



REVIEWED

By Sarah Pickle at 1:19 pm, Dec 16, 2018

11/30/2018

Worklist: 2819

<u>LAB CASE</u>	<u>ITEM</u>	<u>TASK ID</u>	<u>DESCRIPTION</u>	
C2018-2196	1	133348	AM 27 Blood THC Quant by LC-QQQ	
C2018-2203	1	133349	AM 27 Blood THC Quant by LC-QQQ	
C2018-2204	1	133350	AM 27 Blood THC Quant by LC-QQQ	
C2018-2205	1	133351	AM 27 Blood THC Quant by LC-QQQ	
C2018-2252	1	133352	AM 27 Blood THC Quant by LC-QQQ	
C2018-2277	1	133353	AM 27 Blood THC Quant by LC-QQQ	
C2018-2383	1	133354	AM 27 Blood THC Quant by LC-QQQ	
C2018-2384	1	133355	AM 27 Blood THC Quant by LC-QQQ	
C2018-2391	1	133356	AM 27 Blood THC Quant by LC-QQQ	
M2018-5683	1	133357	AM 27 Blood THC Quant by LC-QQQ	
P2018-3192	1	133358	AM 27 Blood THC Quant by LC-QQQ	
P2018-3257	1	133359	AM 27 Blood THC Quant by LC-QQQ	
P2018-3280	1	133360	AM 27 Blood THC Quant by LC-QQQ	



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

Extraction Date: 11/29/18

Analyst: Anne Nord

Plate lot#: 0539904

Plate Expiration: 09/10/2019

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

Mobile phase B: 0.1% Formic acid in Acetonitrile
Hexane

Blank Blood Lot: 18G207D7

Column: UCT Selectra DA 100 x 2.1mm 3um

LCMS-QQQ ID: 62340

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.
- 3. Create worklist:

Analytic:

- 1. Remove standards, plate, controls, and samples from cold storage. Allow to reach room temperature.
- 2. Pipette **1000µL blood (calibrated pipette) Pipette ID: k52558g** in wells of analytical (standards) plate.
- 3. Place on shaking incubator at ambient temp., 900rpm for 15 minutes. *Shaker ID: 66759*
- 4. Pipette **500µL 0.1% formic acid in water** 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: 66792
- 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: 66819
- 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.
Batch path: 112918 cann quant Batch Name: cann quant
- 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:



Toxicology AM method 27 external prep information
working solution 1 ug/ml in meoh C-THC, THC-OH, THC
Stock solution 1mg/ml 10 ul each THC, THC-OH 100 ug/ml 100 ul C-THC in 9890 ul meOH
Ppd 6/5/18 Exp: 4/1/19 lot 6518 by AMN

Drug	lot (cerilliant)	expiration
C-THC	FE03121501	3/1/2020
THC-OH	FE01141502	1/1/2020
THC	FE04231406	4/1/2019

AM 27 control 50 ul working solution lot (6518) in 4950 ul blood lot (17120718)
ppd 6/5/18 Exp 4/1/19 lot 6518 Concentration 10 ng/ml each by AMN
ppd 9/20/18 Exp 4/1/19 lot 92018 Concentration 10 ng/ml each by AMN

ISP FORENSICS - Cd'A Instrument # 62340

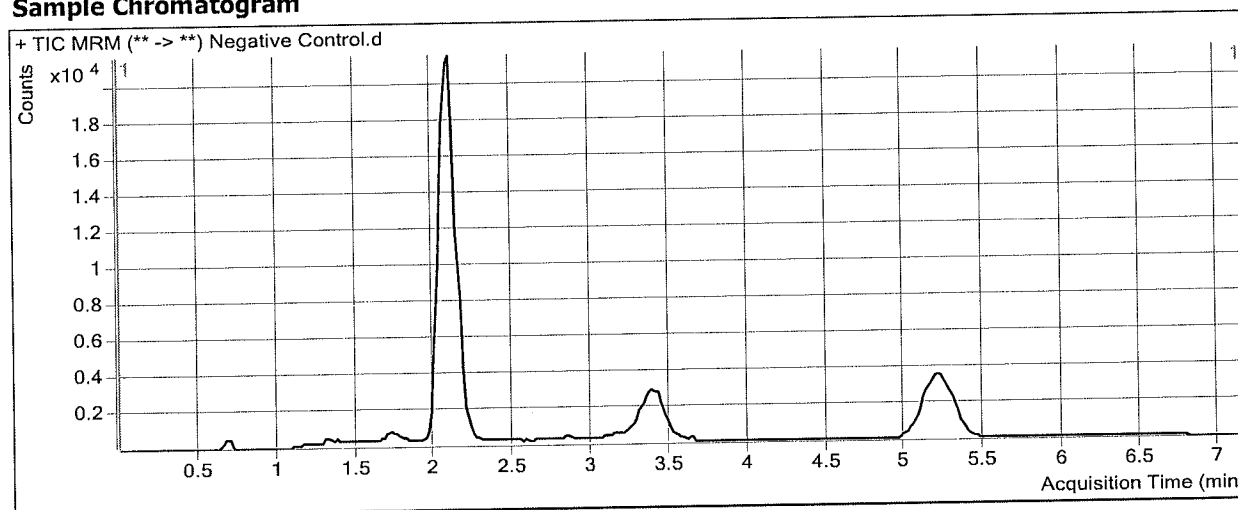
Cannabinoids Analysis Report

Batch Data Path D:\2018 Data\112918 cann quant\QuantResults\cann quant.batch.bin
Analysis Time 12/3/2018 8:56 AM **Analyst Name** ISP Tox
Report Time 12/3/2018 8:58 AM **Reporter Name** ISP Tox
Last Calib Update 12/3/2018 8:56 AM **Batch State** Processed

Analysis Info

Acq Time 2018-11-30 12:05 **Data File** Negative Control.d
Sample Type Sample **Sample Name** Negative Control
Dilution 1 **Acq Method** AM 27 Quant THC 7-2017.m
Position P1-A2 **Sample Info**
Inj Vol -1 **Comment** AM 27 Cannabinoid Confirmation

Sample Chromatogram



ISP FORENSICS - Cd'A Instrument # 62340

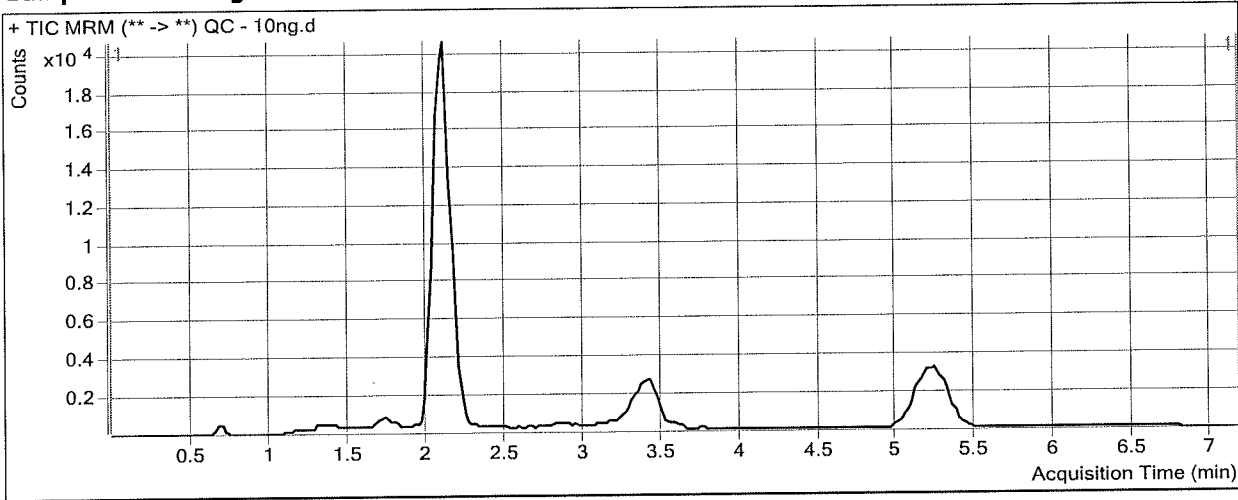
Cannabinoids Analysis Report

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Analysis Time 12/3/2018 8:56 AM **Analyst Name** ISP Tox
Report Time 12/3/2018 8:58 AM **Reporter Name** ISP Tox
Last Calib Update 12/3/2018 8:56 AM **Batch State** Processed

Analysis Info

Acq Time 2018-11-30 12:17 **Data File** QC - 10ng.d
Sample Type QC **Sample Name** QC - 10ng: 10-THC-COOH, 5THC 5 THC-OH
Dilution 1 **Acq Method** AM 27 Quant THC 7-2017.m
Position P1-H1 **Sample Info**
Inj Vol -1 **Comment** AM 27 Cannabinoid Confirmation

Sample Chromatogram



Results

Compound	ISTD Compound	RT	Response	ISTD Resp	Resp Ratio	Final Conc
THC-COOH	THC-COOH-d9	2.185	6975	45299	0.1540	9.5643 ✓
THC-OH	THC-OH-d3	2.115	4182	101793	0.0411	5.0552 ✓
THC	THC-d3	5.252	2143	44434	0.0482	4.9510 ✓

ISP FORENSICS - Cd'A Instrument # 62340

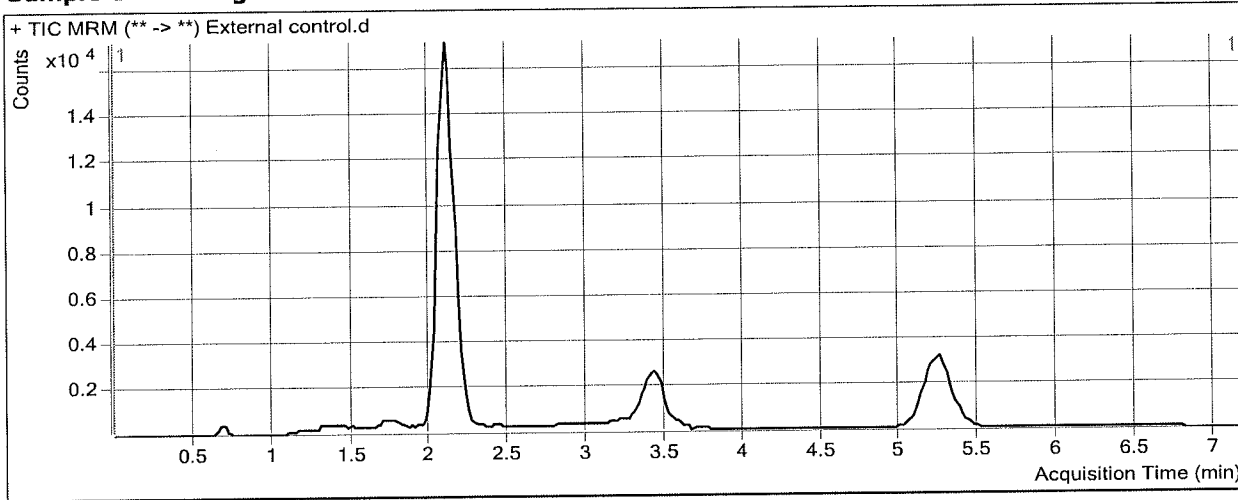
Cannabinoids Analysis Report

Batch Data Path D:\2018 Data\112918 cann quant\QuantResults\cann quant.batch.bin
Analysis Time 12/3/2018 8:56 AM **Analyst Name** ISP Tox
Report Time 12/3/2018 8:58 AM **Reporter Name** ISP Tox
Last Calib Update 12/3/2018 8:56 AM **Batch State** Processed

Analysis Info

Acq Time 2018-11-30 12:29 **Data File** External control.d
Sample Type Sample **Sample Name** External control
Dilution 1 **Acq Method** AM 27 Quant THC 7-2017.m
Position P1-B2 **Sample Info**
Inj Vol -1 **Comment** AM 27 Cannabinoid Confirmation

Sample Chromatogram



Results

Compound	ISTD Compound	RT	Response	ISTD Resp	Resp Ratio	Final Conc
THC-COOH	THC-COOH-d9	2.205	4817	36122	0.1334	8.2386 ✓
THC-OH	THC-OH-d3	2.115	5925	79682	0.0744	9.0281 ✓
THC	THC-d3	5.252	3885	35452	0.1096	11.2105 ✓

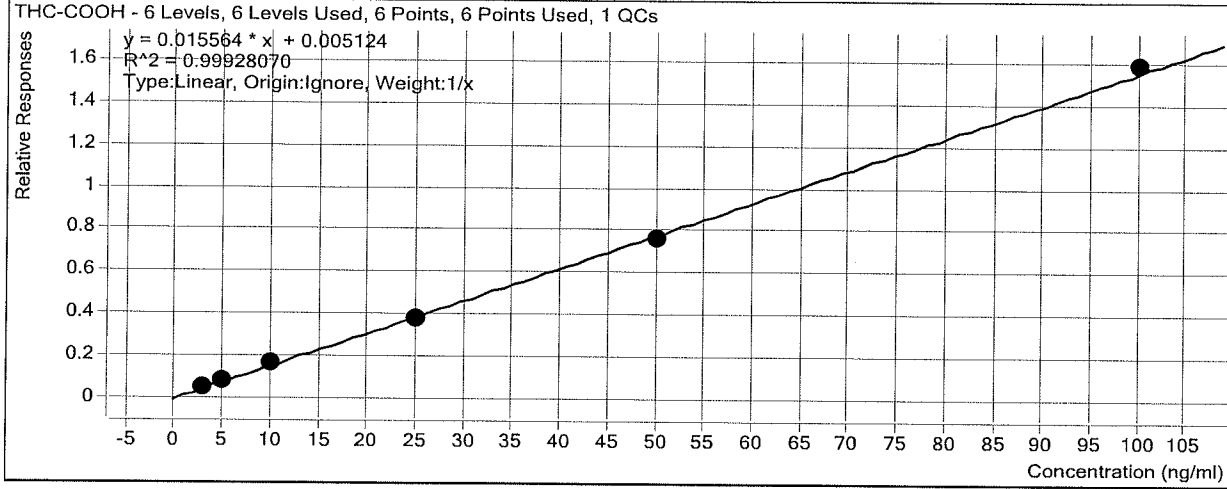
ISP Forensics Calibration Curve Report

Batch Data Path
Last Calib Update

D:\2018 Data\112918 cann quant\QuantResults\cann quant.batch.bin
12/3/2018 8:56 AM

Analyst Name ISP TOX

Target Compound *THC-COOH*
Internal Standard *THC-COOH-d9*



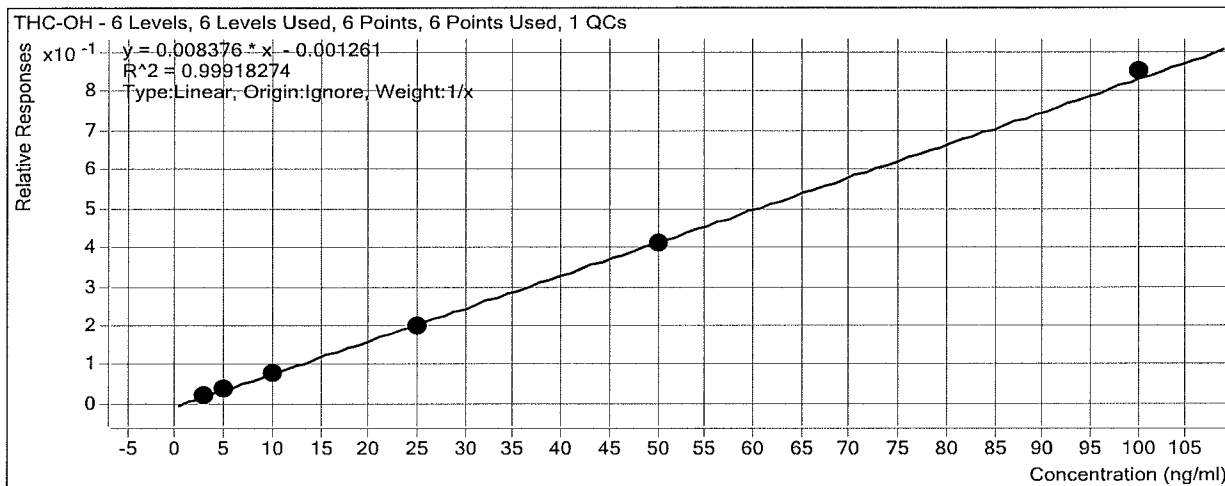
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Cal 1 - 3ng	1	<input checked="" type="checkbox"/>	3	3.2	107.4
Cal 2 - 5ng	2	<input checked="" type="checkbox"/>	5	4.7	93.8
Cal 3 - 10ng	3	<input checked="" type="checkbox"/>	10	10.2	101.8
Cal 4 - 25ng	4	<input checked="" type="checkbox"/>	25	24.4	97.5
Cal 5 - 50ng	5	<input checked="" type="checkbox"/>	50	48.9	97.9
Cal 6 - 100ng	6	<input checked="" type="checkbox"/>	100	101.6	101.6
QC - 10ng	7	<input checked="" type="checkbox"/>	10	9.6	95.6

ISP Forensics Calibration Curve Report

Batch Data Path
Last Calib Update

D:\2018 Data\112918 cann quant\QuantResults\cann quant.batch.bin
12/3/2018 8:56 AM **Analyst Name** ISP TOX

Target Compound *THC-OH*
Internal Standard *THC-OH-d3*



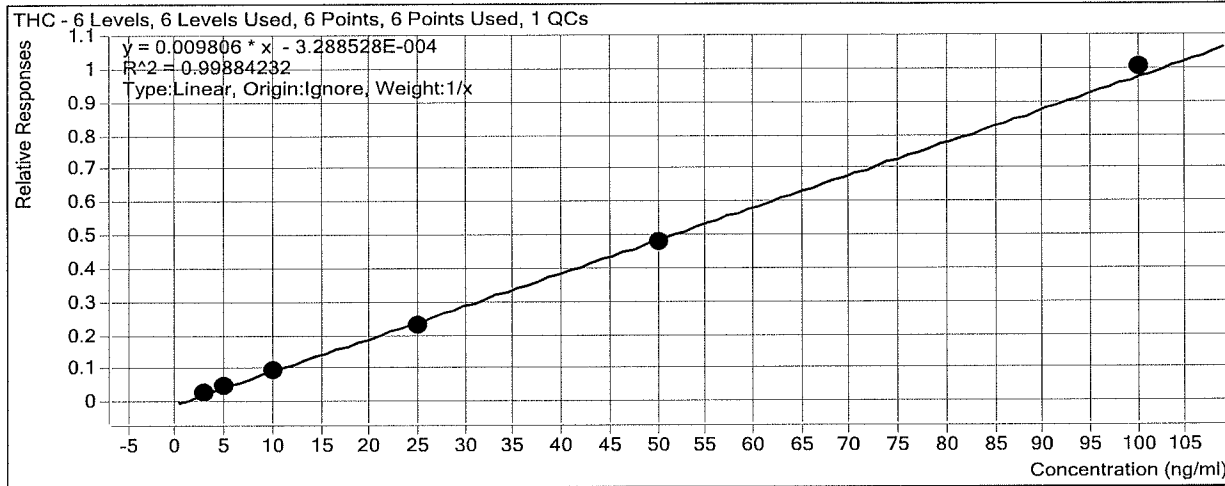
Sample	Level	Enabled	Exp Conc	Final Conc	Accuracy
Cal 1 - 3ng	1	<input checked="" type="checkbox"/>	3	3.1	103.3
Cal 2 - 5ng	2	<input checked="" type="checkbox"/>	5	5.2	104.0
Cal 3 - 10ng	3	<input checked="" type="checkbox"/>	10	9.7	96.8
Cal 4 - 25ng	4	<input checked="" type="checkbox"/>	25	23.8	95.1
Cal 5 - 50ng	5	<input checked="" type="checkbox"/>	50	49.5	99.1
Cal 6 - 100ng	6	<input checked="" type="checkbox"/>	100	101.7	101.7
QC - 10ng	7	<input checked="" type="checkbox"/>	5	5.1	101.1

ISP Forensics Calibration Curve Report

Batch Data Path
Last Calib Update

D:\2018 Data\112918 cann quant\QuantResults\cann quant.batch.bin
12/3/2018 8:56 AM **Analyst Name** ISP TOX

Target Compound *THC*
Internal Standard *THC-d3*



Sample	Level	Enabled	Exp Conc	Final Conc	Accuracy
Cal 1 - 3ng	1	<input checked="" type="checkbox"/>	3	3.2	107.0
Cal 2 - 5ng	2	<input checked="" type="checkbox"/>	5	5.0	99.6
Cal 3 - 10ng	3	<input checked="" type="checkbox"/>	10	9.8	98.4
Cal 4 - 25ng	4	<input checked="" type="checkbox"/>	25	23.7	94.9
Cal 5 - 50ng	5	<input checked="" type="checkbox"/>	50	48.9	97.7
Cal 6 - 100ng	6	<input checked="" type="checkbox"/>	100	102.4	102.4
QC - 10ng	7	<input checked="" type="checkbox"/>	5	5.0	99.0

ISP FORENSICS - Cd'A Instrument # 62340

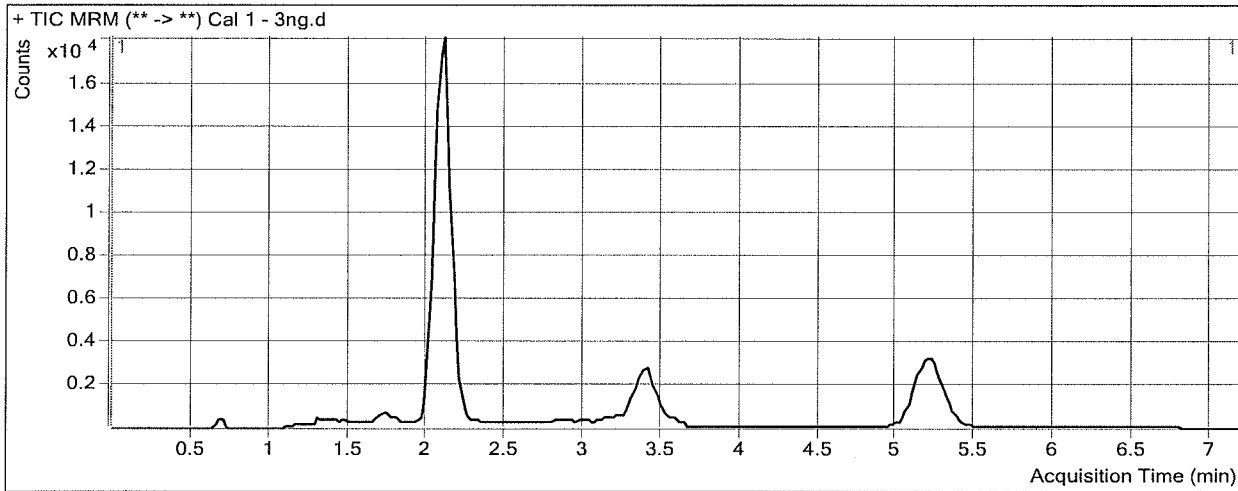
Cannabinoids Analysis Report

Batch Data Path D:\2018 Data\112918 cann quant\QuantResults\cann quant.batch.bin
Analysis Time 12/3/2018 8:56 AM **Analyst Name** ISP Tox
Report Time 12/3/2018 8:58 AM **Reporter Name** ISP Tox
Last Calib Update 12/3/2018 8:56 AM **Batch State** Processed

Analysis Info

Acq Time 2018-11-30 10:42 **Data File** Cal 1 - 3ng.d
Sample Type Calibration **Sample Name** Cal 1 - 3ng
Dilution 1 **Acq Method** AM 27 Quant THC 7-2017.m
Position P1-B1 **Sample Info**
Inj Vol -1 **Comment** AM 27 Cannabinoid Confirmation

Sample Chromatogram



Results

Compound	ISTD Compound	RT	Response	ISTD Resp	Resp Ratio	Final Conc
THC-COOH	THC-COOH-d9	2.185	2148	38849	0.0553	3.2234
THC-OH	THC-OH-d3	2.115	2198	88971	0.0247	3.1000
THC	THC-d3	5.232	1269	40761	0.0311	3.2090

ISP FORENSICS - Cd'A Instrument # 62340

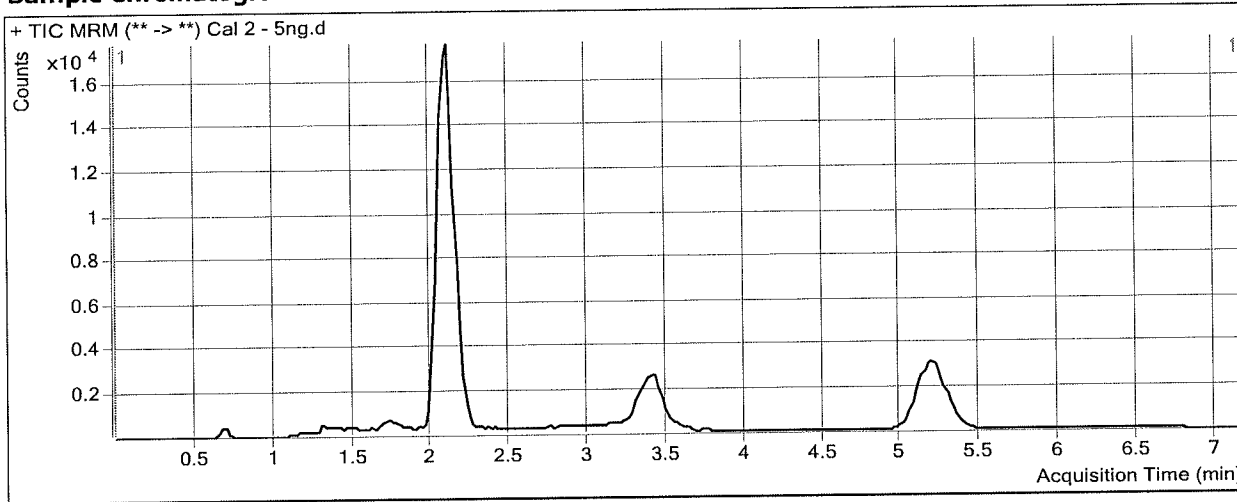
Cannabinoids Analysis Report

Batch Data Path D:\2018 Data\112918 cann quant\QuantResults\cann quant.batch.bin
Analysis Time 12/3/2018 8:56 AM **Analyst Name** ISP Tox
Report Time 12/3/2018 8:58 AM **Reporter Name** ISP Tox
Last Calib Update 12/3/2018 8:56 AM **Batch State** Processed

Analysis Info

Acq Time 2018-11-30 10:54 **Data File** Cal 2 - 5ng.d
Sample Type Calibration **Sample Name** Cal 2 - 5ng
Dilution 1 **Acq Method** AM 27 Quant THC 7-2017.m
Position P1-C1 **Sample Info**
Inj Vol -1 **Comment** AM 27 Cannabinoid Confirmation

Sample Chromatogram



Results

Compound	ISTD Compound	RT	Response	ISTD Resp	Resp Ratio	Final Conc
THC-COOH	THC-COOH-d9	2.165	3056	39110	0.0782	4.6919
THC-OH	THC-OH-d3	2.095	3619	85558	0.0423	5.2009
THC	THC-d3	5.232	1854	38209	0.0485	4.9810

ISP FORENSICS - Cd'A Instrument # 62340

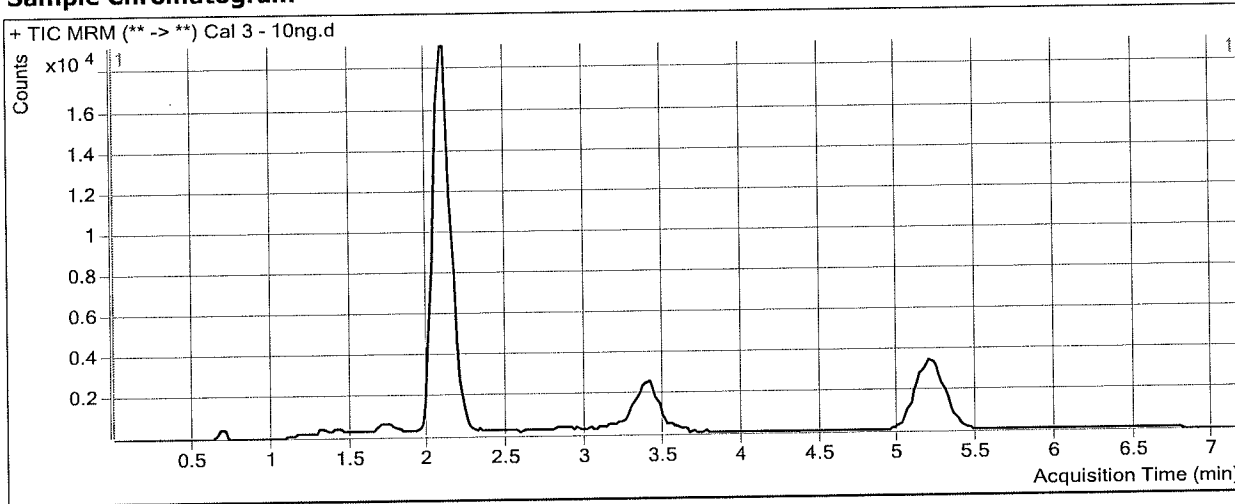
Cannabinoids Analysis Report

Batch Data Path D:\2018 Data\112918 cann quant\QuantResults\cann quant.batch.bin
Analysis Time 12/3/2018 8:56 AM Analyst Name ISP Tox
Report Time 12/3/2018 8:58 AM Reporter Name ISP Tox
Last Calib Update 12/3/2018 8:56 AM Batch State Processed

Analysis Info

Acq Time 2018-11-30 11:06 Data File Cal 3 - 10ng.d
Sample Type Calibration Sample Name Cal 3 - 10ng
Dilution 1 Acq Method AM 27 Quant THC 7-2017.m
Position P1-D1 Sample Info
Inj Vol -1 Comment AM 27 Cannabinoid Confirmation

Sample Chromatogram



Results

Compound	ISTD Compound	RT	Response	ISTD Resp	Resp Ratio	Final Conc
THC-COOH	THC-COOH-d9	2.185	6572	40198	0.1635	10.1751
THC-OH	THC-OH-d3	2.095	7247	90809	0.0798	9.6779
THC	THC-d3	5.232	3986	41446	0.0962	9.8403

ISP FORENSICS - Cd'A Instrument # 62340

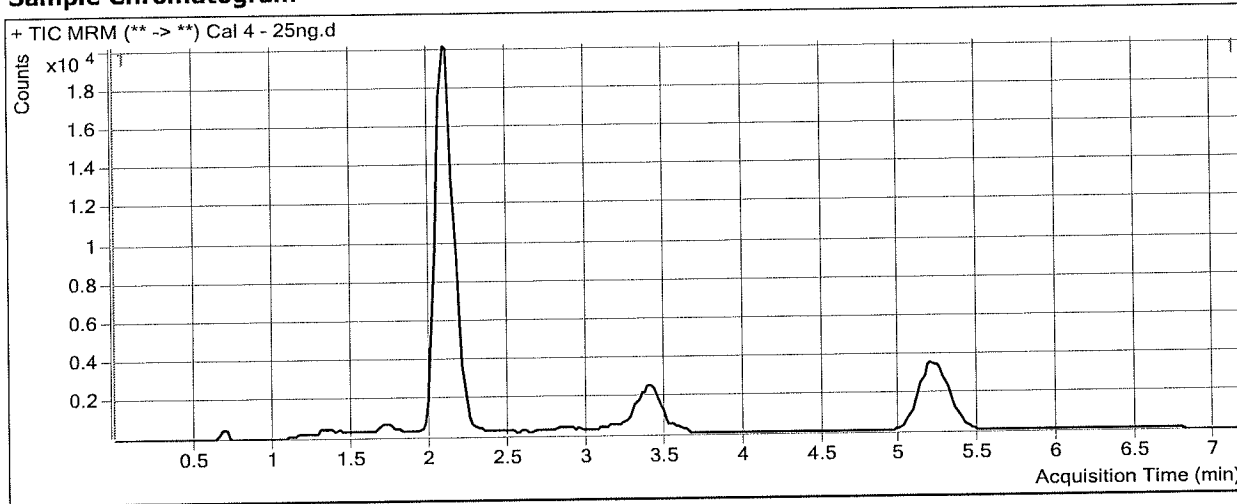
Cannabinoids Analysis Report

Batch Data Path D:\2018 Data\112918 cann quant\QuantResults\cann quant.batch.bin
Analysis Time 12/3/2018 8:56 AM **Analyst Name** ISP Tox
Report Time 12/3/2018 8:58 AM **Reporter Name** ISP Tox
Last Calib Update 12/3/2018 8:56 AM **Batch State** Processed

Analysis Info

Acq Time 2018-11-30 11:18 **Data File** Cal 4 - 25ng.d
Sample Type Calibration **Sample Name** Cal 4 - 25ng
Dilution 1 **Acq Method** AM 27 Quant THC 7-2017.m
Position P1-E1 **Sample Info**
Inj Vol -1 **Comment** AM 27 Cannabinoid Confirmation

Sample Chromatogram



Results

Compound	ISTD Compound	RT	Response	ISTD Resp	Resp Ratio	Final Conc
THC-COOH	THC-COOH-d9	2.165	14775	38435	0.3844	24.3695
THC-OH	THC-OH-d3	2.095	16771	84771	0.1978	23.7705
THC	THC-d3	5.232	8546	36792	0.2323	23.7233

ISP FORENSICS - Cd'A Instrument # 62340

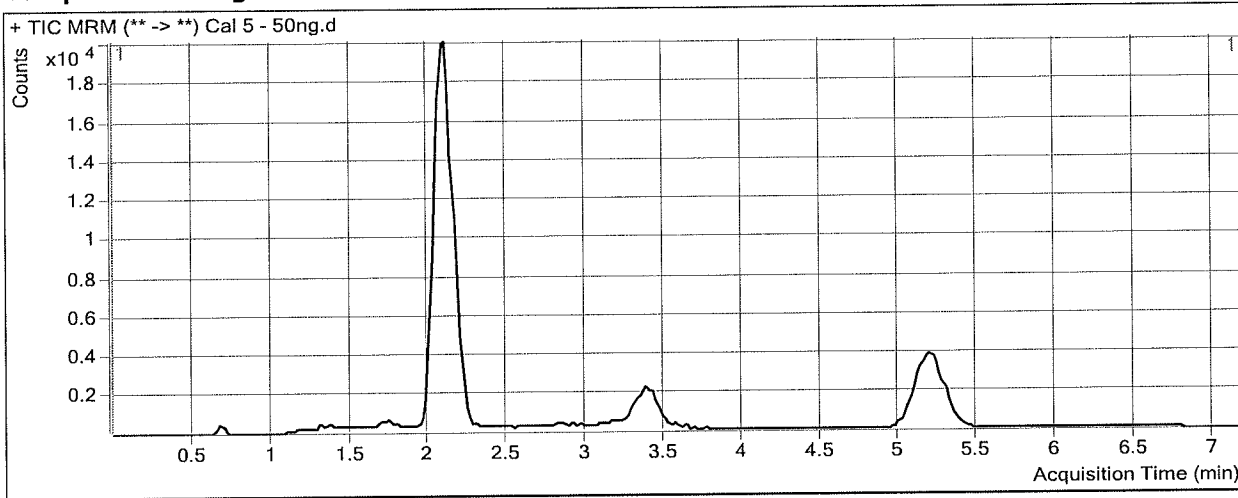
Cannabinoids Analysis Report

Batch Data Path D:\2018 Data\112918 cann quant\QuantResults\cann quant.batch.bin
Analysis Time 12/3/2018 8:56 AM **Analyst Name** ISP Tox
Report Time 12/3/2018 8:58 AM **Reporter Name** ISP Tox
Last Calib Update 12/3/2018 8:56 AM **Batch State** Processed

Analysis Info

Acq Time 2018-11-30 11:30 **Data File** Cal 5 - 50ng.d
Sample Type Calibration **Sample Name** Cal 5 - 50ng
Dilution 1 **Acq Method** AM 27 Quant THC 7-2017.m
Position P1-F1 **Sample Info**
Inj Vol -1 **Comment** AM 27 Cannabinoid Confirmation

Sample Chromatogram



Results

Compound	ISTD Compound	RT	Response	ISTD Resp	Resp Ratio	Final Conc
THC-COOH	THC-COOH-d9	2.165	24284	31663	0.7670	48.9479
THC-OH	THC-OH-d3	2.095	29262	70742	0.4136	49.5353
THC	THC-d3	5.212	14876	31065	0.4789	48.8702

ISP FORENSICS - Cd'A Instrument # 62340

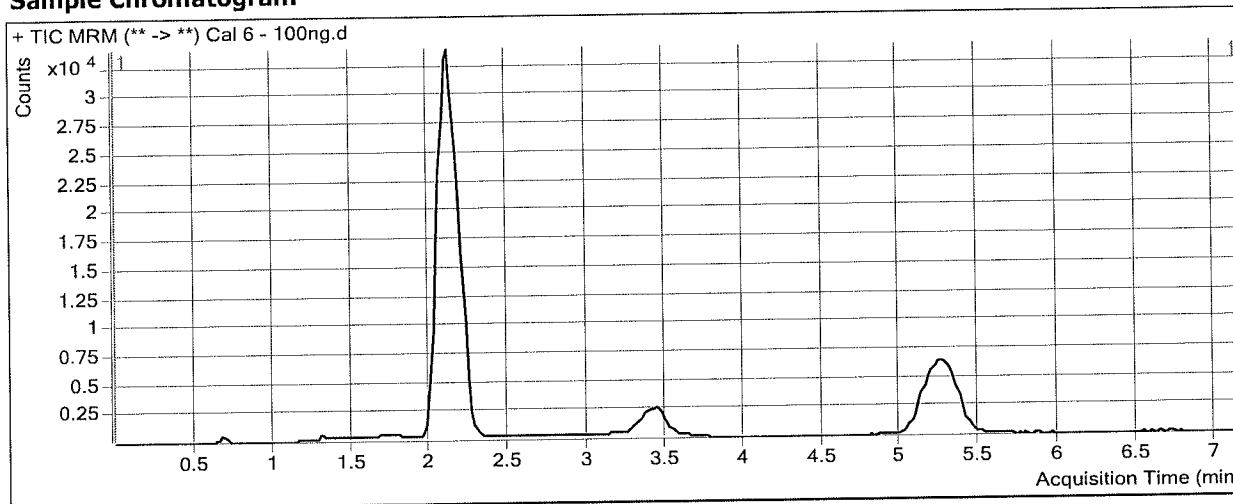
Cannabinoids Analysis Report

Batch Data Path D:\2018 Data\112918 cann quant\QuantResults\cann quant.batch.bin
Analysis Time 12/3/2018 8:56 AM **Analyst Name** ISP Tox
Report Time 12/3/2018 8:58 AM **Reporter Name** ISP Tox
Last Calib Update 12/3/2018 8:56 AM **Batch State** Processed

Analysis Info

Acq Time 2018-11-30 11:42 **Data File** Cal 6 - 100ng.d
Sample Type Calibration **Sample Name** Cal 6 - 100ng
Dilution 1 **Acq Method** AM 27 Quant THC 7-2017.m
Position P1-G1 **Sample Info**
Inj Vol -1 **Comment** AM 27 Cannabinoid Confirmation

Sample Chromatogram



Results

Compound	ISTD Compound	RT	Response	ISTD Resp	Resp Ratio	Final Conc
THC-COOH	THC-COOH-d9	2.185	61350	38674	1.5863	101.5923
THC-OH	THC-OH-d3	2.115	78305	92046	0.8507	101.7154
THC	THC-d3	5.272	41265	41120	1.0035	102.3761

