REVIEWED
By Sarah Collins at 8:19 am, Aug 03, 2023

8/2/2023

CS

Worklist: 6452

LAB_CASE	ITEM	ITEM_TYPE	DESCRIPTION
M2023-2701	1	BCK	AM 27 Blood THC Quant by LC-QQQ
M2023-2867	3	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-1883	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-1898	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-2005	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-2025	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-2077	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-2080	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-2085	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-2086	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-2121	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: 07/21/2023
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: M2023-2090-1 was also included in this run.

	1	2	3	4	5	6
A	IS + Cal. 1	QC2	P2023-2077-1			
B	IS + Cal. 2	NEG Blood	P2023-2080-1			
C	IS + Cal. 3	M2023-2701-1	P2023-2085-1			
D	IS + Cal. 4	M2023-2867-3	P2023-2086-1			
E	IS + Cal. 5	P2023-1883-1	P2023-2121-1			
F	IS + Cal. 6	P2023-1898-1	M2023-2090-1			
G	IS + Cal. 7	P2023-2005-1				
H	QC1	P2023-2025-1				

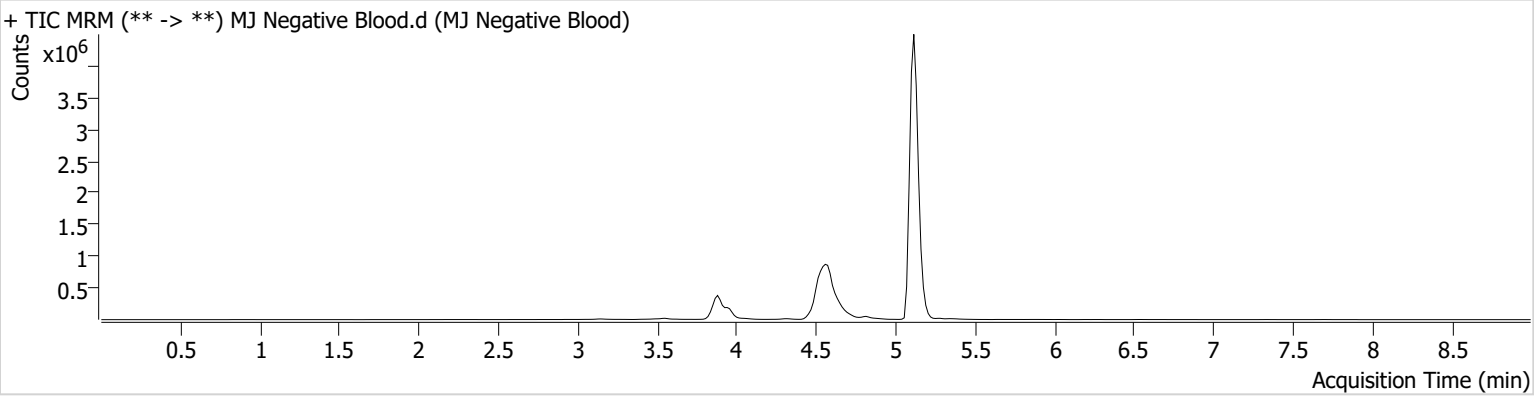
Samples moved to columns 4-6 during SLE portion of the extraction (A1 moved to A4, D3 moved to D6, etc.).

AM #27 Cannabinoids Quant. Results

Batch results	D:\MassHunter\Data\2023\AM 27 28\072123 AM 27 28 CS TS\QuantResults\AM 27 CS.batch.bin
Calibration Last Update	7/22/2023 5:30:16 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-B5	**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	7/21/2023 6:40:03 PM		
Sample Info.			

Sample Chromatogram



AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\072123 AM 27 28 CS TS\QuantResults\AM 27 CS.batch.bin
Calibration Last Update 7/22/2023 5:30:16 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-H4	**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.
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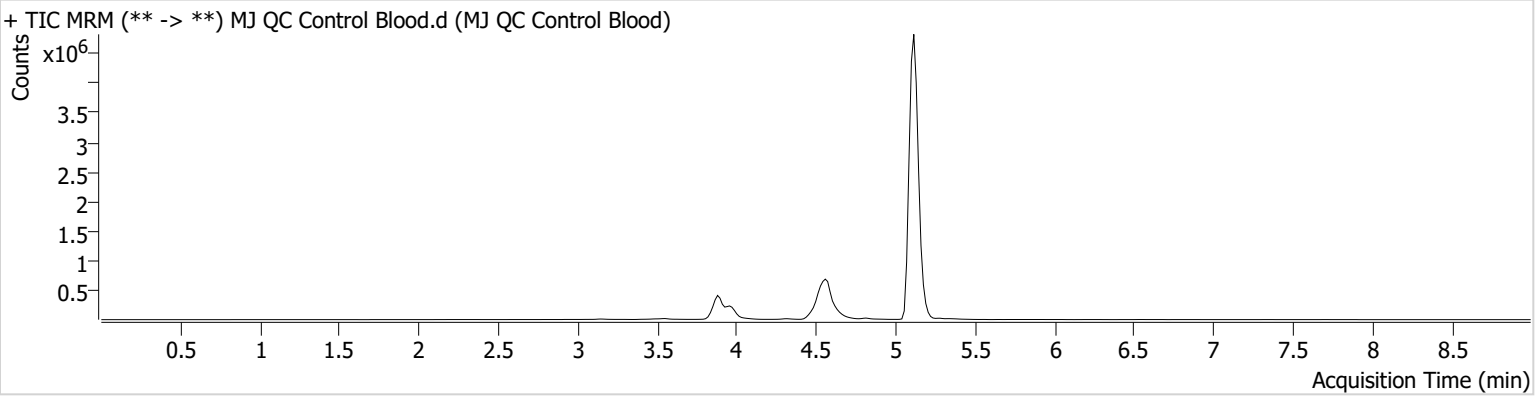
Acq. Date-Time	7/21/2023 6:13:51 PM		
Sample Info.			

Sample Chromatogram



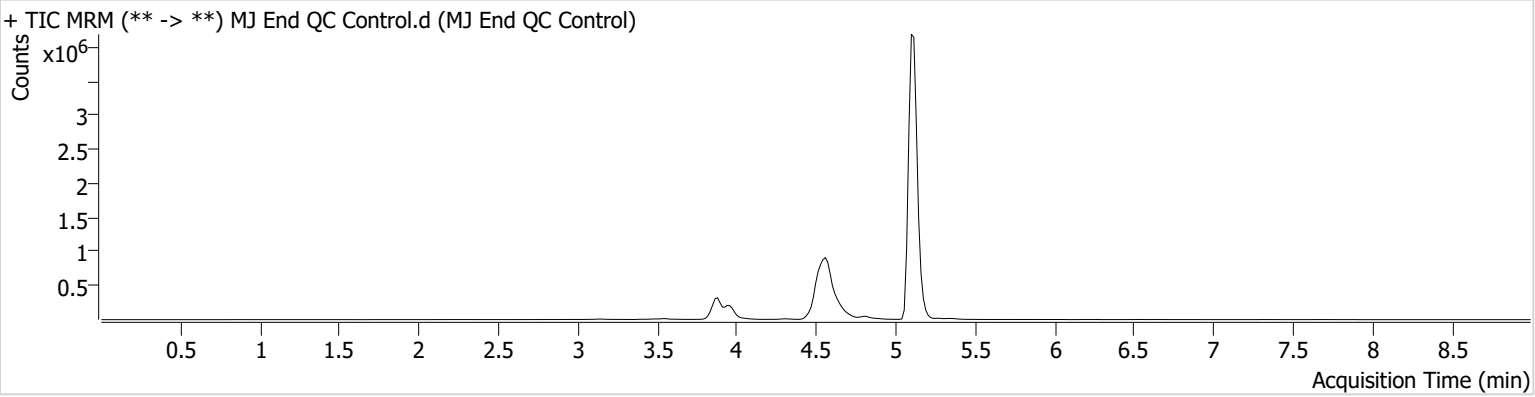
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.120	818177	9853.71	23.8	∞	18461548	4.9404 ng/ml
THC-COOH	3.969	51406	∞	246.8	∞	523505	14.2333 ng/ml
THC-OH	3.896	117571	∞	14.3	∞	1538252	4.6775 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\072123 AM 27 28 CS TS\QuantResults\AM 27 CS.batch.bin
Calibration Last Update 7/22/2023 5:30:16 PM

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-A5	**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	7/22/2023 12:20:43 AM		
Sample Info.			

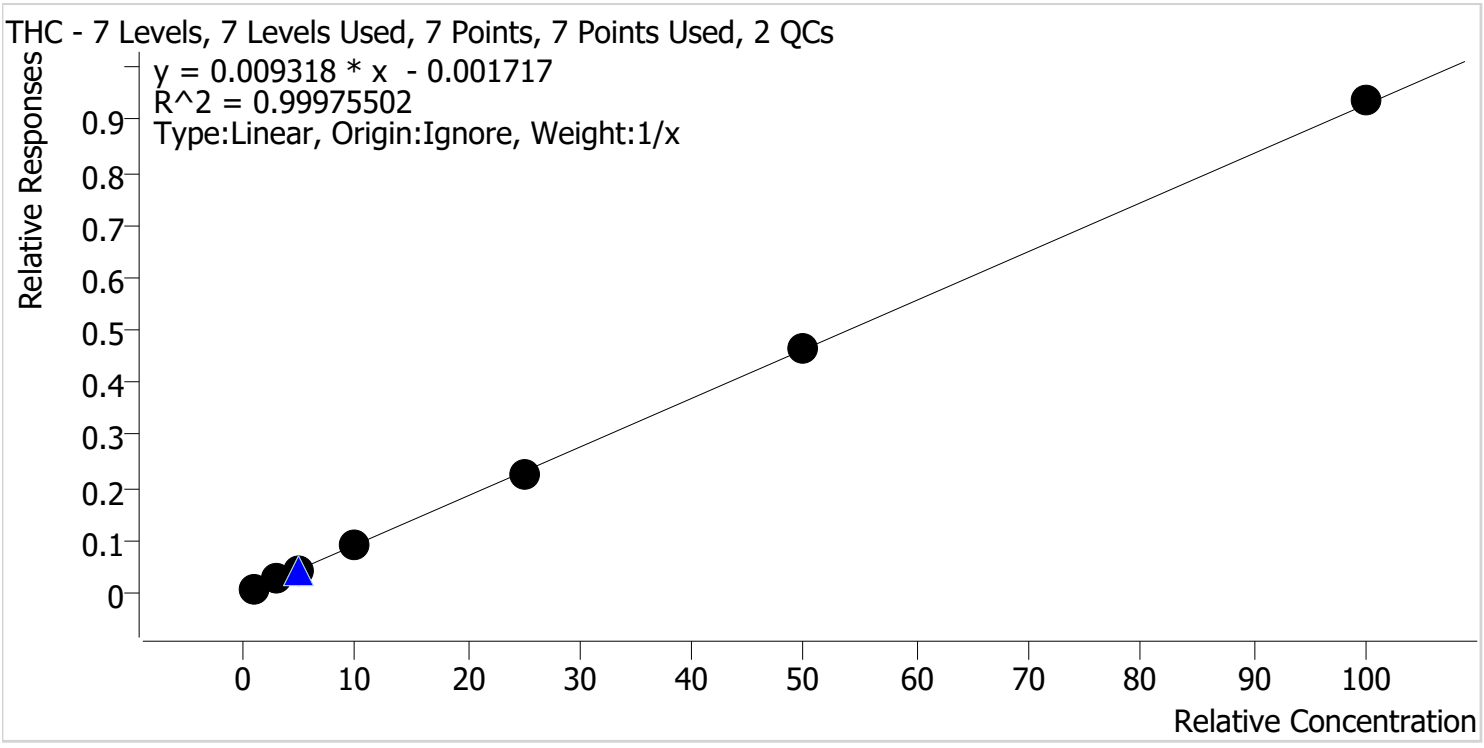
Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.120	698143	∞	23.5	∞	15237546	5.1013 ng/ml
THC-COOH	3.969	46052	223.10	239.9	∞	476192	14.0188 ng/ml
THC-OH	3.881	95380	∞	13.5	∞	1234513	4.7268 ng/ml

AM #27 Cannabinoids Quant. Calibration Curve Report

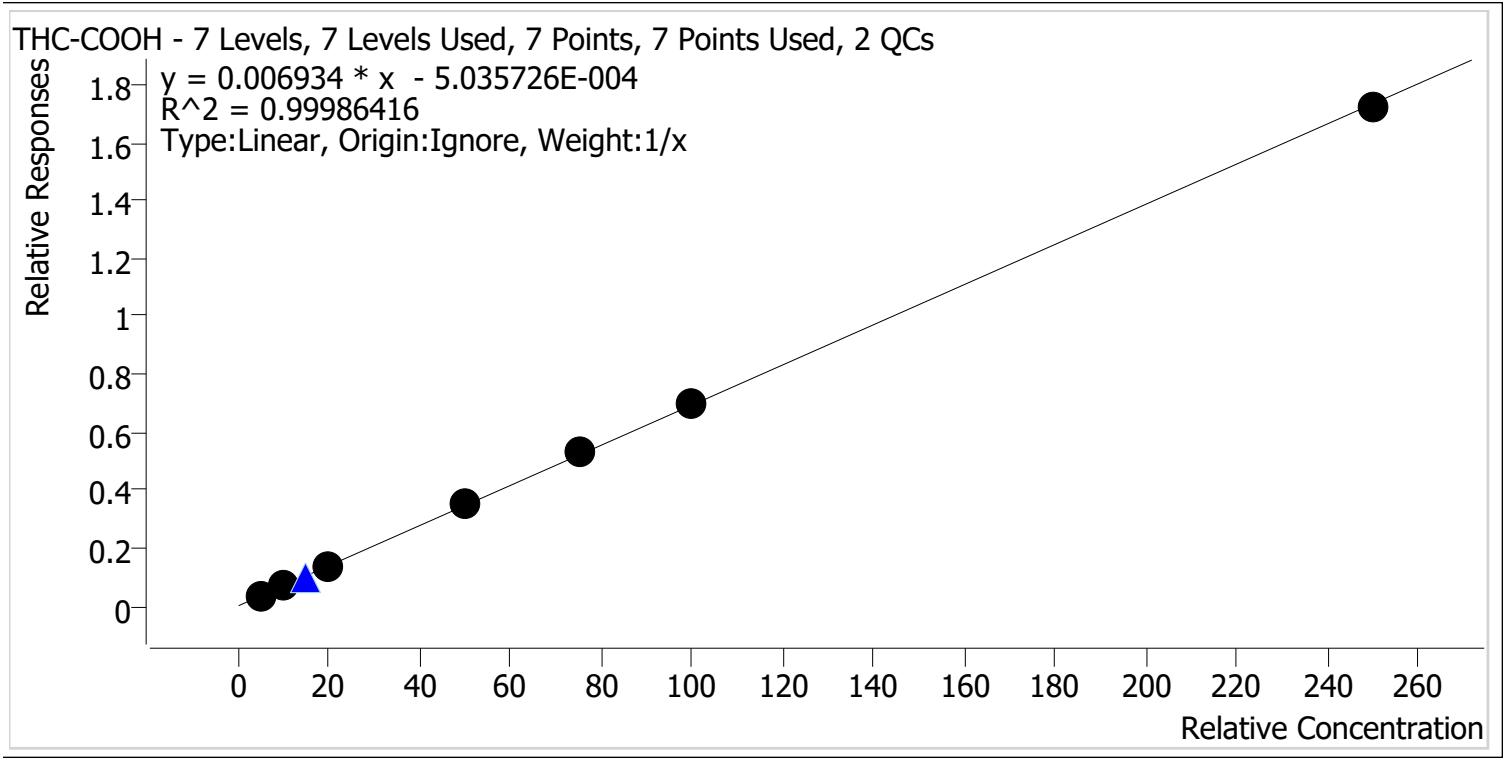
Batch results	D:\MassHunter\Data\2023\AM 27 28\072123 AM 27 28 CS TS\QuantResults\AM 27 CS.batch.bin
Last Cal. Update	7/22/2023 5:30 PM
Analyst Name	ISP\Datastor
Analyte	THC
Internal Standard	THC-D3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1 MJ	1	✔	1.0	1.1	107.2
Cal 2 MJ	2	✔	3.0	3.0	100.2
Cal 3 MJ	3	✔	5.0	4.9	97.1
Cal 4 MJ	4	✔	10.0	9.7	96.6
Cal 5 MJ	5	✔	25.0	24.4	97.8
Cal 6 MJ	6	✔	50.0	50.2	100.3
Cal 7 MJ	7	✔	100.0	100.8	100.8

AM #27 Cannabinoids Quant. Calibration Curve Report

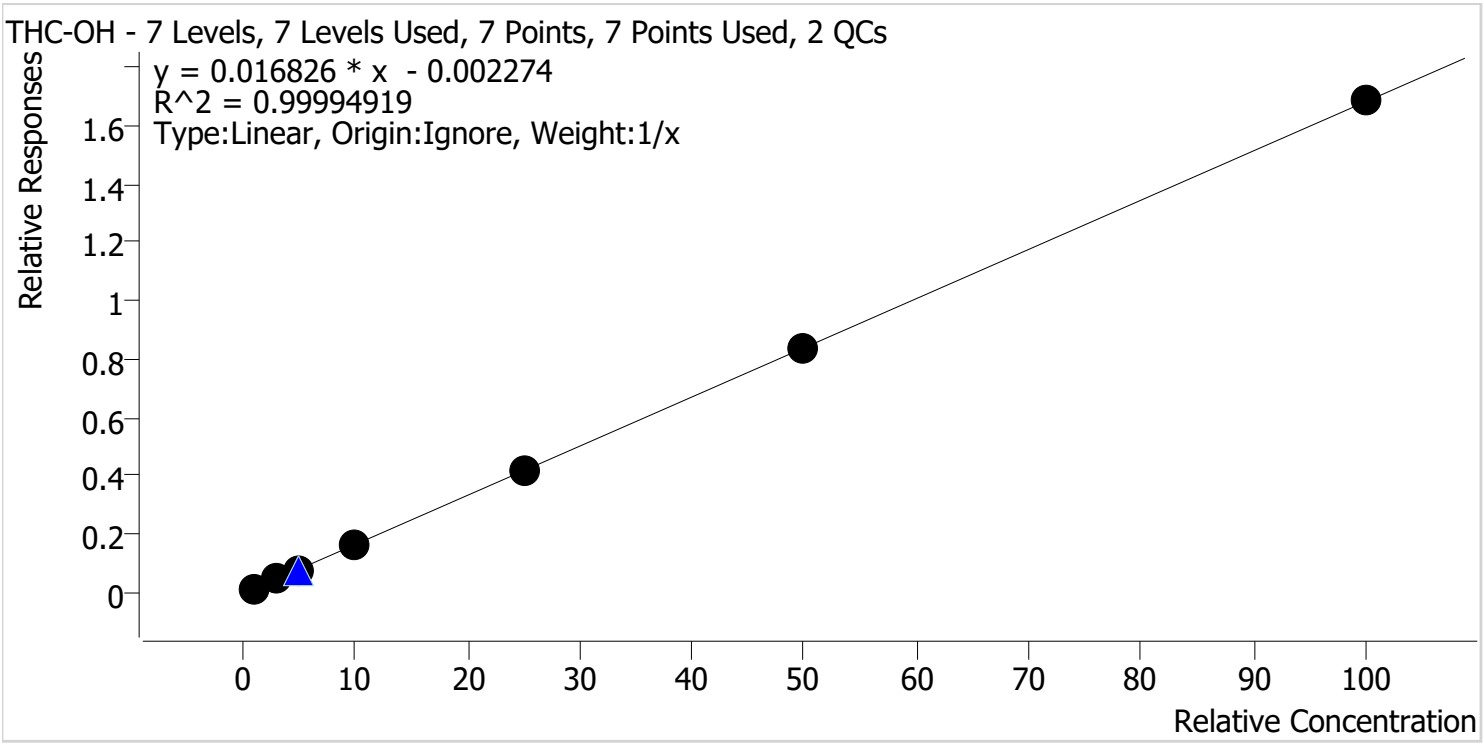
Batch results	D:\MassHunter\Data\2023\AM 27 28\072123 AM 27 28 CS TS\QuantResults\AM 27 CS.batch.bin
Last Cal. Update	7/22/2023 5:30 PM
Analyst Name	ISP\Datastor
Analyte	THC-COOH
Internal Standard	THC-COOH-D9



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1 MJ	1	✔	5.0	5.0	100.6
Cal 2 MJ	2	✔	10.0	9.7	97.2
Cal 3 MJ	3	✔	20.0	19.9	99.6
Cal 4 MJ	4	✔	50.0	50.8	101.7
Cal 5 MJ	5	✔	75.0	75.9	101.3
Cal 6 MJ	6	✔	100.0	100.5	100.5
Cal 7 MJ	7	✔	250.0	248.0	99.2

AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results	D:\MassHunter\Data\2023\AM 27 28\072123 AM 27 28 CS TS\QuantResults\AM 27 CS.batch.bin
Last Cal. Update	7/22/2023 5:30 PM
Analyst Name	ISP\Datastor
Analyte	THC-OH
Internal Standard	THC-OH-D3



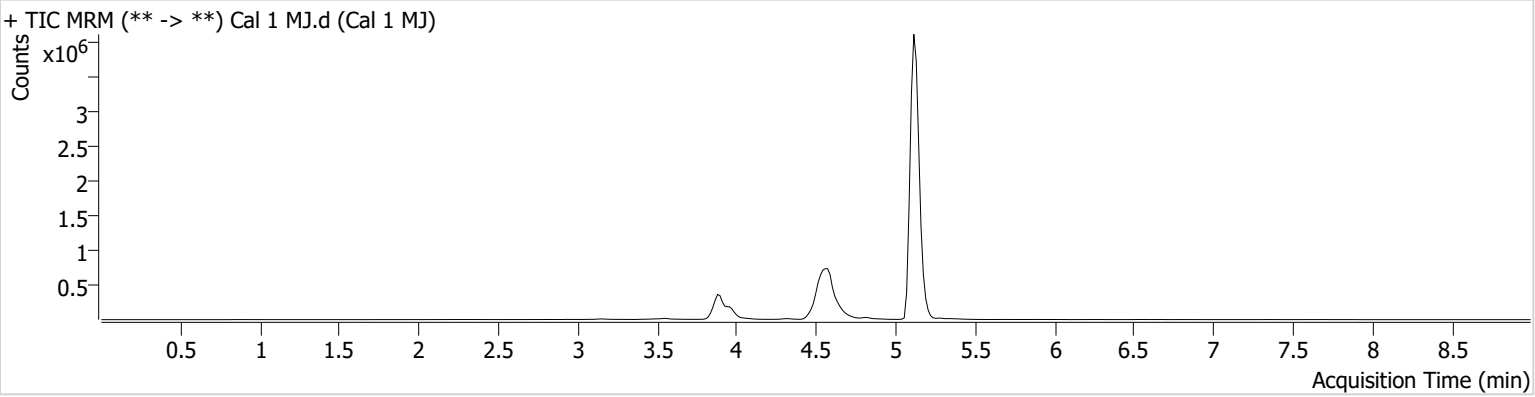
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1 MJ	1	✔	1.0	1.0	103.7
Cal 2 MJ	2	✔	3.0	3.0	100.4
Cal 3 MJ	3	✔	5.0	4.8	96.8
Cal 4 MJ	4	✔	10.0	9.9	99.1
Cal 5 MJ	5	✔	25.0	24.9	99.5
Cal 6 MJ	6	✔	50.0	50.1	100.3
Cal 7 MJ	7	✔	100.0	100.2	100.2

AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\072123 AM 27 28 CS TS\QuantResults\AM 27 CS.batch.bin
Calibration Last Update 7/22/2023 5:30:16 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-A4	**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	7/21/2023 4:28:53 PM		
Sample Info.			

Sample Chromatogram



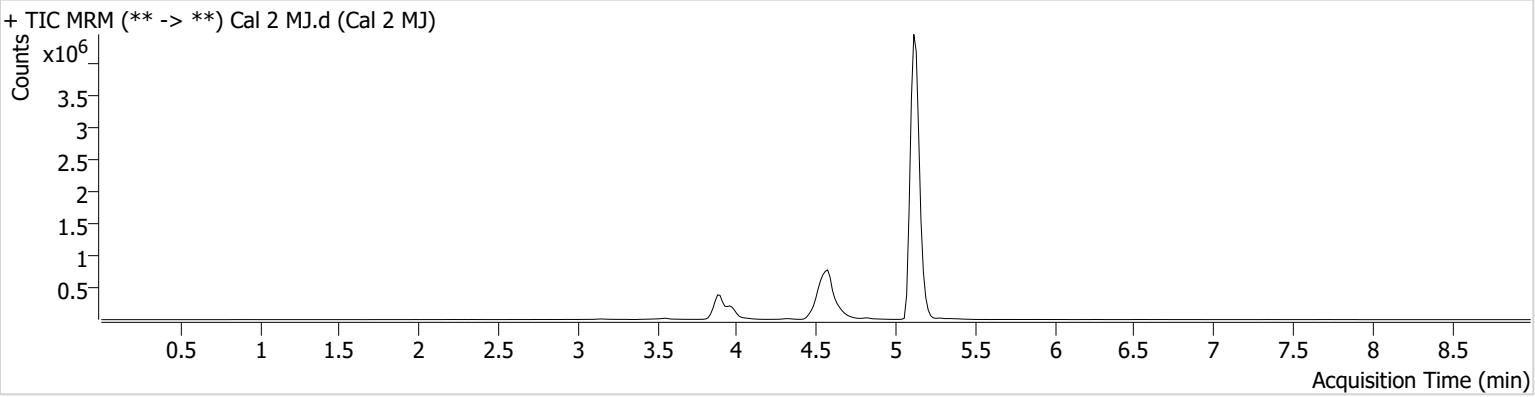
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.135	132792	∞	24.9	∞	16048073	1.0723 ng/ml
THC-COOH	3.985	17510	180.99	238.8	2040.76	509447	5.0292 ng/ml
THC-OH	3.896	22661	∞	14.7	∞	1493651	1.0368 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\072123 AM 27 28 CS TS\QuantResults\AM 27 CS.batch.bin
Calibration Last Update 7/22/2023 5:30:16 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-B4	**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	7/21/2023 4:42:08 PM		
Sample Info.			

Sample Chromatogram



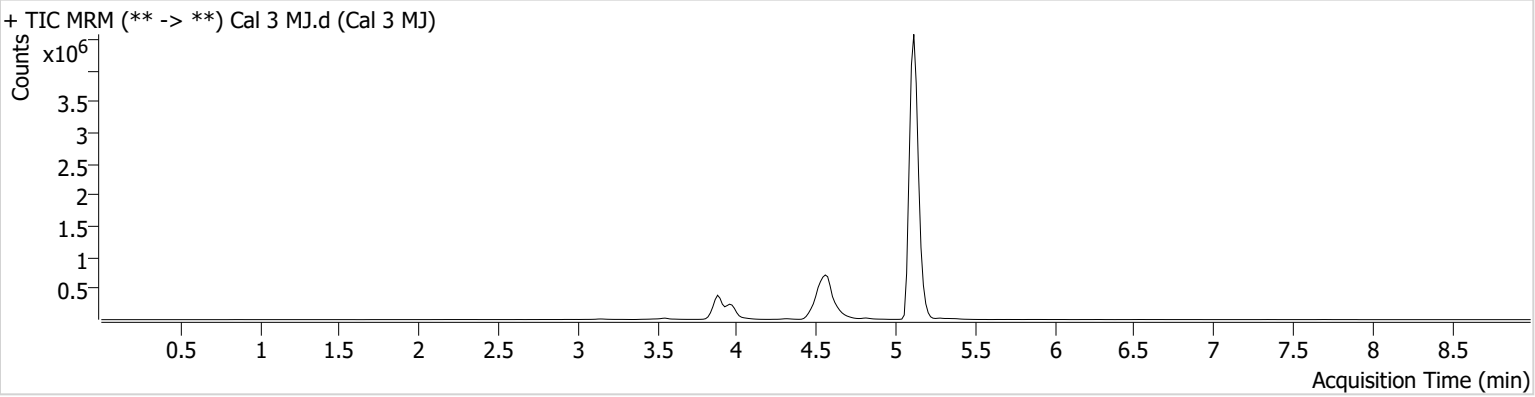
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.135	451881	4809.11	23.9	∞	17189166	3.0056 ng/ml
THC-COOH	3.985	35289	∞	246.1	∞	527608	9.7180 ng/ml
THC-OH	3.896	74088	∞	14.1	∞	1530651	3.0118 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\072123 AM 27 28 CS TS\QuantResults\AM 27 CS.batch.bin
Calibration Last Update 7/22/2023 5:30:16 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-C4	**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	7/21/2023 4:55:14 PM		
Sample Info.			

Sample Chromatogram



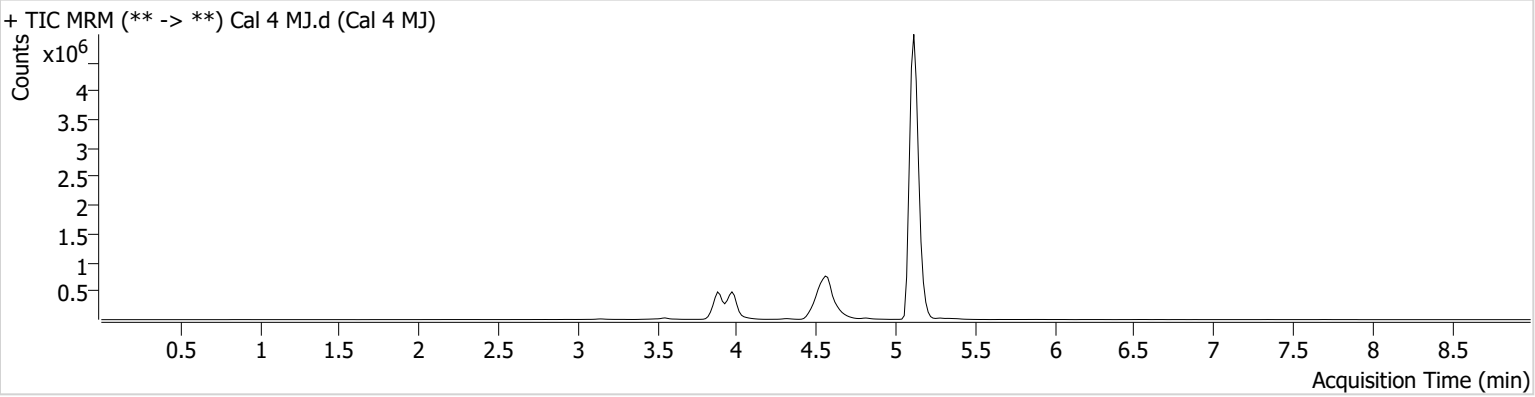
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.120	740364	∞	23.7	∞	17012765	4.8546 ng/ml
THC-COOH	3.969	68740	1654.84	232.1	∞	499655	19.9121 ng/ml
THC-OH	3.896	115746	∞	13.6	∞	1461417	4.8421 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\072123 AM 27 28 CS TS\QuantResults\AM 27 CS.batch.bin
Calibration Last Update 7/22/2023 5:30:16 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-D4	**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	7/21/2023 5:08:20 PM		
Sample Info.			

Sample Chromatogram



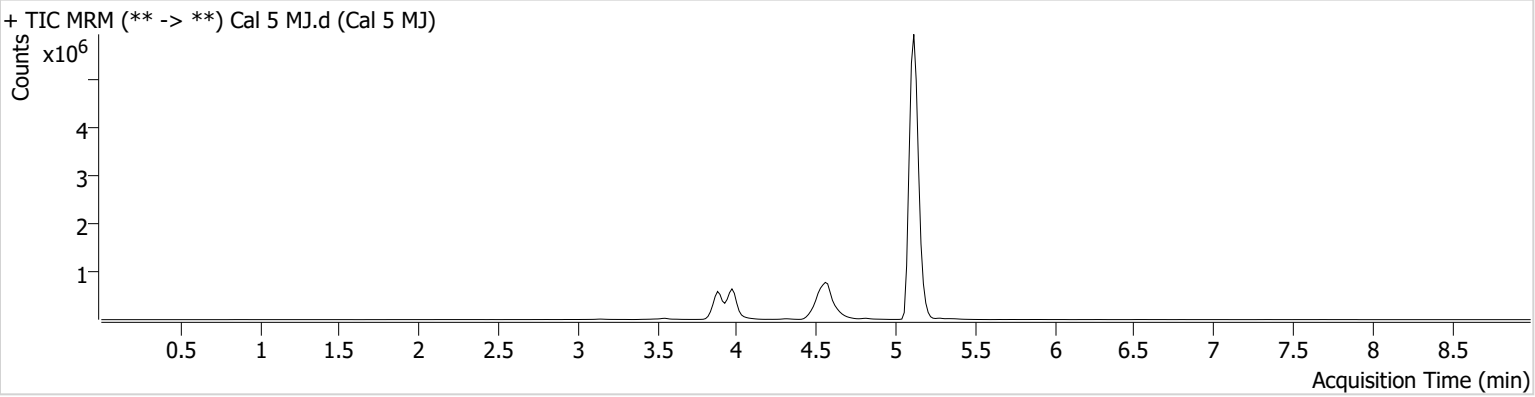
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.120	1563733	11660.95	24.3	∞	17713296	9.6584 ng/ml
THC-COOH	3.969	196801	∞	233.5	1560.20	558934	50.8485 ng/ml
THC-OH	3.896	276906	2922.35	13.7	∞	1683566	9.9101 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\072123 AM 27 28 CS TS\QuantResults\AM 27 CS.batch.bin
Calibration Last Update 7/22/2023 5:30:16 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-E4	**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	7/21/2023 5:21:26 PM		
Sample Info.			

Sample Chromatogram



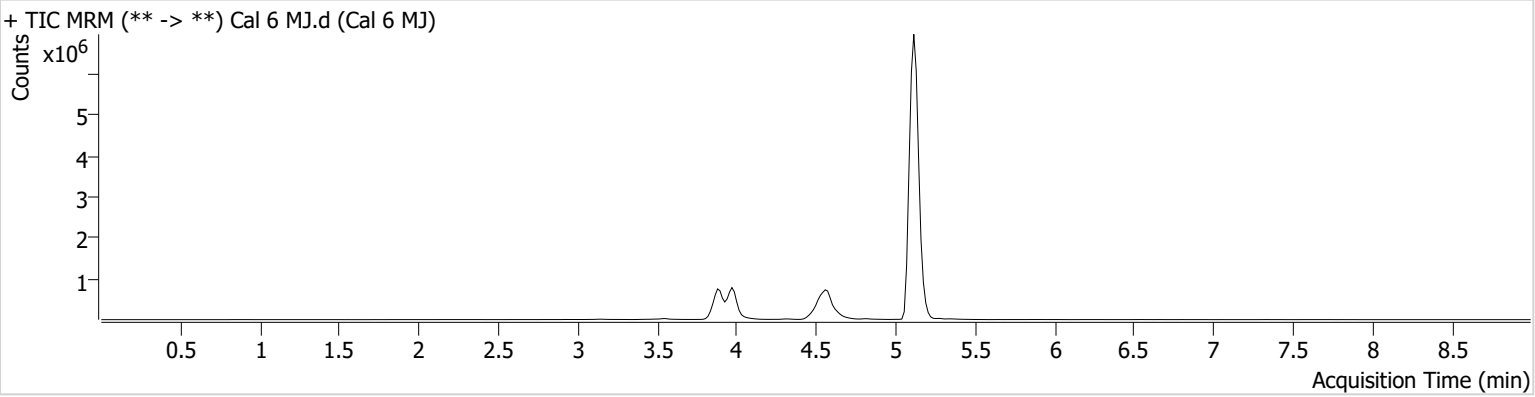
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.120	4192937	58512.01	24.5	∞	18549585	24.4425 ng/ml
THC-COOH	3.969	283213	∞	234.4	7189.78	538330	75.9403 ng/ml
THC-OH	3.896	692644	∞	13.9	∞	1663201	24.8852 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\072123 AM 27 28 CS TS\QuantResults\AM 27 CS.batch.bin
Calibration Last Update 7/22/2023 5:30:16 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-F4	**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	7/21/2023 5:34:32 PM		
Sample Info.			

Sample Chromatogram



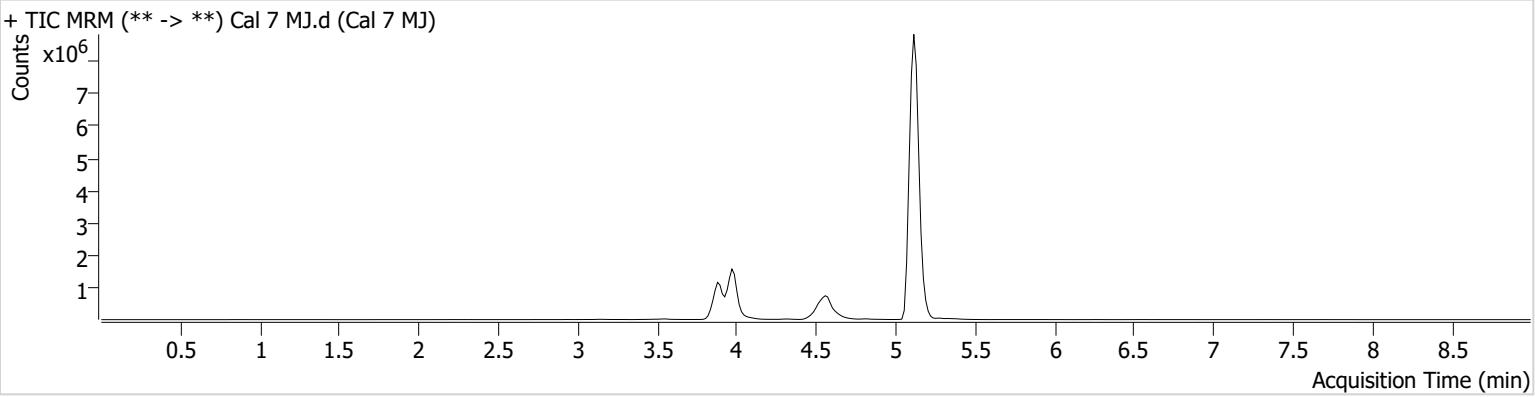
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.120	8377768	∞	24.5	∞	17986785	50.1704 ng/ml
THC-COOH	3.969	363355	8563.15	242.0	∞	521728	100.5061 ng/ml
THC-OH	3.896	1394368	2118.54	14.2	∞	1657541	50.1299 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\072123 AM 27 28 CS TS\QuantResults\AM 27 CS.batch.bin
Calibration Last Update 7/22/2023 5:30:16 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-G4	**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	7/21/2023 5:47:39 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.120	15947420	∞	24.8	∞	17010461	100.7962 ng/ml
THC-COOH	3.969	804073	∞	246.4	∞	467609	248.0457 ng/ml
THC-OH	3.881	2851646	∞	14.1	∞	1693925	100.1841 ng/ml