REVIEWED
By Tamara Salazar at 4:04 pm, Nov 25, 2019

11/24/2019

Worklist: 3848

LAB_CASE	ITEM	ITEM_TYPE	DESCRIPTION
M2019-4892	2	BCK	AM 27 Blood THC Quant by LC-QQQ
M2019-5005	2	BCK	AM 27 Blood THC Quant by LC-QQQ
P2019-3443	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2019-3444	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2019-3454	2	BCK	AM 27 Blood THC Quant by LC-QQQ
P2019-3500	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2019-3501	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2019-3508	1	BCK	AM 27 Blood THC Quant by LC-QQQ

SP

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

Extraction Date: 11/24/19 Analyst: Sarah Pickle
Plate lot#: Lot # 190716 Item # IDP-108 Plate Expiration: 1/16/20

Mobile phase A: 0.1% Formic Acid in LCMS Water **Mobile phase B:** 0.1% Formic acid in Acetonitrile
MTBE LCMS Methanol Hexane
Blank Blood Lot: 445283-3 **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. *Shaker ID: 067105*
☒ 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\2019\AM 27\112419 THCQ MDQ SP Batch Name: THCQ
☒ 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 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: *Curve Ranges: THC: 3-100, THC-COOH 10-250, THC-OH 3-100*

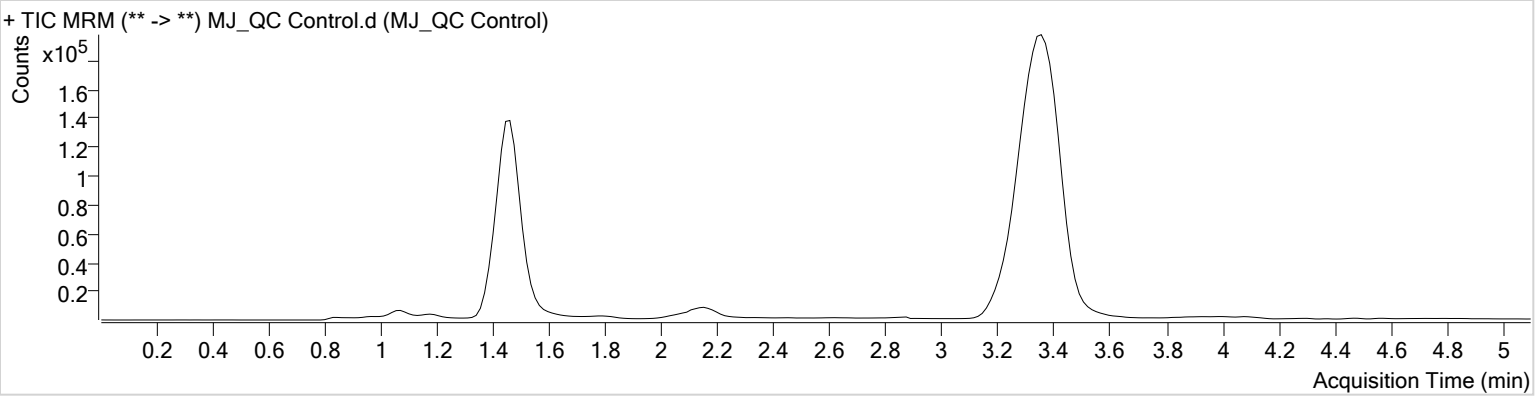
SP

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2019\AM 27\112419 THCQ MDQ SP\QuantResults\THCQ.batch.bin
Calibration Last Update 11/25/2019 11:27:41 AM

Instrument	Falco	**Data File**	MJ_QC Control.d
Type	Sample	**Sample**	MJ_QC Control
Acq. Method	AM 27 THC quant.m	**Operator**	Sarah Pickle
Sample Position	P3-A6	**Comment**	
Injection Volume	10		
Acq. Date-Time	11/24/2019 3:28:10 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.489	76807	291.13	44.3	650.09	176457	14.2680	ng/ml
THC-OH	1.468	43680	65.83	10.8	39.67	534258	4.3723	ng/ml
THC	3.390	65012	532.84	28.6	∞	1982067	4.2586	ng/ml

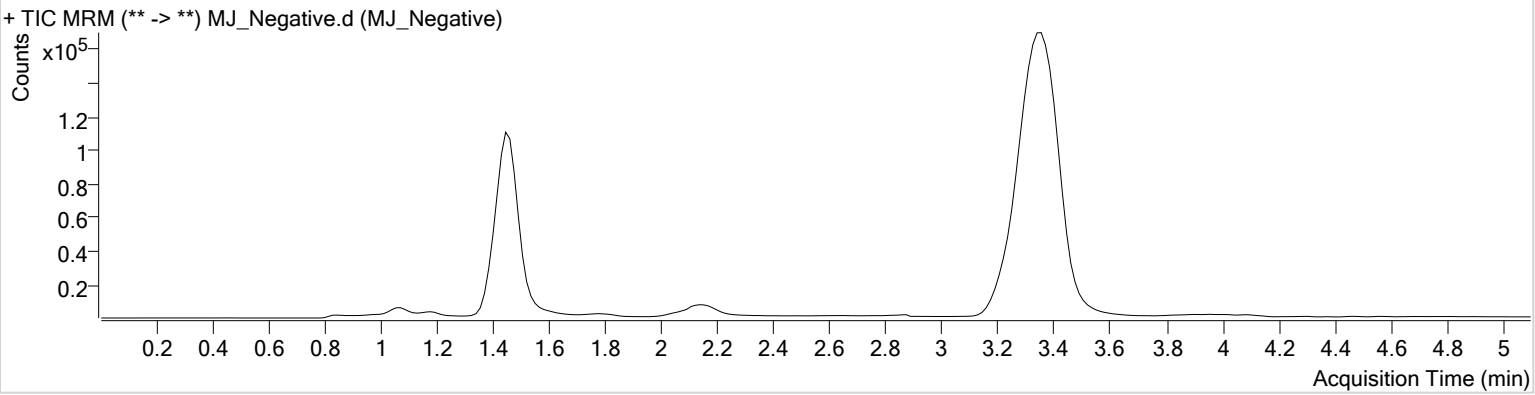
AM #27 Cannabinoid Quant. Results

SP

Batch results	D:\MassHunter\Data\2019\AM 27\112419 THCQ MDQ SP\QuantResults\THCQ.batch.bin
Calibration Last Update	11/25/2019 11:27:41 AM

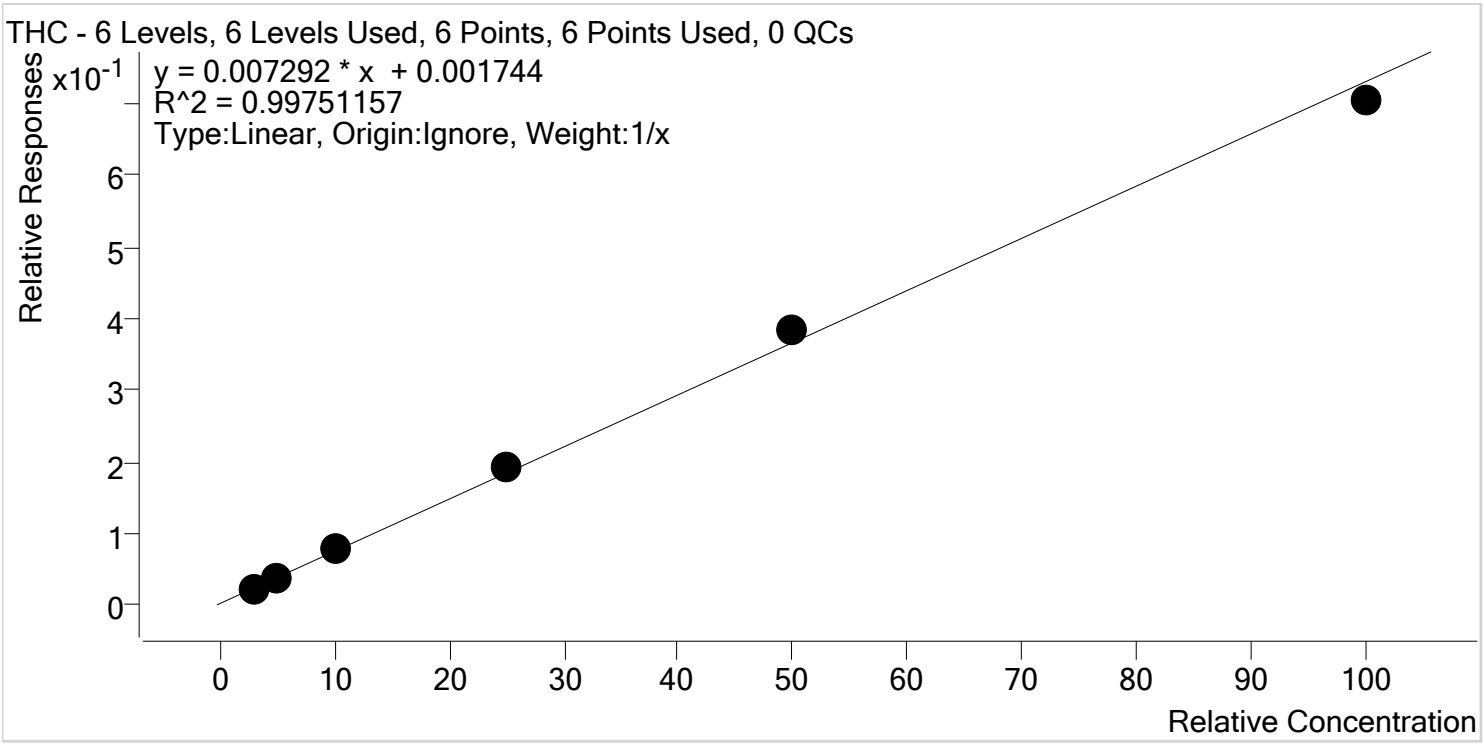
Instrument	Falco	**Data File**	MJ_Negative.d
Type	Sample	**Sample**	MJ_Negative
Acq. Method	AM 27 THC quant.m	**Operator**	Sarah Pickle
Sample Position	P3-H5	**Comment**	
Injection Volume	10		
Acq. Date-Time	11/24/2019 3:43:21 PM		
Sample Info.			

Sample Chromatogram



AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results	D:\MassHunter\Data\2019\AM 27\112419 THCQ MDQ SP\QuantResults\THCQ.batch.bin
Last Cal. Update	11/25/2019 11:27 AM
Analyst Name	ISP\datastor
Analyte	THC
Internal Standard	THC-D3

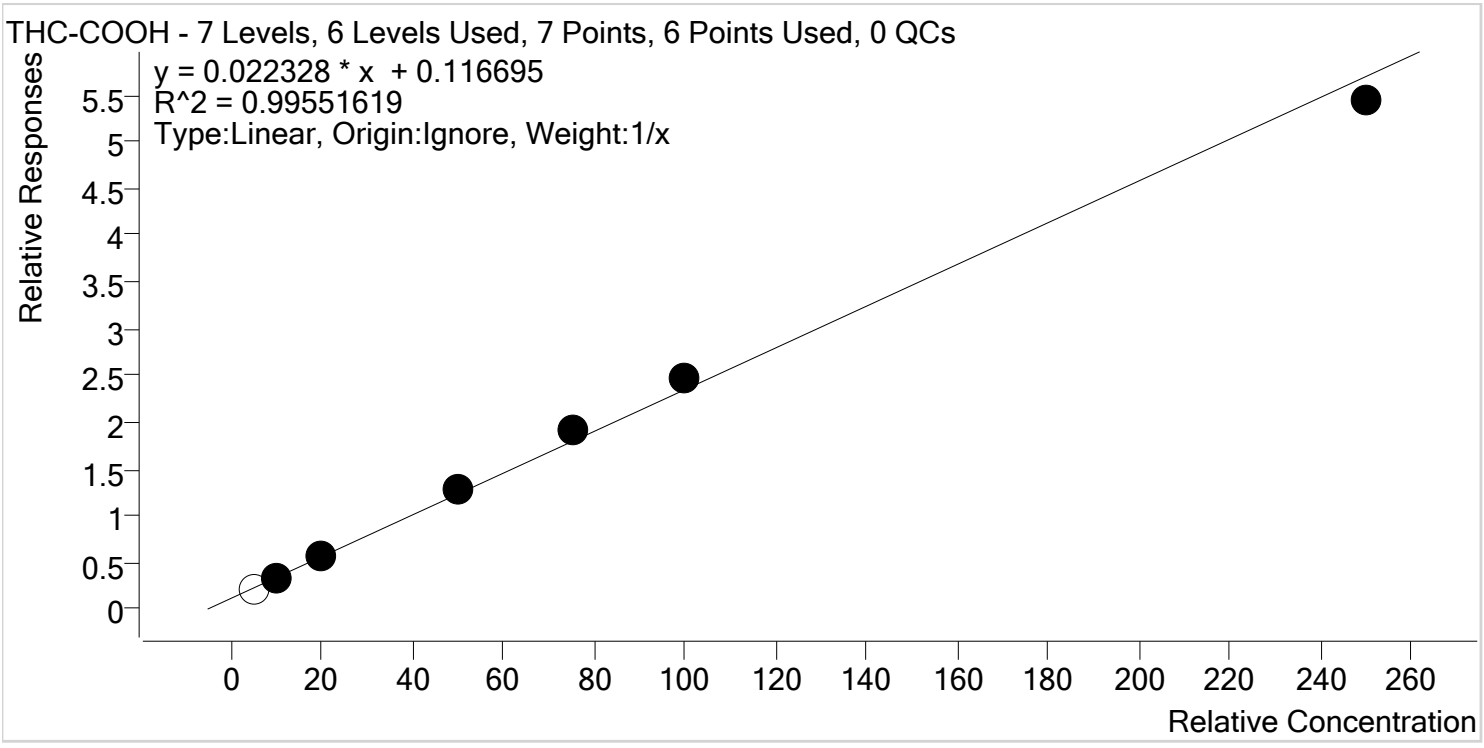


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ_Cal 2	2	✔	3.0	2.9	95.5
MJ_Cal 3	3	✔	5.0	4.7	94.7
MJ_Cal 4	4	✔	10.0	10.4	104.3
MJ_Cal 5	5	✔	25.0	25.9	103.7
MJ_Cal 6	6	✔	50.0	52.7	105.4
MJ_Cal 7	7	✔	100.0	96.3	96.3

SP

AM #27 Cannabinoids Quant. Calibration Curve Report

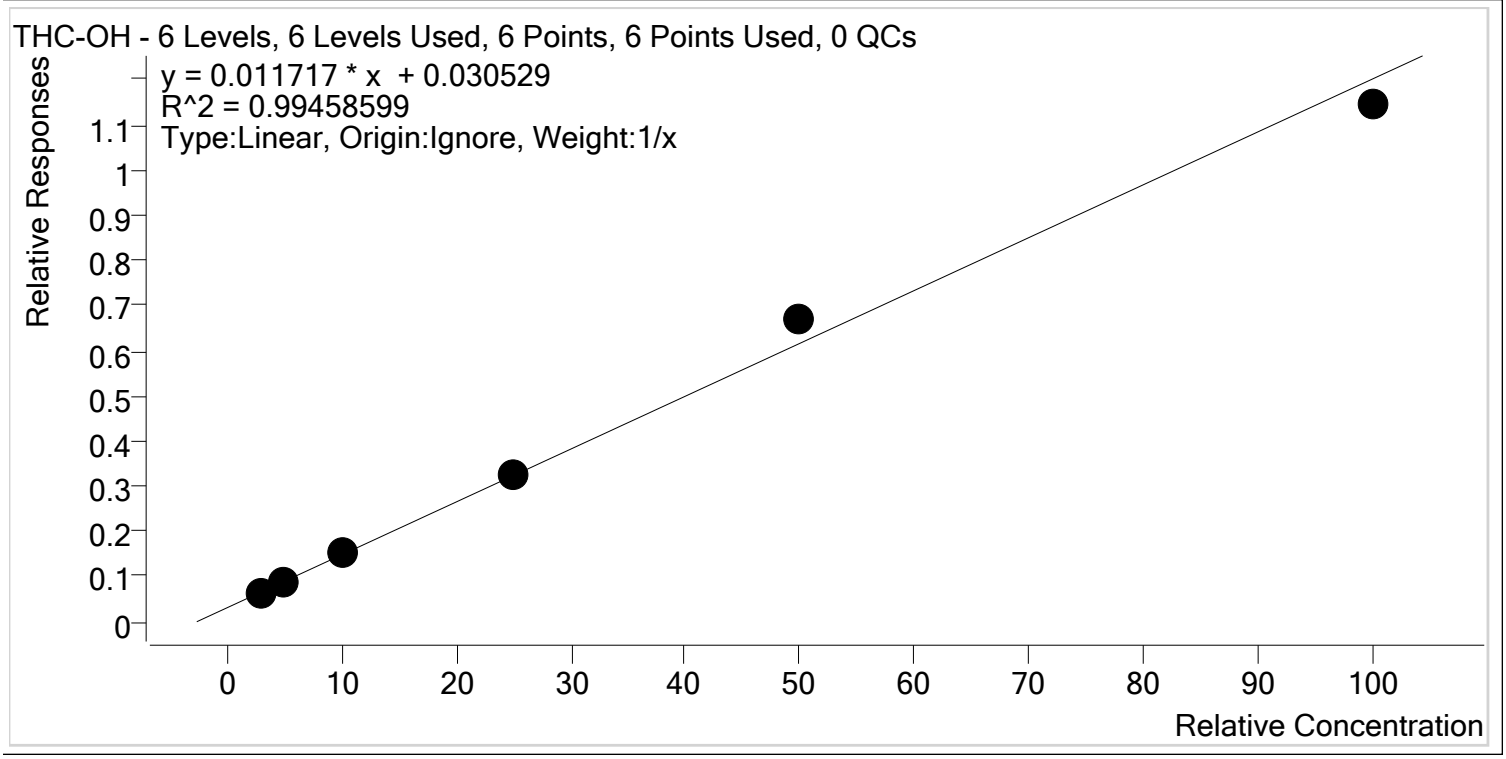
Batch results D:\MassHunter\Data\2019\AM 27\112419 THCQ MDQ SP\QuantResults\THCQ.batch.bin
Last Cal. Update 11/25/2019 11:27 AM
Analyst Name ISP\datastor
Analyte THC-COOH **Internal Standard** THC-COOH-D9



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ_Cal 1	1	✗	5.0	4.6	91.2
MJ_Cal 2	2	✔	10.0	8.8	88.1
MJ_Cal 3	3	✔	20.0	19.8	98.8
MJ_Cal 4	4	✔	50.0	53.0	106.0
MJ_Cal 5	5	✔	75.0	80.2	106.9
MJ_Cal 6	6	✔	100.0	104.8	104.8
MJ_Cal 7	7	✔	250.0	238.4	95.4

AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results	D:\MassHunter\Data\2019\AM 27\112419 THCQ MDQ SP\QuantResults\THCQ.batch.bin
Last Cal. Update	11/25/2019 11:27 AM
Analyst Name	ISP\datastor
Analyte	THC-OH
Internal Standard	THC-OH-D3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ_Cal 2	2	✔	3.0	2.9	96.0
MJ_Cal 3	3	✔	5.0	4.6	92.0
MJ_Cal 4	4	✔	10.0	10.8	107.6
MJ_Cal 5	5	✔	25.0	25.0	99.9
MJ_Cal 6	6	✔	50.0	54.7	109.3
MJ_Cal 7	7	✔	100.0	95.1	95.1

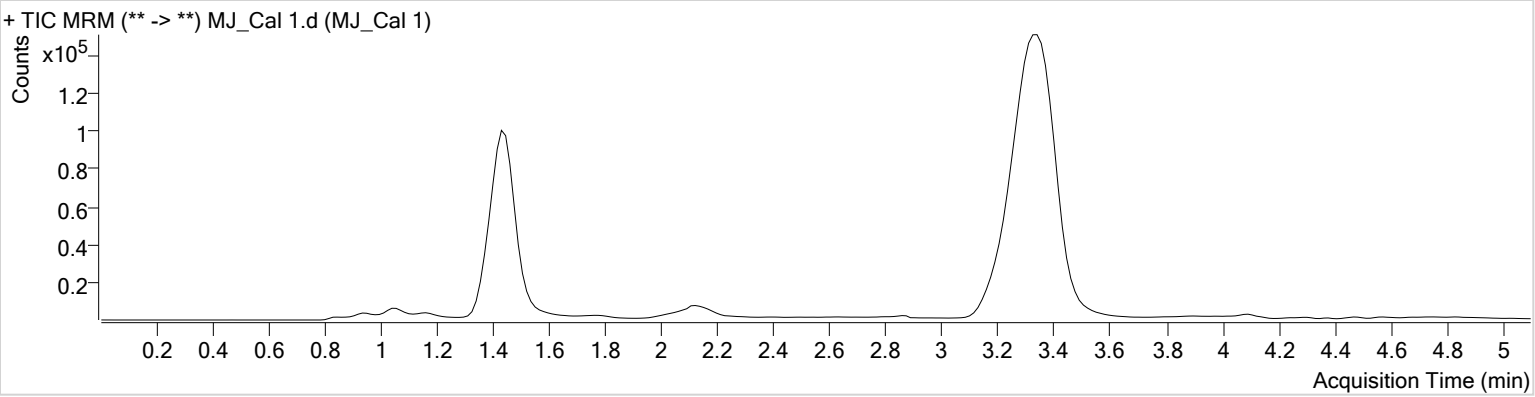
SP

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2019\AM 27\112419 THCQ MDQ SP\QuantResults\THCQ.batch.bin
Calibration Last Update 11/25/2019 11:27:41 AM

Instrument	Falco	**Data File**	MJ_Cal 1.d
Type	Cal	**Sample**	MJ_Cal 1
Acq. Method	AM 27 THC quant.m	**Operator**	Sarah Pickle
Sample Position	P3-B6	**Comment**	
Injection Volume	10		
Acq. Date-Time	11/24/2019 2:27:23 PM		
Sample Info.			

Sample Chromatogram



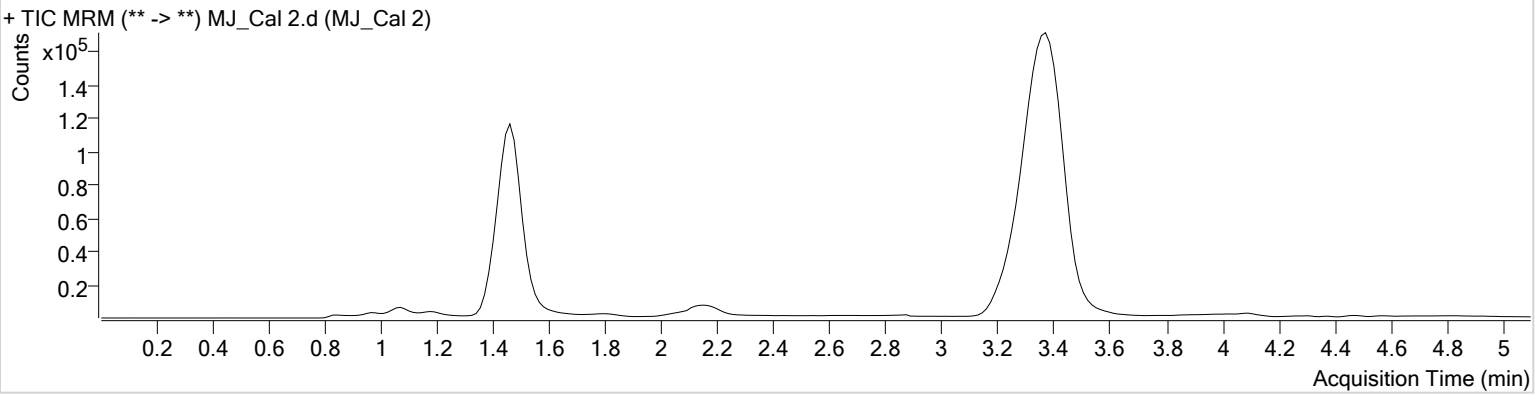
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.474	32482	196.27	36.6 **Low**	117.88	148656	4.5597	ng/ml **Low**

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2019\AM 27\112419 THCQ MDQ SP\QuantResults\THCQ.batch.bin
Calibration Last Update 11/25/2019 11:27:41 AM

Instrument	Falco	**Data File**	MJ_Cal 2.d
Type	Cal	**Sample**	MJ_Cal 2
Acq. Method	AM 27 THC quant.m	**Operator**	Sarah Pickle
Sample Position	P3-C6	**Comment**	
Injection Volume	10		
Acq. Date-Time	11/24/2019 2:35:08 PM		
Sample Info.			

Sample Chromatogram



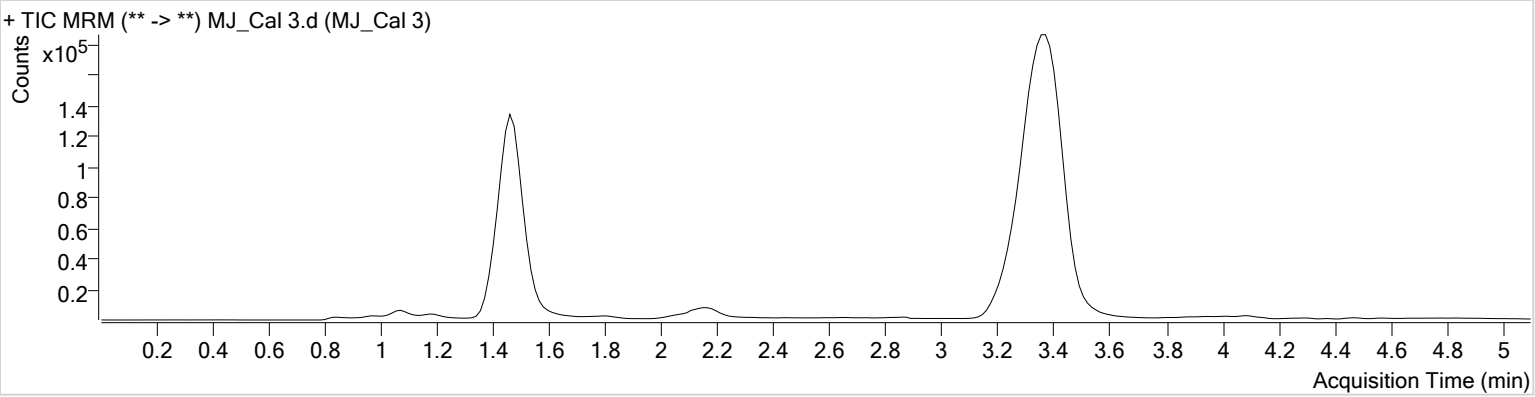
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.		
THC-COOH	1.504	50066	∞	44.8	354.68	159798	8.8058	ng/ml	Low
THC-OH	1.468	29927	∞	10.2	16.12	465565	2.8806	ng/ml	Low
THC	3.390	38916	132.82	29.2	38.44	1719000	2.8652	ng/ml	Low

AM #27 Cannabinoid Quant. Results

Batch results	D:\MassHunter\Data\2019\AM 27\112419 THCQ MDQ SP\QuantResults\THCQ.batch.bin
Calibration Last Update	11/25/2019 11:27:41 AM

Instrument	Falco	**Data File**	MJ_Cal 3.d
Type	Cal	**Sample**	MJ_Cal 3
Acq. Method	AM 27 THC quant.m	**Operator**	Sarah Pickle
Sample Position	P3-D6	**Comment**	
Injection Volume	10		
Acq. Date-Time	11/24/2019 2:42:42 PM		
Sample Info.			

Sample Chromatogram



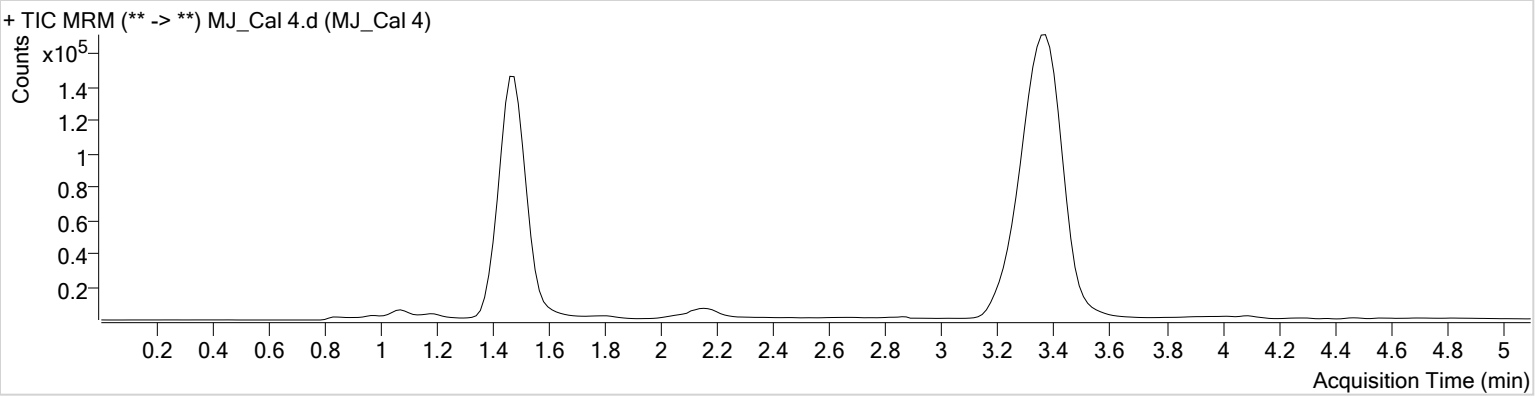
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.504	93674	769.36	49.6	483.39	167876	19.7646	ng/ml
THC-OH	1.468	41540	∞	10.5	26.33	492194	4.5976	ng/ml
THC	3.375	67588	421.85	30.0	103.98	1862561	4.7368	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results	D:\MassHunter\Data\2019\AM 27\112419 THCQ MDQ SP\QuantResults\THCQ.batch.bin
Calibration Last Update	11/25/2019 11:27:41 AM

Instrument	Falco	**Data File**	MJ_Cal 4.d
Type	Cal	**Sample**	MJ_Cal 4
Acq. Method	AM 27 THC quant.m	**Operator**	Sarah Pickle
Sample Position	P3-E6	**Comment**	
Injection Volume	10		
Acq. Date-Time	11/24/2019 2:50:16 PM		
Sample Info.			

Sample Chromatogram



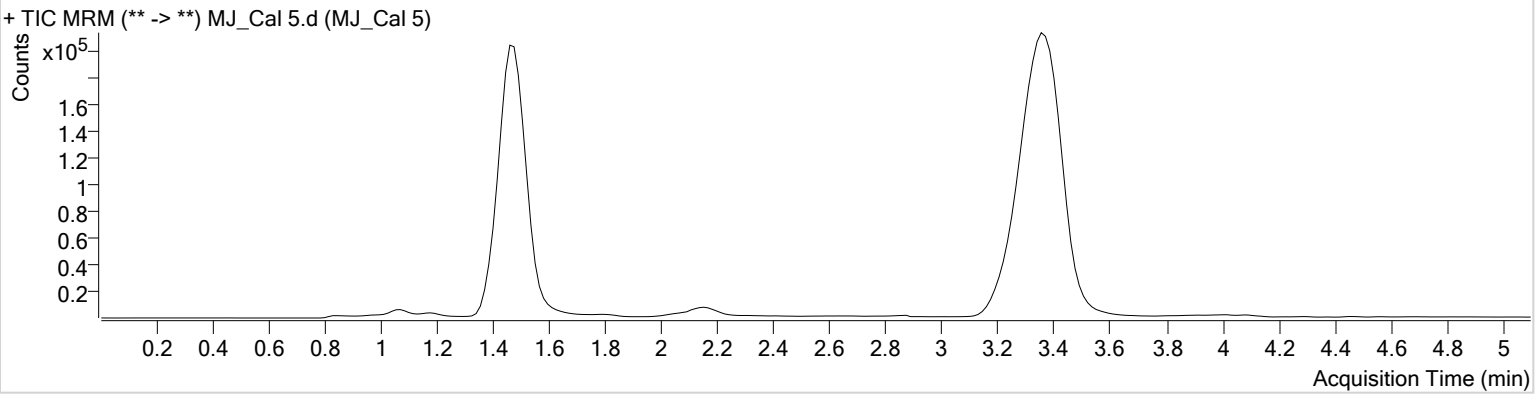
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.504	191030	1512.36	55.6	1811.11	146900	53.0150	ng/ml
THC-OH	1.468	68473	∞	11.3	80.49	437090	10.7648	ng/ml
THC	3.375	125947	348.77	28.7	111.17	1619157	10.4274	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results	D:\MassHunter\Data\2019\AM 27\112419 THCQ MDQ SP\QuantResults\THCQ.batch.bin
Calibration Last Update	11/25/2019 11:27:41 AM

Instrument	Falco	**Data File**	MJ_Cal 5.d
Type	Cal	**Sample**	MJ_Cal 5
Acq. Method	AM 27 THC quant.m	**Operator**	Sarah Pickle
Sample Position	P3-F6	**Comment**	
Injection Volume	10		
Acq. Date-Time	11/24/2019 2:57:51 PM		
Sample Info.			

Sample Chromatogram



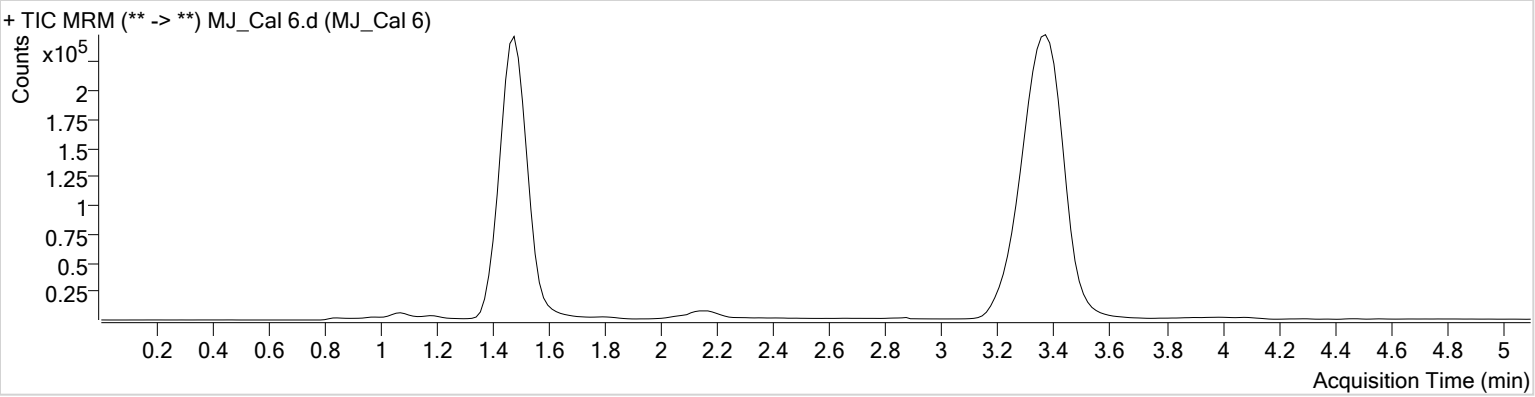
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.489	311885	∞	56.4	3769.95	163543	80.1847	ng/ml
THC-OH	1.468	161770	∞	13.2	180.81	500439	24.9836	ng/ml
THC	3.375	342968	618.96	26.5	298.11	1796743	25.9363	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2019\AM 27\112419 THCQ MDQ SP\QuantResults\THCQ.batch.bin
Calibration Last Update 11/25/2019 11:27:41 AM

Instrument	Falco	**Data File**	MJ_Cal 6.d
Type	Cal	**Sample**	MJ_Cal 6
Acq. Method	AM 27 THC quant.m	**Operator**	Sarah Pickle
Sample Position	P3-G6	**Comment**	
Injection Volume	10		
Acq. Date-Time	11/24/2019 3:05:25 PM		
Sample Info.			

Sample Chromatogram



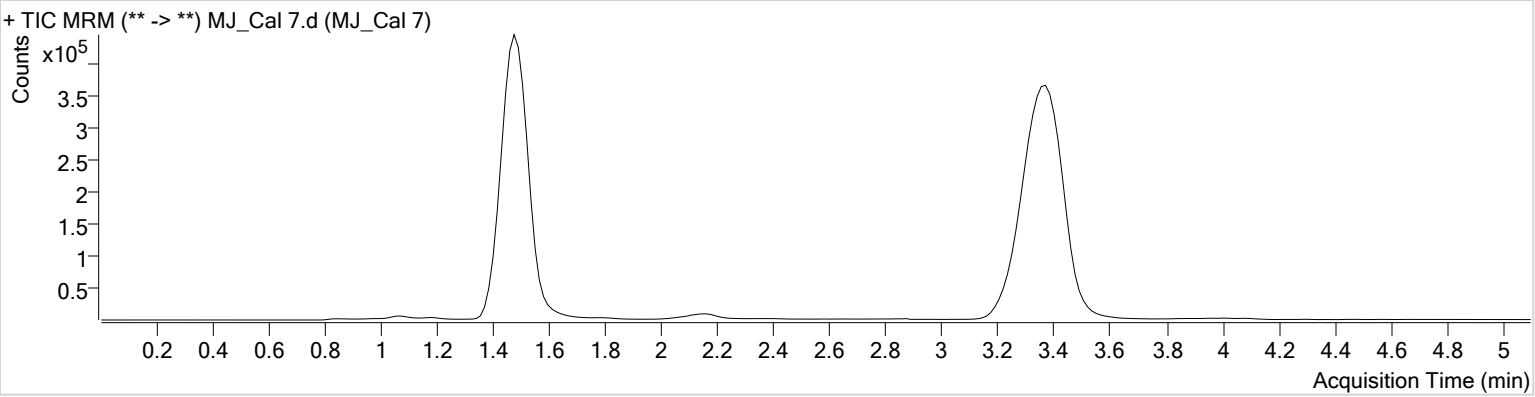
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.504	381207	1237.09	59.0	7071.73	155163	104.8072	ng/ml
THC-OH	1.468	322216	1727.19	13.1	439.91	480132	54.6714	ng/ml
THC	3.375	676621	2671.88	26.3	1101.40	1752581	52.7020	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results	D:\MassHunter\Data\2019\AM 27\112419 THCQ MDQ SP\QuantResults\THCQ.batch.bin
Calibration Last Update	11/25/2019 11:27:41 AM

Instrument	Falco	**Data File**	MJ_Cal 7.d
Type	Cal	**Sample**	MJ_Cal 7
Acq. Method	AM 27 THC quant.m	**Operator**	Sarah Pickle
Sample Position	P3-H6	**Comment**	
Injection Volume	10		
Acq. Date-Time	11/24/2019 3:12:59 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.504	866358	4900.56	60.3	3237.12	159252	238.4227	ng/ml
THC-OH	1.468	607736	∞	13.8	1683.96	530861	95.1020	ng/ml
THC	3.375	1400289	1353.15	26.8	2315.45	1988362	96.3322	ng/ml