

VII. Matrix:

As a part of this validation study, we investigated whether or not extraction of a known amount of Δ^9 – Tetrahydrocannabinol (THC) from different matrices would yield expected concentrations when quantitated using a calibration curve generated on our instruments. Approximately 100 mg of three common household spices were used as matrices in this study: Summer Savory, Oregano, and Cilantro. Each spice was spiked with a 100 μg and 300 μg of THC by pipetting 100 μL and 300 μL of a 1,000 $\mu\text{g}/\text{mL}$ Cerilliant Δ^9 – THC standard. These spiked spice preparations were extracted into 2 mL of 150.0 $\mu\text{g}/\text{mL}$ Tribenzylamine internal standard methanol solution. The samples were spike with THC and dried overnight. They were extracted and run the next day along with the calibration standards.

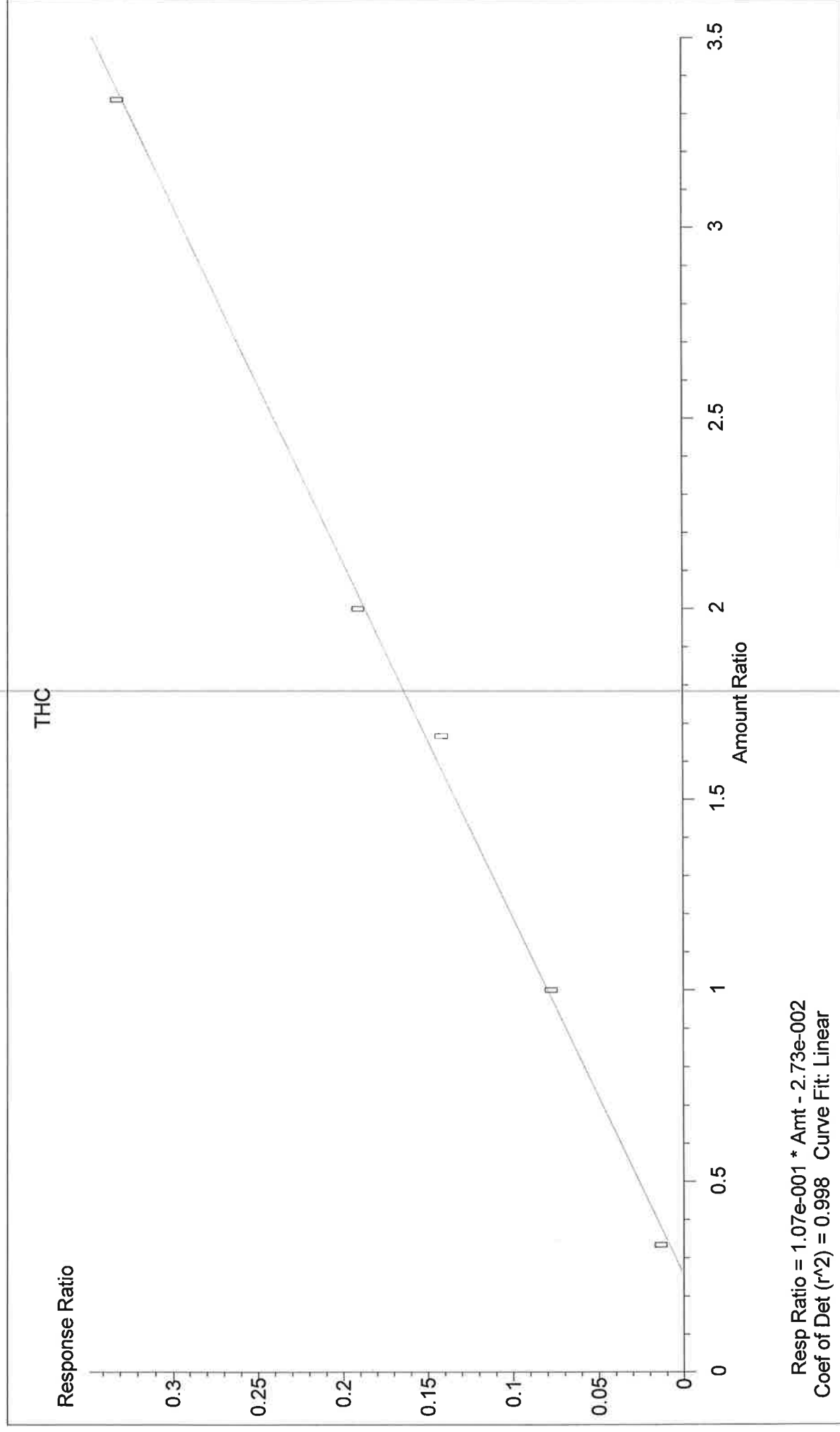
Three spice samples should have a concentration of 50 $\mu\text{g}/\text{mL}$ while the other three samples should have a concentration of 150 $\mu\text{g}/\text{mL}$. These samples were run on 3/5/2019 and THC was detected in every spiked sample. The blank extractions did not have any THC in them. However, the measured concentrations were lower than the expected concentration, especially in the 150 $\mu\text{g}/\text{mL}$ samples.

On 3/6/2019 nine spike spice samples were prepared: Blanks of Summer Savory, Oregano, Cilantro, 50 $\mu\text{g}/\text{mL}$ THC in Summer Savory, Oregano, Cilantro, and 150 $\mu\text{g}/\text{mL}$ THC in Summer Savory, Oregano, and Cilantro. These samples were prepared as described above and extracted in a similar way, however they were placed on the orbital shaker for 30 minutes instead of 15 minutes like the samples prepared on 3/5/2019. The 50 $\mu\text{g}/\text{mL}$ spike spice samples yielded results extremely close to the expected concentration. However, the 150 $\mu\text{g}/\text{mL}$ were lower than expected. The 150 $\mu\text{g}/\text{mL}$ Summer Savory sample was run again after sitting in the extraction solvent for four hours and had slightly higher results but still well below the expected value. The 150 $\mu\text{g}/\text{mL}$ Oregano sample sat for approximately four hours and then was vortexed for 10 minutes and run again with results very close to the expected concentration. The 150 $\mu\text{g}/\text{mL}$ Cilantro sample was placed on its side on the orbital shaker for an additional 10 minutes after sitting for approximately four hours. The results after this additional time on the orbital shaker were lower than the expected concentration but still higher than the original results from the first 30 minutes on the orbital shaker. This experiment demonstrates that THC can be extracted from plant material, but that full extraction times and methods might need to be longer and more vigorous than originally thought.

After many experiments utilizing spiked spice samples of a known concentration of THC, it is clear that plant material must undergo vigorous shaking with the vortex in order to extract THC. These results are consistent with extraction procedures from other laboratory methods. While lengthy extraction times are not ideal, in this method they are necessary in order for reliable extractions of THC from plant material.

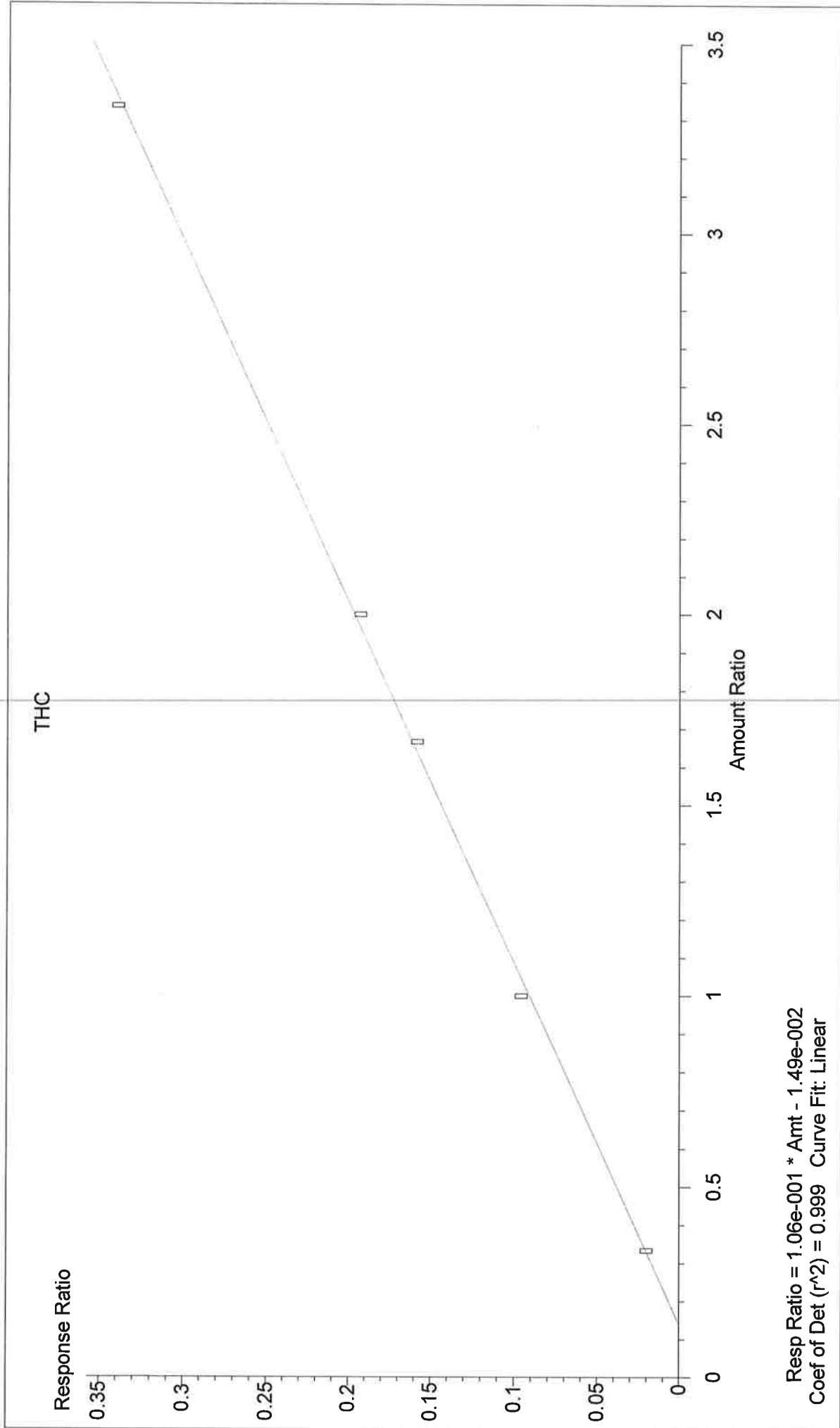
Calibration data of THC

LvLID	Amount (ratio)	Response (ratio)	bias (%)	Data File
50	0.3333	0.013571	62.18	C:\msdchem\1\DATA\2019\BTT\3-4-19\THC 50.D
150	1.0000	0.077673	-2.60	C:\msdchem\1\DATA\2019\BTT\3-4-19\THC 150.D
250	1.6667	0.141549	-6.34	C:\msdchem\1\DATA\2019\BTT\3-4-19\THC 250.D
300	2.0000	0.190701	2.08	C:\msdchem\1\DATA\2019\BTT\3-4-19\THC 300.D
500	3.3333	0.332123	0.78	C:\msdchem\1\DATA\2019\BTT\3-4-19\THC 500.D

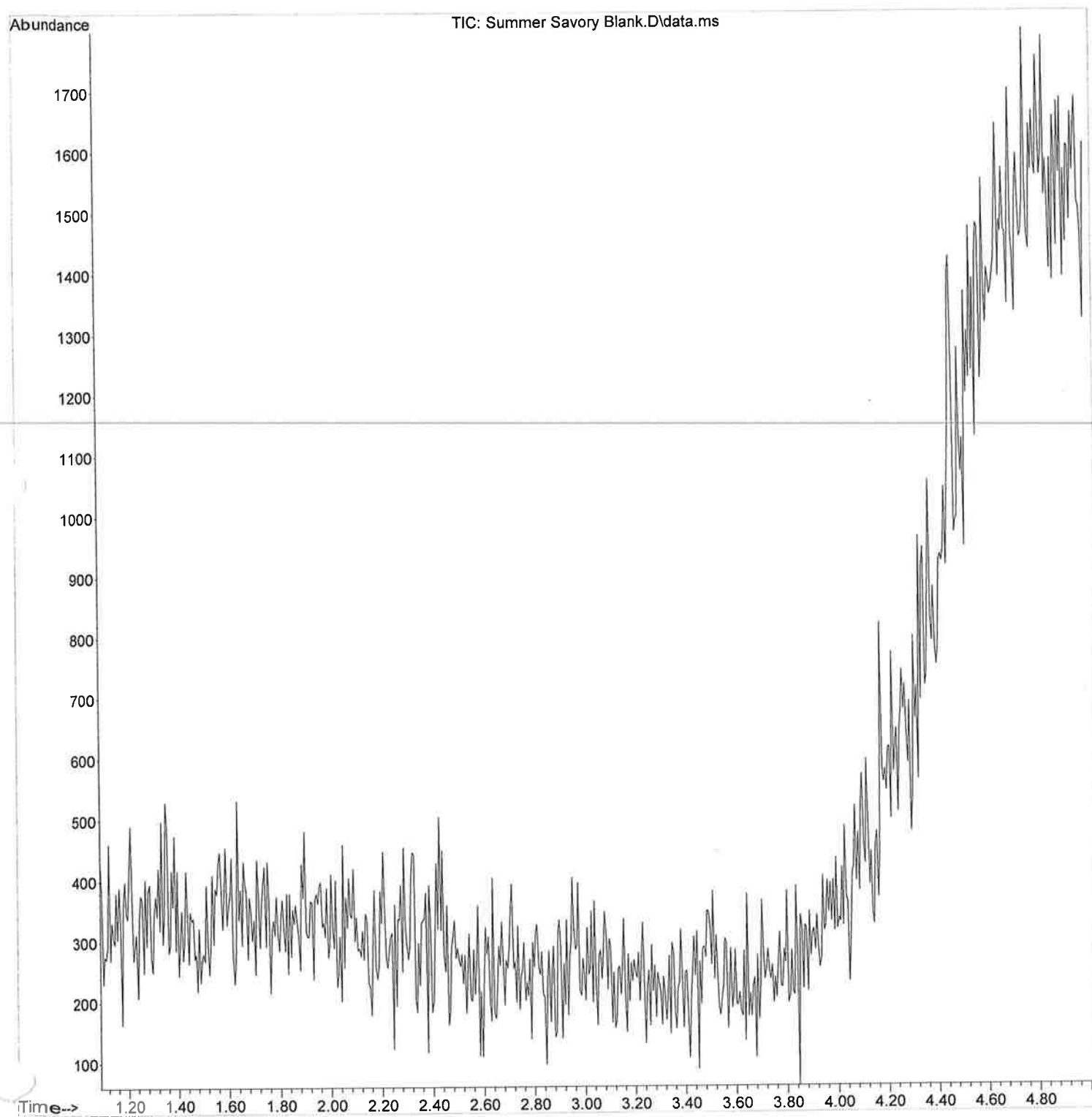


Calibration data of THC

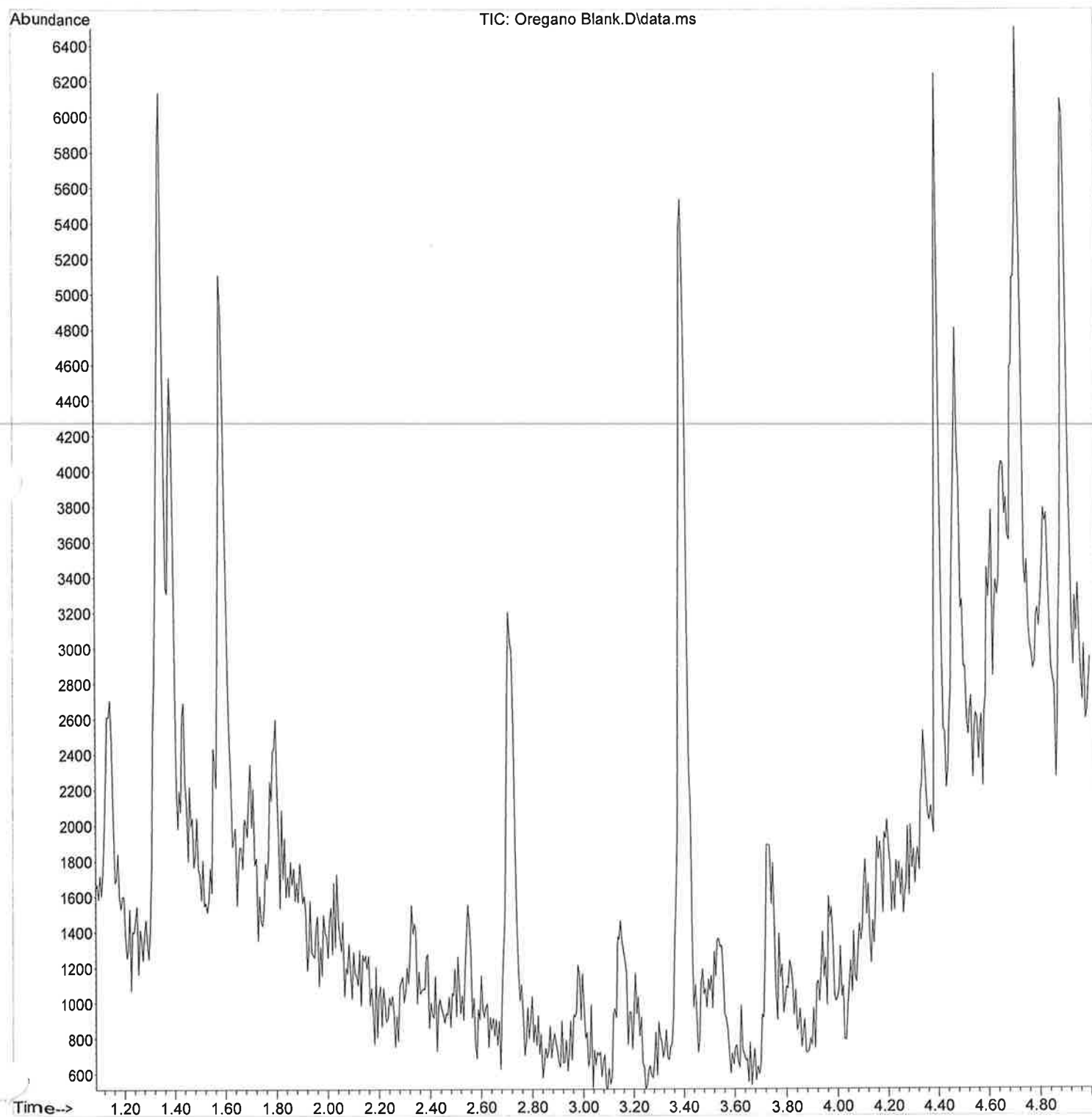
LVLID	Amount (ratio)	Response (ratio)	bias (%)	Data File
50	0.3333	0.019978	-2.08	C:\msdchem\1\DATA\2019\BTT\3-5-19\THC 50.D
150	1.0000	0.095823	5.37	C:\msdchem\1\DATA\2019\BTT\3-5-19\THC 150.D
250	1.6667	0.158411	-1.89	C:\msdchem\1\DATA\2019\BTT\3-5-19\THC 250.D
300	2.0000	0.192960	-1.92	C:\msdchem\1\DATA\2019\BTT\3-5-19\THC 300.D
500	3.3333	0.340173	0.70	C:\msdchem\1\DATA\2019\BTT\3-5-19\THC 500.D



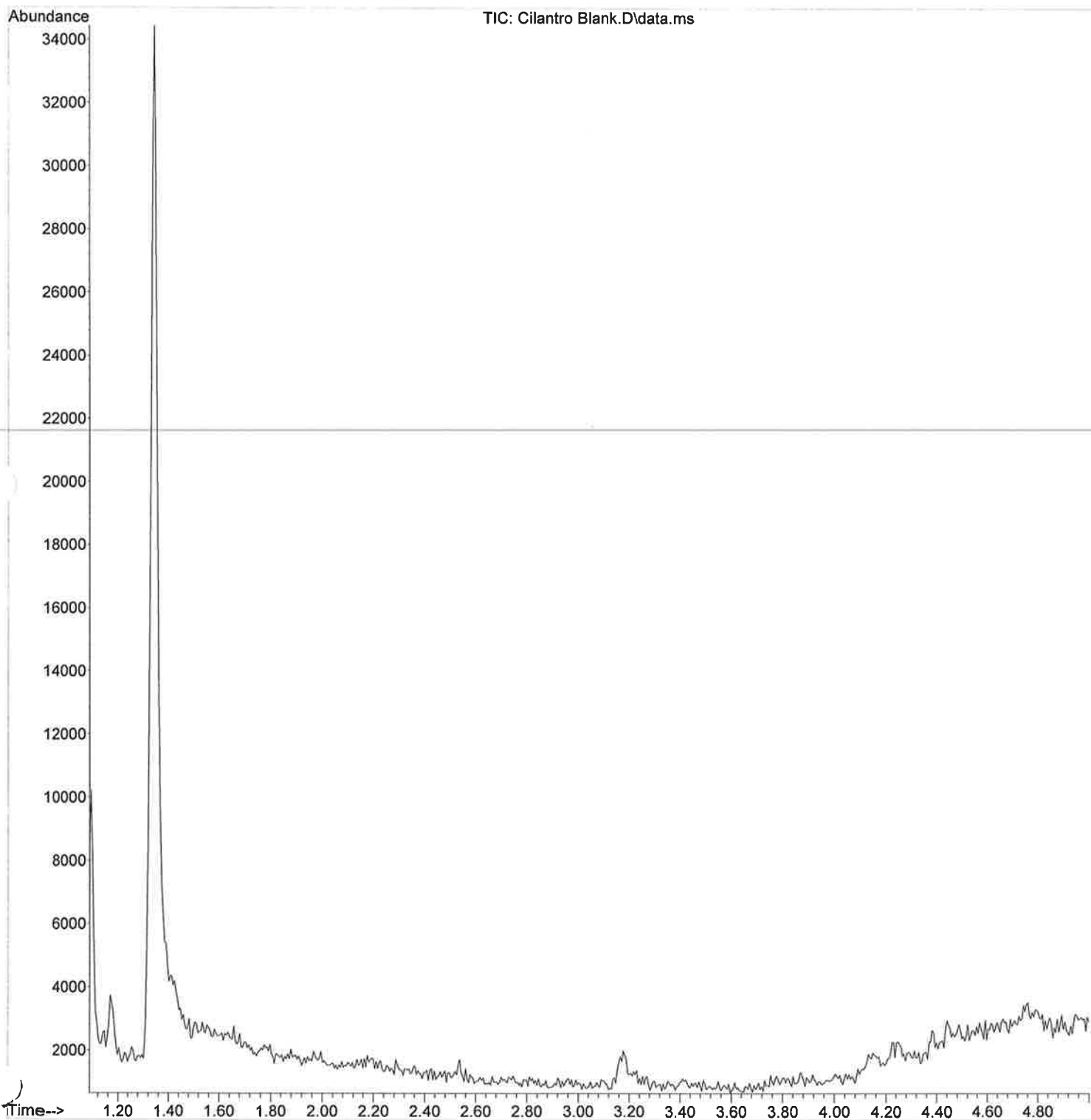
File : C:\msdchem\1\DATA\2019\BTT\3-5-19\Summer Savory Blank.D
Operator : TBI Analyst
Acquired : 5 Mar 2019 11:05 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Summer Savory
Misc Info : Methanol
Vial Number: 73



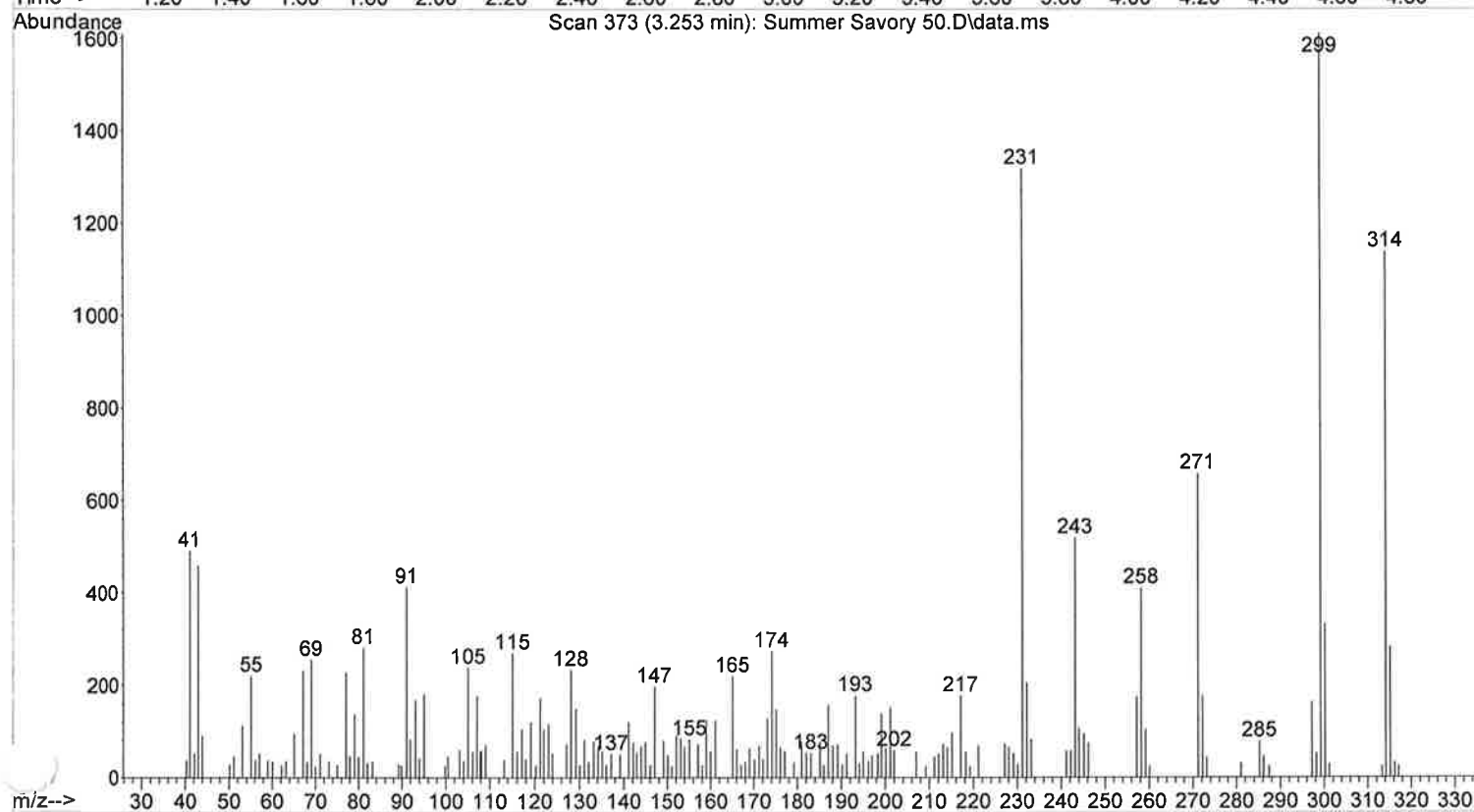
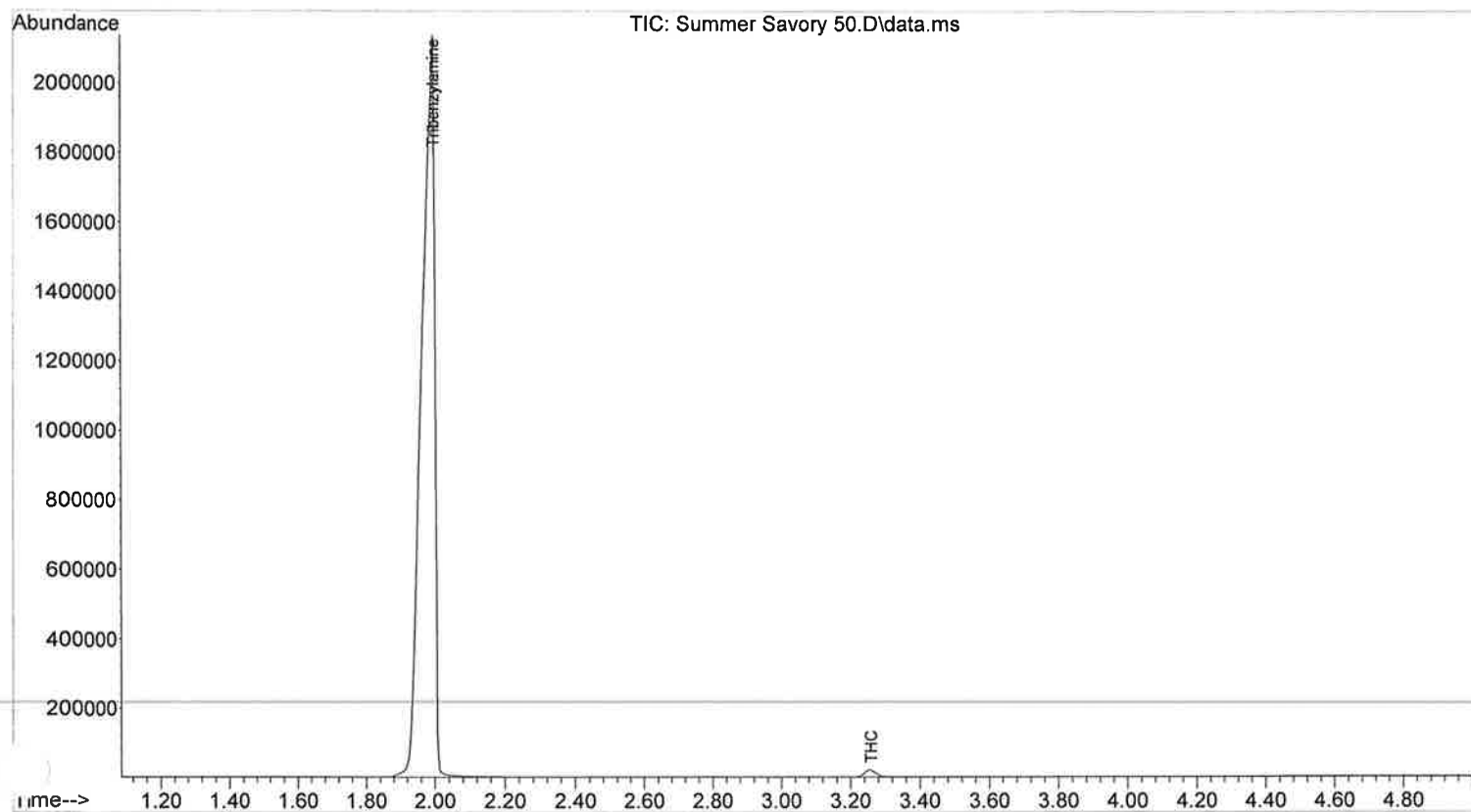
File :C:\msdchem\1\DATA\2019\BTT\3-5-19\Oregano Blank.D
Operator : TBI Analyst
Acquired : 5 Mar 2019 11:13 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Oregano
Misc Info : Methanol
Vial Number: 74



File :C:\msdchem\1\DATA\2019\BTT\3-5-19\Cilantro Blank.D
Operator : TBI Analyst
Acquired : 5 Mar 2019 11:21 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Cilantro
Misc Info : Methanol
Vial Number: 75



File :C:\msdchem\1\DATA\2019\BTT\3-5-19\Summer Savory 50.D
Operator : TBI Analyst
Acquired : 5 Mar 2019 9:16 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice Summer Savory
Misc Info : Methanol
Vial Number: 62



Data Path : C:\msdchem\1\DATA\2019\BTT\3-5-19\
Data File : Summer Savory 50.D
Acq On : 5 Mar 2019 9:16
Operator : TBI Analyst
Sample : Spice Summer Savory
Misc : Methanol
S Vial : 62 Sample Multiplier: 1

Quant Time: Mar 05 09:30:57 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 05 09:29:59 2019
Response via : Initial Calibration

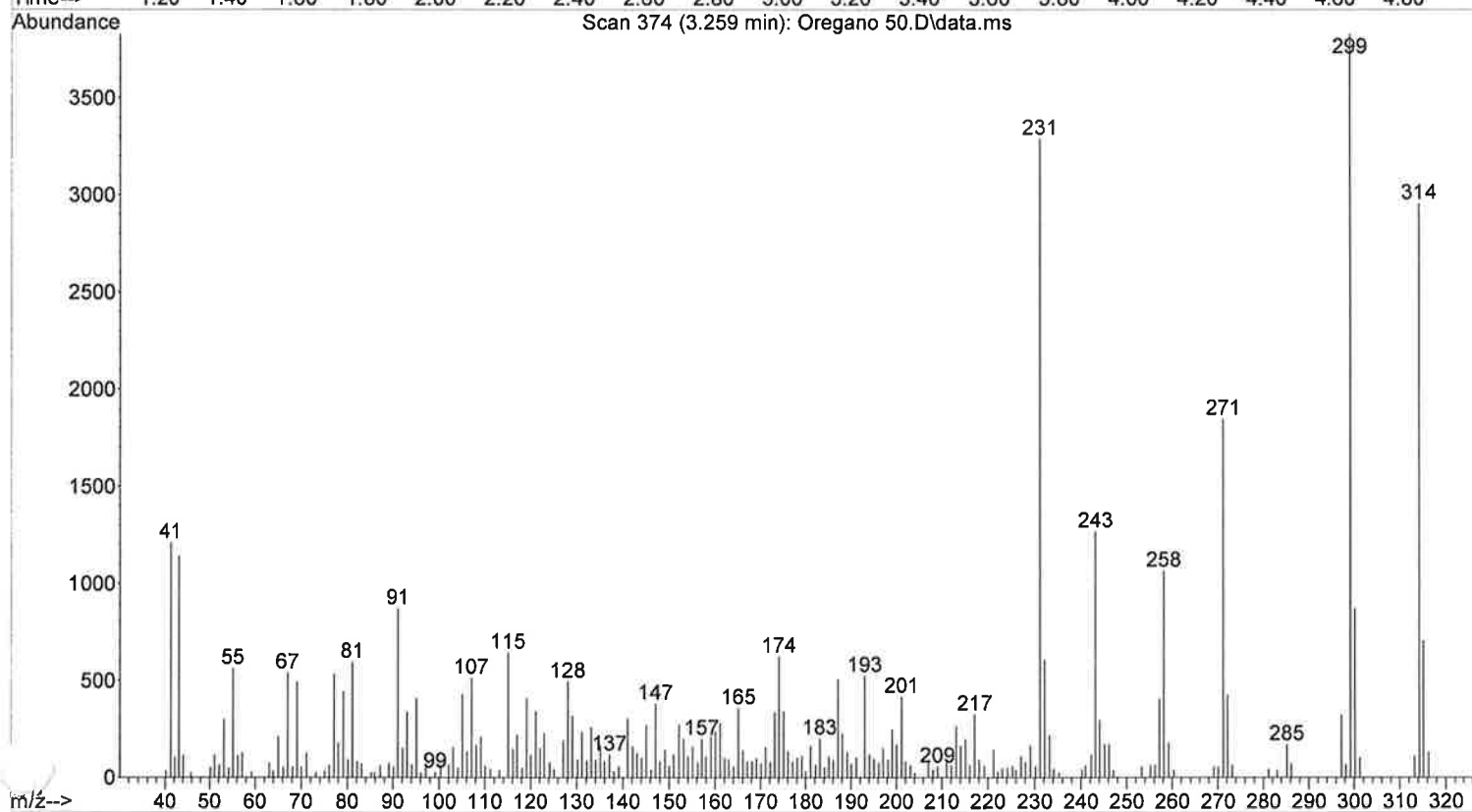
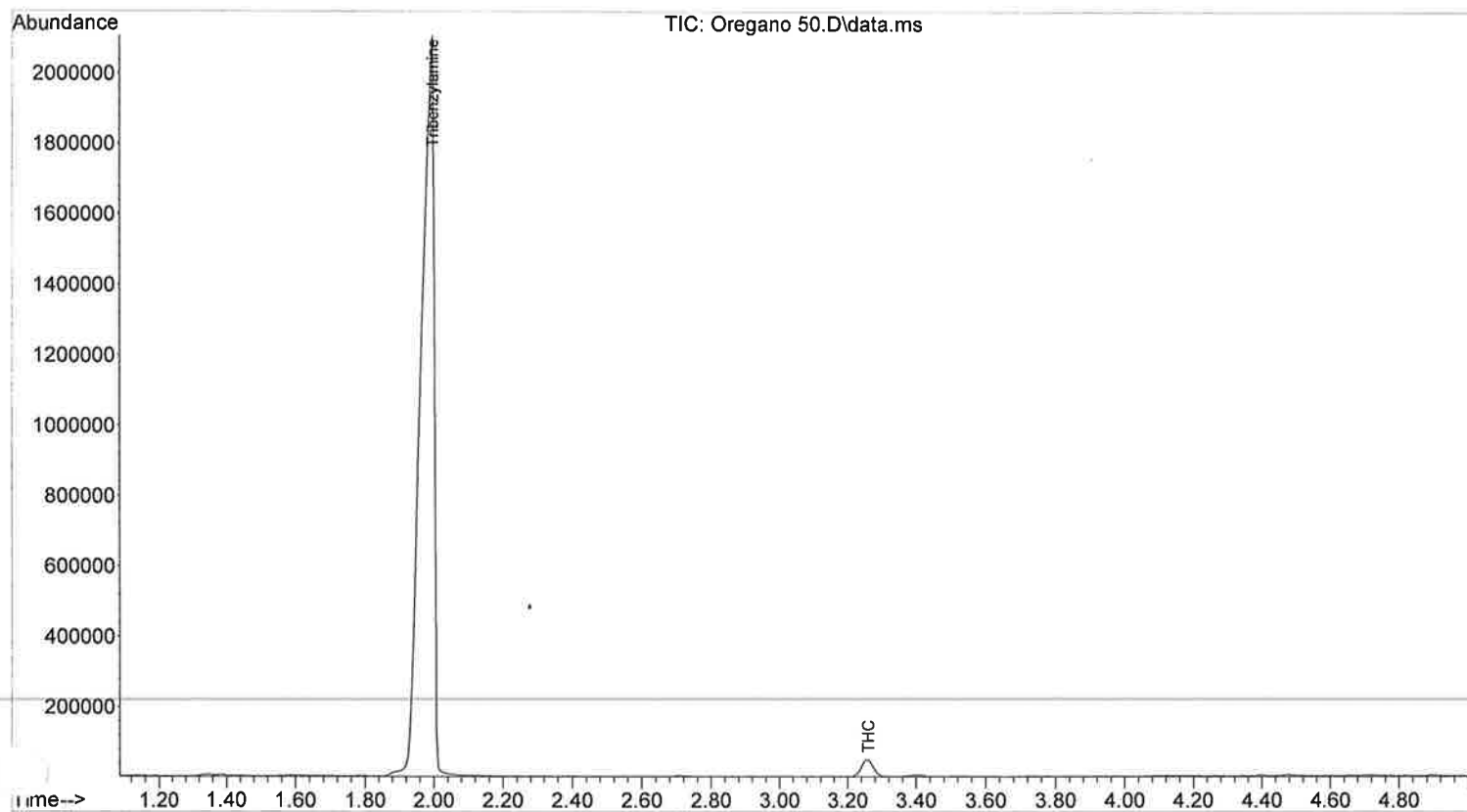
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.995	TIC	55447681	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.258	TIC	452954	32.66	ug/mL	100

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

THC Quant.M Tue Mar 05 09:30:57 2019

File :C:\msdchem\1\DATA\2019\BTT\3-5-19\Oregano 50.D
Operator : TBI Analyst
Acquired : 5 Mar 2019 9:32 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice Oregano
Misc Info : Methanol
V Number: 64



Data Path : C:\msdchem\1\DATA\2019\BTT\3-5-19\
Data File : Oregano 50.D
Acq On : 5 Mar 2019 9:32
Operator : TBI Analyst
Sample : Spice Oregano
Misc : Methanol
S Vial : 64 Sample Multiplier: 1

Quant Time: Mar 05 09:38:33 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 05 09:29:59 2019
Response via : Initial Calibration

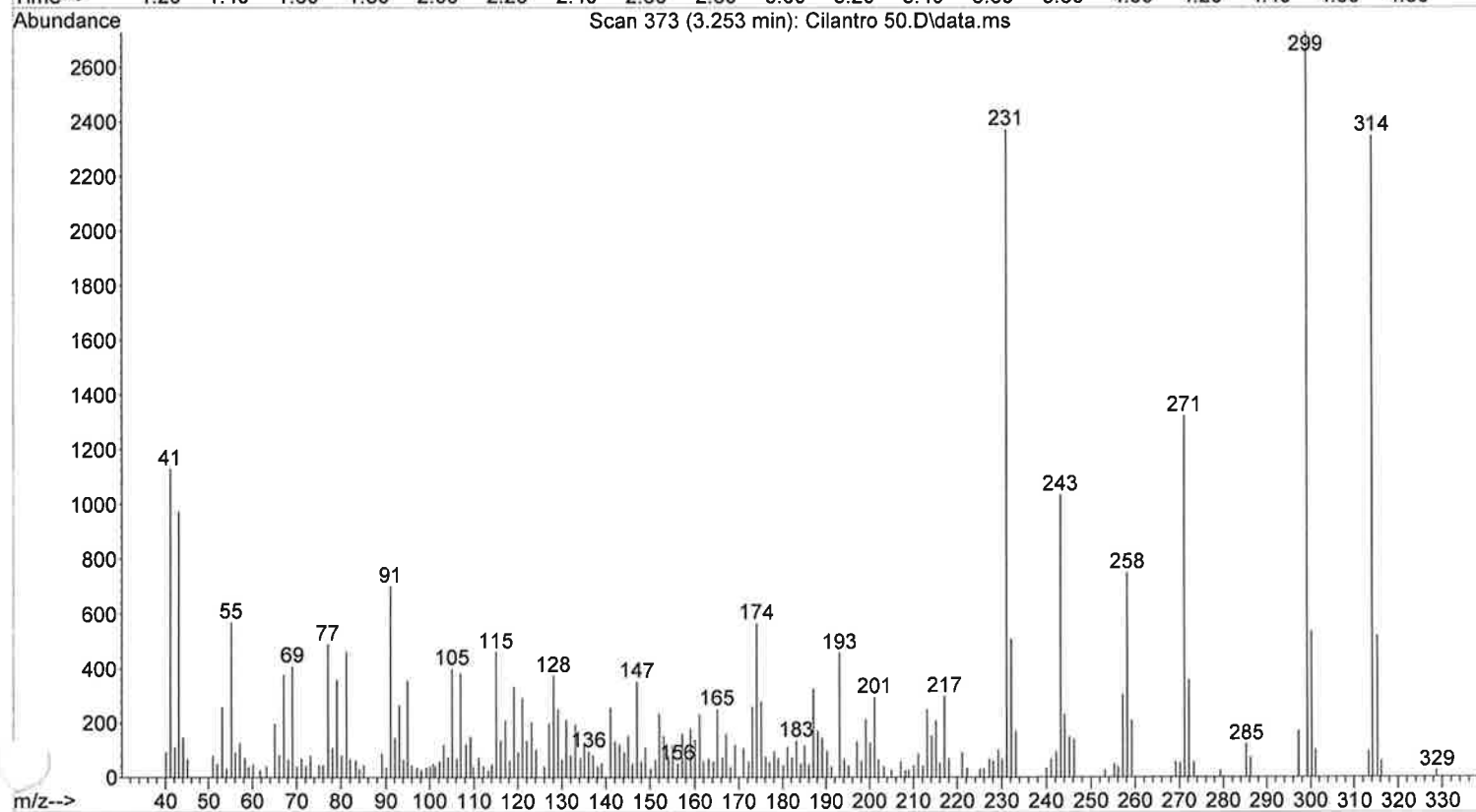
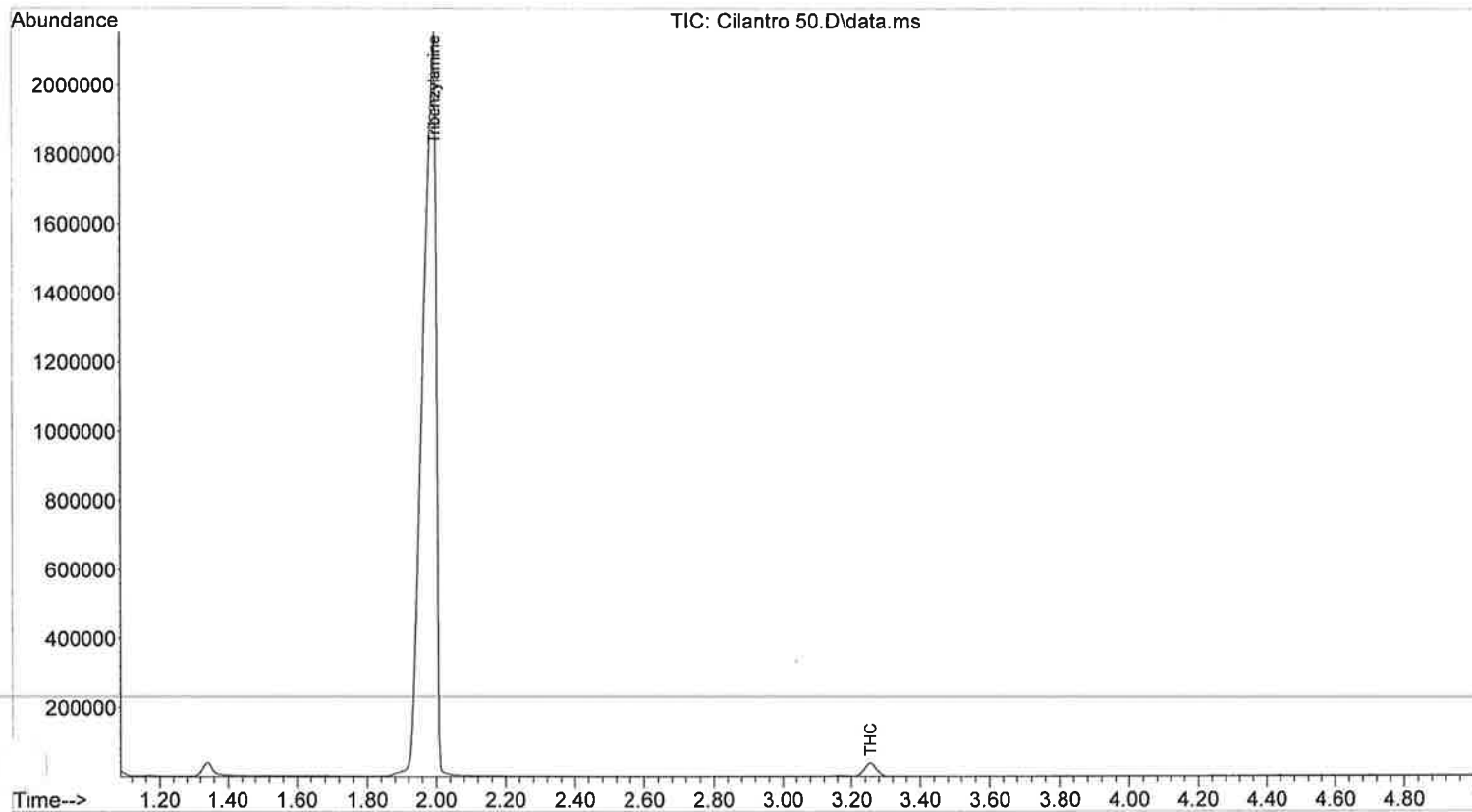
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.995	TIC	55219824	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.259	TIC	1141069	50.37	ug/mL	100

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

THC Quant.M Tue Mar 05 09:38:33 2019

File :C:\msdchem\1\DATA\2019\BTT\3-5-19\Cilantro 50.D
Operator : TBI Analyst
Acquired : 5 Mar 2019 9:47 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice Cilantro
Misc Info : Methanol
Vial Number: 66



Data Path : C:\msdchem\1\DATA\2019\BTT\3-5-19\
Data File : Cilantro 50.D
Acq On : 5 Mar 2019 9:47
Operator : TBI Analyst
Sample : Spice Cilantro
Misc : Methanol
S Vial : 66 Sample Multiplier: 1

Quant Time: Mar 05 09:56:03 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 05 09:29:59 2019
Response via : Initial Calibration

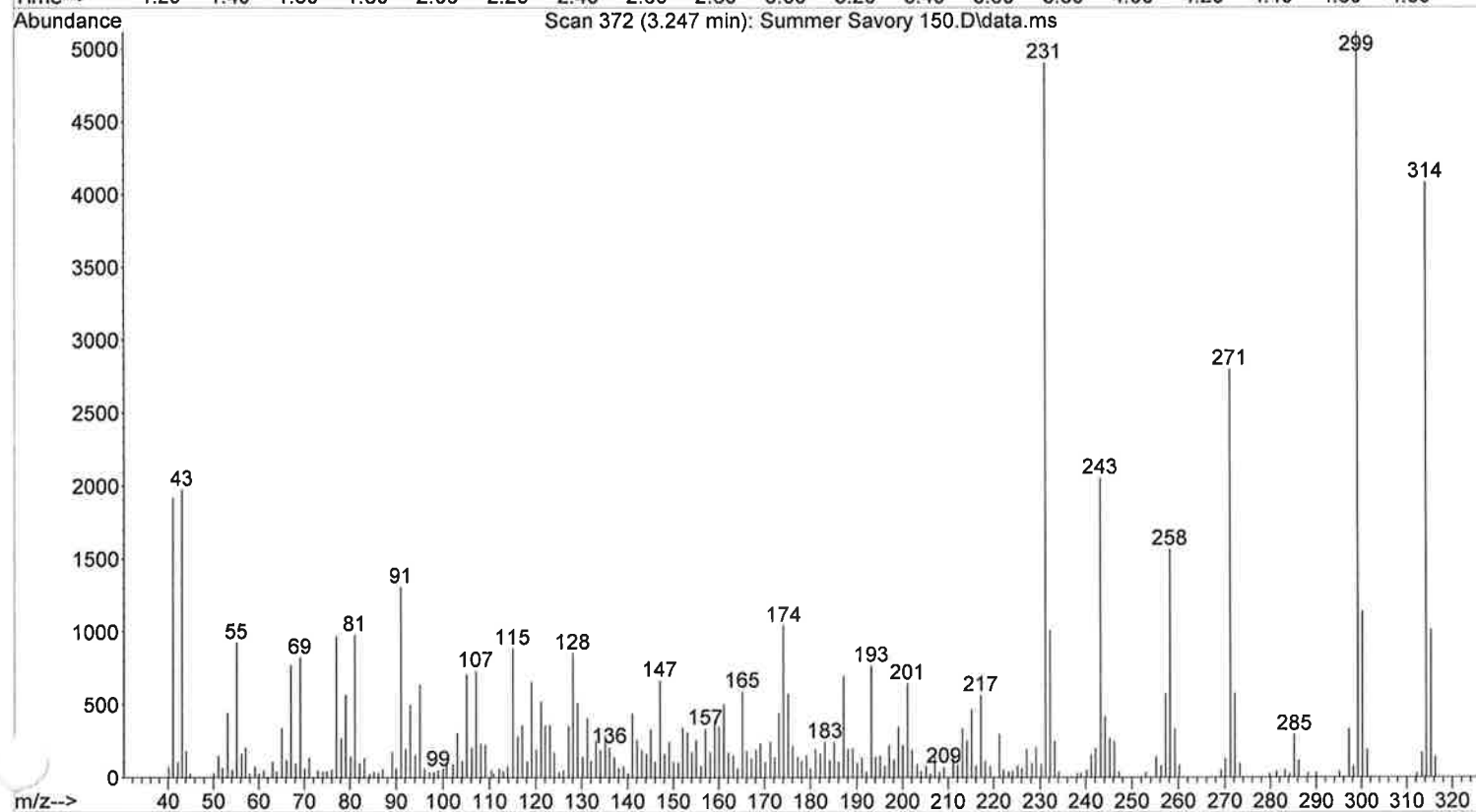
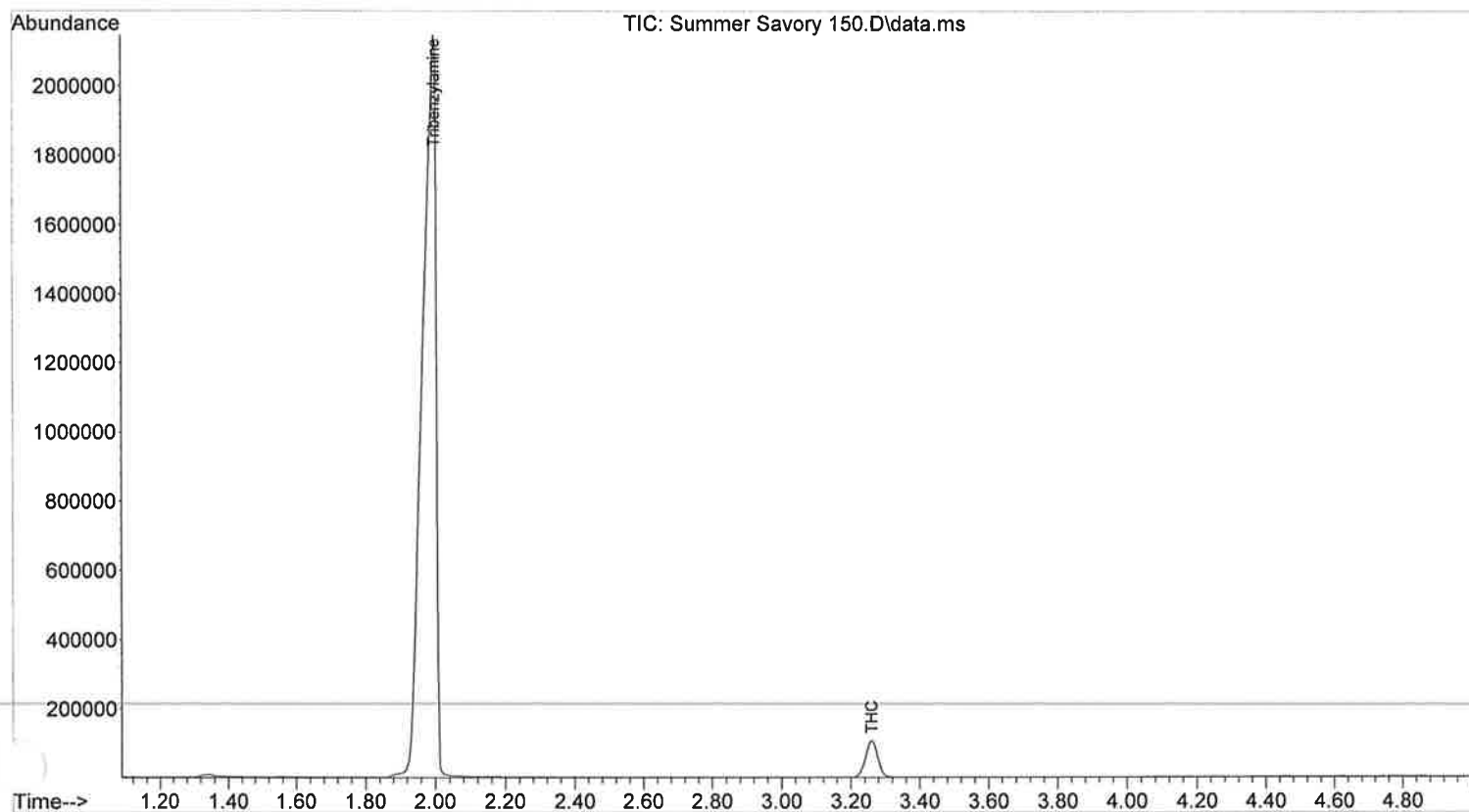
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.995	TIC	56499384	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.258	TIC	904776	43.78	ug/mL	100

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

THC Quant.M Tue Mar 05 09:56:03 2019

File :C:\msdchem\1\DATA\2019\BTT\3-5-19\Summer Savory 150.D
Operator : TBI Analyst
Acquired : 5 Mar 2019 10:03 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice Summer Savory
Misc Info : Methanol
Vial Number: 68



Data Path : C:\msdchem\1\DATA\2019\BTT\3-5-19\
Data File : Summer Savory 150.D
Acq On : 5 Mar 2019 10:03
Operator : TBI Analyst
Sample : Spice Summer Savory
Misc : Methanol
S Vial : 68 Sample Multiplier: 1

Quant Time: Mar 05 10:08:41 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 05 09:29:59 2019
Response via : Initial Calibration

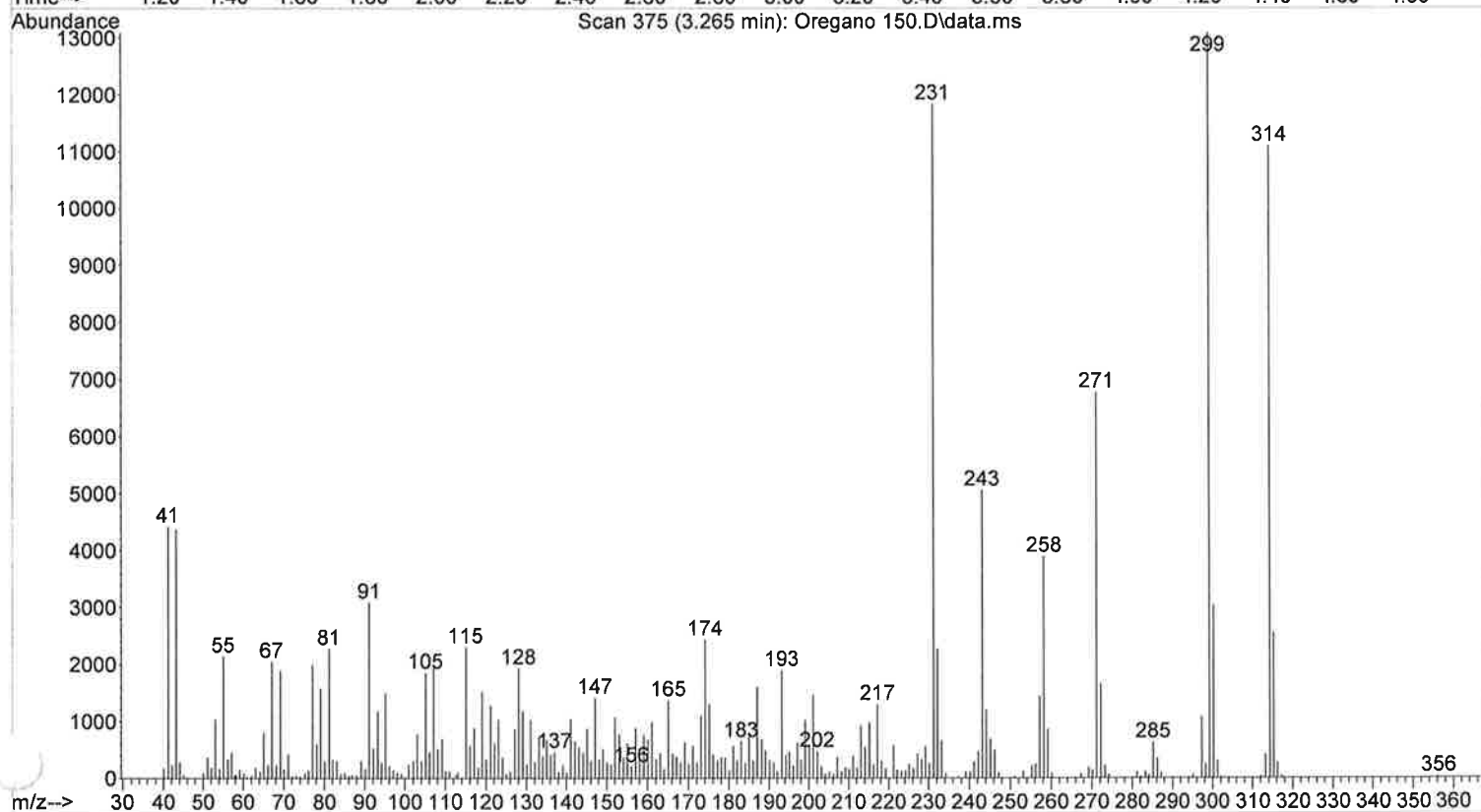
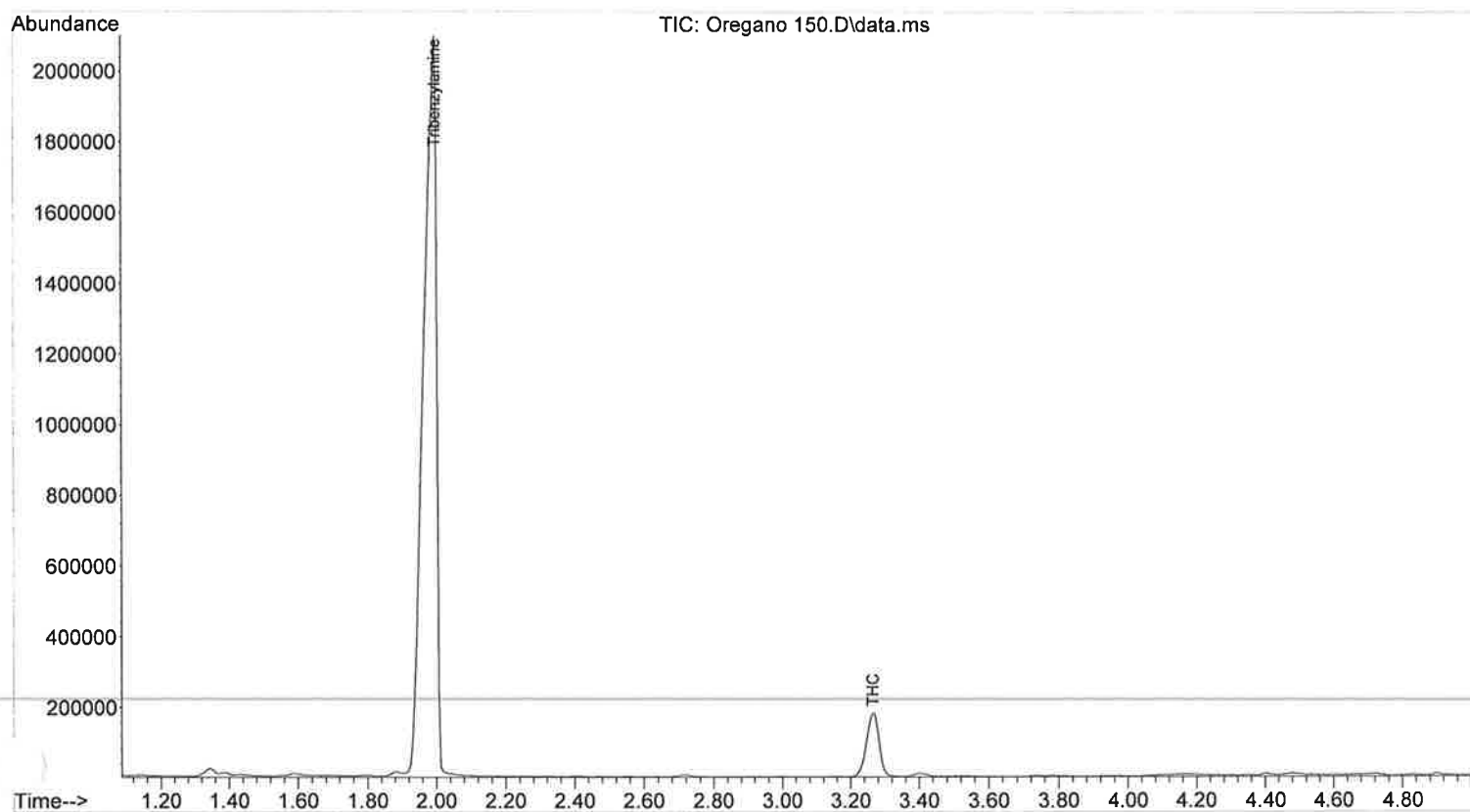
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.998	TIC	57289762	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.263	TIC	2563937	84.52	ug/mL	100

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

THC Quant.M Tue Mar 05 10:08:41 2019

File :C:\msdchem\1\DATA\2019\BTT\3-5-19\Oregano 150.D
Operator : TBI Analyst
Acquired : 5 Mar 2019 10:19 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice Oregano
Misc Info : Methanol
V Number: 70



Data Path : C:\msdchem\1\DATA\2019\BTT\3-5-19\
Data File : Oregano 150.D
Acq On : 5 Mar 2019 10:19
Operator : TBI Analyst
Sample : Spice Oregano
Misc : Methanol
S Vial : 70 Sample Multiplier: 1

Quant Time: Mar 05 10:29:00 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 05 09:29:59 2019
Response via : Initial Calibration

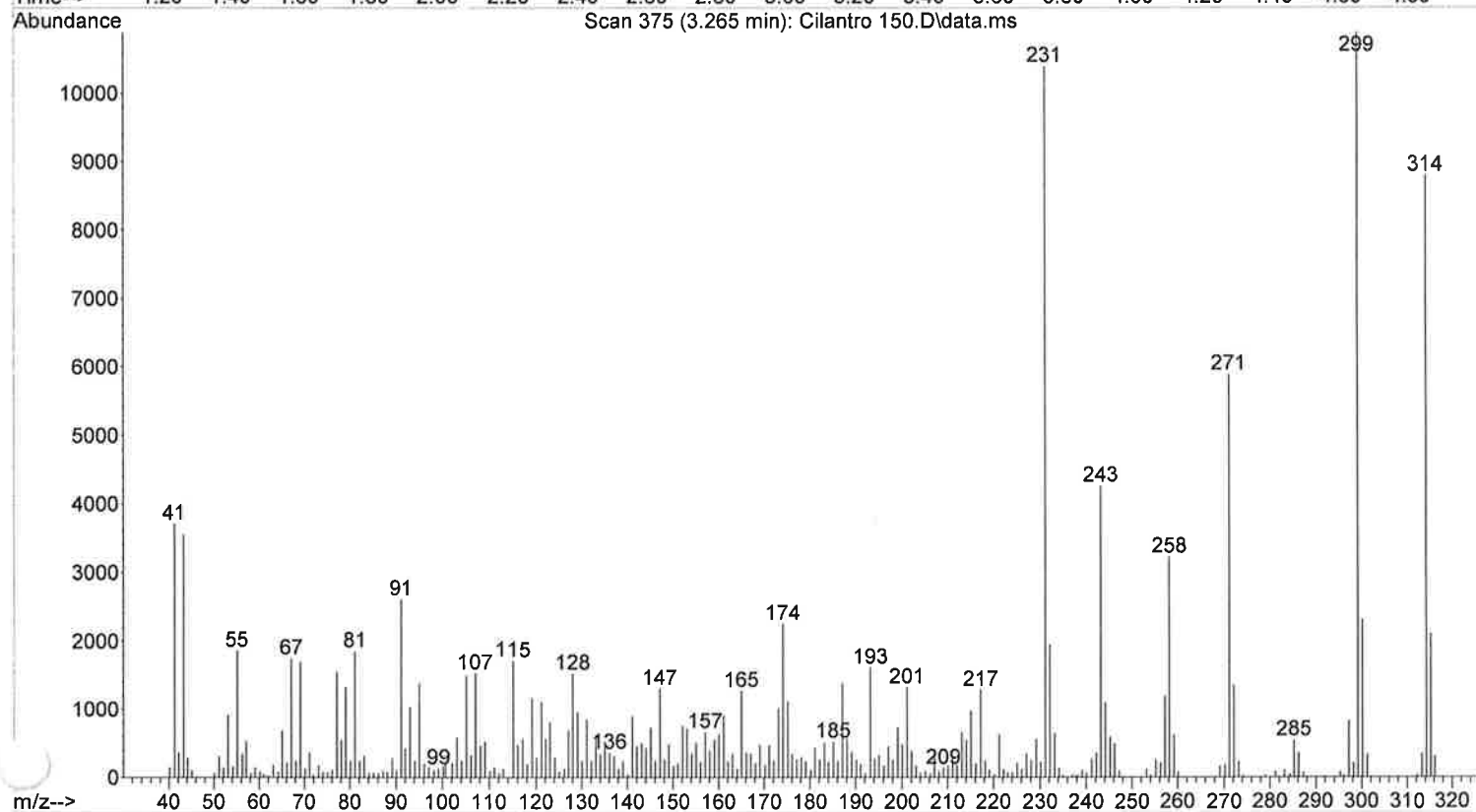
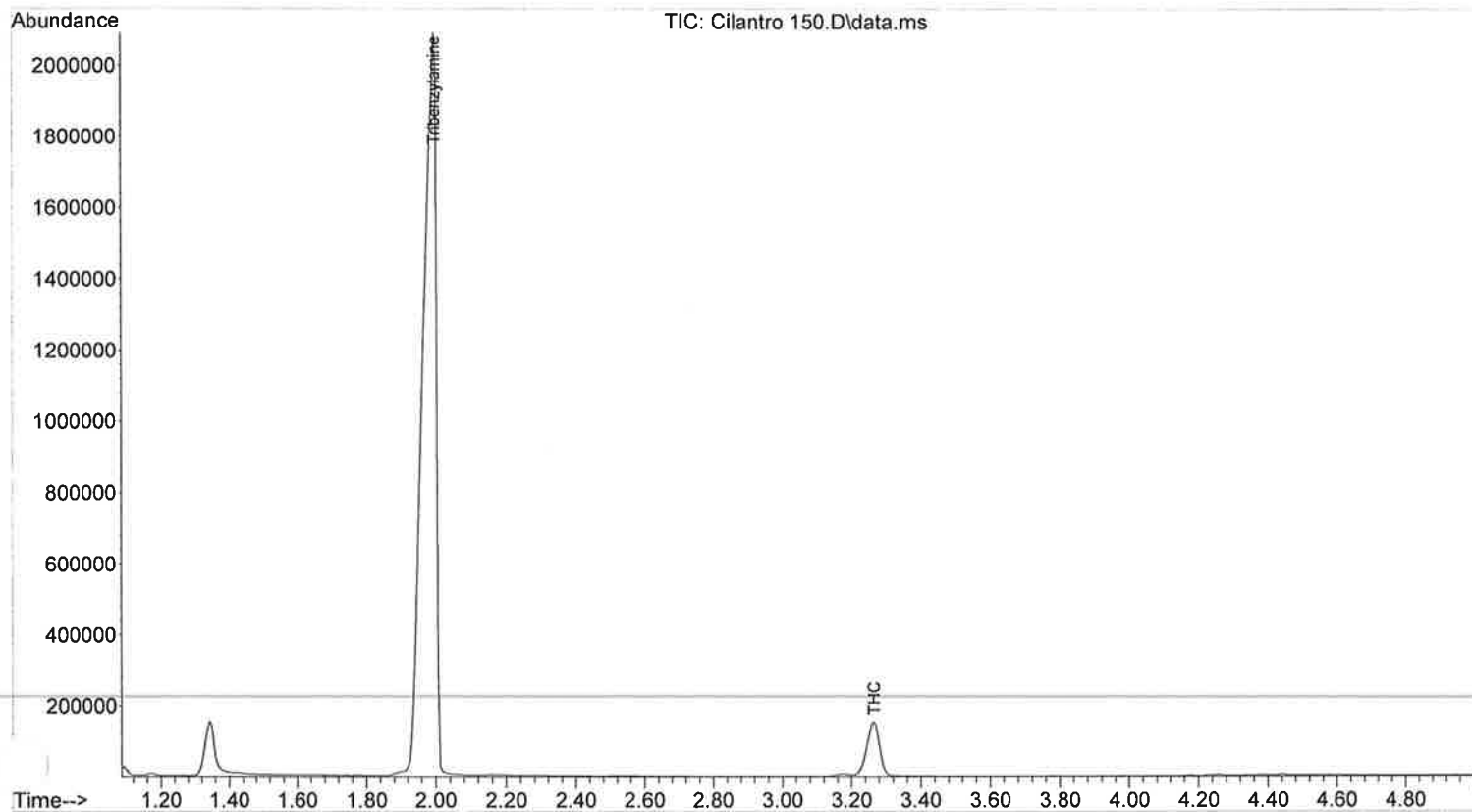
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.996	TIC	54344308	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.269	TIC	4521774	139.04	ug/mL	100

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

THC Quant.M Tue Mar 05 10:29:00 2019

File :C:\msdchem\1\DATA\2019\BTT\3-5-19\Cilantro 150.D
Operator : TBI Analyst
Acquired : 5 Mar 2019 10:34 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice Cilantro
Misc Info : Methanol
V lumen: 72



Data Path : C:\msdchem\1\DATA\2019\BTT\3-5-19\
Data File : Cilantro 150.D
Acq On : 5 Mar 2019 10:34
Operator : TBI Analyst
Sample : Spice Cilantro
Misc : Methanol
S Vial : 72 Sample Multiplier: 1

Quant Time: Mar 05 10:42:34 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 05 09:29:59 2019
Response via : Initial Calibration

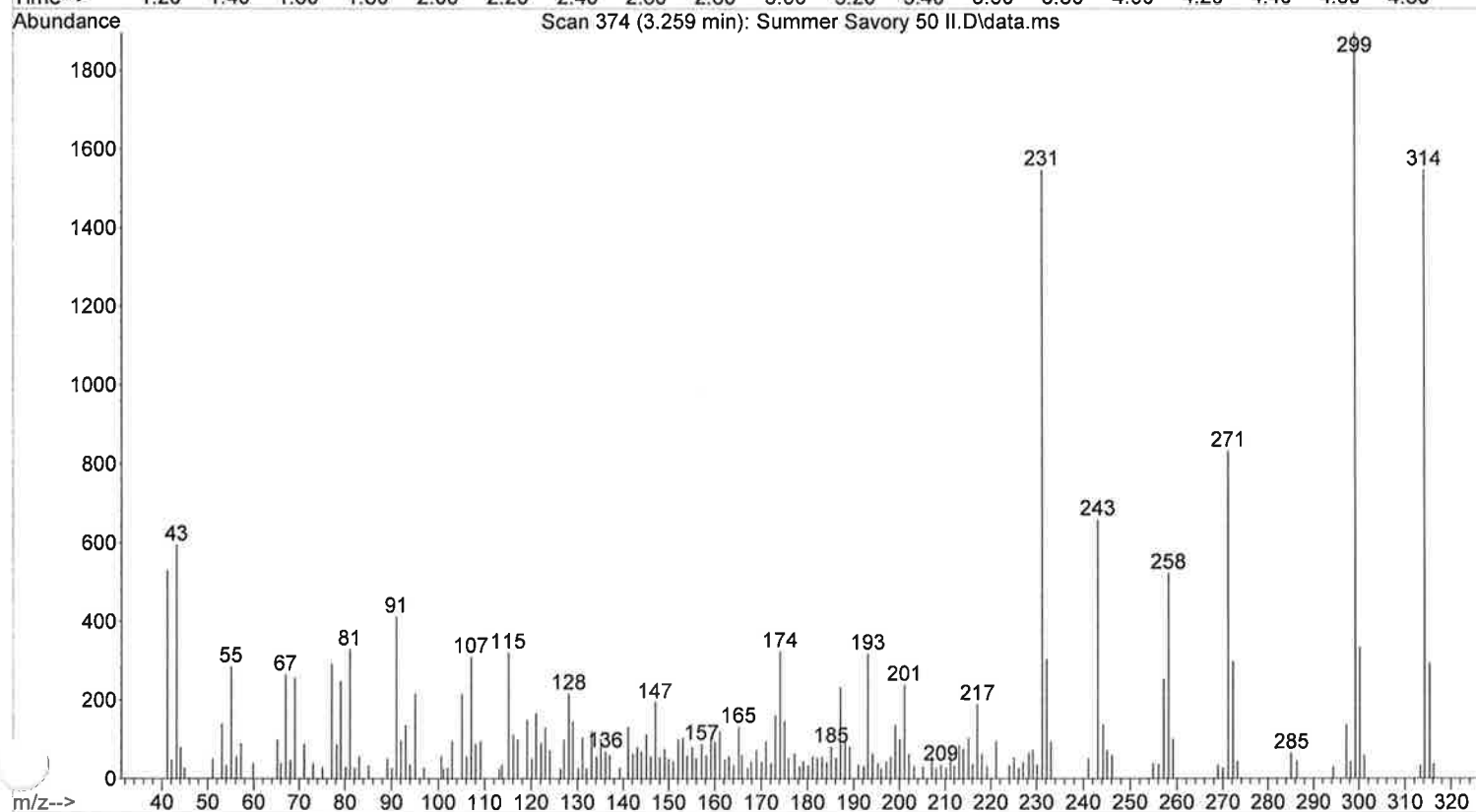
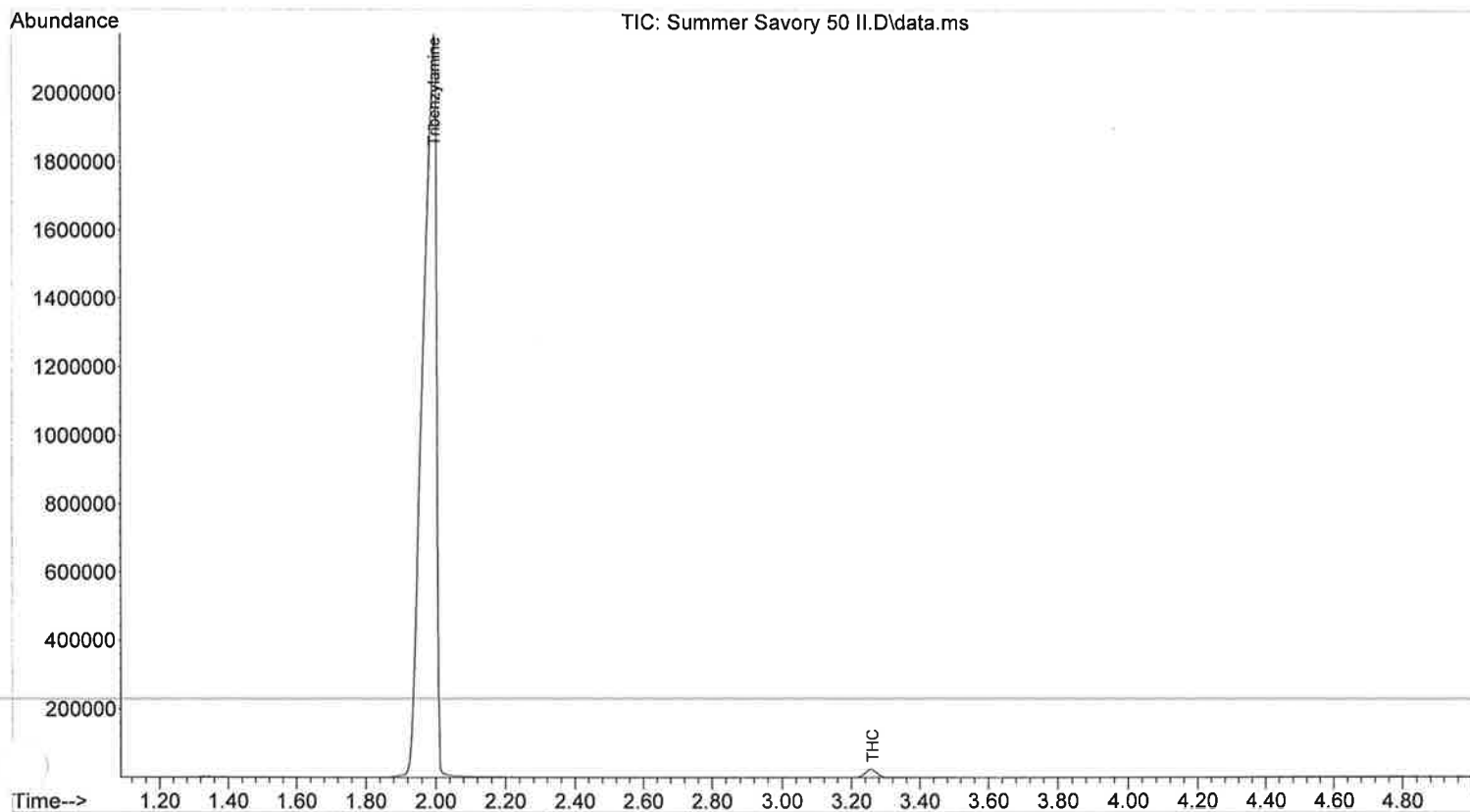
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.998	TIC	54817345	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.266	TIC	3853415	120.74	ug/mL	100

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

THC Quant.M Tue Mar 05 10:42:35 2019

File :C:\msdchem\1\DATA\2019\BTT\3-5-19\Summer Savory 50 II.D
Operator : TBI Analyst
Acquired : 5 Mar 2019 11:36 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice Summer Savory
Misc Info : Methanol
Vial Number: 62



Data Path : C:\msdchem\1\DATA\2019\BTT\3-5-19\
Data File : Summer Savory 50 II.D
Acq On : 5 Mar 2019 11:36
Operator : TBI Analyst
Sample : Spice Summer Savory
Misc : Methanol
S Vial : 62 Sample Multiplier: 1

Quant Time: Mar 05 12:36:46 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 05 09:29:59 2019
Response via : Initial Calibration

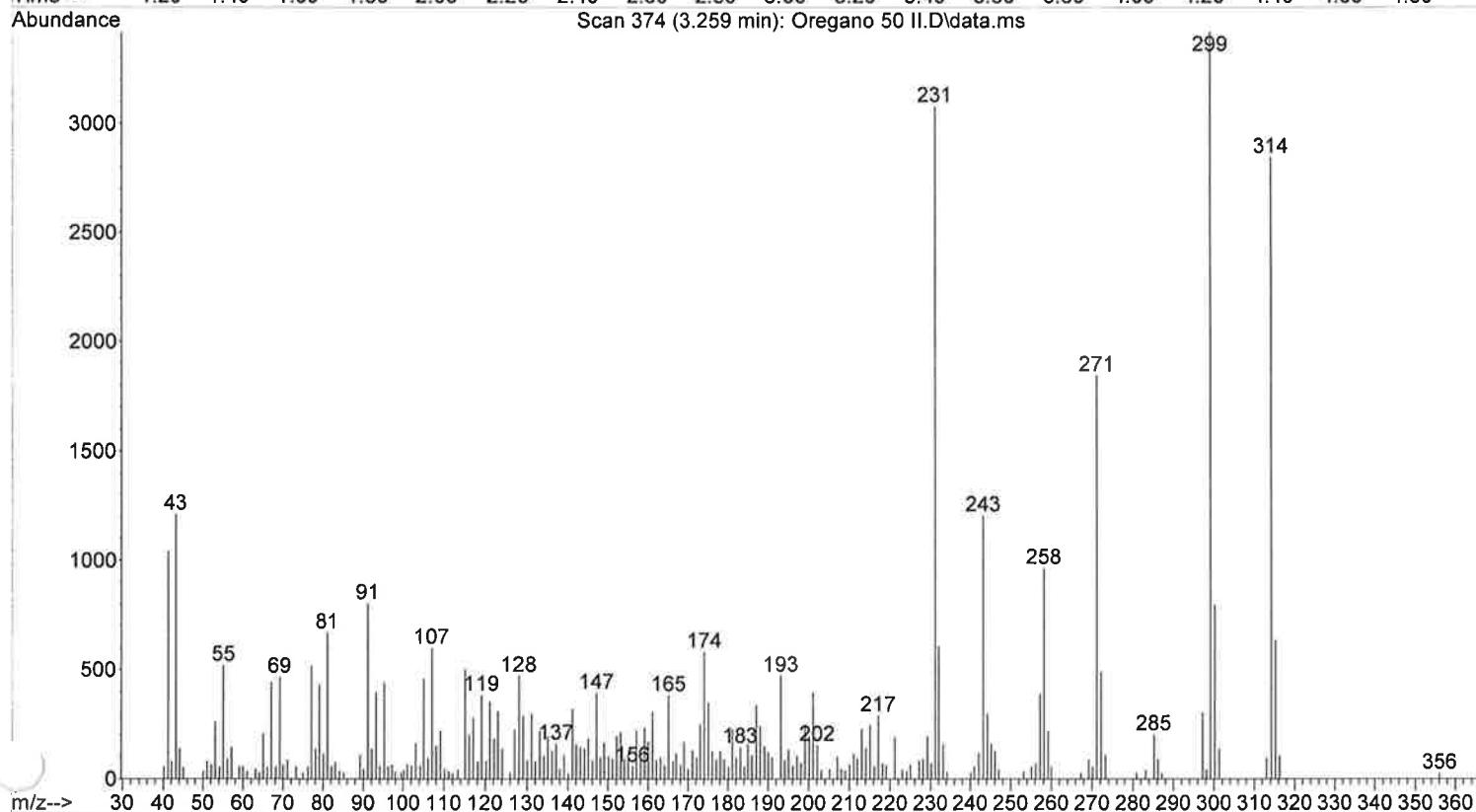
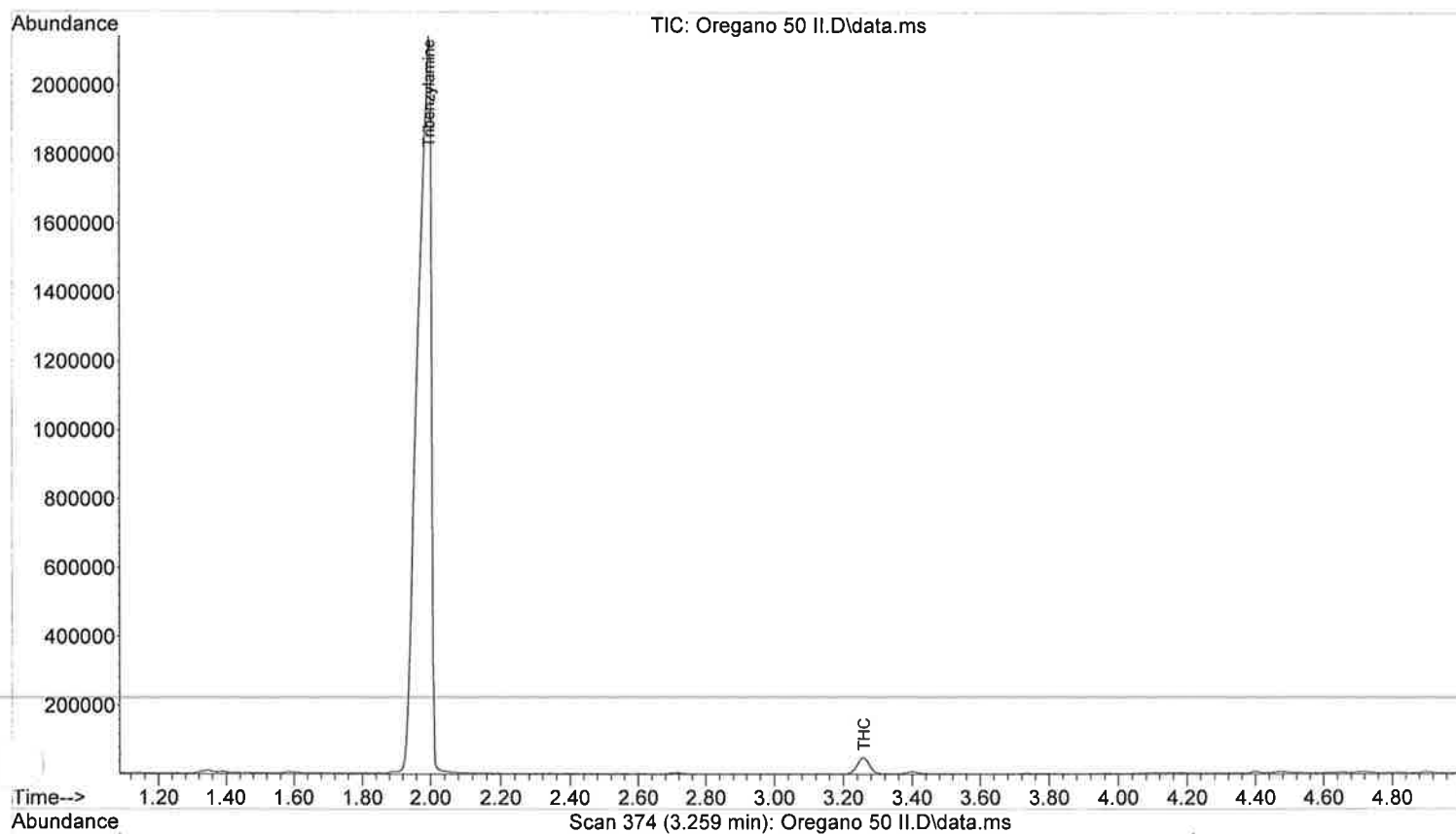
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.998	TIC	58080755	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.259	TIC	556304	34.65	ug/mL	100

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

THC Quant.M Tue Mar 05 12:36:46 2019

File :C:\msdchem\1\DATA\2019\BTT\3-5-19\Oregano 50 II.D
Operator : TBI Analyst
Acquired : 5 Mar 2019 11:52 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice Oregano
Misc Info : Methanol
V Number: 64



Data Path : C:\msdchem\1\DATA\2019\BTT\3-5-19\
Data File : Oregano 50 II.D
Acq On : 5 Mar 2019 11:52
Operator : TBI Analyst
Sample : Spice Oregano
Misc : Methanol
S Vial : 64 Sample Multiplier: 1

Quant Time: Mar 05 12:37:31 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 05 09:29:59 2019
Response via : Initial Calibration

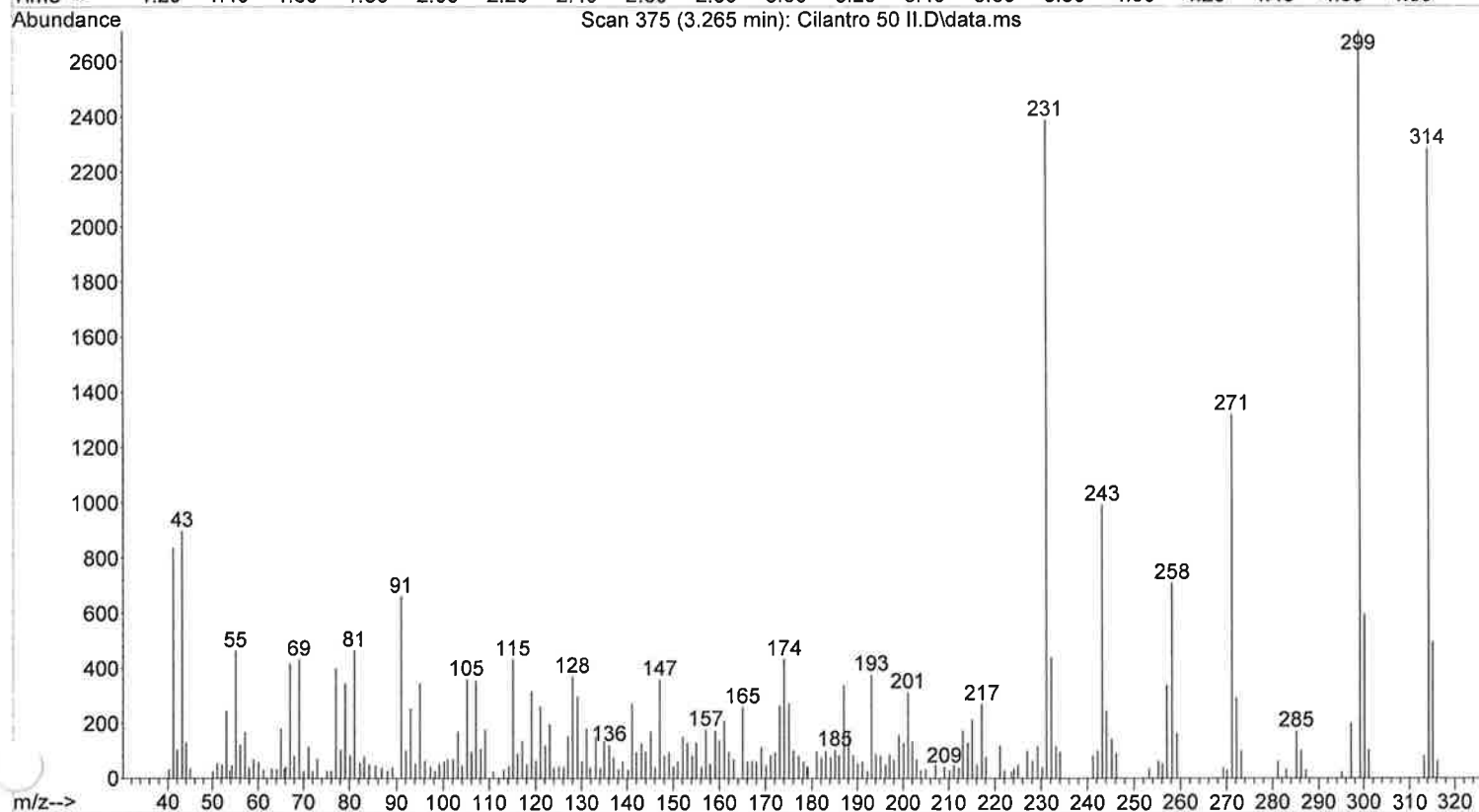
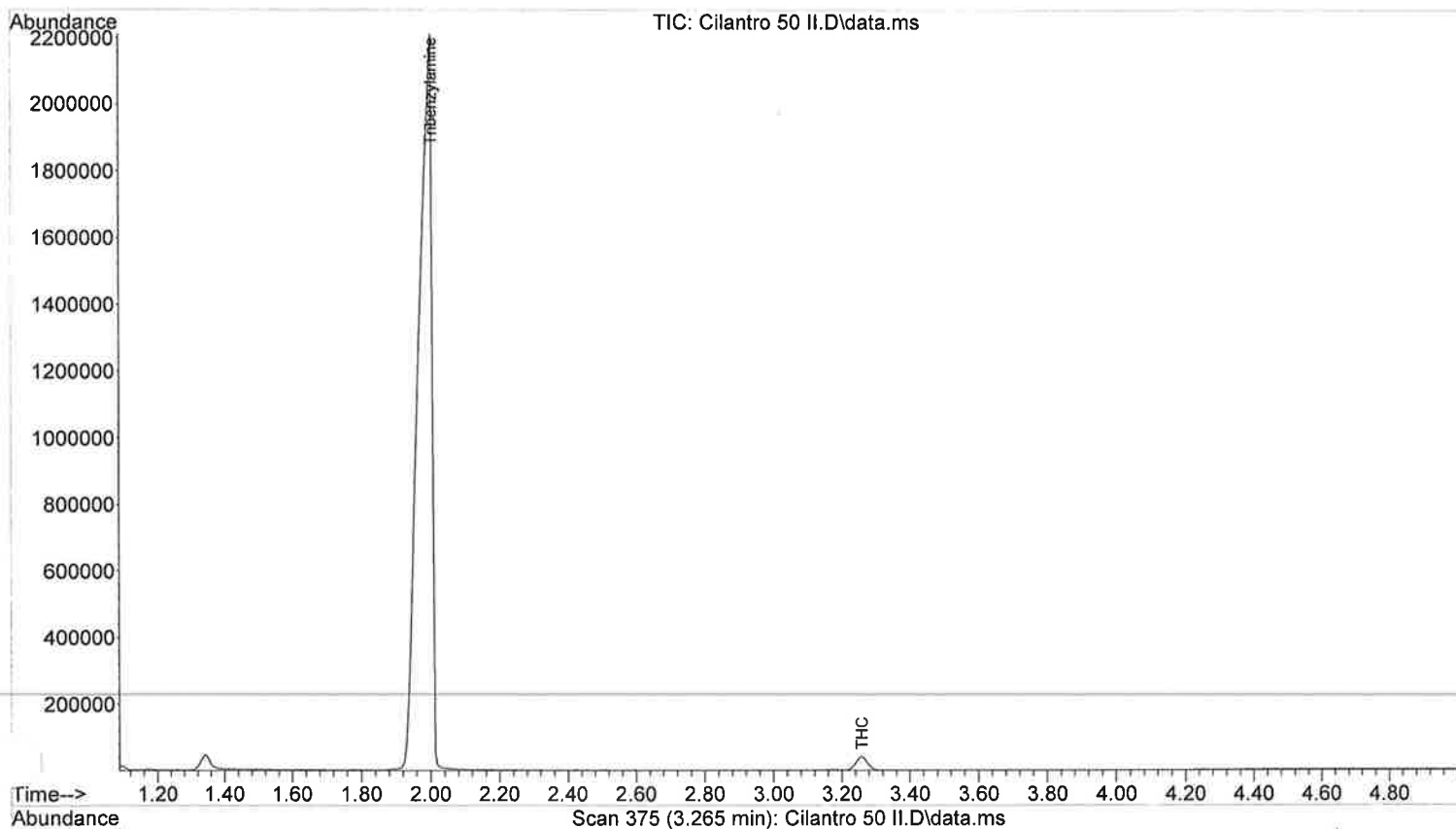
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.998	TIC	57337490	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.260	TIC	1170200	50.01	ug/mL	100

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

THC Quant.M Tue Mar 05 12:37:32 2019

File :C:\msdchem\1\DATA\2019\BTT\3-5-19\Cilantro 50 II.D
Operator : TBI Analyst
Acquired : 5 Mar 2019 12:07 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice Cilantro
Misc Info : Methanol
V Number: 66



Data Path : C:\msdchem\1\DATA\2019\BTT\3-5-19\
Data File : Cilantro 50 II.D
Acq On : 5 Mar 2019 12:07
Operator : TBI Analyst
Sample : Spice Cilantro
Misc : Methanol
S Vial : 66 Sample Multiplier: 1

Quant Time: Mar 05 12:38:11 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 05 09:29:59 2019
Response via : Initial Calibration

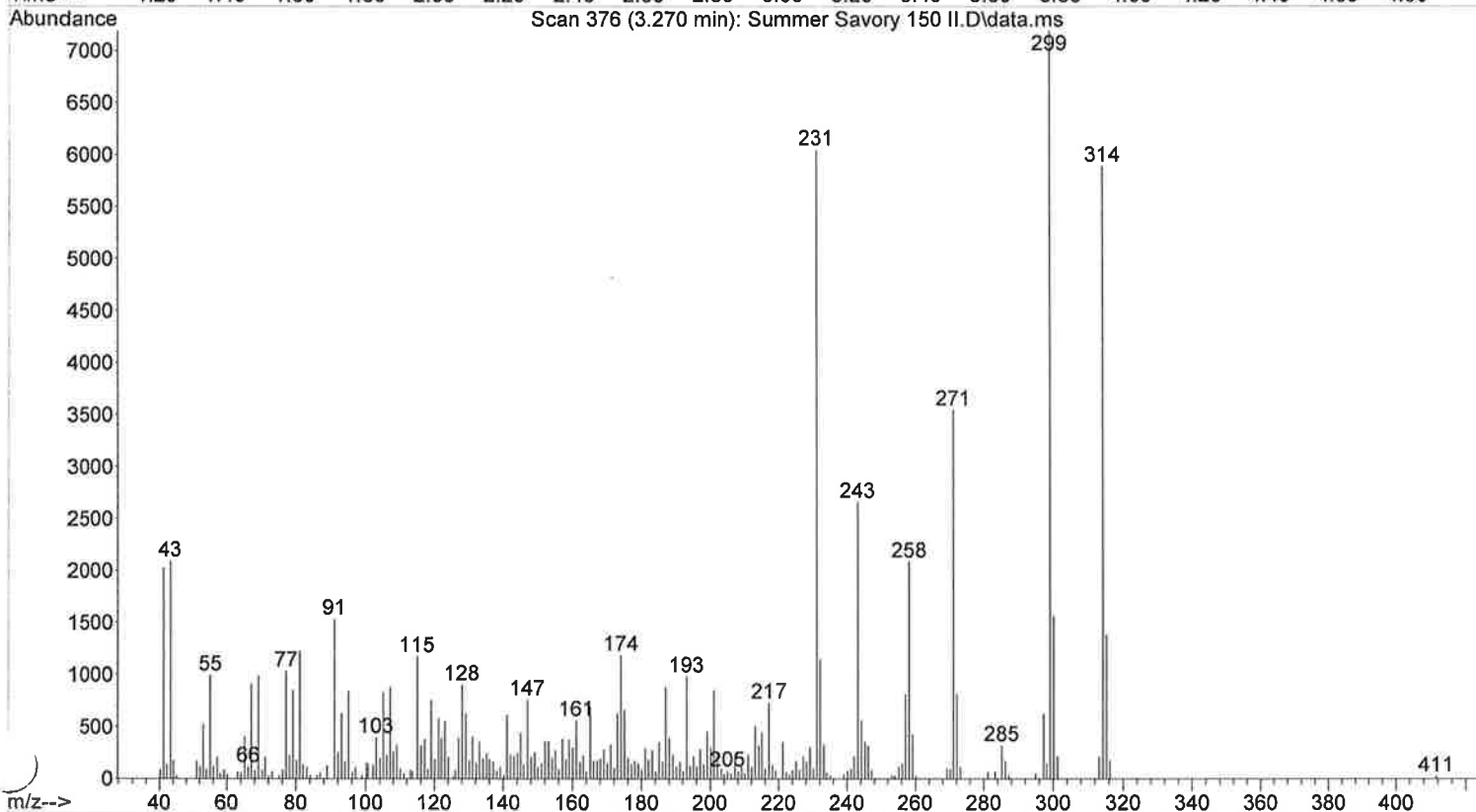
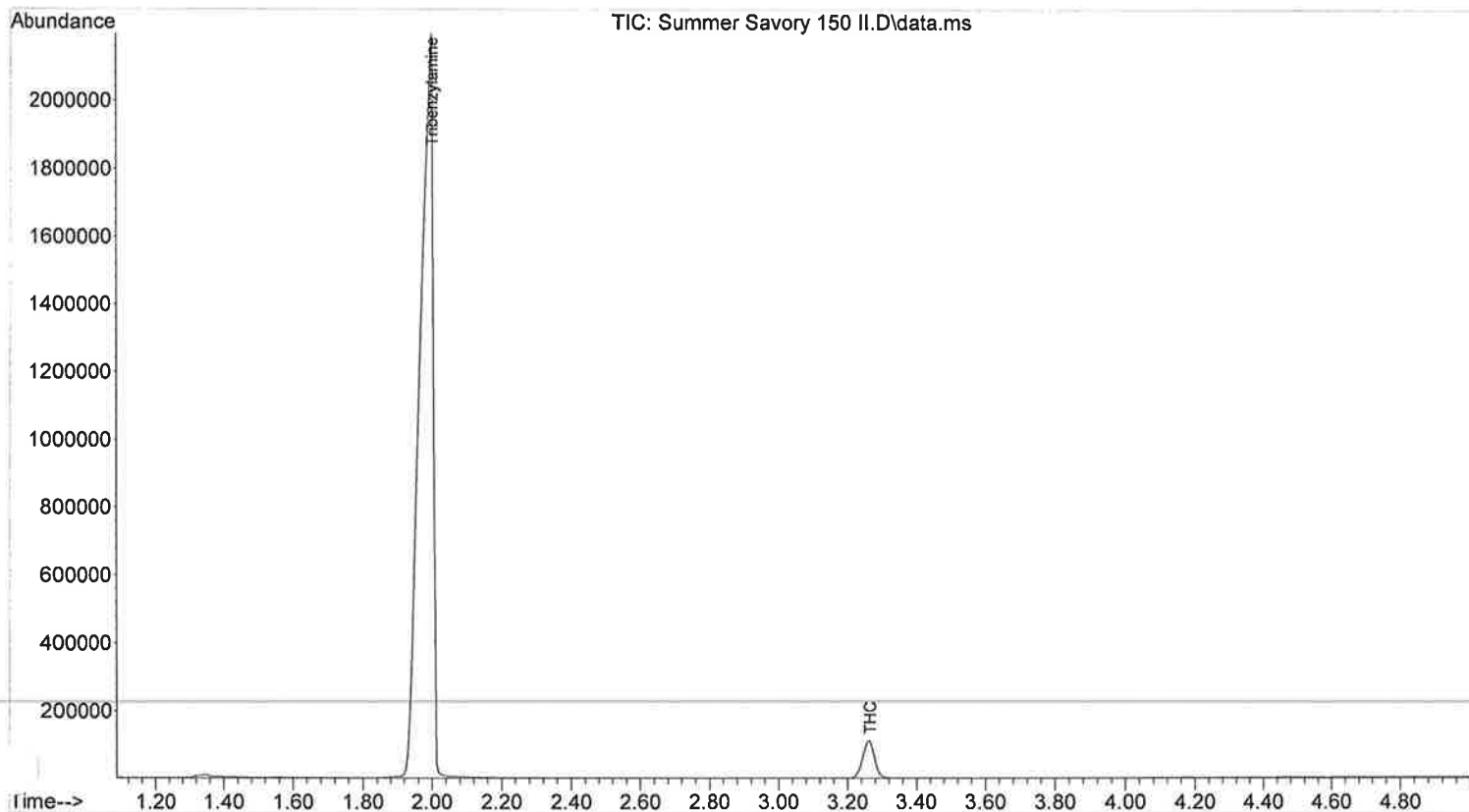
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.999	TIC	58488025	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.260	TIC	966258	44.50	ug/mL	100

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

THC Quant.M Tue Mar 05 12:38:11 2019

File :C:\msdchem\1\DATA\2019\BTT\3-5-19\Summer Savory 150 II.D
Operator : TBI Analyst
Acquired : 5 Mar 2019 12:23 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice Summer Savory
Misc Info : Methanol
V Number: 68



Data Path : C:\msdchem\1\DATA\2019\BTT\3-5-19\
Data File : Summer Savory 150 II.D
Acq On : 5 Mar 2019 12:23
Operator : TBI Analyst
Sample : Spice Summer Savory
Misc : Methanol
S Vial : 68 Sample Multiplier: 1

Quant Time: Mar 05 12:39:04 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 05 09:29:59 2019
Response via : Initial Calibration

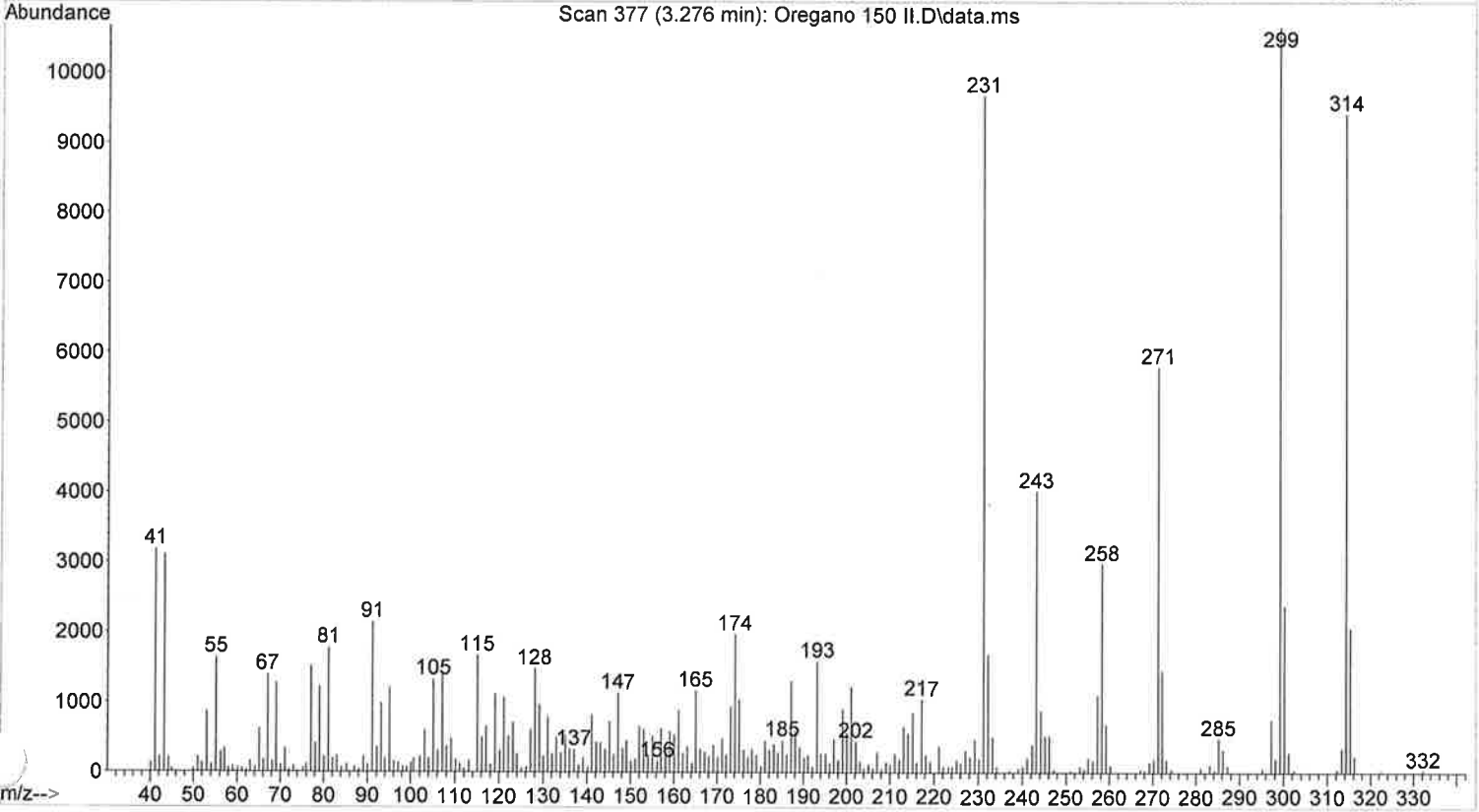
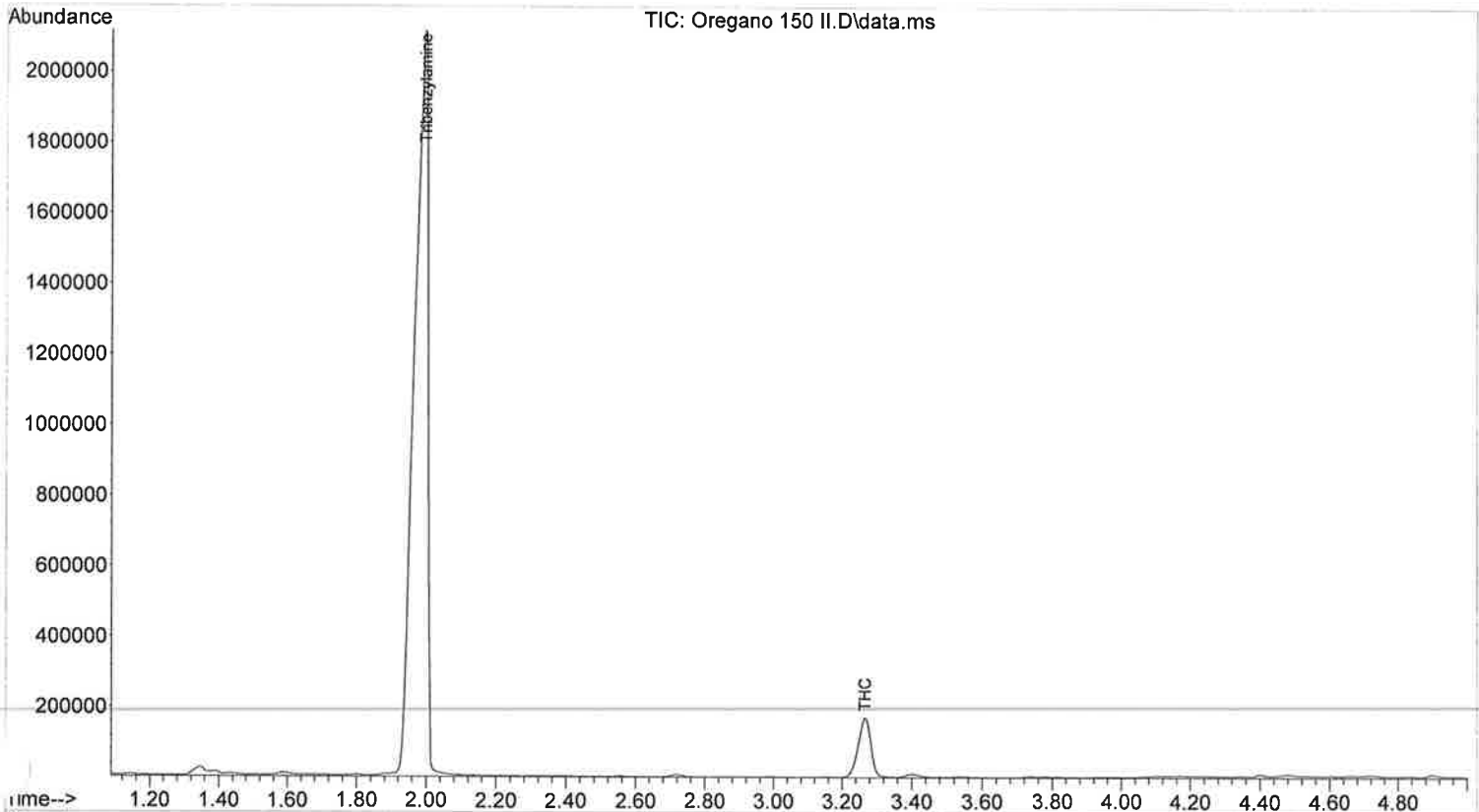
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.999	TIC	57135018	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.264	TIC	2622579	86.15	ug/mL	100

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

THC Quant.M Tue Mar 05 12:39:04 2019

File :C:\msdchem\1\DATA\2019\BTT\3-5-19\Oregano 150 II.D
Operator : TBI Analyst
Acquired : 5 Mar 2019 12:39 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice Oregano
Misc Info : Methanol
Number: 70



Data Path : C:\msdchem\1\DATA\2019\BTT\3-5-19\
Data File : Oregano 150 II.D
Acq On : 5 Mar 2019 12:39
Operator : TBI Analyst
Sample : Spice Oregano
Solvent : Methanol
Vial : 70 Sample Multiplier: 1

Quant Time: Mar 05 12:44:44 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 05 09:29:59 2019
Response via : Initial Calibration

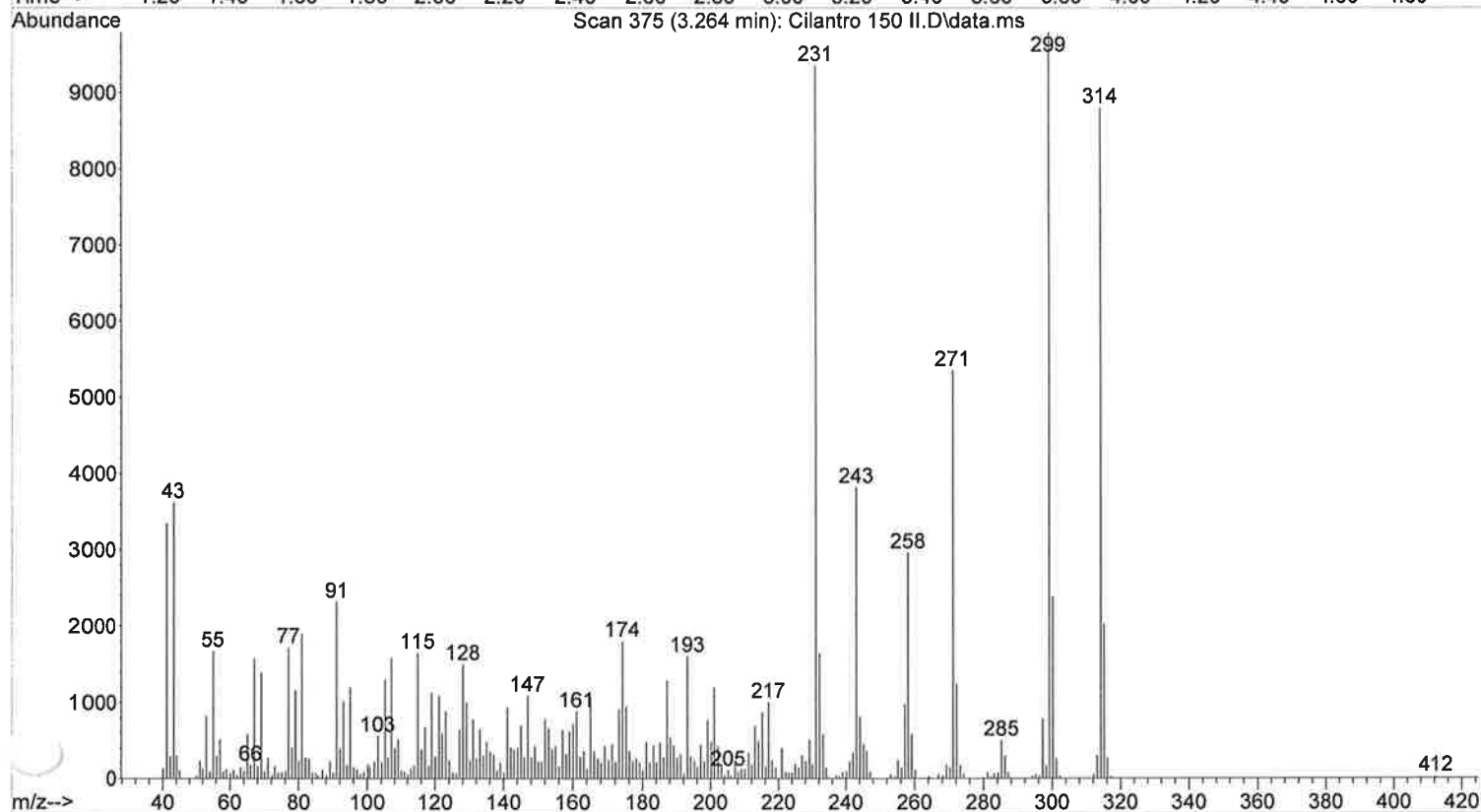
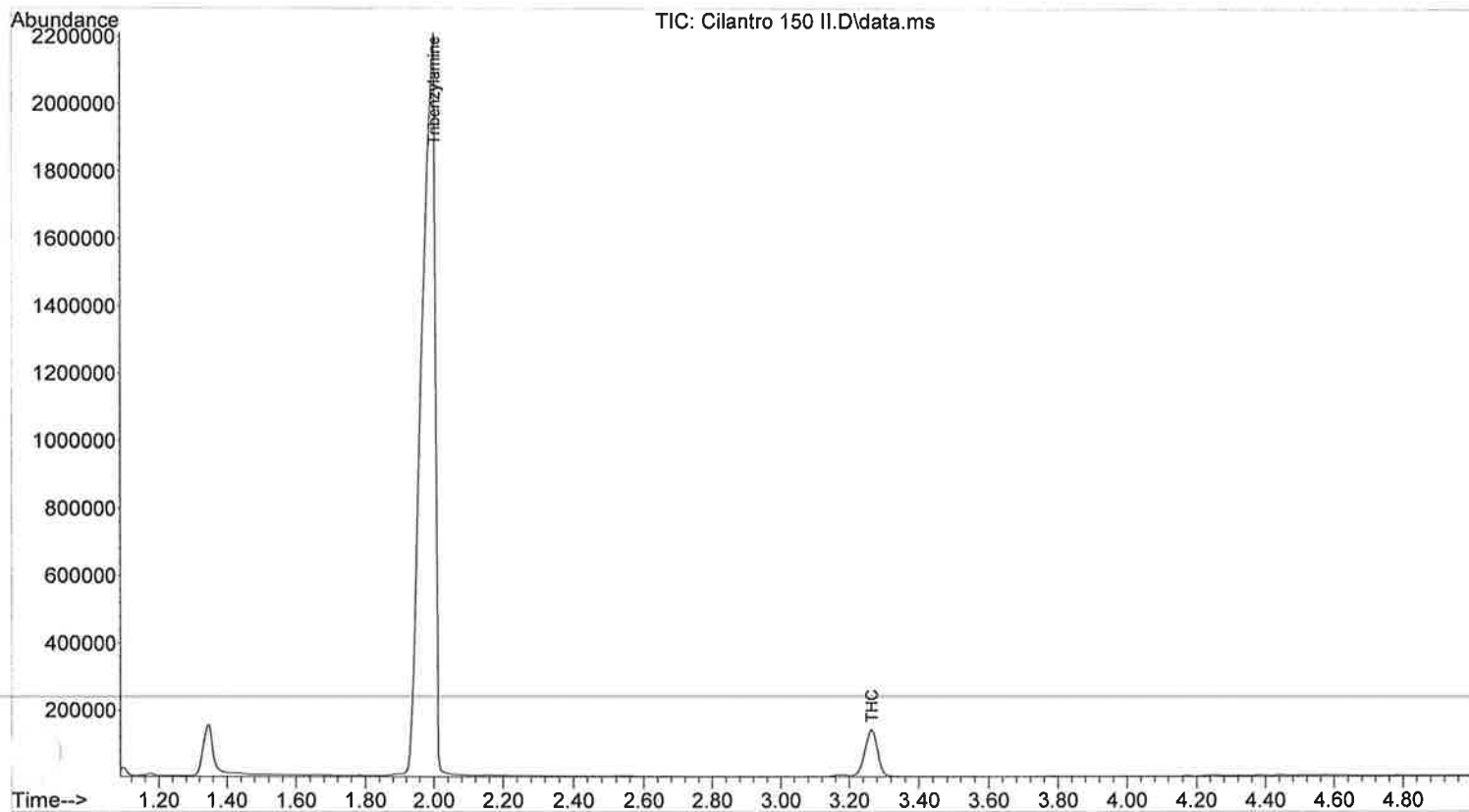
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.999	TIC	56461380	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.269	TIC	4242958	127.62	ug/mL	100

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

THC Quant.M Tue Mar 05 12:44:44 2019

File :C:\msdchem\1\DATA\2019\BTT\3-5-19\Cilantro 150 II.D
Operator : TBI Analyst
Acquired : 5 Mar 2019 12:54 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice Cilantro
Misc Info : Methanol
Vial Number: 72



Data Path : C:\msdchem\1\DATA\2019\BTT\3-5-19\
Data File : Cilantro 150 II.D
Acq On : 5 Mar 2019 12:54
Operator : TBI Analyst
Sample : Spice Cilantro
Solvent : Methanol
Vial : 72 Sample Multiplier: 1

Quant Time: Mar 05 13:02:15 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 05 09:29:59 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.999	TIC	58501862	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.267	TIC	3520601	106.39	ug/mL	100

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

THC Quant.M Tue Mar 05 13:02:15 2019

Data Path : C:\msdchem\1\DATA\2019\BTT\3-5-19\
Data File : Summer Savory 50 III.D
Acq On : 5 Mar 2019 13:10
Operator : TBI Analyst
Sample : Summer Savory
Solvent : Methanol
Vial : 27 Sample Multiplier: 1

Quant Time: Mar 05 13:51:01 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 05 09:29:59 2019
Response via : Initial Calibration

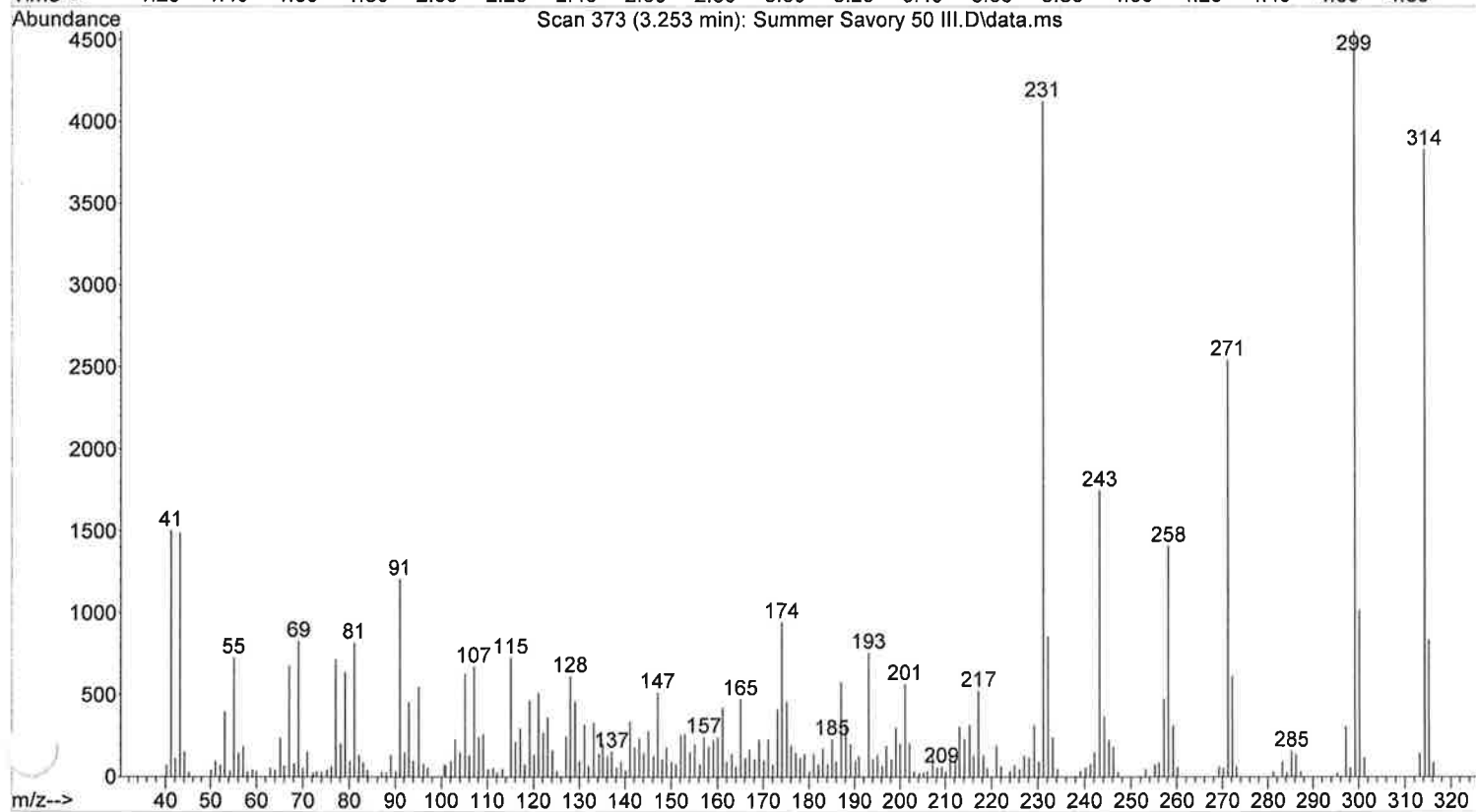
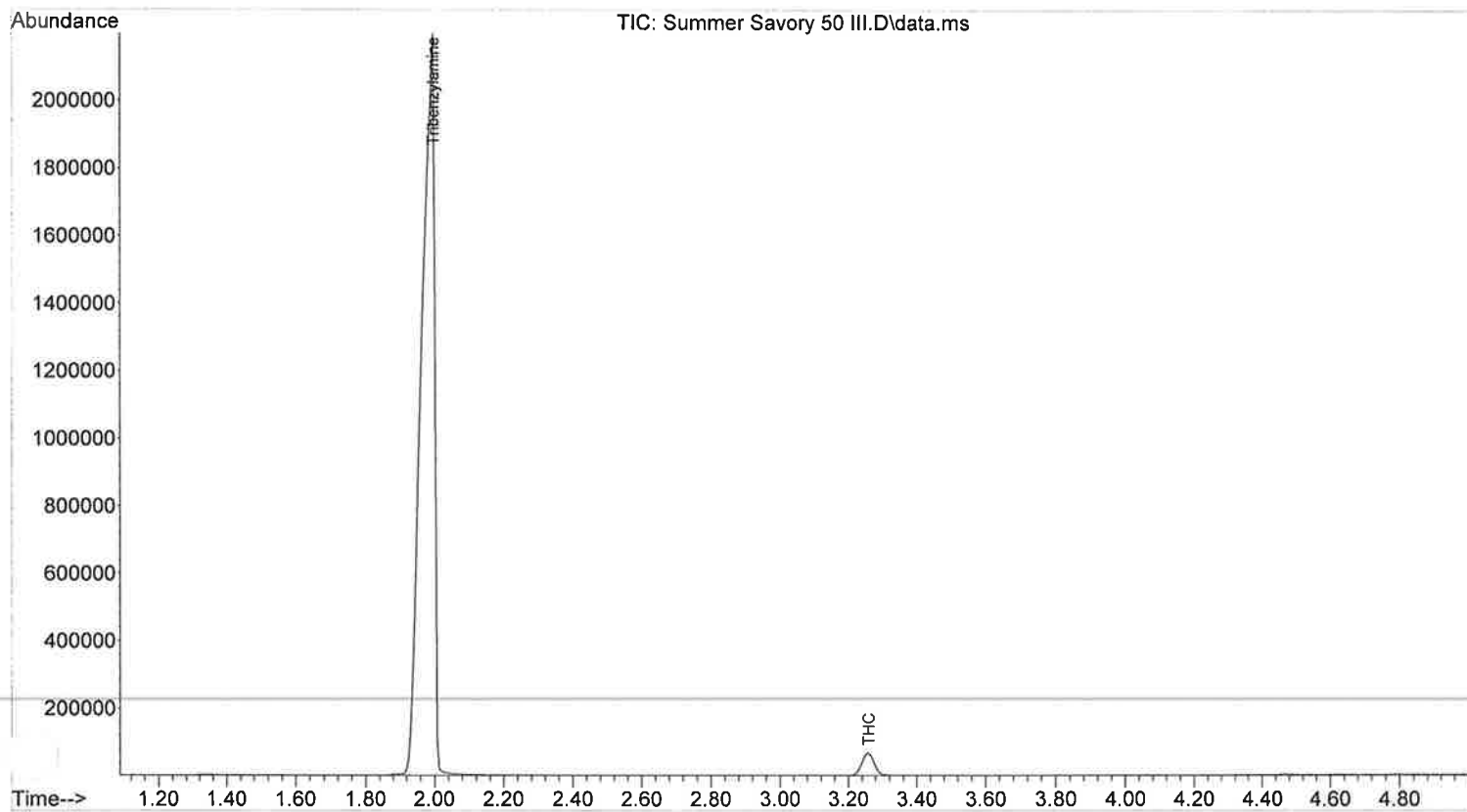
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.995	TIC	56891221	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.260	TIC	1644526	62.06	ug/mL	100

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

THC Quant.M Tue Mar 05 13:51:01 2019

File :C:\msdchem\1\DATA\2019\BTT\3-5-19\Summer Savory 50 III.D
Operator : TBI Analyst
Acquired : 5 Mar 2019 13:10 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Summer Savory
Misc Info : Methanol
Vial Number: 27



Data Path : C:\msdchem\1\DATA\2019\BTT\3-5-19\
Data File : Oregano 50 III.D
Acq On : 5 Mar 2019 13:25
Operator : TBI Analyst
Sample : Oregano
Solvent : Methanol
Vial : 29 Sample Multiplier: 1

Quant Time: Mar 05 13:51:34 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 05 09:29:59 2019
Response via : Initial Calibration

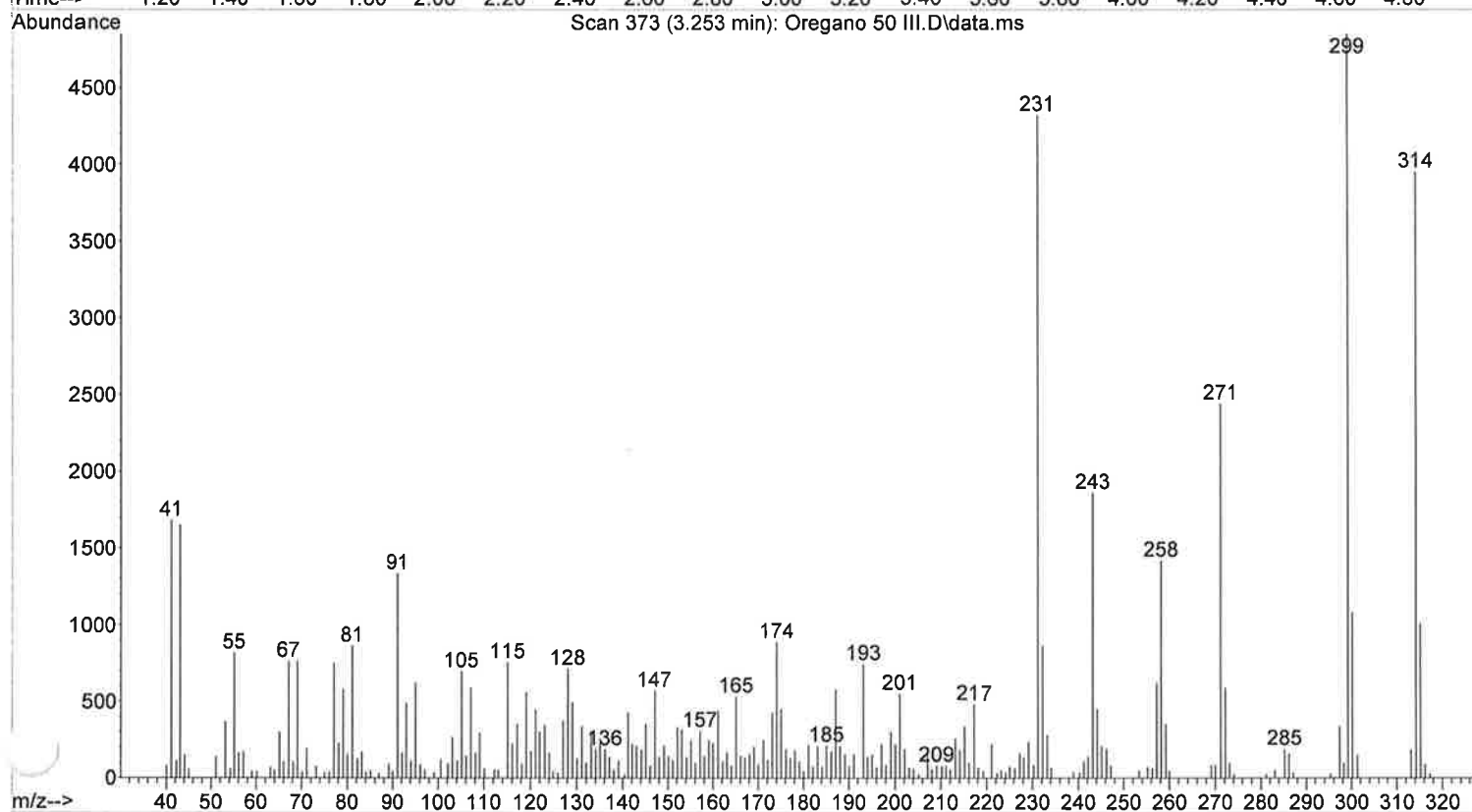
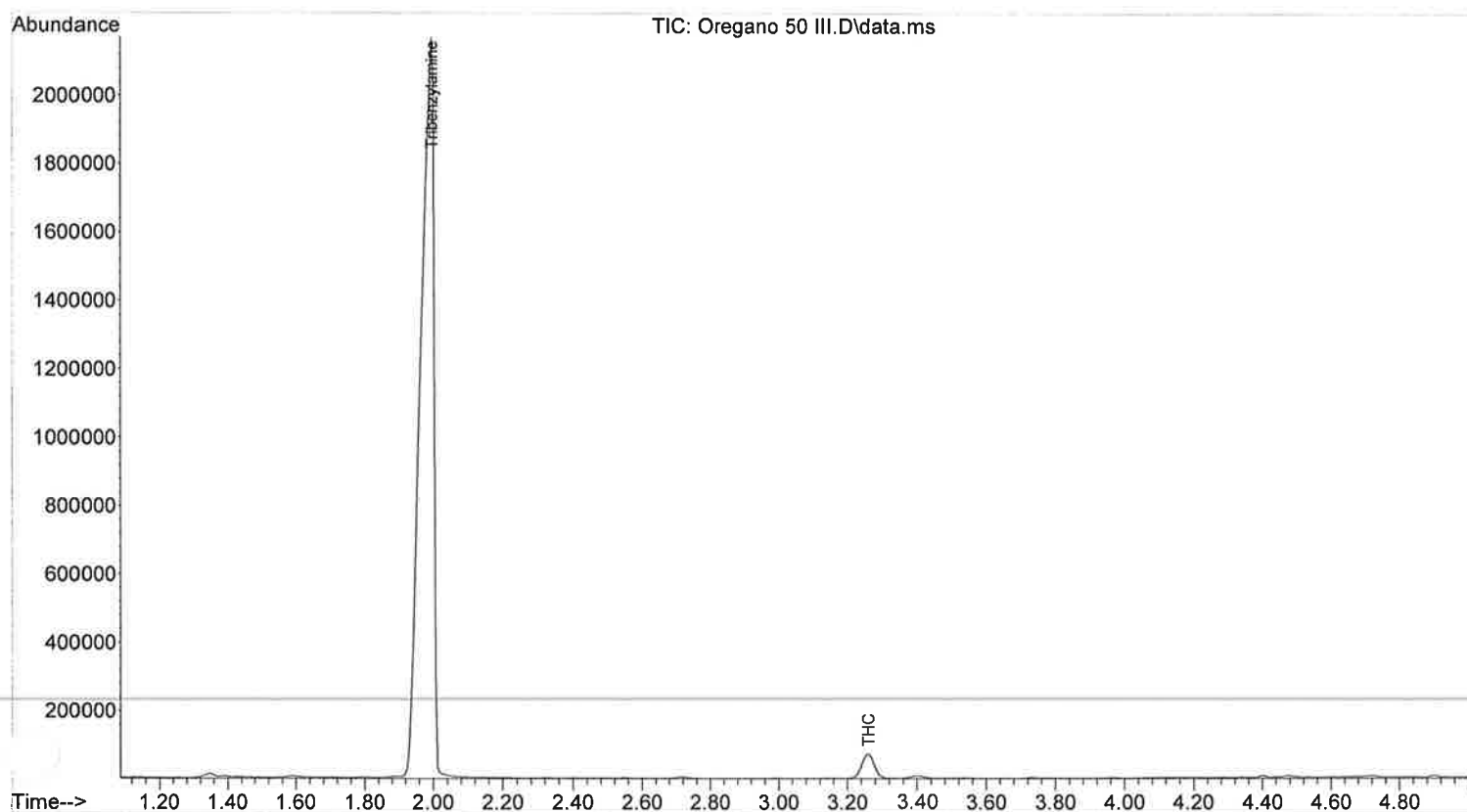
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.997	TIC	57135353	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.263	TIC	1760067	64.75	ug/mL	100

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

THC Quant.M Tue Mar 05 13:51:34 2019

File :C:\msdchem\1\DATA\2019\BTT\3-5-19\Oregano 50 III.D
Operator : TBI Analyst
Acquired : 5 Mar 2019 13:25 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Oregano
Misc Info : Methanol
Vial Number: 29



Data Path : C:\msdchem\1\DATA\2019\BTT\3-5-19\
Data File : Cilantro 50 III.D
Acq On : 5 Mar 2019 13:41
Operator : TBI Analyst
Sample : Cilantro
Solvent : Methanol
Vial : 31 Sample Multiplier: 1

Quant Time: Mar 05 13:52:11 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 05 09:29:59 2019
Response via : Initial Calibration

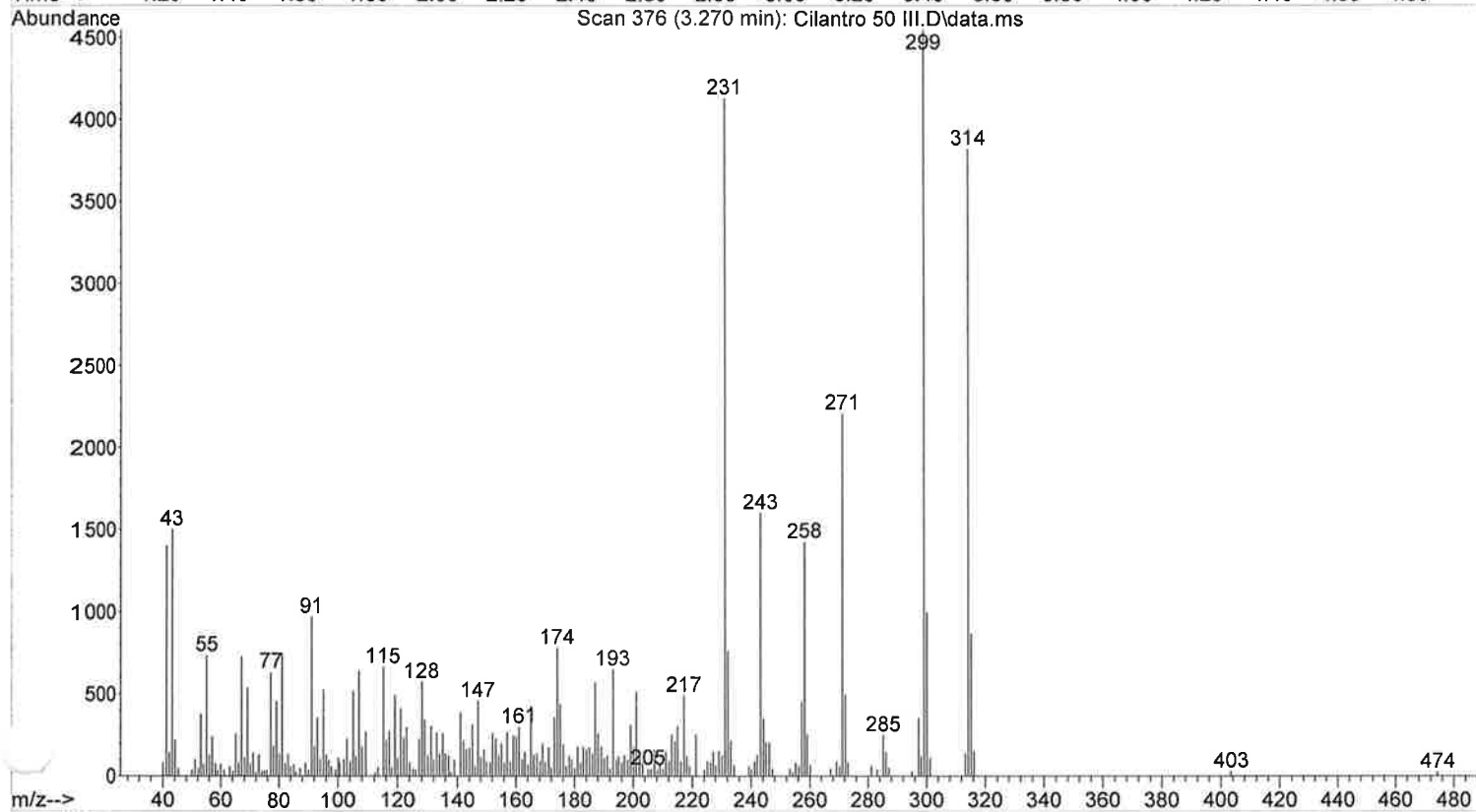
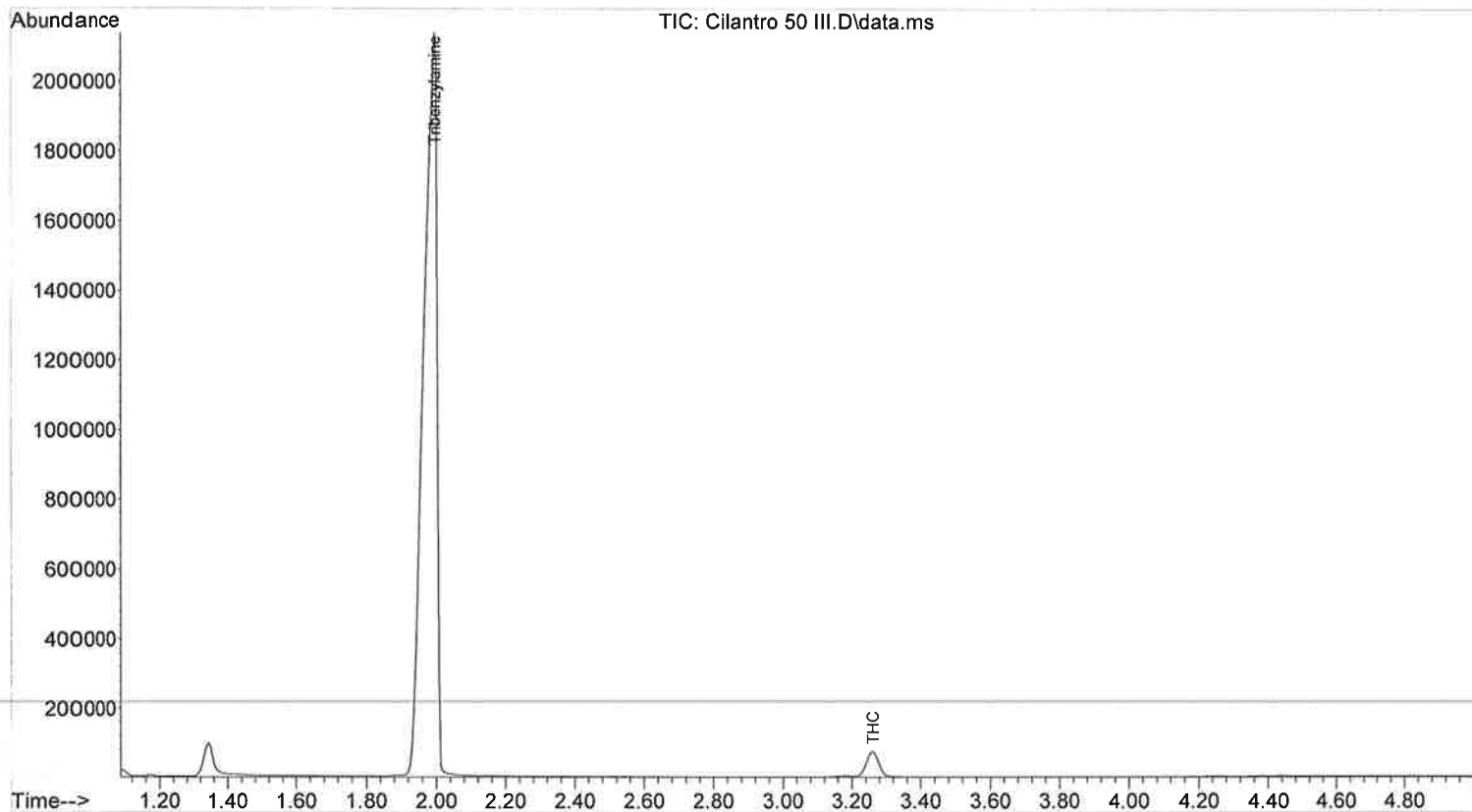
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.998	TIC	56576758	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.262	TIC	1830016	66.93	ug/mL	100

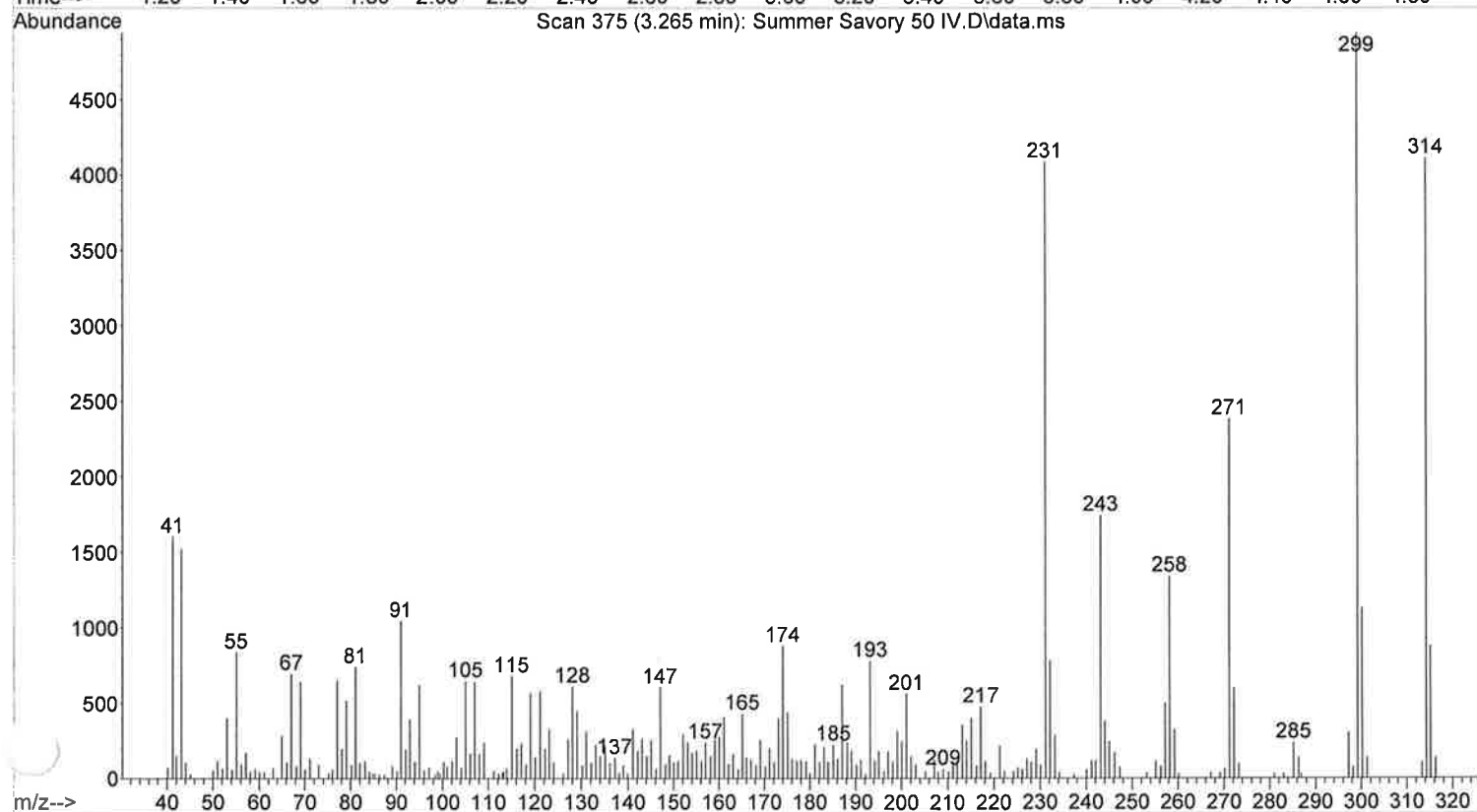
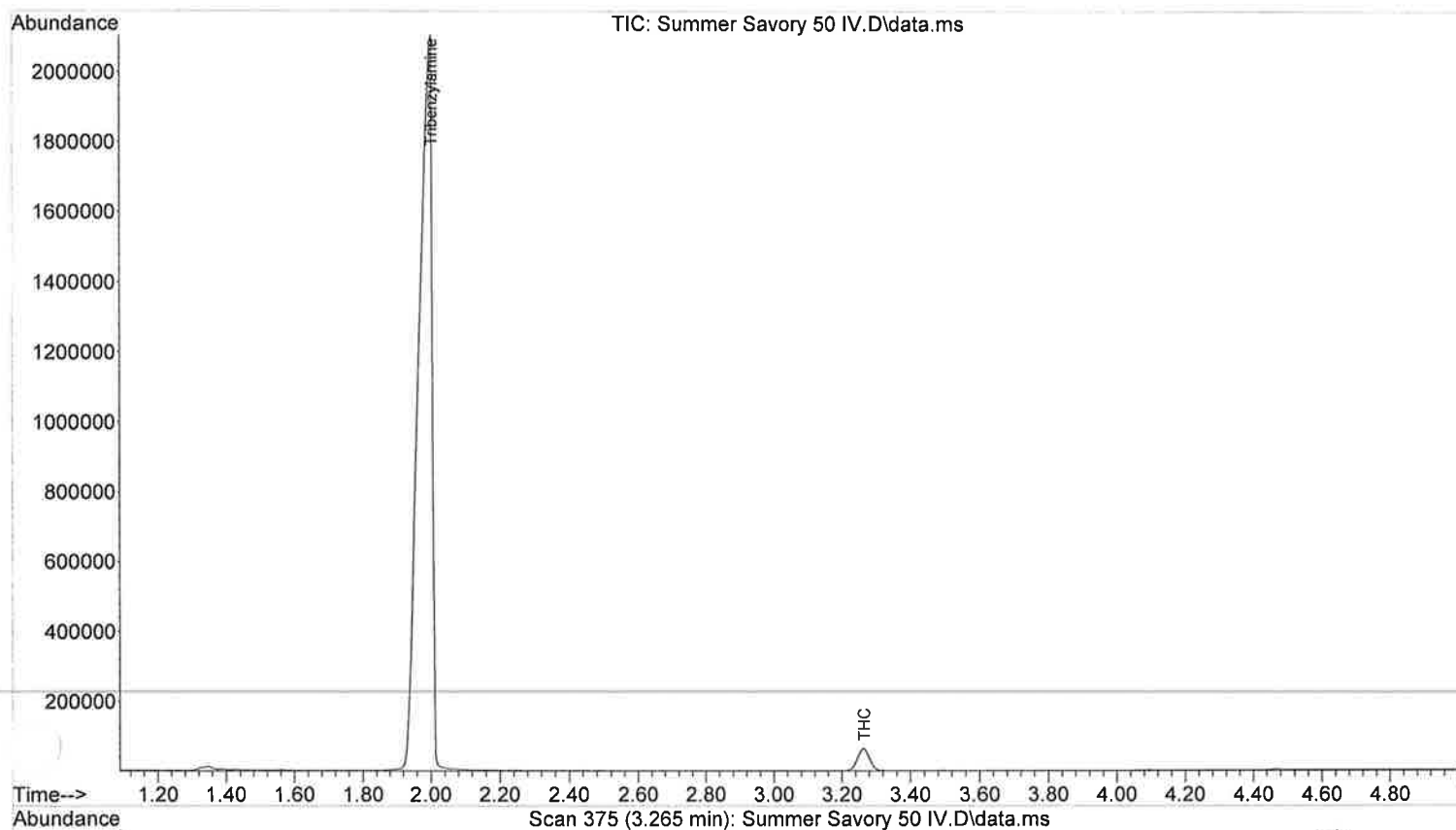
(#) = qualifier out of range (m) = manual integration (+) = signals summed

THC Quant.M Tue Mar 05 13:52:11 2019

File :C:\msdchem\1\DATA\2019\BTT\3-5-19\Cilantro 50 III.D
Operator : TBI Analyst
Acquired : 5 Mar 2019 13:41 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Cilantro
Misc Info : Methanol
Vial Number: 31



File :C:\msdchem\1\DATA\2019\BTT\3-5-19\Summer Savory 50 IV.D
Operator : TBI Analyst
Acquired : 5 Mar 2019 14:20 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Summer Savory
Misc Info : Methanol
Vial Number: 32



Data Path : C:\msdchem\1\DATA\2019\BTT\3-5-19\
Data File : Summer Savory 50 IV.D
Acq On : 5 Mar 2019 14:20
Operator : TBI Analyst
Sample : Summer Savory
Solvent : Methanol
Vial : 32 Sample Multiplier: 1

Quant Time: Mar 05 14:52:02 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 05 09:29:59 2019
Response via : Initial Calibration

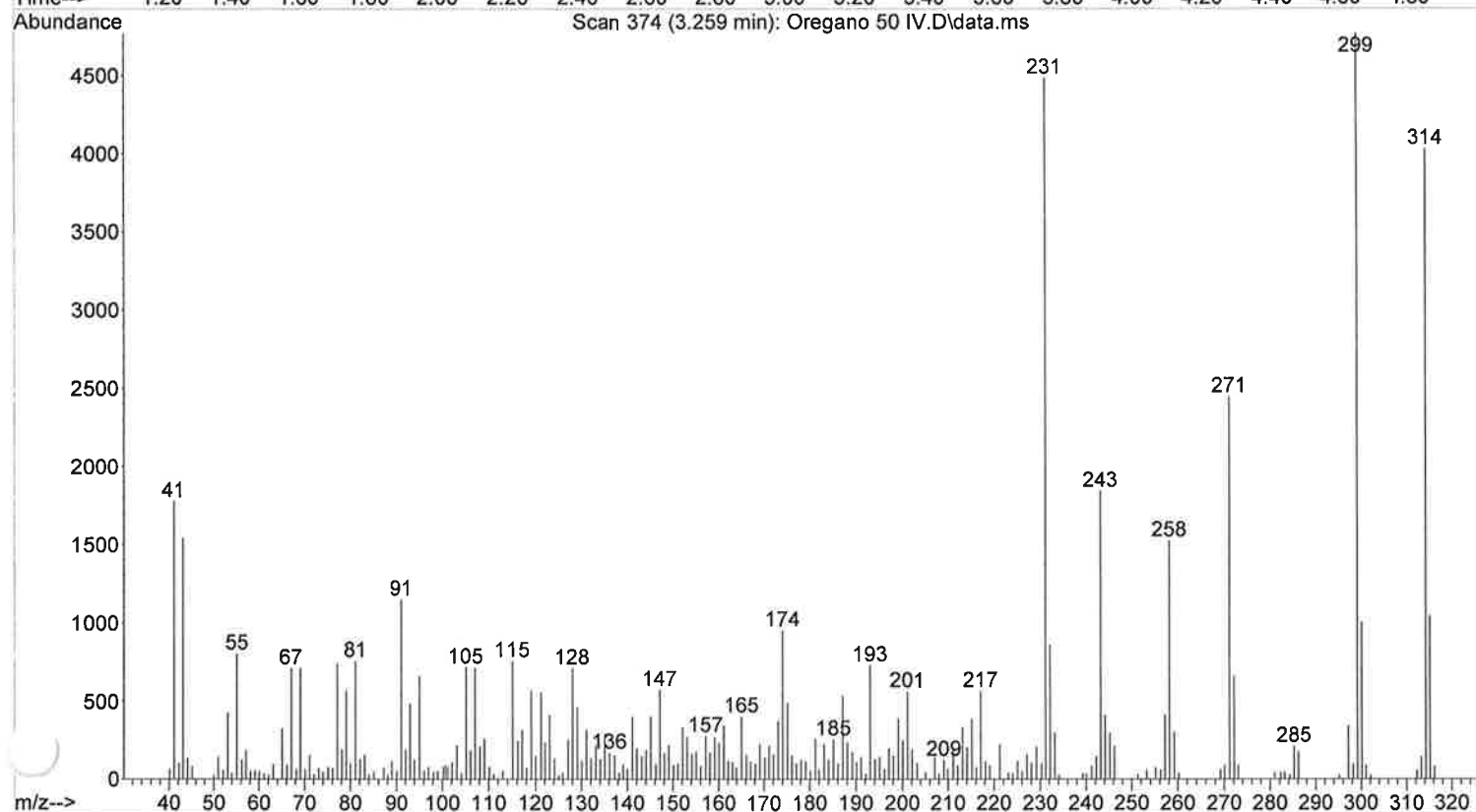
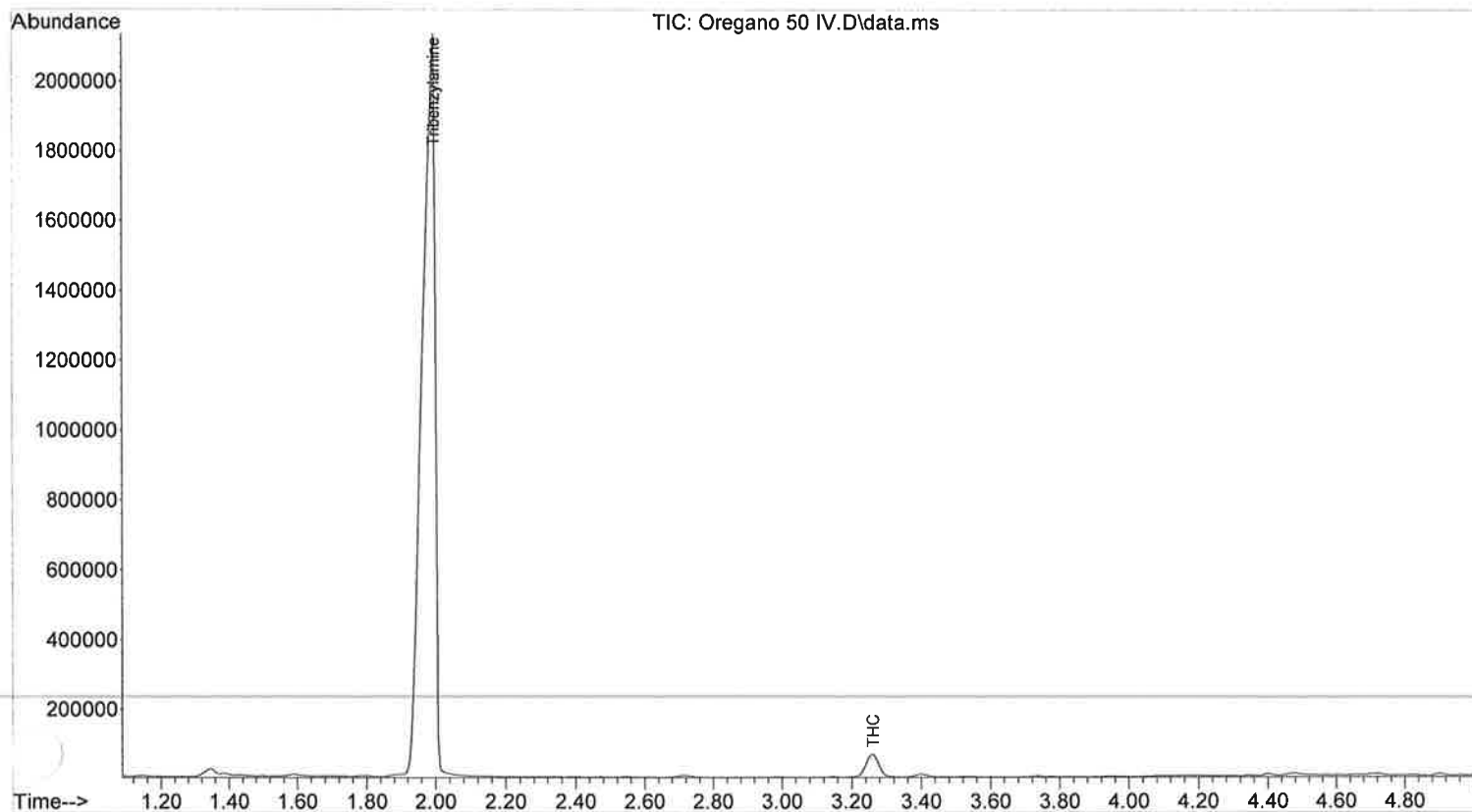
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.999	TIC	54956345	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.266	TIC	1541183	60.83	ug/mL	100

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

THC Quant.M Tue Mar 05 14:52:02 2019

File :C:\msdchem\1\DATA\2019\BTT\3-5-19\Oregano 50 IV.D
Operator : TBI Analyst
Acquired : 5 Mar 2019 14:36 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Oregano
Misc Info : Methanol
Vial Number: 33



Data Path : C:\msdchem\1\DATA\2019\BTT\3-5-19\
Data File : Oregano 50 IV.D
Acq On : 5 Mar 2019 14:36
Operator : TBI Analyst
Sample : Oregano
Vial : 33 Sample Multiplier: 1

Quant Time: Mar 05 14:52:52 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 05 09:29:59 2019
Response via : Initial Calibration

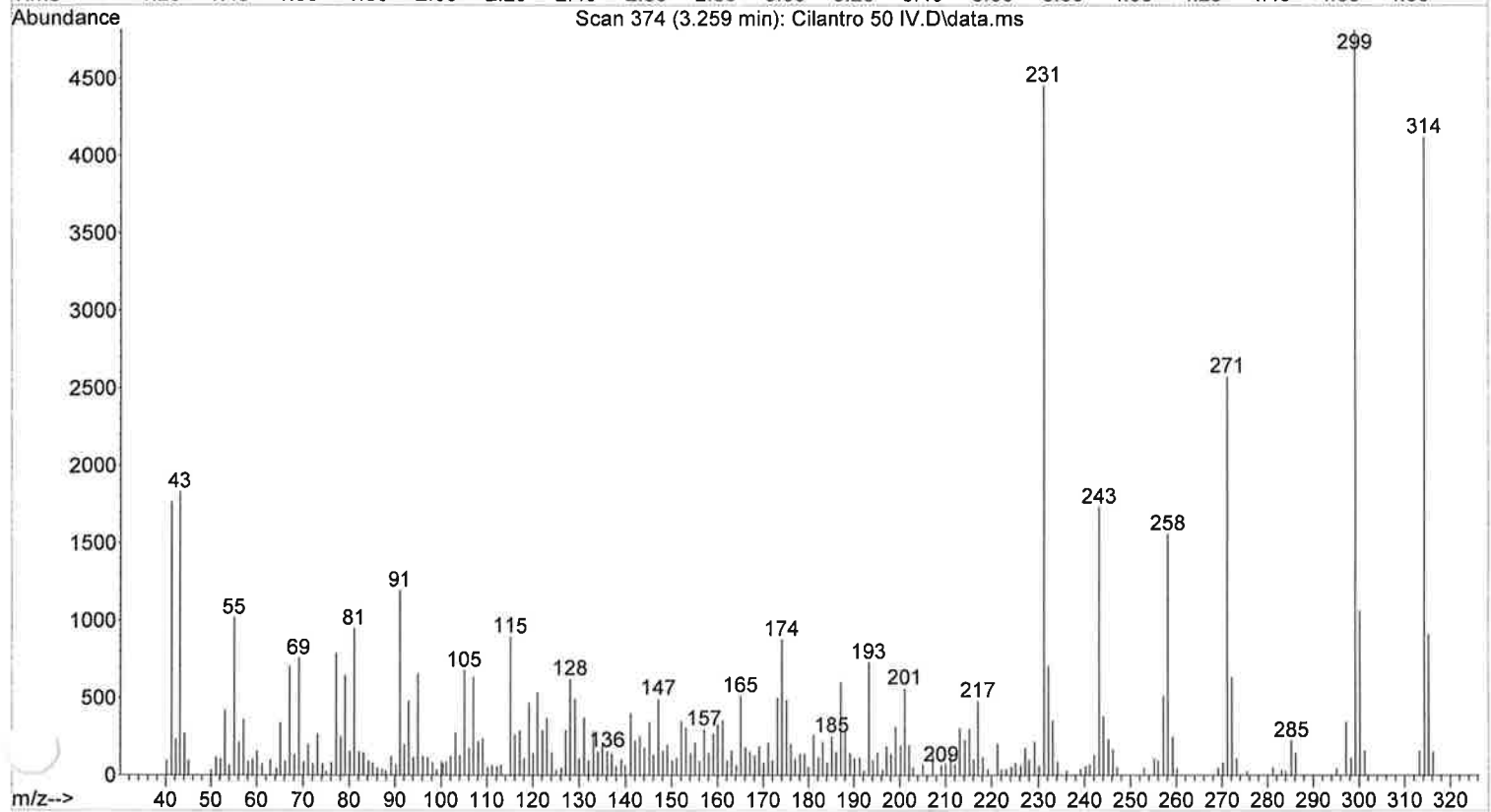
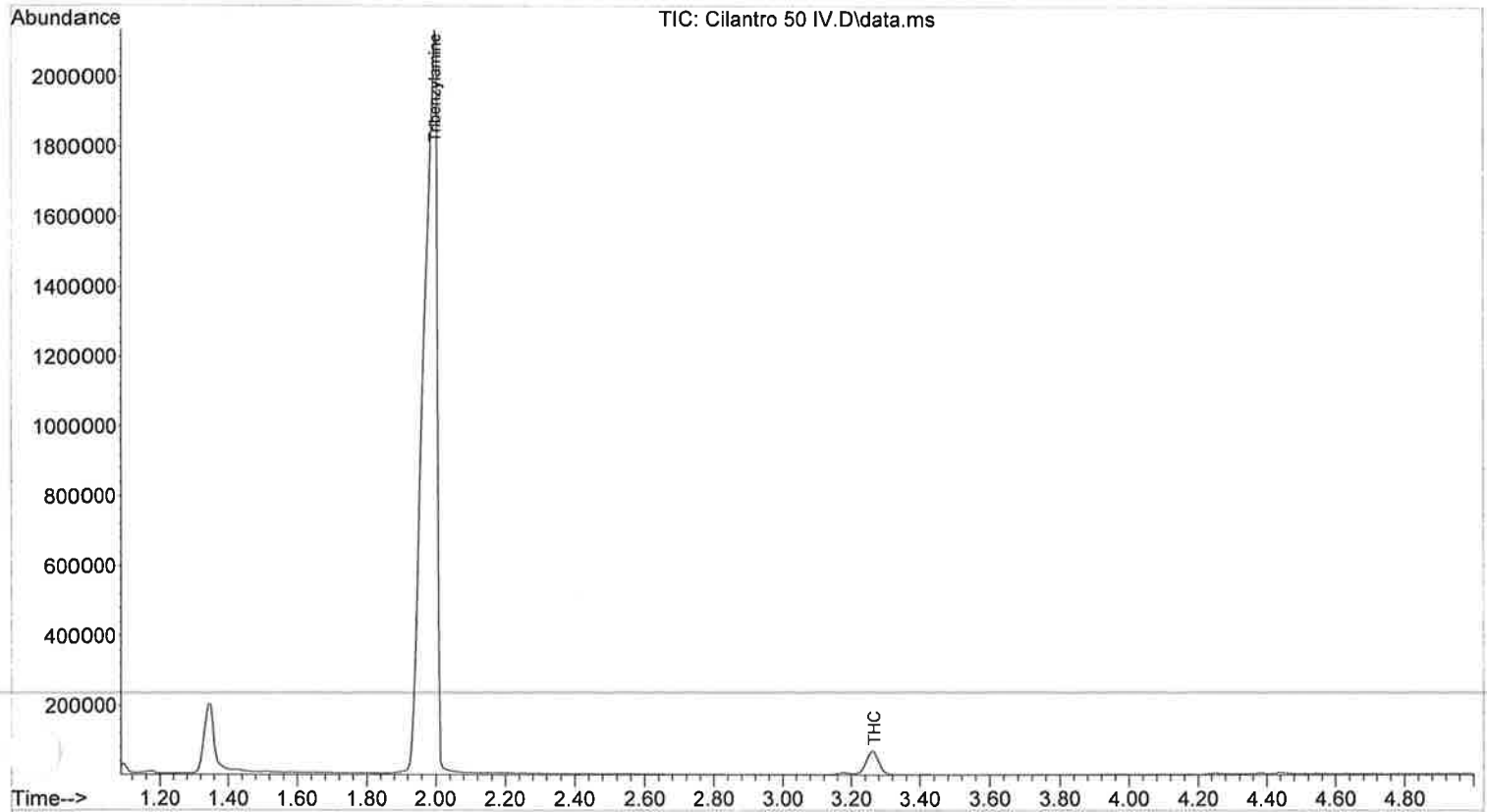
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.995	TIC	54855825	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.262	TIC	1686905	64.67	ug/mL	100

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

THC Quant.M Tue Mar 05 14:52:52 2019

File : C:\msdchem\1\DATA\2019\BTT\3-5-19\Cilantro 50 IV.D
Operator : TBI Analyst
Acquired : 5 Mar 2019 14:51 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Cilantro
Misc Info : Methanol
Vial Number: 34



Data Path : C:\msdchem\1\DATA\2019\BTT\3-5-19\
Data File : Cilantro 50 IV.D
Acq On : 5 Mar 2019 14:51
Operator : TBI Analyst
Sample : Cilantro
Solvent : Methanol
Vial : 34 Sample Multiplier: 1

Quant Time: Mar 05 15:03:16 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 05 09:29:59 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

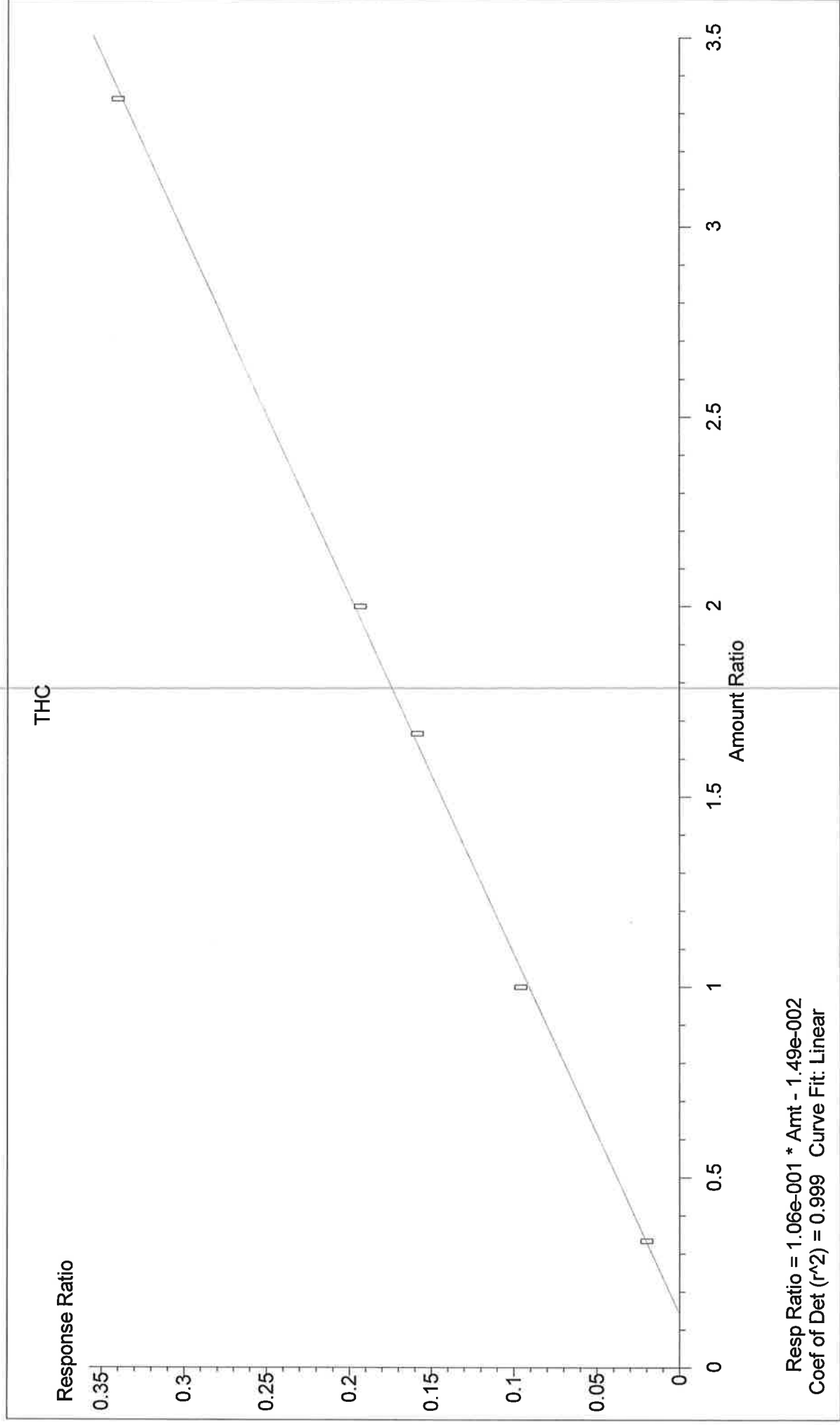
Internal Standards						
1) Tribenzylamine	1.998	TIC	55925756	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.264	TIC	1778901	66.17	ug/mL	100

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

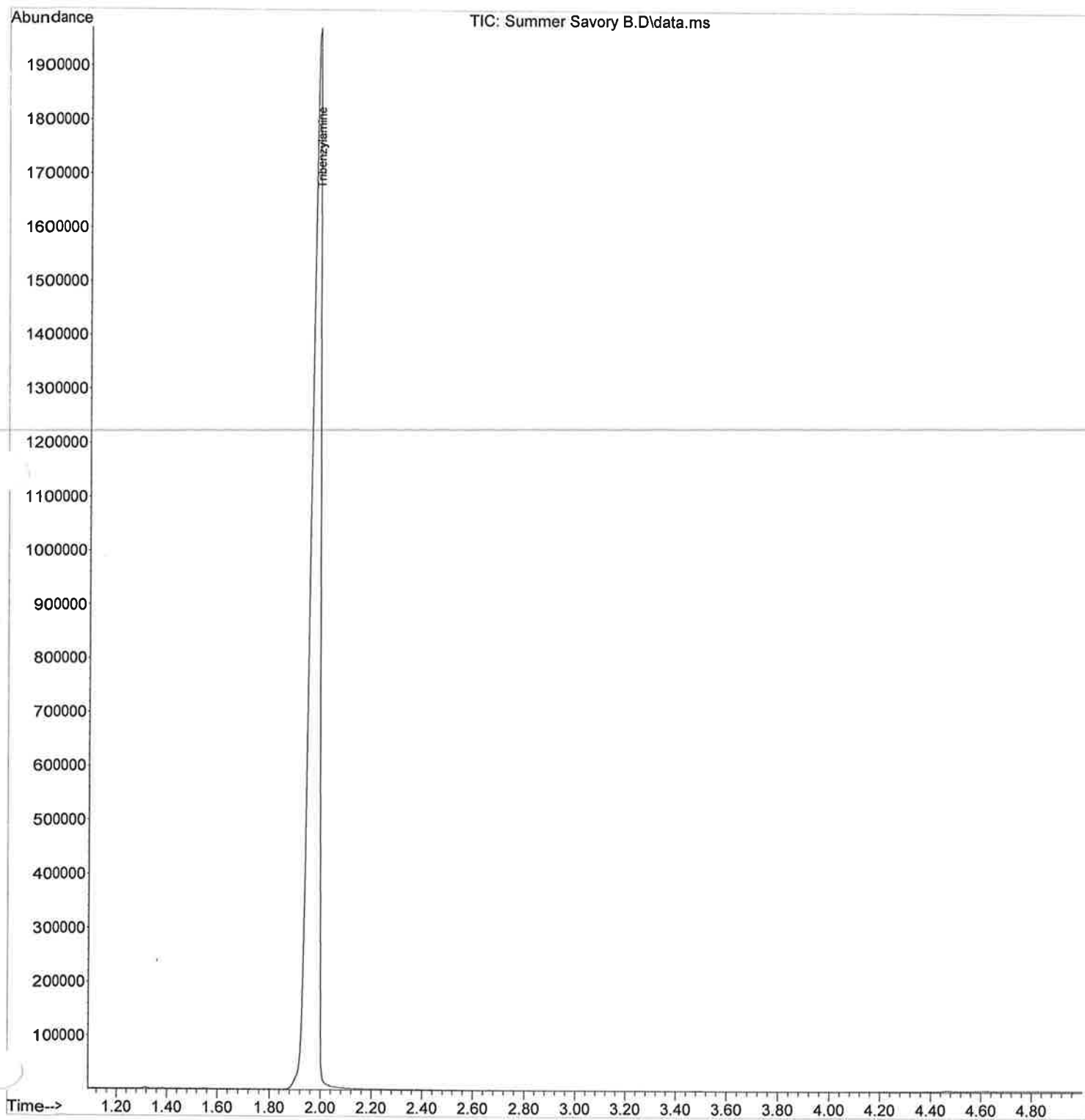
THC Quant.M Tue Mar 05 15:03:16 2019

Calibration data of THC

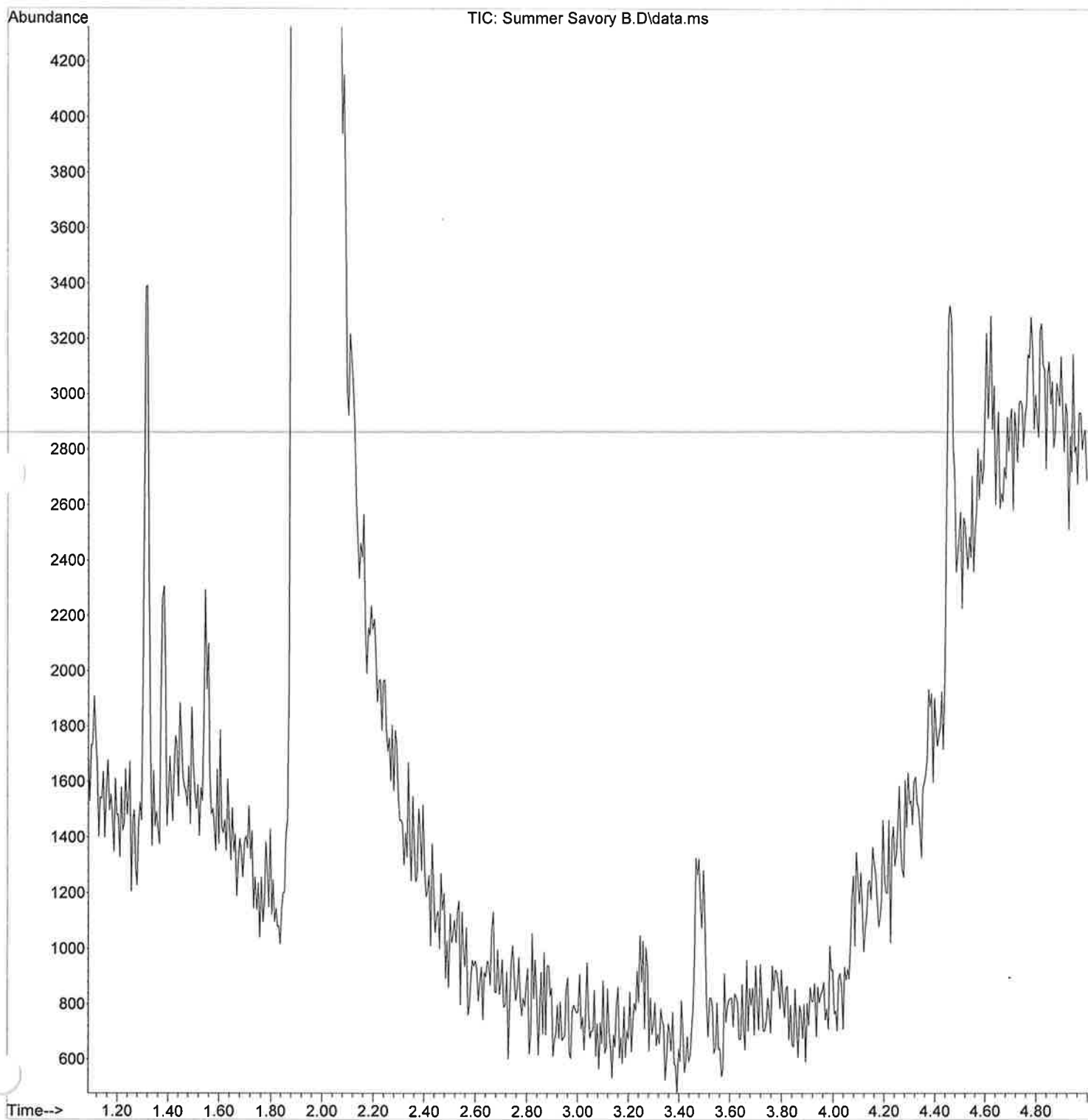
LvLID	Amount (ratio)	Response (ratio)	bias (%)	Data File
50	0.3333	0.019967	-2.14	C:\msdchem\1\DATA\2019\BTT\3-5-19\THC 50.D
150	1.0000	0.095823	5.37	C:\msdchem\1\DATA\2019\BTT\3-5-19\THC 150.D
250	1.6667	0.158411	-1.90	C:\msdchem\1\DATA\2019\BTT\3-5-19\THC 250.D
300	2.0000	0.193016	-1.90	C:\msdchem\1\DATA\2019\BTT\3-5-19\THC 300.D
500	3.3333	0.340173	0.70	C:\msdchem\1\DATA\2019\BTT\3-5-19\THC 500.D



File :C:\msdchem\1\DATA\2019\BTT\3-6-19\Summer Savory B.D
Operator : TBI Analyst
Acquired : 6 Mar 2019 10:46 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice Blank
Misc Info : Methanol
Vial Number: 37



File :C:\msdchem\1\DATA\2019\BTT\3-6-19\Summer Savory B.D
Operator : TBI Analyst
Acquired : 6 Mar 2019 10:46 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice Blank
Misc Info : Methanol
Vial Number: 37



Data Path : C:\msdchem\1\DATA\2019\BTT\3-6-19\
Data File : Summer Savory B.D
Acq On : 6 Mar 2019 10:46
Operator : TBI Analyst
Sample : Spice Blank
Misc : Methanol
Vial : 37 Sample Multiplier: 1

Quant Time: Mar 06 11:01:28 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 06 11:00:48 2019
Response via : Initial Calibration

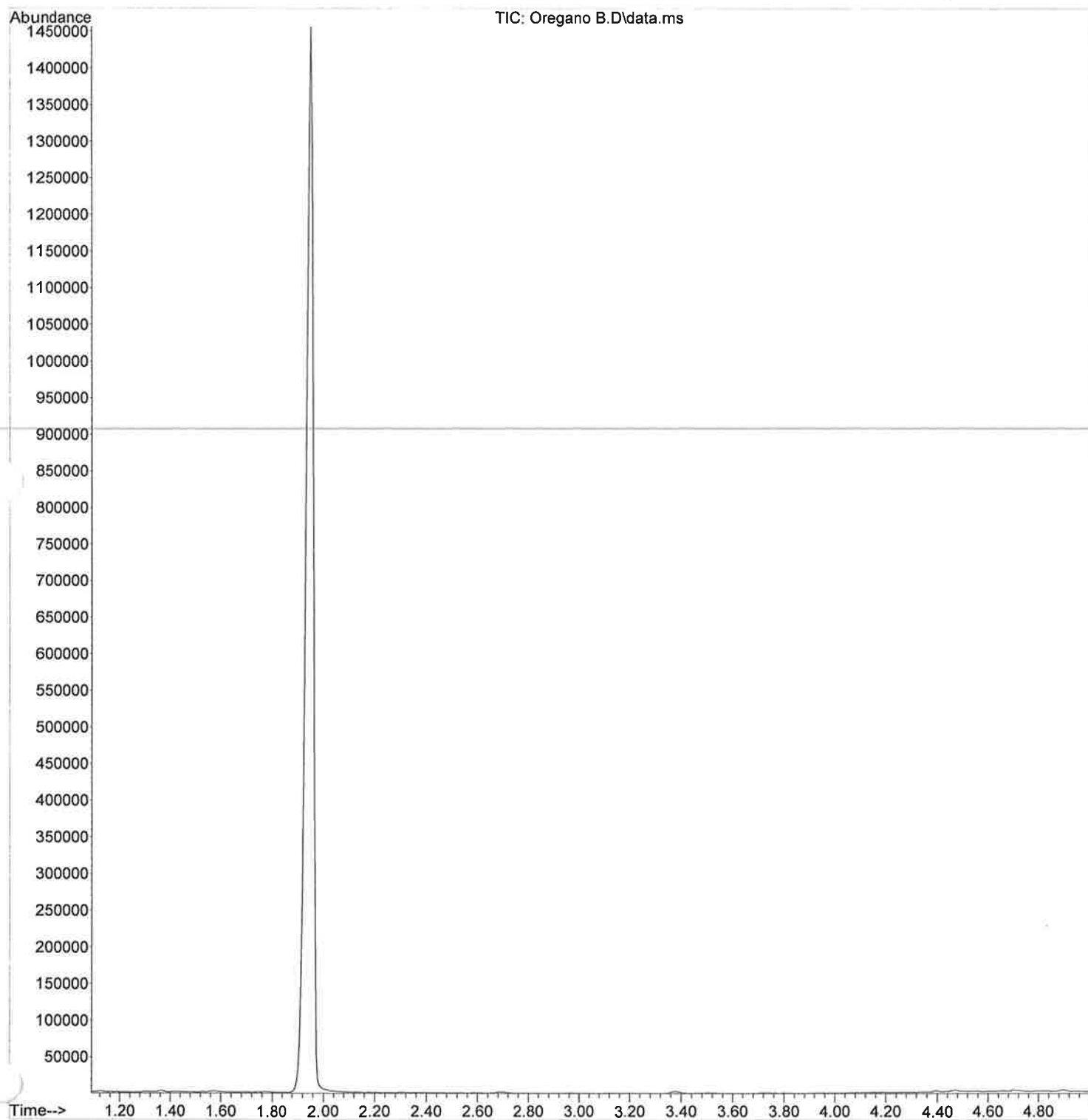
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.988	TIC	49348932	150.00	ug/mL	0.00
Target Compounds						
2) THC	0.000		0	N.D.		Qvalue

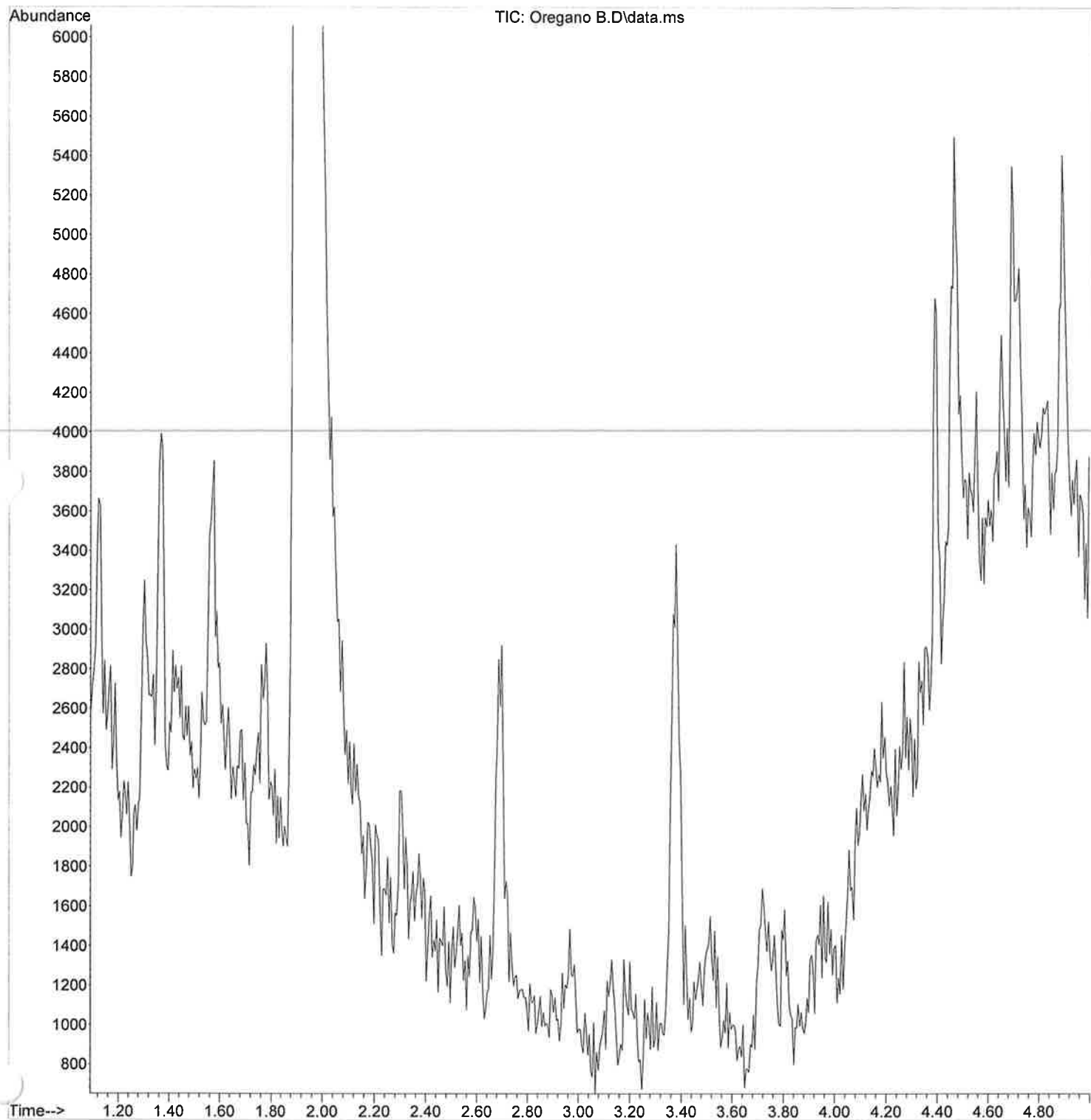
(#) = qualifier out of range (m) = manual integration (+) = signals summed

THC Quant.M Wed Mar 06 11:01:28 2019

File :C:\msdchem\1\DATA\2019\BTT\3-6-19\Oregano B.D
Operator : TBI Analyst
Acquired : 6 Mar 2019 11:02 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice Blank
Misc Info : Methanol
Vial Number: 39



File :C:\msdchem\1\DATA\2019\BTT\3-6-19\Oregano B.D
Operator : TBI Analyst
Acquired : 6 Mar 2019 11:02 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice Blank
Misc Info : Methanol
Vial Number: 39



Data Path : C:\msdchem\1\DATA\2019\BTT\3-6-19\
Data File : Oregano B.D
Acq On : 6 Mar 2019 11:02
Operator : TBI Analyst
Sample : Spice Blank
Misc : Methanol
% Vial : 39 Sample Multiplier: 1

Quant Time: Mar 06 12:00:49 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 06 11:00:48 2019
Response via : Initial Calibration

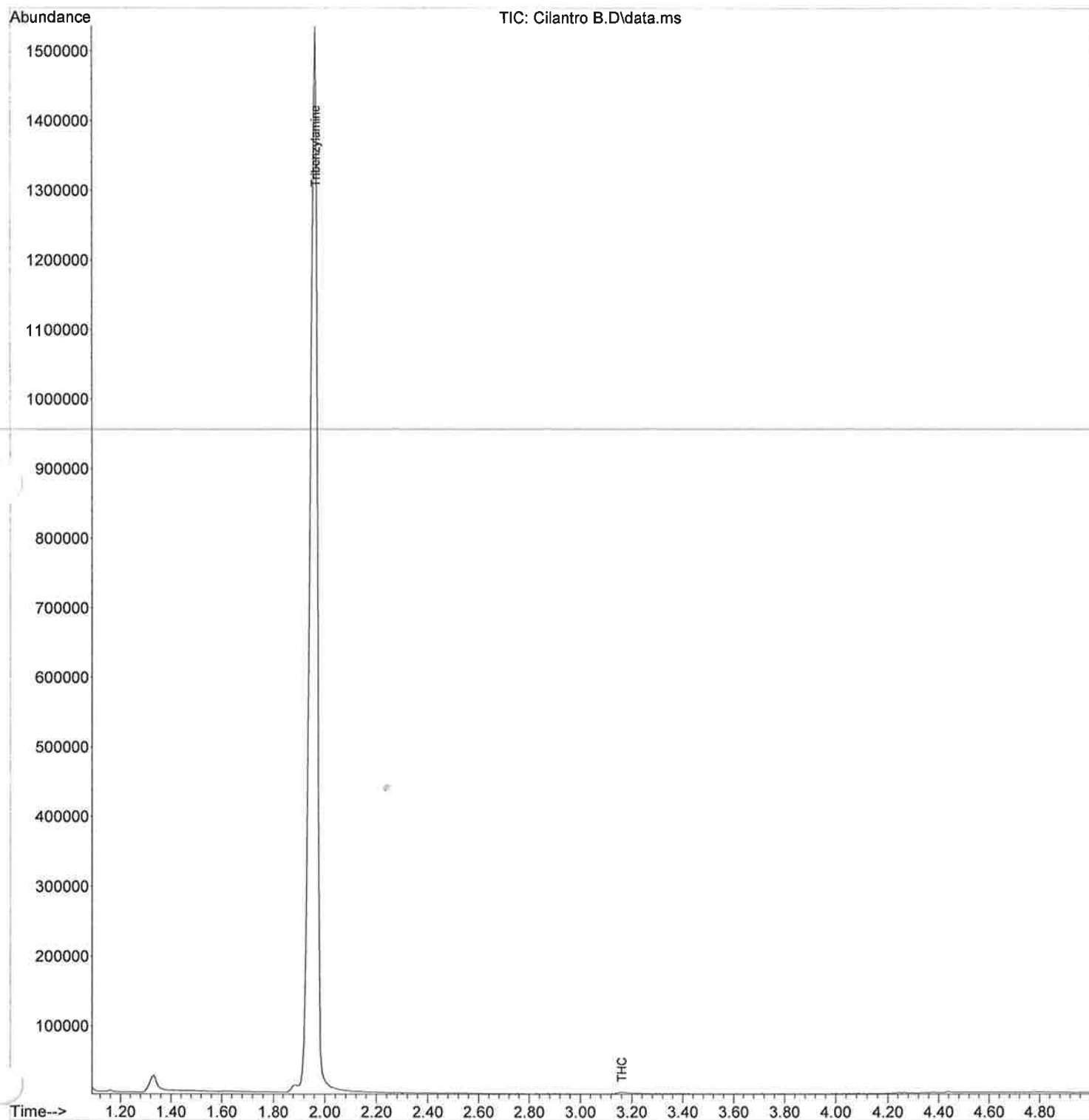
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.957	TIC	28748915	150.00	ug/mL	-0.04
Target Compounds						Qvalue
2) THC	3.382	TIC	63023	24.18	ug/mL	100

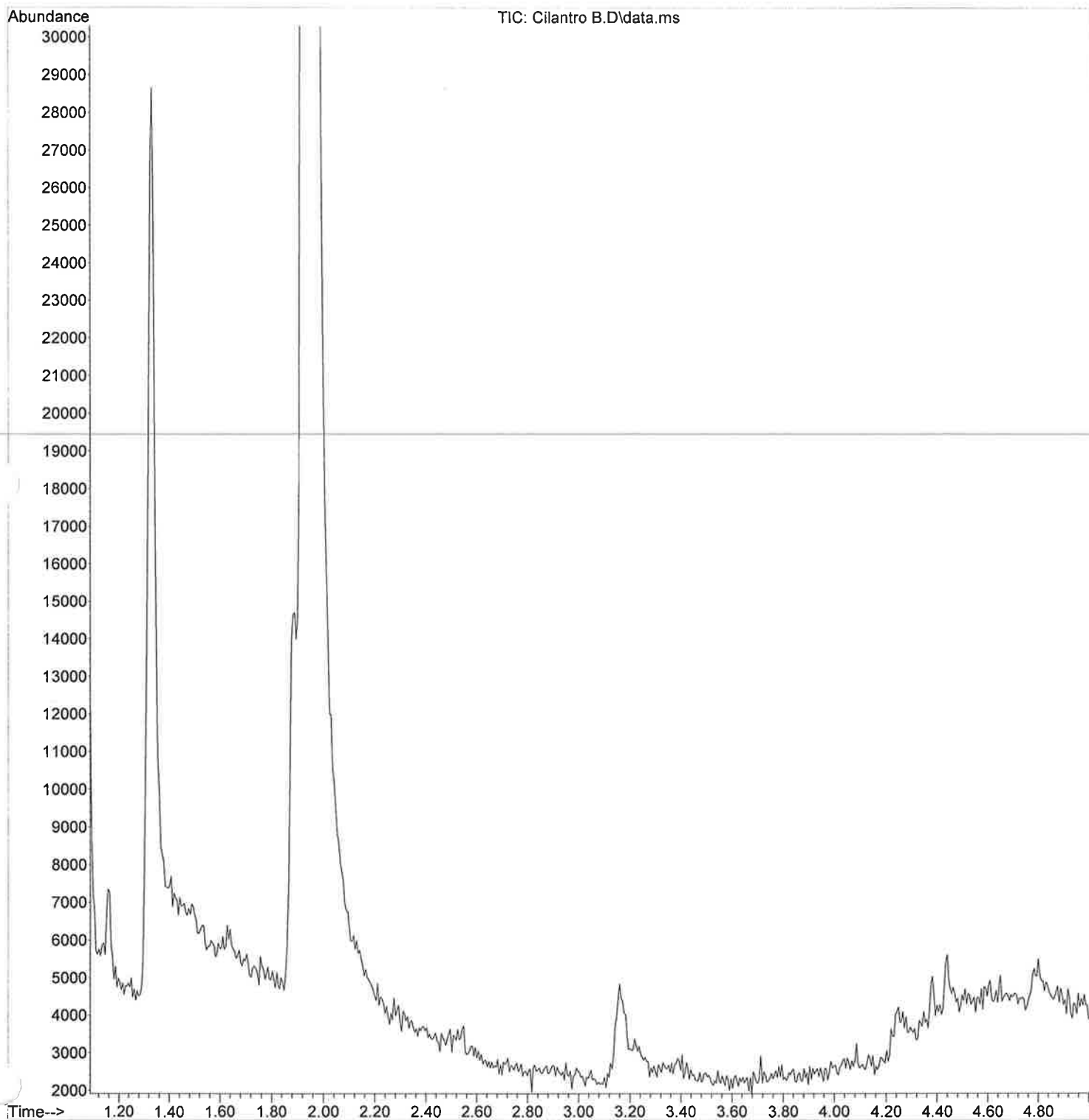
(#) = qualifier out of range (m) = manual integration (+) = signals summed

THC Quant.M Wed Mar 06 12:00:49 2019

File :C:\msdchem\1\DATA\2019\BTT\3-6-19\Cilantro B.D
Operator : TBI Analyst
Acquired : 6 Mar 2019 11:17 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice Blank
Misc Info : Methanol
Vial Number: 41



File :C:\msdchem\1\DATA\2019\BTT\3-6-19\Cilantro B.D
Operator : TBI Analyst
Acquired : 6 Mar 2019 11:17 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice Blank
Misc Info : Methanol
Vial Number: 41



Data Path : C:\msdchem\1\DATA\2019\BTT\3-6-19\
Data File : Cilantro B.D
Acq On : 6 Mar 2019 11:17
Operator : TBI Analyst
Sample : Spice Blank
Misc : Methanol
8 Vial : 41 Sample Multiplier: 1

Quant Time: Mar 06 12:02:05 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 06 11:00:48 2019
Response via : Initial Calibration

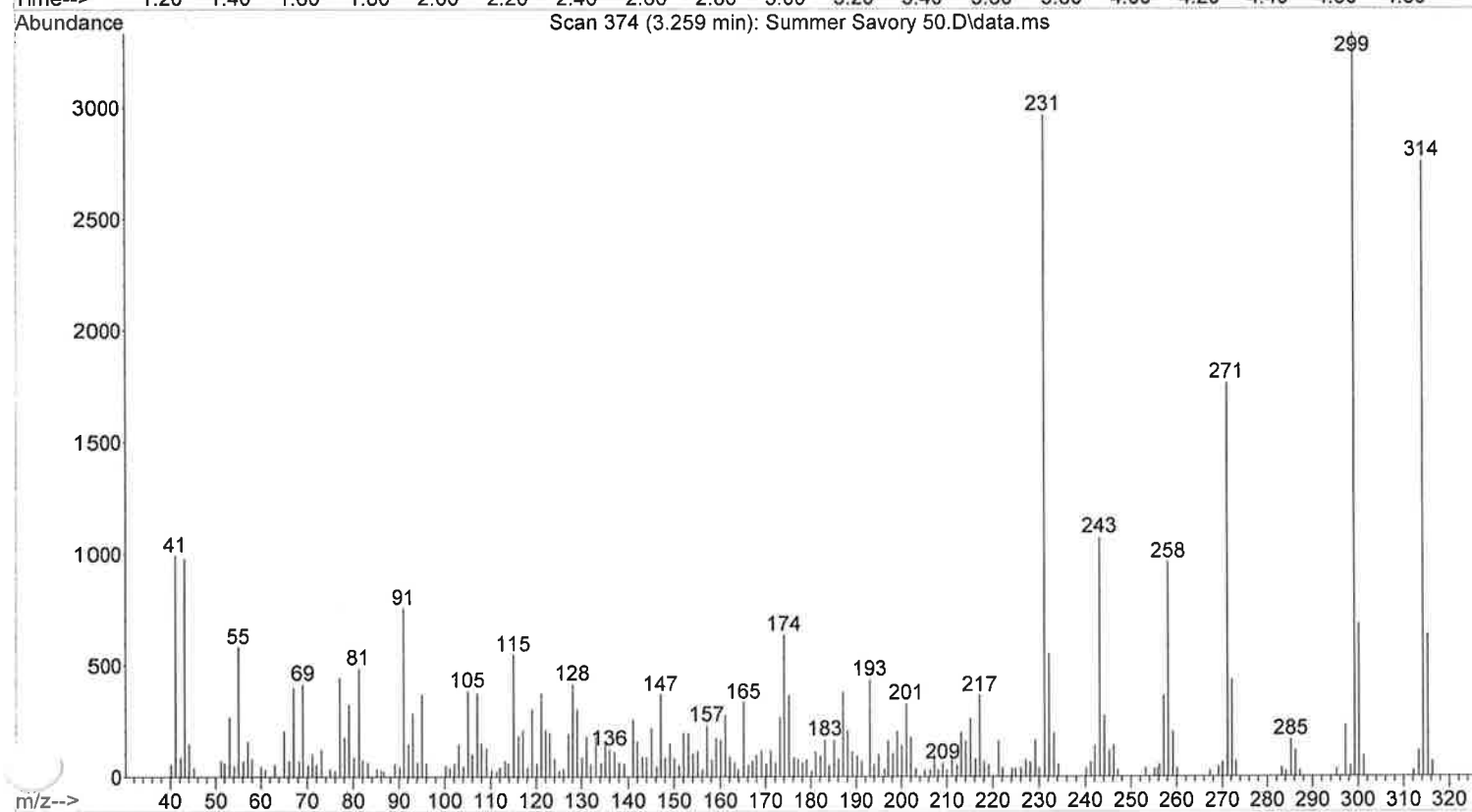
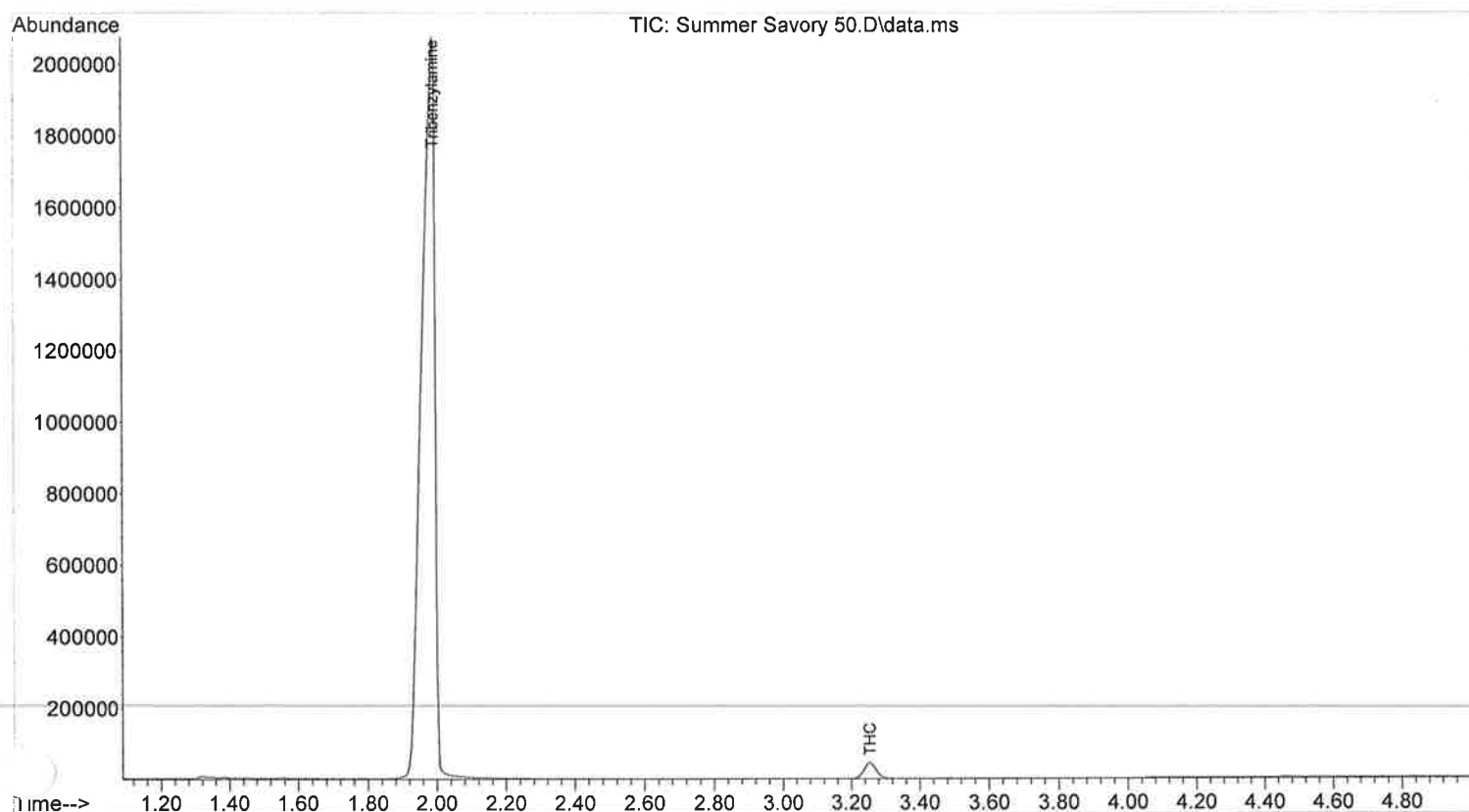
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.967	TIC	30423586	150.00	ug/mL	-0.03
Target Compounds						Qvalue
2) THC	3.162	TIC	50067	23.41	ug/mL	100

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

THC Quant.M Wed Mar 06 12:02:06 2019

File :C:\msdchem\1\DATA\2019\BTT\3-6-19\Summer Savory 50.D
Operator : TBI Analyst
Acquired : 6 Mar 2019 11:33 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice
Misc Info : Methanol
Vial Number: 43



Data Path : C:\msdchem\1\DATA\2019\BTT\3-6-19\
Data File : Summer Savory 50.D
Acq On : 6 Mar 2019 11:33
Operator : TBI Analyst
Sample : Spice
Misc : Methanol
% Vial : 43 Sample Multiplier: 1

Quant Time: Mar 06 12:04:10 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 06 11:00:48 2019
Response via : Initial Calibration

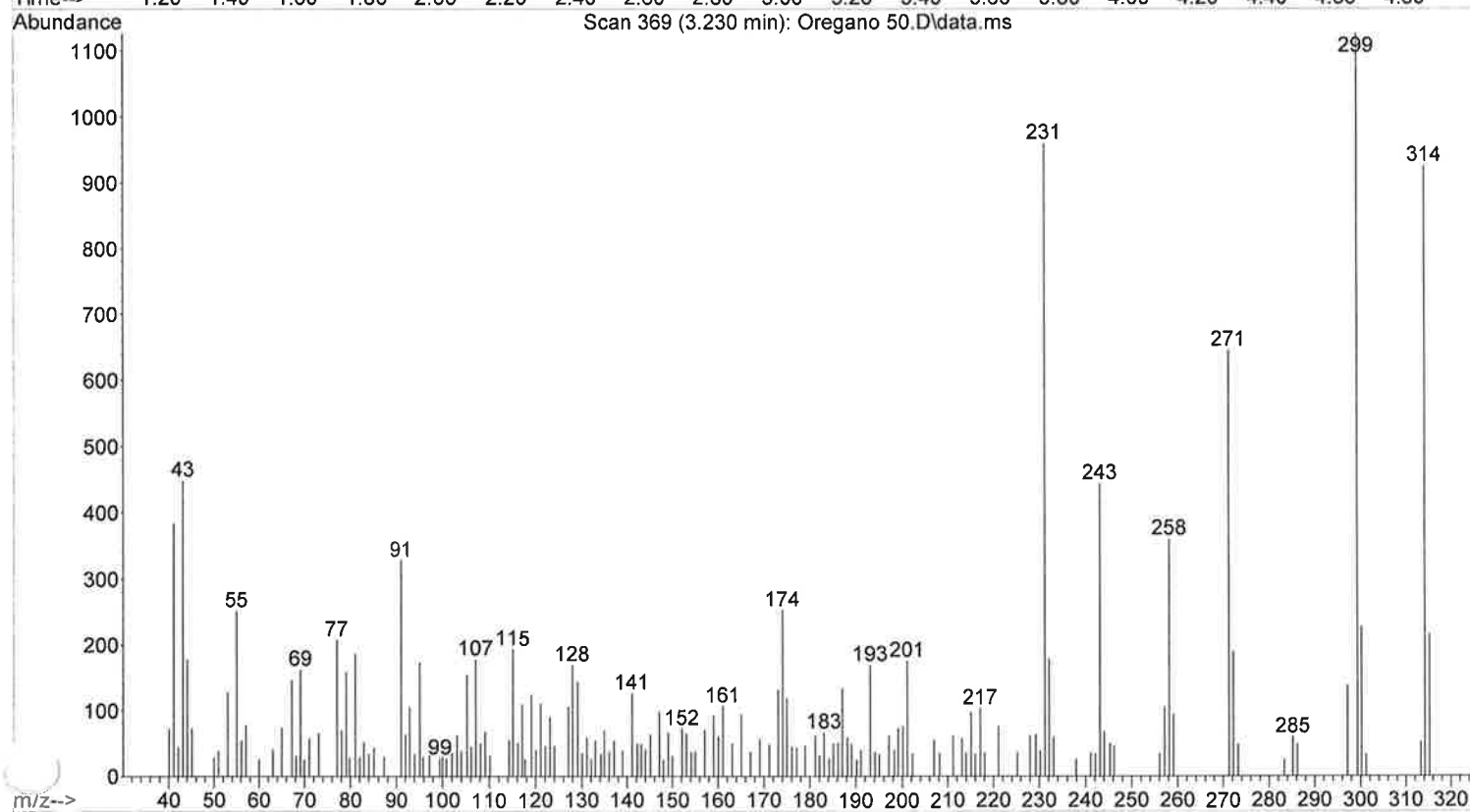
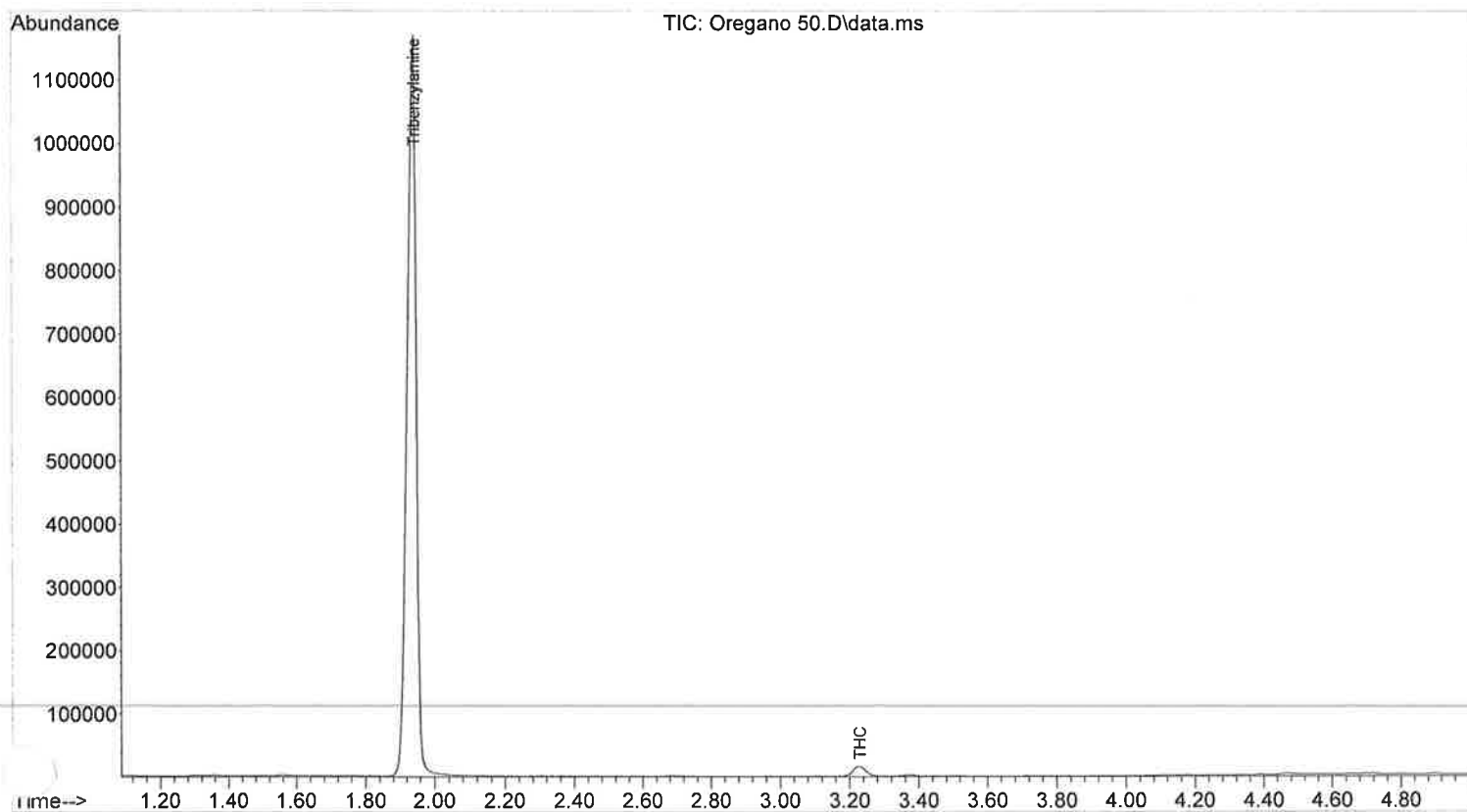
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.992	TIC	54872262	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.257	TIC	1113709	49.85	ug/mL	100

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

THC Quant.M Wed Mar 06 12:04:11 2019

File :C:\msdchem\1\DATA\2019\BTT\3-6-19\Oregano 50.D
Operator : TBI Analyst
Acquired : 6 Mar 2019 11:48 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice
Misc Info : Methanol
Vial Number: 45



Data Path : C:\msdchem\1\DATA\2019\BTT\3-6-19\
Data File : Oregano 50.D
Acq On : 6 Mar 2019 11:48
Operator : TBI Analyst
Sample : Spice
Misc : Methanol
Vial : 45 Sample Multiplier: 1

Quant Time: Mar 06 12:05:02 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 06 11:00:48 2019
Response via : Initial Calibration

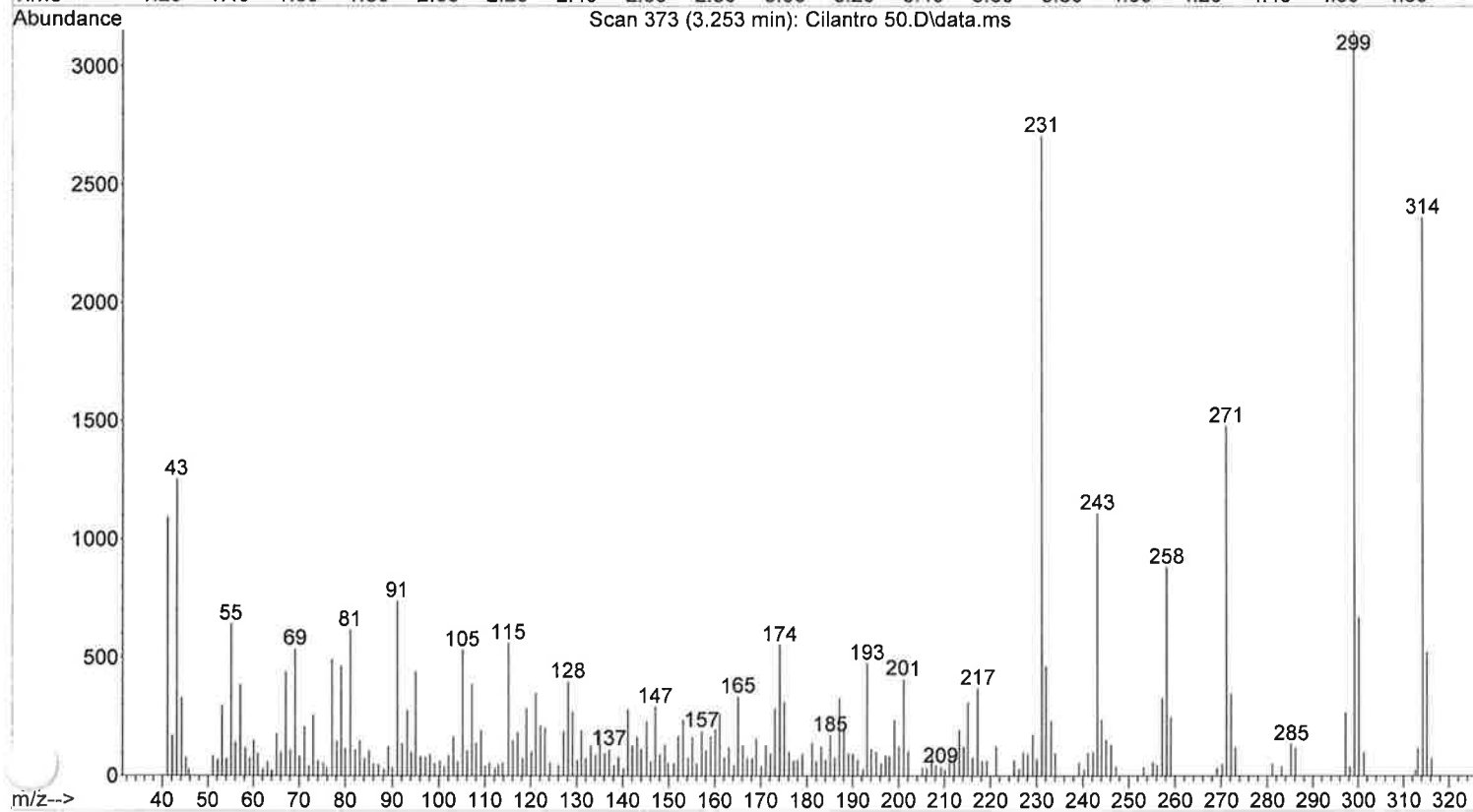
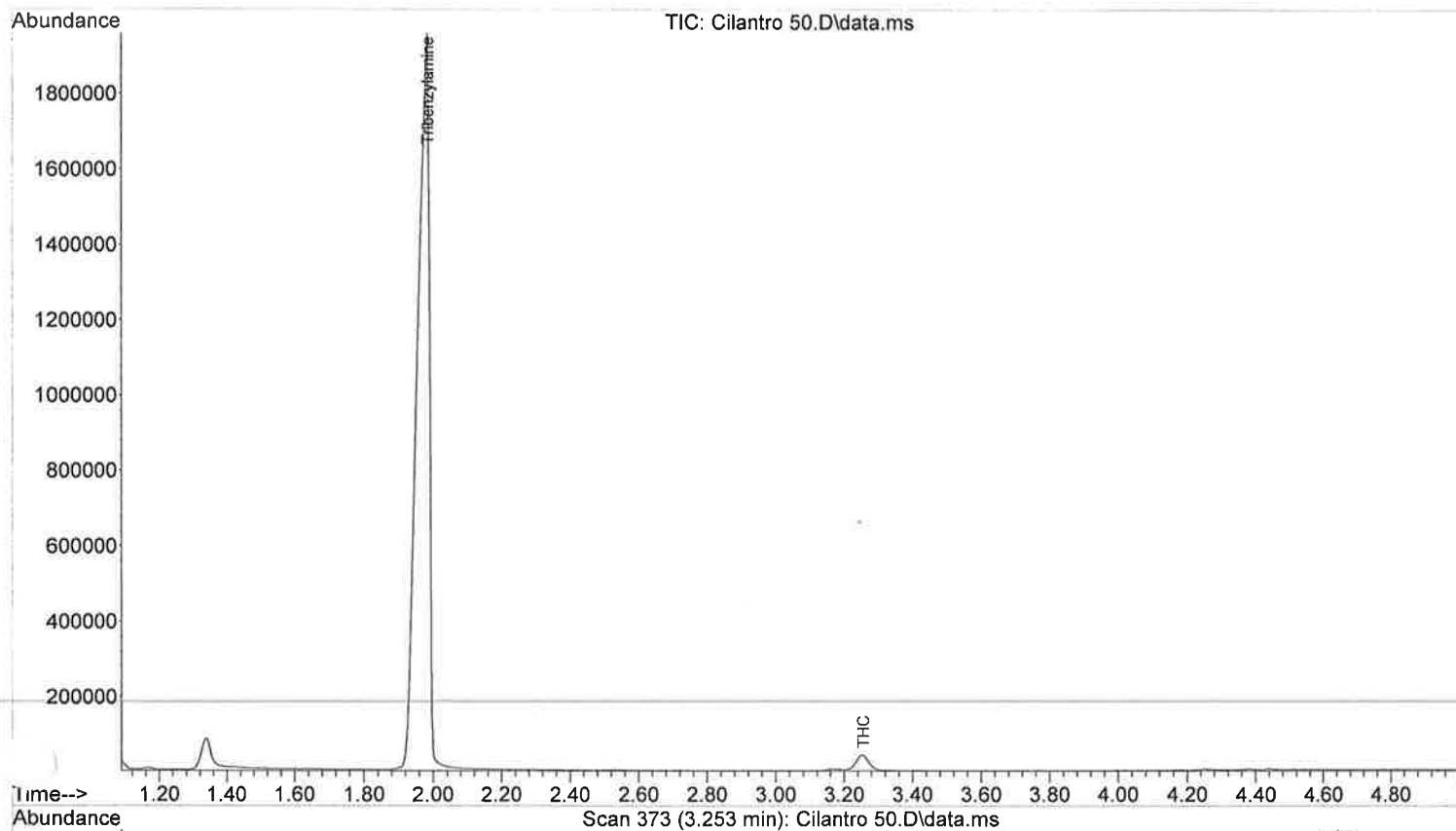
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.943	TIC	21683259	150.00	ug/mL	-0.05
Target Compounds						Qvalue
2) THC	3.230	TIC	410625	47.92	ug/mL	100

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

THC Quant.M Wed Mar 06 12:05:03 2019

File :C:\msdchem\1\DATA\2019\BTT\3-6-19\Cilantro 50.D
Operator : TBI Analyst
Acquired : 6 Mar 2019 12:04 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice
Misc Info : Methanol
Vial Number: 47



Data Path : C:\msdchem\1\DATA\2019\BTT\3-6-19\
Data File : Cilantro 50.D
Acq On : 6 Mar 2019 12:04
Operator : TBI Analyst
Sample : Spice
Misc : Methanol
Vial : 47 Sample Multiplier: 1

Quant Time: Mar 06 12:27:56 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 06 11:00:48 2019
Response via : Initial Calibration

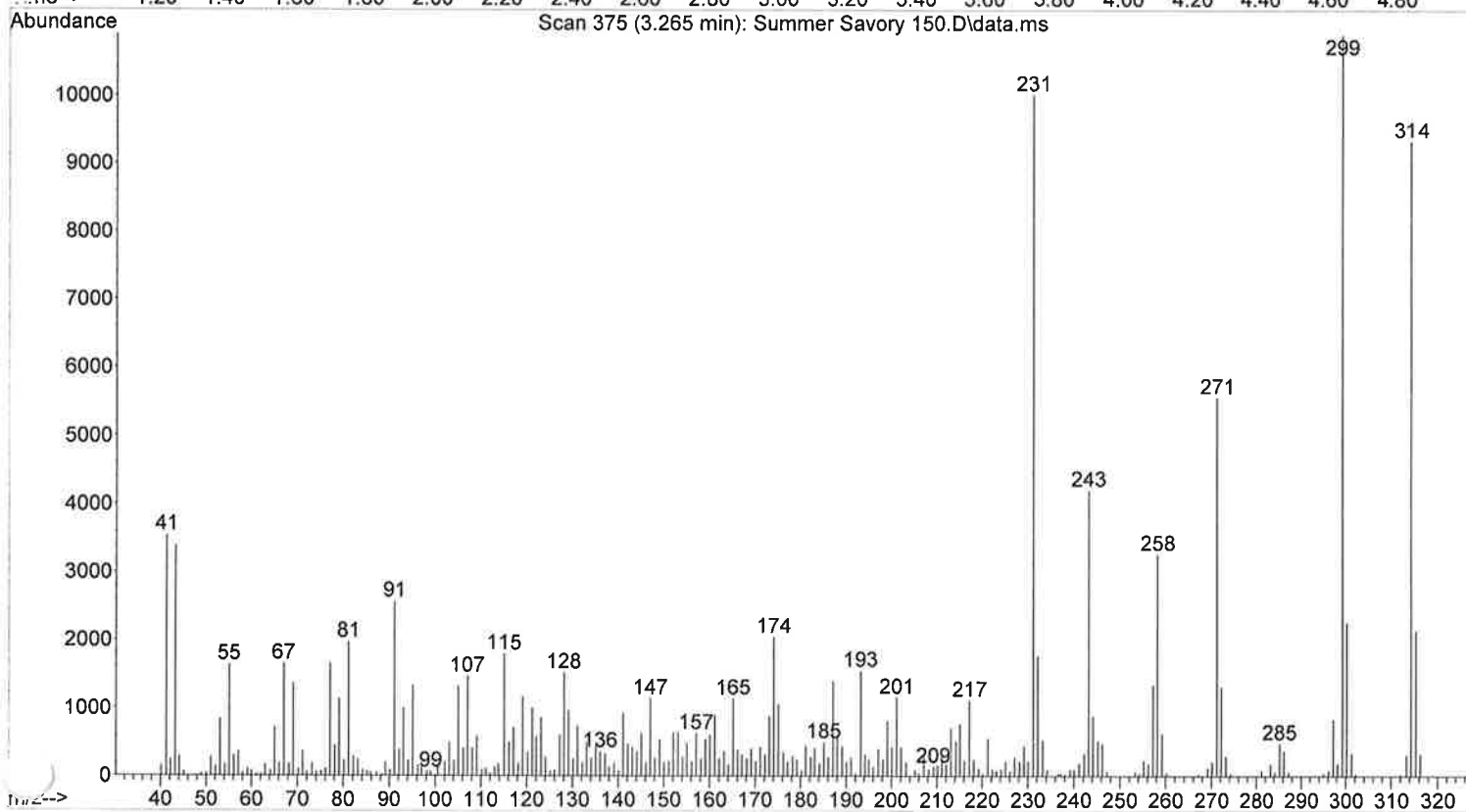
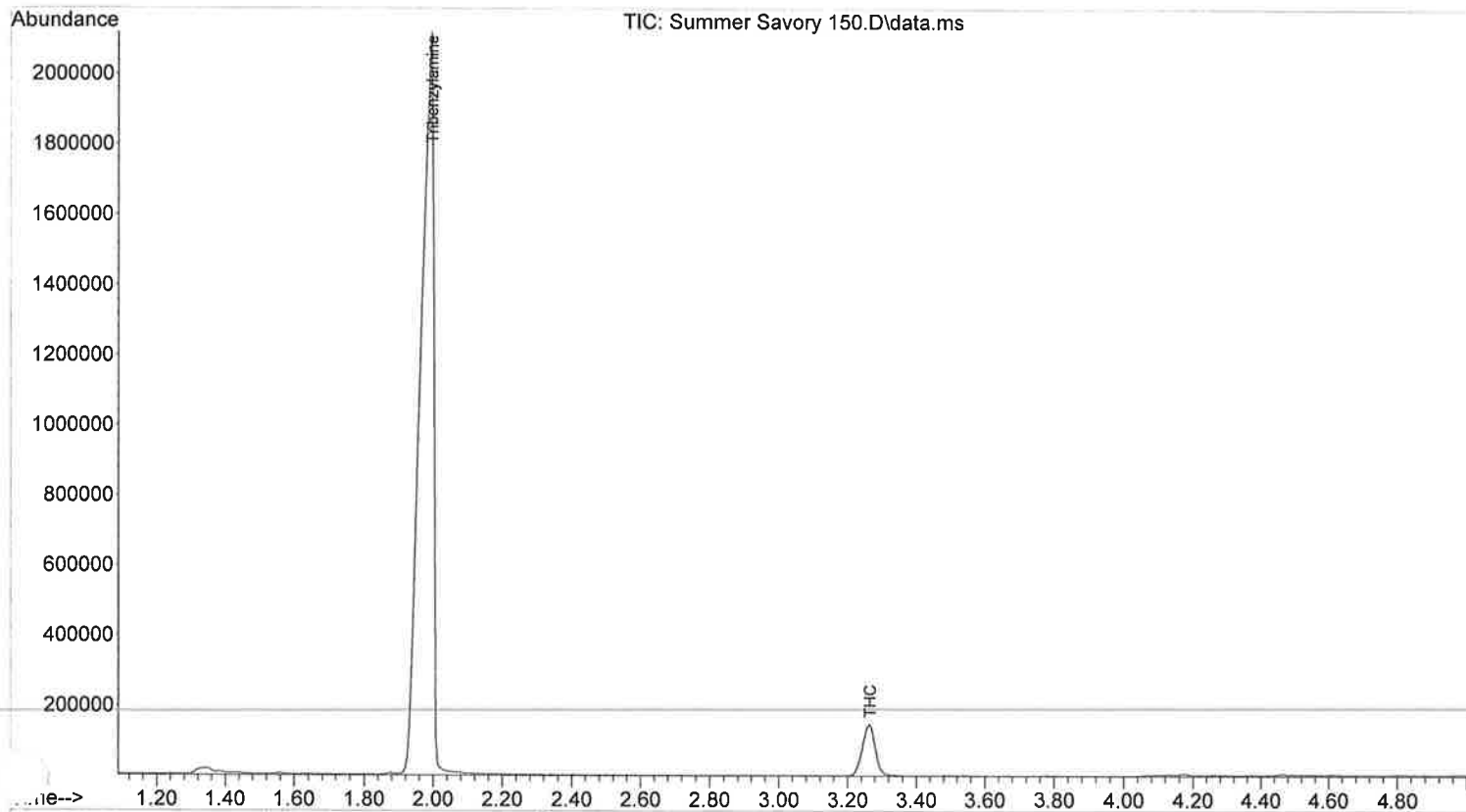
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.984	TIC	46430639	150.00	ug/mL	-0.01
Target Compounds						Qvalue
2) THC	3.255	TIC	1151089	56.22	ug/mL	100

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

THC Quant.M Wed Mar 06 12:27:57 2019

File : C:\msdchem\1\DATA\2019\BTT\3-6-19\Summer Savory 150.D
Operator : TBI Analyst
Acquired : 6 Mar 2019 12:19 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice
Misc Info : Methanol
Vial Number: 49



Data Path : C:\msdchem\1\DATA\2019\BTT\3-6-19\
Data File : Summer Savory 150.D
Acq On : 6 Mar 2019 12:19
Operator : TBI Analyst
Sample : Spice
Misc : Methanol
Vial : 49 Sample Multiplier: 1

Quant Time: Mar 06 12:29:14 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 06 11:00:48 2019
Response via : Initial Calibration

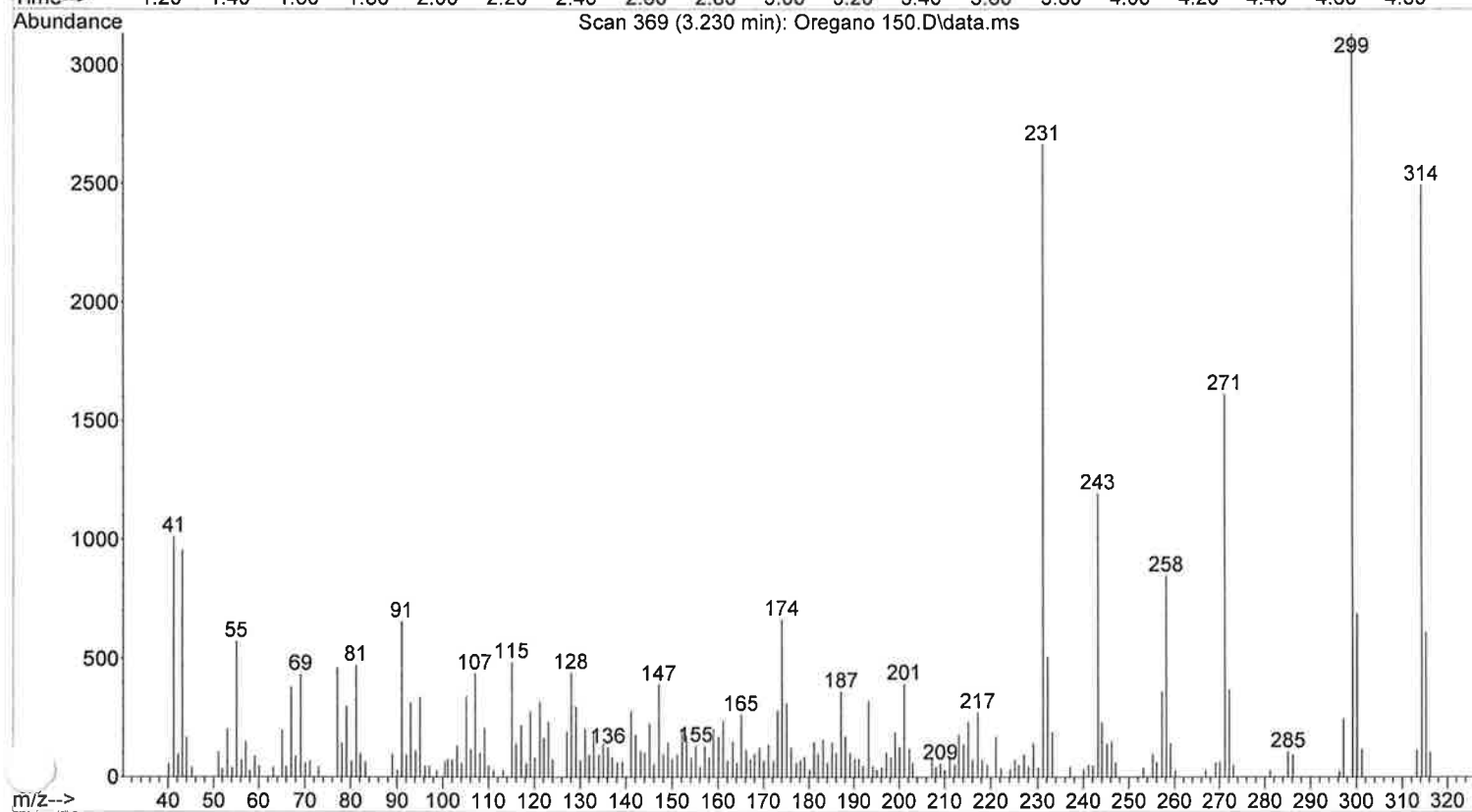
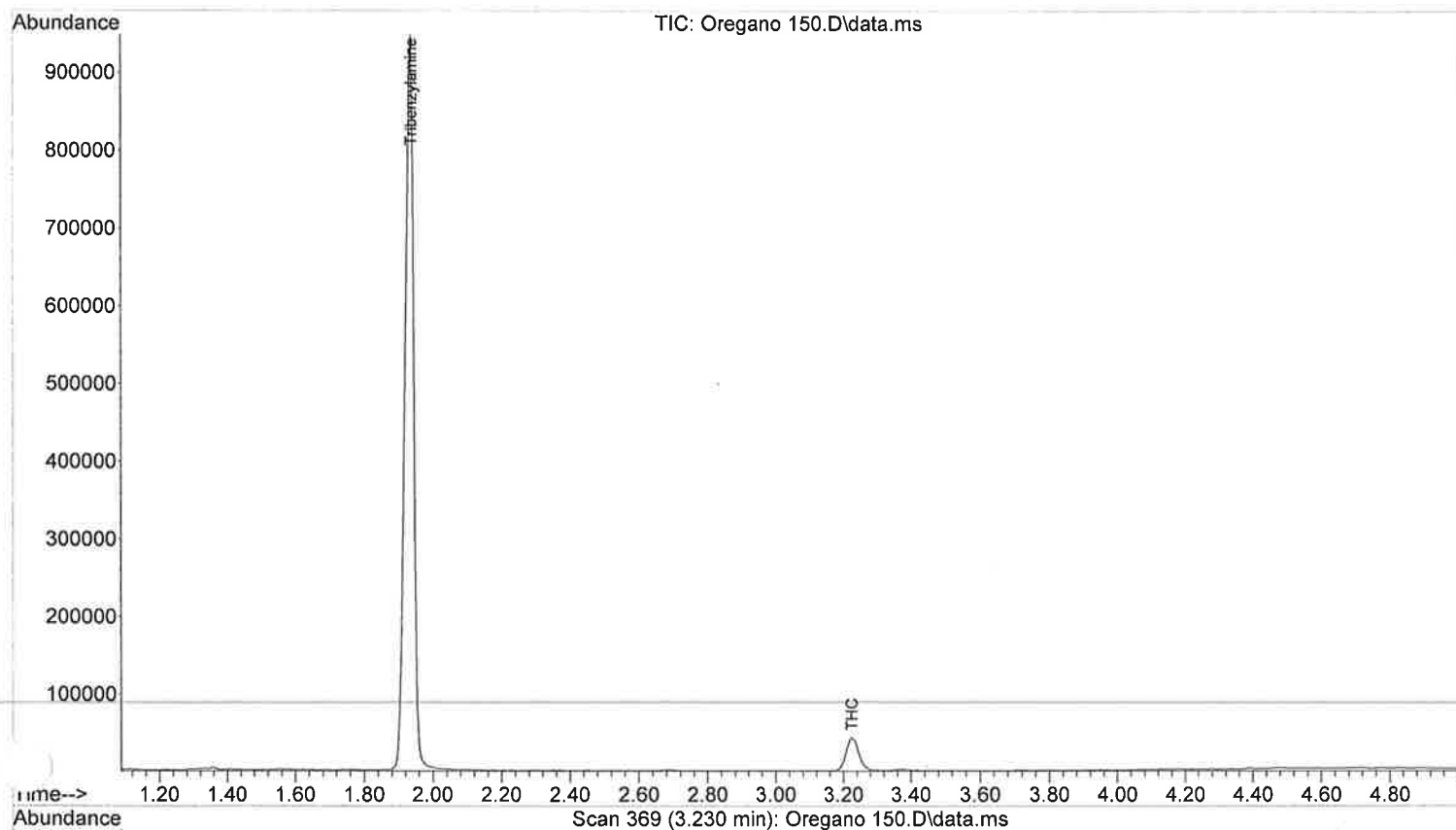
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.995	TIC	55542410	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.265	TIC	3828649	118.80	ug/mL	100

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

THC Quant.M Wed Mar 06 12:29:14 2019

File :C:\msdchem\1\DATA\2019\BTT\3-6-19\Oregano 150.D
Operator : TBI Analyst
Acquired : 6 Mar 2019 12:35 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice
Misc Info : Methanol
Vial Number: 51



Data Path : C:\msdchem\1\DATA\2019\BTT\3-6-19\
Data File : Oregano 150.D
Acq On : 6 Mar 2019 12:35
Operator : TBI Analyst
Sample : Spice
Misc : Methanol
Vial : 51 Sample Multiplier: 1

Quant Time: Mar 06 12:40:51 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 06 11:00:48 2019
Response via : Initial Calibration

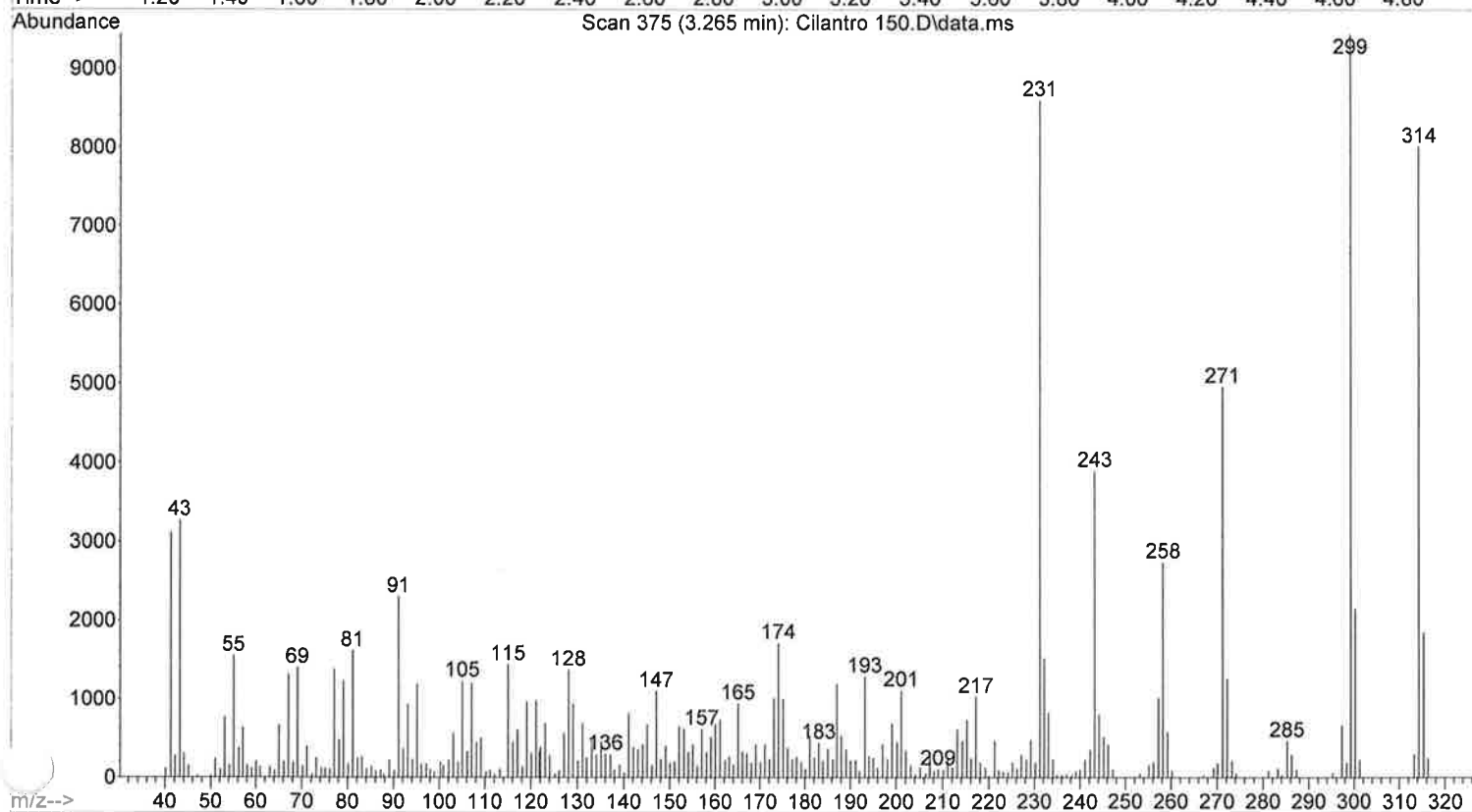
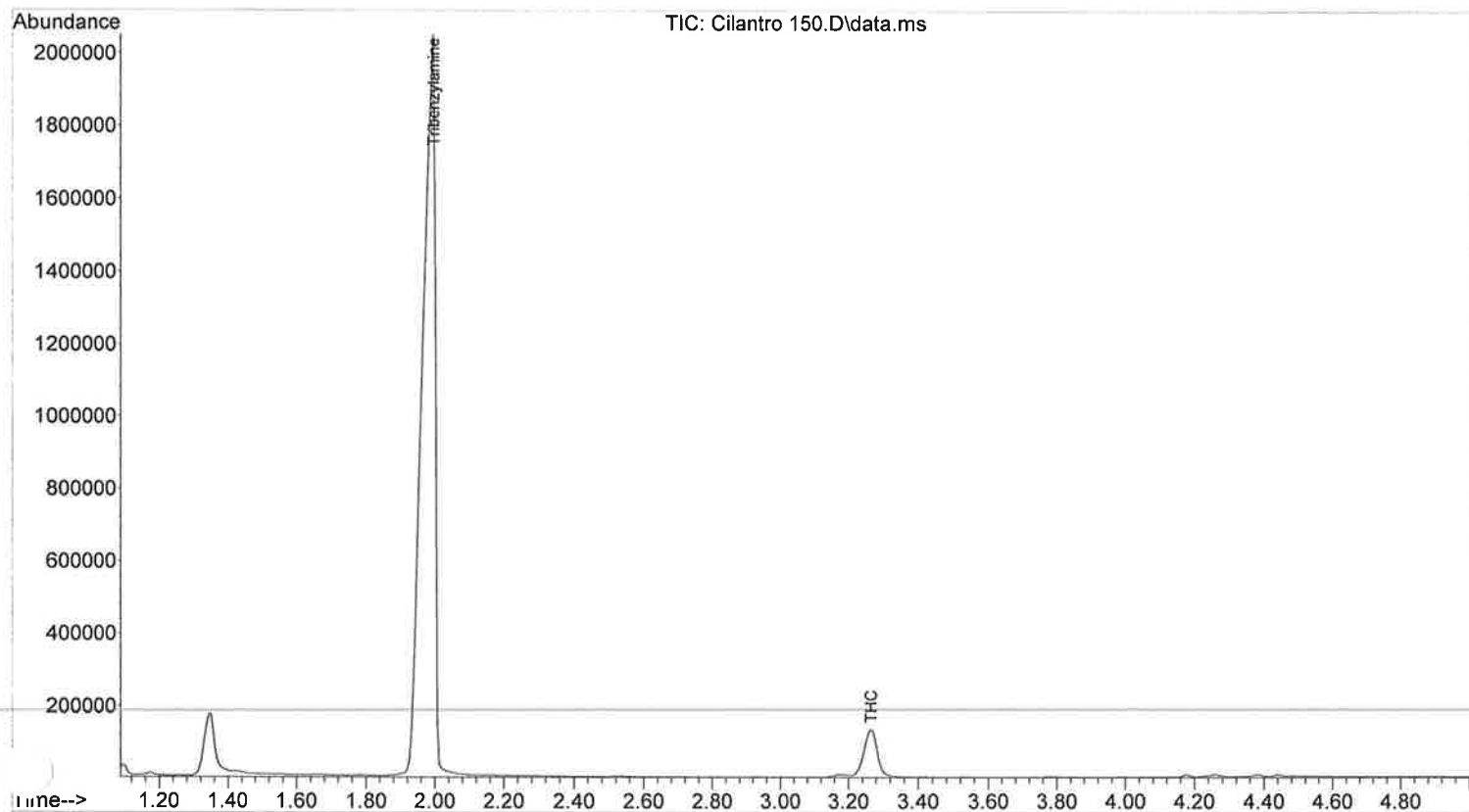
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.938	TIC	16783147	150.00	ug/mL	-0.06
Target Compounds						Qvalue
2) THC	3.228	TIC	1112120	115.02	ug/mL	100

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

THC Quant.M Wed Mar 06 12:40:51 2019

File : C:\msdchem\1\DATA\2019\BTT\3-6-19\Cilantro 150.D
Operator : TBI Analyst
Acquired : 6 Mar 2019 12:50 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Spice
Misc Info : Methanol
Vial Number: 53



Data Path : C:\msdchem\1\DATA\2019\BTT\3-6-19\
Data File : Cilantro 150.D
Acq On : 6 Mar 2019 12:50
Operator : TBI Analyst
Sample : Spice
Misc : Methanol
Vial : 53 Sample Multiplier: 1

Quant Time: Mar 06 13:06:59 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 06 11:00:48 2019
Response via : Initial Calibration

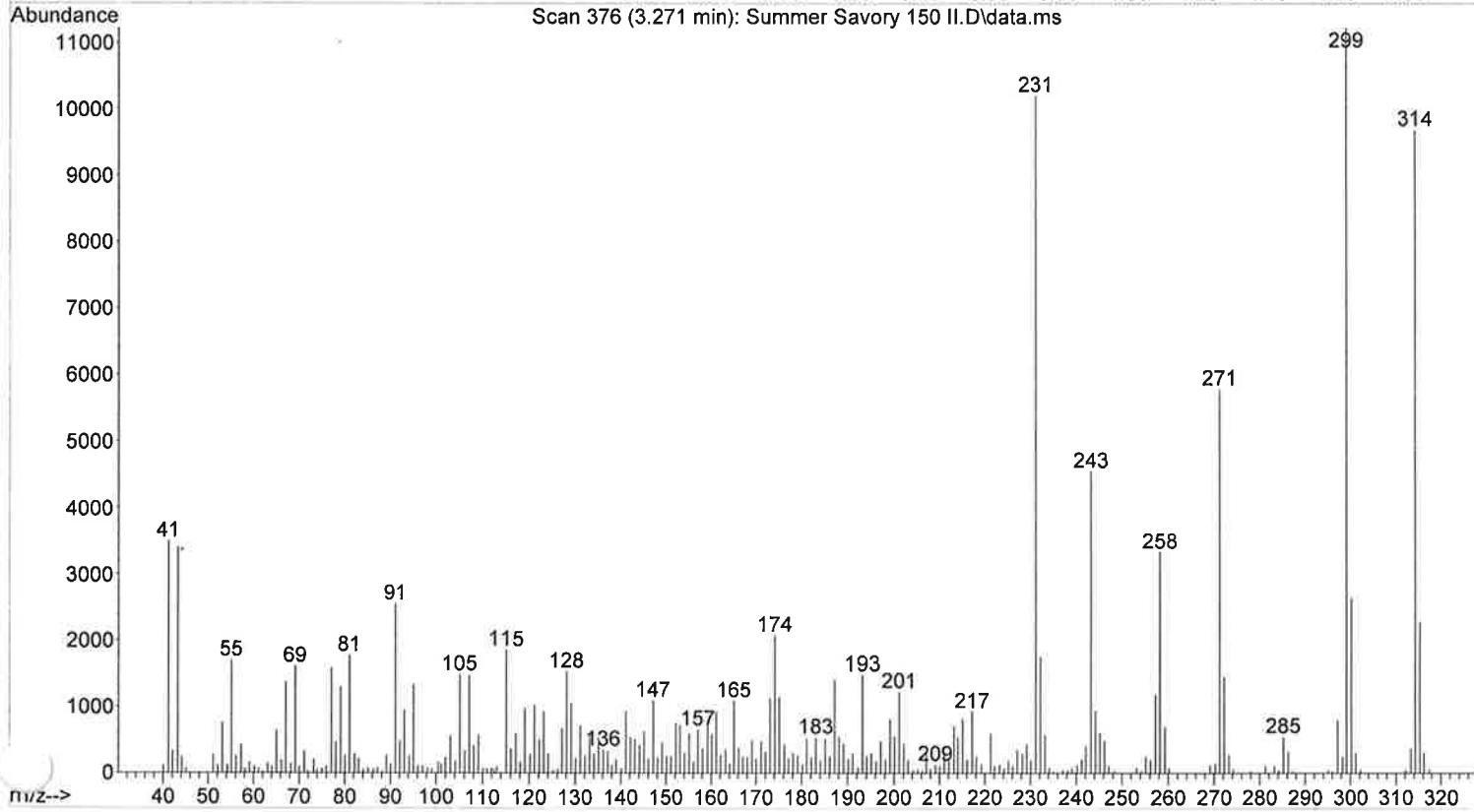
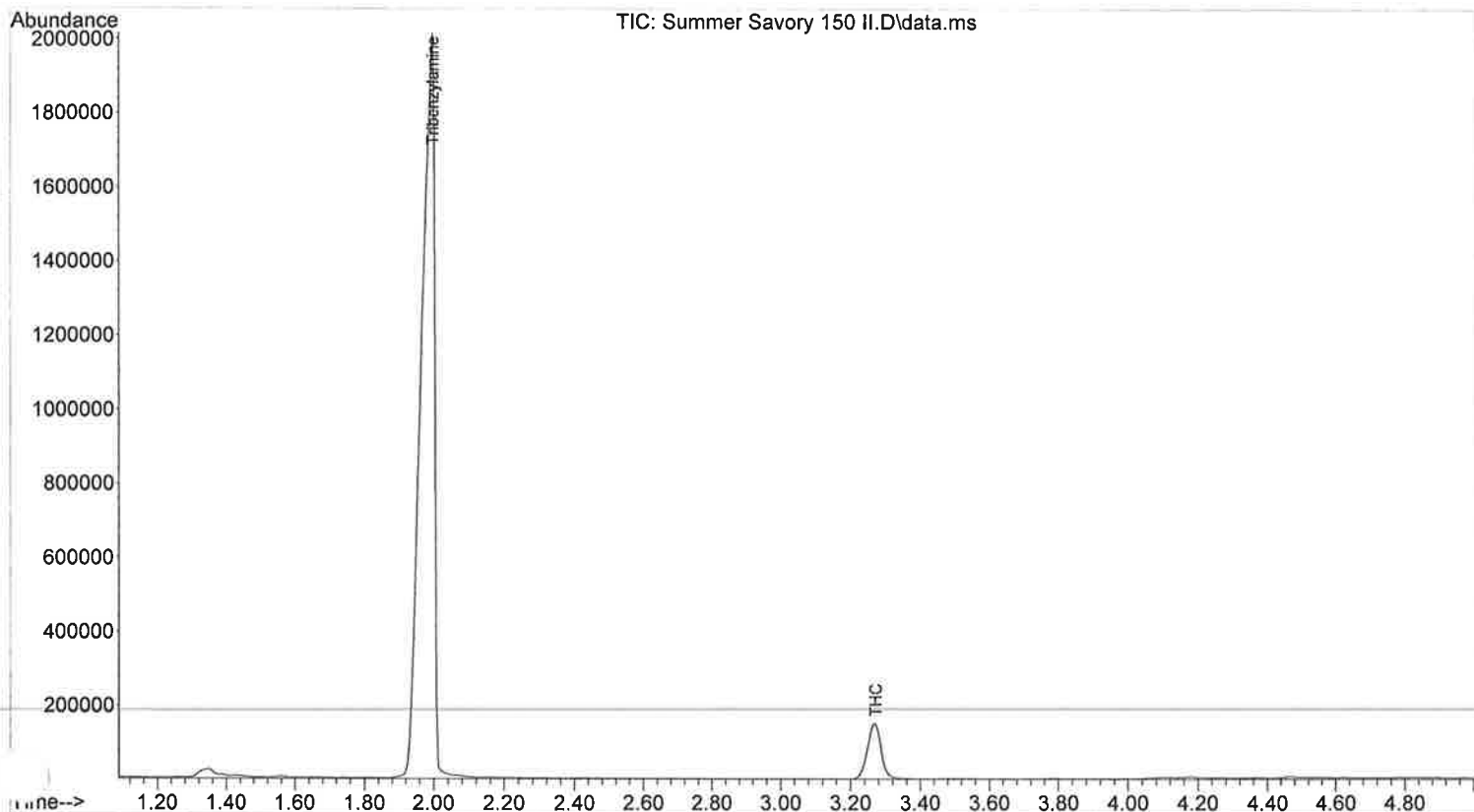
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.995	TIC	53017014	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.269	TIC	3576239	116.71	ug/mL	100

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

THC Quant.M Wed Mar 06 13:06:59 2019

File :C:\msdchem\1\DATA\2019\BTT\3-6-19\Summer Savory 150 II.D
Operator : TBI Analyst
Acquired : 6 Mar 2019 13:45 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: SS sat for 4 hours
Misc Info : Methanol
Vial Number: 54



Data Path : C:\msdchem\1\DATA\2019\BTT\3-6-19\
Data File : Summer Savory 150 II.D
Acq On : 6 Mar 2019 13:45
Operator : TBI Analyst
Sample : SS sat for 4 hours
Misc : Methanol
\$ Vial : 54 Sample Multiplier: 1

Quant Time: Mar 06 13:51:06 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 06 11:00:48 2019
Response via : Initial Calibration

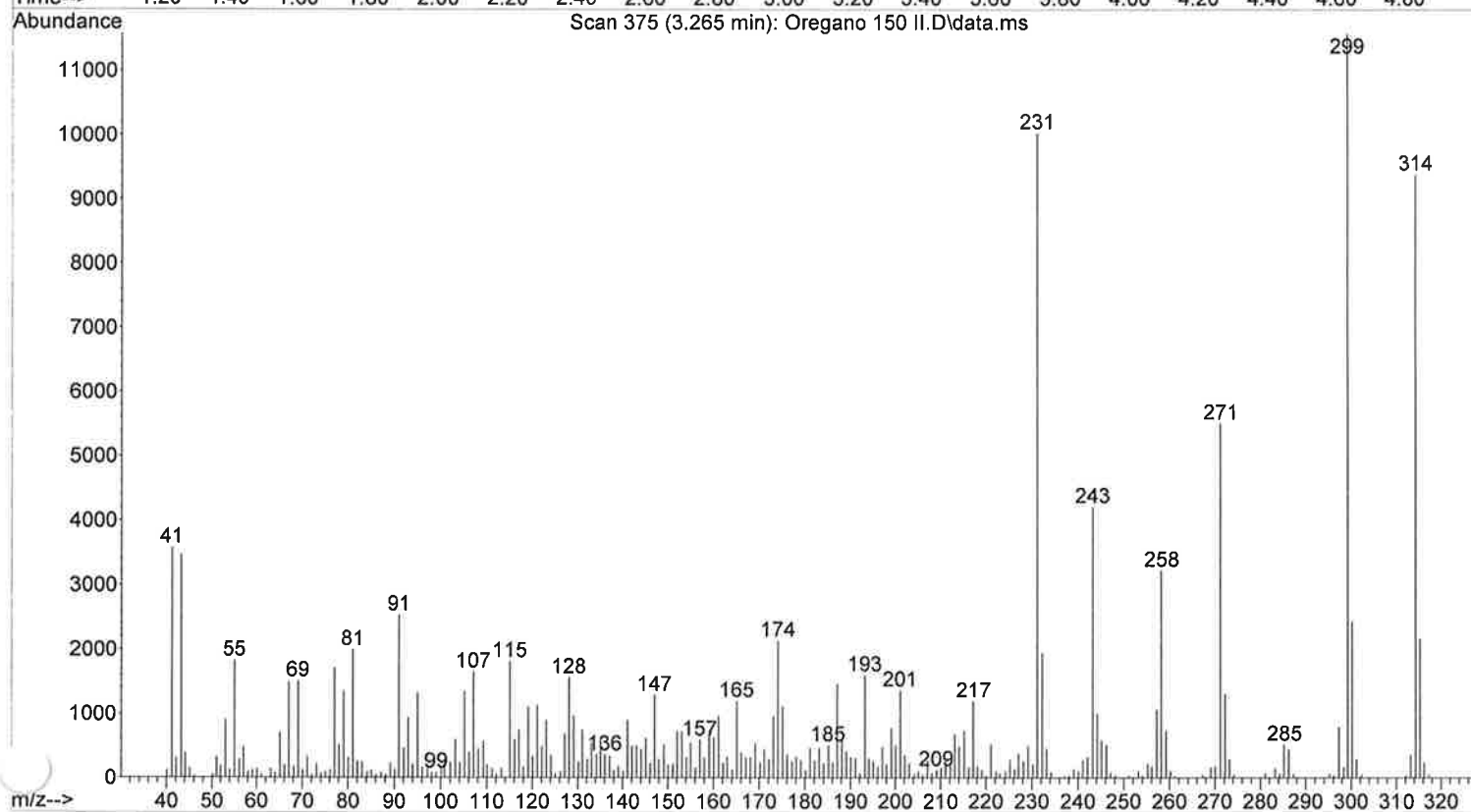
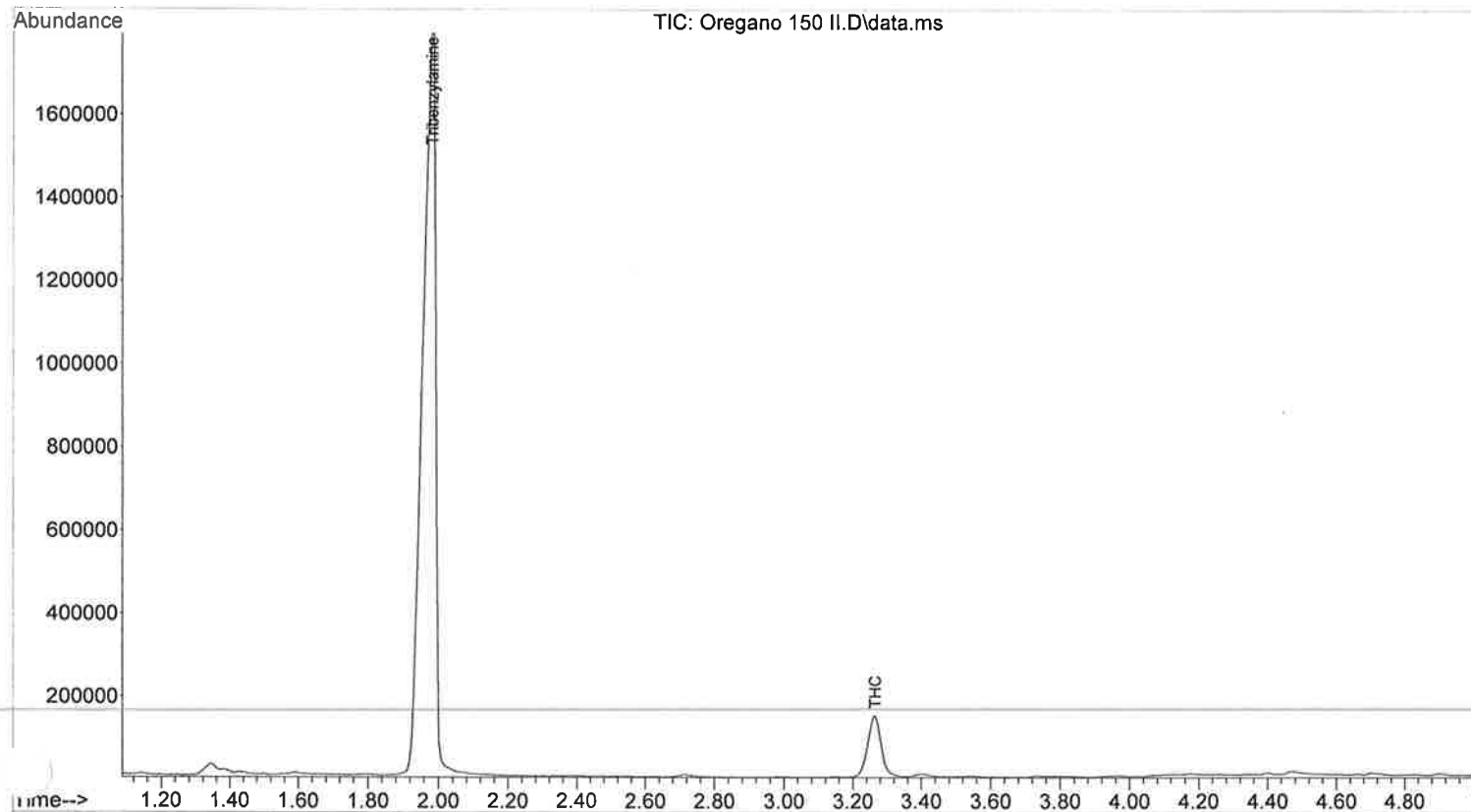
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.996	TIC	52687109	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.271	TIC	3994058	128.55	ug/mL	100

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

THC Quant.M Wed Mar 06 13:51:06 2019

File :C:\msdchem\1\DATA\2019\BTT\3-6-19\Oregano 150 II.D
Operator : TBI Analyst
Acquired : 6 Mar 2019 14:01 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Oregano Vortexed 10 min
Misc Info : Methanol
Vial Number: 55



Data Path : C:\msdchem\1\DATA\2019\BTT\3-6-19\
Data File : Oregano 150 II.D
Acq On : 6 Mar 2019 14:01
Operator : TBI Analyst
Sample : Oregano Vortexed 10 min
Misc : Methanol
5 Vial : 55 Sample Multiplier: 1

Quant Time: Mar 06 14:06:45 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 06 11:00:48 2019
Response via : Initial Calibration

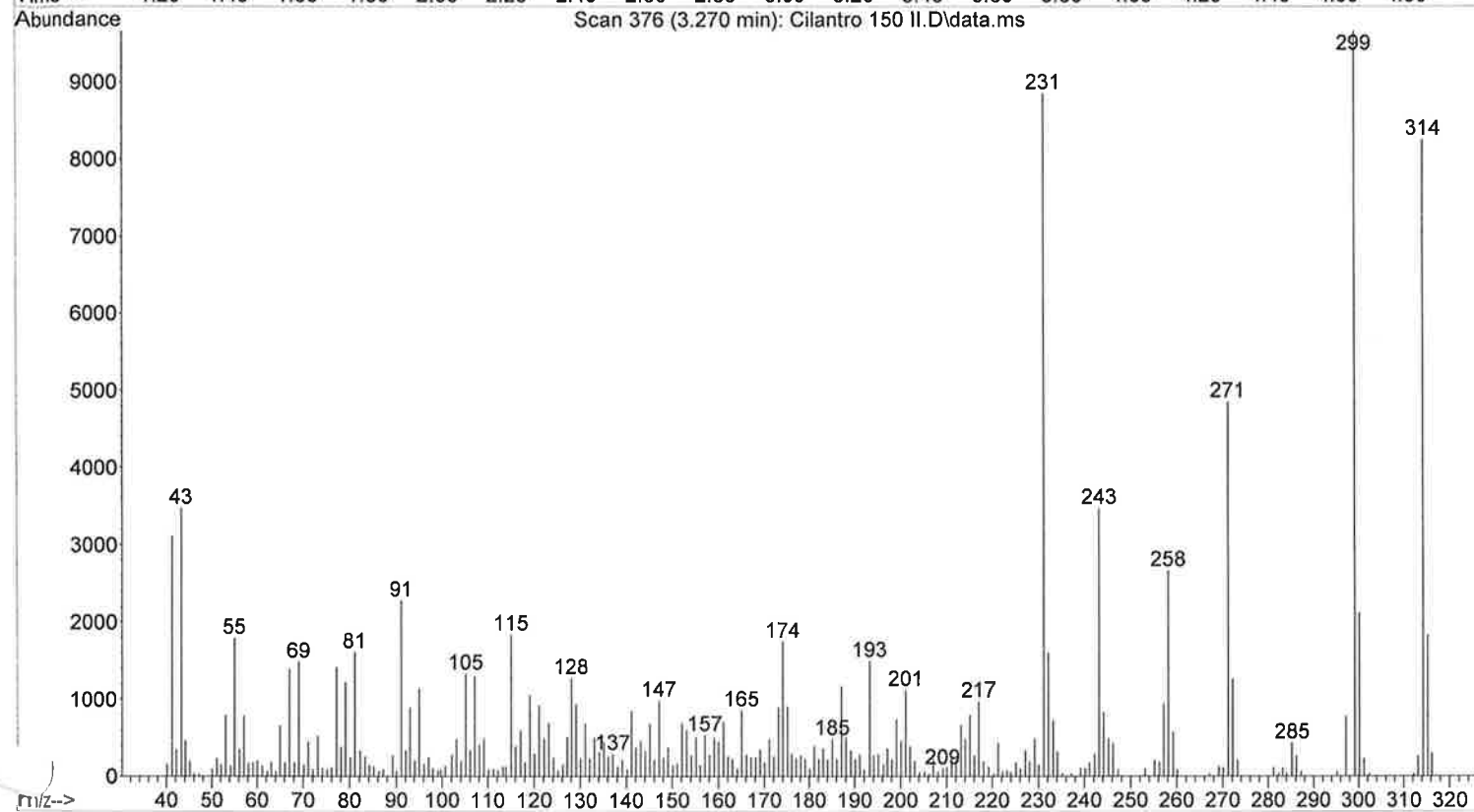
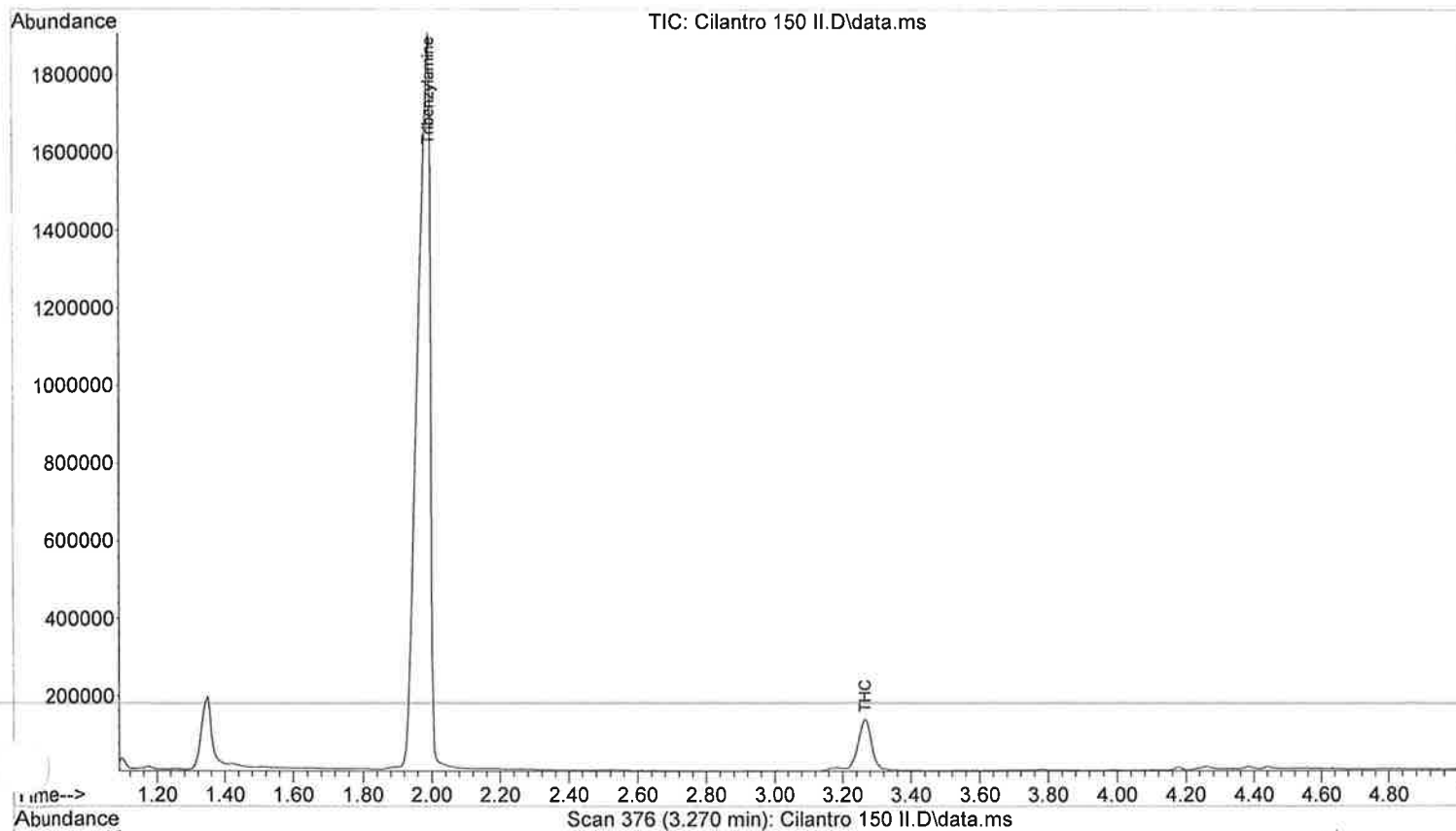
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.988	TIC	45327353	150.00	ug/mL	0.00
Target Compounds						
2) THC	3.266	TIC	4031190	147.16	ug/mL	Qvalue 100

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

THC Quant.M Wed Mar 06 14:06:46 2019

File :C:\msdchem\1\DATA\2019\BTT\3-6-19\Cilantro 150 II.D
Operator : TBI Analyst
Acquired : 6 Mar 2019 14:16 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Cilantro Orbital side 10 min
Misc Info : Methanol
Vial Number: 56



Data Path : C:\msdchem\1\DATA\2019\BTT\3-6-19\
Data File : Cilantro 150 II.D
Acq On : 6 Mar 2019 14:16
Operator : TBI Analyst
Sample : Cilantro Orbital side 10 min
Misc : Methanol
Vial : 56 Sample Multiplier: 1

Quant Time: Mar 06 14:31:14 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 06 11:00:48 2019
Response via : Initial Calibration

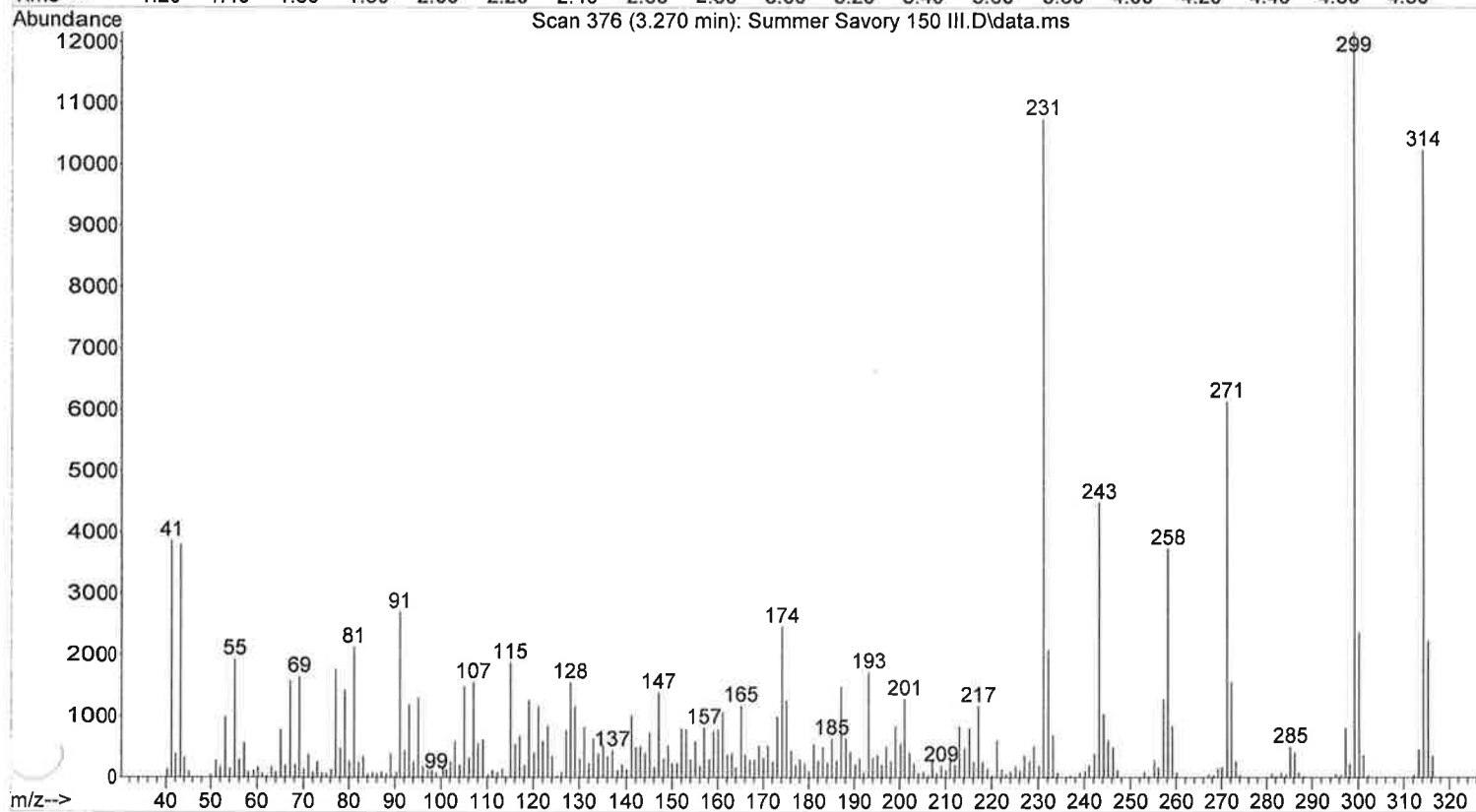
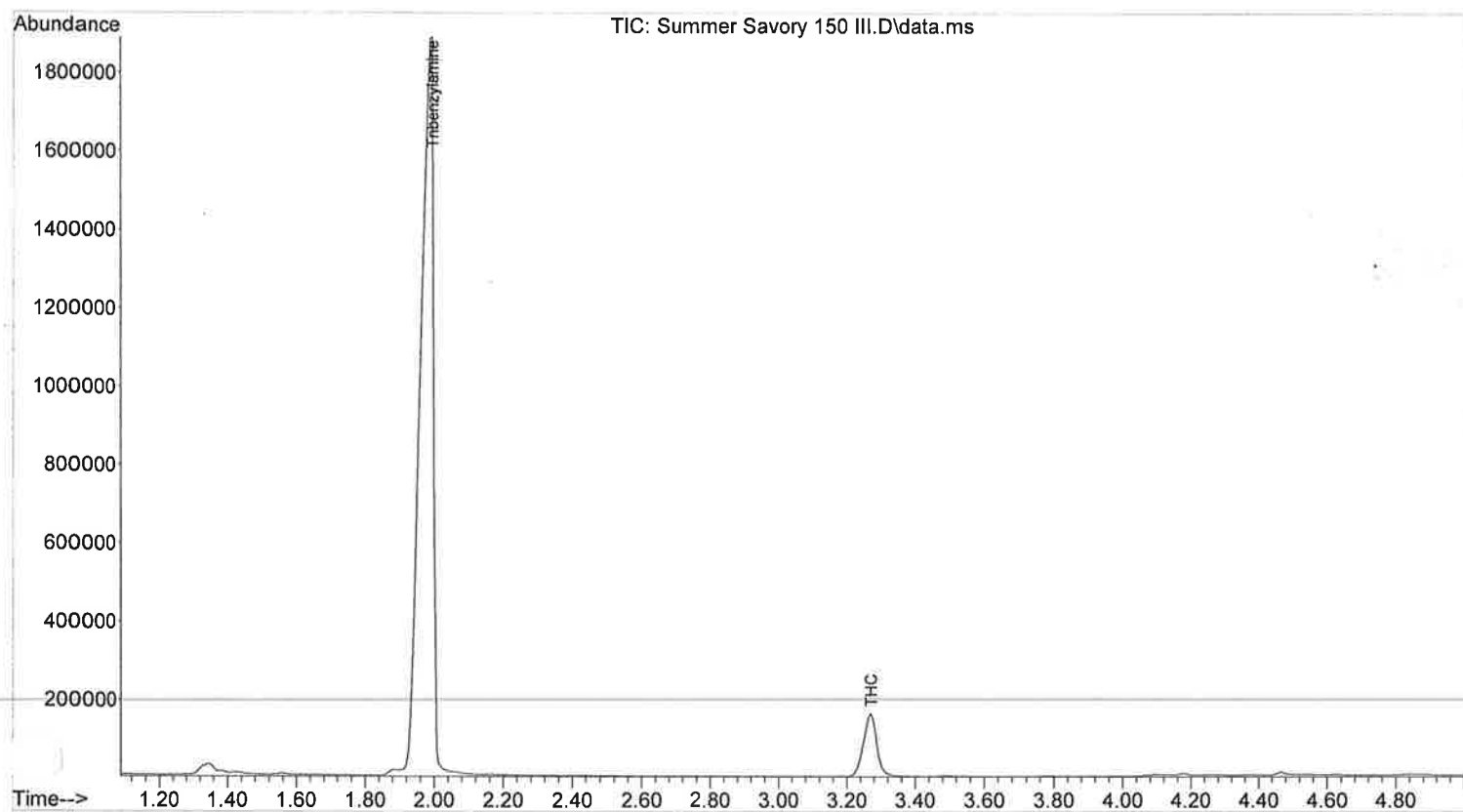
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.991	TIC	47421177	150.00	ug/mL	0.00
Target Compounds						
2) THC	3.269	TIC	3709413	131.97	ug/mL	Qvalue 100

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

THC Quant.M Wed Mar 06 14:31:14 2019

File :C:\msdchem\1\DATA\2019\BTT\3-6-19\Summer Savory 150 III.D
Operator : TBI Analyst
Acquired : 6 Mar 2019 16:09 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: SS Vortexed 10 min
Misc Info :
Vial Number: 57



Data Path : C:\msdchem\1\DATA\2019\BTT\3-6-19\
Data File : Summer Savory 150 III.D
Acq On : 6 Mar 2019 16:09
Operator : TBI Analyst
Sample : SS Vortexed 10 min
Vial : 57 Sample Multiplier: 1

Quant Time: Mar 06 16:15:22 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 06 11:00:48 2019
Response via : Initial Calibration

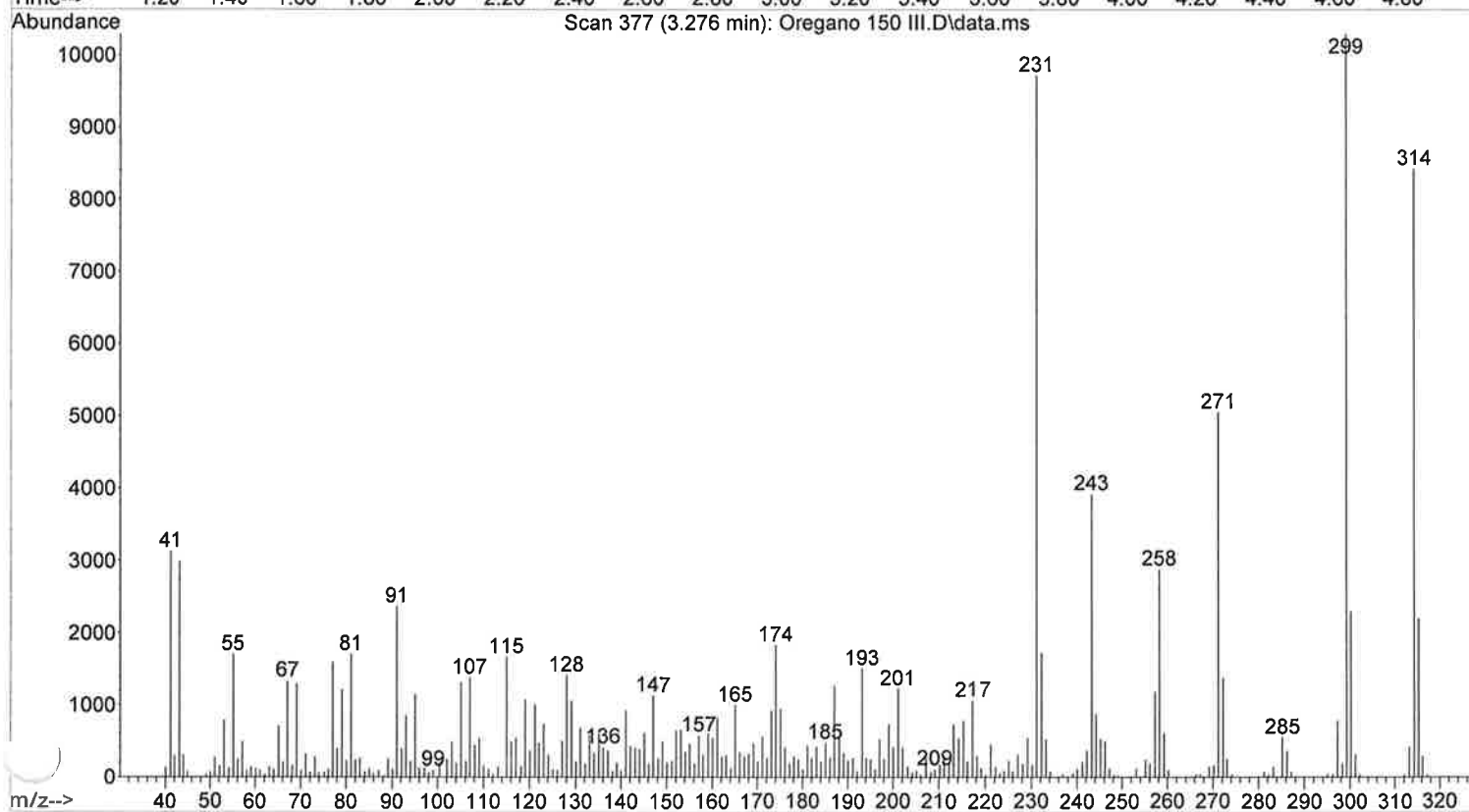
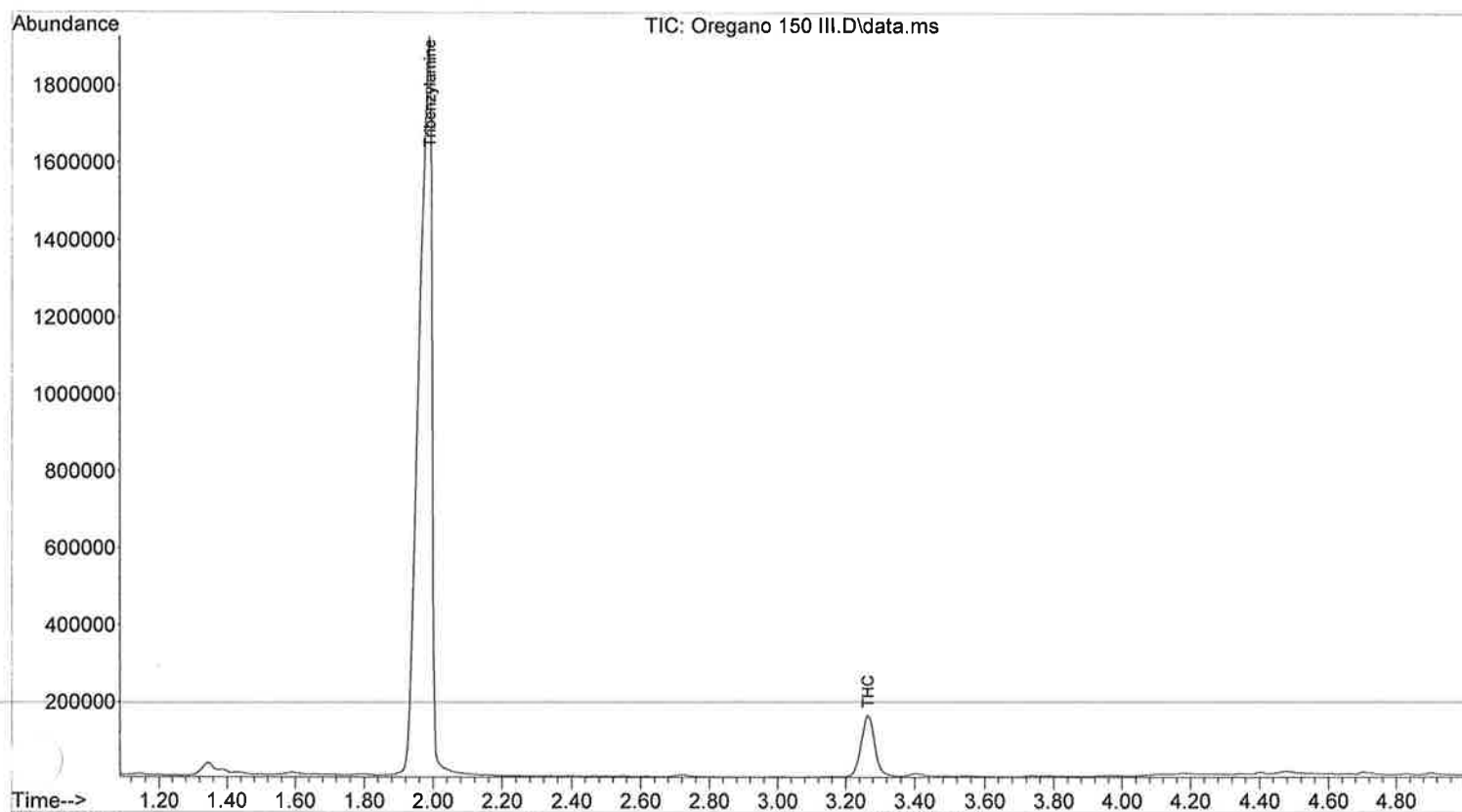
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.994	TIC	49367740	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.273	TIC	4364596	146.41	ug/mL	100

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

THC Quant.M Wed Mar 06 16:15:22 2019

File :C:\msdchem\1\DATA\2019\BTT\3-6-19\Oregano 150 III.D
Operator : TBI Analyst
Acquired : 6 Mar 2019 16:24 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Oregano Vortexed 10 min
Misc Info :
Via : umber: 58



Data Path : C:\msdchem\1\DATA\2019\BTT\3-6-19\
Data File : Oregano 150 III.D
Acq On : 6 Mar 2019 16:24
Operator : TBI Analyst
Sample : Oregano Vortexed 10 min
M.C :
Vial : 58 Sample Multiplier: 1

Quant Time: Mar 07 10:20:25 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 06 11:00:48 2019
Response via : Initial Calibration

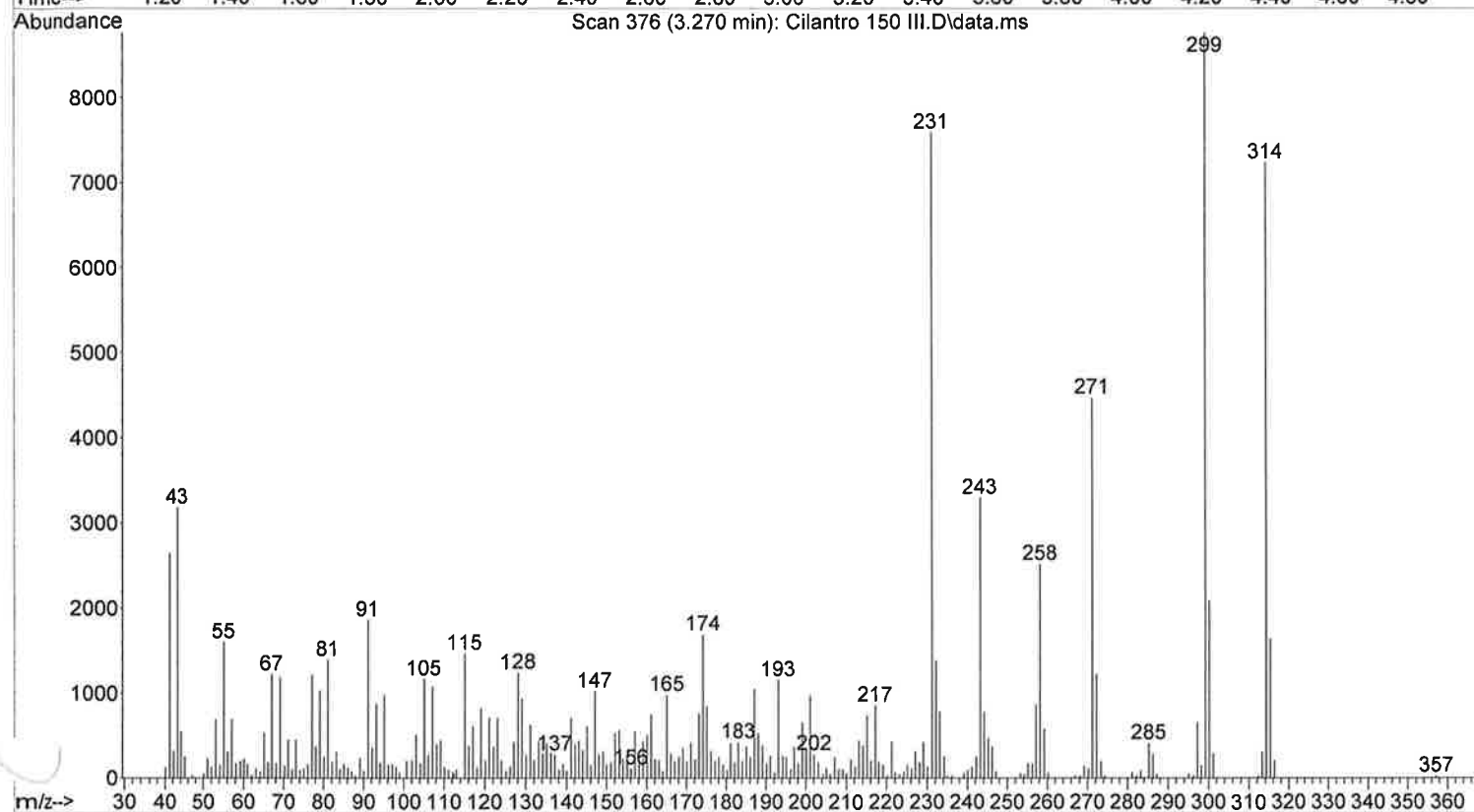
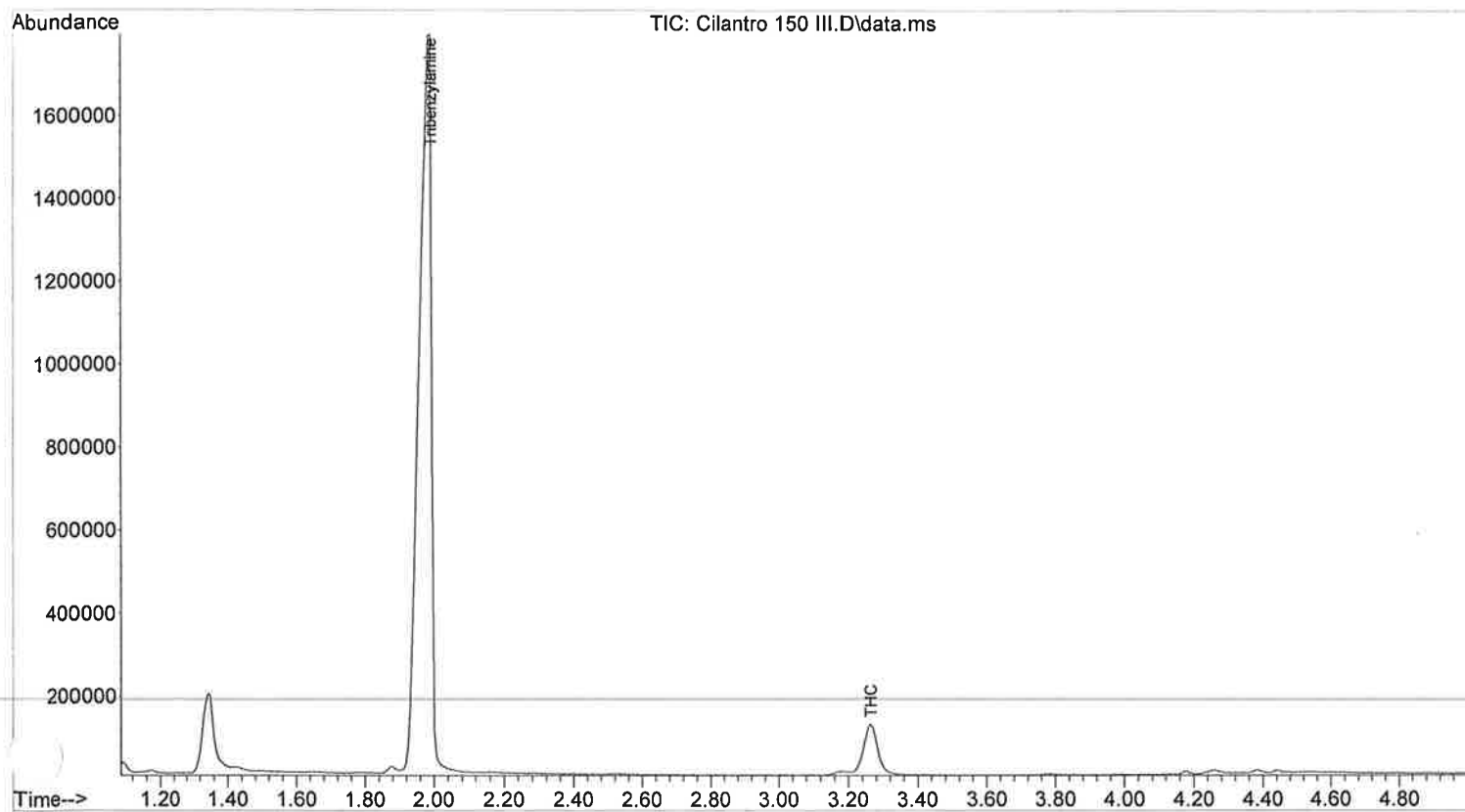
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.991	TIC	49801359	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.268	TIC	4411086	146.65	ug/mL	100

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

THC Quant.M Thu Mar 07 10:20:25 2019

File :C:\msdchem\1\DATA\2019\BTT\3-6-19\Cilantro 150 III.D
Operator : TBI Analyst
Acquired : 6 Mar 2019 16:40 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Cilantro Vortexed 10 min
Misc Info :
Via : Number: 59



Data Path : C:\msdchem\1\DATA\2019\BTT\3-6-19\
Data File : Cilantro 150 III.D
Acq On : 6 Mar 2019 16:40
Operator : TBI Analyst
Sample : Cilantro Vortexed 10 min
Vial : 59 Sample Multiplier: 1

Quant Time: Mar 07 10:25:01 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 06 11:00:48 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.988	TIC	44205590	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.267	TIC	3555511	135.10	ug/mL	100

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

THC Quant.M Thu Mar 07 10:25:01 2019

VIII. Conclusions

This method allows for reproducible extraction and quantitation of Δ^9 -Tetrahydrocannabinol from plant material samples. Use of gas chromatography mass spectroscopy (GC/MS) will not allow for distinction between Δ^9 -Tetrahydrocannabinol (THC) and Δ^9 -Tetrahydrocannabinolic acid (THC-A). The newly developed method for our GC/MS instruments will separate and distinguish from a number of other cannabinoids, permitting qualitative analysis in conjunction with quantitative analysis.

During this validation the importance of instrument maintenance was exhibited on multiple occasions. Three separate times, a dirty or slightly clogged autosample syringe impacted results negatively. Injection port liners get dirtier with extracts from botanical samples, and dirty liners can easily affect quantitation results. During one experiment a filament went out and changing the filament in the software led to a change which precluded useful interpretation of the results. The Forensic Chemistry Unit is used to qualitative analysis and will have to adjust or be more diligent with instrumental conditions for quantitative analysis.

Qualitative analysis of THC requires very little extraction time and often has to be diluted significantly to avoid overloading the instrument. However, in quantitative analysis it is important to achieve high extraction efficiency in order to accurately measure all of the analyte present in an exhibit. The extraction procedure may seem extreme and analyst might be tempted to reduce the time or vigor with which samples are extracted, however, this will lead to inaccurate results.

Marihuana samples and hemp samples should differ greatly in their respective THC concentrations. Marihuana samples are expected to have concentrations greater than the highest standard used in this method. If quantitation of these samples is necessary, then they will need to be diluted into the proper range for our calibration curve. Demonstrating that these samples are well above the legally significant amount (0.3 %) might be sufficient for our purposes.

IX. Training and Competency

An analyst must receive training for this method from someone who has passed their competency test or someone who has been designated by the Forensic Chemistry Technical Leader. This training will cover general concepts of quantitation as well as specifics to this method.

After the analyst has completed their training, they will have to pass a competency test before using this method in casework. The competency test will be administered by a qualified analyst or by a designee of the Forensic Chemistry Technical Leader.