

Data Path : \\74.0.250.170\TERASTORAGE\VOASRV\HPCHEM1\MSVOA\_L\DATA\VL102419\  
 Data File : VL034356.D  
 Acq On : 24 Oct 2019 22:52  
 Operator : SY/AP  
 Sample : K5516-01DUP  
 Misc : 400ml/MSVOA\_L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 SV-2DUP

Manual Integrations  
 APPROVED

MMDadoda  
 10/28/2019 9:43:57 AM

Quant Time: Oct 27 19:49:35 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_L\METHODS\VL101619AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Thu Oct 1  
 QLast Update : Thu Oct 17 05:12:37 2019  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.68  | 49   | 841794   | 10.00 | ppbv  | 0.00     |
| 33) 1,4-Difluorobenzene | 7.21  | 114  | 1764622  | 10.00 | ppbv  | 0.00     |
| 55) Chlorobenzene-d5    | 12.14 | 117  | 1665784  | 10.00 | ppbv  | -0.01    |

| System Monitoring Compounds |        | R.T.  | QIon     | Response | Conc | Units  | Dev(Min) |
|-----------------------------|--------|-------|----------|----------|------|--------|----------|
| 68) 1-Bromo-4-Fluorobenzene | 14.48  | 95    | 1399885  | 9.92     | ppbv | -0.01  |          |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 99.20% |          |

| Target Compounds           | R.T.  | QIon | Response | Conc    | Units  | Qvalue |
|----------------------------|-------|------|----------|---------|--------|--------|
| 2) Dichlorodifluoromethane | 3.02  | 85   | 78812    | 0.543   | ppbv   | 90     |
| 3) Chlorodifluoromethane   | 2.96  | 51   | 38992m   | 0.395   | ppbv   |        |
| 4) Chloromethane           | 3.12  | 50   | 25143    | 0.431   | ppbv   | 97     |
| 9) Propene                 | 2.99  | 41   | 66520m   | 1.521   | ppbv   |        |
| 10) Heptane                | 8.16  | 43   | 43407m   | 0.387   | ppbv   |        |
| 11) Trichlorofluoromethane | 3.94  | 101  | 29624    | 0.215   | ppbv # | 82     |
| 13) Ethanol                | 3.59  | 45   | 1454237  | 148.501 | ppbv   | 96     |
| 15) Acetone                | 3.84  | 43   | 385776m  | 3.204   | ppbv   |        |
| 19) Isopropyl Alcohol      | 3.97  | 45   | 62924    | 0.937   | ppbv # | 1      |
| 20) Methylene Chloride     | 4.34  | 84   | 110585   | 2.541   | ppbv   | 92     |
| 26) Hexane                 | 5.70  | 57   | 265192   | 3.061   | ppbv # | 43     |
| 30) Cyclohexane            | 7.16  | 84   | 17407m   | 0.273   | ppbv   |        |
| 34) 2-Butanone             | 5.26  | 43   | 43178    | 0.299   | ppbv   | 96     |
| 35) Carbon Tetrachloride   | 7.05  | 117  | 8351m    | 0.054   | ppbv   |        |
| 36) Benzene                | 6.92  | 78   | 120306   | 0.711   | ppbv   | 99     |
| 44) 2,2,4-Trimethylpentane | 7.90  | 57   | 74172m   | 0.237   | ppbv   |        |
| 52) Tetrachloroethene      | 11.28 | 164  | 9756m    | 0.147   | ppbv   |        |
| 53) Toluene                | 9.85  | 91   | 571317   | 3.058   | ppbv   | 99     |
| 58) Ethyl Benzene          | 12.76 | 91   | 99005    | 0.425   | ppbv # | 89     |
| 59) m/p-Xylene             | 13.02 | 91   | 312848m  | 1.551   | ppbv   |        |
| 60) o-Xylene               | 13.75 | 91   | 103085   | 0.513   | ppbv   | 99     |
| 74) 1,2,4-Trimethylbenzene | 16.82 | 105  | 111505m  | 0.478   | ppbv   |        |
| 79) Naphthalene            | 22.30 | 128  | 20104m   | 0.118   | ppbv   |        |

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

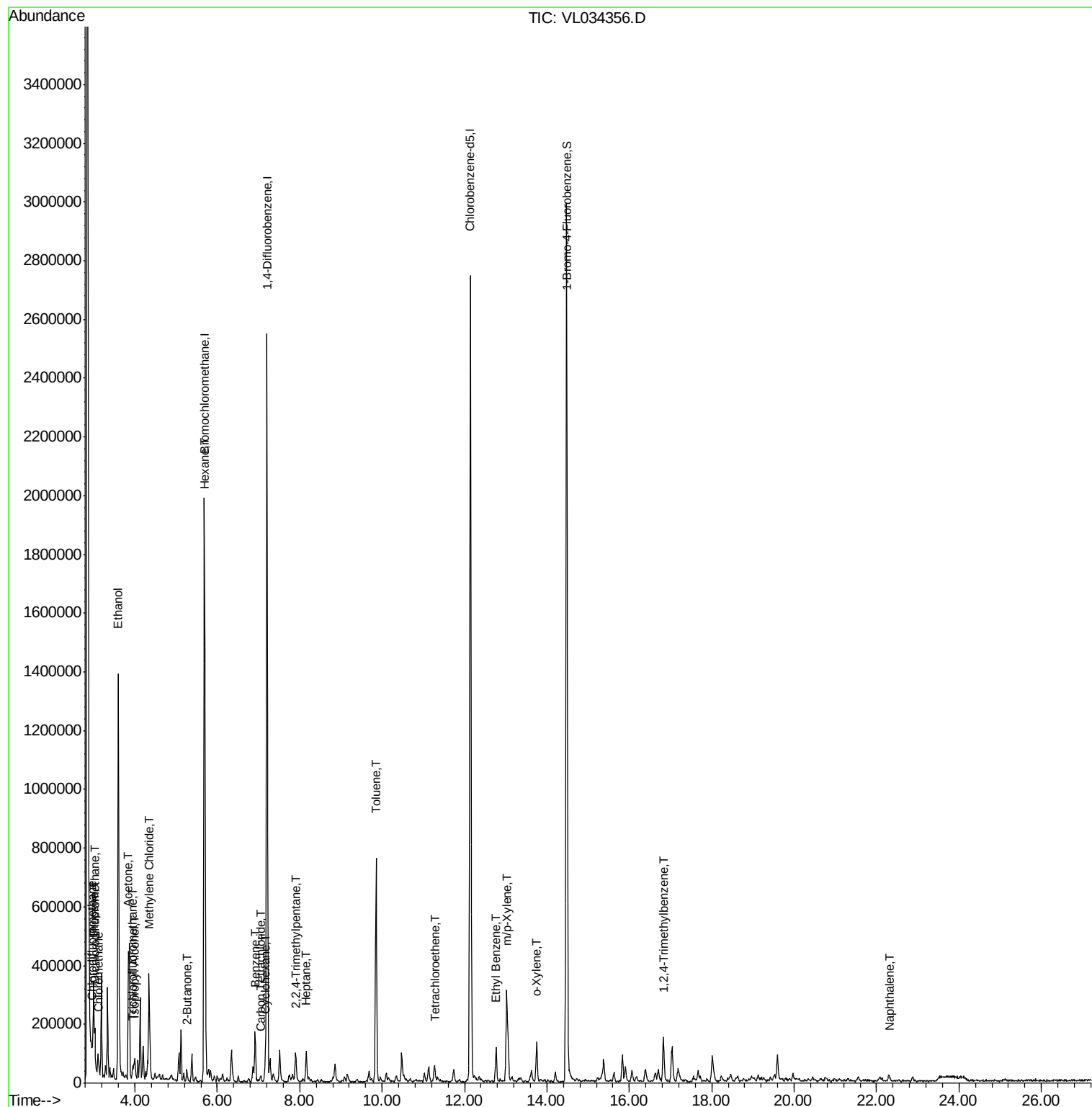
Data Path : \\74.0.250.170\TERASTORAGE\VOASRV\HPCHEM1\MSVOA\_L\DATA\VL102419\  
Data File : VL034356.D  
Acq On : 24 Oct 2019 22:52  
Operator : SY/AP  
Sample : K5516-01DUP  
Misc : 400ml/MSVOA\_L  
ALS Vial : 1 Sample Multiplier: 1

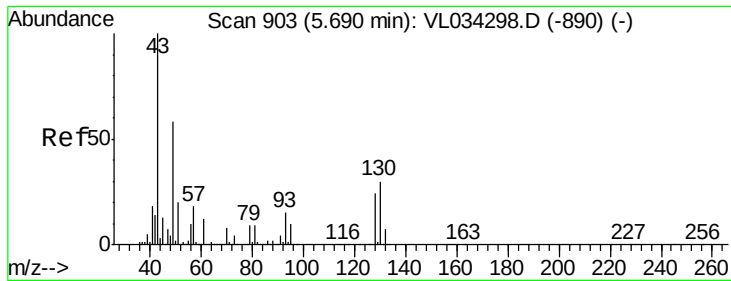
Instrument :  
MSVOA\_L  
ClientSampleId :  
SV-2DUP

Manual Integrations  
APPROVED

MMDadoda  
10/28/2019 9:43:57 AM

Quant Time: Oct 27 19:49:35 2019  
Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_L\METHODS\VL101619AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Thu Oct  
QLast Update : Thu Oct 17 05:12:37 2019  
Response via : Initial Calibration





#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.68 min Scan# 900

Delta R.T. -0.01 min

Lab File: VL034356.D

Acq: 24 Oct 2019 22:52

Instrument :

MSVOA\_L

ClientSampled :

SV-2DUP

Tgt Ion: 49 Resp: 841794  
Ion Ratio Lower Upper

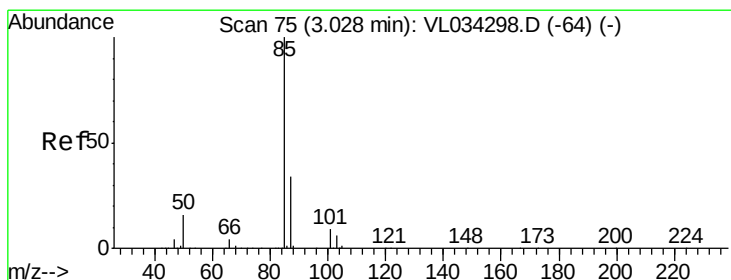
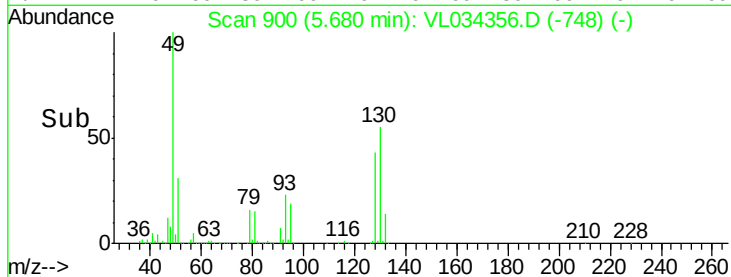
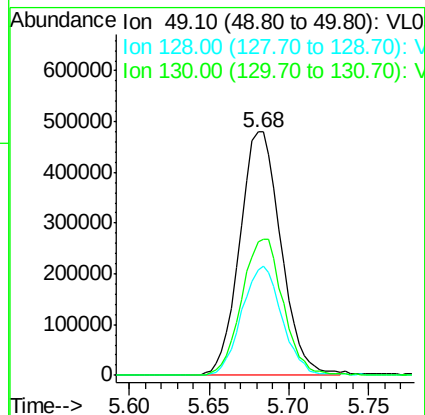
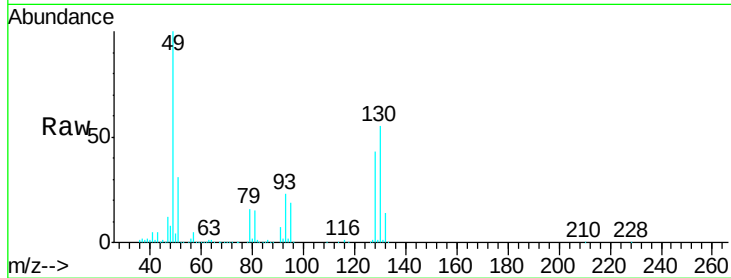
49 100

128 44.2 20.6 61.8

130 56.6 26.2 78.5

Manual Integrations  
APPROVED

MMDadoda  
10/28/2019 9:43:57 AM



#2

Dichlorodifluoromethane

Concen: 0.543 ppbv

RT: 3.02 min Scan# 74

Delta R.T. -0.00 min

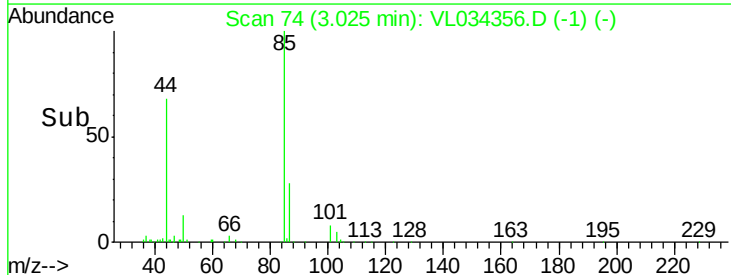
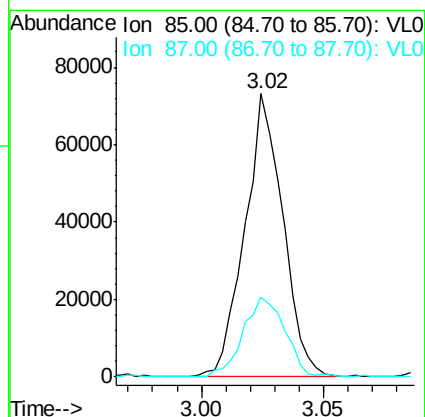
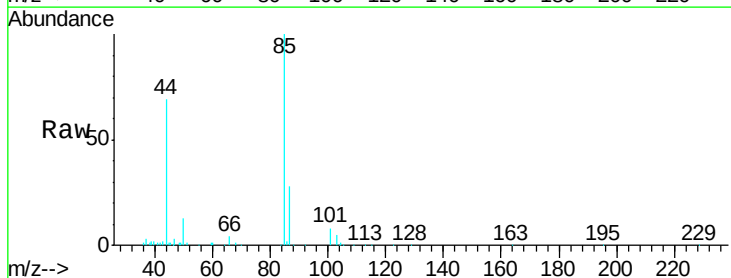
Lab File: VL034356.D

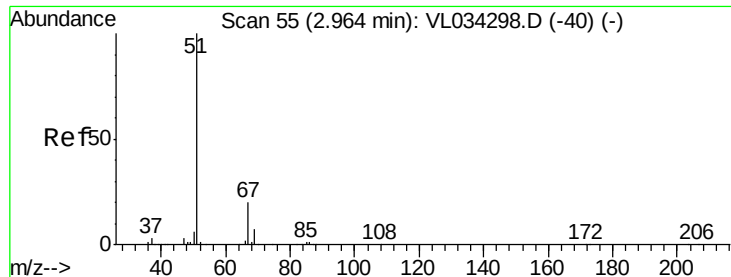
Acq: 24 Oct 2019 22:52

Tgt Ion: 85 Resp: 78812  
Ion Ratio Lower Upper

85 100

87 28.1 27.0 40.6





#3

Chlorodifluoromethane

Concen: 0.395 ppbv

RT: 2.96 min Scan# 55

Delta R.T. -0.00 min

Lab File: VL034356.D

Acq: 24 Oct 2019 22:52

Instrument :

MSVOA\_L

ClientSampleId :

SV-2DUP

Tgt Ion: 51 Resp: 38992

Ion Ratio Lower Upper

51 100

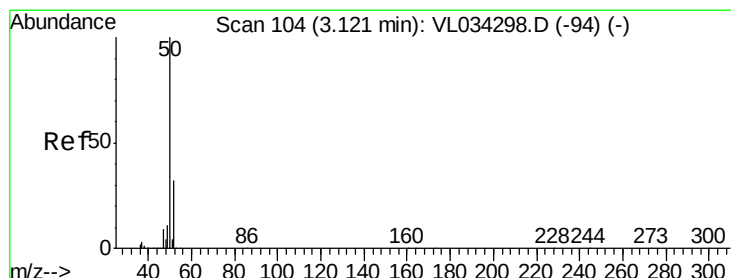
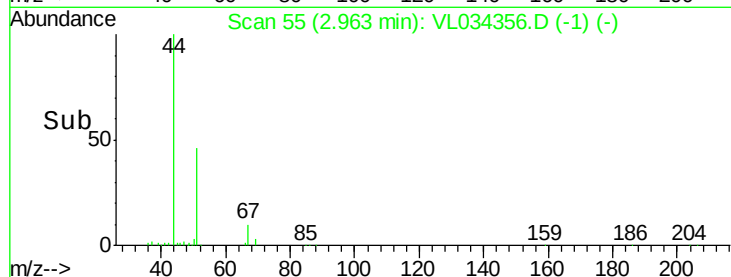
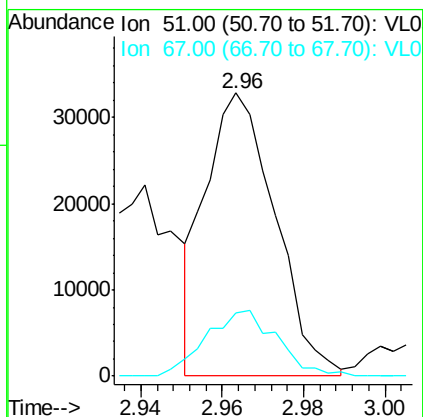
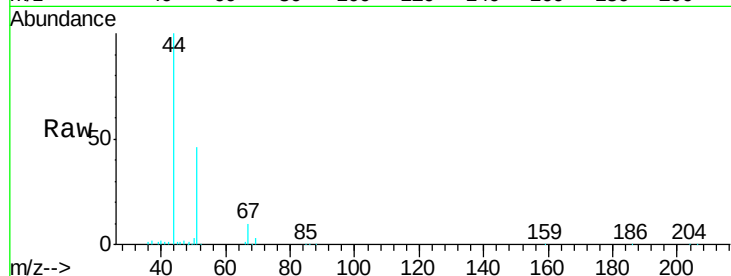
67 23.7 15.8 23.8

Manual Integrations

APPROVED

MMDadoda

10/28/2019 9:43:57 AM



#4

Chloromethane

Concen: 0.431 ppbv

RT: 3.12 min Scan# 104

Delta R.T. -0.00 min

Lab File: VL034356.D

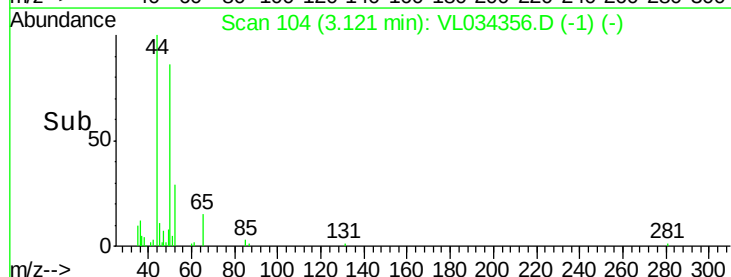
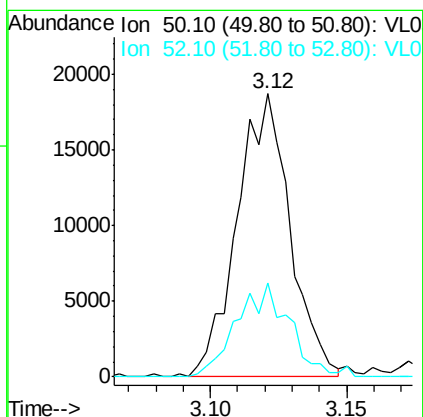
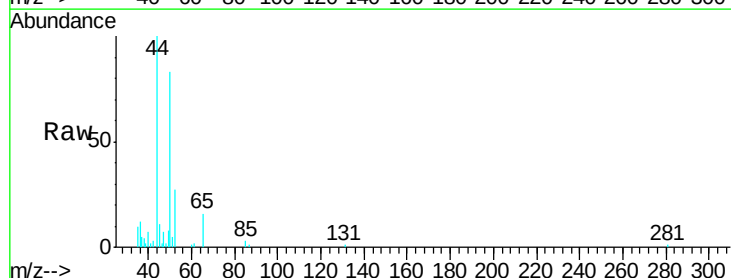
Acq: 24 Oct 2019 22:52

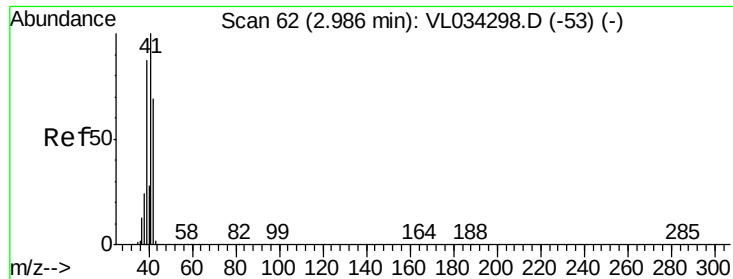
Tgt Ion: 50 Resp: 25143

Ion Ratio Lower Upper

50 100

52 33.5 25.4 38.2





#9

Propene

Concen: 1.521 ppbv m

RT: 2.99 min Scan# 64

Delta R.T. 0.01 min

Lab File: VL034356.D

Acq: 24 Oct 2019 22:52

Instrument :

MSVOA\_L

ClientSampleId :

SV-2DUP

Tgt Ion: 41 Resp: 66520

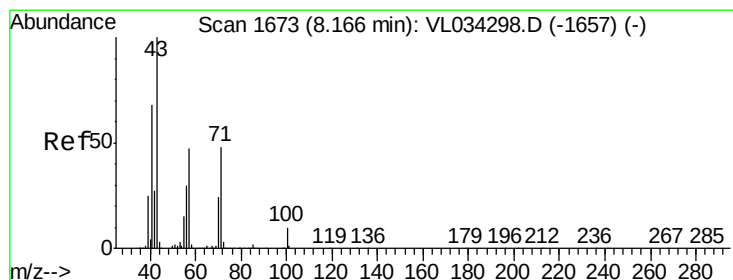
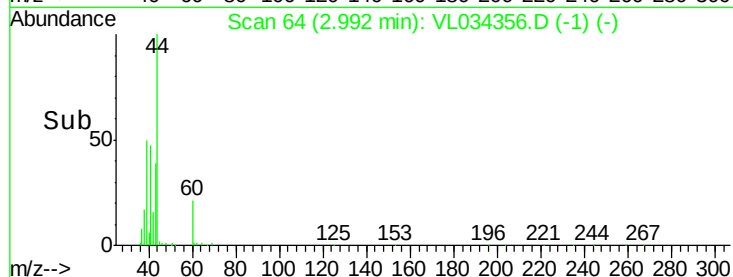
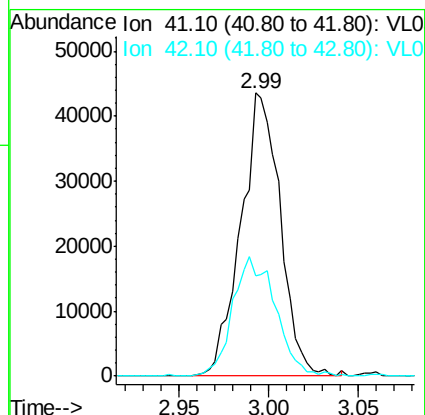
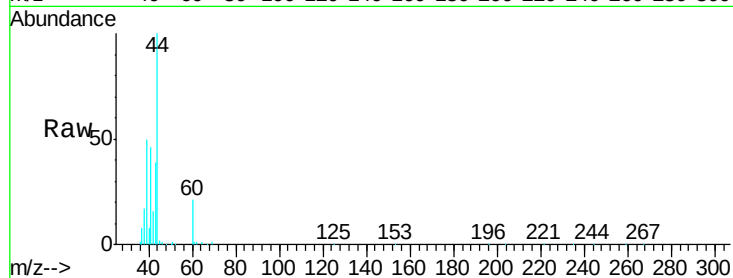
Ion Ratio Lower Upper

41 100

42 84.5 53.9 80.9#

Manual Integrations  
APPROVED

MMDadoda  
10/28/2019 9:43:57 AM



#10

Heptane

Concen: 0.387 ppbv m

RT: 8.16 min Scan# 1672

Delta R.T. -0.00 min

Lab File: VL034356.D

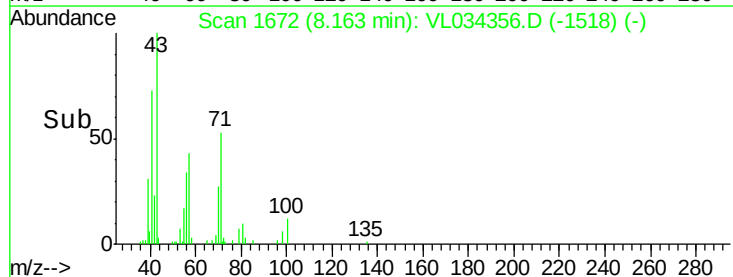
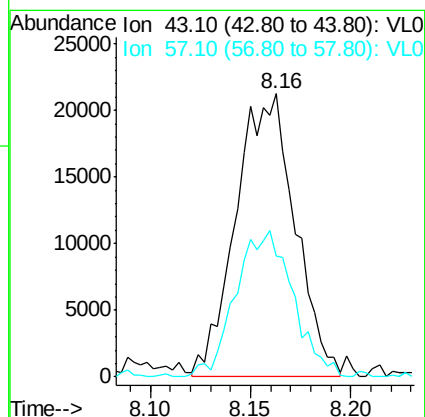
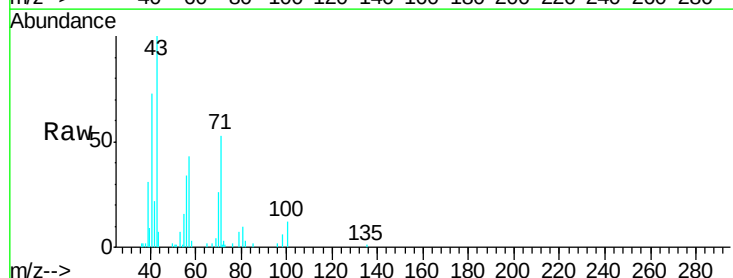
Acq: 24 Oct 2019 22:52

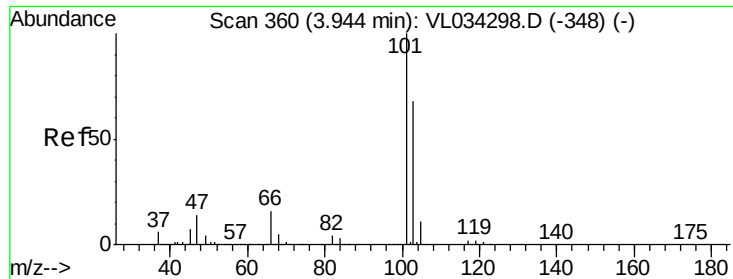
Tgt Ion: 43 Resp: 43407

Ion Ratio Lower Upper

43 100

57 0.0 39.5 59.3#





#11

Trichlorofluoromethane

Concen: 0.215 ppbv

RT: 3.94 min Scan# 360

Delta R.T. -0.00 min

Lab File: VL034356.D

Acq: 24 Oct 2019 22:52

Instrument :

MSVOA\_L

ClientSampled :

SV-2DUP

Tgt Ion:101 Resp: 29624

Ion Ratio Lower Upper

101 100

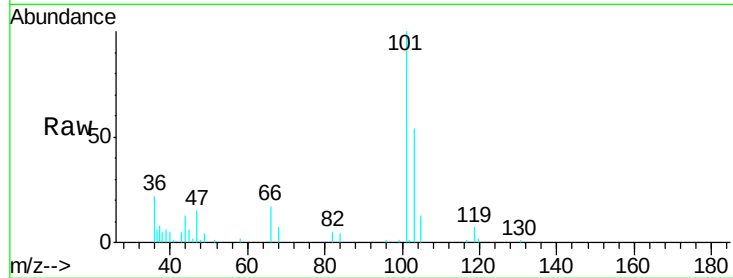
103 53.7 54.5 81.7#

Manual Integrations

APPROVED

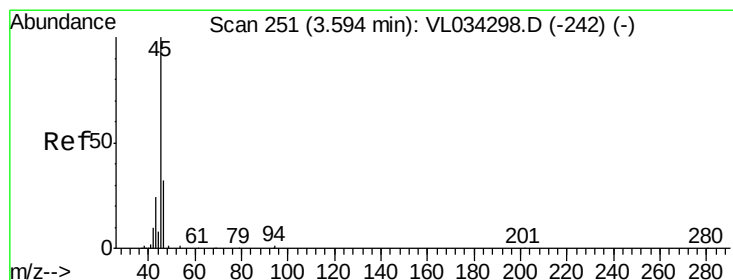
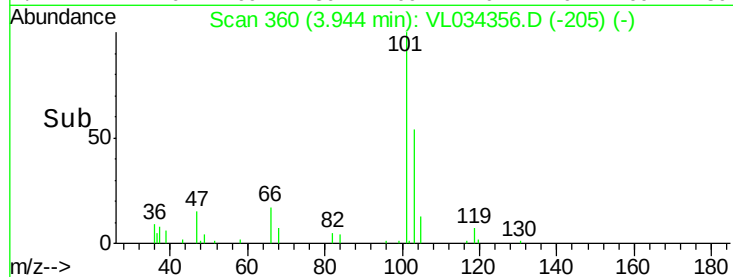
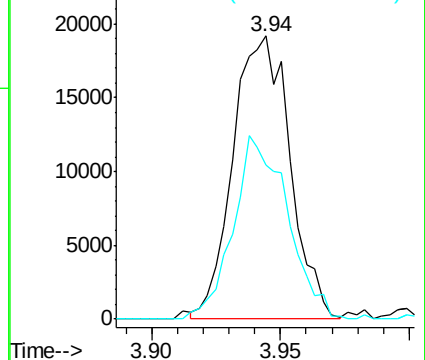
MMDadoda

10/28/2019 9:43:57 AM



Abundance Ion 101.00 (100.70 to 101.70): V

Ion 103.00 (102.70 to 103.70): V



#13

Ethanol

Concen: 148.501 ppbv

RT: 3.59 min Scan# 251

Delta R.T. -0.00 min

Lab File: VL034356.D

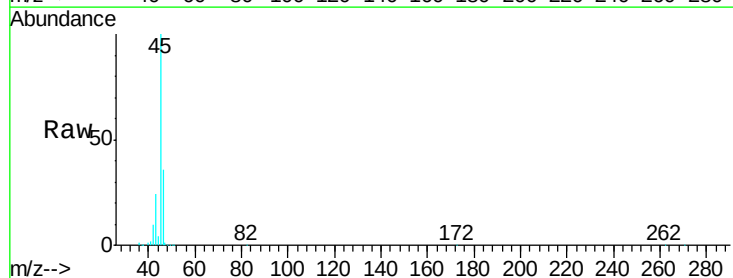
Acq: 24 Oct 2019 22:52

Tgt Ion: 45 Resp: 1454237

Ion Ratio Lower Upper

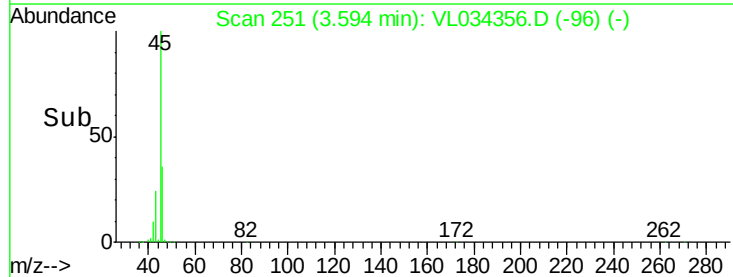
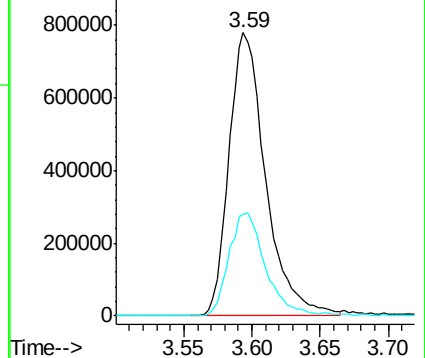
45 100

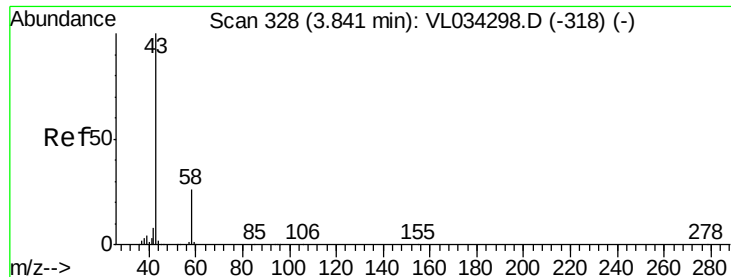
46 36.8 15.8 63.2



Abundance Ion 45.10 (44.80 to 45.80): VL0

Ion 46.10 (45.80 to 46.80): VL0





#15

Acetone

Concen: 3.204 ppbv m

RT: 3.84 min Scan# 328

Delta R.T. -0.00 min

Lab File: VL034356.D

Acq: 24 Oct 2019 22:52

Instrument :

MSVOA\_L

ClientSampled :

SV-2DUP

Tgt Ion: 43 Resp: 385776

Ion Ratio Lower Upper

43 100

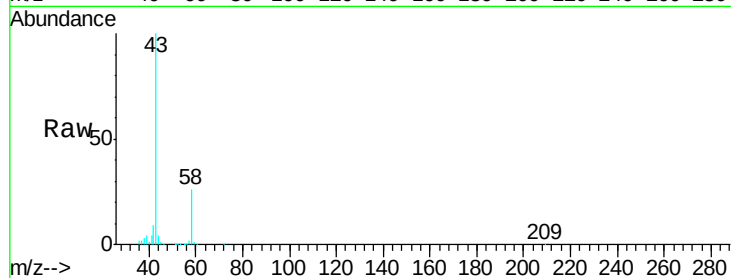
58 31.7 20.4 30.6#

Manual Integrations

APPROVED

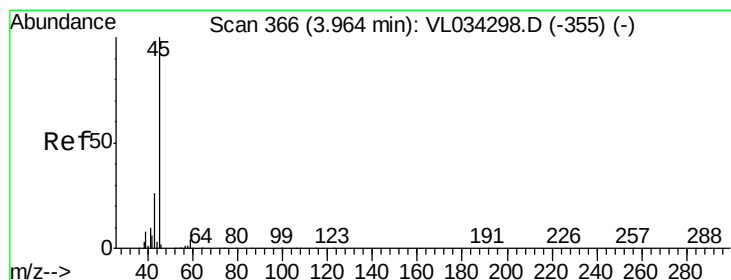
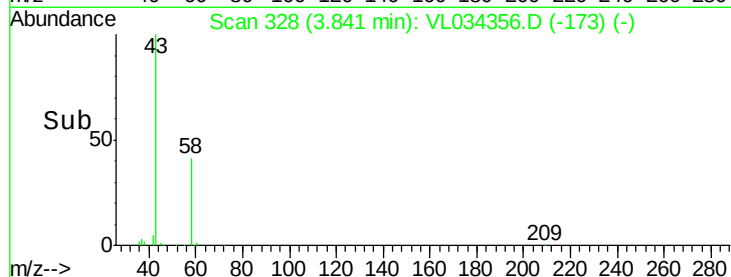
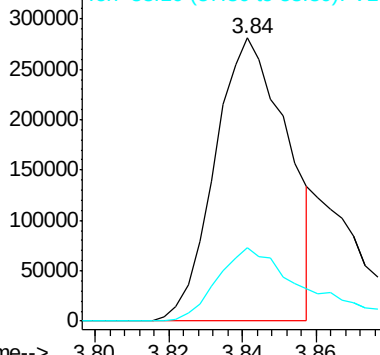
MMDadoda

10/28/2019 9:43:57 AM



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 58.10 (57.80 to 58.80): VL0



#19

Isopropyl Alcohol

Concen: 0.937 ppbv

RT: 3.97 min Scan# 369

Delta R.T. 0.01 min

Lab File: VL034356.D

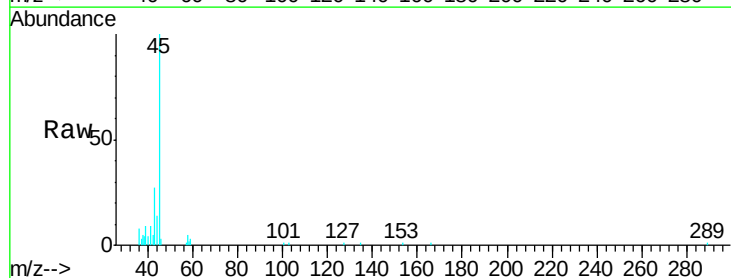
Acq: 24 Oct 2019 22:52

Tgt Ion: 45 Resp: 62924

Ion Ratio Lower Upper

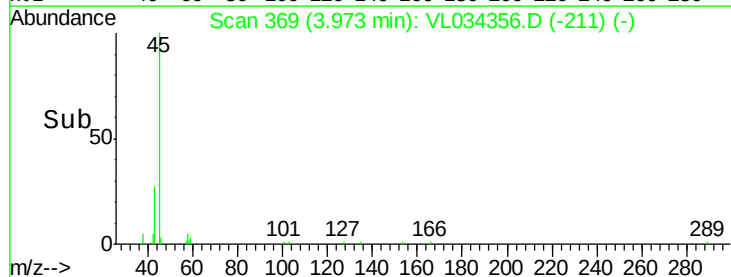
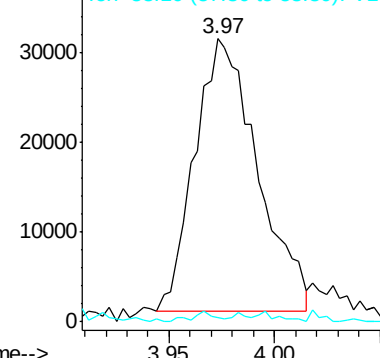
45 100

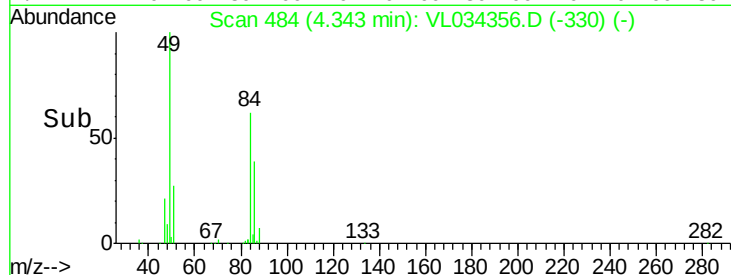
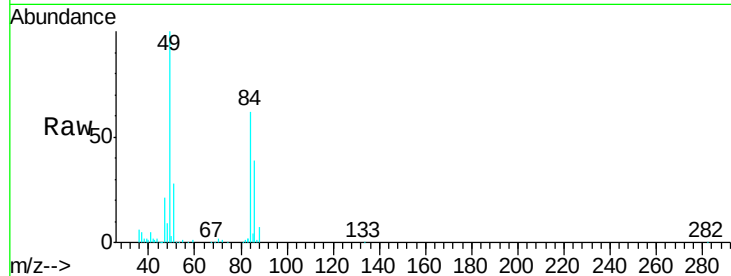
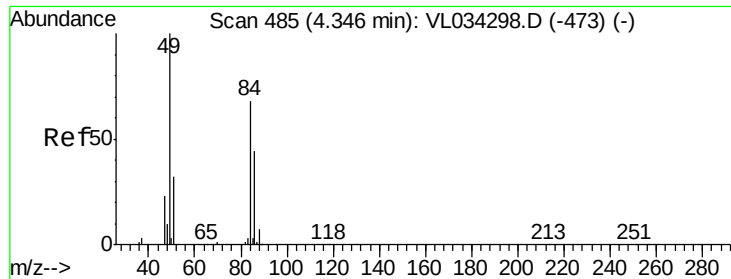
58 193.3 1.4 2.2#



Abundance Ion 45.10 (44.80 to 45.80): VL0

Ion 58.10 (57.80 to 58.80): VL0





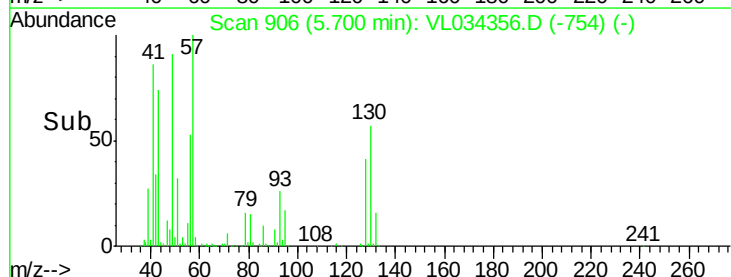
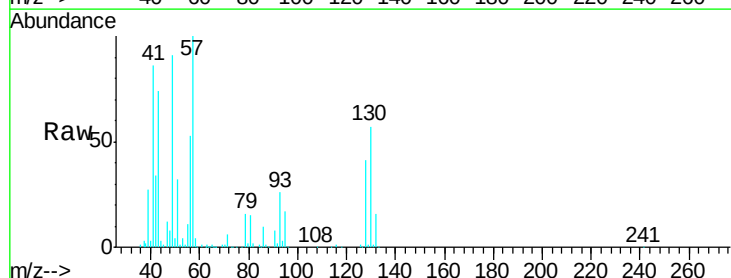
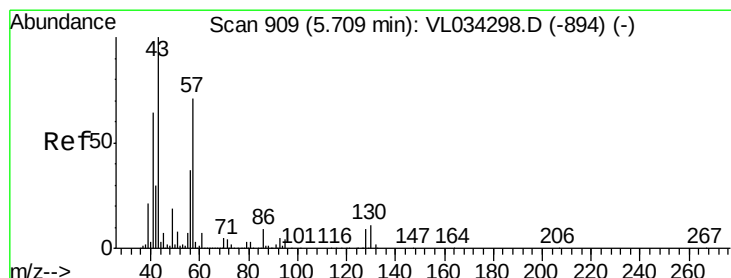
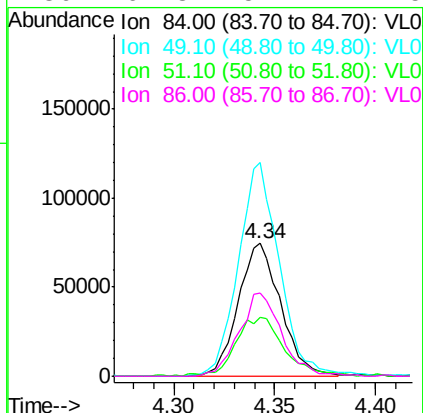
#20  
Methylene Chloride  
Concen: 2.541 ppbv  
RT: 4.34 min Scan# 484  
Delta R.T. -0.00 min  
Lab File: VL034356.D  
Acq: 24 Oct 2019 22:52

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 84      | 100   |       |       |
| 49      | 159.7 | 118.5 | 177.7 |
| 51      | 42.2  | 38.8  | 58.2  |
| 86      | 62.8  | 51.7  | 77.5  |

Instrument :  
MSVOA\_L  
ClientSampled :  
SV-2DUP

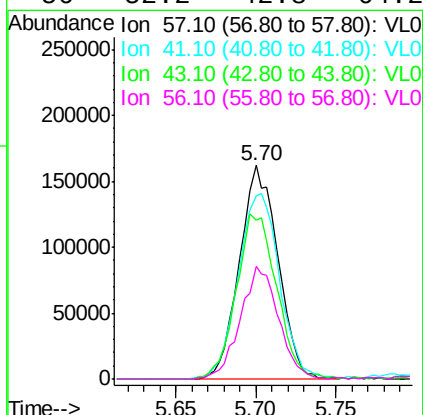
Manual Integrations  
APPROVED

MMDadoda  
10/28/2019 9:43:57 AM

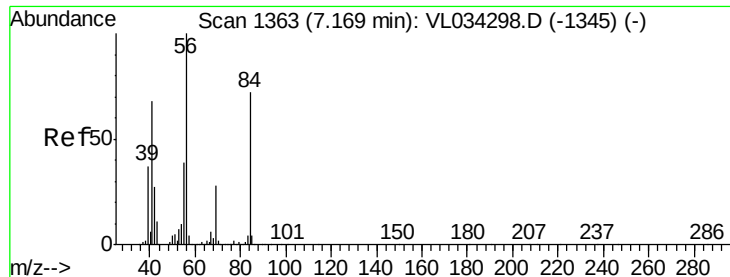


#26  
Hexane  
Concen: 3.061 ppbv  
RT: 5.70 min Scan# 906  
Delta R.T. -0.01 min  
Lab File: VL034356.D  
Acq: 24 Oct 2019 22:52

| Tgt Ion | Ratio | Lower | Upper  |
|---------|-------|-------|--------|
| 57      | 100   |       |        |
| 41      | 93.8  | 76.5  | 114.7  |
| 43      | 81.4  | 188.5 | 282.7# |
| 56      | 52.2  | 42.8  | 64.2   |







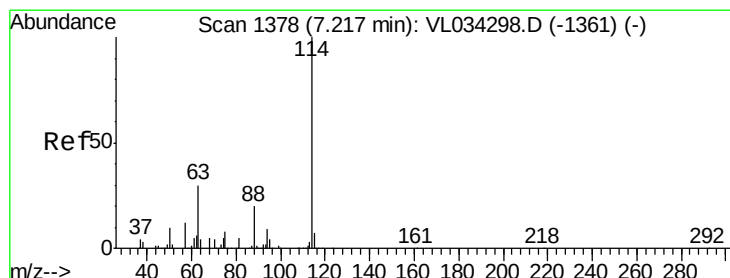
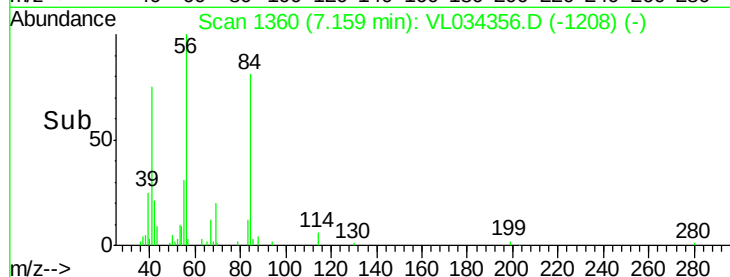
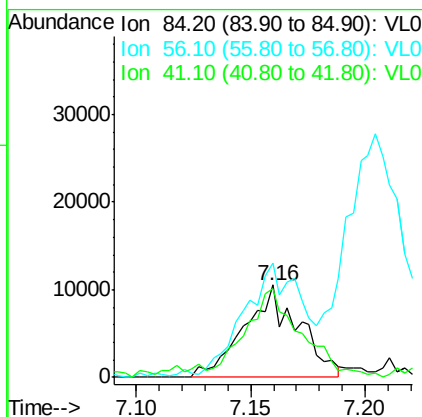
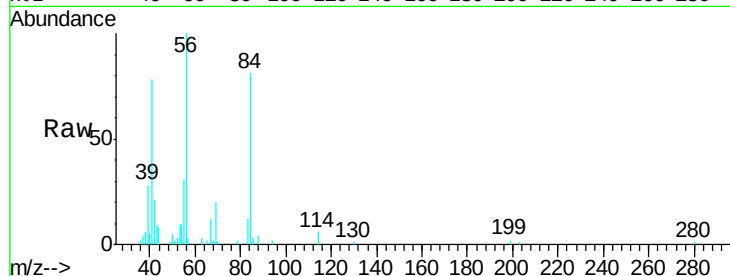
#30  
Cyclohexane  
Concen: 0.273 ppbv m  
RT: 7.16 min Scan# 1360  
Delta R.T. -0.01 min  
Lab File: VL034356.D  
Acq: 24 Oct 2019 22:52

Instrument :  
MSVOA\_L  
ClientSampled :  
SV-2DUP

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 84      | 100   |       |       |
| 56      | 136.7 | 119.4 | 179.0 |
| 41      | 110.3 | 78.7  | 118.1 |

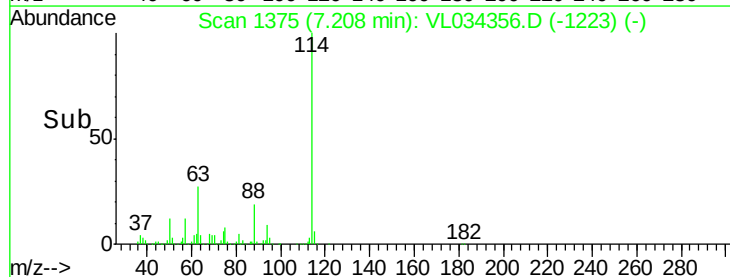
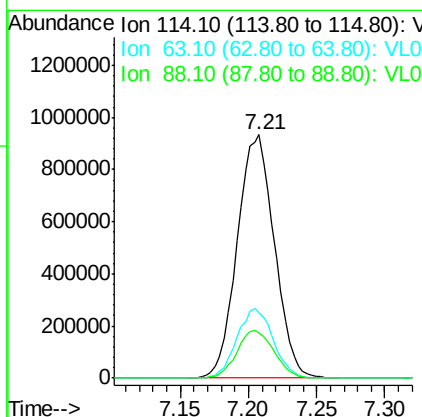
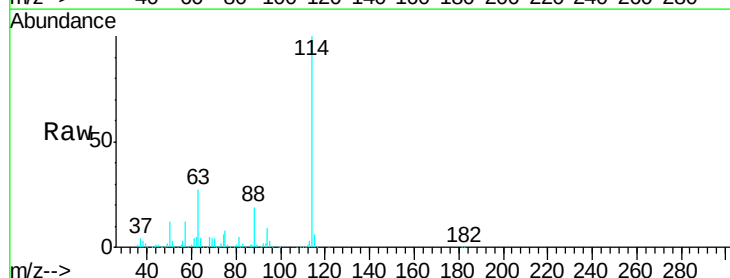
Manual Integrations  
APPROVED

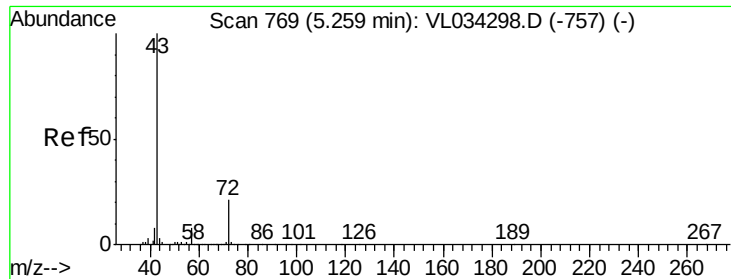
MMDadoda  
10/28/2019 9:43:57 AM



#33  
1,4-Difluorobenzene  
Concen: 10.000 ppbv  
RT: 7.21 min Scan# 1375  
Delta R.T. -0.01 min  
Lab File: VL034356.D  
Acq: 24 Oct 2019 22:52

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 114     | 100   |       |       |
| 63      | 28.3  | 25.2  | 37.8  |
| 88      | 19.6  | 16.0  | 24.0  |





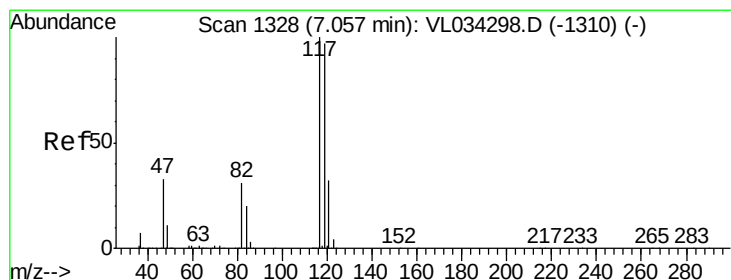
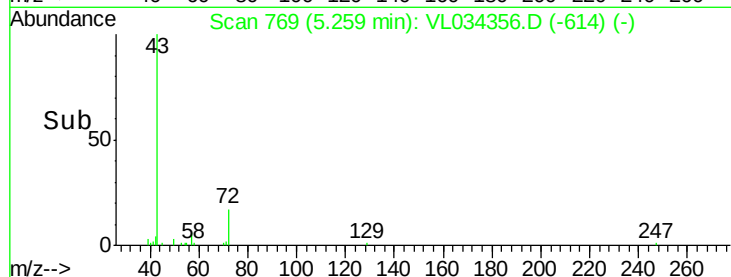
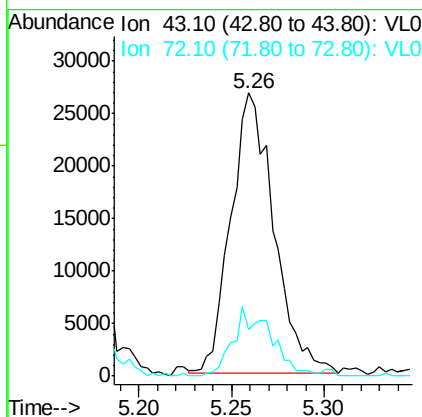
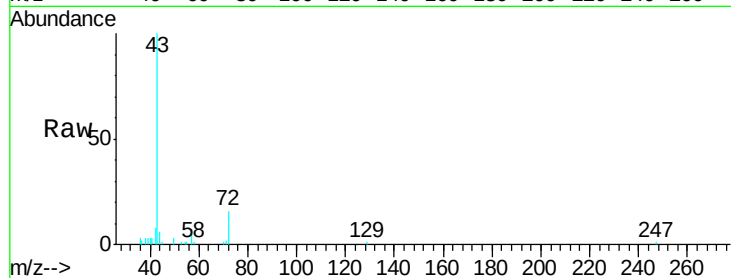
#34  
 2-Butanone  
 Concen: 0.299 ppbv  
 RT: 5.26 min Scan# 769  
 Delta R.T. -0.00 min  
 Lab File: VL034356.D  
 Acq: 24 Oct 2019 22:52

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 SV-2DUP

Tgt Ion: 43 Resp: 43178  
 Ion Ratio Lower Upper  
 43 100  
 72 22.3 16.3 24.5

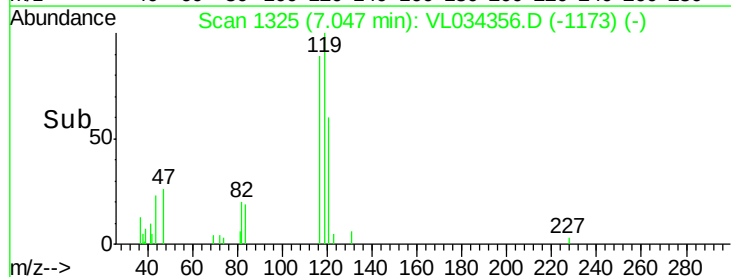
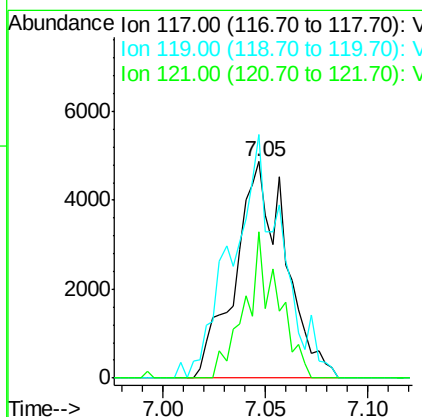
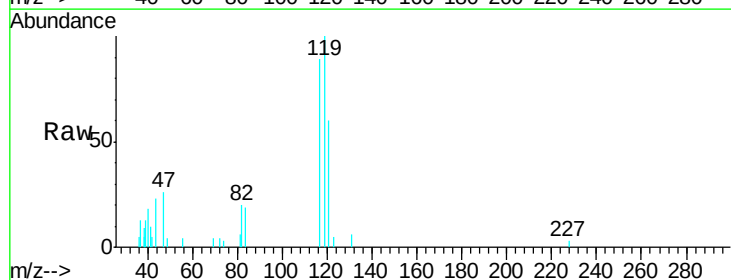
Manual Integrations  
 APPROVED

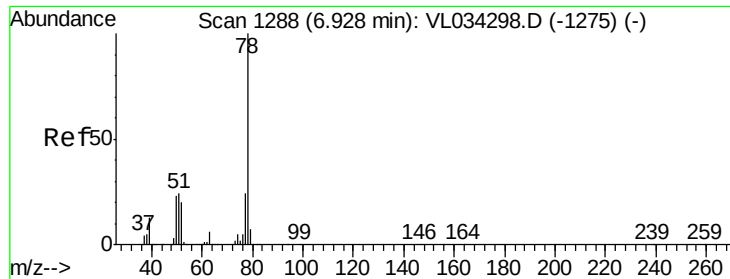
MMDadoda  
 10/28/2019 9:43:57 AM



#35  
 Carbon Tetrachloride  
 Concen: 0.054 ppbv m  
 RT: 7.05 min Scan# 1325  
 Delta R.T. -0.01 min  
 Lab File: VL034356.D  
 Acq: 24 Oct 2019 22:52

Tgt Ion: 117 Resp: 8351  
 Ion Ratio Lower Upper  
 117 100  
 119 112.6 77.3 115.9  
 121 67.6 25.5 38.3#





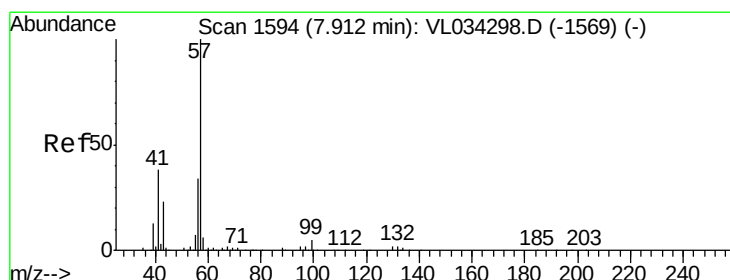
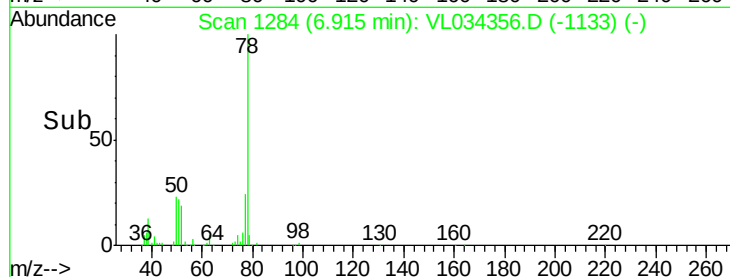
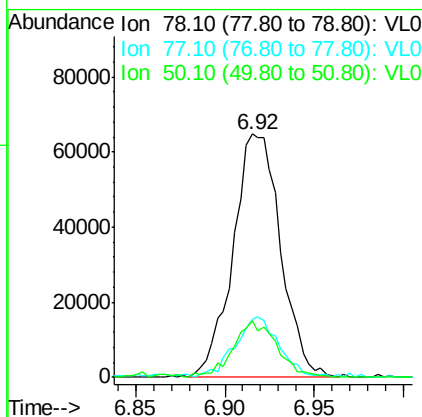
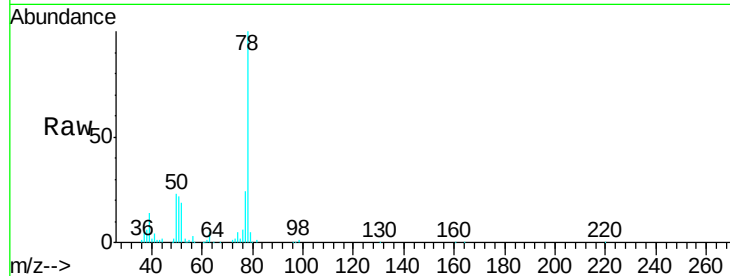
#36  
Benzene  
Concen: 0.711 ppbv  
RT: 6.92 min Scan# 1284  
Delta R.T. -0.01 min  
Lab File: VL034356.D  
Acq: 24 Oct 2019 22:52

Instrument :  
MSVOA\_L  
ClientSampleId :  
SV-2DUP

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 78      | 100   |       |       |
| 77      | 23.0  | 19.0  | 28.4  |
| 50      | 23.2  | 18.6  | 27.8  |

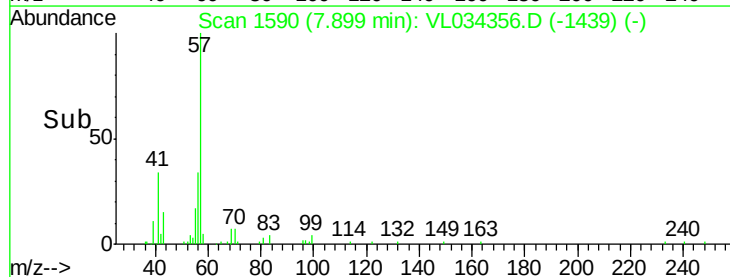
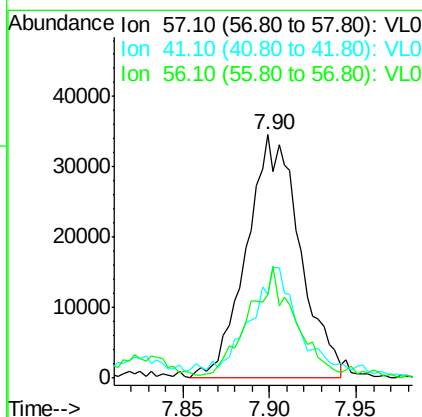
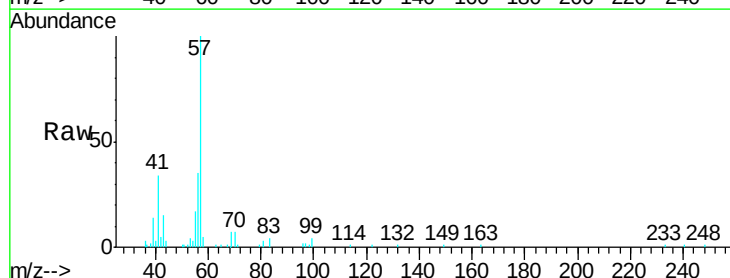
Manual Integrations  
APPROVED

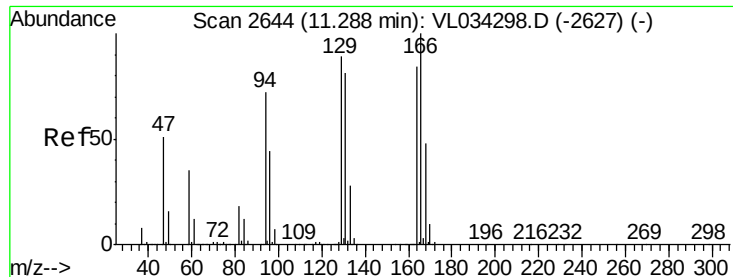
MMDadoda  
10/28/2019 9:43:57 AM



#44  
2,2,4-Trimethylpentane  
Concen: 0.237 ppbv m  
RT: 7.90 min Scan# 1590  
Delta R.T. -0.01 min  
Lab File: VL034356.D  
Acq: 24 Oct 2019 22:52

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 57      | 100   |       |       |
| 41      | 0.0   | 29.3  | 43.9# |
| 56      | 0.0   | 25.3  | 37.9# |





#52

Tetrachloroethene

Concen: 0.147 ppbv m

RT: 11.28 min Scan# 2642

Delta R.T. -0.01 min

Lab File: VL034356.D

Acq: 24 Oct 2019 22:52

Instrument :

MSVOA\_L

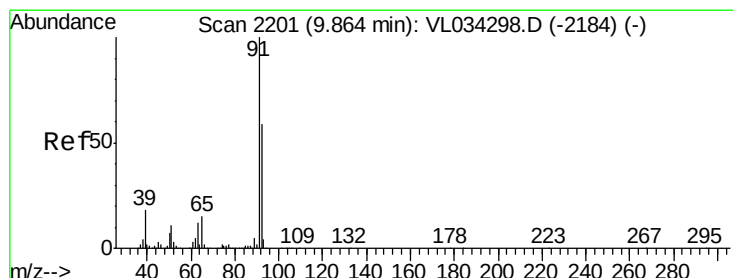
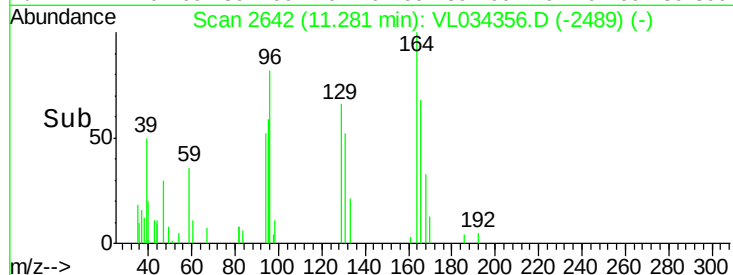
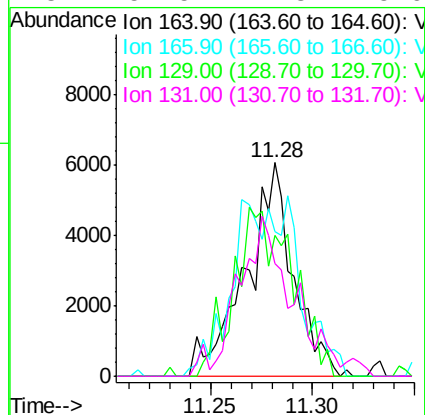
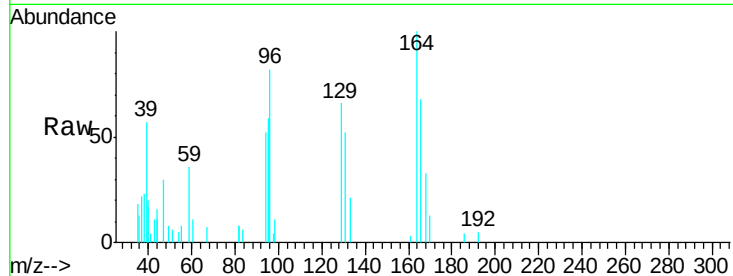
ClientSampled :

SV-2DUP

|           |       |       |        |
|-----------|-------|-------|--------|
| Tgt Ion:  | 164   | Resp: | 9756   |
| Ion Ratio | Lower | Upper |        |
| 164       | 100   |       |        |
| 166       | 67.8  | 95.3  | 142.9# |
| 129       | 66.1  | 84.5  | 126.7# |
| 131       | 52.5  | 77.3  | 115.9# |

Manual Integrations  
APPROVED

MMDadoda  
10/28/2019 9:43:57 AM



#53

Toluene

Concen: 3.058 ppbv

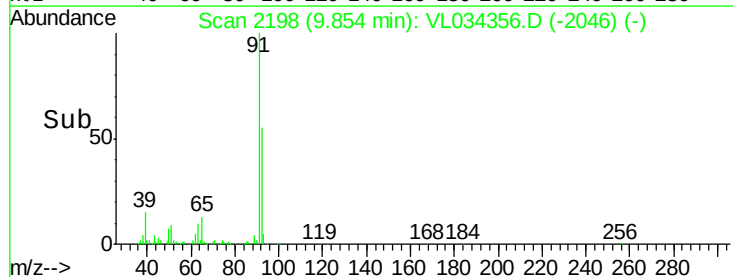
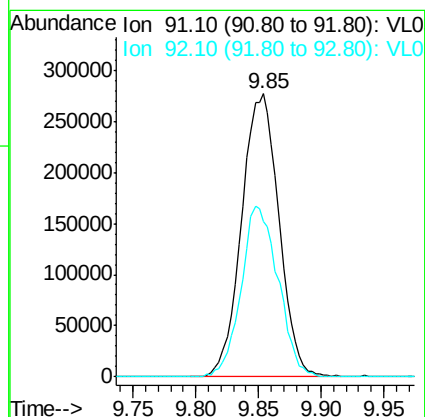
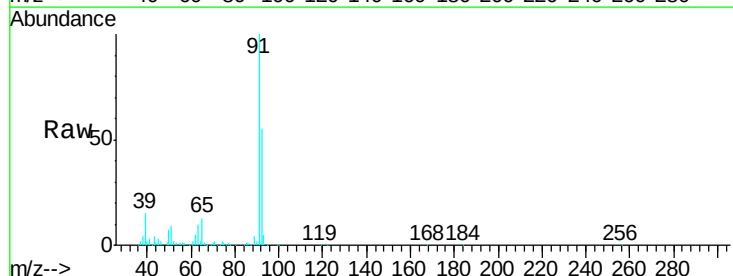
RT: 9.85 min Scan# 2198

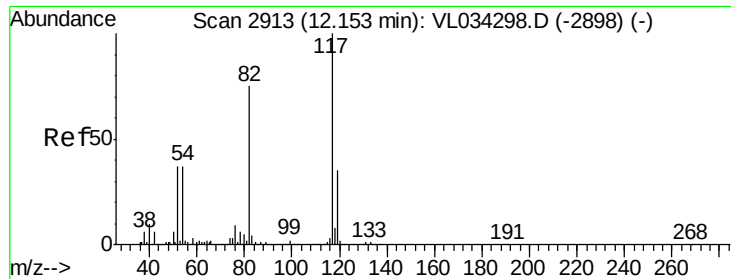
Delta R.T. -0.01 min

Lab File: VL034356.D

Acq: 24 Oct 2019 22:52

|           |       |       |        |
|-----------|-------|-------|--------|
| Tgt Ion:  | 91    | Resp: | 571317 |
| Ion Ratio | Lower | Upper |        |
| 91        | 100   |       |        |
| 92        | 59.8  | 48.4  | 72.6   |





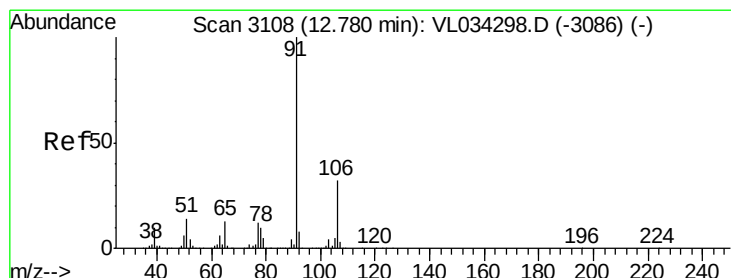
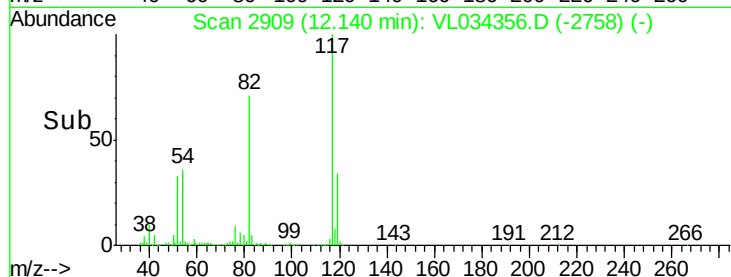
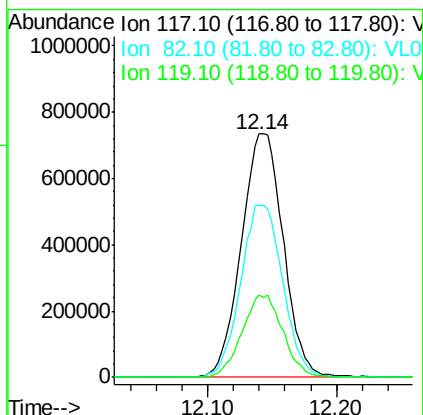
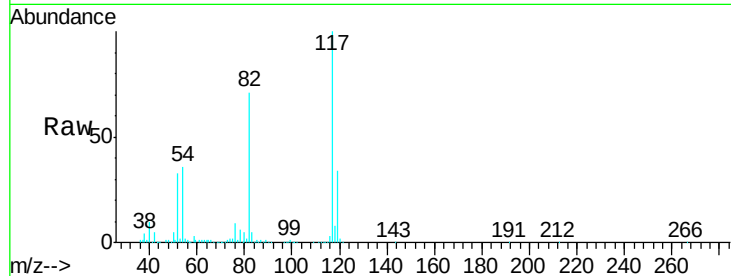
#55  
Chlorobenzene-d5  
Concen: 10.000 ppbv  
RT: 12.14 min Scan# 2909  
Delta R.T. -0.01 min  
Lab File: VL034356.D  
Acq: 24 Oct 2019 22:52

Instrument :  
MSVOA\_L  
ClientSampleId :  
SV-2DUP

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 117     | 100   |       |       |
| 82      | 71.0  | 55.5  | 83.3  |
| 119     | 33.1  | 26.5  | 39.7  |

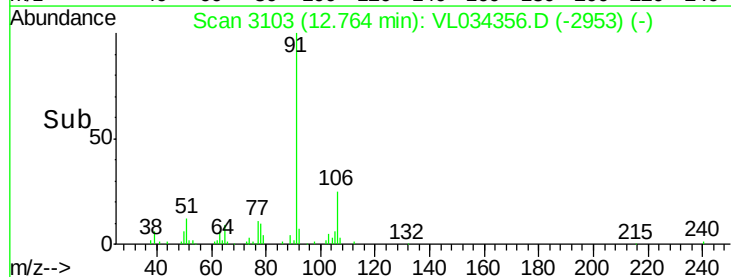
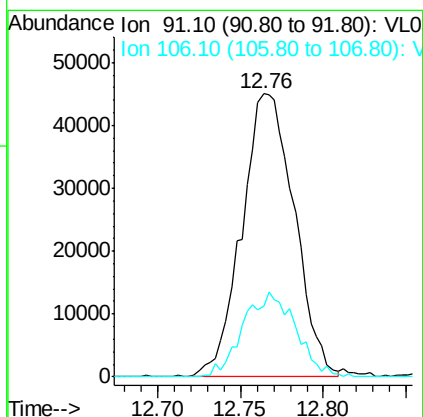
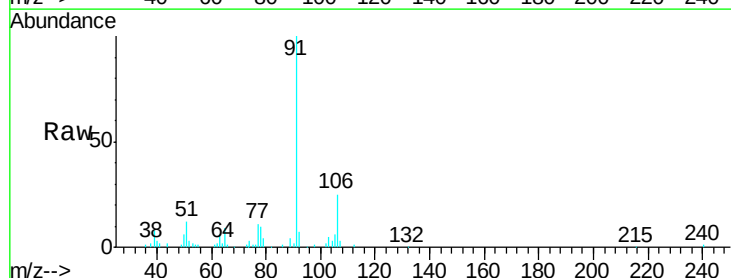
Manual Integrations  
APPROVED

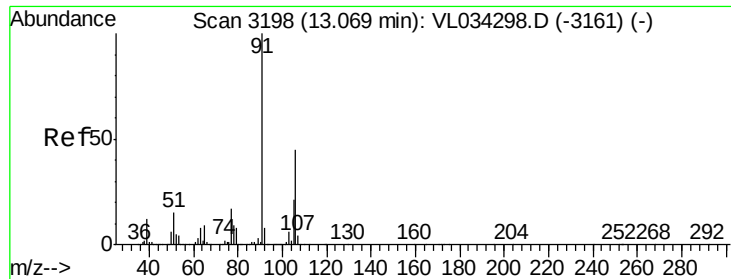
MMDadoda  
10/28/2019 9:43:57 AM



#58  
Ethyl Benzene  
Concen: 0.425 ppbv  
RT: 12.76 min Scan# 3103  
Delta R.T. -0.02 min  
Lab File: VL034356.D  
Acq: 24 Oct 2019 22:52

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 91      | 100   |       |       |
| 106     | 25.2  | 25.3  | 37.9# |





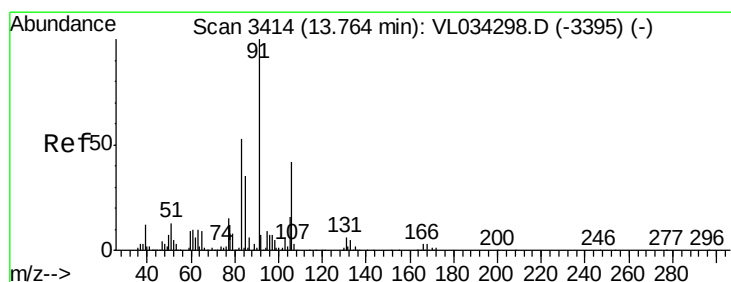
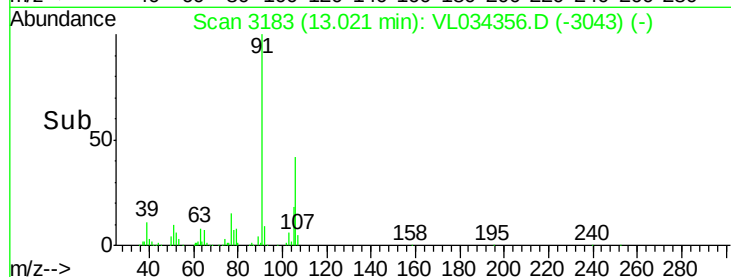
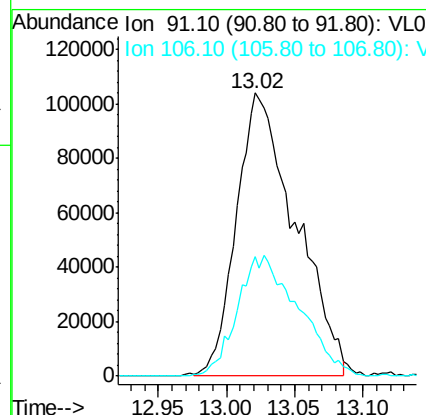
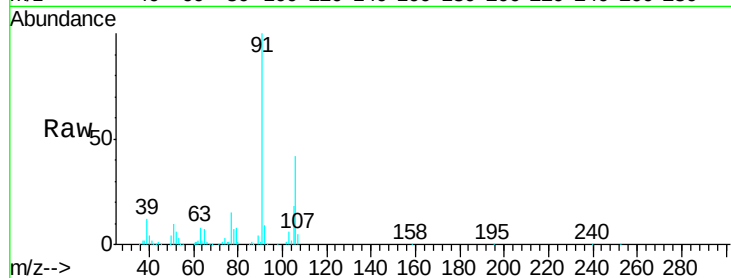
#59  
m/p-Xylene  
Concen: 1.551 ppbv m  
RT: 13.02 min Scan# 3183  
Delta R.T. -0.05 min  
Lab File: VL034356.D  
Acq: 24 Oct 2019 22:52

Instrument :  
MSVOA\_L  
ClientSampleId :  
SV-2DUP

Tgt Ion: 91 Resp: 312848  
Ion Ratio Lower Upper  
91 100  
106 0.0 35.4 53.2#

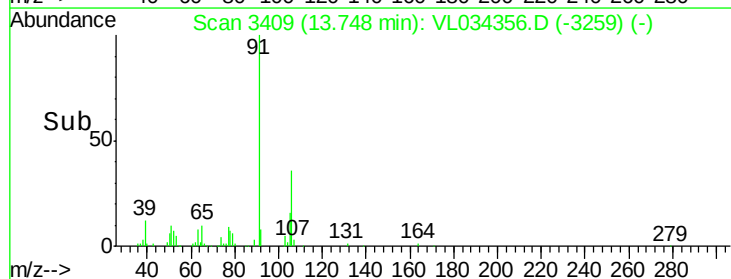
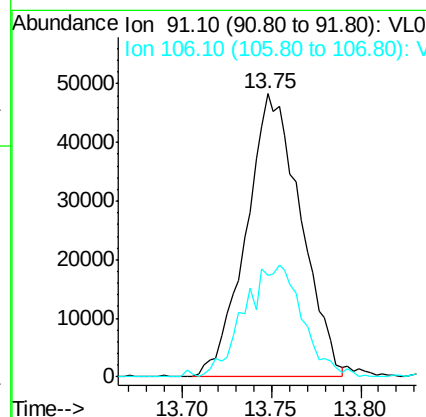
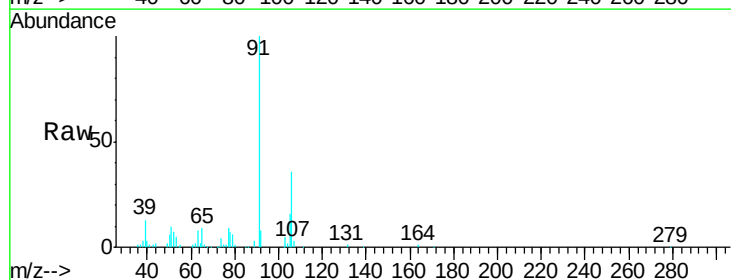
Manual Integrations  
APPROVED

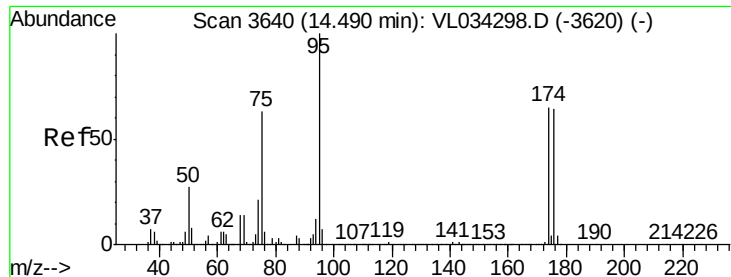
MMDadoda  
10/28/2019 9:43:57 AM



#60  
o-Xylene  
Concen: 0.513 ppbv  
RT: 13.75 min Scan# 3409  
Delta R.T. -0.02 min  
Lab File: VL034356.D  
Acq: 24 Oct 2019 22:52

Tgt Ion: 91 Resp: 103085  
Ion Ratio Lower Upper  
91 100  
106 42.4 21.6 64.6





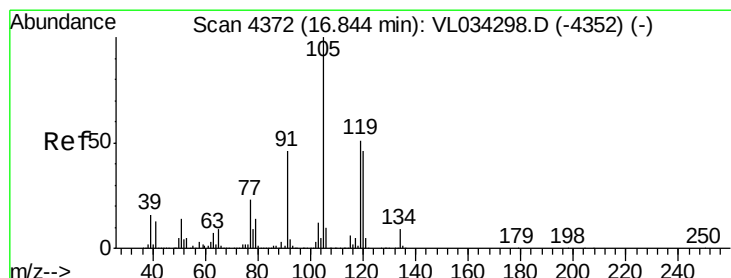
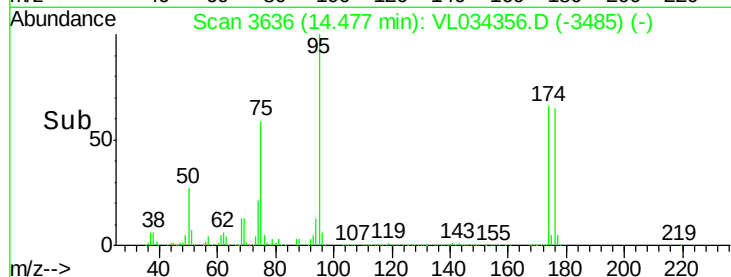
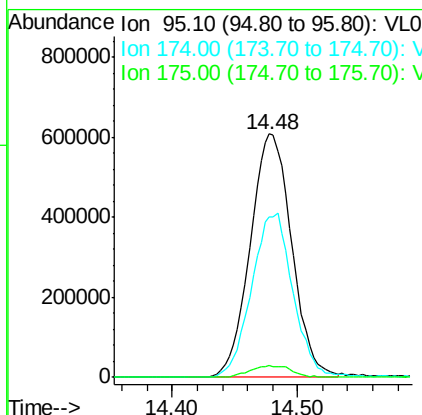
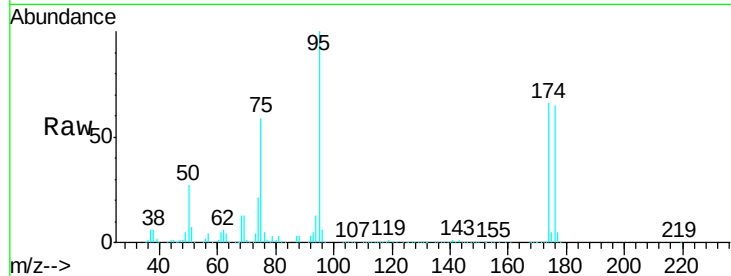
#68  
 1-Bromo-4-Fluorobenzene  
 Concen: 9.923 ppbv  
 RT: 14.48 min Scan# 3636  
 Delta R.T. -0.01 min  
 Lab File: VL034356.D  
 Acq: 24 Oct 2019 22:52

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 SV-2DUP

Tgt Ion: 95 Resp: 1399885  
 Ion Ratio Lower Upper  
 95 100  
 174 67.6 52.6 78.8  
 175 4.9 3.8 5.6

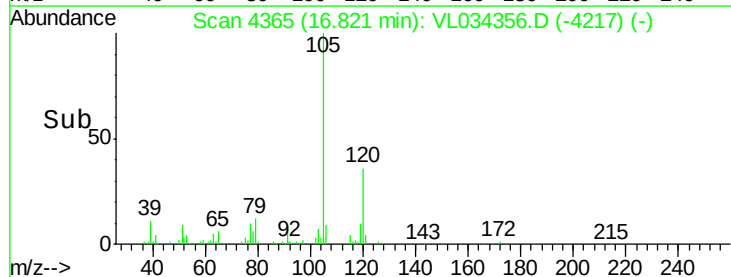
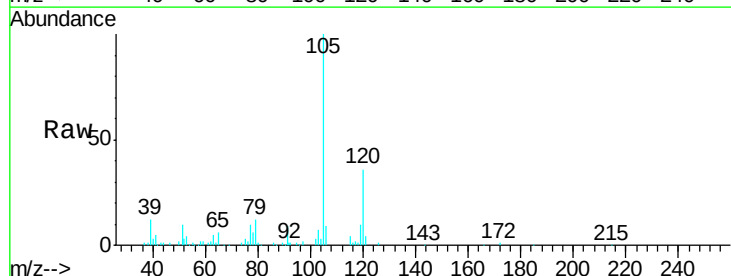
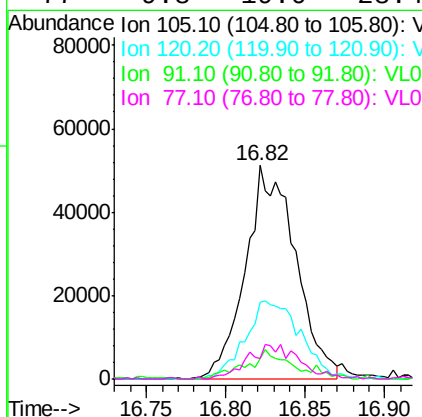
Manual Integrations  
 APPROVED

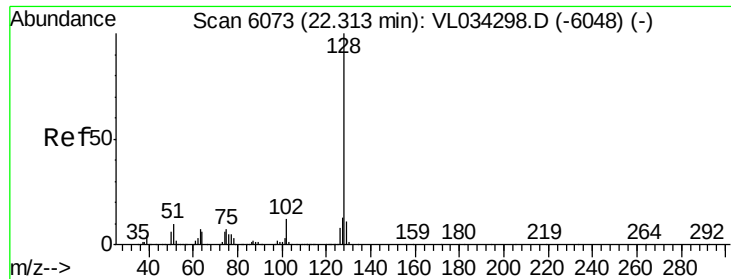
MMDadoda  
 10/28/2019 9:43:57 AM



#74  
 1,2,4-Trimethylbenzene  
 Concen: 0.478 ppbv m  
 RT: 16.82 min Scan# 4365  
 Delta R.T. -0.02 min  
 Lab File: VL034356.D  
 Acq: 24 Oct 2019 22:52

Tgt Ion: 105 Resp: 111505  
 Ion Ratio Lower Upper  
 105 100  
 120 36.2 37.0 55.6#  
 91 9.4 38.2 57.2#  
 77 9.8 19.0 28.4#





#79

Naphthalene

Concen: 0.118 ppbv m

RT: 22.30 min Scan# 6069

Delta R.T. -0.01 min

Lab File: VL034356.D

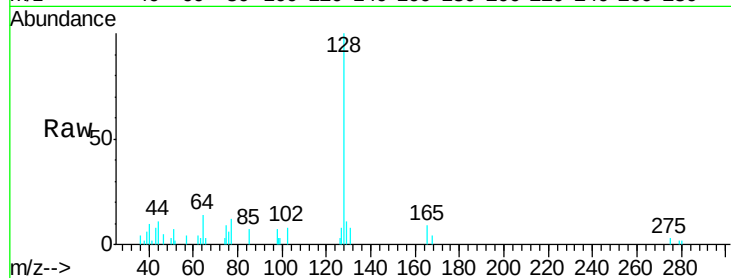
Acq: 24 Oct 2019 22:52

Instrument :

MSVOA\_L

ClientSampleId :

SV-2DUP



|           |      |       |       |
|-----------|------|-------|-------|
| Tgt Ion:  | 128  | Resp: | 20104 |
| Ion Ratio |      | Lower | Upper |
| 128       | 100  |       |       |
| 127       | 8.2  | 10.2  | 15.4# |
| 129       | 11.3 | 8.9   | 13.3  |

Manual Integrations  
APPROVED

MMDadoda  
10/28/2019 9:43:57 AM

