

**REVIEWED**

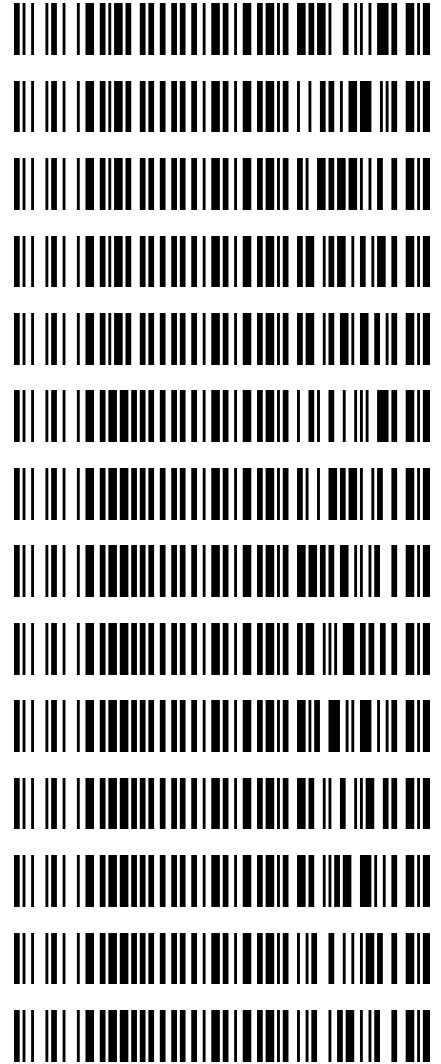
By Tamara Salazar at 3:18 pm, May 27, 2020

5/26/2020

\$

**Worklist: 4260**

<u>LAB CASE</u>	<u>ITEM</u>	<u>ITEM TYPE</u>	<u>DESCRIPTION</u>
M2020-1448	1	BCK	AM 27 Blood THC Quant by LC-QQQ
M2020-1520	1	BCK	AM 27 Blood THC Quant by LC-QQQ
M2020-1577	2	BCK	AM 27 Blood THC Quant by LC-QQQ
M2020-1701	4	BCK	AM 27 Blood THC Quant by LC-QQQ
M2020-1701	5	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-1308	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-1349	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-1411	2	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-1438	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-1447	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-1484	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-1486	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-1499	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-1501	6	BCK	AM 27 Blood THC Quant by LC-QQQ



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

Extraction Date: 05/26/20  
 Plate lot#: IDP-108-2-200303

Analyst: Sarah Pickle  
 Plate Expiration: 09/03/20

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

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

**Blank Blood Lot:** Hemostat 445283-4

**Column:** UCT Selectra DA 100 x 2.1mm 3um

**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. Pipette **1000 µL blood (calibrated pipette)** in wells of analytical (standards) plate. **Pipette ID: 3382167**
- 3. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 4. Pipette **500 µL 0.1% formic acid in LCMS water** in wells of analytical plate.
- 5. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 6. Transfer **800 µL of blood+acid** mixture to corresponding wells of SLE+ plate.
- 7. Apply positive pressure for approx. 10-15 seconds (or until no liquid remains on top of sorbent).  
*(Load at 85-95 PSI- Selector to the right)* Manifold ID: 067104
- 8. Wait 5 minutes.
- 9. Add **2.25 mL MTBE. (Add in 3 increments of 750 µL)**
- 10. Wait 5 minutes.
- 11. Apply positive pressure for approx. 15 seconds. *(12-15 PSI- Selector to the left).*
- 12. Add **2.25 mL Hexane. (Add in 3 increments of 750 µL)**
- 13. Wait 5 minutes.
- 14. Apply positive pressure for approx. 15 seconds. *(12-15 PSI- Selector to the left).*
- 15. Remove plate containing eluate. Place on SPE Dry and evaporate to dryness at approx. 35°C.  
*SPE Dry ID: 067103*
- 16. Reconstitute in **100 µL 100% MeOH** and heat seal plate with foil. Place in autosampler and run worklist.

### Post-Analytic

- 1. Create batch and process data.  
 Worklist path: D:\MassHunter\Data\2020\AM 27-28\052620 AM 27 28 SP Batch Name: AM 27 SP
- 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 and OH-THC 3ng/mL (quantitative), Carboxy-THC: 10ng/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.
- 5. Did all QCs pass for each analyte? Y / N
- 6. Enter QCs into control charting.
- 7. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS: *Curves limited: THC 3-100, COOH 5-250, THC-OH 5-100 (reported qualitatively)*

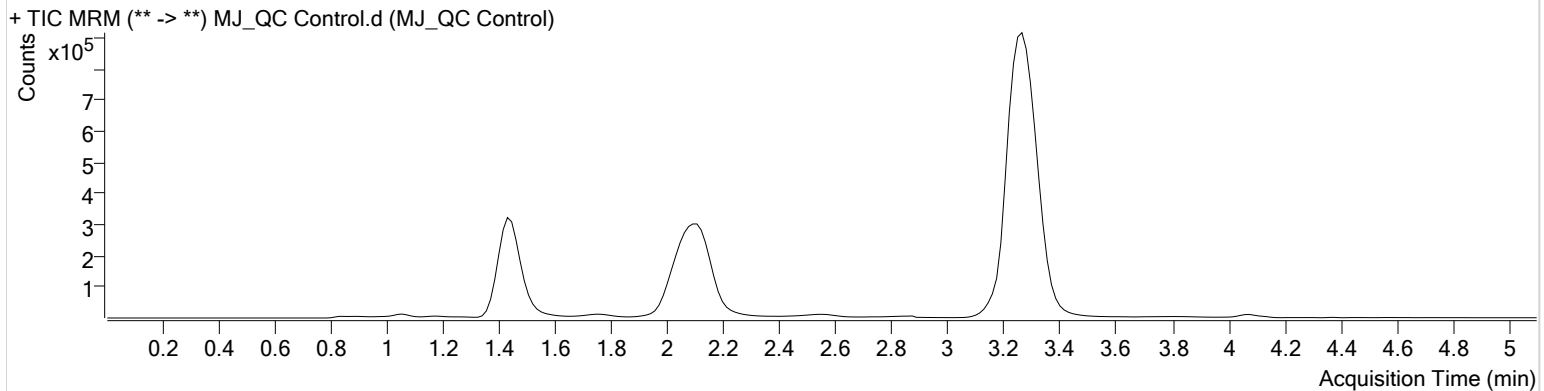
# AM #27 Cannabinoid Quant. Results



**Batch results** D:\MassHunter\Data\2020\AM 27-28\052620 AM 27 28 SP\QuantResults\AM 27 SP.batch.bin  
**Calibration Last Update** 5/27/2020 8:55:09 AM

<b>Instrument</b>	Falco	<b>Data File</b>	MJ_QC Control.d
<b>Type</b>	Sample	<b>Sample</b>	MJ_QC Control
<b>Acq. Method</b>	AM 27 THC quant.m	<b>Operator</b>	Sarah Pickle
<b>Sample Position</b>	P3-A6	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	5/26/2020 12:44:29 PM		
<b>Sample Info.</b>			

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.453	145642	∞	9.5	399.27	1085165	4.3233 ng/ml
THC-COOH	1.474	126525	331.48	56.5	∞	381217	14.4853 ng/ml
THC	3.270	261675	476.73	27.0	∞	6621783	4.5295 ng/ml

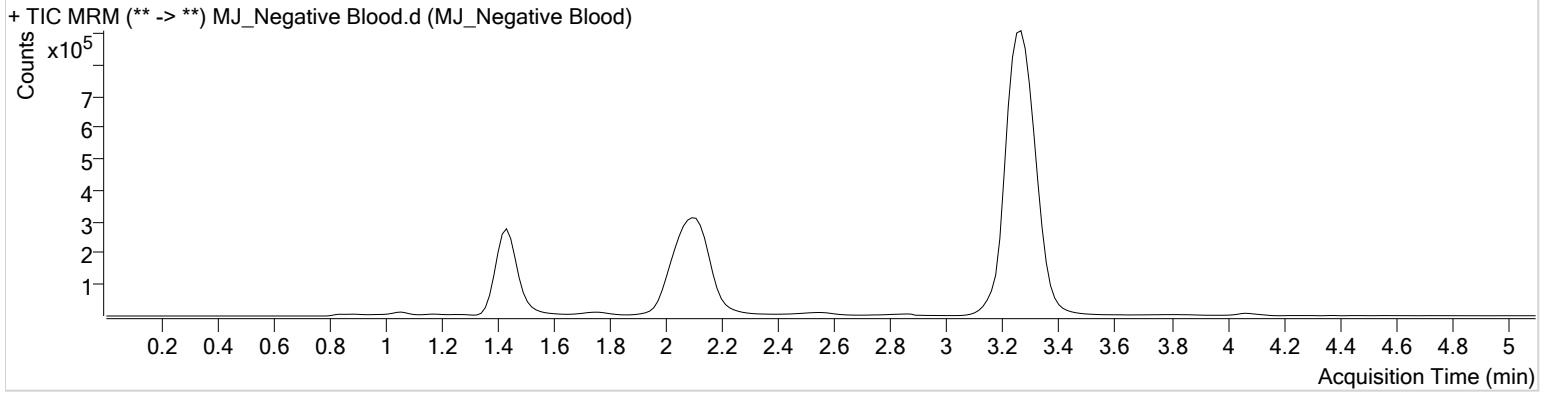
# AM #27 Cannabinoid Quant. Results



**Batch results** D:\MassHunter\Data\2020\AM 27-28\052620 AM 27 28 SP\QuantResults\AM 27 SP.batch.bin  
**Calibration Last Update** 5/27/2020 8:55:09 AM

<b>Instrument</b>	Falco	<b>Data File</b>	MJ_Negative Blood.d
<b>Type</b>	Sample	<b>Sample</b>	MJ_Negative Blood
<b>Acq. Method</b>	AM 27 THC quant.m	<b>Operator</b>	Sarah Pickle
<b>Sample Position</b>	P3-H5	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	5/26/2020 12:59:40 PM		
<b>Sample Info.</b>			

## Sample Chromatogram

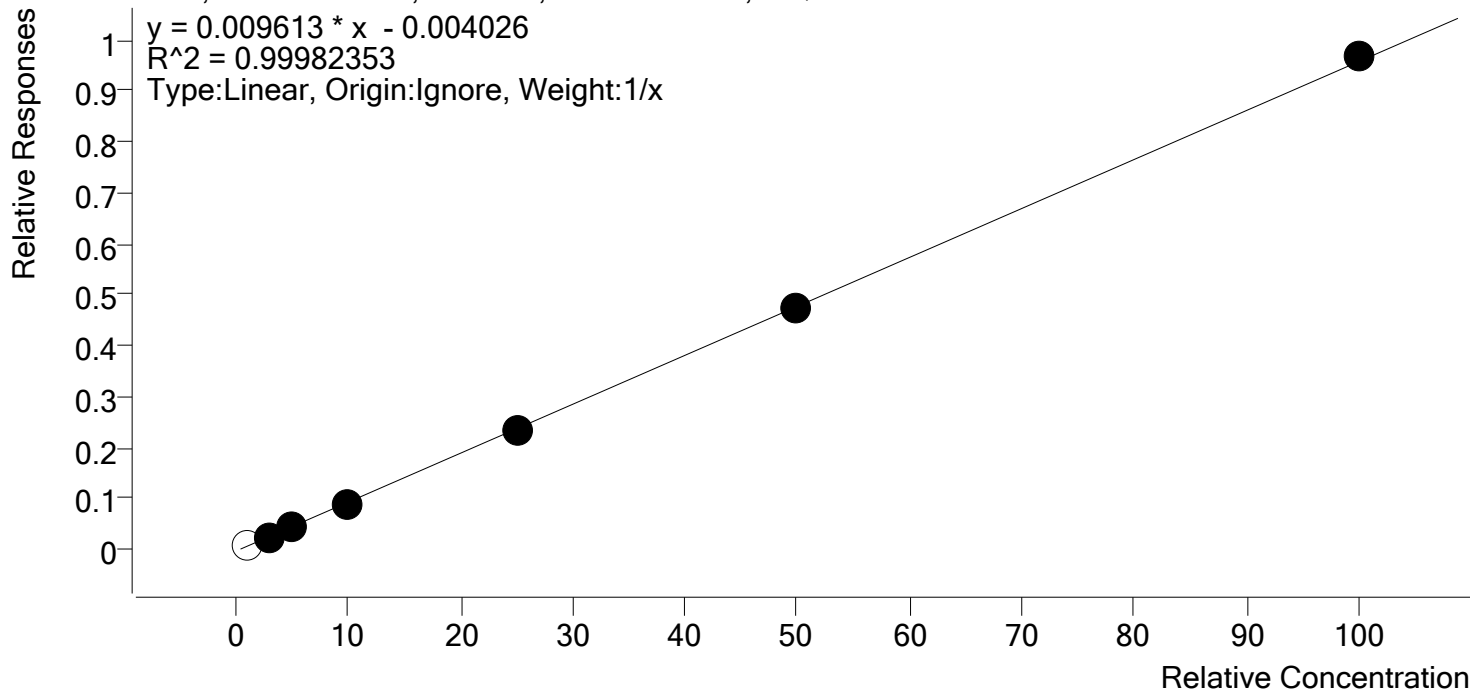




# AM #27 Cannabinoids Quant. Calibration Curve Report

**Batch results** D:\MassHunter\Data\2020\AM 27-28\052620 AM 27 28 SP\QuantResults\AM 27 SP.batch.bin  
**Last Cal. Update** 5/27/2020 8:55 AM  
**Analyst Name** ISP\Datastor  
**Analyte** THC **Internal Standard** THC-D3

THC - 7 Levels, 6 Levels Used, 7 Points, 6 Points Used, 0 QCs

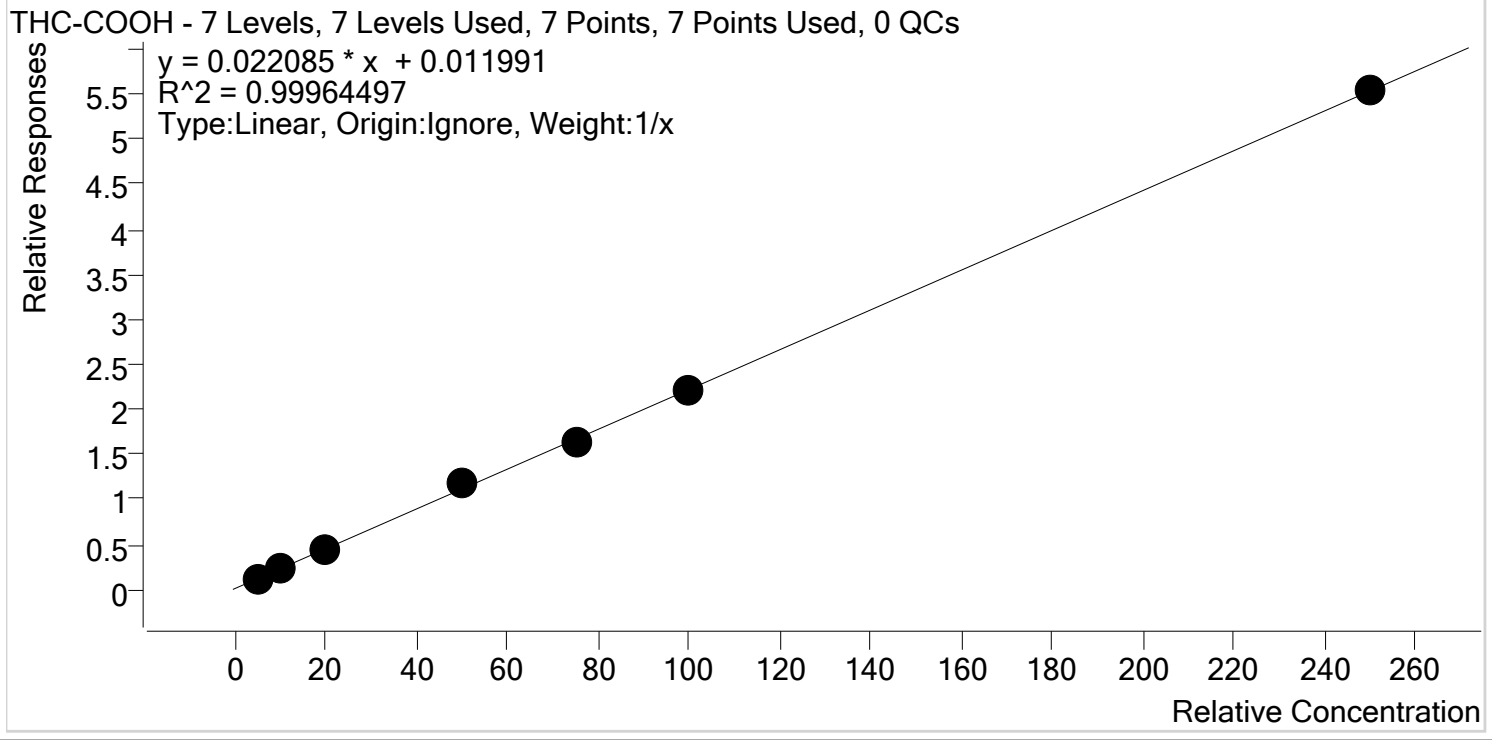


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ_Cal 1	1	x	1.0	1.3	131.8
MJ_Cal 2	2	✓	3.0	3.0	101.5
MJ_Cal 3	3	✓	5.0	5.1	101.3
MJ_Cal 4	4	✓	10.0	9.9	98.9
MJ_Cal 5	5	✓	25.0	24.6	98.6
MJ_Cal 6	6	✓	50.0	49.4	98.8
MJ_Cal 7	7	✓	100.0	101.0	101.0



# AM #27 Cannabinoids Quant. Calibration Curve Report

**Batch results** D:\MassHunter\Data\2020\AM 27-28\052620 AM 27 28 SP\QuantResults\AM 27 SP.batch.bin  
**Last Cal. Update** 5/27/2020 8:55 AM  
**Analyst Name** ISP\Datastor  
**Analyte** THC-COOH **Internal Standard** THC-COOH-D9

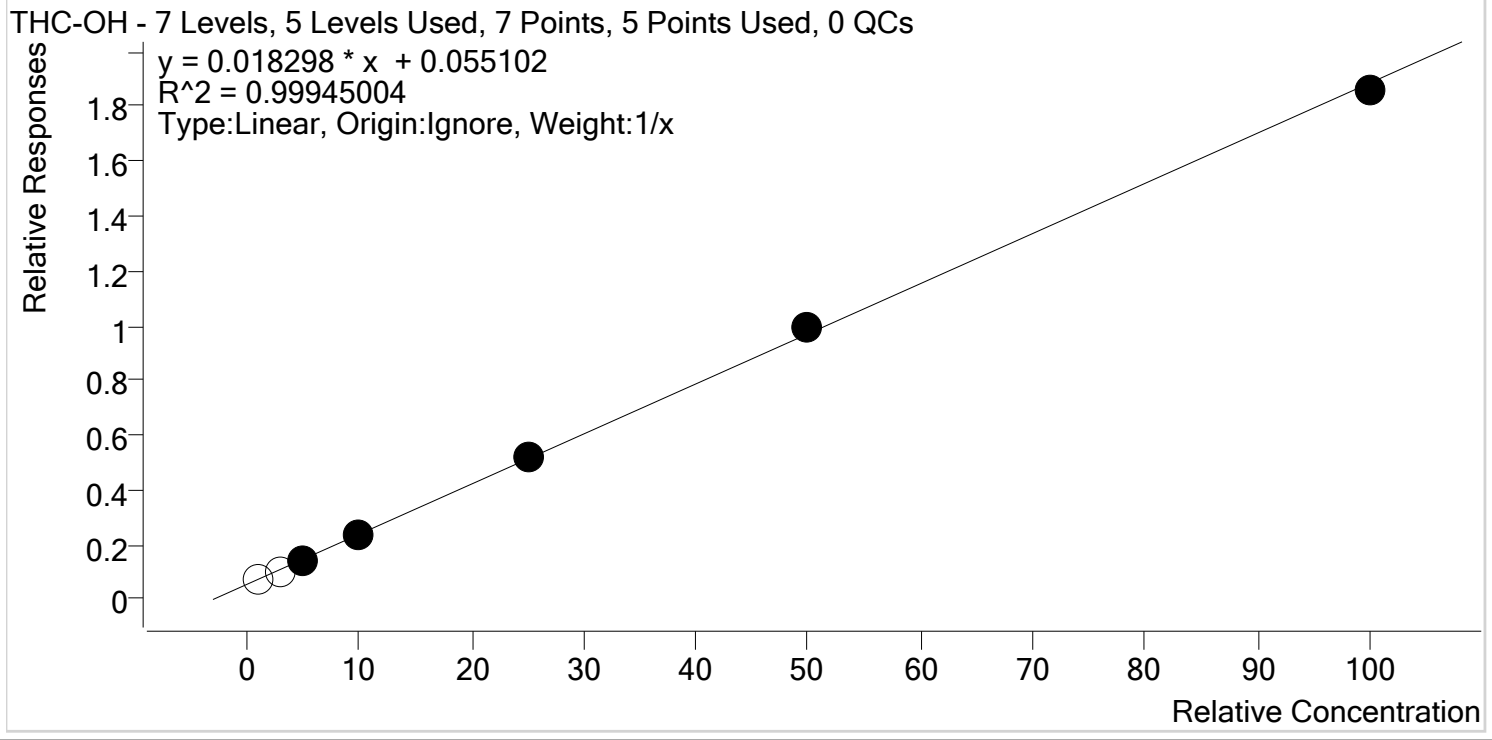


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ_Cal 1	1	✓	5.0	4.9	97.2
MJ_Cal 2	2	✓	10.0	10.0	100.4
MJ_Cal 3	3	✓	20.0	20.2	100.9
MJ_Cal 4	4	✓	50.0	52.2	104.3
MJ_Cal 5	5	✓	75.0	73.5	98.0
MJ_Cal 6	6	✓	100.0	99.1	99.1
MJ_Cal 7	7	✓	250.0	250.2	100.1



# AM #27 Cannabinoids Quant. Calibration Curve Report

**Batch results** D:\MassHunter\Data\2020\AM 27-28\052620 AM 27 28 SP\QuantResults\AM 27 SP.batch.bin  
**Last Cal. Update** 5/27/2020 8:55 AM  
**Analyst Name** ISP\Datastor  
**Analyte** THC-OH **Internal Standard** THC-OH-D3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ_Cal 1	1	x	1.0	1.1	113.7
MJ_Cal 2	2	x	3.0	2.7	91.3
MJ_Cal 3	3	✓	5.0	4.9	97.2
MJ_Cal 4	4	✓	10.0	10.0	99.6
MJ_Cal 5	5	✓	25.0	25.6	102.5
MJ_Cal 6	6	✓	50.0	51.1	102.2
MJ_Cal 7	7	✓	100.0	98.5	98.5

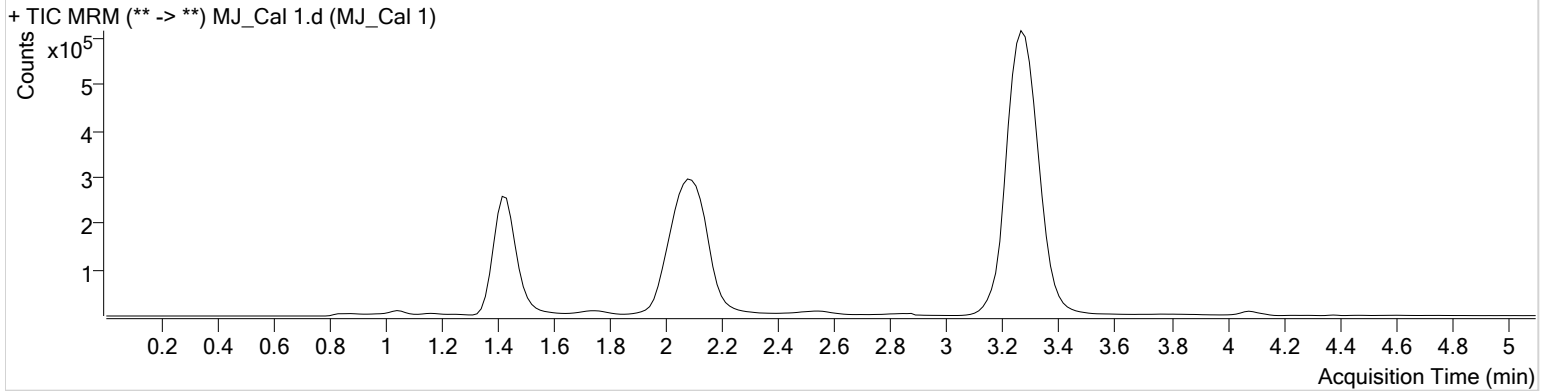
# AM #27 Cannabinoid Quant. Results



**Batch results** D:\MassHunter\Data\2020\AM 27-28\052620 AM 27 28 SP\QuantResults\AM 27 SP.batch.bin  
**Calibration Last Update** 5/27/2020 8:55:09 AM

<b>Instrument</b>	Falco	<b>Data File</b>	MJ_Cal 1.d
<b>Type</b>	Cal	<b>Sample</b>	MJ_Cal 1
<b>Acq. Method</b>	AM 27 THC quant.m	<b>Operator</b>	Sarah Pickle
<b>Sample Position</b>	P3-H6	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	5/26/2020 11:43:36 AM		

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.483 <b>High</b>	78314	∞	4.9 <b>Low</b>	19.88	1031755	1.1368 ng/ml <b>Low</b>
THC-COOH	1.459	39271	∞	48.7	61.46	329091	4.8604 ng/ml <b>Low</b>
THC	3.285	42299	63.71	35.9 <b>High</b>	43.41	4892004	1.3182 ng/ml <b>Low</b>



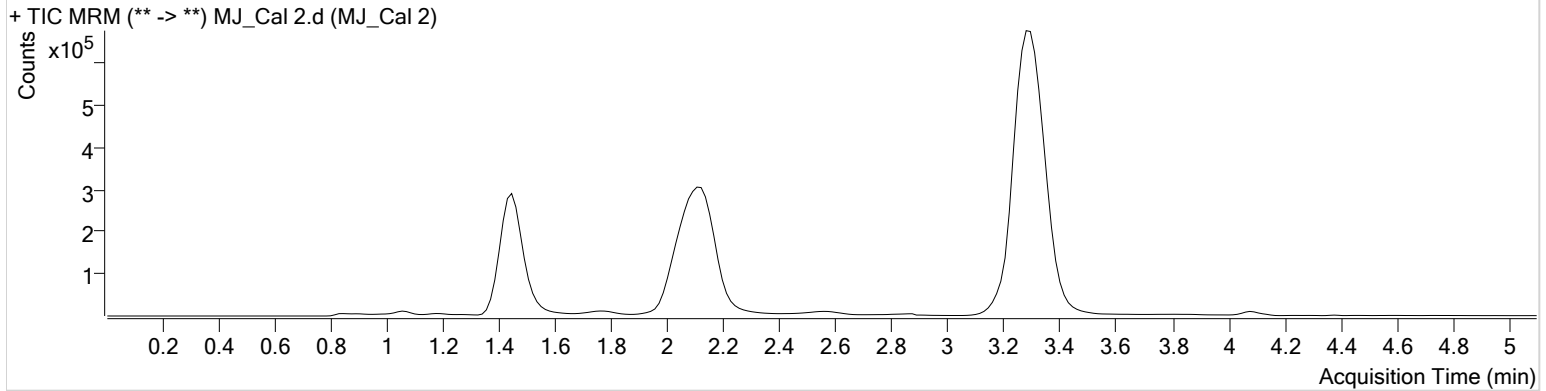
# AM #27 Cannabinoid Quant. Results



**Batch results** D:\MassHunter\Data\2020\AM 27-28\052620 AM 27 28 SP\QuantResults\AM 27 SP.batch.bin  
**Calibration Last Update** 5/27/2020 8:55:09 AM

<b>Instrument</b>	Falco	<b>Data File</b>	MJ_Cal 2.d
<b>Type</b>	Cal	<b>Sample</b>	MJ_Cal 2
<b>Acq. Method</b>	AM 27 THC quant.m	<b>Operator</b>	Sarah Pickle
<b>Sample Position</b>	P3-G6	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	5/26/2020 11:51:20 AM		
<b>Sample Info.</b>			

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.468	114793	∞	7.5 <b>Low</b>	201.90	1091049	2.7385 ng/ml <b>Low</b>
THC-COOH	1.474	80894	∞	51.2	701.37	345949	10.0449 ng/ml
THC	3.300	130542	209.45	32.2	42.72	5170419	3.0452 ng/ml

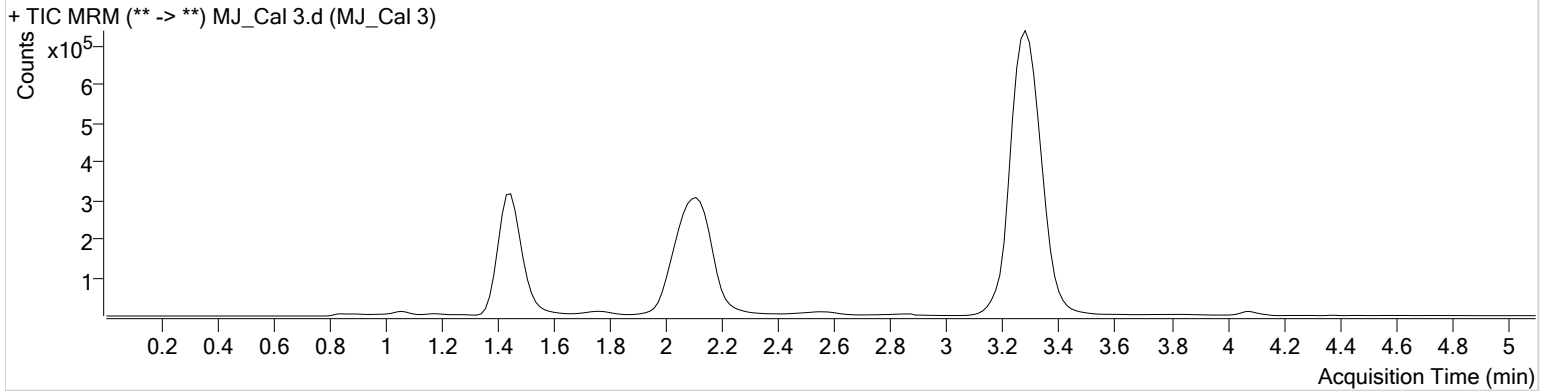
# AM #27 Cannabinoid Quant. Results



**Batch results** D:\MassHunter\Data\2020\AM 27-28\052620 AM 27 28 SP\QuantResults\AM 27 SP.batch.bin  
**Calibration Last Update** 5/27/2020 8:55:09 AM

<b>Instrument</b>	Falco	<b>Data File</b>	MJ_Cal 3.d
<b>Type</b>	Cal	<b>Sample</b>	MJ_Cal 3
<b>Acq. Method</b>	AM 27 THC quant.m	<b>Operator</b>	Sarah Pickle
<b>Sample Position</b>	P3-F6	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	5/26/2020 11:58:56 AM		

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.453	157740	∞	9.6	186.17	1095043	4.8609 ng/ml
THC-COOH	1.474	162212	∞	54.1	∞	354499	20.1762 ng/ml
THC	3.300	241990	1490.71	26.9	∞	5419358	5.0638 ng/ml

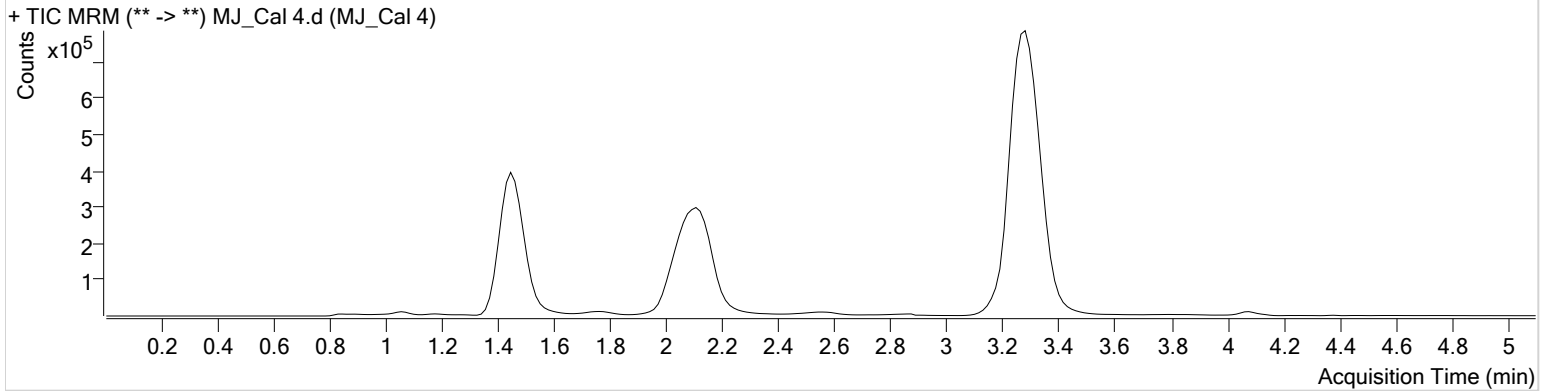
# AM #27 Cannabinoid Quant. Results



**Batch results** D:\MassHunter\Data\2020\AM 27-28\052620 AM 27 28 SP\QuantResults\AM 27 SP.batch.bin  
**Calibration Last Update** 5/27/2020 8:55:09 AM

<b>Instrument</b>	Falco	<b>Data File</b>	MJ_Cal 4.d
<b>Type</b>	Cal	<b>Sample</b>	MJ_Cal 4
<b>Acq. Method</b>	AM 27 THC quant.m	<b>Operator</b>	Sarah Pickle
<b>Sample Position</b>	P3-E6	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	5/26/2020 12:06:30 PM		
<b>Sample Info.</b>			

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.453	254712	∞	10.9	143.27	1072816	9.9638 ng/ml
THC-COOH	1.474	407469	∞	55.6	∞	350109	52.1554 ng/ml
THC	3.285	497254	1125.92	25.7	293.03	5461092	9.8906 ng/ml

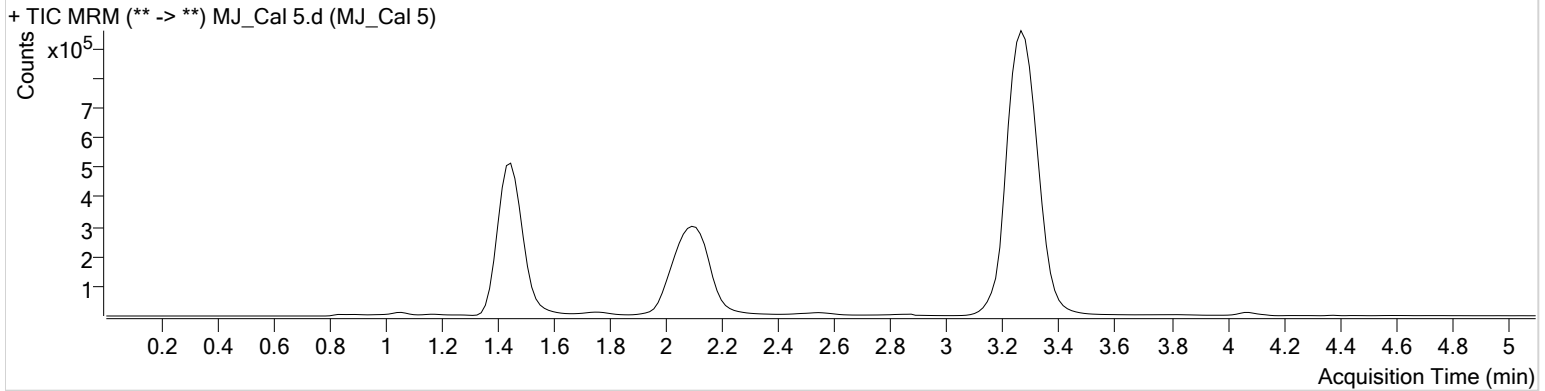
# AM #27 Cannabinoid Quant. Results



**Batch results** D:\MassHunter\Data\2020\AM 27-28\052620 AM 27 28 SP\QuantResults\AM 27 SP.batch.bin  
**Calibration Last Update** 5/27/2020 8:55:09 AM

<b>Instrument</b>	Falco	<b>Data File</b>	MJ_Cal 5.d
<b>Type</b>	Cal	<b>Sample</b>	MJ_Cal 5
<b>Acq. Method</b>	AM 27 THC quant.m	<b>Operator</b>	Sarah Pickle
<b>Sample Position</b>	P3-D6	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	5/26/2020 12:14:08 PM		

**Sample Chromatogram**



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.438	566128	∞	12.0	699.38	1080399	25.6249 ng/ml
THC-COOH	1.474	585469	∞	58.8	∞	358087	73.4894 ng/ml
THC	3.285	1342947	3530.64	25.4	752.19	5766592	24.6445 ng/ml

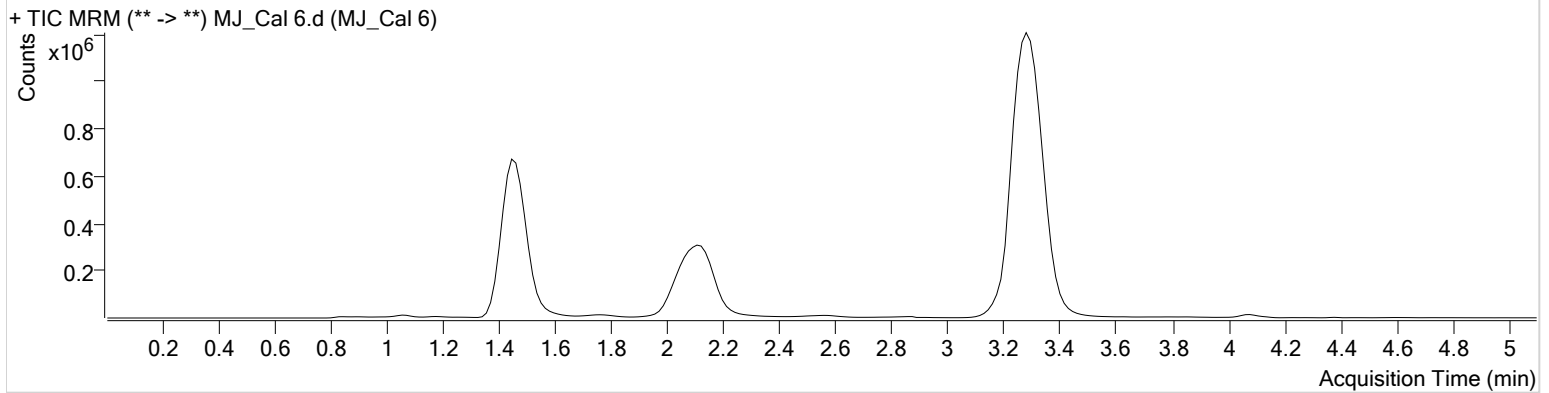
# AM #27 Cannabinoid Quant. Results



**Batch results** D:\MassHunter\Data\2020\AM 27-28\052620 AM 27 28 SP\QuantResults\AM 27 SP.batch.bin  
**Calibration Last Update** 5/27/2020 8:55:09 AM

<b>Instrument</b>	Falco	<b>Data File</b>	MJ_Cal 6.d
<b>Type</b>	Cal	<b>Sample</b>	MJ_Cal 6
<b>Acq. Method</b>	AM 27 THC quant.m	<b>Operator</b>	Sarah Pickle
<b>Sample Position</b>	P3-C6	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	5/26/2020 12:21:42 PM		

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.438	1080869	∞	13.1	∞	1091742	51.0938 ng/ml
THC-COOH	1.474	793250	∞	59.3	∞	360492	99.0940 ng/ml
THC	3.300	2785855	3769.03	25.9	∞	5919131	49.3784 ng/ml

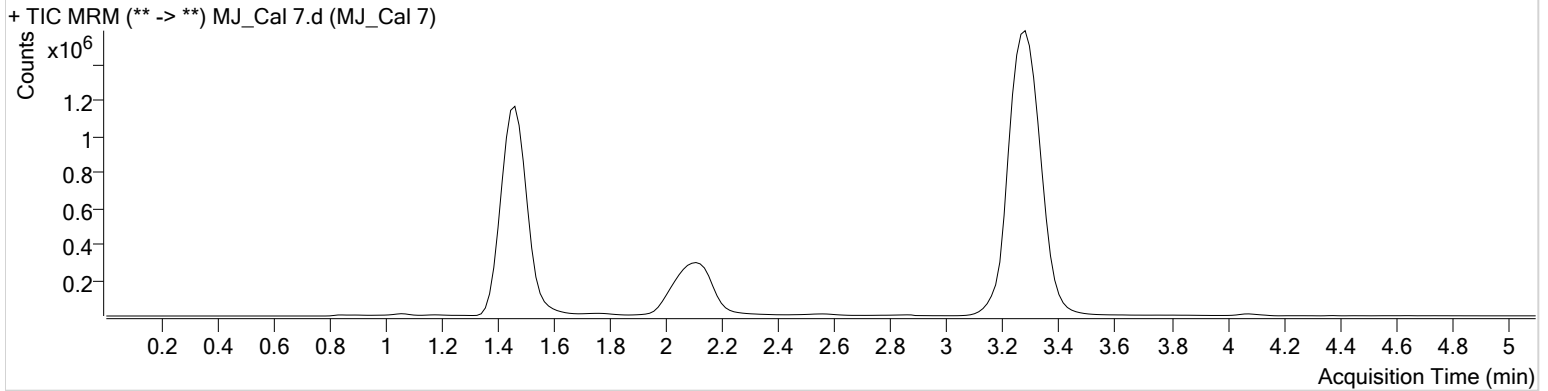
# AM #27 Cannabinoid Quant. Results



**Batch results** D:\MassHunter\Data\2020\AM 27-28\052620 AM 27 28 SP\QuantResults\AM 27 SP.batch.bin  
**Calibration Last Update** 5/27/2020 8:55:09 AM

<b>Instrument</b>	Falco	<b>Data File</b>	MJ_Cal 7.d
<b>Type</b>	Cal	<b>Sample</b>	MJ_Cal 7
<b>Acq. Method</b>	AM 27 THC quant.m	<b>Operator</b>	Sarah Pickle
<b>Sample Position</b>	P3-B6	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	5/26/2020 12:29:17 PM		

**Sample Chromatogram**



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.438	2023843	1519.17	13.6	2282.44	1090017	98.4566 ng/ml
THC-COOH	1.474	1931500	∞	59.7	∞	348824	250.1798 ng/ml
THC	3.285	5579345	24260.35	26.0	6443.17	5771656	100.9776 ng/ml