

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL032521\
 Data File : VL036499.D
 Acq On : 25 Mar 2021 23:34
 Operator :
 Sample : M1748-34
 Misc : 400ml/MSVOA L
 ALS Vial : 15 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :

Quant Time: Mar 26 03:53:50 2021
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL032521AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Thu Mar 25 09:42:40 2021
 QLast Update : Thu Mar 25 09:42:40 2021
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.67	49	1462598	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.18	114	3412886	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.09	117	3045208	10.00	ppbv	0.00

System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	14.42	95	2301438	9.48	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	94.80%

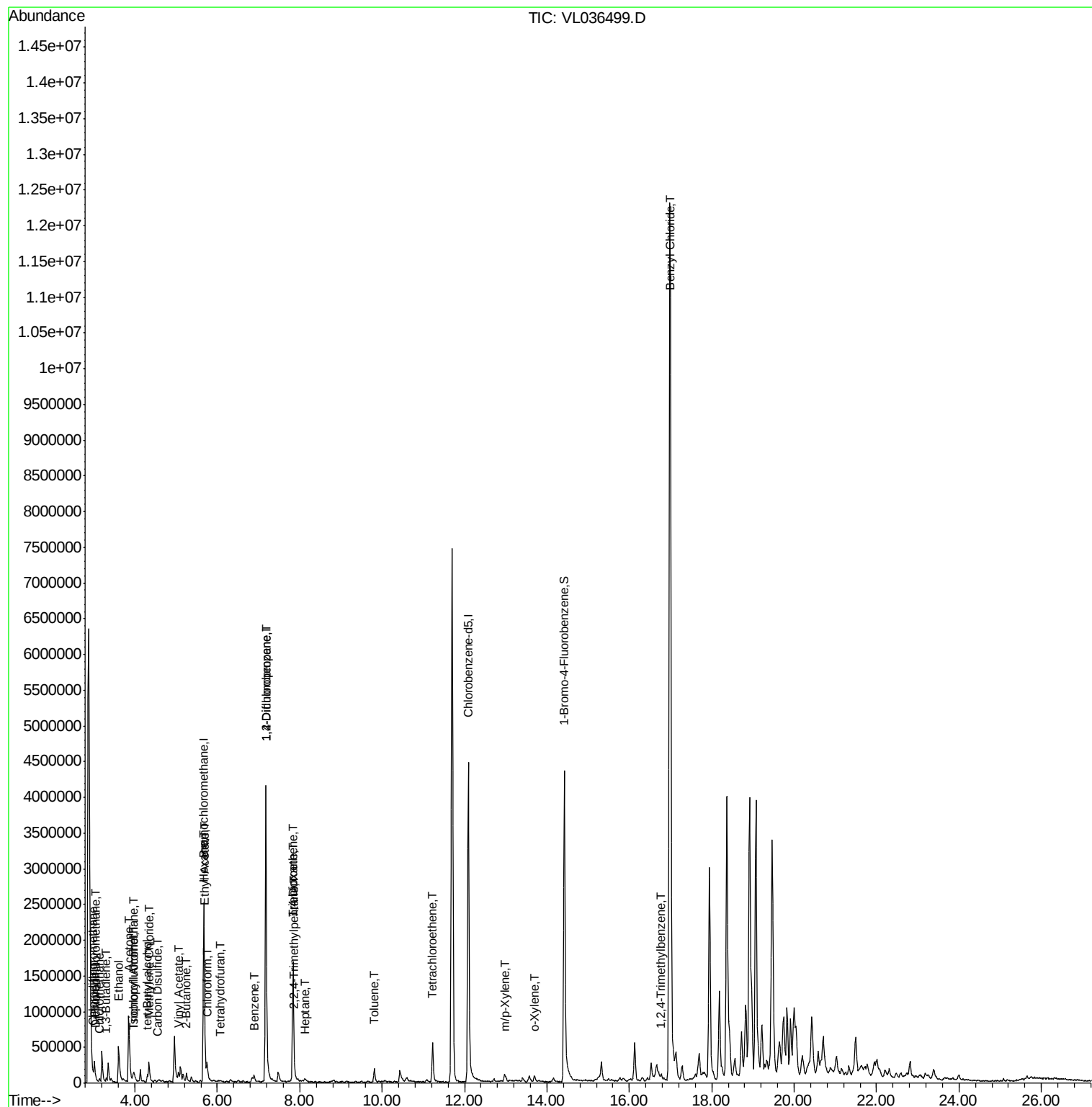
Target Compounds					Ovalue
2) Dichlorodifluoromethane	3.05	85	35563	0.149 ppbv	92
3) Chlorodifluoromethane	2.99	51	90265	0.330 ppbv	92
4) Chloromethane	3.14	50	34756	0.360 ppbv	95
9) Propene	3.01	41	80502	0.924 ppbv	83
10) Heptane	8.13	43	5181	0.023 ppbv #	1
11) Trichlorofluoromethane	3.95	101	55254	0.227 ppbv	89
13) Ethanol	3.61	45	721316	69.530 ppbv	91
15) Acetone	3.85	43	1269725	8.820 ppbv	100
16) 1,3-Butadiene	3.30	39	19597	0.196 ppbv #	43
17) tert-Butyl alcohol	4.30	59	58478	0.467 ppbv #	73
19) Isopropyl Alcohol	3.97	45	131020	1.655 ppbv #	88
20) Methylene Chloride	4.34	84	95118	1.411 ppbv	94
23) Vinyl Acetate	5.07	43	36794	0.149 ppbv #	80
25) Ethyl Acetate	5.69	43	95830	0.280 ppbv #	82
26) Hexane	5.69	57	120862	0.761 ppbv #	48
27) Carbon Disulfide	4.55	76	3803	0.024 ppbv #	60
29) Chloroform	5.75	83	151599	0.597 ppbv	92
34) 2-Butanone	5.25	43	143889	0.864 ppbv	100
36) Benzene	6.90	78	26642	0.085 ppbv	96
38) Trichloroethene	7.83	130	540916	4.416 ppbv	99
39) 1,2-Dichloropropane	7.18	63	938289	7.349 ppbv #	23
40) 1,4-Dioxane	7.85	88	1945	0.065 ppbv #	1
41) Tetrahydrofuran	6.06	42	2825	0.037 ppbv #	34
44) 2,2,4-Trimethylpentane	7.88	57	41223	0.074 ppbv #	48
52) Tetrachloroethene	11.23	164	125625	1.084 ppbv	95
53) Toluene	9.81	91	141503	0.422 ppbv	99
59) m/p-Xylene	13.00	91	23891	0.062 ppbv #	32
60) o-Xylene	13.70	91	38404	0.103 ppbv #	64
66) Benzyl Chloride	17.00	91	1196	0.025 ppbv #	1
74) 1,2,4-Trimethylbenzene	16.76	105	34141	0.083 ppbv #	56

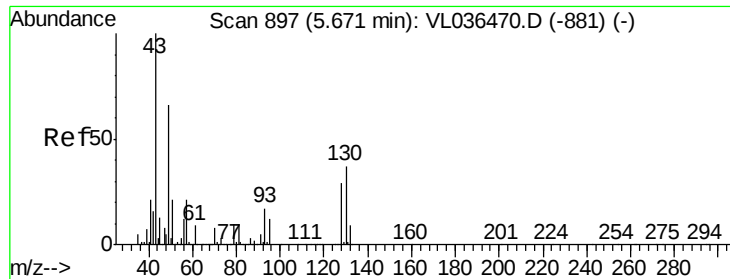
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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QLast Update : Thu Mar 25 09:42:40 2021
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#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.67 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 25 Mar 2021 23:34

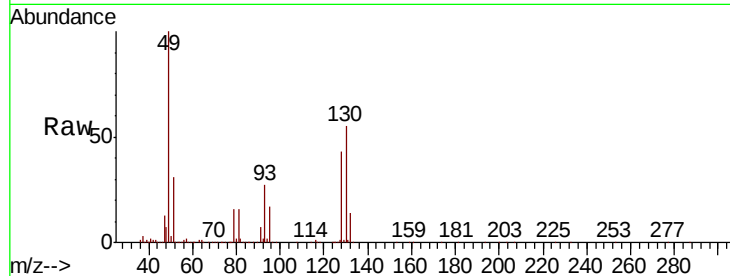
Tot Ion: 49 Resp: 1462598

Ion Ratio Lower Upper

49 100

128 45.1 23.5 70.6

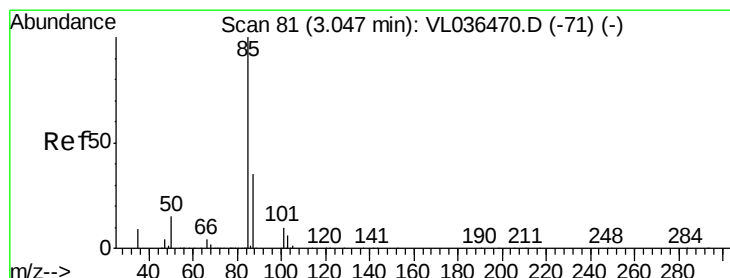
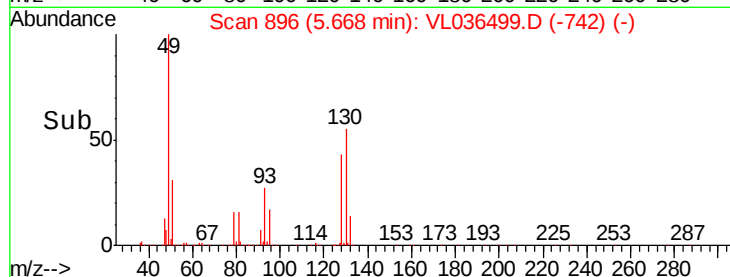
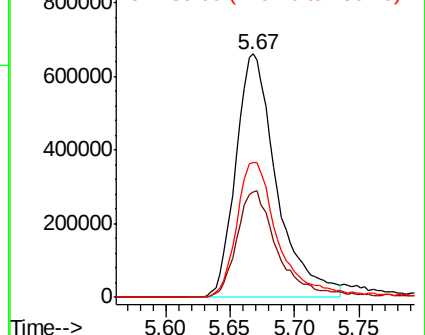
130 58.6 29.1 87.4



Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): V

Ion 130.00 (129.70 to 130.70): V



#2

Dichlorodifluoromethane

Concen: 0.149 ppbv

RT: 3.05 min Scan# 81

Delta R.T. -0.00 min

Lab File: VL036499.D

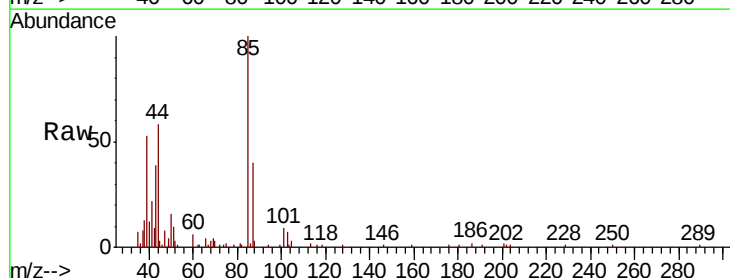
Acq: 25 Mar 2021 23:34

Tgt Ion: 85 Resp: 35563

Ion Ratio Lower Upper

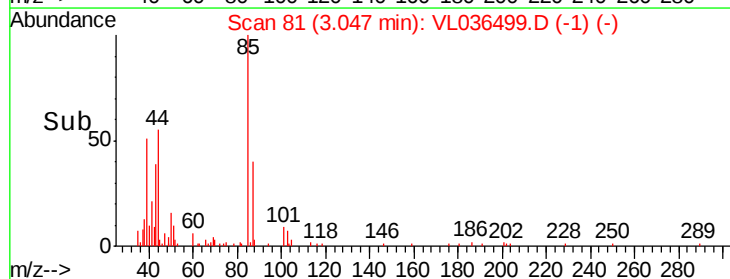
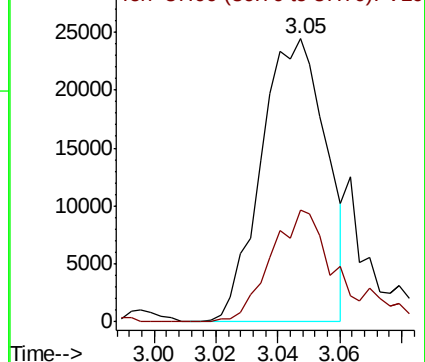
85 100

87 39.5 27.8 41.8



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0





#3

Chlorodifluoromethane

Concen: 0.330 ppbv

RT: 2.99 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

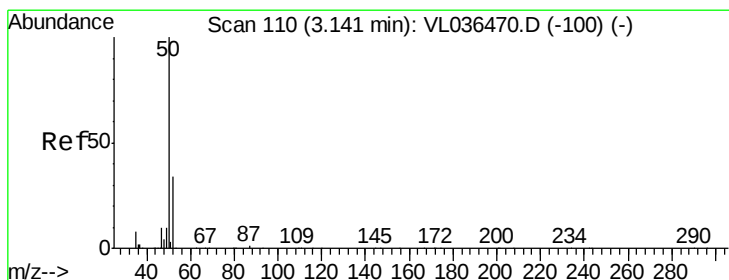
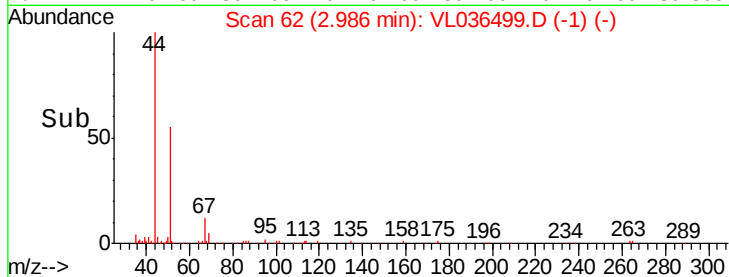
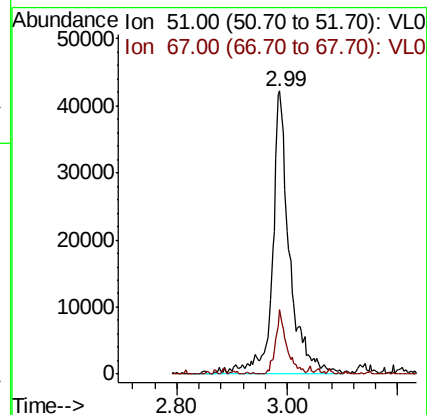
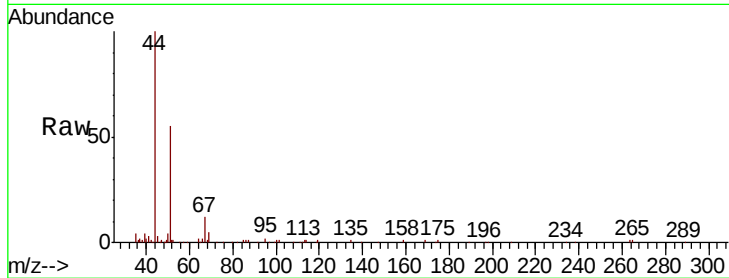
Acq: 25 Mar 2021 23:34

Tot Ion: 51 Resp: 90265

Ion Ratio Lower Upper

51 100

67 14.7 14.7 22.1



#4

Chloromethane

Concen: 0.360 ppbv

RT: 3.14 min Scan# 109

Delta R.T. -0.00 min

Lab File: VL036499.D

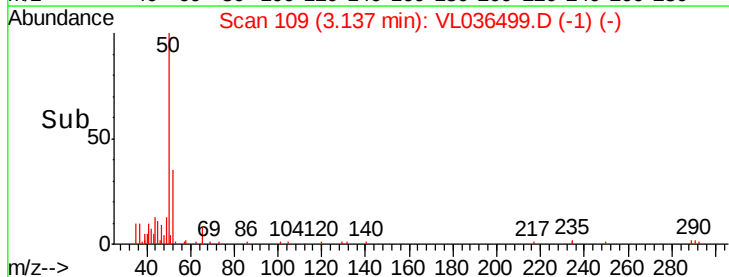
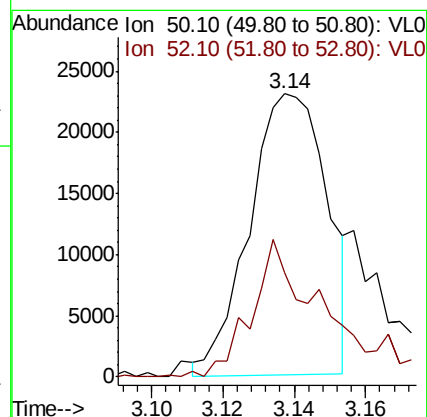
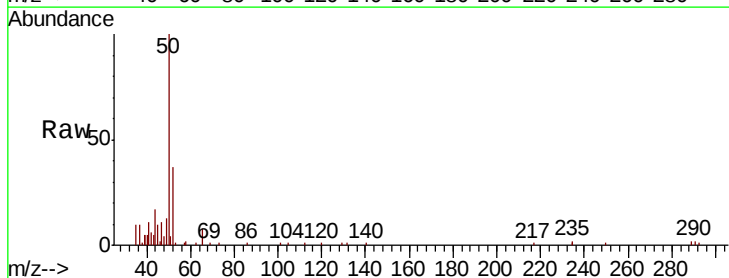
Acq: 25 Mar 2021 23:34

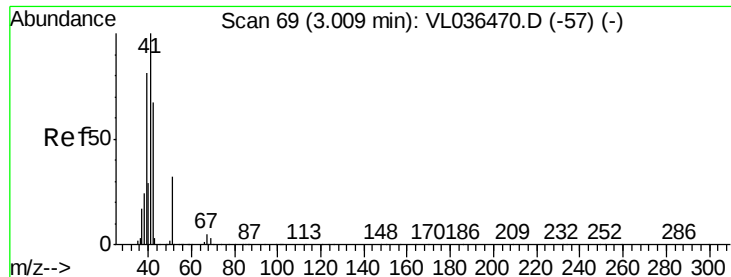
Tgt Ion: 50 Resp: 34756

Ion Ratio Lower Upper

50 100

52 36.7 27.0 40.6





#9

Propene

Concen: 0.924 ppbv

RT: 3.01 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

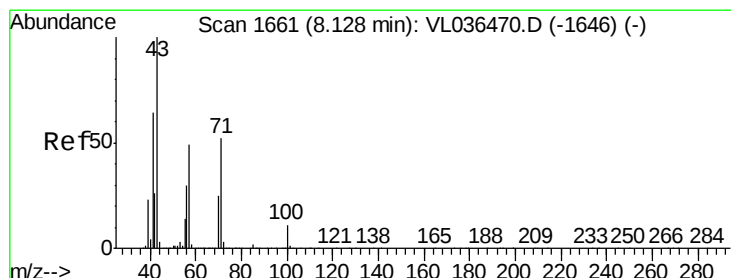
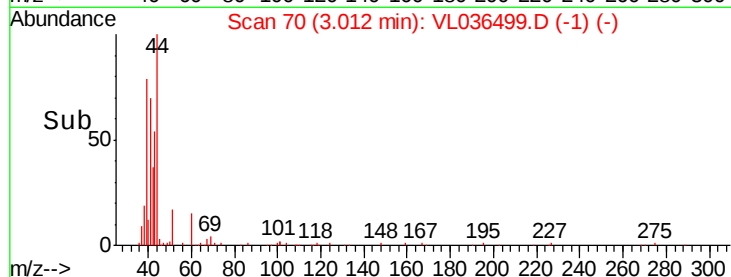
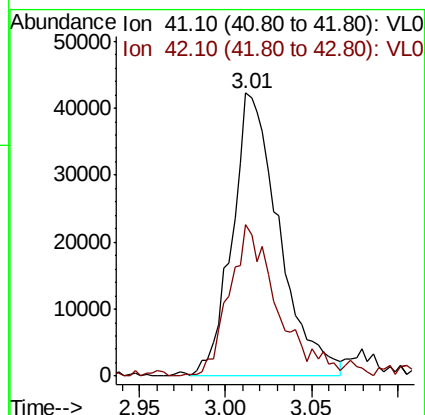
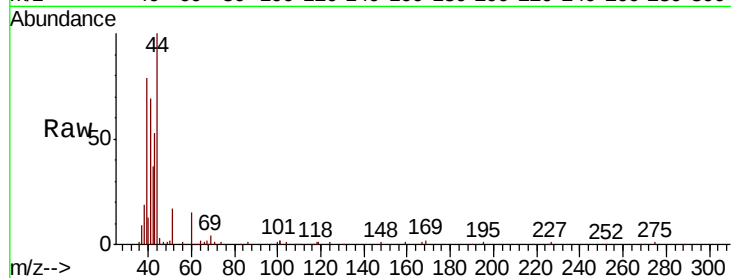
Acq: 25 Mar 2021 23:34

Tot Ion: 41 Resp: 80502

Ion Ratio Lower Upper

41 100

42 57.2 57.0 85.4



#10

Heptane

Concen: 0.023 ppbv

RT: 8.13 min Scan# 1661

Delta R.T. -0.00 min

Lab File: VL036499.D

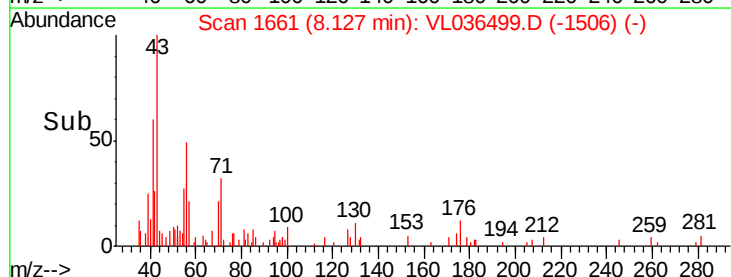
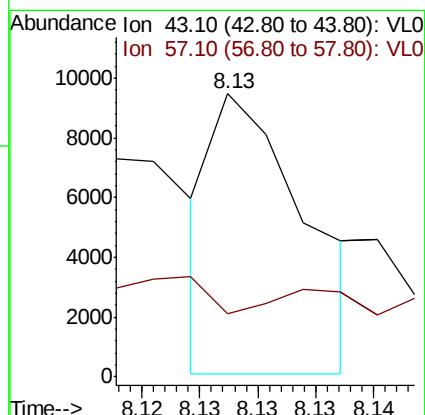
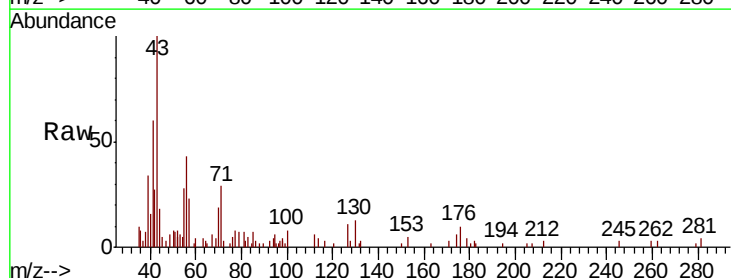
Acq: 25 Mar 2021 23:34

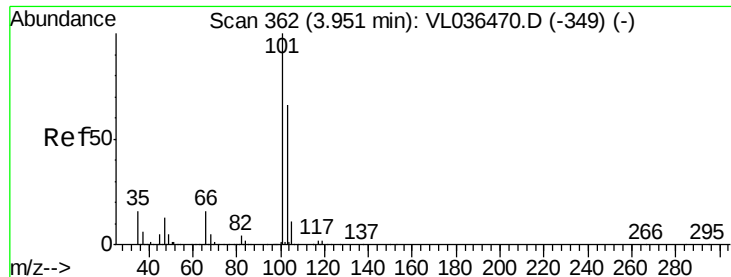
Tgt Ion: 43 Resp: 5181

Ion Ratio Lower Upper

43 100

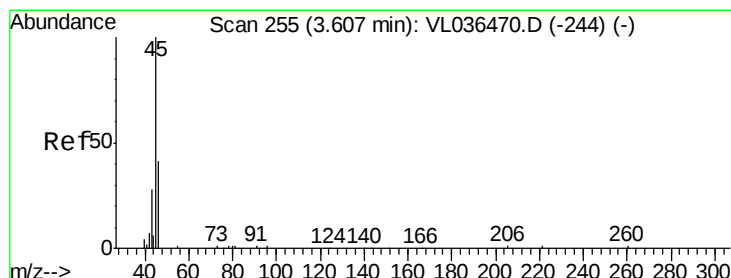
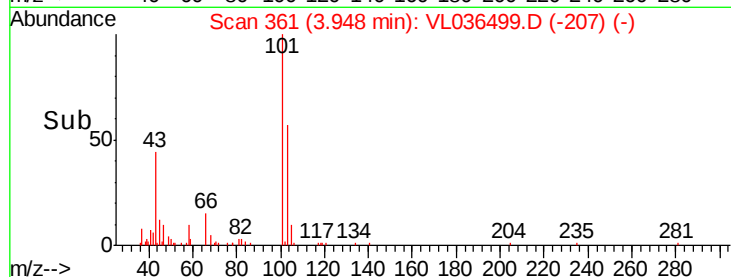
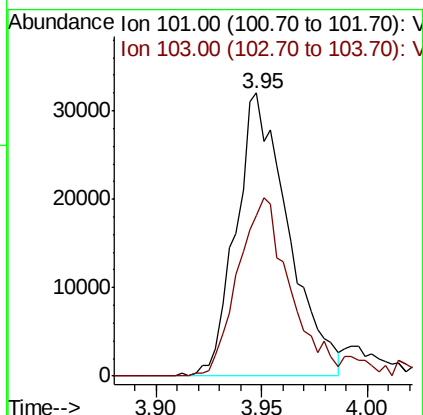
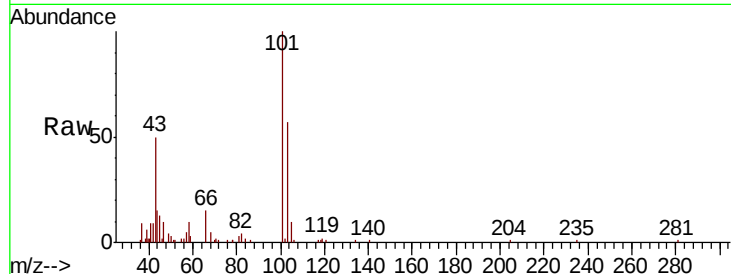
57 195.8 39.0 58.6#





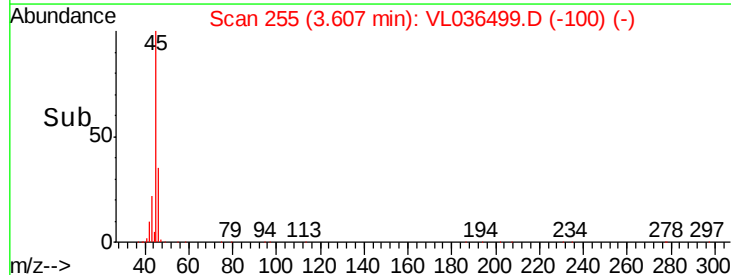
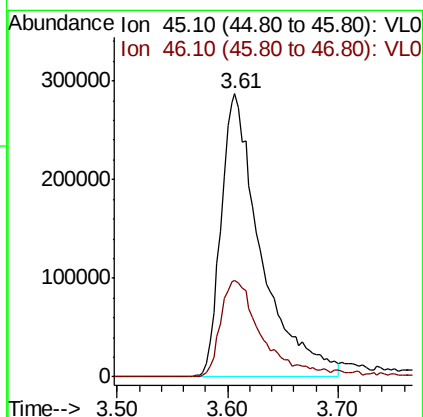
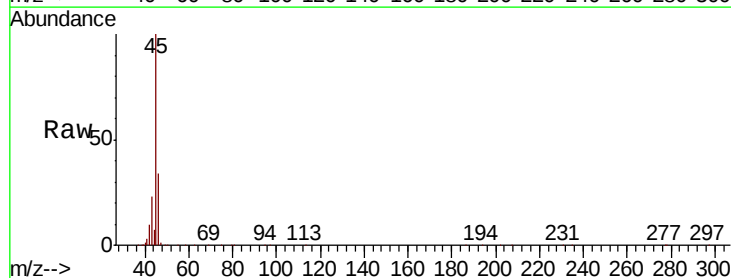
#11
 Trichlorofluoromethane
 Concen: 0.227 ppbv
 RT: 3.95 min
 Instrument: MSVOA_1
 Delta R.T.:
 Lab File: ClientSampleId:
 Acq: 25 Mar 2021 23:34

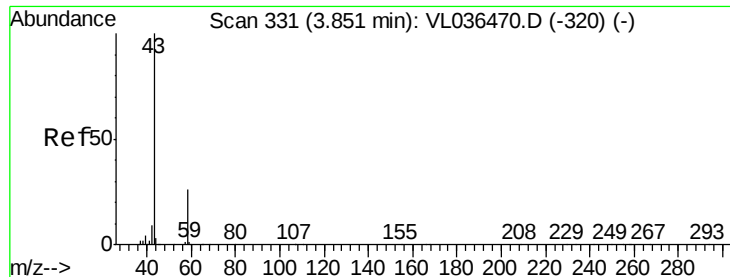
Tot Ion: 101 Resp: 55254
 Ion Ratio Lower Upper
 101 100
 103 56.7 52.5 78.7



#13
 Ethanol
 Concen: 69.530 ppbv
 RT: 3.61 min Scan# 255
 Delta R.T. -0.00 min
 Lab File: VL036499.D
 Acq: 25 Mar 2021 23:34

Tgt Ion: 45 Resp: 721316
 Ion Ratio Lower Upper
 45 100
 46 36.0 16.6 66.2





#15

Acetone

Concen: 8.820 ppbv

RT: 3.85 Instrument :

Delta R.T. MSVOA_L

Lab File: ClientSampleId :

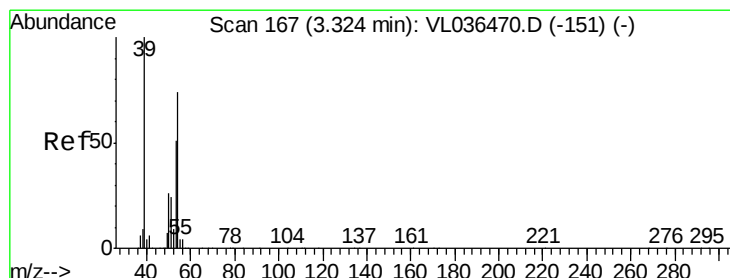
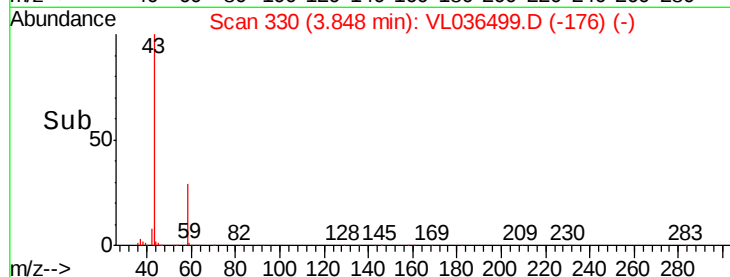
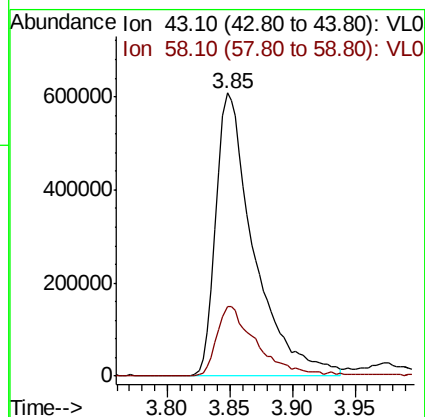
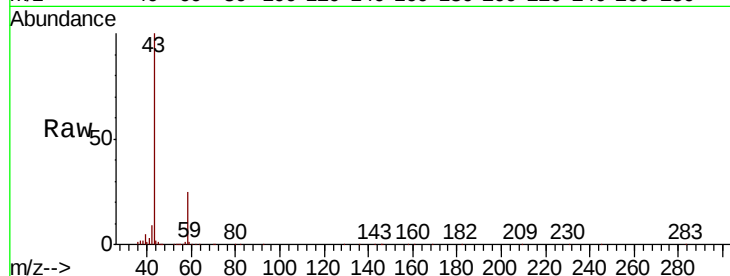
Acq: 25 Mar 2021 23:34

Tot Ion: 43 Resp: 1269725

Ion Ratio Lower Upper

43 100

58 26.5 21.2 31.8



#16

1,3-Butadiene

Concen: 0.196 ppbv

RT: 3.30 min Scan# 160

Delta R.T. -0.02 min

Lab File: VL036499.D

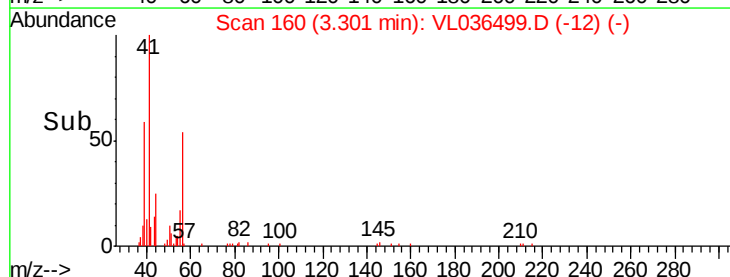
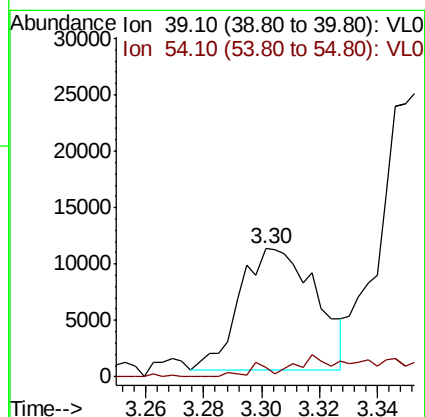
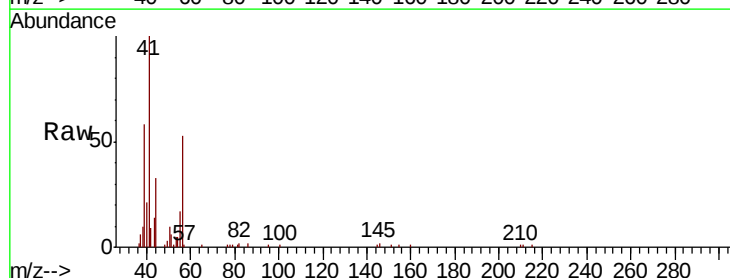
Acq: 25 Mar 2021 23:34

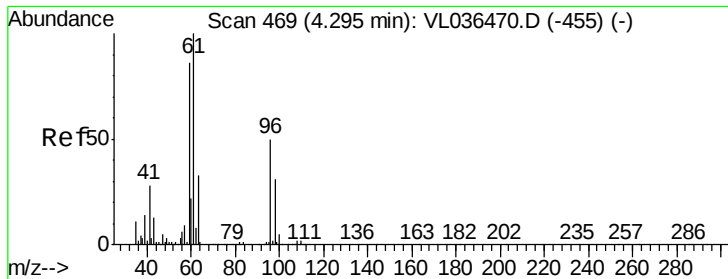
Tgt Ion: 39 Resp: 19597

Ion Ratio Lower Upper

39 100

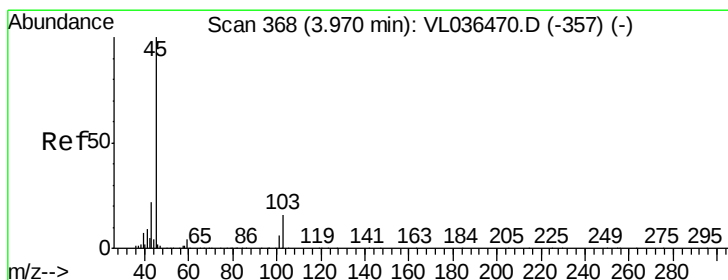
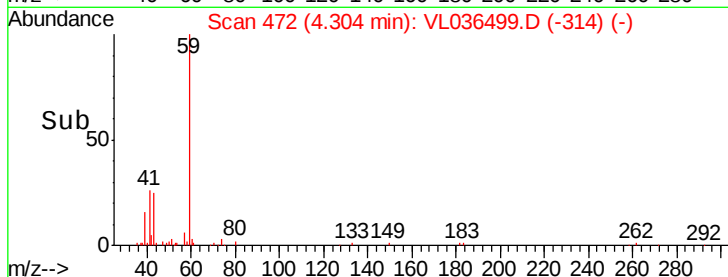
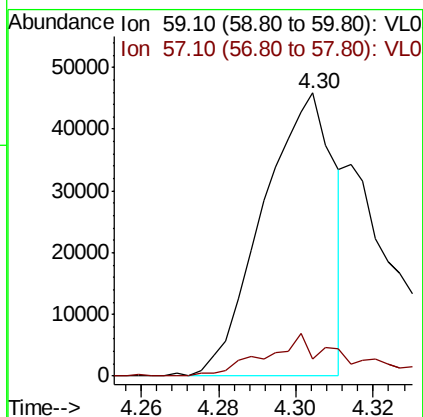
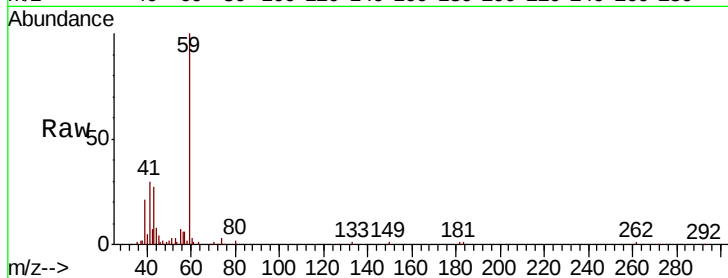
54 25.7 58.8 88.2#





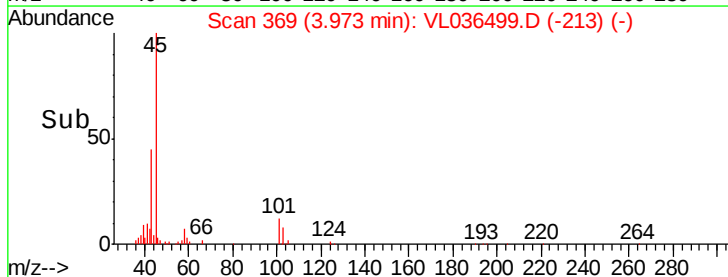
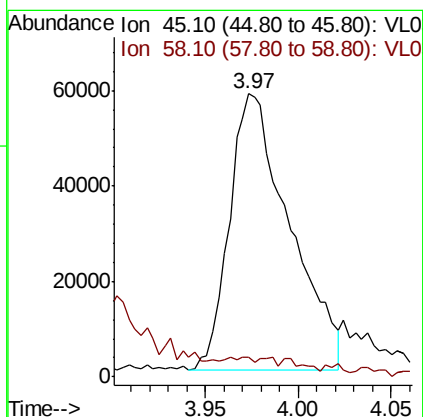
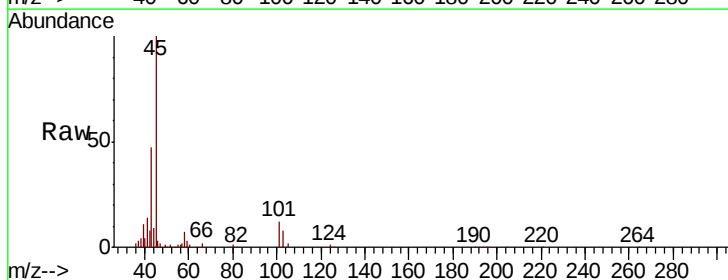
#17
tert-Butyl alcohol
Concen: 0.467 ppbv
RT: 4.30
Instrument: MSVOA_L
Delta R.T.:
Lab File: ClientSampleId:
Acq: 25 Mar 2021 23:34

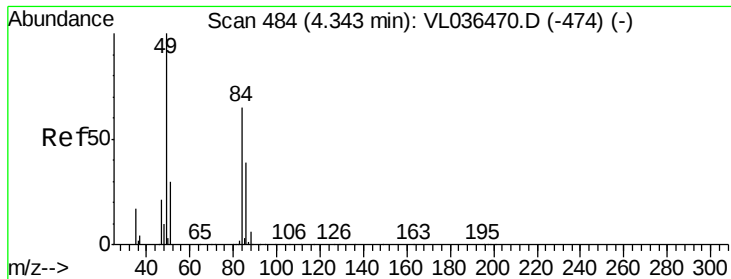
Tot Ion: 59 Resp: 58478
Ion Ratio Lower Upper
59 100
57 20.7 8.6 12.8#



#19
Isopropyl Alcohol
Concen: 1.655 ppbv
RT: 3.97 min Scan# 369
Delta R.T. 0.00 min
Lab File: VL036499.D
Acq: 25 Mar 2021 23:34

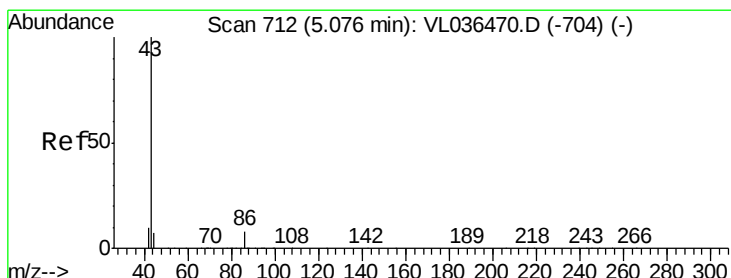
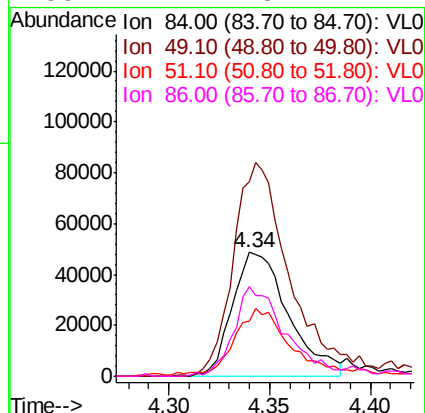
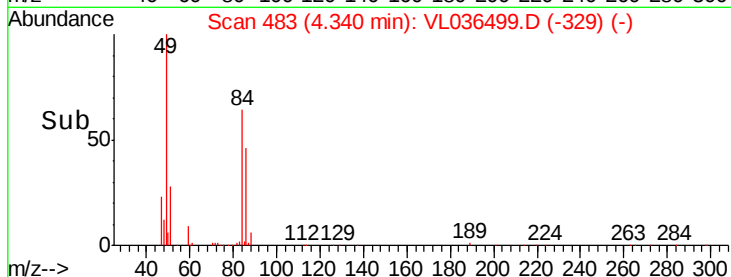
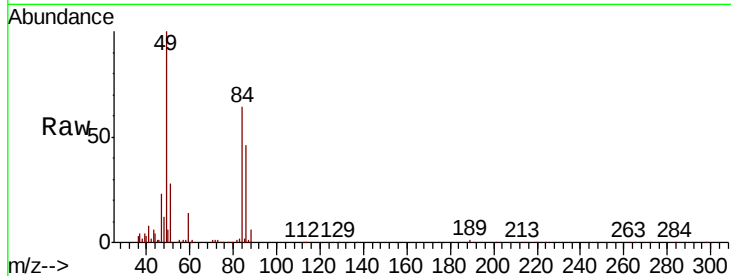
Tgt Ion: 45 Resp: 131020
Ion Ratio Lower Upper
45 100
58 7.7 2.9 4.3#





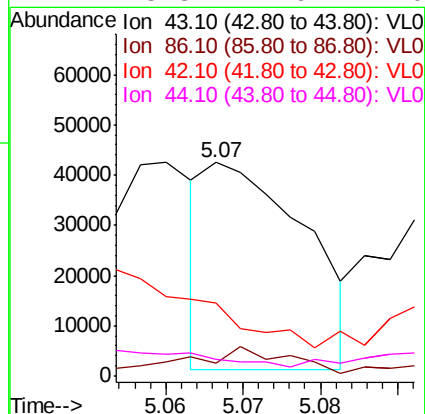
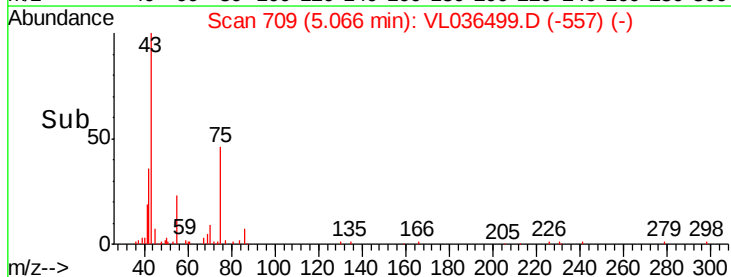
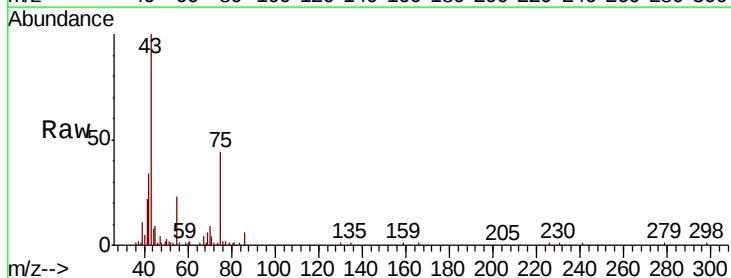
#20
Methvlene Chloride
Concen: 1.411 ppbv
RT: 4.34 Instrument :
Delta R.T. MSVOA_L
Lab File: ClientSampleId :
Acq: 25 Mar 2021 23:34

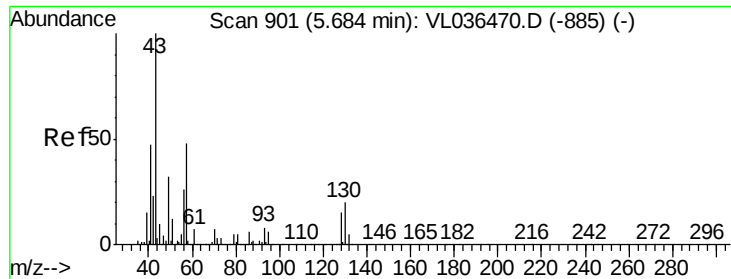
Tot Ion:	84	Resp:	95118
Ion	Ratio	Lower	Upper
84	100		
49	156.8	122.9	184.3
51	42.0	36.9	55.3
86	71.7	48.2	72.4



#23
Vinyl Acetate
Concen: 0.149 ppbv
RT: 5.07 min Scan# 709
Delta R.T. -0.01 min
Lab File: VL036499.D
Acq: 25 Mar 2021 23:34

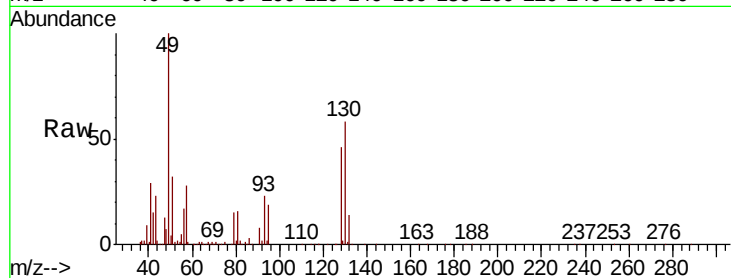
Tgt Ion:	43	Resp:	36794
Ion	Ratio	Lower	Upper
43	100		
86	8.4	5.4	8.0#
42	24.3	8.5	12.7#
44	3.8	4.6	7.0#





#25
Ethyl Acetate
Concen: 0.280 ppbv
RT: 5.69 min
Instrument: MSVOA_1
Delta R.T.:
Lab File: ClientSampleId:
Acq: 25 Mar 2021 23:34

Tot Ion:	43	Resp:	95830
Ion	Ratio	Lower	Upper
43	100		
45	2.6	7.9	11.9#
61	1.5	7.4	11.2#
70	3.0	5.1	7.7#



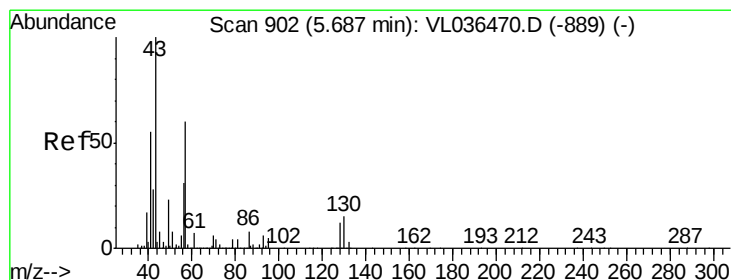
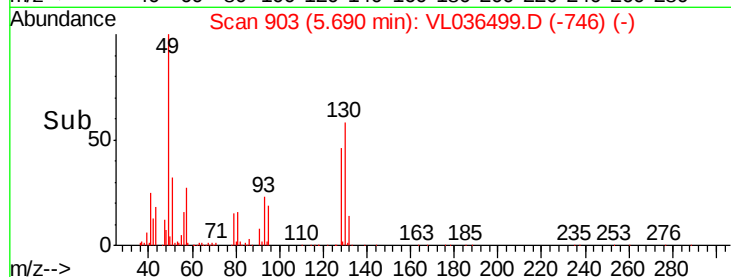
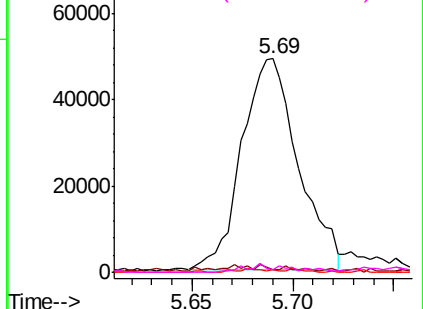
Abundance

Ion 43.10 (42.80 to 43.80): VL0

Ion 45.10 (44.80 to 45.80): VL0

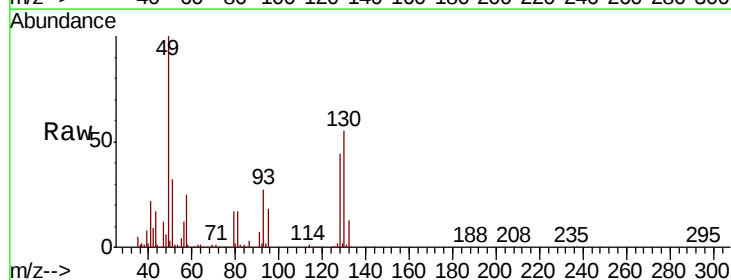
Ion 61.10 (60.80 to 61.80): VL0

Ion 70.10 (69.80 to 70.80): VL0



#26
Hexane
Concen: 0.761 ppbv
RT: 5.69 min Scan# 902
Delta R.T.: -0.00 min
Lab File: VL036499.D
Acq: 25 Mar 2021 23:34

Tgt Ion:	57	Resp:	120862
Ion	Ratio	Lower	Upper
57	100		
41	108.7	77.2	115.8
43	88.4	173.8	260.6#
56	58.0	43.8	65.6



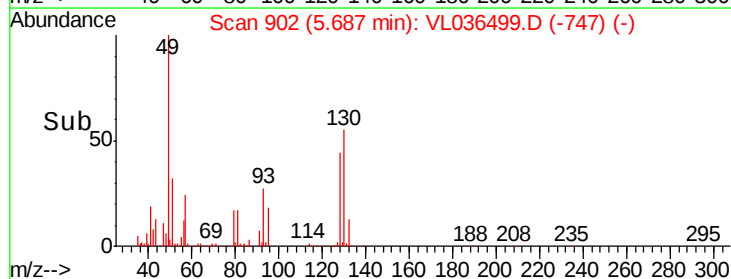
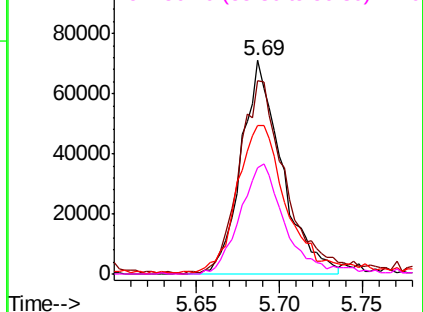
Abundance

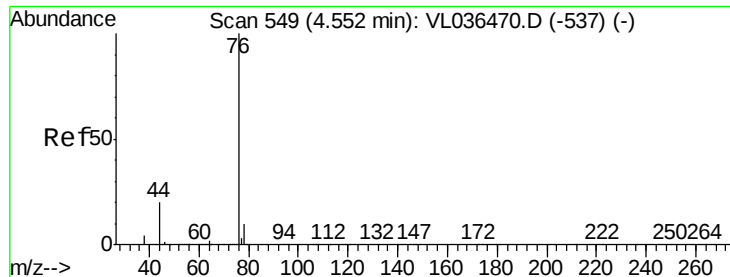
Ion 57.10 (56.80 to 57.80): VL0

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: 0.024 ppbv

RT: 4.55 Instrument:

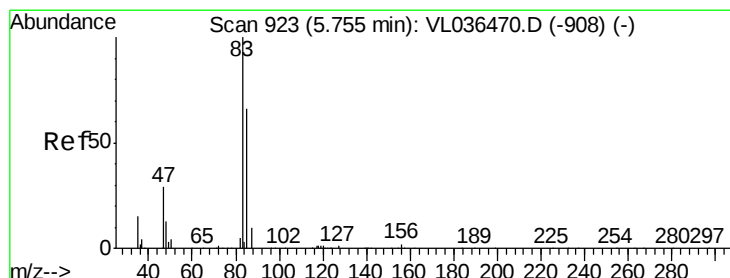
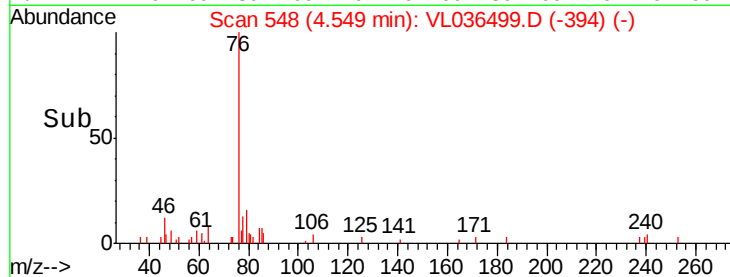
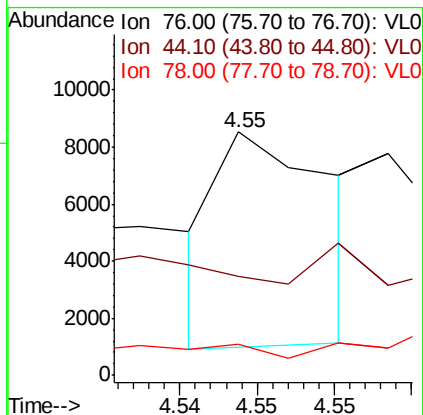
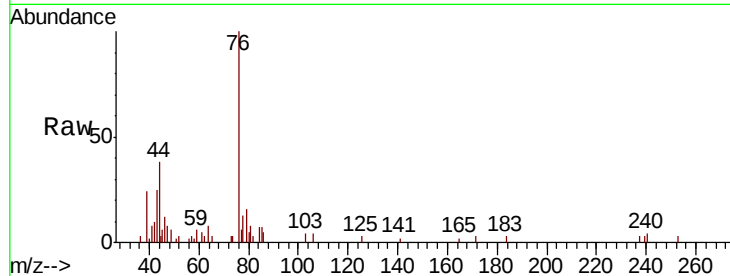
Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 25 Mar 2021 23:34

Tot Ion: 76 Resp: 3803

Ion	Ratio	Lower	Upper
76	100		
44	0.0	17.5	26.3#
78	0.0	8.6	13.0#



#29

Chloroform

Concen: 0.597 ppbv

RT: 5.75 min Scan# 923

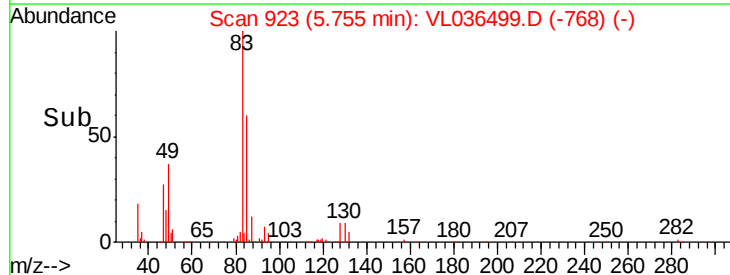
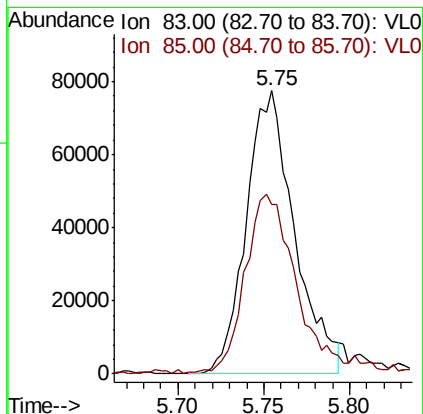
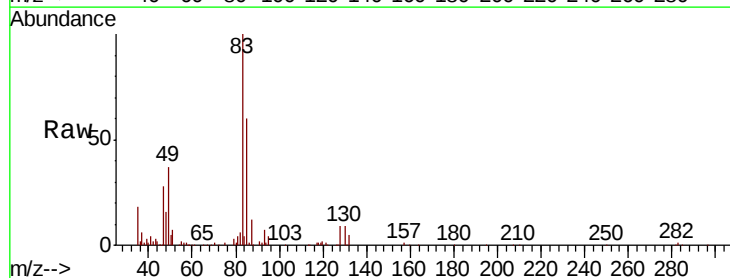
Delta R.T. -0.00 min

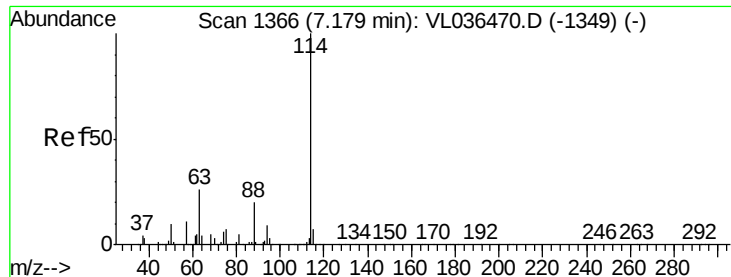
Lab File: VL036499.D

Acq: 25 Mar 2021 23:34

Tgt Ion: 83 Resp: 151599

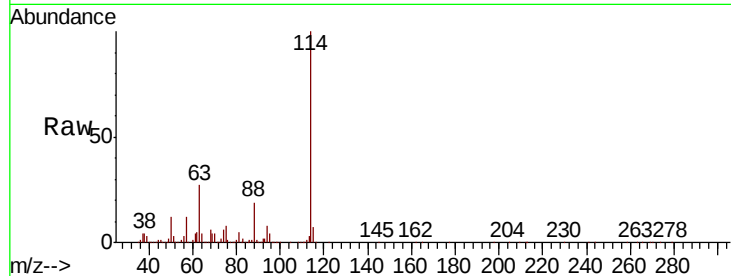
Ion	Ratio	Lower	Upper
83	100		
85	59.6	52.6	78.8



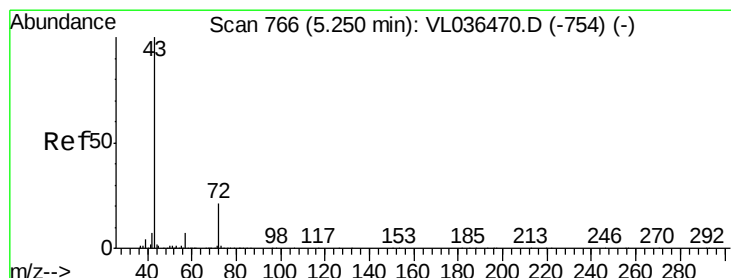
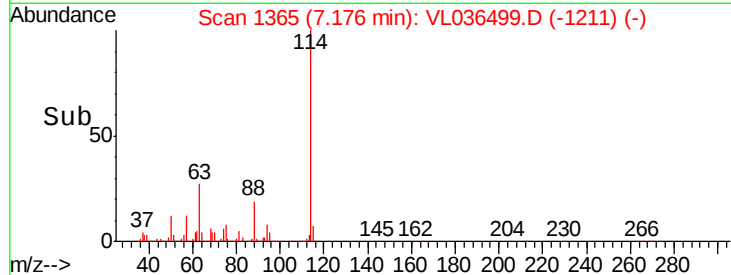
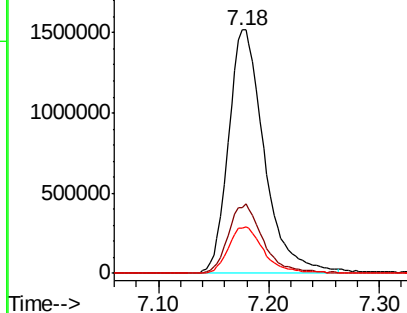


#33
 1,4-Difluorobenzene
 Concen: 10.000 ppbv
 RT: 7.18 min
 Instrument: MSVOA_1
 Delta R.T.:
 Lab File: ClientSampleId:
 Acq: 25 Mar 2021 23:34

Tot Ion: 114 Resp: 3412886
 Ion Ratio Lower Upper
 114 100
 63 28.1 22.4 33.6
 88 19.2 15.4 23.0

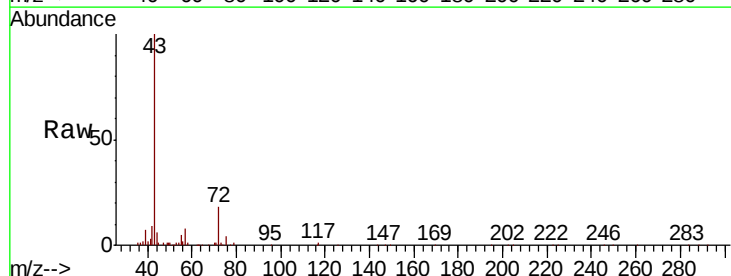


Abundance Ion 114.10 (113.80 to 114.80): VL0
 Ion 63.10 (62.80 to 63.80): VL0
 Ion 88.10 (87.80 to 88.80): VL0

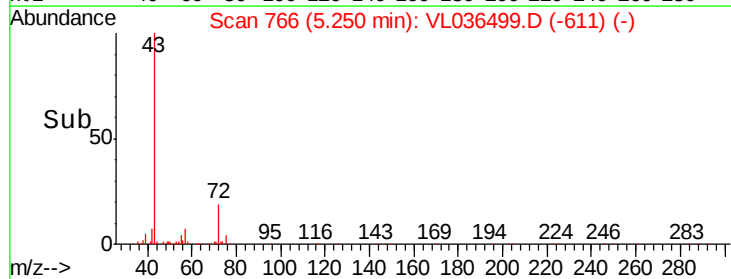
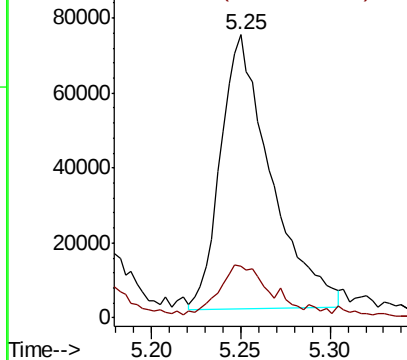


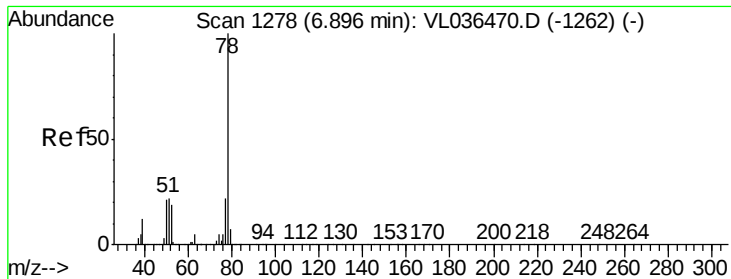
#34
 2-Butanone
 Concen: 0.864 ppbv
 RT: 5.25 min Scan# 766
 Delta R.T.: -0.00 min
 Lab File: VL036499.D
 Acq: 25 Mar 2021 23:34

Tgt Ion: 43 Resp: 143889
 Ion Ratio Lower Upper
 43 100
 72 21.4 17.0 25.6



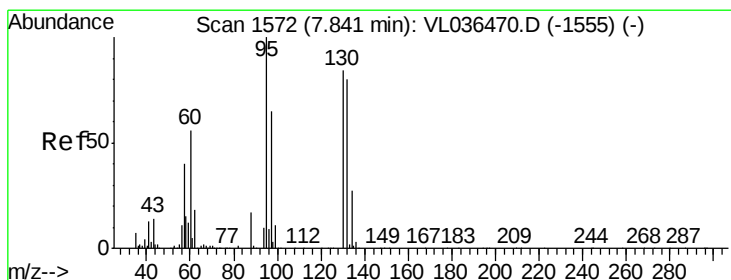
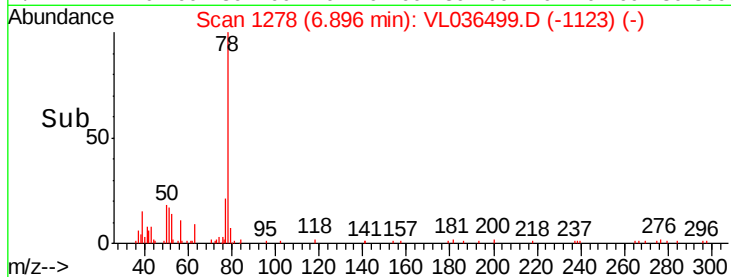
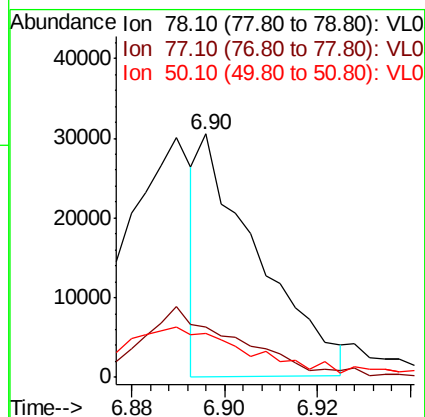
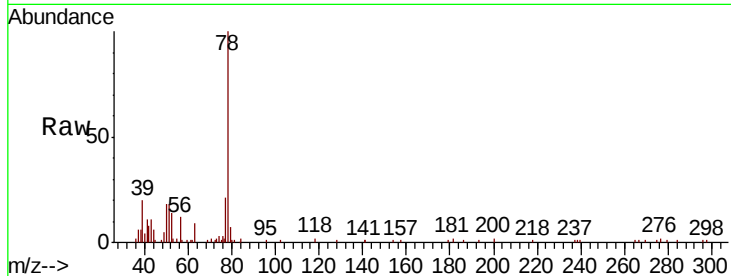
Abundance Ion 43.10 (42.80 to 43.80): VL0
 Ion 72.10 (71.80 to 72.80): VL0





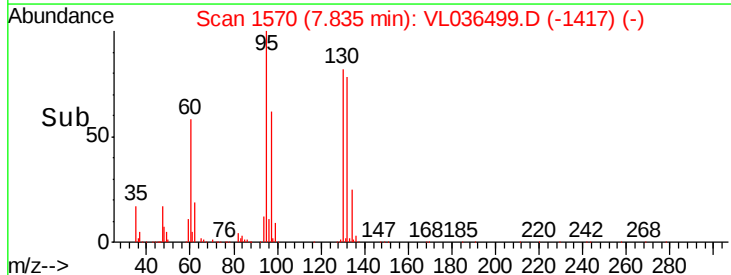
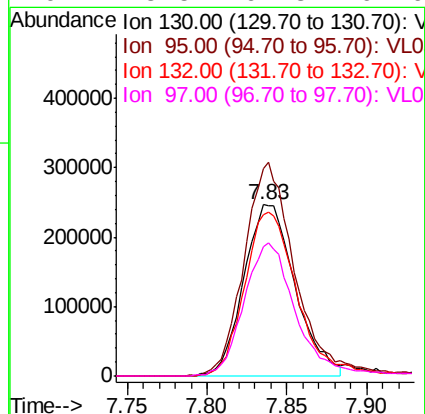
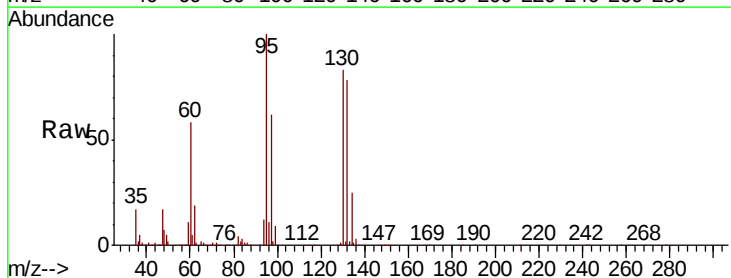
#36
Benzene
Concen: 0.085 ppbv
RT: 6.90
Delta R.T. MSVOA_L
Lab File: ClientSampleId :
Acq: 25 Mar 2021 23:34

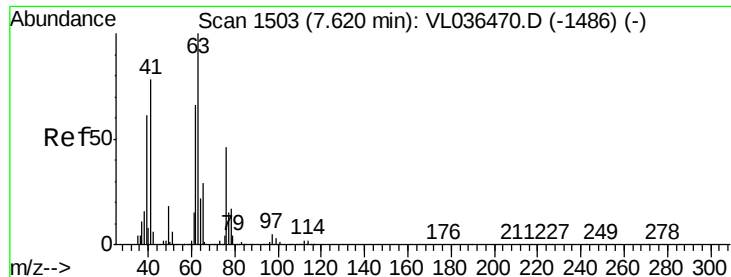
Tot Ion:	78	Resp:	26642
Ion	Ratio	Lower	Upper
78	100		
77	20.9	18.0	27.0
50	18.8	16.5	24.7



#38
Trichloroethene
Concen: 4.416 ppbv
RT: 7.83 min Scan# 1570
Delta R.T. -0.01 min
Lab File: VL036499.D
Acq: 25 Mar 2021 23:34

Tgt Ion:	130	Resp:	540916
Ion	Ratio	Lower	Upper
130	100		
95	120.7	95.7	143.5
132	93.9	76.2	114.4
97	75.5	61.8	92.6





#39

1,2-Dichloropropane

Concen: 7.349 ppbv

RT: 7.18 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 25 Mar 2021 23:34

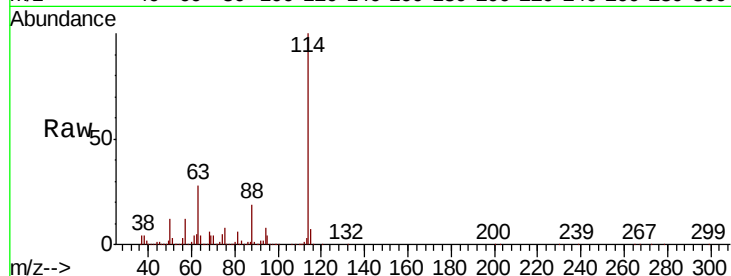
Tot Ion: 63 Resp: 938289

Ion Ratio Lower Upper

63 100

41 0.0 62.4 93.6#

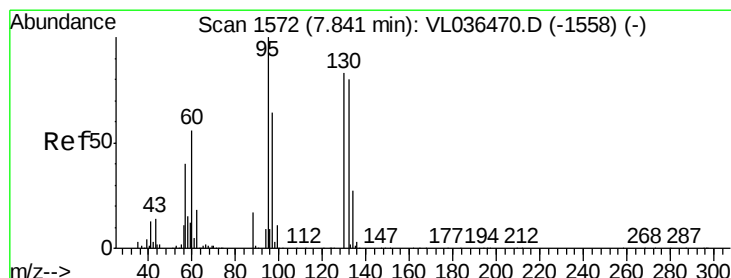
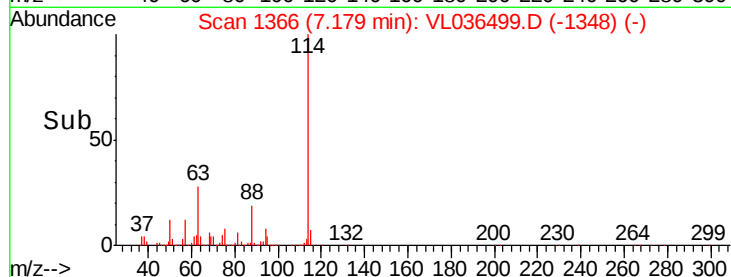
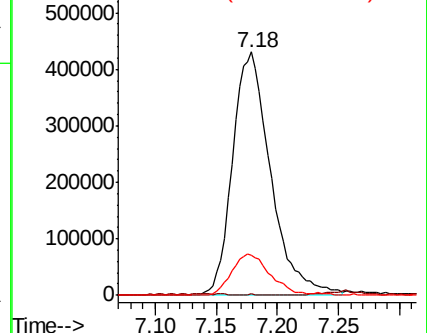
62 16.5 52.8 79.2#



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



#40

1,4-Dioxane

Concen: 0.065 ppbv

RT: 7.85 min Scan# 1574

Delta R.T. 0.01 min

Lab File: VL036499.D

Acq: 25 Mar 2021 23:34

Tgt Ion: 88 Resp: 1945

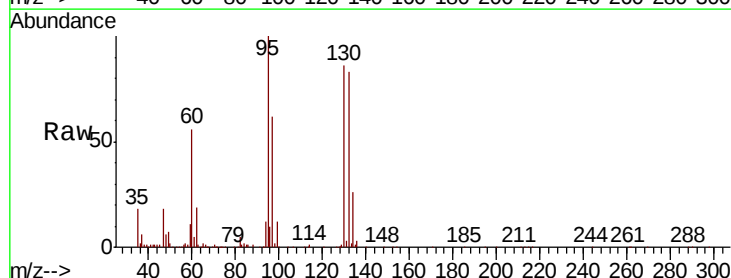
Ion Ratio Lower Upper

88 100

58 0.0 134.1 201.1#

43 0.0 346.6 520.0#

57 0.0 1481.8 2222.8#

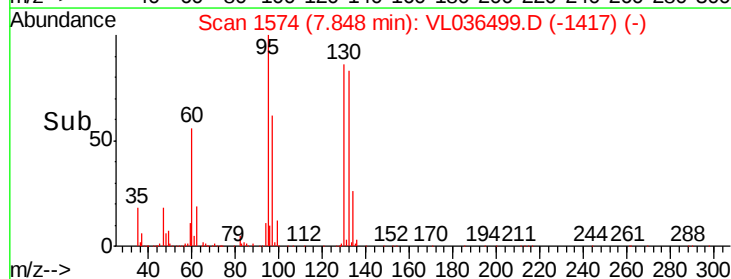
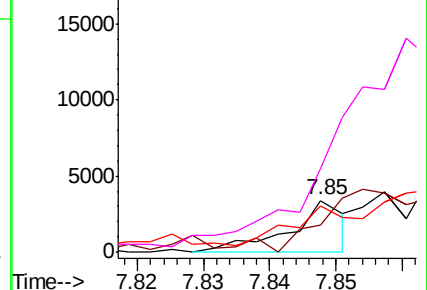


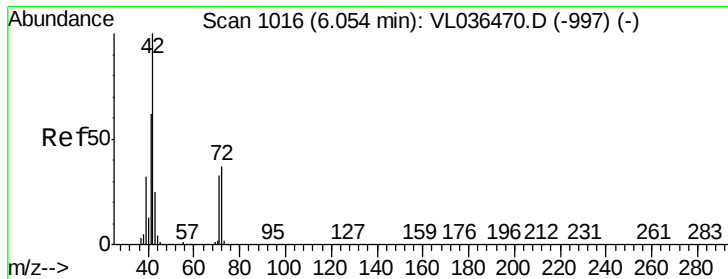
Abundance Ion 88.10 (87.80 to 88.80): VL0

Ion 58.10 (57.80 to 58.80): VL0

Ion 43.10 (42.80 to 43.80): VL0

Ion 57.10 (56.80 to 57.80): VL0





#41

Tetrahydrofuran

Concen: 0.037 ppbv

RT: 6.06 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 25 Mar 2021 23:34

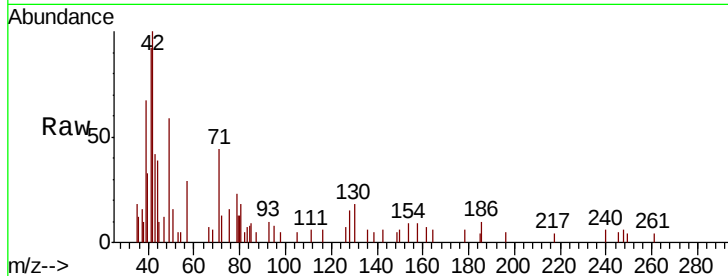
Tot Ion: 42 Resp: 2825

Ion Ratio Lower Upper

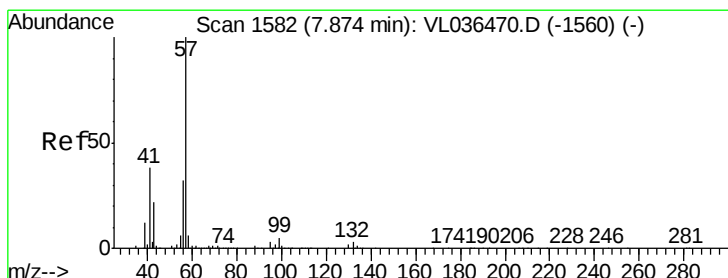
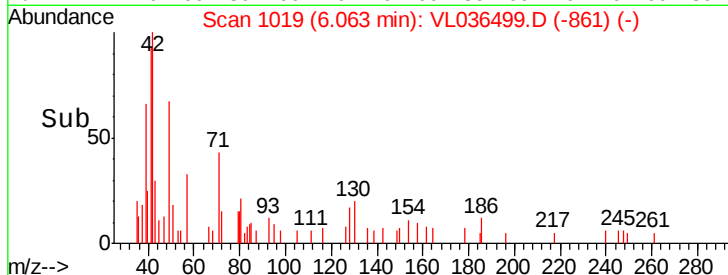
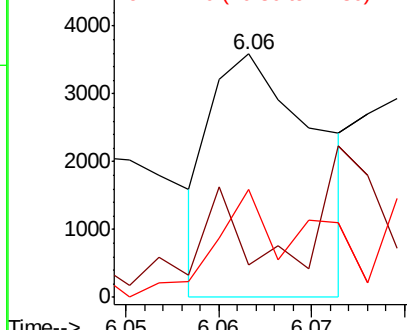
42 100

72 0.0 27.6 41.4#

71 74.9 27.0 40.4#



Abundance Ion 42.10 (41.80 to 42.80): VL0
Ion 72.10 (71.80 to 72.80): VL0
Ion 71.10 (70.80 to 71.80): VL0



#44

2,2,4-Trimethylpentane

Concen: 0.074 ppbv

RT: 7.88 min Scan# 1583

Delta R.T. 0.00 min

Lab File: VL036499.D

Acq: 25 Mar 2021 23:34

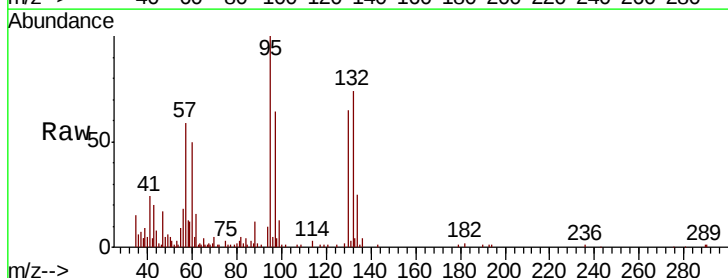
Tgt Ion: 57 Resp: 41223

Ion Ratio Lower Upper

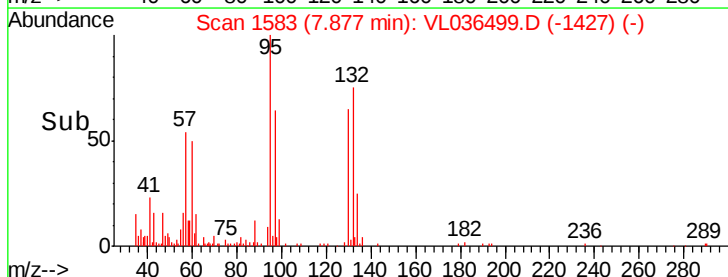
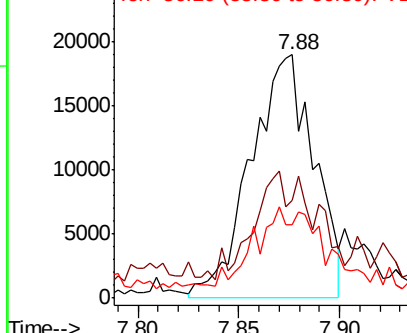
57 100

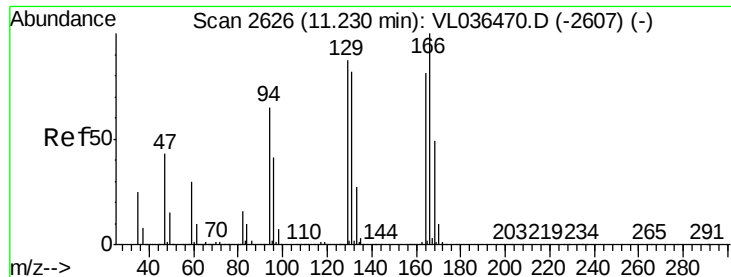
41 73.5 28.8 43.2#

56 54.8 26.1 39.1#



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: 1.084 ppbv

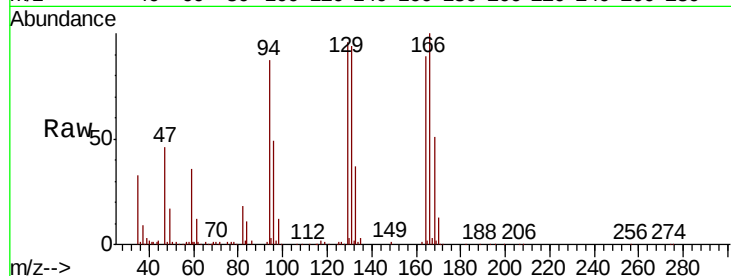
RT: 11.23

Delta R.T. MSVOA_L

Lab File: ClientSampleId :

Acq: 25 Mar 2021 23:34

Tot Ion:	164	Resp:	125625
Ion	Ratio	Lower	Upper
164	100		
166	111.3	98.3	147.5
129	106.9	85.8	128.8
131	104.8	80.9	121.3

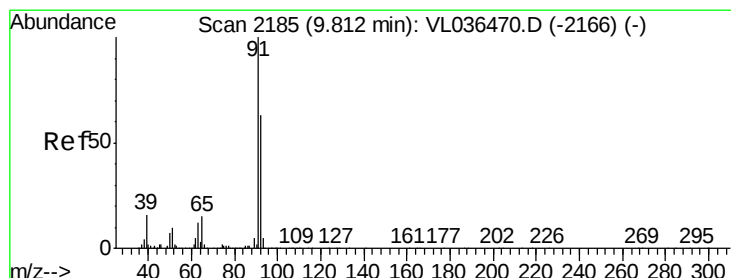
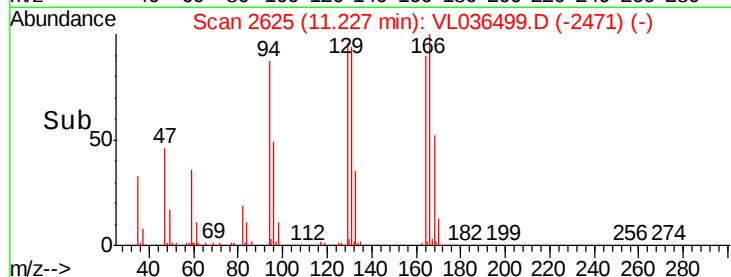
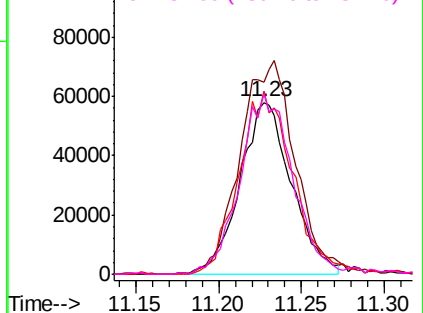


Abundance Ion 163.90 (163.60 to 164.60): V

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: 0.422 ppbv

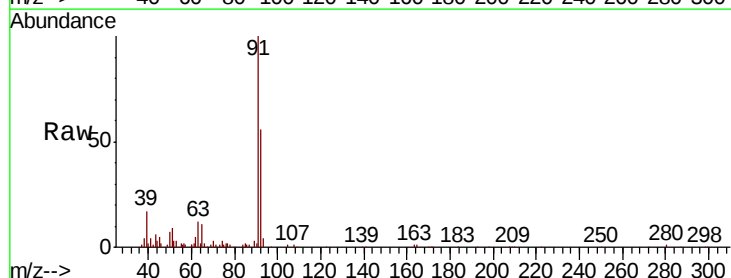
RT: 9.81 min Scan# 2184

Delta R.T. -0.00 min

Lab File: VL036499.D

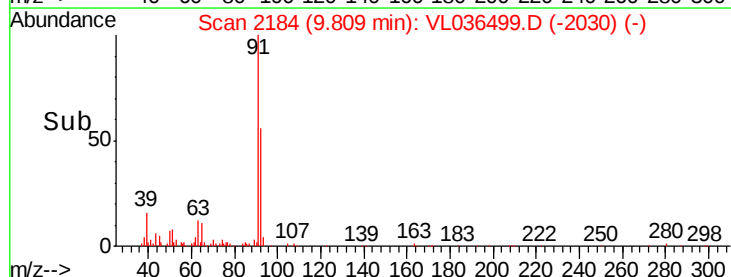
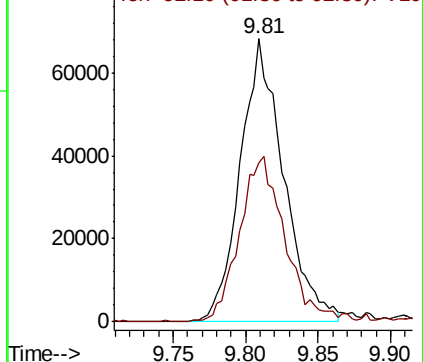
Acq: 25 Mar 2021 23:34

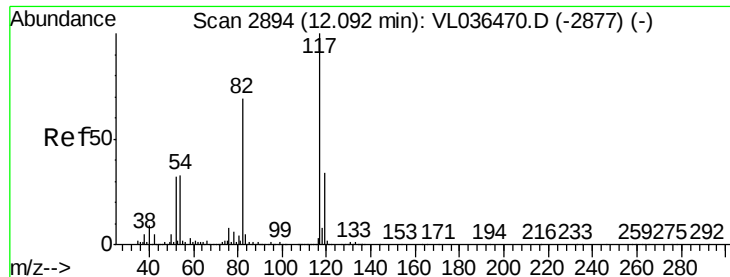
Tgt Ion:	91	Resp:	141503
Ion	Ratio	Lower	Upper
91	100		
92	62.0	48.8	73.2



Abundance Ion 91.10 (90.80 to 91.80): VL0

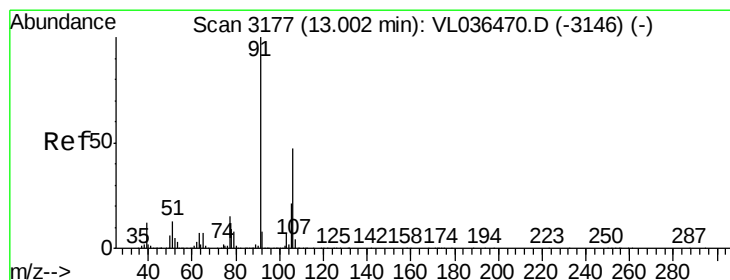
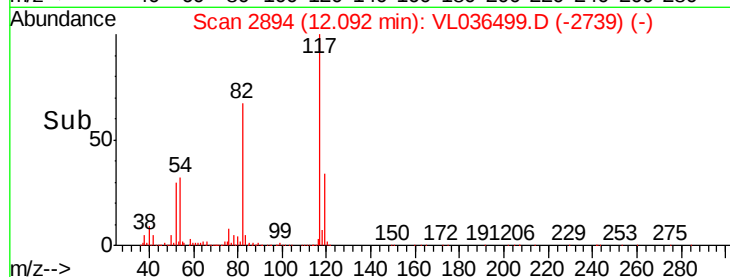
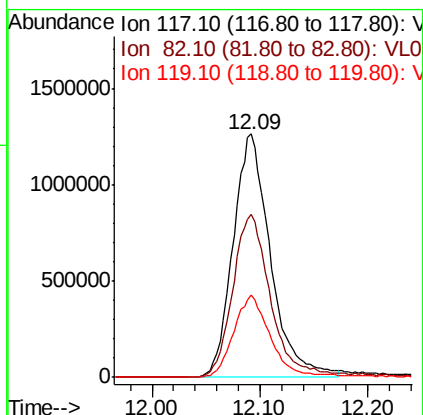
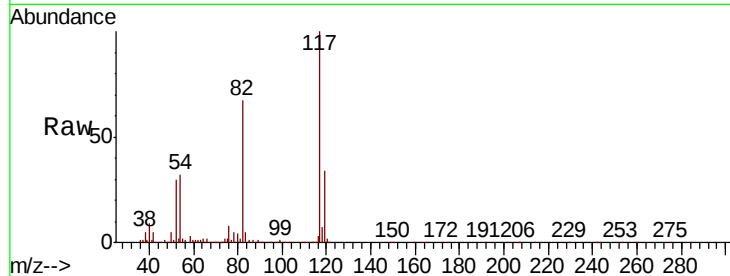
Ion 92.10 (91.80 to 92.80): VL0





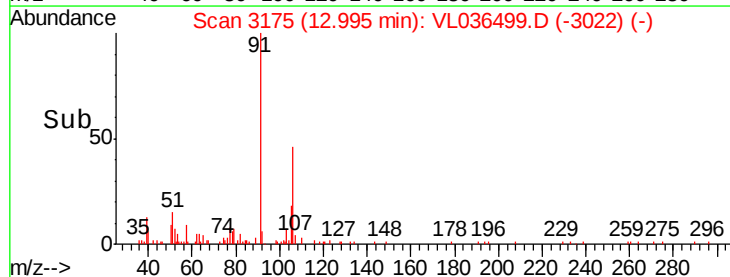
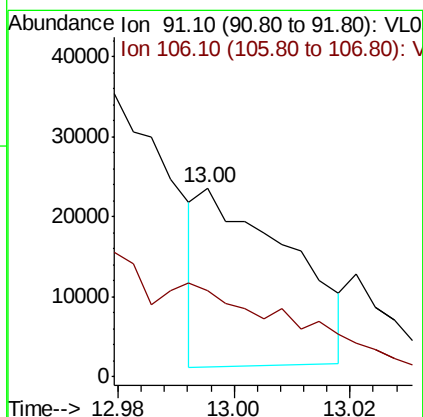
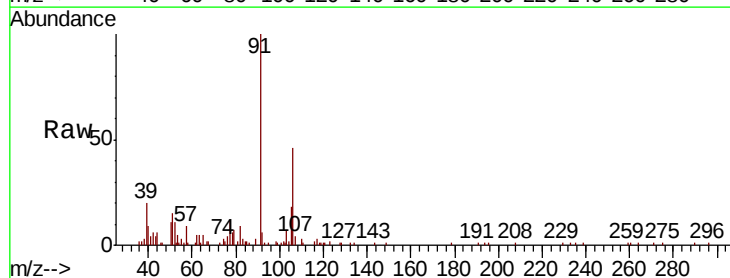
#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 12.09 min
Instrument: MSVOA_1
Delta R.T.:
Lab File: ClientSampleId:
Acq: 25 Mar 2021 23:34

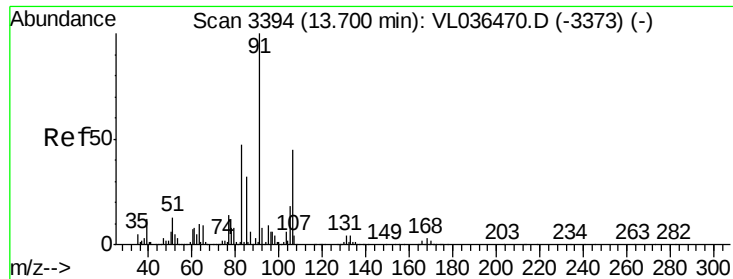
Tot Ion: 117 Resp: 3045208
Ion Ratio Lower Upper
117 100
82 70.1 57.4 86.0
119 34.8 47.4 71.0#



#59
m/p-Xylene
Concen: 0.062 ppbv
RT: 13.00 min Scan# 3175
Delta R.T.: -0.01 min
Lab File: VL036499.D
Acq: 25 Mar 2021 23:34

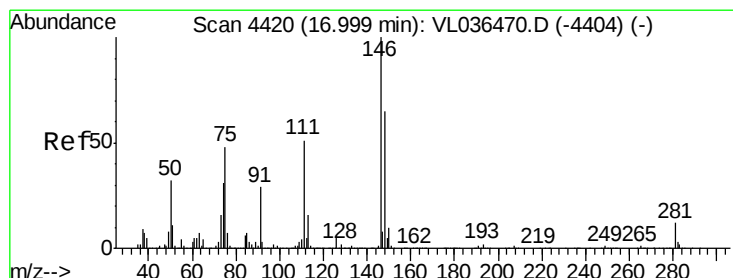
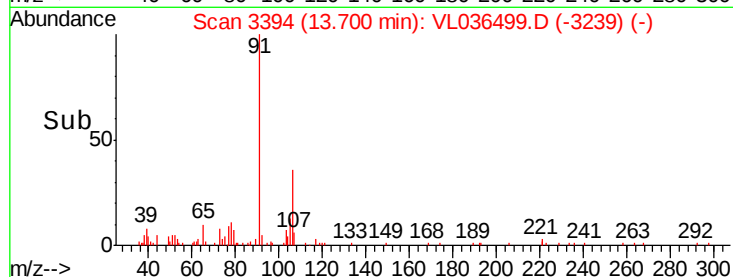
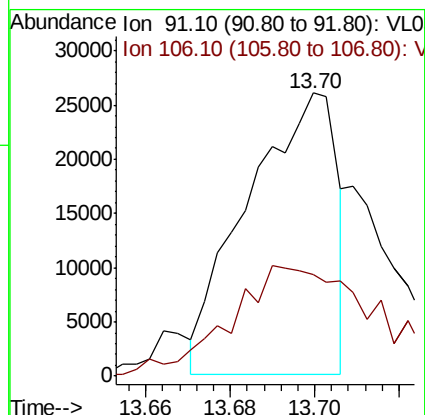
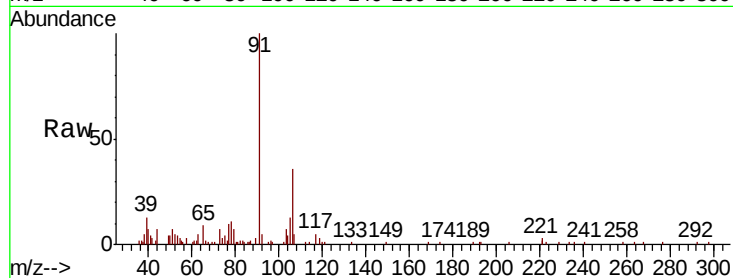
Tgt Ion: 91 Resp: 23891
Ion Ratio Lower Upper
91 100
106 0.0 35.3 52.9#





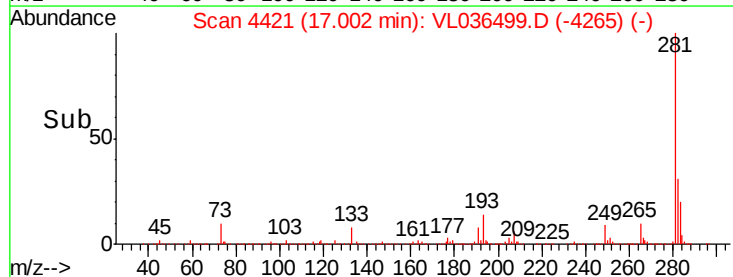
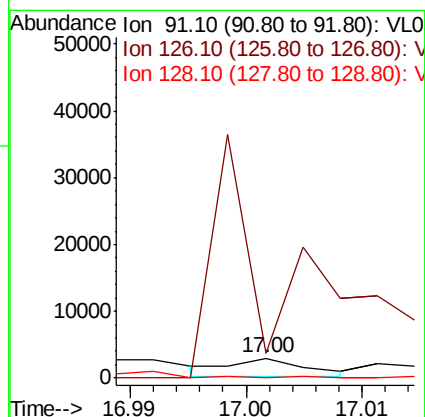
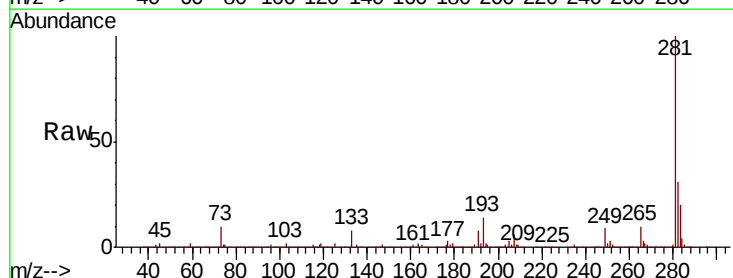
#60
o-Xylene
Concen: 0.103 ppbv
RT: 13.70 min
Delta R.T. MSVOA_L
Lab File: ClientSampleId :
Acq: 25 Mar 2021 23:34

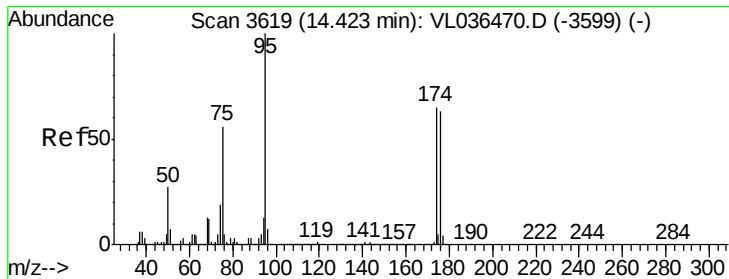
Tot Ion: 91 Resp: 38404
Ion Ratio Lower Upper
91 100
106 68.2 22.3 66.9#



#66
Benzyl Chloride
Concen: 0.025 ppbv
RT: 17.00 min Scan# 4421
Delta R.T. 0.00 min
Lab File: VL036499.D
Acq: 25 Mar 2021 23:34

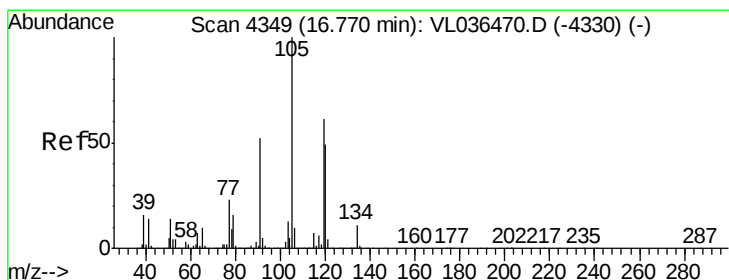
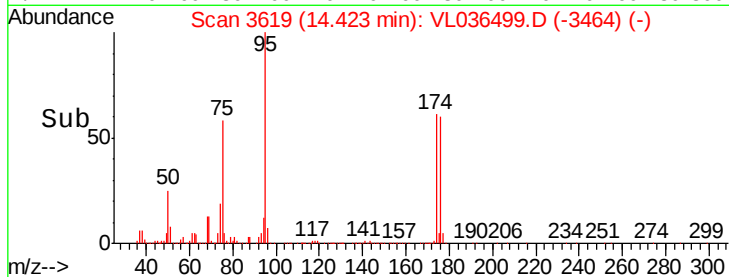
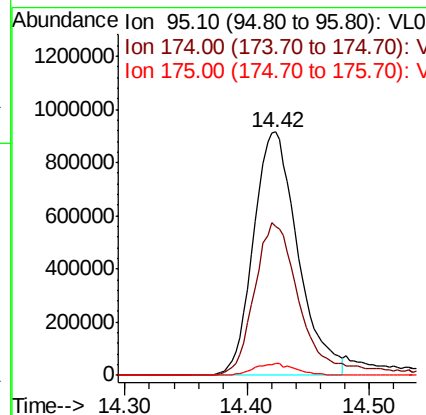
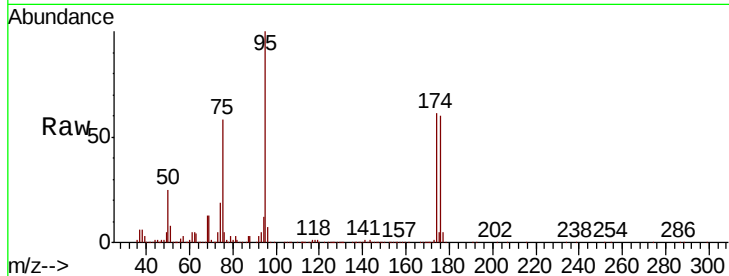
Tgt Ion: 91 Resp: 1196
Ion Ratio Lower Upper
91 100
126 1943.6 13.5 20.3#
128 0.0 4.2 6.4#





#68
 1-Bromo-4-Fluorobenzene
 Concen: 9.482 ppbv
 RT: 14.42 min
 Delta R.T. MSVOA_L
 Lab File: ClientSampleId :
 Acq: 25 Mar 2021 23:34

Tot Ion: 95 Resp: 2301438
 Ion Ratio Lower Upper
 95 100
 174 67.6 51.0 76.6
 175 4.7 3.9 5.9



#74
 1,2,4-Trimethylbenzene
 Concen: 0.083 ppbv
 RT: 16.76 min Scan# 4347
 Delta R.T. -0.01 min
 Lab File: VL036499.D
 Acq: 25 Mar 2021 23:34

Tgt Ion: 105 Resp: 34141
 Ion Ratio Lower Upper
 105 100
 120 26.7 39.2 58.8#
 91 7.6 42.6 64.0#
 77 11.9 18.6 28.0#

