

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL031819\  
 Data File : VL033366.D  
 Acq On : 18 Mar 2019 20:04  
 Operator : SY/AP  
 Sample : K1827-09  
 Misc : 400ml/MSVOA L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 A-9

Manual Integrations  
 APPROVED

MMDadoda  
 3/21/2019 12:14:45 PM

Quant Time: Mar 20 11:04:38 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL031519AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Fri Mar 1  
 QLast Update : Fri Mar 15 14:52:14 2019  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.76  | 49   | 704171   | 10.00 | ppbv  | 0.00     |
| 33) 1,4-Difluorobenzene | 7.29  | 114  | 1545167  | 10.00 | ppbv  | -0.01    |
| 55) Chlorobenzene-d5    | 12.24 | 117  | 1622865  | 10.00 | ppbv  | 0.00     |

|                             |        |       |          |          |      |         |
|-----------------------------|--------|-------|----------|----------|------|---------|
| System Monitoring Compounds |        |       |          |          |      |         |
| 68) 1-Bromo-4-Fluorobenzene | 14.57  | 95    | 1316882  | 10.95    | ppbv | 0.00    |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 109.50% |

| Target Compounds           | R.T.  | QIon | Response | Conc    | Units  | Ovalue |
|----------------------------|-------|------|----------|---------|--------|--------|
| 2) Dichlorodifluoromethane | 3.07  | 85   | 58688    | 0.474   | ppbv   | 97     |
| 3) Chlorodifluoromethane   | 3.01  | 51   | 115226m  | 1.426   | ppbv   |        |
| 4) Chloromethane           | 3.17  | 50   | 24073    | 0.550   | ppbv # | 85     |
| 9) Propene                 | 3.05  | 41   | 39683m   | 1.100   | ppbv   |        |
| 10) Heptane                | 8.24  | 43   | 81022    | 0.905   | ppbv   | 99     |
| 11) Trichlorofluoromethane | 4.00  | 101  | 31852    | 0.258   | ppbv   | 92     |
| 13) Ethanol                | 3.65  | 45   | 2014116  | 117.100 | ppbv   | 98     |
| 15) Acetone                | 3.90  | 43   | 560209   | 5.118   | ppbv   | 100    |
| 17) tert-Butyl alcohol     | 4.37  | 59   | 16691m   | 1.084   | ppbv   |        |
| 19) Isopropyl Alcohol      | 4.03  | 45   | 749483   | 14.394  | ppbv   | 99     |
| 20) Methylene Chloride     | 4.41  | 84   | 19352m   | 0.542   | ppbv   |        |
| 26) Hexane                 | 5.78  | 57   | 131610   | 1.850   | ppbv   | 84     |
| 34) 2-Butanone             | 5.33  | 43   | 85196    | 0.840   | ppbv   | 97     |
| 35) Carbon Tetrachloride   | 7.14  | 117  | 8723m    | 0.080   | ppbv   |        |
| 36) Benzene                | 7.00  | 78   | 42317    | 0.306   | ppbv   | 96     |
| 38) Trichloroethene        | 7.95  | 130  | 2813m    | 0.054   | ppbv   |        |
| 44) 2,2,4-Trimethylpentane | 7.98  | 57   | 33862m   | 0.148   | ppbv   |        |
| 50) 4-Methyl-2-Pentanone   | 8.88  | 43   | 91640    | 0.639   | ppbv   | 96     |
| 52) Tetrachloroethene      | 11.36 | 164  | 7674m    | 0.133   | ppbv   |        |
| 53) Toluene                | 9.94  | 91   | 2877949  | 18.316  | ppbv   | 100    |
| 58) Ethyl Benzene          | 12.86 | 91   | 86030    | 0.375   | ppbv   | 94     |
| 59) m/p-Xylene             | 13.12 | 91   | 84839m   | 0.430   | ppbv   |        |
| 60) o-Xylene               | 13.85 | 91   | 29361m   | 0.153   | ppbv   |        |
| 61) Styrene                | 13.68 | 104  | 14832m   | 0.110   | ppbv   |        |
| 74) 1,2,4-Trimethylbenzene | 16.93 | 105  | 31781m   | 0.141   | ppbv   |        |

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

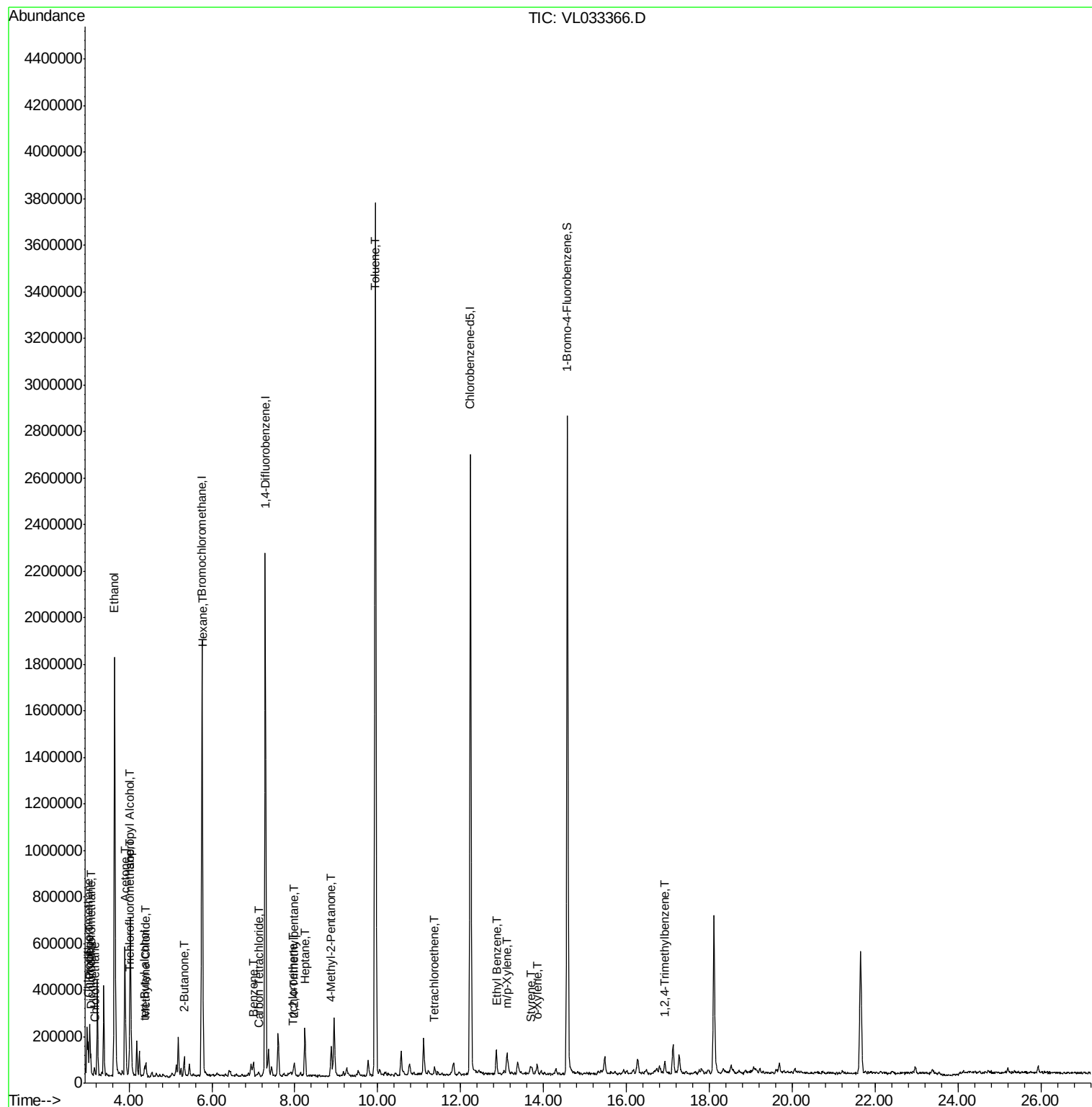
Data Path : Z:\V0ASRV\HPCHEM1\MSVOA L\DATA\VL031819\  
Data File : VL033366.D  
Acq On : 18 Mar 2019 20:04  
Operator : SY/AP  
Sample : K1827-09  
Misc : 400ml/MSVOA L  
ALS Vial : 1 Sample Multiplier: 1

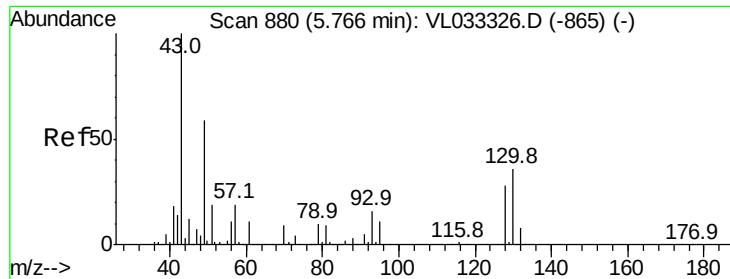
Instrument :  
MSVOA\_L  
ClientSampleId :  
A-9

Manual Integrations  
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Quant Time: Mar 20 11:04:38 2019  
Quant Method : Z:\V0ASRV\HPCHEM1\MSVOA L\METHODS\VL031519AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Fri Mar  
QLast Update : Fri Mar 15 14:52:14 2019  
Response via : Initial Calibration





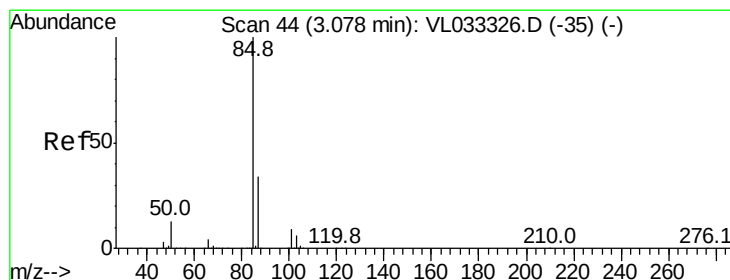
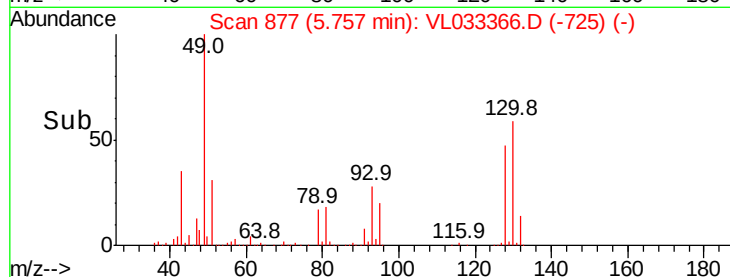
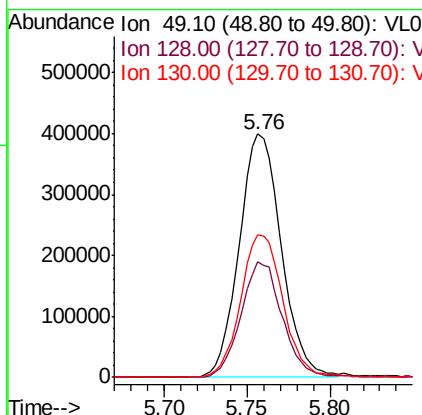
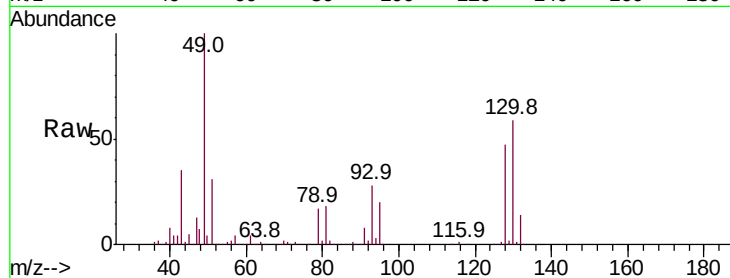
#1  
 Bromochloromethane  
 Concen: 10.000 ppbv  
 RT: 5.76 min Scan# 877  
 Delta R.T. -0.01 min  
 Lab File: VL033366.D  
 Acq: 18 Mar 2019 20:04

Instrument :  
 MSVOA\_L  
 ClientSampled :  
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| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 49      | 100   |       |       |
| 128     | 46.9  | 23.5  | 70.6  |
| 130     | 59.4  | 30.1  | 90.3  |

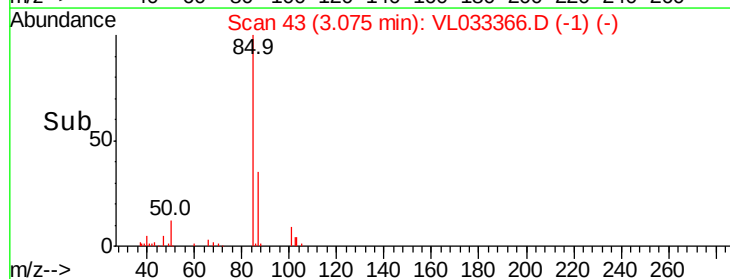
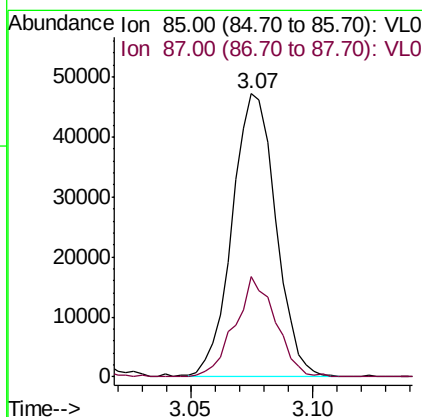
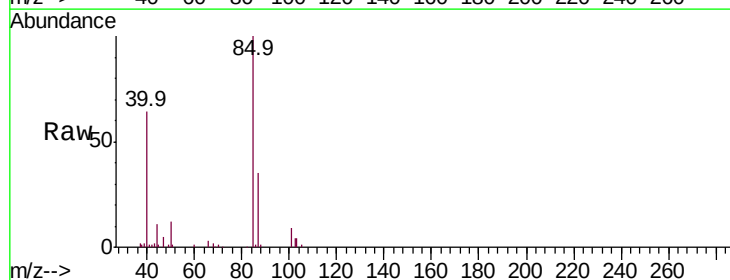
Manual Integrations  
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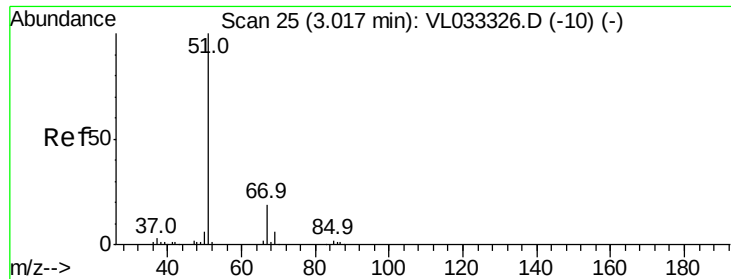
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#2  
 Dichlorodifluoromethane  
 Concen: 0.474 ppbv  
 RT: 3.07 min Scan# 43  
 Delta R.T. -0.00 min  
 Lab File: VL033366.D  
 Acq: 18 Mar 2019 20:04

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 85      | 100   |       |       |
| 87      | 35.5  | 26.9  | 40.3  |





#3

Chlorodifluoromethane

Concen: 1.426 ppbv

RT: 3.01 min Scan# 24

Delta R.T. -0.00 min

Lab File: VL033366.D

Acq: 18 Mar 2019 20:04

Instrument :

MSVOA\_L

ClientSampled :

A-9

Tot Ion: 51 Resp: 115226

Ion Ratio Lower Upper

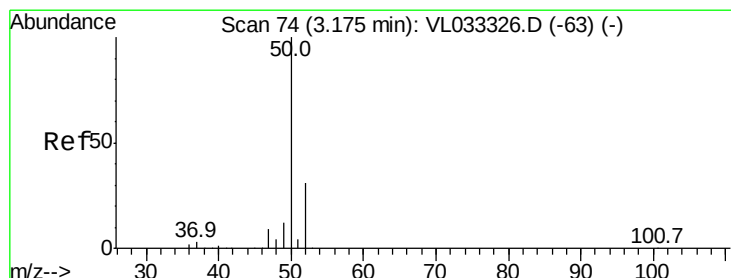
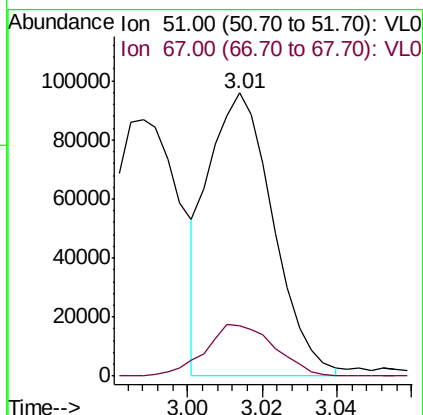
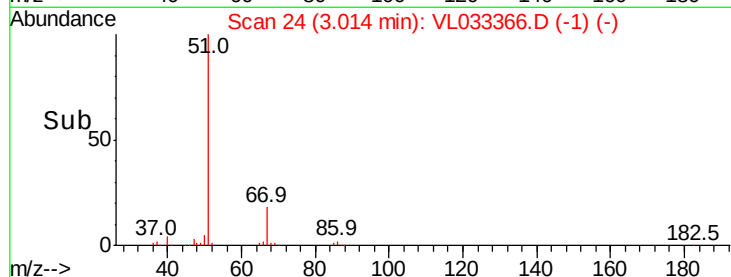
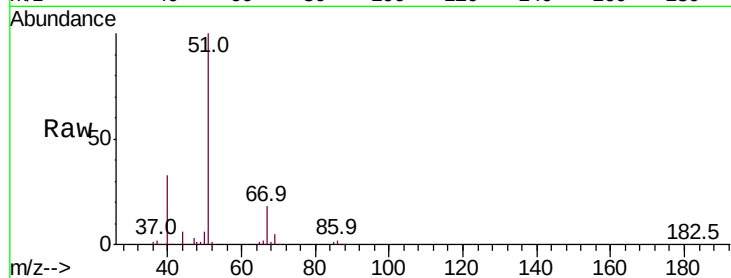
51 100

67 19.8 14.9 22.3

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#4

Chloromethane

Concen: 0.550 ppbv

RT: 3.17 min Scan# 74

Delta R.T. -0.00 min

Lab File: VL033366.D

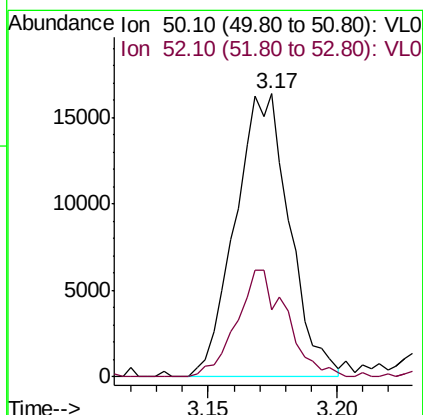
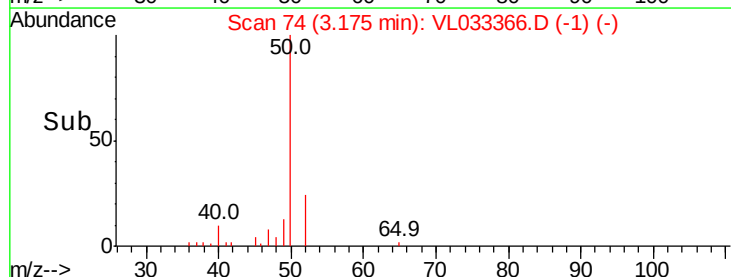
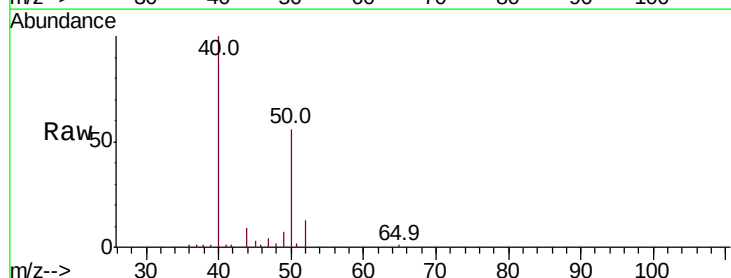
Acq: 18 Mar 2019 20:04

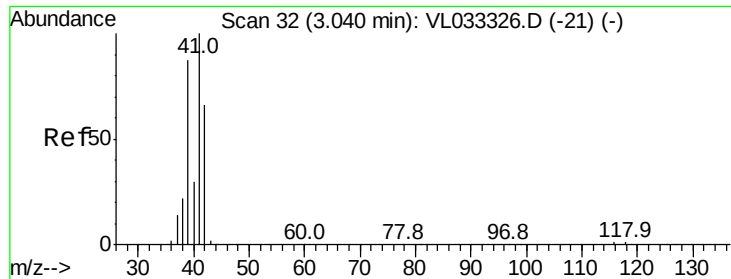
Tgt Ion: 50 Resp: 24073

Ion Ratio Lower Upper

50 100

52 22.8 25.0 37.6#





#9

Propene

Concen: 1.100 ppbv m

RT: 3.05 min Scan# 34

Delta R.T. 0.01 min

Lab File: VL033366.D

Acq: 18 Mar 2019 20:04

Instrument :

MSVOA\_L

ClientSampleId :

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Tot Ion: 41 Resp: 39683

Ion Ratio Lower Upper

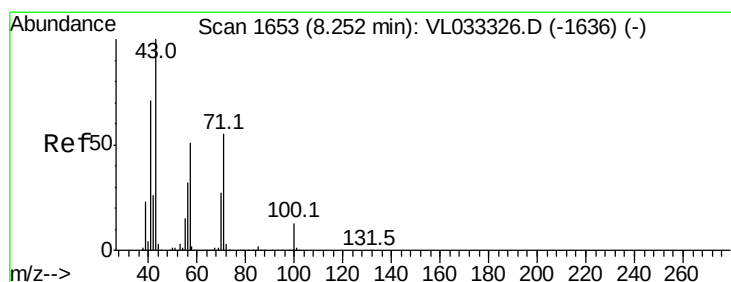
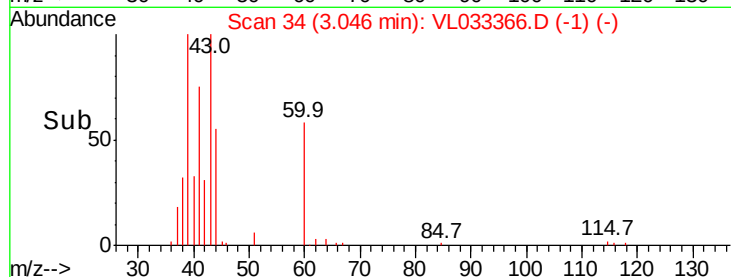
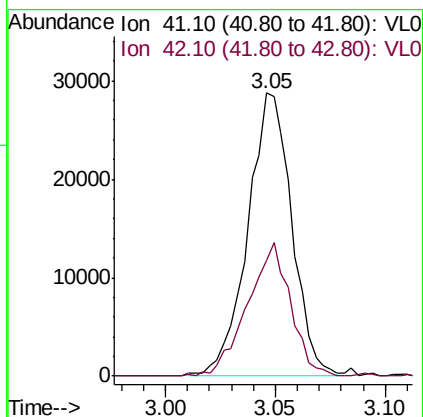
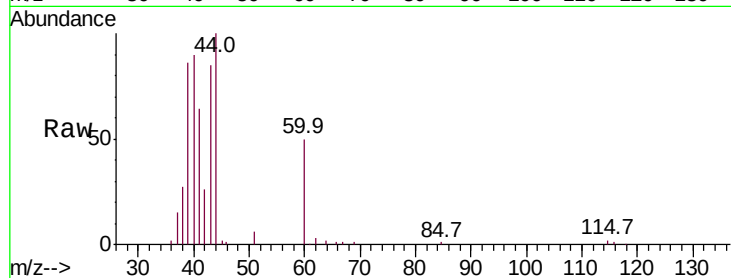
41 100

42 172.5 55.2 82.8#

Manual Integrations  
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#10

Heptane

Concen: 0.905 ppbv

RT: 8.24 min Scan# 1650

Delta R.T. -0.01 min

Lab File: VL033366.D

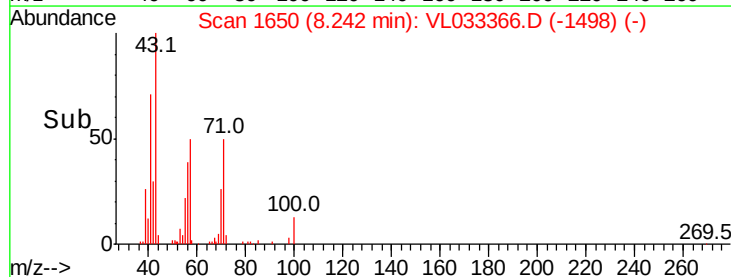
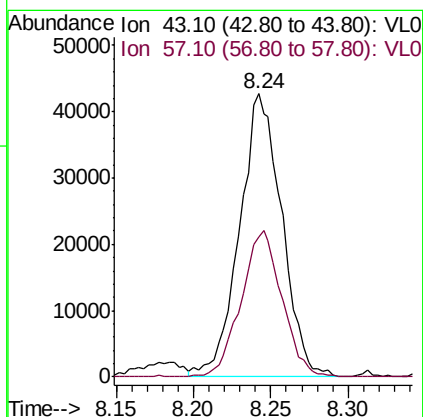
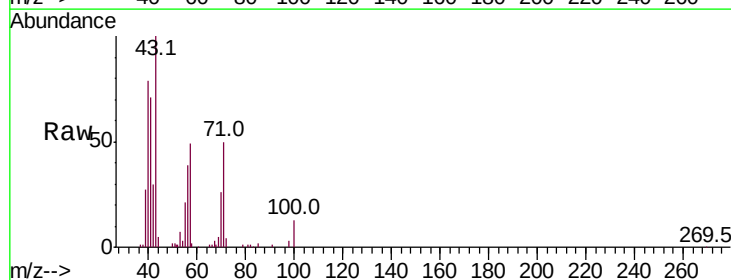
Acq: 18 Mar 2019 20:04

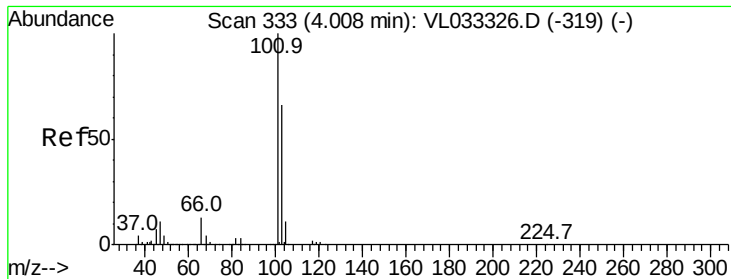
Tgt Ion: 43 Resp: 81022

Ion Ratio Lower Upper

43 100

57 50.0 40.4 60.6





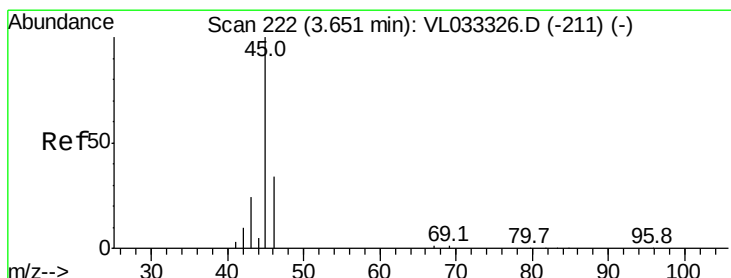
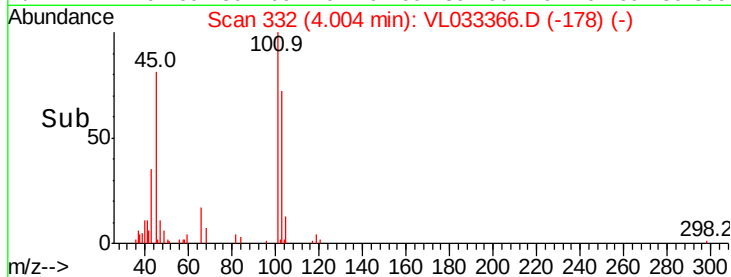
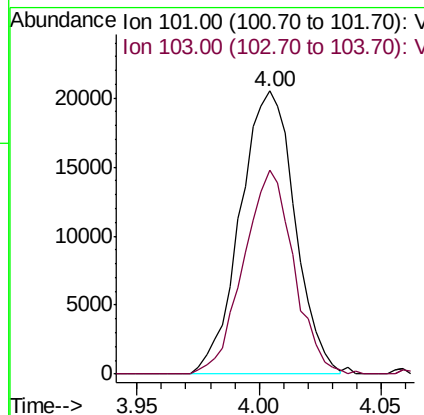
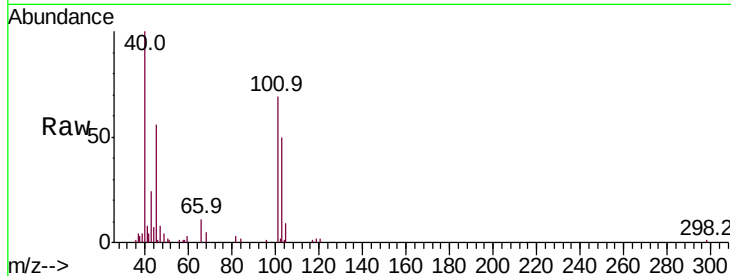
#11  
Trichlorofluoromethane  
Concen: 0.258 ppbv  
RT: 4.00 min Scan# 332  
Delta R.T. -0.00 min  
Lab File: VL033366.D  
Acq: 18 Mar 2019 20:04

Instrument :  
MSVOA\_L  
ClientSampleId :  
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Tot Ion:101 Resp: 31852  
Ion Ratio Lower Upper  
101 100  
103 72.3 52.9 79.3

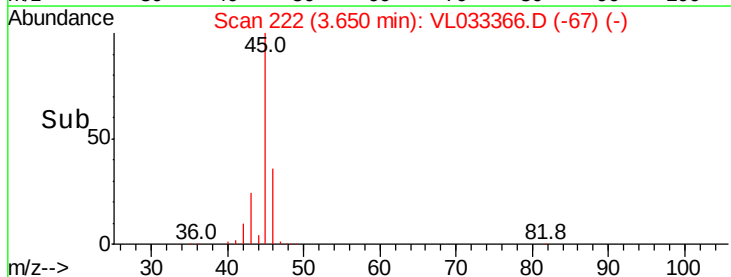
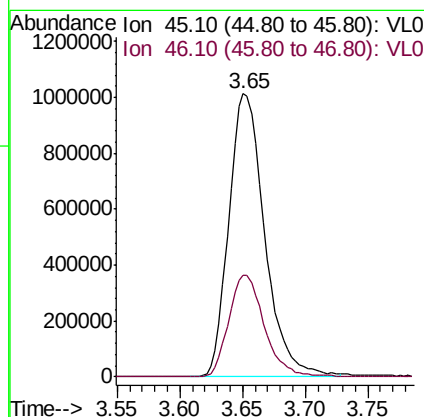
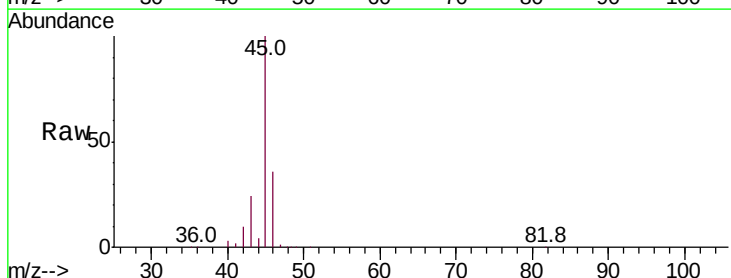
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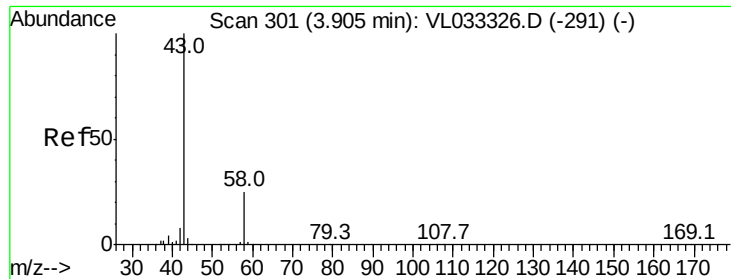
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#13  
Ethanol  
Concen: 117.100 ppbv  
RT: 3.65 min Scan# 222  
Delta R.T. -0.00 min  
Lab File: VL033366.D  
Acq: 18 Mar 2019 20:04

Tgt Ion: 45 Resp: 2014116  
Ion Ratio Lower Upper  
45 100  
46 36.1 14.9 59.7





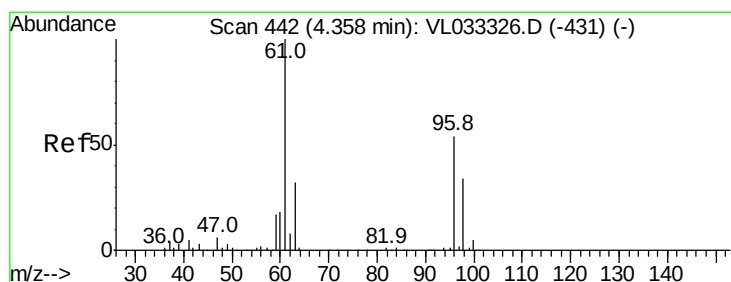
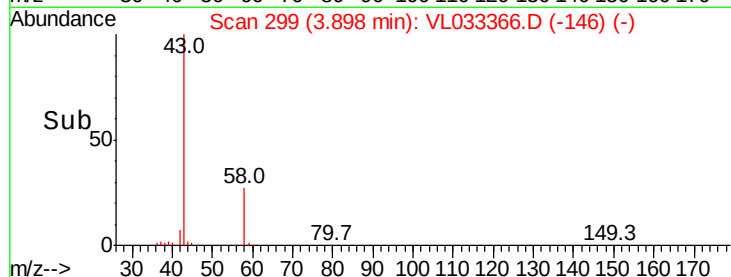
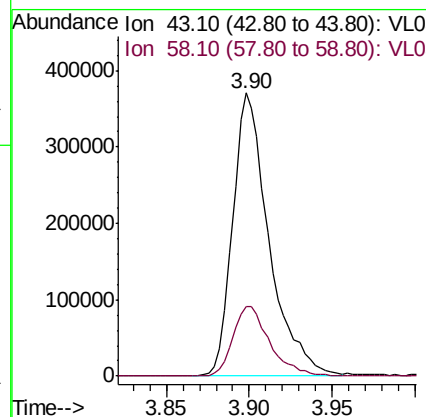
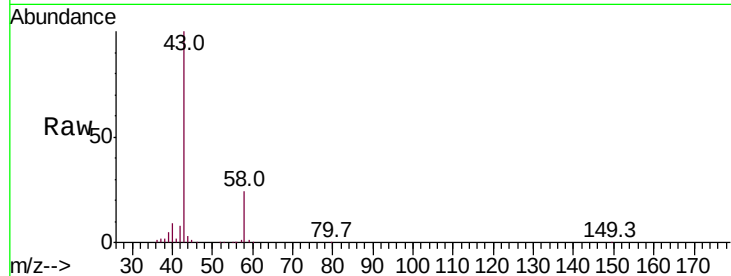
#15  
Acetone  
Concen: 5.118 ppbv  
RT: 3.90 min Scan# 299  
Delta R.T. -0.01 min  
Lab File: VL033366.D  
Acq: 18 Mar 2019 20:04

Instrument :  
MSVOA\_L  
ClientSampled :  
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Tot Ion: 43 Resp: 560209  
Ion Ratio Lower Upper  
43 100  
58 25.4 20.4 30.6

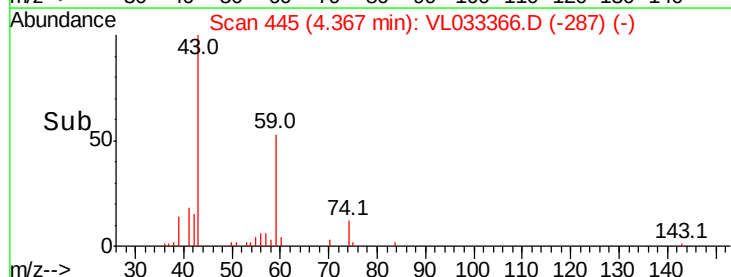
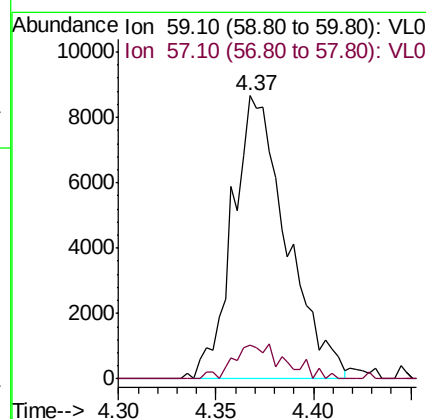
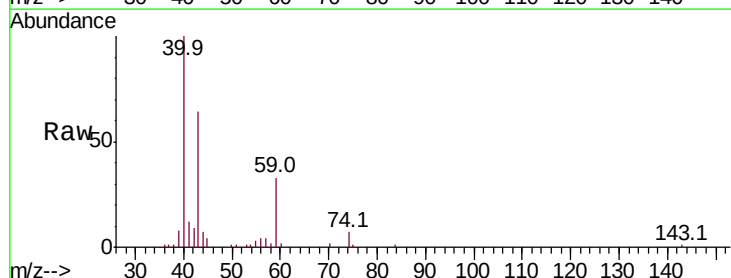
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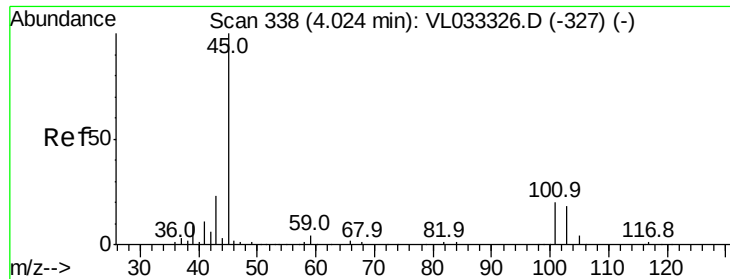
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#17  
tert-Butyl alcohol  
Concen: 1.084 ppbv m  
RT: 4.37 min Scan# 445  
Delta R.T. 0.01 min  
Lab File: VL033366.D  
Acq: 18 Mar 2019 20:04

Tgt Ion: 59 Resp: 16691  
Ion Ratio Lower Upper  
59 100  
57 11.6 7.7 11.5#





#19

Isopropyl Alcohol

Concen: 14.394 ppbv

RT: 4.03 min Scan# 340

Delta R.T. 0.01 min

Lab File: VL033366.D

Acq: 18 Mar 2019 20:04

Instrument :

MSVOA\_L

ClientSampleId :

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Tot Ion: 45 Resp: 749483

Ion Ratio Lower Upper

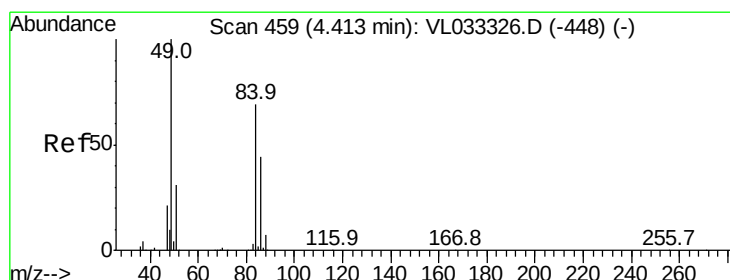
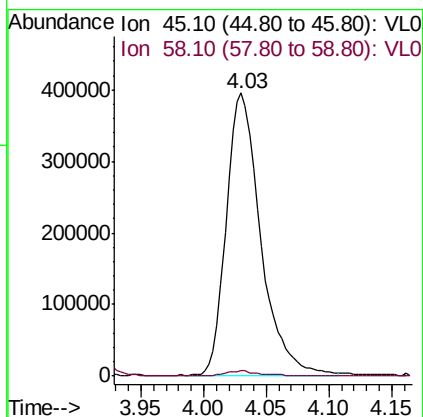
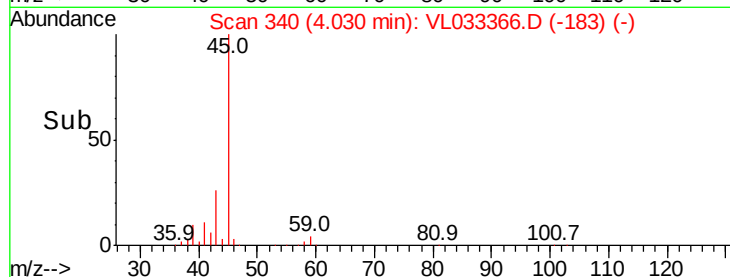
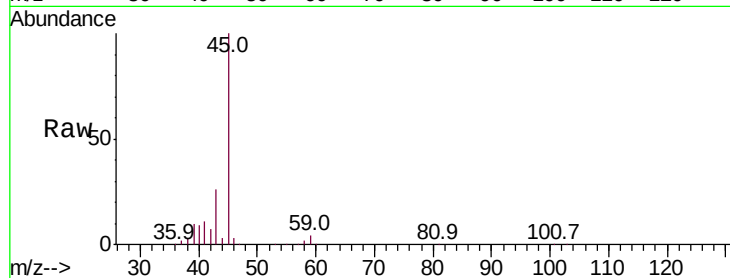
45 100

58 2.1 1.5 2.3

Manual Integrations  
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#20

Methylene Chloride

Concen: 0.542 ppbv m

RT: 4.41 min Scan# 457

Delta R.T. -0.01 min

Lab File: VL033366.D

Acq: 18 Mar 2019 20:04

Tgt Ion: 84 Resp: 19352

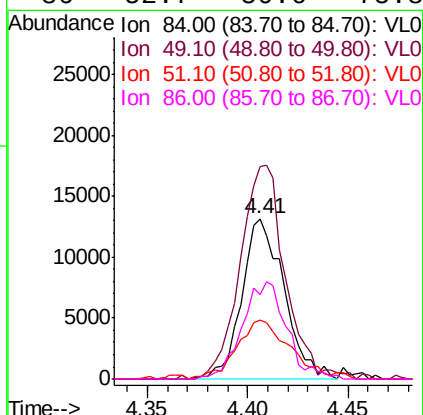
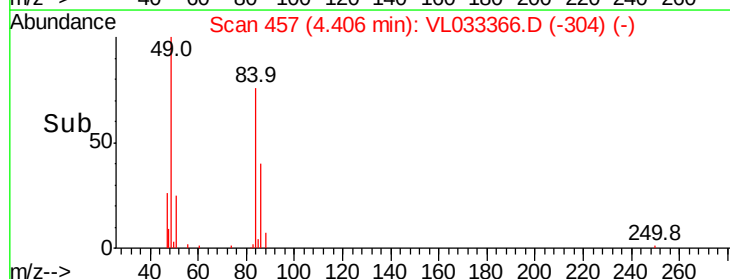
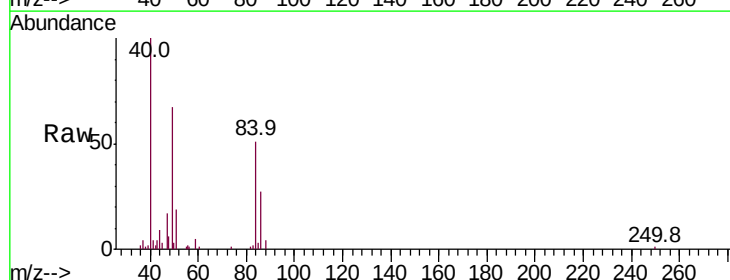
Ion Ratio Lower Upper

84 100

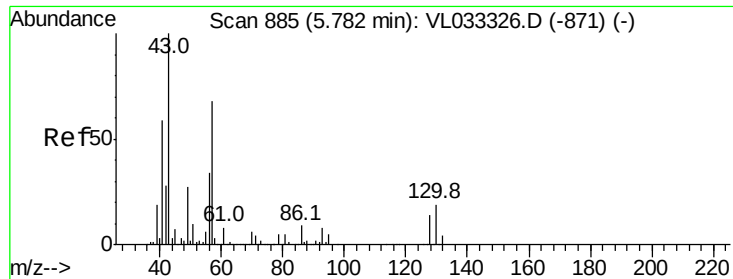
49 133.1 115.4 173.0

51 36.8 35.8 53.6

86 52.7 50.6 75.8







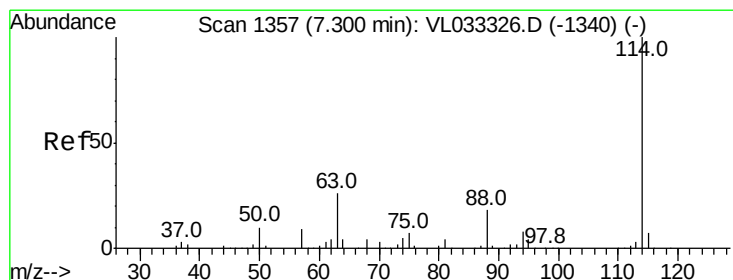
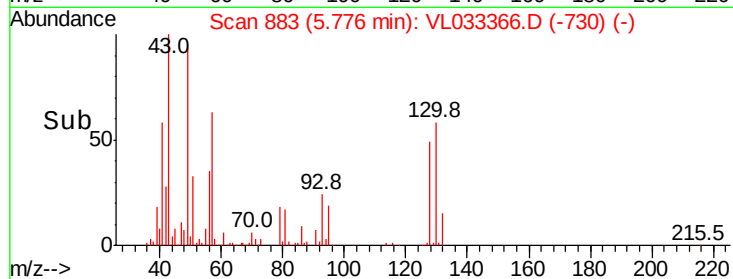
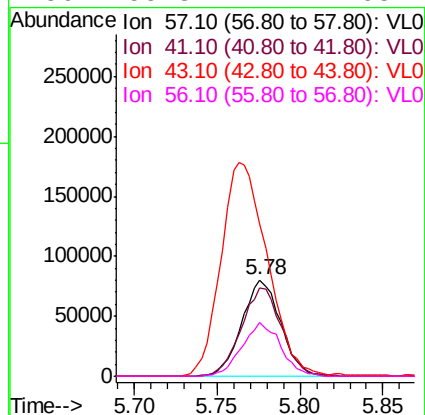
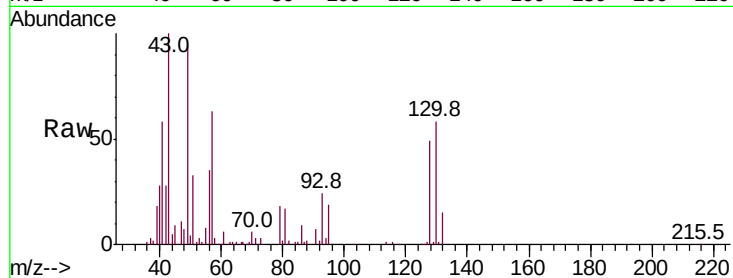
#26  
Hexane  
Concen: 1.850 ppbv  
RT: 5.78 min Scan# 883  
Delta R.T. -0.01 min  
Lab File: VL033366.D  
Acq: 18 Mar 2019 20:04

Instrument :  
MSVOA\_L  
ClientSampled :  
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| Tot Ion | 57    | Resp  | 131610 |
|---------|-------|-------|--------|
| Ion     | Ratio | Lower | Upper  |
| 57      | 100   |       |        |
| 41      | 95.0  | 70.5  | 105.7  |
| 43      | 263.3 | 181.8 | 272.8  |
| 56      | 55.3  | 42.2  | 63.2   |

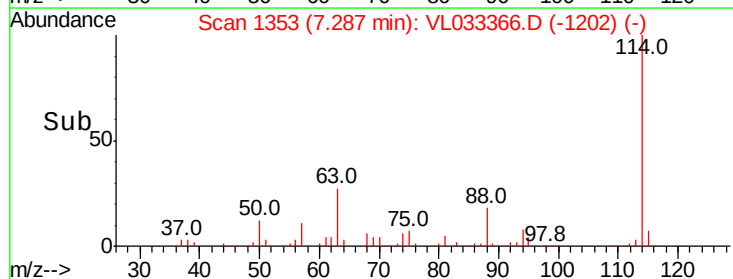
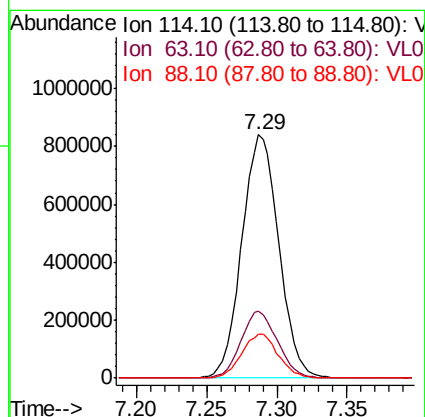
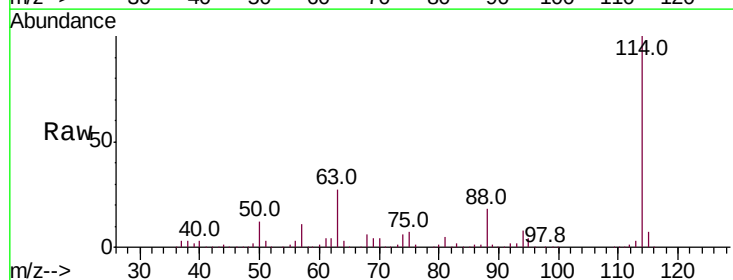
Manual Integrations  
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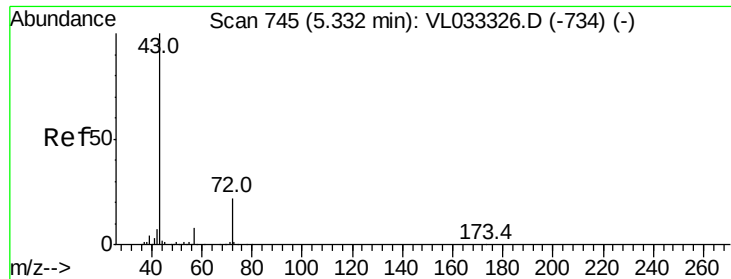
MMDadoda  
3/21/2019 12:14:45 PM



#33  
1,4-Difluorobenzene  
Concen: 10.000 ppbv  
RT: 7.29 min Scan# 1353  
Delta R.T. -0.01 min  
Lab File: VL033366.D  
Acq: 18 Mar 2019 20:04

| Tgt Ion | 114   | Resp  | 1545167 |
|---------|-------|-------|---------|
| Ion     | Ratio | Lower | Upper   |
| 114     | 100   |       |         |
| 63      | 27.2  | 21.4  | 32.2    |
| 88      | 18.1  | 14.5  | 21.7    |





#34

2-Butanone

Concen: 0.840 ppbv

RT: 5.33 min Scan# 744

Delta R.T. -0.00 min

Lab File: VL033366.D

Acq: 18 Mar 2019 20:04

Instrument :

MSVOA\_L

ClientSampled :

A-9

Tot Ion: 43 Resp: 85196

Ion Ratio Lower Upper

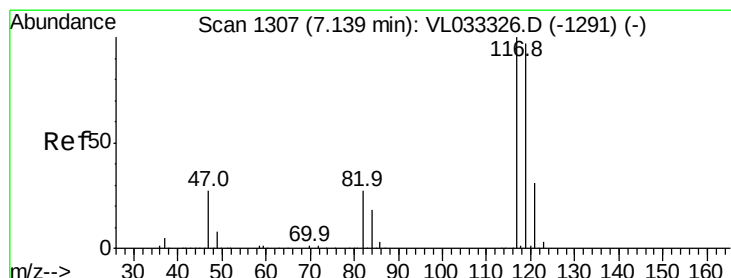
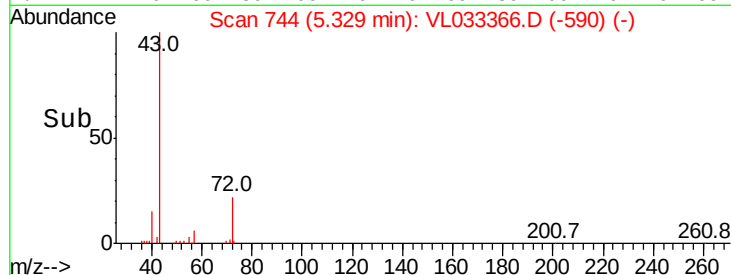
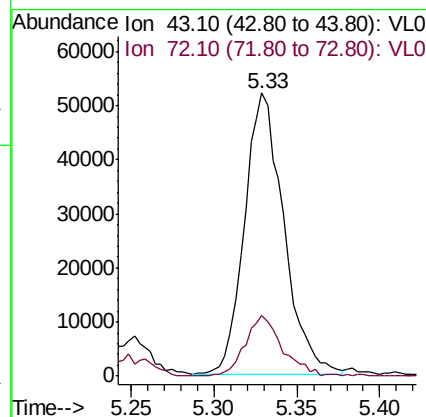
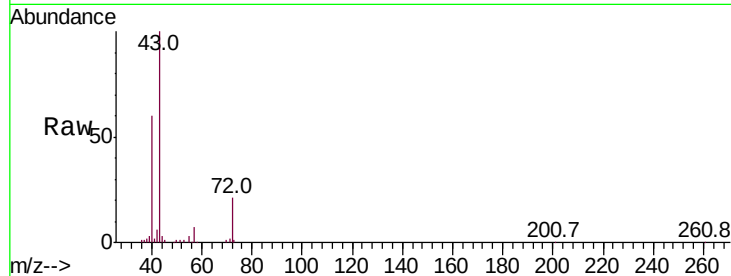
43 100

72 20.6 17.7 26.5

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#35

Carbon Tetrachloride

Concen: 0.080 ppbv m

RT: 7.14 min Scan# 1306

Delta R.T. -0.00 min

Lab File: VL033366.D

Acq: 18 Mar 2019 20:04

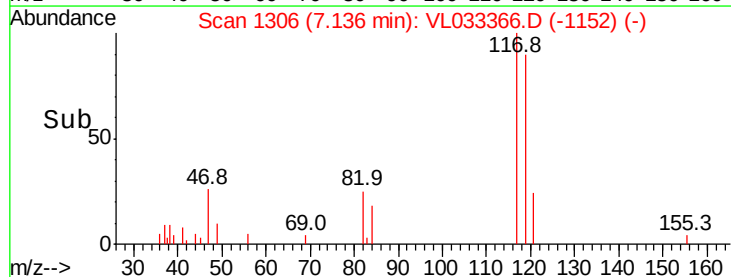
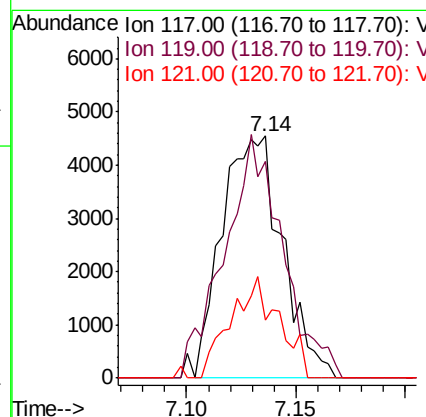
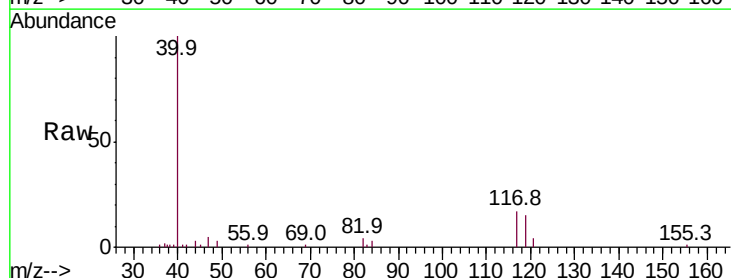
Tgt Ion: 117 Resp: 8723

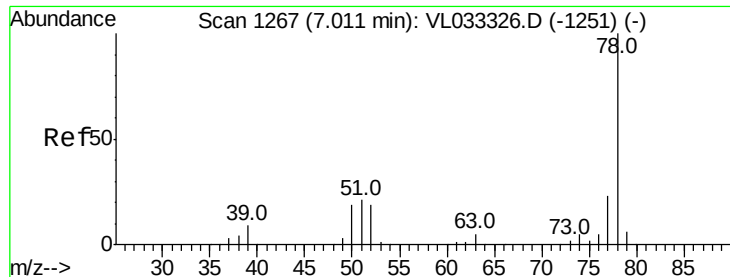
Ion Ratio Lower Upper

117 100

119 89.7 77.4 116.0

121 24.2 24.9 37.3#





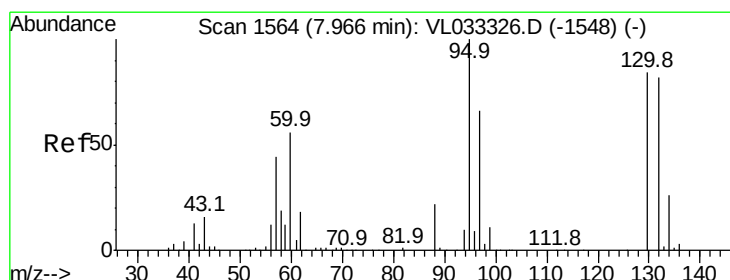
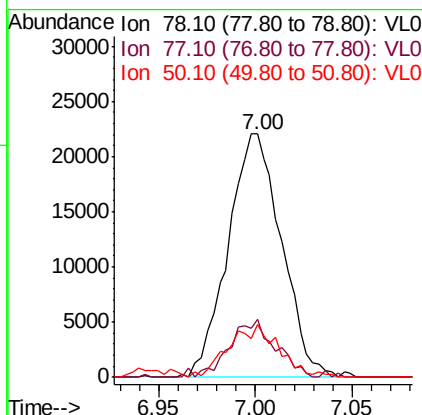
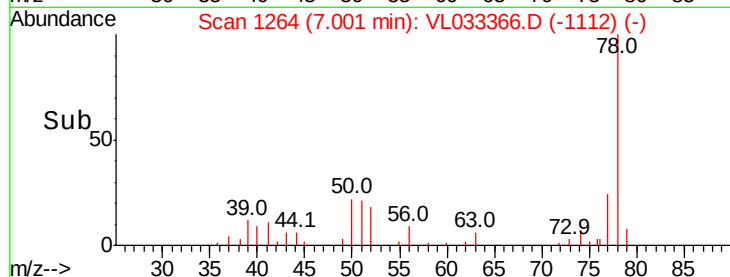
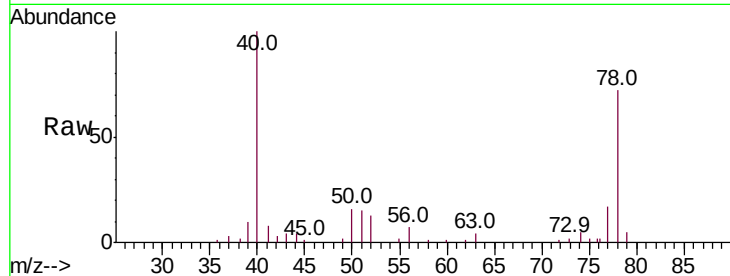
#36  
Benzene  
Concen: 0.306 ppbv  
RT: 7.00 min Scan# 1264  
Delta R.T. -0.01 min  
Lab File: VL033366.D  
Acq: 18 Mar 2019 20:04

Instrument :  
MSVOA\_L  
ClientSampled :  
A-9

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 78      | 100   |       |       |
| 77      | 22.0  | 18.1  | 27.1  |
| 50      | 21.9  | 15.2  | 22.8  |

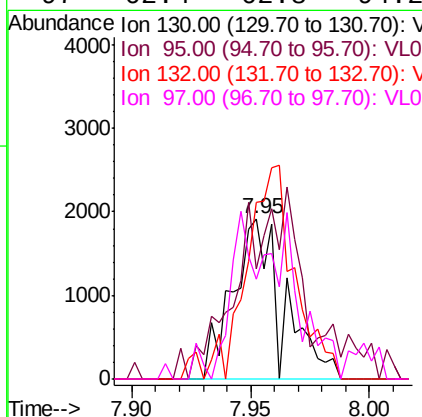
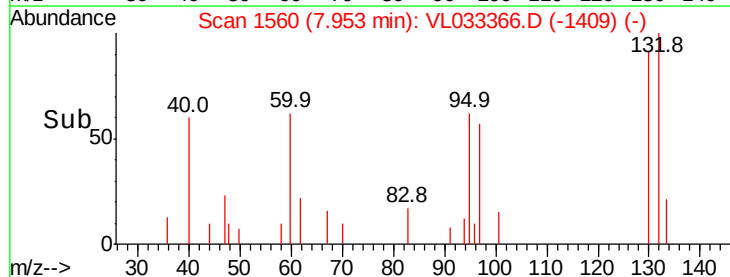
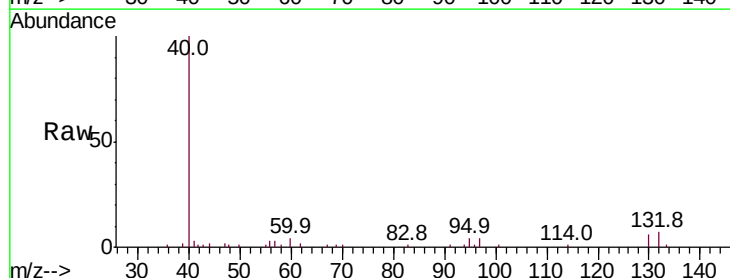
Manual Integrations  
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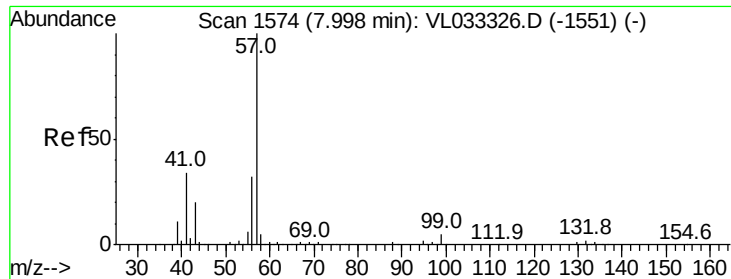
MMDadoda  
3/21/2019 12:14:45 PM



#38  
Trichloroethene  
Concen: 0.054 ppbv m  
RT: 7.95 min Scan# 1560  
Delta R.T. -0.01 min  
Lab File: VL033366.D  
Acq: 18 Mar 2019 20:04

| Tgt Ion | Ratio | Lower | Upper  |
|---------|-------|-------|--------|
| 130     | 100   |       |        |
| 95      | 68.6  | 95.2  | 142.8# |
| 132     | 110.2 | 77.7  | 116.5  |
| 97      | 62.4  | 62.8  | 94.2#  |





#44

2,2,4-Trimethylpentane

Concen: 0.148 ppbv m

RT: 7.98 min Scan# 1570

Delta R.T. -0.01 min

Lab File: VL033366.D

Acq: 18 Mar 2019 20:04

Instrument :

MSVOA\_L

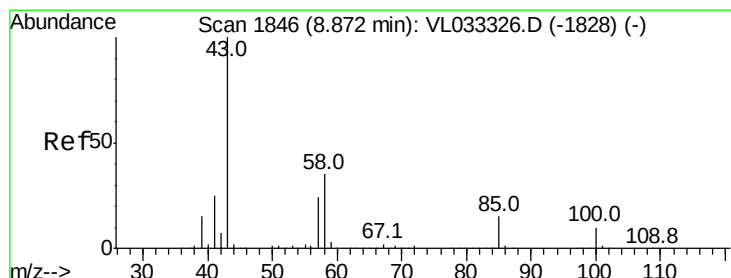
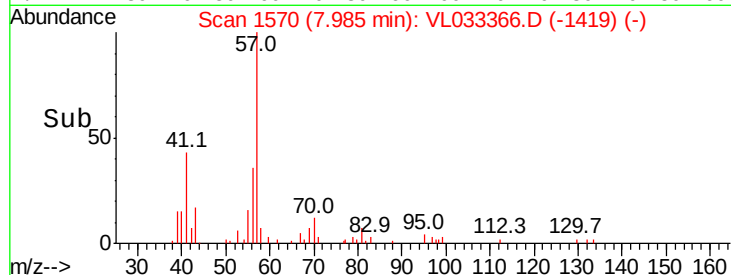
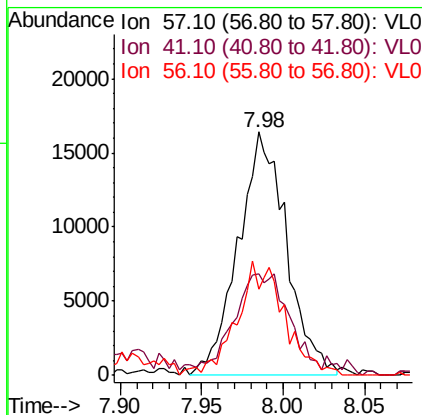
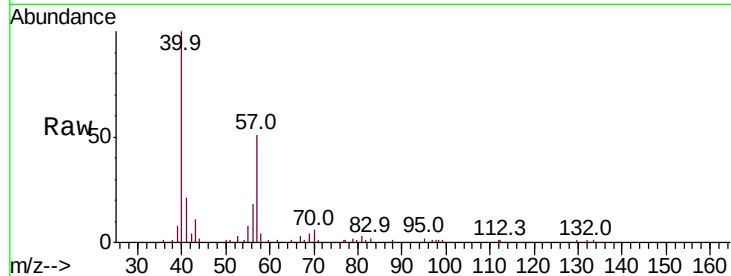
ClientSampled :

A-9

|           |       |       |       |
|-----------|-------|-------|-------|
| Tot Ion:  | 57    | Resp: | 33862 |
| Ion Ratio | Lower | Upper |       |
| 57        | 100   |       |       |
| 41        | 52.7  | 26.0  | 39.0# |
| 56        | 45.8  | 24.6  | 36.8# |

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#50

4-Methyl-2-Pentanone

Concen: 0.639 ppbv

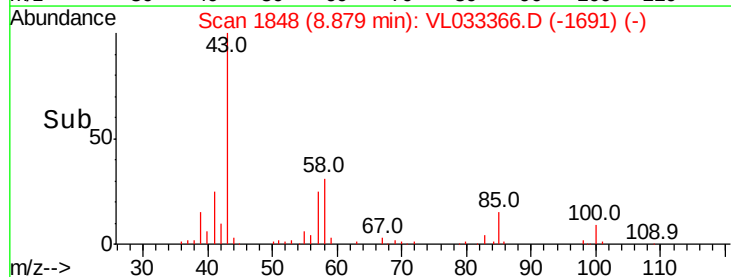
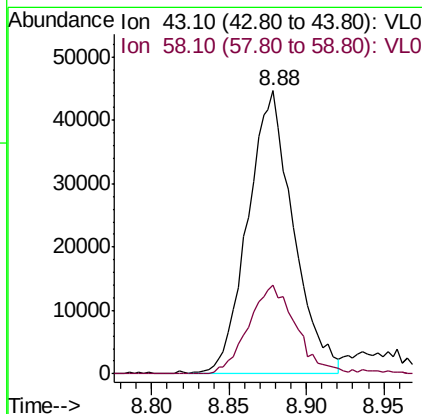
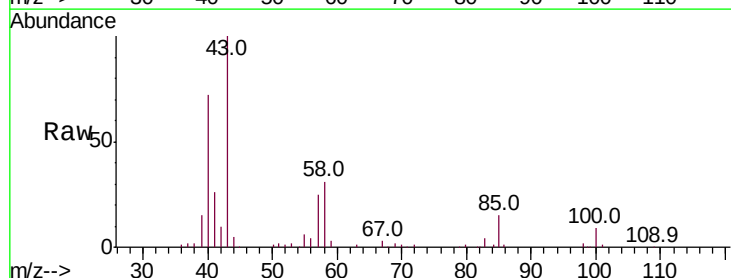
RT: 8.88 min Scan# 1848

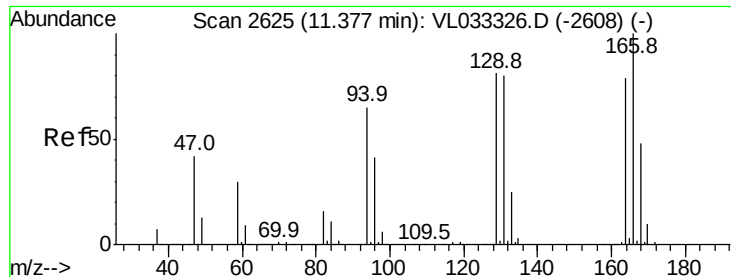
Delta R.T. 0.01 min

Lab File: VL033366.D

Acq: 18 Mar 2019 20:04

|           |       |       |       |
|-----------|-------|-------|-------|
| Tgt Ion:  | 43    | Resp: | 91640 |
| Ion Ratio | Lower | Upper |       |
| 43        | 100   |       |       |
| 58        | 33.4  | 28.4  | 42.6  |





#52

Tetrachloroethene

Concen: 0.133 ppbv m

RT: 11.36 min Scan# 2620

Delta R.T. -0.02 min

Lab File: VL033366.D

Acq: 18 Mar 2019 20:04

Instrument :

MSVOA\_L

ClientSampled :

A-9

Tot Ion:164 Resp: 7674

Ion Ratio Lower Upper

164 100

166 80.4 101.5 152.3#

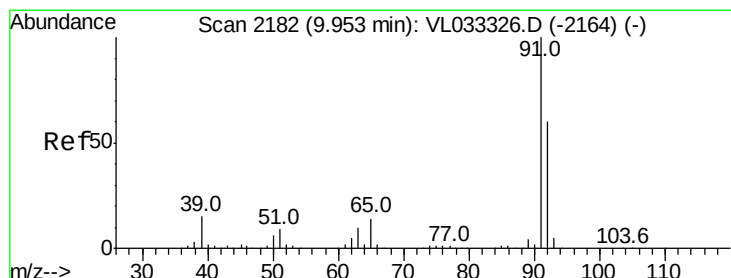
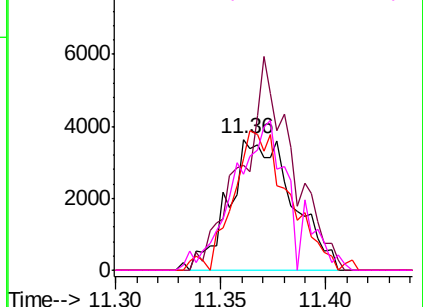
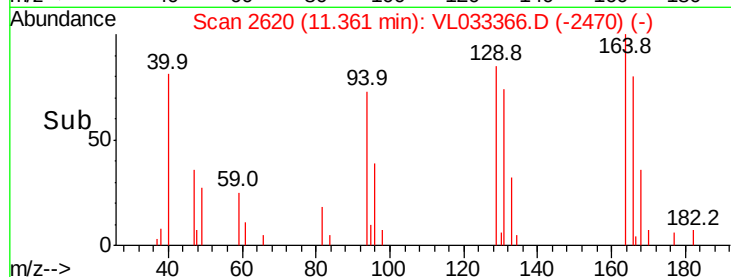
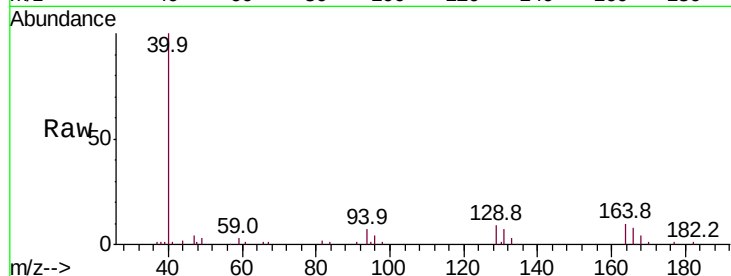
129 85.0 82.2 123.2

131 73.5 81.1 121.7#

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#53

Toluene

Concen: 18.316 ppbv

RT: 9.94 min Scan# 2179

Delta R.T. -0.01 min

Lab File: VL033366.D

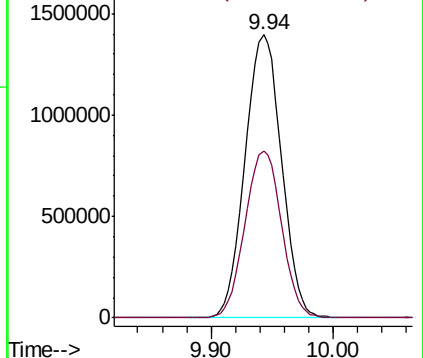
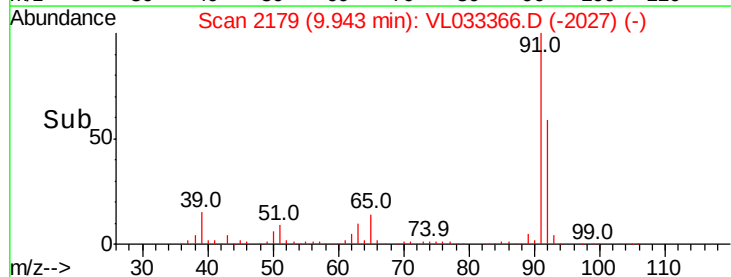
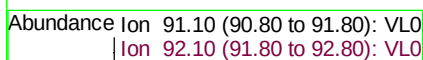
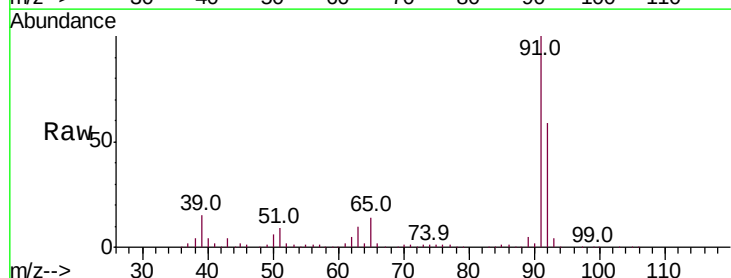
Acq: 18 Mar 2019 20:04

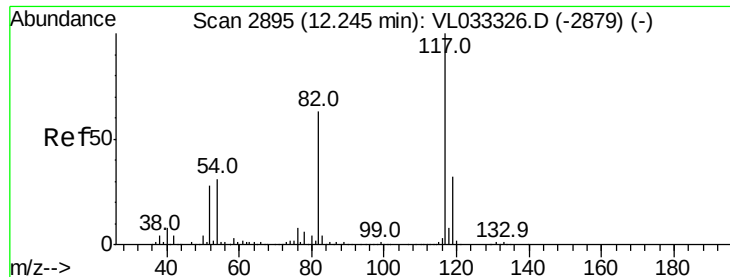
Tgt Ion: 91 Resp: 2877949

Ion Ratio Lower Upper

91 100

92 59.3 47.4 71.0





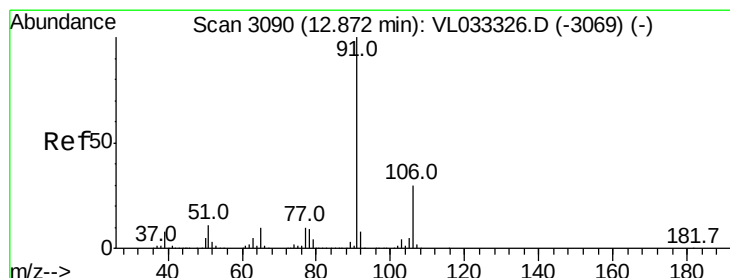
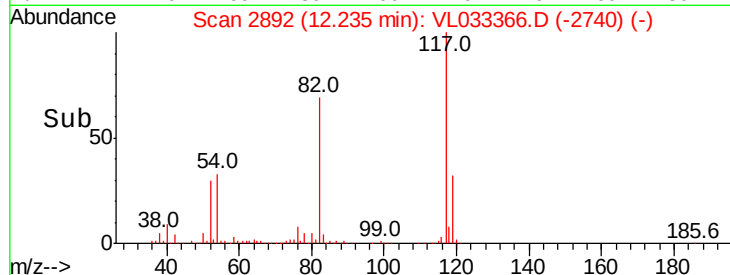
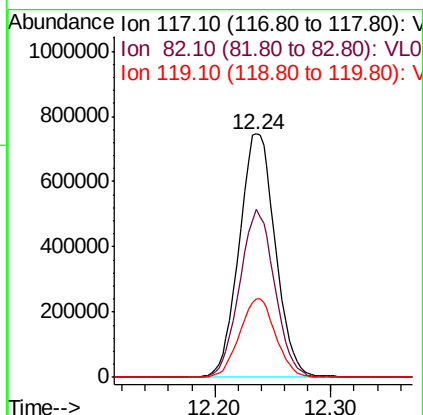
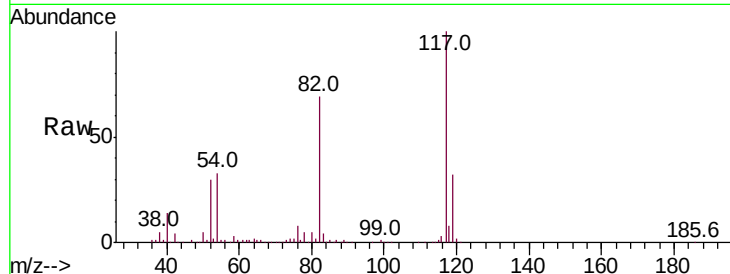
#55  
Chlorobenzene-d5  
Concen: 10.000 ppbv  
RT: 12.24 min Scan# 2892  
Delta R.T. -0.01 min  
Lab File: VL033366.D  
Acq: 18 Mar 2019 20:04

Instrument :  
MSVOA\_L  
ClientSampled :  
A-9

Tot Ion:117 Resp: 1622865  
Ion Ratio Lower Upper  
117 100  
82 67.1 53.4 80.2  
119 32.3 27.3 40.9

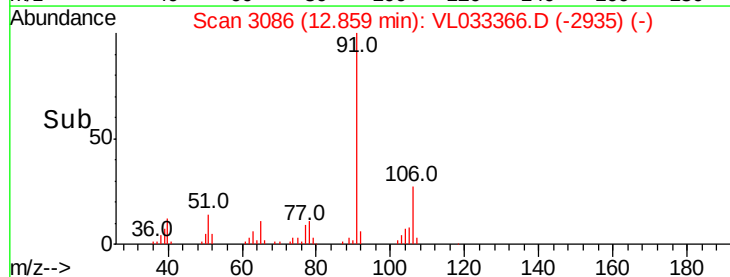
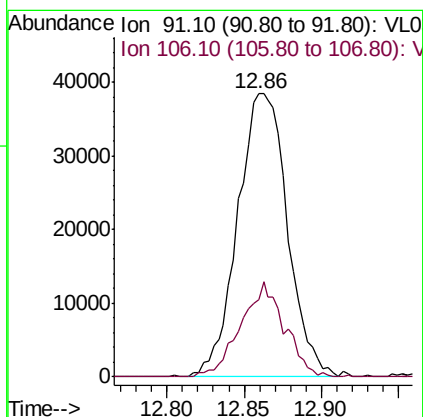
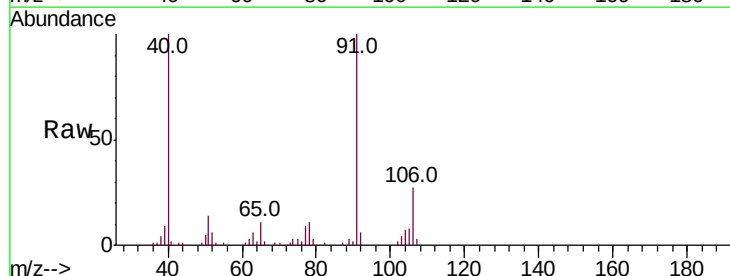
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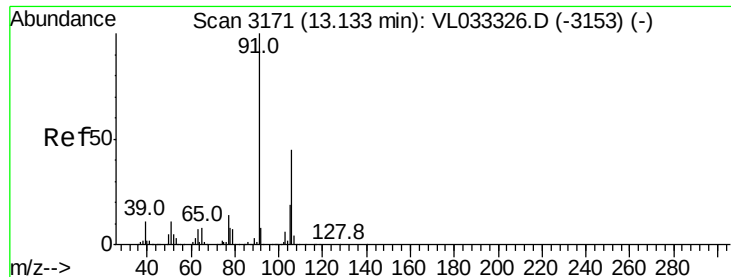
MMDadoda  
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#58  
Ethyl Benzene  
Concen: 0.375 ppbv  
RT: 12.86 min Scan# 3086  
Delta R.T. -0.01 min  
Lab File: VL033366.D  
Acq: 18 Mar 2019 20:04

Tgt Ion: 91 Resp: 86030  
Ion Ratio Lower Upper  
91 100  
106 27.2 24.2 36.2





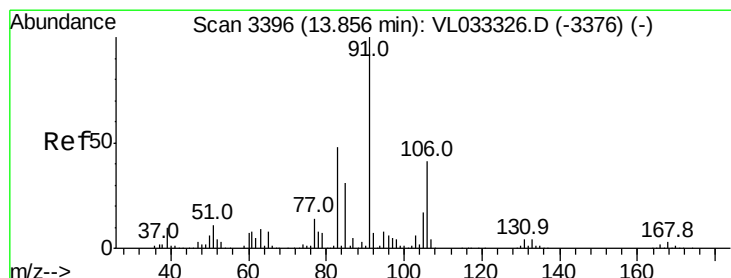
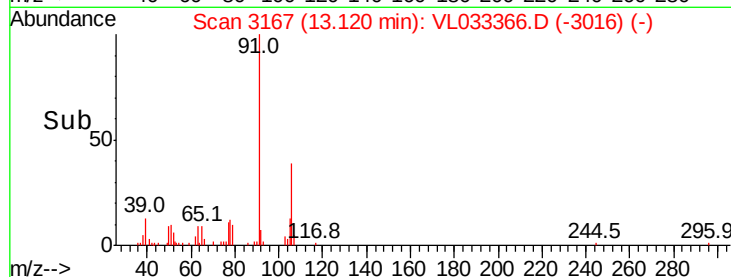
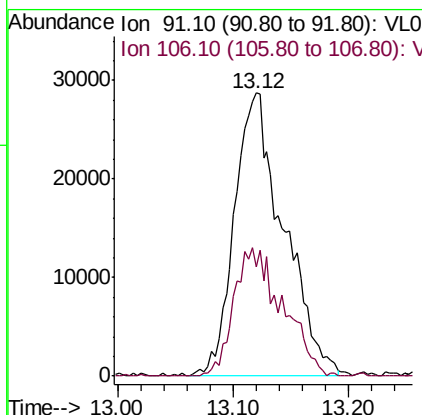
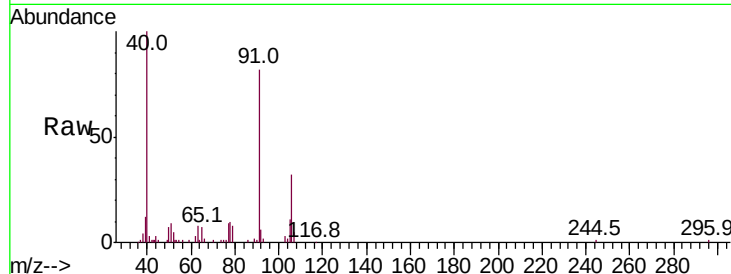
#59  
m/p-Xylene  
Concen: 0.430 ppbv m  
RT: 13.12 min Scan# 3167  
Delta R.T. -0.01 min  
Lab File: VL033366.D  
Acq: 18 Mar 2019 20:04

Instrument :  
MSVOA\_L  
ClientSampleId :  
A-9

Tot Ion: 91 Resp: 84839  
Ion Ratio Lower Upper  
91 100  
106 44.8 0.0 0.0#

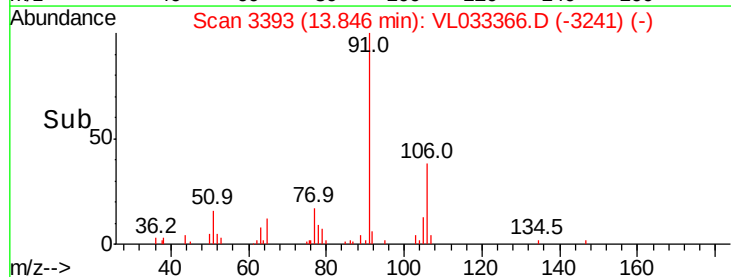
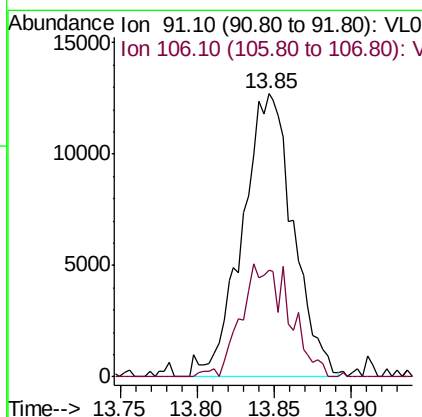
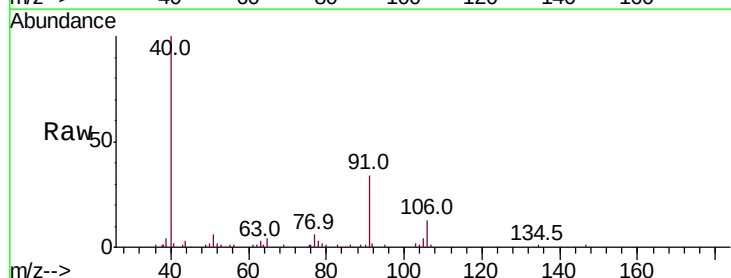
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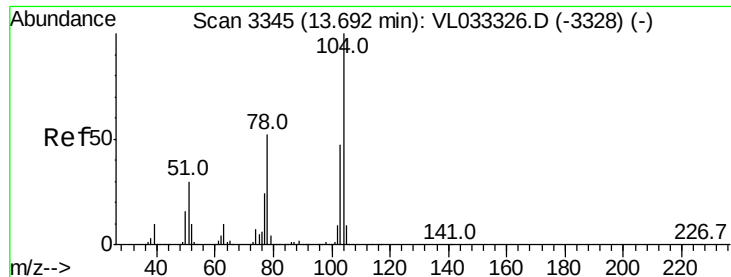
MMDadoda  
3/21/2019 12:14:45 PM



#60  
o-Xylene  
Concen: 0.153 ppbv m  
RT: 13.85 min Scan# 3393  
Delta R.T. -0.01 min  
Lab File: VL033366.D  
Acq: 18 Mar 2019 20:04

Tgt Ion: 91 Resp: 29361  
Ion Ratio Lower Upper  
91 100  
106 37.9 21.3 63.9





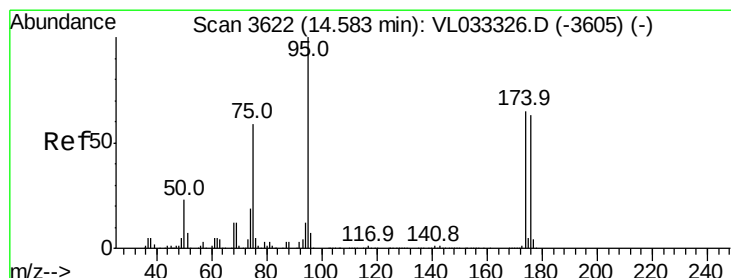
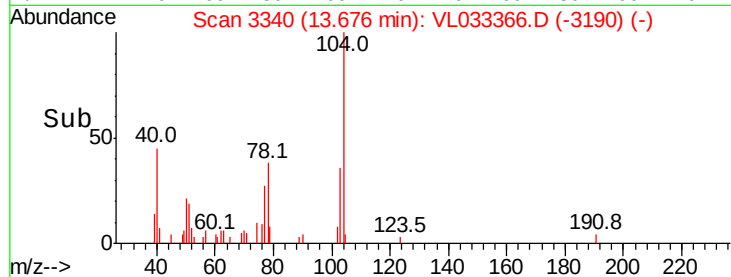
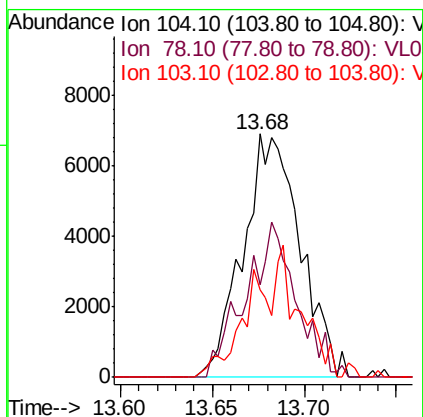
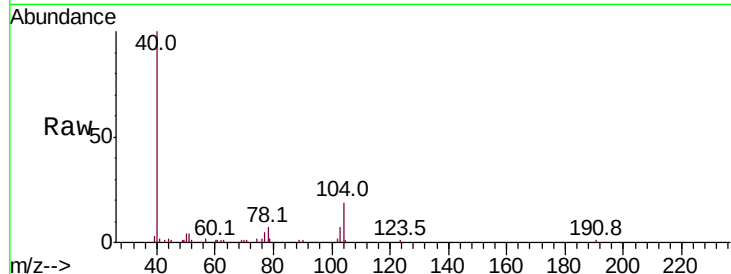
#61  
Stvrene  
Concen: 0.110 ppbv m  
RT: 13.68 min Scan# 3340  
Delta R.T. -0.02 min  
Lab File: VL033366.D  
Acq: 18 Mar 2019 20:04

Instrument :  
MSVOA\_L  
ClientSampled :  
A-9

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 104     | 100   |       |       |
| 78      | 56.9  | 42.7  | 64.1  |
| 103     | 46.3  | 38.0  | 57.0  |

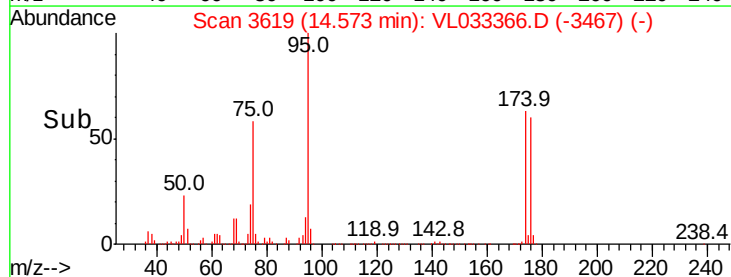
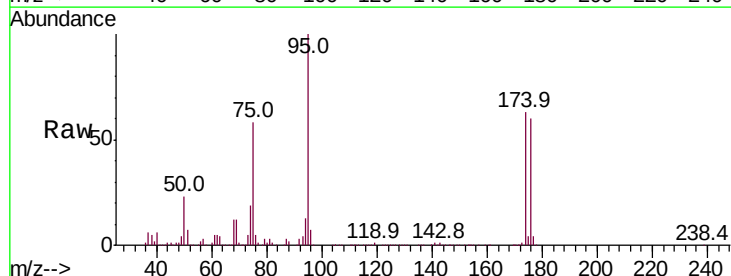
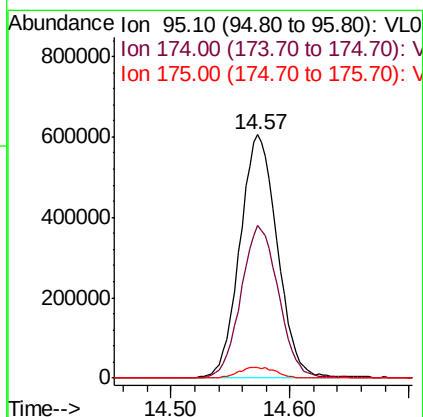
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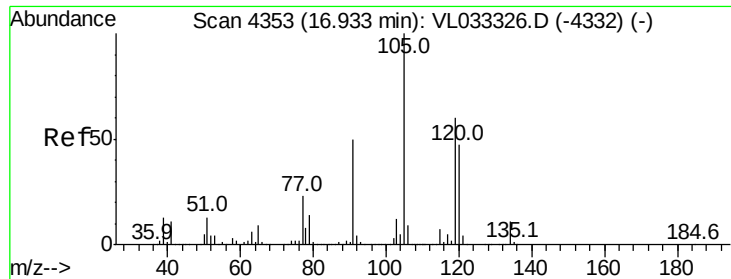


#68  
1-Bromo-4-Fluorobenzene  
Concen: 10.951 ppbv  
RT: 14.57 min Scan# 3619  
Delta R.T. -0.01 min  
Lab File: VL033366.D  
Acq: 18 Mar 2019 20:04

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 95      | 100   |       |       |
| 174     | 63.5  | 51.5  | 77.3  |
| 175     | 4.7   | 3.8   | 5.6   |







#74

1,2,4-Trimethylbenzene

Concen: 0.141 ppbv m

RT: 16.93 min Scan# 4351

Delta R.T. -0.01 min

Lab File: VL033366.D

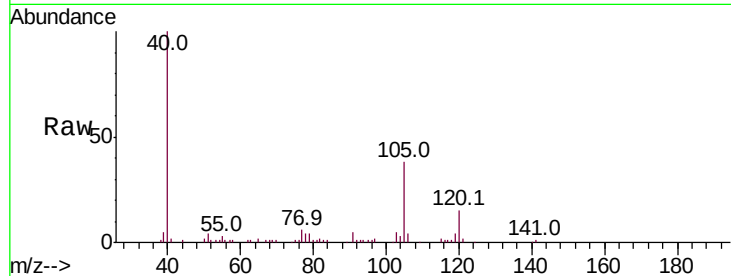
Acq: 18 Mar 2019 20:04

Instrument :

MSVOA\_L

ClientSampleId :

A-9



|           |       |       |       |
|-----------|-------|-------|-------|
| Tot Ion:  | 105   | Resp: | 31781 |
| Ion Ratio | Lower | Upper |       |
| 105       | 100   |       |       |
| 120       | 39.6  | 37.4  | 56.2  |
| 91        | 14.1  | 41.0  | 61.4# |
| 77        | 16.1  | 18.5  | 27.7# |

Manual Integrations  
APPROVED

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3/21/2019 12:14:45 PM

