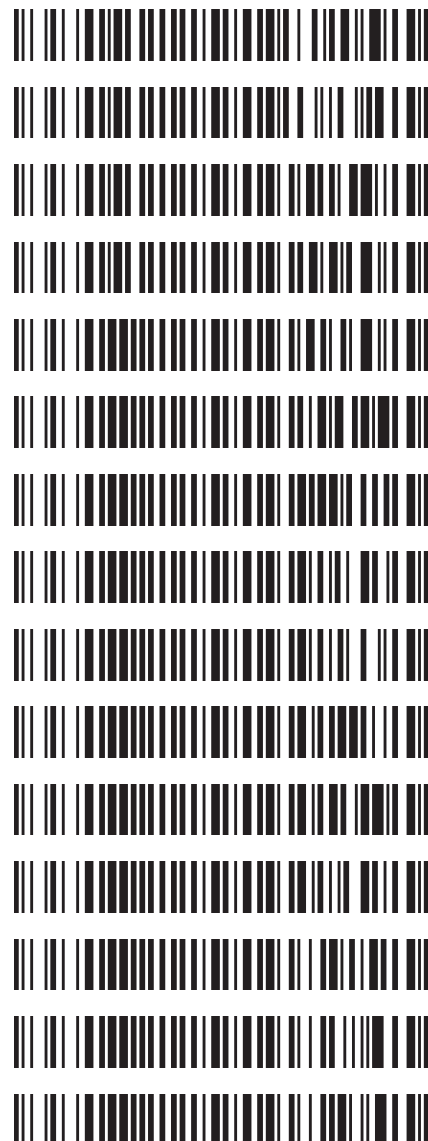


**REVIEWED**  
By Sarah Pickle at 8:49 am, Jul 02, 2020

**Worklist: 4341**

<u>LAB CASE</u>	<u>ITEM</u>	<u>ITEM TYPE</u>	<u>DESCRIPTION</u>
M2020-1916	1	BCK	AM 27 Blood THC Quant by LC-QQQ
M2020-1960	1	BCK	AM 27 Blood THC Quant by LC-QQQ
M2020-2102	2	BCK	AM 27 Blood THC Quant by LC-QQQ
M2020-2198	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-1747	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-1775	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-1798	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-1803	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-1804	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-1807	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-1809	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-1810	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-1830	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-1831	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-1837	1	BCK	AM 27 Blood THC Quant by LC-QQQ



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

Extraction Date: 06/29/2020

Analyst: Celena Shrum

Plate lot#: IDP-108-2-200303

Plate Expiration: 09/30/2020

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

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

**Blank Blood Lot:** 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. Using a calibrated pipette, add **1000µl blood (calibrated pipette)** into the appropriate wells of analytical (standards) plate. **Pipette ID: #42**
- 3. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 4. Pipette **500µL 0.1% formic acid in water blood sample** in wells of analytical plate.
- 5. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 6. Transfer **800µL 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 85-100 PSI- Selector to the right)** Manifold ID: 067104
- 8. Wait 5 minutes.
- 9. Add **2.25mL MTBE. (Add in 3 increments of 750uL)**
- 10. Wait 5 minutes.
- 11. Apply positive pressure for approx. 15 seconds. **(10-15 PSI- Selector to the left).**
- 12. Add **2.25mL Hexane. (Add in 3 increments of 750uL)**
- 13. Wait 5 minutes.
- 14. Apply positive pressure for approx. 15 seconds. **(10-15 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 **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<sup>2</sup> 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 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? (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: THC curve range: 1-100, Carboxy-THC curve range: 5-250, THC-OH curve range: 3-100

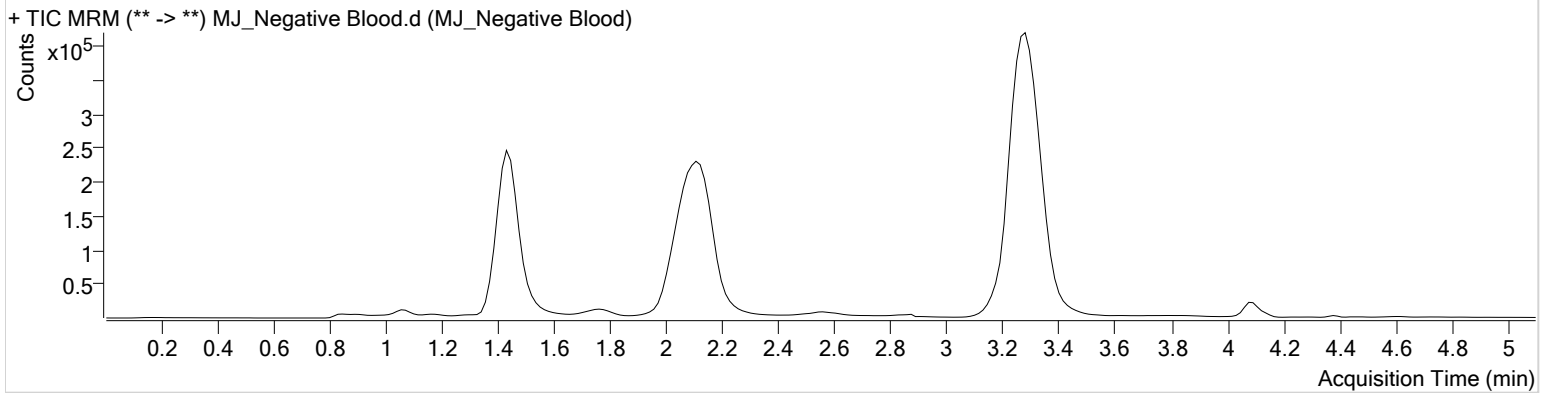
# AM #27 Cannabinoid Quant. Results



**Batch results** D:\MassHunter\Data\2020\AM 27-28\062920 AM 27\_28 CS TS\QuantResults\CS THCQ.batch.bin  
**Calibration Last Update** 7/1/2020 12:23:17 PM

<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>	Celena Shrum
<b>Sample Position</b>	P3-A2	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	6/29/2020 5:09:40 PM		
<b>Sample Info.</b>			

## Sample Chromatogram



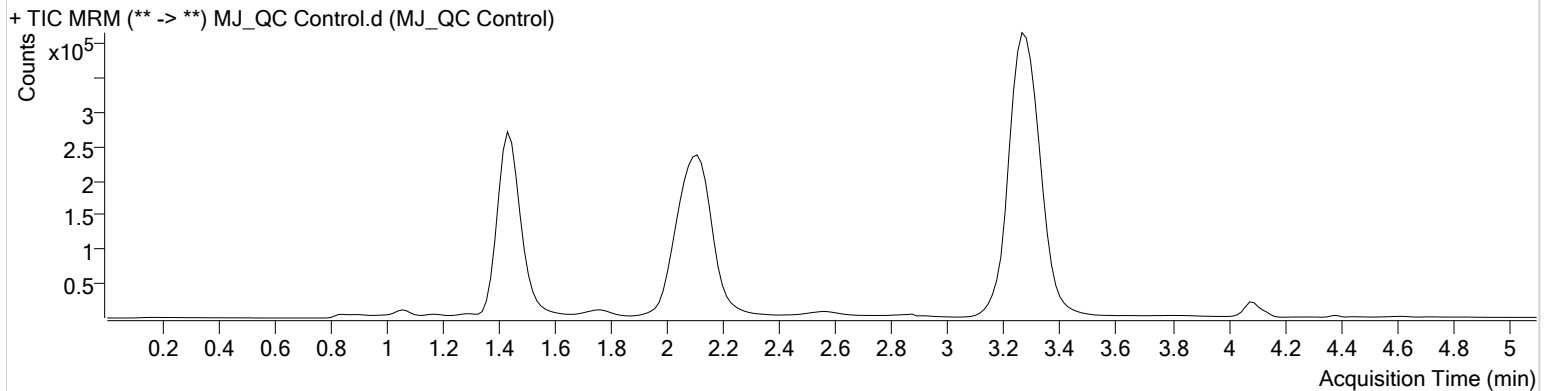
# AM #27 Cannabinoid Quant. Results



**Batch results** D:\MassHunter\Data\2020\AM 27-28\062920 AM 27\_28 CS TS\QuantResults\CS THCQ.batch.bin  
**Calibration Last Update** 7/1/2020 12:23:17 PM

<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>	Celena Shrum
<b>Sample Position</b>	P3-H1	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	6/29/2020 4:54:29 PM		
<b>Sample Info.</b>			

## Sample Chromatogram



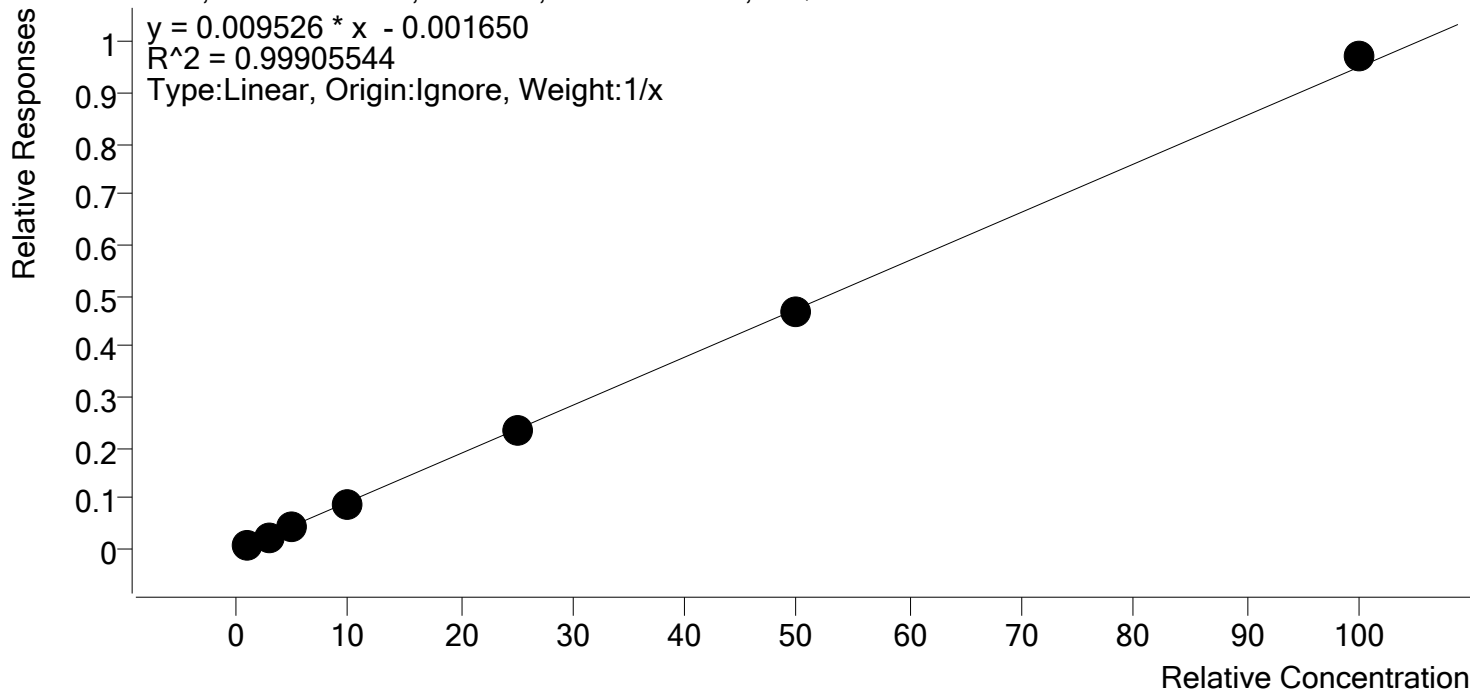
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.453	130660	∞	9.7	∞	960861	4.0483 ng/ml
THC-COOH	1.474	90736	307.22	57.8	∞	286893	14.4874 ng/ml
THC	3.285	124527	484.93	26.5	69.43	3083275	4.4129 ng/ml



# AM #27 Cannabinoids Quant. Calibration Curve Report

**Batch results** D:\MassHunter\Data\2020\AM 27-28\062920 AM 27\_28 CS TS\QuantResults\CS THCQ.batch.bin  
**Last Cal. Update** 7/1/2020 12:23 PM  
**Analyst Name** ISP\Datastor  
**Analyte** THC **Internal Standard** THC-D3

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

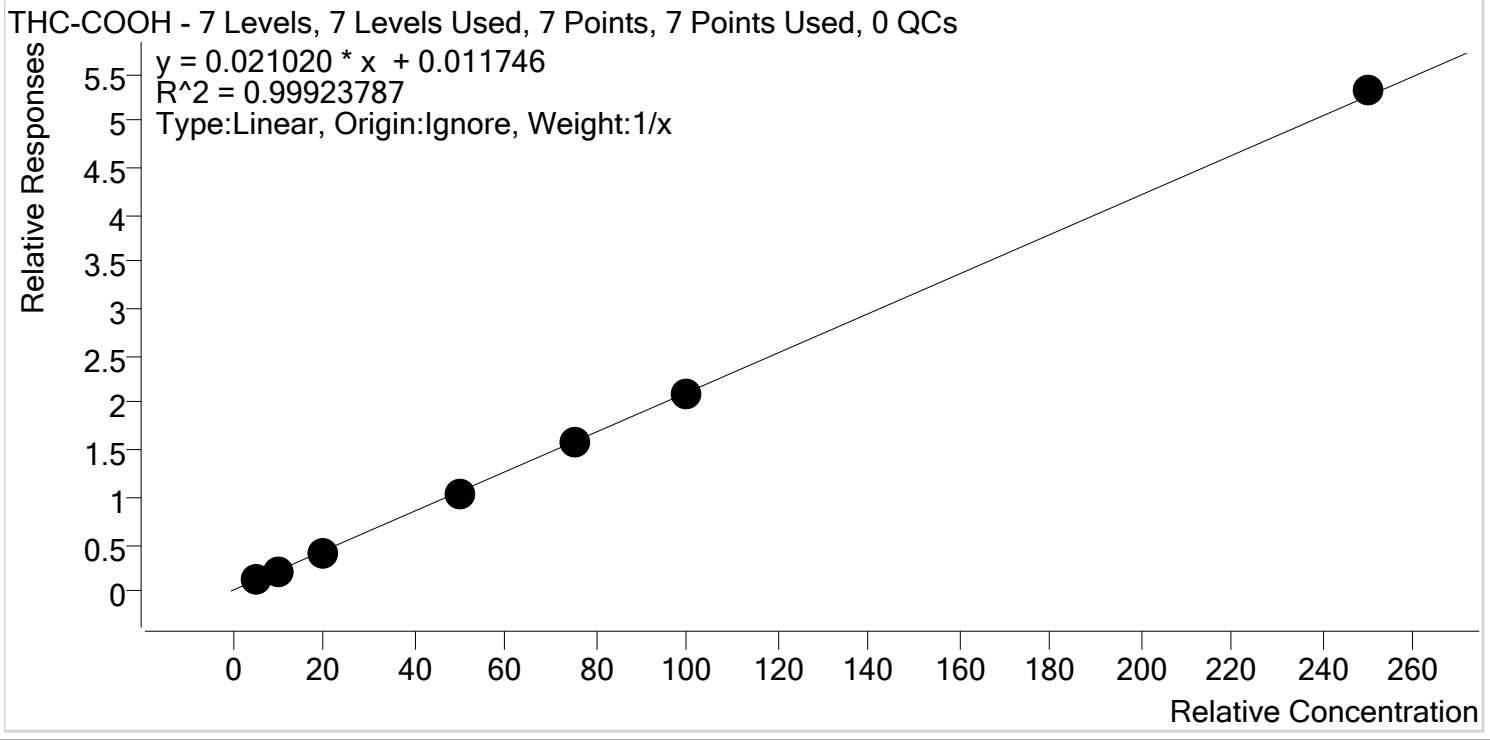


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ_Cal 1	1	✓	1.0	1.1	114.9
MJ_Cal 2	2	✓	3.0	2.9	97.4
MJ_Cal 3	3	✓	5.0	4.8	96.9
MJ_Cal 4	4	✓	10.0	9.2	92.4
MJ_Cal 5	5	✓	25.0	24.5	97.8
MJ_Cal 6	6	✓	50.0	49.2	98.5
MJ_Cal 7	7	✓	100.0	102.2	102.2



# AM #27 Cannabinoids Quant. Calibration Curve Report

**Batch results** D:\MassHunter\Data\2020\AM 27-28\062920 AM 27\_28 CS TS\QuantResults\CS THCQ.batch.bin  
**Last Cal. Update** 7/1/2020 12:23 PM  
**Analyst Name** ISP\Datastor  
**Analyte** THC-COOH **Internal Standard** THC-COOH-D9

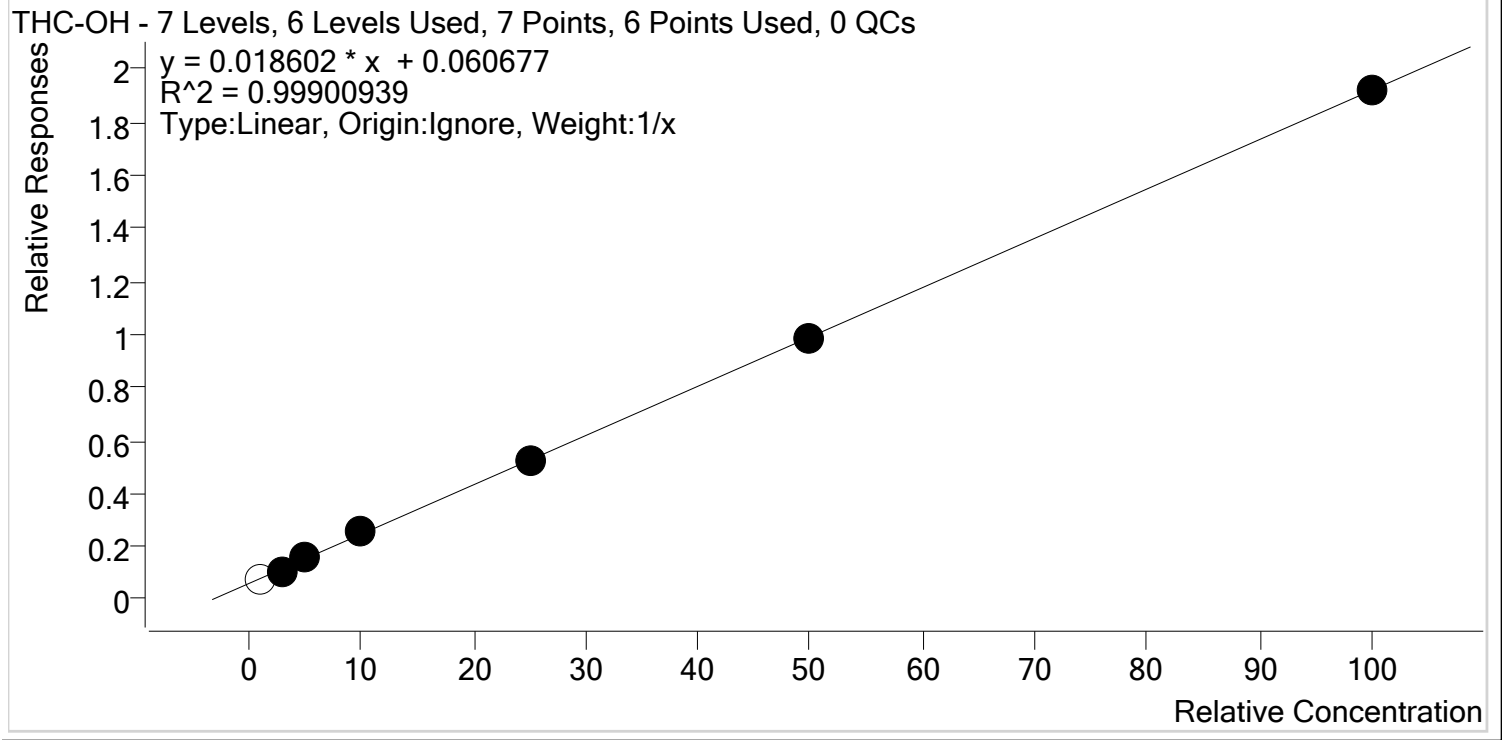


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ_Cal 1	1	✓	5.0	5.7	114.7
MJ_Cal 2	2	✓	10.0	9.0	90.5
MJ_Cal 3	3	✓	20.0	19.4	97.2
MJ_Cal 4	4	✓	50.0	48.4	96.9
MJ_Cal 5	5	✓	75.0	75.1	100.1
MJ_Cal 6	6	✓	100.0	99.5	99.5
MJ_Cal 7	7	✓	250.0	252.8	101.1



# AM #27 Cannabinoids Quant. Calibration Curve Report

**Batch results** D:\MassHunter\Data\2020\AM 27-28\062920 AM 27\_28 CS TS\QuantResults\CS THCQ.batch.bin  
**Last Cal. Update** 7/1/2020 12:23 PM  
**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	1.0	98.1
MJ_Cal 2	2	✓	3.0	2.6	85.9
MJ_Cal 3	3	✓	5.0	5.5	110.4
MJ_Cal 4	4	✓	10.0	10.4	104.5
MJ_Cal 5	5	✓	25.0	25.1	100.4
MJ_Cal 6	6	✓	50.0	49.5	98.9
MJ_Cal 7	7	✓	100.0	99.9	99.9

CS

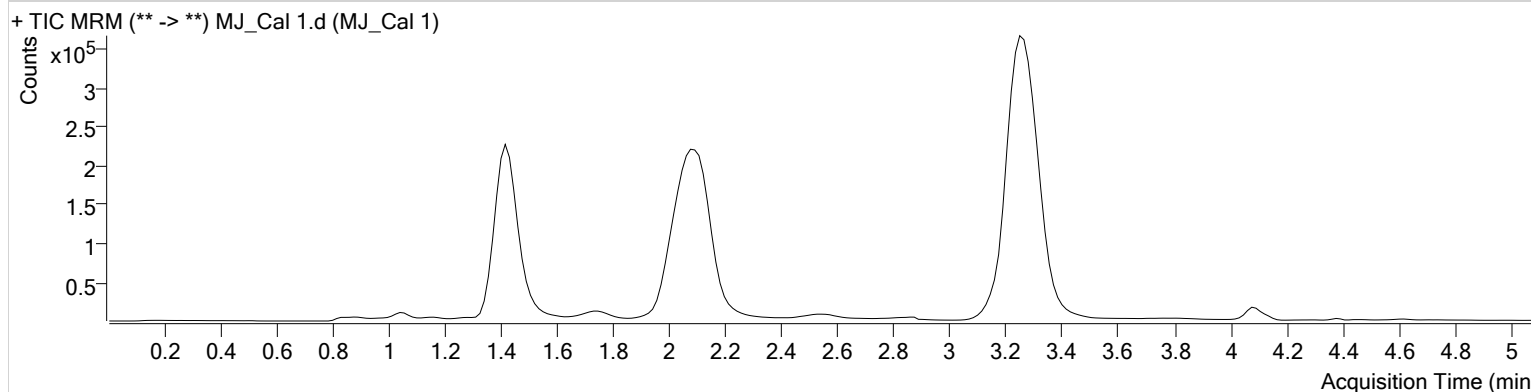


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2020\AM 27-28\062920 AM 27\_28 CS TS\QuantResults\CS THCQ.batch.bin  
**Calibration Last Update** 7/1/2020 12:23:17 PM

<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>	Celena Shrum
<b>Sample Position</b>	P3-A1	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	6/29/2020 3:53:38 PM		

**Sample Chromatogram**



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.483	73366	∞	6.3 <b>Low</b>	11.69	929592	0.9809 ng/ml <b>Low</b>
THC-COOH	1.459	35857	∞	53.8	233.71	271041	5.7348 ng/ml <b>Low</b>
THC	3.270	26878	43.59	30.5	43.23	2892671	1.1486 ng/ml <b>Low</b>



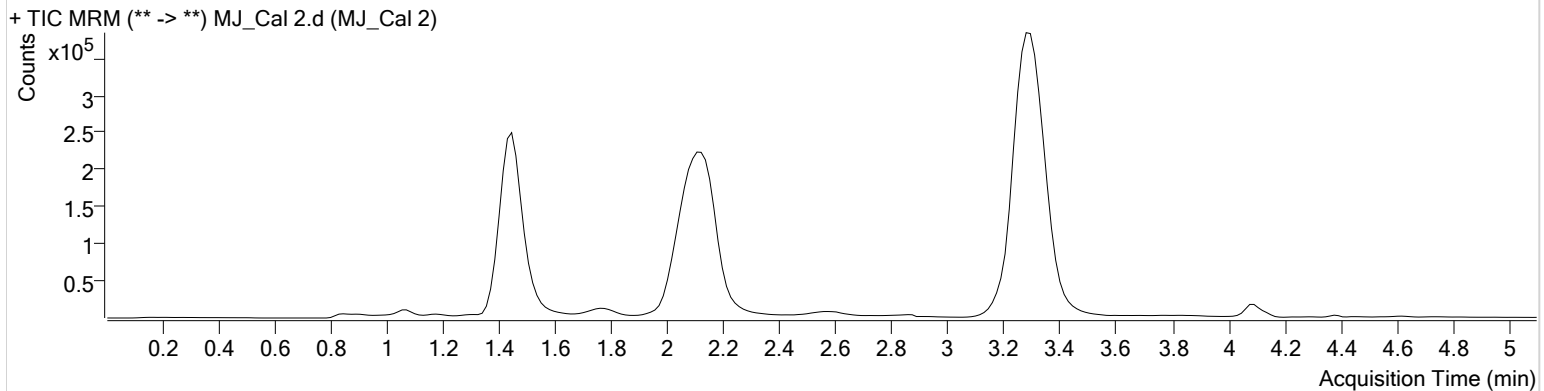
# AM #27 Cannabinoid Quant. Results



**Batch results** D:\MassHunter\Data\2020\AM 27-28\062920 AM 27\_28 CS TS\QuantResults\CS THCQ.batch.bin  
**Calibration Last Update** 7/1/2020 12:23:17 PM

<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>	Celena Shrum
<b>Sample Position</b>	P3-B1	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	6/29/2020 4:01:22 PM		

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.498	103510	∞	8.9	158.52	953104	2.5765 ng/ml <b>Low</b>
THC-COOH	1.474	56495	∞	59.1	318.03	279739	9.0490 ng/ml <b>Low</b>
THC	3.300	77484	341.85	31.7	∞	2958997	2.9220 ng/ml <b>Low</b>

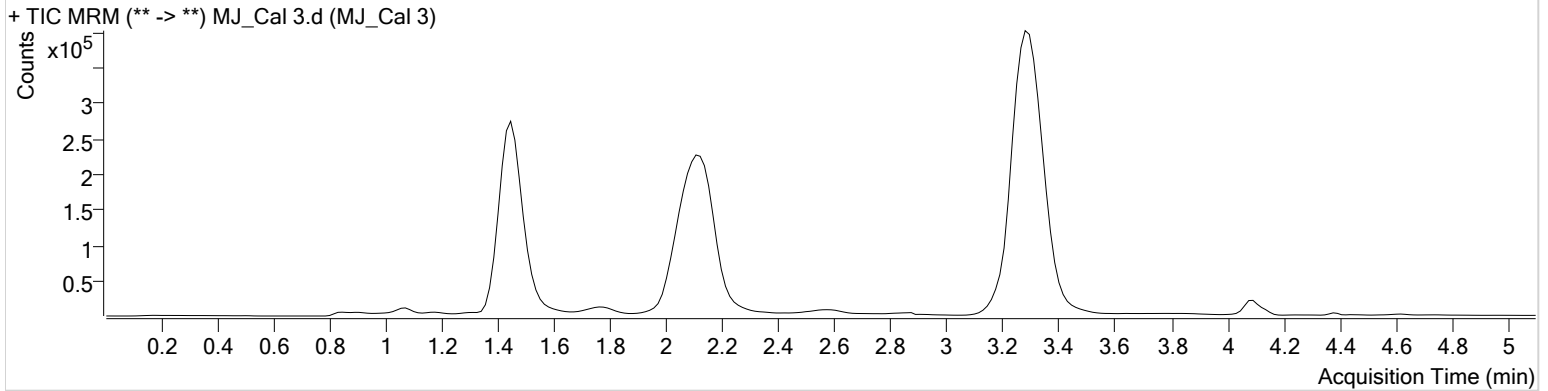
# AM #27 Cannabinoid Quant. Results



**Batch results** D:\MassHunter\Data\2020\AM 27-28\062920 AM 27\_28 CS TS\QuantResults\CS THCQ.batch.bin  
**Calibration Last Update** 7/1/2020 12:23:17 PM

<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>	Celena Shrum
<b>Sample Position</b>	P3-C1	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	6/29/2020 4:08:56 PM		

**Sample Chromatogram**



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.453	158412	∞	8.9	∞	969641	5.5208 ng/ml
THC-COOH	1.474	118757	∞	57.9	∞	282402	19.4473 ng/ml
THC	3.300	134152	2166.11	28.5	114.10	3015428	4.8434 ng/ml

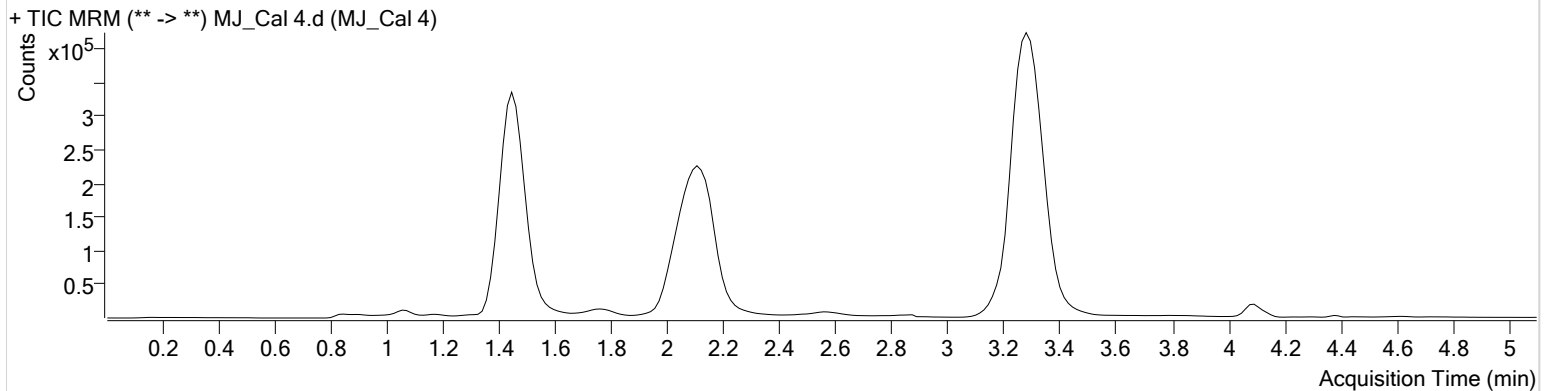
# AM #27 Cannabinoid Quant. Results



**Batch results** D:\MassHunter\Data\2020\AM 27-28\062920 AM 27\_28 CS TS\QuantResults\CS THCQ.batch.bin  
**Calibration Last Update** 7/1/2020 12:23:17 PM

<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>	Celena Shrum
<b>Sample Position</b>	P3-D1	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	6/29/2020 4:16:32 PM		

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.453	255331	∞	10.2	∞	1001143	10.4487 ng/ml
THC-COOH	1.474	298835	∞	62.4	∞	290108	48.4463 ng/ml
THC	3.300	267184	1361.05	27.8	∞	3093063	9.2411 ng/ml

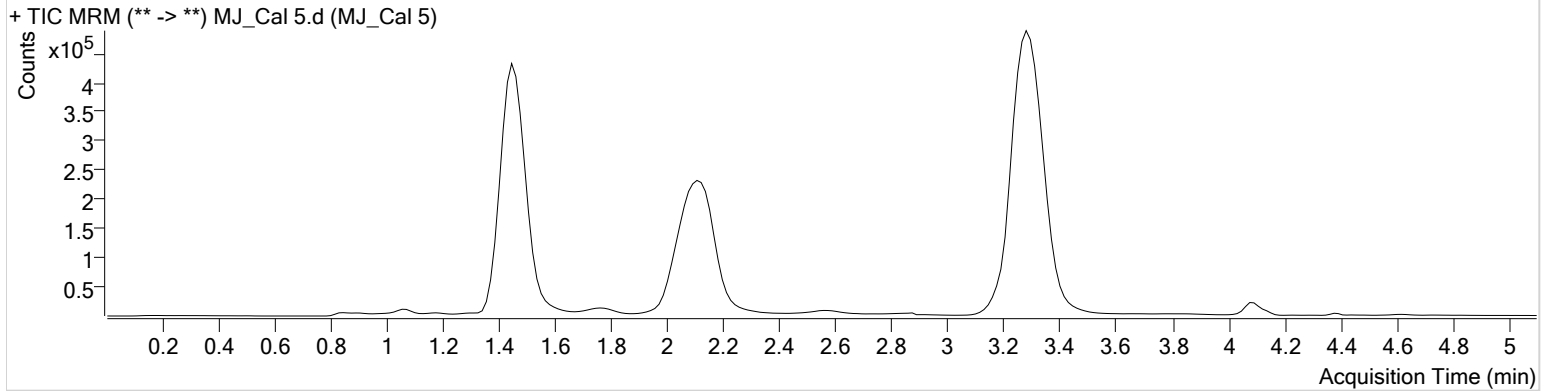
# AM #27 Cannabinoid Quant. Results



**Batch results** D:\MassHunter\Data\2020\AM 27-28\062920 AM 27\_28 CS TS\QuantResults\CS THCQ.batch.bin  
**Calibration Last Update** 7/1/2020 12:23:17 PM

<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>	Celena Shrum
<b>Sample Position</b>	P3-E1	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	6/29/2020 4:24:07 PM		

**Sample Chromatogram**



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.438	520652	∞	12.2	∞	986805	25.1020 ng/ml
THC-COOH	1.474	447783	∞	63.2	∞	281736	75.0541 ng/ml
THC	3.300	697054	1219.34	26.5	∞	3012780	24.4609 ng/ml

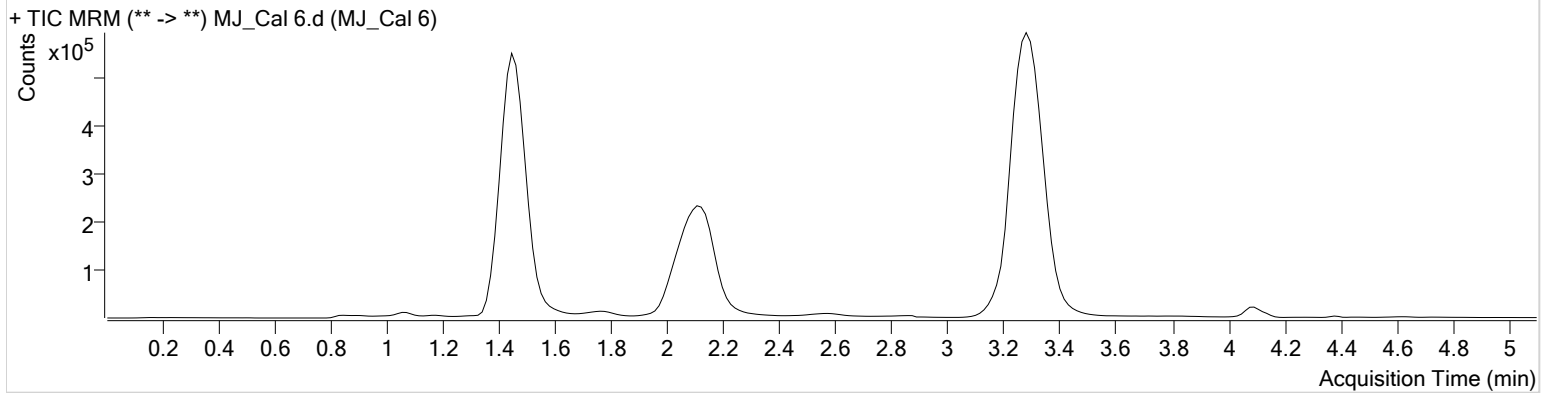
# AM #27 Cannabinoid Quant. Results



**Batch results** D:\MassHunter\Data\2020\AM 27-28\062920 AM 27\_28 CS TS\QuantResults\CS THCQ.batch.bin  
**Calibration Last Update** 7/1/2020 12:23:17 PM

<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>	Celena Shrum
<b>Sample Position</b>	P3-F1	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	6/29/2020 4:31:41 PM		
<b>Sample Info.</b>			

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.438	984429	∞	13.0	∞	1003877	49.4554 ng/ml
THC-COOH	1.474	597073	∞	59.8	∞	283861	99.5084 ng/ml
THC	3.300	1429894	8049.02	25.9	2889.53	3059580	49.2335 ng/ml

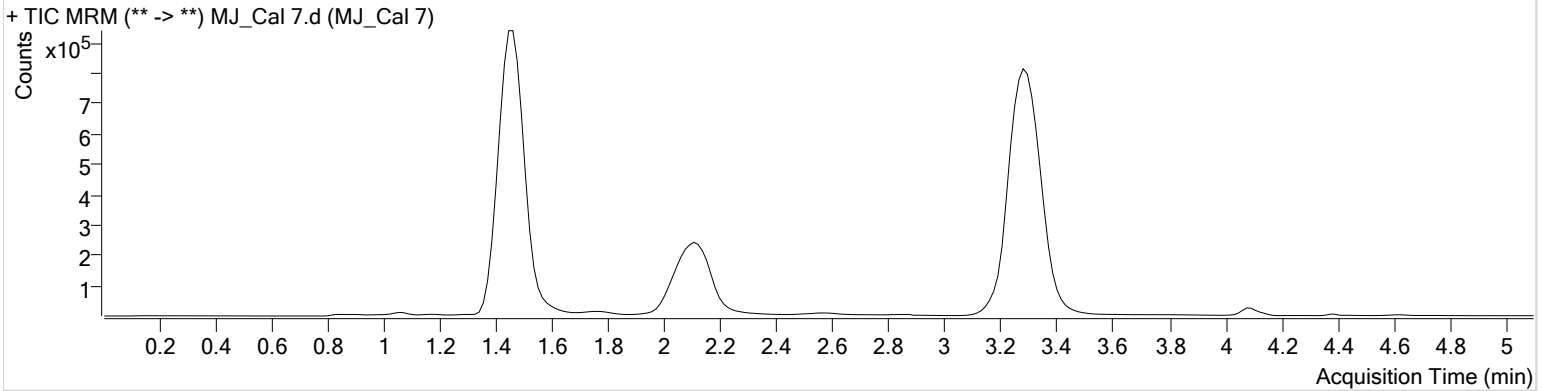
# AM #27 Cannabinoid Quant. Results



**Batch results** D:\MassHunter\Data\2020\AM 27-28\062920 AM 27\_28 CS TS\QuantResults\CS THCQ.batch.bin  
**Calibration Last Update** 7/1/2020 12:23:17 PM

<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>	Celena Shrum
<b>Sample Position</b>	P3-G1	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	6/29/2020 4:39:17 PM		

**Sample Chromatogram**



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.438	1860745	∞	12.6	∞	969686	99.8967 ng/ml
THC-COOH	1.474	1429790	∞	63.6	∞	268518	252.7602 ng/ml
THC	3.300	2905533	7935.64	25.5	2217.01	2990958	102.1505 ng/ml