

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL052522\
 Data File : VL039128.D
 Acq On : 26 May 2022 10:03
 Operator : SY/AP
 Sample : N2957-05DL 10X
 Misc : 400mL/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 VP-2DL

Quant Time: May 27 04:26:16 2022
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL050522AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_LThu May 05 10:12:15 2022
 QLast Update : Thu May 05 10:12:15 2022
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.65	49	983291	10.00	ppbv	-0.02
33) 1,4-Difluorobenzene	7.15	114	2272207	10.00	ppbv	-0.03
55) Chlorobenzene-d5	12.05	117	1925467	10.00	ppbv	-0.03

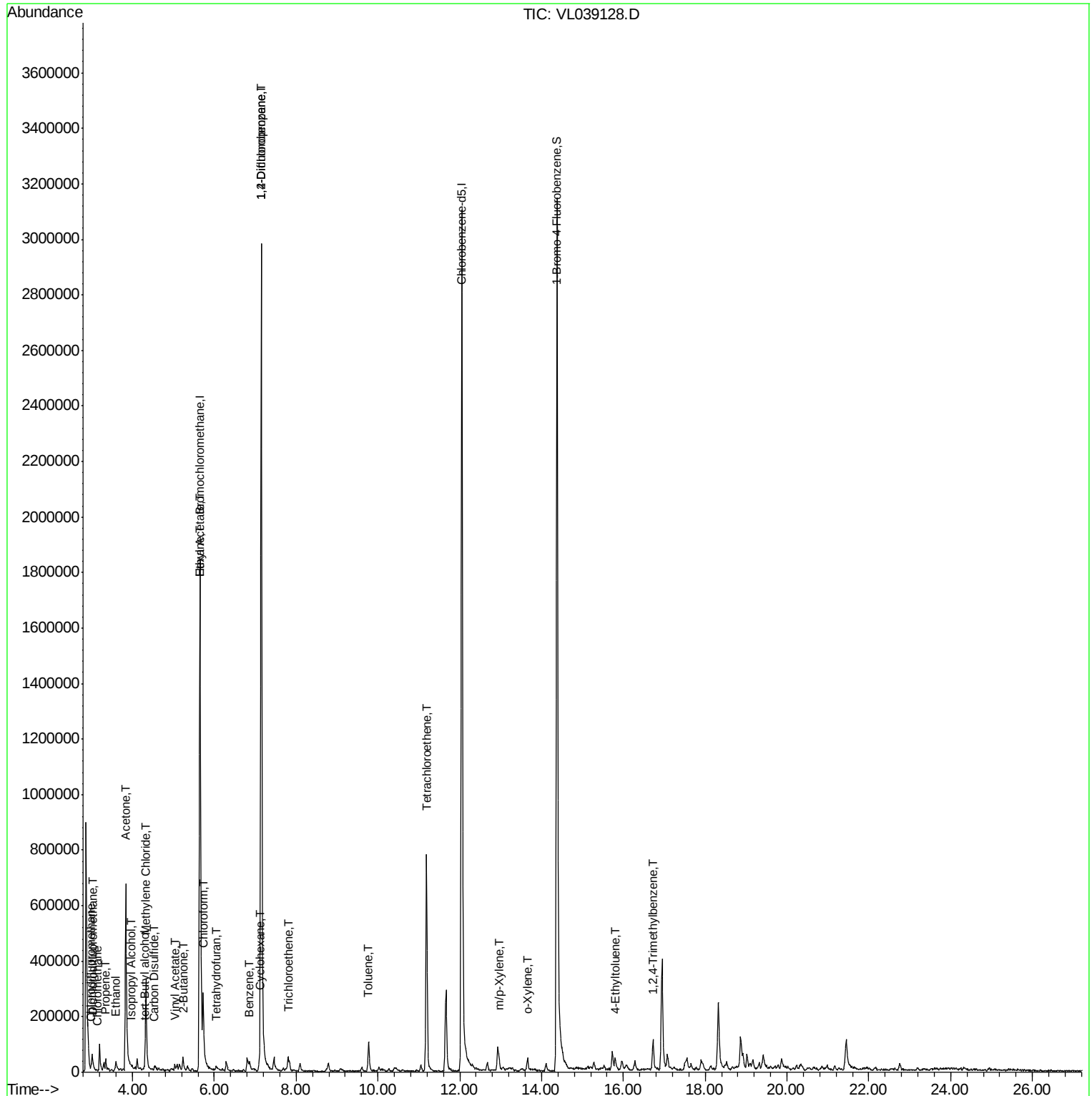
System Monitoring Compounds		R.T.	QIon	Response	Conc	Units	Dev(Min)
68) 1-Bromo-4-Fluorobenzene	14.38	95	1630861	10.70	ppbv	-0.03	
Spiked Amount	10.000	Range	65 - 135	Recovery	=	107.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Ovalue
2) Dichlorodifluoromethane	3.03	85	10415	0.068	ppbv #	61
3) Chlorodifluoromethane	2.97	51	8195	0.067	ppbv #	73
4) Chloromethane	3.13	50	2170	0.036	ppbv #	77
9) Propene	3.34	41	9997	0.188	ppbv	97
13) Ethanol	3.59	45	20304	5.385	ppbv #	31
15) Acetone	3.83	43	863628	9.311	ppbv	95
17) tert-Butyl alcohol	4.29	59	3793	0.053	ppbv #	54
19) Isopropyl Alcohol	3.96	45	8722	0.198	ppbv #	95
20) Methylene Chloride	4.33	84	128034	3.662	ppbv	98
23) Vinyl Acetate	5.04	43	2855	0.039	ppbv #	23
25) Ethyl Acetate	5.66	43	67385	0.304	ppbv #	78
26) Hexane	5.66	57	95515	0.968	ppbv #	36
27) Carbon Disulfide	4.54	76	4991	0.053	ppbv #	1
29) Chloroform	5.73	83	150163	0.941	ppbv	95
30) Cyclohexane	7.11	84	6950	0.084	ppbv #	1
34) 2-Butanone	5.23	43	57019	0.492	ppbv #	90
36) Benzene	6.86	78	12590	0.065	ppbv #	85
38) Trichloroethene	7.80	130	6795	0.079	ppbv #	69
39) 1,2-Dichloropropane	7.14	63	658454	8.703	ppbv #	26
41) Tetrahydrofuran	6.04	42	3647	0.047	ppbv #	32
52) Tetrachloroethene	11.19	164	173538	2.497	ppbv	95
53) Toluene	9.78	91	73092	0.335	ppbv	93
59) m/p-Xylene	12.96	91	20214	0.085	ppbv #	33
60) o-Xylene	13.65	91	23830	0.107	ppbv	71
72) 4-Ethyltoluene	15.79	105	7734	0.030	ppbv #	38
74) 1,2,4-Trimethylbenzene	16.73	105	81514	0.326	ppbv #	69

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

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QLast Update : Thu May 05 10:12:15 2022
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#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.65 Instrument: MSVOA_1

Delta R.T. ClientSampleId:

Lab File: VP-2DL

Acq: 26 May 2022 10:03

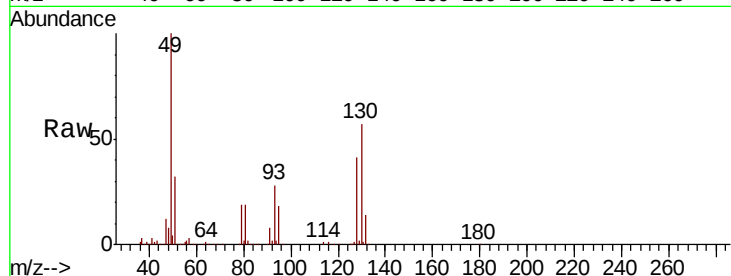
Tot Ion: 49 Resp: 983291

Ion Ratio Lower Upper

49 100

128 46.1 23.3 69.8

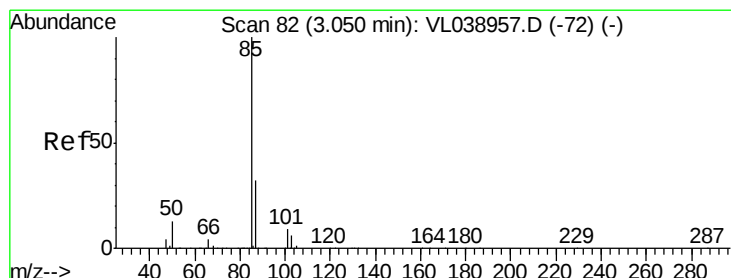
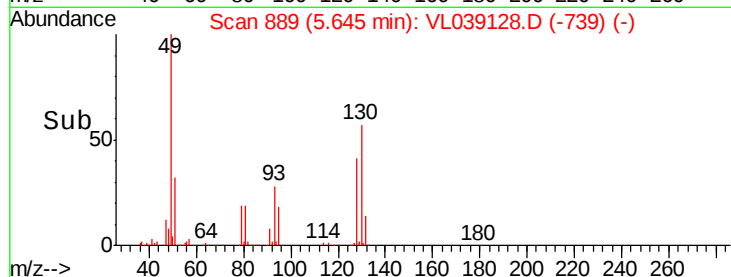
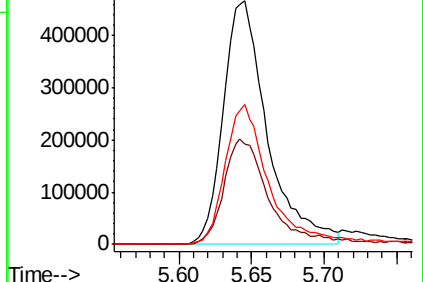
130 59.7 29.8 89.3



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: 0.068 ppbv

RT: 3.03 min Scan# 76

Delta R.T. -0.02 min

Lab File: VL039128.D

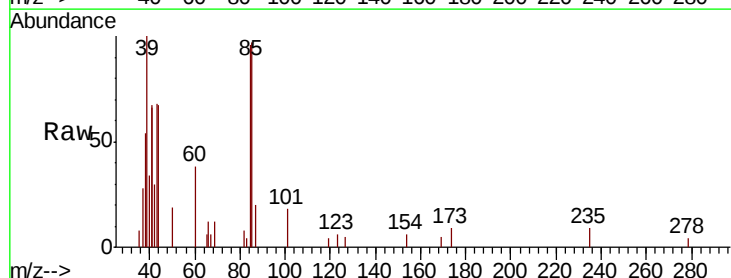
Acq: 26 May 2022 10:03

Tgt Ion: 85 Resp: 10415

Ion Ratio Lower Upper

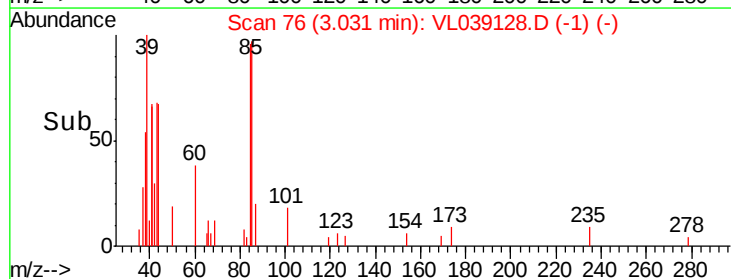
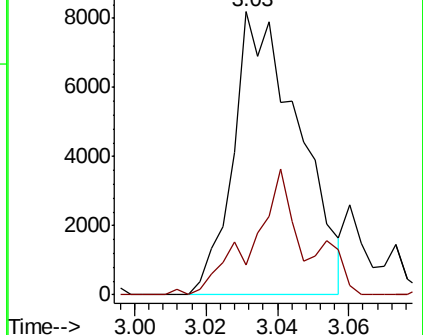
85 100

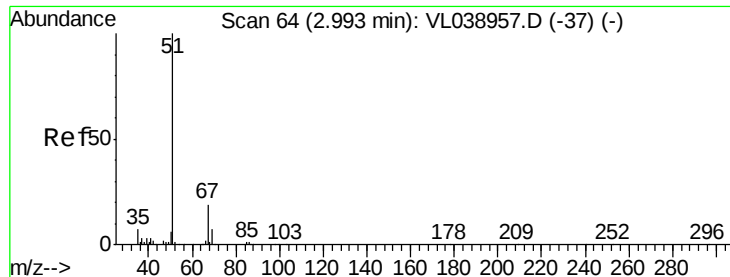
87 10.5 25.7 38.5#



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0





#3

Chlorodifluoromethane

Concen: 0.067 ppbv

RT: 2.97 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

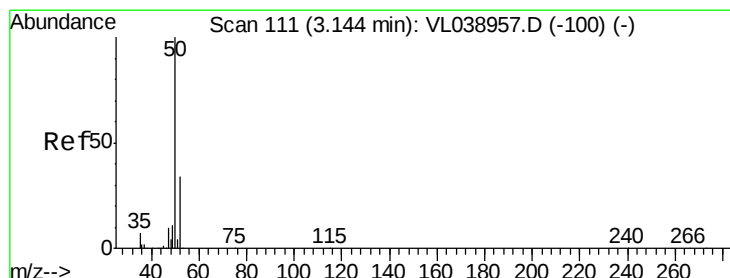
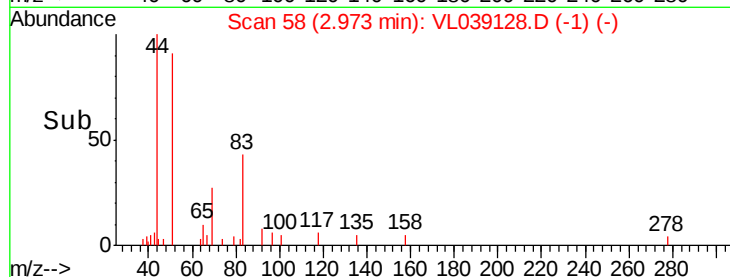
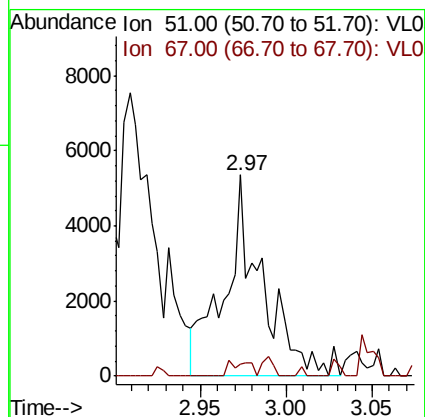
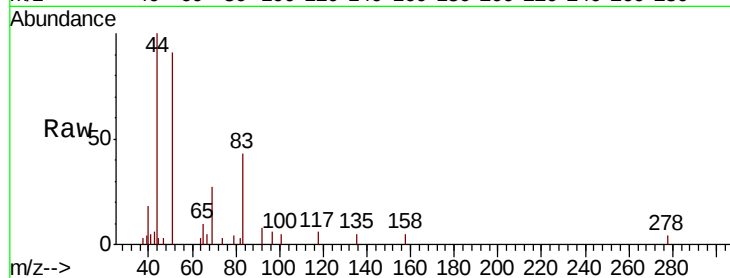
Acq: 26 May 2022 10:03

Tot Ion: 51 Resp: 8195

Ion Ratio Lower Upper

51 100

67 7.3 15.8 23.8#



#4

Chloromethane

Concen: 0.036 ppbv

RT: 3.13 min Scan# 106

Delta R.T. -0.02 min

Lab File: VL039128.D

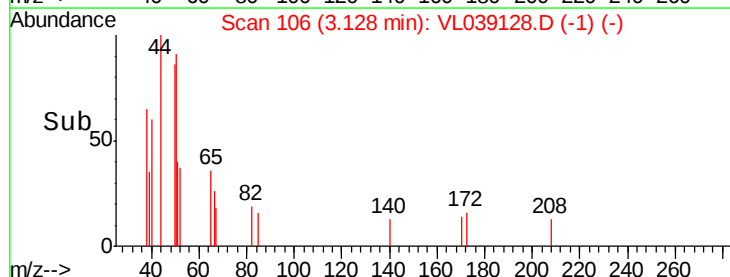
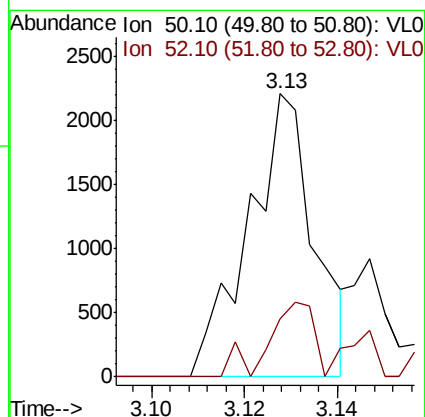
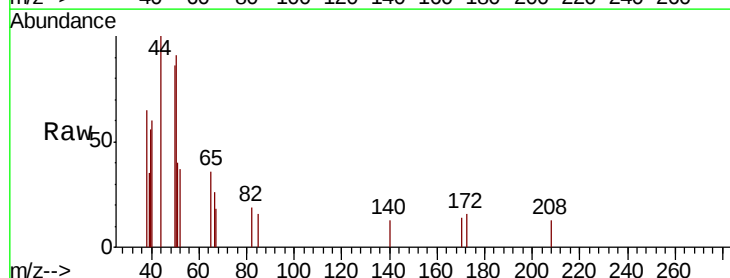
Acq: 26 May 2022 10:03

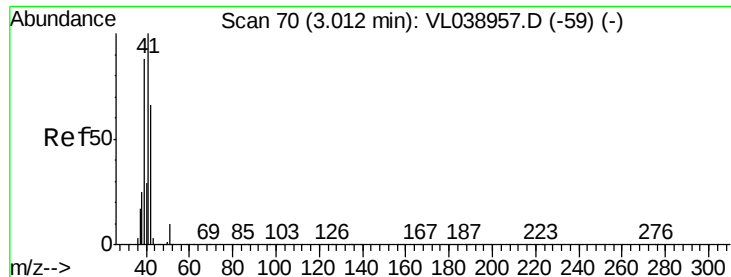
Tgt Ion: 50 Resp: 2170

Ion Ratio Lower Upper

50 100

52 20.6 27.3 40.9#





#9

Propene

Concen: 0.188 ppbv

RT: 3.34 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

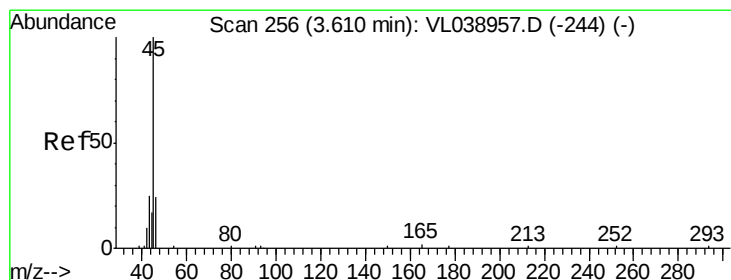
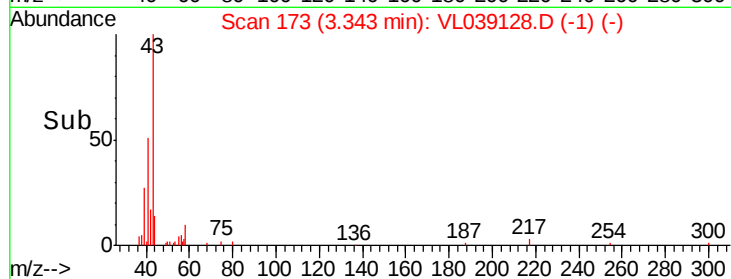
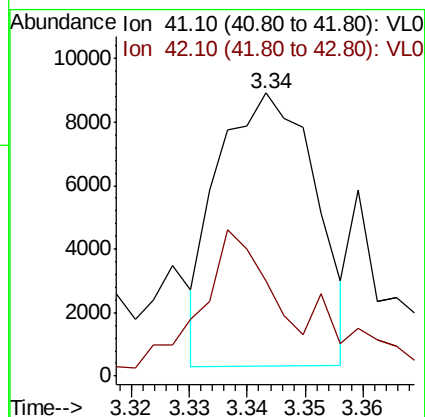
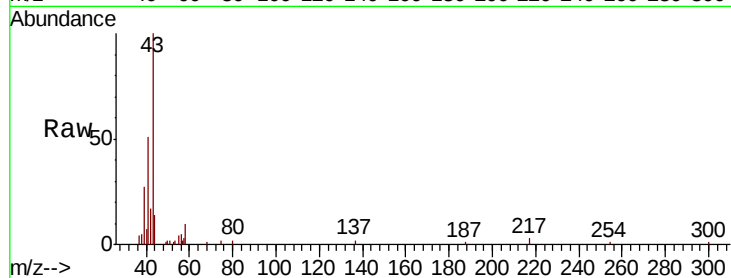
Acq: 26 May 2022 10:03

Tot Ion: 41 Resp: 9997

Ion Ratio Lower Upper

41 100

42 70.2 58.3 87.5



#13

Ethanol

Concen: 5.385 ppbv

RT: 3.59 min Scan# 251

Delta R.T. -0.02 min

Lab File: VL039128.D

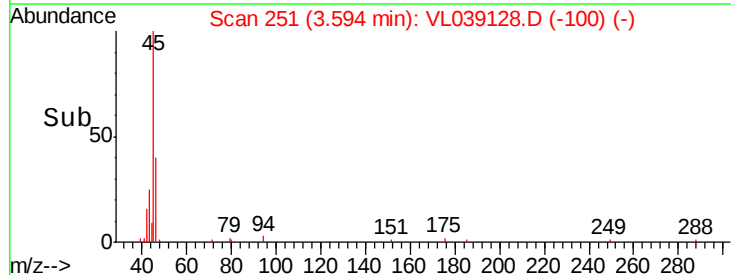
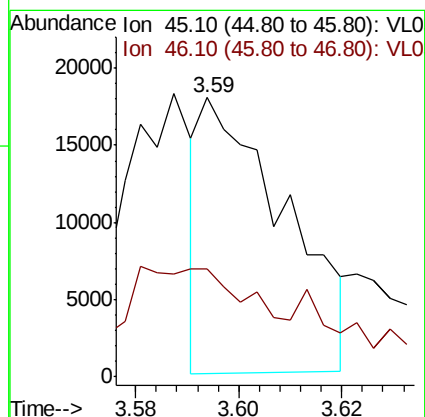
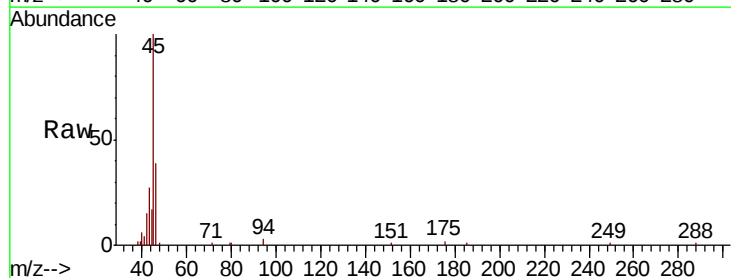
Acq: 26 May 2022 10:03

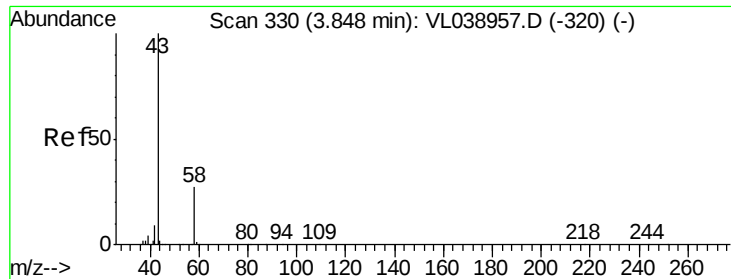
Tgt Ion: 45 Resp: 20304

Ion Ratio Lower Upper

45 100

46 0.0 18.0 72.2#





#15

Acetone

Concen: 9.311 ppbv

RT: 3.83 Instrument: MSVOA_1

Delta R.T. 0.01 min

Lab File: ClientSampleId: VP-2DL

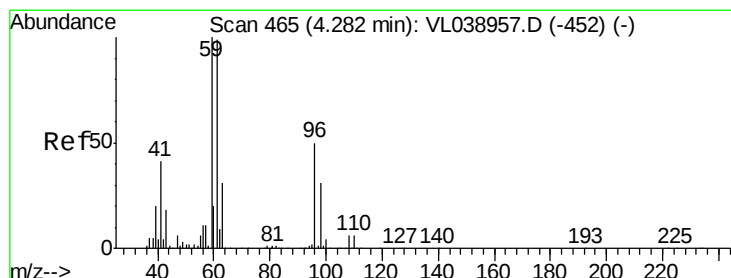
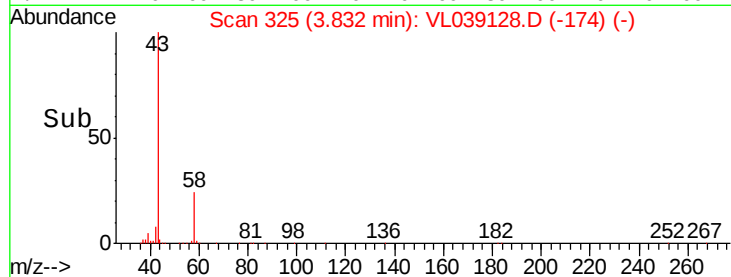
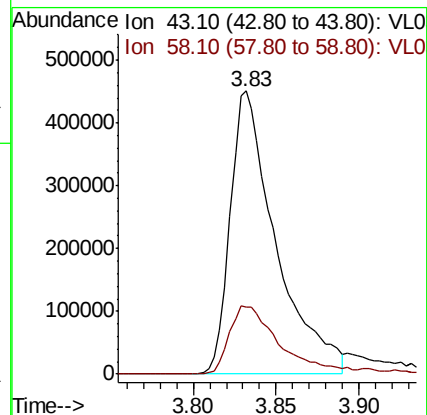
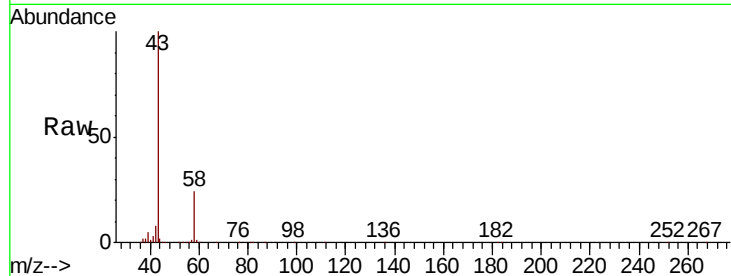
Acq: 26 May 2022 10:03

Tot Ion: 43 Resp: 863628

Ion Ratio Lower Upper

43 100

58 29.2 21.3 31.9



#17

tert-Butyl alcohol

Concen: 0.053 ppbv

RT: 4.29 min Scan# 468

Delta R.T. 0.01 min

Lab File: VL039128.D

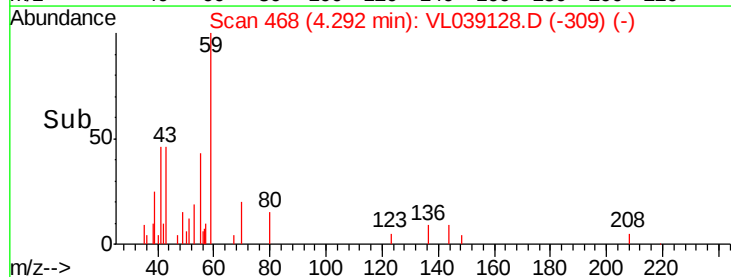
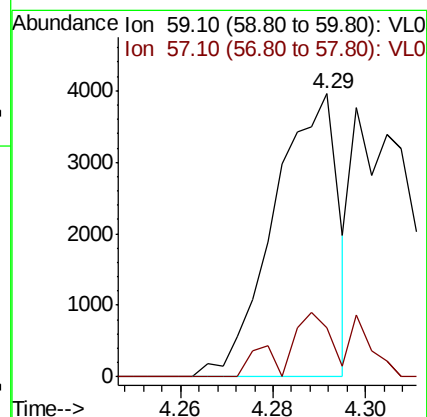
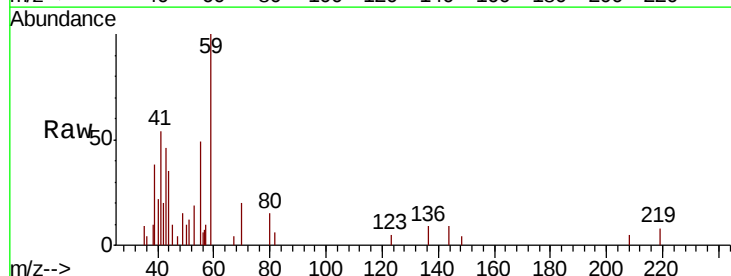
Acq: 26 May 2022 10:03

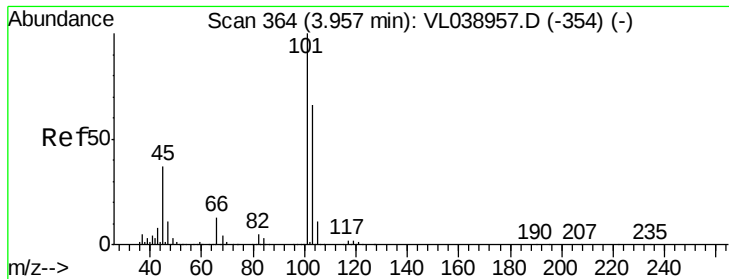
Tgt Ion: 59 Resp: 3793

Ion Ratio Lower Upper

59 100

57 29.2 9.2 13.8#





#19

Isopropyl Alcohol

Concen: 0.198 ppbv

RT: 3.96 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

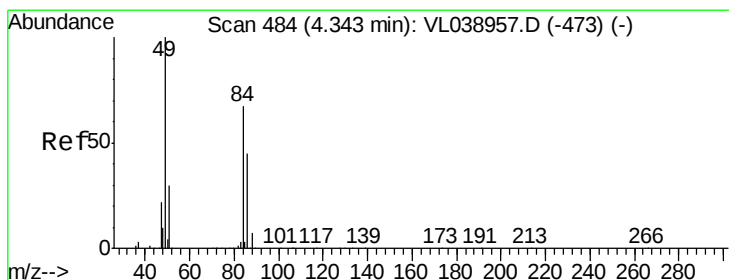
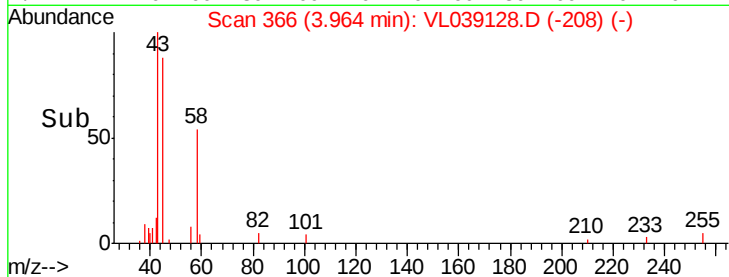
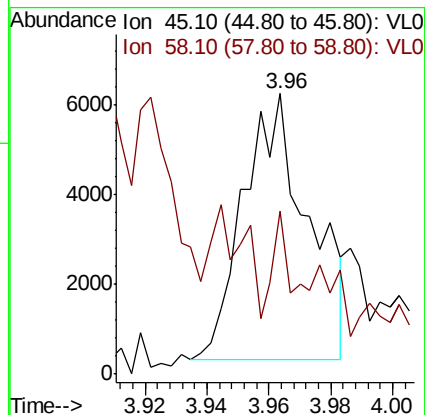
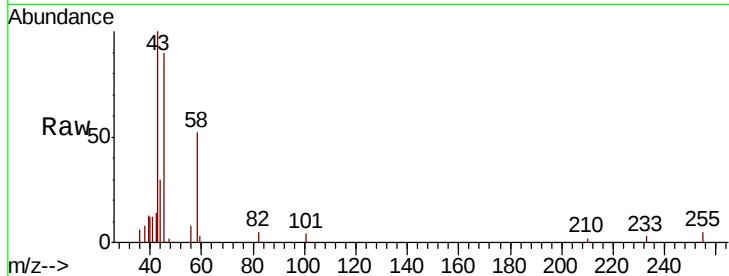
Acq: 26 May 2022 10:03

Tot Ion: 45 Resp: 8722

Ion Ratio Lower Upper

45 100

58 0.0 1.4 2.2#



#20

Methylene Chloride

Concen: 3.662 ppbv

RT: 4.33 min Scan# 479

Delta R.T. -0.02 min

Lab File: VL039128.D

Acq: 26 May 2022 10:03

Tgt Ion: 84 Resp: 128034

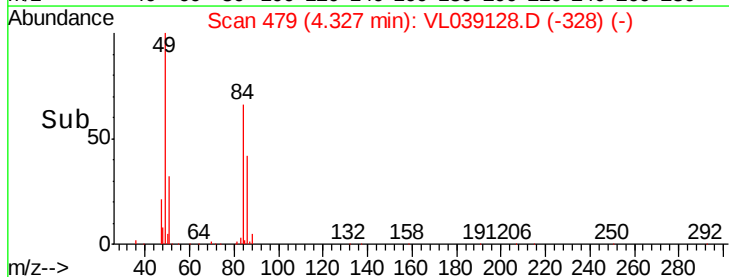
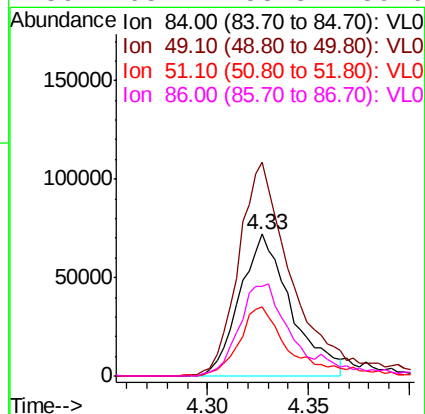
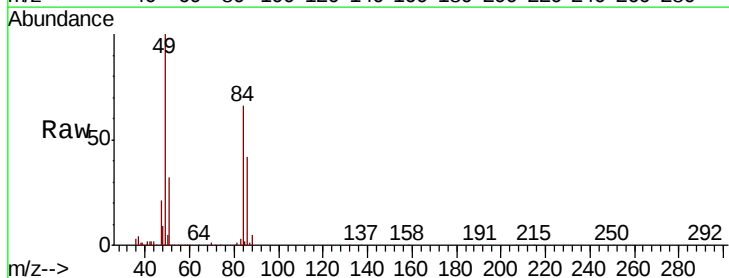
Ion Ratio Lower Upper

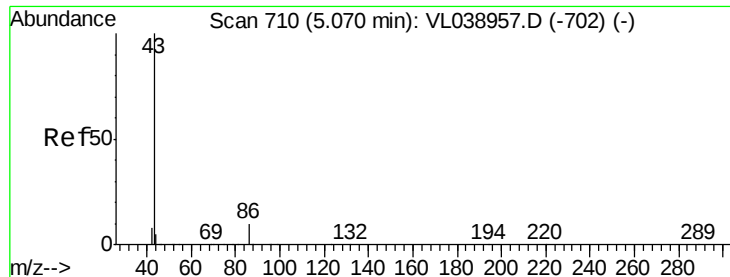
84 100

49 149.9 119.9 179.9

51 48.1 35.7 53.5

86 63.2 53.8 80.6





#23

Vinyl Acetate

Concen: 0.039 ppbv

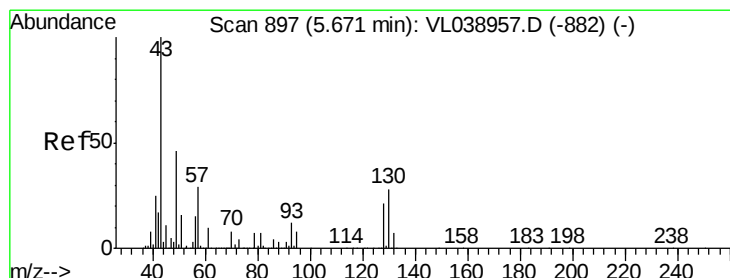
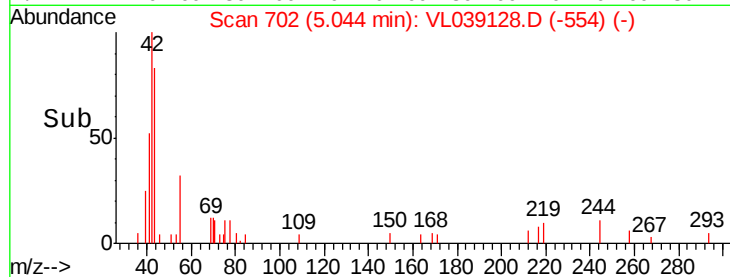
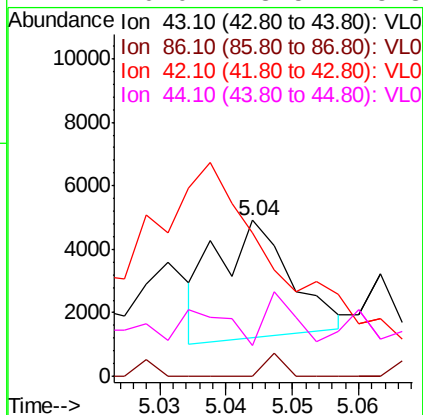
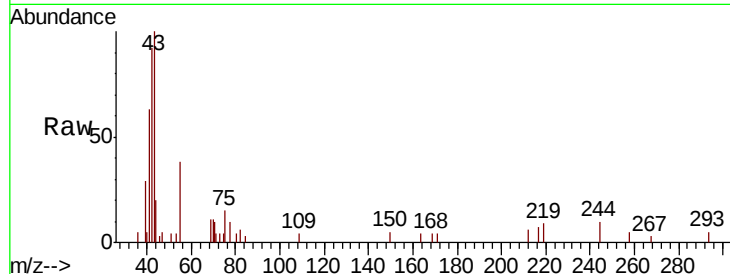
RT: 5.04 Instrument: MSVOA_1

Delta R.T. ClientSampleId:

Lab File: VP-2DL

Acq: 26 May 2022 10:03

Tot Ion:	43	Resp:	2855
Ion	Ratio	Lower	Upper
43	100		
86	0.0	6.6	9.8#
42	65.1	8.1	12.1#
44	0.0	3.5	5.3#



#25

Ethyl Acetate

Concen: 0.304 ppbv

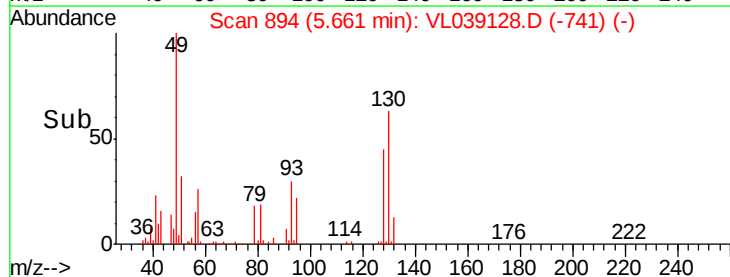
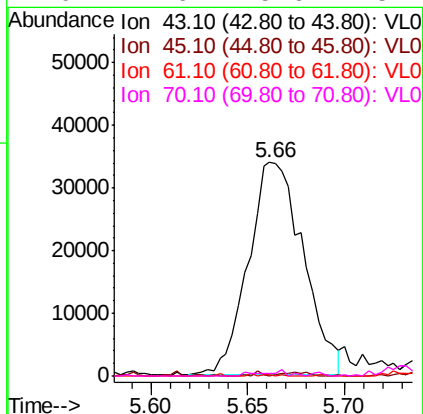
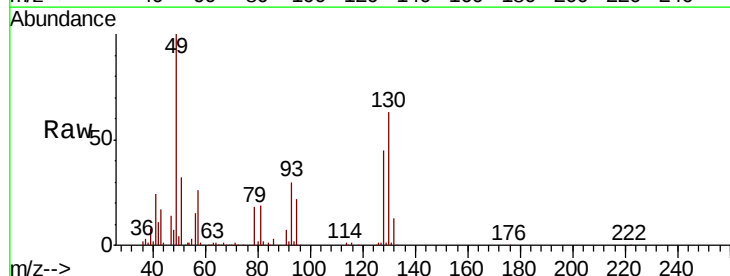
RT: 5.66 min Scan# 894

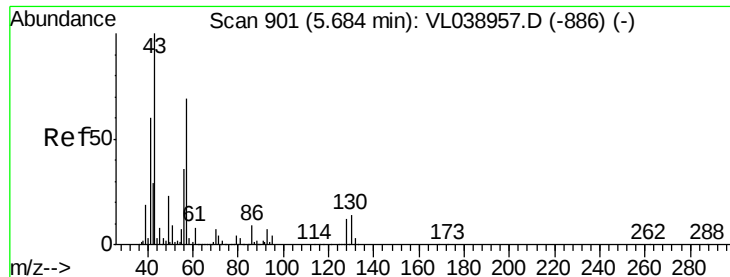
Delta R.T. -0.01 min

Lab File: VL039128.D

Acq: 26 May 2022 10:03

Tgt Ion:	43	Resp:	67385
Ion	Ratio	Lower	Upper
43	100		
45	1.3	8.1	12.1#
61	0.2	7.8	11.6#
70	1.6	5.6	8.4#





#26

Hexane

Concen: 0.968 ppbv

RT: 5.66

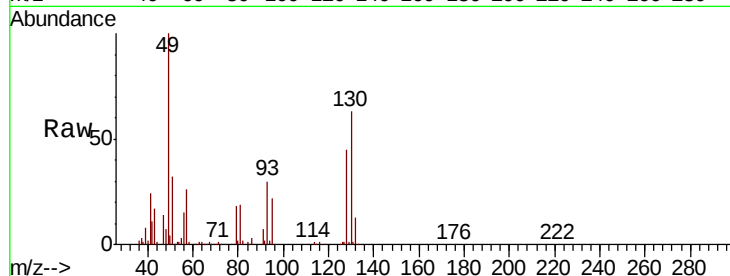
Delta R.T. MSVOA_L

Lab File: ClientSampleId :

Acq: 26 May 2022 10:03

Tot Ion: 57 Resp: 95515

Ion	Ratio	Lower	Upper
57	100		
41	105.9	75.2	112.8
43	75.9	190.8	286.2#
56	61.3	43.0	64.6



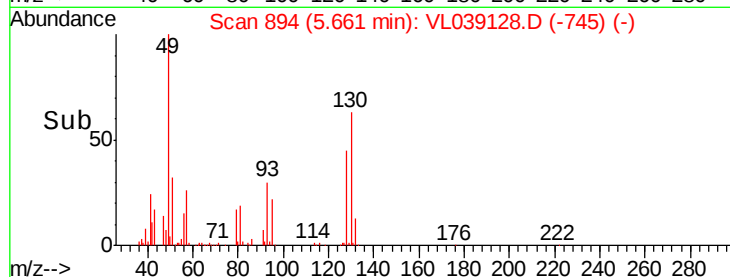
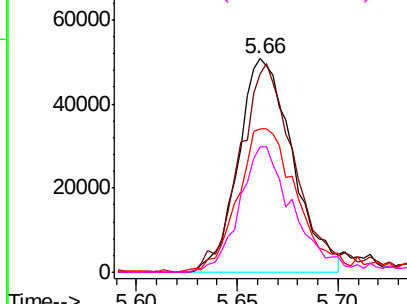
Abundance

Ion 57.10 (56.80 to 57.80): VL0

Ion 41.10 (40.80 to 41.80): VL0

Ion 43.10 (42.80 to 43.80): VL0

Ion 56.10 (55.80 to 56.80): VL0



#27

Carbon Disulfide

Concen: 0.053 ppbv

RT: 4.54 min Scan# 545

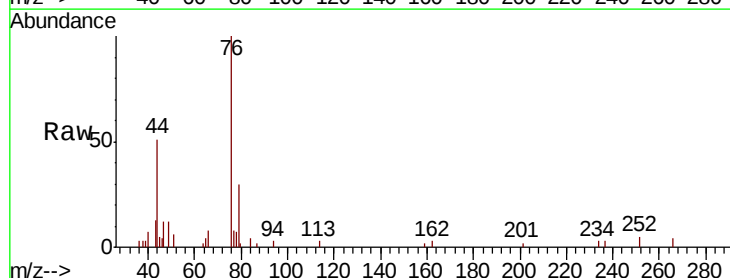
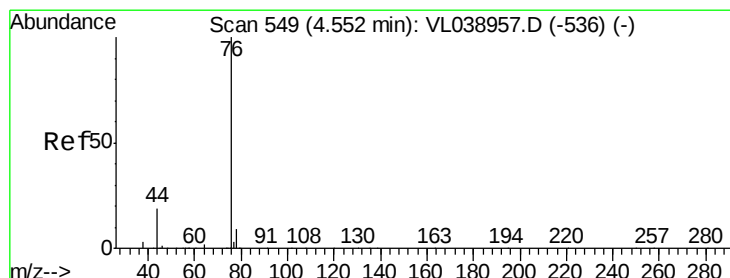
Delta R.T. -0.01 min

Lab File: VL039128.D

Acq: 26 May 2022 10:03

Tgt Ion: 76 Resp: 4991

Ion	Ratio	Lower	Upper
76	100		
44	88.3	15.3	22.9#
78	0.0	8.2	12.2#

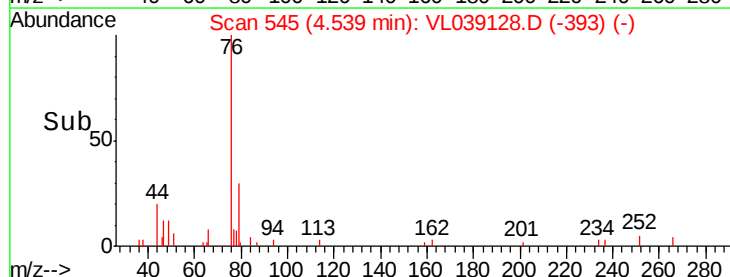
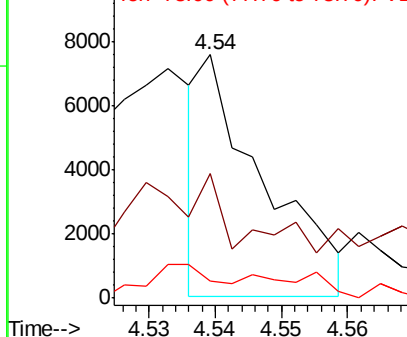


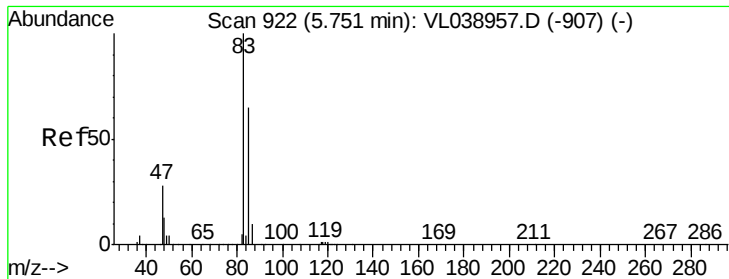
Abundance

Ion 76.00 (75.70 to 76.70): VL0

Ion 44.10 (43.80 to 44.80): VL0

Ion 78.00 (77.70 to 78.70): VL0





#29

Chloroform

Concen: 0.941 ppbv

RT: 5.73 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

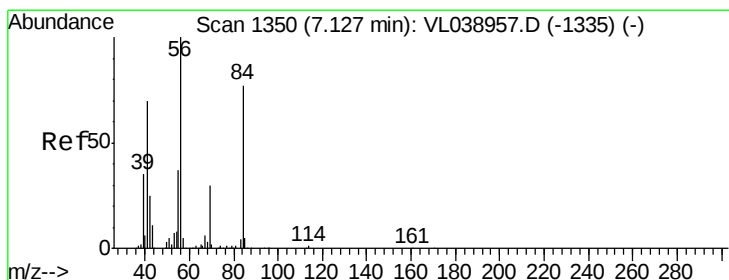
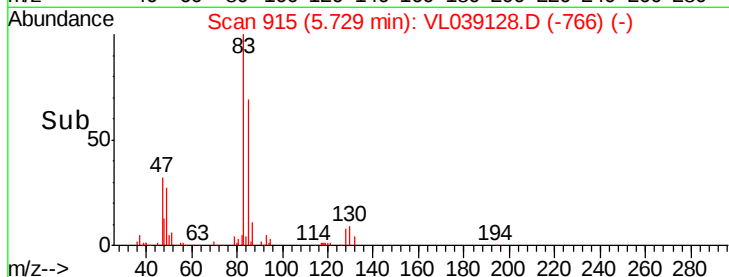
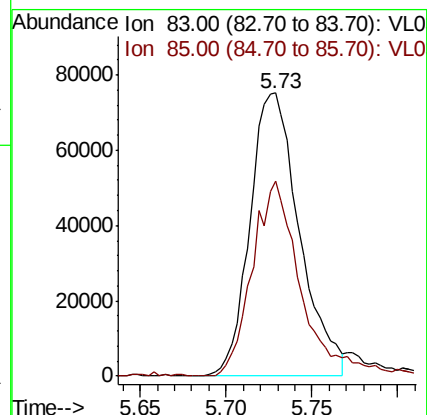
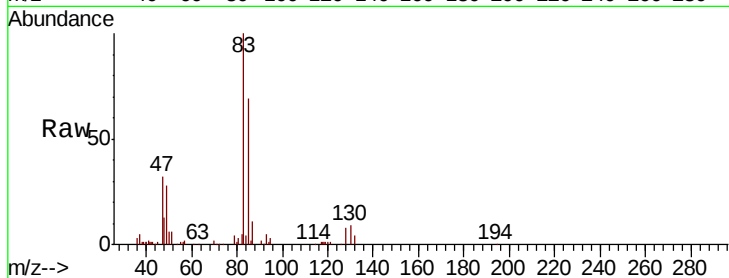
Acq: 26 May 2022 10:03

Tot Ion: 83 Resp: 150163

Ion Ratio Lower Upper

83 100

85 68.9 51.8 77.6



#30

Cyclohexane

Concen: 0.084 ppbv

RT: 7.11 min Scan# 1343

Delta R.T. -0.02 min

Lab File: VL039128.D

Acq: 26 May 2022 10:03

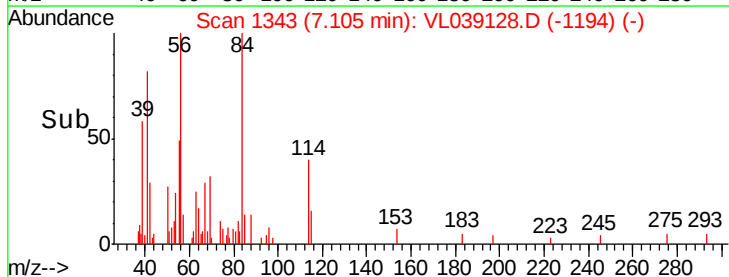
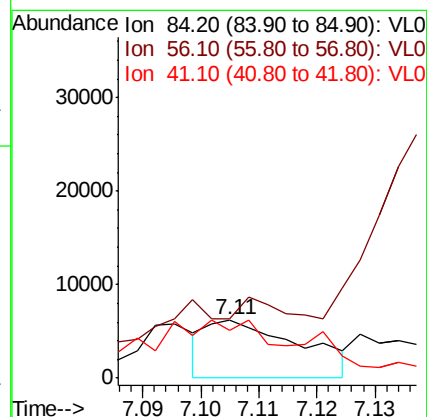
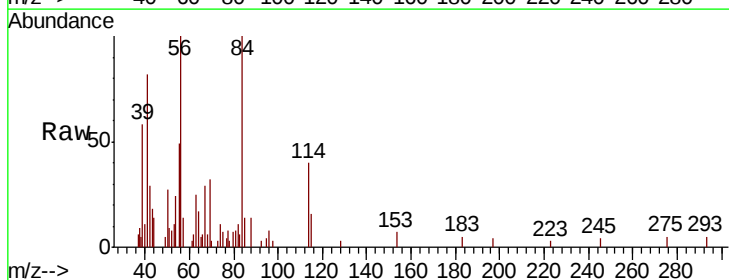
Tgt Ion: 84 Resp: 6950

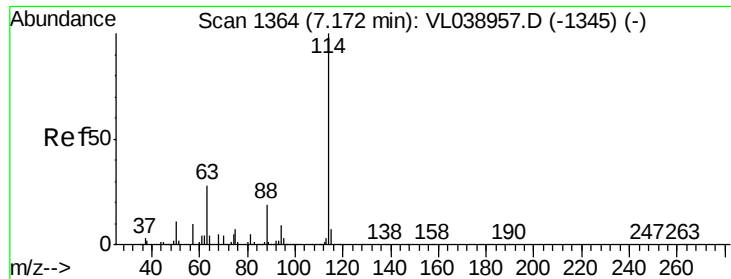
Ion Ratio Lower Upper

84 100

56 0.0 115.3 172.9#

41 218.3 72.0 108.0#





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 7.15 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 26 May 2022 10:03

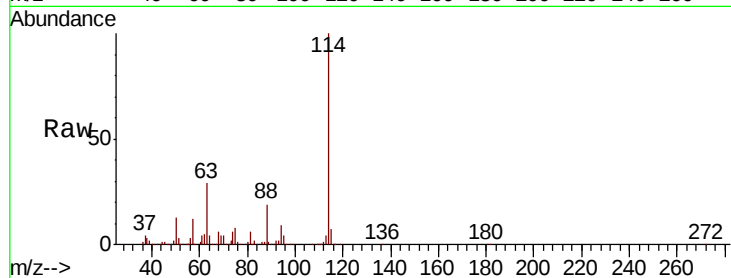
Tot Ion:114 Resp: 2272207

Ion Ratio Lower Upper

114 100

63 29.6 22.6 33.8

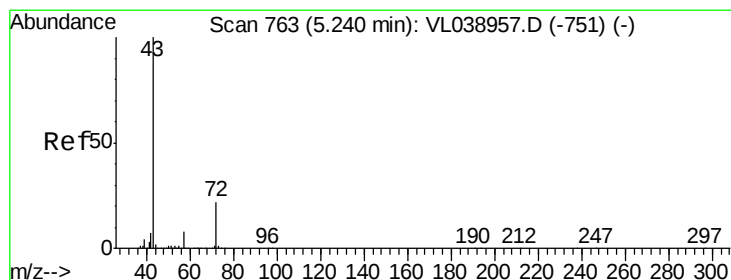
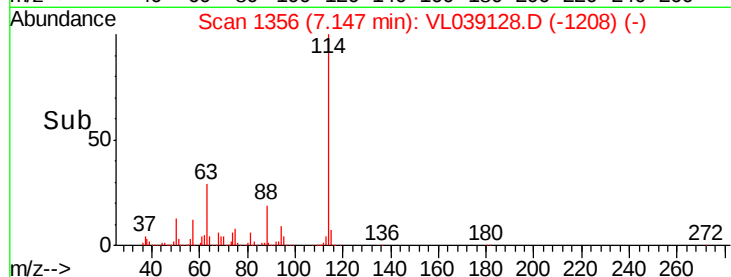
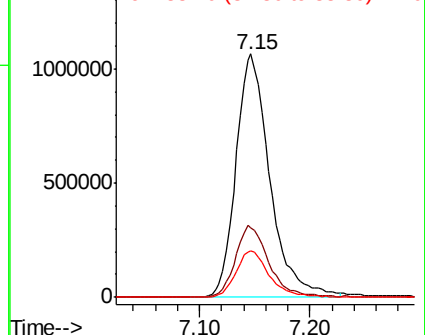
88 19.4 15.4 23.0



Abundance Ion 114.10 (113.80 to 114.80): V

Ion 63.10 (62.80 to 63.80): VL0

Ion 88.10 (87.80 to 88.80): VL0



#34

2-Butanone

Concen: 0.492 ppbv

RT: 5.23 min Scan# 761

Delta R.T. -0.01 min

Lab File: VL039128.D

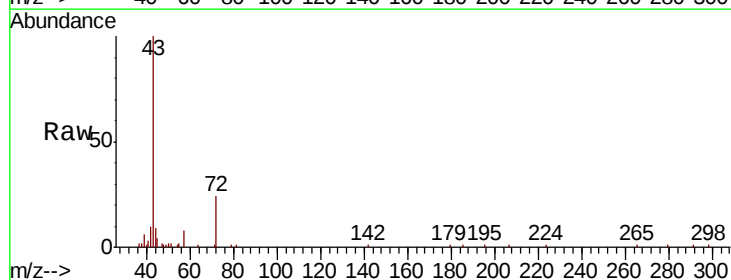
Acq: 26 May 2022 10:03

Tgt Ion: 43 Resp: 57019

Ion Ratio Lower Upper

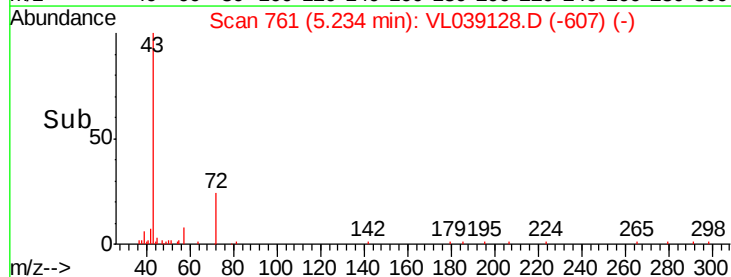
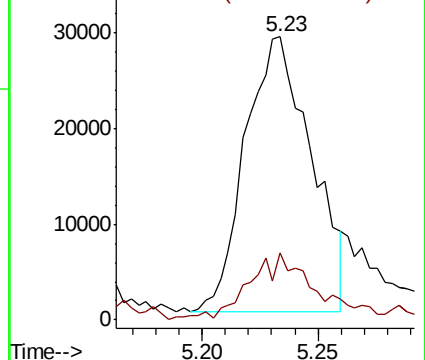
43 100

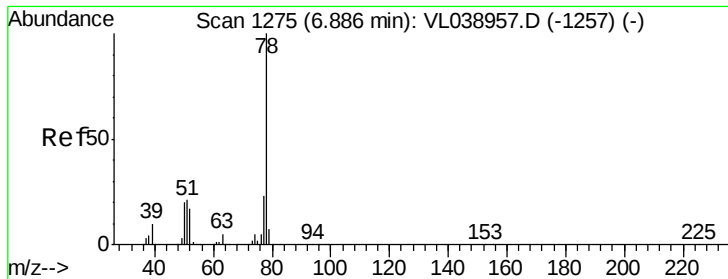
72 26.8 17.8 26.6#



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 72.10 (71.80 to 72.80): VL0





#36

Benzene

Concen: 0.065 ppbv

RT: 6.86 Instrument: MSVOA_1

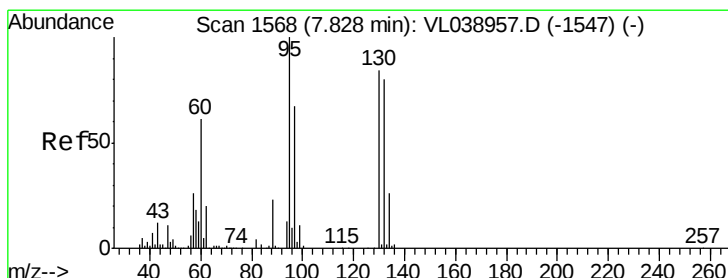
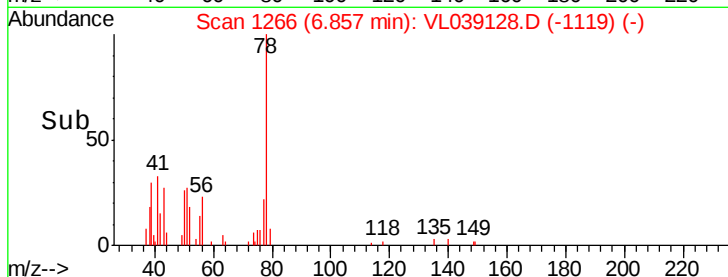
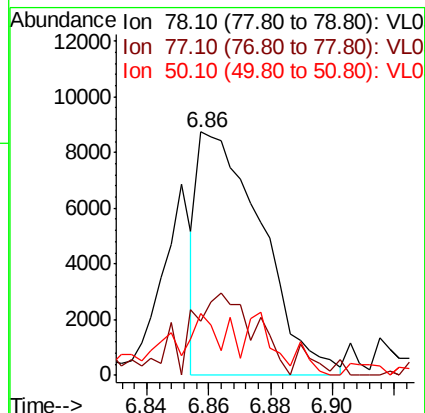
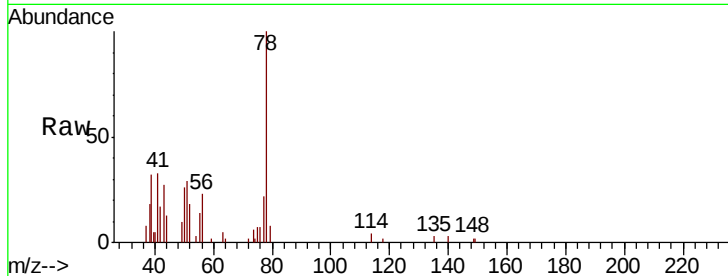
Delta R.T. ClientSampleId:

Lab File: VP-2DL

Acq: 26 May 2022 10:03

Tot Ion: 78 Resp: 12590

Ion	Ratio	Lower	Upper
78	100		
77	16.5	18.6	28.0#
50	27.4	15.6	23.4#



#38

Trichloroethene

Concen: 0.079 ppbv

RT: 7.80 min Scan# 1560

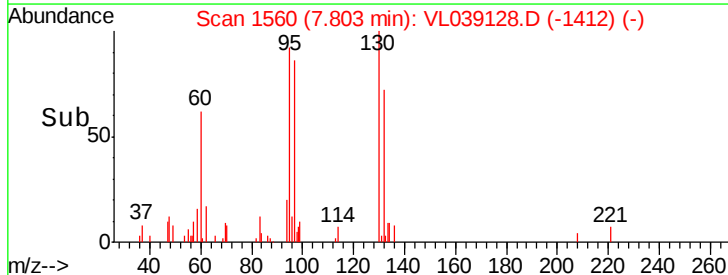
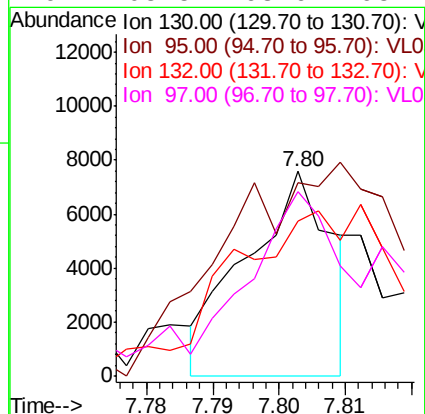
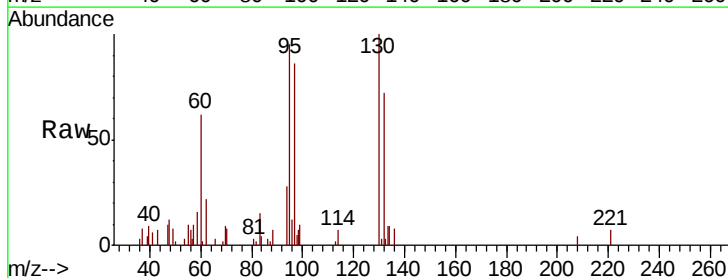
Delta R.T. -0.03 min

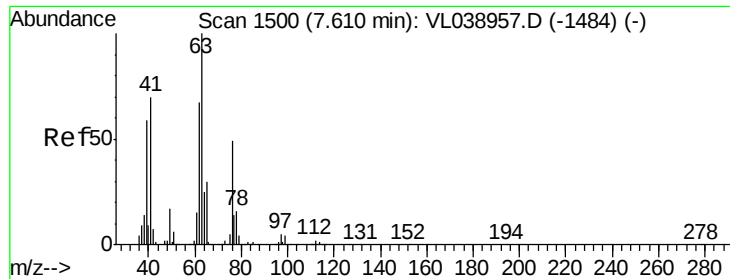
Lab File: VL039128.D

Acq: 26 May 2022 10:03

Tgt Ion: 130 Resp: 6795

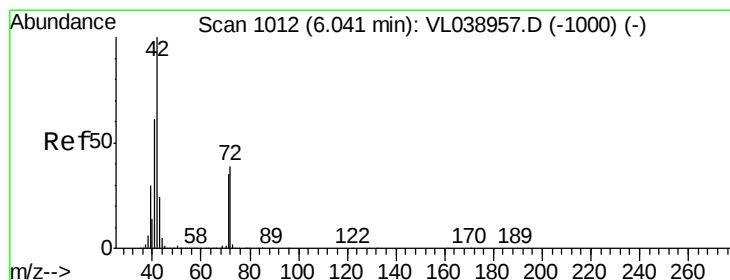
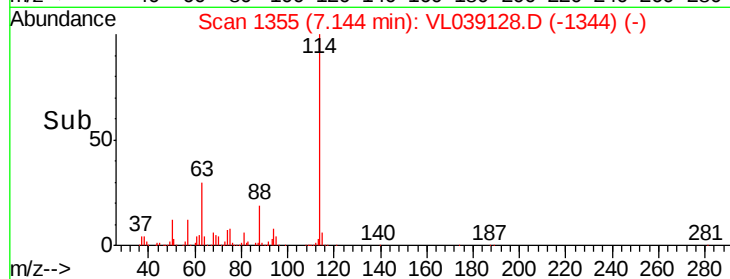
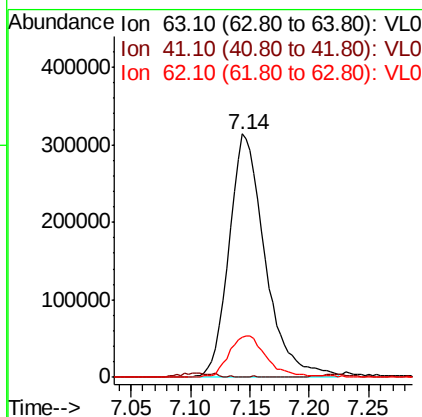
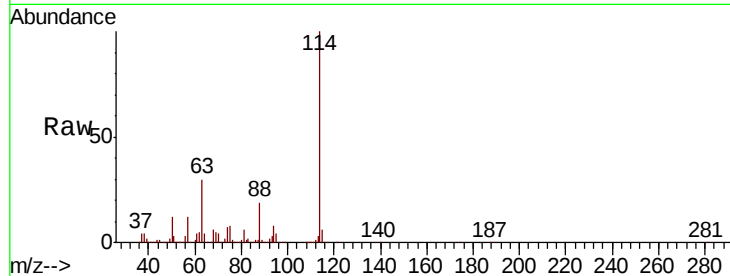
Ion	Ratio	Lower	Upper
130	100		
95	70.8	94.8	142.2#
132	79.0	75.8	113.8
97	105.5	63.6	95.4#





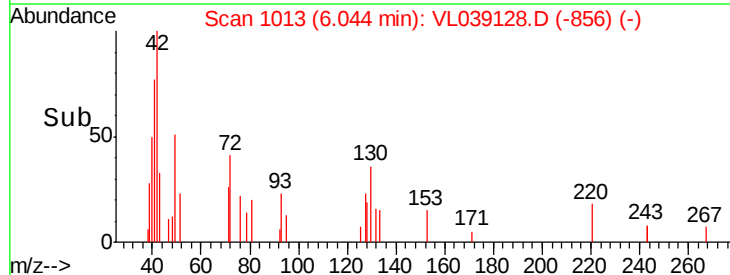
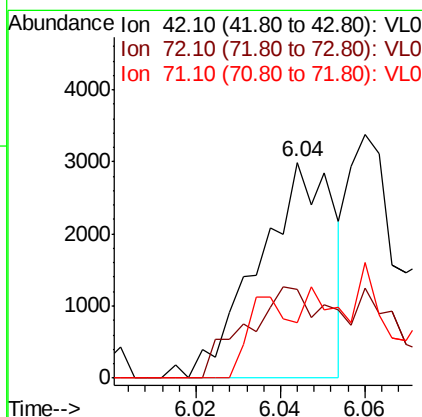
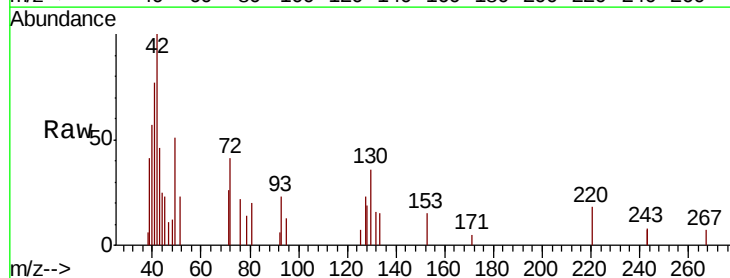
#39
 1,2-Dichloropropane
 Concen: 8.703 ppbv
 RT: 7.14
 Delta R.T. MSVOA_L
 Lab File: ClientSampleId :
 Acq: 26 May 2022 10:03

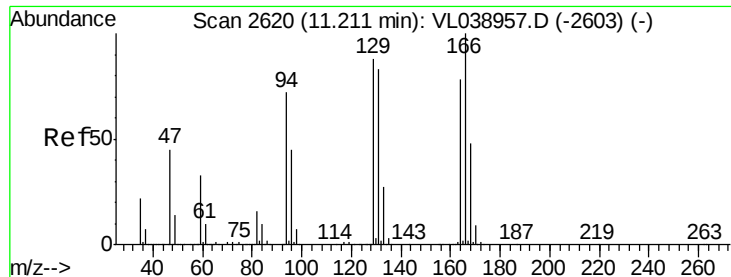
Tot Ion	Ratio	Lower	Upper
63	100		
41	0.0	55.9	83.9#
62	16.6	53.8	80.6#



#41
 Tetrahydrofuran
 Concen: 0.047 ppbv
 RT: 6.04 min Scan# 1013
 Delta R.T. 0.00 min
 Lab File: VL039128.D
 Acq: 26 May 2022 10:03

Tgt Ion	Ratio	Lower	Upper
42	100		
72	84.5	31.8	47.6#
71	0.0	30.6	45.8#





#52

Tetrachloroethene

Concen: 2.497 ppbv

RT: 11.19

Delta R.T. MSVOA_L

Lab File: ClientSampleId :

Acq: 26 May 2022 10:03

Tot Ion:164 Resp: 173538

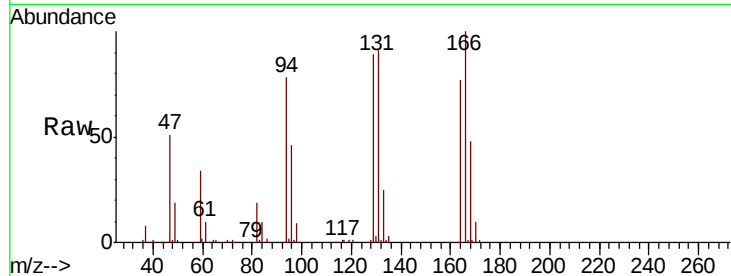
Ion Ratio Lower Upper

164 100

166 129.4 102.5 153.7

129 115.7 90.1 135.1

131 118.4 84.8 127.2

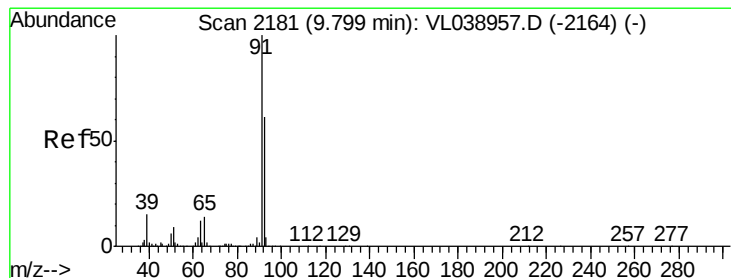
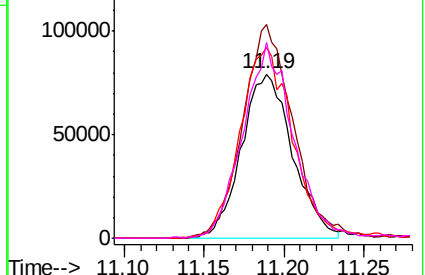
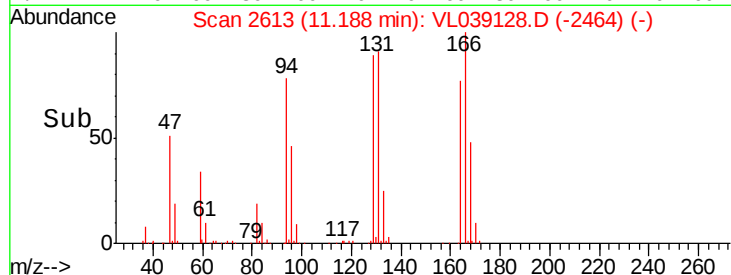


Abundance Ion 163.90 (163.60 to 164.60): V

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: 0.335 ppbv

RT: 9.78 min Scan# 2174

Delta R.T. -0.02 min

Lab File: VL039128.D

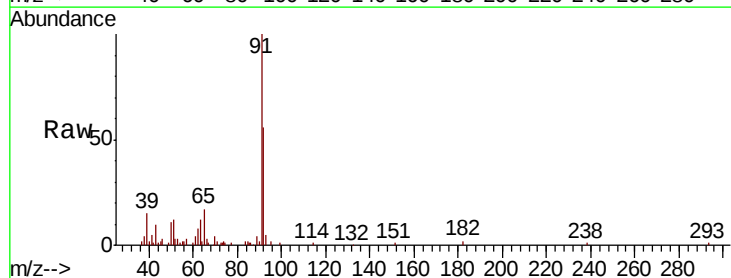
Acq: 26 May 2022 10:03

Tgt Ion: 91 Resp: 73092

Ion Ratio Lower Upper

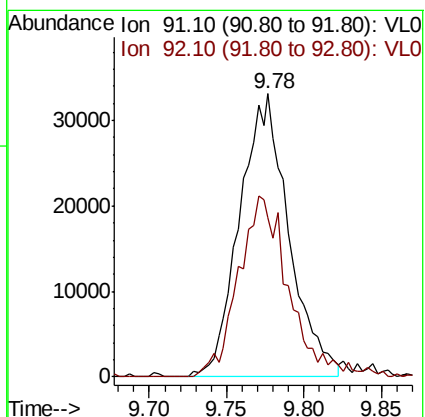
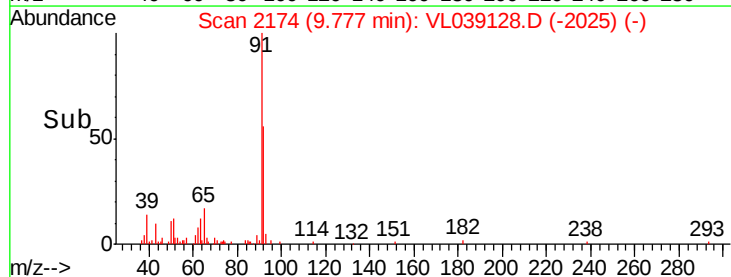
91 100

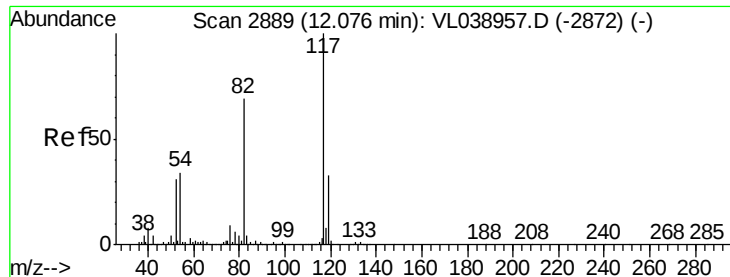
92 65.7 48.2 72.2



Abundance Ion 91.10 (90.80 to 91.80): VL0

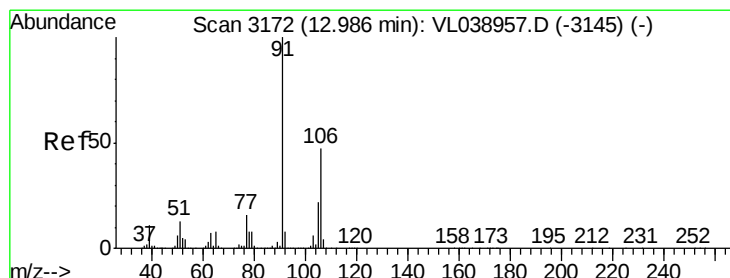
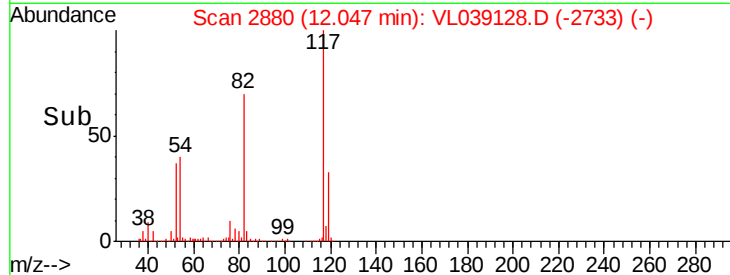
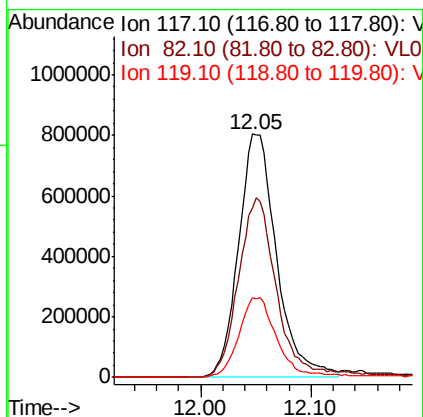
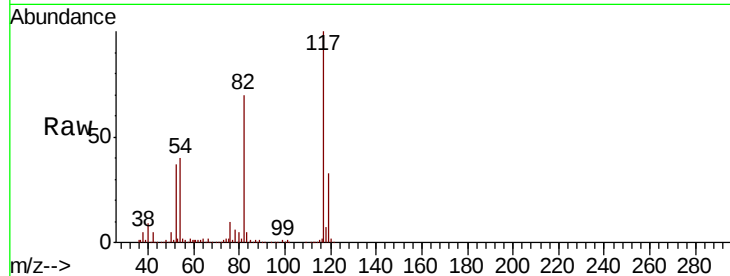
Ion 92.10 (91.80 to 92.80): VL0





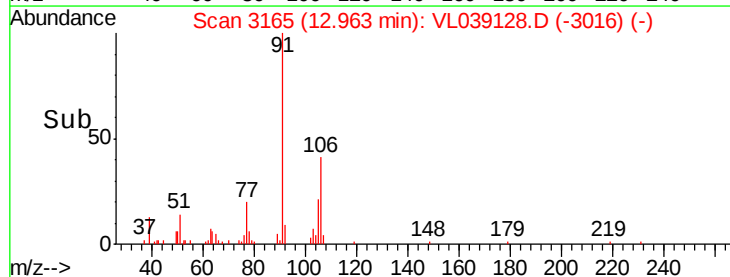
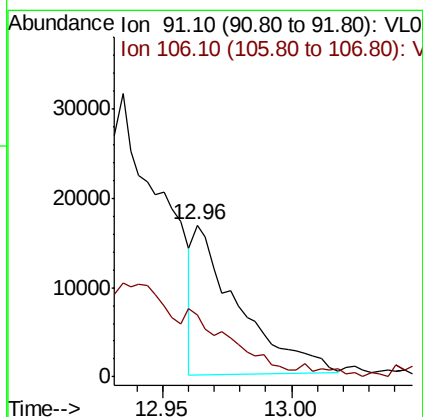
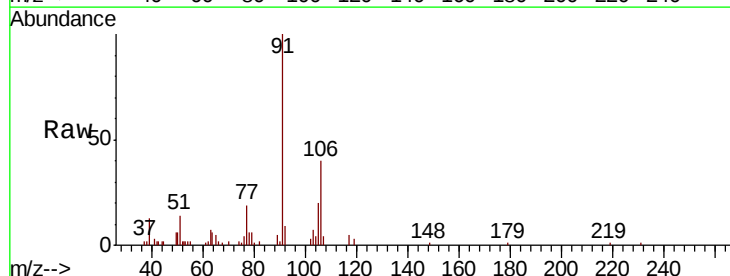
#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 12.05
Instrument: MSVOA_1
Delta R.T.:
Lab File: ClientSampleId:
VP-2DL
Acq: 26 May 2022 10:03

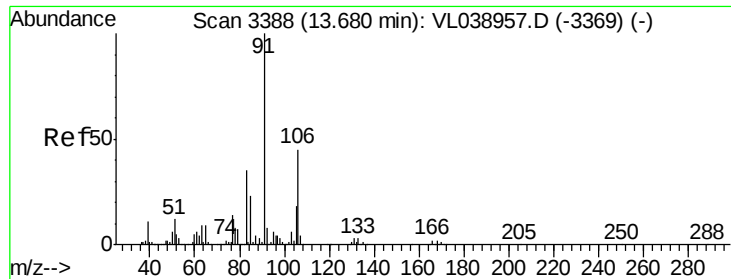
Tot Ion:117 Resp: 1925467
Ion Ratio Lower Upper
117 100
82 75.3 57.0 85.6
119 34.0 27.2 40.8



#59
m/p-Xylene
Concen: 0.085 ppbv
RT: 12.96 min Scan# 3165
Delta R.T. -0.02 min
Lab File: VL039128.D
Acq: 26 May 2022 10:03

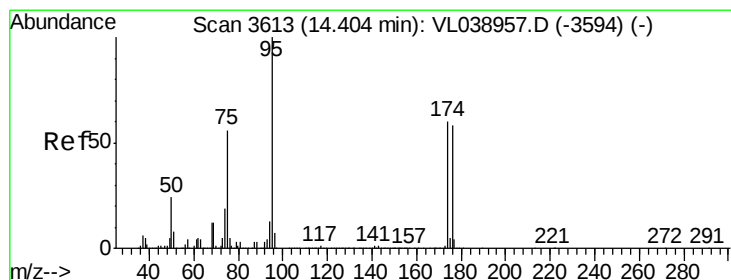
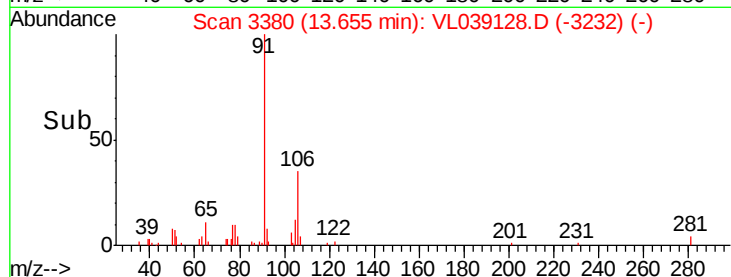
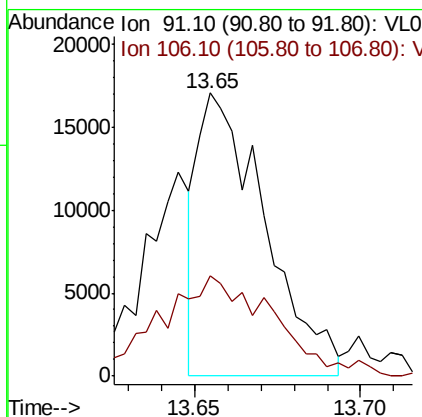
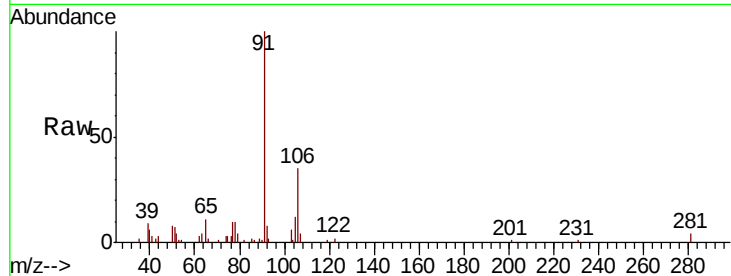
Tgt Ion: 91 Resp: 20214
Ion Ratio Lower Upper
91 100
106 0.0 34.6 52.0#





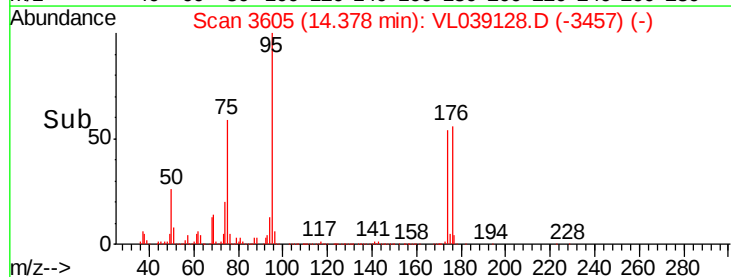
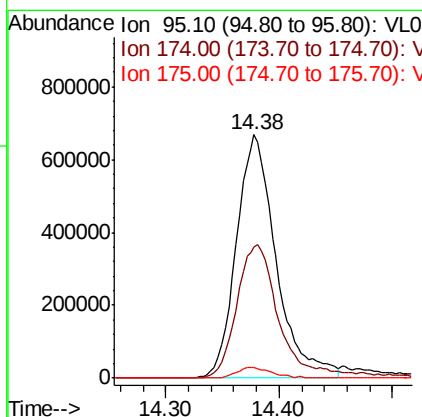
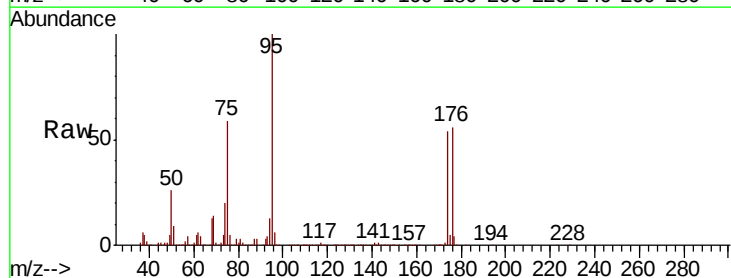
#60
o-Xylene
Concen: 0.107 ppbv
RT: 13.65
Delta R.T. MSVOA_L
Lab File: ClientSampleId :
Acq: 26 May 2022 10:03

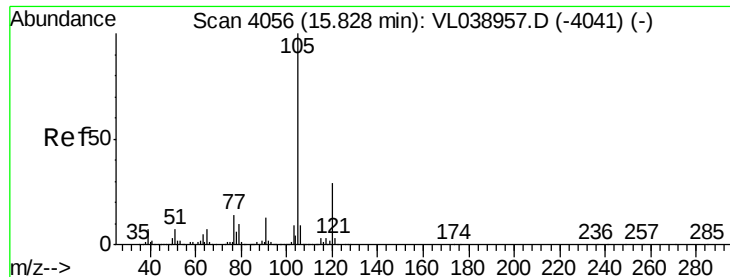
Tot Ion: 91 Resp: 23830
Ion Ratio Lower Upper
91 100
106 63.6 22.2 66.6



#68
1-Bromo-4-Fluorobenzene
Concen: 10.695 ppbv
RT: 14.38 min Scan# 3605
Delta R.T. -0.03 min
Lab File: VL039128.D
Acq: 26 May 2022 10:03

Tgt Ion: 95 Resp: 1630861
Ion Ratio Lower Upper
95 100
174 60.4 50.8 76.2
175 4.2 3.8 5.6





#72

4-Ethyltoluene

Concen: 0.030 ppbv

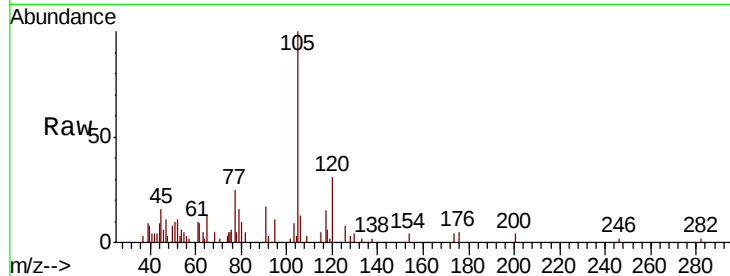
RT: 15.79 min

Delta R.T. MSVOA_1

Lab File: ClientSampleId:

Acq: 26 May 2022 10:03

Tot Ion:	105	Resp:	7734
Ion	Ratio	Lower	Upper
105	100		
120	0.0	23.4	35.0#
91	0.0	10.6	16.0#
77	58.5	12.5	18.7#



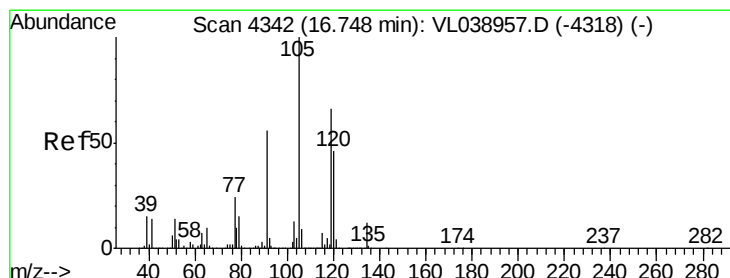
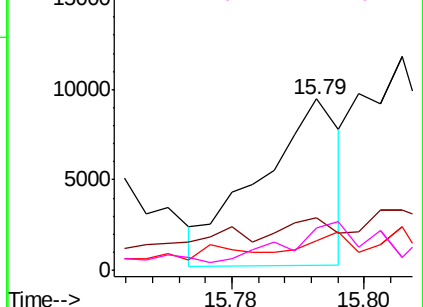
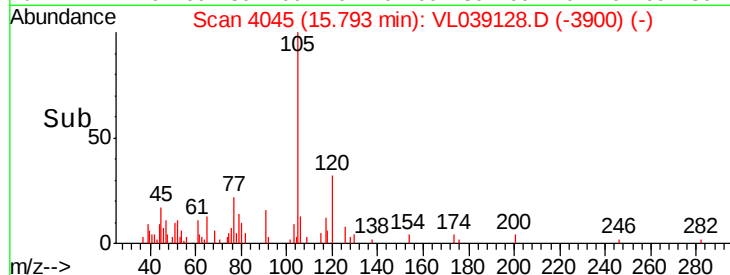
Abundance

Ion 105.10 (104.80 to 105.80): V

Ion 120.20 (119.90 to 120.90): V

Ion 91.10 (90.80 to 91.80): VL0

Ion 77.10 (76.80 to 77.80): VL0



#74

1,2,4-Trimethylbenzene

Concen: 0.326 ppbv

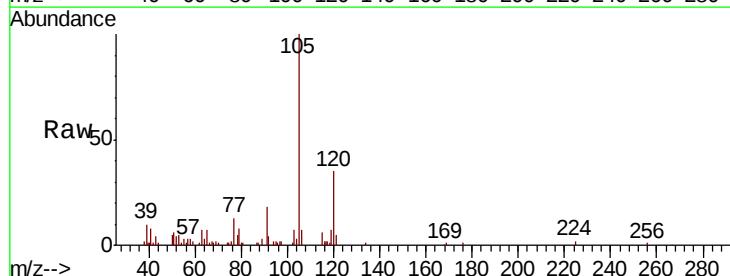
RT: 16.73 min Scan# 4336

Delta R.T. -0.02 min

Lab File: VL039128.D

Acq: 26 May 2022 10:03

Tgt Ion:	105	Resp:	81514
Ion	Ratio	Lower	Upper
105	100		
120	40.3	36.9	55.3
91	17.1	45.0	67.4#
77	13.1	19.2	28.8#



Abundance

Ion 105.10 (104.80 to 105.80): V

Ion 120.20 (119.90 to 120.90): V

Ion 91.10 (90.80 to 91.80): VL0

Ion 77.10 (76.80 to 77.80): VL0

