REVIEWED
By Tamara Salazar at 2:06 pm, Jun 06, 2023

6/5/2023

Worklist: 6391

LAB_CASE	ITEM	ITEM_TYPE	DESCRIPTION
M2023-2027	2	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-1118	2	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-1147	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-1305	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-1322	2	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-1387	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-1397	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-1401	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-1423	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-1437	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-1438	1	BCK	AM 27 Blood THC Quant by LC-QQQ

AM# 27: Quantitation of THC and Metabolites in Blood and Urine by LC-MS/MS

Extraction Date: 05/26/2023
Analyst: Celena Shrum
Plate lot#: 220802
Plate Retest Date: 07/23/2023
Mobile phase A: 0.1% Formic Acid in LCMS Water
Mobile phase B: 0.1% Formic acid in Acetonitrile
Blank Blood Lot: Lampire 23A52594
Column: Phenomenex Phenyl Hexyl (4.6x50mm, 2.6um)
LCMS-QQQ ID: 069901

Pre-Analytic:

☒ 1. Check levels of mobile phases and needle wash refill as needed. Ensure waste is not full.
☒ 2. Ensure correct column is installed and begin mobile phase flow allow to equilibrate ~ 30 minutes.

Analytic:

☒ 1. Remove standards, plate, controls, and samples from cold storage. Allow to reach room temperature.
☐ 2. Urine hydrolysis (if applicable): add 1.5mL urine to blank plate, add 250µl 1N KOH. Shake and incubate at 40 degrees for 15 minutes.
☒ 3. Using a calibrated pipette, add **1000µl blood or 1000µl hydrolyzed urine** into the appropriate wells of the analytical (standards) plate. **Pipette ID: #42**
☒ 4. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
☒ 5. Add **500µL of 0.1% formic acid in water to blood samples or 500µl of saturated phosphate buffer to urine samples** to the appropriate wells of the analytical plate.
☒ 6. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
☒ 7. Transfer **800µL of blood+acid mixture or urine+acid** to corresponding wells of SLE+ plate.
☒ 8. Apply positive pressure for approx. 10-15 seconds (or until no liquid remains on top of sorbent). ***(Load at 85-100 PSI- Selector to the right)*** Manifold ID: 067104
☒ 9. Wait 5 minutes.
☒ 10. Add **2.25mL MTBE. (*Add in 3 increments of 750uL)***
☒ 11. Wait 5 minutes.
☒ 12. Apply positive pressure for approx. 15 seconds. ***(10-15 PSI- Selector to the left).***
☒ 13. Add **2.25mL Hexane. (*Add in 3 increments of 750uL)***
☒ 14. Wait 5 minutes.
☒ 15. Apply positive pressure for approx. 15 seconds. ***(10-15 PSI- Selector to the left).***
☒ 16. Remove plate containing eluate. Place on SPE Dry and evaporate to dryness at approx. 35°C. *SPE Dry ID: 067103*
☒ 16. Reconstitute in **100µL 100% MeOH** and heat seal plate with foil. Place in autosampler and run worklist.

Post-Analytic

☒ 1. Create batch and process data.
☒ 2. Make any necessary integration changes, Curve weighting of Linear 1/x with r^2 values ≥0.98 for each analyte
☒ 3. RT +/- 3% or 0.100 min, whichever is greater, +/- 20% Accuracy for greater than (+/- 30% for 10ng/ml or less). Ion ratios must be within +/- 20% of the averaged calibrators
☒ 4. Case sample response for THC 1ng/mL and OH-THC 3ng/mL (quantitative), Carboxy-THC: 5ng/mL (qualitative only) will be reported. Samples with a THC or OH-THC response over 50 ng/mL will be reported out as greater than 50 ng/mL. THC concentrations of 1-3ng/mL will be reported qualitatively.
☒ 5. Did all QCs pass for each analyte? (if not, describe in comments section)
☒ 6. Enter QCs into control charting.
☒ 7. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS:

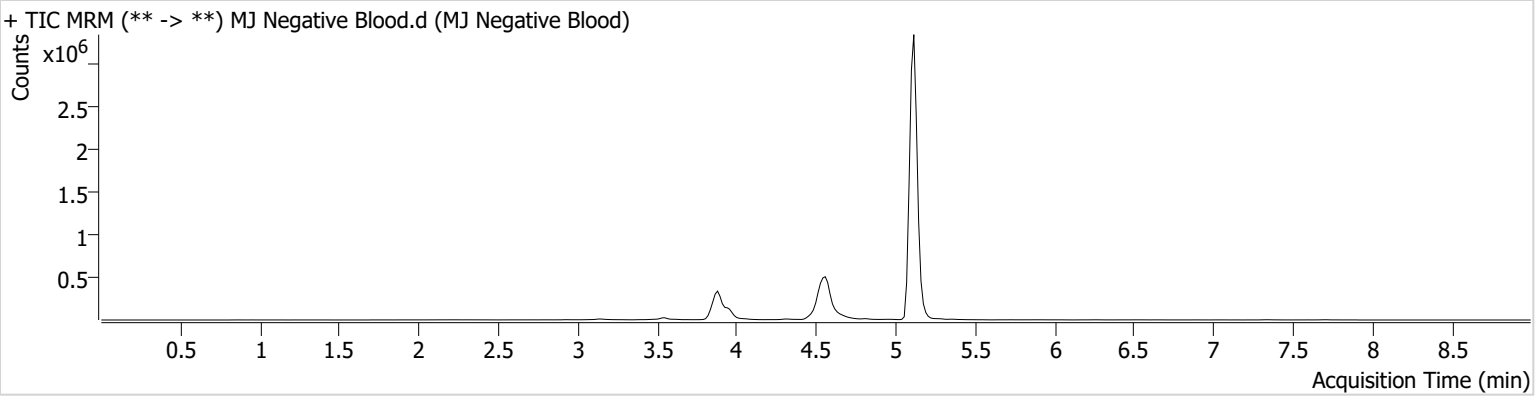
	1	2	3	4	5	6
a					P2023-1387-1	QC 1
b					P2023-1322-2	cal 100 ng
c					P2023-1305-1	cal 50 ng
d				P2023-1438-1	P2023-1147-1	cal 25 ng
e				P2023-1437-1	P2023-1118-2	cal 10ng
f				P2023-1423-1	M2023-2027-2	cal 5 ng
g				P2023-1401-1	NEG Blood	cal 3 ng
h				P2023-1397-1	QC 2	cal 1ng

AM #27 Cannabinoid Quant. Results

Batch results	D:\MassHunter\Data\2023\AM 27 28\052623 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update	6/6/2023 12:04:56 PM

Instrument	Falco (069901)	**Data File**	MJ Negative Blood.d
Type	Sample	**Sample**	MJ Negative Blood
Acq. Method	AM 27 Agilent Method.m	**Operator**	Celena Shrum
Sample Position	P1-G5	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/26/2023 4:42:56 PM		
Sample Info.			

Sample Chromatogram

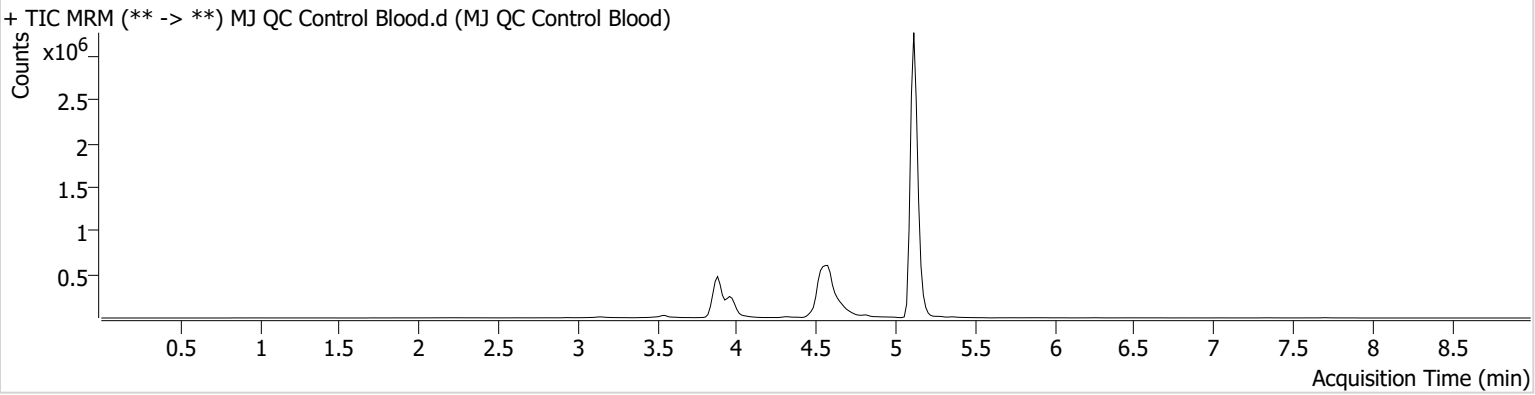


AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\052623 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 6/6/2023 12:04:56 PM

Instrument	Falco (069901)	**Data File**	MJ QC Control Blood.d
Type	QC	**Sample**	MJ QC Control Blood
Acq. Method	AM 27 Agilent Method.m	**Operator**	Celena Shrum
Sample Position	P1-A6	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/26/2023 4:16:44 PM		
Sample Info.			

Sample Chromatogram



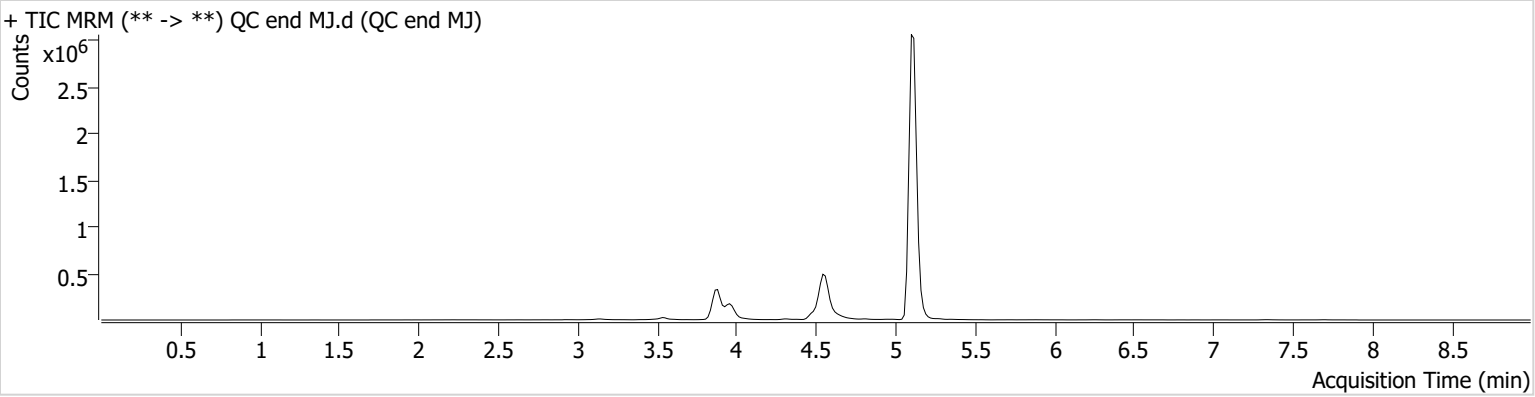
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	3.896	136975	∞	12.4	143.57	1749080	4.8275	ng/ml
THC-COOH	3.969	59696	2003.14	213.0	∞	518829	14.7907	ng/ml
THC	5.120	466991	∞	24.0	∞	9987359	5.3365	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\052623 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 6/6/2023 12:04:56 PM

Instrument	Falco (069901)	**Data File**	QC end MJ.d
Type	QC	**Sample**	QC end MJ
Acq. Method	AM 27 Agilent Method.m	**Operator**	Celena Shrum
Sample Position	P1-H5	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/26/2023 9:57:23 PM		
Sample Info.			

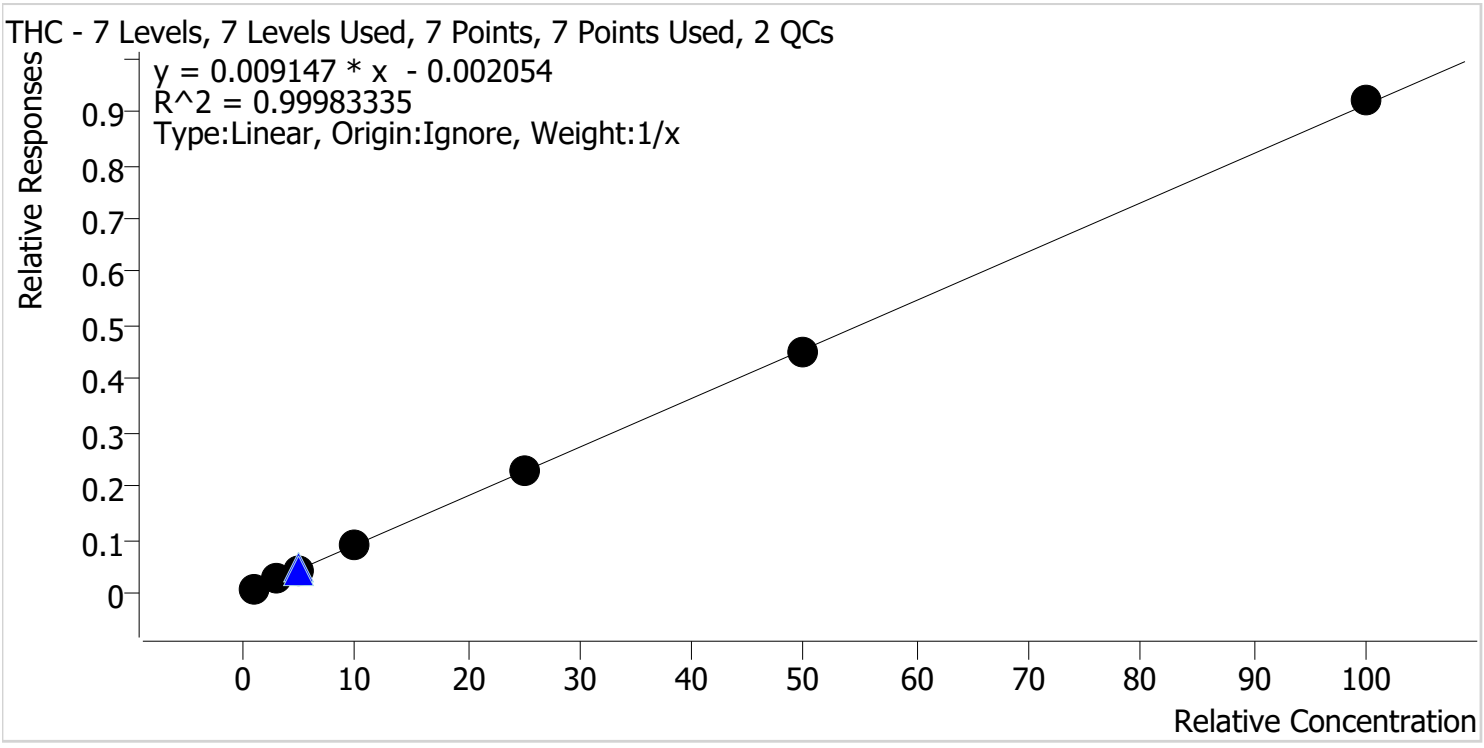
Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	3.881	91207	∞	12.8	244.43	1194984	4.7107	ng/ml
THC-COOH	3.969	40476	557.44	216.9	∞	369675	14.1162	ng/ml
THC	5.120	420773	9507.60	24.9	∞	9907235	4.8678	ng/ml

AM #27 Cannabinoids Quant. Calibration Curve Report

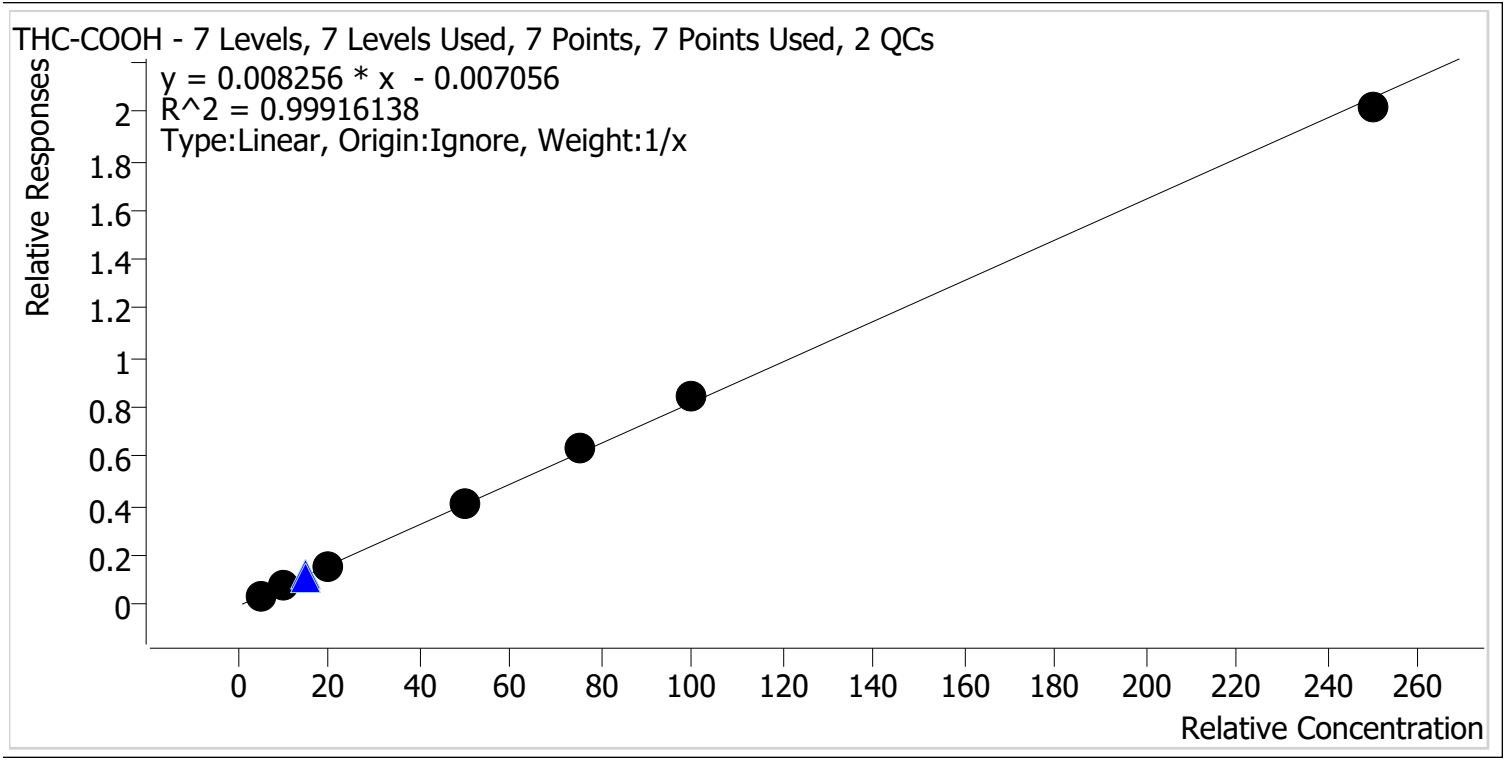
Batch results	D:\MassHunter\Data\2023\AM 27 28\052623 AM 27 28 CS\QuantResults\AM 27.batch.bin
Last Cal. Update	6/6/2023 12:04 PM
Analyst Name	ISP\Datastor
Analyte	THC
Internal Standard	THC-D3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1 MJ	1	✔	1.0	1.1	106.9
Cal 2 MJ	2	✔	3.0	3.0	99.1
Cal 3 MJ	3	✔	5.0	4.8	95.3
Cal 4 MJ	4	✔	10.0	9.9	99.2
Cal 5 MJ	5	✔	25.0	24.9	99.6
Cal 6 MJ	6	✔	50.0	49.6	99.1
Cal 7 MJ	7	✔	100.0	100.8	100.8

AM #27 Cannabinoids Quant. Calibration Curve Report

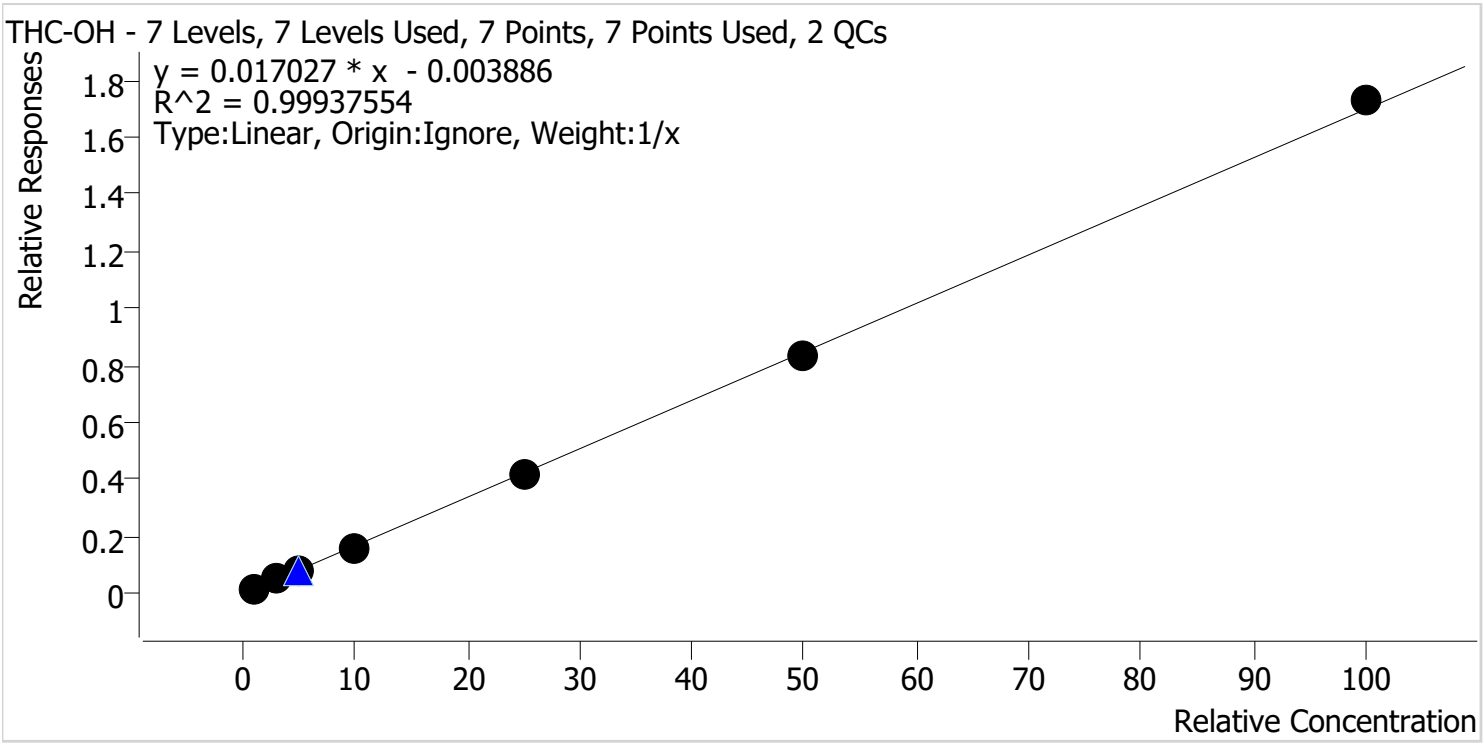
Batch results	D:\MassHunter\Data\2023\AM 27 28\052623 AM 27 28 CS\QuantResults\AM 27.batch.bin
Last Cal. Update	6/6/2023 12:04 PM
Analyst Name	ISP\Datastor
Analyte	THC-COOH
Internal Standard	THC-COOH-D9



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1 MJ	1	✔	5.0	5.0	100.3
Cal 2 MJ	2	✔	10.0	9.7	97.5
Cal 3 MJ	3	✔	20.0	19.7	98.4
Cal 4 MJ	4	✔	50.0	49.5	99.0
Cal 5 MJ	5	✔	75.0	77.4	103.2
Cal 6 MJ	6	✔	100.0	103.6	103.6
Cal 7 MJ	7	✔	250.0	245.0	98.0

AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results	D:\MassHunter\Data\2023\AM 27 28\052623 AM 27 28 CS\QuantResults\AM 27.batch.bin
Last Cal. Update	6/6/2023 12:04 PM
Analyst Name	ISP\Datastor
Analyte	THC-OH
Internal Standard	THC-OH-D3



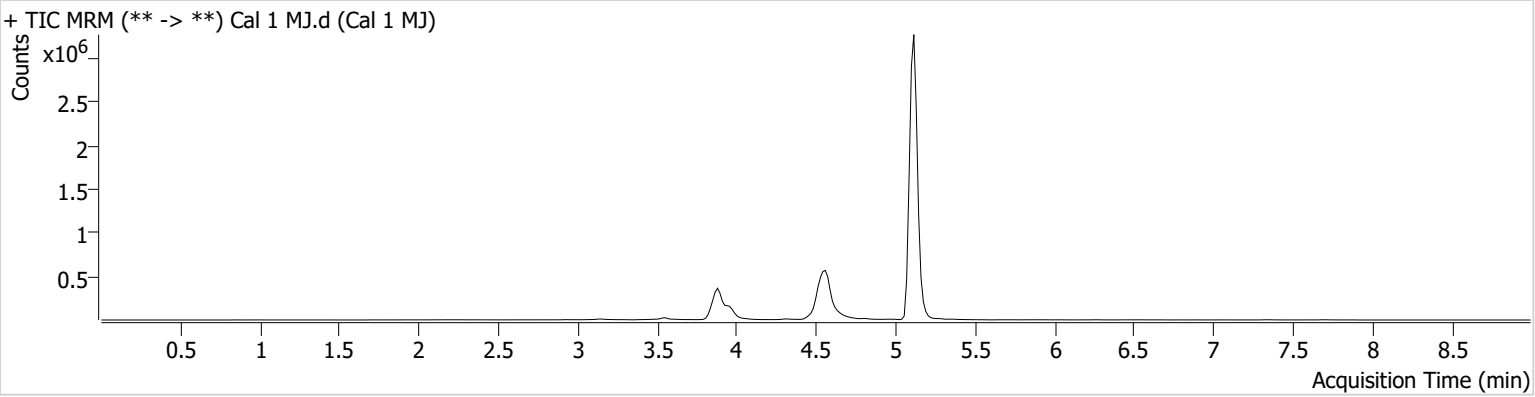
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1 MJ	1	✔	1.0	1.1	113.6
Cal 2 MJ	2	✔	3.0	2.9	97.5
Cal 3 MJ	3	✔	5.0	4.7	94.9
Cal 4 MJ	4	✔	10.0	9.5	95.2
Cal 5 MJ	5	✔	25.0	24.6	98.3
Cal 6 MJ	6	✔	50.0	49.3	98.7
Cal 7 MJ	7	✔	100.0	101.8	101.8

AM #27 Cannabinoid Quant. Results

Batch results	D:\MassHunter\Data\2023\AM 27 28\052623 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update	6/6/2023 12:04:56 PM

Instrument	Falco (069901)	**Data File**	Cal 1 MJ.d
Type	Cal	**Sample**	Cal 1 MJ
Acq. Method	AM 27 Agilent Method.m	**Operator**	Celena Shrum
Sample Position	P1-H6	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/26/2023 2:31:45 PM		
Sample Info.			

Sample Chromatogram



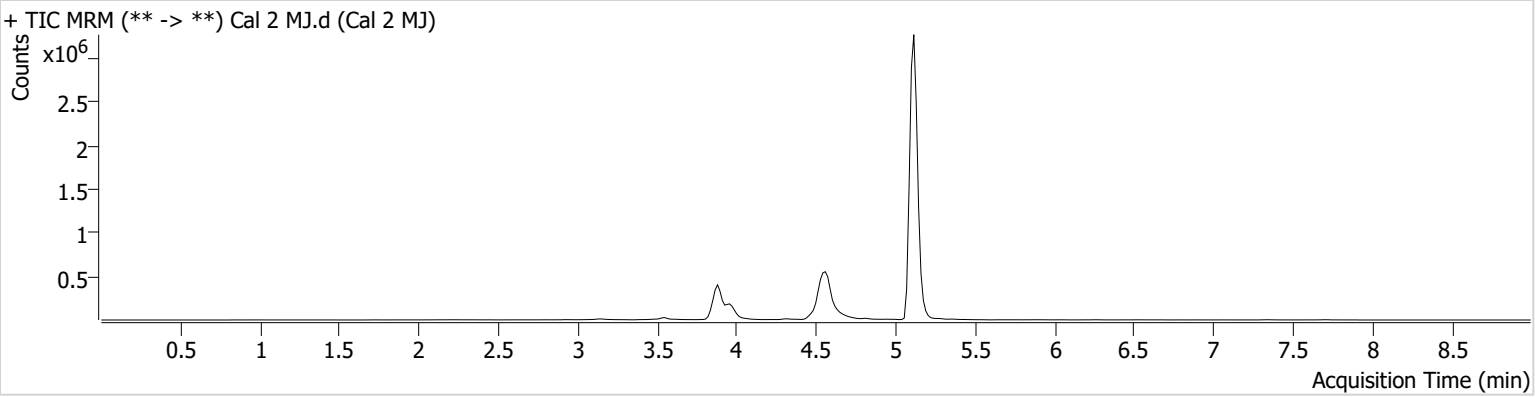
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	3.881	23233	∞	15.6	23.66	1503015	1.1361	ng/ml Low
THC-COOH	3.969	14939	75.32	242.8	244.62	434801	5.0160	ng/ml
THC	5.120	87133	∞	26.5	∞	11286302	1.0686	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results	D:\MassHunter\Data\2023\AM 27 28\052623 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update	6/6/2023 12:04:56 PM

Instrument	Falco (069901)	**Data File**	Cal 2 MJ.d
Type	Cal	**Sample**	Cal 2 MJ
Acq. Method	AM 27 Agilent Method.m	**Operator**	Celena Shrum
Sample Position	P1-G6	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/26/2023 2:45:01 PM		
Sample Info.			

Sample Chromatogram



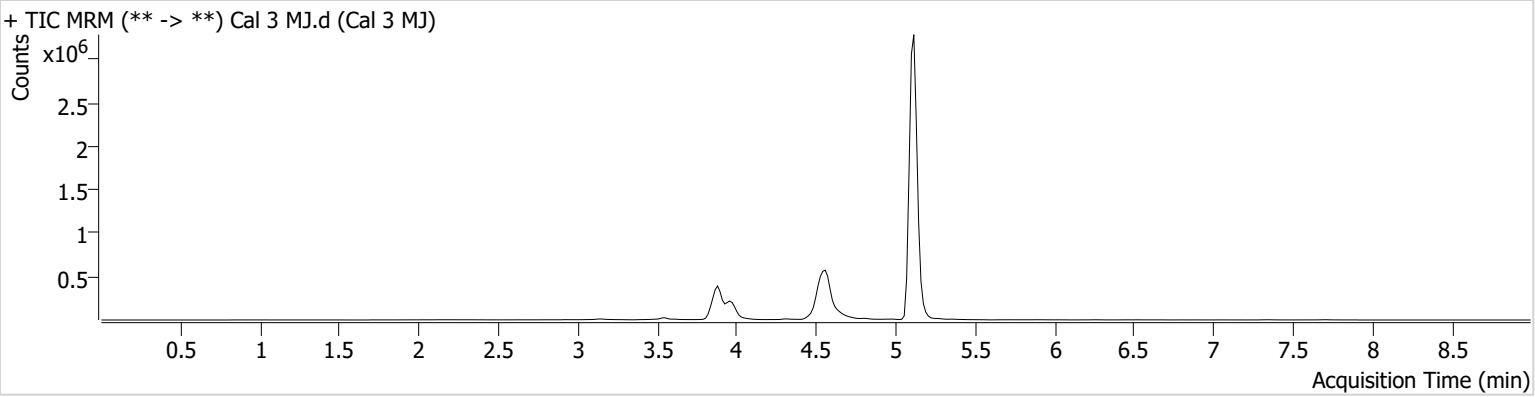
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	3.896	69616	∞	13.1	63.30	1516118	2.9249	ng/ml Low
THC-COOH	3.969	31637	∞	224.8	∞	430882	9.7477	ng/ml
THC	5.120	276195	∞	24.4	∞	10985694	2.9732	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results	D:\MassHunter\Data\2023\AM 27 28\052623 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update	6/6/2023 12:04:56 PM

Instrument	Falco (069901)	**Data File**	Cal 3 MJ.d
Type	Cal	**Sample**	Cal 3 MJ
Acq. Method	AM 27 Agilent Method.m	**Operator**	Celena Shrum
Sample Position	P1-F6	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/26/2023 2:58:07 PM		
Sample Info.			

Sample Chromatogram



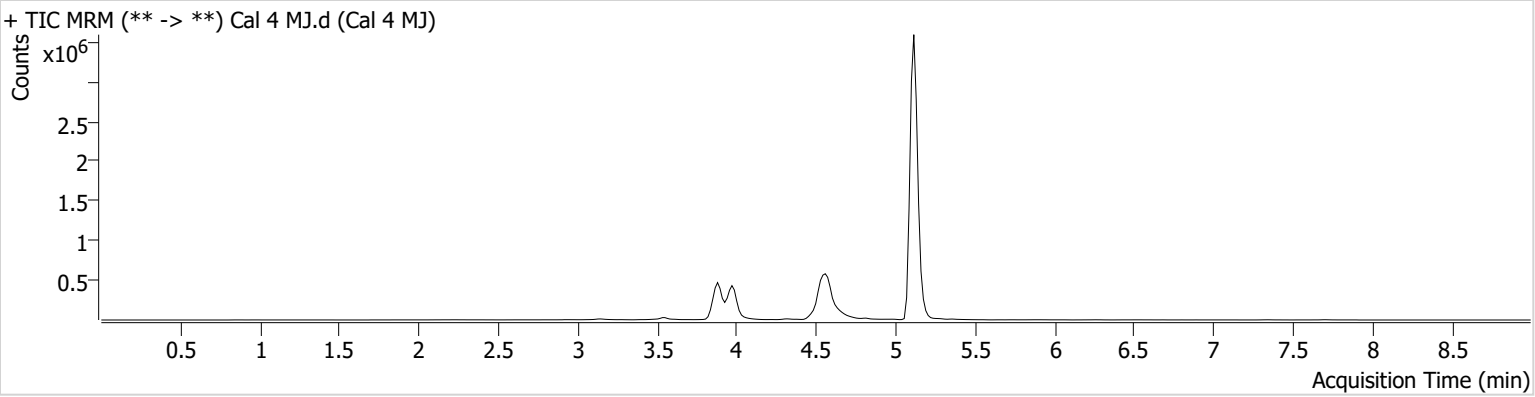
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	3.881	117188	∞	14.9	∞	1523054	4.7470	ng/ml
THC-COOH	3.969	65816	3693.04	208.1	∞	423642	19.6718	ng/ml
THC	5.120	451053	∞	24.3	∞	10855171	4.7673	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\052623 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 6/6/2023 12:04:56 PM

Instrument	Falco (069901)	**Data File**	Cal 4 MJ.d
Type	Cal	**Sample**	Cal 4 MJ
Acq. Method	AM 27 Agilent Method.m	**Operator**	Celena Shrum
Sample Position	P1-E6	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/26/2023 3:11:13 PM		
Sample Info.			

Sample Chromatogram



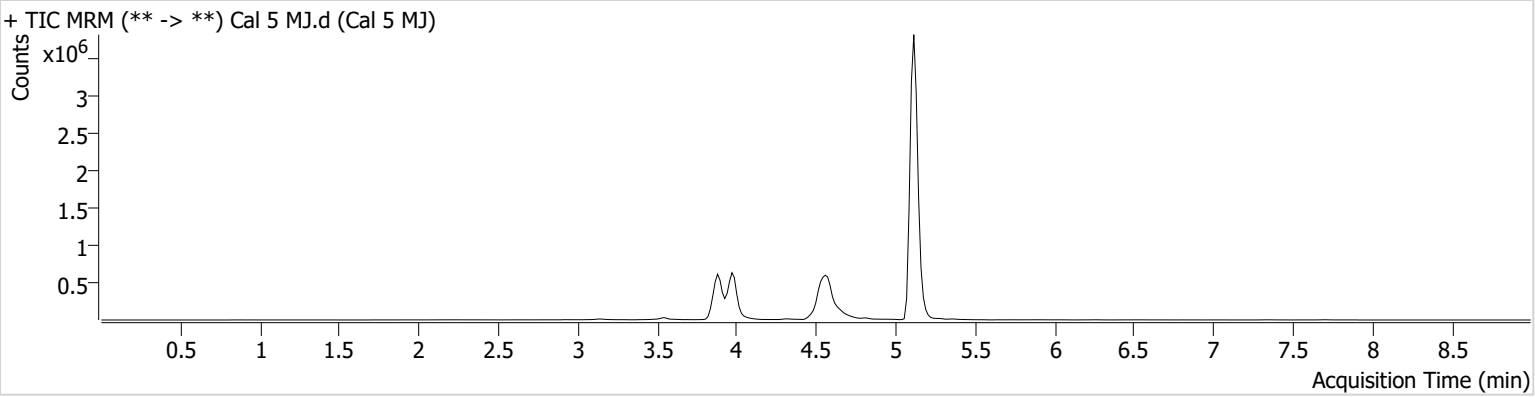
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	3.896	253634	∞	14.1	744.02	1602813	9.5217	ng/ml
THC-COOH	3.969	185458	3392.03	211.3	∞	461848	49.4917	ng/ml
THC	5.120	966988	∞	24.2	∞	10908496	9.9159	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\052623 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 6/6/2023 12:04:56 PM

Instrument	Falco (069901)	**Data File**	Cal 5 MJ.d
Type	Cal	**Sample**	Cal 5 MJ
Acq. Method	AM 27 Agilent Method.m	**Operator**	Celena Shrum
Sample Position	P1-D6	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/26/2023 3:24:19 PM		
Sample Info.			

Sample Chromatogram



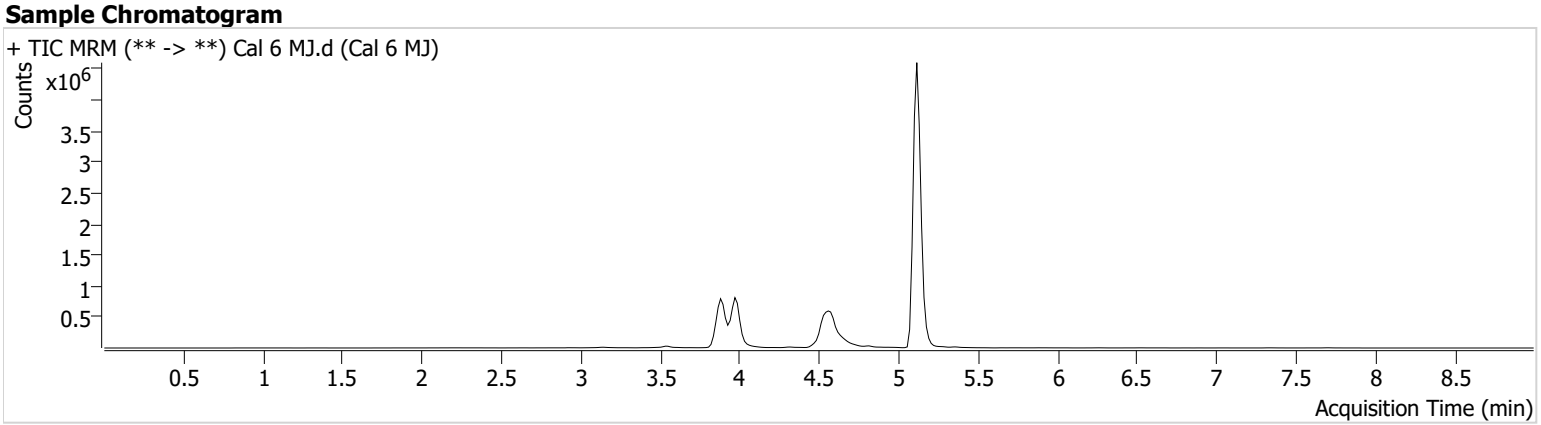
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	3.896	701118	∞	13.7	∞	1690848	24.5805	ng/ml
THC-COOH	3.969	298319	13264.07	209.7	∞	471897	77.4239	ng/ml
THC	5.120	2305094	∞	25.2	∞	10212688	24.9006	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\052623 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 6/6/2023 12:04:56 PM

Instrument	Falco (069901)	**Data File**	Cal 6 MJ.d
Type	Cal	**Sample**	Cal 6 MJ
Acq. Method	AM 27 Agilent Method.m	**Operator**	Celena Shrum
Sample Position	P1-C6	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/26/2023 3:37:25 PM		
Sample Info.			

Sample Chromatogram



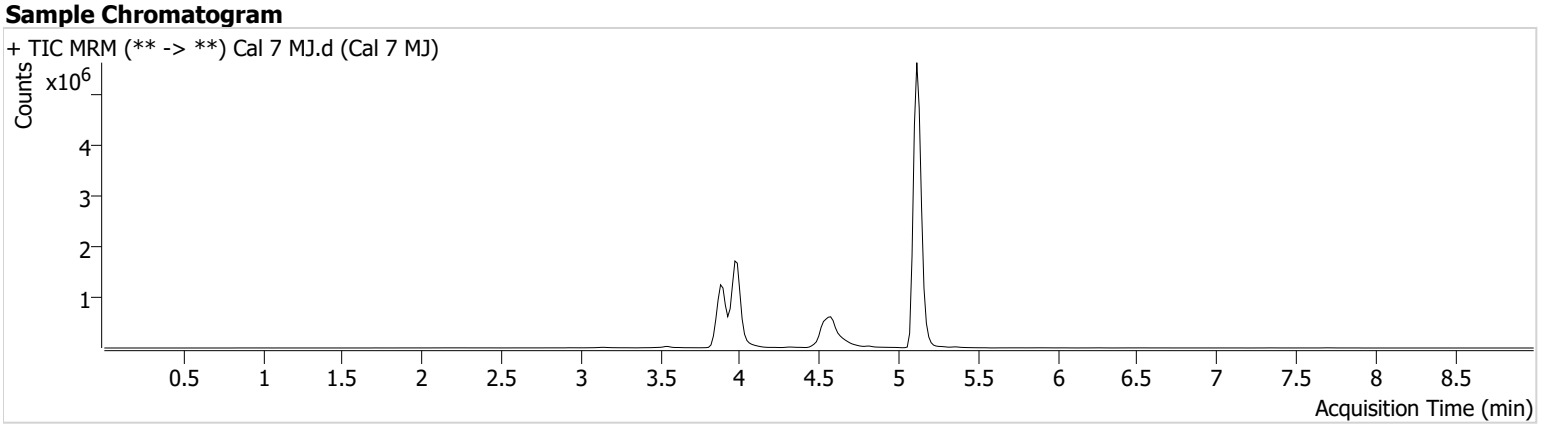
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	3.881	1402714	∞	14.2	∞	1677850	49.3269	ng/ml
THC-COOH	3.969	390828	16871.57	205.7	∞	460664	103.6141	ng/ml
THC	5.120	4435180	16714.89	25.8	19797.93	9829222	49.5554	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results	D:\MassHunter\Data\2023\AM 27 28\052623 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update	6/6/2023 12:04:56 PM

Instrument	Falco (069901)	**Data File**	Cal 7 MJ.d
Type	Cal	**Sample**	Cal 7 MJ
Acq. Method	AM 27 Agilent Method.m	**Operator**	Celena Shrum
Sample Position	P1-B6	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/26/2023 3:50:31 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	3.896	3064323	∞	13.9	∞	1772447	101.7629	ng/ml
THC-COOH	3.969	938070	∞	211.5	∞	465314	245.0347	ng/ml
THC	5.120	8252514	∞	26.0	∞	8968878	100.8191	ng/ml