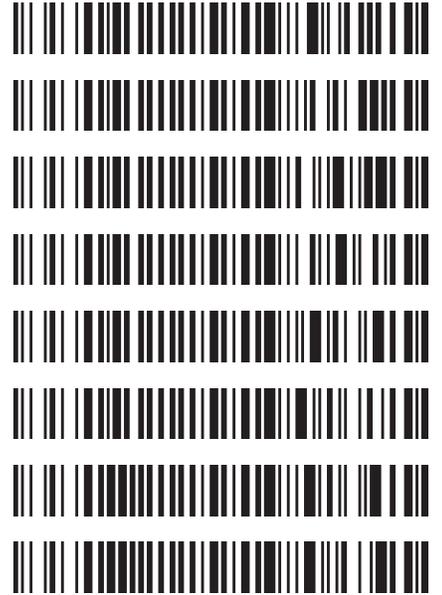




**Worklist: 6603**

<u>LAB CASE</u>	<u>ITEM</u>	<u>ITEM TYPE</u>	<u>DESCRIPTION</u>
M2023-4479	2	BCK	AM 27 Blood THC Quant by LC-QQQ
M2023-4696	2	BCK	AM 27 Blood THC Quant by LC-QQQ
M2023-4775	2	BCK	AM 27 Blood THC Quant by LC-QQQ
M2023-4785	1	BCK	AM 27 Blood THC Quant by LC-QQQ
M2023-4863	1	BCK	AM 27 Blood THC Quant by LC-QQQ
M2023-4931	2	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-3511	2	BCK	AM 27 Blood THC Quant by LC-QQQ
P2023-3512	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: 12/8/2023

Plate lot#: 230627

**Mobile phase A:** 0.1% Formic Acid in LCMS Water

**Blank Blood Lot:** Lampire 23E52981

**LCMS-QQQ ID:** 069901

Analyst: Celena Shrum

Plate Retest Date: 12/27/2023

**Mobile phase B:** 0.1% Formic acid in Acetonitrile

**Column:** Phenomenex Phenyl Hexyl (4.6x50mm, 2.6um)

## 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  $\geq 0.98$  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: Incorrect well positions were specified for M2023-4775-2 and M2023-4863-1. They were injected on 12/12/23. Due to QC accuracy for THC, samples between 1-5ng/mL will be reported qualitatively for THC.

8

	1	2	3	4	5	6
a					M2023-4931-2	QC 1
b					M2023-4863-1*	cal 100 ng
c					M2023-4785-1	cal 50 ng
d					M2023-4775-2*	cal 25 ng
e				M2023-4863-1*	M2023-4696-2	cal 10ng
f				M2023-4775-2*	M2023-4479-2	cal 5 ng
g				P2023-3512-1	NEG Blood	cal 3 ng
h				P2023-3511-2	QC 2	cal 1ng

\*Additional aliquots were taken during sampling portion due to clots in the blood samples

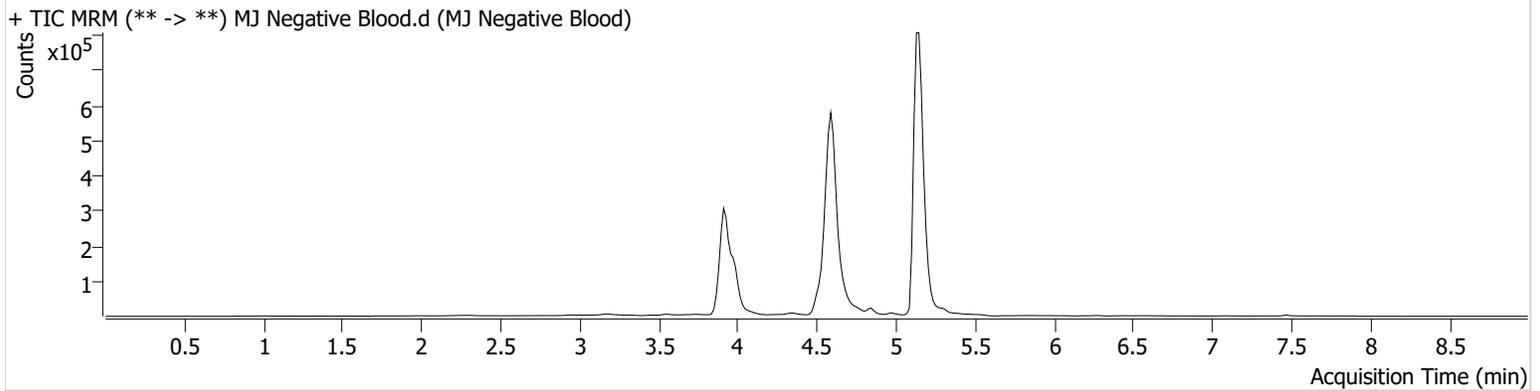
# AM #27 Cannabinoids Quant. Results



**Batch results** D:\MassHunter\Data\2023\AM 27 28\120823 AM 27 28 CS\QuantResults\AM 27.batch.bin  
**Calibration Last Update** 12/12/2023 11:00:15 AM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	MJ Negative Blood.d
<b>Type</b>	Sample	<b>Sample</b>	MJ Negative Blood
<b>Acq. Method</b>	AM 27 Agilent Method.m	<b>Operator</b>	Celena Shrum
<b>Sample Position</b>	P1-G5	<b>Comment</b>	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.
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	12/8/2023 5:13:06 PM		
<b>Sample Info.</b>			

## Sample Chromatogram





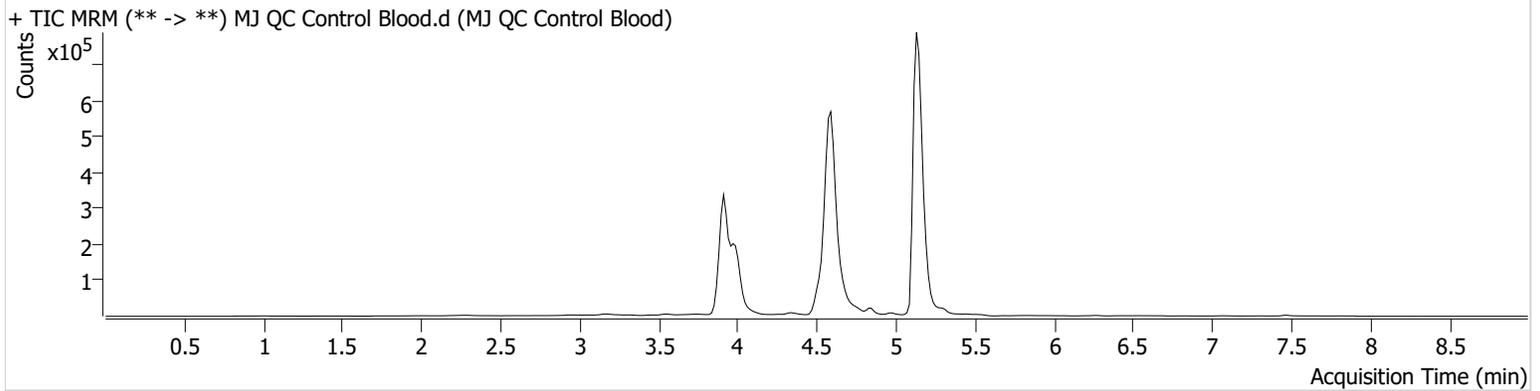
# AM #27 Cannabinoids Quant. Results

**Batch results** D:\MassHunter\Data\2023\AM 27 28\120823 AM 27 28 CS\QuantResults\AM 27.batch.bin  
**Calibration Last Update** 12/12/2023 11:00:15 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-A6 **Comment**  
**Injection Volume** 10  
**Acq. Date-Time** 12/8/2023 4:46:52 PM  
**Sample Info.**

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.

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.150	115002	∞	24.9	∞	2860574	4.1315 ng/ml
THC-COOH	4.000	43998	485.89	233.0	294.84	425314	14.8799 ng/ml
THC-OH	3.911	81346	∞	13.6	∞	1267030	4.5745 ng/ml



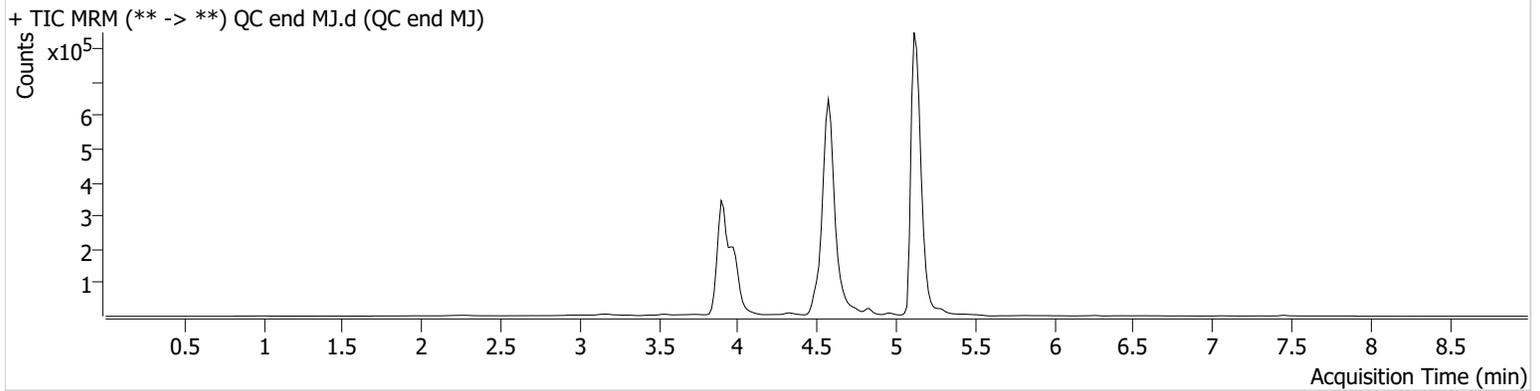
# AM #27 Cannabinoids Quant. Results

**Batch results** D:\MassHunter\Data\2023\AM 27 28\120823 AM 27 28 CS\QuantResults\AM 27.batch.bin  
**Calibration Last Update** 12/12/2023 11:00:15 AM

**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** 12/8/2023 9:09:11 PM  
**Sample Info.**

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.

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.135	123398	∞	26.1	∞	3177958	3.9896 ng/ml
THC-COOH	3.985	44777	334.06	246.0	525.92	441977	14.5765 ng/ml
THC-OH	3.911	81537	∞	13.8	∞	1338511	4.3470 ng/ml



# AM #27 Cannabinoids Quant. Results

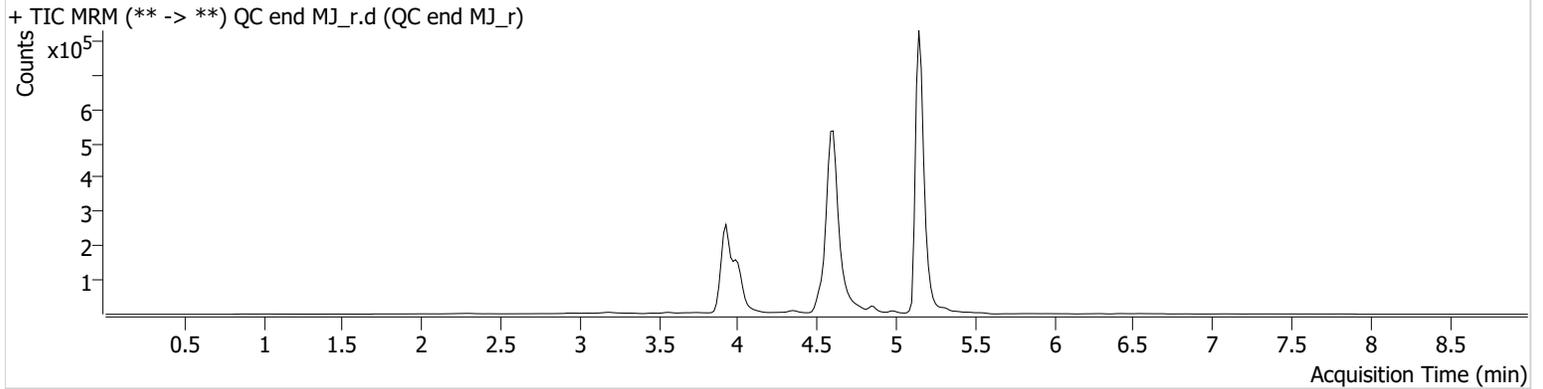
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**Calibration Last Update** 12/12/2023 11:00:15 AM

**Instrument** Falco (069901)  
**Type** QC  
**Acq. Method** AM 27 Agilent Method.m  
**Sample Position** P1-H5  
**Injection Volume** 10  
**Acq. Date-Time** 12/12/2023 10:45:08 AM  
**Sample Info.**

**Data File** QC end MJ\_r.d  
**Sample** QC end MJ\_r  
**Operator** Celena Shrum  
**Comment**

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## Sample Chromatogram

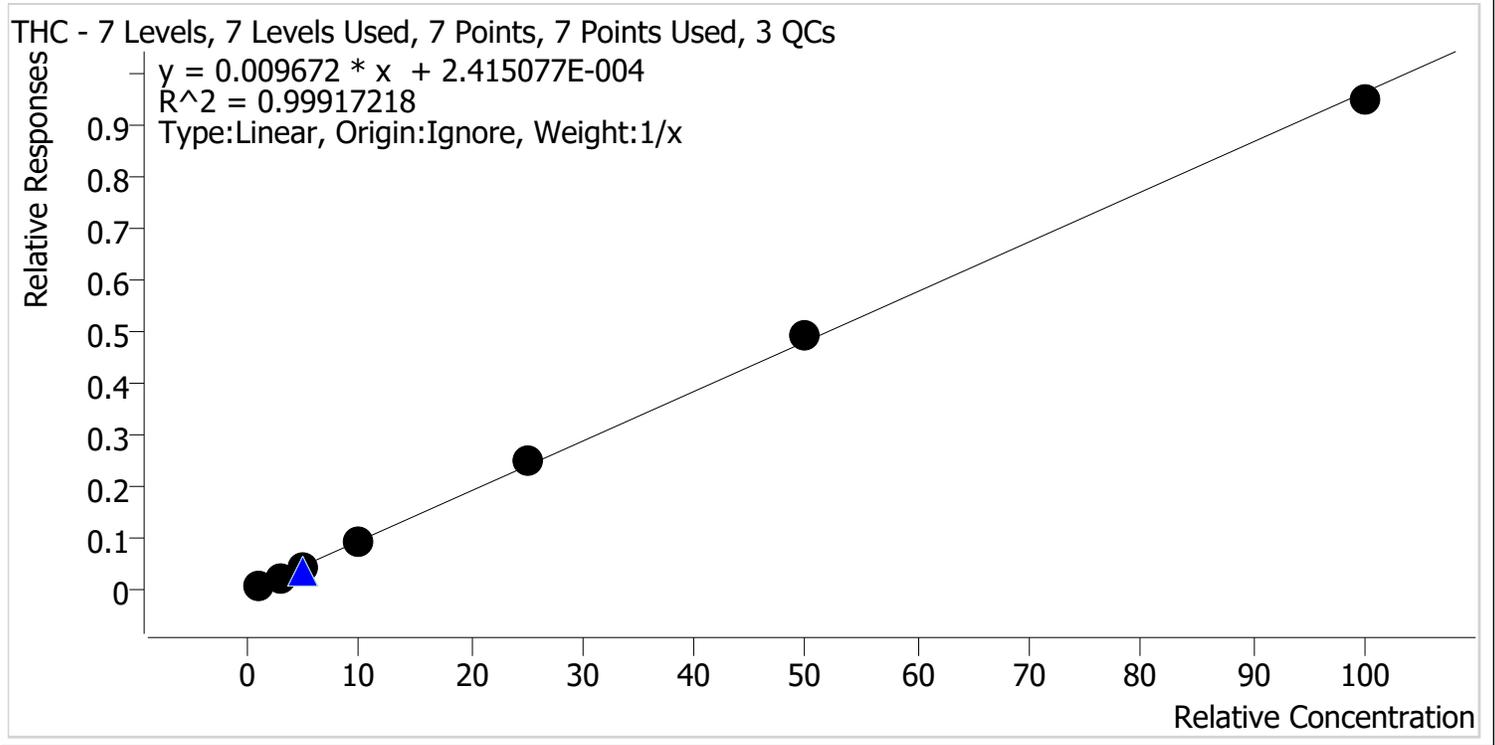


Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.150	107862	2926.79	26.2	189.36	2721999	4.0719 ng/ml
THC-COOH	4.015	33824	242.58	244.8	∞	341665	14.2481 ng/ml
THC-OH	3.926	65327	∞	14.1	∞	999109	4.6564 ng/ml



# AM #27 Cannabinoids Quant. Calibration Curve Report

**Batch results** D:\MassHunter\Data\2023\AM 27 28\120823 AM 27 28 CS\QuantResults\AM 27.batch.bin  
**Last Cal. Update** 12/12/2023 11:00 AM  
**Analyst Name** ISP\Datastor  
**Analyte** THC **Internal Standard** THC-D3

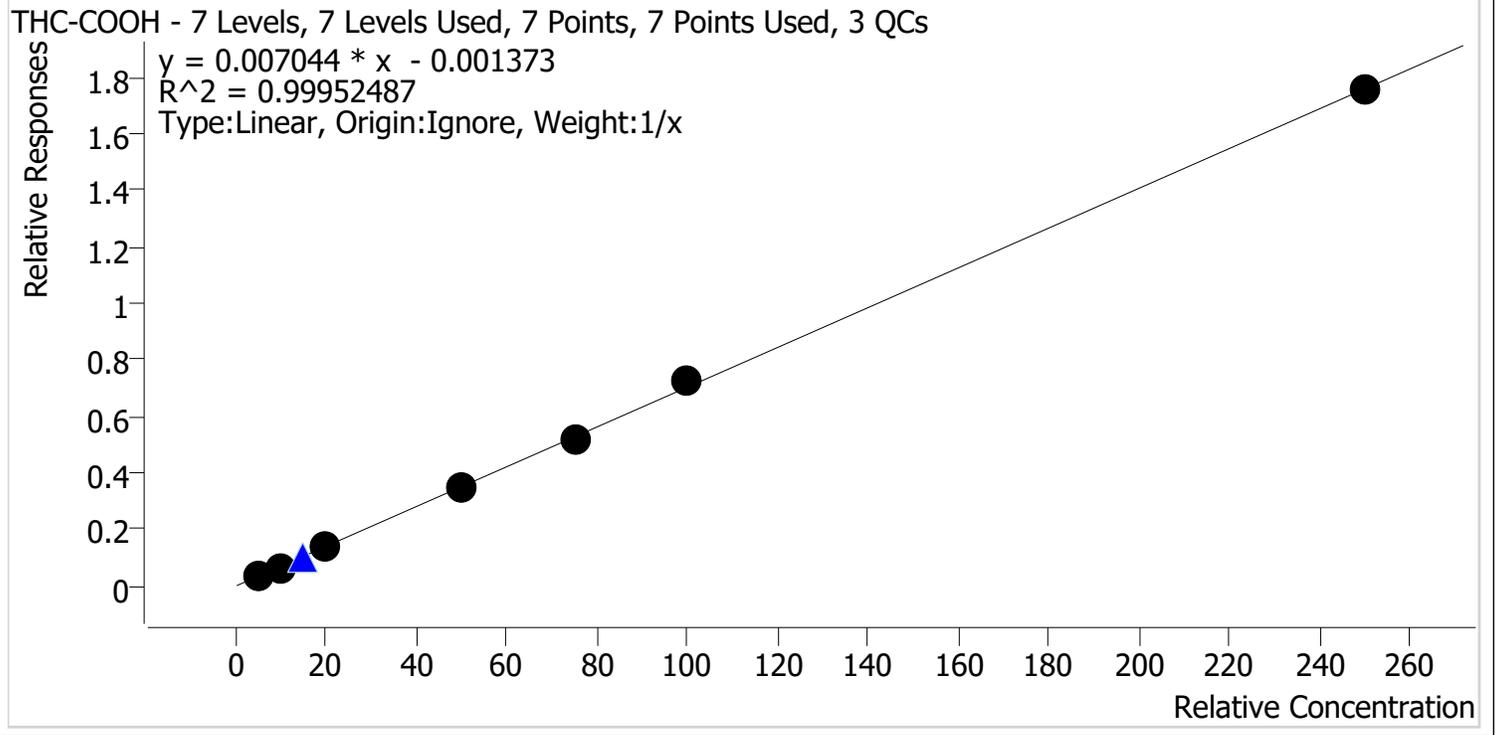


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1 MJ	1	✓	1.0	1.1	110.1
Cal 2 MJ	2	✓	3.0	2.8	93.2
Cal 3 MJ	3	✓	5.0	4.7	94.7
Cal 4 MJ	4	✓	10.0	9.8	97.5
Cal 5 MJ	5	✓	25.0	25.8	103.4
Cal 6 MJ	6	✓	50.0	51.4	102.8
Cal 7 MJ	7	✓	100.0	98.4	98.4



# AM #27 Cannabinoids Quant. Calibration Curve Report

**Batch results** D:\MassHunter\Data\2023\AM 27 28\120823 AM 27 28 CS\QuantResults\AM 27.batch.bin  
**Last Cal. Update** 12/12/2023 11:00 AM  
**Analyst Name** ISP\Datastor  
**Analyte** THC-COOH **Internal Standard** THC-COOH-D9



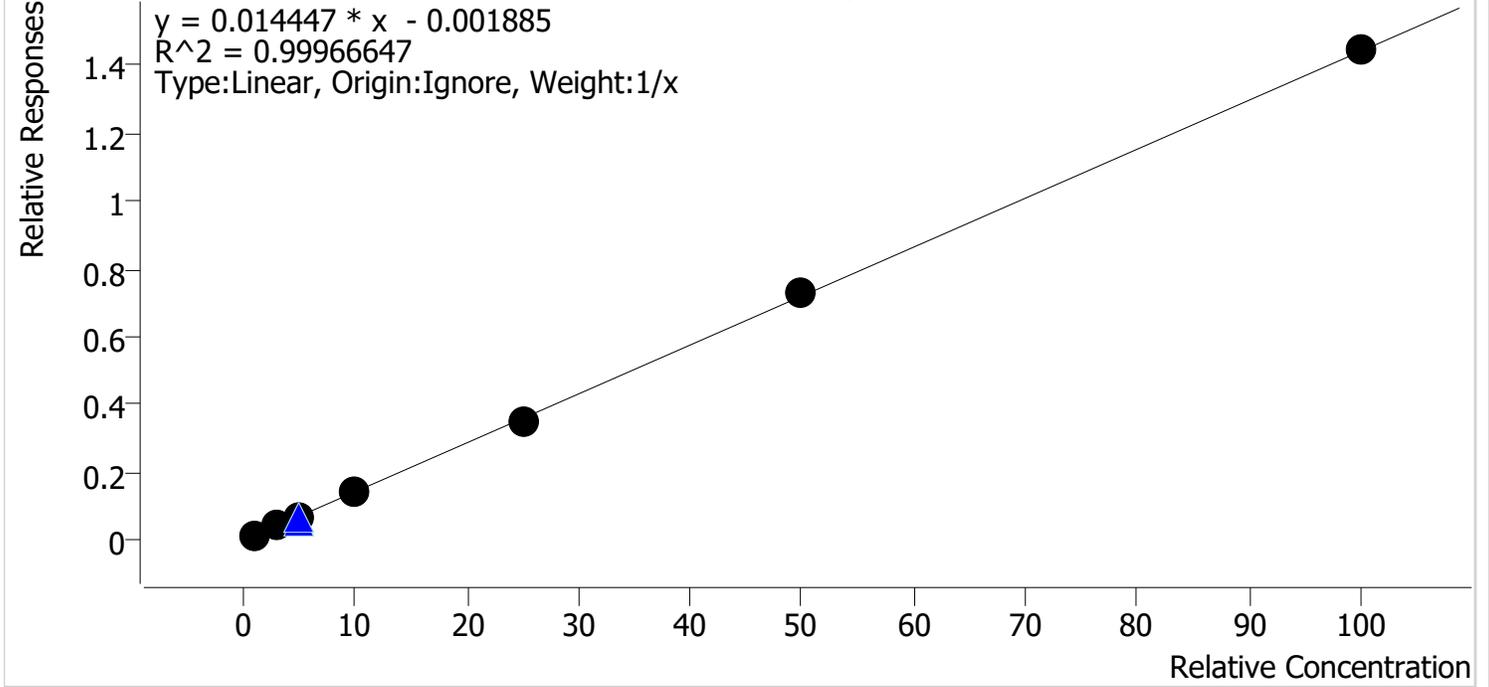
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1 MJ	1	✓	5.0	5.4	107.6
Cal 2 MJ	2	✓	10.0	9.3	92.6
Cal 3 MJ	3	✓	20.0	19.9	99.6
Cal 4 MJ	4	✓	50.0	49.9	99.8
Cal 5 MJ	5	✓	75.0	73.5	98.1
Cal 6 MJ	6	✓	100.0	102.6	102.6
Cal 7 MJ	7	✓	250.0	249.4	99.7



# AM #27 Cannabinoids Quant. Calibration Curve Report

**Batch results** D:\MassHunter\Data\2023\AM 27 28\120823 AM 27 28 CS\QuantResults\AM 27.batch.bin  
**Last Cal. Update** 12/12/2023 11:00 AM  
**Analyst Name** ISP\Datastor  
**Analyte** THC-OH **Internal Standard** THC-OH-D3

THC-OH - 7 Levels, 7 Levels Used, 7 Points, 7 Points Used, 3 QCs



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1 MJ	1	✓	1.0	1.1	111.9
Cal 2 MJ	2	✓	3.0	2.9	96.4
Cal 3 MJ	3	✓	5.0	4.7	94.5
Cal 4 MJ	4	✓	10.0	9.7	97.0
Cal 5 MJ	5	✓	25.0	24.7	98.7
Cal 6 MJ	6	✓	50.0	50.6	101.3
Cal 7 MJ	7	✓	100.0	100.2	100.2



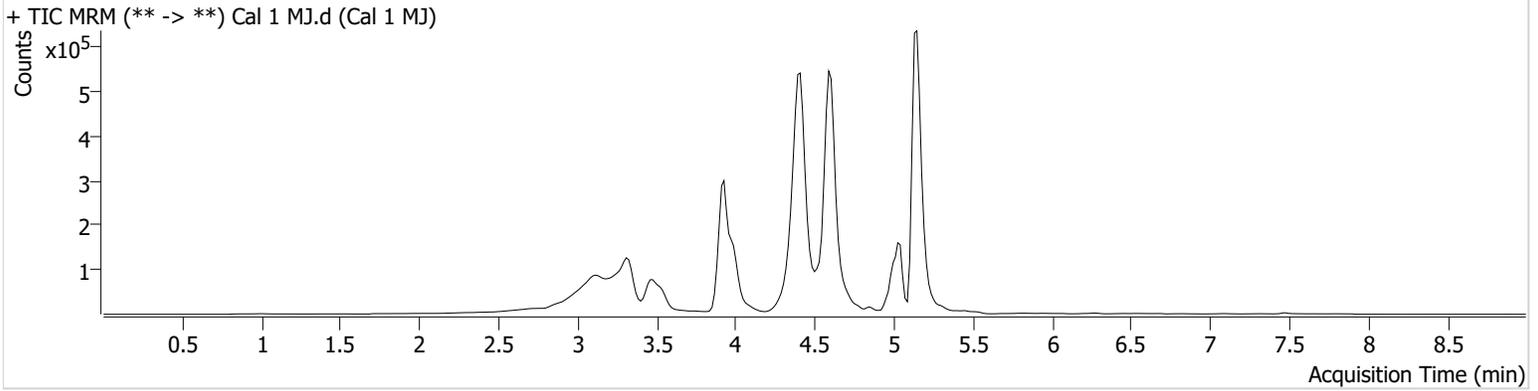
# AM #27 Cannabinoids Quant. Results

**Batch results** D:\MassHunter\Data\2023\AM 27 28\120823 AM 27 28 CS\QuantResults\AM 27.batch.bin  
**Calibration Last Update** 12/12/2023 11:00:15 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-H6 **Comment**  
**Injection Volume** 10  
**Acq. Date-Time** 12/8/2023 3:01:50 PM  
**Sample Info.**

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## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.150	25873	∞	29.3	∞	2376403	1.1007 ng/ml
THC-COOH	4.000	14215	111.93	214.3	∞	389091	5.3811 ng/ml
THC-OH	3.926	17199	∞	14.3	124.19	1204756	1.1186 ng/ml



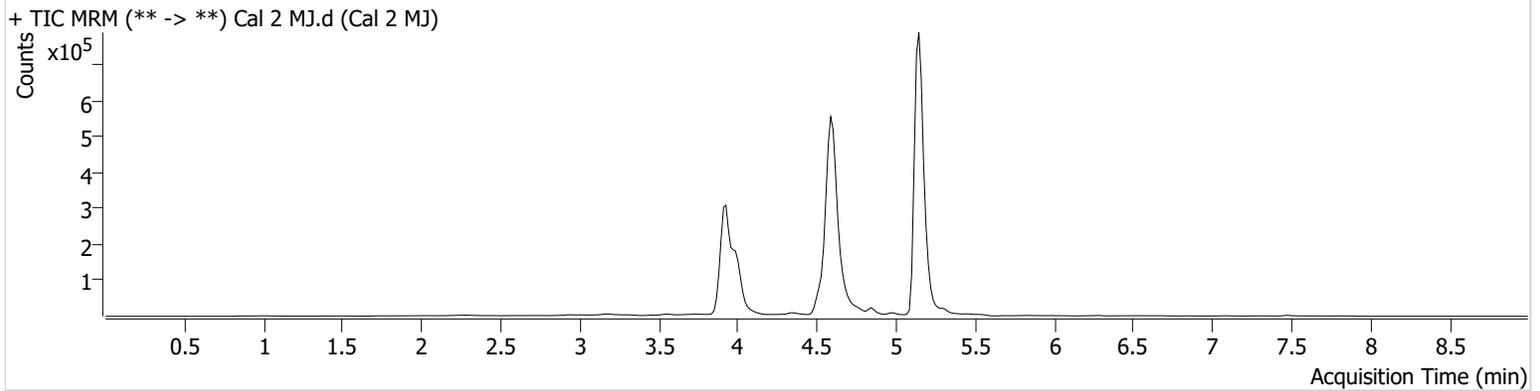
# AM #27 Cannabinoids Quant. Results

**Batch results** D:\MassHunter\Data\2023\AM 27 28\120823 AM 27 28 CS\QuantResults\AM 27.batch.bin  
**Calibration Last Update** 12/12/2023 11:00:15 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-G6 **Comment**  
**Injection Volume** 10  
**Acq. Date-Time** 12/8/2023 3:15:04 PM  
**Sample Info.**

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.

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.150	78437	∞	25.5	∞	2874738	2.7960 ng/ml
THC-COOH	4.000	27049	∞	251.6	∞	423804	9.2552 ng/ml
THC-OH	3.926	49905	∞	13.0	∞	1250874	2.8920 ng/ml

# AM #27 Cannabinoids Quant. Results

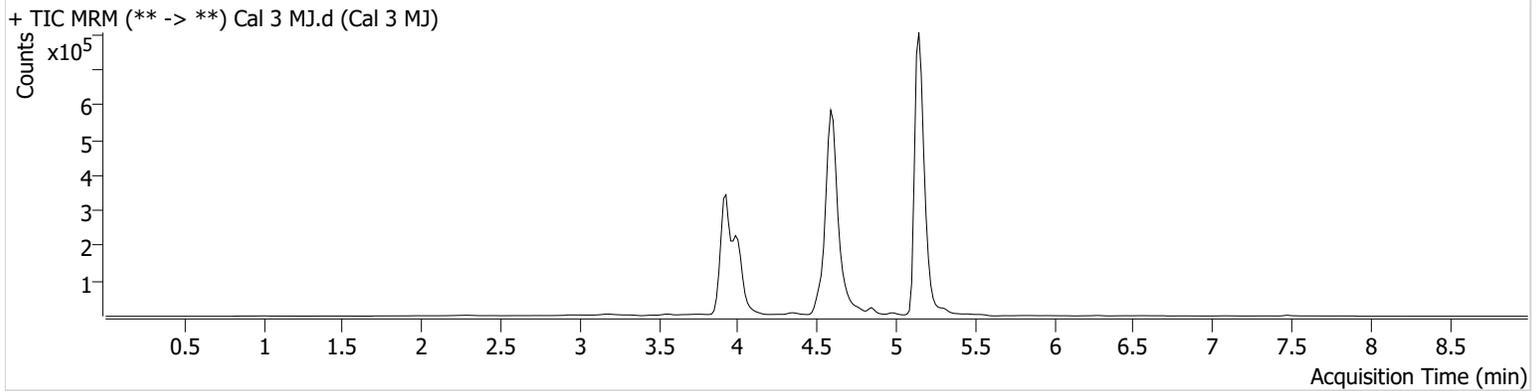


**Batch results** D:\MassHunter\Data\2023\AM 27 28\120823 AM 27 28 CS\QuantResults\AM 27.batch.bin  
**Calibration Last Update** 12/12/2023 11:00:15 AM

**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-F6 **Comment**  
**Injection Volume** 10  
**Acq. Date-Time** 12/8/2023 3:28:11 PM  
**Sample Info.**

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.

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.150	133846	∞	25.7	∞	2907704	4.7342 ng/ml
THC-COOH	4.000	60988	1654.53	240.2	∞	439044	19.9143 ng/ml
THC-OH	3.926	88754	∞	13.6	∞	1337820	4.7226 ng/ml



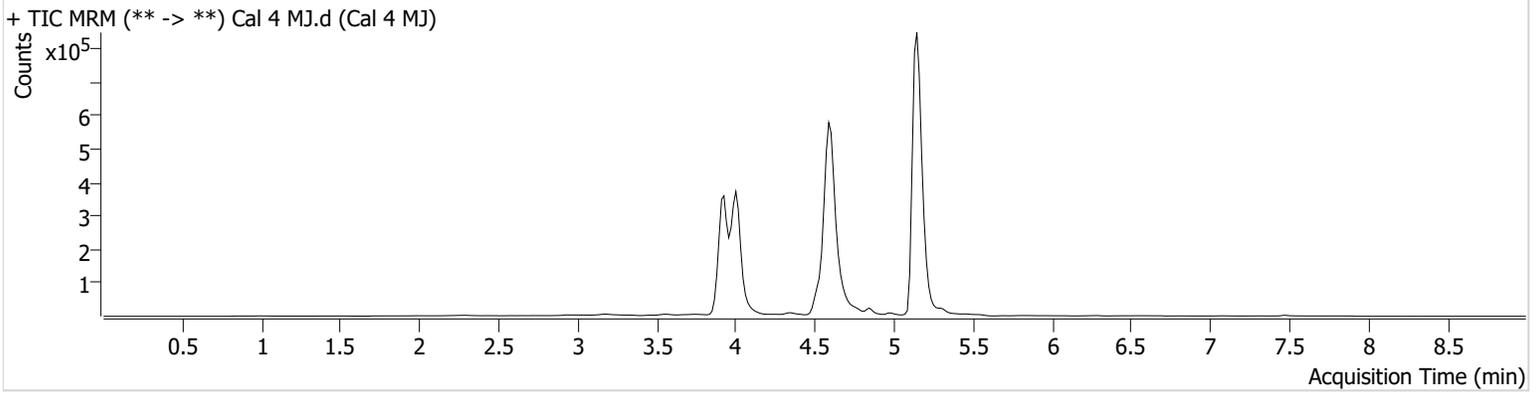
# AM #27 Cannabinoids Quant. Results

**Batch results** D:\MassHunter\Data\2023\AM 27 28\120823 AM 27 28 CS\QuantResults\AM 27.batch.bin  
**Calibration Last Update** 12/12/2023 11:00:15 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-E6 **Comment**  
**Injection Volume** 10  
**Acq. Date-Time** 12/8/2023 3:41:17 PM  
**Sample Info.**

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.

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.150	277705	∞	24.9	∞	2936981	9.7510 ng/ml
THC-COOH	4.000	149260	1009.65	238.3	∞	426141	49.9162 ng/ml
THC-OH	3.926	179697	∞	13.6	∞	1299508	9.7021 ng/ml



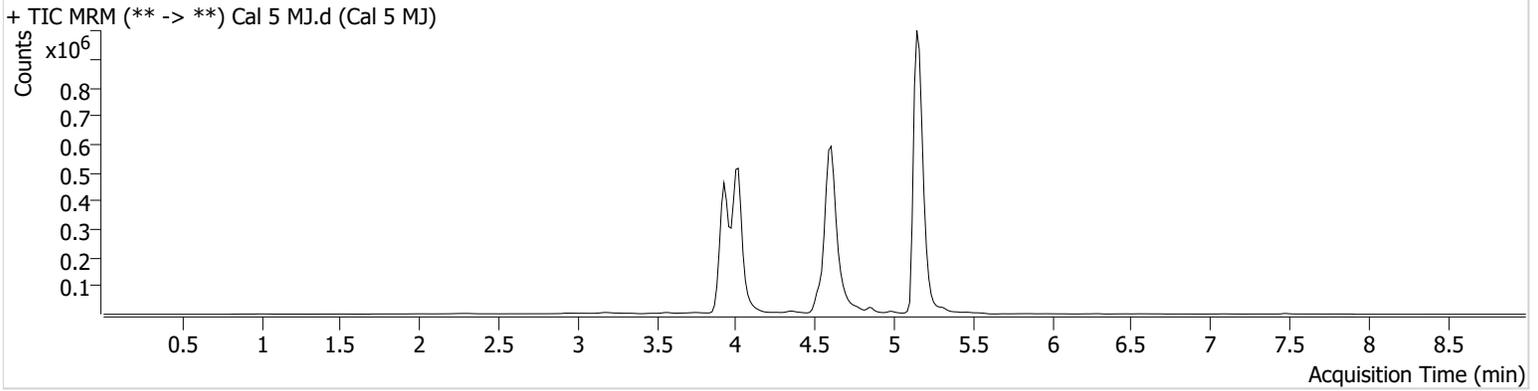
# AM #27 Cannabinoids Quant. Results

**Batch results** D:\MassHunter\Data\2023\AM 27 28\120823 AM 27 28 CS\QuantResults\AM 27.batch.bin  
**Calibration Last Update** 12/12/2023 11:00:15 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-D6 **Comment**  
**Injection Volume** 10  
**Acq. Date-Time** 12/8/2023 3:54:24 PM  
**Sample Info.**

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.

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.165	737138	∞	23.5	∞	2945698	25.8474 ng/ml
THC-COOH	4.015	230446	2273.50	241.2	∞	446026	73.5386 ng/ml
THC-OH	3.926	475044	∞	13.7	∞	1339142	24.6848 ng/ml



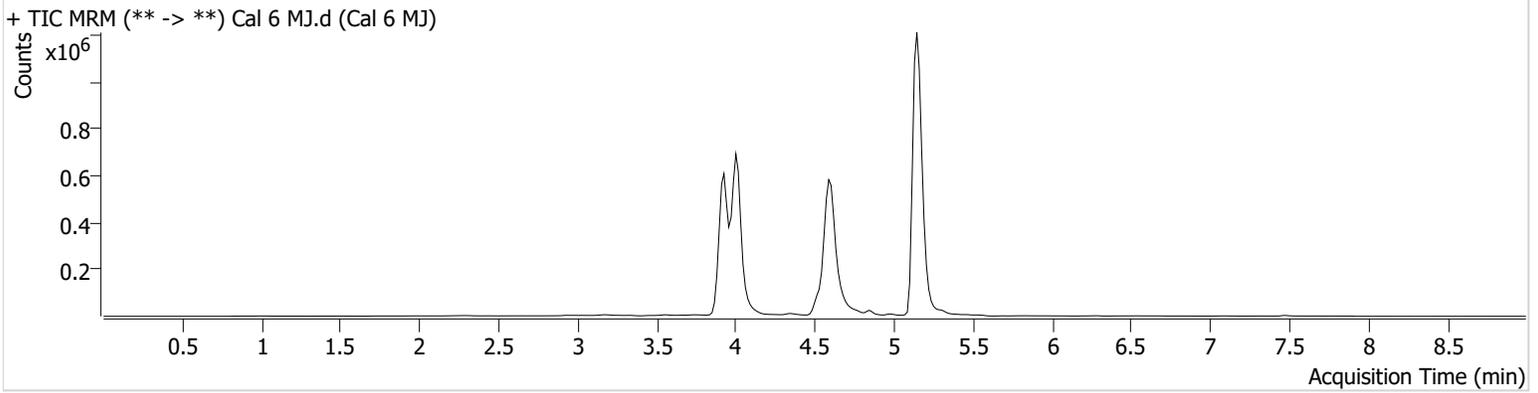
# AM #27 Cannabinoids Quant. Results

**Batch results** D:\MassHunter\Data\2023\AM 27 28\120823 AM 27 28 CS\QuantResults\AM 27.batch.bin  
**Calibration Last Update** 12/12/2023 11:00:15 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-C6 **Comment**  
**Injection Volume** 10  
**Acq. Date-Time** 12/8/2023 4:07:31 PM  
**Sample Info.**

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.

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.150	1433152	∞	25.3	∞	2882557	51.3782 ng/ml
THC-COOH	4.000	323916	∞	233.7	∞	448923	102.6219 ng/ml
THC-OH	3.926	994120	∞	14.0	∞	1362143	50.6475 ng/ml

# AM #27 Cannabinoids Quant. Results

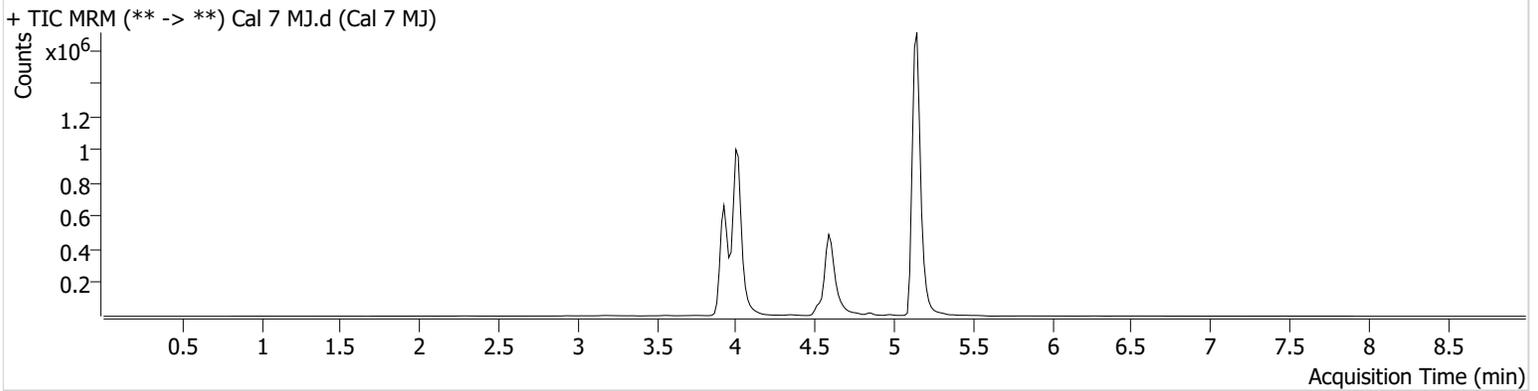


**Batch results** D:\MassHunter\Data\2023\AM 27 28\120823 AM 27 28 CS\QuantResults\AM 27.batch.bin  
**Calibration Last Update** 12/12/2023 11:00:15 AM

**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-B6 **Comment**  
**Injection Volume** 10  
**Acq. Date-Time** 12/8/2023 4:20:37 PM  
**Sample Info.**

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.

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.150	2574232	∞	25.2	∞	2704274	98.3926 ng/ml
THC-COOH	4.000	497093	∞	231.5	∞	283193	249.3727 ng/ml
THC-OH	3.926	1318094	∞	14.2	∞	911433	100.2325 ng/ml