

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL061522\
 Data File : VL039306.D
 Acq On : 15 Jun 2022 21:57
 Operator : SY/AP
 Sample : N3326-02 2X
 Misc : 400mL/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 S V2

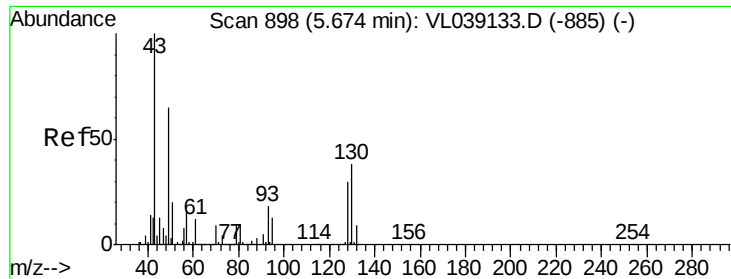
Quant Time: Jun 16 04:36:21 2022
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL053122AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_LWed Jun 01 01:22:18 2022
 QLast Update : Wed Jun 01 01:22:18 2022
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.65	49	1463228	10.00	ppbv	-0.02
33) 1,4-Difluorobenzene	7.16	114	3992412	10.00	ppbv	-0.02
55) Chlorobenzene-d5	12.07	117	3543189	10.00	ppbv	-0.03

System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	14.40	95	2634136	8.99	ppbv	-0.02
Spiked Amount	10.000	Range	65 - 135	Recovery	=	89.90%

Target Compounds	R.T.	QIon	Response	Conc	Units	Ovalue
2) Dichlorodifluoromethane	3.04	85	64874	0.252	ppbv	99
3) Chlorodifluoromethane	2.98	51	51887	0.279	ppbv	94
4) Chloromethane	3.14	50	16147	0.169	ppbv	99
7) Chloroethane	3.55	64	5092	0.163	ppbv	93
9) Propene	3.20	41	741821	9.138	ppbv	95
11) Trichlorofluoromethane	3.94	101	33566	0.144	ppbv	100
13) Ethanol	3.60	45	38666	8.734	ppbv #	100
15) Acetone	3.84	43	2703704	17.738	ppbv	97
16) 1,3-Butadiene	3.30	39	237689	2.901	ppbv #	21
17) tert-Butyl alcohol	4.29	59	110909	0.938	ppbv #	91
19) Isopropyl Alcohol	3.96	45	15205	0.213	ppbv #	93
20) Methylene Chloride	4.34	84	23289	0.363	ppbv #	88
21) Allyl Chloride	4.29	41	45211	0.440	ppbv #	72
23) Vinyl Acetate	5.06	43	107660	0.854	ppbv #	78
25) Ethyl Acetate	5.67	43	201868	0.588	ppbv #	78
26) Hexane	5.67	57	291382	1.930	ppbv #	31
27) Carbon Disulfide	4.54	76	42804	0.274	ppbv #	80
29) Chloroform	5.74	83	58625	0.231	ppbv	88
30) Cyclohexane	7.11	84	34146	0.269	ppbv #	40
32) 1,1,1-Trichloroethane	6.50	97	31900	0.128	ppbv #	29
34) 2-Butanone	5.23	43	39339	0.181	ppbv #	53
36) Benzene	6.88	78	37376	0.115	ppbv	93
39) 1,2-Dichloropropane	7.16	63	984227	7.634	ppbv #	24
44) 2,2,4-Trimethylpentane	7.85	57	20606	0.036	ppbv #	20
52) Tetrachloroethene	11.20	164	20847	0.165	ppbv	93

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



#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.65 Instrument: MSVOA_1

Delta R.T. ClientSampleId:

Lab File: SV2

Acq: 15 Jun 2022 21:57

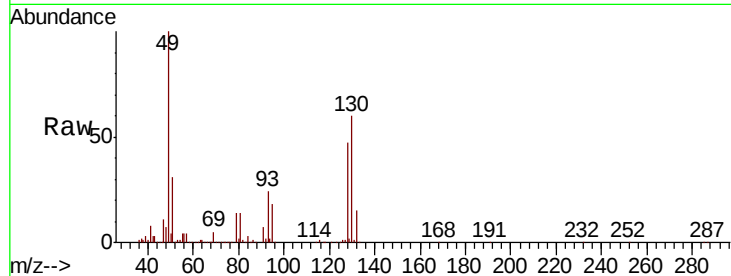
Tot Ion: 49 Resp: 1463228

Ion Ratio Lower Upper

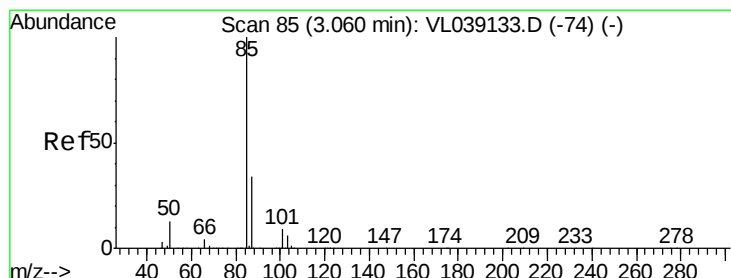
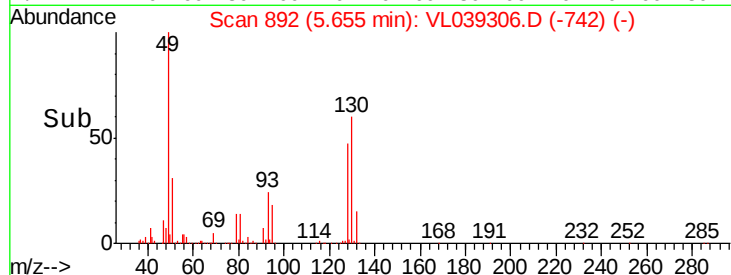
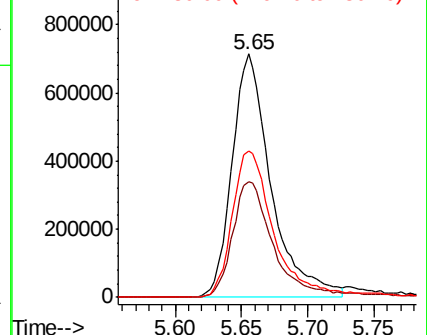
49 100

128 51.7 24.7 74.1

130 66.3 31.4 94.0



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: 0.252 ppbv

RT: 3.04 min Scan# 79

Delta R.T. -0.02 min

Lab File: VL039306.D

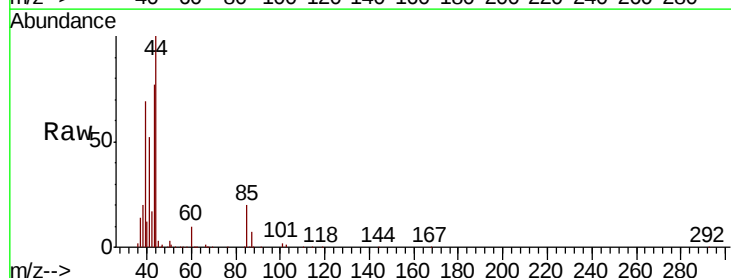
Acq: 15 Jun 2022 21:57

Tgt Ion: 85 Resp: 64874

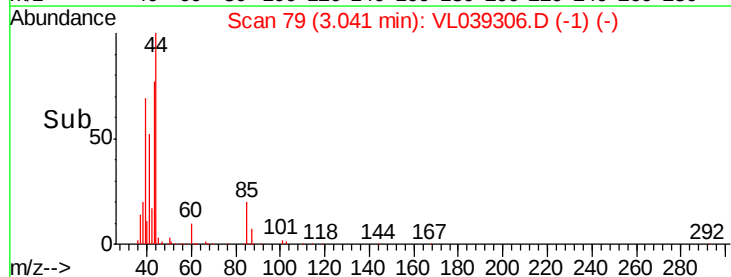
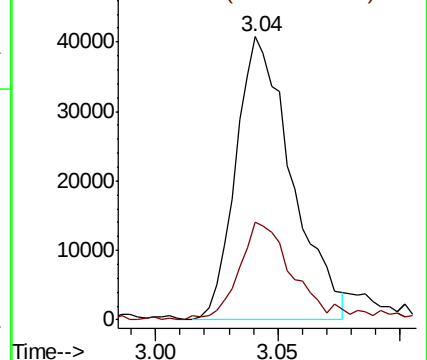
Ion Ratio Lower Upper

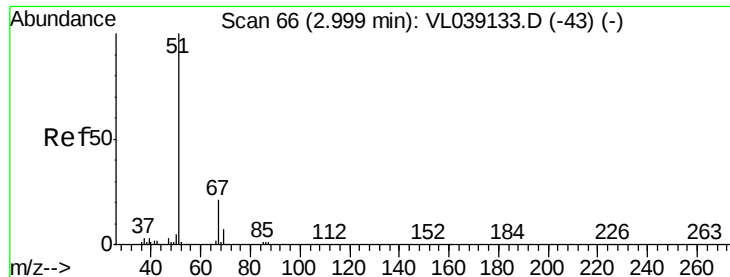
85 100

87 33.1 26.9 40.3



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





#3

Chlorodifluoromethane

Concen: 0.279 ppbv

RT: 2.98 Instrument: MSVOA_1

Delta R.T. ClientSampleId:

Lab File: SV2

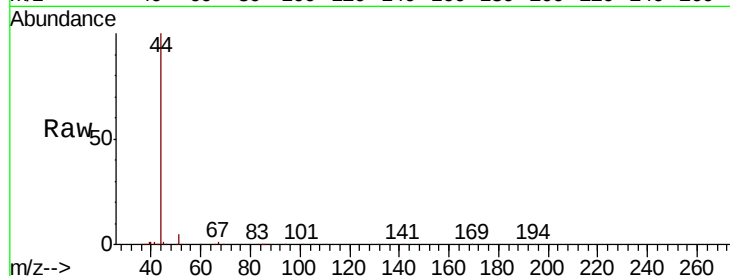
Acq: 15 Jun 2022 21:57

Tot Ion: 51 Resp: 51887

Ion Ratio Lower Upper

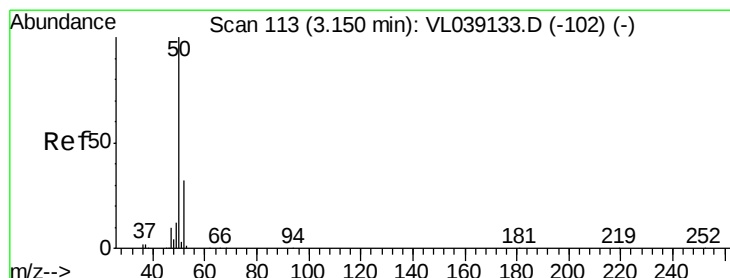
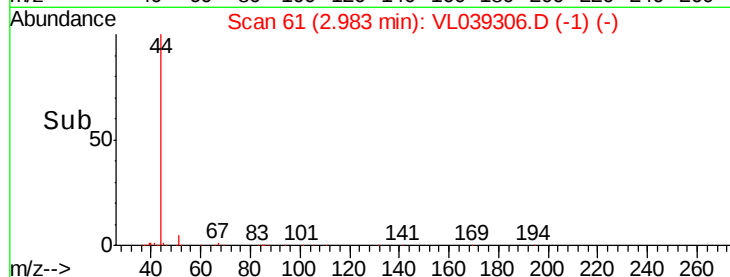
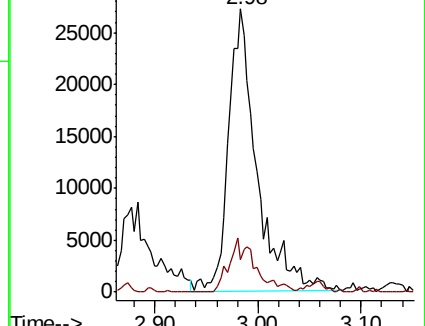
51 100

67 17.7 16.2 24.4



Abundance Ion 51.00 (50.70 to 51.70): VL0

Ion 67.00 (66.70 to 67.70): VL0



#4

Chloromethane

Concen: 0.169 ppbv

RT: 3.14 min Scan# 109

Delta R.T. -0.01 min

Lab File: VL039306.D

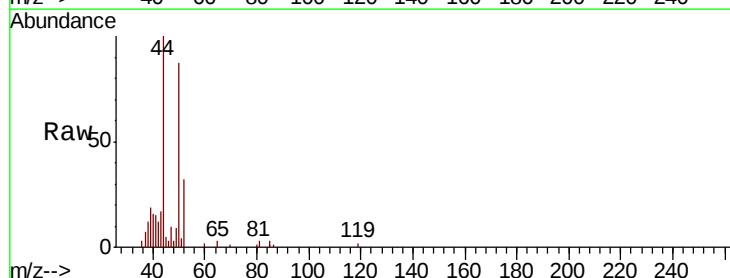
Acq: 15 Jun 2022 21:57

Tgt Ion: 50 Resp: 16147

Ion Ratio Lower Upper

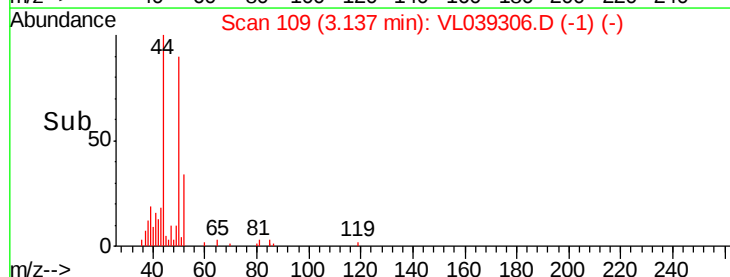
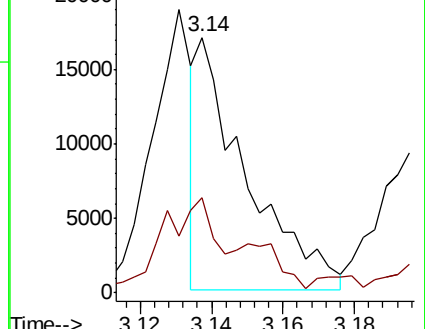
50 100

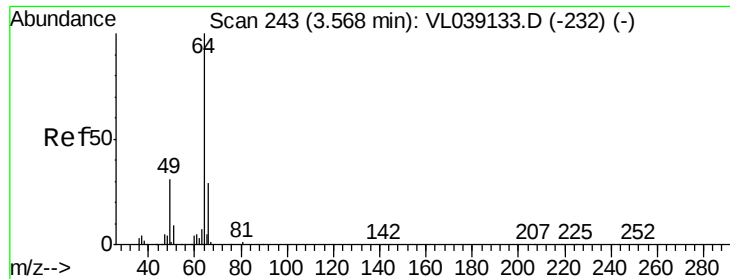
52 31.6 25.9 38.9



Abundance Ion 50.10 (49.80 to 50.80): VL0

Ion 52.10 (51.80 to 52.80): VL0





#7

Chloroethane

Concen: 0.163 ppbv

RT: 3.55 Instrument: MSVOA_1

Delta R.T. ClientSampleId:

Lab File: SV2

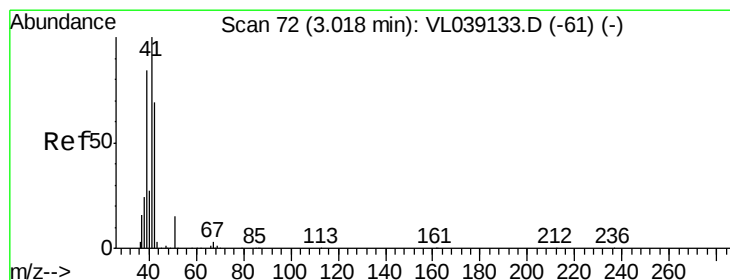
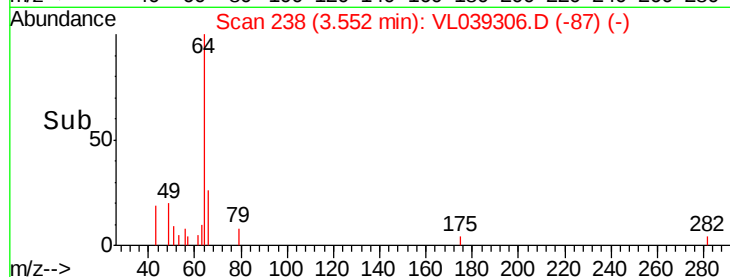
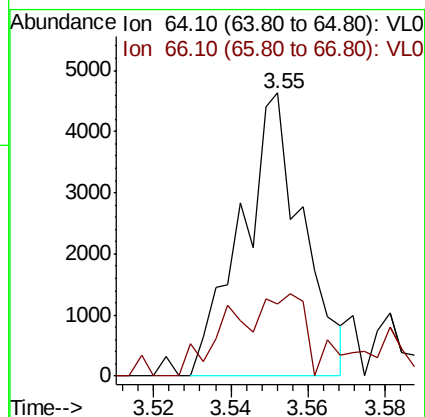
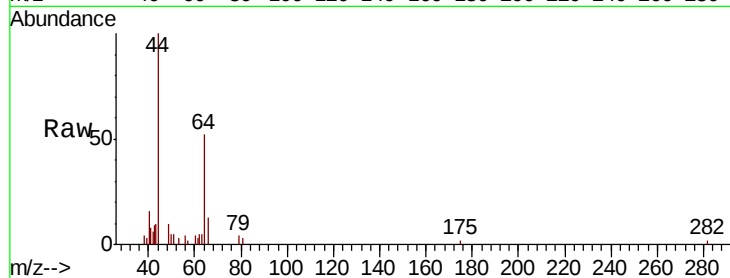
Acq: 15 Jun 2022 21:57

Tot Ion: 64 Resp: 5092

Ion Ratio Lower Upper

64 100

66 25.6 23.6 35.4



#9

Propene

Concen: 9.138 ppbv

RT: 3.20 min Scan# 128

Delta R.T. 0.18 min

Lab File: VL039306.D

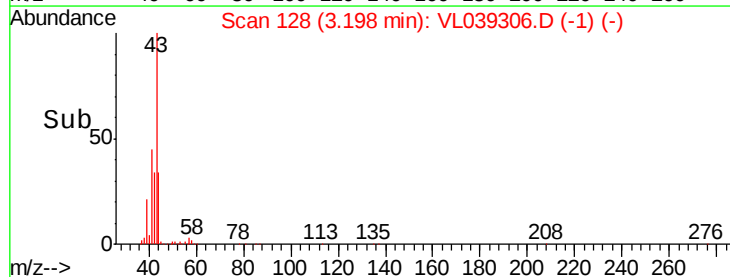
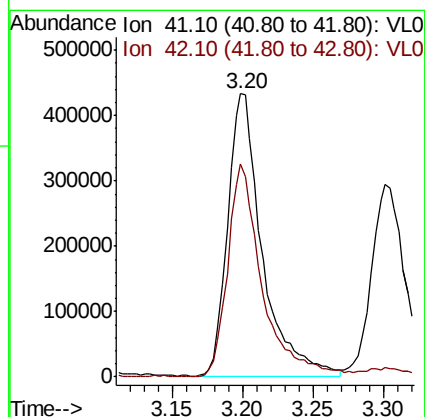
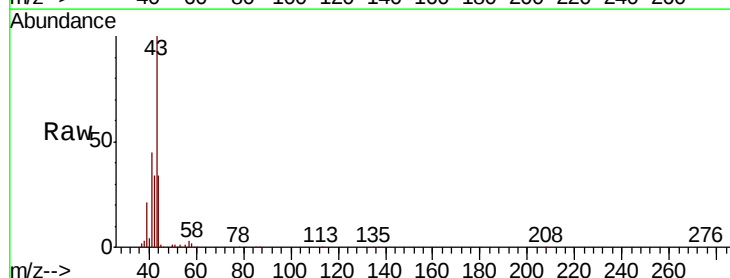
Acq: 15 Jun 2022 21:57

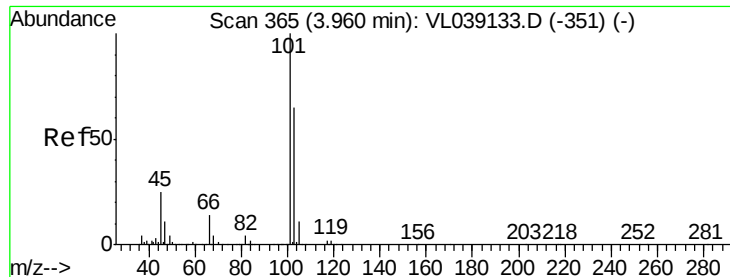
Tgt Ion: 41 Resp: 741821

Ion Ratio Lower Upper

41 100

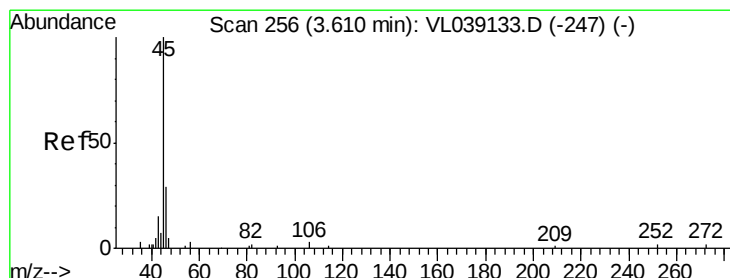
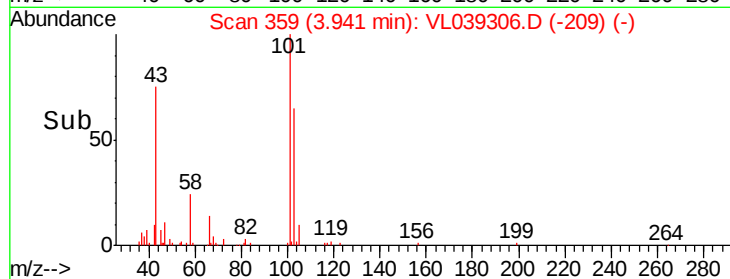
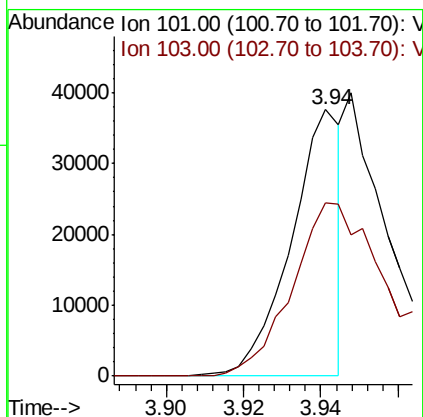
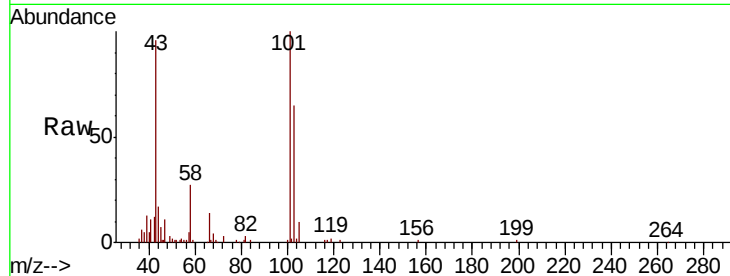
42 73.8 55.4 83.2





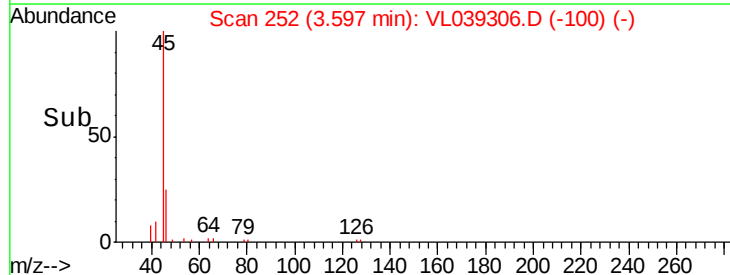
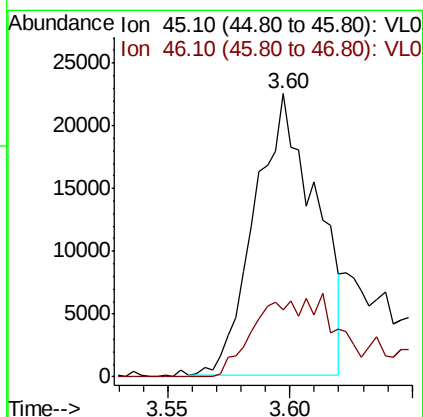
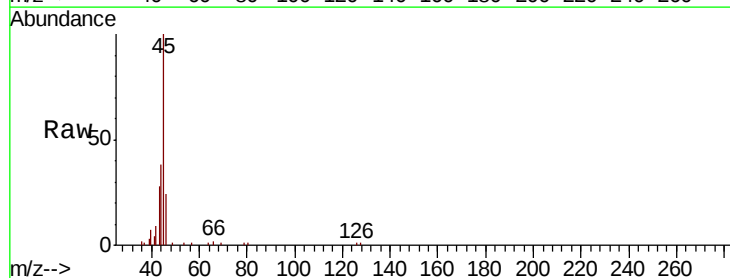
#11
 Trichlorofluoromethane
 Concen: 0.144 ppbv
 RT: 3.94
 Instrument: MSVOA_1
 Delta R.T.:
 Lab File: ClientSampleId:
 SV2
 Acq: 15 Jun 2022 21:57

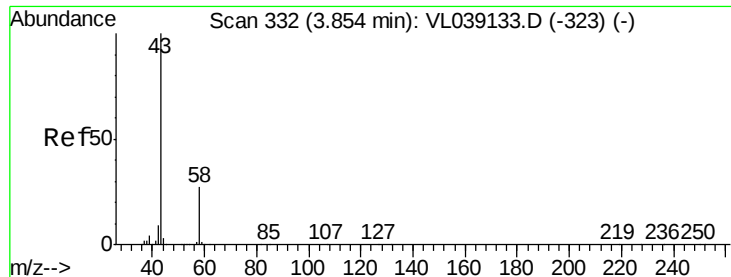
Tot Ion: 101 Resp: 33566
 Ion Ratio Lower Upper
 101 100
 103 65.0 51.7 77.5



#13
 Ethanol
 Concen: 8.734 ppbv
 RT: 3.60 min Scan# 252
 Delta R.T. -0.01 min
 Lab File: VL039306.D
 Acq: 15 Jun 2022 21:57

Tgt Ion: 45 Resp: 38666
 Ion Ratio Lower Upper
 45 100
 46 0.0 0.0 0.0





#15

Acetone

Concen: 17.738 ppbv

RT: 3.84 Instrument :

Delta R.T. MSVOA_L

Lab File: ClientSampleId :

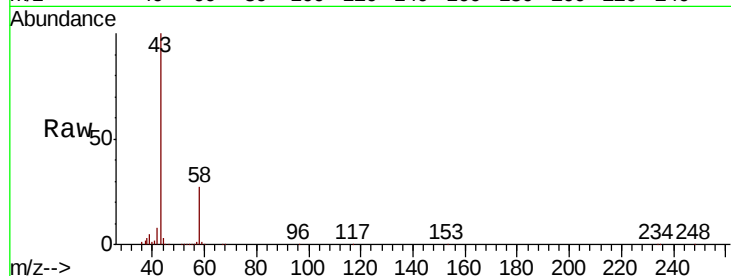
Acq: 15 Jun 2022 21:57

Tot Ion: 43 Resp: 2703704

Ion Ratio Lower Upper

43 100

58 29.8 22.5 33.7



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 58.10 (57.80 to 58.80): VL0

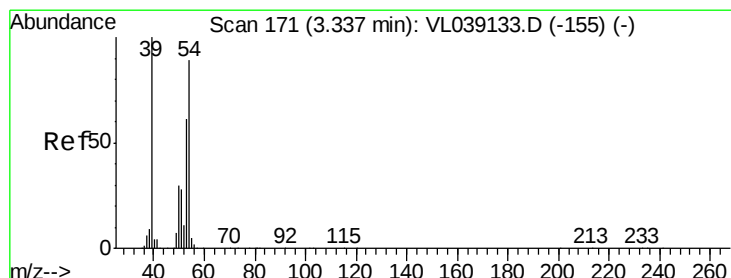
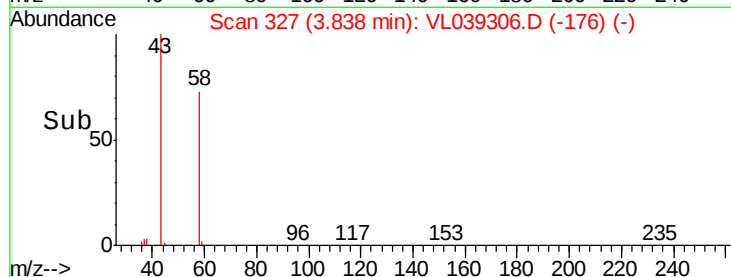
1500000

1000000

500000

0

Time--> 3.75 3.80 3.85 3.90 3.95



#16

1,3-Butadiene

Concen: 2.901 ppbv

RT: 3.30 min Scan# 160

Delta R.T. -0.04 min

Lab File: VL039306.D

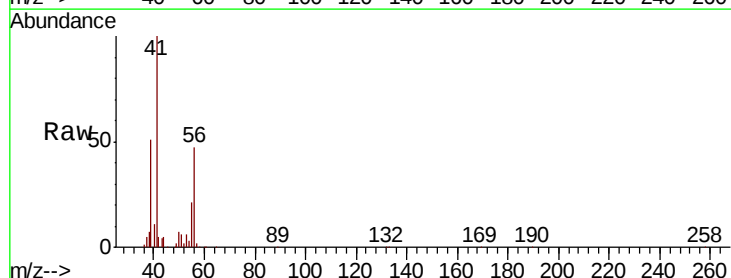
Acq: 15 Jun 2022 21:57

Tgt Ion: 39 Resp: 237689

Ion Ratio Lower Upper

39 100

54 11.6 65.8 98.6#



Abundance Ion 39.10 (38.80 to 39.80): VL0

Ion 54.10 (53.80 to 54.80): VL0

200000

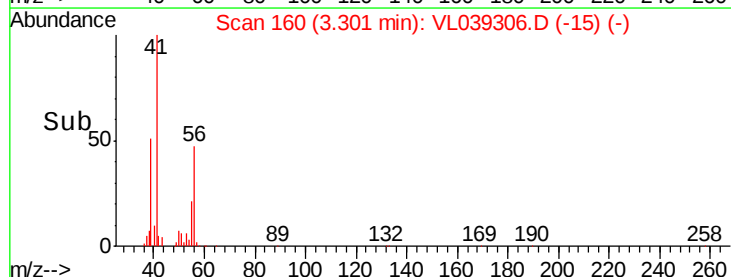
150000

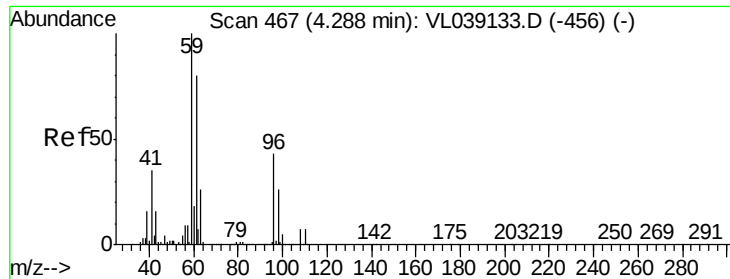
100000

50000

0

Time--> 3.25 3.30 3.35





#17

tert-Butyl alcohol

Concen: 0.938 ppbv

RT: 4.29 Instrument: MSVOA_1

Delta R.T. ClientSampleId:

Lab File: SV2

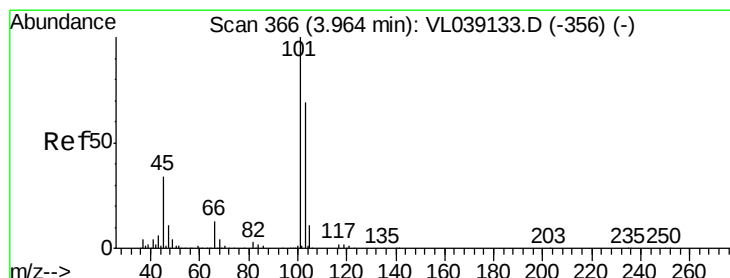
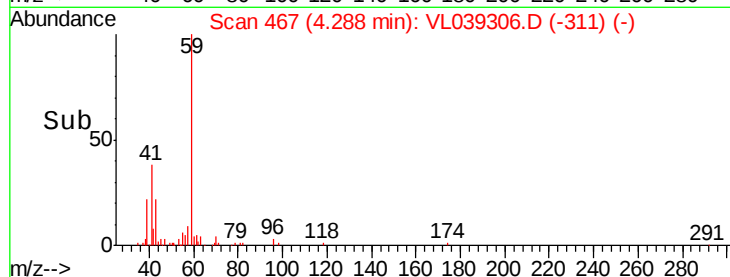
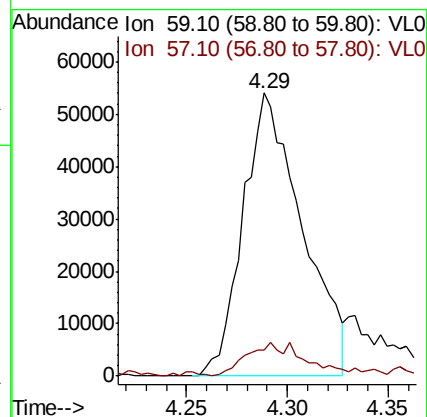
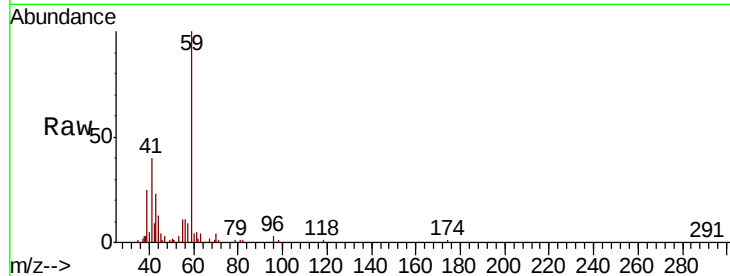
Acq: 15 Jun 2022 21:57

Tot Ion: 59 Resp: 110909

Ion Ratio Lower Upper

59 100

57 14.7 9.1 13.7#



#19

Isopropyl Alcohol

Concen: 0.213 ppbv

RT: 3.96 min Scan# 364

Delta R.T. -0.01 min

Lab File: VL039306.D

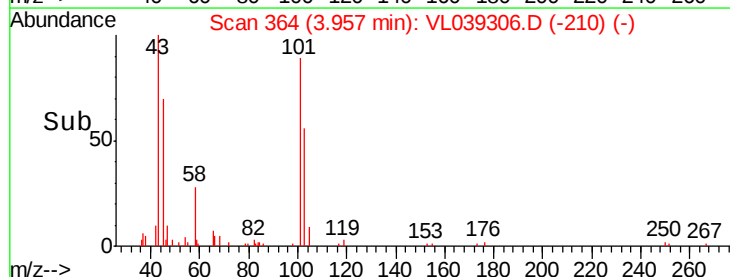
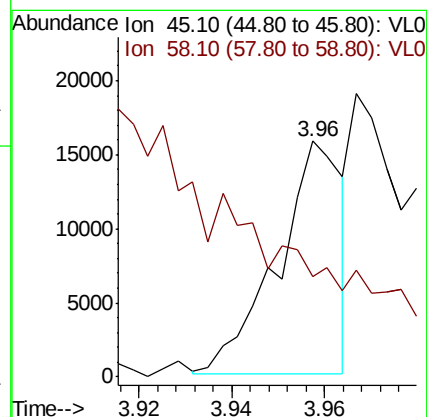
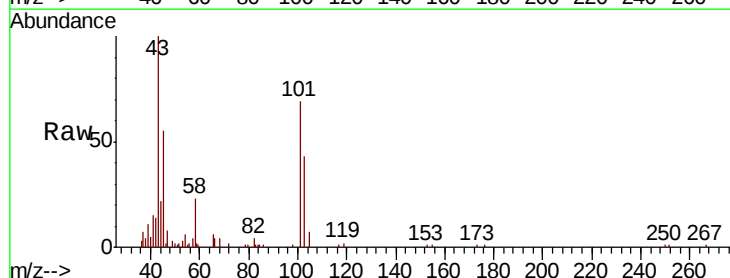
Acq: 15 Jun 2022 21:57

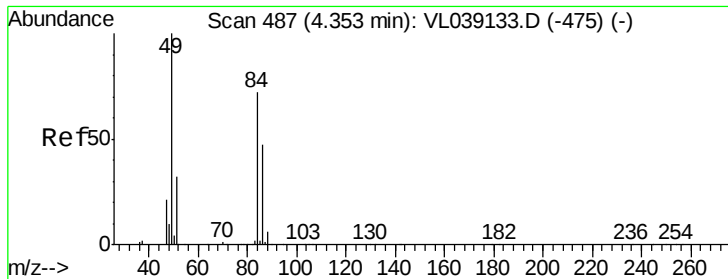
Tgt Ion: 45 Resp: 15205

Ion Ratio Lower Upper

45 100

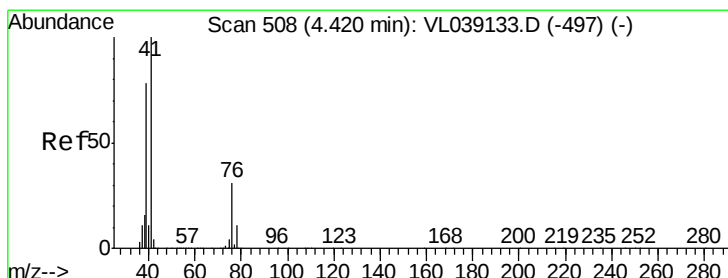
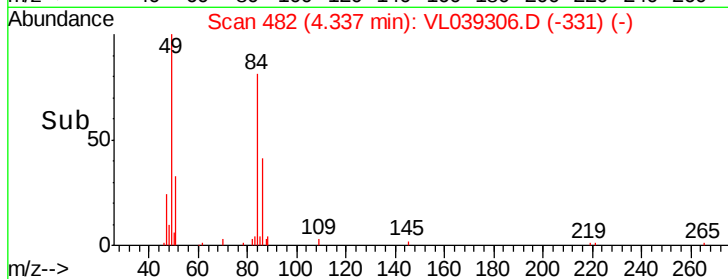
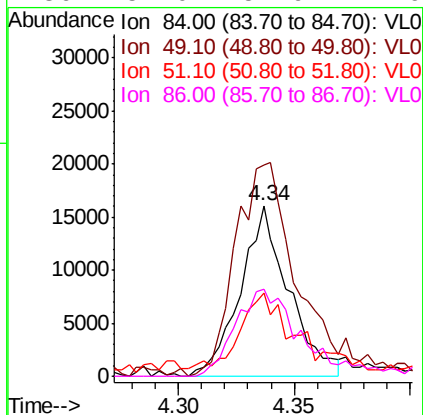
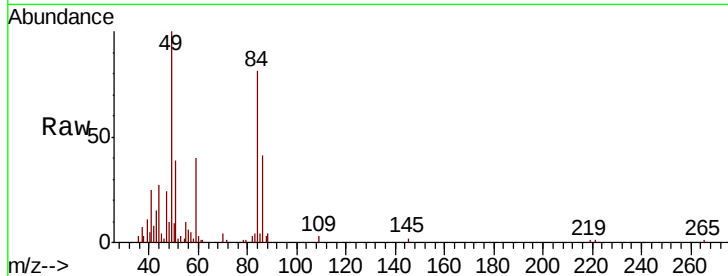
58 0.0 1.8 2.8#





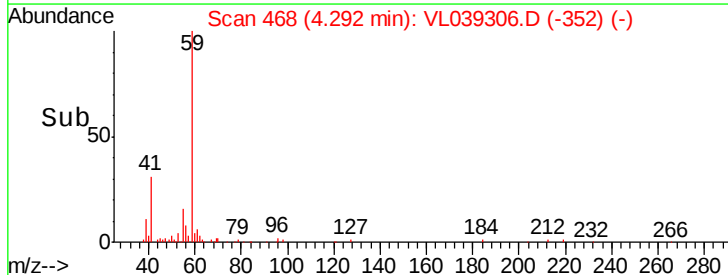
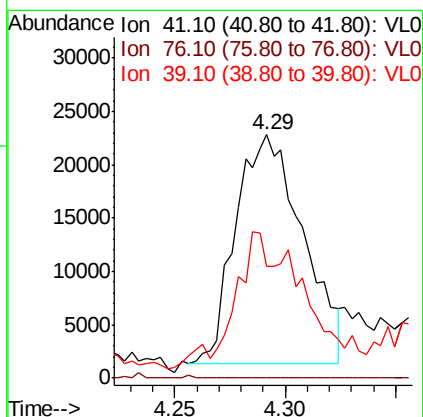
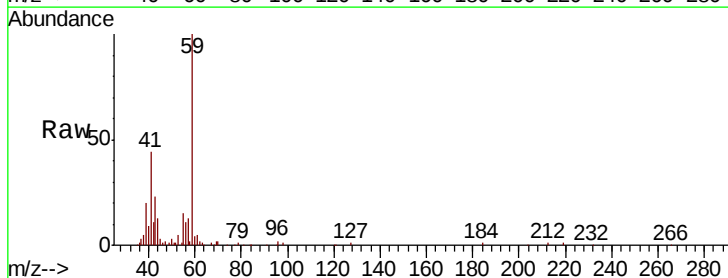
#20
Methvlene Chloride
Concen: 0.363 ppbv
RT: 4.34
Delta R.T. MSVOA_L
Lab File: ClientSampleId :
Acq: 15 Jun 2022 21:57

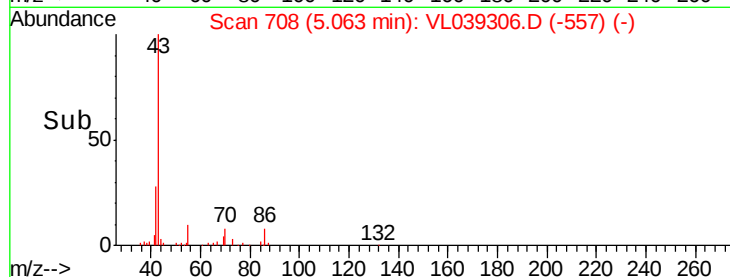
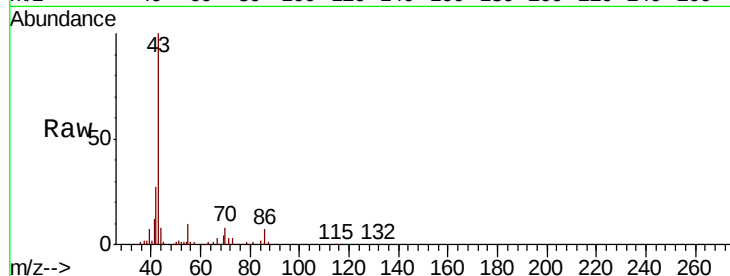
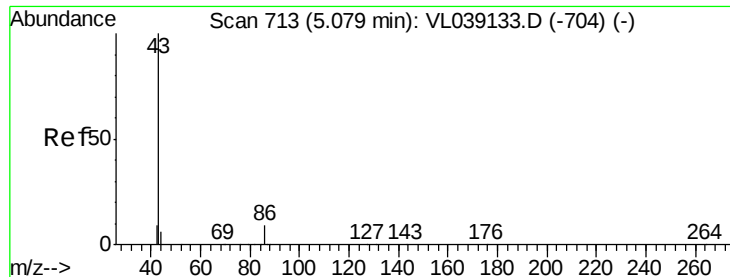
Tot Ion:	84	Resp:	23289
Ion	Ratio	Lower	Upper
84	100		
49	123.9	111.1	166.7
51	44.0	35.3	52.9
86	51.0	51.9	77.9#



#21
Allyl Chloride
Concen: 0.440 ppbv
RT: 4.29 min Scan# 468
Delta R.T. -0.13 min
Lab File: VL039306.D
Acq: 15 Jun 2022 21:57

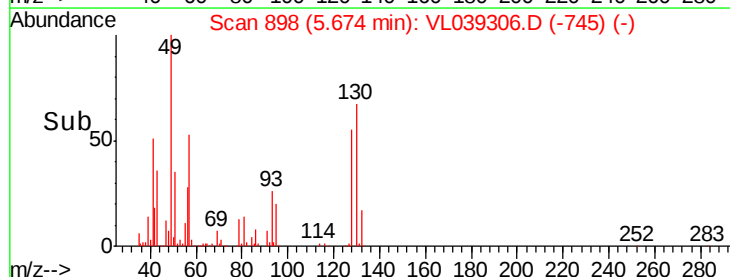
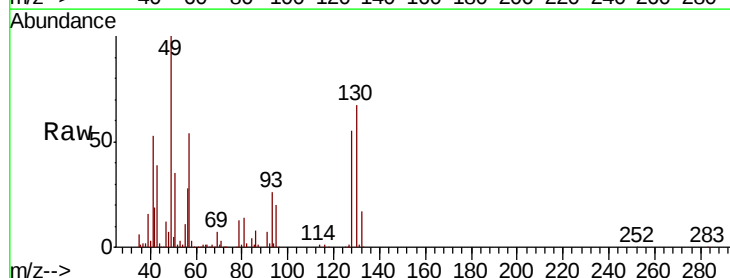
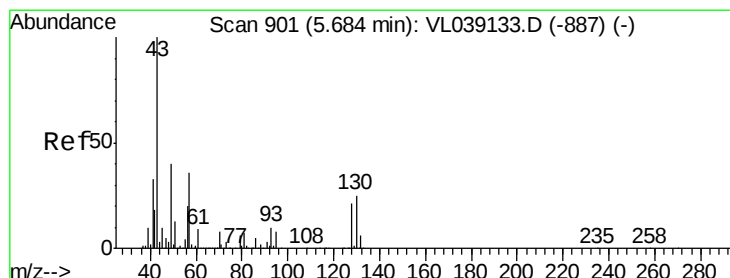
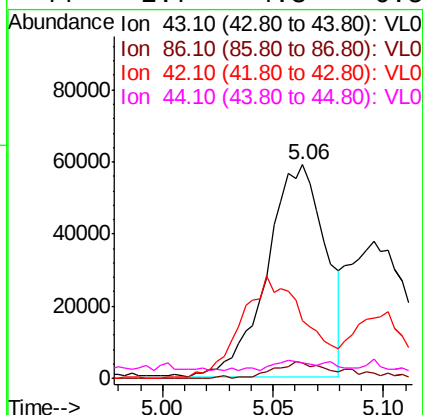
Tgt Ion:	41	Resp:	45211
Ion	Ratio	Lower	Upper
41	100		
76	0.0	24.2	36.2#
39	62.2	62.2	93.2





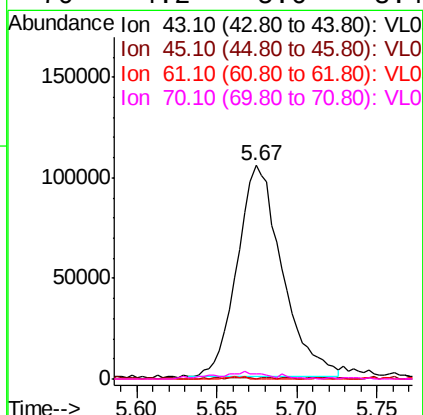
#23
 Vinyl Acetate
 Concen: 0.854 ppbv
 RT: 5.06
 Instrument: MSVOA_1
 Delta R.T.:
 Lab File: ClientSampleId:
 S V2
 Acq: 15 Jun 2022 21:57

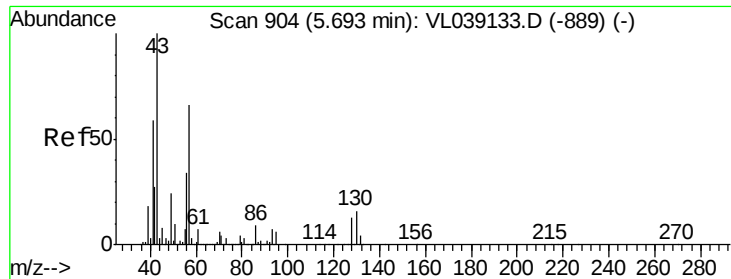
Tot Ion:	43	Resp:	107660
Ion	Ratio	Lower	Upper
43	100		
86	7.2	6.0	9.0
42	27.0	8.2	12.4#
44	2.7	4.3	6.5#



#25
 Ethyl Acetate
 Concen: 0.588 ppbv
 RT: 5.67 min Scan# 898
 Delta R.T. -0.01 min
 Lab File: VL039306.D
 Acq: 15 Jun 2022 21:57

Tgt Ion:	43	Resp:	201868
Ion	Ratio	Lower	Upper
43	100		
45	0.8	8.2	12.2#
61	0.5	8.4	12.6#
70	4.2	5.6	8.4#





#26

Hexane

Concen: 1.930 ppbv

RT: 5.67 Instrument:

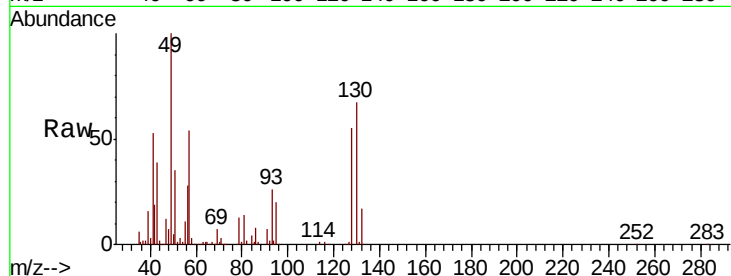
Delta R.T. MSVOA_L

Lab File: ClientSampleId:

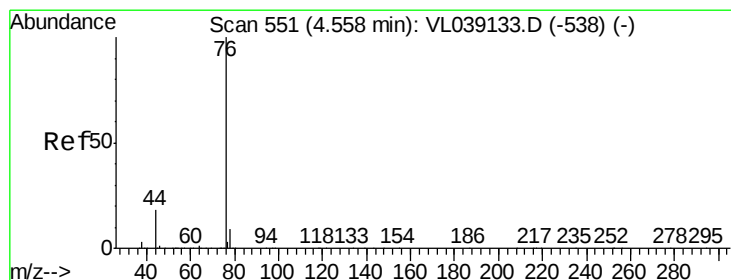
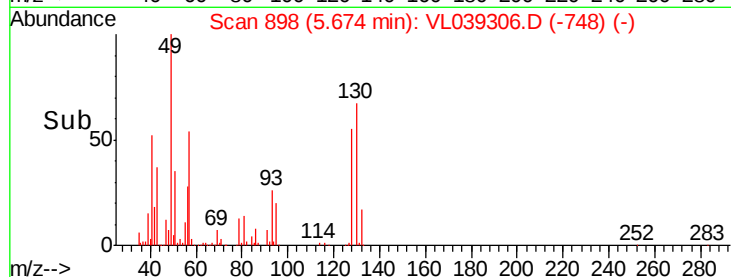
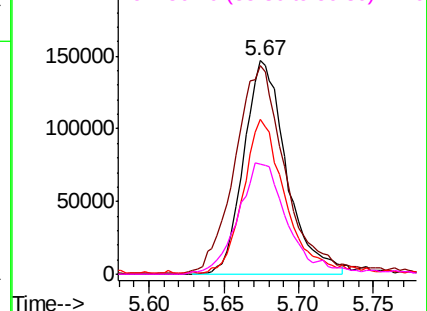
Acq: 15 Jun 2022 21:57 SV2

Tot Ion: 57 Resp: 291382

Ion	Ratio	Lower	Upper
57	100		
41	117.5	72.4	108.6#
43	72.8	187.0	280.6#
56	62.7	41.8	62.6#



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: 0.274 ppbv

RT: 4.54 min Scan# 546

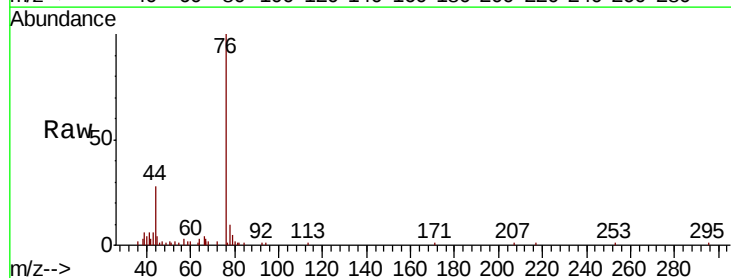
Delta R.T. -0.02 min

Lab File: VL039306.D

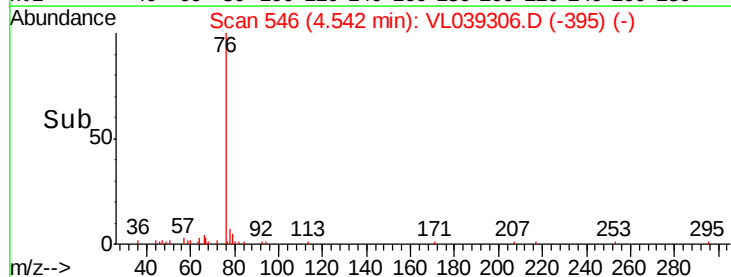
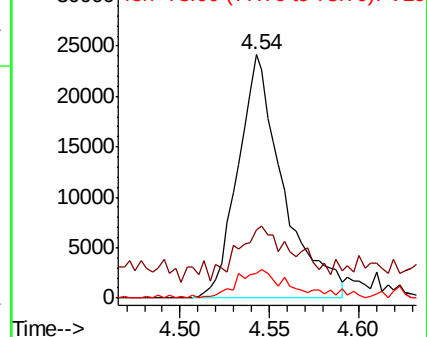
Acq: 15 Jun 2022 21:57

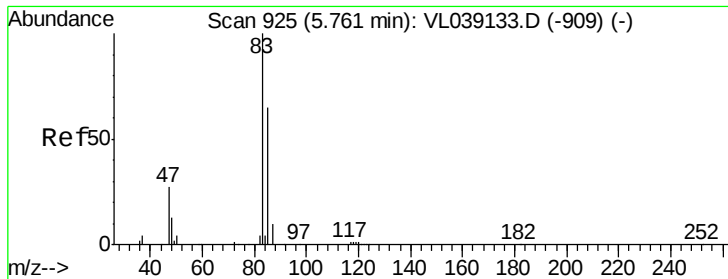
Tgt Ion: 76 Resp: 42804

Ion	Ratio	Lower	Upper
76	100		
44	28.2	14.4	21.6#
78	14.7	7.7	11.5#



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: 0.231 ppbv

RT: 5.74 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

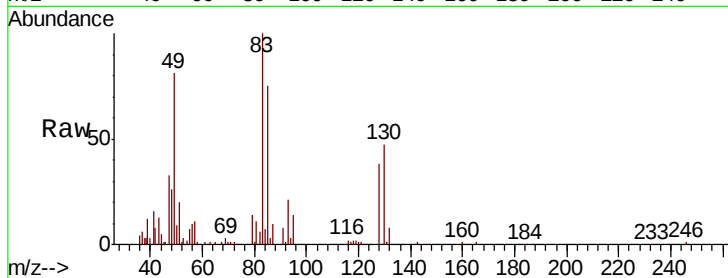
Acq: 15 Jun 2022 21:57

Tot Ion: 83 Resp: 58625

Ion Ratio Lower Upper

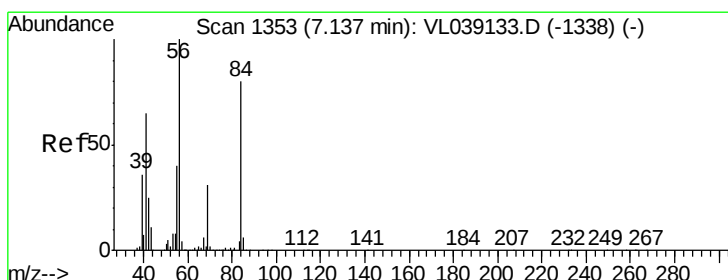
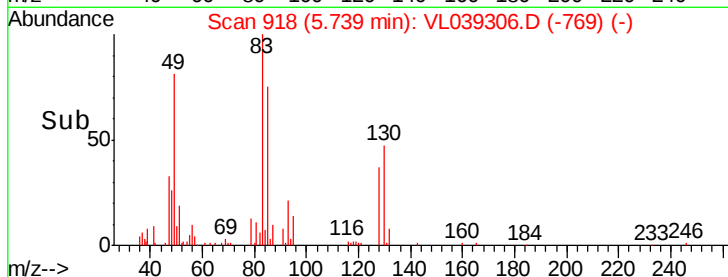
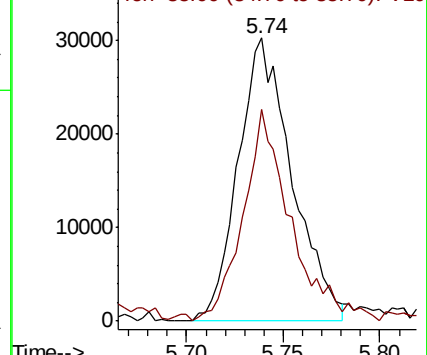
83 100

85 74.8 52.4 78.6



Abundance Ion 83.00 (82.70 to 83.70): VL0

Ion 85.00 (84.70 to 85.70): VL0



#30

Cyclohexane

Concen: 0.269 ppbv

RT: 7.11 min Scan# 1346

Delta R.T. -0.02 min

Lab File: VL039306.D

Acq: 15 Jun 2022 21:57

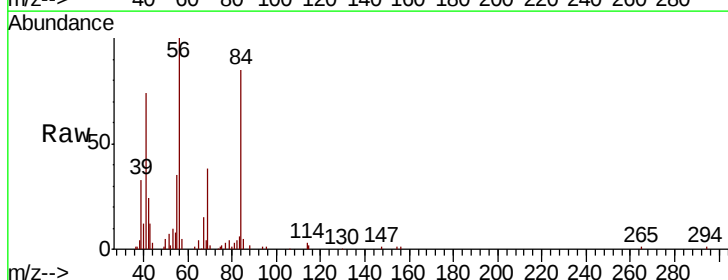
Tgt Ion: 84 Resp: 34146

Ion Ratio Lower Upper

84 100

56 196.7 110.6 165.8#

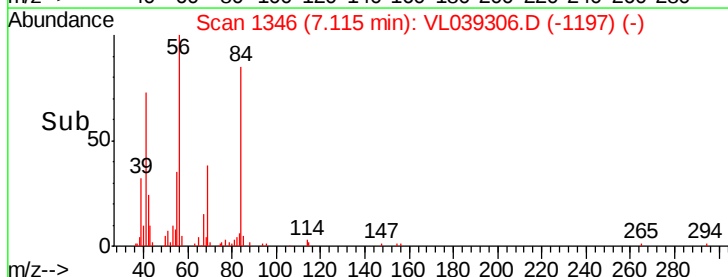
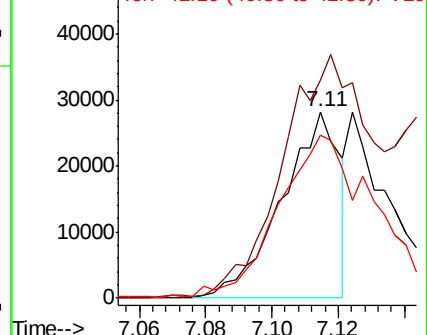
41 159.5 68.9 103.3#

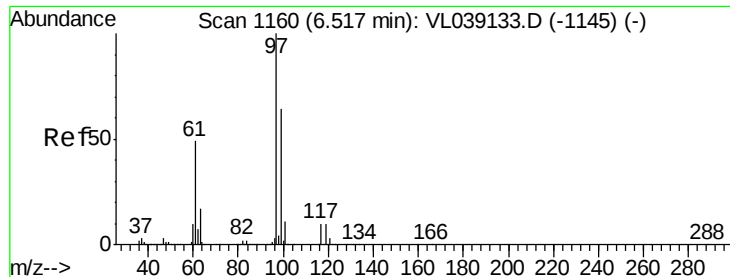


Abundance Ion 84.20 (83.90 to 84.90): VL0

Ion 56.10 (55.80 to 56.80): VL0

Ion 41.10 (40.80 to 41.80): VL0





#32

1,1,1-Trichloroethane

Concen: 0.128 ppbv

RT: 6.50 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 15 Jun 2022 21:57 SV2

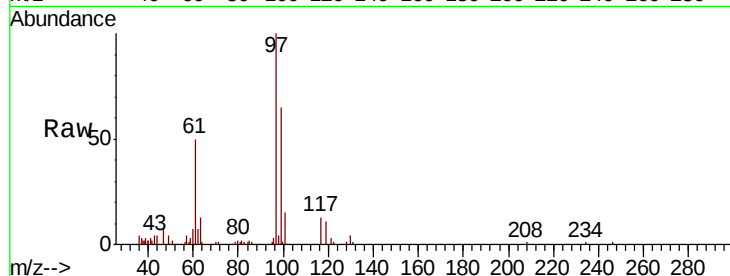
Tot Ion: 97 Resp: 31900

Ion Ratio Lower Upper

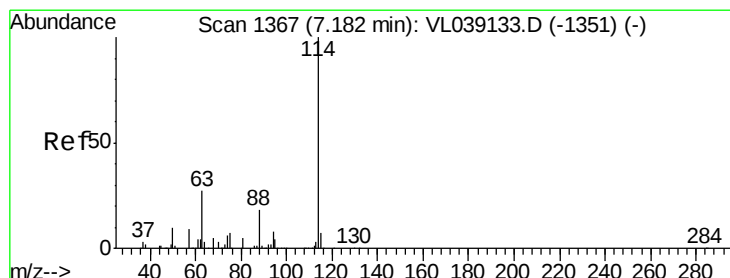
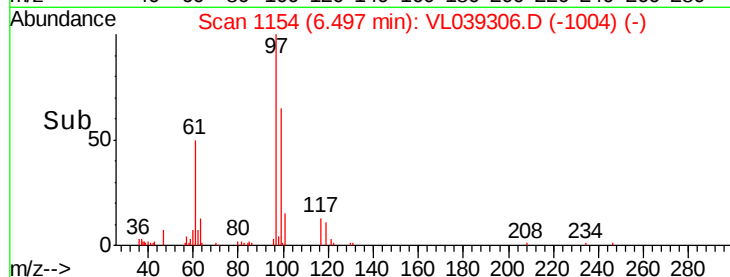
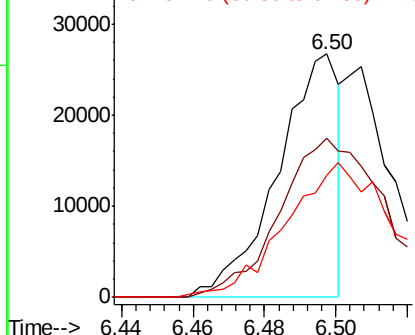
97 100

99 120.4 52.1 78.1#

61 99.8 40.0 60.0#



Abundance Ion 97.00 (96.70 to 97.70): VL0
Ion 99.00 (98.70 to 99.70): VL0
Ion 61.10 (60.80 to 61.80): VL0



#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 7.16 min Scan# 1360

Delta R.T. -0.02 min

Lab File: VL039306.D

Acq: 15 Jun 2022 21:57

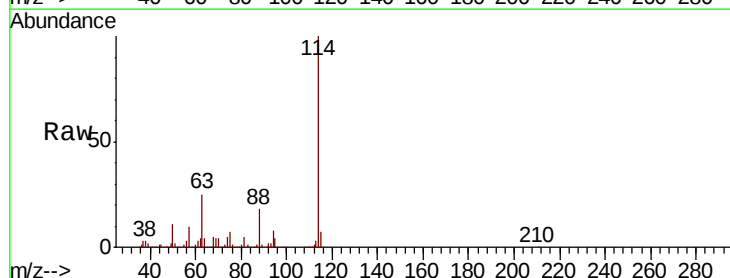
Tgt Ion: 114 Resp: 3992412

Ion Ratio Lower Upper

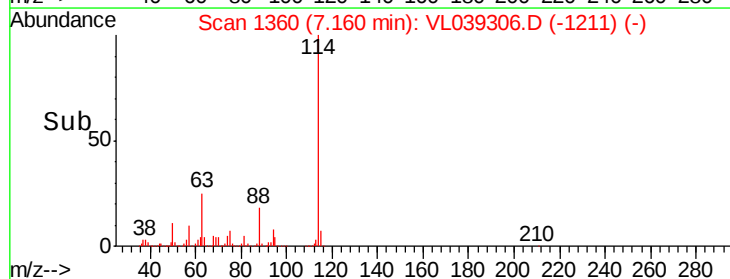
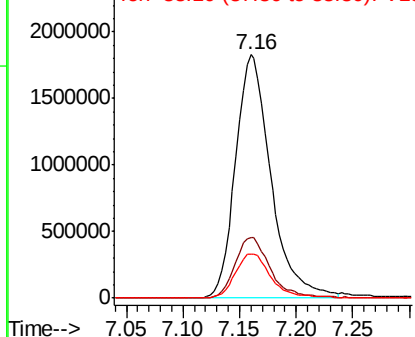
114 100

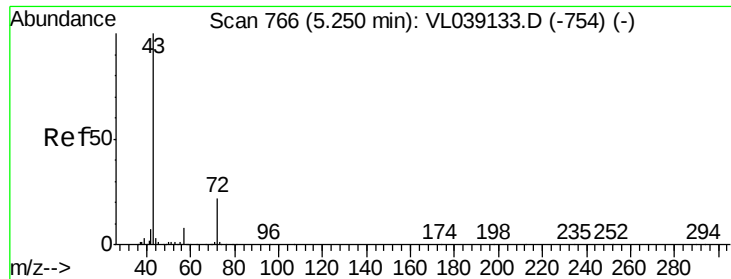
63 25.5 21.7 32.5

88 18.5 14.8 22.2



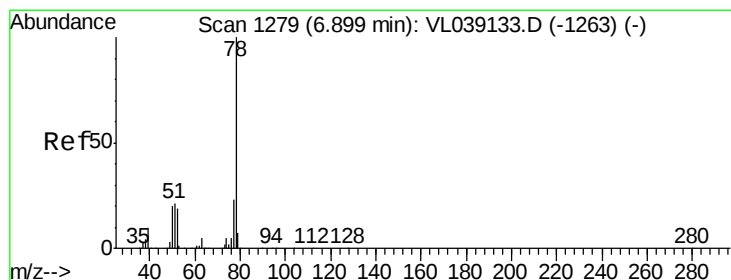
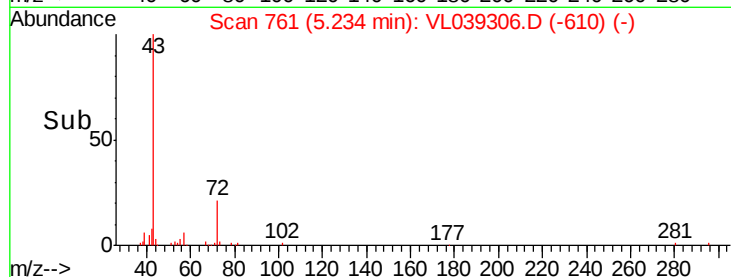
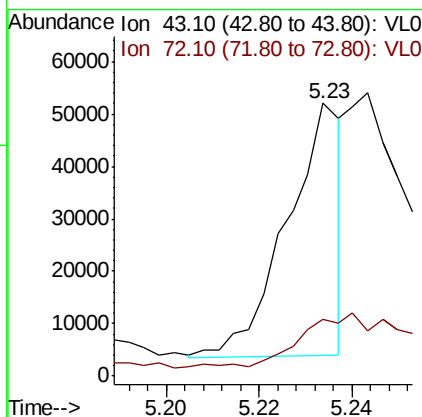
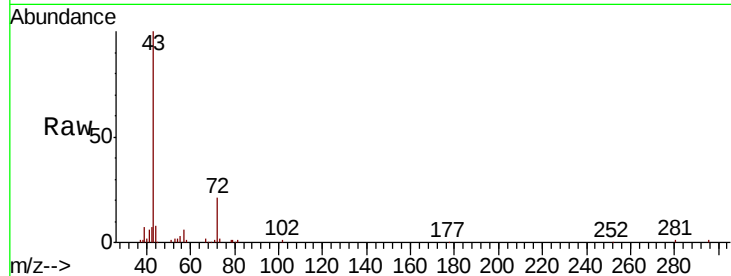
Abundance Ion 114.10 (113.80 to 114.80): VL0
Ion 63.10 (62.80 to 63.80): VL0
Ion 88.10 (87.80 to 88.80): VL0





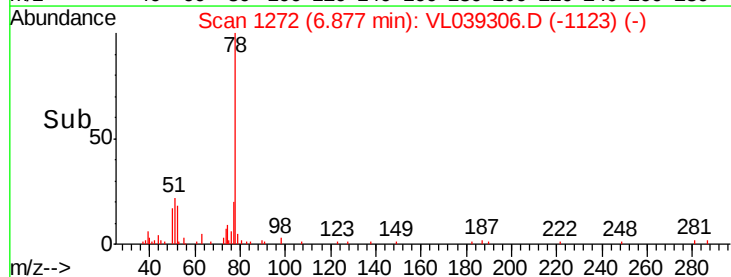
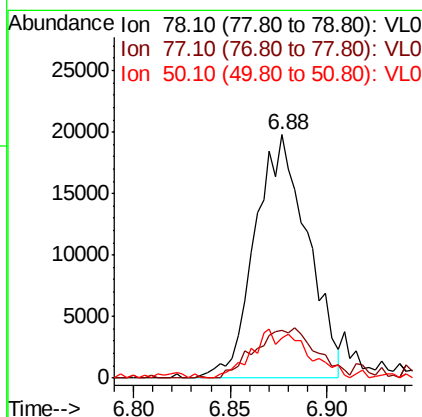
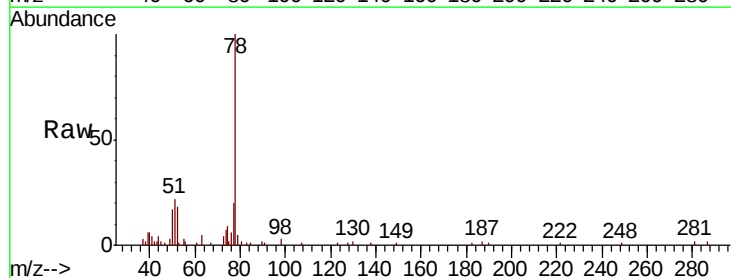
#34
2-Butanone
Concen: 0.181 ppbv
RT: 5.23
Delta R.T. MSVOA_L
Lab File: ClientSampleId :
SV2
Acq: 15 Jun 2022 21:57

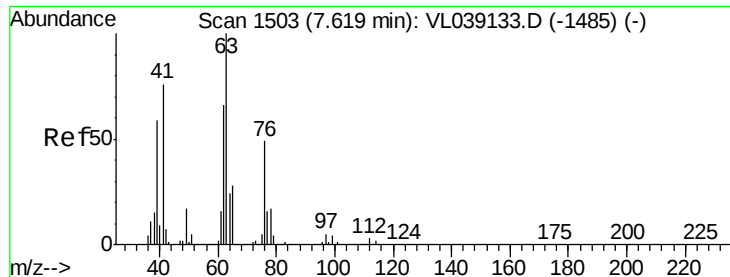
Tot Ion: 43 Resp: 39339
Ion Ratio Lower Upper
43 100
72 0.0 18.2 27.2#



#36
Benzene
Concen: 0.115 ppbv
RT: 6.88 min Scan# 1272
Delta R.T. -0.02 min
Lab File: VL039306.D
Acq: 15 Jun 2022 21:57

Tgt Ion: 78 Resp: 37376
Ion Ratio Lower Upper
78 100
77 19.6 18.6 27.8
50 16.7 15.8 23.8





#39

1,2-Dichloropropane

Concen: 7.634 ppbv

RT: 7.16 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 15 Jun 2022 21:57

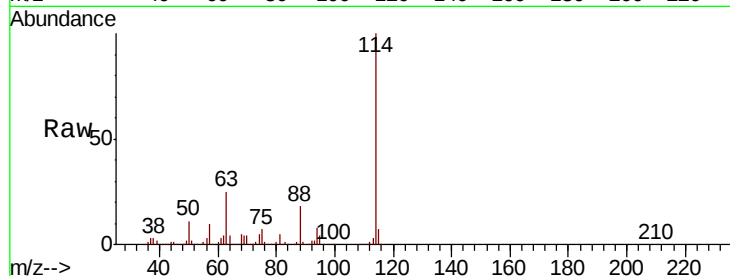
Tot Ion: 63 Resp: 984227

Ion Ratio Lower Upper

63 100

41 0.0 60.8 91.2#

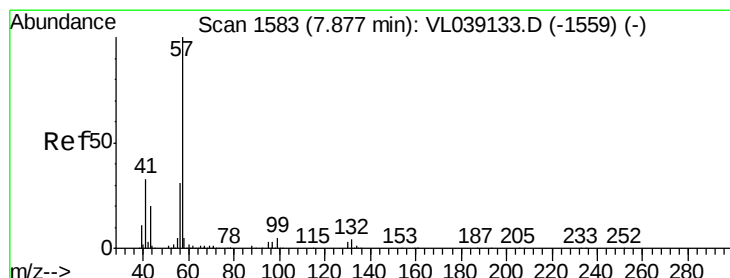
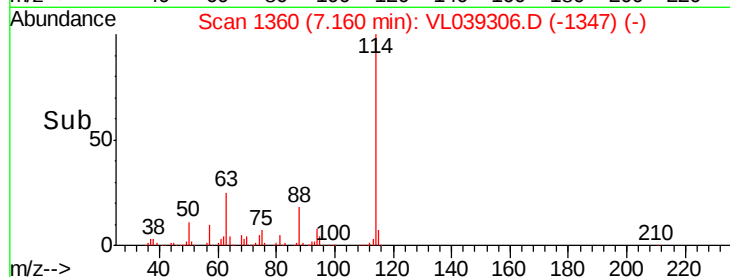
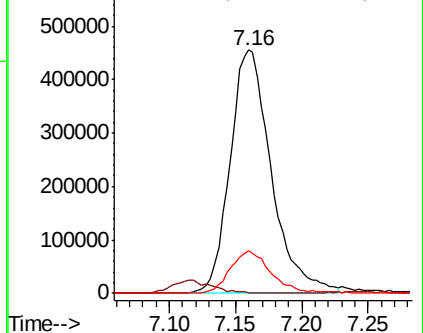
62 17.2 52.9 79.3#



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



#44

2,2,4-Trimethylpentane

Concen: 0.036 ppbv

RT: 7.85 min Scan# 1576

Delta R.T. -0.02 min

Lab File: VL039306.D

Acq: 15 Jun 2022 21:57

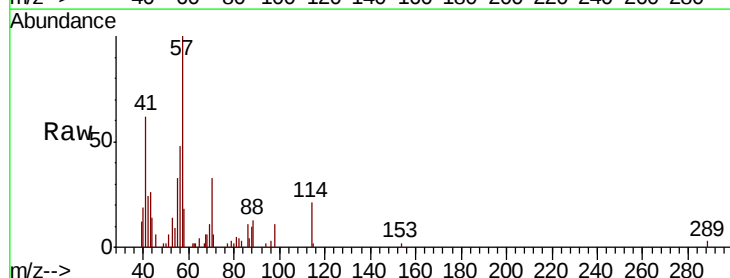
Tgt Ion: 57 Resp: 20606

Ion Ratio Lower Upper

57 100

41 95.7 26.2 39.4#

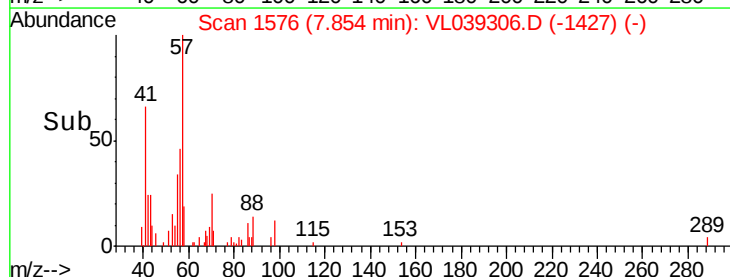
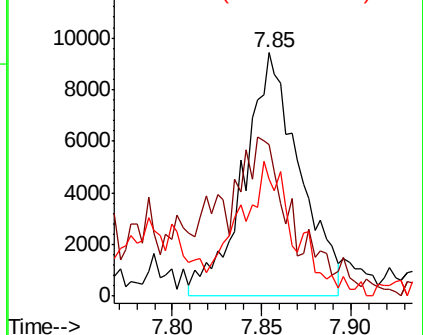
56 56.9 24.7 37.1#

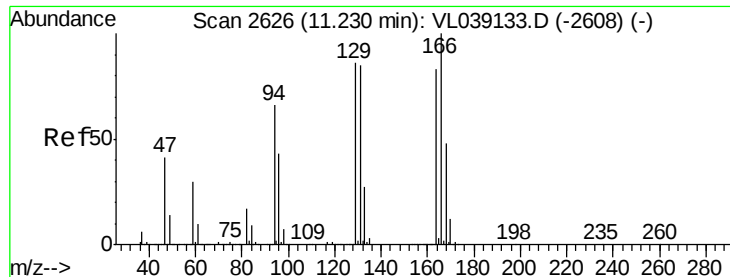


Abundance Ion 57.10 (56.80 to 57.80): VL0

Ion 41.10 (40.80 to 41.80): VL0

Ion 56.10 (55.80 to 56.80): VL0





#52

Tetrachloroethene

Concen: 0.165 ppbv

RT: 11.20

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 15 Jun 2022 21:57

Tot Ion:164 Resp: 20847

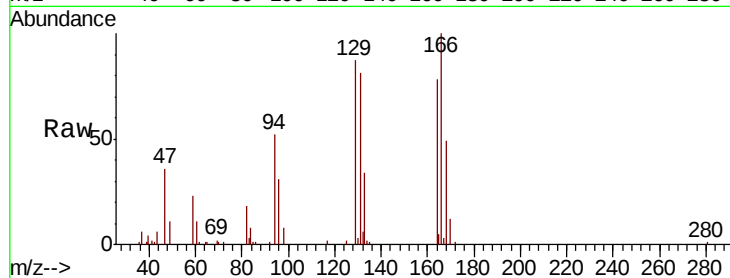
Ion Ratio Lower Upper

164 100

166 130.6 96.3 144.5

129 111.9 82.5 123.7

131 105.6 82.1 123.1

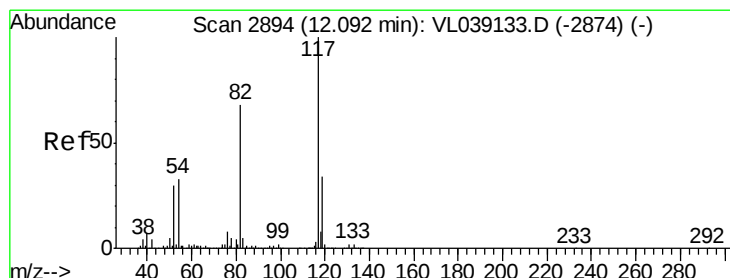
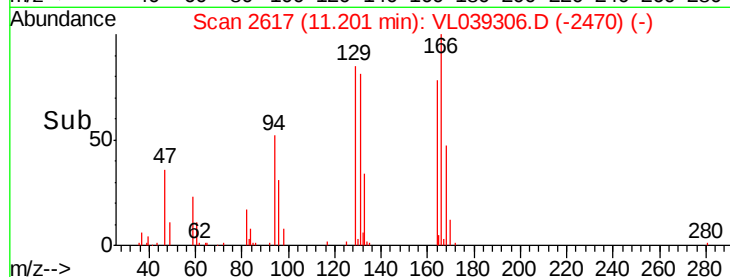
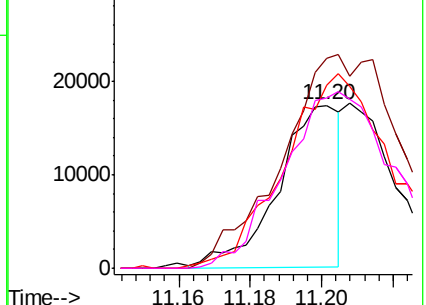


Abundance Ion 163.90 (163.60 to 164.60): V

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



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.07 min Scan# 2886

Delta R.T. -0.03 min

Lab File: VL039306.D

Acq: 15 Jun 2022 21:57

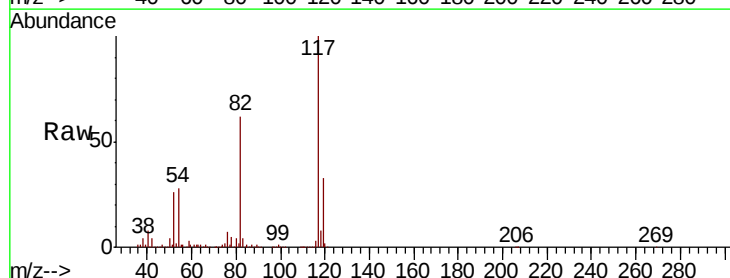
Tgt Ion:117 Resp: 3543189

Ion Ratio Lower Upper

117 100

82 66.1 55.1 82.7

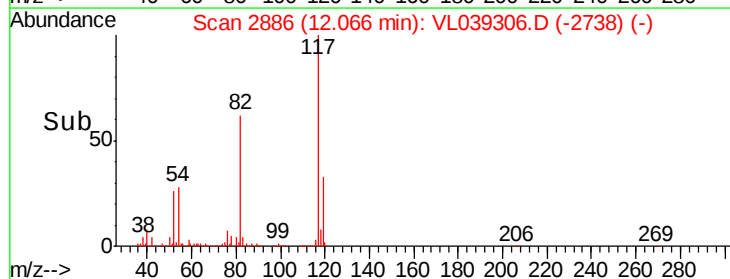
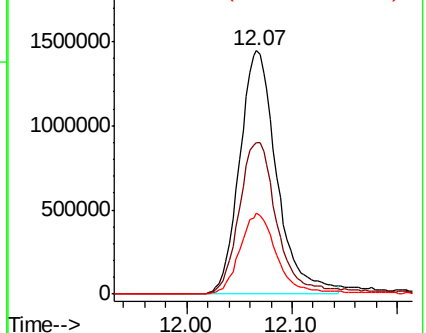
119 34.1 24.7 37.1

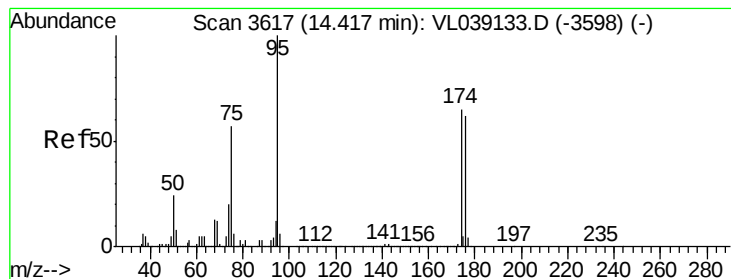


Abundance Ion 117.10 (116.80 to 117.80): V

Ion 82.10 (81.80 to 82.80): V

Ion 119.10 (118.80 to 119.80): V





#68

1-Bromo-4-Fluorobenzene

Concen: 8.992 ppbv

RT: 14.40

Delta R.T: MSVOA_L

Lab File: ClientSampleId :

Acq: 15 Jun 2022 21:57

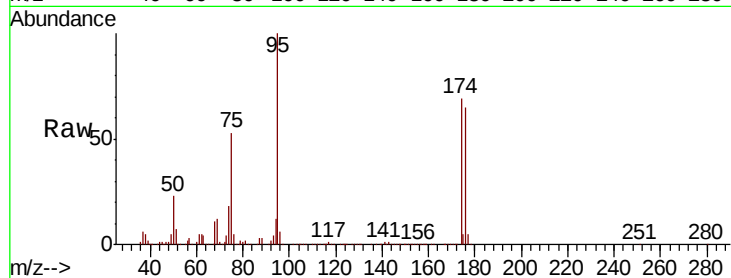
Tot Ion: 95 Resp: 2634136

Ion Ratio Lower Upper

95 100

174 74.4 53.8 80.8

175 5.7 4.1 6.1



Abundance Ion 95.10 (94.80 to 95.80): VL0

Ion 174.00 (173.70 to 174.70): V

Ion 175.00 (174.70 to 175.70): V

