REVIEWED
By Sarah Collins at 8:03 am, Aug 23, 2023

8/22/2023

Worklist: 6474

LAB_CASE	ITEM	ITEM_TYPE	DESCRIPTION
M2023-2895	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-2141	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-2145	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-2163	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-2170	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-2257	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-2258	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-2259	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-2262	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-2263	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: 08/15/2023
Analyst: Celena Shrum
Plate lot#: 230627
Plate Retest Date: 12/27/2023
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:

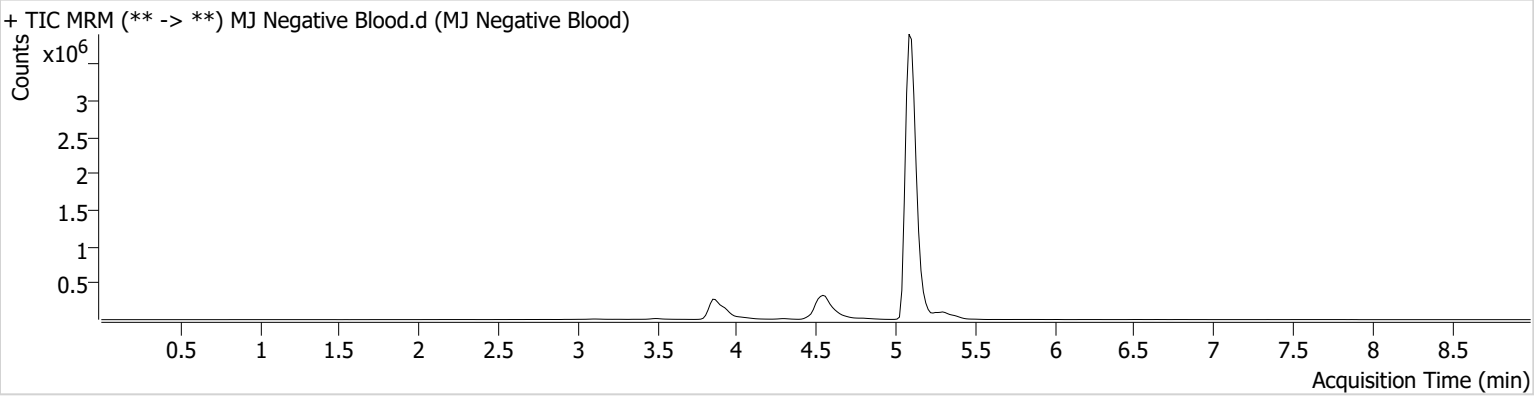
	1	2	3	4	5	6
A	IS + Cal. 1	QC2	P2023-2258-1			
B	IS + Cal. 2	NEG Blood	P2023-2259-1			
C	IS + Cal. 3	M2023-2895-1	P2023-2262-1			
D	IS + Cal. 4	P2023-2141-1	P2023-2263-1			
E	IS + Cal. 5	P2023-2145-1				
F	IS + Cal. 6	P2023-2163-1				
G	IS + Cal. 7	P2023-2170-1				
H	QC1	P2023-2257-1				

AM #27 Cannabinoids Quant. Results

Batch results	D:\MassHunter\Data\2023\AM 27 28\081523 AM 27 28 CS TS\QuantResults\AM 27.batch.bin
Calibration Last Update	8/16/2023 7:09:47 AM

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-B2	**Comment**	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	8/15/2023 4:07:51 PM		
Sample Info.			

Sample Chromatogram

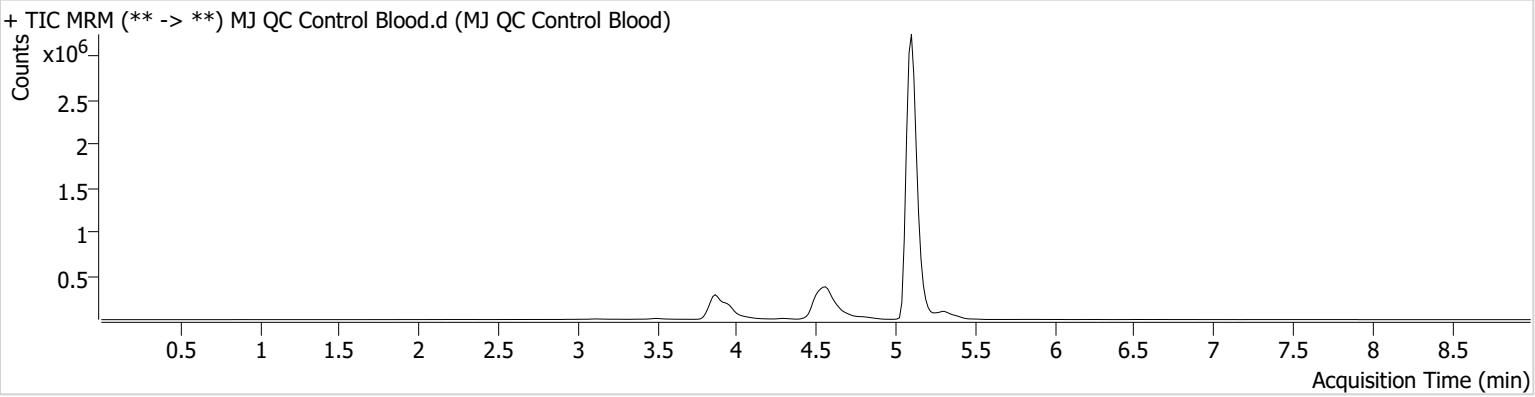


AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\081523 AM 27 28 CS TS\QuantResults\AM 27.batch.bin
Calibration Last Update 8/16/2023 7:09:47 AM

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-H1	**Comment**	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	8/15/2023 3:41:37 PM		
Sample Info.			

Sample Chromatogram



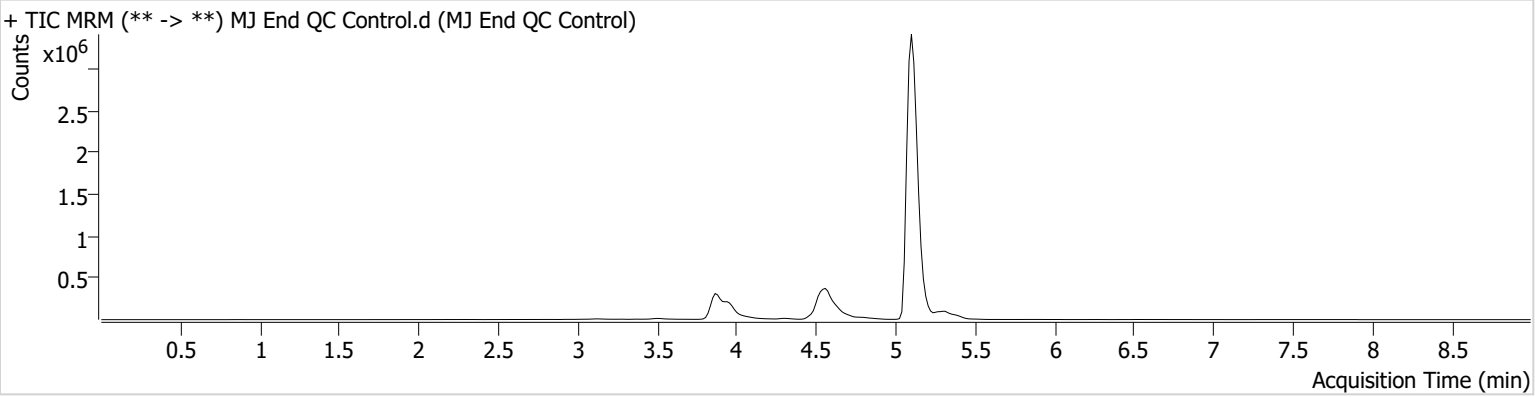
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.105	534745	5850.52	25.0	∞	14571474	4.3406 ng/ml
THC-COOH	3.954	47337	467.42	234.4	∞	383877	16.1669 ng/ml
THC-OH	3.865	81966	∞	12.3	∞	1330708	4.5597 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\081523 AM 27 28 CS TS\QuantResults\AM 27.batch.bin
Calibration Last Update 8/16/2023 7:09:47 AM

Instrument	Falco (069901)	**Data File**	MJ End QC Control.d
Type	QC	**Sample**	MJ End QC Control
Acq. Method	AM 27 Agilent Method.m	**Operator**	Celena Shrum
Sample Position	P1-A2	**Comment**	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	8/15/2023 8:56:11 PM		
Sample Info.			

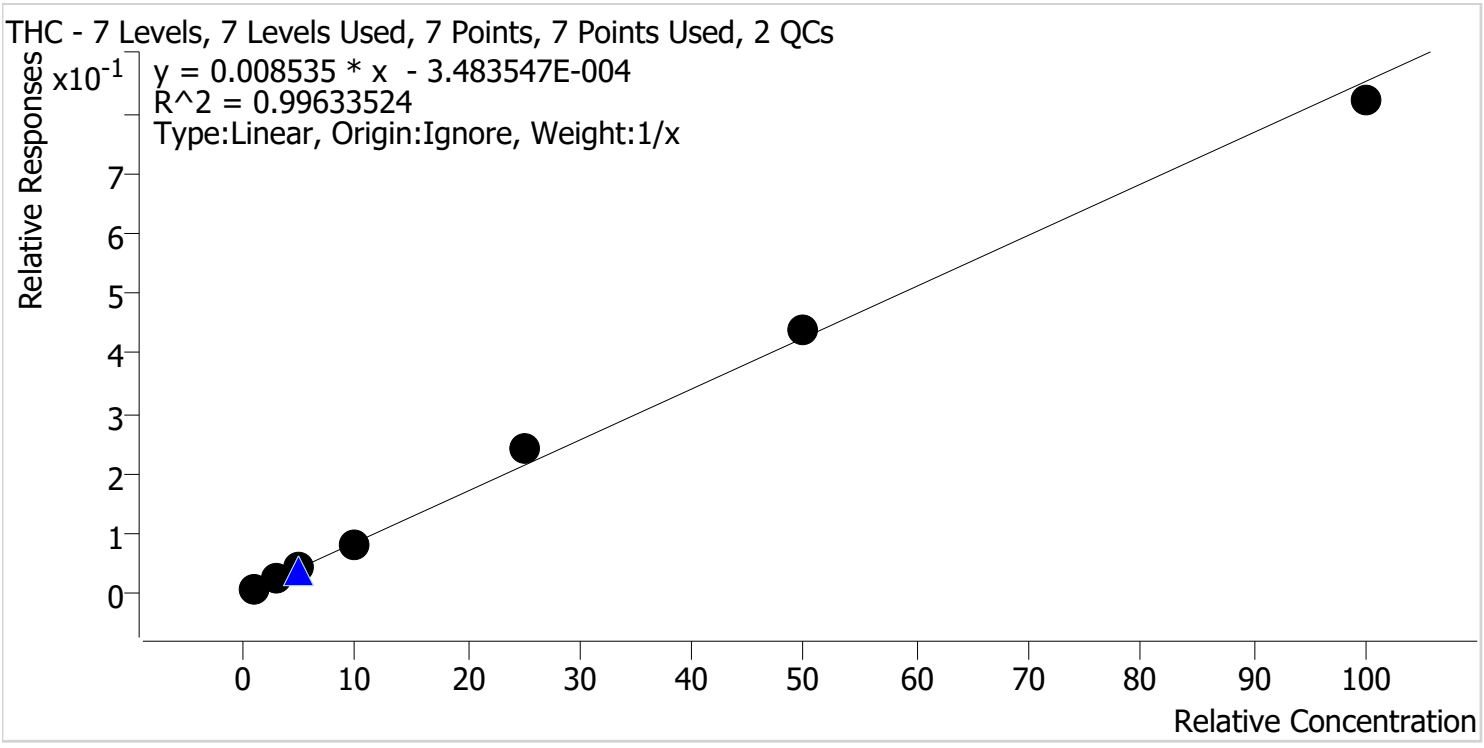
Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.105	565275	740.21	25.3	∞	15549870	4.3001 ng/ml
THC-COOH	3.969	51604	∞	237.1	∞	432865	15.6426 ng/ml
THC-OH	3.881	87619	∞	14.9	∞	1365973	4.7427 ng/ml

AM #27 Cannabinoids Quant. Calibration Curve Report

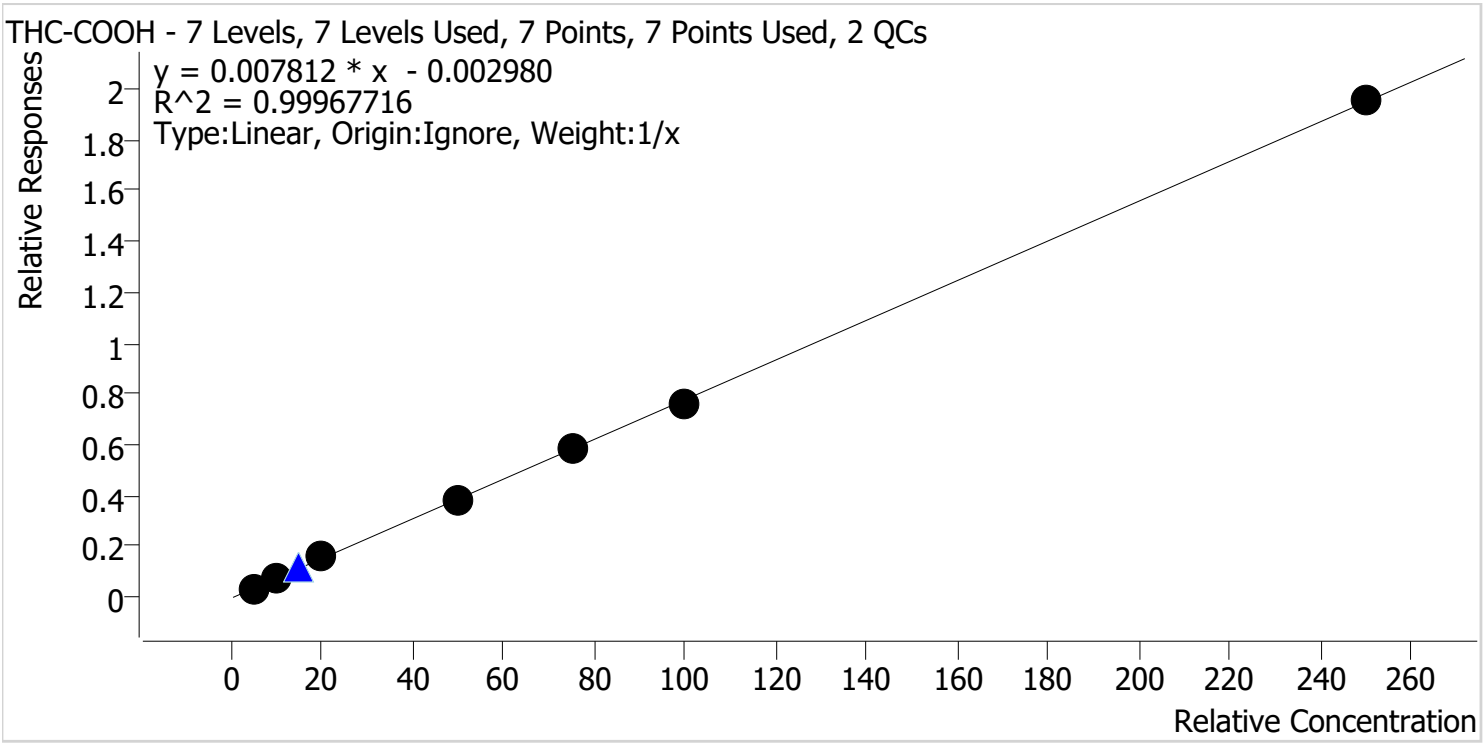
Batch results	D:\MassHunter\Data\2023\AM 27 28\081523 AM 27 28 CS TS\QuantResults\AM 27.batch.bin
Last Cal. Update	8/16/2023 7:09 AM
Analyst Name	ISP\Datastor
Analyte	THC
Internal Standard	THC-D3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1 MJ	1	✔	1.0	1.0	99.3
Cal 2 MJ	2	✔	3.0	2.8	92.7
Cal 3 MJ	3	✔	5.0	5.1	102.8
Cal 4 MJ	4	✔	10.0	9.4	93.9
Cal 5 MJ	5	✔	25.0	28.0	112.1
Cal 6 MJ	6	✔	50.0	51.4	102.9
Cal 7 MJ	7	✔	100.0	96.2	96.2

AM #27 Cannabinoids Quant. Calibration Curve Report

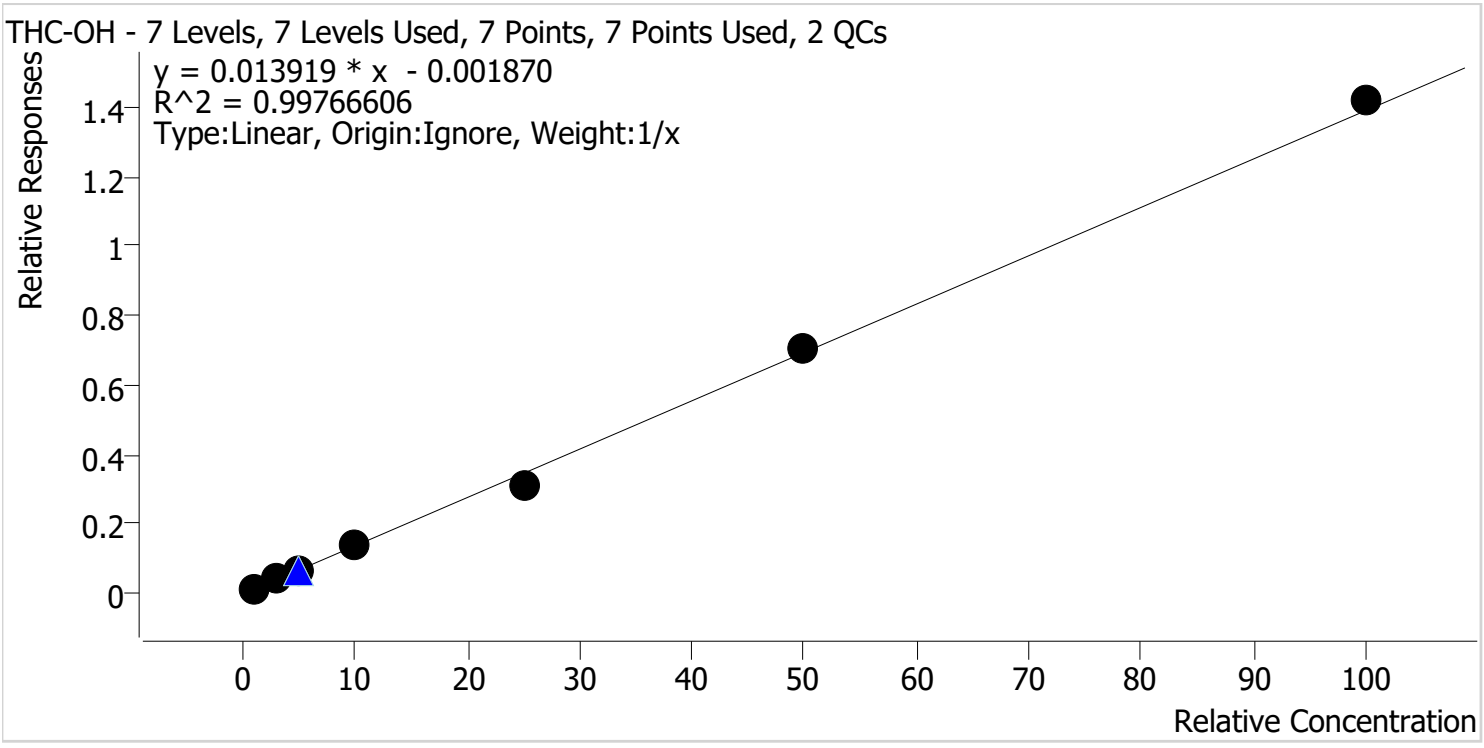
Batch results	D:\MassHunter\Data\2023\AM 27 28\081523 AM 27 28 CS TS\QuantResults\AM 27.batch.bin
Last Cal. Update	8/16/2023 7:09 AM
Analyst Name	ISP\Datastor
Analyte	THC-COOH
Internal Standard	THC-COOH-D9



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1 MJ	1	✔	5.0	4.8	95.2
Cal 2 MJ	2	✔	10.0	10.0	100.3
Cal 3 MJ	3	✔	20.0	21.1	105.3
Cal 4 MJ	4	✔	50.0	50.2	100.4
Cal 5 MJ	5	✔	75.0	75.6	100.8
Cal 6 MJ	6	✔	100.0	97.8	97.8
Cal 7 MJ	7	✔	250.0	250.6	100.2

AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results	D:\MassHunter\Data\2023\AM 27 28\081523 AM 27 28 CS TS\QuantResults\AM 27.batch.bin
Last Cal. Update	8/16/2023 7:09 AM
Analyst Name	ISP\Datastor
Analyte	THC-OH
Internal Standard	THC-OH-D3



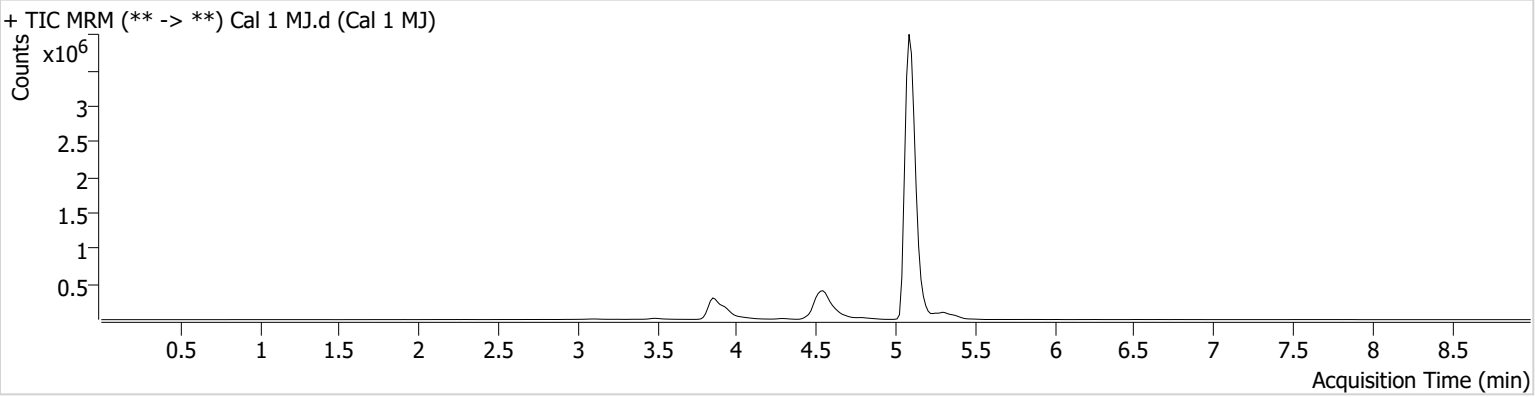
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1 MJ	1	✔	1.0	1.1	113.8
Cal 2 MJ	2	✔	3.0	3.0	98.8
Cal 3 MJ	3	✔	5.0	4.8	95.6
Cal 4 MJ	4	✔	10.0	9.9	98.9
Cal 5 MJ	5	✔	25.0	22.3	89.1
Cal 6 MJ	6	✔	50.0	50.9	101.9
Cal 7 MJ	7	✔	100.0	102.0	102.0

AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\081523 AM 27 28 CS TS\QuantResults\AM 27.batch.bin
Calibration Last Update 8/16/2023 7:09:47 AM

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-A1	**Comment**	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	8/15/2023 1:56:40 PM		
Sample Info.			

Sample Chromatogram



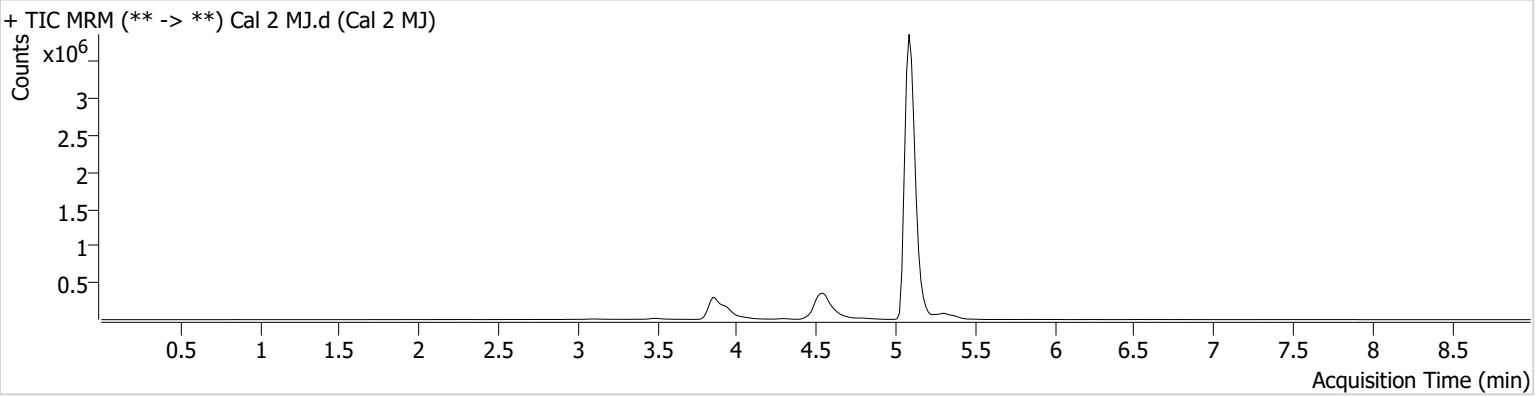
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.090	140178	∞	25.8	∞	17241534	0.9934 ng/ml
THC-COOH	3.954	15205	∞	263.6	∞	444482	4.7604 ng/ml
THC-OH	3.865	20544	∞	15.0	23.00	1470942	1.1377 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results	D:\MassHunter\Data\2023\AM 27 28\081523 AM 27 28 CS TS\QuantResults\AM 27.batch.bin
Calibration Last Update	8/16/2023 7:09:47 AM

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-B1	**Comment**	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	8/15/2023 2:09:56 PM		
Sample Info.			

Sample Chromatogram



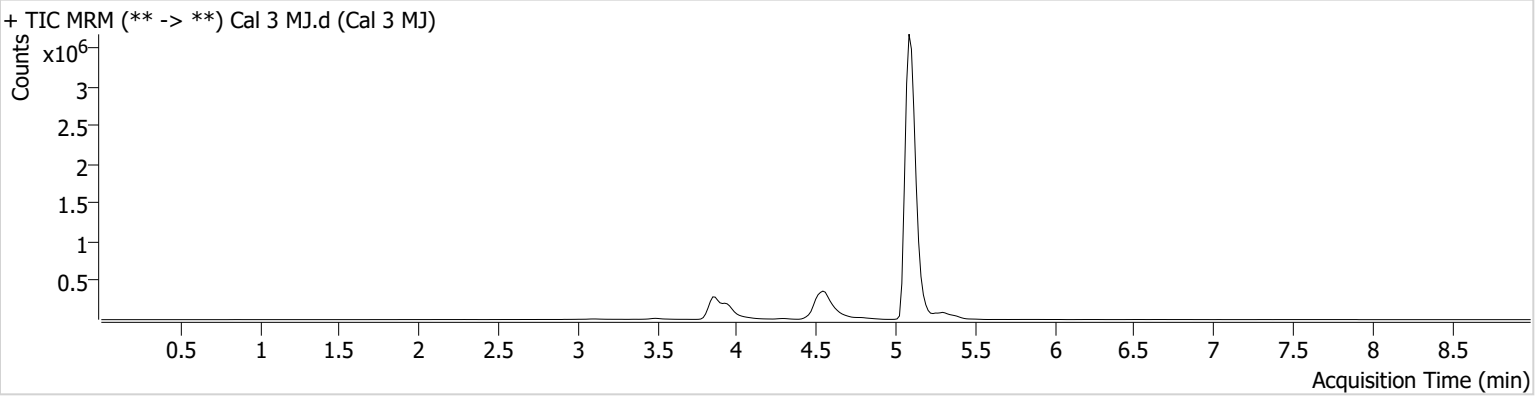
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.090	404950	1876.32	26.1	∞	17316169	2.7808 ng/ml
THC-COOH	3.954	31700	515.78	236.0	1720.32	420507	10.0318 ng/ml
THC-OH	3.865	55951	∞	15.0	∞	1421258	2.9627 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\081523 AM 27 28 CS TS\QuantResults\AM 27.batch.bin
Calibration Last Update 8/16/2023 7:09:47 AM

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-C1	**Comment**	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	8/15/2023 2:23:02 PM		
Sample Info.			

Sample Chromatogram



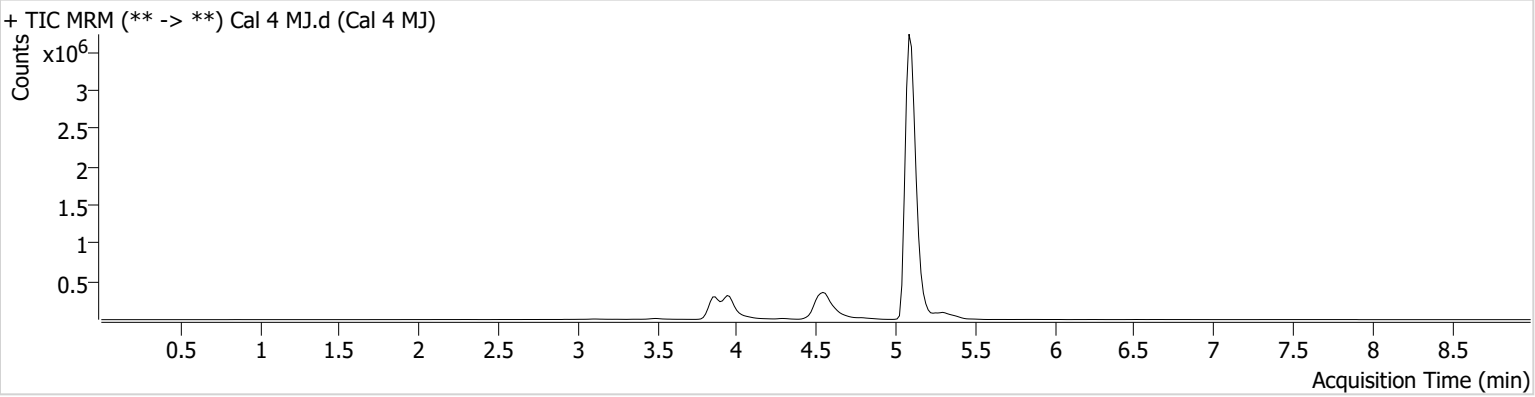
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.105	662434	∞	25.7	∞	15215113	5.1420 ng/ml
THC-COOH	3.954	62621	∞	221.1	749.97	387726	21.0565 ng/ml
THC-OH	3.865	87879	485.70	15.2	∞	1358438	4.7820 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results	D:\MassHunter\Data\2023\AM 27 28\081523 AM 27 28 CS TS\QuantResults\AM 27.batch.bin
Calibration Last Update	8/16/2023 7:09:47 AM

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-D1	**Comment**	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	8/15/2023 2:36:08 PM		
Sample Info.			

Sample Chromatogram



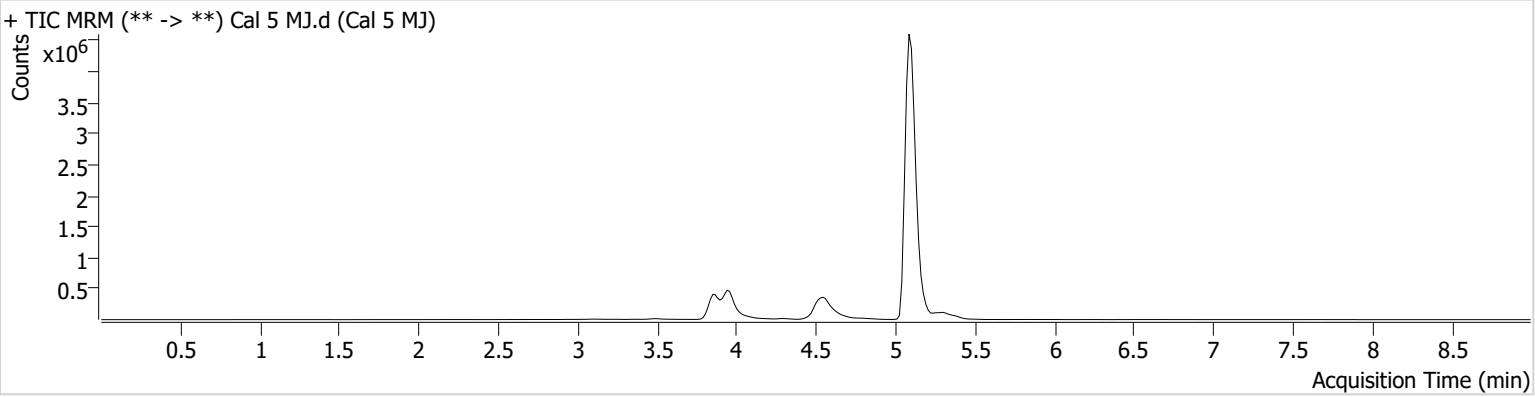
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.105	1259461	11663.87	27.2	∞	15781895	9.3912 ng/ml
THC-COOH	3.954	143548	1392.01	251.2	3150.95	368944	50.1880 ng/ml
THC-OH	3.865	176399	∞	12.3	∞	1299646	9.8856 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\081523 AM 27 28 CS TS\QuantResults\AM 27.batch.bin
Calibration Last Update 8/16/2023 7:09:47 AM

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-E1	**Comment**	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	8/15/2023 2:49:14 PM		
Sample Info.			

Sample Chromatogram



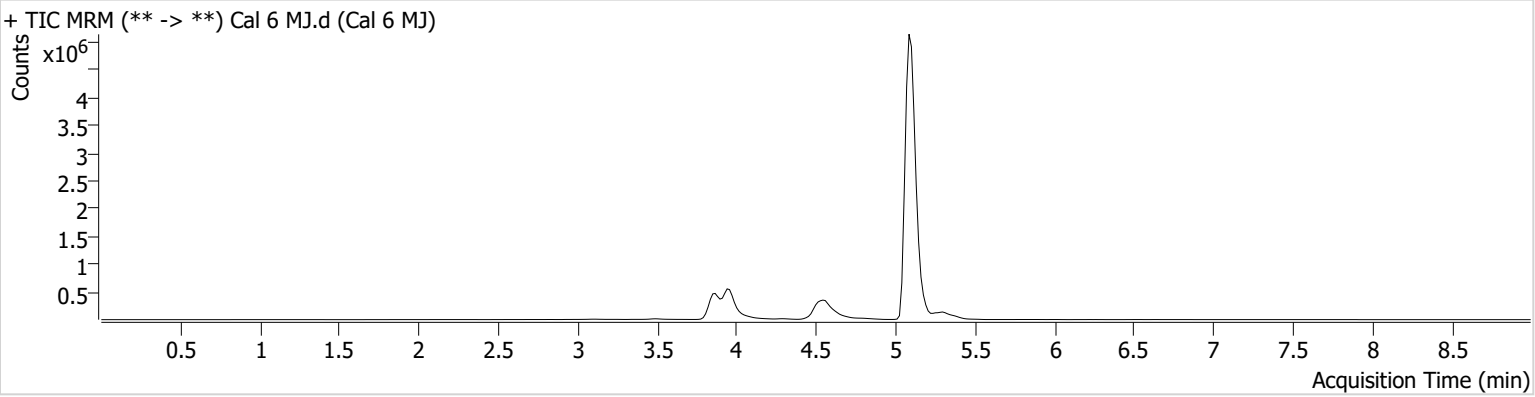
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.105	3767015	39751.88	25.6	∞	15772508	28.0242 ng/ml
THC-COOH	3.954	243888	1862.58	245.4	∞	414979	75.6158 ng/ml
THC-OH	3.865	511486	∞	14.5	1009.75	1659971	22.2716 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results	D:\MassHunter\Data\2023\AM 27 28\081523 AM 27 28 CS TS\QuantResults\AM 27.batch.bin
Calibration Last Update	8/16/2023 7:09:47 AM

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-F1	**Comment**	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	8/15/2023 3:02:19 PM		
Sample Info.			

Sample Chromatogram



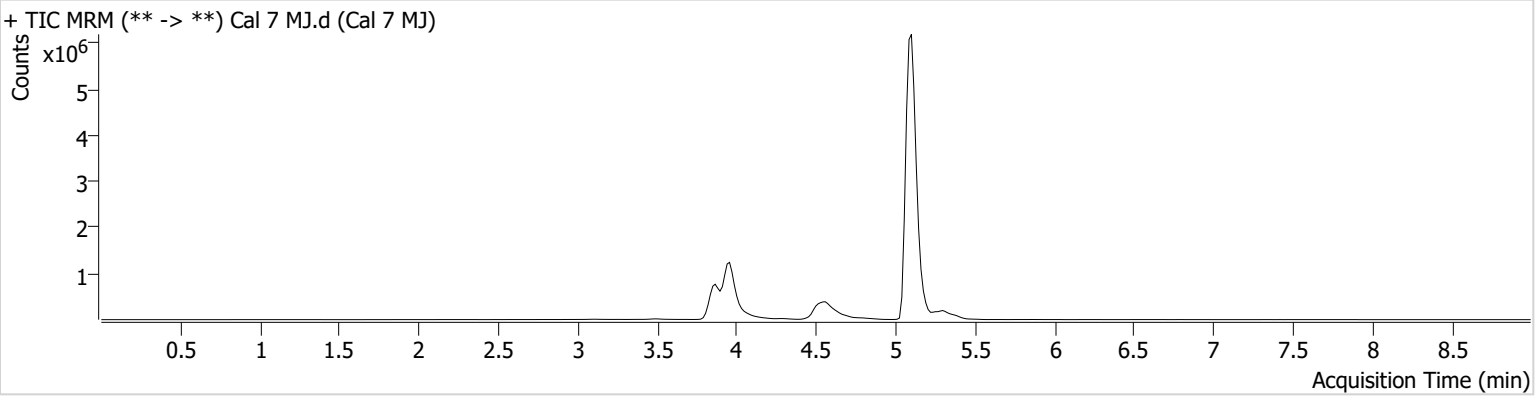
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.090	6766252	108678.83	26.3	∞	15421575	51.4479 ng/ml
THC-COOH	3.954	291049	∞	233.7	11339.37	382621	97.7567 ng/ml
THC-OH	3.865	965687	∞	14.7	∞	1365952	50.9259 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results	D:\MassHunter\Data\2023\AM 27 28\081523 AM 27 28 CS TS\QuantResults\AM 27.batch.bin
Calibration Last Update	8/16/2023 7:09:47 AM

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-G1	**Comment**	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	8/15/2023 3:15:25 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.105	11403291	193931.60	28.7	∞	13891556	96.2204 ng/ml
THC-COOH	3.954	765317	∞	226.9	6132.61	391552	250.5907 ng/ml
THC-OH	3.865	2144446	∞	14.8	5577.97	1511928	102.0344 ng/ml