

Data Path : Z:\VOASRV\HPCHEM1\MSVOA\_L\DATA\VL030222\  
 Data File : VL038500.D  
 Acq On : 3 Mar 2022 2:40  
 Operator : SY/AP  
 Sample : N1754-01DUP  
 Misc : 400mL/MSVOA\_L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 IA1DUP

Quant Time: Mar 03 03:17:10 2022  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_L\METHODS\VL022222AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Tue Feb 22 19:45:51 2022  
 QLast Update : Tue Feb 22 19:45:51 2022  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.68  | 49   | 886246   | 10.00 | ppbv  | 0.03     |
| 33) 1,4-Difluorobenzene | 7.19  | 114  | 1930977  | 10.00 | ppbv  | 0.03     |
| 55) Chlorobenzene-d5    | 12.10 | 117  | 1683900  | 10.00 | ppbv  | 0.04     |

System Monitoring Compounds

|                             |        |       |          |          |      |        |
|-----------------------------|--------|-------|----------|----------|------|--------|
| 68) 1-Bromo-4-Fluorobenzene | 14.43  | 95    | 1301932  | 9.34     | ppbv | 0.04   |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 93.40% |

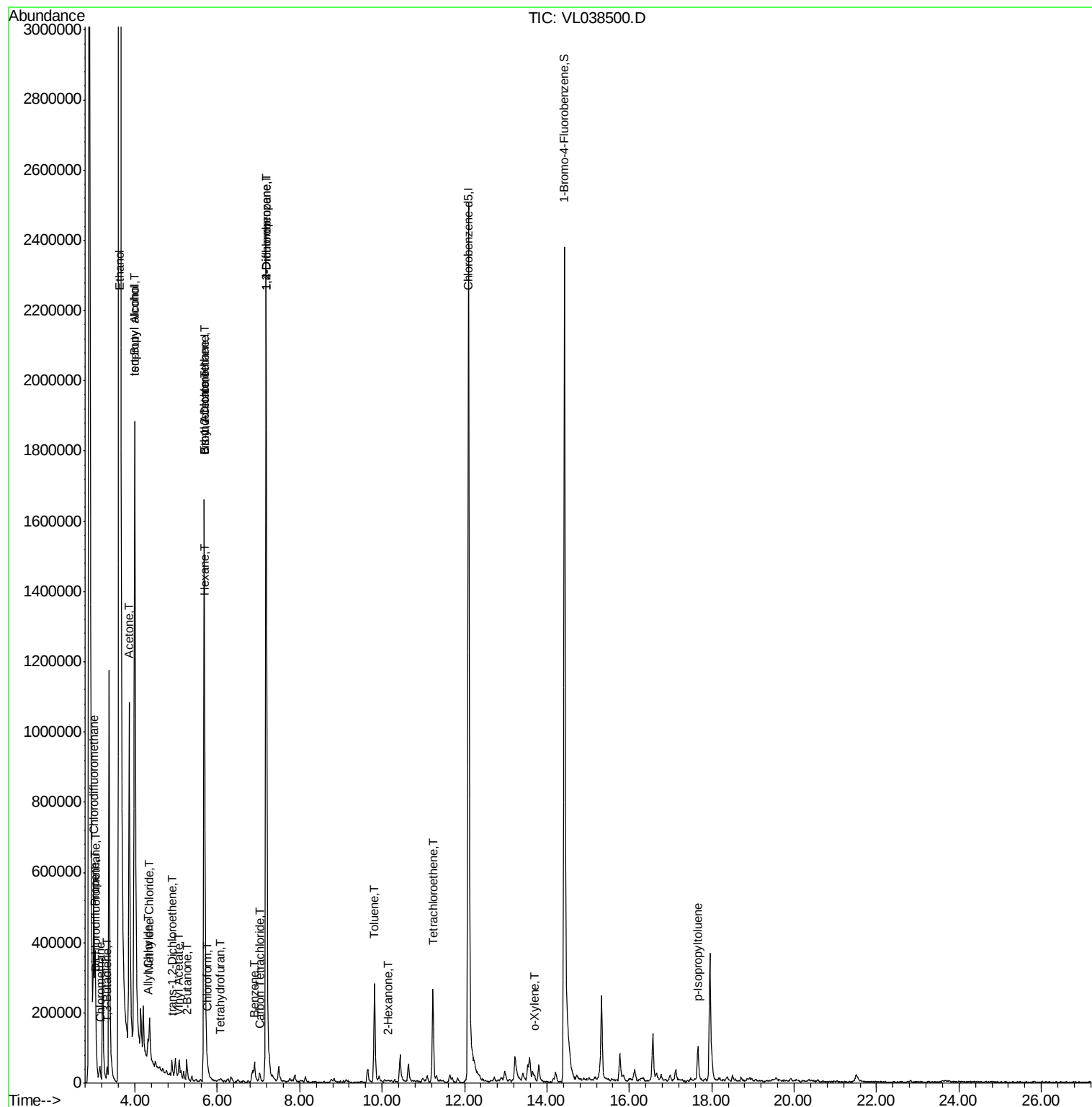
| Target Compounds             | R.T.  | QIon | Response | Conc    | Units  | Qvalue |
|------------------------------|-------|------|----------|---------|--------|--------|
| 2) Dichlorodifluoromethane   | 3.06  | 85   | 27895    | 0.20    | ppbv   | 99     |
| 3) Chlorodifluoromethane     | 3.00  | 51   | 736412   | 4.71    | ppbv   | 96     |
| 4) Chloromethane             | 3.15  | 50   | 28310    | 0.52    | ppbv   | 97     |
| 9) Propene                   | 3.03  | 41   | 81634    | 1.58    | ppbv # | 76     |
| 13) Ethanol                  | 3.63  | 45   | 12093610 | 2345.24 | ppbv   | 92     |
| 15) Acetone                  | 3.86  | 43   | 1262995  | 16.76   | ppbv   | 99     |
| 16) 1,3-Butadiene            | 3.32  | 39   | 11192    | 0.22    | ppbv # | 12     |
| 17) tert-Butyl alcohol       | 3.99  | 59   | 94252    | 1.25    | ppbv   | 98     |
| 19) Isopropyl Alcohol        | 3.99  | 45   | 2647622  | 60.67   | ppbv # | 98     |
| 20) Methylene Chloride       | 4.36  | 84   | 47452    | 1.27    | ppbv   | 91     |
| 21) Allyl Chloride           | 4.32  | 41   | 13305    | 0.21    | ppbv # | 65     |
| 22) trans-1,2-Dichloroethene | 4.90  | 96   | 13519    | 0.31    | ppbv   | 92     |
| 23) Vinyl Acetate            | 5.08  | 43   | 41904    | 0.42    | ppbv # | 77     |
| 25) Ethyl Acetate            | 5.68  | 43   | 254207   | 1.26    | ppbv # | 93     |
| 26) Hexane                   | 5.70  | 57   | 31668    | 0.35    | ppbv # | 1      |
| 29) Chloroform               | 5.76  | 83   | 8739     | 0.06    | ppbv # | 83     |
| 31) cis-1,2-Dichloroethene   | 5.69  | 61   | 26876    | 0.30    | ppbv # | 31     |
| 34) 2-Butanone               | 5.25  | 43   | 32115    | 0.53    | ppbv # | 32     |
| 35) Carbon Tetrachloride     | 7.03  | 117  | 8254     | 0.06    | ppbv   | 86     |
| 36) Benzene                  | 6.90  | 78   | 36563    | 0.22    | ppbv   | 99     |
| 39) 1,2-Dichloropropane      | 7.19  | 63   | 534740   | 7.90    | ppbv # | 25     |
| 41) Tetrahydrofuran          | 6.07  | 42   | 1385     | 0.03    | ppbv # | 38     |
| 51) 2-Hexanone               | 10.16 | 43   | 1601     | 0.03    | ppbv # | 1      |
| 52) Tetrachloroethene        | 11.23 | 164  | 60213    | 1.07    | ppbv   | 95     |
| 53) Toluene                  | 9.82  | 91   | 62703    | 0.34    | ppbv # | 1      |
| 60) o-Xylene                 | 13.71 | 91   | 7690     | 0.04    | ppbv # | 64     |
| 69) p-Isopropyltoluene       | 17.67 | 119  | 27873    | 0.12    | ppbv # | 47     |

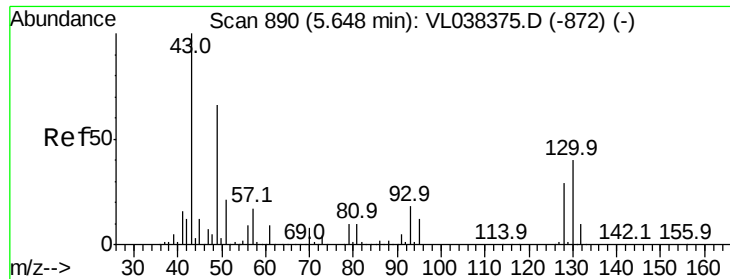
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Quant Time: Mar 03 03:17:10 2022  
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QLast Update : Tue Feb 22 19:45:51 2022  
Response via : Initial Calibration





#1

Bromochloromethane

Concen: 10.00 ppbv

RT: 5.68 Instrument:

Delta R.T. MSVOA\_L

Lab File: ClientSampleId:

Acq: 3 Mar 2022 2:40

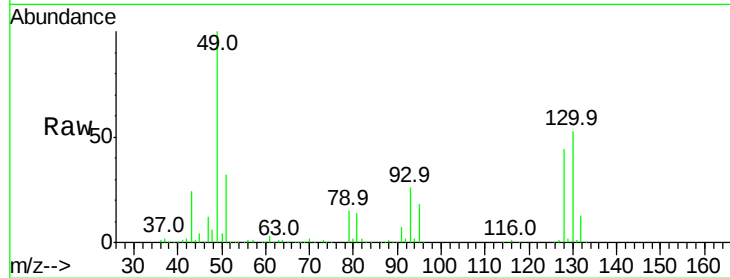
Tgt Ion: 49 Resp: 886246

Ion Ratio Lower Upper

49 100

128 43.9 24.3 72.9

130 55.6 30.1 90.5



Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): VL0

Ion 130.00 (129.70 to 130.70): VL0

5.68

400000

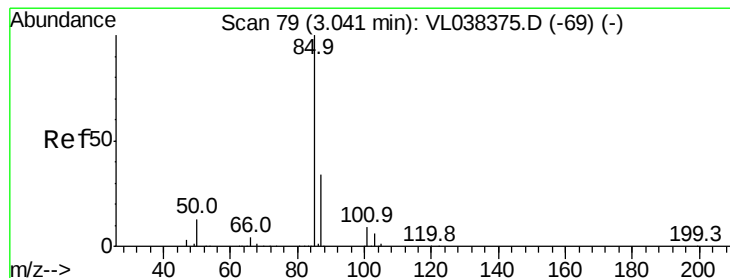
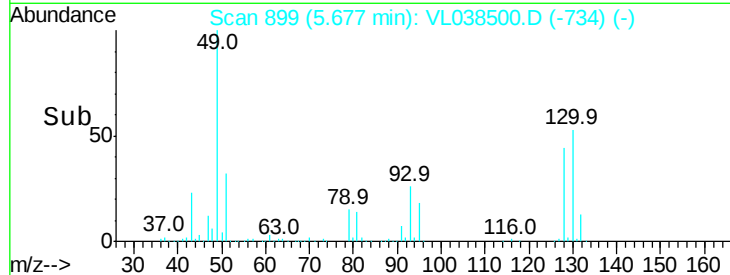
300000

200000

100000

0

Time-->



#2

Dichlorodifluoromethane

Concen: 0.20 ppbv

RT: 3.06 min Scan# 85

Delta R.T. 0.02 min

Lab File: VL038500.D

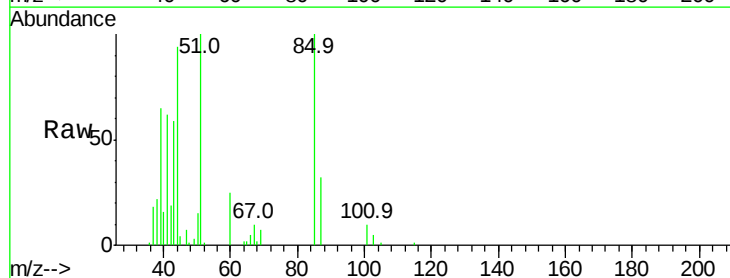
Acq: 3 Mar 2022 2:40

Tgt Ion: 85 Resp: 27895

Ion Ratio Lower Upper

85 100

87 33.6 27.4 41.0



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0

3.06

20000

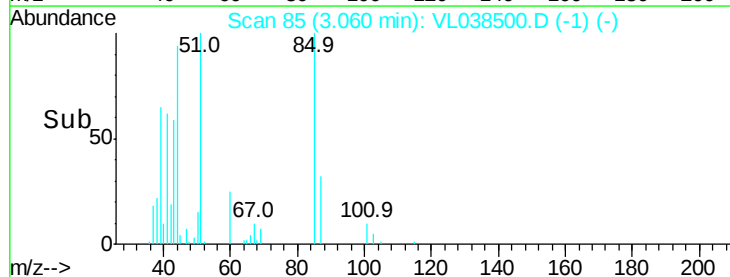
15000

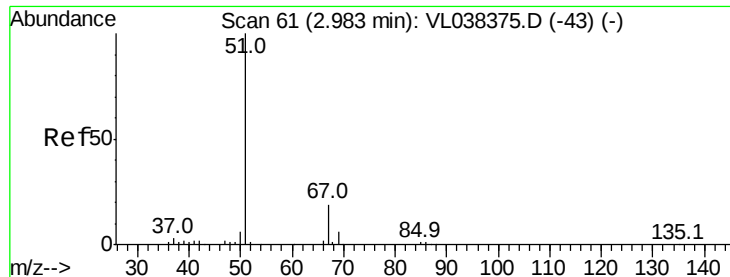
10000

5000

0

Time-->





#3

Chlorodifluoromethane

Concen: 4.71 ppbv

RT: 3.00 Instrument:

Delta R.T. MSVOA\_1

Lab File: ClientSampleId:

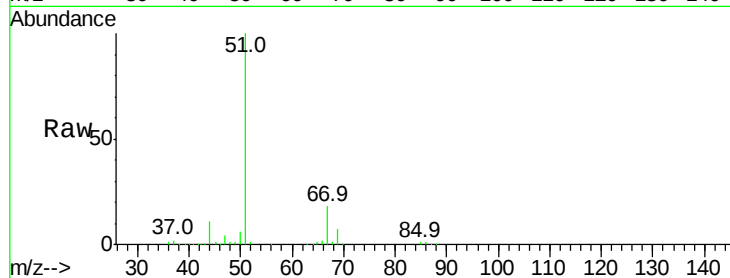
Acq: 3 Mar 2022 2:40

Tgt Ion: 51 Resp: 736412

Ion Ratio Lower Upper

51 100

67 16.5 14.7 22.1



Abundance Ion 51.00 (50.70 to 51.70): VL0

Ion 67.00 (66.70 to 67.70): VL0

3.00

400000

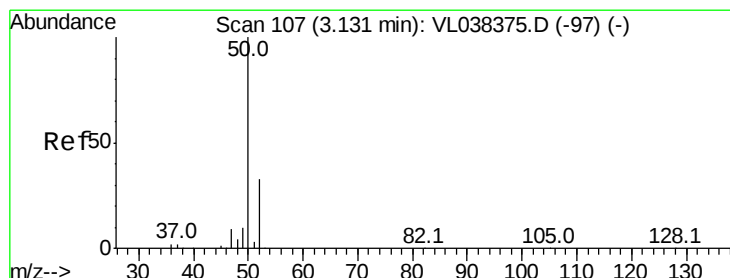
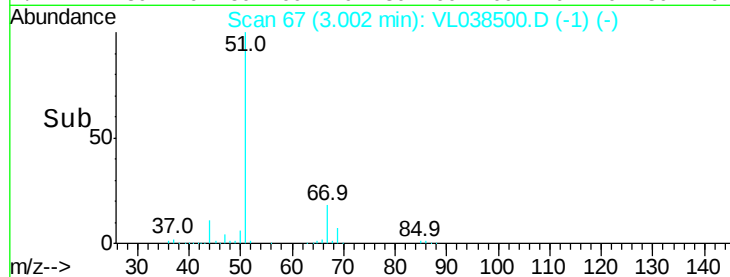
300000

200000

100000

0

Time-->



#4

Chloromethane

Concen: 0.52 ppbv

RT: 3.15 min Scan# 114

Delta R.T. 0.02 min

Lab File: VL038500.D

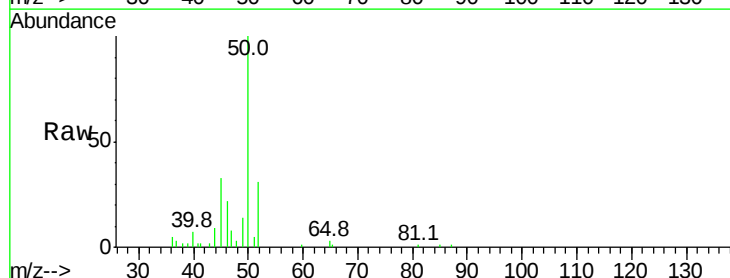
Acq: 3 Mar 2022 2:40

Tgt Ion: 50 Resp: 28310

Ion Ratio Lower Upper

50 100

52 31.4 26.5 39.7



Abundance Ion 50.10 (49.80 to 50.80): VL0

Ion 52.10 (51.80 to 52.80): VL0

3.15

20000

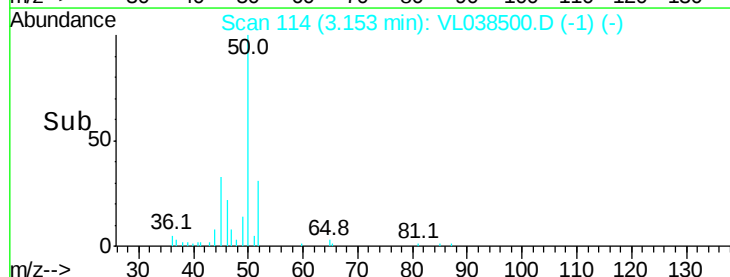
15000

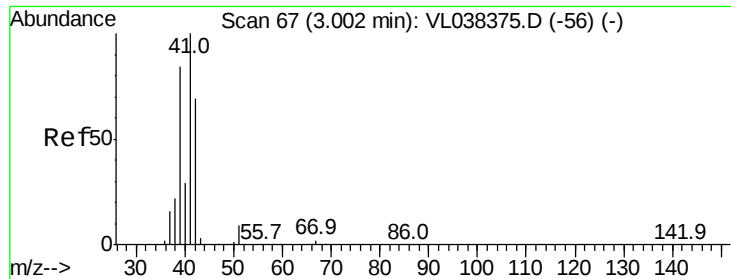
10000

5000

0

Time-->





#9

Propene

Concen: 1.58 ppbv

RT: 3.03 Instrument: MSVOA\_1

Delta R.T. 0.03

Lab File: ClientSampleId: VL038500.D

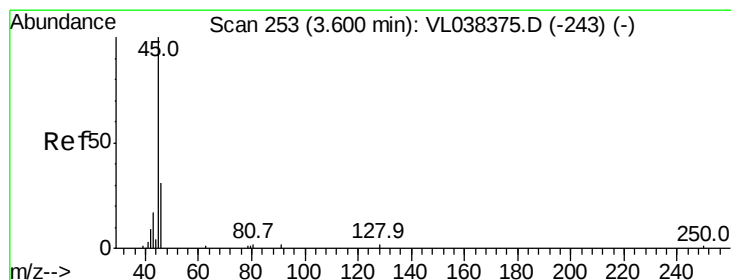
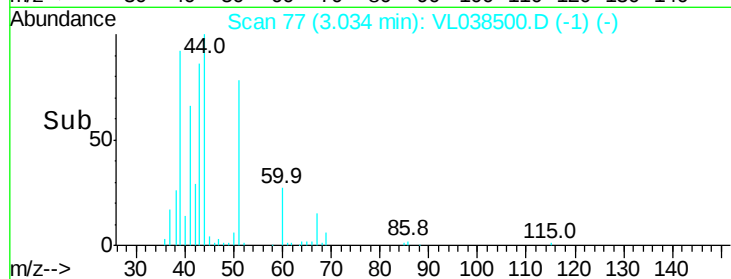
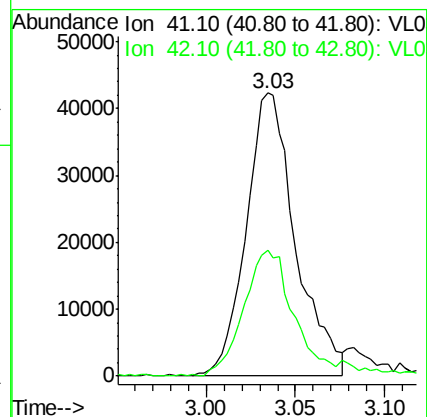
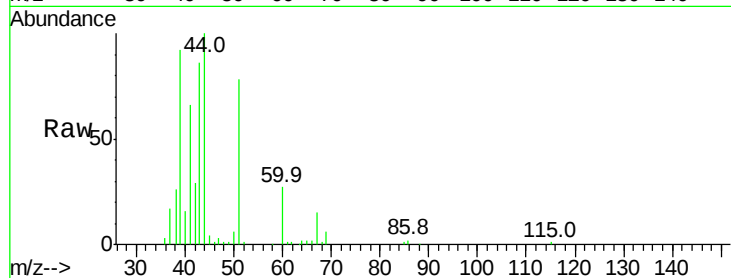
Acq: 3 Mar 2022 2:40

Tgt Ion: 41 Resp: 81634

Ion Ratio Lower Upper

41 100

42 48.7 54.6 82.0#



#13

Ethanol

Concen: 2345.24 ppbv

RT: 3.63 min Scan# 262

Delta R.T. 0.03 min

Lab File: VL038500.D

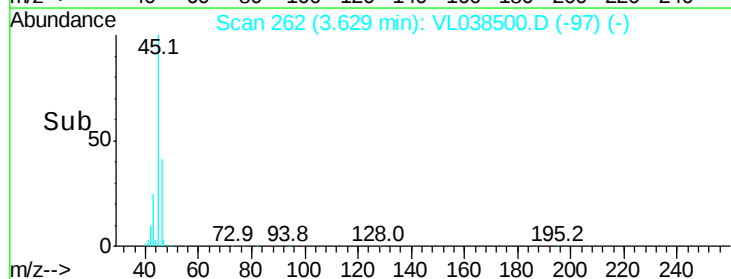
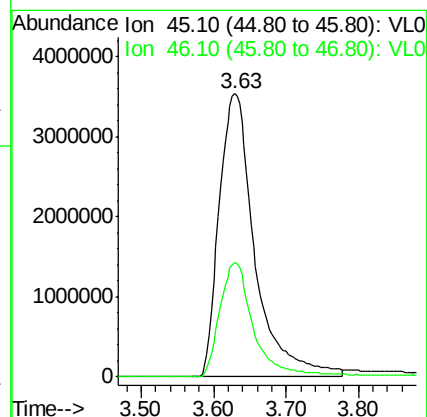
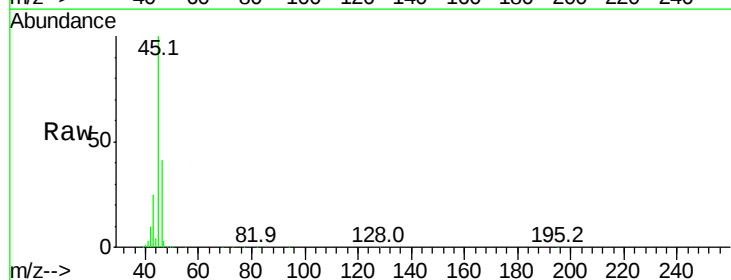
Acq: 3 Mar 2022 2:40

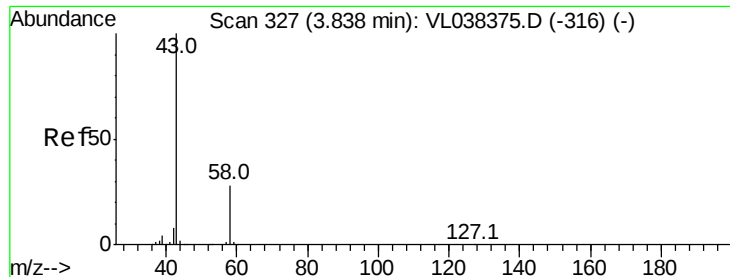
Tgt Ion: 45 Resp: 12093610

Ion Ratio Lower Upper

45 100

46 39.9 18.2 72.8





#15

Acetone

Concen: 16.76 ppbv

RT: 3.86 Instrument :

Delta R.T. MSVOA\_1

Lab File: ClientSampleId :

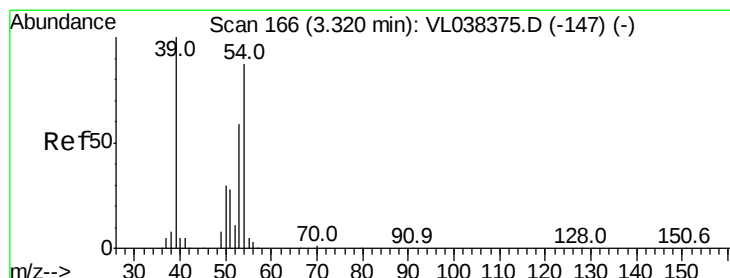
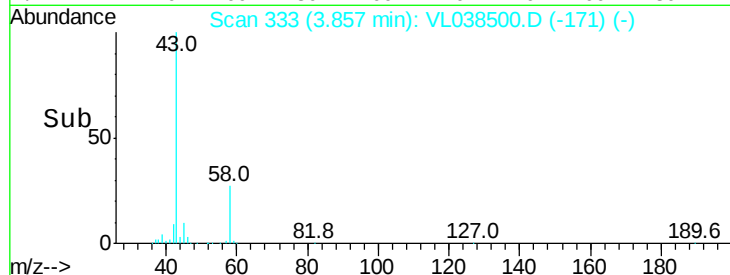
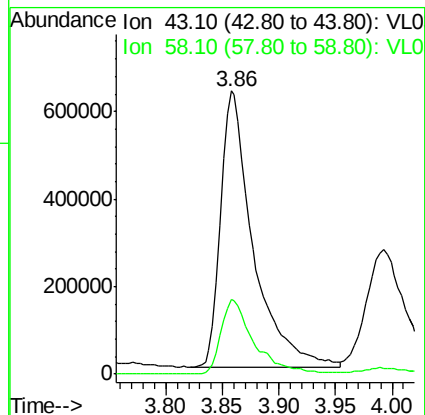
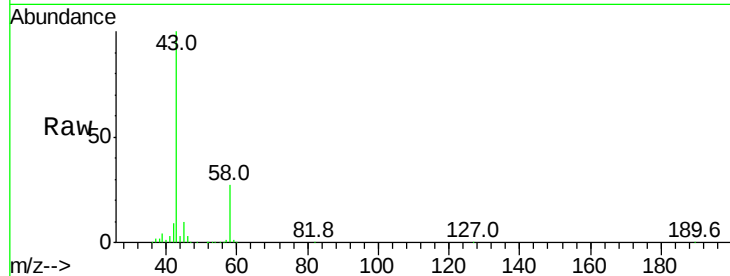
Acq: 3 Mar 2022 2:40

Tgt Ion: 43 Resp: 1262995

Ion Ratio Lower Upper

43 100

58 27.5 21.7 32.5



#16

1,3-Butadiene

Concen: 0.22 ppbv

RT: 3.32 min Scan# 165

Delta R.T. -0.00 min

Lab File: VL038500.D

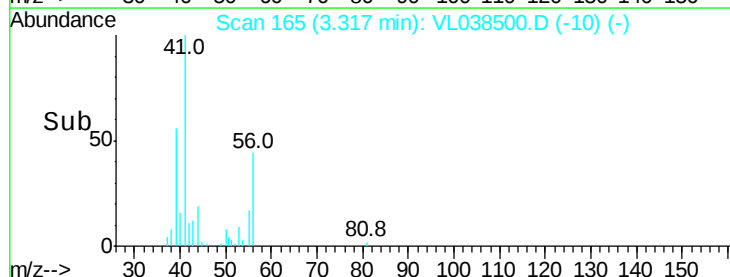
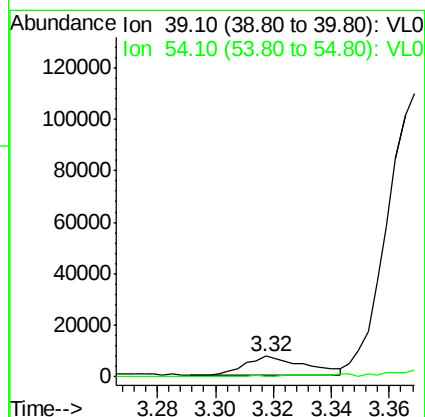
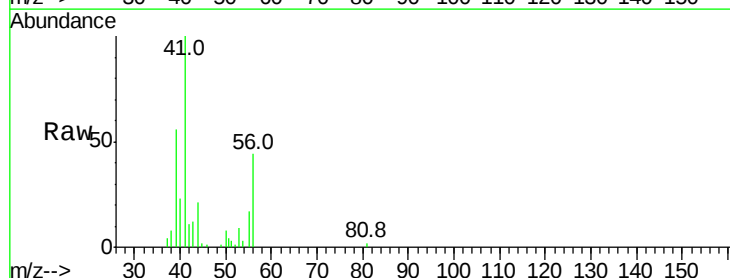
Acq: 3 Mar 2022 2:40

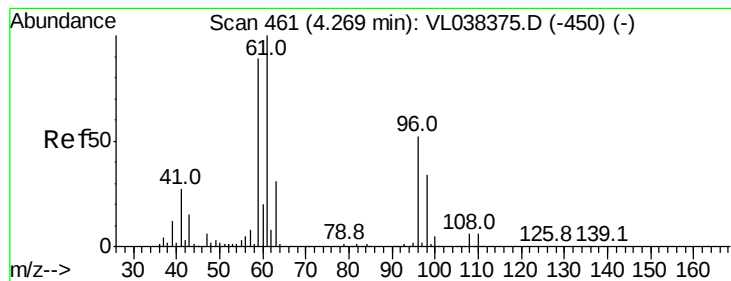
Tgt Ion: 39 Resp: 11192

Ion Ratio Lower Upper

39 100

54 0.0 60.3 90.5#





#17

tert-Butyl alcohol

Concen: 1.25 ppbv

RT: 3.99 Instrument:

Delta R.T. MSVOA\_1

Lab File: ClientSampleId:

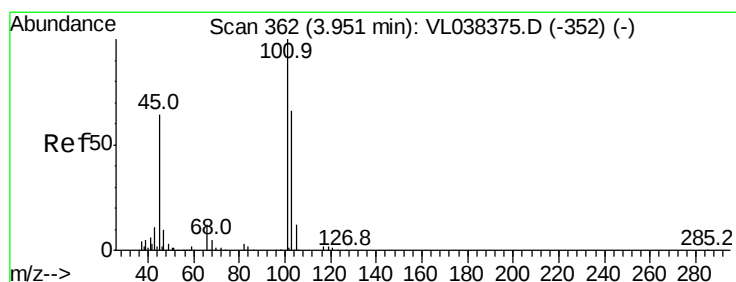
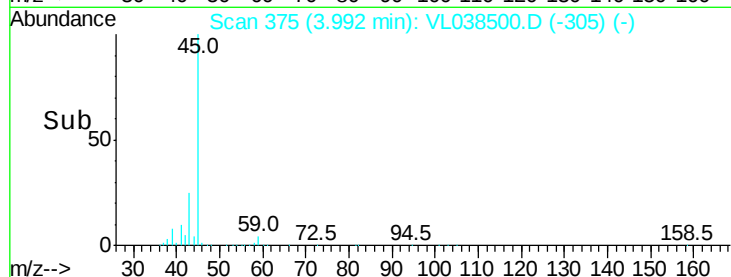
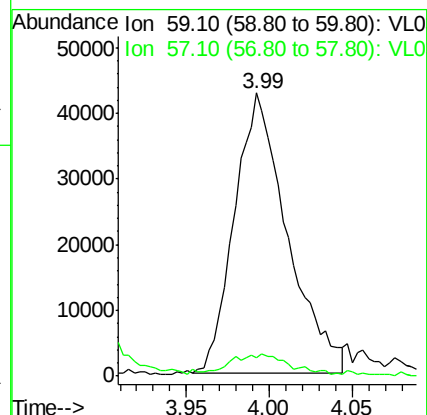
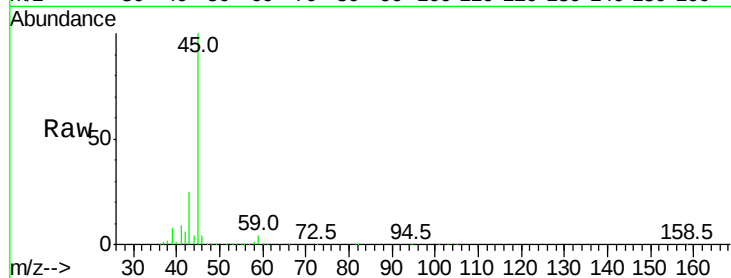
Acq: 3 Mar 2022 2:40

Tgt Ion: 59 Resp: 94252

Ion Ratio Lower Upper

59 100

57 9.6 8.4 12.6



#19

Isopropyl Alcohol

Concen: 60.67 ppbv

RT: 3.99 min Scan# 375

Delta R.T. 0.04 min

Lab File: VL038500.D

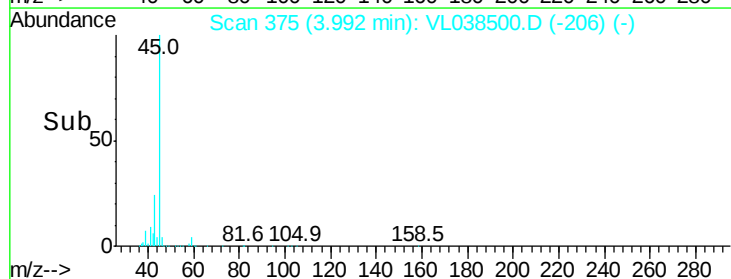
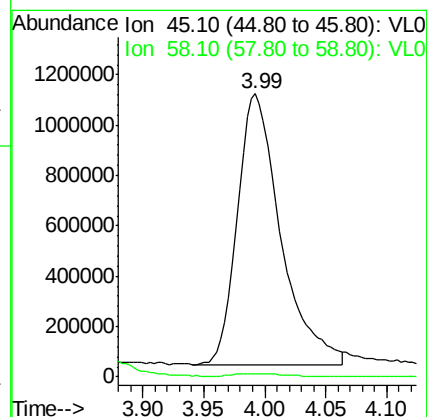
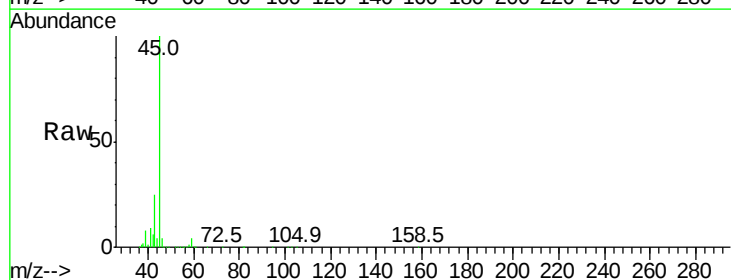
Acq: 3 Mar 2022 2:40

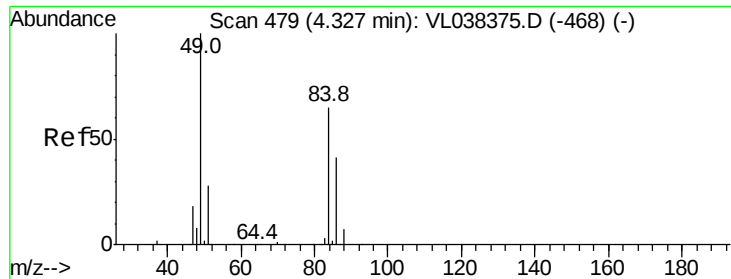
Tgt Ion: 45 Resp: 2647622

Ion Ratio Lower Upper

45 100

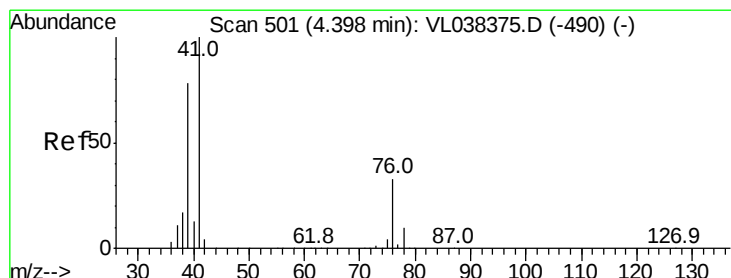
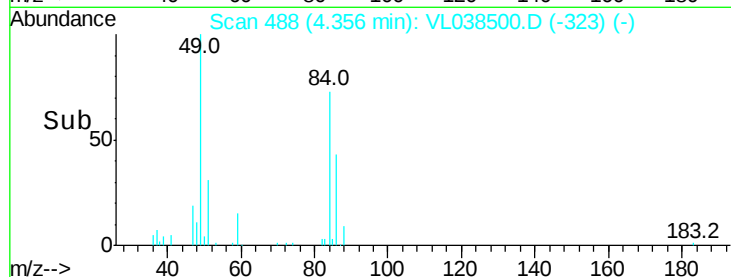
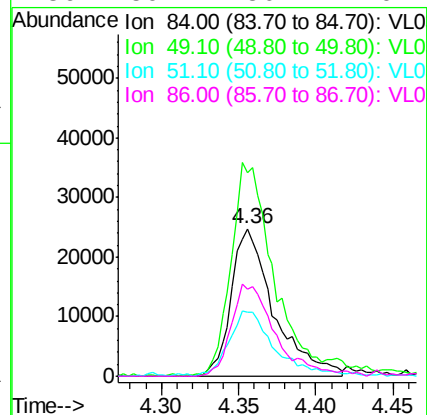
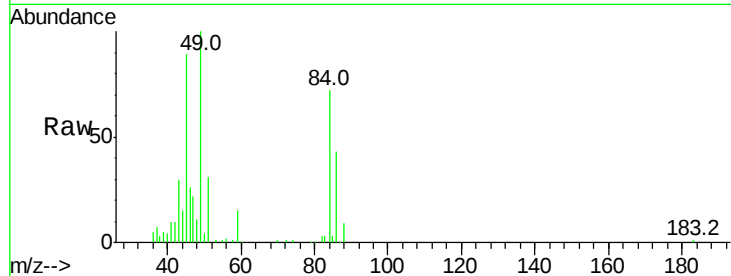
58 1.8 1.8 2.8#





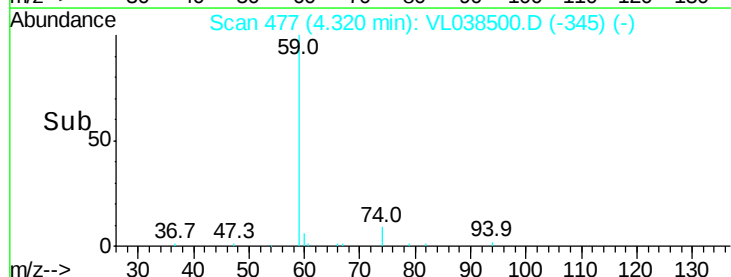
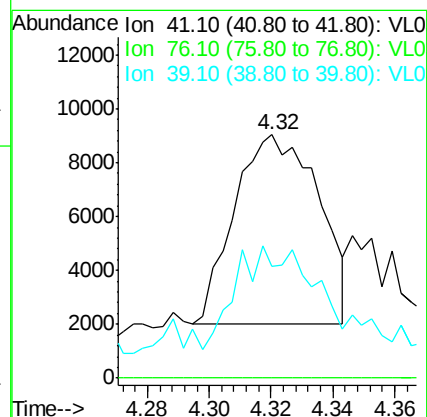
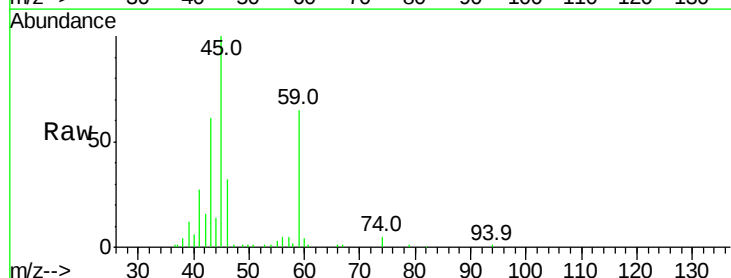
#20  
Methylene Chloride  
Concen: 1.27 ppbv  
RT: 4.36  
Delta R.T. MSVOA\_L  
Lab File: ClientSampleId :  
Acq: 3 Mar 2022 2:40

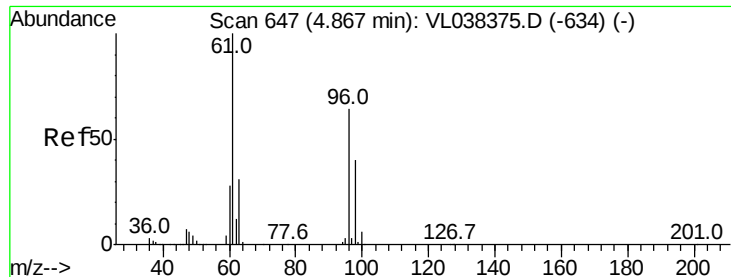
|          |       |       |       |
|----------|-------|-------|-------|
| Tgt Ion: | 84    | Resp: | 47452 |
| Ion      | Ratio | Lower | Upper |
| 84       | 100   |       |       |
| 49       | 137.2 | 122.4 | 183.6 |
| 51       | 43.2  | 33.3  | 49.9  |
| 86       | 59.1  | 50.7  | 76.1  |



#21  
Allyl Chloride  
Concen: 0.21 ppbv  
RT: 4.32 min Scan# 477  
Delta R.T. -0.08 min  
Lab File: VL038500.D  
Acq: 3 Mar 2022 2:40

|          |       |       |       |
|----------|-------|-------|-------|
| Tgt Ion: | 41    | Resp: | 13305 |
| Ion      | Ratio | Lower | Upper |
| 41       | 100   |       |       |
| 76       | 0.0   | 25.4  | 38.0# |
| 39       | 101.6 | 63.0  | 94.6# |





#22

trans-1,2-Dichloroethene

Concen: 0.31 ppbv

RT: 4.90 Instrument:

Delta R.T. MSVOA\_1

Lab File: ClientSampleId:

Acq: 3 Mar 2022 2:40

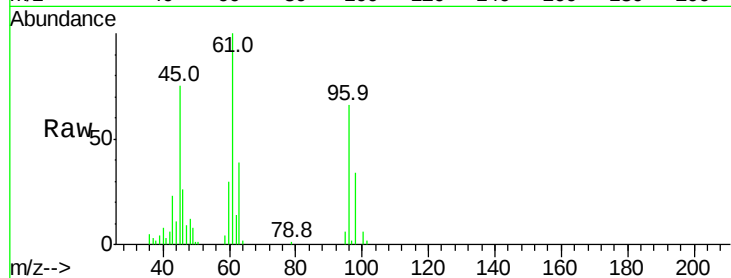
Tgt Ion: 96 Resp: 13519

Ion Ratio Lower Upper

96 100

61 146.8 124.2 186.4

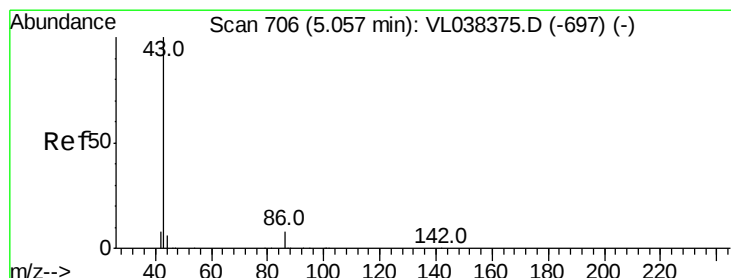
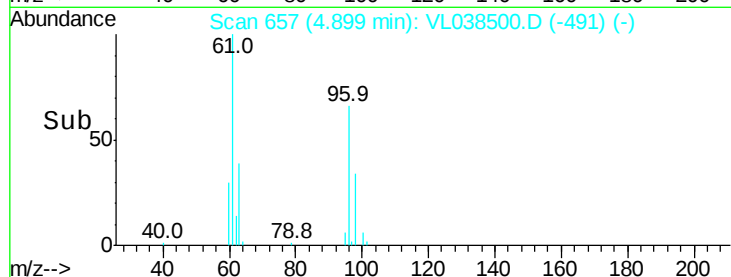
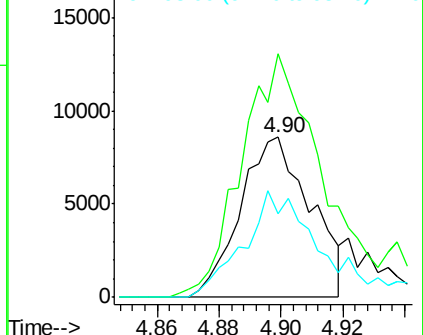
98 51.9 49.1 73.7



Abundance Ion 96.00 (95.70 to 96.70): VL0

Ion 61.10 (60.80 to 61.80): VL0

Ion 98.00 (97.70 to 98.70): VL0



#23

Vinyl Acetate

Concen: 0.42 ppbv

RT: 5.08 min Scan# 712

Delta R.T. 0.02 min

Lab File: VL038500.D

Acq: 3 Mar 2022 2:40

Tgt Ion: 43 Resp: 41904

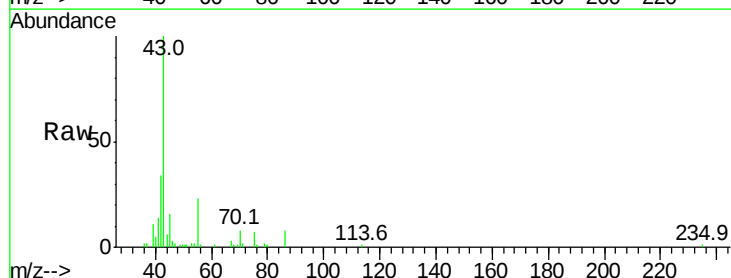
Ion Ratio Lower Upper

43 100

86 9.0 5.8 8.6#

42 24.3 7.4 11.0#

44 0.0 4.2 6.2#

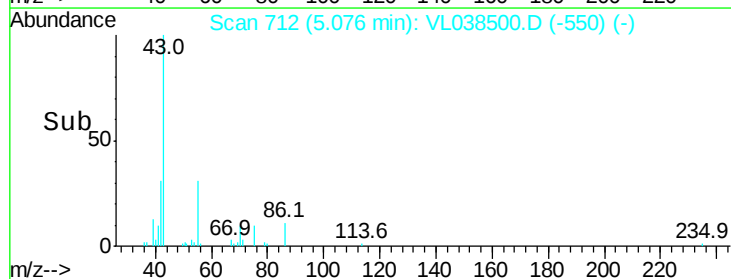
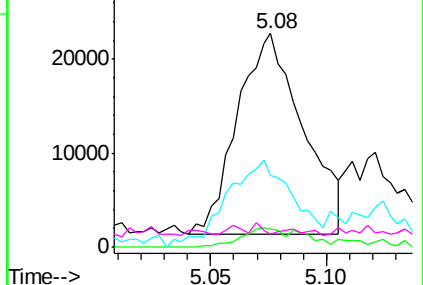


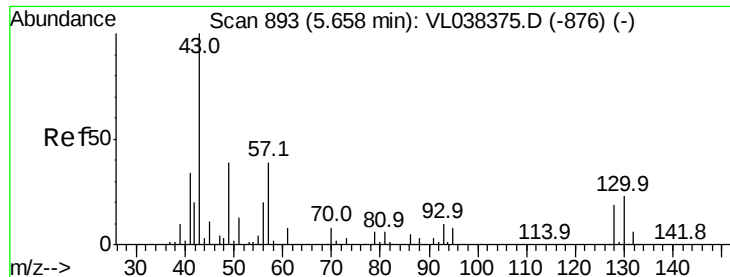
Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 86.10 (85.80 to 86.80): VL0

Ion 42.10 (41.80 to 42.80): VL0

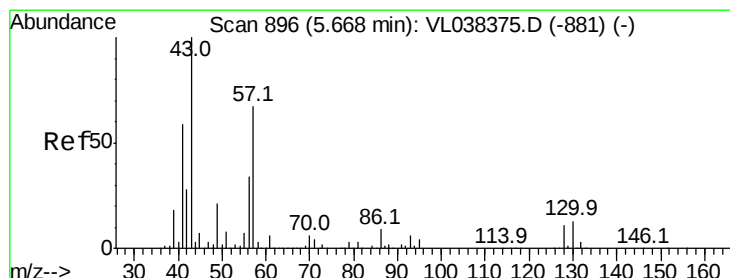
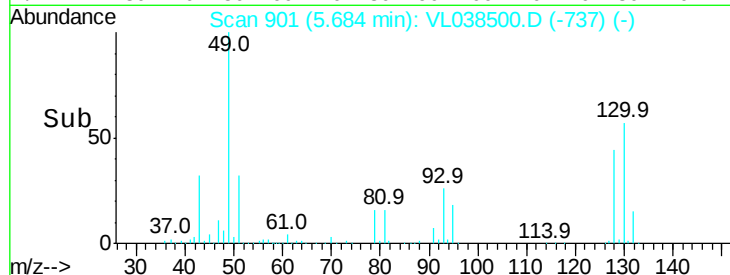
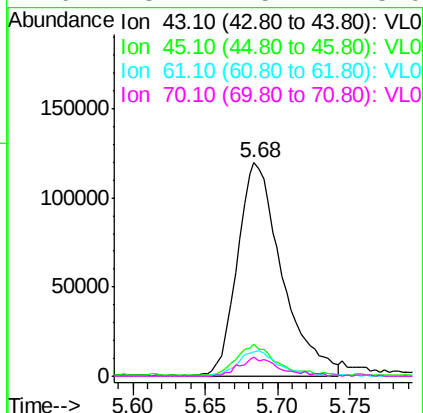
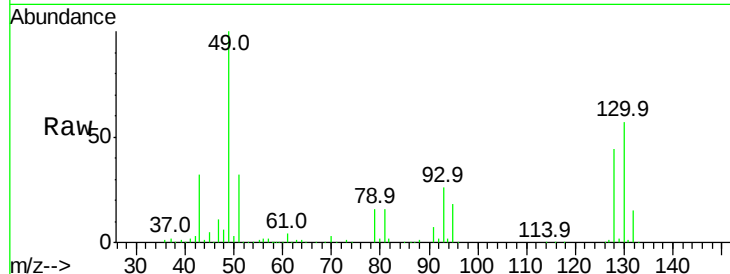
Ion 44.10 (43.80 to 44.80): VL0





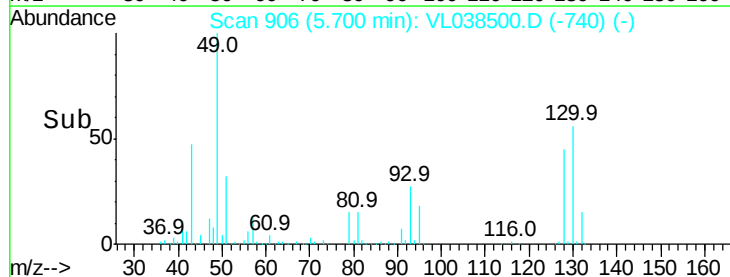
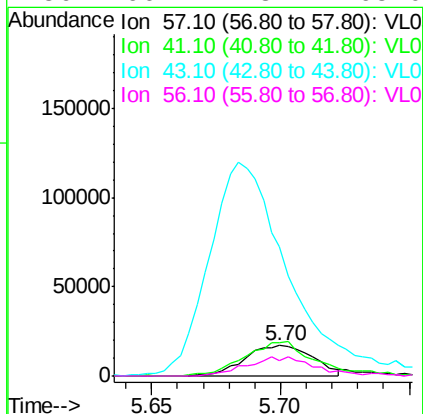
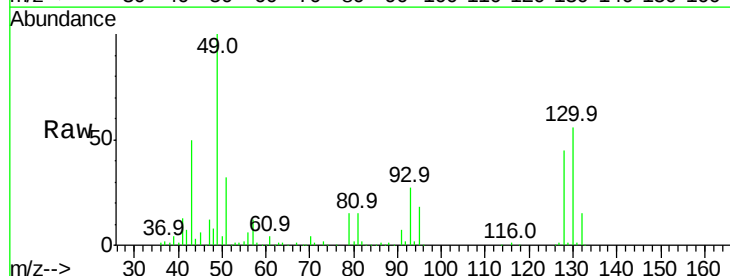
#25  
Ethyl Acetate  
Concen: 1.26 ppbv  
RT: 5.68  
Delta R.T. MSVOA\_L  
Lab File: ClientSampleId :  
Acq: 3 Mar 2022 2:40

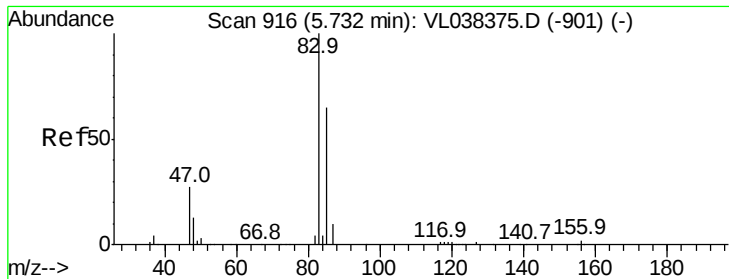
|          |       |       |        |
|----------|-------|-------|--------|
| Tgt Ion: | 43    | Resp: | 254207 |
| Ion      | Ratio | Lower | Upper  |
| 43       | 100   |       |        |
| 45       | 13.5  | 7.8   | 11.6#  |
| 61       | 11.0  | 7.5   | 11.3   |
| 70       | 8.1   | 5.4   | 8.0#   |



#26  
Hexane  
Concen: 0.35 ppbv  
RT: 5.70 min Scan# 906  
Delta R.T. 0.03 min  
Lab File: VL038500.D  
Acq: 3 Mar 2022 2:40

|          |       |       |        |
|----------|-------|-------|--------|
| Tgt Ion: | 57    | Resp: | 31668  |
| Ion      | Ratio | Lower | Upper  |
| 57       | 100   |       |        |
| 41       | 124.3 | 73.1  | 109.7# |
| 43       | 846.7 | 181.0 | 271.4# |
| 56       | 66.4  | 43.4  | 65.0#  |





#29

Chloroform

Concen: 0.06 ppbv

RT: 5.76 Instrument:

Delta R.T. MSVOA\_L

Lab File: ClientSampleId:

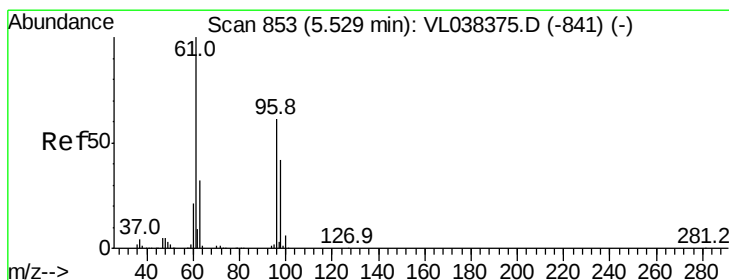
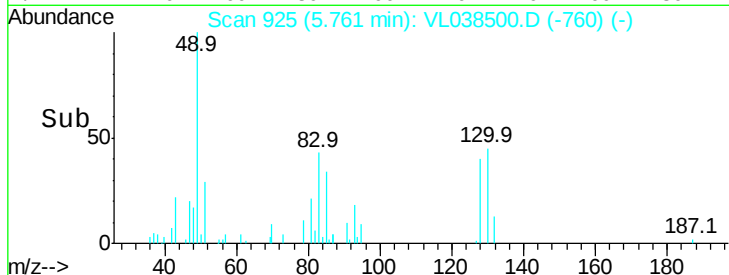
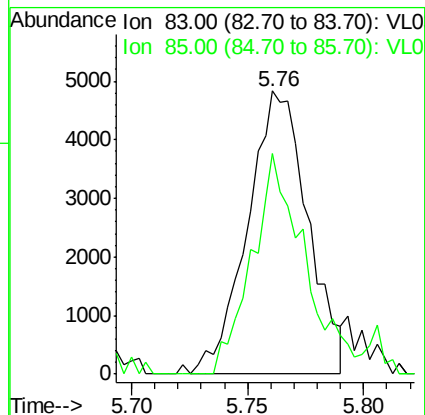
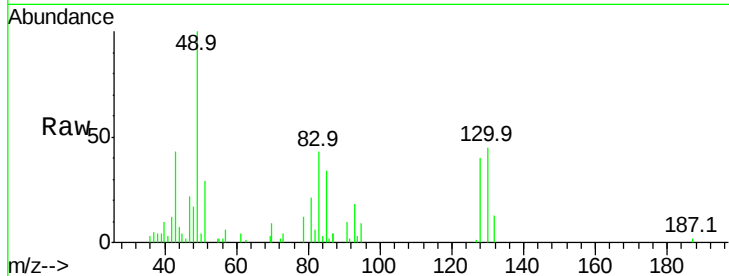
Acq: 3 Mar 2022 2:40

Tgt Ion: 83 Resp: 8739

Ion Ratio Lower Upper

83 100

85 77.9 51.6 77.4#



#31

cis-1,2-Dichloroethene

Concen: 0.30 ppbv

RT: 5.69 min Scan# 902

Delta R.T. 0.16 min

Lab File: VL038500.D

Acq: 3 Mar 2022 2:40

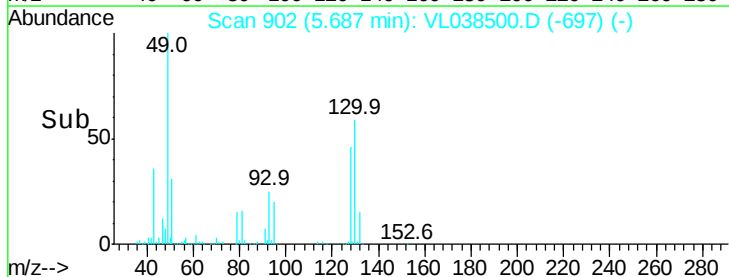
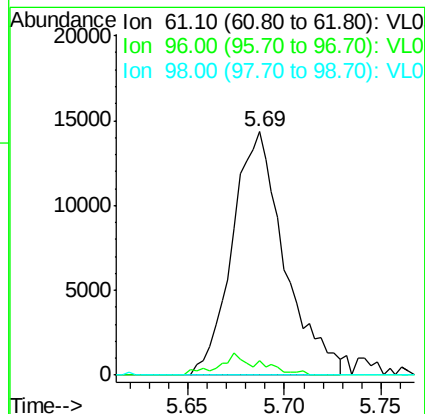
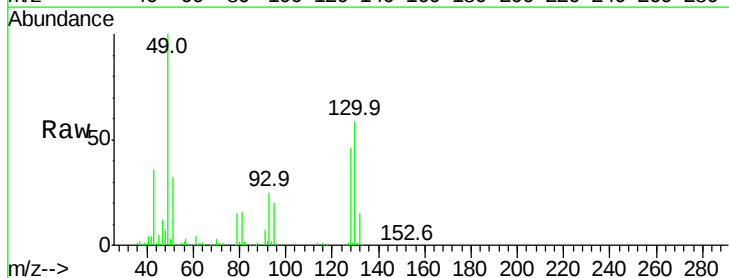
Tgt Ion: 61 Resp: 26876

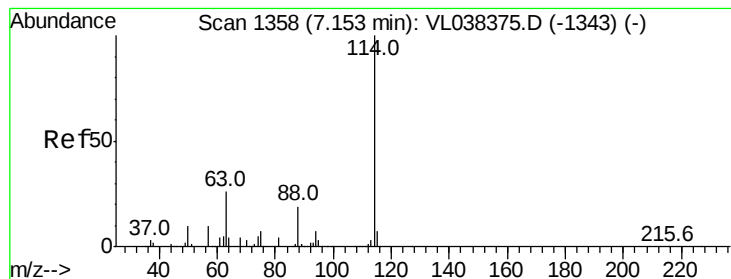
Ion Ratio Lower Upper

61 100

96 6.2 48.6 73.0#

98 0.0 33.2 49.8#





#33

1,4-Difluorobenzene

Concen: 10.00 ppbv

RT: 7.19

Delta R.T. MSVOA\_L

Lab File: ClientSampleId :

Acq: 3 Mar 2022 2:40

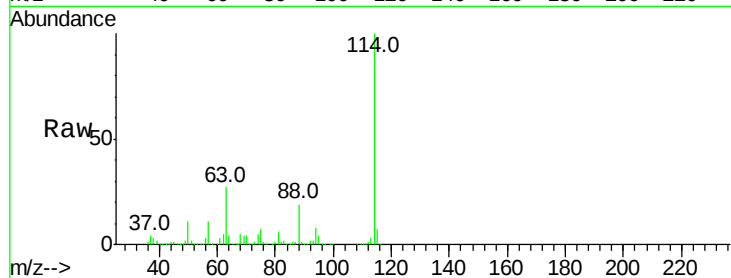
Tgt Ion:114 Resp: 1930977

Ion Ratio Lower Upper

114 100

63 28.1 22.2 33.2

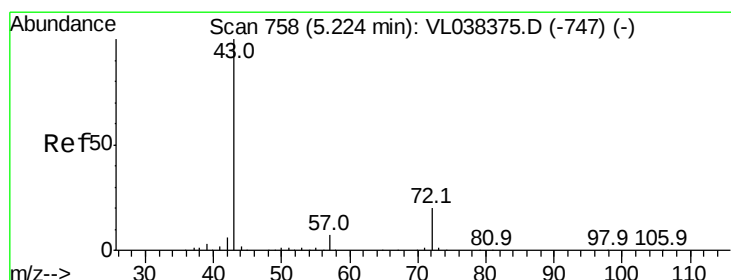
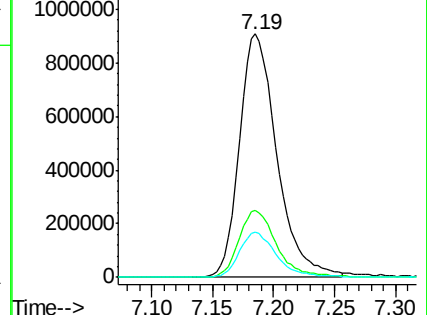
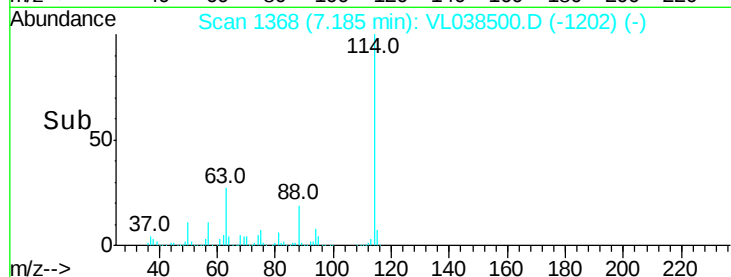
88 18.8 15.2 22.8



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: 0.53 ppbv

RT: 5.25 min Scan# 767

Delta R.T. 0.03 min

Lab File: VL038500.D

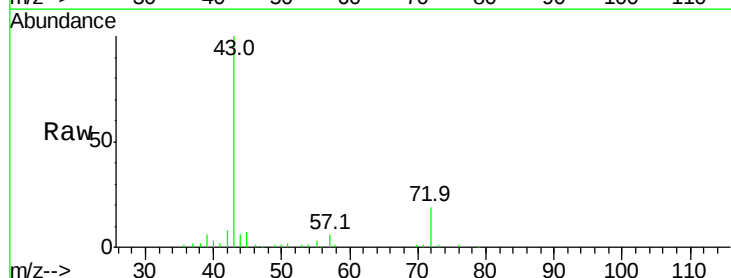
Acq: 3 Mar 2022 2:40

Tgt Ion: 43 Resp: 32115

Ion Ratio Lower Upper

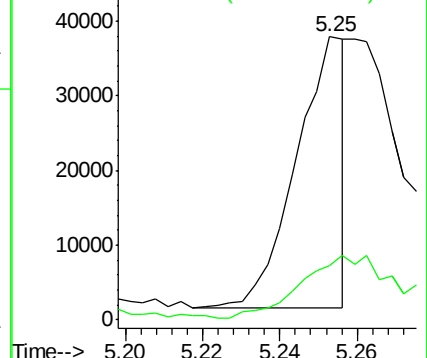
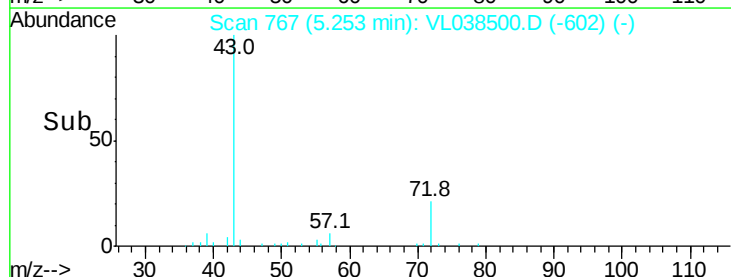
43 100

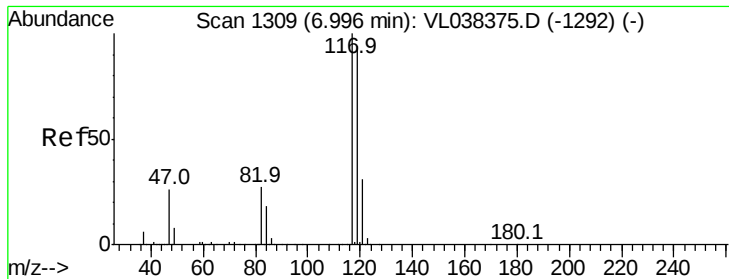
72 54.0 17.4 26.2#



Abundance Ion 43.10 (42.80 to 43.80): VL0

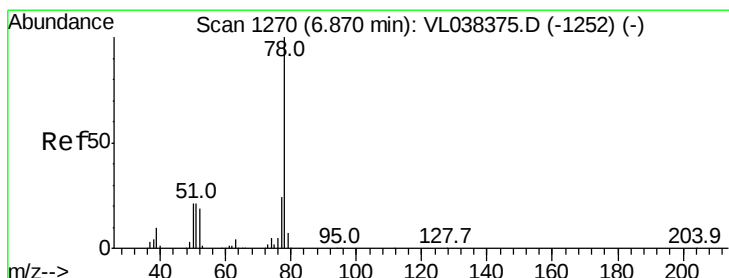
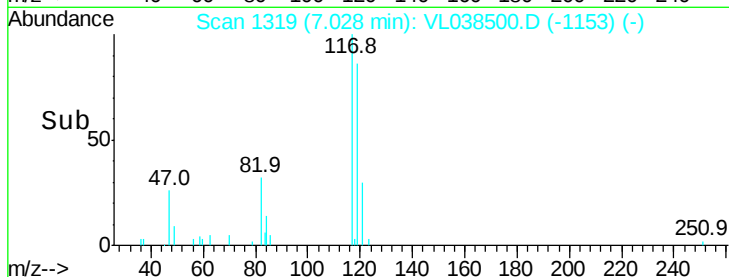
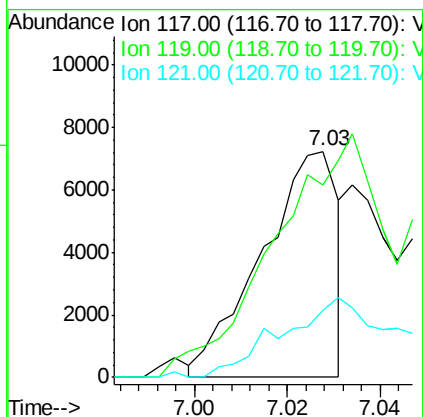
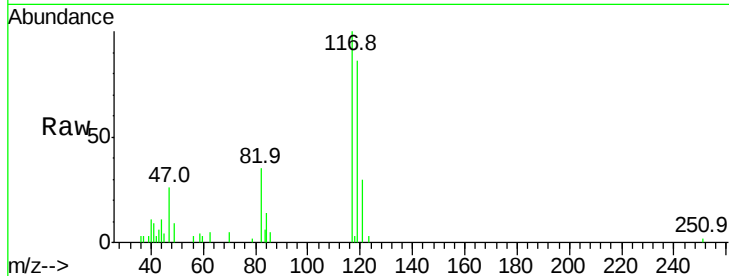
Ion 72.10 (71.80 to 72.80): VL0





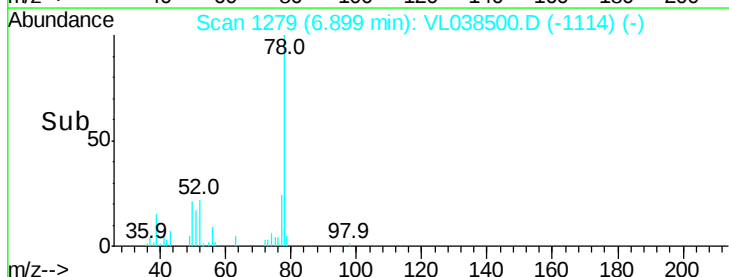
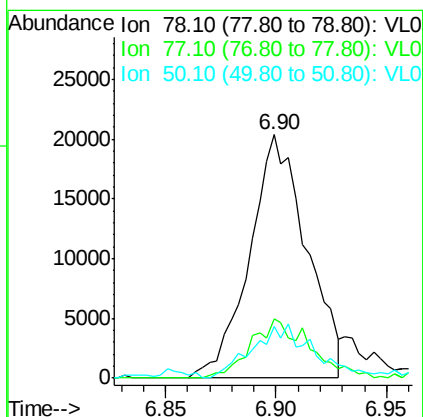
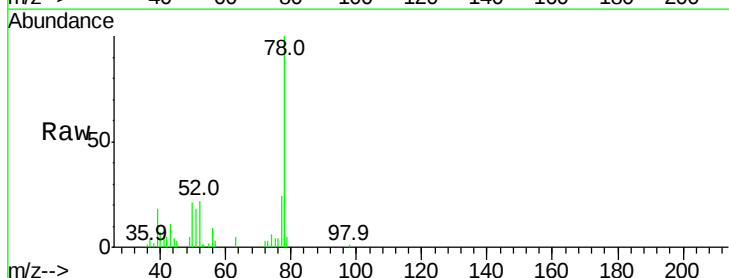
#35  
Carbon Tetrachloride  
Concen: 0.06 ppbv  
RT: 7.03  
Delta R.T. MSVOA\_L  
Lab File: ClientSampleId :  
Acq: 3 Mar 2022 2:40

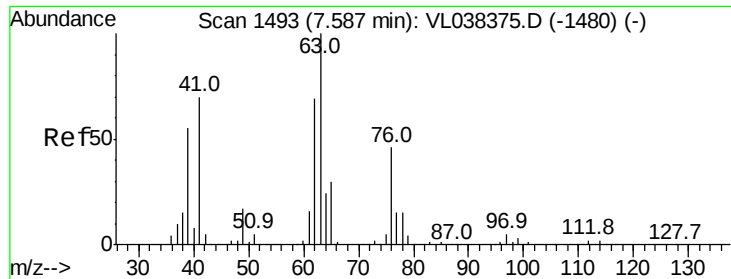
Tgt Ion: 117 Resp: 8254  
Ion Ratio Lower Upper  
117 100  
119 75.6 74.9 112.3  
121 30.7 24.8 37.2



#36  
Benzene  
Concen: 0.22 ppbv  
RT: 6.90 min Scan# 1279  
Delta R.T. 0.03 min  
Lab File: VL038500.D  
Acq: 3 Mar 2022 2:40

Tgt Ion: 78 Resp: 36563  
Ion Ratio Lower Upper  
78 100  
77 24.1 19.0 28.6  
50 20.0 16.6 24.8





#39

1,2-Dichloropropane

Concen: 7.90 ppbv

RT: 7.19 Instrument:

Delta R.T. MSVOA\_1

Lab File: ClientSampleId:

Acq: 3 Mar 2022 2:40

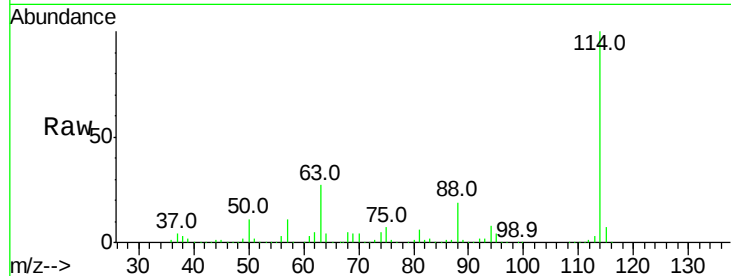
Tgt Ion: 63 Resp: 534740

Ion Ratio Lower Upper

63 100

41 0.0 56.1 84.1#

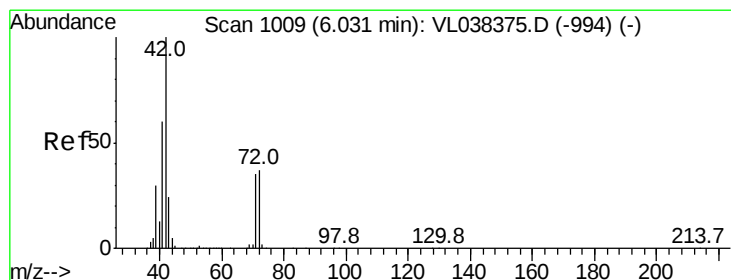
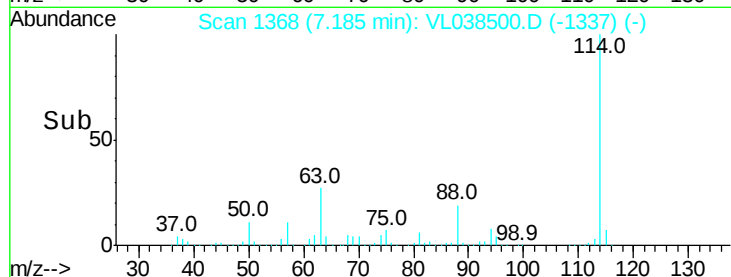
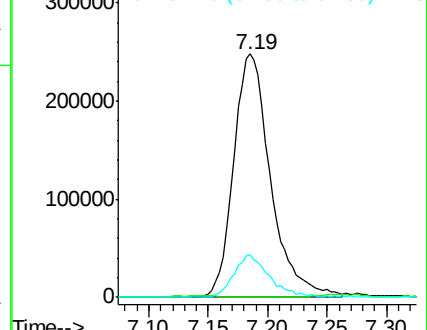
62 17.4 55.5 83.3#



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



#41

Tetrahydrofuran

Concen: 0.03 ppbv

RT: 6.07 min Scan# 1020

Delta R.T. 0.04 min

Lab File: VL038500.D

Acq: 3 Mar 2022 2:40

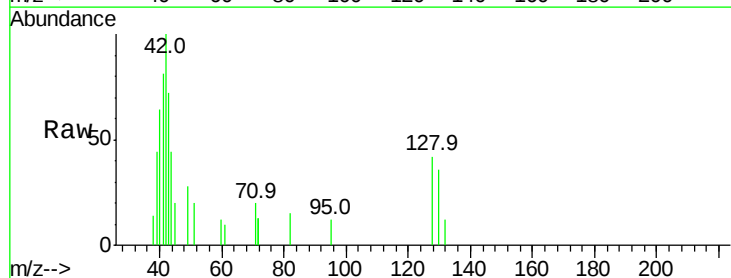
Tgt Ion: 42 Resp: 1385

Ion Ratio Lower Upper

42 100

72 0.0 29.9 44.9#

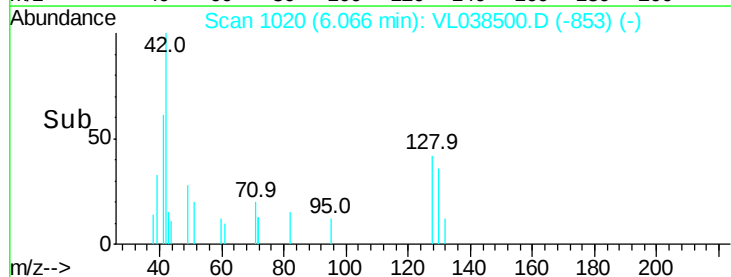
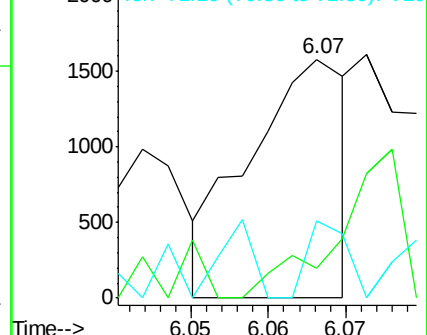
71 0.0 28.6 42.8#

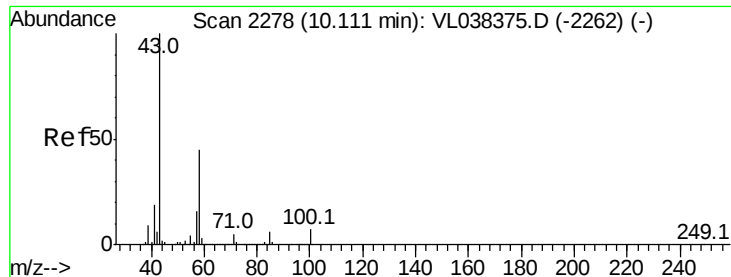


Abundance Ion 42.10 (41.80 to 42.80): VL0

Ion 72.10 (71.80 to 72.80): VL0

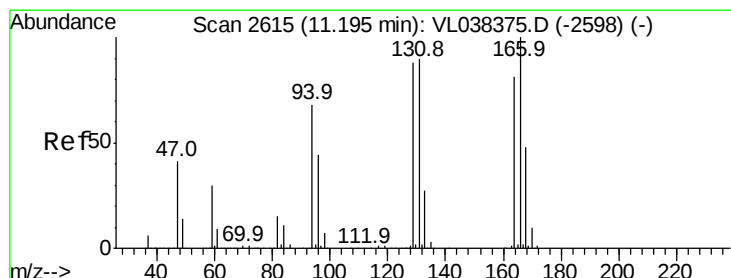
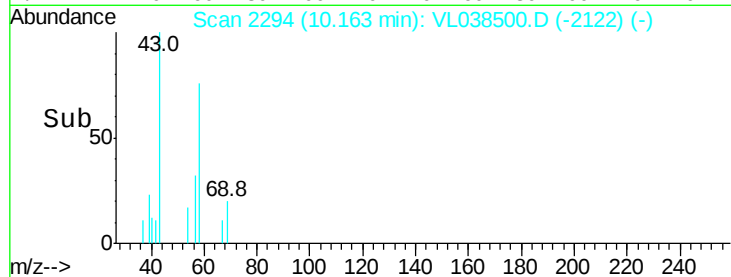
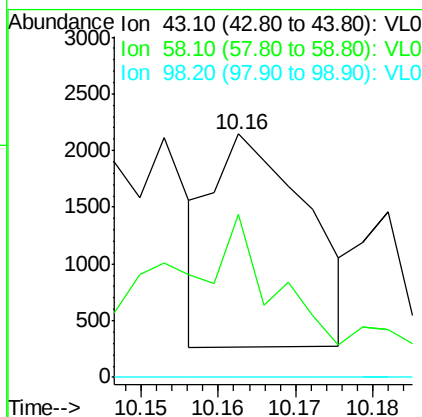
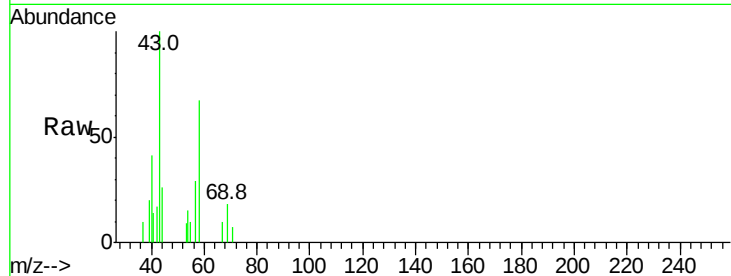
Ion 71.10 (70.80 to 71.80): VL0





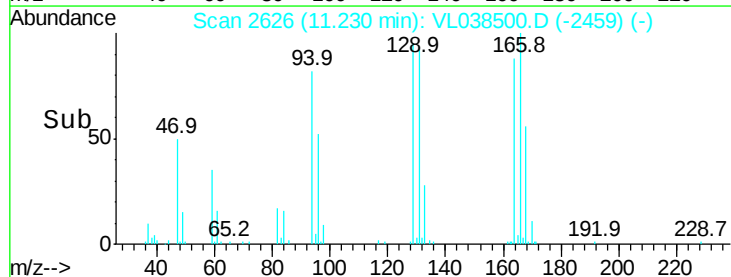
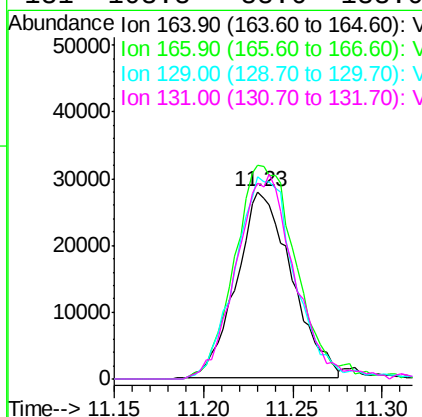
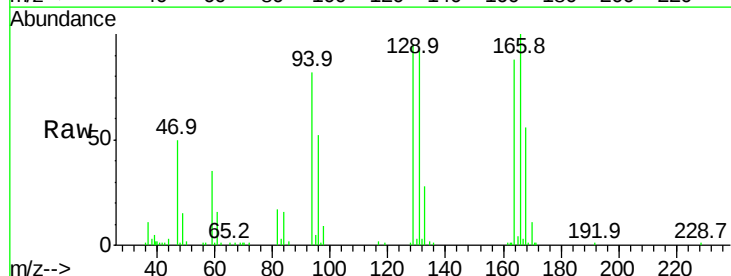
#51  
2-Hexanone  
Concen: 0.03 ppbv  
RT: 10.16 min  
Delta R.T. MSVOA\_L  
Lab File: ClientSampleId :  
Acq: 3 Mar 2022 2:40

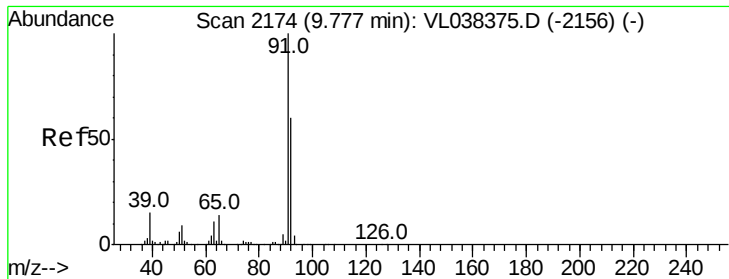
Tgt Ion: 43 Resp: 1601  
Ion Ratio Lower Upper  
43 100  
58 139.0 37.4 56.0#  
98 0.0 0.1 0.1#



#52  
Tetrachloroethene  
Concen: 1.07 ppbv  
RT: 11.23 min Scan# 2626  
Delta R.T. 0.04 min  
Lab File: VL038500.D  
Acq: 3 Mar 2022 2:40

Tgt Ion: 164 Resp: 60213  
Ion Ratio Lower Upper  
164 100  
166 113.7 98.6 148.0  
129 107.7 86.9 130.3  
131 103.8 88.6 133.0





#53

Toluene

Concen: 0.34 ppbv

RT: 9.82 Instrument: MSVOA\_1

Delta R.T. 0.04 min

Lab File: ClientSampleId: IA1DUP

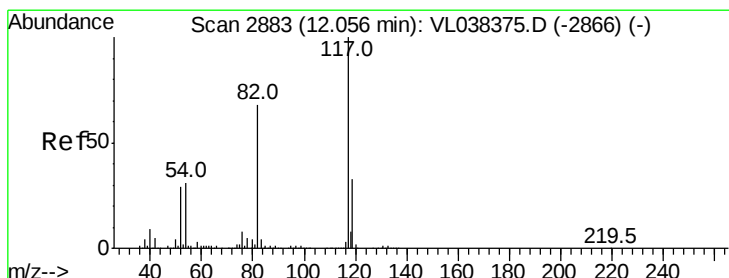
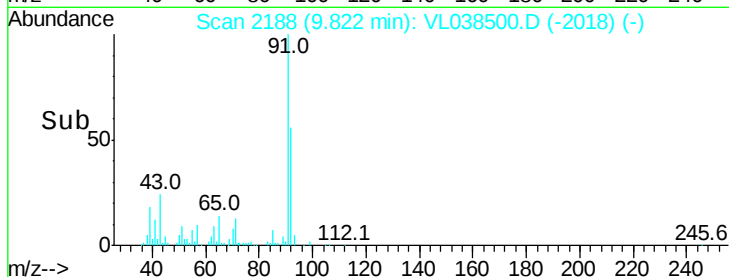
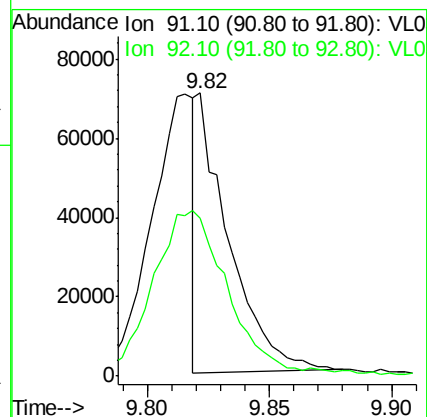
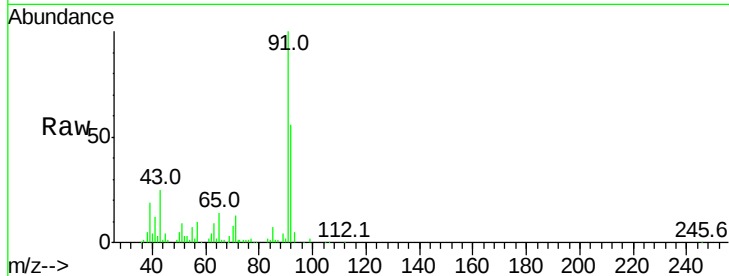
Acq: 3 Mar 2022 2:40

Tgt Ion: 91 Resp: 62703

Ion Ratio Lower Upper

91 100

92 145.7 48.2 72.4#



#55

Chlorobenzene-d5

Concen: 10.00 ppbv

RT: 12.10 min Scan# 2896

Delta R.T. 0.04 min

Lab File: VL038500.D

Acq: 3 Mar 2022 2:40

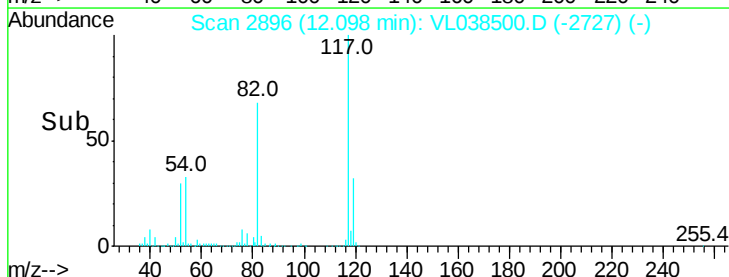
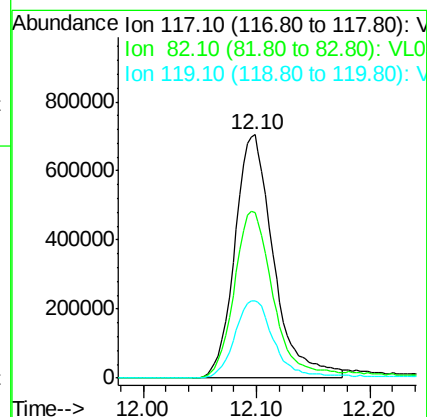
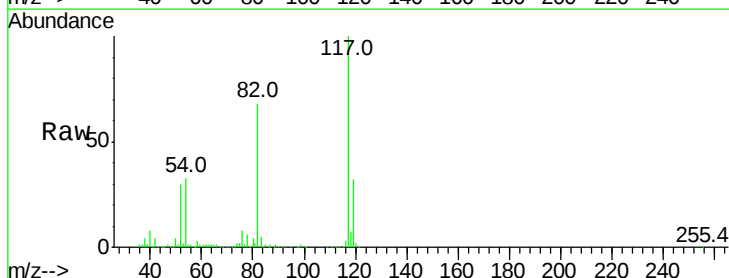
Tgt Ion: 117 Resp: 1683900

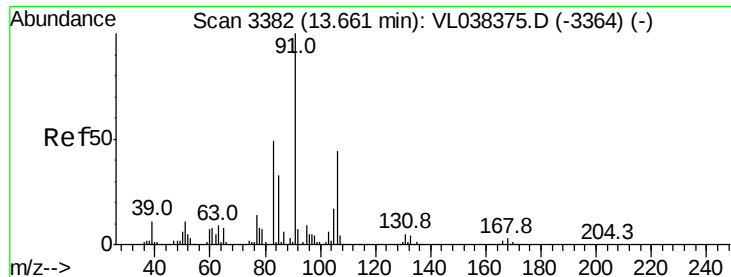
Ion Ratio Lower Upper

117 100

82 73.2 54.9 82.3

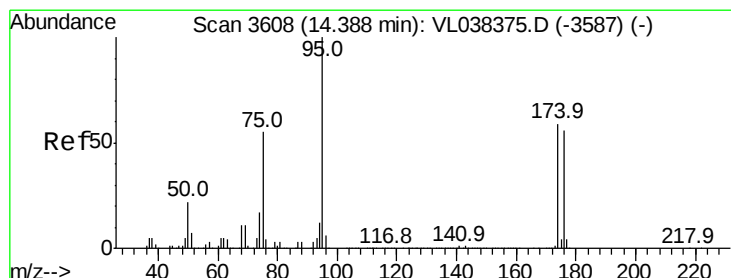
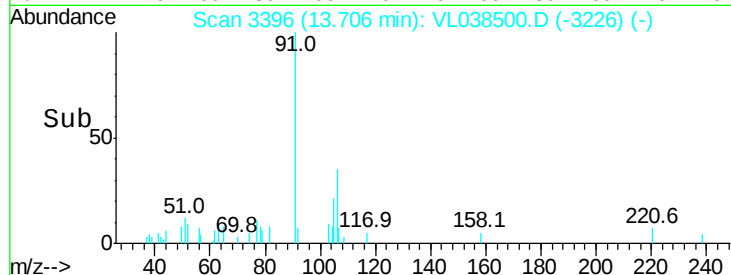
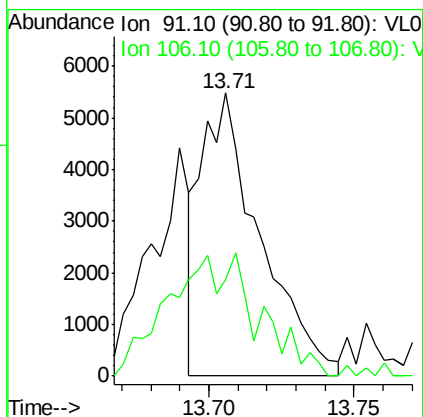
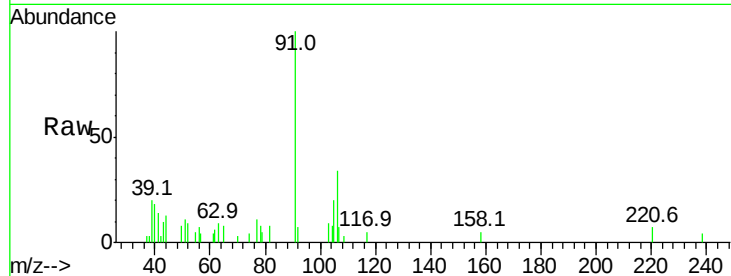
119 33.8 46.1 69.1#





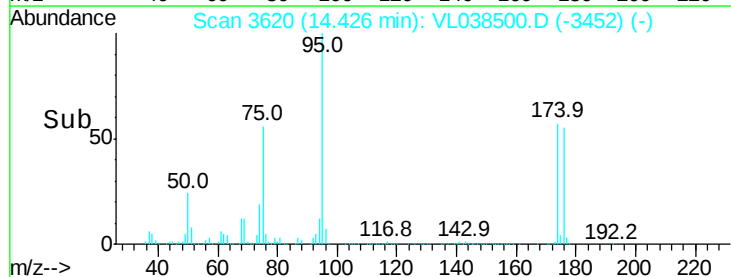
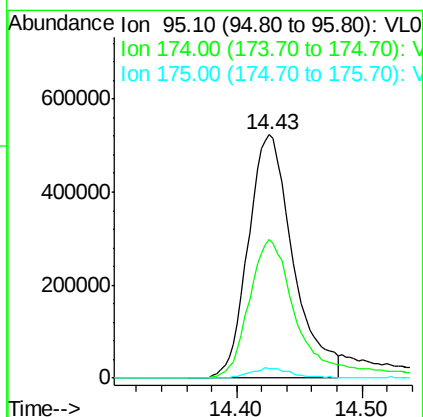
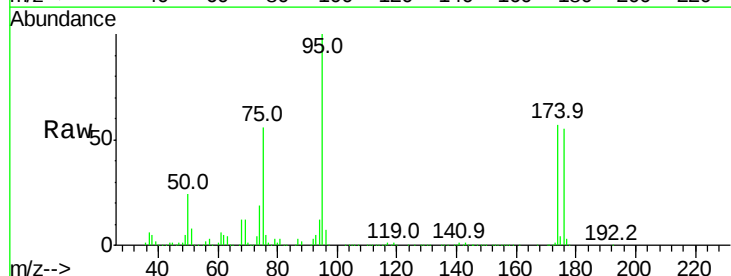
#60  
o-Xylene  
Concen: 0.04 ppbv  
RT: 13.71 min  
Delta R.T. MSVOA\_1  
Lab File: ClientSampleId :  
Acq: 3 Mar 2022 2:40

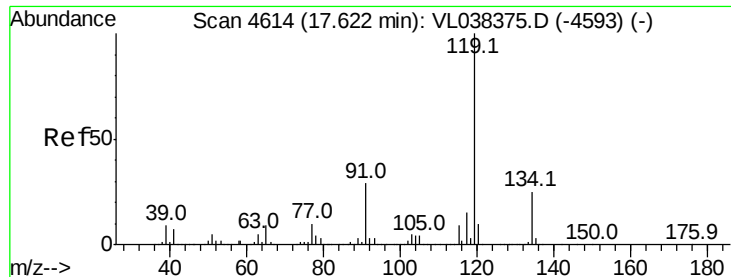
Tgt Ion: 91 Resp: 7690  
Ion Ratio Lower Upper  
91 100  
106 67.2 21.9 65.5#



#68  
1-Bromo-4-Fluorobenzene  
Concen: 9.34 ppbv  
RT: 14.43 min Scan# 3620  
Delta R.T. 0.04 min  
Lab File: VL038500.D  
Acq: 3 Mar 2022 2:40

Tgt Ion: 95 Resp: 1301932  
Ion Ratio Lower Upper  
95 100  
174 64.7 49.0 73.4  
175 4.3 3.6 5.4





#69

p-Isopropyltoluene

Concen: 0.12 ppbv

RT: 17.67 Instrument:

Delta R.T. MSVOA\_1

Lab File: ClientSampleId :

IA1DUP

Acq: 3 Mar 2022 2.40

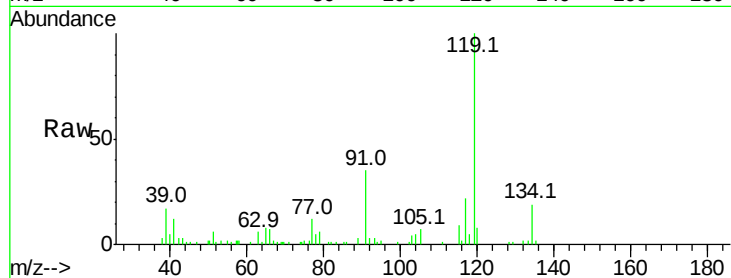
Tgt Ion: 119 Resp: 27873

Ion Ratio Lower Upper

119 100

134 0.0 20.4 30.6#

91 0.0 23.8 35.8#



Abundance Ion 119.10 (118.80 to 119.80): V

Ion 134.20 (133.90 to 134.90): V

Ion 91.10 (90.80 to 91.80): VLO

