REVIEWED
By tsalazar at 2:35 pm, Jan 23, 2019

1/17/2019

Worklist: 2892

LAB_CASE	ITEM	TASK_ID	DESCRIPTION
C2018-2560	1	137481	AM 27 Blood THC Quant by LC-QQQ
C2018-2570	1	137482	AM 27 Blood THC Quant by LC-QQQ
C2018-2577	1	137483	AM 27 Blood THC Quant by LC-QQQ
C2018-2604	1	137484	AM 27 Blood THC Quant by LC-QQQ
C2018-2606	1	137485	AM 27 Blood THC Quant by LC-QQQ
C2018-2607	1	137486	AM 27 Blood THC Quant by LC-QQQ
C2018-2608	1	137487	AM 27 Blood THC Quant by LC-QQQ
C2018-2610	1	137488	AM 27 Blood THC Quant by LC-QQQ
C2019-0004	1	137489	AM 27 Blood THC Quant by LC-QQQ
C2019-0007	1	137490	AM 27 Blood THC Quant by LC-QQQ
C2019-0015	1	137491	AM 27 Blood THC Quant by LC-QQQ
C2019-0016	1	137492	AM 27 Blood THC Quant by LC-QQQ
C2019-0054	1	137493	AM 27 Blood THC Quant by LC-QQQ
C2019-0064	2	137494	AM 27 Blood THC Quant by LC-QQQ
C2019-0087	1	137495	AM 27 Blood THC Quant by LC-QQQ
C2019-0101	1	137496	AM 27 Blood THC Quant by LC-QQQ

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

Extraction Date: 1/15/19 Analyst: Anne Nord
Plate lot#: 0539904 Plate Expiration: 09/10/19

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: 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.
Worklist path: 2019 Data\AM 27\011519 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: Negative control dried out, it was re-constituted and injected.

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 (17J20718)

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
ppd 01/14/18 Exp 4/1/19	lot 011419	Concentration 10 ng/ml each	by AMN

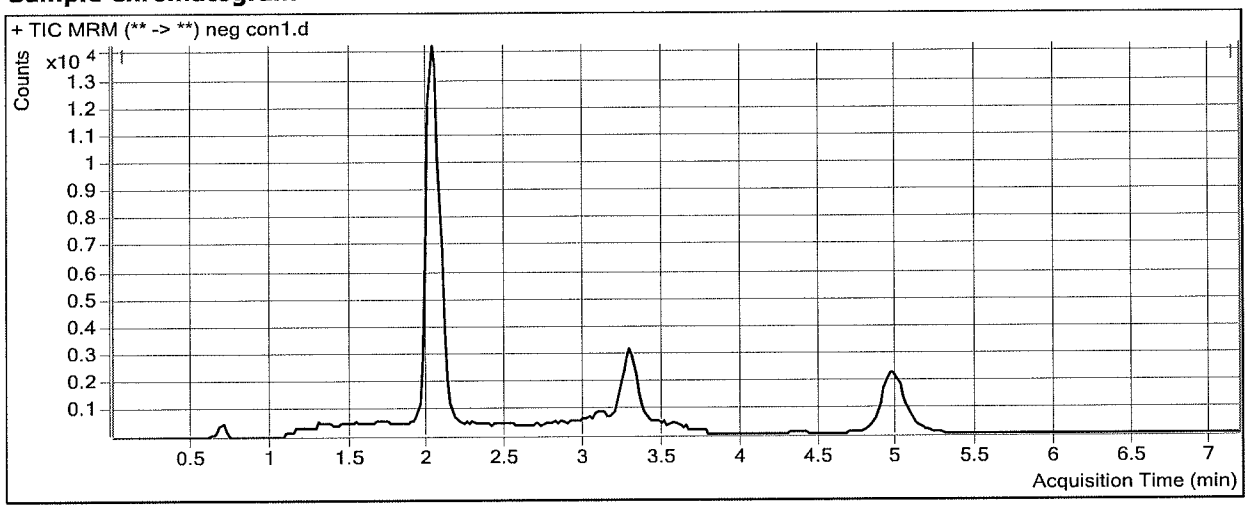
ISP FORENSICS - Cd'A Instrument # 62340
Cannabinoids Analysis Report

Batch Data Path	D:\2019 Data\AM 27\011519\QuantResults\cann quant.batch.bin		
Analysis Time	1/17/2019 9:50 AM	**Analyst Name**	datastor
Report Time	1/17/2019 10:35 AM	**Reporter Name**	ISP Tox
Last Calib Update	1/17/2019 9:50 AM	**Batch State**	Processed

Analysis Info

Acq Time	2019-01-16 17:25	**Data File**	neg con1.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



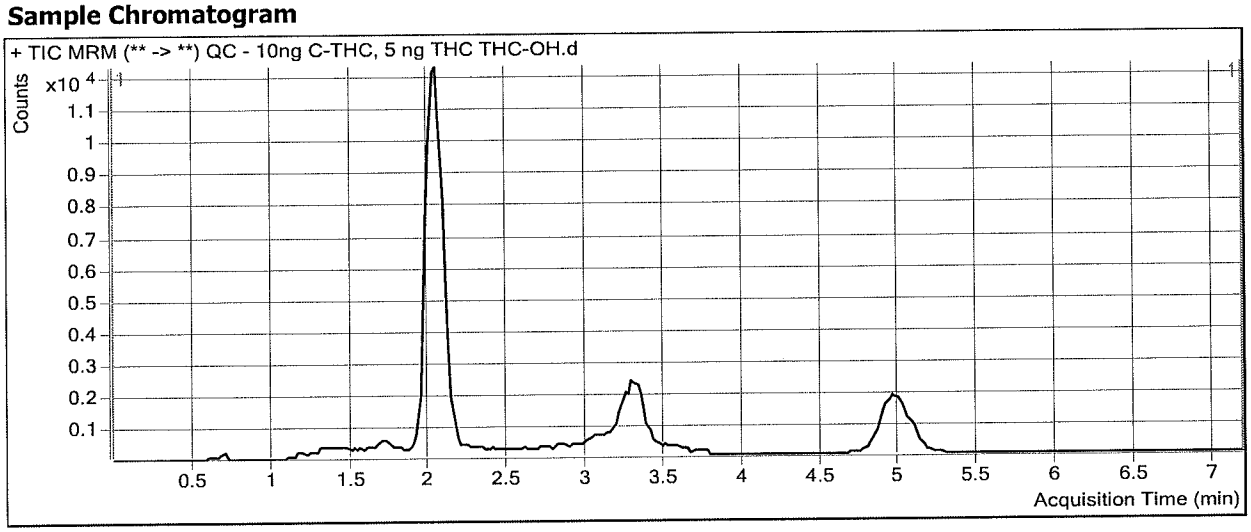
ISP FORENSICS - Cd'A Instrument # 62340
Cannabinoids Analysis Report

Batch Data Path	D:\2019 Data\AM 27\011519\QuantResults\cann quant.batch.bin		
Analysis Time	1/17/2019 9:50 AM	**Analyst Name**	datastor
Report Time	1/17/2019 10:35 AM	**Reporter Name**	ISP Tox
Last Calib Update	1/17/2019 9:50 AM	**Batch State**	Processed

Analysis Info

Acq Time	2019-01-16 15:34	**Data File**	QC - 10ng C-THC, 5 ng THC THC-OH.d
Sample Type	QC	**Sample Name**	QC - 10ng C-THC, 5 ng THC 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-OH	THC-OH-d3	2.035	2240	58785	0.0381	4.7797
THC-COOH	THC-COOH-d9	2.125	4229	26000	0.1627	9.9744
THC	THC-d3	4.992	1068	22975	0.0465	4.5831

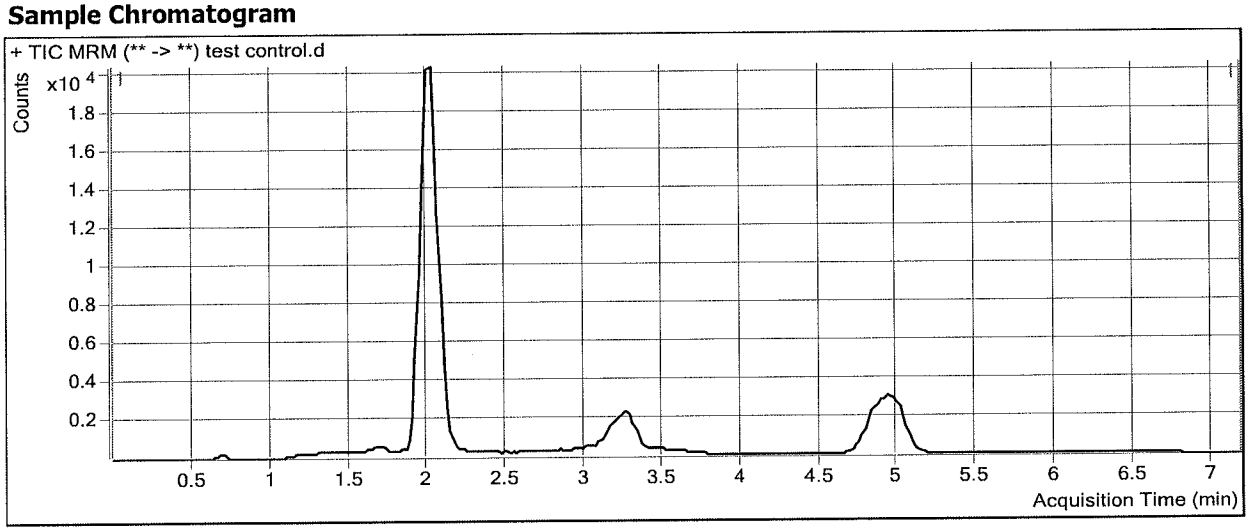
ISP FORENSICS - Cd'A Instrument # 62340
Cannabinoids Analysis Report

Batch Data Path	D:\2019 Data\AM 27\011519\QuantResults\cann quant.batch.bin		
Analysis Time	1/17/2019 9:50 AM	**Analyst Name**	datastor
Report Time	1/17/2019 10:35 AM	**Reporter Name**	ISP Tox
Last Calib Update	1/17/2019 9:50 AM	**Batch State**	Processed

Analysis Info

Acq Time	2019-01-16 22:33	**Data File**	test control.d External control lot 011419
Sample Type	Sample	**Sample Name**	test control
Dilution	1	**Acq Method**	AM 27 Quant THC 7-2017.m
Position	P1-C4	**Sample Info**	
Inj Vol	-1	**Comment**	AM 27 Cannabinoid Confirmation

Sample Chromatogram



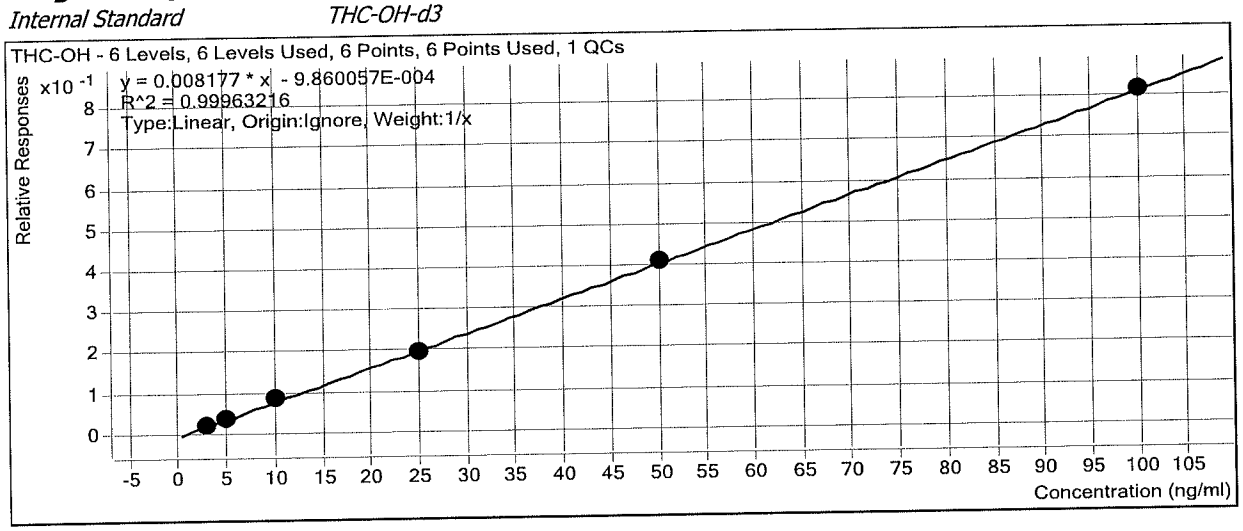
Results

Compound	ISTD Compound	RT	Response	ISTD Resp	Resp Ratio	Final Conc
THC-OH	THC-OH-d3	2.015	9165	98848	0.0927	11.4586
THC-COOH	THC-COOH-d9	2.065	6785	39524	0.1717	10.5624
THC	THC-d3	4.972	5175	40799	0.1268	12.6867

ISP Forensics
Calibration Curve Report

Batch Data Path D:\2019 Data\AM 27\011519\QuantResults\cann quant.batch.bin
Last Calib Update 1/17/2019 9:50 AM **Analyst Name** ISP TOX

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

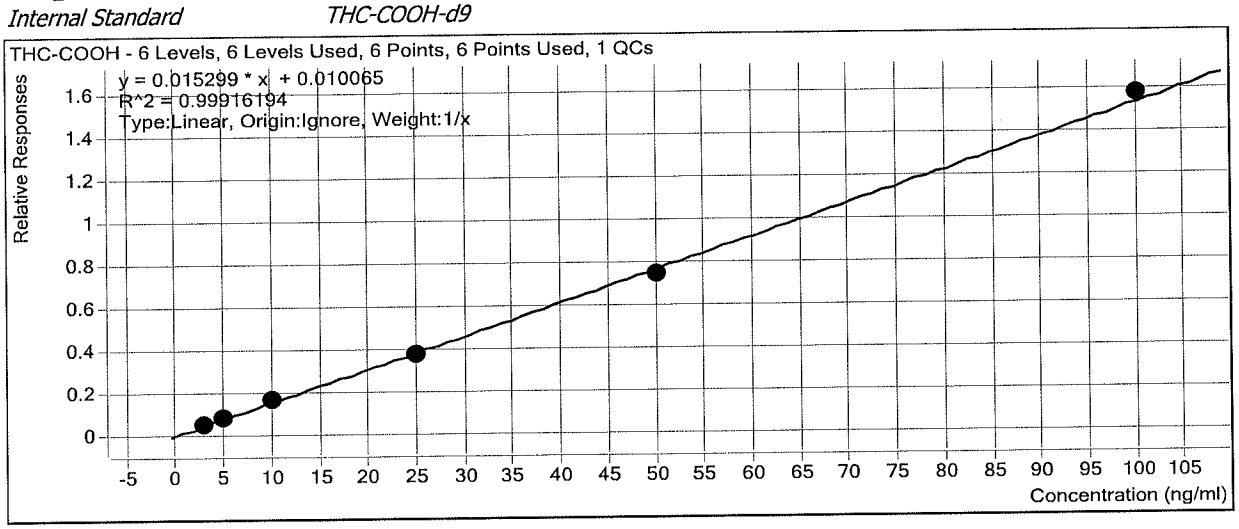


Sample	Level	Enabled	Exp Conc	Final Conc	Accuracy
Cal 1 - 3ng	1	☑	3	2.9	97.6
Cal 2 - 5ng	2	☑	5	4.9	98.8
Cal 3 - 10ng	3	☑	10	10.6	105.6
Cal 4 - 25ng	4	☑	25	24.4	97.5
Cal 5 - 50ng	5	☑	50	50.3	100.6
Cal 6 - 100ng	6	☑	100	99.9	99.9
QC - 10ng C-THC, 5 ng THC THC-OH	7	☑	5	4.8	95.6

ISP Forensics
Calibration Curve Report

Batch Data Path D:\2019 Data\AM 27\011519\QuantResults\cann quant.batch.bin
Last Calib Update 1/17/2019 9:50 AM **Analyst Name** ISP TOX

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

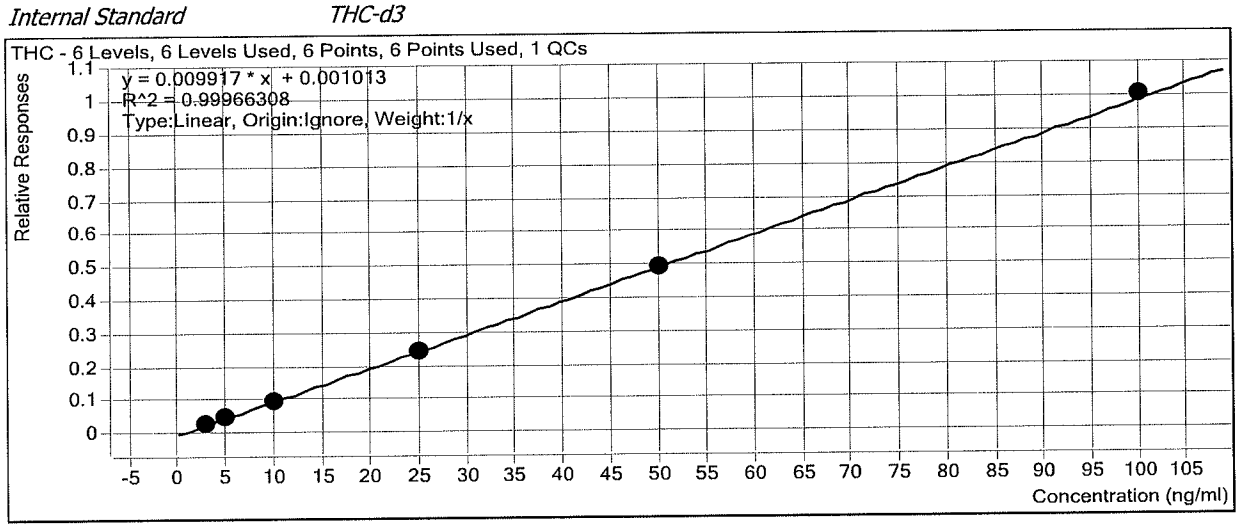


Sample	Level	Enabled	Exp Conc	Final Conc	Accuracy
Cal 1 - 3ng	1	☑	3	3.0	100.1
Cal 2 - 5ng	2	☑	5	5.1	102.1
Cal 3 - 10ng	3	☑	10	10.2	101.8
Cal 4 - 25ng	4	☑	25	24.3	97.2
Cal 5 - 50ng	5	☑	50	48.4	96.8
Cal 6 - 100ng	6	☑	100	102.0	102.0
QC - 10ng C-THC, 5 ng THC THC-OH	7	☑	10	10.0	99.7

ISP Forensics
Calibration Curve Report

Batch Data Path D:\2019 Data\AM 27\011519\QuantResults\cann quant.batch.bin
Last Calib Update 1/17/2019 9:50 AM **Analyst Name** ISP TOX

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



Sample	Level	Enabled	Exp Conc	Final Conc	Accuracy
Cal 1 - 3ng	1	☑	3	3.1	102.4
Cal 2 - 5ng	2	☑	5	5.1	102.5
Cal 3 - 10ng	3	☑	10	9.8	97.6
Cal 4 - 25ng	4	☑	25	24.3	97.3
Cal 5 - 50ng	5	☑	50	49.5	99.0
Cal 6 - 100ng	6	☑	100	101.2	101.2
QC - 10ng C-THC, 5 ng THC THC-OH	7	☑	5	4.6	91.7

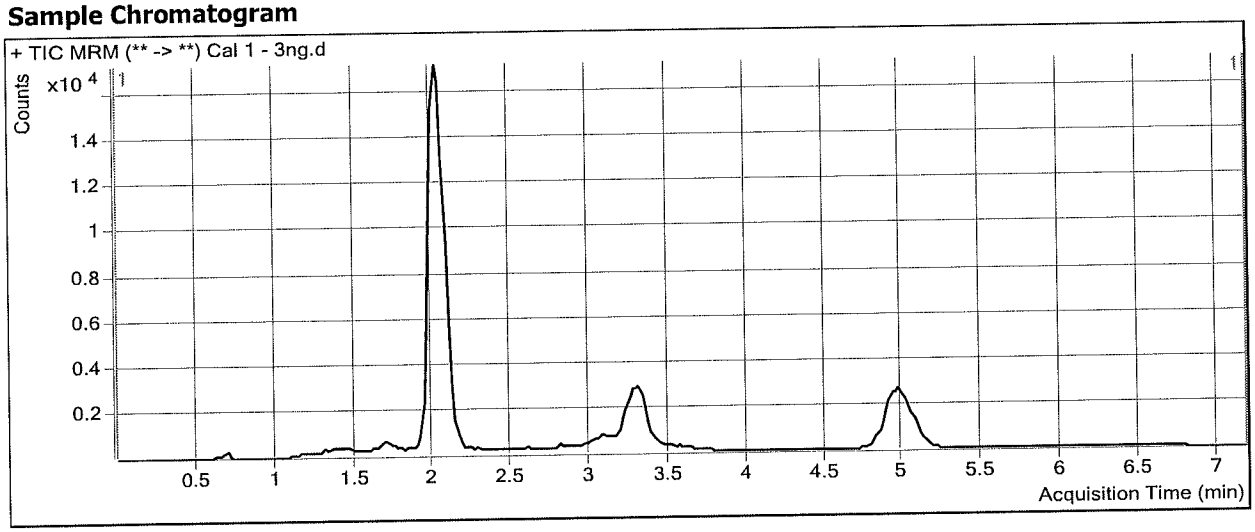
ISP FORENSICS - Cd'A Instrument # 62340
Cannabinoids Analysis Report

Batch Data Path	D:\2019 Data\AM 27\011519\QuantResults\cann quant.batch.bin		
Analysis Time	1/17/2019 9:50 AM	**Analyst Name**	datastor
Report Time	1/17/2019 10:35 AM	**Reporter Name**	ISP Tox
Last Calib Update	1/17/2019 9:50 AM	**Batch State**	Processed

Analysis Info

Acq Time	2019-01-16 13:59	**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-OH	THC-OH-d3	2.015	1844	80341	0.0230	2.9273
THC-COOH	THC-COOH-d9	2.105	1938	34600	0.0560	3.0036
THC	THC-d3	4.992	980	31134	0.0315	3.0722

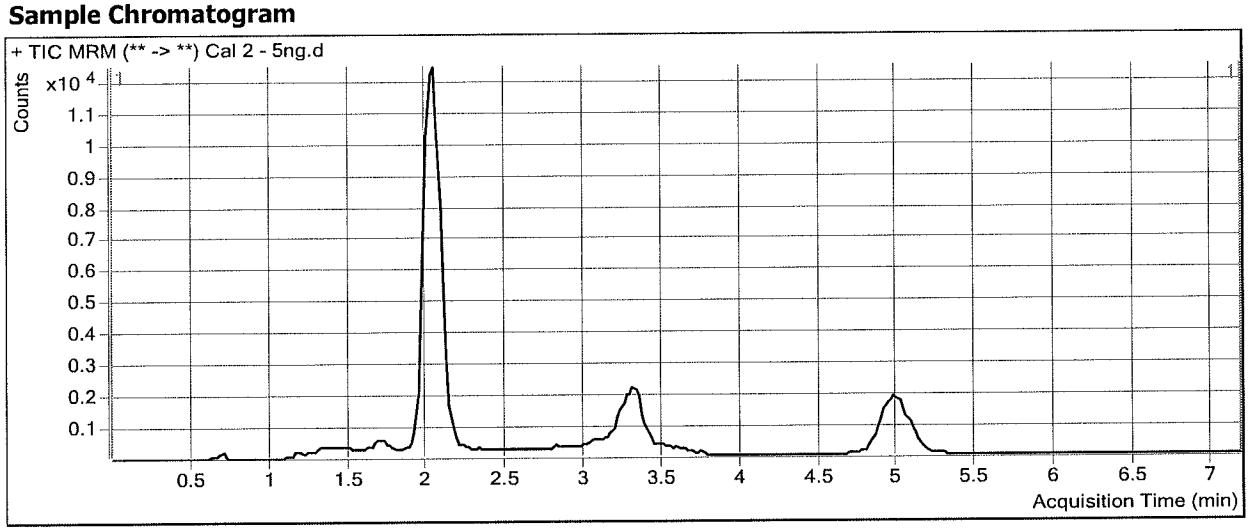
ISP FORENSICS - Cd'A Instrument # 62340
Cannabinoids Analysis Report

Batch Data Path	D:\2019 Data\AM 27\011519\QuantResults\cann quant.batch.bin		
Analysis Time	1/17/2019 9:50 AM	**Analyst Name**	datastor
Report Time	1/17/2019 10:35 AM	**Reporter Name**	ISP Tox
Last Calib Update	1/17/2019 9:50 AM	**Batch State**	Processed

Analysis Info

Acq Time	2019-01-16 14:11	**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-OH	THC-OH-d3	2.035	2369	60088	0.0394	4.9411
THC-COOH	THC-COOH-d9	2.105	2331	26428	0.0882	5.1069
THC	THC-d3	5.012	1185	22867	0.0518	5.1228

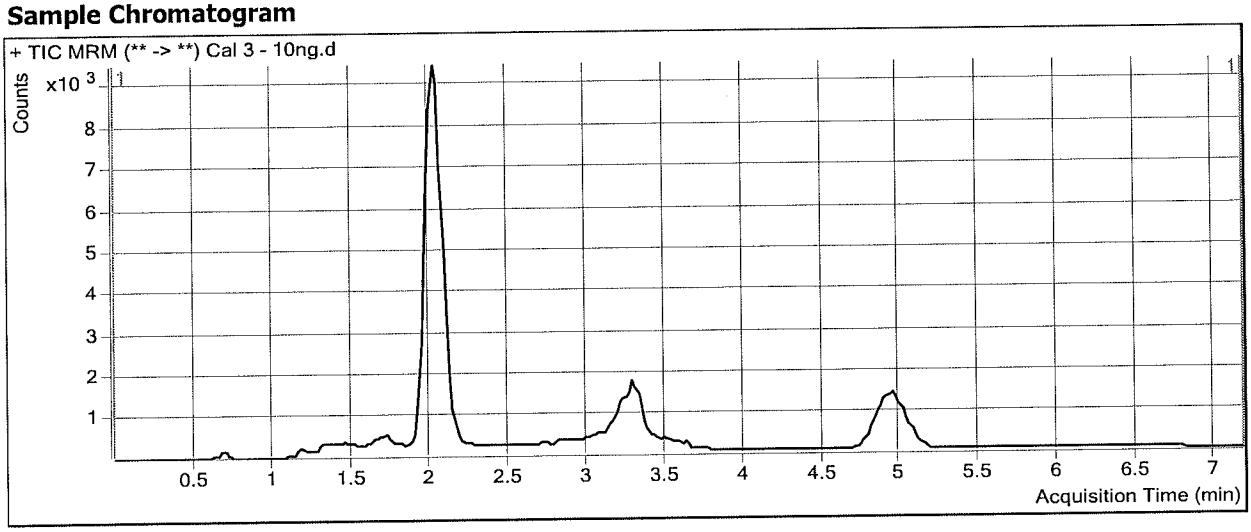
ISP FORENSICS - Cd'A Instrument # 62340
Cannabinoids Analysis Report

Batch Data Path	D:\2019 Data\AM 27\011519\QuantResults\cann quant.batch.bin		
Analysis Time	1/17/2019 9:50 AM	**Analyst Name**	datastor
Report Time	1/17/2019 10:35 AM	**Reporter Name**	ISP Tox
Last Calib Update	1/17/2019 9:50 AM	**Batch State**	Processed

Analysis Info

Acq Time	2019-01-16 14:23	**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-OH	THC-OH-d3	2.035	3767	44119	0.0854	10.5618
THC-COOH	THC-COOH-d9	2.105	2998	18084	0.1658	10.1772
THC	THC-d3	4.972	1610	16459	0.0978	9.7585

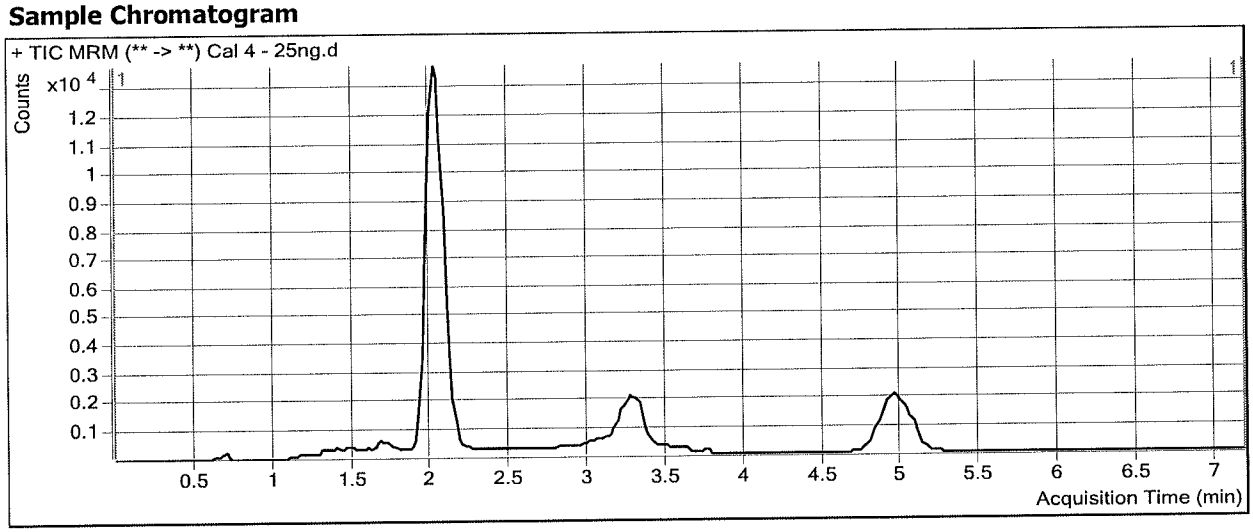
ISP FORENSICS - Cd'A Instrument # 62340
Cannabinoids Analysis Report

Batch Data Path	D:\2019 Data\AM 27\011519\QuantResults\cann quant.batch.bin		
Analysis Time	1/17/2019 9:50 AM	**Analyst Name**	datastor
Report Time	1/17/2019 10:35 AM	**Reporter Name**	ISP Tox
Last Calib Update	1/17/2019 9:50 AM	**Batch State**	Processed

Analysis Info

Acq Time	2019-01-16 14:35	**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-OH	THC-OH-d3	2.035	11227	56626	0.1983	24.3662
THC-COOH	THC-COOH-d9	2.105	9433	24714	0.3817	24.2890
THC	THC-d3	4.972	5153	21263	0.2423	24.3323

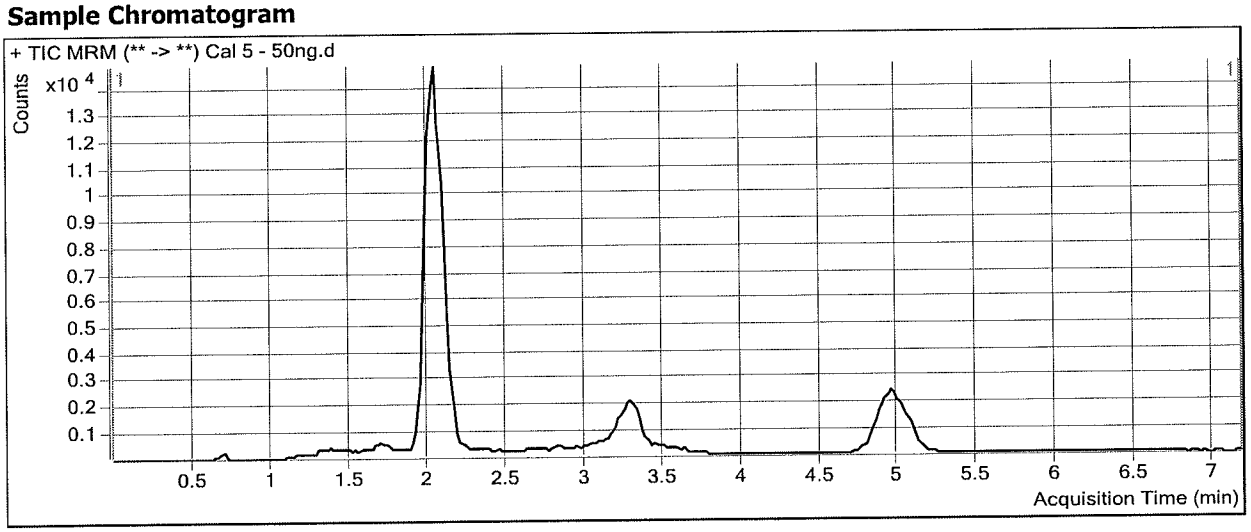
ISP FORENSICS - Cd'A Instrument # 62340
Cannabinoids Analysis Report

Batch Data Path	D:\2019 Data\AM 27\011519\QuantResults\cann quant.batch.bin		
Analysis Time	1/17/2019 9:50 AM	**Analyst Name**	datastor
Report Time	1/17/2019 10:35 AM	**Reporter Name**	ISP Tox
Last Calib Update	1/17/2019 9:50 AM	**Batch State**	Processed

Analysis Info

Acq Time	2019-01-16 14:47	**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-OH	THC-OH-d3	2.035	20488	49916	0.4104	50.3141
THC-COOH	THC-COOH-d9	2.105	16467	21944	0.7504	48.3889
THC	THC-d3	4.992	9278	18857	0.4920	49.5082

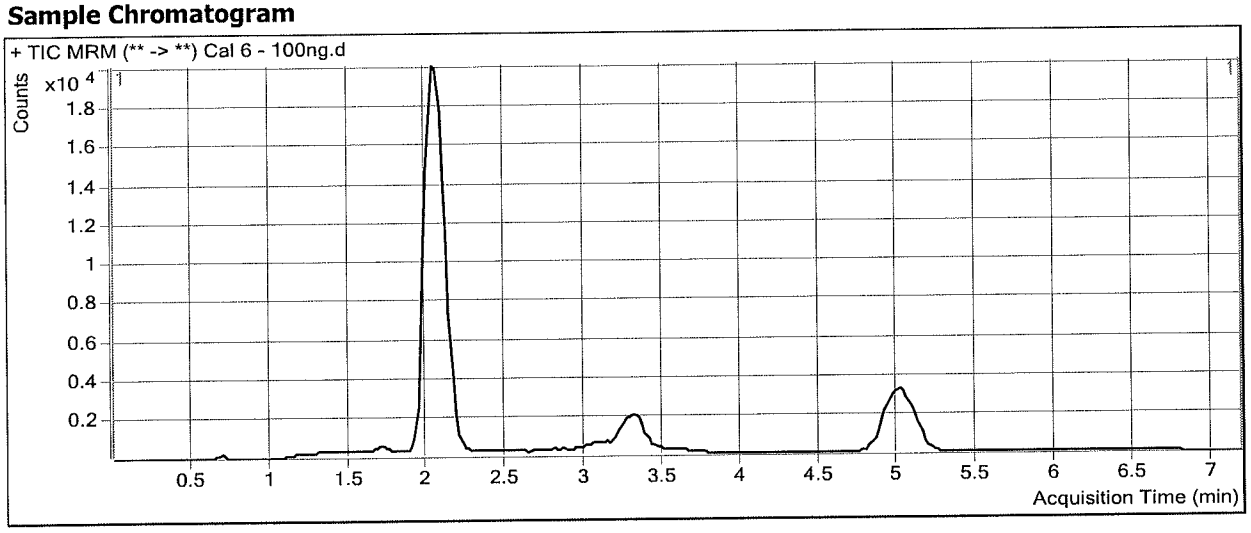
ISP FORENSICS - Cd'A Instrument # 62340
Cannabinoids Analysis Report

Batch Data Path	D:\2019 Data\AM 27\011519\QuantResults\cann quant.batch.bin		
Analysis Time	1/17/2019 9:50 AM	**Analyst Name**	datastor
Report Time	1/17/2019 10:35 AM	**Reporter Name**	ISP Tox
Last Calib Update	1/17/2019 9:50 AM	**Batch State**	Processed

Analysis Info

Acq Time	2019-01-16 14:58	**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-OH	THC-OH-d3	2.055	42980	52682	0.8158	99.8894
THC-COOH	THC-COOH-d9	2.105	35972	22896	1.5711	102.0343
THC	THC-d3	5.032	19433	19342	1.0047	101.2059