

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL121621\
 Data File : VL038202.D
 Acq On : 16 Dec 2021 23:34
 Operator : SY/AP
 Sample : M5119-01DL2 40X
 Misc : 400mL/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :

Quant Time: Dec 17 05:10:48 2021
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL111821AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Thu Nov 18 13:16:09 2021
 QLast Update : Thu Nov 18 13:16:09 2021
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.67	49	925542	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.18	114	2870499	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.10	117	2446778	10.00	ppbv	0.02

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.42	95	1968497	11.15	ppbv	0.01
Spiked Amount	10.000	Range	65 - 135	Recovery	=	111.50%

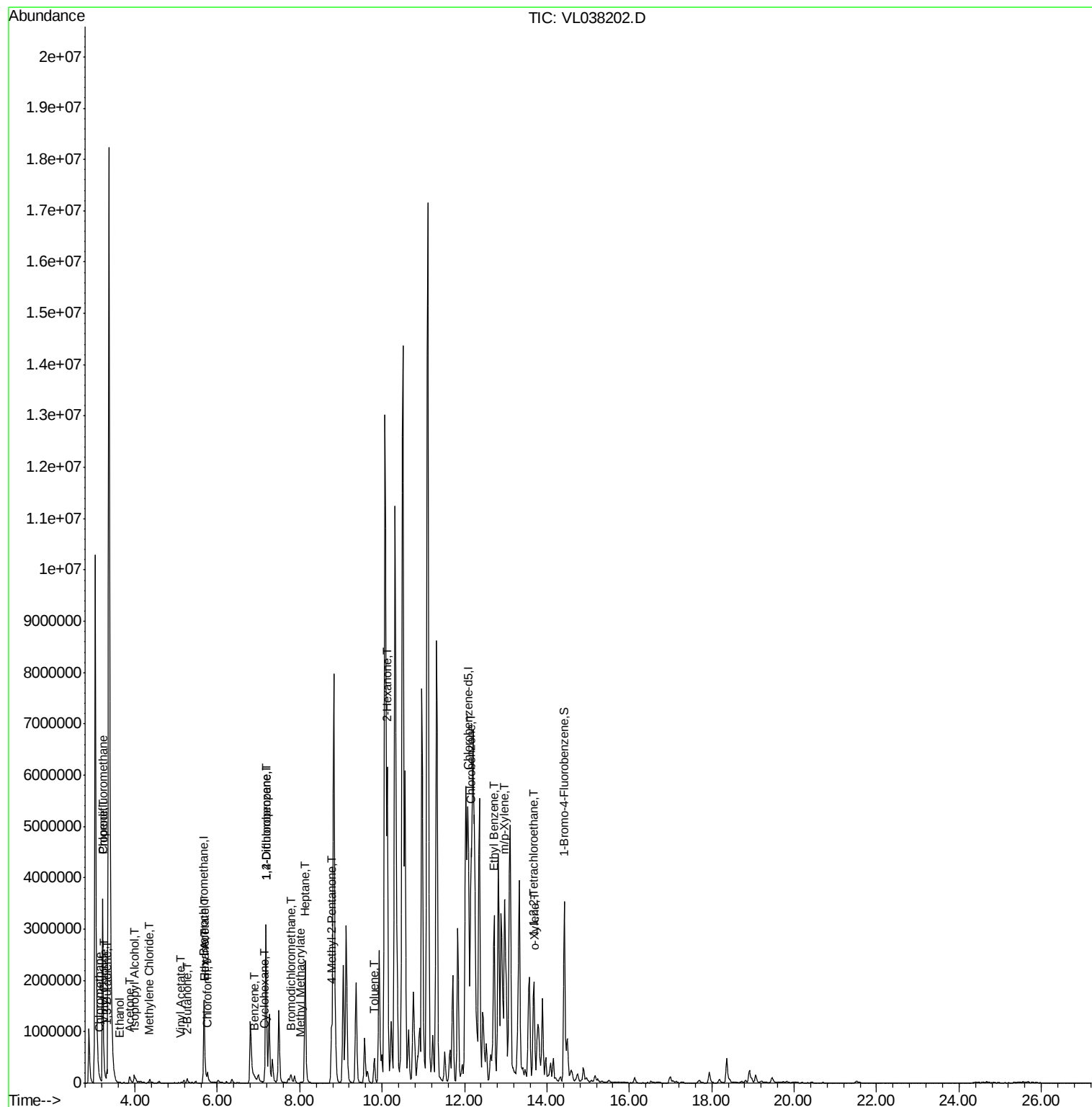
Target Compounds	R.T.	QIon	Response	Conc	Units	Ovalue
3) Chlorodifluoromethane	3.22	51	29083	0.150	ppbv #	60
4) Chloromethane	3.15	50	22292	0.337	ppbv	89
5) Vinyl Chloride	3.27	62	3064	0.047	ppbv	97
9) Propene	3.22	41	1350424	18.865	ppbv	99
10) Heptane	8.13	43	1255041	7.094	ppbv	100
13) Ethanol	3.63	45	5951	0.860	ppbv	100
15) Acetone	3.87	43	154059	1.920	ppbv #	84
16) 1,3-Butadiene	3.32	39	49114	0.785	ppbv #	9
19) Isopropyl Alcohol	3.99	45	192924	3.327	ppbv #	97
20) Methylene Chloride	4.35	84	12592	0.280	ppbv	95
23) Vinyl Acetate	5.11	43	4058	0.035	ppbv #	50
25) Ethyl Acetate	5.70	43	22882	0.086	ppbv #	94
26) Hexane	5.70	57	17807	0.139	ppbv #	63
29) Chloroform	5.76	83	121189	0.640	ppbv	97
30) Cyclohexane	7.14	84	7801	0.067	ppbv #	1
34) 2-Butanone	5.27	43	106068	0.916	ppbv #	90
36) Benzene	6.90	78	40918	0.143	ppbv #	92
39) 1,2-Dichloropropane	7.18	63	681517	6.205	ppbv #	26
42) Bromodichloromethane	7.79	83	8388	0.040	ppbv #	24
43) Methyl Methacrylate	8.03	69	5543	0.057	ppbv #	1
50) 4-Methyl-2-Pentanone	8.77	43	152739	0.869	ppbv	97
51) 2-Hexanone	10.12	43	3849550	46.548	ppbv #	27
53) Toluene	9.81	91	69261	0.210	ppbv	97
57) Chlorobenzene	12.16	112	131168	0.598	ppbv #	39
58) Ethyl Benzene	12.72	91	2800700	6.925	ppbv	100
59) m/p-Xylene	12.98	91	2848008	8.366	ppbv	95
60) o-Xylene	13.70	91	598943	1.897	ppbv	98
63) 1,1,2,2-Tetrachloroethane	13.67	83	61937	0.264	ppbv #	54

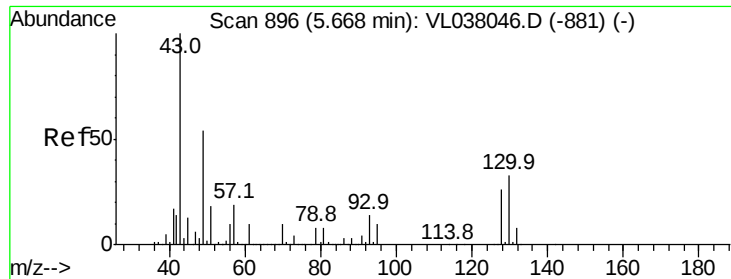
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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QLast Update : Thu Nov 18 13:16:09 2021
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#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.67 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 16 Dec 2021 23:34

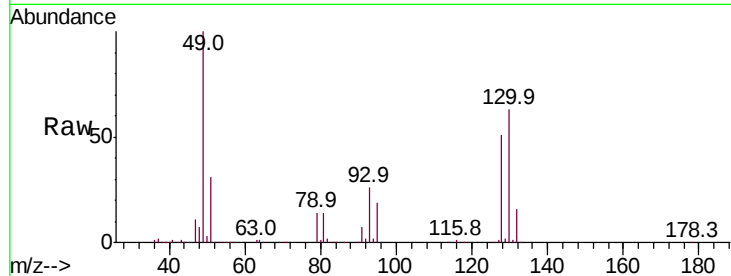
Tot Ion: 49 Resp: 925542

Ion Ratio Lower Upper

49 100

128 52.0 26.5 79.5

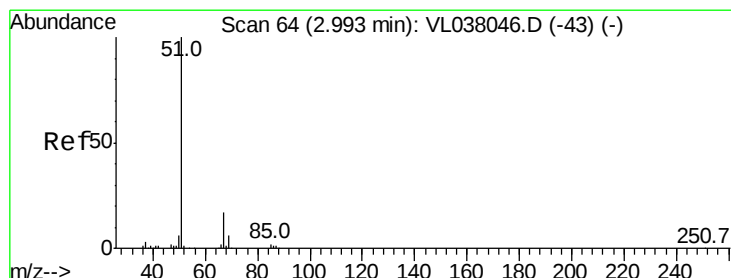
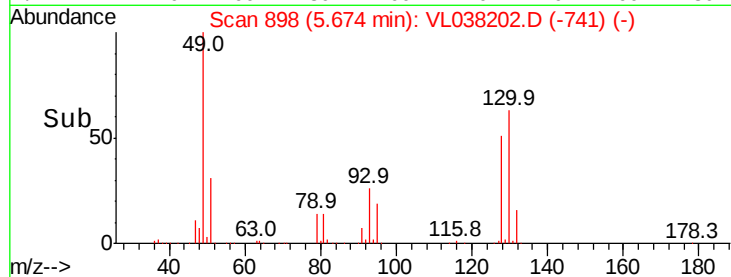
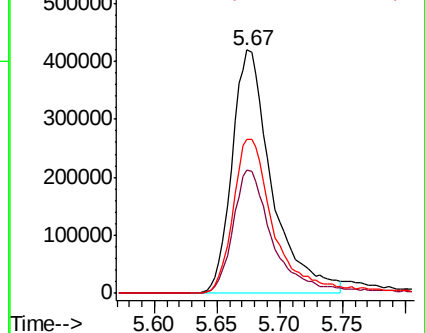
130 67.6 32.5 97.4



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



#3

Chlorodifluoromethane

Concen: 0.150 ppbv

RT: 3.22 min Scan# 134

Delta R.T. 0.22 min

Lab File: VL038202.D

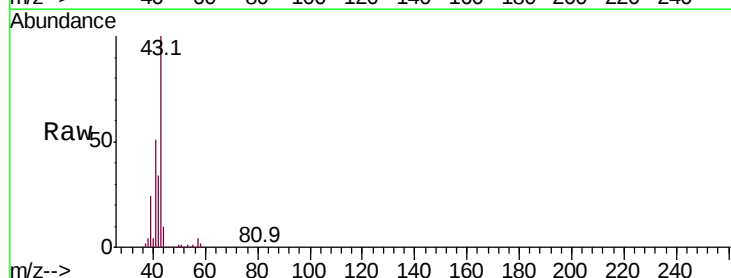
Acq: 16 Dec 2021 23:34

Tgt Ion: 51 Resp: 29083

Ion Ratio Lower Upper

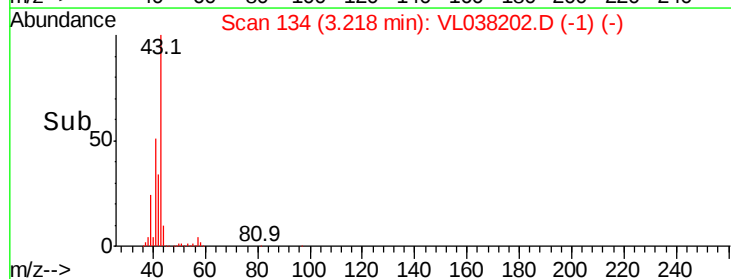
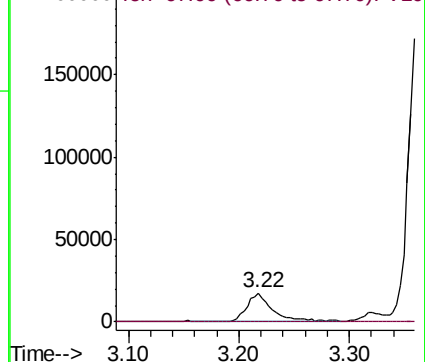
51 100

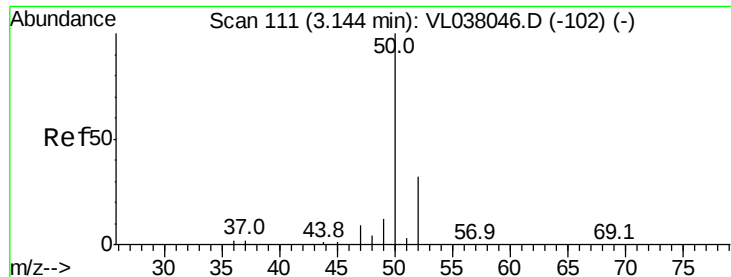
67 0.0 13.8 20.8#



Abundance Ion 51.00 (50.70 to 51.70): VL0

Ion 67.00 (66.70 to 67.70): VL0





#4

Chloromethane

Concen: 0.337 ppbv

RT: 3.15 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

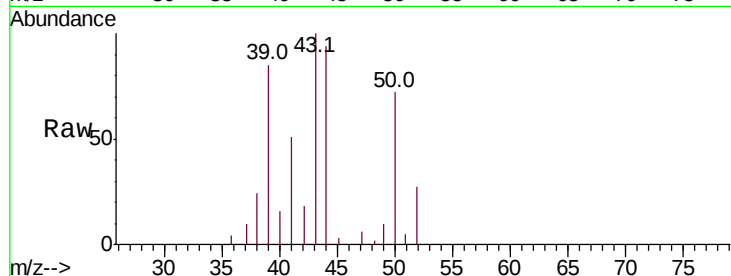
Acq: 16 Dec 2021 23:34

Tot Ion: 50 Resp: 22292

Ion Ratio Lower Upper

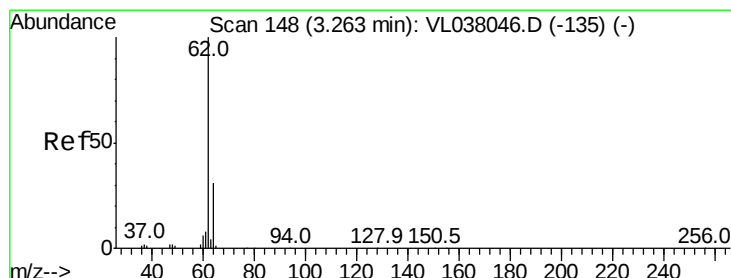
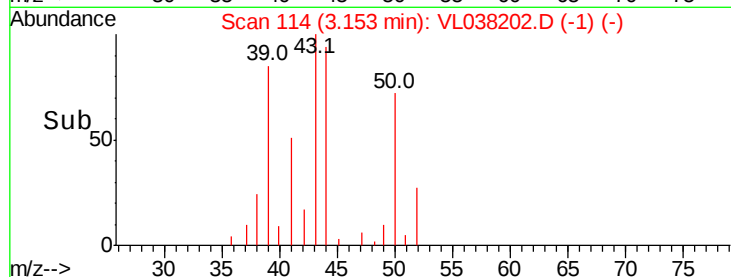
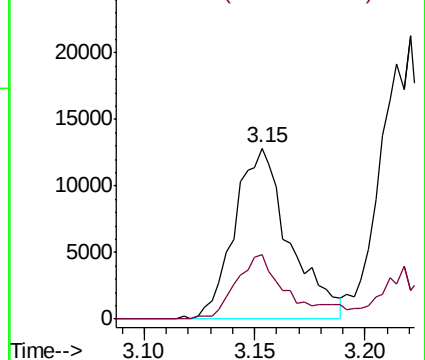
50 100

52 37.6 25.4 38.0



Abundance Ion 50.10 (49.80 to 50.80): VL0

Ion 52.10 (51.80 to 52.80): VL0



#5

Vinyl Chloride

Concen: 0.047 ppbv

RT: 3.27 min Scan# 150

Delta R.T. 0.01 min

Lab File: VL038202.D

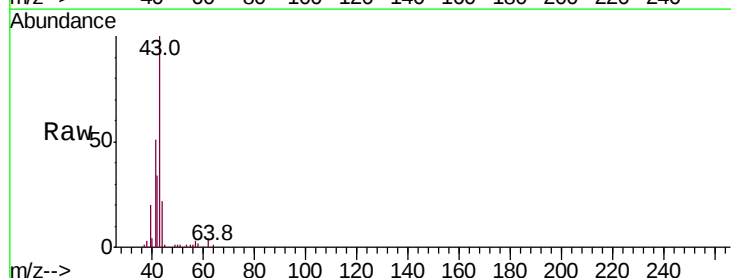
Acq: 16 Dec 2021 23:34

Tgt Ion: 62 Resp: 3064

Ion Ratio Lower Upper

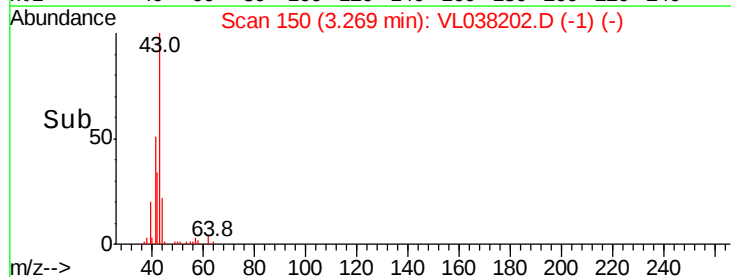
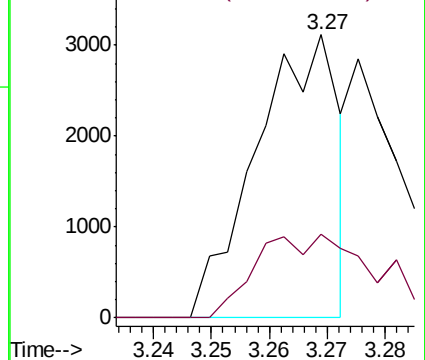
62 100

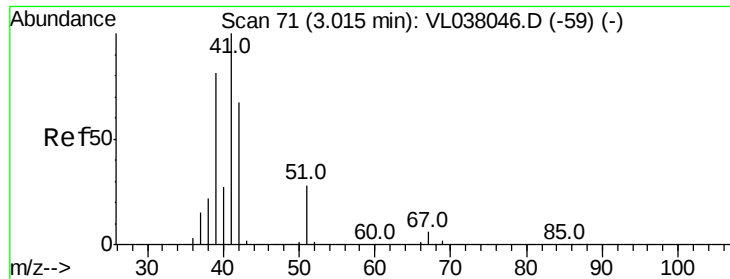
64 29.8 25.1 37.7



Abundance Ion 62.10 (61.80 to 62.80): VL0

Ion 64.10 (63.80 to 64.80): VL0





#9

Propene

Concen: 18.865 ppbv

RT: 3.22 Instrument:

Delta R.T. MSVOA.L

Lab File: ClientSampleId:

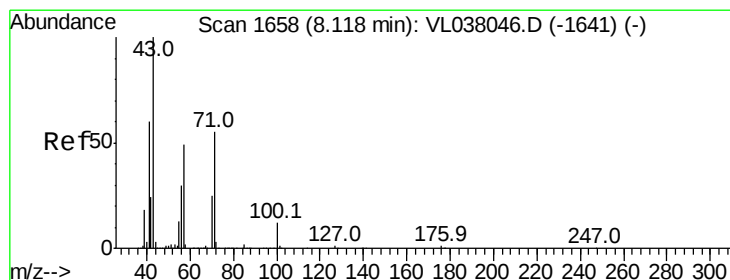
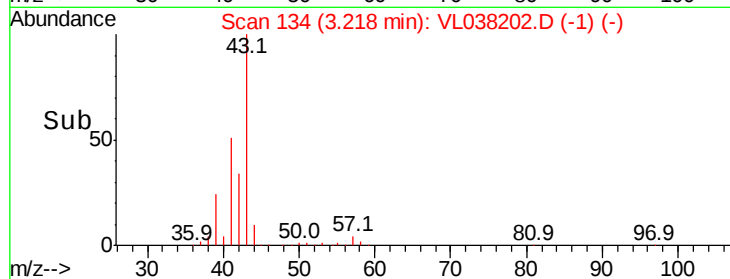
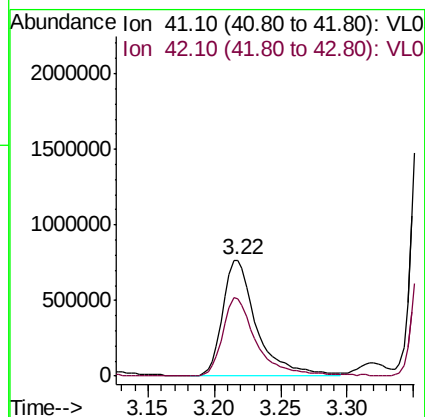
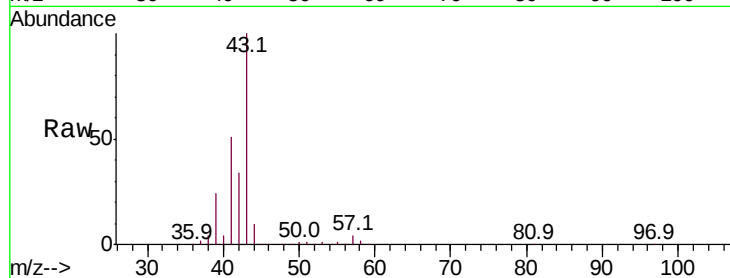
Acq: 16 Dec 2021 23:34

Tot Ion: 41 Resp: 1350424

Ion Ratio Lower Upper

41 100

42 68.3 53.8 80.8



#10

Heptane

Concen: 7.094 ppbv

RT: 8.13 min Scan# 1662

Delta R.T. 0.01 min

Lab File: VL038202.D

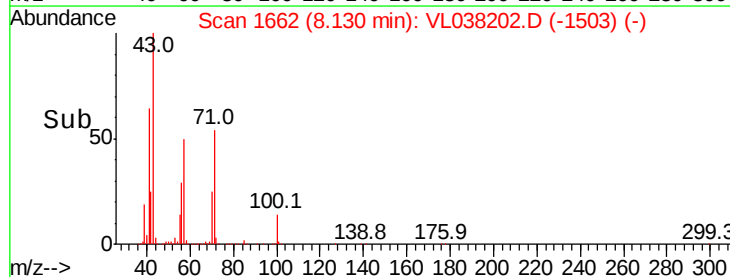
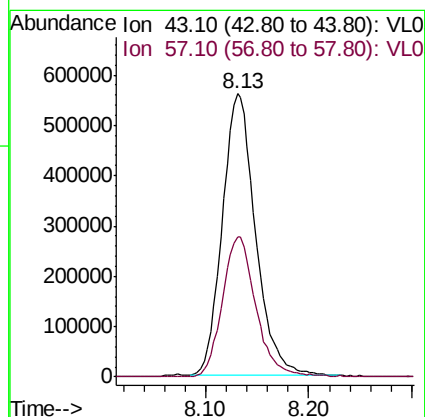
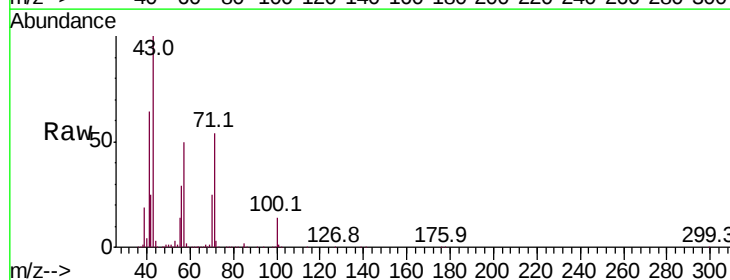
Acq: 16 Dec 2021 23:34

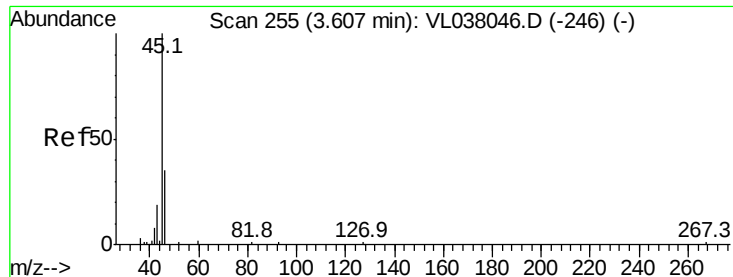
Tgt Ion: 43 Resp: 1255041

Ion Ratio Lower Upper

43 100

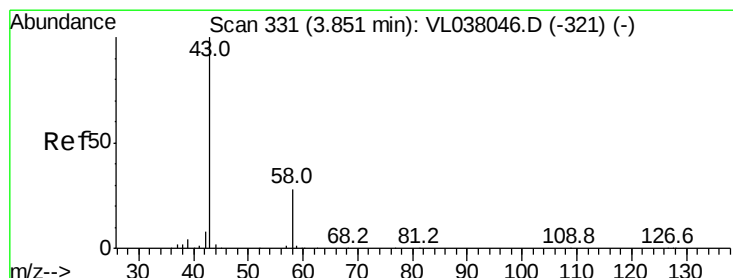
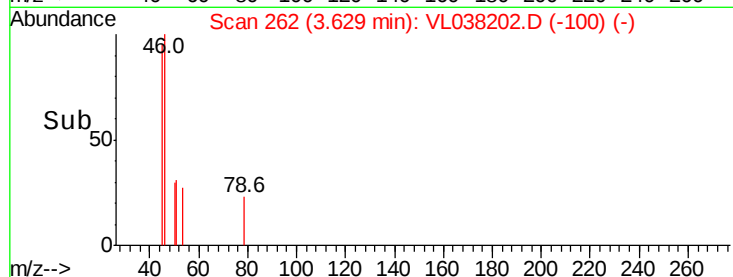
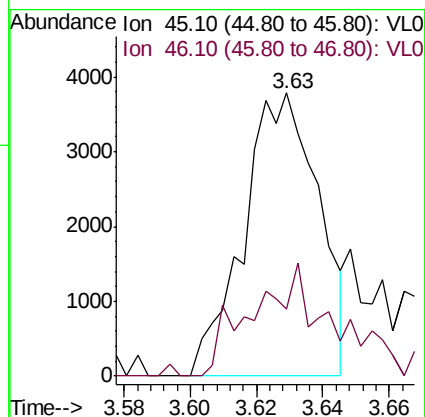
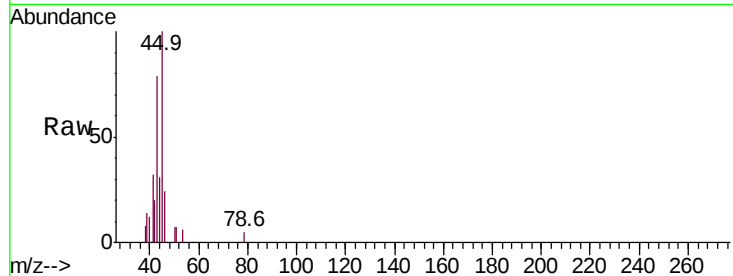
57 50.8 40.4 60.6





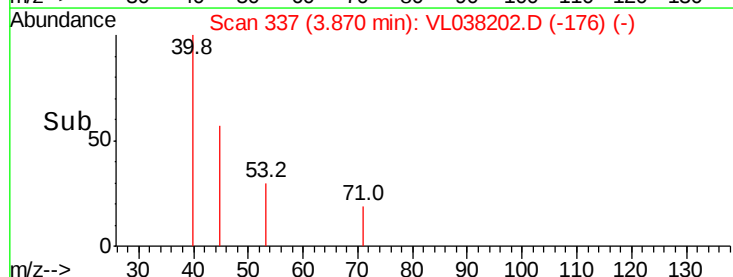
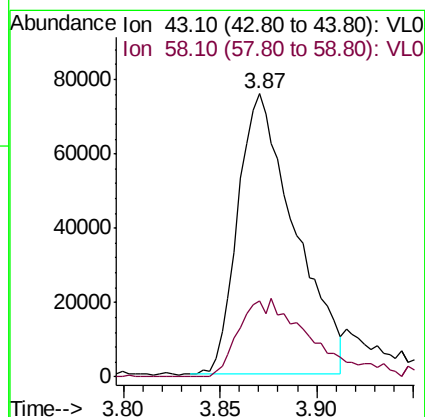
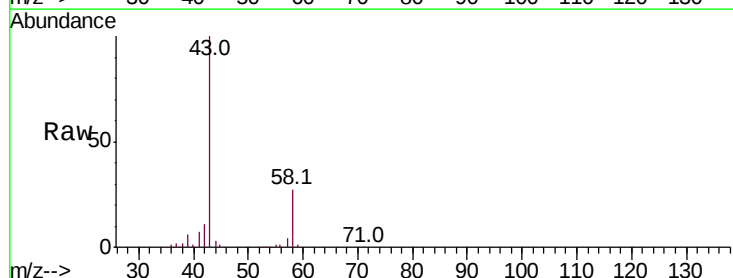
#13
Ethanol
Concen: 0.860 ppbv
RT: 3.63
Delta R.T. MSVOA_L
Lab File: ClientSampleId :
Acq: 16 Dec 2021 23:34

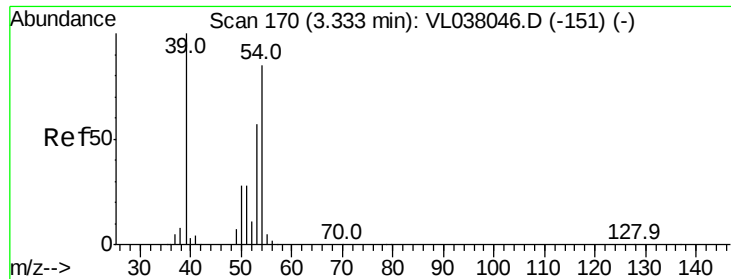
Tot Ion: 45 Resp: 5951
Ion Ratio Lower Upper
45 100
46 44.2 17.6 70.2



#15
Acetone
Concen: 1.920 ppbv
RT: 3.87 min Scan# 337
Delta R.T. 0.02 min
Lab File: VL038202.D
Acq: 16 Dec 2021 23:34

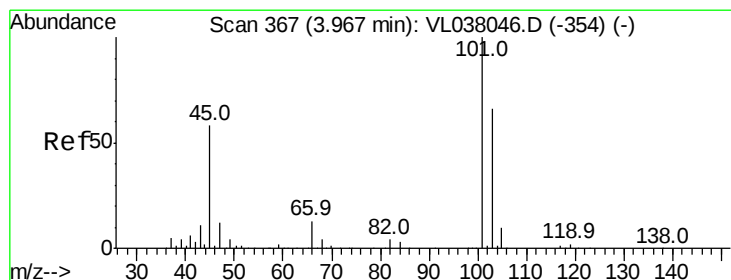
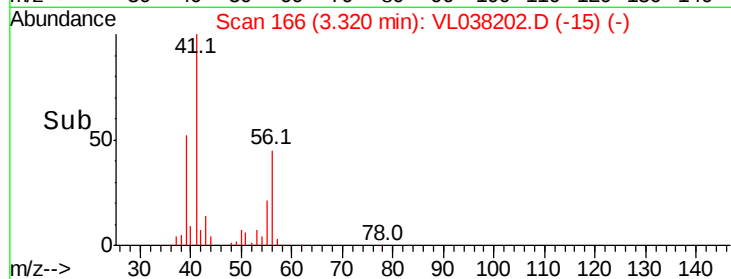
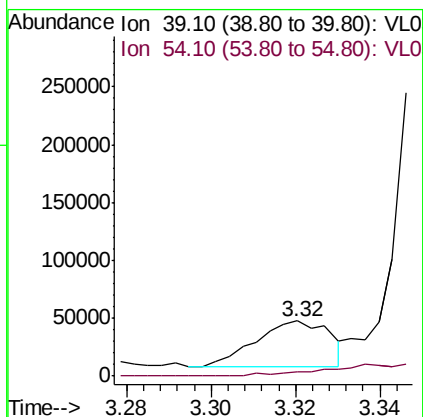
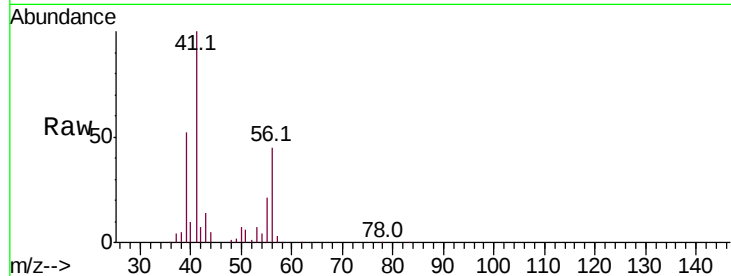
Tgt Ion: 43 Resp: 154059
Ion Ratio Lower Upper
43 100
58 36.4 22.4 33.6#





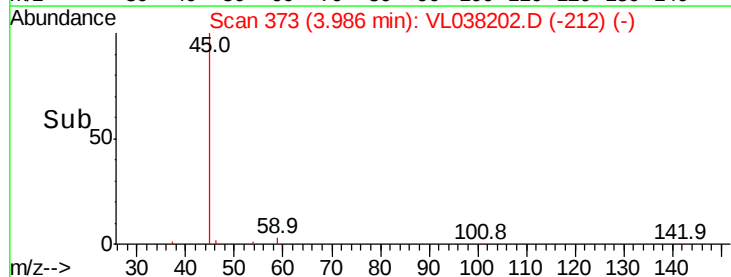
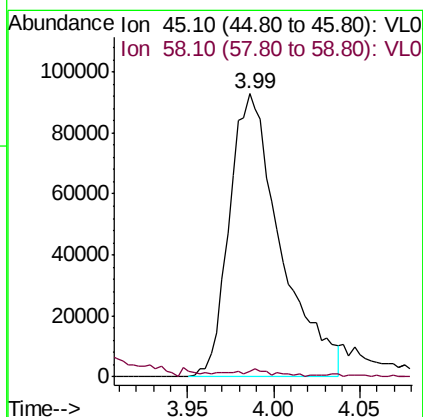
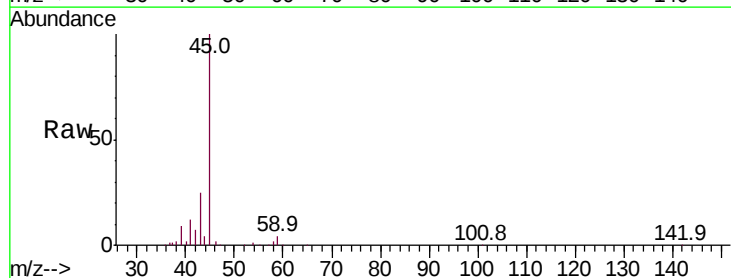
#16
 1,3-Butadiene
 Concen: 0.785 ppbv
 RT: 3.32
 Delta R.T. MSVOA_L
 Lab File: ClientSampleId :
 Acq: 16 Dec 2021 23:34

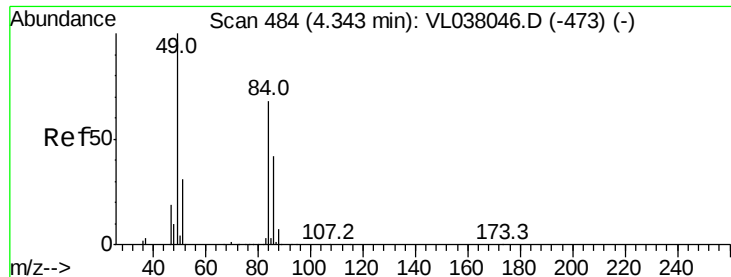
Tot Ion: 39 Resp: 49114
 Ion Ratio Lower Upper
 39 100
 54 0.0 64.4 96.6#



#19
 Isopropyl Alcohol
 Concen: 3.327 ppbv
 RT: 3.99 min Scan# 373
 Delta R.T. 0.02 min
 Lab File: VL038202.D
 Acq: 16 Dec 2021 23:34

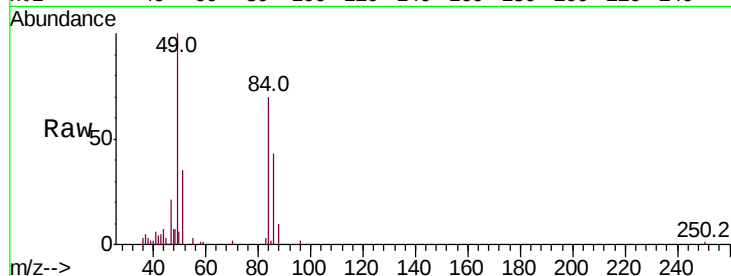
Tgt Ion: 45 Resp: 192924
 Ion Ratio Lower Upper
 45 100
 58 2.8 1.4 2.0#



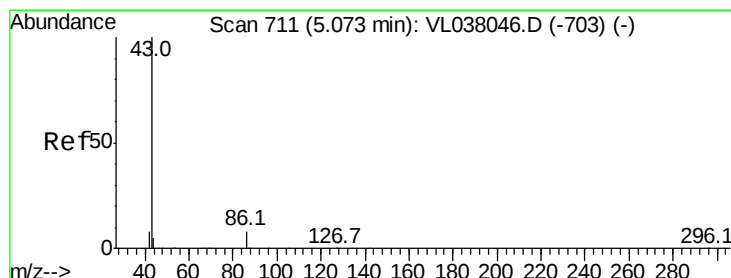
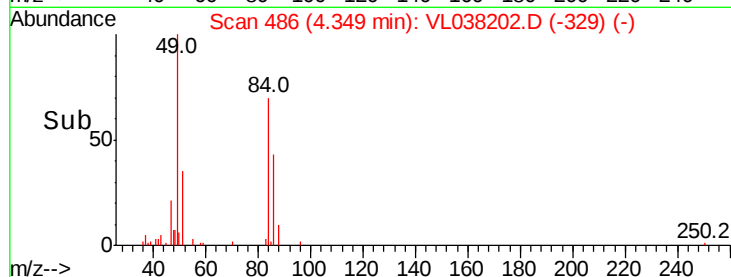
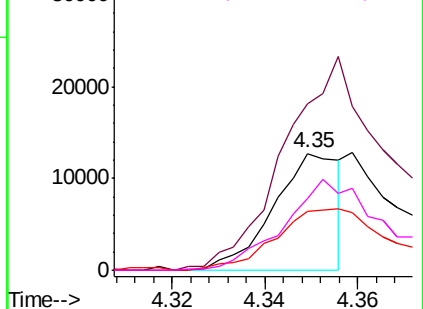


#20
Methvlene Chloride
Concen: 0.280 ppbv
RT: 4.35 Instrument: MSVOA_1
Delta R.T. ClientSampleId:
Lab File:
Acq: 16 Dec 2021 23:34

Tot Ion:	84	Resp:	12592
Ion	Ratio	Lower	Upper
84	100		
49	139.7	118.2	177.2
51	50.3	36.8	55.2
86	60.2	49.0	73.6

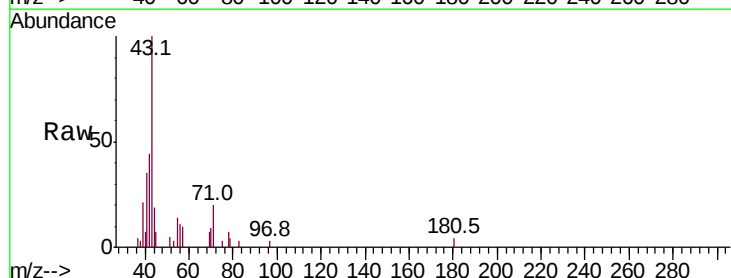


Abundance Ion 84.00 (83.70 to 84.70): VL0
Ion 49.10 (48.80 to 49.80): VL0
Ion 51.10 (50.80 to 51.80): VL0
Ion 86.00 (85.70 to 86.70): VL0

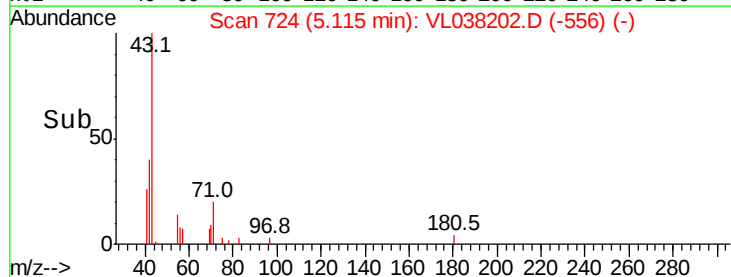
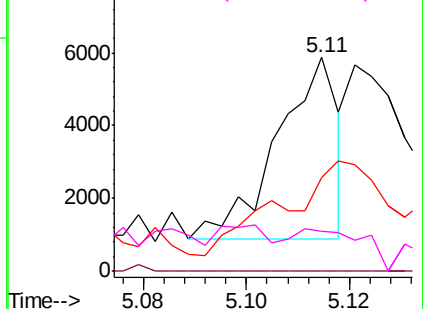


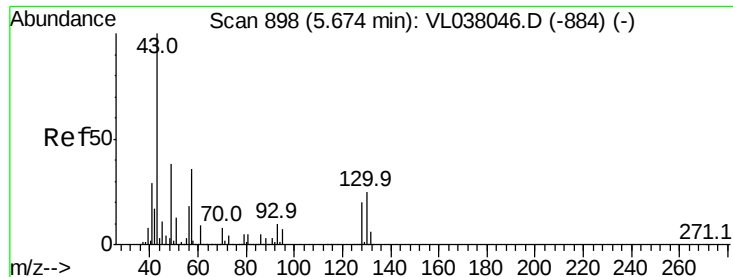
#23
Vinyl Acetate
Concen: 0.035 ppbv
RT: 5.11 min Scan# 724
Delta R.T. 0.04 min
Lab File: VL038202.D
Acq: 16 Dec 2021 23:34

Tgt Ion:	43	Resp:	4058
Ion	Ratio	Lower	Upper
43	100		
86	0.0	5.3	7.9#
42	42.7	7.0	10.6#
44	0.9	4.0	6.0#



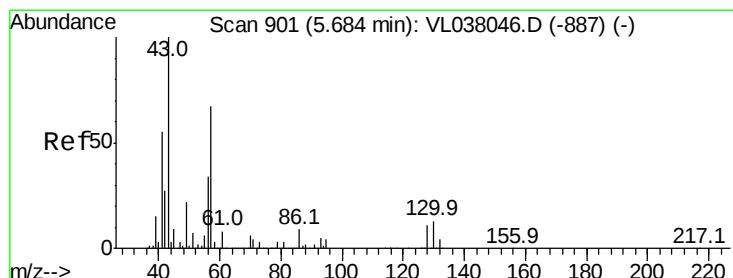
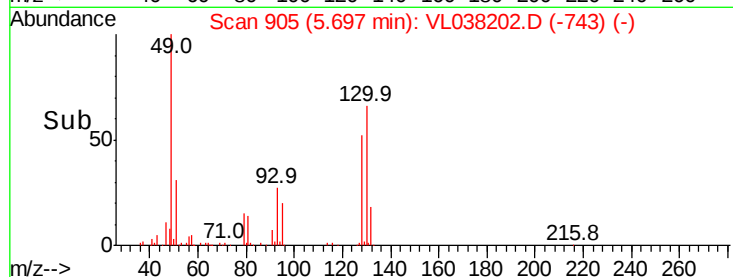
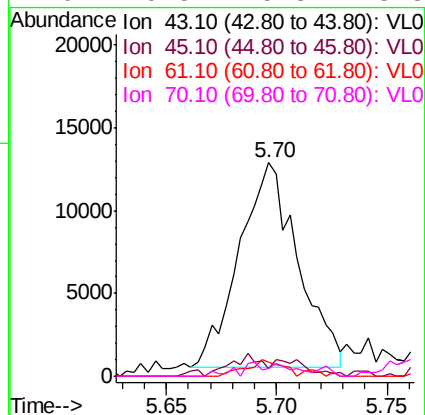
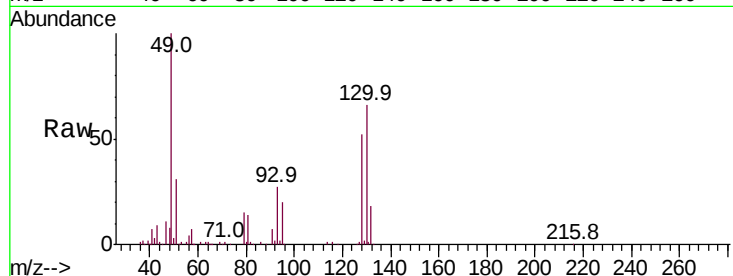
Abundance Ion 43.10 (42.80 to 43.80): VL0
Ion 86.10 (85.80 to 86.80): VL0
Ion 42.10 (41.80 to 42.80): VL0
Ion 44.10 (43.80 to 44.80): VL0





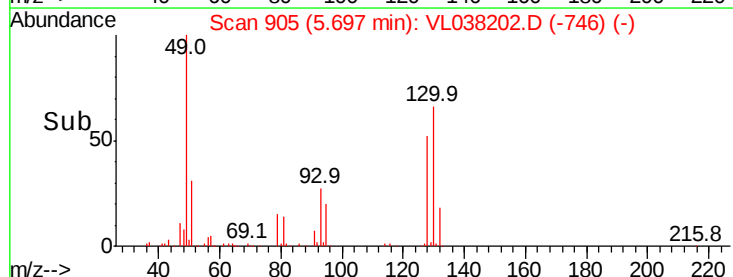
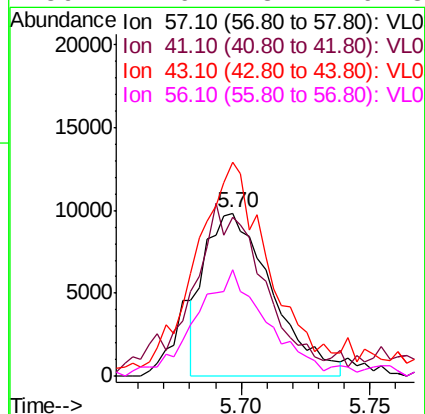
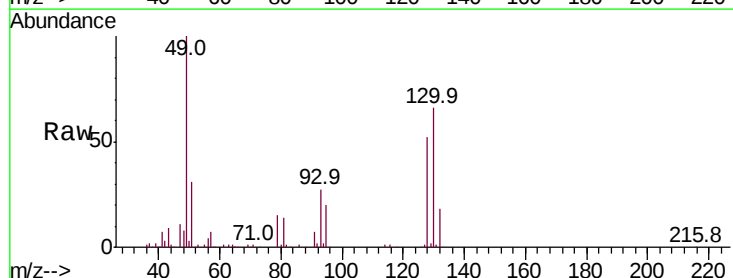
#25
Ethyl Acetate
Concen: 0.086 ppbv
RT: 5.70 min
Instrument: MSVOA_1
Delta R.T.:
Lab File: ClientSampleId:
Acq: 16 Dec 2021 23:34

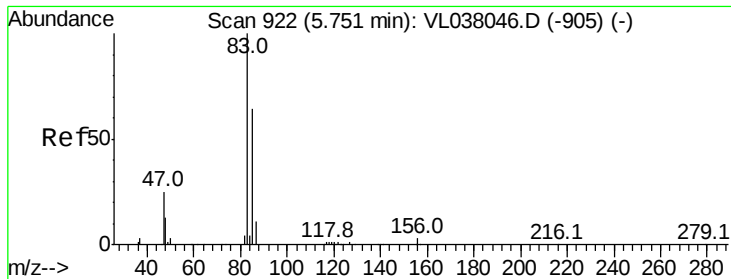
Tot Ion:	43	Resp:	22882
Ion	Ratio	Lower	Upper
43	100		
45	11.9	7.9	11.9#
61	5.9	7.8	11.6#
70	6.5	5.8	8.8



#26
Hexane
Concen: 0.139 ppbv
RT: 5.70 min Scan# 905
Delta R.T.: 0.01 min
Lab File: VL038202.D
Acq: 16 Dec 2021 23:34

Tgt Ion:	57	Resp:	17807
Ion	Ratio	Lower	Upper
57	100		
41	127.6	71.4	107.2#
43	156.2	174.6	261.8#
56	71.6	43.2	64.8#





#29

Chloroform

Concen: 0.640 ppbv

RT: 5.76 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

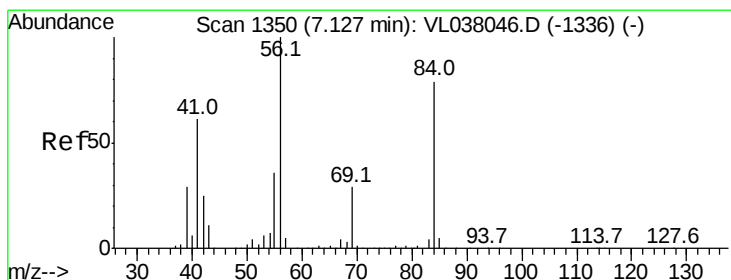
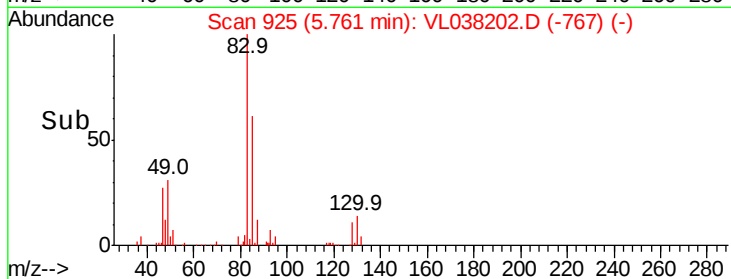
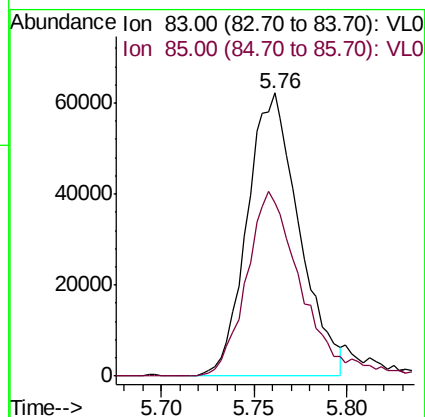
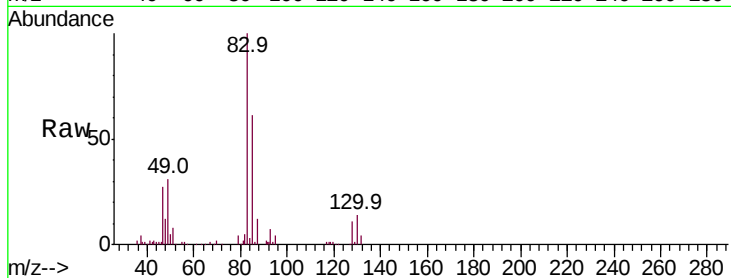
Acq: 16 Dec 2021 23:34

Tot Ion: 83 Resp: 121189

Ion Ratio Lower Upper

83 100

85 61.2 51.0 76.6



#30

Cyclohexane

Concen: 0.067 ppbv

RT: 7.14 min Scan# 1354

Delta R.T. 0.01 min

Lab File: VL038202.D

Acq: 16 Dec 2021 23:34

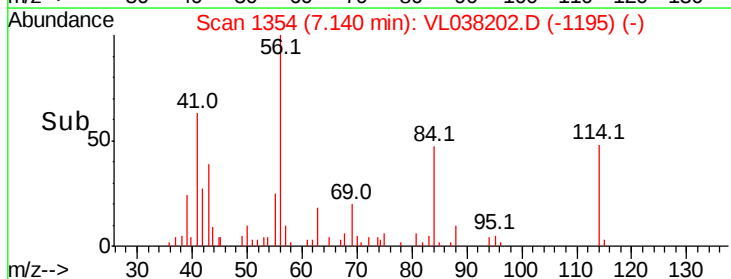
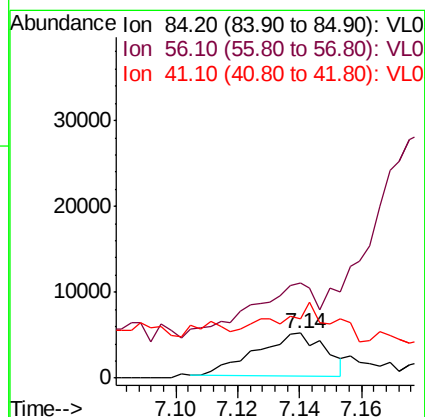
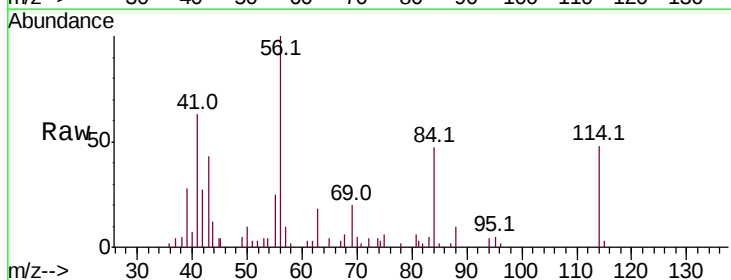
Tgt Ion: 84 Resp: 7801

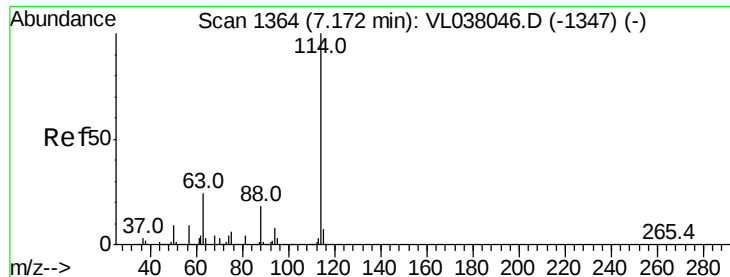
Ion Ratio Lower Upper

84 100

56 0.0 108.1 162.1#

41 320.5 64.4 96.6#





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 7.18 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 16 Dec 2021 23:34

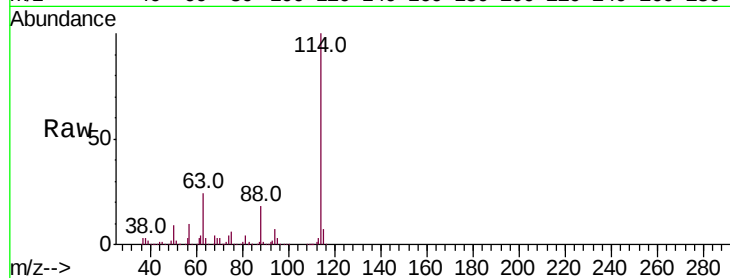
Tot Ion:114 Resp: 2870499

Ion Ratio Lower Upper

114 100

63 24.3 19.7 29.5

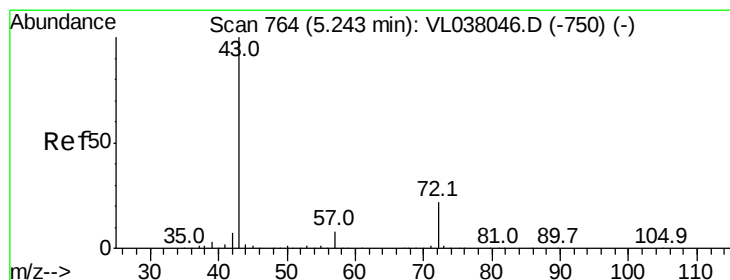
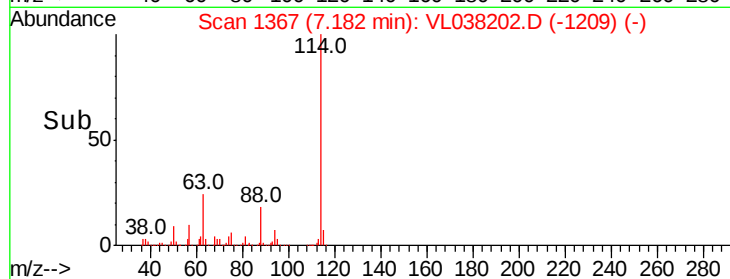
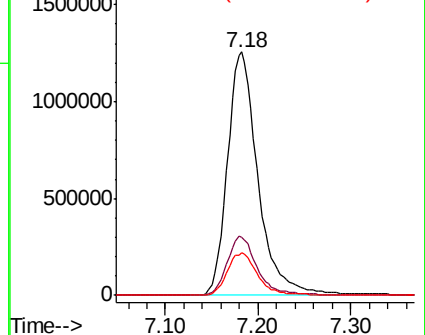
88 17.7 14.4 21.6



Abundance Ion 114.10 (113.80 to 114.80): VL0

Ion 63.10 (62.80 to 63.80): VL0

Ion 88.10 (87.80 to 88.80): VL0



#34

2-Butanone

Concen: 0.916 ppbv

RT: 5.27 min Scan# 771

Delta R.T. 0.02 min

Lab File: VL038202.D

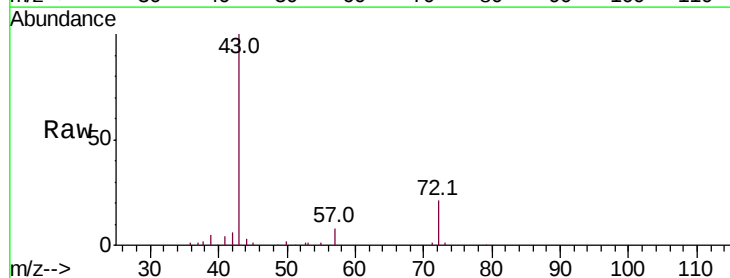
Acq: 16 Dec 2021 23:34

Tgt Ion: 43 Resp: 106068

Ion Ratio Lower Upper

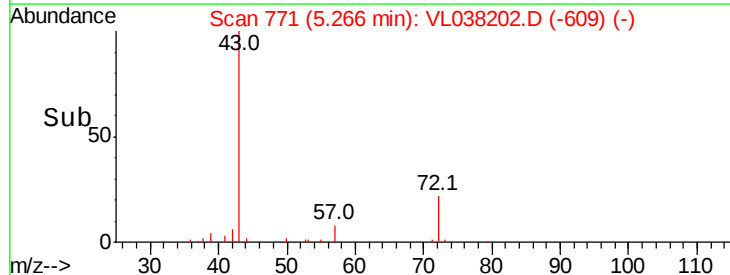
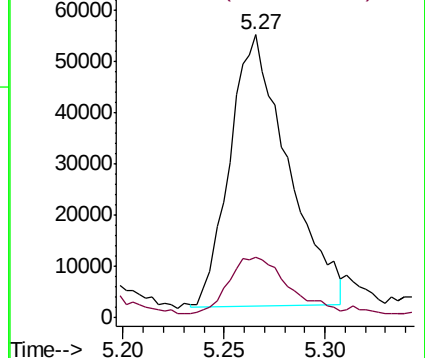
43 100

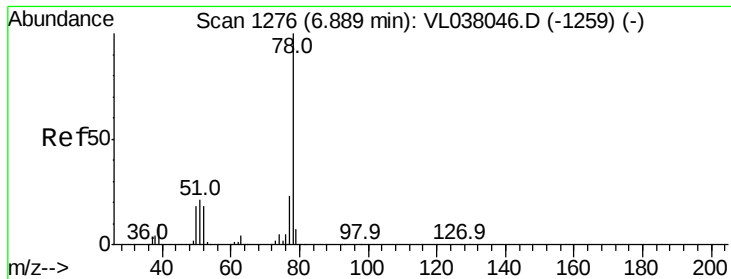
72 28.4 18.8 28.2#



Abundance Ion 43.10 (42.80 to 43.80): VL0

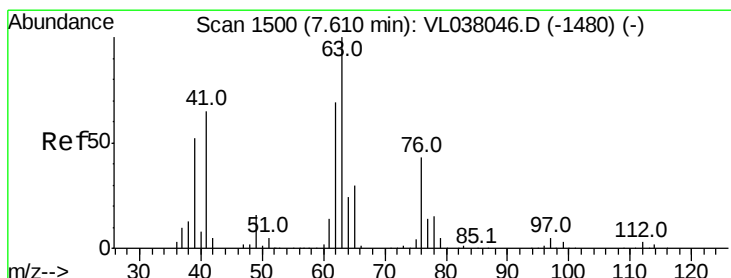
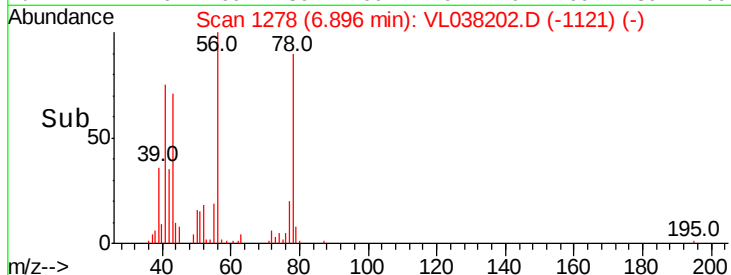
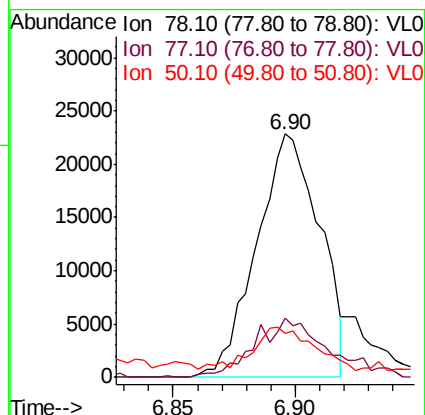
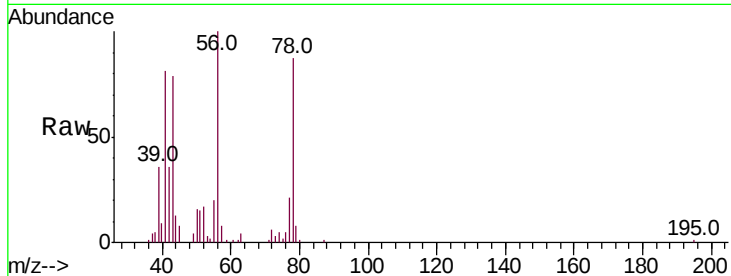
Ion 72.10 (71.80 to 72.80): VL0





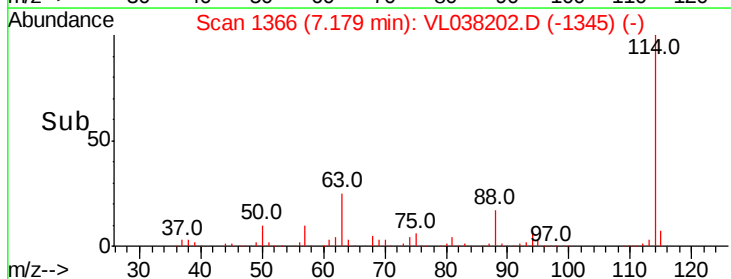
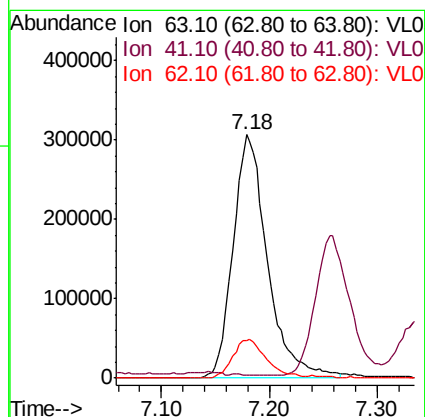
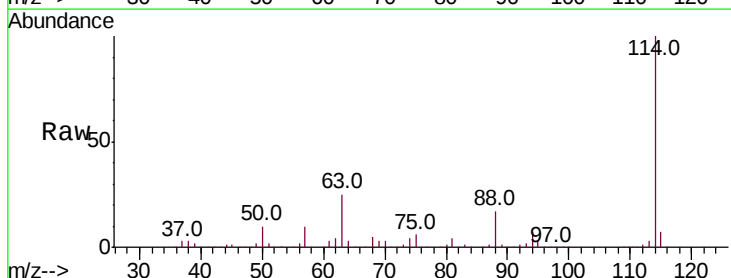
#36
Benzene
Concen: 0.143 ppbv
RT: 6.90
Delta R.T. MSVOA_L
Lab File: ClientSampleId :
Acq: 16 Dec 2021 23:34

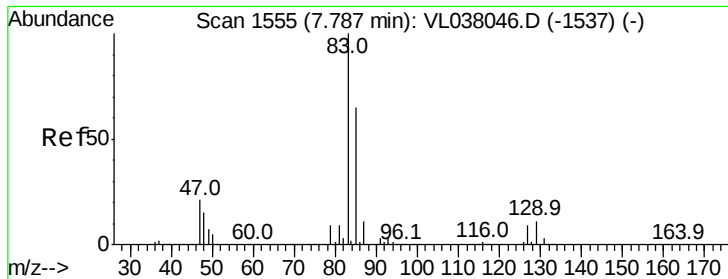
Tot Ion: 78 Resp: 40918
Ion Ratio Lower Upper
78 100
77 24.5 18.2 27.4
50 12.6 14.7 22.1#



#39
1,2-Dichloropropane
Concen: 6.205 ppbv
RT: 7.18 min Scan# 1366
Delta R.T. -0.43 min
Lab File: VL038202.D
Acq: 16 Dec 2021 23:34

Tgt Ion: 63 Resp: 681517
Ion Ratio Lower Upper
63 100
41 0.0 52.3 78.5#
62 15.7 55.1 82.7#

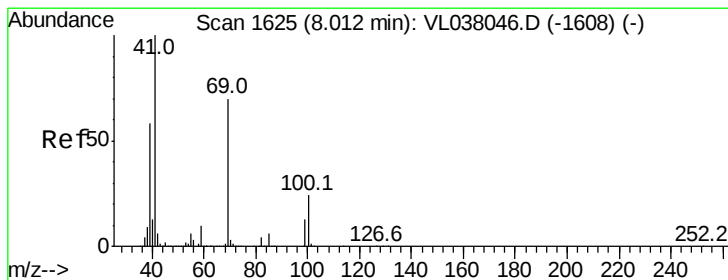
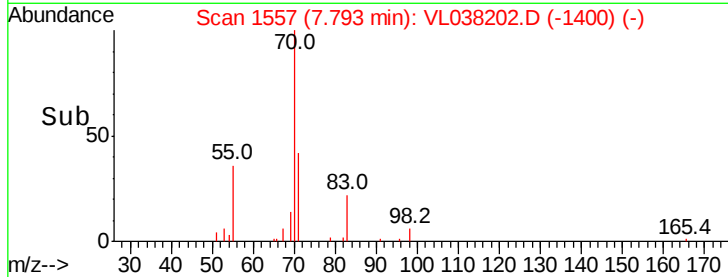
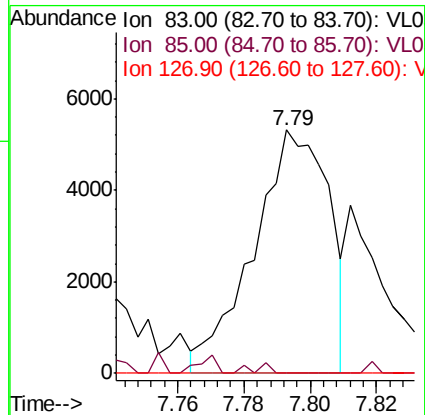
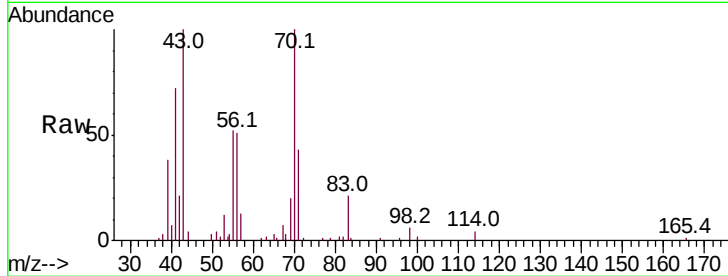




#42

Bromodichloromethane
Concen: 0.040 ppbv
RT: 7.79
Instrument: MSVOA_1
Delta R.T.:
Lab File: ClientSampleId:
Acq: 16 Dec 2021 23:34

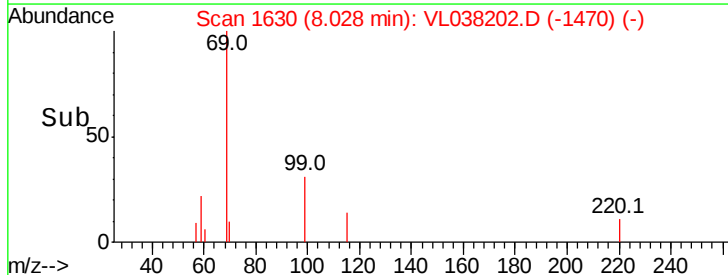
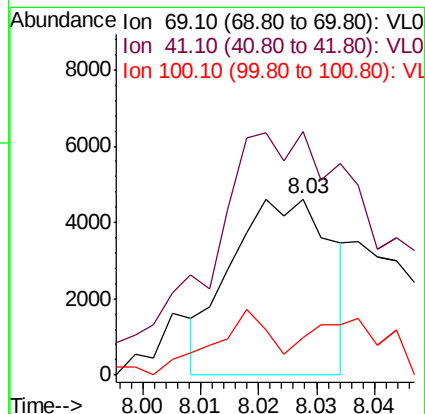
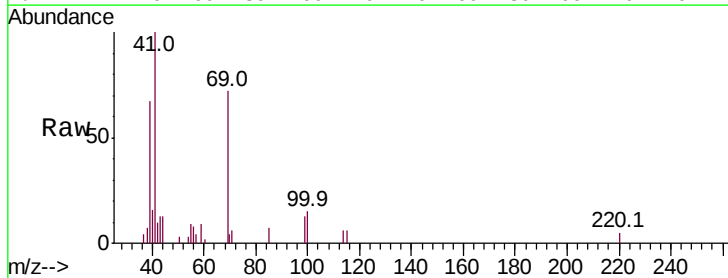
Tot Ion	83	Resp	8388
Ion Ratio	100		
Lower	51.9		
Upper	77.9#		
85	0.0		
127	0.0		
	6.8		
	10.2#		

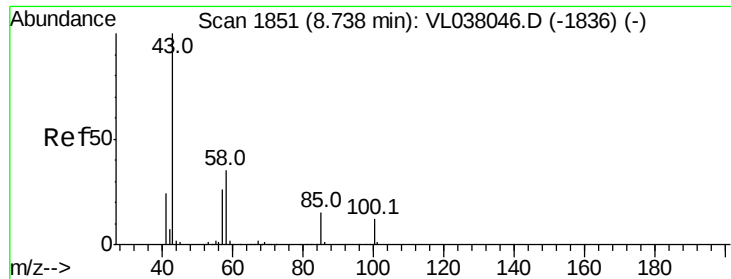


#43

Methyl Methacrylate
Concen: 0.057 ppbv
RT: 8.03 min Scan# 1630
Delta R.T. 0.02 min
Lab File: VL038202.D
Acq: 16 Dec 2021 23:34

Tgt Ion	69	Resp	5543
Ion Ratio <td>100</td> <td></td> <td></td>	100		
Lower <td>116.7</td> <td></td> <td></td>	116.7		
Upper <td>175.1#</td> <td></td> <td></td>	175.1#		
41	0.0		
100	0.0		
	27.3		
	40.9#		





#50

4-Methyl-2-Pentanone

Concen: 0.869 ppbv

RT: 8.77 Instrument:

Delta R.T. MSVOA_1

Lab File: ClientSampleId:

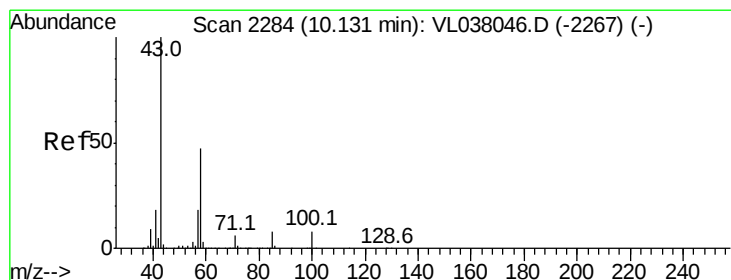
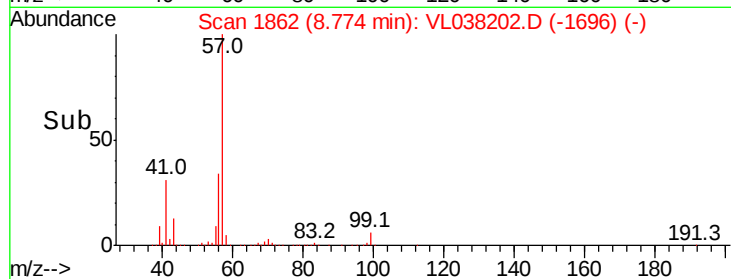
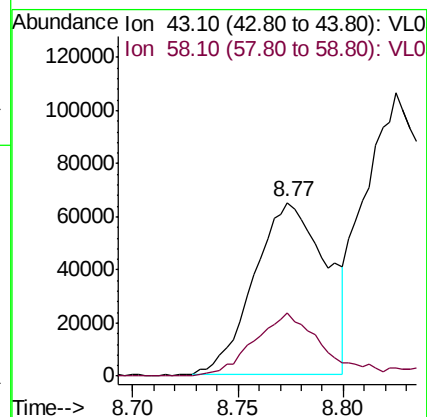
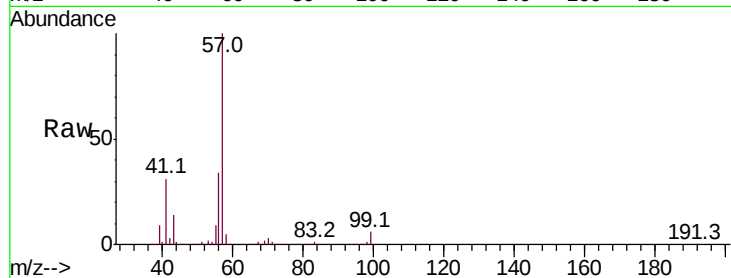
Acq: 16 Dec 2021 23:34

Tot Ion: 43 Resp: 152739

Ion Ratio Lower Upper

43 100

58 38.8 29.4 44.2



#51

2-Hexanone

Concen: 46.548 ppbv

RT: 10.12 min Scan# 2282

Delta R.T. -0.01 min

Lab File: VL038202.D

Acq: 16 Dec 2021 23:34

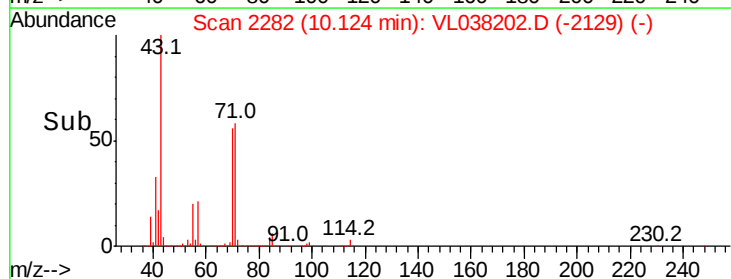
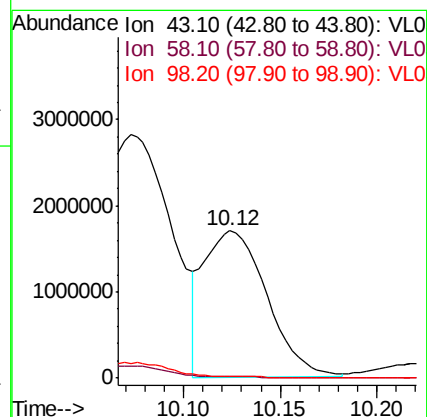
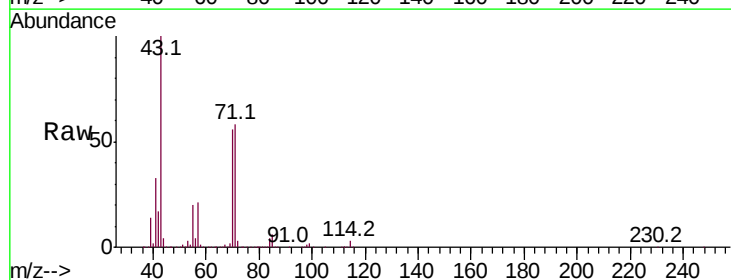
Tgt Ion: 43 Resp: 3849550

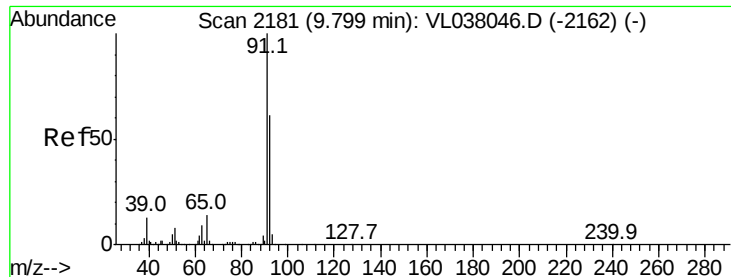
Ion Ratio Lower Upper

43 100

58 0.0 41.1 61.7#

98 0.0 0.1 0.1#





#53

Toluene

Concen: 0.210 ppbv

RT: 9.81 Instrument:

Delta R.T. MSVOA_1

Lab File: ClientSampleId:

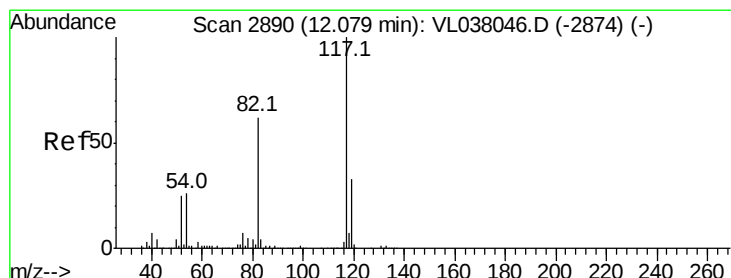
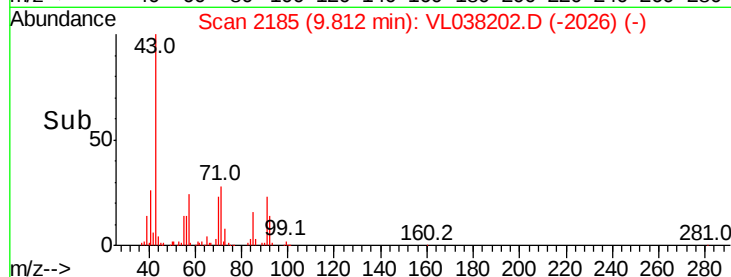
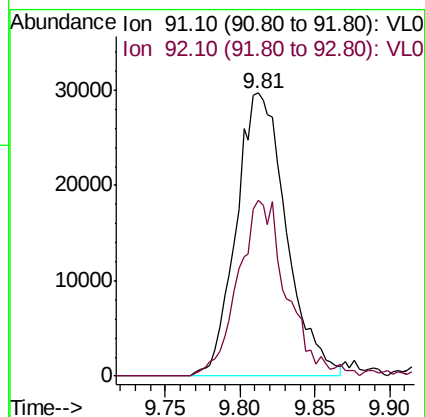
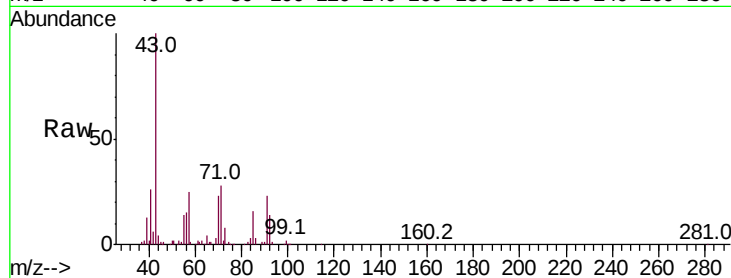
Acq: 16 Dec 2021 23:34

Tot Ion: 91 Resp: 69261

Ion Ratio Lower Upper

91 100

92 60.2 49.7 74.5



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.10 min Scan# 2896

Delta R.T. 0.02 min

Lab File: VL038202.D

Acq: 16 Dec 2021 23:34

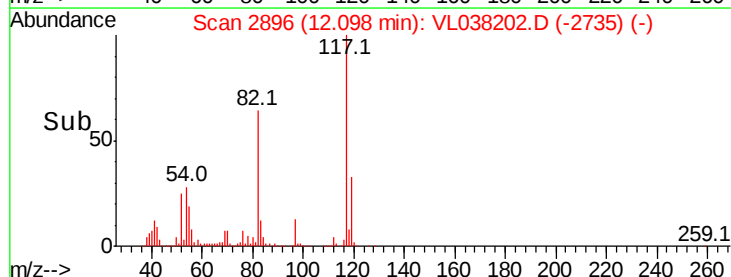
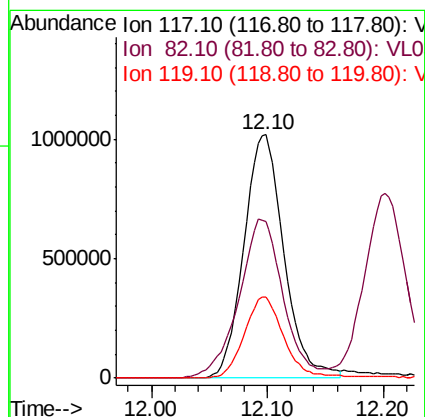
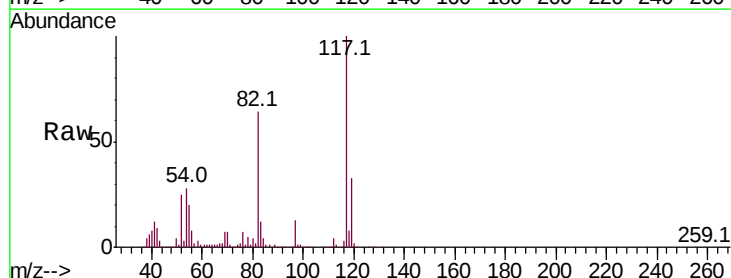
Tgt Ion: 117 Resp: 2446778

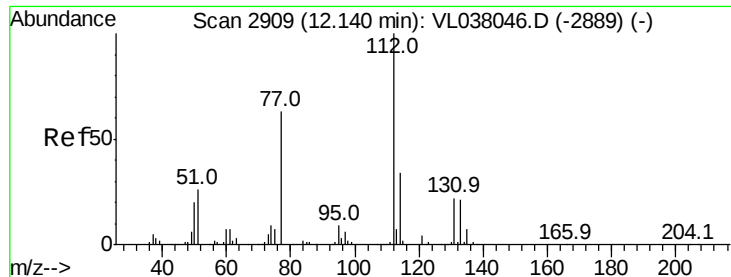
Ion Ratio Lower Upper

117 100

82 72.2 52.8 79.2

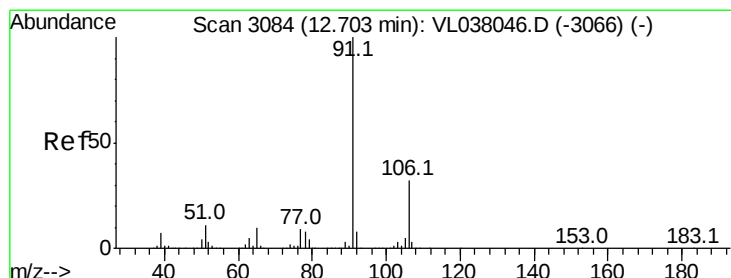
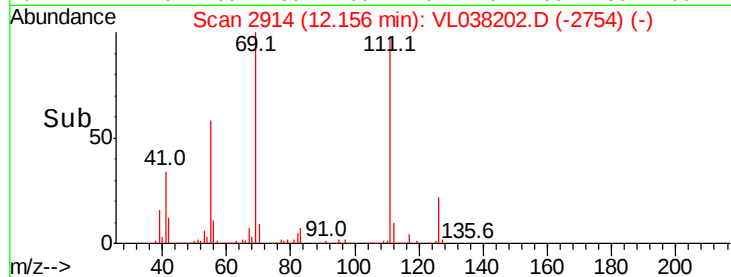
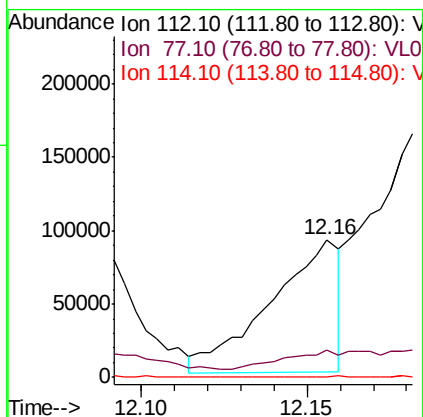
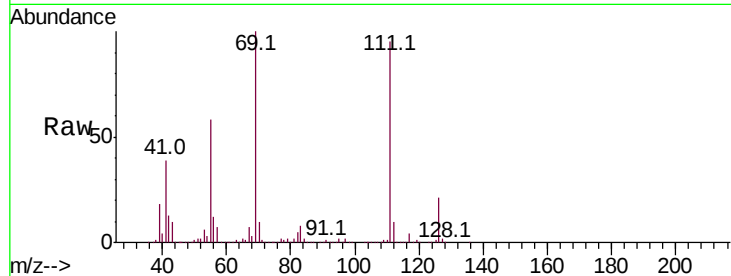
119 34.5 26.8 40.2





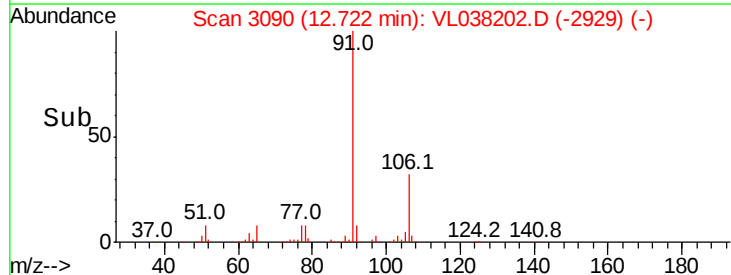
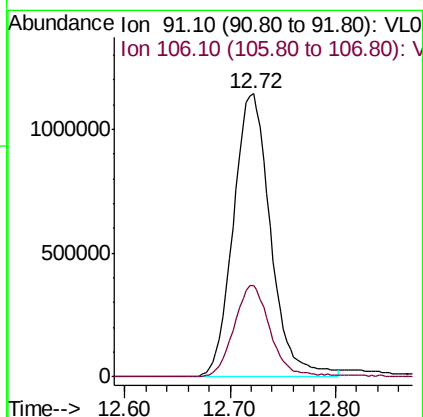
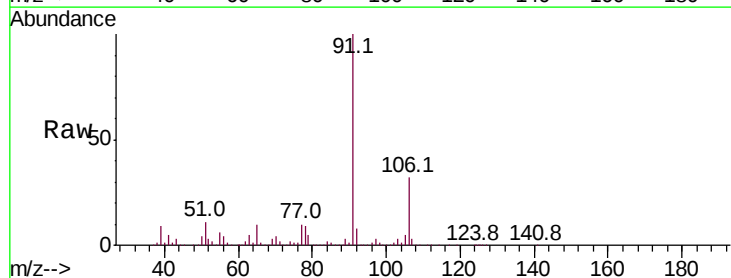
#57
Chlorobenzene
Concen: 0.598 ppbv
RT: 12.16 min
Instrument: MSVOA_1
Delta R.T.:
Lab File: ClientSampleId:
Acq: 16 Dec 2021 23:34

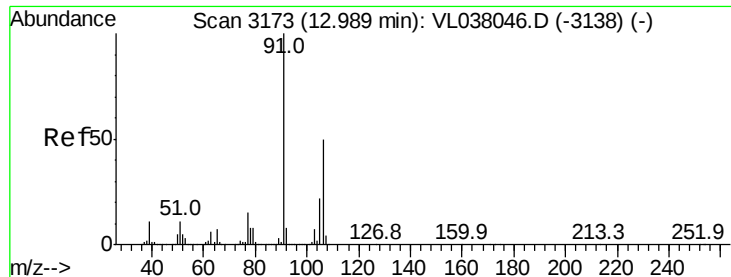
Tot Ion: 112 Resp: 131168
Ion Ratio Lower Upper
112 100
77 14.7 50.3 75.5#
114 0.5 30.7 37.5#



#58
Ethyl Benzene
Concen: 6.925 ppbv
RT: 12.72 min Scan# 3090
Delta R.T.: 0.02 min
Lab File: VL038202.D
Acq: 16 Dec 2021 23:34

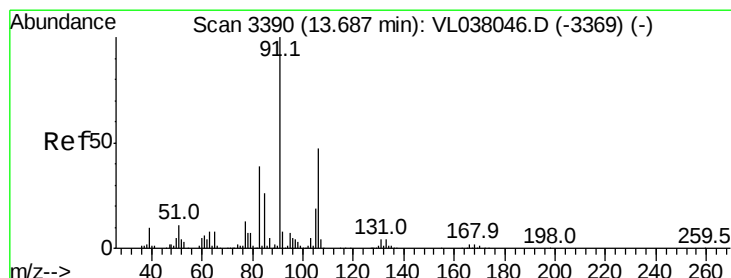
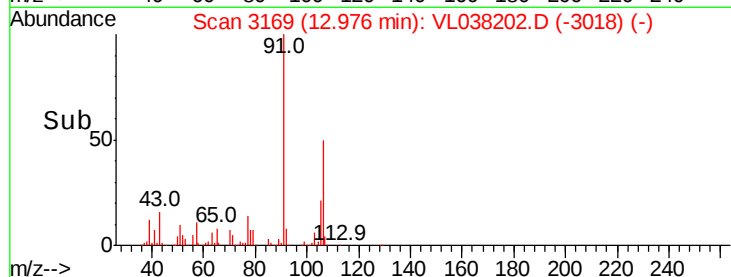
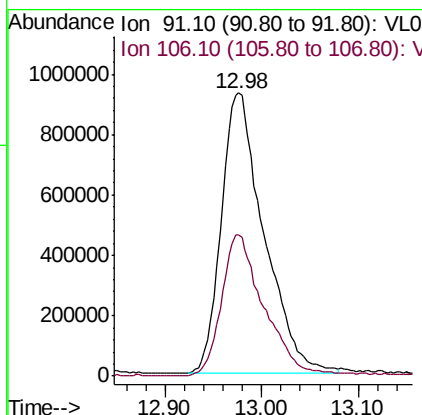
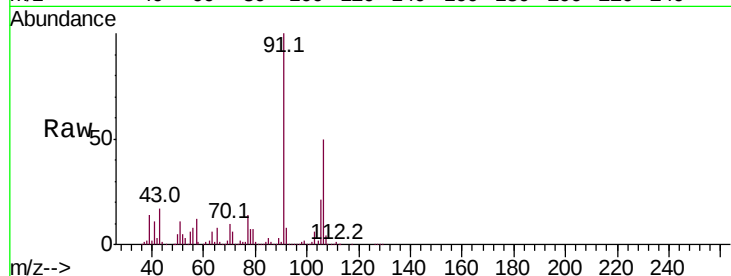
Tgt Ion: 91 Resp: 2800700
Ion Ratio Lower Upper
91 100
106 32.1 25.8 38.6





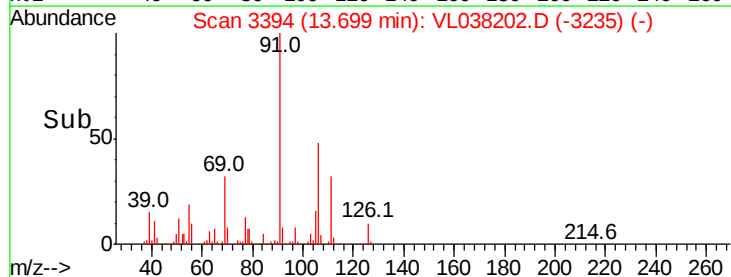
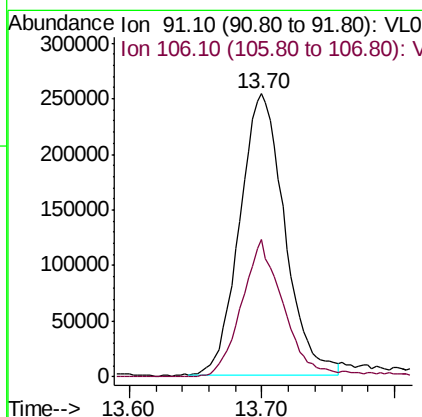
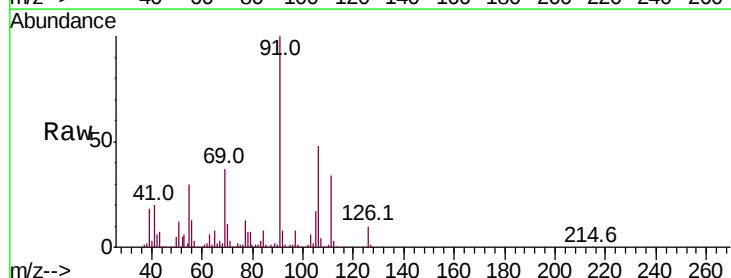
#59
m/p-Xylene
Concen: 8.366 ppbv
RT: 12.98 min
Instrument: MSVOA_1
Delta R.T.:
Lab File: ClientSampleId:
Acq: 16 Dec 2021 23:34

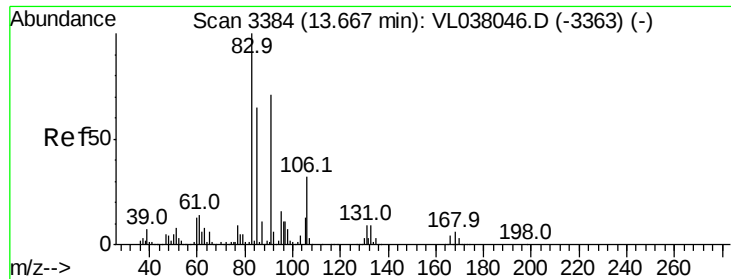
Tot Ion: 91 Resp: 2848008
Ion Ratio Lower Upper
91 100
106 51.3 38.1 57.1



#60
o-Xylene
Concen: 1.897 ppbv
RT: 13.70 min Scan# 3394
Delta R.T.: 0.01 min
Lab File: VL038202.D
Acq: 16 Dec 2021 23:34

Tgt Ion: 91 Resp: 598943
Ion Ratio Lower Upper
91 100
106 46.8 24.2 72.6





#63

1,1,2,2-Tetrachloroethane

Concen: 0.264 ppbv

RT: 13.67

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 16 Dec 2021 23:34

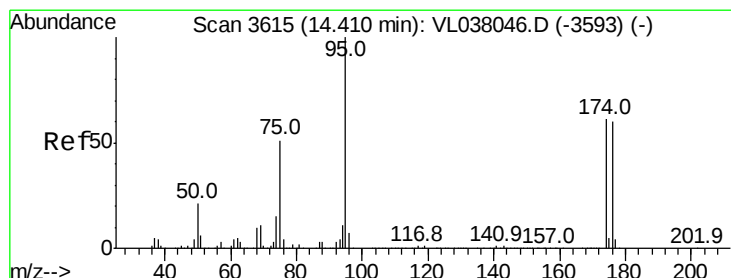
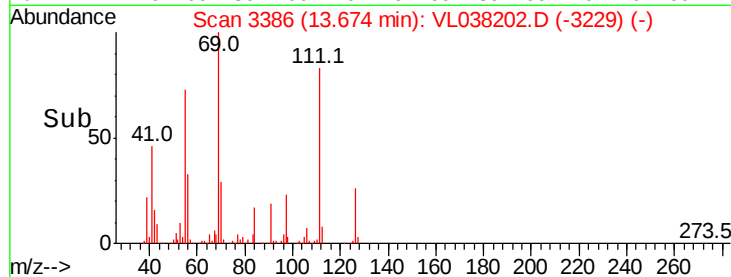
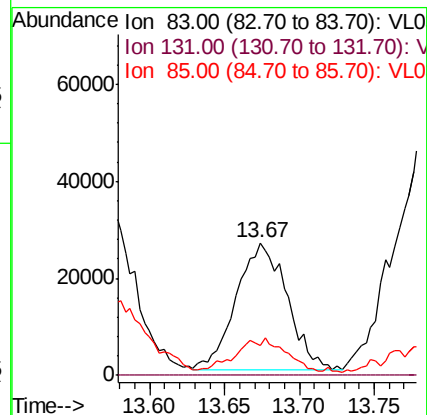
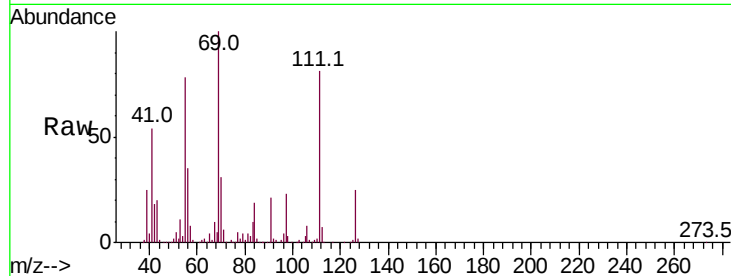
Tot Ion: 83 Resp: 61937

Ion Ratio Lower Upper

83 100

131 0.0 4.9 14.7#

85 27.8 33.4 100.1#



#68

1-Bromo-4-Fluorobenzene

Concen: 11.154 ppbv

RT: 14.42 min Scan# 3619

Delta R.T. 0.01 min

Lab File: VL038202.D

Acq: 16 Dec 2021 23:34

Tgt Ion: 95 Resp: 1968497

Ion Ratio Lower Upper

95 100

174 63.7 53.1 79.7

175 4.7 4.0 6.0

