

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL032322\
 Data File : VL038730.D
 Acq On : 24 Mar 2022 00:30
 Operator : SY/AP
 Sample : N2049-01
 Misc : 400mL/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 C0P97

Quant Time: Mar 24 04:36:24 2022
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL032122AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Mon Mar 21 17:09:26 2022
 QLast Update : Mon Mar 21 17:09:26 2022
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.66	49	791469	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.17	114	2066137	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.07	117	1860278	10.00	ppbv	0.00

System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	14.40	95	1334367	9.36	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	93.60%

Target Compounds					Ovalue
2) Dichlorodifluoromethane	3.05	85	31341	0.295 ppbv	89
3) Chlorodifluoromethane	2.99	51	26917	0.322 ppbv	98
4) Chloromethane	3.14	50	4465	0.097 ppbv	94
9) Propene	3.01	41	27256	0.675 ppbv	88
11) Trichlorofluoromethane	3.95	101	24455	0.260 ppbv	96
12) 1,1,2-Trichlorotrifluoroet	4.48	101	3860	0.053 ppbv #	49
13) Ethanol	3.60	45	114536	25.728 ppbv	90
15) Acetone	3.84	43	432058	6.326 ppbv #	87
16) 1,3-Butadiene	3.31	39	42590	1.099 ppbv #	15
17) tert-Butyl alcohol	4.30	59	15906	0.267 ppbv #	76
19) Isopropyl Alcohol	3.98	45	15679	0.414 ppbv #	91
20) Methylene Chloride	4.34	84	192603	6.696 ppbv	97
21) Allyl Chloride	4.35	41	1549	0.032 ppbv #	82
23) Vinyl Acetate	5.06	43	10140	0.153 ppbv #	48
25) Ethyl Acetate	5.68	43	86803	0.505 ppbv #	81
26) Hexane	5.68	57	126614	1.645 ppbv #	40
27) Carbon Disulfide	4.55	76	4807	0.064 ppbv #	67
34) 2-Butanone	5.24	43	439790	5.378 ppbv	96
36) Benzene	6.88	78	10549	0.066 ppbv #	94
39) 1,2-Dichloropropane	7.17	63	480973	7.715 ppbv #	28
41) Tetrahydrofuran	6.05	42	2159	0.035 ppbv #	1
51) 2-Hexanone	10.14	43	38818	0.355 ppbv #	99
52) Tetrachloroethene	11.21	164	2715	0.047 ppbv	89
53) Toluene	9.80	91	70238	0.410 ppbv	98
60) o-Xylene	13.68	91	11056	0.061 ppbv	100
65) tert-Butylbenzene	16.98	119	207963	0.852 ppbv #	24
74) 1,2,4-Trimethylbenzene	16.75	105	7937	0.038 ppbv #	81
75) 1,3-Dichlorobenzene	16.99	146	29001	0.215 ppbv #	1

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



#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.66 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 24 Mar 2022 00:30

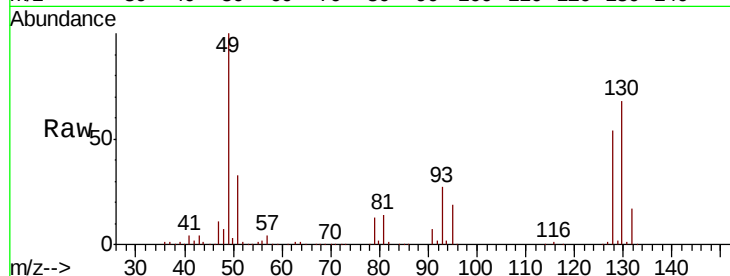
Tot Ion: 49 Resp: 791469

Ion Ratio Lower Upper

49 100

128 54.9 26.2 78.6

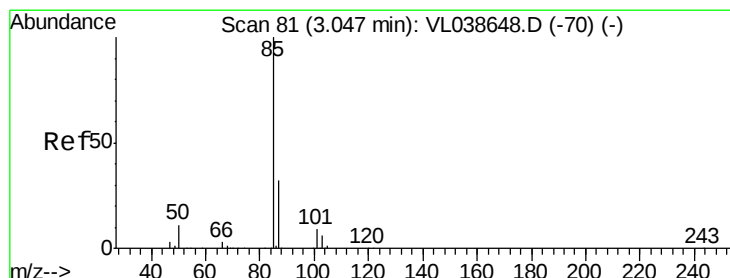
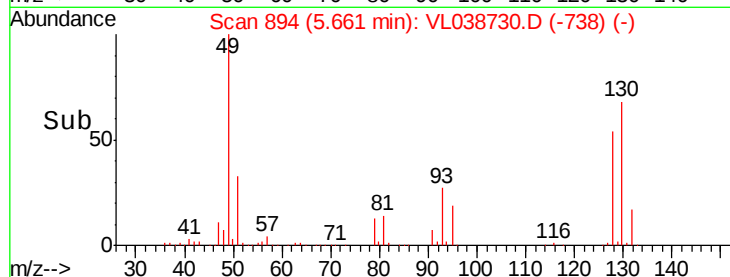
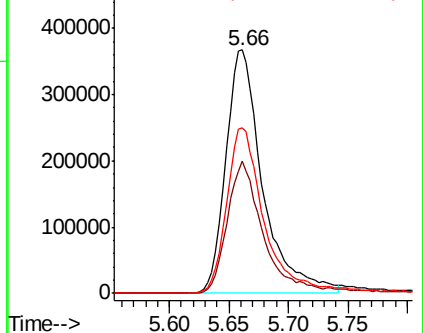
130 70.4 33.7 101.1



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: 0.295 ppbv

RT: 3.05 min Scan# 81

Delta R.T. -0.00 min

Lab File: VL038730.D

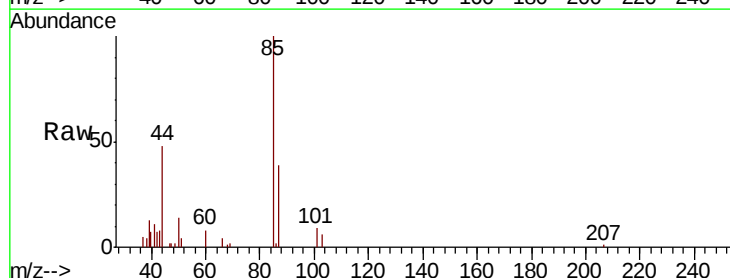
Acq: 24 Mar 2022 00:30

Tgt Ion: 85 Resp: 31341

Ion Ratio Lower Upper

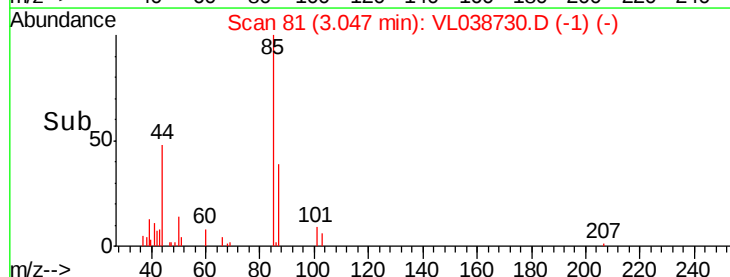
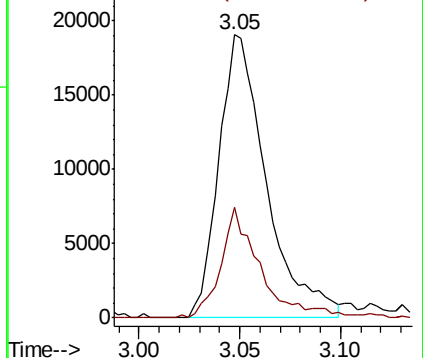
85 100

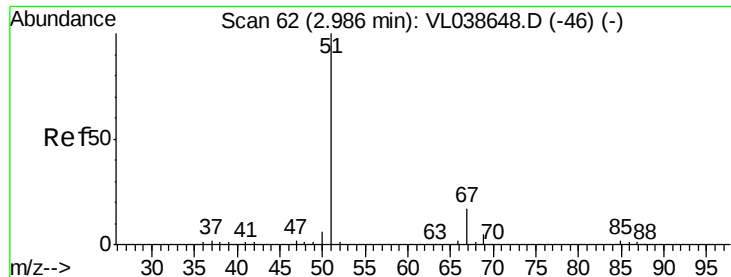
87 38.9 26.0 39.0



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0





#3

Chlorodifluoromethane

Concen: 0.322 ppbv

RT: 2.99 Instrument: MSVOA_1

Delta R.T. ClientSampleId:

Lab File: C0P97

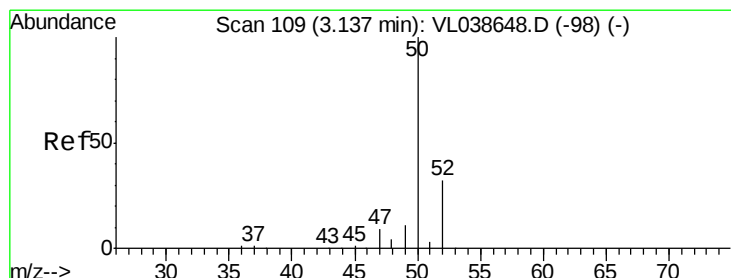
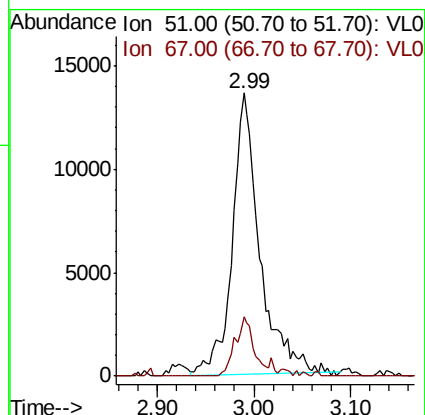
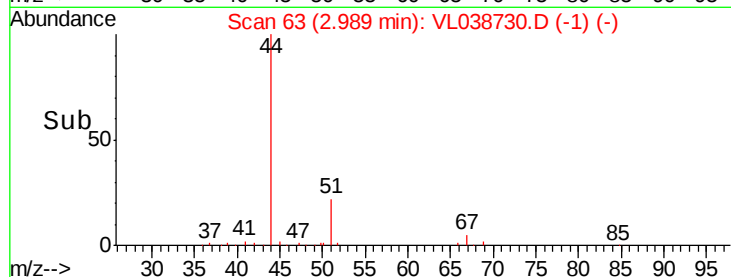
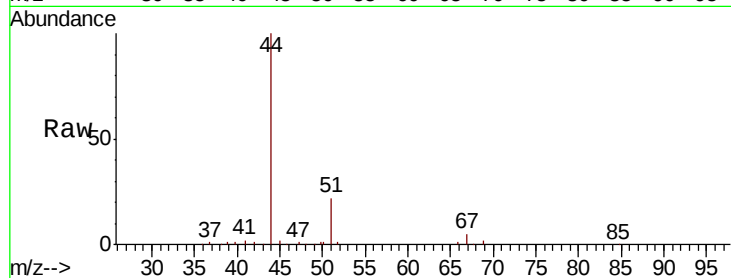
Acq: 24 Mar 2022 00:30

Tot Ion: 51 Resp: 26917

Ion Ratio Lower Upper

51 100

67 16.9 14.1 21.1



#4

Chloromethane

Concen: 0.097 ppbv

RT: 3.14 min Scan# 110

Delta R.T. 0.00 min

Lab File: VL038730.D

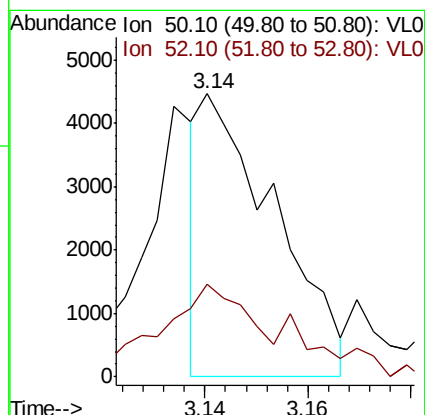
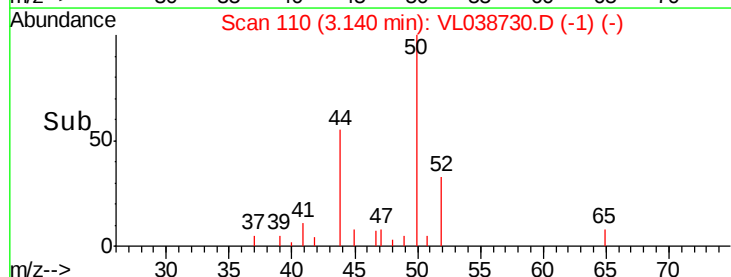
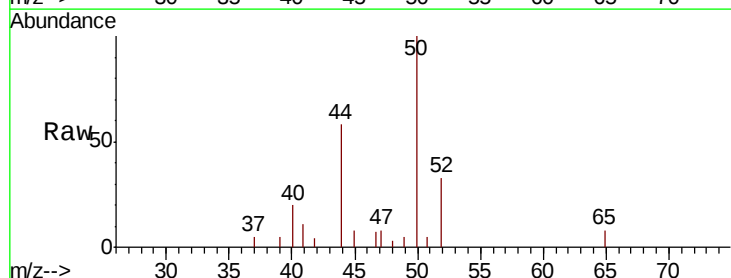
Acq: 24 Mar 2022 00:30

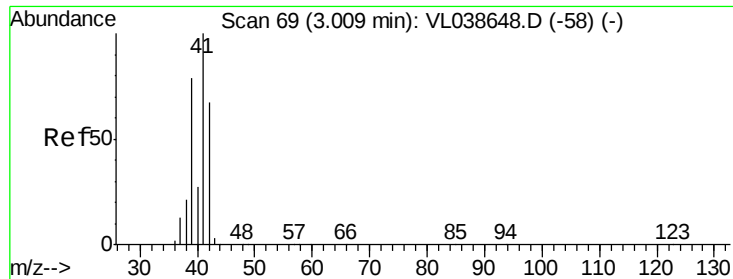
Tgt Ion: 50 Resp: 4465

Ion Ratio Lower Upper

50 100

52 28.7 25.5 38.3





#9

Propene

Concen: 0.675 ppbv

RT: 3.01 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

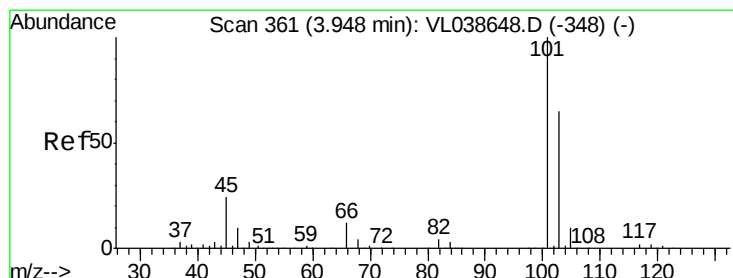
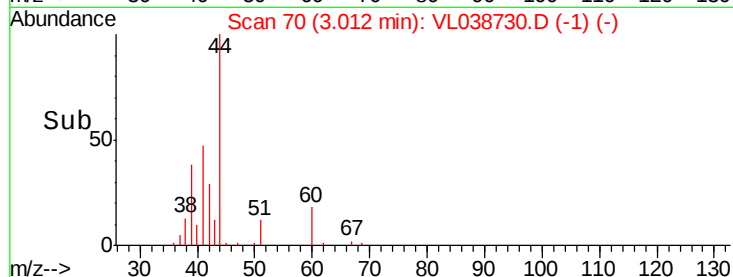
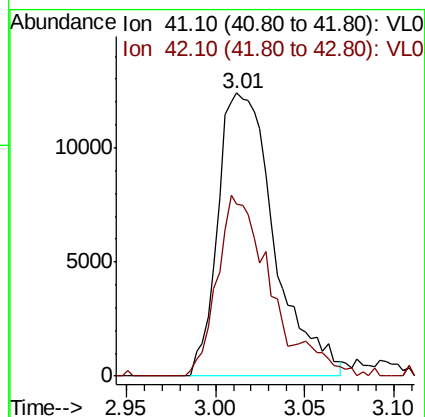
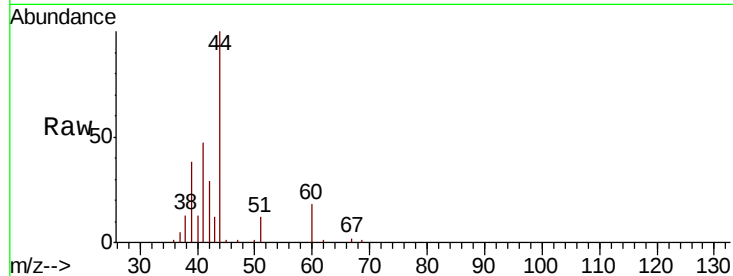
Acq: 24 Mar 2022 00:30

Tot Ion: 41 Resp: 27256

Ion Ratio Lower Upper

41 100

42 60.8 56.2 84.4



#11

Trichlorofluoromethane

Concen: 0.260 ppbv

RT: 3.95 min Scan# 362

Delta R.T. 0.00 min

Lab File: VL038730.D

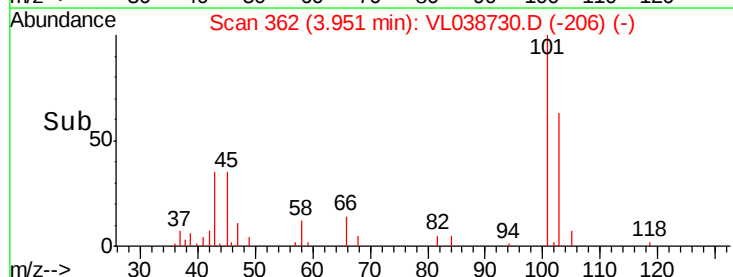
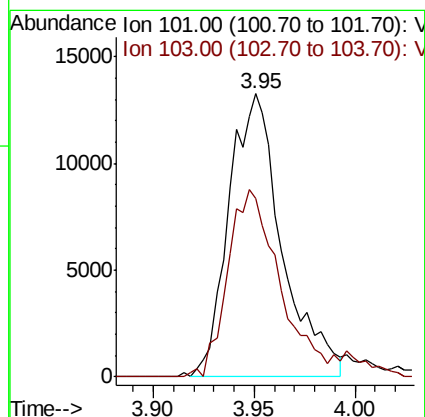
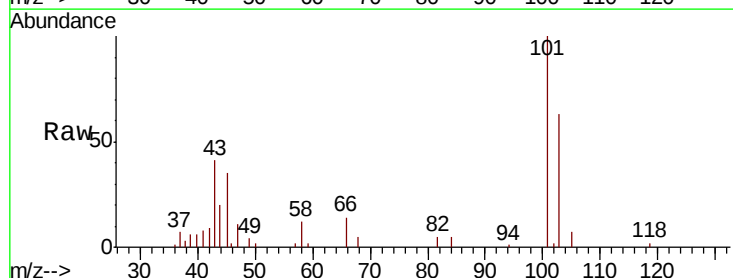
Acq: 24 Mar 2022 00:30

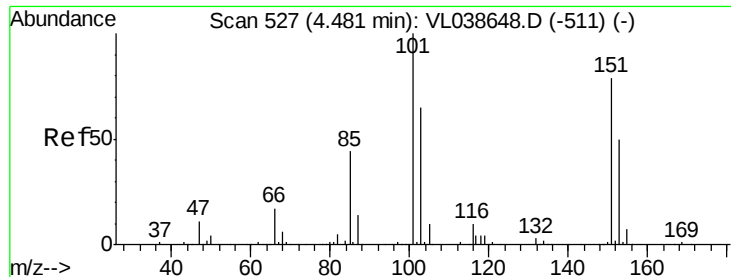
Tgt Ion: 101 Resp: 24455

Ion Ratio Lower Upper

101 100

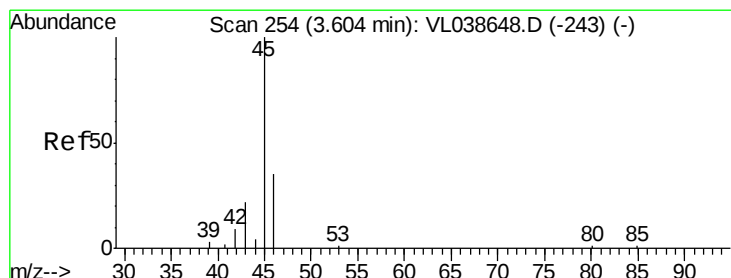
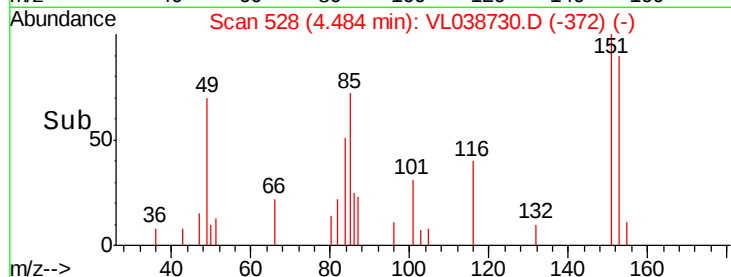
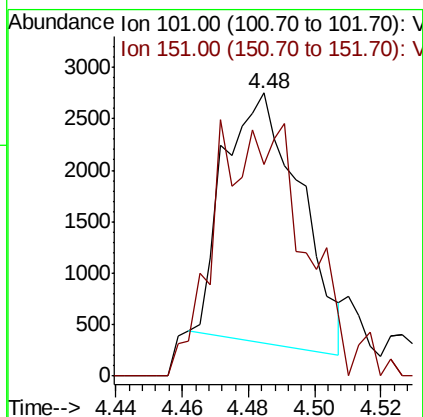
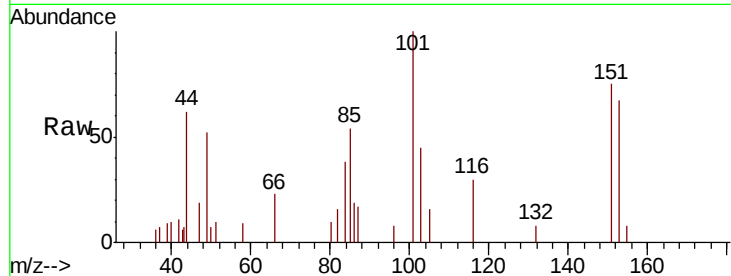
103 61.5 51.9 77.9





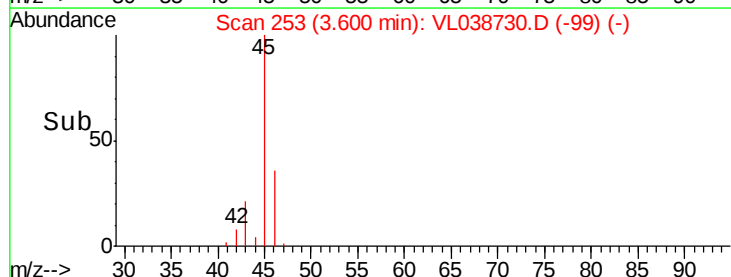
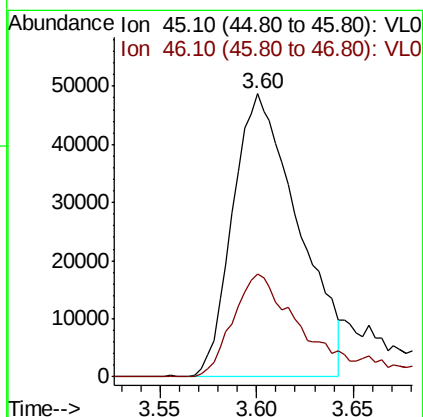
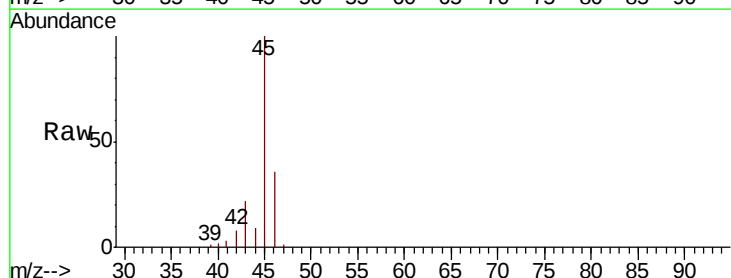
#12
 1,1,2-Trichlorotrifluoroethane
 Concen: 0.053 ppbv
 RT: 4.48
 Delta R.T. MSVOA_L
 Lab File: ClientSampleId :
 C0P97
 Acq: 24 Mar 2022 00:30

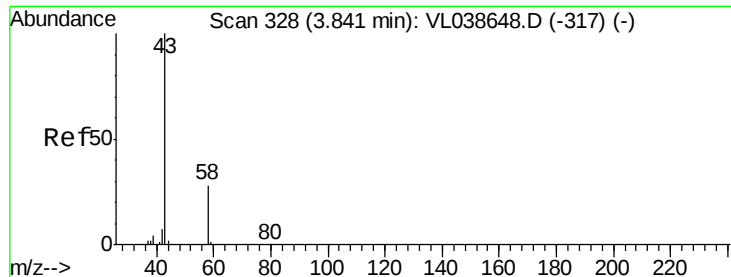
Tot Ion: 101 Resp: 3860
 Ion Ratio Lower Upper
 101 100
 151 123.0 62.9 94.3#



#13
 Ethanol
 Concen: 25.728 ppbv
 RT: 3.60 min Scan# 253
 Delta R.T. -0.00 min
 Lab File: VL038730.D
 Acq: 24 Mar 2022 00:30

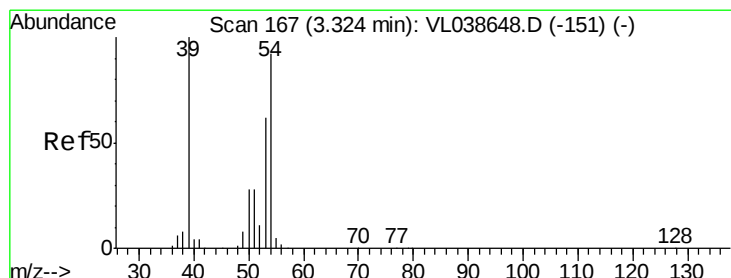
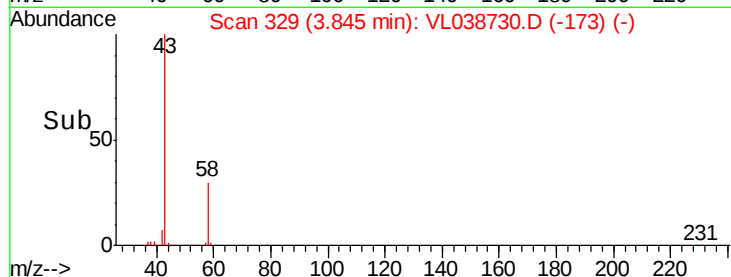
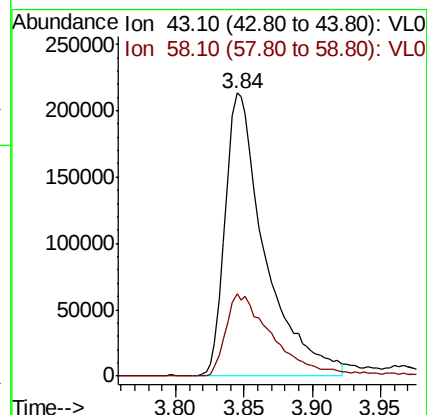
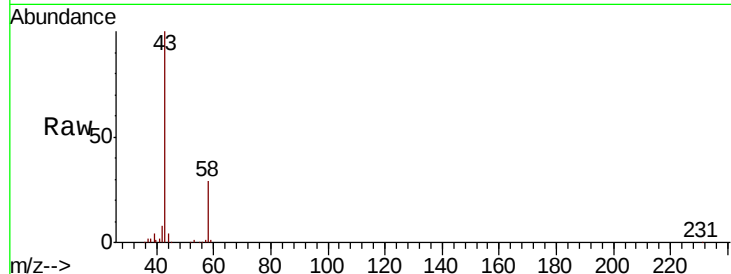
Tgt Ion: 45 Resp: 114536
 Ion Ratio Lower Upper
 45 100
 46 44.0 15.1 60.5





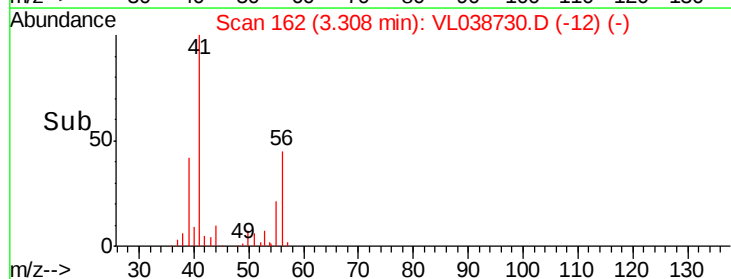
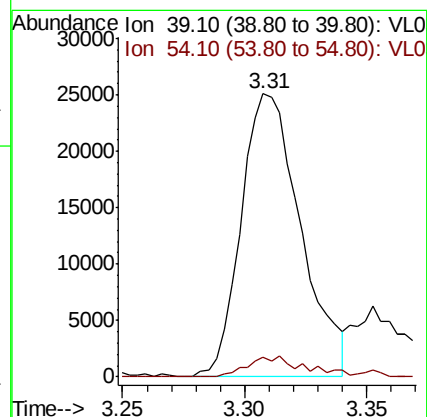
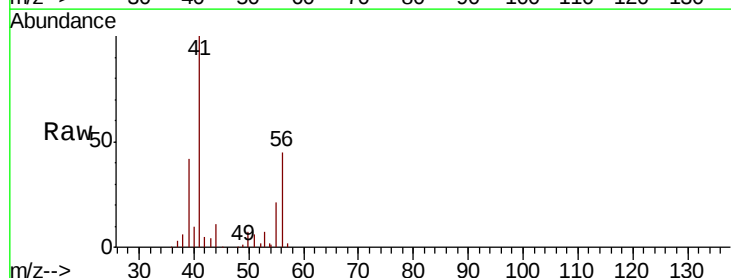
#15
Acetone
Concen: 6.326 ppbv
RT: 3.84
Delta R.T. MSVOA_L
Lab File: ClientSampleId :
COP97
Acq: 24 Mar 2022 00:30

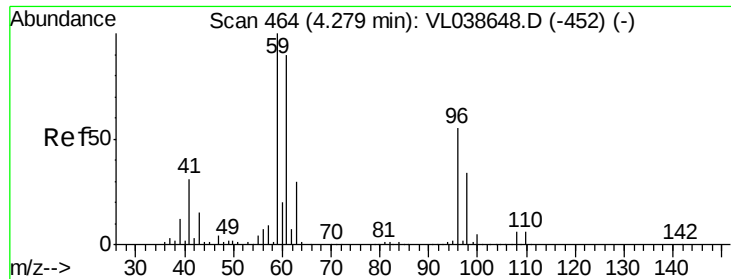
Tot Ion: 43 Resp: 432058
Ion Ratio Lower Upper
43 100
58 36.2 23.3 34.9#



#16
1,3-Butadiene
Concen: 1.099 ppbv
RT: 3.31 min Scan# 162
Delta R.T. -0.02 min
Lab File: VL038730.D
Acq: 24 Mar 2022 00:30

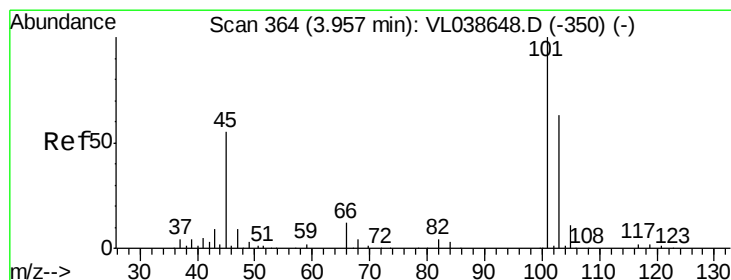
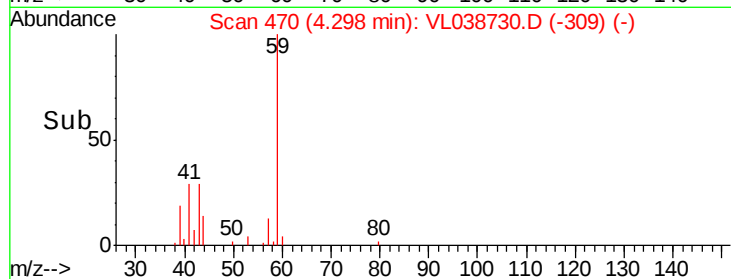
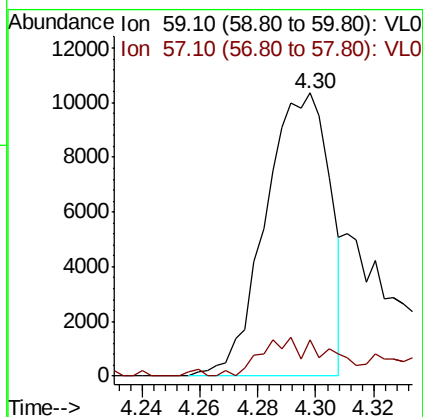
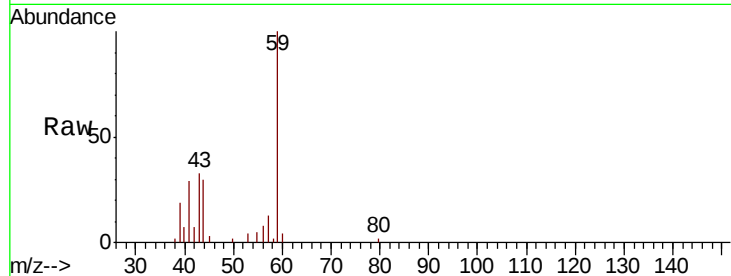
Tgt Ion: 39 Resp: 42590
Ion Ratio Lower Upper
39 100
54 7.7 69.1 103.7#





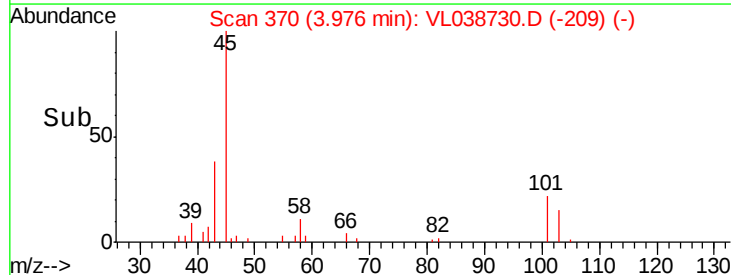
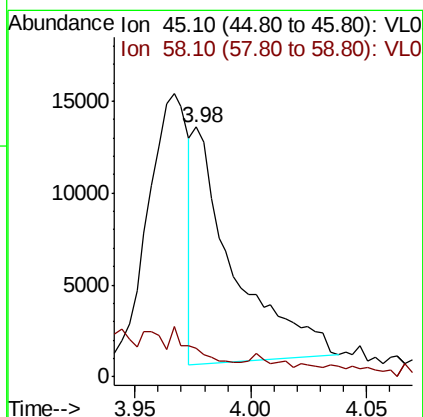
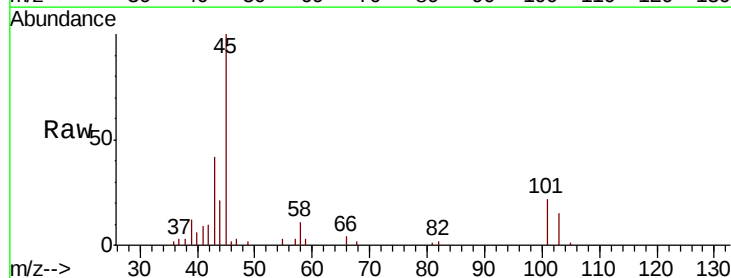
#17
 tert-Butyl alcohol
 Concen: 0.267 ppbv
 RT: 4.30
 Delta R.T. MSVOA_L
 Lab File: ClientSampleId :
 C0P97
 Acq: 24 Mar 2022 00:30

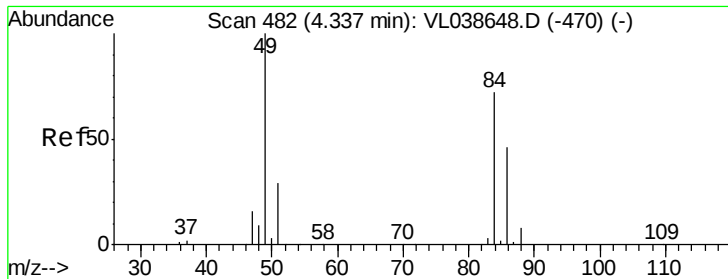
Tot Ion: 59 Resp: 15906
 Ion Ratio Lower Upper
 59 100
 57 19.2 8.2 12.2#



#19
 Isopropyl Alcohol
 Concen: 0.414 ppbv
 RT: 3.98 min Scan# 370
 Delta R.T. 0.02 min
 Lab File: VL038730.D
 Acq: 24 Mar 2022 00:30

Tgt Ion: 45 Resp: 15679
 Ion Ratio Lower Upper
 45 100
 58 0.0 2.3 3.5#

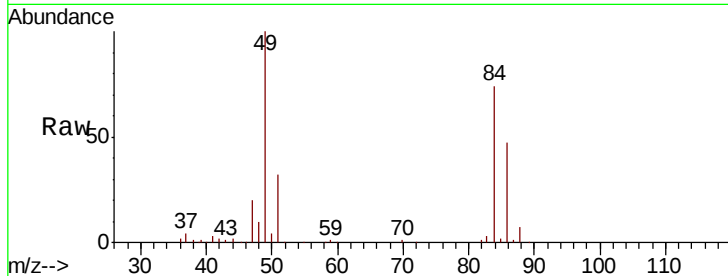




#20
Methvlene Chloride
Concen: 6.696 ppbv
RT: 4.34
Delta R.T. MSVOA_L
Lab File: ClientSampleId :
COP97
Acq: 24 Mar 2022 00:30

Tot Ion: 84 Resp: 192603

Ion	Ratio	Lower	Upper
84	100		
49	134.5	111.2	166.8
51	42.3	32.8	49.2
86	63.3	51.4	77.0



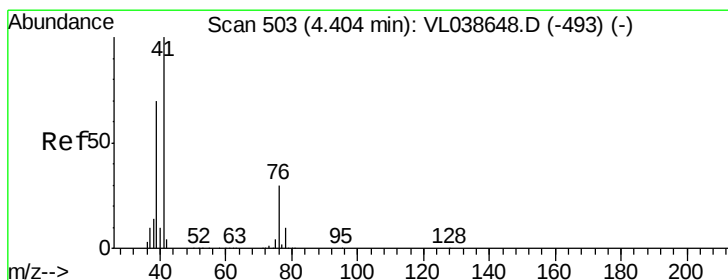
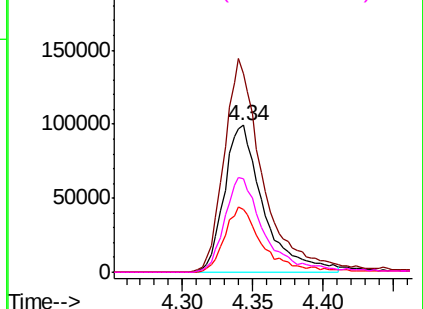
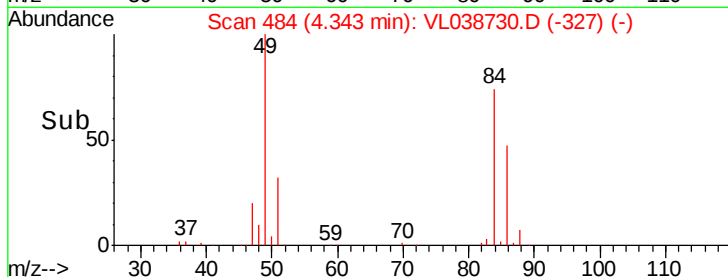
Abundance

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

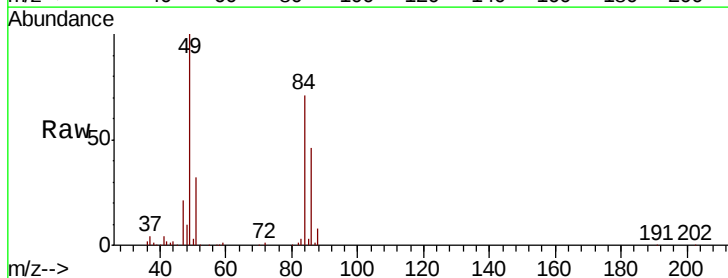
Ion 86.00 (85.70 to 86.70): VL0



#21
Allyl Chloride
Concen: 0.032 ppbv
RT: 4.35 min Scan# 485
Delta R.T. -0.06 min
Lab File: VL038730.D
Acq: 24 Mar 2022 00:30

Tgt Ion: 41 Resp: 1549

Ion	Ratio	Lower	Upper
41	100		
76	0.0	25.0	37.6#
39	70.1	56.6	85.0

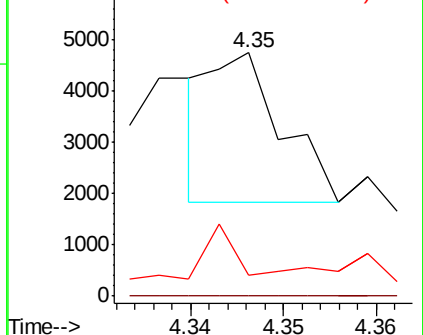
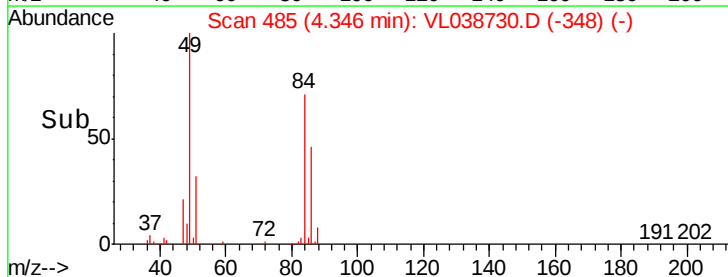


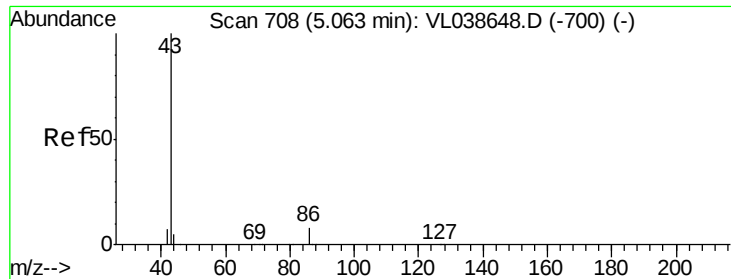
Abundance

Ion 41.10 (40.80 to 41.80): VL0

Ion 76.10 (75.80 to 76.80): VL0

Ion 39.10 (38.80 to 39.80): VL0





#23

Vinyl Acetate

Concen: 0.153 ppbv

RT: 5.06 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 24 Mar 2022 00:30

Tot Ion: 43 Resp: 10140

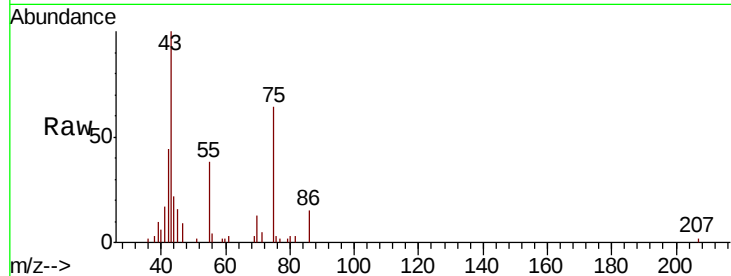
Ion Ratio Lower Upper

43 100

86 16.0 5.6 8.4#

42 42.3 6.8 10.2#

44 10.7 4.2 6.2#

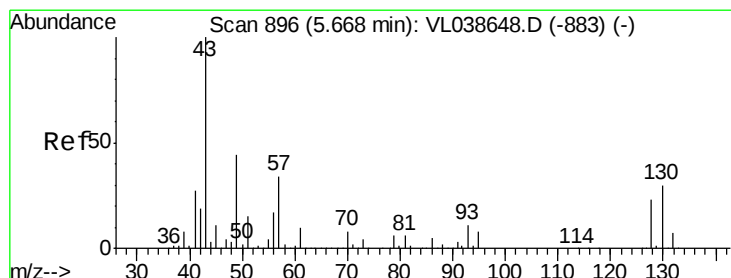
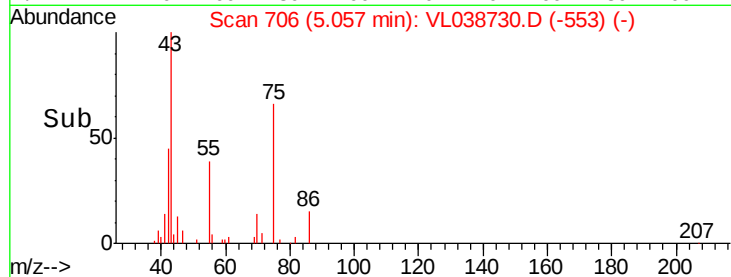
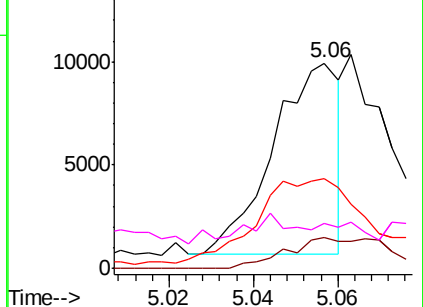


Abundance Ion 43.10 (42.80 to 43.80): VL0

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: 0.505 ppbv

RT: 5.68 min Scan# 900

Delta R.T. 0.01 min

Lab File: VL038730.D

Acq: 24 Mar 2022 00:30

Tgt Ion: 43 Resp: 86803

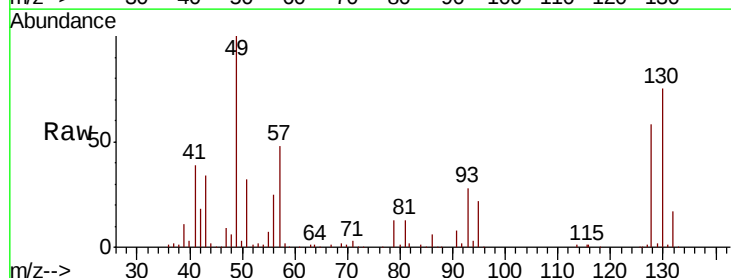
Ion Ratio Lower Upper

43 100

45 4.1 8.2 12.4#

61 1.1 8.3 12.5#

70 2.5 5.6 8.4#

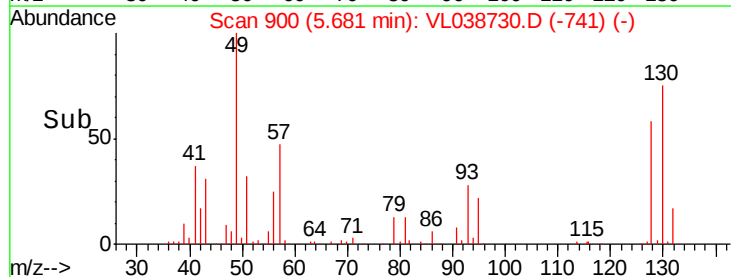
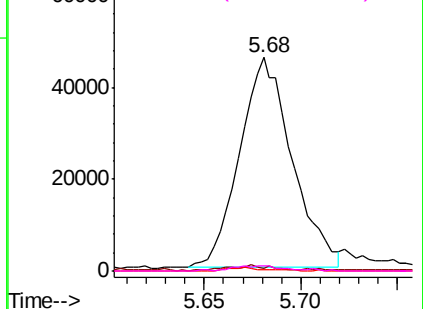


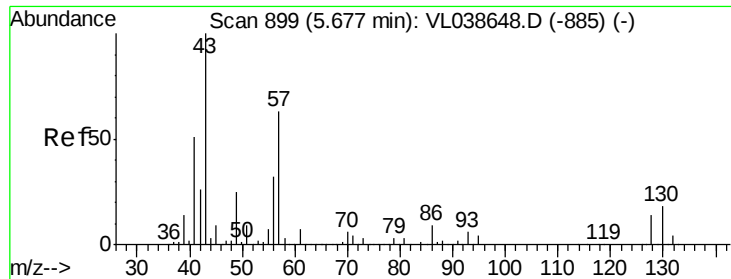
Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 45.10 (44.80 to 45.80): VL0

Ion 61.10 (60.80 to 61.80): VL0

Ion 70.10 (69.80 to 70.80): VL0





#26

Hexane

Concen: 1.645 ppbv

RT: 5.68 Instrument:

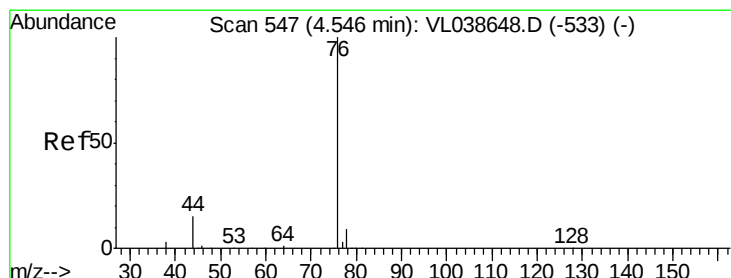
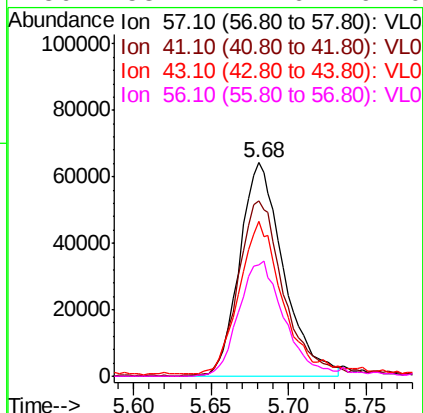
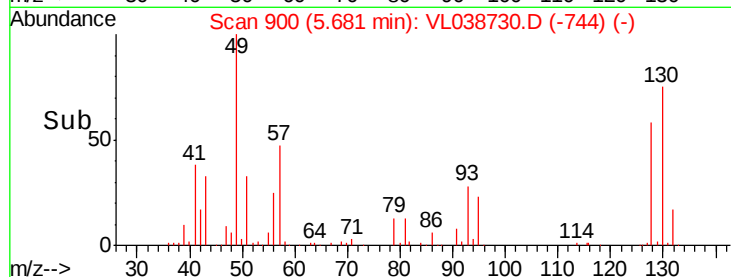
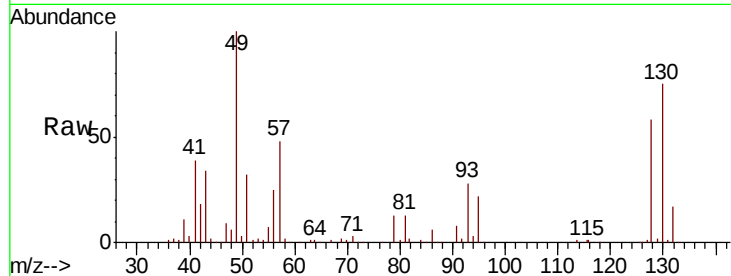
Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 24 Mar 2022 00:30 C0P97

Tot Ion: 57 Resp: 126614

Ion	Ratio	Lower	Upper
57	100		
41	88.3	67.0	100.4
43	77.3	184.2	276.2#
56	58.2	42.6	64.0



#27

Carbon Disulfide

Concen: 0.064 ppbv

RT: 4.55 min Scan# 549

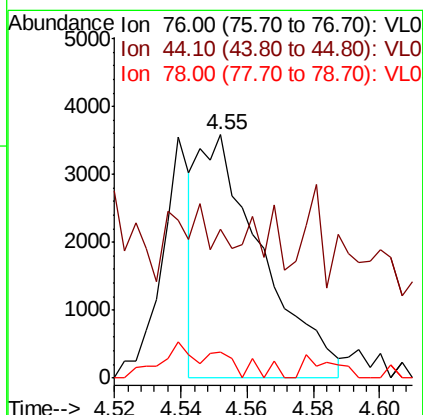
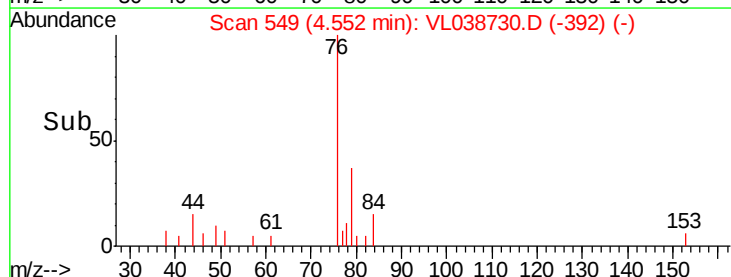
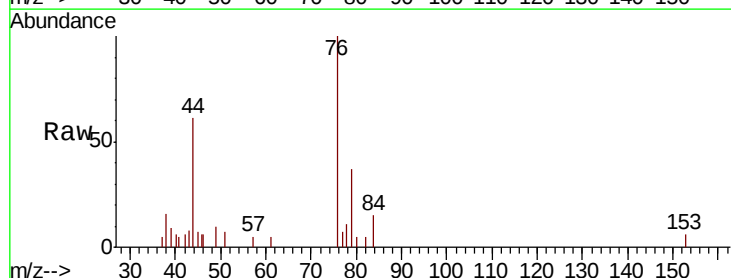
Delta R.T. 0.01 min

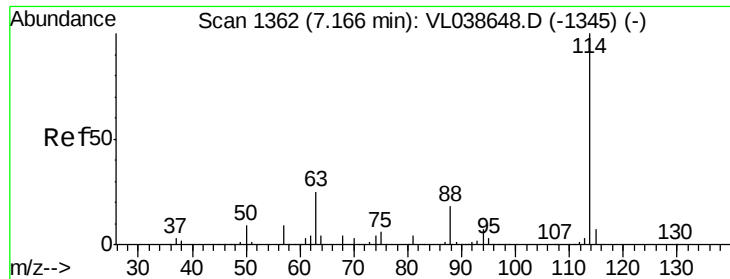
Lab File: VL038730.D

Acq: 24 Mar 2022 00:30

Tgt Ion: 76 Resp: 4807

Ion	Ratio	Lower	Upper
76	100		
44	0.0	12.4	18.6#
78	0.0	7.8	11.8#





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 7.17 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

COP97

Acq: 24 Mar 2022 00:30

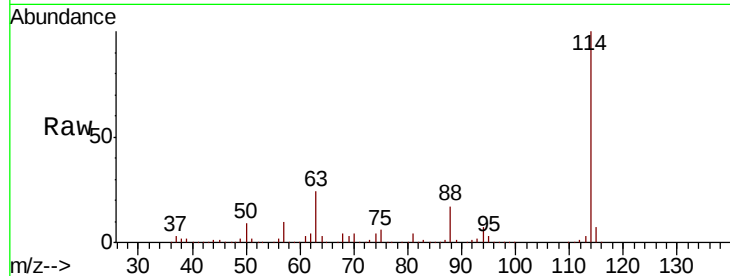
Tot Ion:114 Resp: 2066137

Ion Ratio Lower Upper

114 100

63 23.7 19.4 29.0

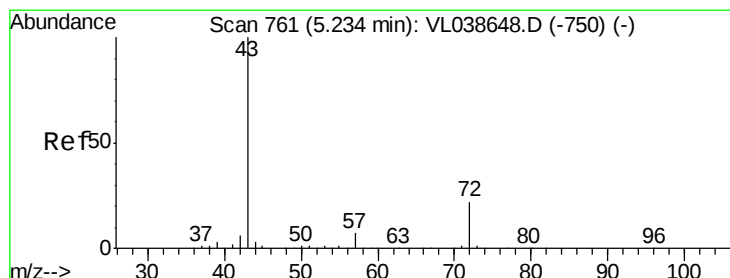
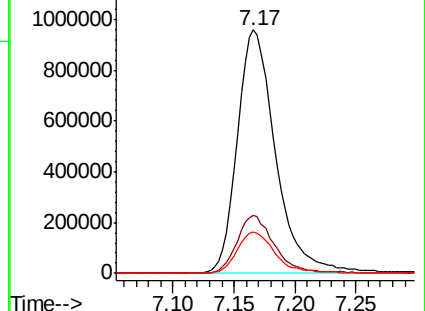
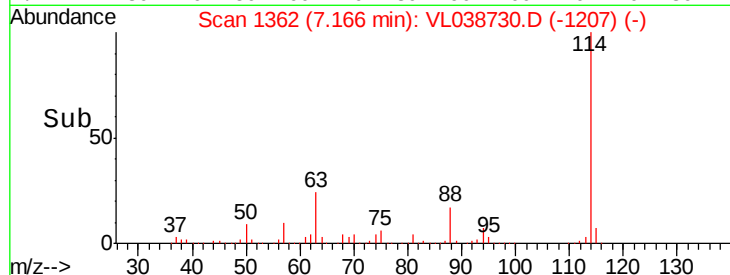
88 17.3 13.9 20.9



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: 5.378 ppbv

RT: 5.24 min Scan# 762

Delta R.T. 0.00 min

Lab File: VL038730.D

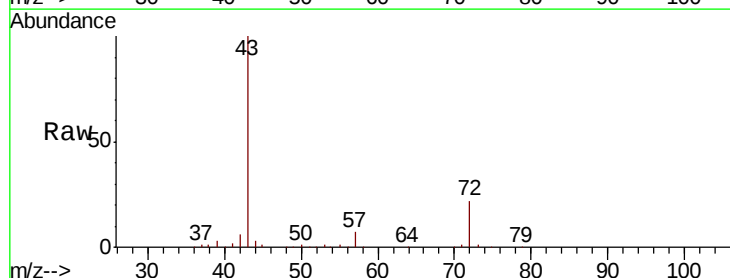
Acq: 24 Mar 2022 00:30

Tgt Ion: 43 Resp: 439790

Ion Ratio Lower Upper

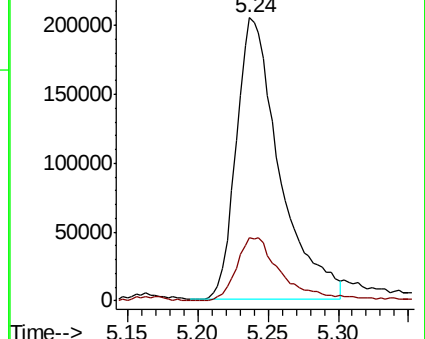
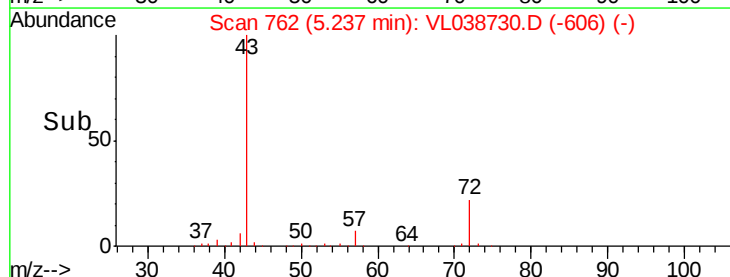
43 100

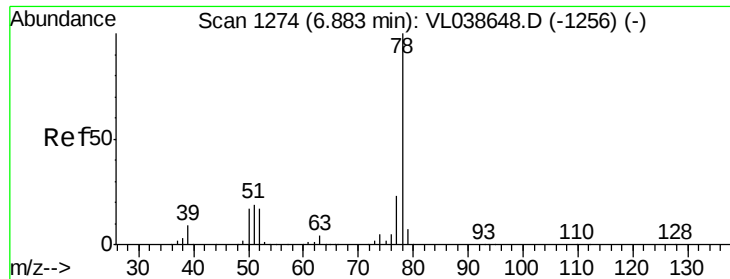
72 24.2 17.8 26.8



Abundance Ion 43.10 (42.80 to 43.80): VL0

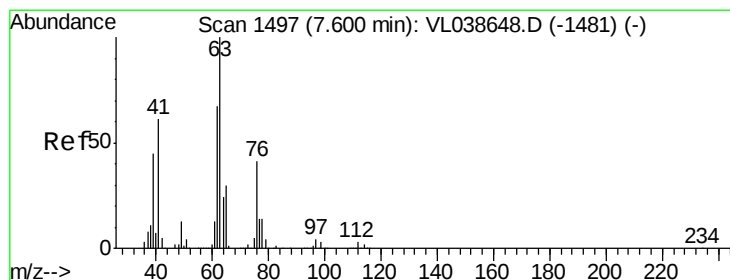
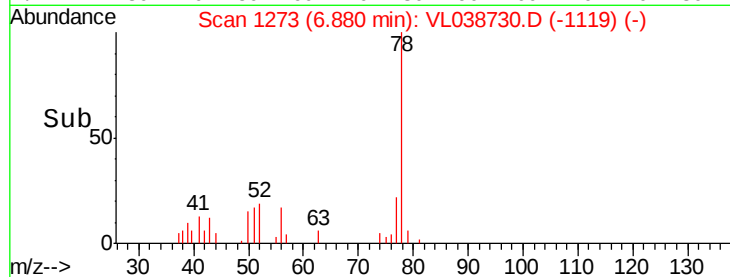
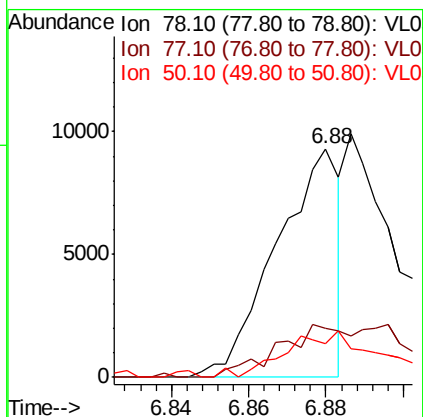
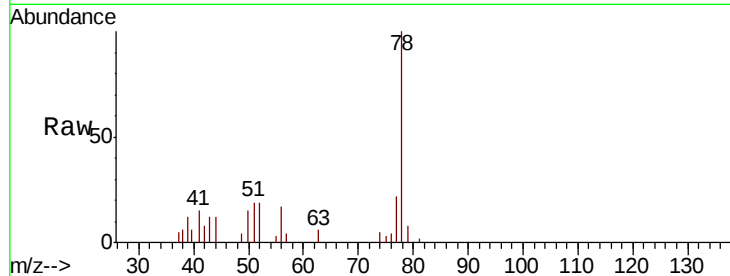
Ion 72.10 (71.80 to 72.80): VL0





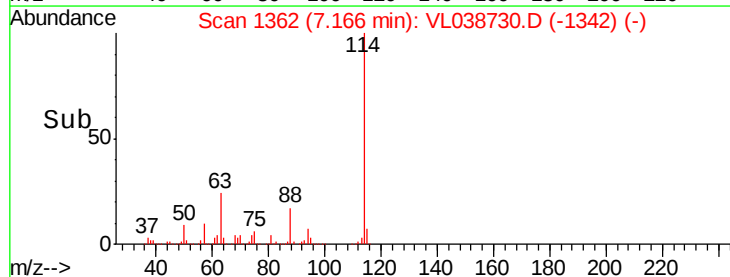
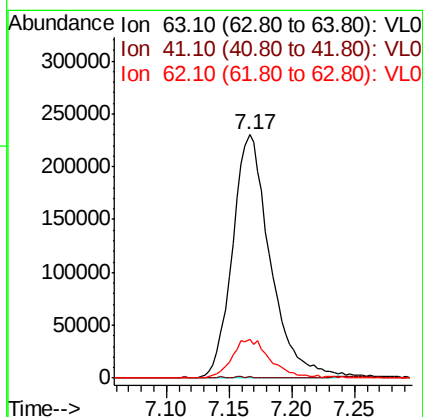
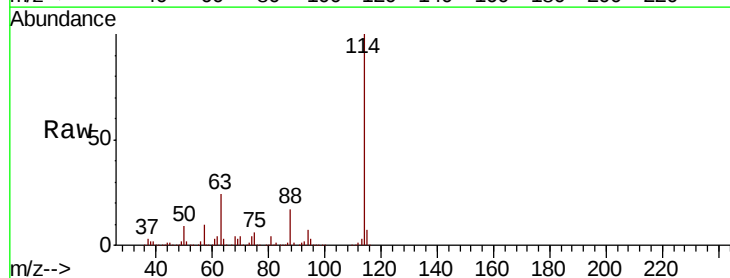
#36
Benzene
Concen: 0.066 ppbv
RT: 6.88
Delta R.T. MSVOA_L
Lab File: ClientSampleId :
COP97
Acq: 24 Mar 2022 00:30

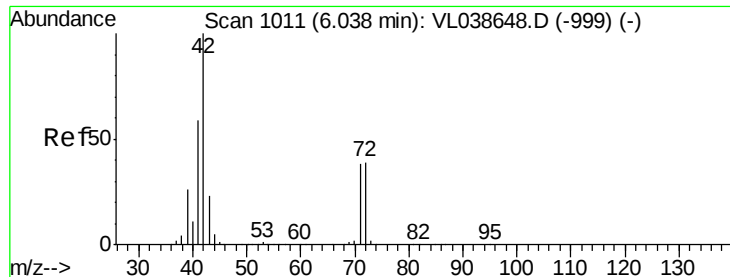
Tot Ion: 78 Resp: 10549
Ion Ratio Lower Upper
78 100
77 21.7 18.1 27.1
50 12.3 13.6 20.4#



#39
1,2-Dichloropropane
Concen: 7.715 ppbv
RT: 7.17 min Scan# 1362
Delta R.T. -0.43 min
Lab File: VL038730.D
Acq: 24 Mar 2022 00:30

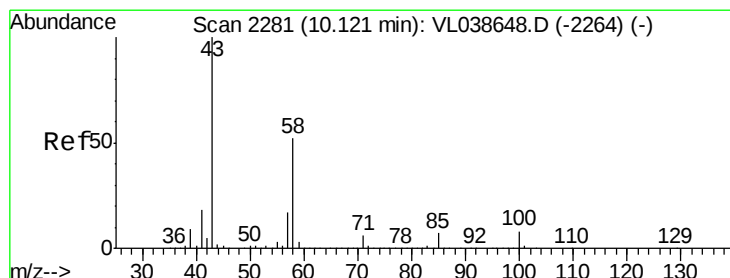
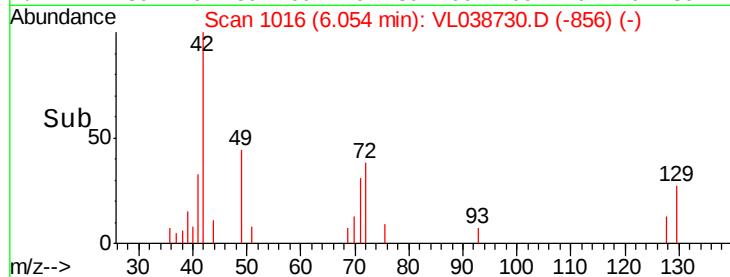
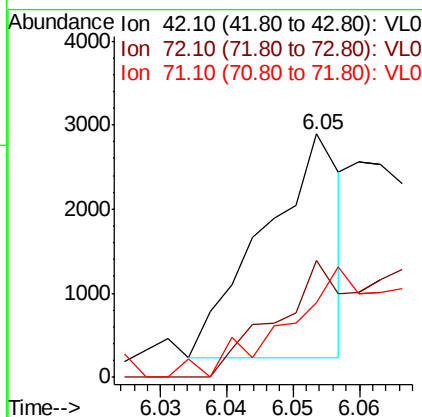
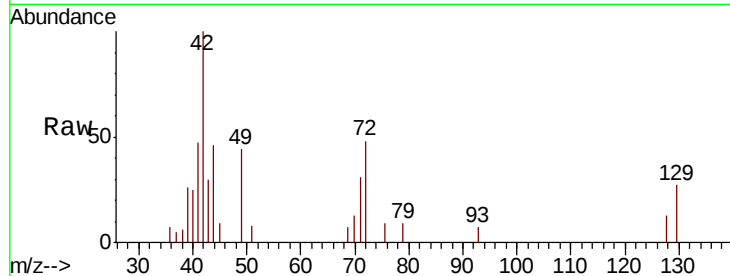
Tgt Ion: 63 Resp: 480973
Ion Ratio Lower Upper
63 100
41 0.4 49.0 73.6#
62 15.7 53.9 80.9#





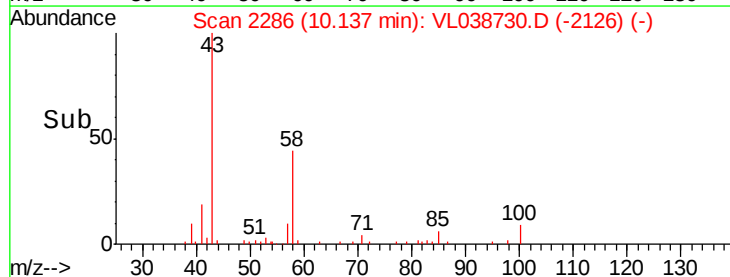
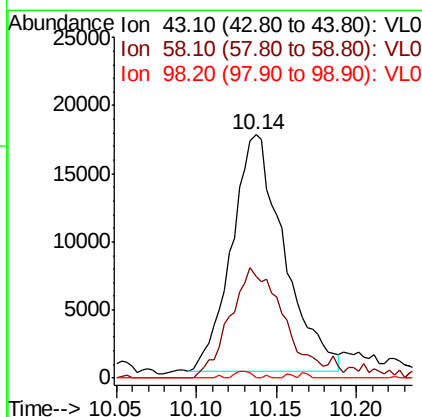
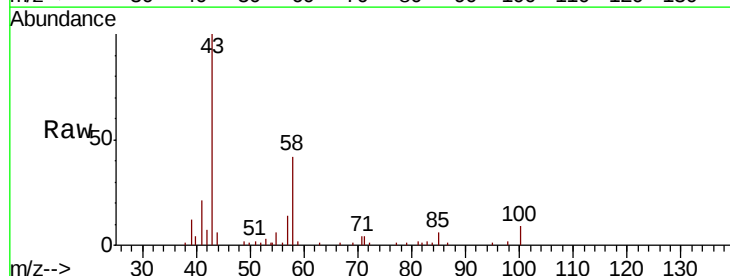
#41
Tetrahydrofuran
Concen: 0.035 ppbv
RT: 6.05
Instrument: MSVOA_1
Delta R.T.:
Lab File: ClientSampleId:
COP97
Acq: 24 Mar 2022 00:30

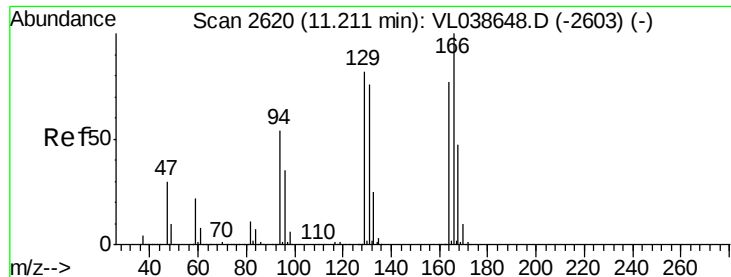
Tot Ion: 42 Resp: 2159
Ion Ratio Lower Upper
42 100
72 132.6 32.5 48.7#
71 0.0 31.4 47.2#



#51
2-Hexanone
Concen: 0.355 ppbv
RT: 10.14 min Scan# 2286
Delta R.T.: 0.02 min
Lab File: VL038730.D
Acq: 24 Mar 2022 00:30

Tgt Ion: 43 Resp: 38818
Ion Ratio Lower Upper
43 100
58 52.3 41.2 61.8
98 1.1 0.2 0.4#





#52

Tetrachloroethene

Concen: 0.047 ppbv

RT: 11.21

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

COP97

Acq: 24 Mar 2022 00:30

Tot Ion:164 Resp: 2715

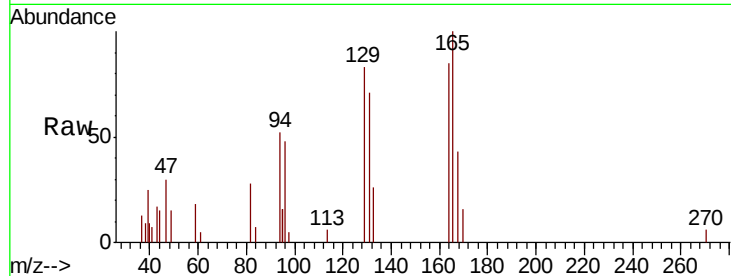
Ion Ratio Lower Upper

164 100

166 117.2 103.3 154.9

129 97.6 85.2 127.8

131 83.2 78.3 117.5

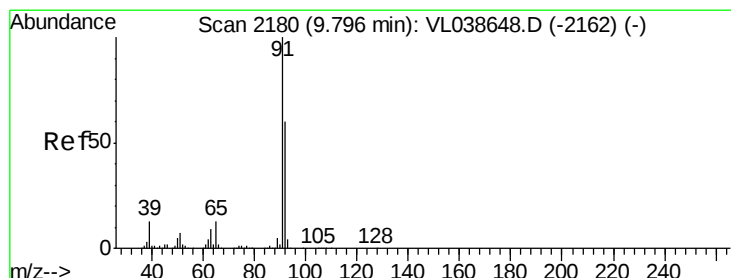
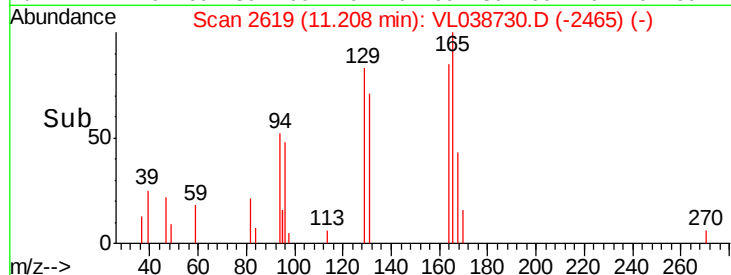
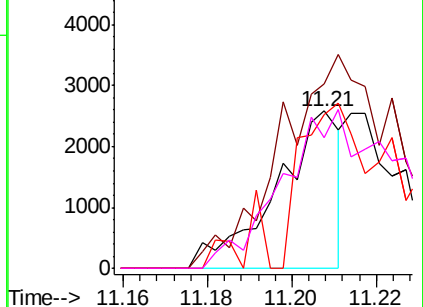


Abundance Ion 163.90 (163.60 to 164.60): V

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: 0.410 ppbv

RT: 9.80 min Scan# 2180

Delta R.T. -0.00 min

Lab File: VL038730.D

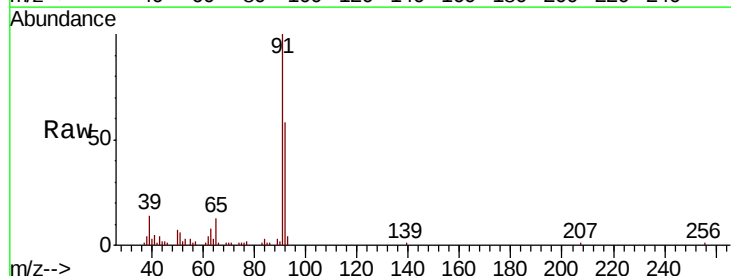
Acq: 24 Mar 2022 00:30

Tgt Ion: 91 Resp: 70238

Ion Ratio Lower Upper

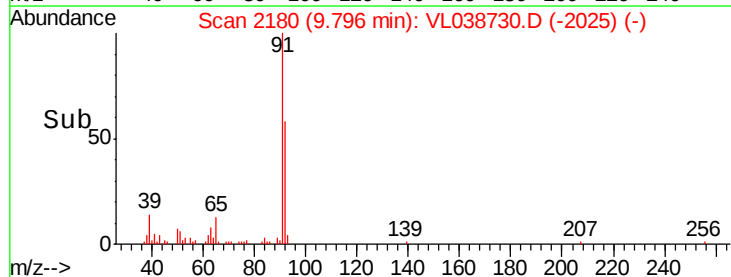
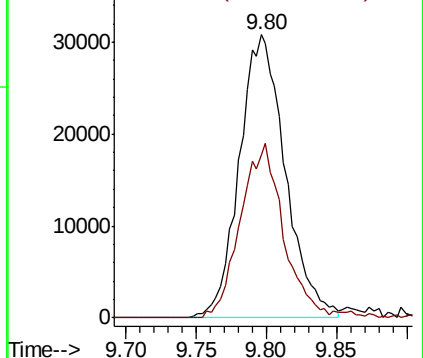
91 100

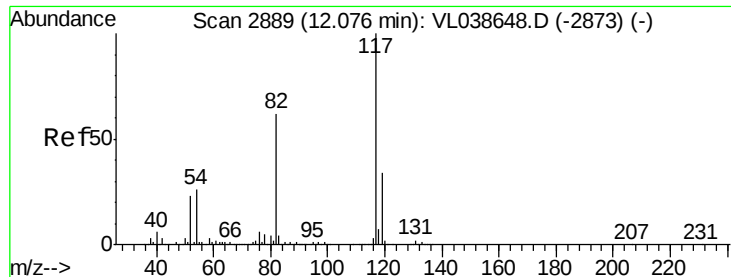
92 59.4 48.7 73.1



Abundance Ion 91.10 (90.80 to 91.80): VL0

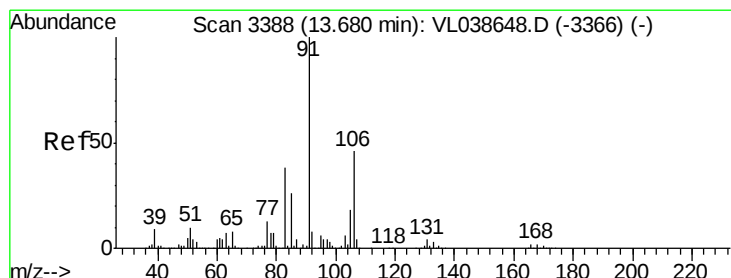
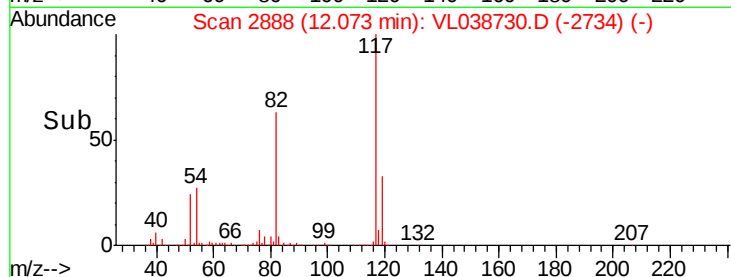
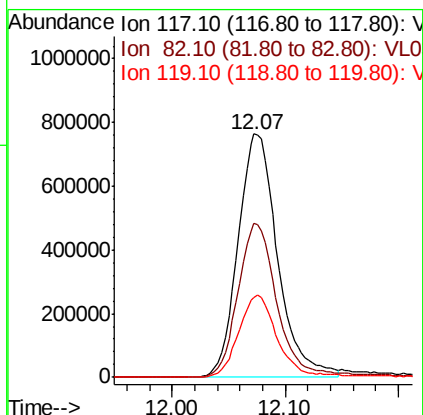
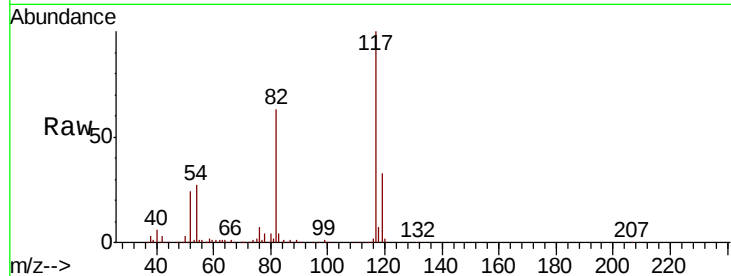
Ion 92.10 (91.80 to 92.80): VL0





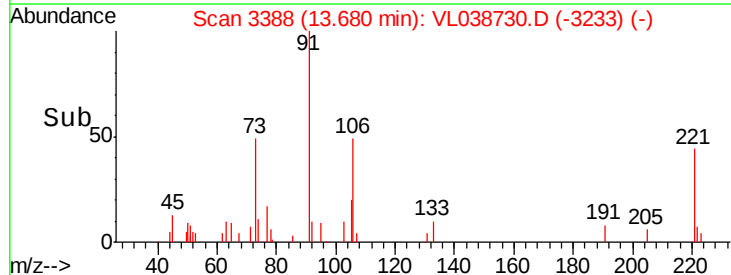
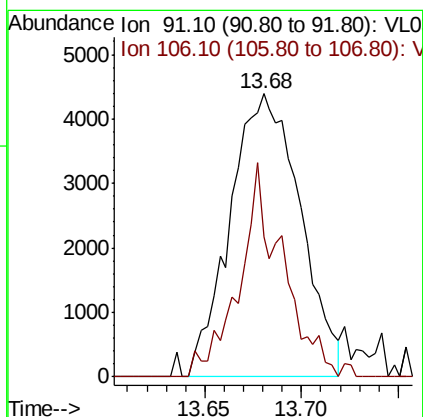
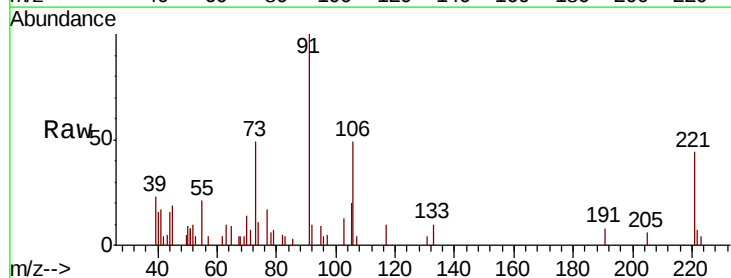
#55
 Chlorobenzene-d5
 Concen: 10.000 ppbv
 RT: 12.07 min
 Instrument: MSVOA_1
 Delta R.T.:
 Lab File: ClientSampleId :
 C0P97
 Acq: 24 Mar 2022 00:30

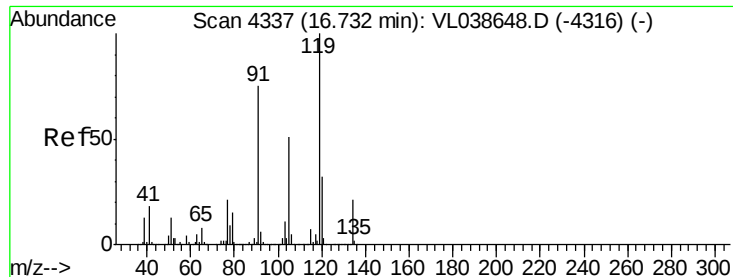
Tot Ion: 117 Resp: 1860278
 Ion Ratio Lower Upper
 117 100
 82 64.9 51.6 77.4
 119 34.7 26.9 40.3



#60
 o-Xylene
 Concen: 0.061 ppbv
 RT: 13.68 min Scan# 3388
 Delta R.T.: -0.00 min
 Lab File: VL038730.D
 Acq: 24 Mar 2022 00:30

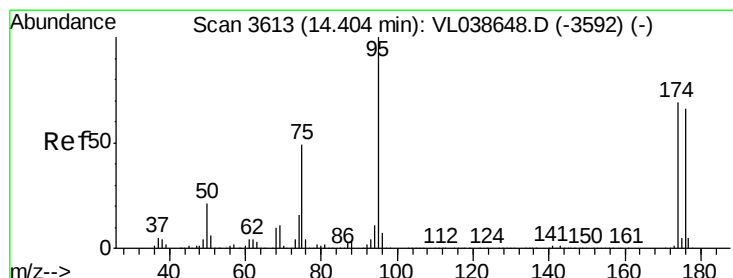
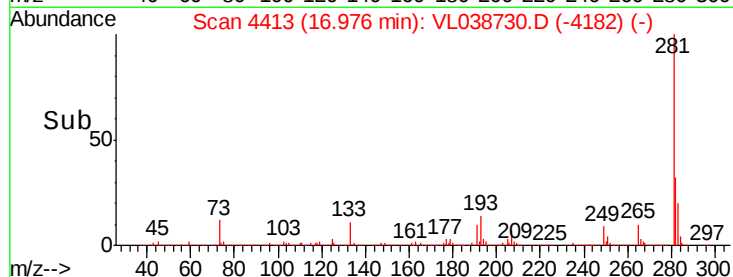
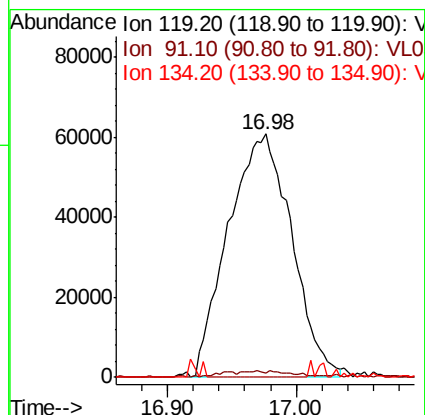
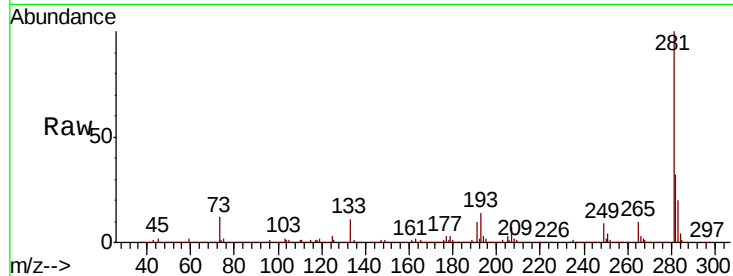
Tgt Ion: 91 Resp: 11056
 Ion Ratio Lower Upper
 91 100
 106 47.0 23.5 70.5





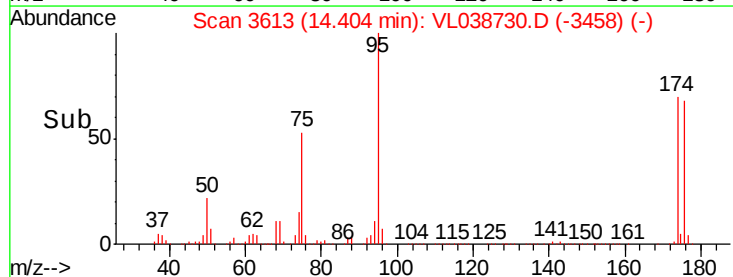
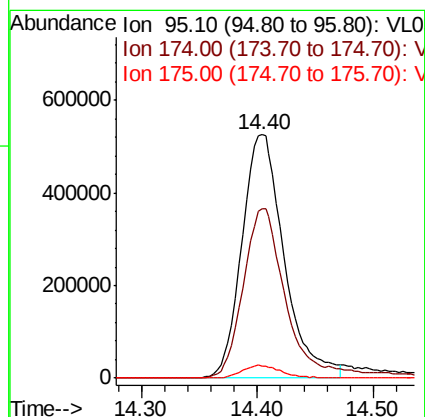
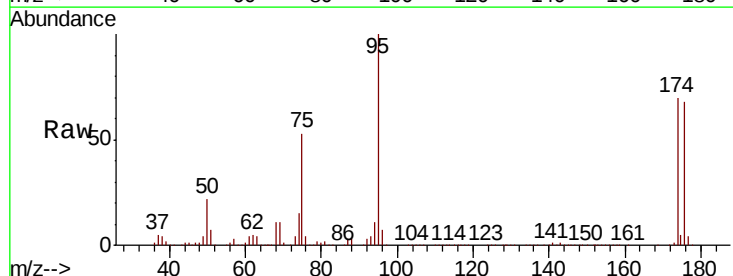
#65
tert-Butylbenzene
Concen: 0.852 ppbv
RT: 16.98
Delta R.T. MSVOA_L
Lab File: ClientSampleId :
Acq: 24 Mar 2022 00:30

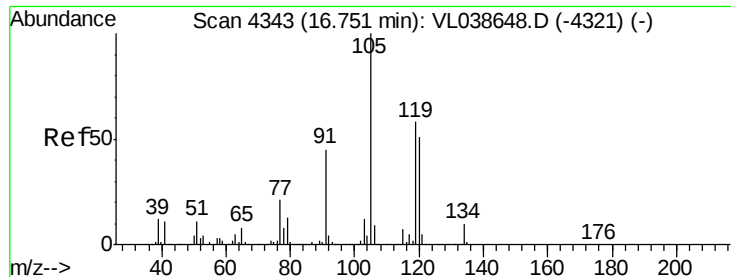
Tot Ion: 119 Resp: 207963
Ion Ratio Lower Upper
119 100
91 3.2 61.2 91.8#
134 1.5 16.3 24.5#



#68
1-Bromo-4-Fluorobenzene
Concen: 9.356 ppbv
RT: 14.40 min Scan# 3613
Delta R.T. -0.00 min
Lab File: VL038730.D
Acq: 24 Mar 2022 00:30

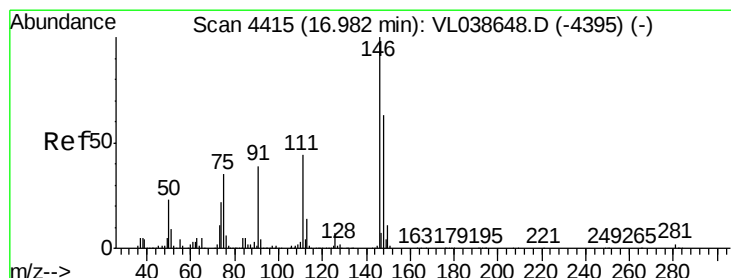
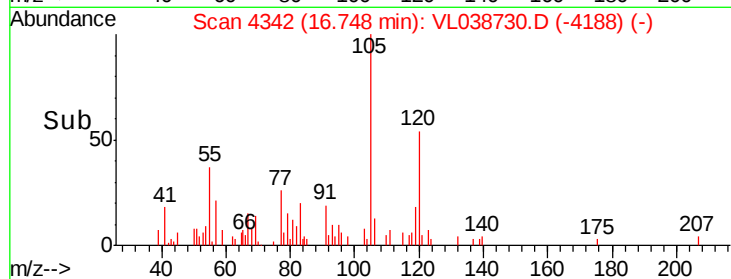
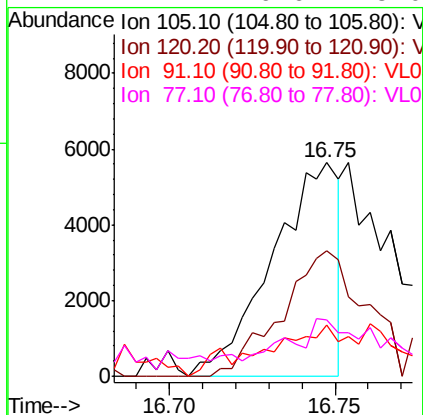
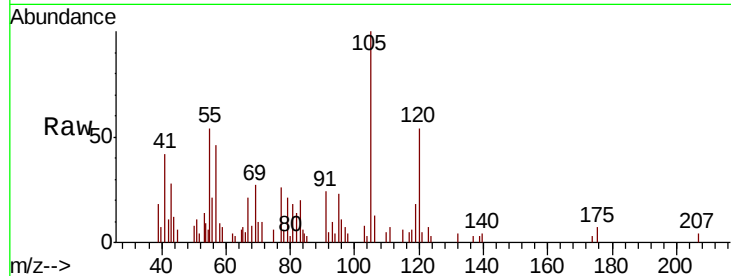
Tgt Ion: 95 Resp: 1334367
Ion Ratio Lower Upper
95 100
174 73.6 56.1 84.1
175 4.9 4.2 6.2





#74
 1,2,4-Trimethylbenzene
 Concen: 0.038 ppbv
 RT: 16.75 min
 Delta R.T. 0.00 min
 Lab File: VL038730.D
 Acq: 24 Mar 2022 00:30

Tot Ion:	105	Resp:	7937
Ion	Ratio	Lower	Upper
105	100		
120	58.8	40.5	60.7
91	23.7	35.9	53.9
77	17.7	16.6	25.0



#75
 1,3-Dichlorobenzene
 Concen: 0.215 ppbv
 RT: 16.99 min Scan# 4416
 Delta R.T. 0.00 min
 Lab File: VL038730.D
 Acq: 24 Mar 2022 00:30

Tgt Ion:	146	Resp:	29001
Ion	Ratio	Lower	Upper
146	100		
111	259.5	22.2	66.6
148	130.1	32.5	97.5

