloromethane	3.13	50	19198	0.208	ppbv #	86
9) Propene	3.01	41	39503	0.425	ppbv	92
11) Trichlorofluoromethane	3.93	101	19796	0.106	ppbv	84
12) 1,1,2-Trichlorotrifluoroet	4.47	101	5683	0.040	ppbv #	37
13) Ethanol	3.59	45	260121	34.250	ppbv	86
15) Acetone	3.83	43	459695	3.898	ppbv	92
16) 1,3-Butadiene	3.30	39	9088	0.106	ppbv #	60
17) tert-Butyl alcohol	4.28	59	2595	0.021	ppbv #	71
19) Isopropyl Alcohol	3.96	45	159016	2.168	ppbv #	88
20) Methylene Chloride	4.33	84	646967	10.859	ppbv	91
23) Vinyl Acetate	5.04	43	28785	0.163	ppbv #	68
25) Ethyl Acetate	5.67	43	195133	0.590	ppbv #	80
26) Hexane	5.67	57	261111	1.603	ppbv #	45
29) Chloroform	5.73	83	20338	0.087	ppbv	92
34) 2-Butanone	5.23	43	47872	0.316	ppbv #	85
35) Carbon Tetrachloride	6.99	117	4798	0.022	ppbv	86
36) Benzene	6.86	78	26457	0.082	ppbv #	91
39) 1,2-Dichloropropane	7.15	63	866466	7.180	ppbv #	29
41) Tetrahydrofuran	6.03	42	4668	0.063	ppbv #	36
50) 4-Methyl-2-Pentanone	8.73	43	8530	0.043	ppbv #	38
52) Tetrachloroethene	11.20	164	802720	6.431	ppbv	96
53) Toluene	9.78	91	49803	0.140	ppbv #	20
58) Ethyl Benzene	12.69	91	60178	0.138	ppbv	91
59) m/p-Xylene	12.98	91	54754	0.146	ppbv #	30
60) o-Xylene	13.66	91	10065	0.028	ppbv #	1
74) 1,2,4-Trimethylbenzene	16.72	105	22048	0.057	ppbv #	59
75) 1,3-Dichlorobenzene	16.97	146	17067	0.071	ppbv #	1
79) Naphthalene	22.17	128	16678	0.070	ppbv	98

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



#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.65 min Scan# 889

Delta R.T. -0.02 min

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C0P27

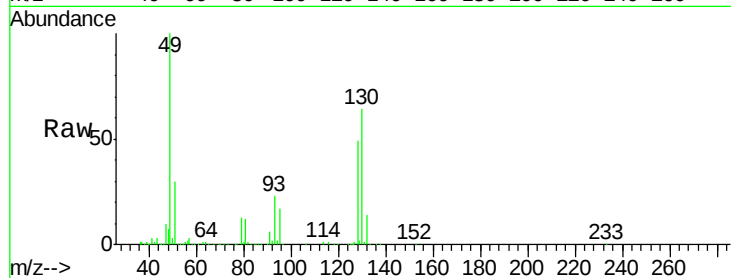
Tgt Ion: 49 Resp: 1313584

Ion Ratio Lower Upper

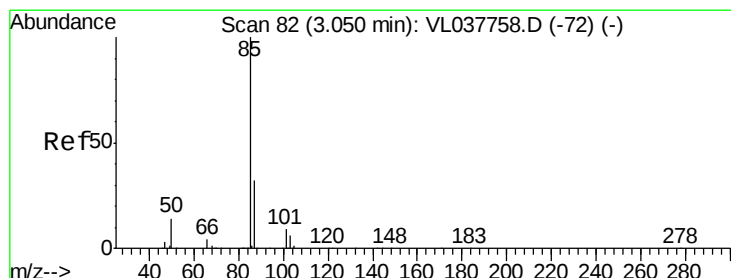
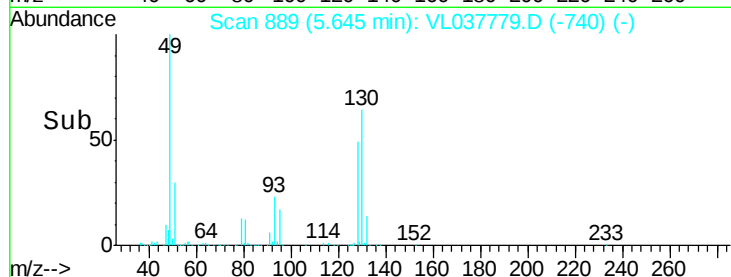
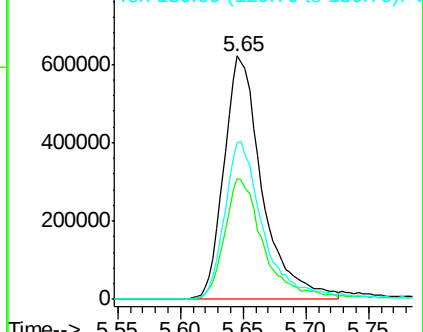
49 100

128 52.3 27.1 81.3

130 67.7 33.2 99.6



Abundance Ion 49.10 (48.80 to 49.80): VL0
Ion 128.00 (127.70 to 128.70): V
Ion 130.00 (129.70 to 130.70): V



#2

Dichlorodifluoromethane

Concen: 0.199 ppbv

RT: 3.04 min Scan# 78

Delta R.T. -0.01 min

Lab File: VL037779.D

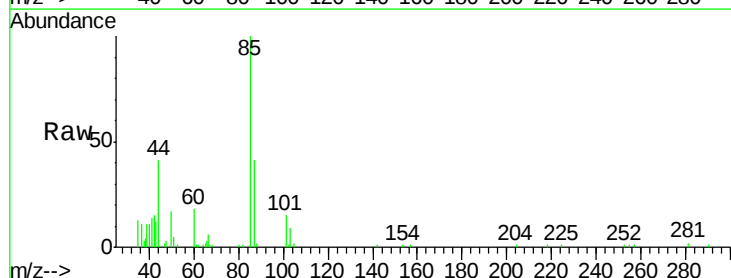
Acq: 5 Oct 2021 18:37

Tgt Ion: 85 Resp: 41791

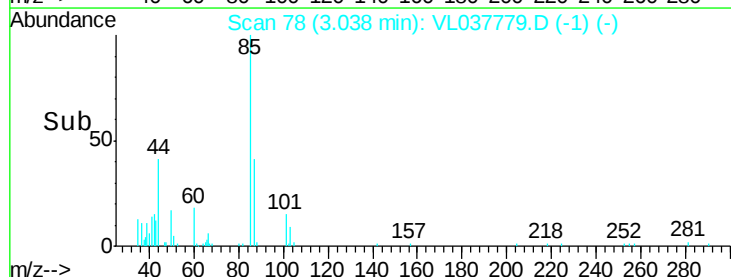
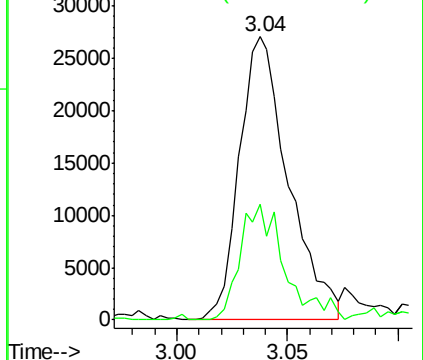
Ion Ratio Lower Upper

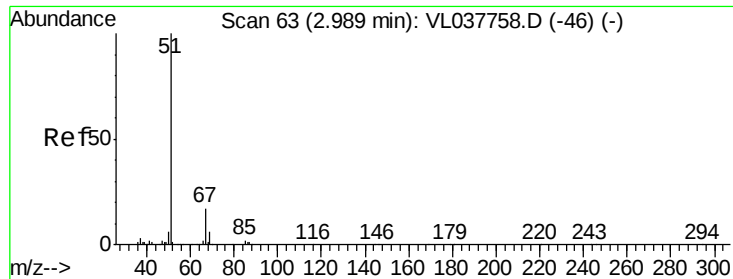
85 100

87 40.7 25.7 38.5#



Abundance Ion 85.00 (84.70 to 85.70): VL0
Ion 87.00 (86.70 to 87.70): VL0





#3

Chlorodifluoromethane

Concen: 0.232 ppbv

RT: 2.98 min Scan# 60

Delta R.T. -0.01 min

Lab File: VL037779.D

Acq: 5 Oct 2021 18:37

Instrument :

MSVOA_L

ClientSampleId :

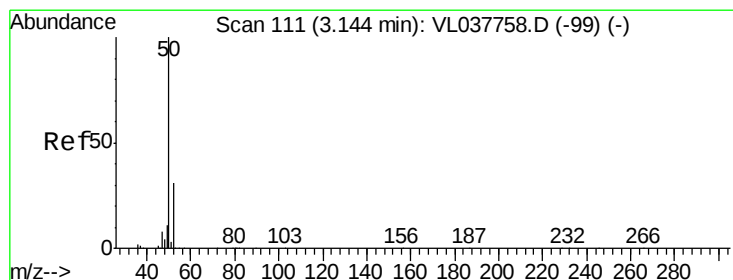
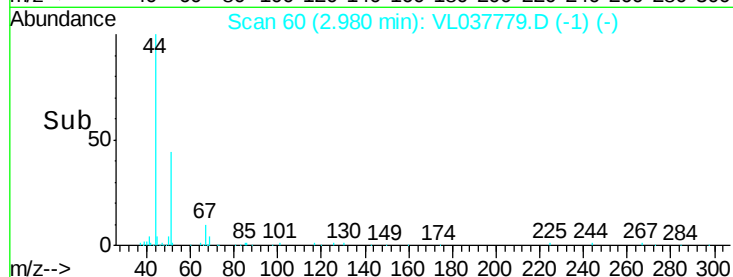
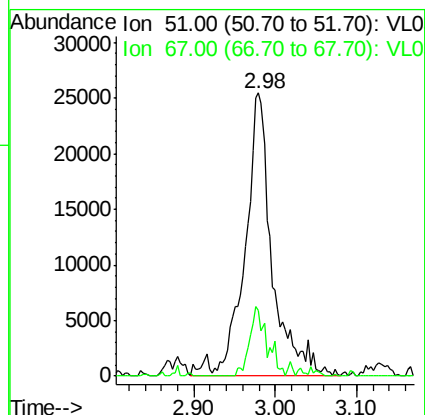
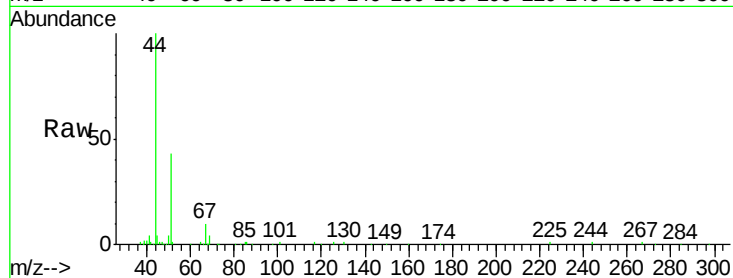
C0P27

Tgt Ion: 51 Resp: 58557

Ion Ratio Lower Upper

51 100

67 15.6 13.5 20.3



#4

Chloromethane

Concen: 0.208 ppbv

RT: 3.13 min Scan# 107

Delta R.T. -0.01 min

Lab File: VL037779.D

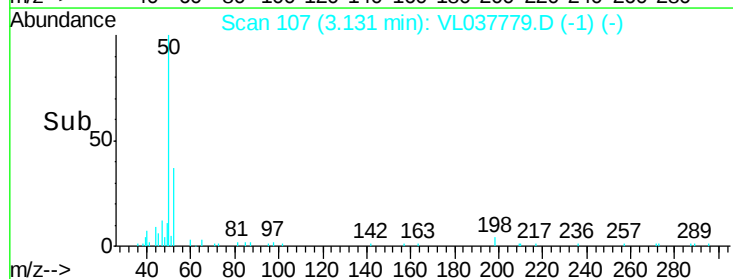
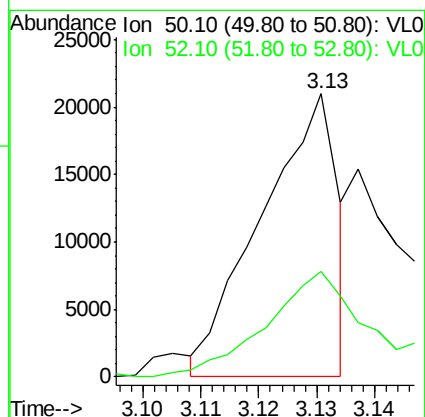
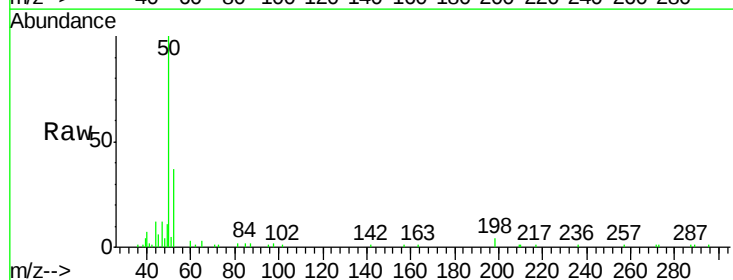
Acq: 5 Oct 2021 18:37

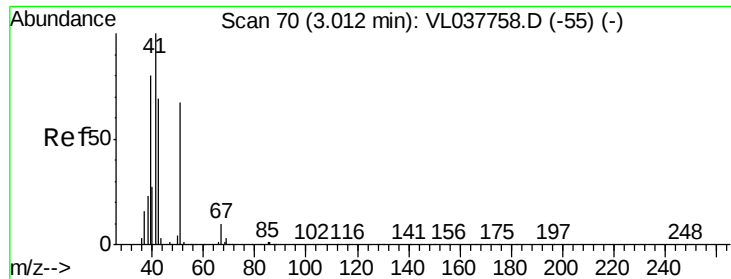
Tgt Ion: 50 Resp: 19198

Ion Ratio Lower Upper

50 100

52 37.9 24.4 36.6#





#9

Propene

Concen: 0.425 ppbv

RT: 3.01 min Scan# 69

Delta R.T. -0.00 min

Lab File: VL037779.D

Acq: 5 Oct 2021 18:37

Instrument :

MSVOA_L

ClientSampleId :

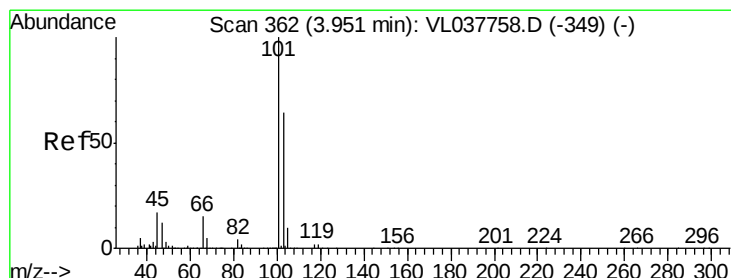
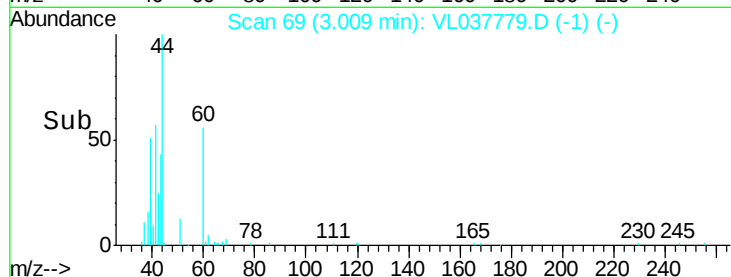
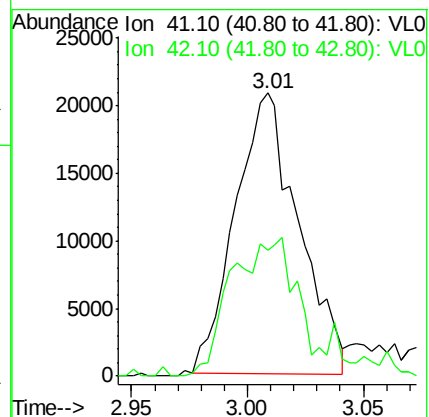
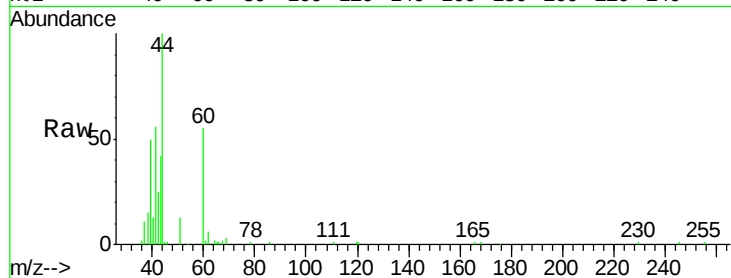
C0P27

Tgt Ion: 41 Resp: 39503

Ion Ratio Lower Upper

41 100

42 61.0 54.2 81.2



#11

Trichlorofluoromethane

Concen: 0.106 ppbv

RT: 3.93 min Scan# 357

Delta R.T. -0.02 min

Lab File: VL037779.D

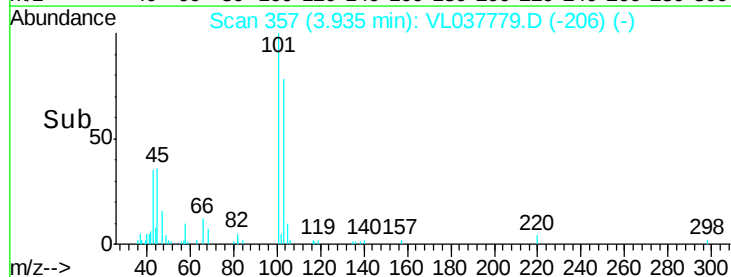
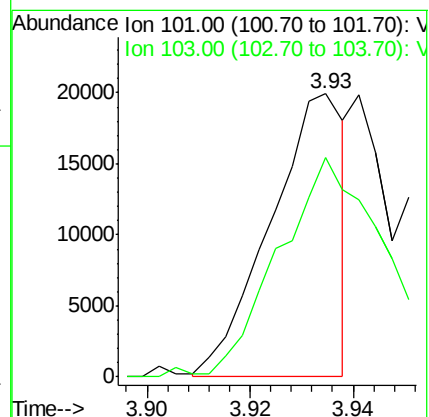
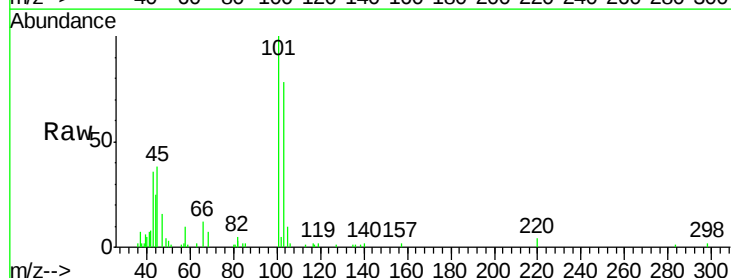
Acq: 5 Oct 2021 18:37

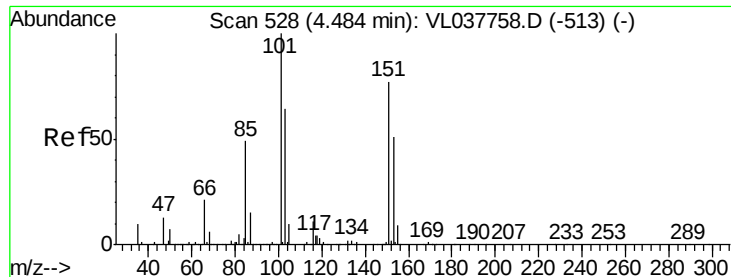
Tgt Ion: 101 Resp: 19796

Ion Ratio Lower Upper

101 100

103 77.3 51.5 77.3





#12

1,1,2-Trichlorotrifluoroethane

Concen: 0.040 ppbv

RT: 4.47 min Scan# 522

Delta R.T. -0.02 min

Lab File: VL037779.D

Acq: 5 Oct 2021 18:37

Instrument :

MSVOA_L

ClientSampleId :

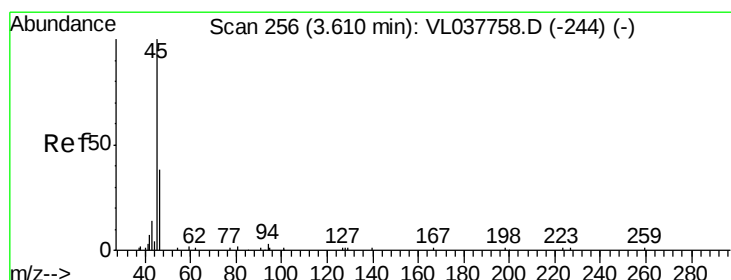
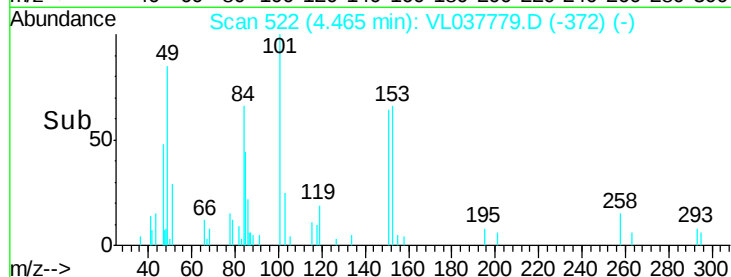
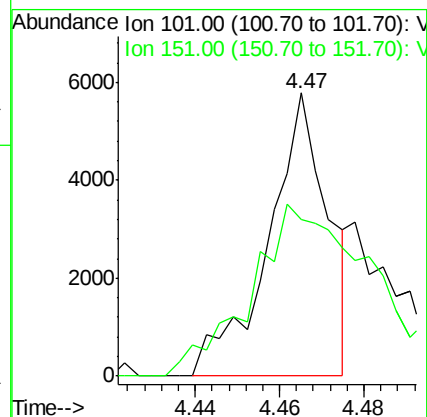
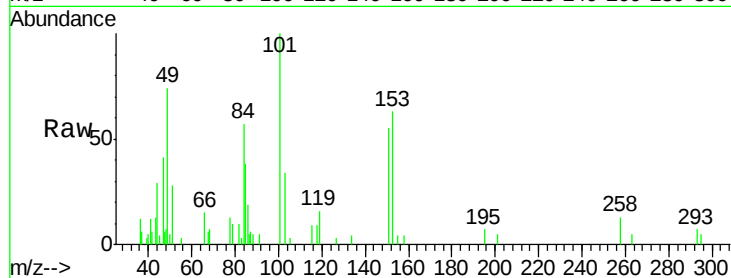
C0P27

Tgt Ion:101 Resp: 5683

Ion Ratio Lower Upper

101 100

151 133.9 62.9 94.3#



#13

Ethanol

Concen: 34.250 ppbv

RT: 3.59 min Scan# 251

Delta R.T. -0.02 min

Lab File: VL037779.D

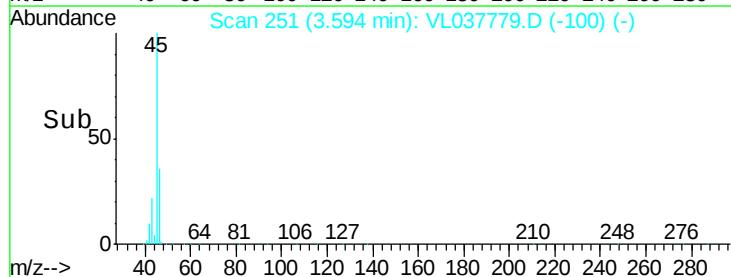
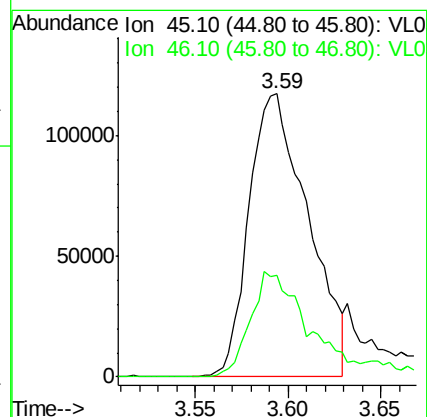
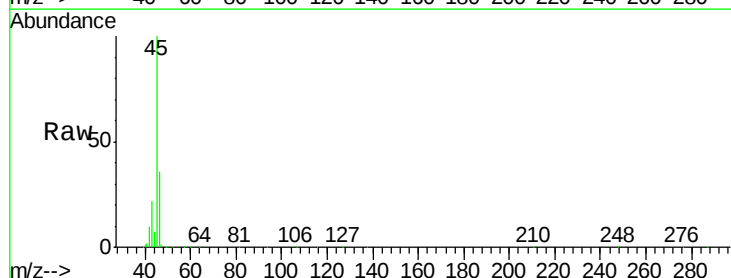
Acq: 5 Oct 2021 18:37

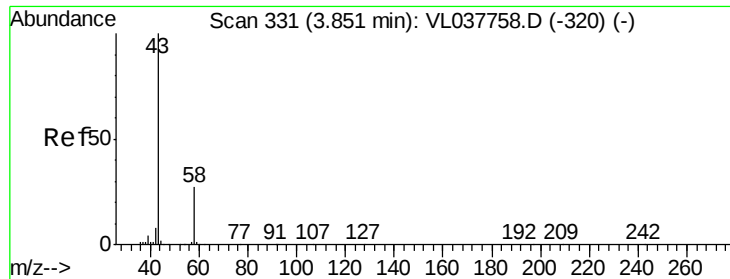
Tgt Ion: 45 Resp: 260121

Ion Ratio Lower Upper

45 100

46 41.1 20.2 81.0





#15

Acetone

Concen: 3.898 ppbv

RT: 3.83 min Scan# 326

Delta R.T. -0.02 min

Lab File: VL037779.D

Acq: 5 Oct 2021 18:37

Instrument :

MSVOA_L

ClientSampleId :

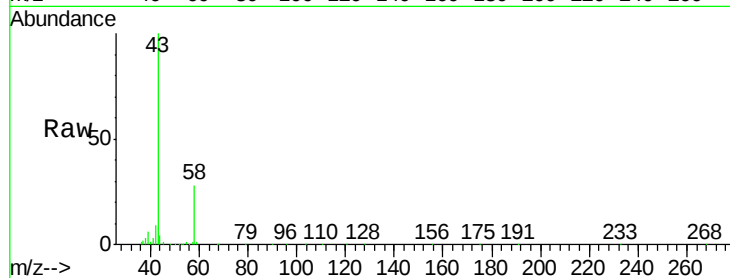
C0P27

Tgt Ion: 43 Resp: 459695

Ion Ratio Lower Upper

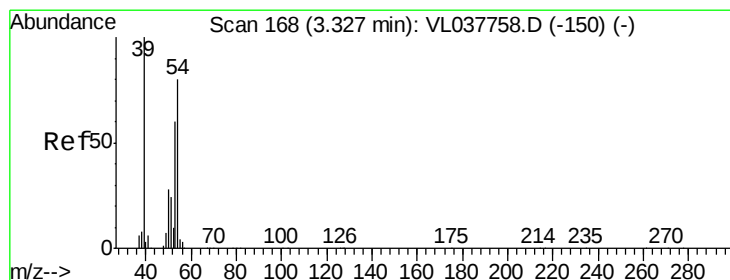
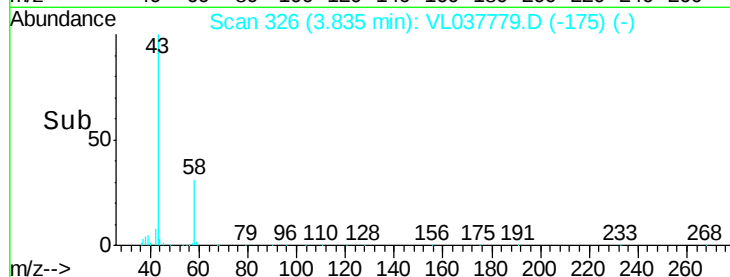
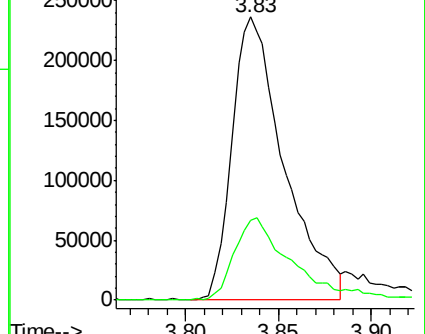
43 100

58 33.1 23.0 34.6



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 58.10 (57.80 to 58.80): VL0



#16

1,3-Butadiene

Concen: 0.106 ppbv

RT: 3.30 min Scan# 160

Delta R.T. -0.03 min

Lab File: VL037779.D

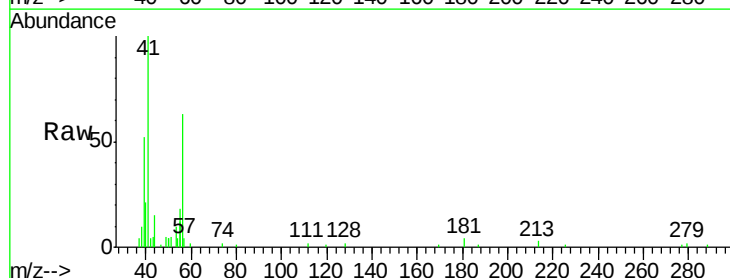
Acq: 5 Oct 2021 18:37

Tgt Ion: 39 Resp: 9088

Ion Ratio Lower Upper

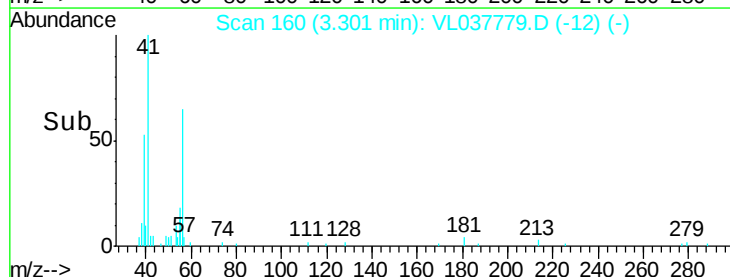
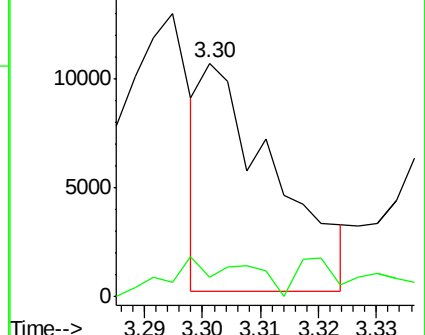
39 100

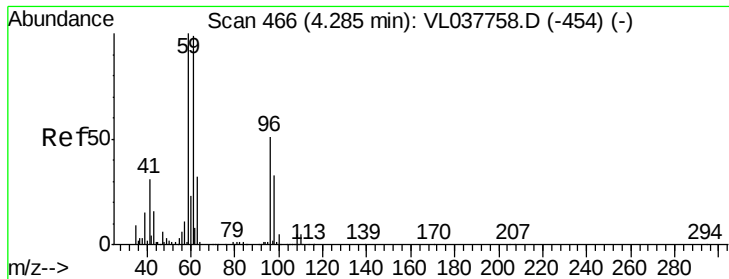
54 42.1 61.7 92.5#



Abundance Ion 39.10 (38.80 to 39.80): VL0

Ion 54.10 (53.80 to 54.80): VL0





#17

tert-Butyl alcohol

Concen: 0.021 ppbv

RT: 4.28 min Scan# 464

Delta R.T. -0.01 min

Lab File: VL037779.D

Acq: 5 Oct 2021 18:37

Instrument :

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ClientSampleId :

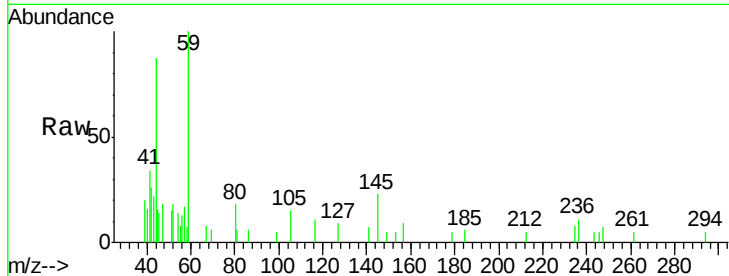
C0P27

Tgt Ion: 59 Resp: 2595

Ion Ratio Lower Upper

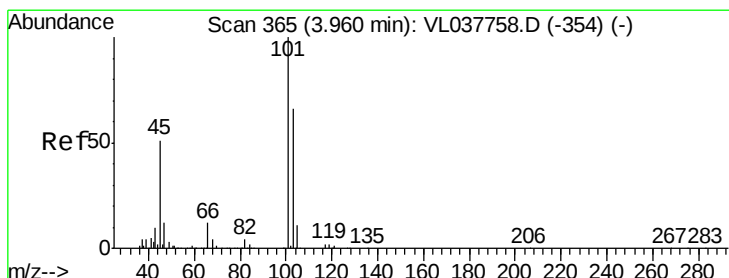
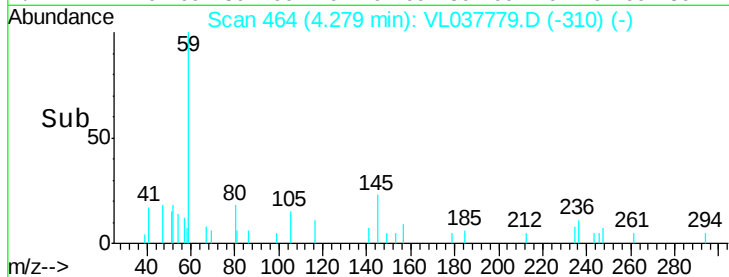
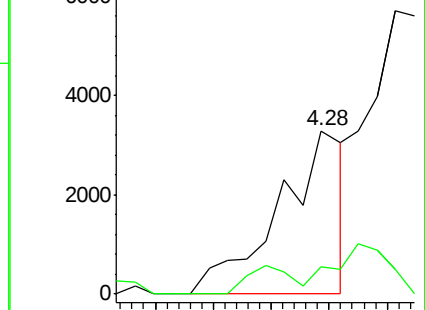
59 100

57 0.0 8.6 13.0#



Abundance Ion 59.10 (58.80 to 59.80): VL0

Ion 57.10 (56.80 to 57.80): VL0



#19

Isopropyl Alcohol

Concen: 2.168 ppbv

RT: 3.96 min Scan# 365

Delta R.T. 0.00 min

Lab File: VL037779.D

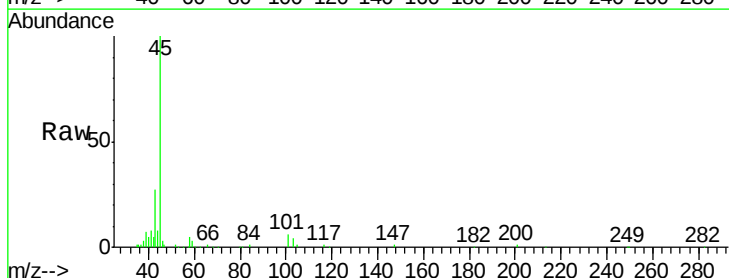
Acq: 5 Oct 2021 18:37

Tgt Ion: 45 Resp: 159016

Ion Ratio Lower Upper

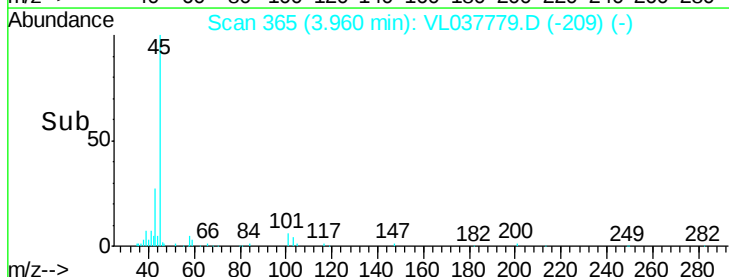
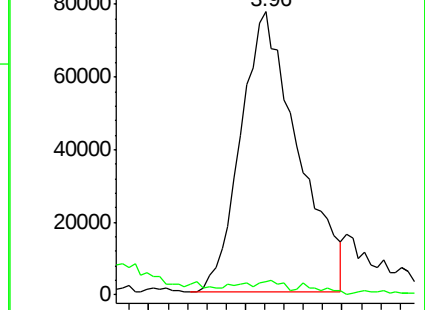
45 100

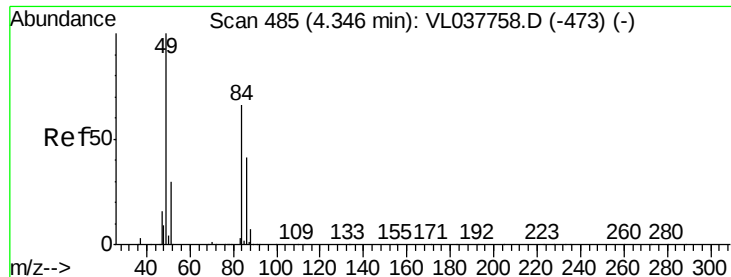
58 6.0 1.1 1.7#



Abundance Ion 45.10 (44.80 to 45.80): VL0

Ion 58.10 (57.80 to 58.80): VL0

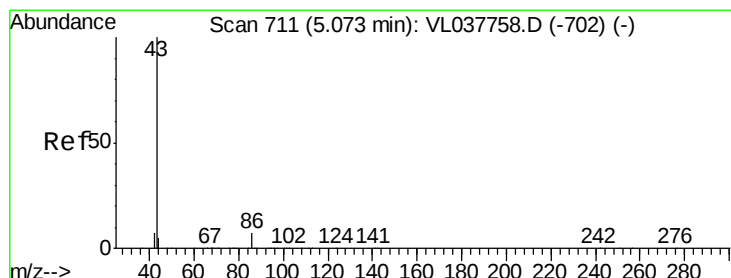
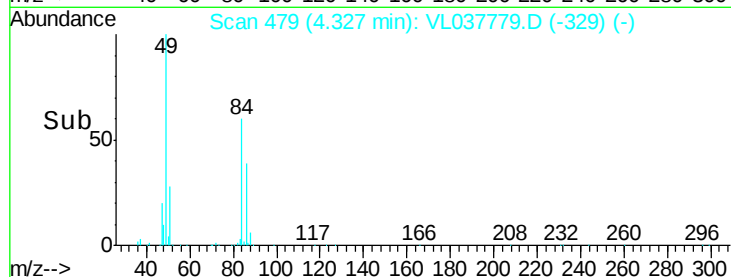
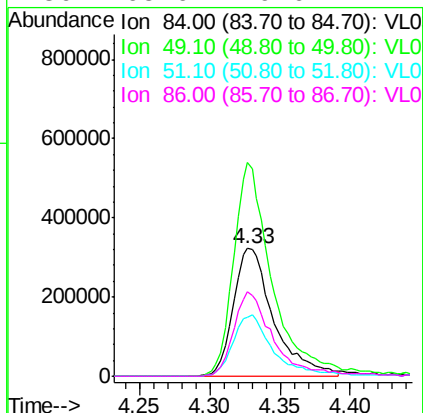
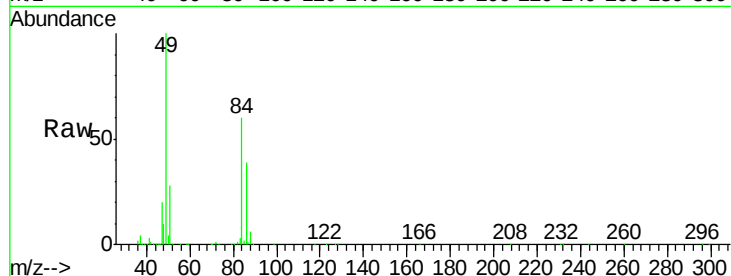




#20
Methylene Chloride
Concen: 10.859 ppbv
RT: 4.33 min Scan# 479
Delta R.T. -0.02 min
Lab File: VL037779.D
Acq: 5 Oct 2021 18:37

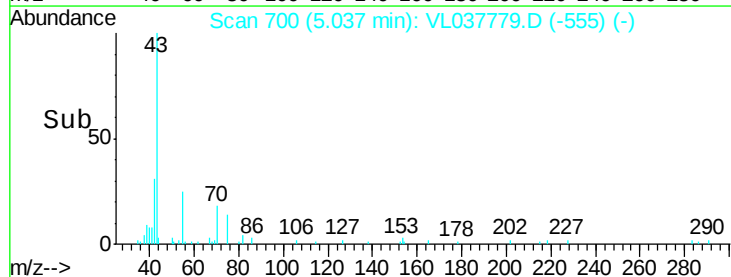
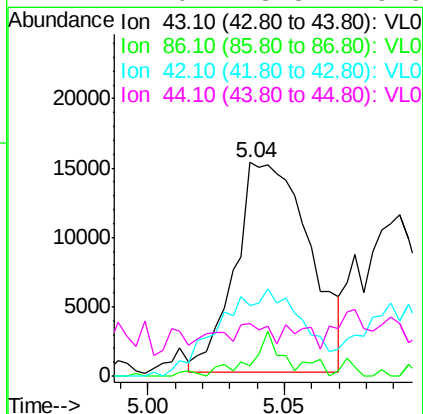
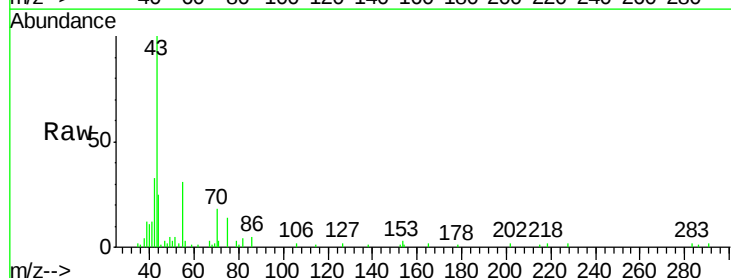
Instrument :
MSVOA_L
ClientSampleId :
C0P27

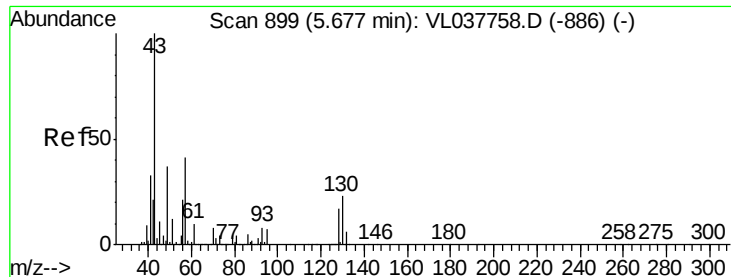
Tgt Ion:	84	Resp:	646967
Ion	Ratio	Lower	Upper
84	100		
49	166.9	120.7	181.1
51	46.2	36.2	54.4
86	65.6	49.6	74.4



#23
Vinyl Acetate
Concen: 0.163 ppbv
RT: 5.04 min Scan# 700
Delta R.T. -0.04 min
Lab File: VL037779.D
Acq: 5 Oct 2021 18:37

Tgt Ion:	43	Resp:	28785
Ion	Ratio	Lower	Upper
43	100		
86	2.6	5.0	7.4#
42	28.8	7.4	11.0#
44	11.0	3.8	5.6#

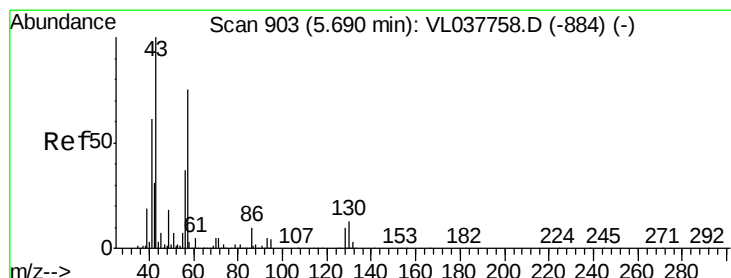
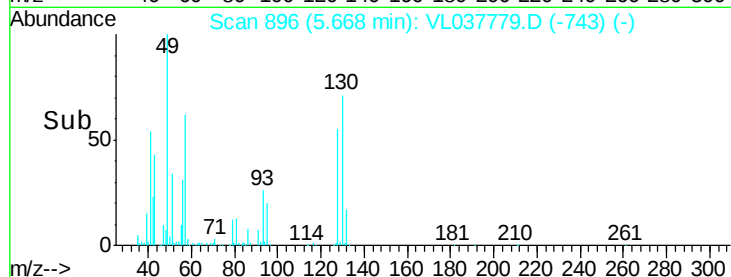
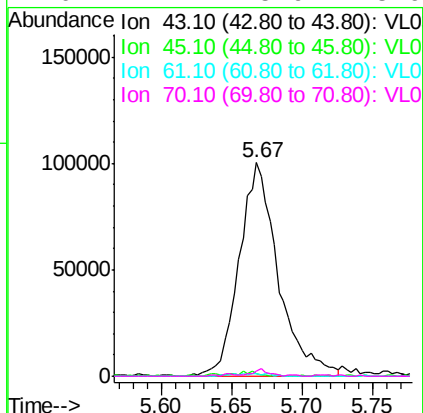
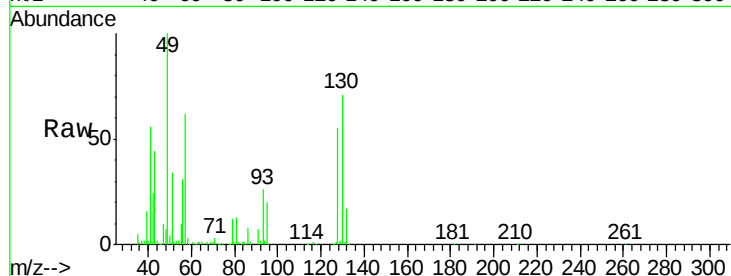




#25
Ethyl Acetate
Concen: 0.590 ppbv
RT: 5.67 min Scan# 896
Delta R.T. -0.01 min
Lab File: VL037779.D
Acq: 5 Oct 2021 18:37

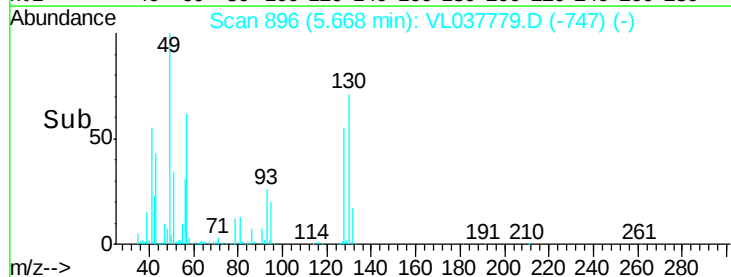
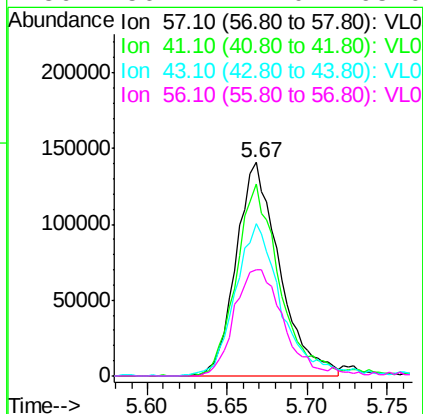
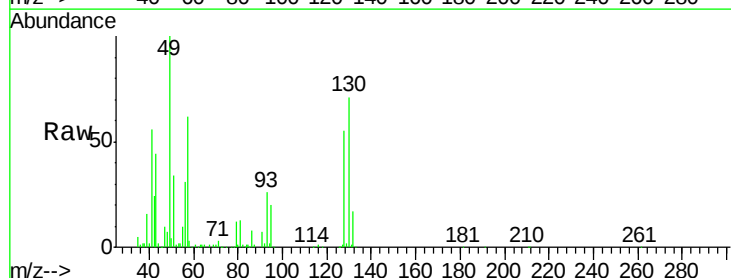
Instrument :
MSVOA_L
ClientSampleId :
C0P27

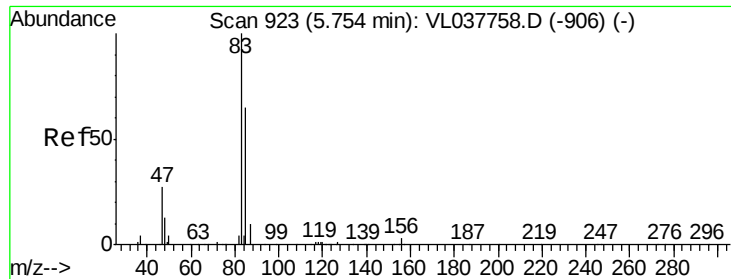
Tgt Ion:	43	Resp:	195133
Ion	Ratio	Lower	Upper
43	100		
45	2.0	8.1	12.1#
61	1.1	7.5	11.3#
70	2.2	5.9	8.9#



#26
Hexane
Concen: 1.603 ppbv
RT: 5.67 min Scan# 896
Delta R.T. -0.02 min
Lab File: VL037779.D
Acq: 5 Oct 2021 18:37

Tgt Ion:	57	Resp:	261111
Ion	Ratio	Lower	Upper
57	100		
41	92.4	69.6	104.4
43	77.2	171.4	257.0#
56	56.7	42.0	63.0





#29

Chloroform

Concen: 0.087 ppbv

RT: 5.73 min Scan# 915

Delta R.T. -0.03 min

Lab File: VL037779.D

Acq: 5 Oct 2021 18:37

Instrument :

MSVOA_L

ClientSampleId :

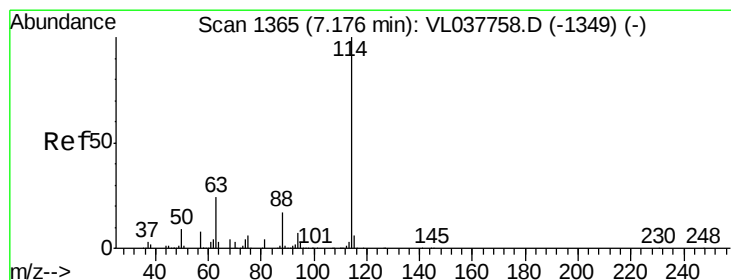
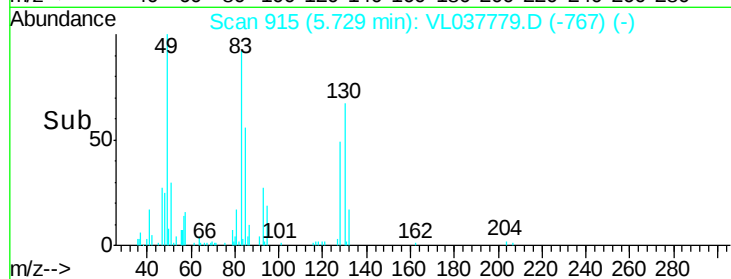
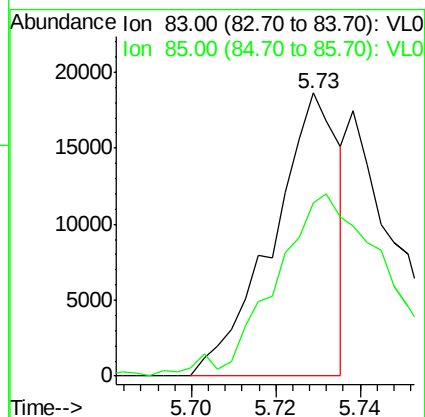
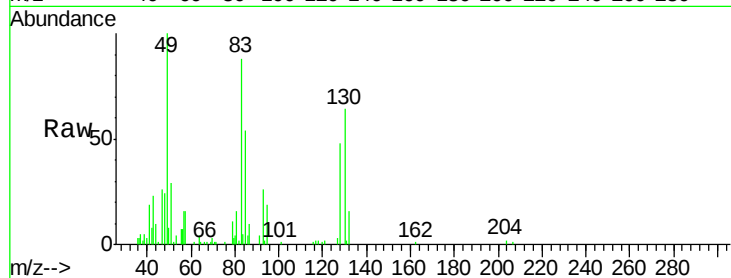
C0P27

Tgt Ion: 83 Resp: 20338

Ion Ratio Lower Upper

83 100

85 58.7 51.8 77.8



#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 7.15 min Scan# 1358

Delta R.T. -0.02 min

Lab File: VL037779.D

Acq: 5 Oct 2021 18:37

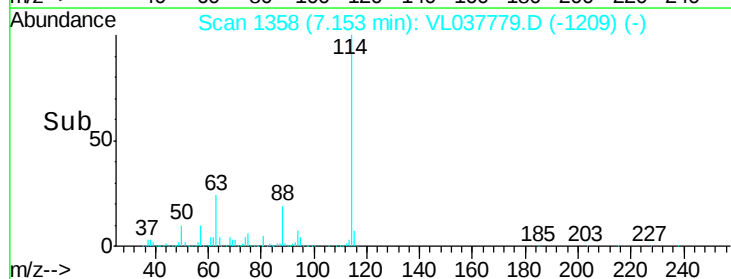
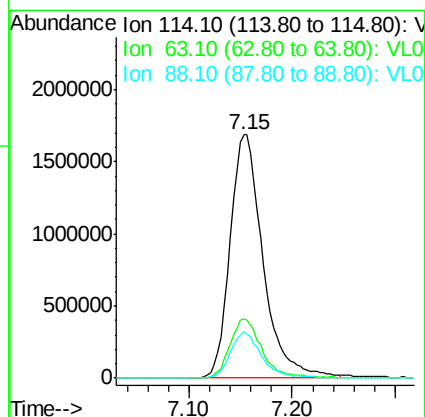
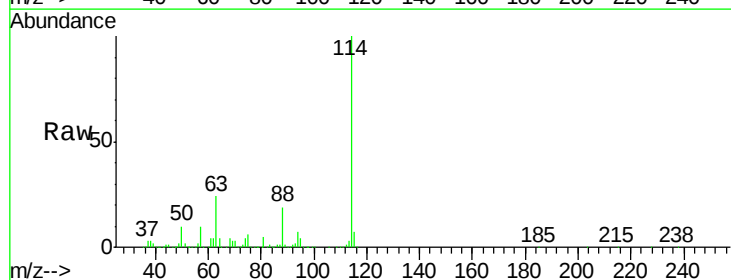
Tgt Ion: 114 Resp: 3756449

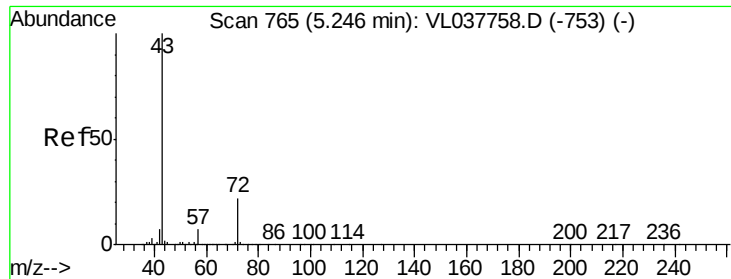
Ion Ratio Lower Upper

114 100

63 23.9 19.4 29.2

88 18.2 14.4 21.6

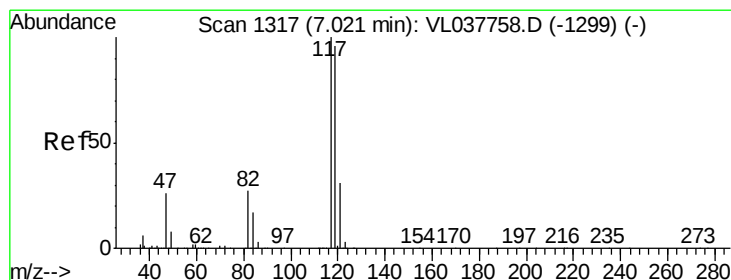
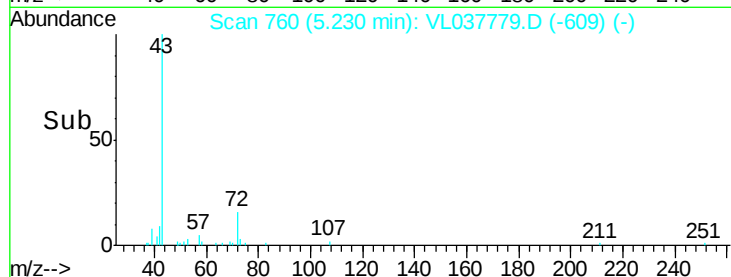
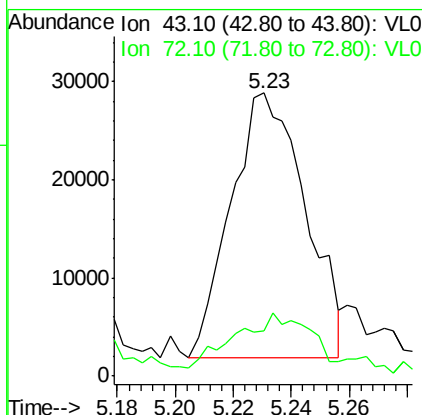
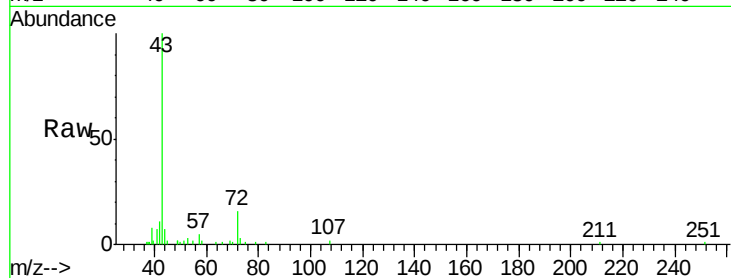




#34
 2-Butanone
 Concen: 0.316 ppbv
 RT: 5.23 min Scan# 760
 Delta R.T. -0.02 min
 Lab File: VL037779.D
 Acq: 5 Oct 2021 18:37

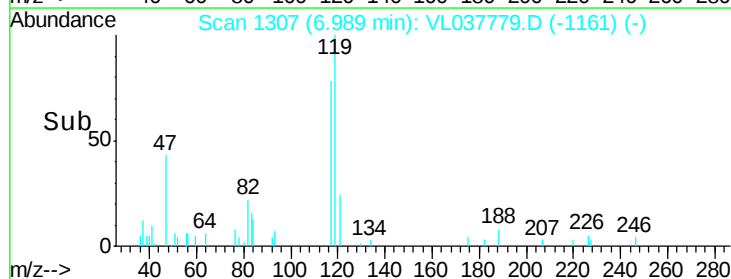
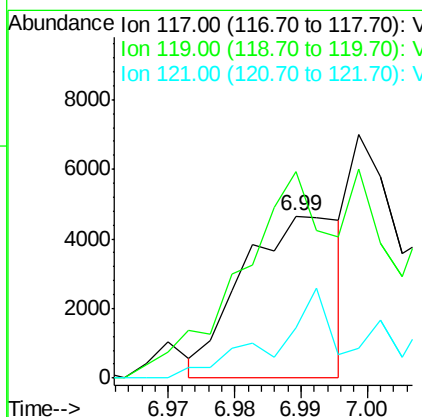
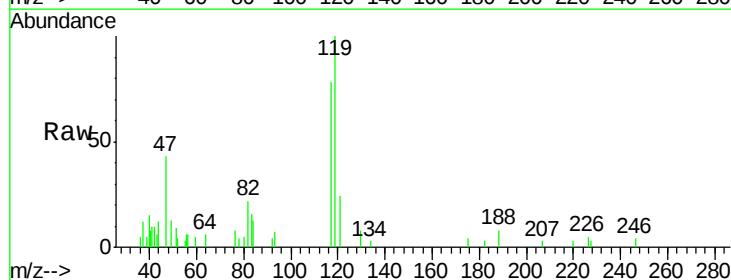
Instrument :
 MSVOA_L
 ClientSampleId :
 C0P27

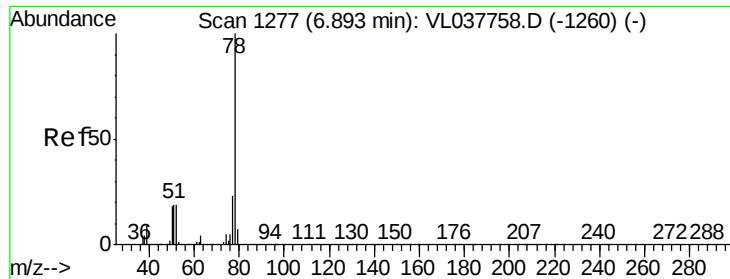
Tgt Ion: 43 Resp: 47872
 Ion Ratio Lower Upper
 43 100
 72 30.1 18.2 27.2#



#35
 Carbon Tetrachloride
 Concen: 0.022 ppbv
 RT: 6.99 min Scan# 1307
 Delta R.T. -0.03 min
 Lab File: VL037779.D
 Acq: 5 Oct 2021 18:37

Tgt Ion: 117 Resp: 4798
 Ion Ratio Lower Upper
 117 100
 119 112.0 76.5 114.7
 121 27.6 24.9 37.3





#36

Benzene

Concen: 0.082 ppbv

RT: 6.86 min Scan# 1268

Delta R.T. -0.03 min

Lab File: VL037779.D

Acq: 5 Oct 2021 18:37

Instrument :

MSVOA_L

ClientSampleId :

C0P27

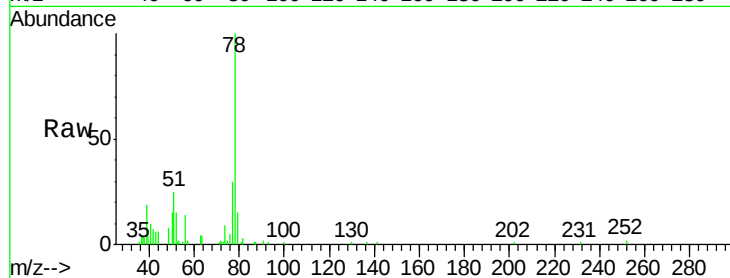
Tgt Ion: 78 Resp: 26457

Ion Ratio Lower Upper

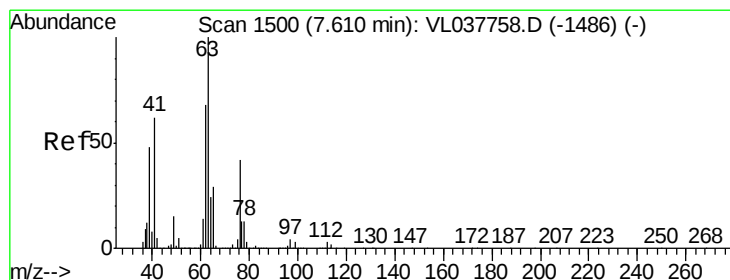
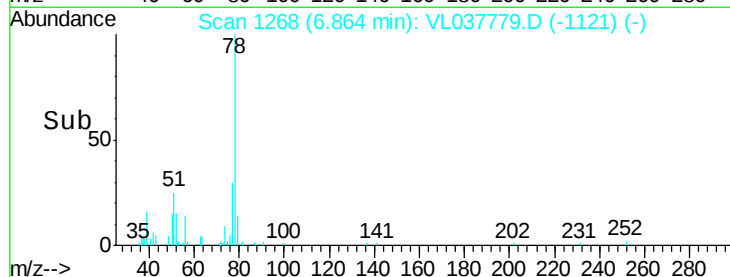
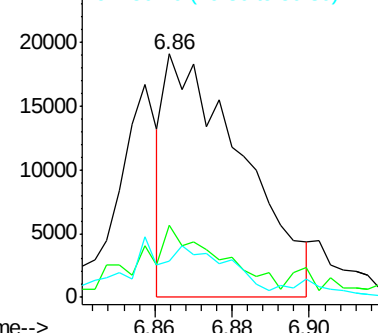
78 100

77 22.8 18.8 28.2

50 9.7 14.7 22.1#



Abundance Ion 78.10 (77.80 to 78.80): VL0
Ion 77.10 (76.80 to 77.80): VL0
Ion 50.10 (49.80 to 50.80): VL0



#39

1,2-Dichloropropane

Concen: 7.180 ppbv

RT: 7.15 min Scan# 1358

Delta R.T. -0.46 min

Lab File: VL037779.D

Acq: 5 Oct 2021 18:37

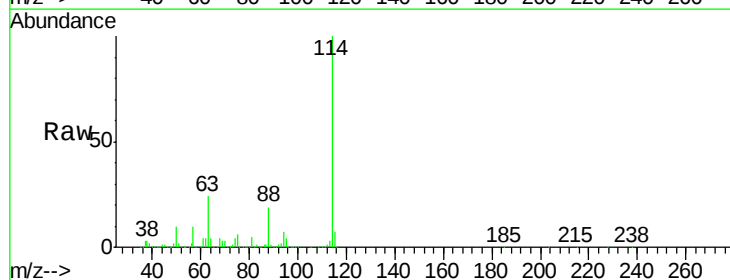
Tgt Ion: 63 Resp: 866466

Ion Ratio Lower Upper

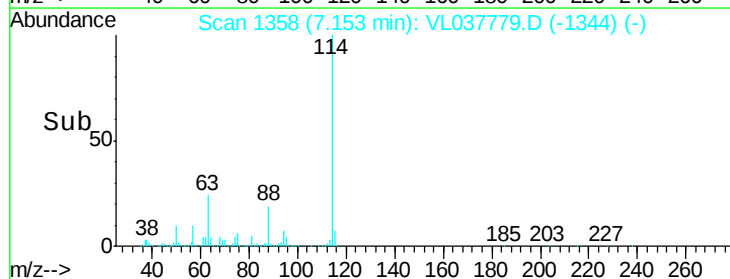
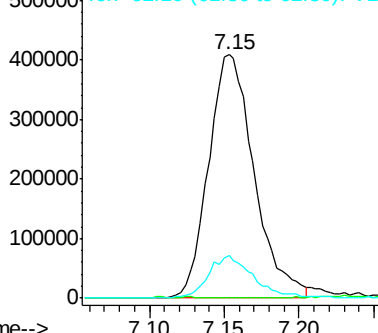
63 100

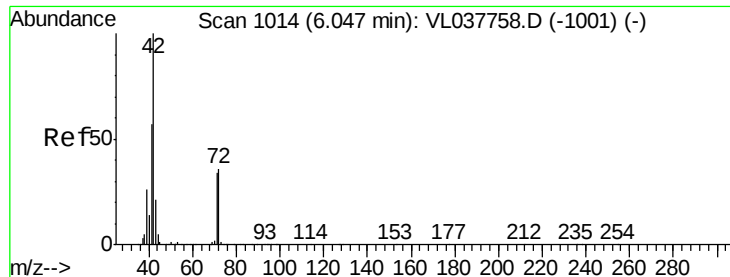
41 0.0 49.8 74.6#

62 17.3 54.6 82.0#



Abundance Ion 63.10 (62.80 to 63.80): VL0
Ion 41.10 (40.80 to 41.80): VL0
Ion 62.10 (61.80 to 62.80): VL0





#41

Tetrahydrofuran

Concen: 0.063 ppbv

RT: 6.03 min Scan# 1009

Delta R.T. -0.02 min

Lab File: VL037779.D

Acq: 5 Oct 2021 18:37

Instrument :

MSVOA_L

ClientSampleId :

C0P27

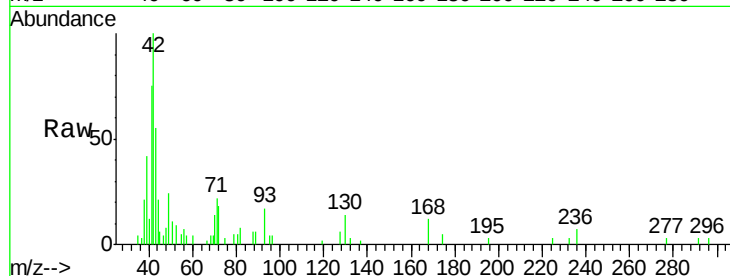
Tgt Ion: 42 Resp: 4668

Ion Ratio Lower Upper

42 100

72 0.0 31.9 47.9#

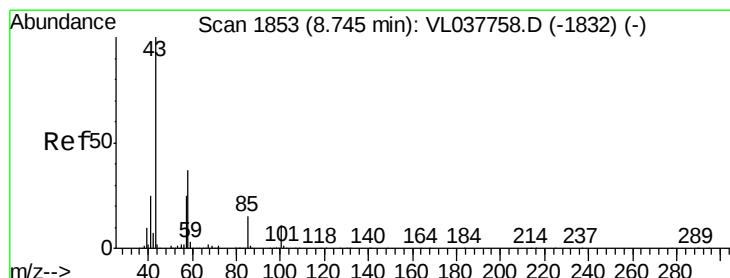
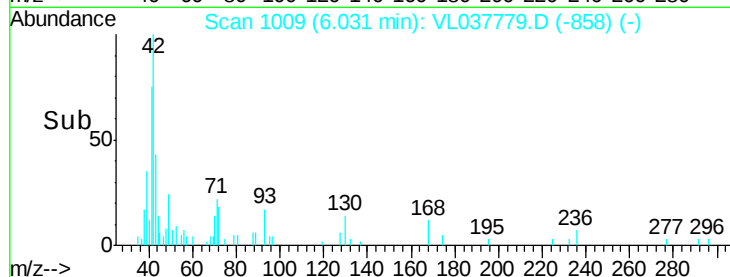
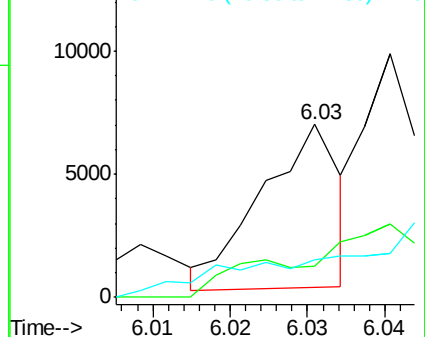
71 0.0 30.3 45.5#



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



#50

4-Methyl-2-Pentanone

Concen: 0.043 ppbv

RT: 8.73 min Scan# 1847

Delta R.T. -0.02 min

Lab File: VL037779.D

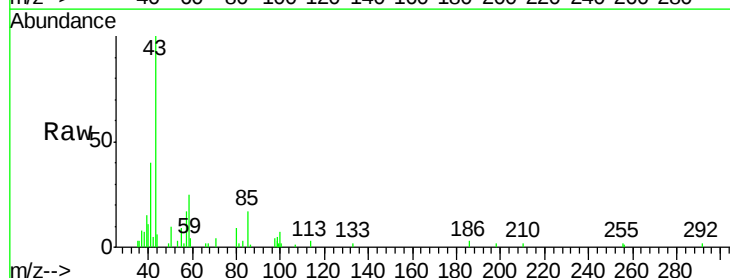
Acq: 5 Oct 2021 18:37

Tgt Ion: 43 Resp: 8530

Ion Ratio Lower Upper

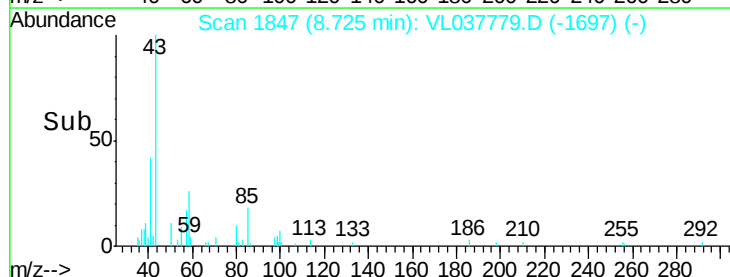
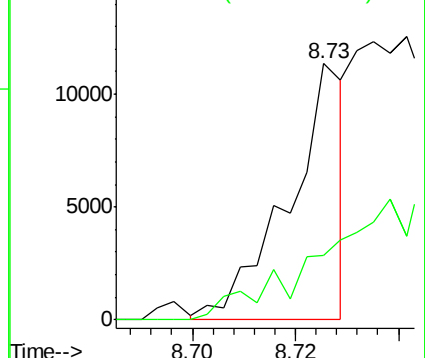
43 100

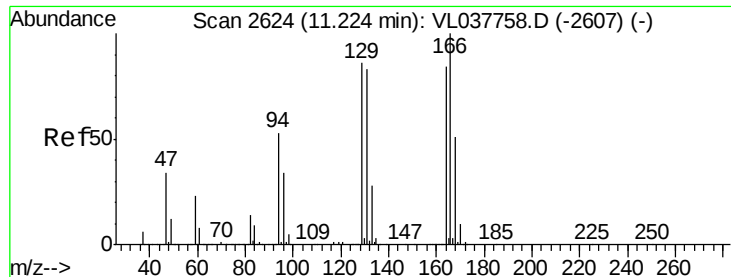
58 0.0 29.4 44.0#



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 58.10 (57.80 to 58.80): VL0





#52

Tetrachloroethene

Concen: 6.431 ppbv

RT: 11.20 min Scan# 2616

Delta R.T. -0.03 min

Lab File: VL037779.D

Acq: 5 Oct 2021 18:37

Instrument :

MSVOA_L

ClientSampleId :

C0P27

Tgt Ion:164 Resp: 802720

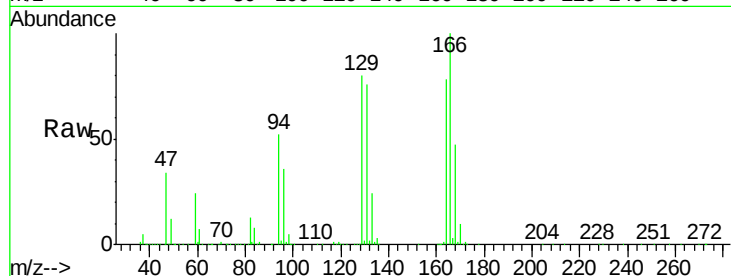
Ion Ratio Lower Upper

164 100

166 128.4 95.4 143.2

129 102.2 82.2 123.4

131 98.0 79.4 119.2

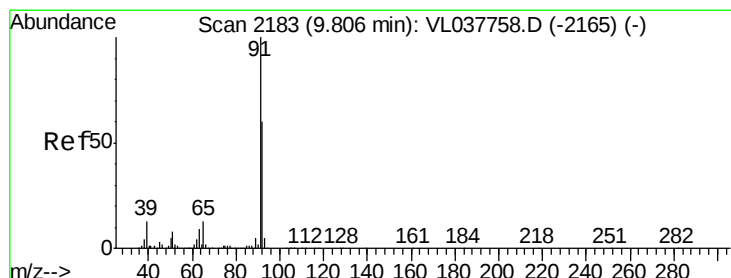
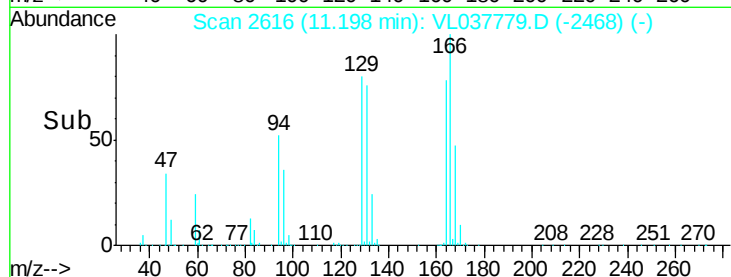
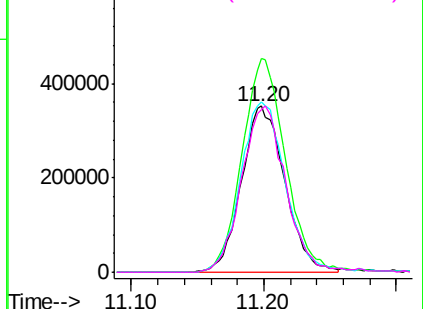


Abundance Ion 163.90 (163.60 to 164.60): V

Ion 165.90 (165.60 to 166.60): V

Ion 129.00 (128.70 to 129.70): V

Ion 131.00 (130.70 to 131.70): V



#53

Toluene

Concen: 0.140 ppbv

RT: 9.78 min Scan# 2175

Delta R.T. -0.03 min

Lab File: VL037779.D

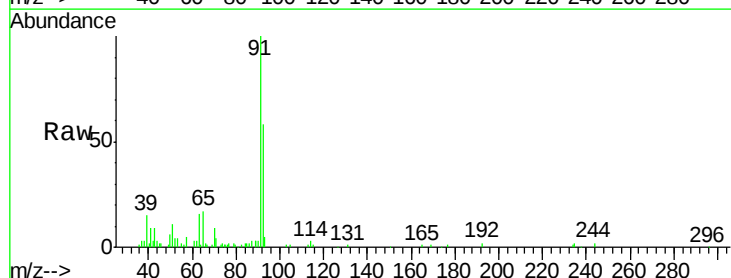
Acq: 5 Oct 2021 18:37

Tgt Ion: 91 Resp: 49803

Ion Ratio Lower Upper

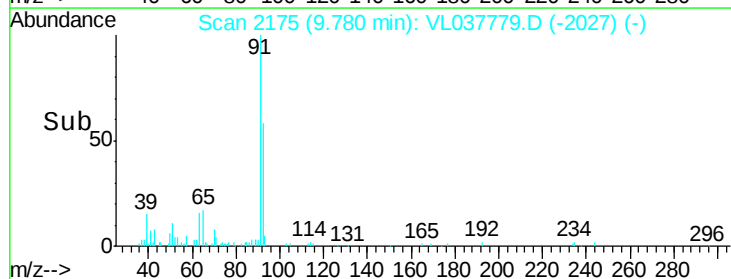
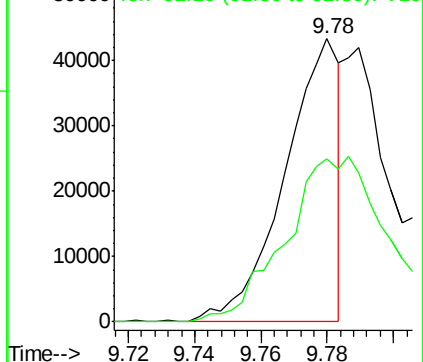
91 100

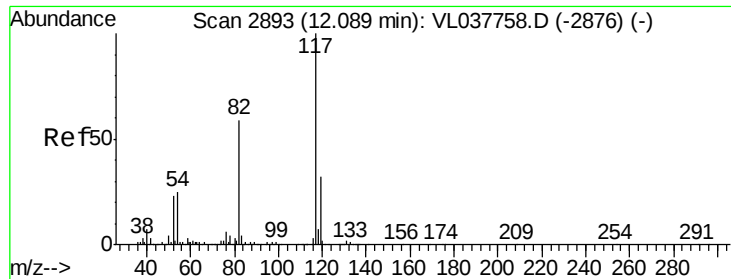
92 0.0 48.4 72.6#



Abundance Ion 91.10 (90.80 to 91.80): VL0

Ion 92.10 (91.80 to 92.80): VL0

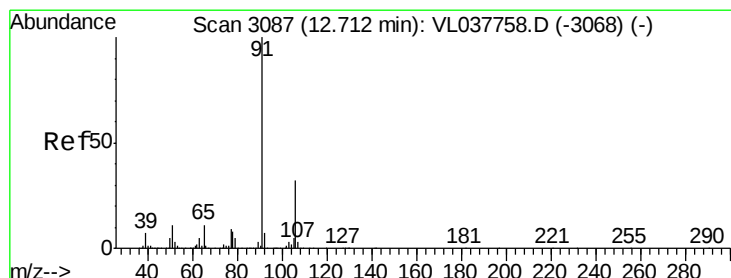
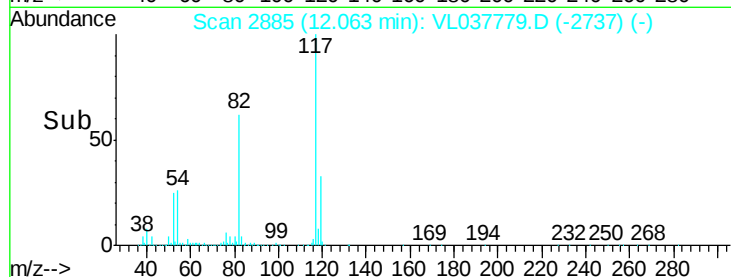
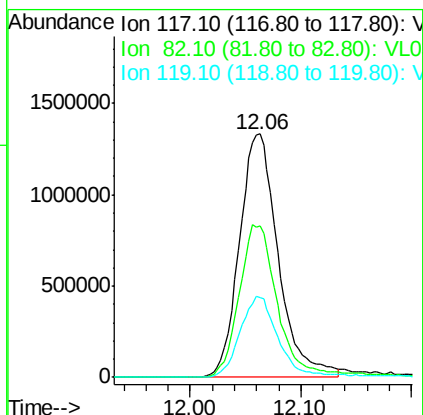
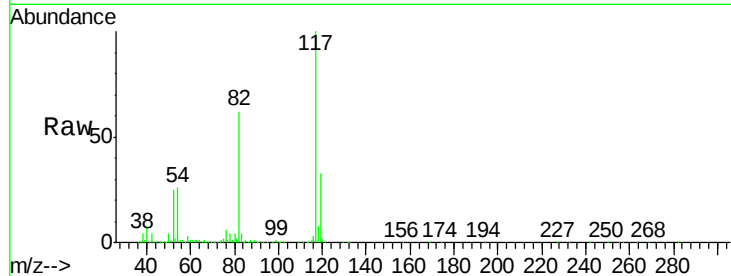




#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 12.06 min Scan# 2885
Delta R.T. -0.03 min
Lab File: VL037779.D
Acq: 5 Oct 2021 18:37

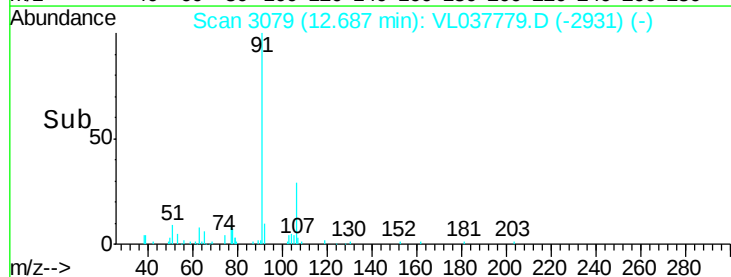
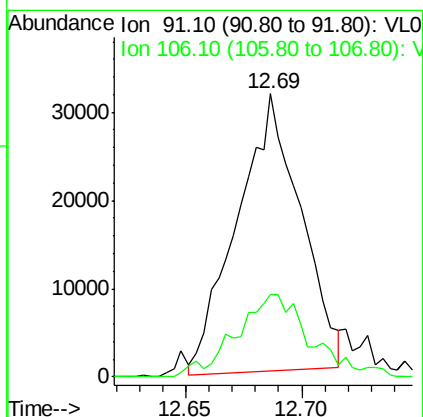
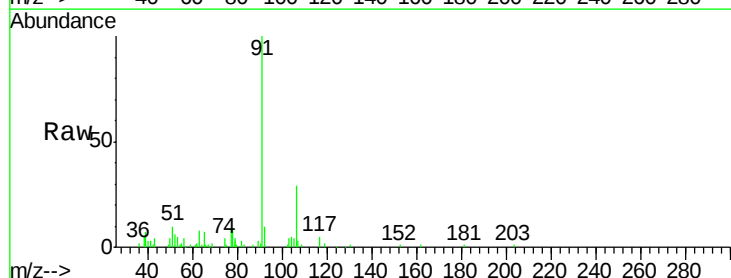
Instrument :
MSVOA_L
ClientSampleId :
C0P27

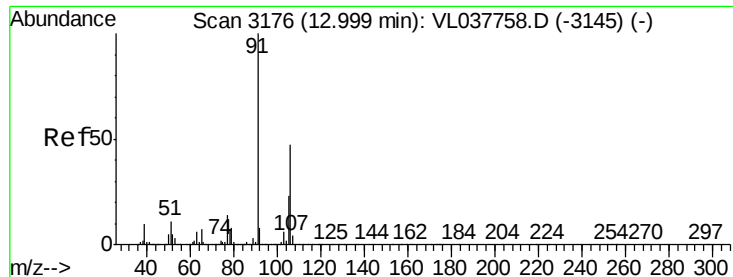
Tgt Ion: 117 Resp: 3258159
Ion Ratio Lower Upper
117 100
82 64.7 52.2 78.2
119 34.4 26.0 39.0



#58
Ethyl Benzene
Concen: 0.138 ppbv
RT: 12.69 min Scan# 3079
Delta R.T. -0.03 min
Lab File: VL037779.D
Acq: 5 Oct 2021 18:37

Tgt Ion: 91 Resp: 60178
Ion Ratio Lower Upper
91 100
106 26.5 25.3 37.9

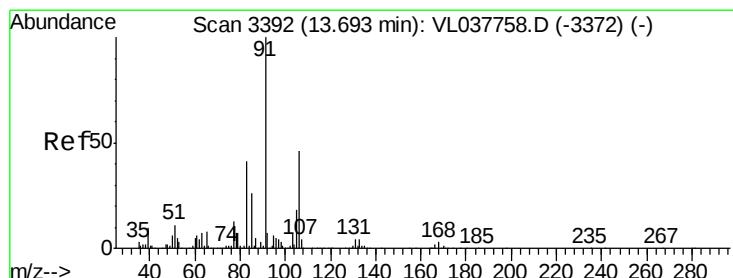
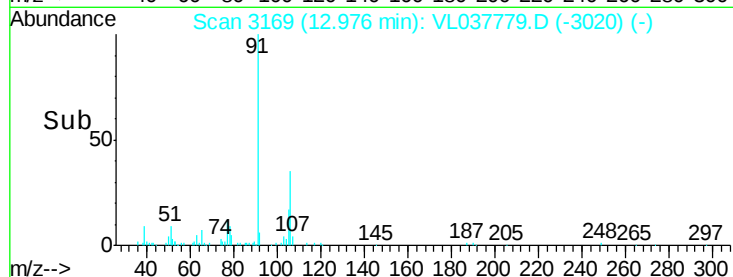
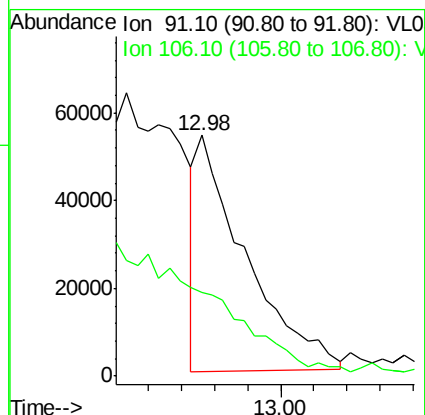
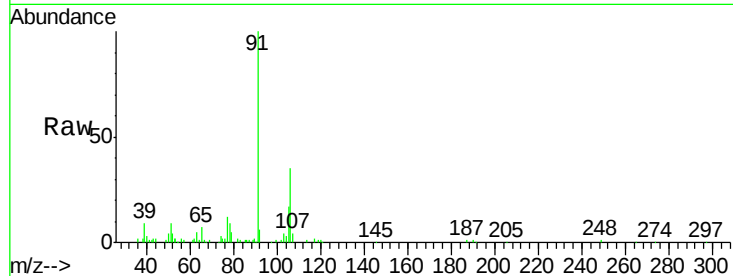




#59
m/p-Xylene
Concen: 0.146 ppbv
RT: 12.98 min Scan# 3169
Delta R.T. -0.02 min
Lab File: VL037779.D
Acq: 5 Oct 2021 18:37

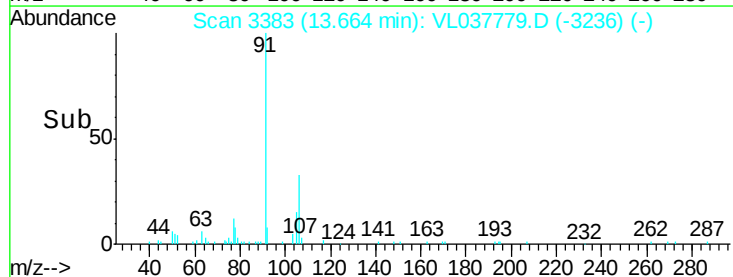
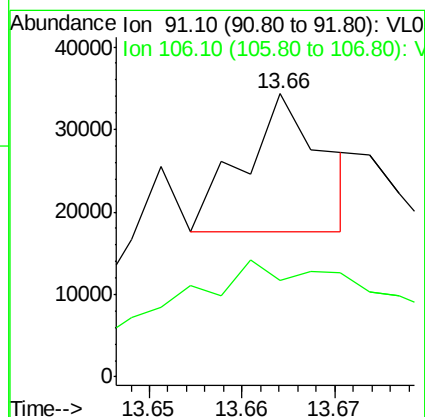
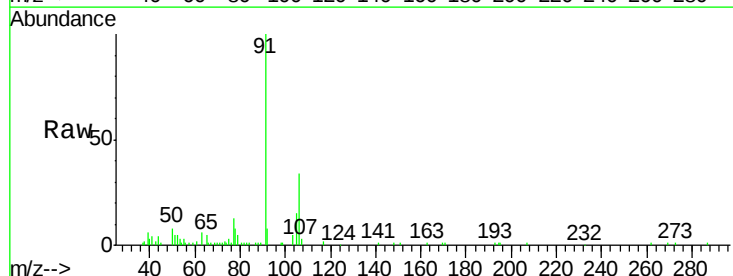
Instrument :
MSVOA_L
ClientSampled :
C0P27

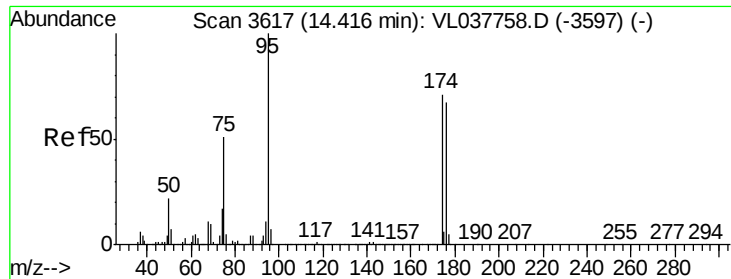
Tgt Ion: 91 Resp: 54754
Ion Ratio Lower Upper
91 100
106 0.0 36.7 55.1#



#60
o-Xylene
Concen: 0.028 ppbv
RT: 13.66 min Scan# 3383
Delta R.T. -0.03 min
Lab File: VL037779.D
Acq: 5 Oct 2021 18:37

Tgt Ion: 91 Resp: 10065
Ion Ratio Lower Upper
91 100
106 330.3 23.5 70.5#

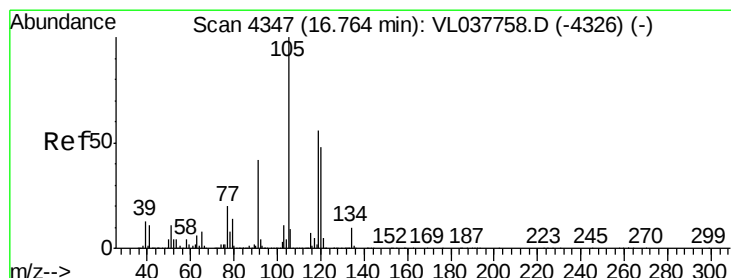
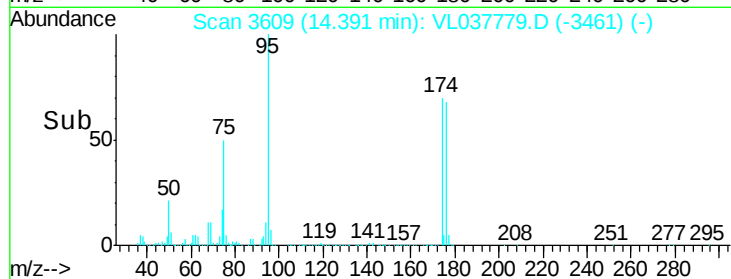
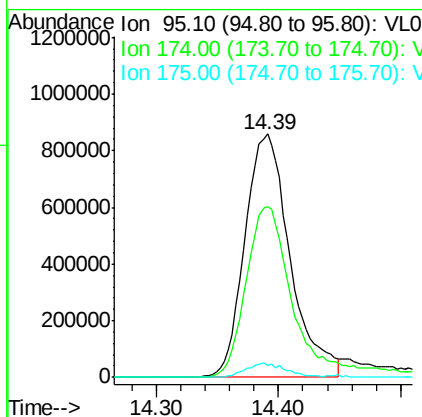
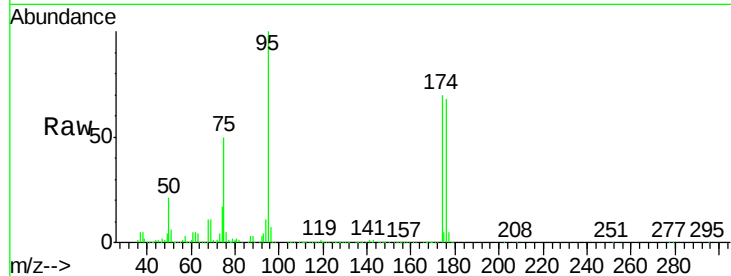




#68
 1-Bromo-4-Fluorobenzene
 Concen: 9.652 ppbv
 RT: 14.39 min Scan# 3609
 Delta R.T. -0.03 min
 Lab File: VL037779.D
 Acq: 5 Oct 2021 18:37

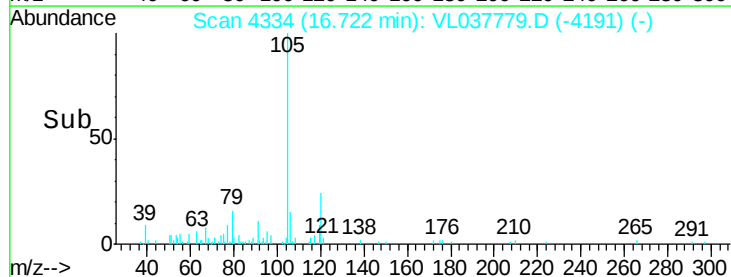
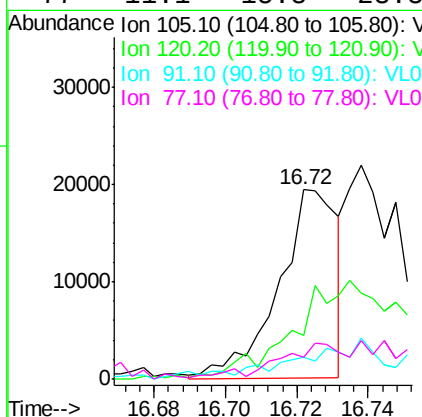
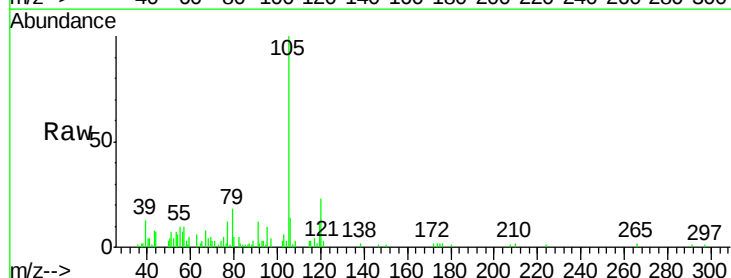
Instrument :
 MSVOA_L
 ClientSampleID :
 C0P27

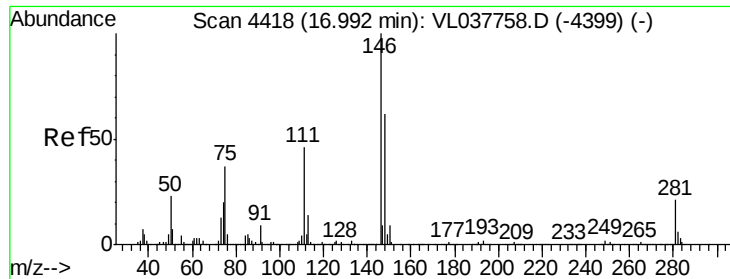
Tgt Ion: 95 Resp: 2199187
 Ion Ratio Lower Upper
 95 100
 174 76.7 57.8 86.6
 175 5.1 4.7 7.1



#74
 1,2,4-Trimethylbenzene
 Concen: 0.057 ppbv
 RT: 16.72 min Scan# 4334
 Delta R.T. -0.04 min
 Lab File: VL037779.D
 Acq: 5 Oct 2021 18:37

Tgt Ion: 105 Resp: 22048
 Ion Ratio Lower Upper
 105 100
 120 22.5 38.4 57.6#
 91 7.8 34.2 51.2#
 77 11.1 15.8 23.8#

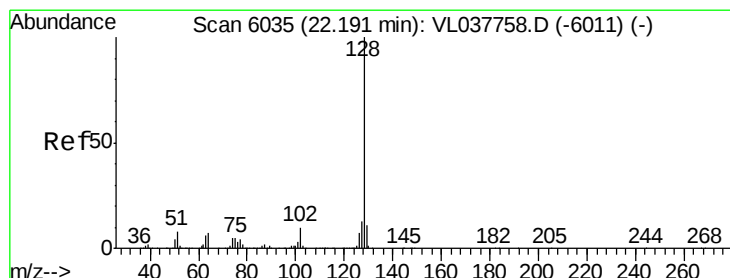
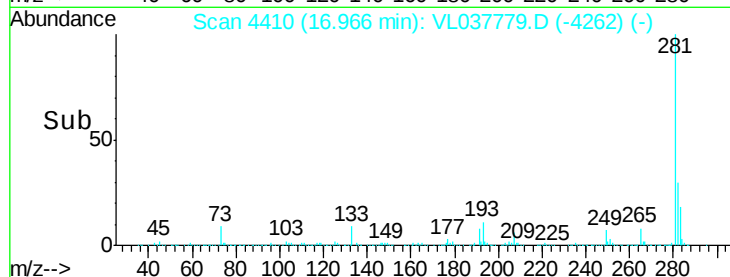
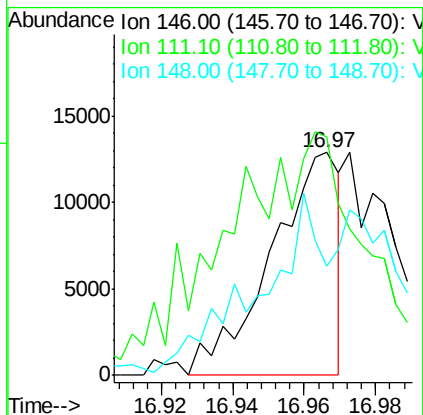
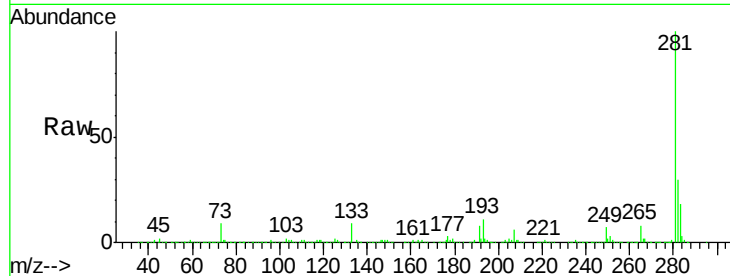




#75
1,3-Dichlorobenzene
Concen: 0.071 ppbv
RT: 16.97 min Scan# 4410
Delta R.T. -0.03 min
Lab File: VL037779.D
Acq: 5 Oct 2021 18:37

Instrument :
MSVOA_L
ClientSampleId :
C0P27

Tgt Ion:146 Resp: 17067
Ion Ratio Lower Upper
146 100
111 261.1 22.8 68.4#
148 160.7 32.8 98.3#



#79
Naphthalene
Concen: 0.070 ppbv
RT: 22.17 min Scan# 6028
Delta R.T. -0.02 min
Lab File: VL037779.D
Acq: 5 Oct 2021 18:37

Tgt Ion:128 Resp: 16678
Ion Ratio Lower Upper
128 100
127 12.7 10.1 15.1
129 12.9 9.1 13.7

