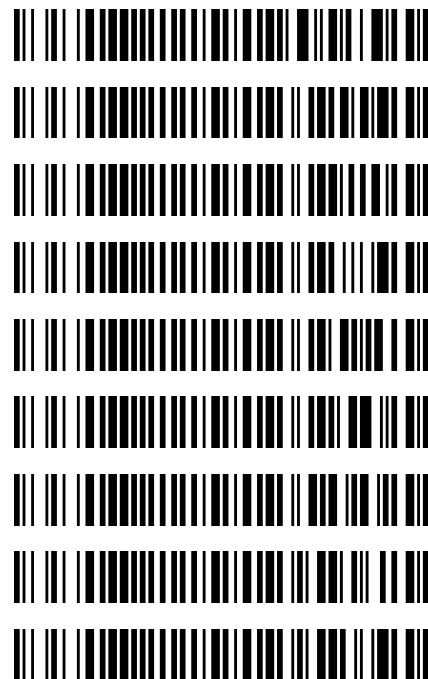


Worklist: 4679

<u>LAB_CASE</u>	<u>ITEM</u>	<u>ITEM_TYPE</u>	<u>DESCRIPTION</u>
P2020-3313	2	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-3558	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-3559	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-3560	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-3563	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-3564	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-3594	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-3609	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-3610	1	BCK	AM 27 Blood THC Quant by LC-QQQ



TS

12/22/2020

CS

Worklist: 4690

<u>LAB CASE</u>	<u>ITEM</u>	<u>ITEM TYPE</u>	<u>DESCRIPTION</u>
P2020-3062	3	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ



TS 09

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

Extraction Date: 12/15/2020

Plate lot#: IDP-108-200723

Mobile phase A: 0.1% Formic Acid in LCMS Water

Blank Blood Lot: Lampire 20L20725

LCMS-QQQ ID: 069901

Analyst: Tamara Salazar

Plate Expiration: 01/23/21

Mobile phase B: 0.1% Formic acid in Acetonitrile

Column: UCT Selectra DA 100 x 2.1mm 3um

Blank Urine Lot: POC031319

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: add 1.5mL urine to blank plate, add 250µl 1N KOH. Shake and incubate at 40 degrees for 15 minutes. Using a calibrated pipette, add **1000µl blood and urine (if applicable) (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, 500 µL saturated phosphate buffer in urine** in wells of analytical plate.
- 5. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 6. Transfer **700-800µL of blood+acid or urine+acid** mixture to corresponding wells of SLE+ plate. Amount transferred: 800uL
- 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)**
- 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.
- 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 (quantitative), 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.
- 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: *Curves limited: THC-OH 3-100*

Celena Shrum included urine sample P2020-3062-3 in this run. Tamara Salazar acted as the primary analyst and performed steps 3-16. *CS*

I, Celena Shrum, approved of all steps utilized in this method. *CS*

TS

CS

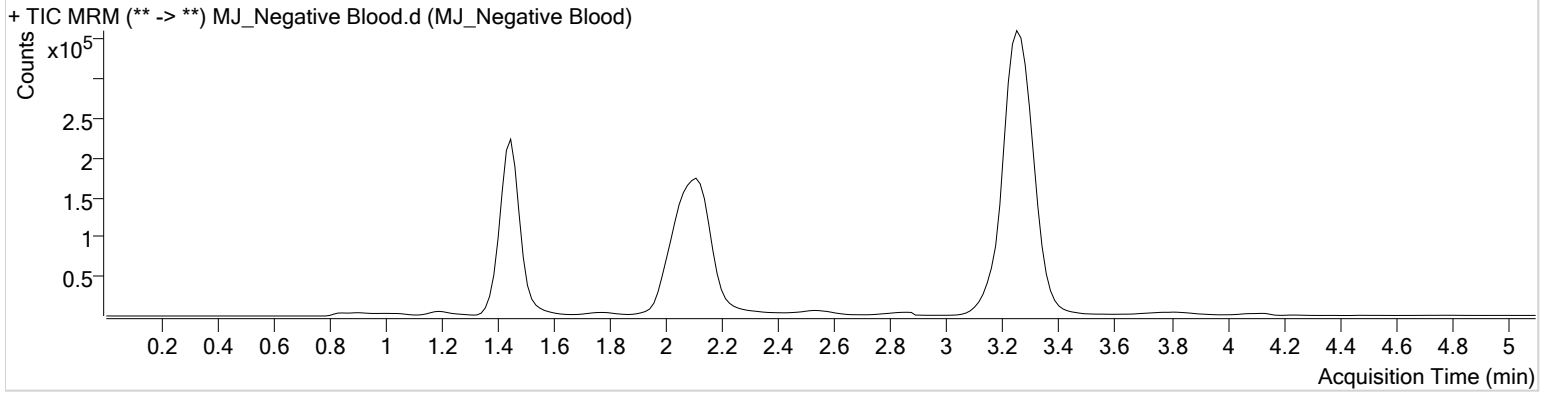


AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\121520 AM 27 28 TS\QuantResults\AM 27.batch.bin
Calibration Last Update 12/21/2020 9:37:48 AM

Instrument	Instrument 1	Data File	MJ_Negative Blood.d
Type	Sample	Sample	MJ_Negative Blood
Acq. Method	AM 27 THCQ.m	Operator	Tamara Salazar
Sample Position	P1-A2	Comment	
Injection Volume	10		
Acq. Date-Time	12/15/2020 2:36:28 PM		
Sample Info.			

Sample Chromatogram



TS CS

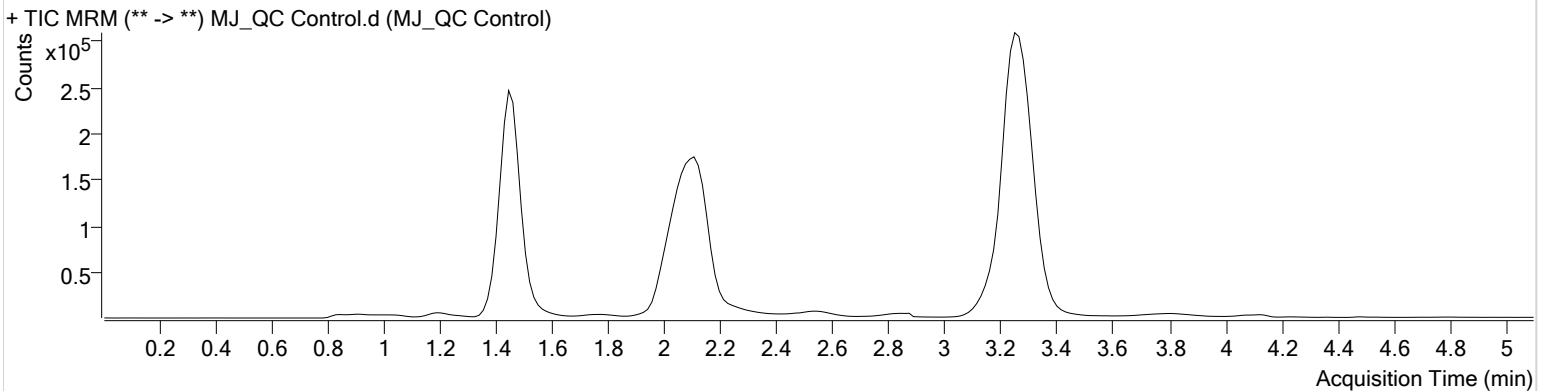


AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\121520 AM 27 28 TS\QuantResults\AM 27.batch.bin
Calibration Last Update 12/21/2020 9:37:48 AM

Instrument	Instrument 1	Data File	MJ_QC Control.d
Type	Sample	Sample	MJ_QC Control
Acq. Method	AM 27 THCQ.m	Operator	Tamara Salazar
Sample Position	P1-H1	Comment	
Injection Volume	10		
Acq. Date-Time	12/15/2020 2:03:41 PM		

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.453	66438	∞	13.3	∞	769813	4.9330 ng/ml
THC-COOH	1.474	114115	∞	59.3	∞	265428	15.3159 ng/ml
THC	3.270	96455	∞	30.1	∞	2305339	4.5598 ng/ml

TS CS

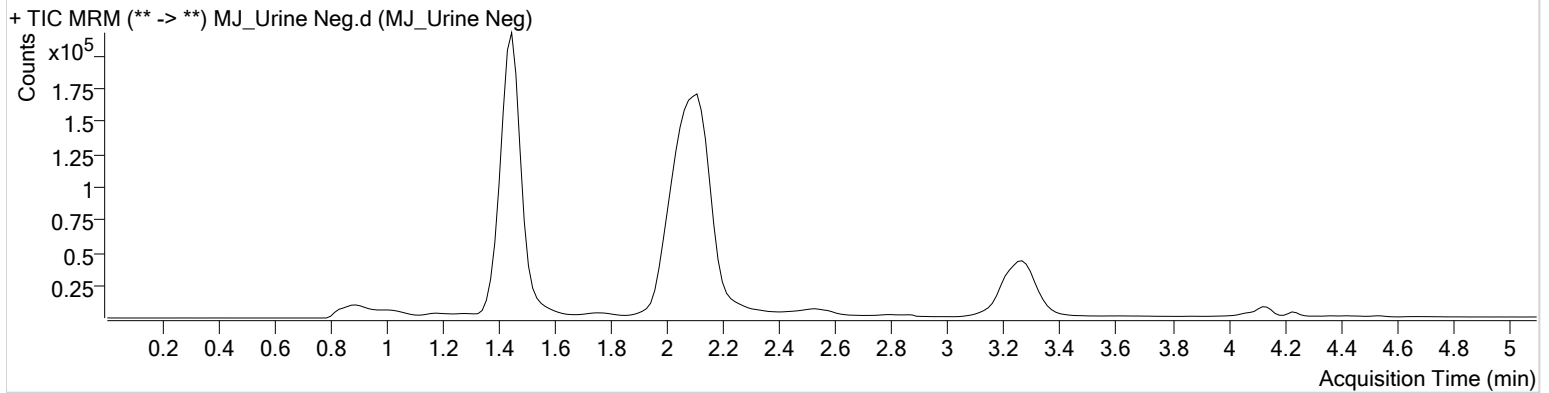


AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\121520 AM 27 28 TS\QuantResults\AM 27.batch.bin
Calibration Last Update 12/21/2020 9:37:48 AM

Instrument	Instrument 1	Data File	MJ_Urine Neg.d
Type	Sample	Sample	MJ_Urine Neg
Acq. Method	AM 27 THCQ.m	Operator	Tamara Salazar
Sample Position	P1-C3	Comment	
Injection Volume	10		
Acq. Date-Time	12/15/2020 5:08:30 PM		
Sample Info.			

Sample Chromatogram



AM #27 Cannabinoid Quant. Results

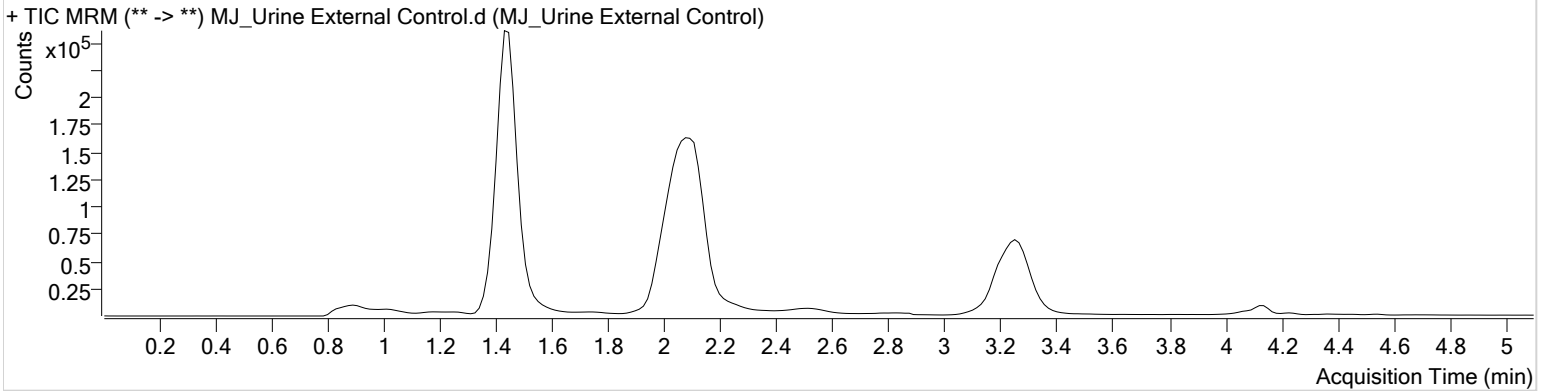


Batch results D:\MassHunter\Data\2020\AM 27-28\121520 AM 27 28 TS\QuantResults\AM 27.batch.bin
Calibration Last Update 12/21/2020 9:37:48 AM

Instrument Instrument 1
Type Sample
Acq. Method AM 27 THCQ.m
Sample Position P1-D3
Injection Volume 10
Acq. Date-Time 12/15/2020 5:23:44 PM
Sample Info.

Data File MJ_Urine External Control.d
Sample MJ_Urine External Control
Operator Tamara Salazar
Comment

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.438	105273	∞	13.8	∞	915892	6.5925 ng/ml
THC-COOH	1.474	76381	∞	61.8	∞	237718	11.3518 ng/ml
THC	3.254	10155	∞	31.1	17.17	585534	1.9303 ng/ml

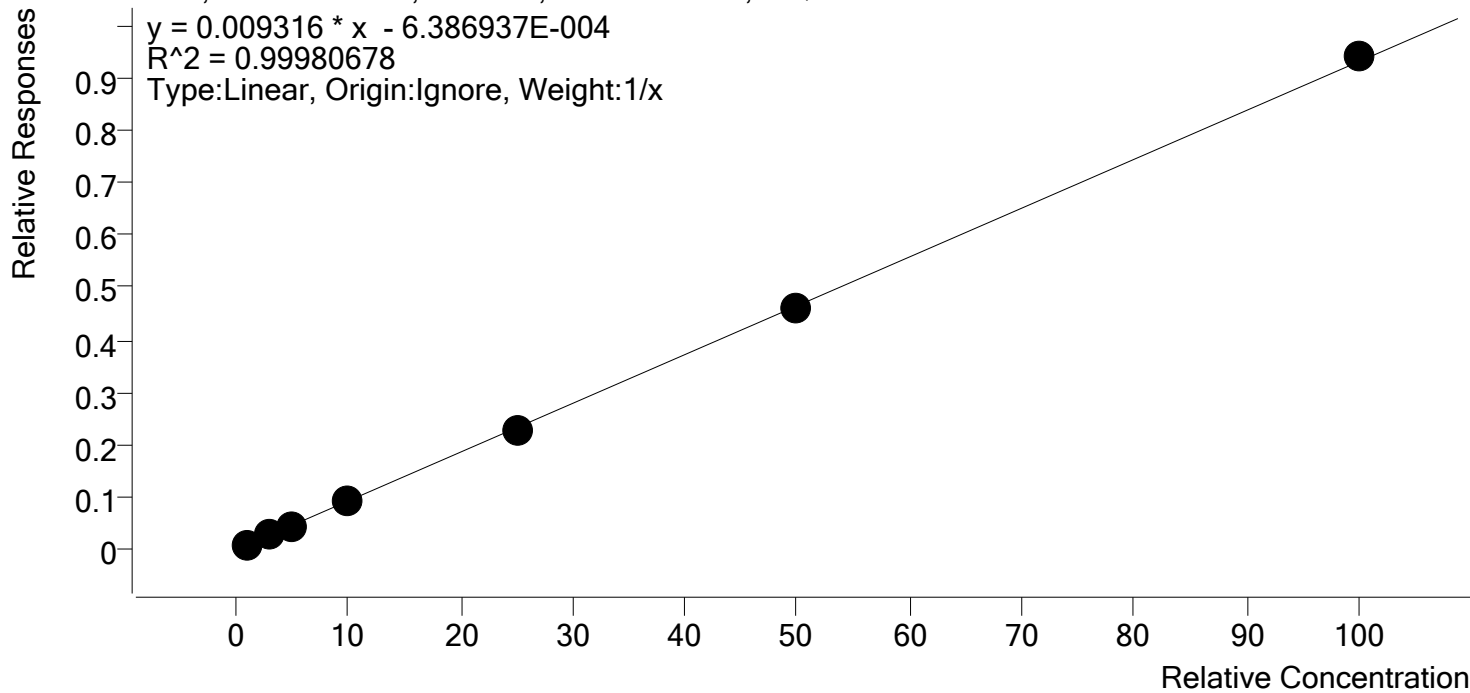
CS TS



AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2020\AM 27-28\121520 AM 27 28 TS\QuantResults\AM 27.batch.bin
Last Cal. Update 12/21/2020 9:37 AM
Analyst Name ISP\Datastor
Analyte THC **Internal Standard** THC-D3

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



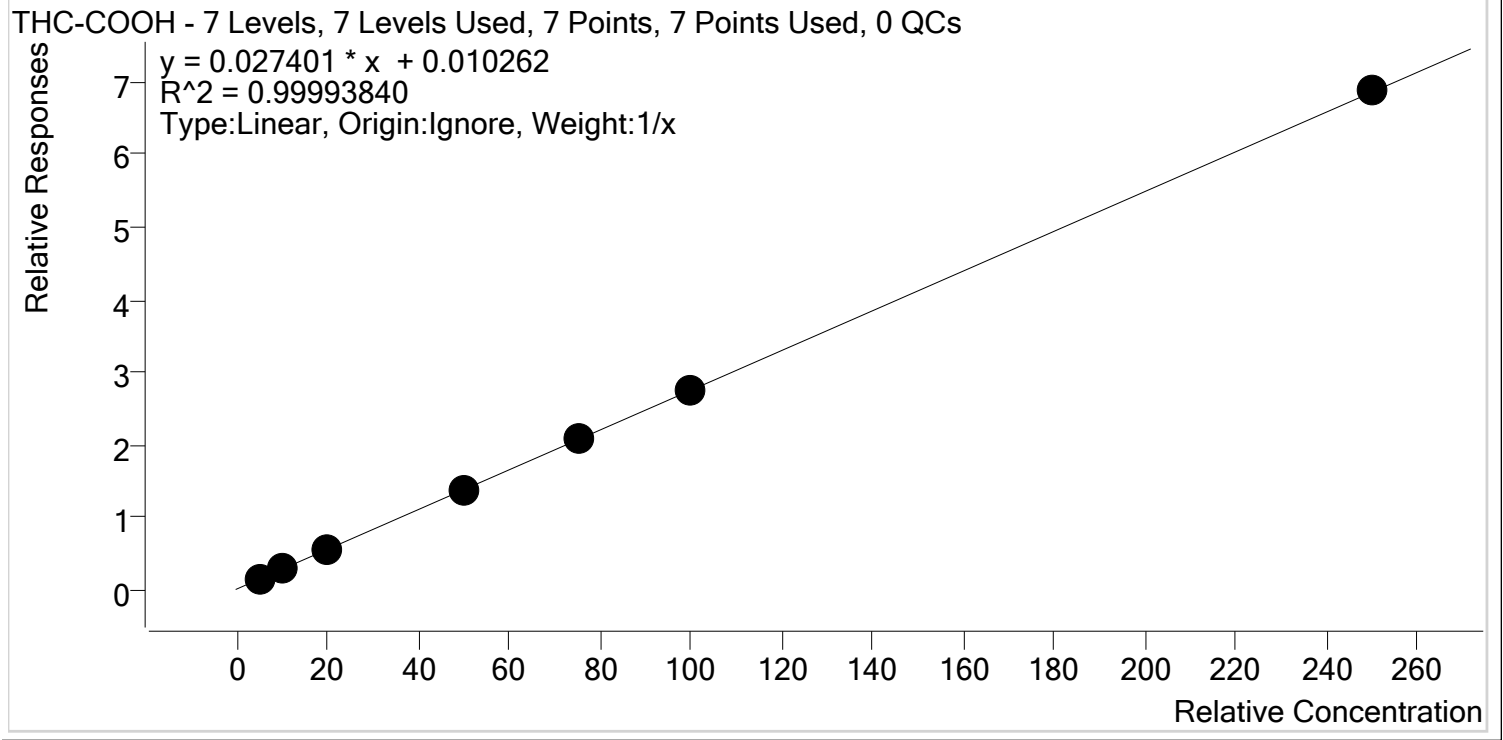
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ_Cal 1	1	✓	1.0	1.0	104.7
MJ_Cal 2_r	2	✓	3.0	2.9	98.0
MJ_Cal 3	3	✓	5.0	5.1	101.5
MJ_Cal 4	4	✓	10.0	9.7	97.3
MJ_Cal 5	5	✓	25.0	24.6	98.2
MJ_Cal 6	6	✓	50.0	49.7	99.3
MJ_Cal 7	7	✓	100.0	101.0	101.0

CS TS



AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2020\AM 27-28\121520 AM 27 28 TS\QuantResults\AM 27.batch.bin
Last Cal. Update 12/21/2020 9:37 AM
Analyst Name ISP\Datastor
Analyte THC-COOH **Internal Standard** THC-COOH-D9



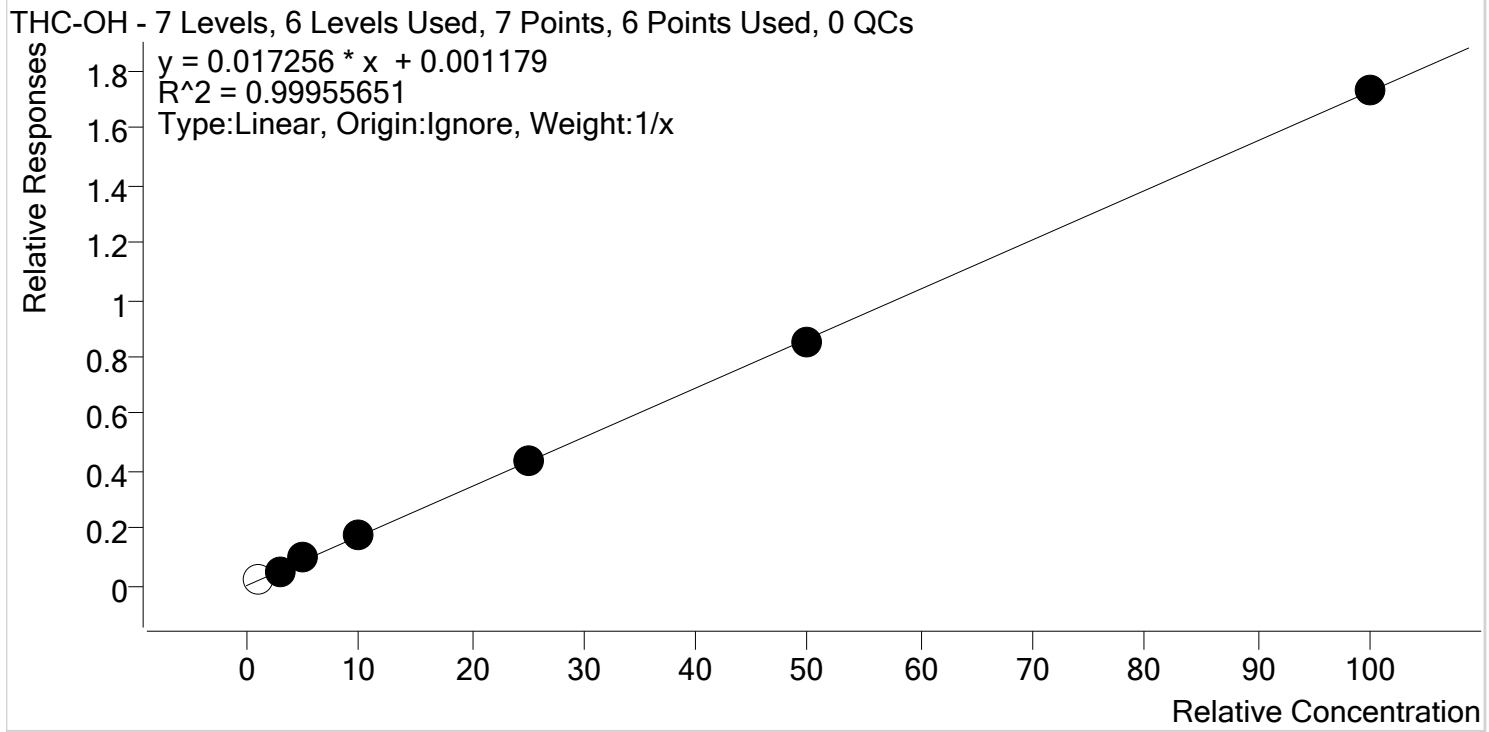
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ_Cal 1	1	✓	5.0	5.1	101.5
MJ_Cal 2_r	2	✓	10.0	9.8	97.6
MJ_Cal 3	3	✓	20.0	20.3	101.6
MJ_Cal 4	4	✓	50.0	49.9	99.7
MJ_Cal 5	5	✓	75.0	75.2	100.2
MJ_Cal 6	6	✓	100.0	99.1	99.1
MJ_Cal 7	7	✓	250.0	250.7	100.3

CS TS



AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2020\AM 27-28\121520 AM 27 28 TS\QuantResults\AM 27.batch.bin
Last Cal. Update 12/21/2020 9:37 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	1.4	137.8
MJ_Cal 2_r	2	✓	3.0	2.7	91.1
MJ_Cal 3	3	✓	5.0	5.4	108.0
MJ_Cal 4	4	✓	10.0	10.2	101.7
MJ_Cal 5	5	✓	25.0	25.0	99.8
MJ_Cal 6	6	✓	50.0	49.6	99.2
MJ_Cal 7	7	✓	100.0	100.2	100.2

TS CS



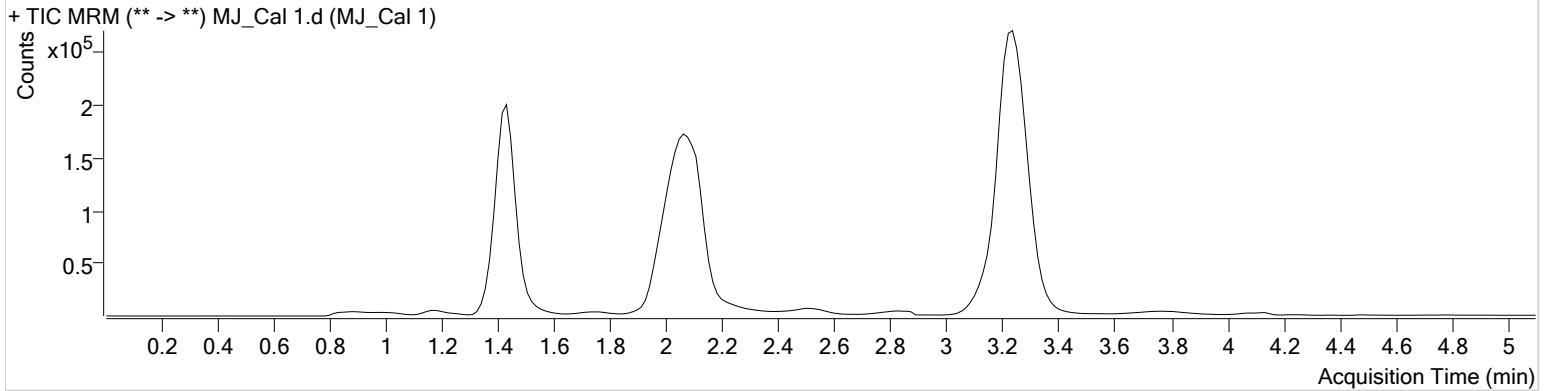
AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\121520 AM 27 28 TS\QuantResults\AM 27.batch.bin
Calibration Last Update 12/21/2020 9:37:48 AM

Instrument	Instrument 1	Data File	MJ_Cal 1.d
Type	Cal	Sample	MJ_Cal 1
Acq. Method	AM 27 THCQ.m	Operator	Tamara Salazar
Sample Position	P1-A1	Comment	
Injection Volume	10		
Acq. Date-Time	12/15/2020 1:02:48 PM		

Sample Info.

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.438	17741	∞	13.8	∞	711013	1.3777 ng/ml Low
THC-COOH	1.459	38811	∞	52.2	289.42	259870	5.0761 ng/ml
THC	3.239	19057	∞	30.7	10.78	2091505	1.0466 ng/ml

TS CS



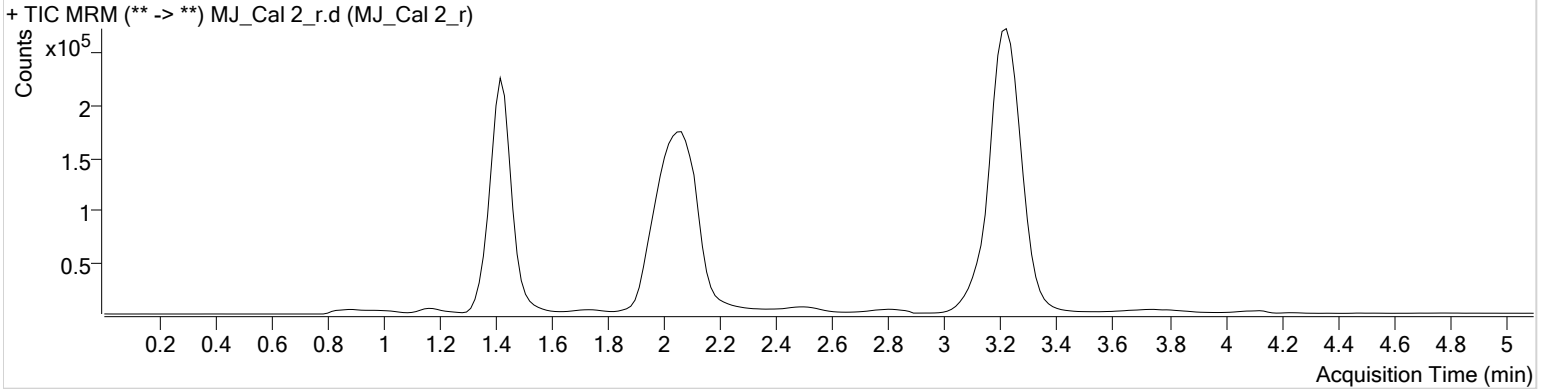
AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\121520 AM 27 28 TS\QuantResults\AM 27.batch.bin
Calibration Last Update 12/21/2020 9:37:48 AM

Instrument Instrument 1
Type Cal
Acq. Method AM 27 THCQ.m
Sample Position P1-B1
Injection Volume 10
Acq. Date-Time 12/15/2020 2:21:06 PM
Sample Info.

Data File MJ_Cal 2_r.d
Sample MJ_Cal 2_r
Operator Tamara Salazar
Comment Calibrator failed to inject properly with initial injection. The worklist was paused and the calibrator was reinjected. TS

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.423	37373	∞	14.9	145.02	773207	2.7326 ng/ml Low
THC-COOH	1.444	75760	∞	59.8	∞	272939	9.7556 ng/ml
THC	3.239	57838	∞	25.2	71.62	2162194	2.9400 ng/ml

TS

CS



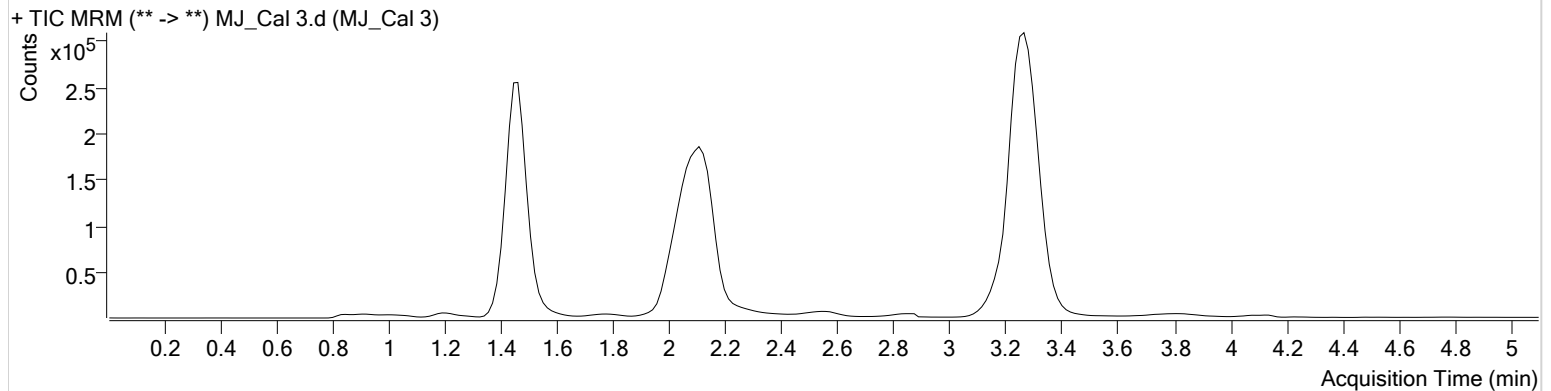
AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\121520 AM 27 28 TS\QuantResults\AM 27.batch.bin
Calibration Last Update 12/21/2020 9:37:48 AM

Instrument Instrument 1
Type Cal
Acq. Method AM 27 THCQ.m
Sample Position P1-C1
Injection Volume 10
Acq. Date-Time 12/15/2020 1:18:07 PM
Sample Info.

Data File MJ_Cal 3.d
Sample MJ_Cal 3
Operator Tamara Salazar
Comment

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.453	71518	∞	13.1	∞	757645	5.4018 ng/ml
THC-COOH	1.474	154454	∞	56.6	1042.59	272341	20.3233 ng/ml
THC	3.270	104628	∞	27.9	∞	2243396	5.0749 ng/ml

TS



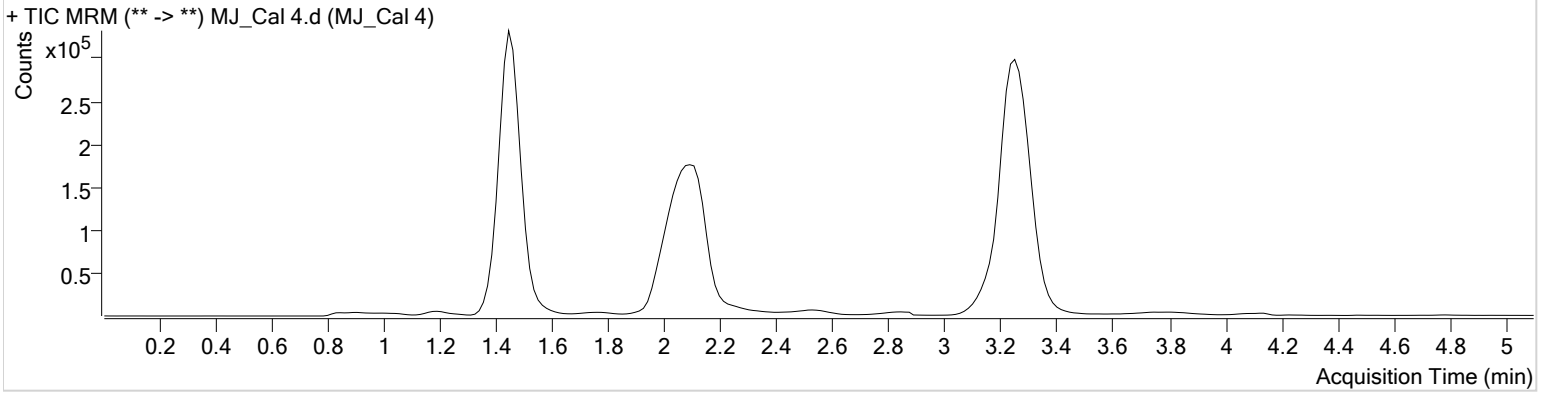
AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\121520 AM 27 28 TS\QuantResults\AM 27.batch.bin
Calibration Last Update 12/21/2020 9:37:48 AM

Instrument Instrument 1
Type Cal
Acq. Method AM 27 THCQ.m
Sample Position P1-D1
Injection Volume 10
Acq. Date-Time 12/15/2020 1:25:43 PM
Sample Info.

Data File MJ_Cal 4.d
Sample MJ_Cal 4
Operator Tamara Salazar
Comment

Sample Chromatogram



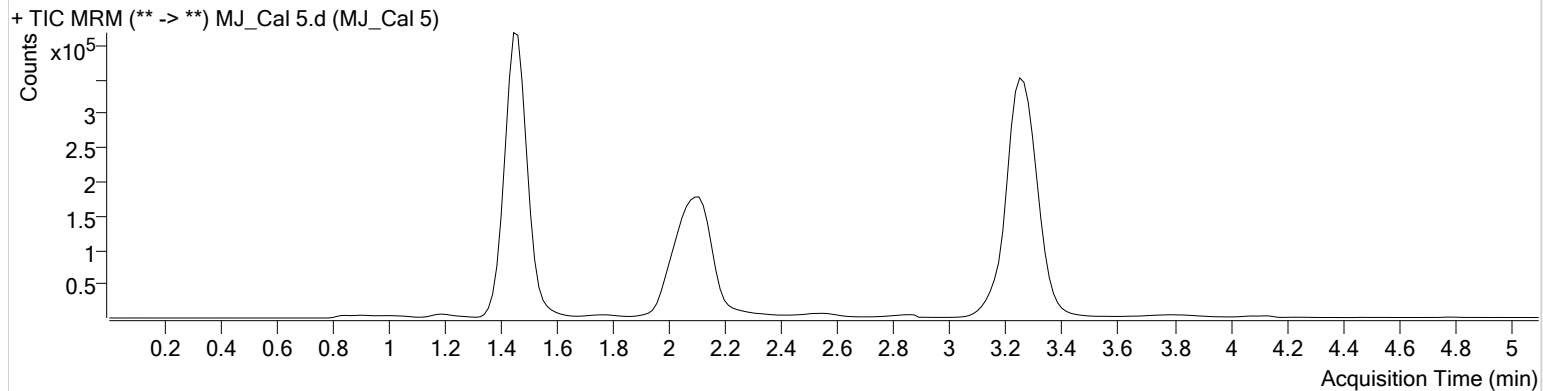
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.453	132622	∞	12.7	∞	750309	10.1747 ng/ml
THC-COOH	1.474	368688	∞	58.9	4606.22	267869	49.8569 ng/ml
THC	3.254	191419	∞	24.9	∞	2126727	9.7302 ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\121520 AM 27 28 TS\QuantResults\AM 27.batch.bin
Calibration Last Update 12/21/2020 9:37:48 AM

Instrument	Instrument 1	Data File	MJ_Cal 5.d
Type	Cal	Sample	MJ_Cal 5
Acq. Method	AM 27 THCQ.m	Operator	Tamara Salazar
Sample Position	P1-E1	Comment	
Injection Volume	10		
Acq. Date-Time	12/15/2020 1:33:20 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.453	324969	∞	12.6	∞	752714	24.9503 ng/ml
THC-COOH	1.474	540740	∞	61.5	∞	261264	75.1606 ng/ml
THC	3.270	487995	∞	24.5	∞	2138920	24.5591 ng/ml

TS CS

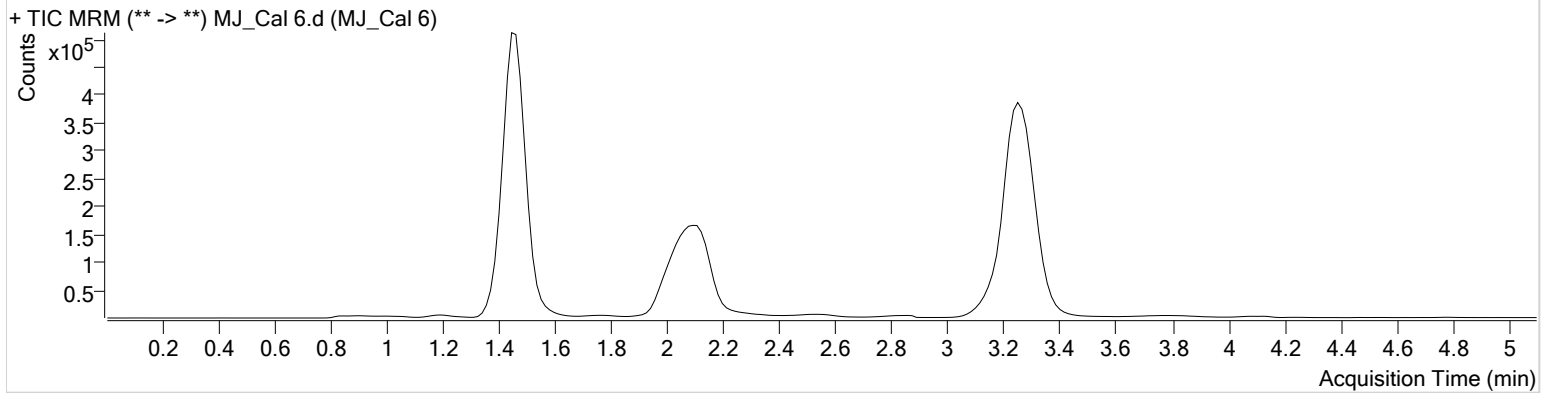


AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\121520 AM 27 28 TS\QuantResults\AM 27.batch.bin
Calibration Last Update 12/21/2020 9:37:48 AM

Instrument	Instrument 1	Data File	MJ_Cal 6.d
Type	Cal	Sample	MJ_Cal 6
Acq. Method	AM 27 THCQ.m	Operator	Tamara Salazar
Sample Position	P1-F1	Comment	
Injection Volume	10		
Acq. Date-Time	12/15/2020 1:40:56 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.453	630398	∞	12.9	∞	735703	49.5867 ng/ml
THC-COOH	1.474	687390	∞	62.1	∞	252244	99.0795 ng/ml
THC	3.254	913640	∞	24.3	∞	1977964	49.6517 ng/ml

TS CS



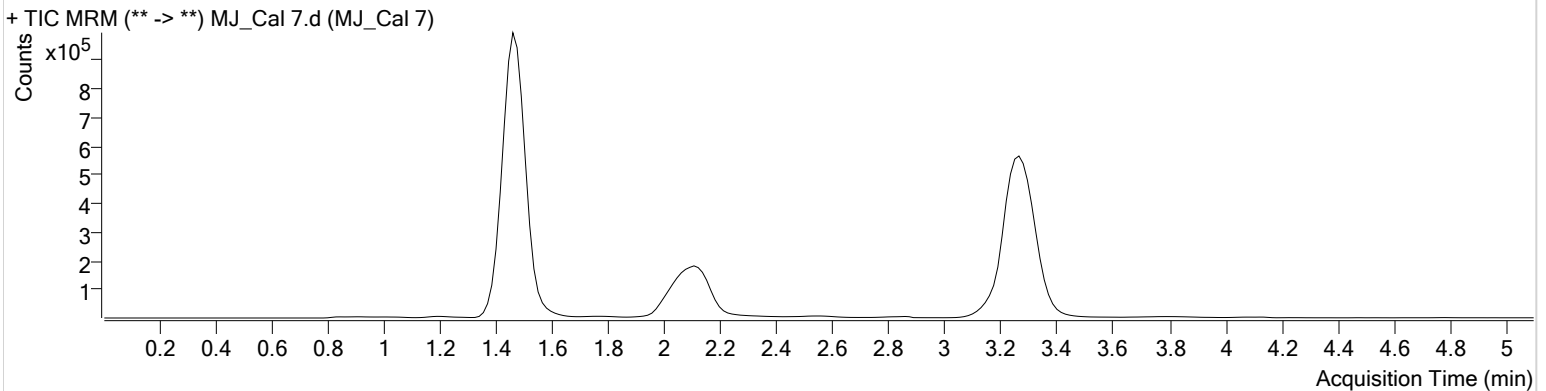
AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\121520 AM 27 28 TS\QuantResults\AM 27.batch.bin
Calibration Last Update 12/21/2020 9:37:48 AM

Instrument Instrument 1
Type Cal
Acq. Method AM 27 THCQ.m
Sample Position P1-G1
Injection Volume 10
Acq. Date-Time 12/15/2020 1:48:30 PM
Sample Info.

Data File MJ_Cal 7.d
Sample MJ_Cal 7
Operator Tamara Salazar
Comment

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.453	1357132	∞	13.0	∞	784711	100.1538 ng/ml
THC-COOH	1.474	1718287	∞	62.3	9559.23	249718	250.7481 ng/ml
THC	3.270	1962937	∞	24.4	∞	2087697	100.9976 ng/ml



Idaho State Police Forensic Services

AM #26 Screening of THC and Metabolites and AM #27 Confirmation of THC and Metabolites Urine External Control Prep Sheet

Methanol External Control Solution (Lot: WS011620)

10 μ L of 1mg/mL THC, 100 μ L of 100 μ g/mL THC-OH, C-THC in 9790 μ L MeOH

Approximate concentration 1ug/mL.

<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>	<i>Expiration Date</i>
Methanol (LCMS)	Fisher	193941	
THC	Cerilliant	FE09101501	11/30/2020
C-THC	Cerilliant	FE07171501	09/30/2020
THC-OH	Cerilliant	FE07221601	07/31/2021
Prepared:	01/16/2020		
Prepared By:	Tamara Salazar		

Urine External Control Solution (Lot: 110220)

200 ul of methanol external control solution was added to 9800 ul of urine.

Approximately 20ng/mL each

<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>
Negative Urine	Pocatello Lab	POC031319
Methanol External Control Solution	-	WS011620
Prepared:	11/02/2020	
Prepared by:	Celena Shrum	