

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL032322\  
 Data File : VL038739.D  
 Acq On : 24 Mar 2022 6:27  
 Operator : SY/AP  
 Sample : N2051-02DL 5X  
 Misc : 400mL/MSVOA L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 C0P92DL

Quant Time: Mar 24 07:52:43 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   | 5.67  | 49   | 805773   | 10.00 | ppbv  | 0.00     |
| 33) 1,4-Difluorobenzene | 7.17  | 114  | 2174992  | 10.00 | ppbv  | 0.00     |
| 55) Chlorobenzene-d5    | 12.08 | 117  | 1854397  | 10.00 | ppbv  | 0.00     |

|                             |        |       |          |          |      |        |
|-----------------------------|--------|-------|----------|----------|------|--------|
| System Monitoring Compounds |        |       |          |          |      |        |
| 68) 1-Bromo-4-Fluorobenzene | 14.41  | 95    | 1328409  | 9.34     | ppbv | 0.00   |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 93.40% |

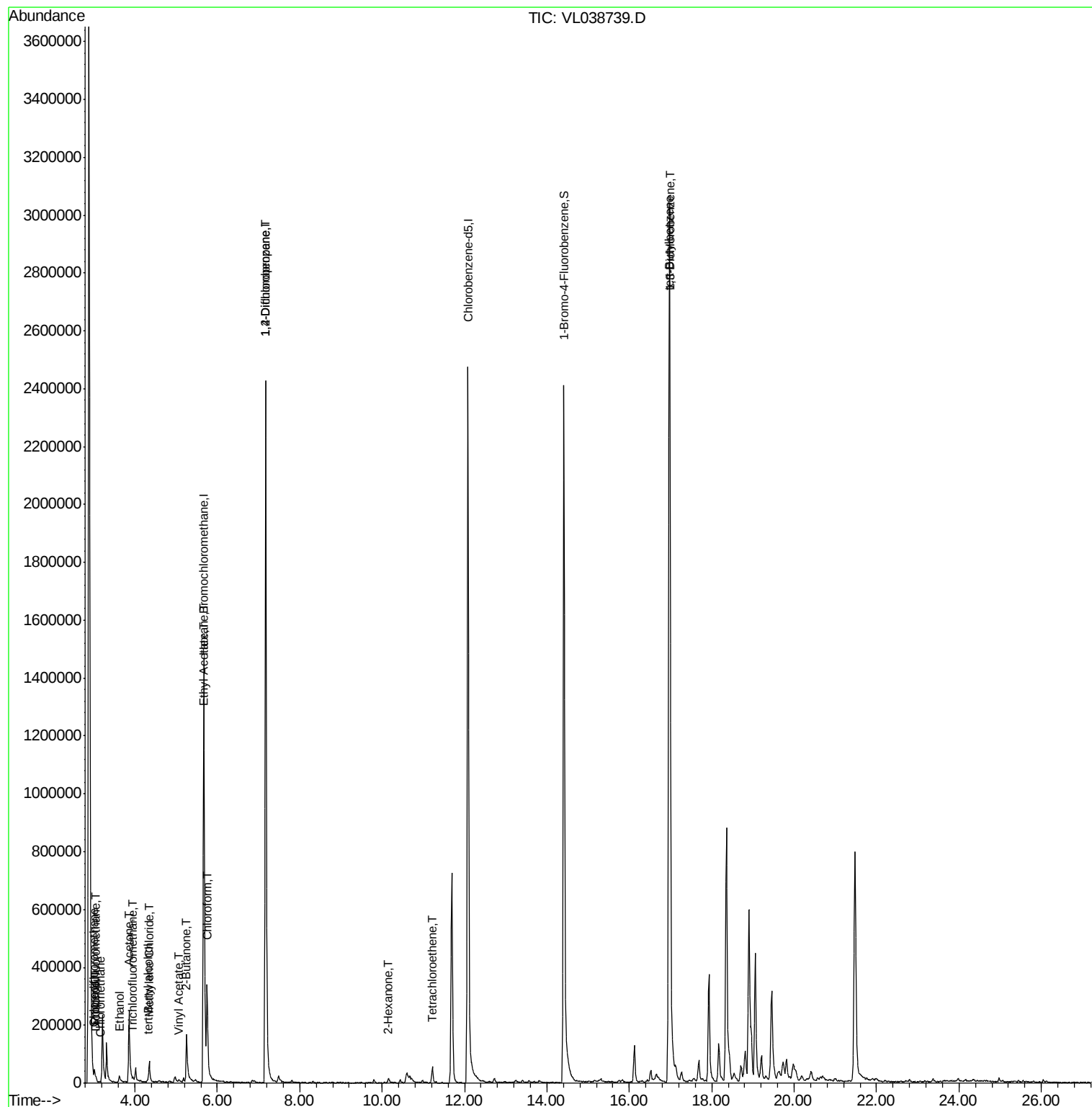
| Target Compounds           |       |     |        |              | Ovalue |
|----------------------------|-------|-----|--------|--------------|--------|
| 2) Dichlorodifluoromethane | 3.05  | 85  | 11467  | 0.106 ppbv   | 93     |
| 3) Chlorodifluoromethane   | 3.00  | 51  | 5401   | 0.063 ppbv # | 91     |
| 4) Chloromethane           | 3.14  | 50  | 1606   | 0.034 ppbv # | 75     |
| 9) Propene                 | 3.02  | 41  | 20335  | 0.495 ppbv   | 98     |
| 11) Trichlorofluoromethane | 3.95  | 101 | 5024   | 0.053 ppbv   | 84     |
| 13) Ethanol                | 3.62  | 45  | 27860  | 6.147 ppbv   | 84     |
| 15) Acetone                | 3.85  | 43  | 328016 | 4.718 ppbv # | 88     |
| 17) tert-Butyl alcohol     | 4.31  | 59  | 4008   | 0.066 ppbv # | 55     |
| 20) Methylene Chloride     | 4.35  | 84  | 29060  | 0.992 ppbv   | 98     |
| 23) Vinyl Acetate          | 5.07  | 43  | 2822   | 0.042 ppbv # | 71     |
| 25) Ethyl Acetate          | 5.69  | 43  | 8975   | 0.051 ppbv # | 81     |
| 26) Hexane                 | 5.68  | 57  | 13273  | 0.169 ppbv # | 34     |
| 29) Chloroform             | 5.75  | 83  | 246333 | 1.963 ppbv   | 99     |
| 34) 2-Butanone             | 5.25  | 43  | 258738 | 3.006 ppbv   | 93     |
| 39) 1,2-Dichloropropane    | 7.17  | 63  | 496587 | 7.567 ppbv # | 28     |
| 51) 2-Hexanone             | 10.14 | 43  | 6029   | 0.052 ppbv # | 27     |
| 52) Tetrachloroethene      | 11.22 | 164 | 8467   | 0.138 ppbv   | 92     |
| 65) tert-Butylbenzene      | 16.98 | 119 | 53884  | 0.222 ppbv # | 30     |
| 75) 1,3-Dichlorobenzene    | 16.99 | 146 | 4226   | 0.031 ppbv # | 23     |

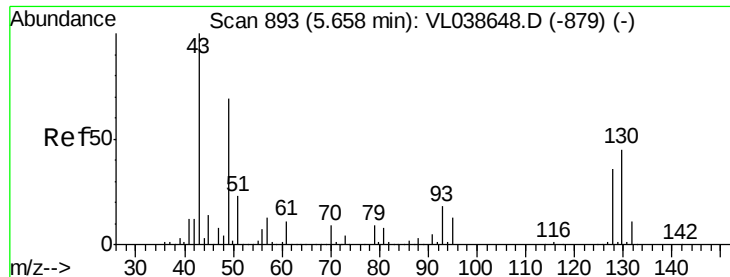
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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QLast Update : Mon Mar 21 17:09:26 2022  
Response via : Initial Calibration





#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.67 Instrument:

Delta R.T. MSVOA\_L

Lab File: ClientSampleId:

Acq: 24 Mar 2022 6:27

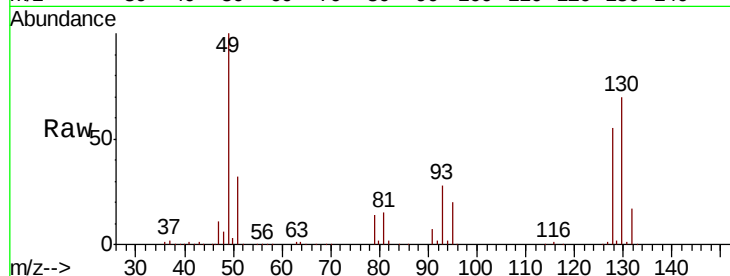
Tot Ion: 49 Resp: 805773

Ion Ratio Lower Upper

49 100

128 57.4 26.2 78.6

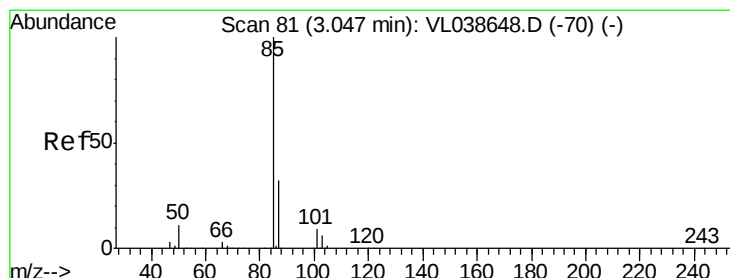
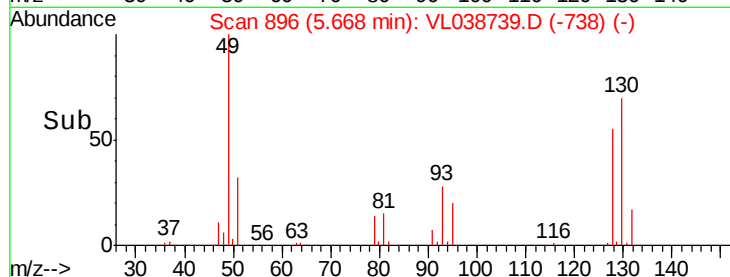
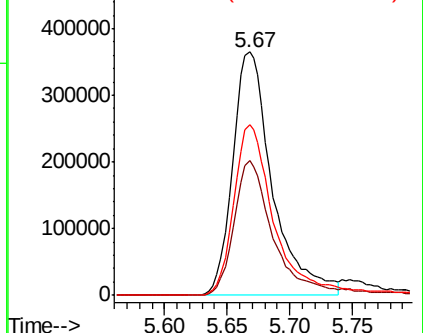
130 74.2 33.7 101.1



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



#2

Dichlorodifluoromethane

Concen: 0.106 ppbv

RT: 3.05 min Scan# 83

Delta R.T. 0.01 min

Lab File: VL038739.D

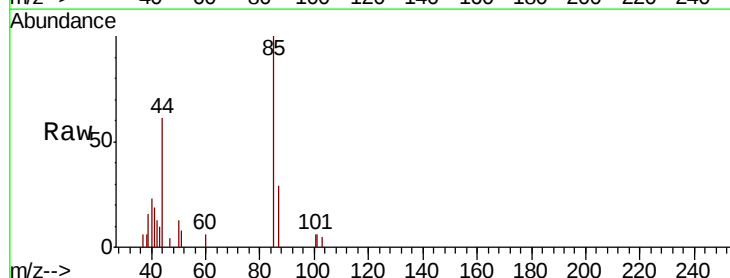
Acq: 24 Mar 2022 6:27

Tgt Ion: 85 Resp: 11467

Ion Ratio Lower Upper

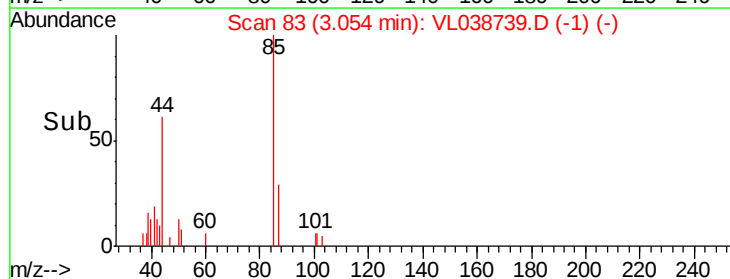
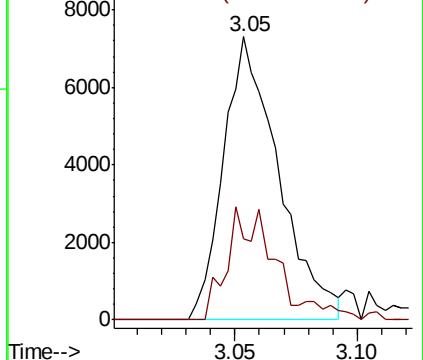
85 100

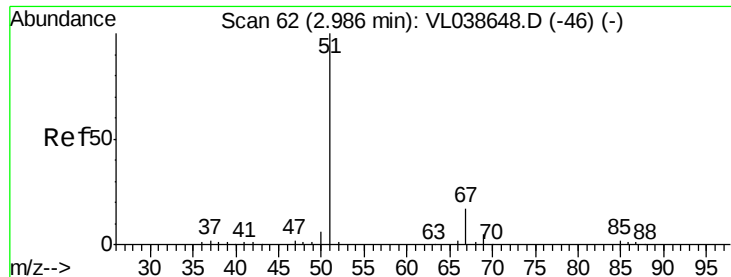
87 28.8 26.0 39.0



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0





#3

Chlorodifluoromethane

Concen: 0.063 ppbv

RT: 3.00 Instrument:

Delta R.T. MSVOA\_L

Lab File: ClientSampleId:

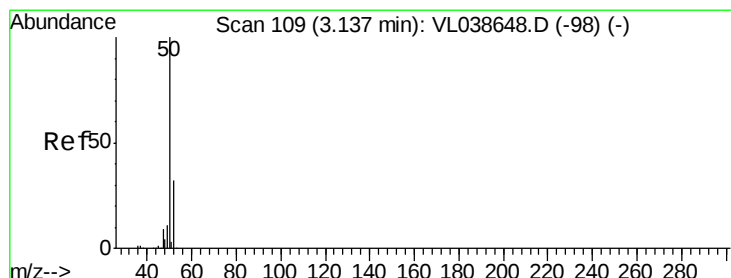
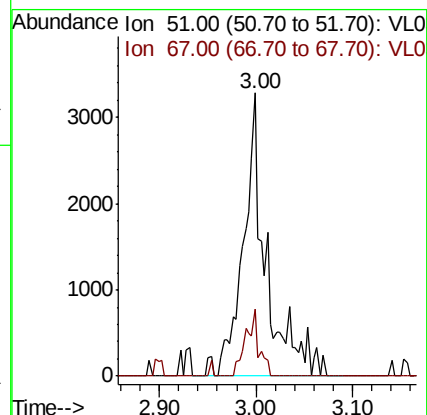
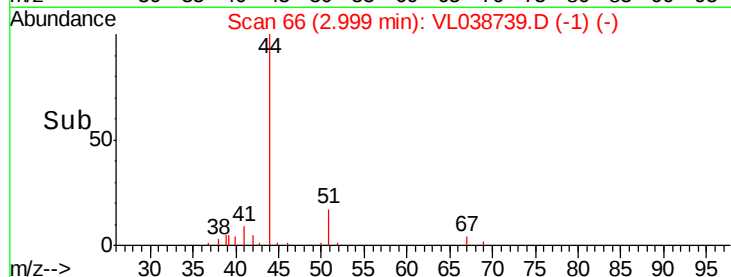
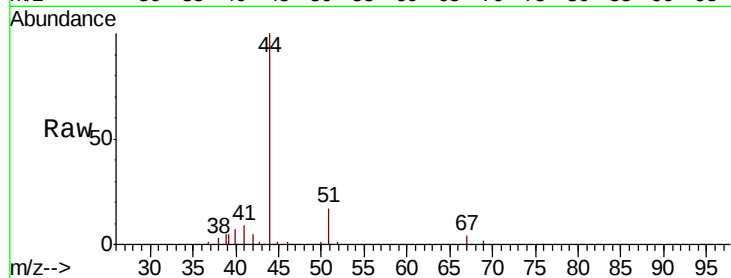
Acq: 24 Mar 2022 6:27

Tot Ion: 51 Resp: 5401

Ion Ratio Lower Upper

51 100

67 13.7 14.1 21.1#



#4

Chloromethane

Concen: 0.034 ppbv

RT: 3.14 min Scan# 111

Delta R.T. 0.01 min

Lab File: VL038739.D

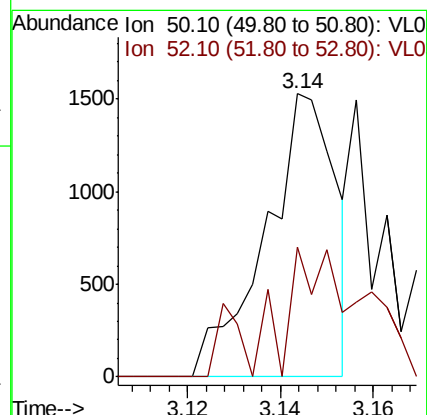
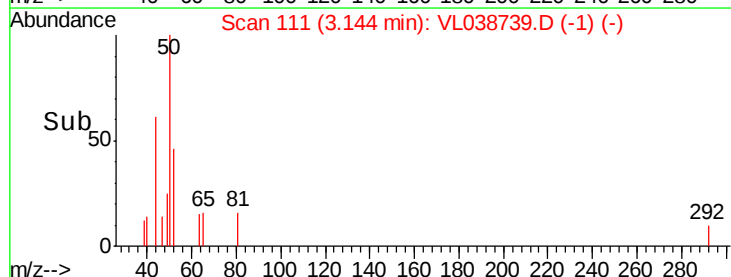
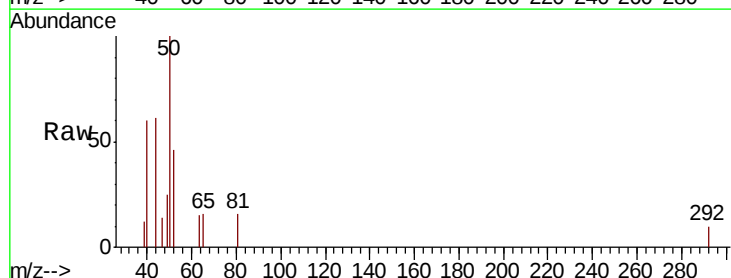
Acq: 24 Mar 2022 6:27

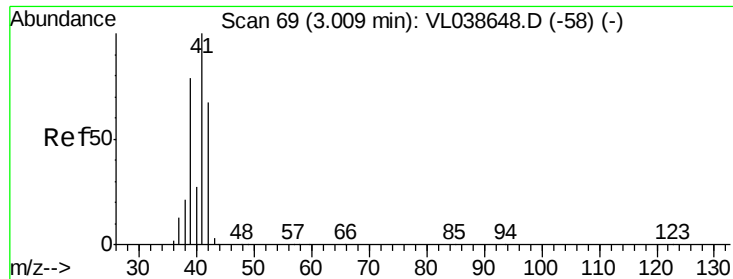
Tgt Ion: 50 Resp: 1606

Ion Ratio Lower Upper

50 100

52 46.0 25.5 38.3#





#9

Propene

Concen: 0.495 ppbv

RT: 3.02 Instrument:

Delta R.T. MSVOA\_L

Lab File: ClientSampleId:

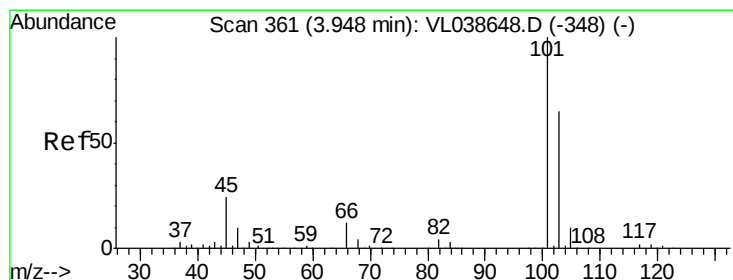
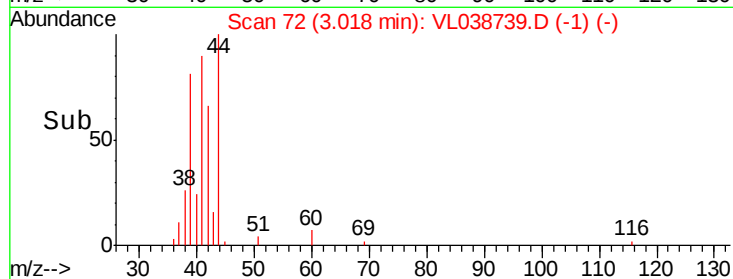
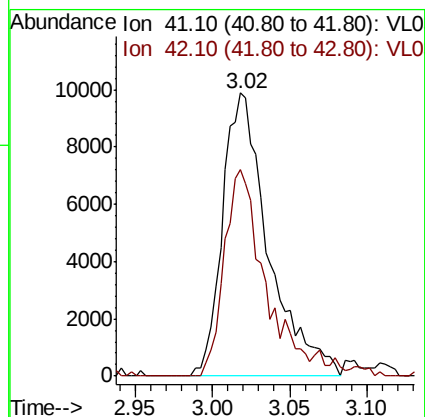
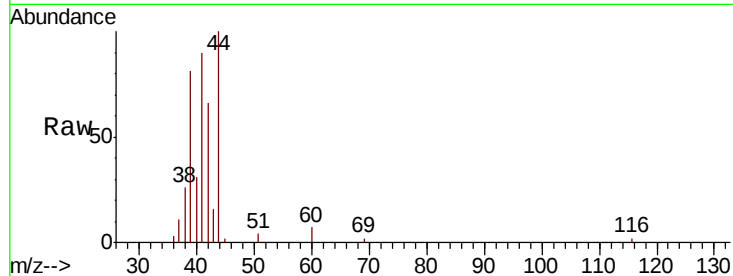
Acq: 24 Mar 2022 6:27

Tot Ion: 41 Resp: 20335

Ion Ratio Lower Upper

41 100

42 68.4 56.2 84.4



#11

Trichlorofluoromethane

Concen: 0.053 ppbv

RT: 3.95 min Scan# 363

Delta R.T. 0.01 min

Lab File: VL038739.D

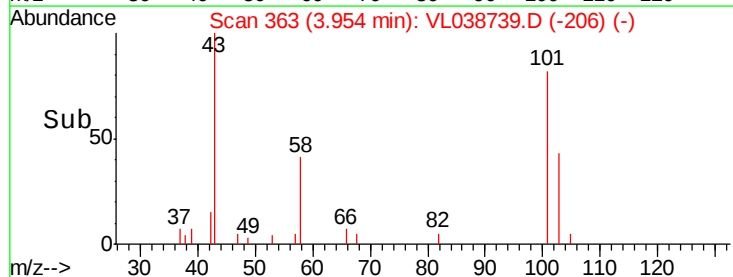
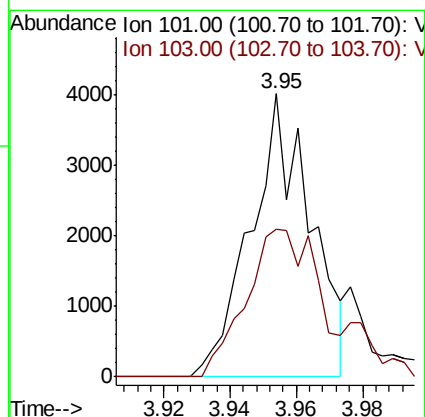
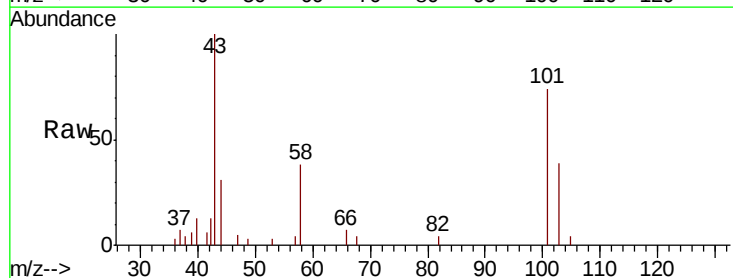
Acq: 24 Mar 2022 6:27

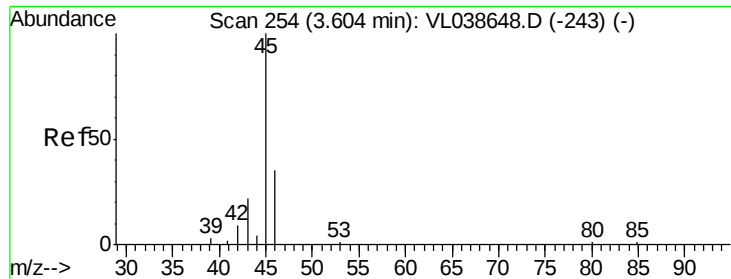
Tgt Ion: 101 Resp: 5024

Ion Ratio Lower Upper

101 100

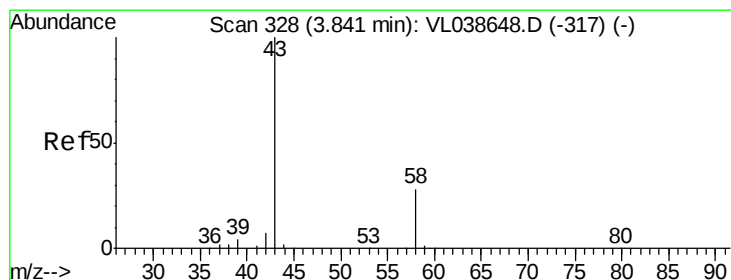
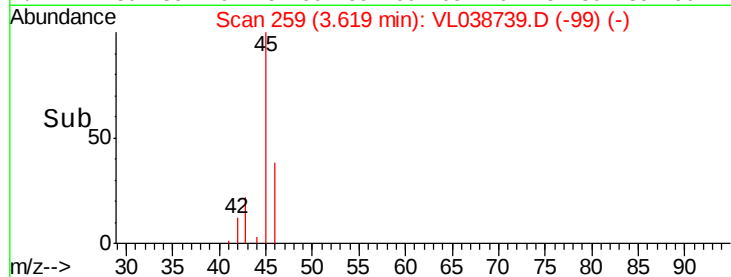
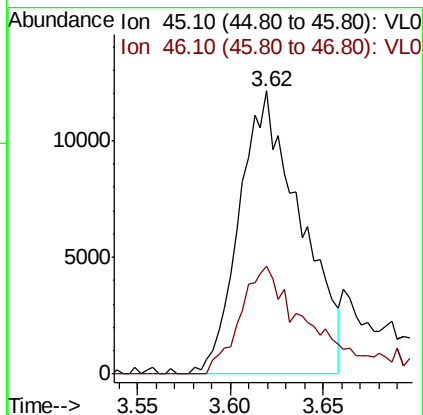
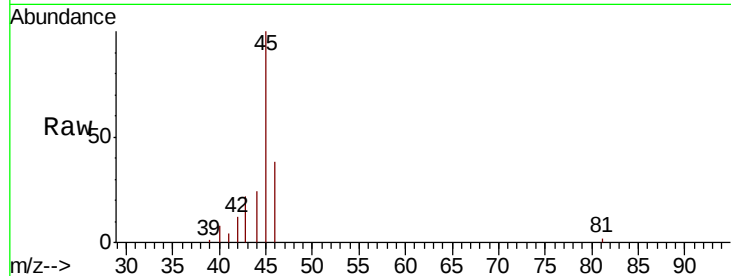
103 52.0 51.9 77.9





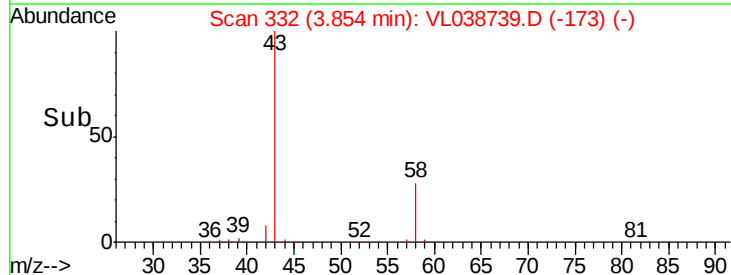
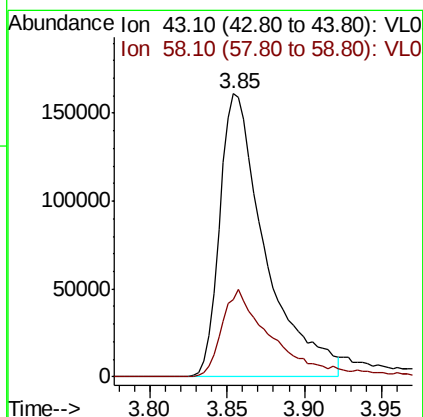
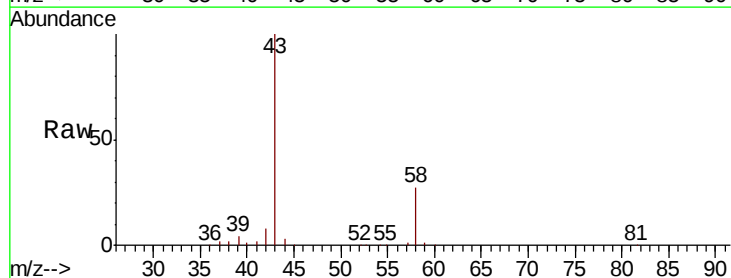
#13  
Ethanol  
Concen: 6.147 ppbv  
RT: 3.62  
Delta R.T. MSVOA\_L  
Lab File: ClientSampleId :  
Acq: 24 Mar 2022 6:27

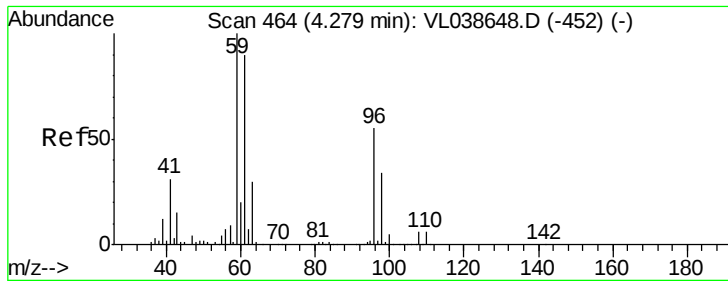
Tot Ion: 45 Resp: 27860  
Ion Ratio Lower Upper  
45 100  
46 47.4 15.1 60.5



#15  
Acetone  
Concen: 4.718 ppbv  
RT: 3.85 min Scan# 332  
Delta R.T. 0.01 min  
Lab File: VL038739.D  
Acq: 24 Mar 2022 6:27

Tgt Ion: 43 Resp: 328016  
Ion Ratio Lower Upper  
43 100  
58 35.7 23.3 34.9#





#17

tert-Butyl alcohol

Concen: 0.066 ppbv

RT: 4.31 Instrument:

Delta R.T. MSVOA\_L

Lab File: ClientSampleId:

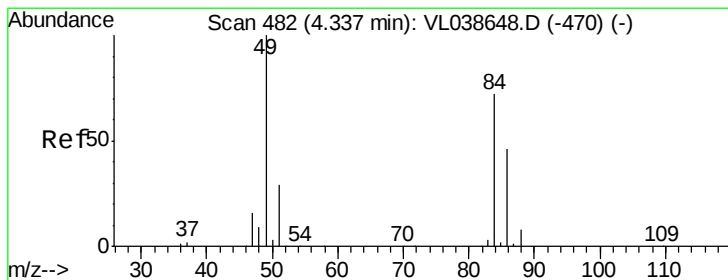
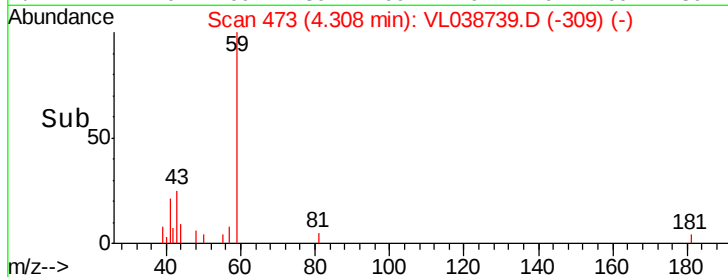
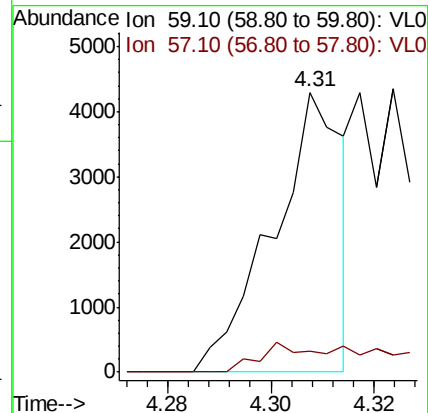
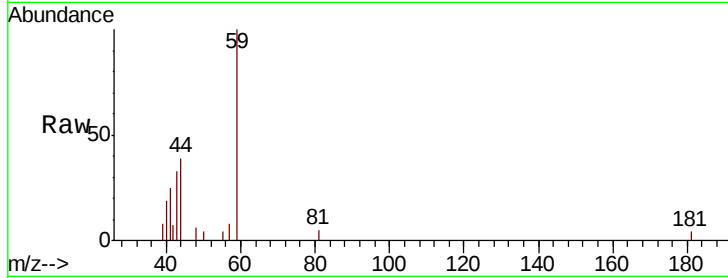
Acq: 24 Mar 2022 6:27

Tot Ion: 59 Resp: 4008

Ion Ratio Lower Upper

59 100

57 26.8 8.2 12.2#



#20

Methylene Chloride

Concen: 0.992 ppbv

RT: 4.35 min Scan# 485

Delta R.T. 0.01 min

Lab File: VL038739.D

Acq: 24 Mar 2022 6:27

Tgt Ion: 84 Resp: 29060

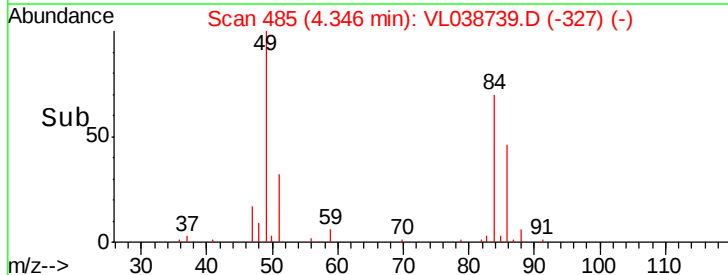
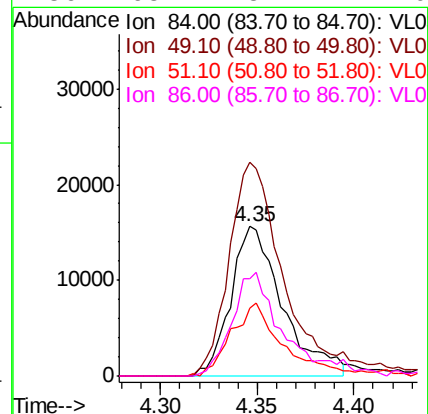
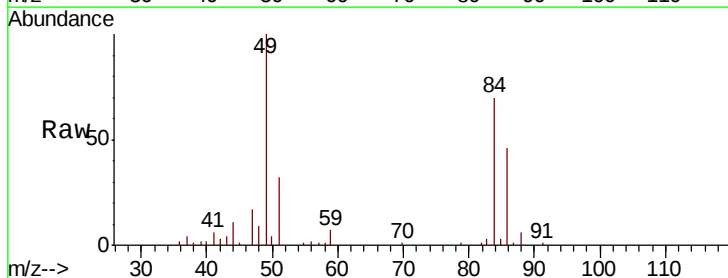
Ion Ratio Lower Upper

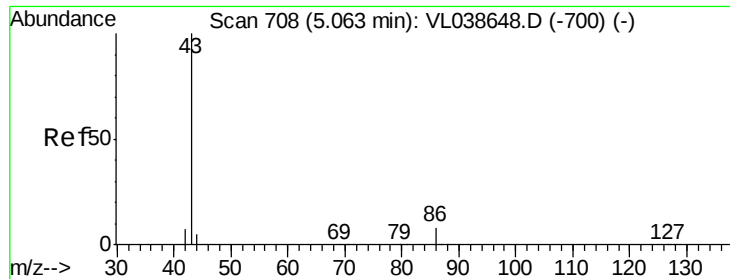
84 100

49 141.8 111.2 166.8

51 43.2 32.8 49.2

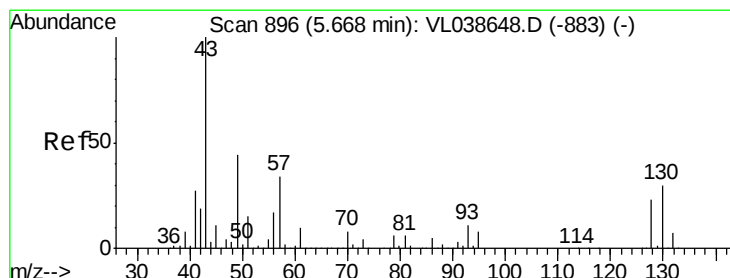
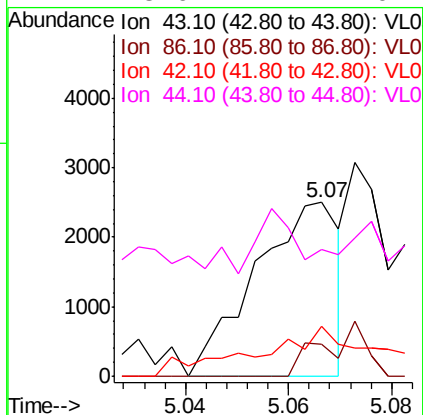
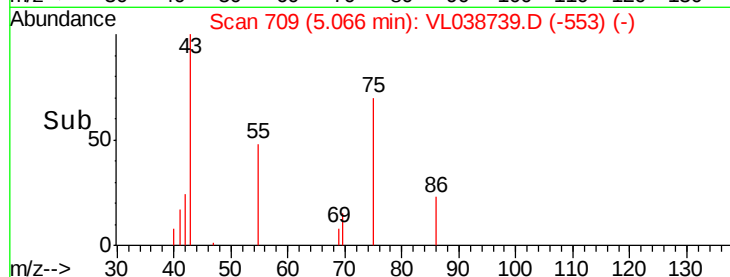
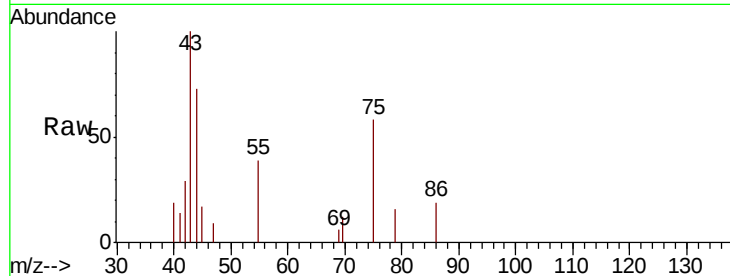
86 65.1 51.4 77.0





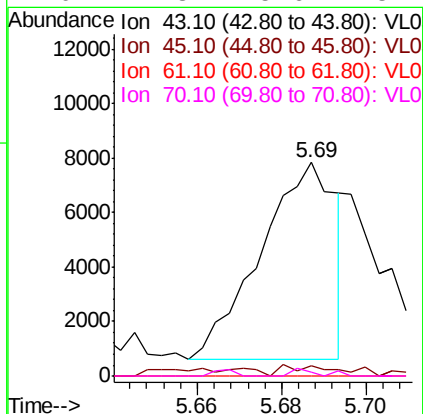
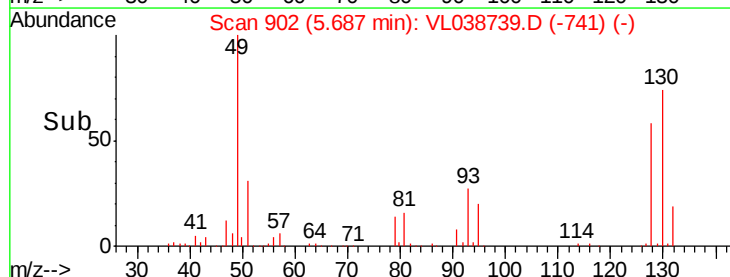
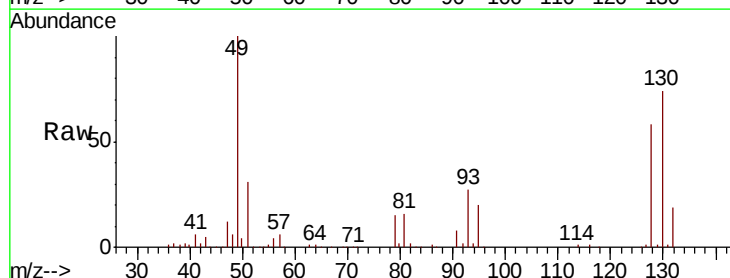
#23  
 Vinyl Acetate  
 Concen: 0.042 ppbv  
 RT: 5.07  
 Delta R.T. MSVOA\_L  
 Lab File: ClientSampleId :  
 Acq: 24 Mar 2022 6:27

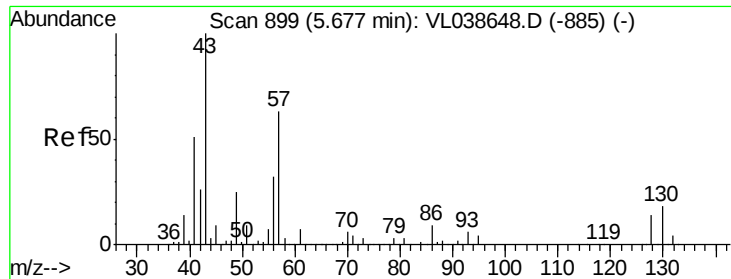
|          |       |       |       |
|----------|-------|-------|-------|
| Tot Ion: | 43    | Resp: | 2822  |
| Ion      | Ratio | Lower | Upper |
| 43       | 100   |       |       |
| 86       | 18.6  | 5.6   | 8.4#  |
| 42       | 22.8  | 6.8   | 10.2# |
| 44       | 3.6   | 4.2   | 6.2#  |



#25  
 Ethyl Acetate  
 Concen: 0.051 ppbv  
 RT: 5.69 min Scan# 902  
 Delta R.T. 0.02 min  
 Lab File: VL038739.D  
 Acq: 24 Mar 2022 6:27

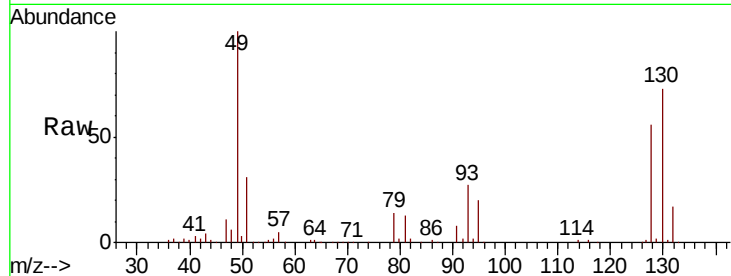
|          |       |       |       |
|----------|-------|-------|-------|
| Tgt Ion: | 43    | Resp: | 8975  |
| Ion      | Ratio | Lower | Upper |
| 43       | 100   |       |       |
| 45       | 4.9   | 8.2   | 12.4# |
| 61       | 0.0   | 8.3   | 12.5# |
| 70       | 2.3   | 5.6   | 8.4#  |





#26  
Hexane  
Concen: 0.169 ppbv  
RT: 5.68  
Delta R.T. MSVOA\_L  
Lab File: ClientSampleId :  
Acq: 24 Mar 2022 6:27

| Tot Ion   | 57    | Resp  | 13273  |
|-----------|-------|-------|--------|
| Ion Ratio | Lower | Upper |        |
| 57        | 100   |       |        |
| 41        | 138.8 | 67.0  | 100.4# |
| 43        | 121.4 | 184.2 | 276.2# |
| 56        | 0.0   | 42.6  | 64.0#  |



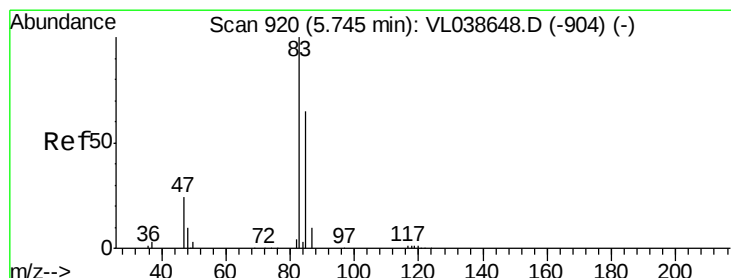
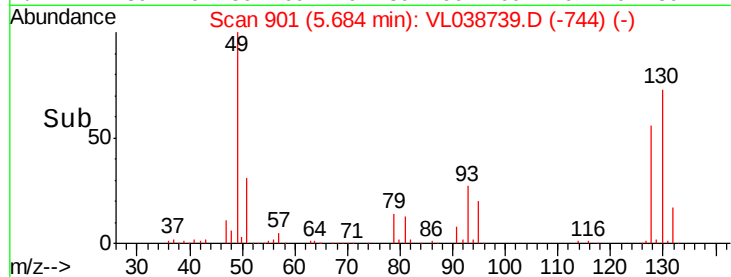
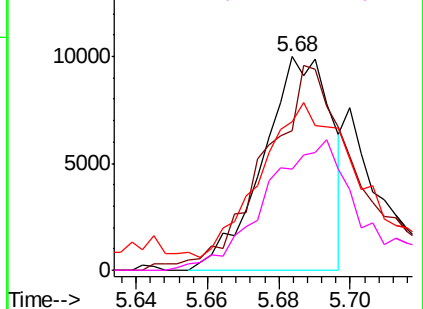
Abundance

Ion 57.10 (56.80 to 57.80): VL0

Ion 41.10 (40.80 to 41.80): VL0

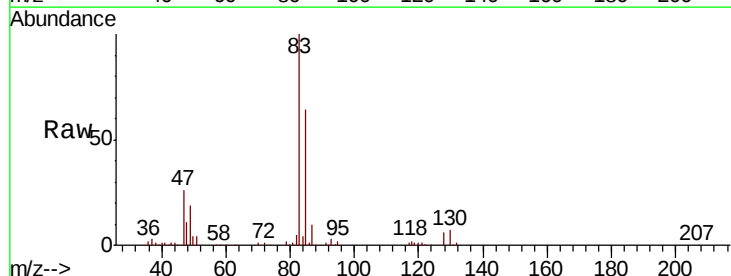
Ion 43.10 (42.80 to 43.80): VL0

Ion 56.10 (55.80 to 56.80): VL0



#29  
Chloroform  
Concen: 1.963 ppbv  
RT: 5.75 min Scan# 922  
Delta R.T. 0.01 min  
Lab File: VL038739.D  
Acq: 24 Mar 2022 6:27

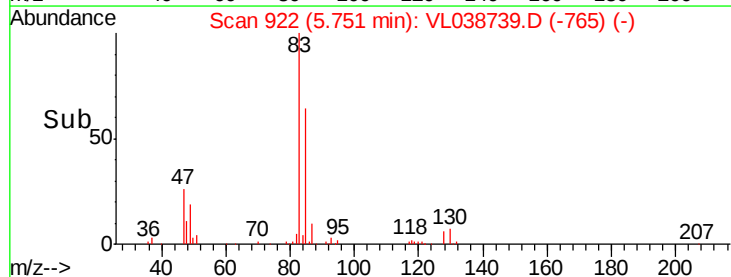
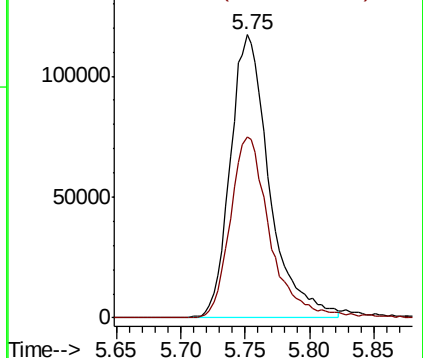
| Tgt Ion   | 83    | Resp  | 246333 |
|-----------|-------|-------|--------|
| Ion Ratio | Lower | Upper |        |
| 83        | 100   |       |        |
| 85        | 64.0  | 51.7  | 77.5   |

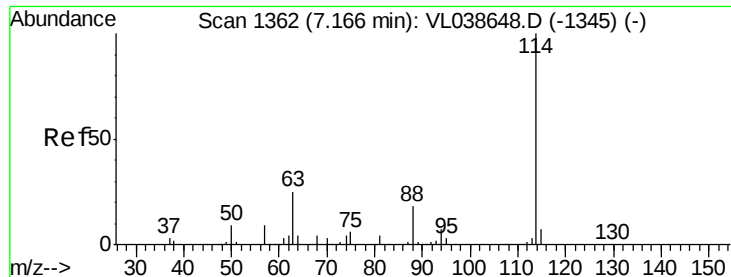


Abundance

Ion 83.00 (82.70 to 83.70): VL0

Ion 85.00 (84.70 to 85.70): VL0

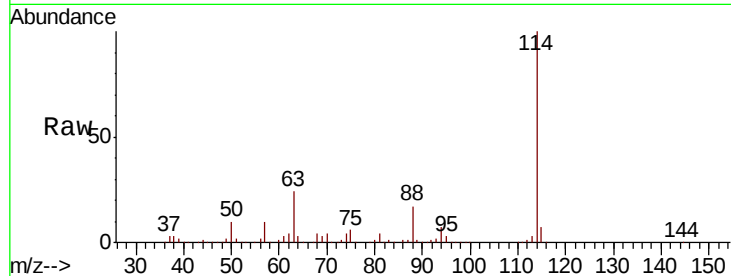




#33  
 1,4-Difluorobenzene  
 Concen: 10.000 ppbv  
 RT: 7.17  
 Delta R.T. MSVOA\_L  
 Lab File: ClientSampleId :  
 C0P92DL  
 Acq: 24 Mar 2022 6:27

Tot Ion:114 Resp: 2174992

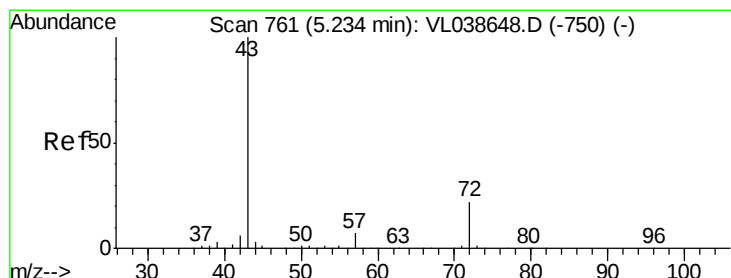
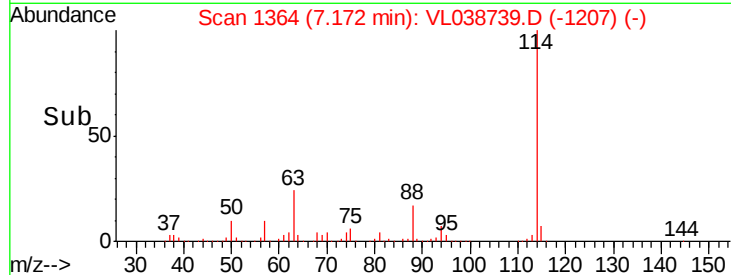
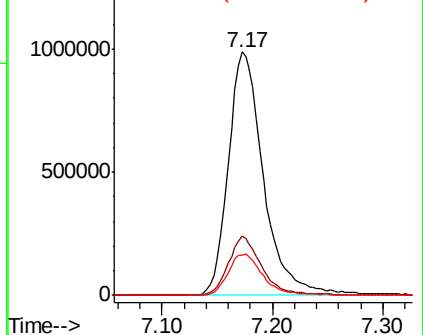
| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 114 | 100   |       |       |
| 63  | 23.5  | 19.4  | 29.0  |
| 88  | 17.2  | 13.9  | 20.9  |



Abundance Ion 114.10 (113.80 to 114.80): V

Ion 63.10 (62.80 to 63.80): VL0

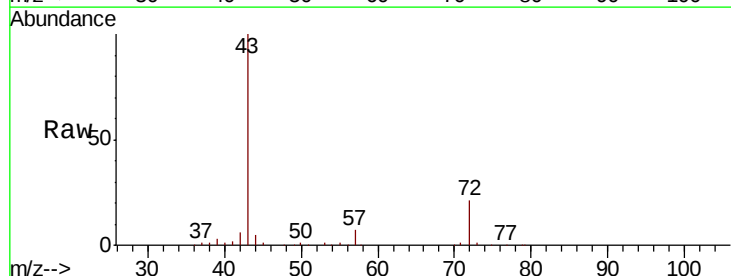
Ion 88.10 (87.80 to 88.80): VL0



#34  
 2-Butanone  
 Concen: 3.006 ppbv  
 RT: 5.25 min Scan# 766  
 Delta R.T. 0.02 min  
 Lab File: VL038739.D  
 Acq: 24 Mar 2022 6:27

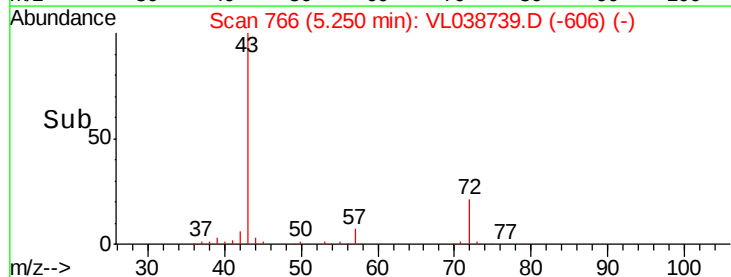
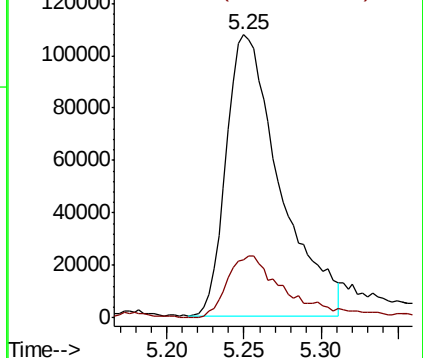
Tgt Ion: 43 Resp: 258738

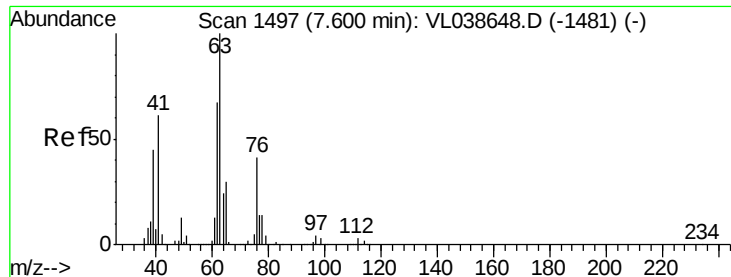
| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 43  | 100   |       |       |
| 72  | 25.6  | 17.8  | 26.8  |



Abundance Ion 43.10 (42.80 to 43.80): VL0

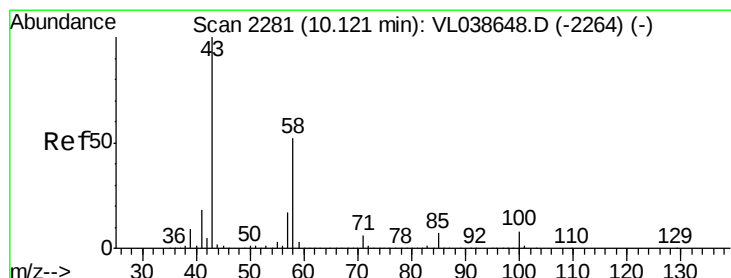
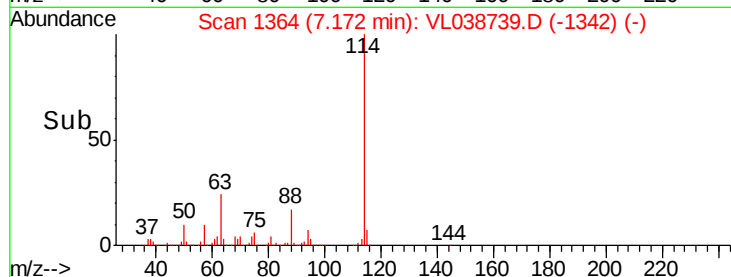
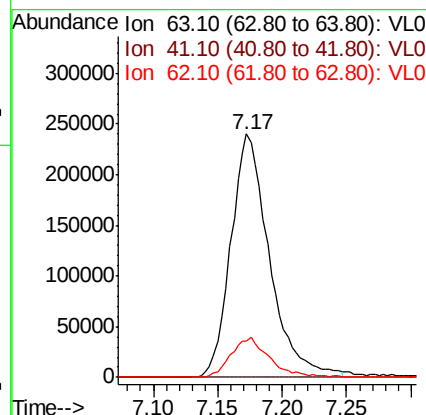
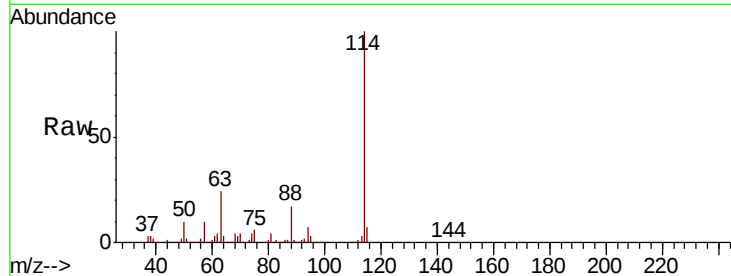
Ion 72.10 (71.80 to 72.80): VL0





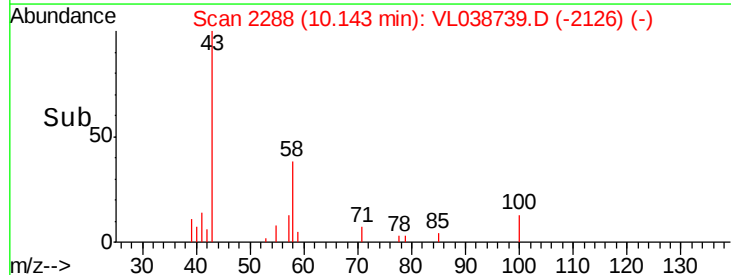
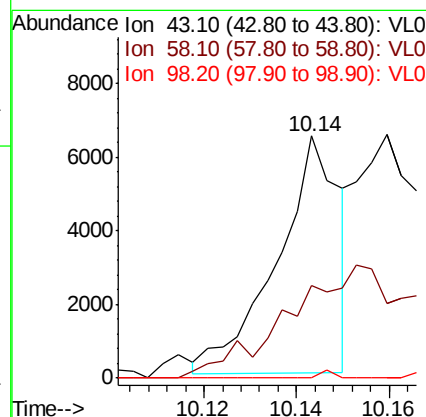
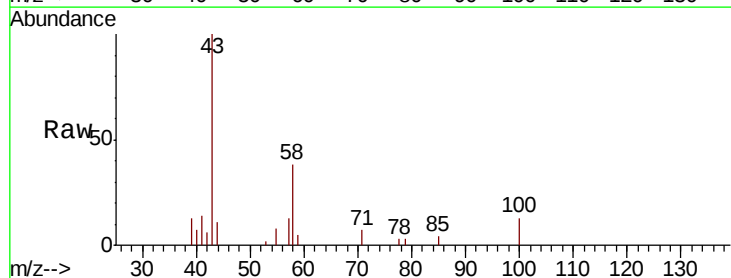
#39  
 1,2-Dichloropropane  
 Concen: 7.567 ppbv  
 RT: 7.17  
 Delta R.T. MSVOA\_L  
 Lab File: ClientSampleId :  
 C0P92DL  
 Acq: 24 Mar 2022 6:27

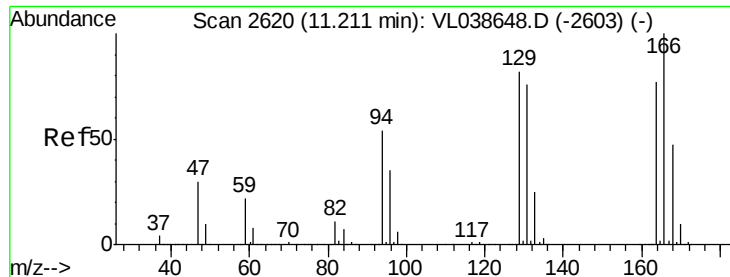
Tot Ion: 63 Resp: 496587  
 Ion Ratio Lower Upper  
 63 100  
 41 0.2 49.0 73.6#  
 62 14.9 53.9 80.9#



#51  
 2-Hexanone  
 Concen: 0.052 ppbv  
 RT: 10.14 min Scan# 2288  
 Delta R.T. 0.02 min  
 Lab File: VL038739.D  
 Acq: 24 Mar 2022 6:27

Tgt Ion: 43 Resp: 6029  
 Ion Ratio Lower Upper  
 43 100  
 58 0.0 41.2 61.8#  
 98 0.0 0.2 0.4#





#52

Tetrachloroethene

Concen: 0.138 ppbv

RT: 11.22

Delta R.T. MSVOA\_L

Lab File: ClientSampleId:

Acq: 24 Mar 2022 6:27

Tot Ion:164 Resp: 8467

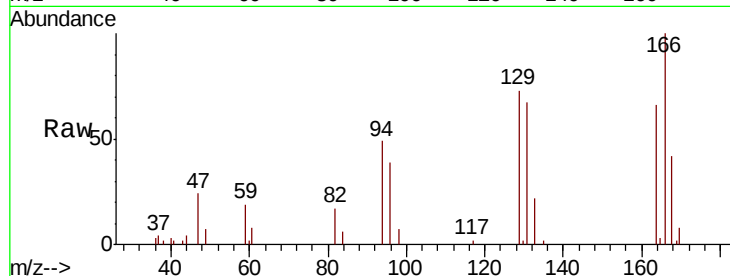
Ion Ratio Lower Upper

164 100

166 145.0 103.3 154.9

129 113.5 85.2 127.8

131 97.6 78.3 117.5

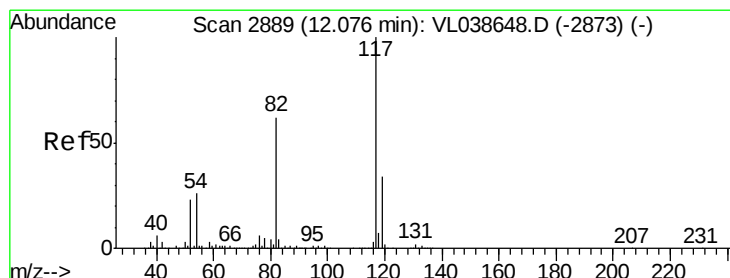
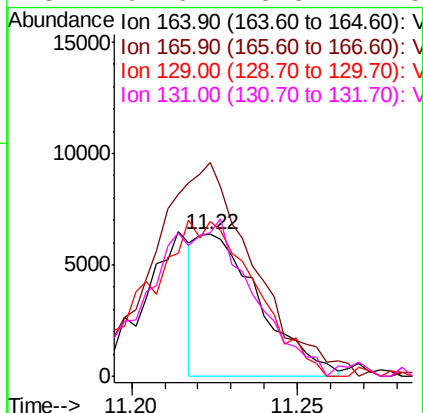
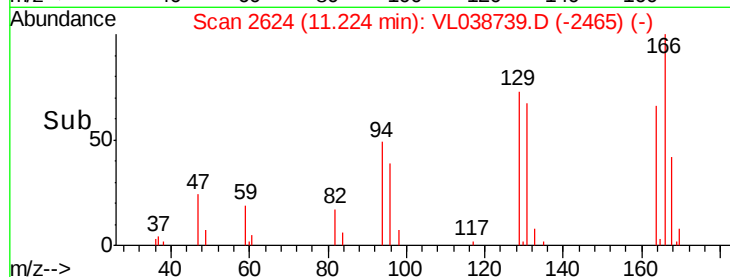


Abundance Ion 163.90 (163.60 to 164.60): V

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



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.08 min Scan# 2891

Delta R.T. 0.01 min

Lab File: VL038739.D

Acq: 24 Mar 2022 6:27

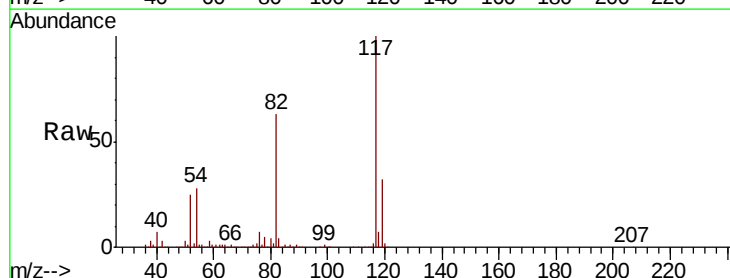
Tgt Ion:117 Resp: 1854397

Ion Ratio Lower Upper

117 100

82 65.1 51.6 77.4

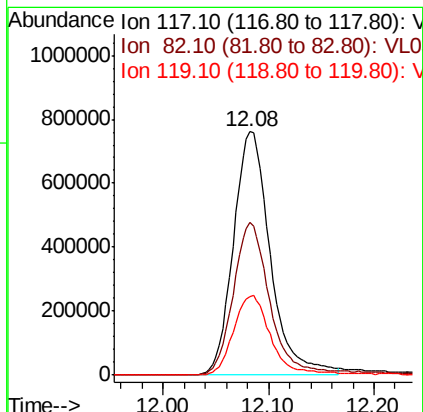
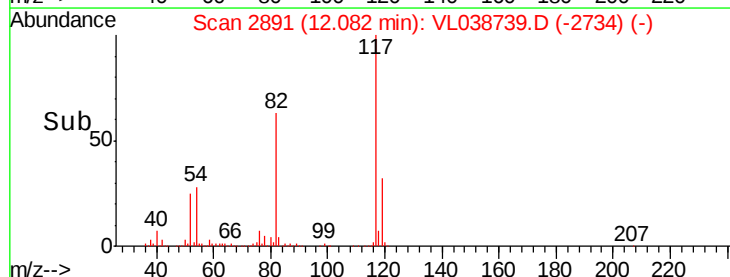
119 34.0 26.9 40.3

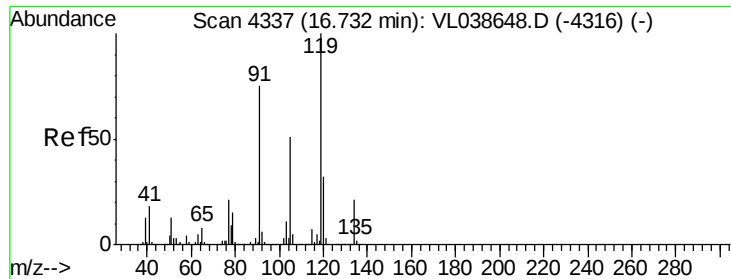


Abundance Ion 117.10 (116.80 to 117.80): V

Ion 82.10 (81.80 to 82.80): V

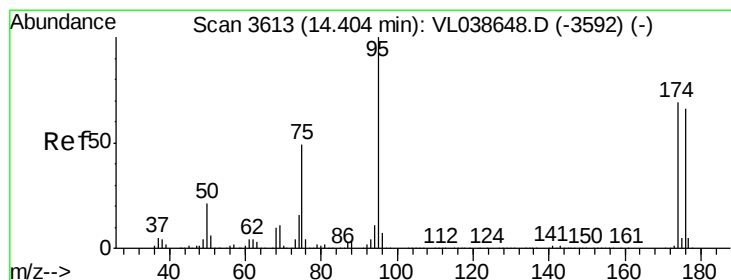
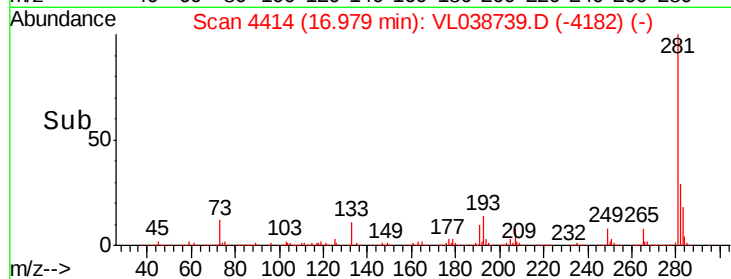
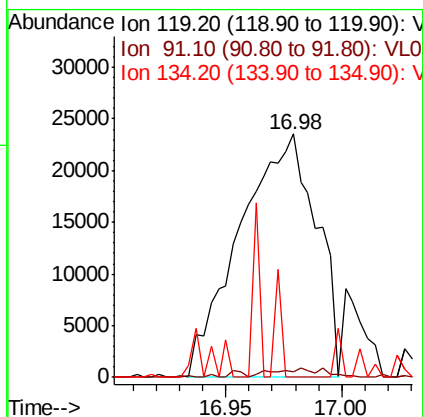
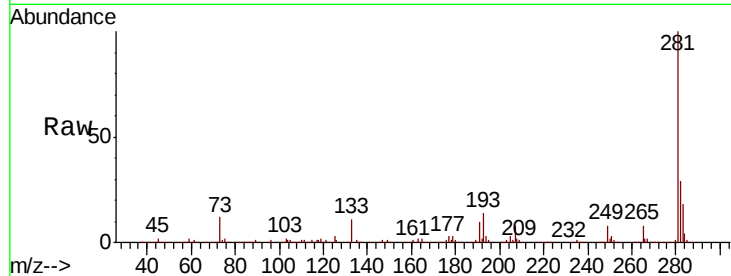
Ion 119.10 (118.80 to 119.80): V





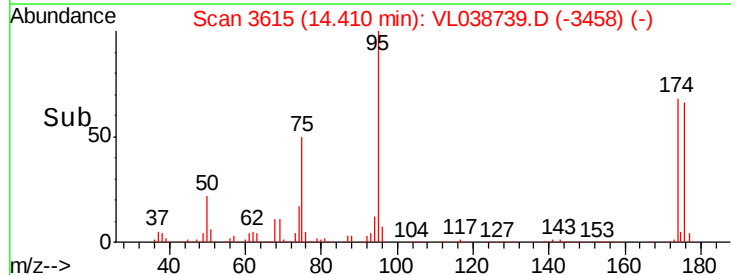
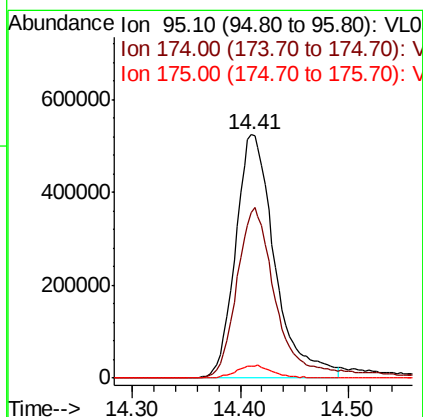
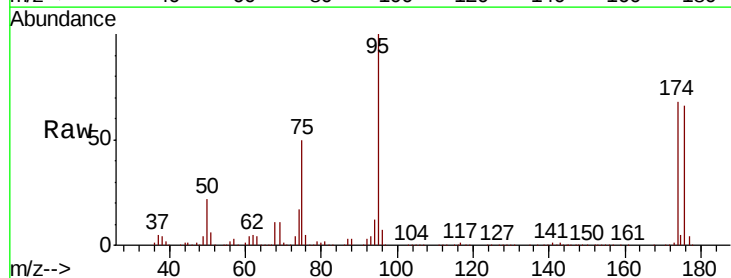
#65  
tert-Butylbenzene  
Concen: 0.222 ppbv  
RT: 16.98  
Delta R.T. MSVOA\_L  
Lab File: ClientSampleId :  
Acq: 24 Mar 2022 6:27

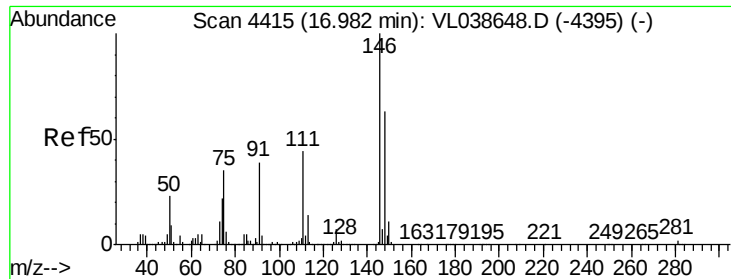
Tot Ion: 119 Resp: 53884  
Ion Ratio Lower Upper  
119 100  
91 3.2 61.2 91.8#  
134 14.4 16.3 24.5#



#68  
1-Bromo-4-Fluorobenzene  
Concen: 9.344 ppbv  
RT: 14.41 min Scan# 3615  
Delta R.T. 0.01 min  
Lab File: VL038739.D  
Acq: 24 Mar 2022 6:27

Tgt Ion: 95 Resp: 1328409  
Ion Ratio Lower Upper  
95 100  
174 73.1 56.1 84.1  
175 5.4 4.2 6.2





#75

1,3-Dichlorobenzene

Concen: 0.031 ppbv

RT: 16.99

Delta R.T: MSVOA\_L

Lab File: ClientSampleId :

Acq: 24 Mar 2022 0.27

Tot Ion:146 Resp: 4226

Ion Ratio Lower Upper

146 100

111 0.0 22.2 66.6#

148 0.0 32.5 97.5#

