

Worklist: 2696

| <u>LAB_CASE</u> | <u>ITEM</u> | <u>TASK_ID</u> | <u>DESCRIPTION</u>                           |   |
|-----------------|-------------|----------------|--|---|
| C2018-1736      | 2           | 125565         | AM 25/AM 26 Blood MultiDrug/THC Screen by Lt |    |
| C2018-1738      | 1           | 125060         | AM 25/AM 26 Blood MultiDrug/THC Screen by Lt |    |
| C2018-1760      | 1           | 125563         | AM 25/AM 26 Blood MultiDrug/THC Screen by Lt |    |
| C2018-1763      | 1           | 125570         | AM 25/AM 26 Blood MultiDrug/THC Screen by Lt |    |
| C2018-1789      | 1           | 125795         | AM 25/AM 26 Blood MultiDrug/THC Screen by Lt |    |
| C2018-1804      | 1           | 125868         | AM 25/AM 26 Blood MultiDrug/THC Screen by Lt |    |
| C2018-1852      | 1           | 126517         | AM 25/AM 26 Blood MultiDrug/THC Screen by Lt |    |
| M2018-4312      | 1           | 125204         | AM 25/AM 26 Blood MultiDrug/THC Screen by Lt |    |
| P2018-2224      | 1           | 123578         | AM 25/AM 26 Blood MultiDrug/THC Screen by Lt |    |
| P2018-2427      | 1           | 125257         | AM 25/AM 26 Blood MultiDrug/THC Screen by Lt |    |
| P2018-2428      | 1           | 125260         | AM 25/AM 26 Blood MultiDrug/THC Screen by Lt |    |
| P2018-2429      | 1           | 125263         | AM 25/AM 26 Blood MultiDrug/THC Screen by Lt |   |
| P2018-2597      | 1           | 126424         | AM 25/AM 26 Blood MultiDrug/THC Screen by Lt |  |
| P2018-2598      | 1           | 126427         | AM 25/AM 26 Blood MultiDrug/THC Screen by Lt |  |
| P2018-2599      | 1           | 126430         | AM 25/AM 26 Blood MultiDrug/THC Screen by Lt |  |
| P2018-2605      | 1           | 126475         | AM 25/AM 26 Blood MultiDrug/THC Screen by Lt |  |



# AM# 25: Multi-Drug Screen in Blood by LC-MS/MS

Extraction Date: 9/17/18

Analyst: Anne Nord

Plate lot#: 0515207

Plate Expiration: 10/18/2018

**Mobile phase A:** 10mM Amm Form  
0.5M Ammonium Hydroxide

**Mobile phase B:** 0.1% Formic Acid in MeOH  
Ethyl Acetate LC Methanol

**Blank Blood Lot:** 18G207D7

**Column:** Phenomenex Phenyl Hexyl (4.6x50mm, 2.6um)

**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 **250µL blood (calibrated pipette) Pipette ID: 1926134** in wells of analytical (standards) plate.
- 3. Place on shaking incubator at ambient temp., 900rpm for 15 minutes. *Shaker ID: 66759*
- 4. Pipette **250µL 0.5M ammonium hydroxide** in wells of analytical plate.
- 5. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 6. Transfer **300µL of blood+base** 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 **900uL ethyl acetate**.
- 10. Wait 5 minutes.
- 11. Apply positive pressure for approx. 15 seconds. *(10-15 PSI- Selector to the left)*.
- 12. Add **900uL ethyl acetate**.
- 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% LC MeOH** and heat seal plate with foil. Place in autosampler and run worklist.

## Post-Analytic

- 1. Open quantitation software and create a new quantitation batch.  
Batch Name: p1, p2 Worklist path: 091718 am 25-26
- 2. Make necessary changes to integration limits
- 3. Evaluate samples, S/N of primary transition >5 and S/N of secondary transition >3 or evaluation of peak symmetry and resolution. Within +/- 2% or 0.1 min RT of administrative control. > 1/2 the response of administrative control. (1/2 to 1/5 analyst discretion)
- 4. Did all QCs pass for each analyte? Y / N See comments 6 compounds not evaluated.
- 5. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS: When the run started there was an interferant for methamphetamine. The 0.5M Ammonium Hydroxide was prepared in a different bottle and the samples that had been injected for P1 at that point were re-injected.

Not Evaluated: morphine, norhydrocodone, phentermine, imipramine, amitriptyline, maprotiline

Toxicology AM method 25 external prep information

working solution 10000 ng/ml in meoh Hydromorphone, Hydrocodone, Nortriptyline, Sertraline

Stock solution 1mg/ml 100 ul each in 9600ul meOH

Ppd 4/23/18 Exp: 4/23/19 lot 42318 by Amn

| Drug          | lot        | expiration |
|---------------|------------|------------|
| Hydromorphone | FE04101502 | 6/1/2020   |
| Hydrocodone   | FE09091505 | 9/1/2020   |
| nortriptyline | FN06191503 | 8/1/2020   |
| sertraline    | FN01081501 | 3/1/2020   |

AM 25 control 100 ul working solution (42318) in 9900 ul neg blood  
ppd 04/23/18 exp 4/23/19 lot 42318

neg blood lot 17120718

by Amn

Concentration 100ng/ml hydrocodone, nortriptyline, sertraline, hydromorphone

| Compound Method        |                 | p2 cal 1-1b        |       | p2 cal 1-1b Results |          | Qualifier 1 M... |                 | Qualifier 1 Results |          | ISTD Method |                       | ISTD Results |          |
|------------------------|-----------------|--------------------|-------|---------------------|----------|------------------|-----------------|---------------------|----------|-------------|-----------------------|--------------|----------|
| Name                   | Transition      | Acq. Date-Time     | RT    | Resp.               | S/N      | MI               | Transition      | MI                  | S/N      | Area        | Name                  | RT           | Resp     |
| Acetylfentanyl         | 323.2 -> 188... | 9/17/2018 11:54 AM | 6.509 | 17110               | 63.21    |                  | 323.2 -> 105... |                     | 19.80    | 23177       | Acetylfentanyl-D5     | 6.508        | 11775... |
| alpha-hydroxymidazolam | 342.1 -> 324... | 9/17/2018 11:54 AM | 6.446 | 71117               | 106.53   |                  | 342.1 -> 203... |                     | 14249... | 40611       | alpha-hydroxymid...   | 6.426        | 387669   |
| Amphetamine            | 274.2 -> 186... | 9/17/2018 11:54 AM | 6.534 | 43095               | 174.22   |                  | 274.2 -> 108... |                     | 9.11     | 28909       | Amphetamine-D3        | 6.534        | 43095    |
| Acetylnorfentanyl      | 219.1 -> 84.2   | 9/17/2018 11:54 AM | 5.141 | 6556                | ∞        |                  | 219.1 -> 56.3   |                     | ∞        | 2301        | Acetylnorfentanyl...  | 5.099        | 387797   |
| Carbamazepine          | 237.1 -> 193... | 9/17/2018 11:54 AM | 6.137 | 24243               | 7062.61  |                  | 237.1 -> 194... |                     | 1113.17  | 2293...     | Carbamazepine-1...    | 6.136        | 11766... |
| Chlordiazepoxide       | 300.1 -> 227... | 9/17/2018 11:54 AM | 6.573 | 23697               | 13703.99 |                  | 300.1 -> 282... |                     | 53.90    | 18670       | Chlordiazepoxide...   | 6.573        | 237369   |
| Sufentanil             | 387.2 -> 238... | 9/17/2018 11:54 AM | 7.008 | 30344               | ∞        |                  | 387.2 -> 111... |                     | 43.92    | 24043       | Sufentanil-D5         | 6.988        | 12784... |
| Desipramine            | 267.2 -> 72.3   | 9/17/2018 11:54 AM | 6.802 | 169038              | ∞        |                  | 267.2 -> 44.3   |                     | ∞        | 88607       | Desipramine-D3        | 6.801        | 467436   |
| Doxepin                | 280.2 -> 107... | 9/17/2018 11:54 AM | 6.718 | 78251               | ∞        |                  | 280.2 -> 77.2   |                     | ∞        | 31843       | Doxepin-D3            | 6.717        | 420575   |
| Estazolam              | 295.1 -> 267... | 9/17/2018 11:54 AM | 6.392 | 58326               | 425.70   |                  | 295.1 -> 205... |                     | 187.45   | 49210       | Estazolam-D5          | 6.370        | 281762   |
| Flunitrazepam          | 314.1 -> 268... | 9/17/2018 11:54 AM | 6.429 | 45209               | 219.57   |                  | 314.1 -> 239... |                     | 176.57   | 17480       | Flunitrazepam-D7      | 6.409        | 9895     |
| Flurazepam             | 388.2 -> 315... | 9/17/2018 11:54 AM | 6.626 | 175174              | 195.46   |                  | 388.2 -> 317... |                     | 9125.76  | 36457       | Zopiclone-D4          | 6.443        | 241263   |
| Imipramine             | 281.2 -> 186... | 9/17/2018 11:54 AM | 6.534 | 43095               | 174.22   |                  | 281.2 -> 108... |                     | 9.99     | 43995       | Imipramine-D3         | 6.534        | 43095    |
| Levamisole             | 205.1 -> 91.2   | 9/17/2018 11:54 AM | 5.733 | 50244               | ∞        |                  | 205.1 -> 178... |                     | 9.99     | 43995       | Sufentanil-D5         | 6.988        | 12784... |
| Maprotiline            | 278.2 -> 172... | 9/17/2018 11:54 AM | 6.497 | 33312               | 174.22   |                  | 278.2 -> 117... |                     | 7.45     | 28190       | Maprotiline-D3        | 6.497        | 33312    |
| MDA                    | 180.1 -> 163... | 9/17/2018 11:54 AM | 5.491 | 21769               | 5.33     |                  | 180.1 -> 105... |                     | 7.45     | 28190       | MDA-D5                | 5.490        | 305479   |
| MDEA                   | 208.1 -> 163... | 9/17/2018 11:54 AM | 5.794 | 94239               | ∞        |                  | 208.1 -> 105... |                     | ∞        | 81210       | MDEA-D6               | 5.773        | 454088   |
| MDMA                   | 194.1 -> 163... | 9/17/2018 11:54 AM | 5.693 | 81451               | ∞        |                  | 194.1 -> 105... |                     | ∞        | 53906       | MDMA-D6               | 5.692        | 45915    |
| Meperidine             | 248.2 -> 220... | 9/17/2018 11:54 AM | 5.972 | 53126               | 10.06    |                  | 248.2 -> 174... |                     | 31.56    | 37804       | Meperidine-D4         | 5.992        | 332819   |
| Methylphenidate        | 234.2 -> 84.2   | 9/17/2018 11:54 AM | 5.812 | 285004              | 50.26    |                  | 234.2 -> 56.3   |                     | 16.57    | 63701       | Meperidine-D4         | 5.992        | 332819   |
| Midazolam              | 326.1 -> 223... | 9/17/2018 11:54 AM | 6.590 | 24649               | 197.39   |                  | 326.1 -> 249... |                     | 428.38   | 22602       | Midazolam-D4          | 6.589        | 399169   |
| Normeperidine          | 234.1 -> 42.3   | 9/17/2018 11:54 AM | 5.874 | 65993               | 19.44    |                  | 234.1 -> 160... |                     | 51.99    | 48524       | Normeperidine-D4      | 5.873        | 243795   |
| 7-Aminoflunitrazepam   | 284.1 -> 135... | 9/17/2018 11:54 AM | 5.763 | 41067               | 309.32   |                  | 284.1 -> 93.2   |                     | 52.34    | 13856       | 7-aminoflunitrazep... | 5.762        | 207217   |
| Nortriptyline          | 264.2 -> 91.2   | 9/17/2018 11:54 AM | 6.722 | 175315              | 53.38    |                  | 264.2 -> 233... |                     | ∞        | 3185...     | Nortriptyline-D3      | 6.782        | 329973   |
| Phenazepam             | 349.0 -> 206... | 9/17/2018 11:54 AM | 6.486 | 36815               | 871.53   |                  | 349.0 -> 183... |                     | 405.59   | 27455       | Phenazepam-D4         | 6.465        | 11977    |
| Phencyclidine          | 244.2 -> 86.2   | 9/17/2018 11:54 AM | 6.155 | 219755              | 79.87    |                  | 244.2 -> 91.1   |                     | 25.74    | 1642...     | Phencyclidine-D5      | 6.135        | 10887... |
| Phenytol               | 253.1 -> 104... | 9/17/2018 11:54 AM | 6.053 | 4423                | 5.90     |                  | 253.1 -> 182... |                     | 22.16    | 3088        | Phenytol-D10          | 6.032        | 17314    |
| Pseudoephedrine        | 166.1 -> 148... | 9/17/2018 11:54 AM | 4.905 | 13383...            | 722.66   |                  | 166.1 -> 133... |                     | 75.23    | 2888...     | Pseudoephedrine...    | 4.885        | 747266   |
| Tapentadol             | 222.2 -> 107... | 9/17/2018 11:54 AM | 5.650 | 140109              | 156.47   |                  | 222.2 -> 121... |                     | 27.34    | 51429       | Tapentadol-D3         | 5.649        | 767069   |
| Zaleplon               | 306.1 -> 236... | 9/17/2018 11:54 AM | 6.248 | 53360               | 229.36   |                  | 306.1 -> 264... |                     | 179.20   | 36755       | Zaleplon-D4           | 6.247        | 220234   |

Amritriptyline, imipramine, maprotiline - not evaluated in this run. IS shifted outside acquisition window for many of the sample runs. AMN

not evaluated

not evaluated

not evaluated

| Compound Method        |                 |                    | p2 negative |       | p2 negative Results |    |                 | Qualifier 1 M... |     | Qualifier 1 R... |                           | ISTD Method |          | ISTD Results |  |
|------------------------|-----------------|--------------------|-------------|-------|---------------------|----|-----------------|------------------|-----|------------------|---------------------------|-------------|----------|--------------|--|
| Name                   | Transition      | Acq. Date-Time     | RT          | Resp. | S/N                 | MI | Transition      | MI               | S/N | Area             | Name                      | RT          | Resp.    |              |  |
| Acetylferfentanyl      | 323.2 -> 188... | 9/17/2018 12:14 PM |             |       |                     |    | 323.2 -> 105... |                  |     |                  | Acetylferfentanyl-D5      | 6.508       | 11856... |              |  |
| alpha-hydroxymidazolam | 342.1 -> 324... | 9/17/2018 12:14 PM |             |       |                     |    | 342.1 -> 203... |                  |     |                  | alpha-hydroxymidazolam... | 6.426       | 403600   |              |  |
| Amitriptyline          | 278.2 -> 91.2   | 9/17/2018 12:14 PM |             |       |                     |    | 278.2 -> 105... |                  |     |                  | Amitriptyline-D3          | 7.001       | 209502   |              |  |
| Acetylferfentanyl      | 219.1 -> 84.2   | 9/17/2018 12:14 PM |             |       |                     |    | 219.1 -> 56.3   |                  |     |                  | Acetylferfentanyl-D5      | 5.099       | 390718   |              |  |
| Carbamazepine          | 237.1 -> 193... | 9/17/2018 12:14 PM |             |       |                     |    | 237.1 -> 194... |                  |     |                  | Carbamazepine-13C6        | 6.136       | 12301... |              |  |
| Chlordiazepoxide       | 300.1 -> 227... | 9/17/2018 12:14 PM |             |       |                     |    | 300.1 -> 282... |                  |     |                  | Chlordiazepoxide-D5       | 6.573       | 267428   |              |  |
| Sufentanil             | 387.2 -> 238... | 9/17/2018 12:14 PM | 7.008       | 2195  |                     |    | 387.2 -> 111... |                  |     |                  | Sufentanil-D5             | 6.988       | 12824... |              |  |
| Desipramine            | 267.2 -> 72.3   | 9/17/2018 12:14 PM |             |       |                     |    | 267.2 -> 44.3   |                  |     |                  | Desipramine-D3            | 6.842       | 894304   |              |  |
| Doxepin                | 280.2 -> 107... | 9/17/2018 12:14 PM |             |       |                     |    | 280.2 -> 77.2   |                  |     |                  | Doxepin-D3                | 6.717       | 413770   |              |  |
| Estazolam              | 295.1 -> 267... | 9/17/2018 12:14 PM |             |       |                     |    | 295.1 -> 205... |                  |     |                  | Estazolam-D5              | 6.370       | 307695   |              |  |
| Flunitrazepam          | 314.1 -> 268... | 9/17/2018 12:14 PM |             |       |                     |    | 314.1 -> 239... |                  |     |                  | Flunitrazepam-D7          | 6.429       | 10626    |              |  |
| Flurazepam             | 388.2 -> 315... | 9/17/2018 12:14 PM |             |       |                     |    | 388.2 -> 317... |                  |     |                  | Zopiclone-D4              | 6.443       | 251815   |              |  |
| Imipramine             | 281.2 -> 86.2   | 9/17/2018 12:14 PM |             |       |                     |    | 281.2 -> 58.3   |                  |     |                  | Imipramine-D3             | 6.981       | 429142   |              |  |
| Levamisole             | 205.1 -> 91.2   | 9/17/2018 12:14 PM | 6.078       | 6475  | 1.20                |    | 205.1 -> 178... |                  |     |                  | Sufentanil-D5             | 6.988       | 12824... |              |  |
| Maprotiline            | 278.2 -> 91.2   | 9/17/2018 12:14 PM |             |       |                     |    | 278.2 -> 117... |                  |     |                  | Amitriptyline-D3          | 7.001       | 209502   |              |  |
| MDA                    | 180.1 -> 163... | 9/17/2018 12:14 PM |             |       |                     |    | 180.1 -> 105... |                  |     |                  | MDA-D5                    | 5.490       | 298454   |              |  |
| MDEA                   | 208.1 -> 163... | 9/17/2018 12:14 PM |             |       |                     |    | 208.1 -> 105... |                  |     |                  | MDEA-D6                   | 5.793       | 477831   |              |  |
| MDMA                   | 194.1 -> 163... | 9/17/2018 12:14 PM |             |       |                     |    | 194.1 -> 105... |                  |     |                  | MDMA-D6                   | 5.672       | 46023    |              |  |
| Meperidine             | 248.2 -> 220... | 9/17/2018 12:14 PM |             |       |                     |    | 248.2 -> 174... |                  |     |                  | Meperidine-D4             | 5.972       | 331380   |              |  |
| Methylphenidate        | 234.2 -> 84.2   | 9/17/2018 12:14 PM |             |       |                     |    | 234.2 -> 56.3   |                  |     |                  | Meperidine-D4             | 5.972       | 331380   |              |  |
| Midazolam              | 326.1 -> 223... | 9/17/2018 12:14 PM |             |       |                     |    | 326.1 -> 249... |                  |     |                  | Midazolam-D4              | 6.589       | 408304   |              |  |
| Normeperidine          | 234.1 -> 42.3   | 9/17/2018 12:14 PM |             |       |                     |    | 234.1 -> 160... |                  |     |                  | Normeperidine-D4          | 5.873       | 244524   |              |  |
| 7-Aminoflunitrazepam   | 284.1 -> 135... | 9/17/2018 12:14 PM |             |       |                     |    | 284.1 -> 93.2   |                  |     |                  | 7-aminoflunitrazepam-D7   | 5.742       | 195604   |              |  |
| Nortriptyline          | 264.2 -> 91.2   | 9/17/2018 12:14 PM |             |       |                     |    | 264.2 -> 233... |                  |     |                  | Nortriptyline-D3          | 6.802       | 338421   |              |  |
| Phenazepam             | 349.0 -> 206... | 9/17/2018 12:14 PM |             |       |                     |    | 349.0 -> 183... |                  |     |                  | Phenazepam-D4             | 6.486       | 12971    |              |  |
| Phencyclidine          | 244.2 -> 86.2   | 9/17/2018 12:14 PM |             |       |                     |    | 244.2 -> 91.1   |                  |     |                  | Phencyclidine-D5          | 6.155       | 10374... |              |  |
| Phenytol               | 253.1 -> 104... | 9/17/2018 12:14 PM | 5.992       | 3382  | 1.92                |    | 253.1 -> 182... |                  |     |                  | Phenytol-D10              | 6.032       | 19071    |              |  |
| Pseudoephedrine        | 166.1 -> 148... | 9/17/2018 12:14 PM |             |       |                     |    | 166.1 -> 133... |                  |     |                  | Pseudoephedrine-D3        | 4.905       | 660526   |              |  |
| Tapentadol             | 222.2 -> 107... | 9/17/2018 12:14 PM |             |       |                     |    | 222.2 -> 121... |                  |     |                  | Tapentadol-D3             | 5.649       | 775475   |              |  |
| Zaleplon               | 306.1 -> 236... | 9/17/2018 12:14 PM |             |       |                     |    | 306.1 -> 264... |                  |     |                  | Zaleplon-D4               | 6.247       | 215269   |              |  |

| Compound Method        |                 | p2 external control |       | p2 external control Results |      | Qualifier 1 M... |                 | Qualifier 1 Resu... |     | ISTD Method |                           | ISTD Results |         |
|------------------------|-----------------|---------------------|-------|-----------------------------|------|------------------|-----------------|---------------------|-----|-------------|---------------------------|--------------|---------|
| Name                   | Transition      | Acq. Date-Time      | RT    | Resp.                       | S/N  | MI               | Transition      | MI                  | S/N | Area        | Name                      | RT           | Resp.   |
| Acetylfentanyl         | 323.2 -> 188... | 9/17/2018 12:33 PM  |       |                             |      |                  | 323.2 -> 105... |                     |     |             | Acetylfentanyl-D5         | 6.508        | 1434135 |
| alpha-hydroxymidazolam | 342.1 -> 324... | 9/17/2018 12:33 PM  |       |                             |      |                  | 342.1 -> 203... |                     |     |             | alpha-hydroxymidazolam... | 6.426        | 381778  |
| Amitriptyline          | 278.2 -> 91.2   | 9/17/2018 12:33 PM  |       |                             |      |                  | 278.2 -> 105... |                     |     |             | Amitriptyline-D3          | 6.981        | 95794   |
| Acetylornofentanyl     | 219.1 -> 84.2   | 9/17/2018 12:33 PM  |       |                             |      |                  | 219.1 -> 56.3   |                     |     |             | Acetylornofentanyl-D5     | 5.099        | 433371  |
| Carbamazepine          | 237.1 -> 193... | 9/17/2018 12:33 PM  |       |                             |      |                  | 237.1 -> 194... |                     |     |             | Carbamazepine-13C6        | 6.136        | 1129888 |
| Chlordiazepoxide       | 300.1 -> 227... | 9/17/2018 12:33 PM  |       |                             |      |                  | 300.1 -> 282... |                     |     |             | Chlordiazepoxide-D5       | 6.573        | 248496  |
| Sufentanil             | 387.2 -> 238... | 9/17/2018 12:33 PM  |       |                             |      |                  | 387.2 -> 111... |                     |     |             | Sufentanil-D5             | 6.988        | 1189600 |
| Desipramine            | 267.2 -> 72.3   | 9/17/2018 12:33 PM  |       |                             |      |                  | 267.2 -> 44.3   |                     |     |             | Desipramine-D3            | 6.842        | 795070  |
| Doxepin                | 280.2 -> 107... | 9/17/2018 12:33 PM  |       |                             |      |                  | 280.2 -> 77.2   |                     |     |             | Doxepin-D3                | 6.717        | 385959  |
| Estazolam              | 295.1 -> 267... | 9/17/2018 12:33 PM  |       |                             |      |                  | 295.1 -> 205... |                     |     |             | Estazolam-D5              | 6.370        | 280956  |
| Flunitrazepam          | 314.1 -> 268... | 9/17/2018 12:33 PM  |       |                             |      |                  | 314.1 -> 239... |                     |     |             | Flunitrazepam-D7          | 6.429        | 9670    |
| Flurazepam             | 388.2 -> 315... | 9/17/2018 12:33 PM  |       |                             |      |                  | 388.2 -> 317... |                     |     |             | Zopiclone-D4              | 6.443        | 192589  |
| Imipramine             | 281.2 -> 86.2   | 9/17/2018 12:33 PM  |       |                             |      |                  | 281.2 -> 58.3   |                     |     |             | Imipramine-D3             | 6.981        | 347477  |
| Levamisole             | 205.1 -> 91.2   | 9/17/2018 12:33 PM  |       |                             |      |                  | 205.1 -> 178... |                     |     |             | Sufentanil-D5             | 6.988        | 1189600 |
| Maprotiline            | 278.2 -> 91.2   | 9/17/2018 12:33 PM  |       |                             |      |                  | 278.2 -> 117... |                     |     |             | Amitriptyline-D3          | 6.981        | 95794   |
| MDA                    | 180.1 -> 163... | 9/17/2018 12:33 PM  |       |                             |      |                  | 180.1 -> 105... |                     |     |             | MDA-D5                    | 5.511        | 282268  |
| MDEA                   | 208.1 -> 163... | 9/17/2018 12:33 PM  |       |                             |      |                  | 208.1 -> 105... |                     |     |             | MDEA-D6                   | 5.773        | 434493  |
| MDMA                   | 194.1 -> 163... | 9/17/2018 12:33 PM  |       |                             |      |                  | 194.1 -> 105... |                     |     |             | MDMA-D6                   | 5.672        | 44464   |
| Meperidine             | 248.2 -> 220... | 9/17/2018 12:33 PM  |       |                             |      |                  | 248.2 -> 174... |                     |     |             | Meperidine-D4             | 5.992        | 277618  |
| Methylphenidate        | 234.2 -> 84.2   | 9/17/2018 12:33 PM  |       |                             |      |                  | 234.2 -> 56.3   |                     |     |             | Meperidine-D4             | 5.992        | 277618  |
| Midazolam              | 326.1 -> 223... | 9/17/2018 12:33 PM  |       |                             |      |                  | 326.1 -> 249... |                     |     |             | Midazolam-D4              | 6.589        | 376377  |
| Normeperidine          | 234.1 -> 42.3   | 9/17/2018 12:33 PM  |       |                             |      |                  | 234.1 -> 160... |                     |     |             | Normeperidine-D4          | 5.873        | 224358  |
| 7-Aminoflunitrazepam   | 284.1 -> 135... | 9/17/2018 12:33 PM  |       |                             |      |                  | 284.1 -> 93.2   |                     |     |             | 7-aminoflunitrazepam-D7   | 5.762        | 199004  |
| Nortriptyline          | 264.2 -> 91.2   | 9/17/2018 12:33 PM  | 6.864 | 529740                      |      |                  | 264.2 -> 233... |                     |     | 4749        | Nortriptyline-D3          | 6.782        | 314756  |
| Phenazepam             | 349.0 -> 206... | 9/17/2018 12:33 PM  |       |                             |      |                  | 349.0 -> 183... |                     |     |             | Phenazepam-D4             | 6.465        | 13123   |
| Phencyclidine          | 244.2 -> 86.2   | 9/17/2018 12:33 PM  |       |                             |      |                  | 244.2 -> 91.1   |                     |     |             | Phencyclidine-D5          | 6.155        | 1035184 |
| Phenylethylamine       | 253.1 -> 104... | 9/17/2018 12:33 PM  | 5.971 | 2718                        | 3.61 |                  | 253.1 -> 182... |                     |     |             | Phenylethylamine-D10      | 6.032        | 15964   |
| Pseudoephedrine        | 166.1 -> 148... | 9/17/2018 12:33 PM  |       |                             |      |                  | 166.1 -> 133... |                     |     |             | Pseudoephedrine-D3        | 4.905        | 620199  |
| Tapentadol             | 222.2 -> 107... | 9/17/2018 12:33 PM  |       |                             |      |                  | 222.2 -> 121... |                     |     |             | Tapentadol-D3             | 5.649        | 715672  |
| Zaleplon               | 306.1 -> 236... | 9/17/2018 12:33 PM  |       |                             |      |                  | 306.1 -> 264... |                     |     |             | Zaleplon-D4               | 6.247        | 198372  |

| Compound Method      |                 | p1 cal 1-1a       |       |        |          | p1 cal 1-1a Results |                 |    |          | Qualifier 1 M... |                         |       | Qualifier 1 Results |  |  | ISTD Method |  | ISTD Results |  |
|----------------------|-----------------|-------------------|-------|--------|----------|---------------------|-----------------|----|----------|------------------|-------------------------|-------|---------------------|--|--|-------------|--|--------------|--|
| Name                 | Transition      | Acq. Date-Time    | RT    | Resp.  | S/N      | MI                  | Transition      | MI | S/N      | Area             | Name                    | RT    | Resp.               |  |  |             |  |              |  |
| 6-MAM                | 328.2 -> 165... | 9/17/2018 1:51 PM | 5.523 | 786    | 5.08     | ✓                   | 328.2 -> 211... | ✓  | ∞        | 362              | 6-MAM-D6                | 5.482 | 32021               |  |  |             |  |              |  |
| 7-aminoclonazepam    | 286.1 -> 121... | 9/17/2018 1:51 PM | 5.591 | 21456  | 1036.67  | ✓                   | 286.1 -> 222... | ✓  | 95.35    | 18960            | 7-Aminoclonazepam-D4    | 5.569 | 111163              |  |  |             |  |              |  |
| Benzoylcocaine       | 290.1 -> 168... | 9/17/2018 1:51 PM | 5.385 | 13668  | 2400.98  | ✓                   | 290.1 -> 105... | ✓  | 32.37    | 8787             | Benzoylcocaine-D8       | 5.365 | 4253                |  |  |             |  |              |  |
| Metoprolol           | 268.2 -> 116... | 9/17/2018 1:51 PM | 5.860 | 25157  | 1542.26  | ✓                   | 268.2 -> 56.3   | ✓  | 180.79   | 20612            | Noroxycodone-D3         | 5.302 | 61885               |  |  |             |  |              |  |
| a-hydroxyalprazolam  | 325.1 -> 297... | 9/17/2018 1:51 PM | 6.359 | 7302   | 19.76    | ✓                   | 325.1 -> 215... | ✓  | 31.98    | 4137             | a-hydroxyalprazolam-D5  | 6.358 | 41875               |  |  |             |  |              |  |
| alpha-PVP            | 232.2 -> 91.0   | 9/17/2018 1:51 PM | 6.028 | 120612 | 152.68   | ✓                   | 232.2 -> 77.1   | ✓  | 91.36    | 46705            | alpha-PVP-d8            | 5.965 | 602923              |  |  |             |  |              |  |
| Alprazolam           | 309.1 -> 281... | 9/17/2018 1:51 PM | 6.445 | 48045  | 166.89   | ✓                   | 309.1 -> 205... | ✓  | 192.51   | 44037            | Alprazolam-D5           | 6.443 | 183753              |  |  |             |  |              |  |
| Amphetamine          | 136.1 -> 91.1   | 9/17/2018 1:51 PM | 5.235 | 134675 | ∞        | ✓                   | 136.1 -> 119... | ✓  | 4.83     | 83590            | Amphetamine-D11         | 5.214 | 191402              |  |  |             |  |              |  |
| Cocaine              | 304.2 -> 182... | 9/17/2018 1:51 PM | 5.936 | 124510 | 37.12    | ✓                   | 304.2 -> 105... | ✓  | ∞        | 26262            | Cocaine-D3              | 5.935 | 594124              |  |  |             |  |              |  |
| Bupropion            | 240.1 -> 184... | 9/17/2018 1:51 PM | 6.190 | 138357 | ∞        | ✓                   | 240.1 -> 131... | ✓  | ∞        | 68869            | Bupropion-D9            | 6.149 | 627582              |  |  |             |  |              |  |
| Carisoprodol         | 261.2 -> 176... | 9/17/2018 1:51 PM | 6.107 | 55883  | 11544... | ✓                   | 261.2 -> 55.3   | ✓  | 30.58    | 59081            | Carisoprodol-D7         | 6.105 | 360343              |  |  |             |  |              |  |
| Citalopram           | 325.2 -> 109... | 9/17/2018 1:51 PM | 6.481 | 162217 | 21.68    | ✓                   | 325.2 -> 262... | ✓  | 60.94    | 36852            | Citalopram-D6           | 6.460 | 777818              |  |  |             |  |              |  |
| Clonazepam           | 316.1 -> 269... | 9/17/2018 1:51 PM | 6.320 | 14913  | 154.45   | ✓                   | 316.1 -> 213... | ✓  | 51.69    | 4581             | Clonazepam-D4           | 6.319 | 21601               |  |  |             |  |              |  |
| Codeine              | 300.2 -> 215... | 9/17/2018 1:51 PM | 5.425 | 7856   | 33.32    | ✓                   | 300.2 -> 165... | ✓  | ∞        | 4791             | Codeine-D6              | 5.423 | 31591               |  |  |             |  |              |  |
| Cyclobenzaprine      | 276.2 -> 214... | 9/17/2018 1:51 PM | 6.979 | 44824  | 62.28    | ✓                   | 276.2 -> 231... | ✓  | ∞        | 12833            | Cyclobenzaprine-D3      | 6.958 | 275607              |  |  |             |  |              |  |
| Dextromethorphan     | 272.2 -> 171... | 9/17/2018 1:51 PM | 6.533 | 37766  | 1733.82  | ✓                   | 272.2 -> 147... | ✓  | 35.71    | 34066            | Dextromethorphan-D3     | 6.552 | 206924              |  |  |             |  |              |  |
| Dextropropion        | 258.2 -> 157... | 9/17/2018 1:51 PM | 5.821 | 36537  | 66.57    | ✓                   | 258.2 -> 133... | ✓  | ∞        | 21457            | Dextropropion-D3        | 5.821 | 216690              |  |  |             |  |              |  |
| Diazepam             | 285.1 -> 193... | 9/17/2018 1:51 PM | 6.671 | 36664  | 170.87   | ✓                   | 285.1 -> 133... | ✓  | 228.72   | 25378            | Diazepam-D5             | 6.670 | 169751              |  |  |             |  |              |  |
| Dihydrocodeine       | 302.2 -> 198... | 9/17/2018 1:51 PM | 5.262 | 19412  | 199.22   | ✓                   | 302.2 -> 128... | ✓  | 10.95    | 13306            | Dihydrocodeine-D6       | 5.199 | 92305               |  |  |             |  |              |  |
| Diphenhydramine      | 256.2 -> 167... | 9/17/2018 1:51 PM | 6.351 | 219580 | 18.24    | ✓                   | 256.2 -> 152... | ✓  | ∞        | 59811            | Diphenhydramine-D3      | 6.351 | 13198...            |  |  |             |  |              |  |
| Doxylamine           | 271.2 -> 182... | 9/17/2018 1:51 PM | 5.901 | 196522 | 52.52    | ✓                   | 271.2 -> 167... | ✓  | 94.56    | 1570...          | Doxylamine-D5           | 5.879 | 10085...            |  |  |             |  |              |  |
| EDDP                 | 279.2 -> 235... | 9/17/2018 1:51 PM | 6.245 | 157022 | 352.93   | ✓                   | 279.2 -> 250... | ✓  | 61.74    | 50045            | EDDP-D3                 | 6.245 | 73332               |  |  |             |  |              |  |
| Fentanyl             | 337.2 -> 105... | 9/17/2018 1:51 PM | 6.743 | 29861  | 5.44     | ✓                   | 337.2 -> 188... | ✓  | 6.60     | 18921            | Fentanyl-D5             | 6.702 | 14764...            |  |  |             |  |              |  |
| Fluoxetine           | 310.1 -> 44.3   | 9/17/2018 1:51 PM | 6.505 | 244937 | 85.39    | ✓                   | 310.1 -> 148... | ✓  | 29.64    | 7867             | Fluoxetine-D6           | 6.503 | 11299...            |  |  |             |  |              |  |
| Hydrocodone          | 300.2 -> 198... | 9/17/2018 1:51 PM | 5.671 | 13043  | ∞        | ✓                   | 300.2 -> 128... | ✓  | ∞        | 8315             | Hydrocodone-D6          | 5.670 | 106144              |  |  |             |  |              |  |
| Hydromorphone        | 286.2 -> 184... | 9/17/2018 1:51 PM | 5.123 | 18987  | 16.91    | ✓                   | 286.2 -> 157... | ✓  | ∞        | 13922            | Hydromorphone-D6        | 5.020 | 54421               |  |  |             |  |              |  |
| Ketamine             | 238.1 -> 125... | 9/17/2018 1:51 PM | 6.129 | 99425  | 46.87    | ✓                   | 238.1 -> 220... | ✓  | 13.15    | 34312            | Ketamine-D4             | 6.108 | 448104              |  |  |             |  |              |  |
| Mirtazapine          | 266.2 -> 195... | 9/17/2018 1:51 PM | 6.554 | 176369 | 100.00   | ✓                   | 266.2 -> 72.3   | ✓  | ∞        | 173...           | Tramadol-13C-D3         | 5.696 | 884558              |  |  |             |  |              |  |
| Mitragynine          | 399.2 -> 238... | 9/17/2018 1:51 PM | 6.639 | 28239  | 3830.42  | ✓                   | 399.2 -> 174... | ✓  | 876.92   | 63417            | Tramadol-13C-D3         | 5.696 | 884558              |  |  |             |  |              |  |
| Meprobamate          | 219.1 -> 158... | 9/17/2018 1:51 PM | 5.640 | 17566  | 252.31   | ✓                   | 219.1 -> 97.1   | ✓  | 17.11    | 13786            | Meprobamate-D7          | 5.640 | 100972              |  |  |             |  |              |  |
| Methadone            | 310.2 -> 265... | 9/17/2018 1:51 PM | 6.525 | 182000 | 36.63    | ✓                   | 310.2 -> 105... | ✓  | 65.31    | 1769...          | Methadone-D9            | 6.503 | 10809...            |  |  |             |  |              |  |
| Methamphetamine      | 150.1 -> 91.1   | 9/17/2018 1:51 PM | 5.457 | 366928 | 50.64    | ✓                   | 150.1 -> 119... | ✓  | 19.98    | 1155...          | Methamphetamine-D11     | 5.416 | 386213              |  |  |             |  |              |  |
| Norpheniramine       | 414.3 -> 101... | 9/17/2018 1:51 PM | 6.294 | 4098   | 316.35   | ✓                   | 414.3 -> 57.3   | ✓  | 5.04     | 4641             | Norpheniramine-D3       | 6.314 | 15591               |  |  |             |  |              |  |
| Nordiazepam          | 271.1 -> 140... | 9/17/2018 1:51 PM | 6.533 | 16848  | 97.11    | ✓                   | 271.1 -> 208... | ✓  | 50.17.48 | 10179            | Nordiazepam-D5          | 6.532 | 51490               |  |  |             |  |              |  |
| Norfentanyl          | 233.2 -> 84.2   | 9/17/2018 1:51 PM | 5.558 | 111134 | 1155.14  | ✓                   | 233.2 -> 55.3   | ✓  | 9.81     | 37803            | Norfentanyl-D5          | 5.536 | 568566              |  |  |             |  |              |  |
| Noroxycodone         | 302.1 -> 284... | 9/17/2018 1:51 PM | 5.343 | 11113  | ∞        | ✓                   | 302.1 -> 186... | ✓  | 24.90    | 8360             | Noroxycodone-D3         | 5.302 | 61885               |  |  |             |  |              |  |
| O-desmethyl-tramadol | 250.2 -> 58.3   | 9/17/2018 1:51 PM | 5.169 | 172725 | 511.53   | ✓                   | 250.2 -> 42.3   | ✓  | 56.77    | 10213            | O-desmethyl-tramadol... | 5.169 | 755577              |  |  |             |  |              |  |
| Oxazepam             | 287.1 -> 240... | 9/17/2018 1:51 PM | 6.365 | 10067  | 19.55    | ✓                   | 287.1 -> 268... | ✓  | 4.95     | 5674             | Oxazepam-D5             | 6.365 | 58220               |  |  |             |  |              |  |
| Oxycodone            | 316.2 -> 298... | 9/17/2018 1:51 PM | 5.442 | 37137  | 82.72    | ✓                   | 316.2 -> 241... | ✓  | 1753.12  | 13878            | Oxycodone-D6            | 5.381 | 195675              |  |  |             |  |              |  |
| Oxymorphone          | 302.1 -> 284... | 9/17/2018 1:51 PM | 4.775 | 33306  | 16.40    | ✓                   | 302.1 -> 227... | ✓  | 31.78    | 8425             | Oxymorphone-D3          | 4.753 | 184509              |  |  |             |  |              |  |
| Promethazine         | 285.1 -> 86.2   | 9/17/2018 1:51 PM | 7.218 | 161423 | ∞        | ✓                   | 285.1 -> 71.3   | ✓  | 36.43    | 36089            | Promethazine-D3         | 7.197 | 984794              |  |  |             |  |              |  |
| Quetiapine           | 384.2 -> 253... | 9/17/2018 1:51 PM | 6.721 | 295539 | 3104.91  | ✓                   | 384.2 -> 221... | ✓  | 31727... | 1505...          | Quetiapine-D8           | 6.699 | 419310              |  |  |             |  |              |  |
| Sertraline           | 306.1 -> 158... | 9/17/2018 1:51 PM | 7.293 | 23880  | ∞        | ✓                   | 306.1 -> 275... | ✓  | ∞        | 11872            | Sertraline-D3           | 7.334 | 81925               |  |  |             |  |              |  |
| Temazepam            | 301.1 -> 255... | 9/17/2018 1:51 PM | 6.507 | 61550  | 120.93   | ✓                   | 301.1 -> 283... | ✓  | 17.71    | 21746            | Temazepam-D5            | 6.486 | 338990              |  |  |             |  |              |  |

not evaluated

not evaluated

not evaluated



| Compound Method |                 | p1 cal 1-1a       |       |        | p1 cal 1-1a Results |    |                 | Qualifier 1 M... |        | Qualifier 1 Results |                 |       | ISTD Method |  | ISTD Results |  |
|-----------------|-----------------|-------------------|-------|--------|---------------------|----|-----------------|------------------|--------|---------------------|-----------------|-------|-------------|--|--------------|--|
| Name            | Transition      | Acq. Date-Time    | RT    | Resp.  | S/N                 | MI | Transition      | MI               | S/N    | Area                | Name            | RT    | Resp.       |  |              |  |
| Tramadol        | 264.2 -> 58.3   | 9/17/2018 1:51 PM | 5.697 | 191780 | 20.55               |    | 264.2 -> 43.3   |                  | 3.70   | 10361               | Tramadol-13C-D3 | 5.696 | 884558      |  |              |  |
| Trazodone       | 372.2 -> 176... | 9/17/2018 1:51 PM | 7.025 | 165287 | 210.43              |    | 372.2 -> 148... |                  | 108.03 | 1210...             | Trazodone-D6    | 7.005 | 790536      |  |              |  |
| Venlafaxine     | 278.2 -> 58.3   | 9/17/2018 1:51 PM | 6.001 | 208322 | 55.66               |    | 278.2 -> 260... |                  | 9.69   | 41823               | Venlafaxine-D6  | 6.000 | 971231      |  |              |  |
| Zolpidem        | 308.2 -> 235... | 9/17/2018 1:51 PM | 6.404 | 201769 | 1153.94             |    | 308.2 -> 263... |                  | 771.62 | 70540               | Zolpidem-D6     | 6.402 | 10850...    |  |              |  |

Morphine, Phentermine, and Norhydrocodone were not evaluated in this run. AMN 9/18/18

| Compound Method      |                 | p1 negative       |       |        | p1 negative Results |    |                 | Qualifier 1 M... |     | Qualifier 1 Res... |                         | ISTD Method |          | ISTD Results |  |
|----------------------|-----------------|-------------------|-------|--------|---------------------|----|-----------------|------------------|-----|--------------------|-------------------------|-------------|----------|--------------|--|
| Name                 | Transition      | Acq. Date-Time    | RT    | Resp   | S/N                 | MI | Transition      | MI               | S/N | Area               | Name                    | RT          | Resp.    |              |  |
| 6-MAM                | 328.2 -> 165... | 9/17/2018 1:31 PM |       |        |                     |    | 328.2 -> 211... |                  |     |                    | 6-MAM-D6                | 5.502       | 46135    |              |  |
| 7-aminoclonazepam    | 286.1 -> 121... | 9/17/2018 1:31 PM |       |        |                     |    | 286.1 -> 222... |                  |     |                    | 7-Aminoclonazepam-D4    | 5.569       | 134949   |              |  |
| Benzoylcegonine      | 290.1 -> 168... | 9/17/2018 1:31 PM |       |        |                     |    | 290.1 -> 105... |                  |     |                    | Benzoylcegonine-D8      | 5.365       | 6038     |              |  |
| Metoprolol           | 268.2 -> 116... | 9/17/2018 1:31 PM |       |        |                     |    | 268.2 -> 56.3   |                  |     |                    | Noroxycodone-D3         | 5.322       | 63703    |              |  |
| a-hydroxyvalprazolam | 325.1 -> 297... | 9/17/2018 1:31 PM |       |        |                     |    | 325.1 -> 215... |                  |     |                    | a-hydroxyvalprazolam-D5 | 6.358       | 49714    |              |  |
| alpha-PVP            | 232.2 -> 91.0   | 9/17/2018 1:31 PM |       |        |                     |    | 232.2 -> 77.1   |                  |     |                    | alpha-PVP-d8            | 5.965       | 756370   |              |  |
| Alprazolam           | 309.1 -> 281... | 9/17/2018 1:31 PM |       |        |                     |    | 309.1 -> 205... |                  |     |                    | Alprazolam-D5           | 6.443       | 238098   |              |  |
| Amphetamine          | 136.1 -> 91.1   | 9/17/2018 1:31 PM | 5.012 | 28373  | 7.97                |    | 136.1 -> 119... |                  |     |                    | Amphetamine-D11         | 5.214       | 218837   |              |  |
| Cocaine              | 304.2 -> 182... | 9/17/2018 1:31 PM |       |        |                     |    | 304.2 -> 105... |                  |     |                    | Cocaine-D3              | 5.935       | 740479   |              |  |
| Bupropion            | 240.1 -> 184... | 9/17/2018 1:31 PM |       |        |                     |    | 240.1 -> 131... |                  |     |                    | Bupropion-D9            | 6.169       | 721315   |              |  |
| Carisoprodol         | 261.2 -> 176... | 9/17/2018 1:31 PM |       |        |                     |    | 261.2 -> 55.3   |                  |     |                    | Carisoprodol-D7         | 6.105       | 451628   |              |  |
| Citalopram           | 325.2 -> 109... | 9/17/2018 1:31 PM |       |        |                     |    | 325.2 -> 262... |                  |     |                    | Citalopram-D6           | 6.440       | 691120   |              |  |
| Clonazepam           | 316.1 -> 269... | 9/17/2018 1:31 PM |       |        |                     |    | 316.1 -> 213... |                  |     |                    | Clonazepam-D4           | 6.319       | 30502    |              |  |
| Codeine              | 300.2 -> 215... | 9/17/2018 1:31 PM |       |        |                     |    | 300.2 -> 165... |                  |     |                    | Codeine-D6              | 5.423       | 31867    |              |  |
| Cyclobenzaprine      | 276.2 -> 214... | 9/17/2018 1:31 PM |       |        |                     |    | 276.2 -> 231... |                  |     |                    | Cyclobenzaprine-D3      | 6.958       | 419140   |              |  |
| Dextromethorphan     | 272.2 -> 171... | 9/17/2018 1:31 PM |       |        |                     |    | 272.2 -> 147... |                  |     |                    | Dextromethorphan-D3     | 6.552       | 263472   |              |  |
| Dextroprhan          | 258.2 -> 157... | 9/17/2018 1:31 PM |       |        |                     |    | 258.2 -> 133... |                  |     |                    | Dextroprhan-D3          | 5.821       | 255450   |              |  |
| Diazepam             | 285.1 -> 193... | 9/17/2018 1:31 PM |       |        |                     |    | 285.1 -> 153... |                  |     |                    | Diazepam-D5             | 6.670       | 204674   |              |  |
| Dihydrocodeine       | 302.2 -> 198... | 9/17/2018 1:31 PM |       |        |                     |    | 302.2 -> 128... |                  |     |                    | Dihydrocodeine-D6       | 5.219       | 123410   |              |  |
| Diphenhydramine      | 256.2 -> 167... | 9/17/2018 1:31 PM |       |        |                     |    | 256.2 -> 152... |                  |     |                    | Diphenhydramine-D3      | 6.351       | 15892... |              |  |
| Doxylamine           | 271.2 -> 182... | 9/17/2018 1:31 PM |       |        |                     |    | 271.2 -> 167... |                  |     |                    | Doxylamine-D5           | 5.879       | 13877... |              |  |
| EDDP                 | 279.2 -> 235... | 9/17/2018 1:31 PM |       |        |                     |    | 279.2 -> 250... |                  |     |                    | EDDP-D3                 | 6.245       | 108583   |              |  |
| Fentanyl             | 337.2 -> 105... | 9/17/2018 1:31 PM |       |        |                     |    | 337.2 -> 188... |                  |     |                    | Fentanyl-D5             | 6.702       | 18156... |              |  |
| Fluoxetine           | 310.1 -> 44.3   | 9/17/2018 1:31 PM |       |        |                     |    | 310.1 -> 148... |                  |     |                    | Fluoxetine-D6           | 6.503       | 13928... |              |  |
| Hydrocodone          | 300.2 -> 198... | 9/17/2018 1:31 PM |       |        |                     |    | 300.2 -> 128... |                  |     |                    | Hydrocodone-D6          | 5.670       | 134124   |              |  |
| Hydromorphone        | 286.2 -> 184... | 9/17/2018 1:31 PM |       |        |                     |    | 286.2 -> 157... |                  |     |                    | Hydromorphone-D6        | 5.020       | 55083    |              |  |
| Ketamine             | 238.1 -> 125... | 9/17/2018 1:31 PM |       |        |                     |    | 238.1 -> 220... |                  |     |                    | Ketamine-D4             | 6.108       | 536781   |              |  |
| Mirtazapine          | 266.2 -> 195... | 9/17/2018 1:31 PM |       |        |                     |    | 266.2 -> 72.3   |                  |     |                    | Tramadol-13C-D3         | 5.696       | 12006... |              |  |
| Mirtagynine          | 399.2 -> 238... | 9/17/2018 1:31 PM |       |        |                     |    | 399.2 -> 174... |                  |     |                    | Tramadol-13C-D3         | 5.696       | 12006... |              |  |
| Meprobamate          | 219.1 -> 158... | 9/17/2018 1:31 PM |       |        |                     |    | 219.1 -> 97.1   |                  |     |                    | Meprobamate-D7          | 5.640       | 127661   |              |  |
| Methadone            | 310.2 -> 265... | 9/17/2018 1:31 PM |       |        |                     |    | 310.2 -> 105... |                  |     |                    | Methadone-D9            | 6.503       | 12849... |              |  |
| Methamphetamine      | 150.1 -> 91.1   | 9/17/2018 1:31 PM | 5.457 | 161366 | 12.63               |    | 150.1 -> 119... |                  |     | 7.44               | Methamphetamine-D11     | 5.396       | 412906   |              |  |
| Morphine             | 286.2 -> 201... | 9/17/2018 1:31 PM |       |        |                     |    | 286.2 -> 165... |                  |     |                    | Morphine-D6             | 4.839       | 3816     |              |  |
| Norbuprenorphine     | 414.3 -> 101... | 9/17/2018 1:31 PM |       |        |                     |    | 414.3 -> 57.3   |                  |     |                    | Norbuprenorphine-D3     | 6.273       | 26597    |              |  |
| Nordiazepam          | 271.1 -> 140... | 9/17/2018 1:31 PM |       |        |                     |    | 271.1 -> 208... |                  |     |                    | Nordiazepam-D5          | 6.512       | 68533    |              |  |
| Norfentanyl          | 233.2 -> 84.2   | 9/17/2018 1:31 PM |       |        |                     |    | 233.2 -> 55.3   |                  |     |                    | Norfentanyl-D5          | 5.536       | 629908   |              |  |
| Norhydrocodone       | 286.2 -> 199... | 9/17/2018 1:31 PM |       |        |                     |    | 286.2 -> 171... |                  |     |                    | Norhydrocodone-D3       | 5.467       | 51707    |              |  |
| Noroxycodone         | 302.1 -> 284... | 9/17/2018 1:31 PM |       |        |                     |    | 302.1 -> 186... |                  |     |                    | Noroxycodone-D3         | 5.322       | 63703    |              |  |
| O-desmethyl-tramadol | 250.2 -> 58.3   | 9/17/2018 1:31 PM |       |        |                     |    | 250.2 -> 42.3   |                  |     |                    | O-desmethyl-tramadol... | 5.169       | 863838   |              |  |
| Oxazepam             | 287.1 -> 240... | 9/17/2018 1:31 PM |       |        |                     |    | 287.1 -> 268... |                  |     |                    | Oxazepam-D5             | 6.365       | 69246    |              |  |
| Oxycodone            | 316.2 -> 298... | 9/17/2018 1:31 PM |       |        |                     |    | 316.2 -> 241... |                  |     |                    | Oxycodone-D6            | 5.401       | 249789   |              |  |
| Oxymorphone          | 302.1 -> 284... | 9/17/2018 1:31 PM |       |        |                     |    | 302.1 -> 227... |                  |     |                    | Oxymorphone-D3          | 4.753       | 215806   |              |  |
| Phentermine          | 150.1 -> 65.2   | 9/17/2018 1:31 PM | 5.437 | 35128  | 2.43                |    | 150.1 -> 133... |                  |     |                    | Phentermine-D5          | 5.437       | 537872   |              |  |
| Promethazine         | 285.1 -> 86.2   | 9/17/2018 1:31 PM |       |        |                     |    | 285.1 -> 71.3   |                  |     |                    | Promethazine-D3         | 7.217       | 15208... |              |  |
| Quetiapine           | 384.2 -> 253... | 9/17/2018 1:31 PM |       |        |                     |    | 384.2 -> 221... |                  |     |                    | Quetiapine-D8           | 6.699       | 515894   |              |  |
| Sertraline           | 306.1 -> 158... | 9/17/2018 1:31 PM |       |        |                     |    | 306.1 -> 275... |                  |     |                    | Sertraline-D3           | 7.354       | 94858    |              |  |
| Temazepam            | 301.1 -> 255... | 9/17/2018 1:31 PM |       |        |                     |    | 301.1 -> 283... |                  |     |                    | Temazepam-D5            | 6.486       | 421608   |              |  |

| Compound Method |                 | p1 negative       |    | p1 negative Results |     |    | Qualifier 1 M... |    | Qualifier 1 Res... |      | ISTD Method     |       | ISTD Results |  |
|-----------------|-----------------|-------------------|----|---------------------|-----|----|------------------|----|--------------------|------|-----------------|-------|--------------|--|
| Name            | Transition      | Acq. Date-Time    | RT | Resp.               | S/N | MI | Transition       | MI | S/N                | Area | Name            | RT    | Resp.        |  |
| Tramadol        | 264.2 -> 58.3   | 9/17/2018 1:31 PM |    |                     |     | ☐  | 264.2 -> 43.3    | ☐  |                    |      | Tramadol-13C-D3 | 5.696 | 12006...     |  |
| Trazodone       | 372.2 -> 176... | 9/17/2018 1:31 PM |    |                     |     | ☐  | 372.2 -> 148...  | ☐  |                    |      | Trazodone-D6    | 7.045 | 11563...     |  |
| Venlafaxine     | 278.2 -> 58.3   | 9/17/2018 1:31 PM |    |                     |     | ☐  | 278.2 -> 260...  | ☐  |                    |      | Venlafaxine-D6  | 6.000 | 11797...     |  |
| Zolpidem        | 308.2 -> 235... | 9/17/2018 1:31 PM |    |                     |     | ☐  | 308.2 -> 263...  | ☐  |                    |      | Zolpidem-D6     | 6.402 | 12793...     |  |

| Compound Method      |                 | p1 external control |       |        | p1 external control Results |    |                 | Qualifier 1 M... |          |         | Qualifier 1 Results     |       | ISTD Method |  | ISTD Results |  |
|----------------------|-----------------|---------------------|-------|--------|-----------------------------|----|-----------------|------------------|----------|---------|-------------------------|-------|-------------|--|--------------|--|
| Name                 | Transition      | Acq. Date-Time      | RT    | Resp.  | S/N                         | MI | Transition      | MI               | S/N      | Area    | Name                    | RT    | Resp.       |  |              |  |
| 6-MAM                | 328.2 -> 165... | 9/17/2018 1:41 PM   |       |        |                             |    | 328.2 -> 211... |                  |          |         | 6-MAM-D6                | 5.482 | 42069       |  |              |  |
| 7-aminoclonazepam    | 286.1 -> 121... | 9/17/2018 1:41 PM   |       |        |                             |    | 286.1 -> 222... |                  |          |         | 7-Aminoclonazepam-D4    | 5.569 | 128375      |  |              |  |
| Benzoyllecgonine     | 290.1 -> 168... | 9/17/2018 1:41 PM   |       |        |                             |    | 290.1 -> 105... |                  |          |         | Benzoyllecgonine-D8     | 5.365 | 6140        |  |              |  |
| Metoprolol           | 268.2 -> 116... | 9/17/2018 1:41 PM   |       |        |                             |    | 268.2 -> 56.3   |                  |          |         | Noroxycodone-D3         | 5.342 | 62082       |  |              |  |
| a-hydroxyalprazolam  | 325.1 -> 297... | 9/17/2018 1:41 PM   |       |        |                             |    | 325.1 -> 215... |                  |          |         | a-hydroxyalprazolam-D5  | 6.358 | 43539       |  |              |  |
| alpha-PVP            | 232.2 -> 91.0   | 9/17/2018 1:41 PM   |       |        |                             |    | 232.2 -> 77.1   |                  |          |         | alpha-PVP-d8            | 5.965 | 700633      |  |              |  |
| Alprazolam           | 309.1 -> 281... | 9/17/2018 1:41 PM   |       |        |                             |    | 309.1 -> 205... |                  |          |         | Alprazolam-D5           | 6.443 | 216804      |  |              |  |
| Amphetamine          | 136.1 -> 91.1   | 9/17/2018 1:41 PM   | 5.012 | 33270  |                             |    | 136.1 -> 119... |                  |          |         | Amphetamine-D11         | 5.194 | 234618      |  |              |  |
| Cocaine              | 304.2 -> 182... | 9/17/2018 1:41 PM   |       |        |                             |    | 304.2 -> 105... |                  |          |         | Cocaine-D3              | 5.935 | 647115      |  |              |  |
| Bupropion            | 240.1 -> 184... | 9/17/2018 1:41 PM   |       |        |                             |    | 240.1 -> 131... |                  |          |         | Bupropion-D9            | 6.169 | 629251      |  |              |  |
| Carisoprodol         | 261.2 -> 176... | 9/17/2018 1:41 PM   |       |        |                             |    | 261.2 -> 55.3   |                  |          |         | Carisoprodol-D7         | 6.105 | 380667      |  |              |  |
| Citalopram           | 325.2 -> 109... | 9/17/2018 1:41 PM   |       |        |                             |    | 325.2 -> 262... |                  |          |         | Citalopram-D6           | 6.460 | 890143      |  |              |  |
| Clonazepam           | 316.1 -> 269... | 9/17/2018 1:41 PM   |       |        |                             |    | 316.1 -> 213... |                  |          |         | Clonazepam-D4           | 6.319 | 23769       |  |              |  |
| Codeine              | 300.2 -> 215... | 9/17/2018 1:41 PM   | 5.691 | 3482   | 0.56                        |    | 300.2 -> 165... |                  | 1944.... | 15055   | Codeine-D6              | 5.382 | 33700       |  |              |  |
| Cyclobenzaprine      | 276.2 -> 214... | 9/17/2018 1:41 PM   |       |        |                             |    | 276.2 -> 231... |                  |          |         | Cyclobenzaprine-D3      | 6.958 | 280910      |  |              |  |
| Dextromethorphan     | 272.2 -> 171... | 9/17/2018 1:41 PM   |       |        |                             |    | 272.2 -> 147... |                  |          |         | Dextromethorphan-D3     | 6.552 | 215977      |  |              |  |
| Dextropropion        | 258.2 -> 157... | 9/17/2018 1:41 PM   |       |        |                             |    | 258.2 -> 133... |                  |          |         | Dextropropion-D3        | 5.821 | 211233      |  |              |  |
| Diazepam             | 285.1 -> 193... | 9/17/2018 1:41 PM   |       |        |                             |    | 285.1 -> 153... |                  |          |         | Diazepam-D5             | 6.670 | 191193      |  |              |  |
| Dihydrocodeine       | 302.2 -> 198... | 9/17/2018 1:41 PM   |       |        |                             |    | 302.2 -> 128... |                  |          |         | Dihydrocodeine-D6       | 5.219 | 107768      |  |              |  |
| Diphenhydramine      | 256.2 -> 167... | 9/17/2018 1:41 PM   |       |        |                             |    | 256.2 -> 152... |                  |          |         | Diphenhydramine-D3      | 6.351 | 14802...    |  |              |  |
| Doxylamine           | 271.2 -> 182... | 9/17/2018 1:41 PM   |       |        |                             |    | 271.2 -> 167... |                  |          |         | Doxylamine-D5           | 5.879 | 10924...    |  |              |  |
| EDDP                 | 279.2 -> 235... | 9/17/2018 1:41 PM   |       |        |                             |    | 279.2 -> 250... |                  |          |         | EDDP-D3                 | 6.265 | 94334       |  |              |  |
| Fentanyl             | 337.2 -> 105... | 9/17/2018 1:41 PM   |       |        |                             |    | 337.2 -> 188... |                  |          |         | Fentanyl-D5             | 6.702 | 16715...    |  |              |  |
| Fluoxetine           | 310.1 -> 44.3   | 9/17/2018 1:41 PM   |       |        |                             |    | 310.1 -> 148... |                  |          |         | Fluoxetine-D6           | 6.503 | 12649...    |  |              |  |
| Hydrocodone          | 300.2 -> 198... | 9/17/2018 1:41 PM   | 5.671 | 121674 |                             |    | 300.2 -> 128... |                  |          | 99057   | Hydrocodone-D6          | 5.649 | 137748      |  |              |  |
| Hydromorphone        | 286.2 -> 184... | 9/17/2018 1:41 PM   | 5.042 | 186743 | 101.21                      |    | 286.2 -> 157... |                  |          | 1344... | Hydromorphone-D6        | 5.040 | 68608       |  |              |  |
| Ketamine             | 238.1 -> 125... | 9/17/2018 1:41 PM   |       |        |                             |    | 238.1 -> 220... |                  |          |         | Ketamine-D4             | 6.108 | 477691      |  |              |  |
| Mirtazapine          | 266.2 -> 195... | 9/17/2018 1:41 PM   |       |        |                             |    | 266.2 -> 72.3   |                  |          |         | Tramadol-13C-D3         | 5.696 | 11444...    |  |              |  |
| Mitragynine          | 399.2 -> 238... | 9/17/2018 1:41 PM   |       |        |                             |    | 399.2 -> 174... |                  |          |         | Tramadol-13C-D3         | 5.696 | 11444...    |  |              |  |
| Meprobamate          | 219.1 -> 158... | 9/17/2018 1:41 PM   |       |        |                             |    | 219.1 -> 97.1   |                  |          |         | Meprobamate-D7          | 5.640 | 120822      |  |              |  |
| Methadone            | 310.2 -> 265... | 9/17/2018 1:41 PM   |       |        |                             |    | 310.2 -> 105... |                  |          |         | Methadone-D9            | 6.503 | 11704...    |  |              |  |
| Methamphetamine      | 150.1 -> 91.1   | 9/17/2018 1:41 PM   | 5.498 | 168698 | 9.99                        |    | 150.1 -> 119... |                  |          | 69554   | Methamphetamine-D11     | 5.396 | 517345      |  |              |  |
| Morphine             | 286.2 -> 201... | 9/17/2018 1:41 PM   |       |        |                             |    | 286.2 -> 165... |                  |          |         | Morphine-D6             | 4.778 | 2471        |  |              |  |
| Norbuprenorphine     | 414.3 -> 101... | 9/17/2018 1:41 PM   |       |        |                             |    | 414.3 -> 57.3   |                  |          |         | Norbuprenorphine-D3     | 6.294 | 16675       |  |              |  |
| Nordiazepam          | 271.1 -> 140... | 9/17/2018 1:41 PM   |       |        |                             |    | 271.1 -> 208... |                  |          |         | Nordiazepam-D5          | 6.532 | 63998       |  |              |  |
| Norfentanyl          | 233.2 -> 84.2   | 9/17/2018 1:41 PM   |       |        |                             |    | 233.2 -> 55.3   |                  |          |         | Norfentanyl-D5          | 5.536 | 571553      |  |              |  |
| Norhydrocodone       | 286.2 -> 199... | 9/17/2018 1:41 PM   |       |        |                             |    | 286.2 -> 171... |                  |          |         | Norhydrocodone-D3       | 5.447 | 55166       |  |              |  |
| Noroxycodone         | 302.1 -> 284... | 9/17/2018 1:41 PM   |       |        |                             |    | 302.1 -> 186... |                  |          |         | Noroxycodone-D3         | 5.342 | 62082       |  |              |  |
| O-desmethyl-tramadol | 250.2 -> 58.3   | 9/17/2018 1:41 PM   |       |        |                             |    | 250.2 -> 42.3   |                  |          |         | O-desmethyl-tramadol... | 5.169 | 869170      |  |              |  |
| Oxazepam             | 287.1 -> 240... | 9/17/2018 1:41 PM   |       |        |                             |    | 287.1 -> 268... |                  |          |         | Oxazepam-D5             | 6.365 | 67434       |  |              |  |
| Oxycodone            | 316.2 -> 298... | 9/17/2018 1:41 PM   |       |        |                             |    | 316.2 -> 241... |                  |          |         | Oxycodone-D6            | 5.401 | 180507      |  |              |  |
| Oxymorphone          | 302.1 -> 284... | 9/17/2018 1:41 PM   |       |        |                             |    | 302.1 -> 227... |                  |          |         | Oxymorphone-D3          | 4.753 | 206461      |  |              |  |
| Phentermine          | 150.1 -> 65.2   | 9/17/2018 1:41 PM   | 5.457 | 31149  |                             |    | 150.1 -> 133... |                  |          |         | Phentermine-D5          | 5.416 | 576161      |  |              |  |
| Promethazine         | 285.1 -> 86.2   | 9/17/2018 1:41 PM   |       |        |                             |    | 285.1 -> 71.3   |                  |          |         | Promethazine-D3         | 7.237 | 11644...    |  |              |  |
| Quetiapine           | 384.2 -> 253... | 9/17/2018 1:41 PM   |       |        |                             |    | 384.2 -> 221... |                  |          |         | Quetiapine-D8           | 6.699 | 469728      |  |              |  |
| Sertraline           | 306.1 -> 158... | 9/17/2018 1:41 PM   | 7.335 | 236963 | 1046....                    |    | 306.1 -> 275... |                  |          | 787.30  | Sertraline-D3           | 7.334 | 110112      |  |              |  |
| Temazepam            | 301.1 -> 255... | 9/17/2018 1:41 PM   |       |        |                             |    | 301.1 -> 283... |                  |          |         | Temazepam-D5            | 6.506 | 398083      |  |              |  |

| Compound Method |                 | p1 external control |    | p1 external control Results |     |    | Qualifier 1 M... |    | Qualifier 1 Results |      | ISTD Method     |       | ISTD Results |  |
|-----------------|-----------------|---------------------|----|-----------------------------|-----|----|------------------|----|---------------------|------|-----------------|-------|--------------|--|
| Name            | Transition      | Acq. Date-Time      | RT | Resp.                       | S/N | MI | Transition       | MI | S/N                 | Area | Name            | RT    | Resp.        |  |
| Tramadol        | 264.2 -> 58.3   | 9/17/2018 1:41 PM   |    |                             |     |    | 264.2 -> 43.3    |    |                     |      | Tramadol-13C-D3 | 5.696 | 11444...     |  |
| Trazodone       | 372.2 -> 176... | 9/17/2018 1:41 PM   |    |                             |     |    | 372.2 -> 148...  |    |                     |      | Trazodone-D6    | 7.025 | 807099       |  |
| Venlafaxine     | 278.2 -> 58.3   | 9/17/2018 1:41 PM   |    |                             |     |    | 278.2 -> 260...  |    |                     |      | Venlafaxine-D6  | 6.000 | 10705...     |  |
| Zolpidem        | 308.2 -> 235... | 9/17/2018 1:41 PM   |    |                             |     |    | 308.2 -> 263...  |    |                     |      | Zolpidem-D6     | 6.402 | 11973...     |  |

# AM# 26: THC and Metabolites Screen in Blood by LC-MS/MS

Extraction Date: 9/17/18

Analyst: Anne Nord

Plate lot#: 0515037

Plate Expiration: 09/28/2018

**Mobile phase A:** 10mM Ammonium Formate  
0.1% Formic Acid in Water

**Mobile phase B:** 0.1% Formic acid in MeOH  
Hexane

**Blank Blood Lot:** 18G20707

**Column:** Phenomenex Phenyl Hexyl (4.6x50mm: 2.6 um)

**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 **1000 µL blood (calibrated pipette) Pipette ID: k52558** in wells of analytical (standards) plate.
  - Blank blood for locations containing standards/QCs and internal standards
  - Sample blood for locations containing only internal standards
- 3. Place on shaking incubator at ambient temp., 900rpm for 15 minutes. *Shaker ID: 66759*
- 4. Pipette **500 µL 0.1% formic acid** in wells of analytical plate.
- 5. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 6. Transfer **800 µL of blood+base** mixture to corresponding wells of SLE+ plate.
- 7. Apply positive pressure for approx. 4 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 **2.25 mL 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 **2.25 mL 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: 091718 am 25-26 Batch Name: cann screen
- 2. Calculated sample concentration of 3 ng/mL or greater for THC and THC-OH, a calculated sample concentration of 10 ng/mL or greater for Carboxy-THC.
- 3. Retention time within +/- 2% or +/- .100 min whichever is greater of the average retention time of the calibrators.
- 4. Did all QCs pass for each analyte? Y / N
- 5. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS:

# ISP FORENSICS - Cd'A

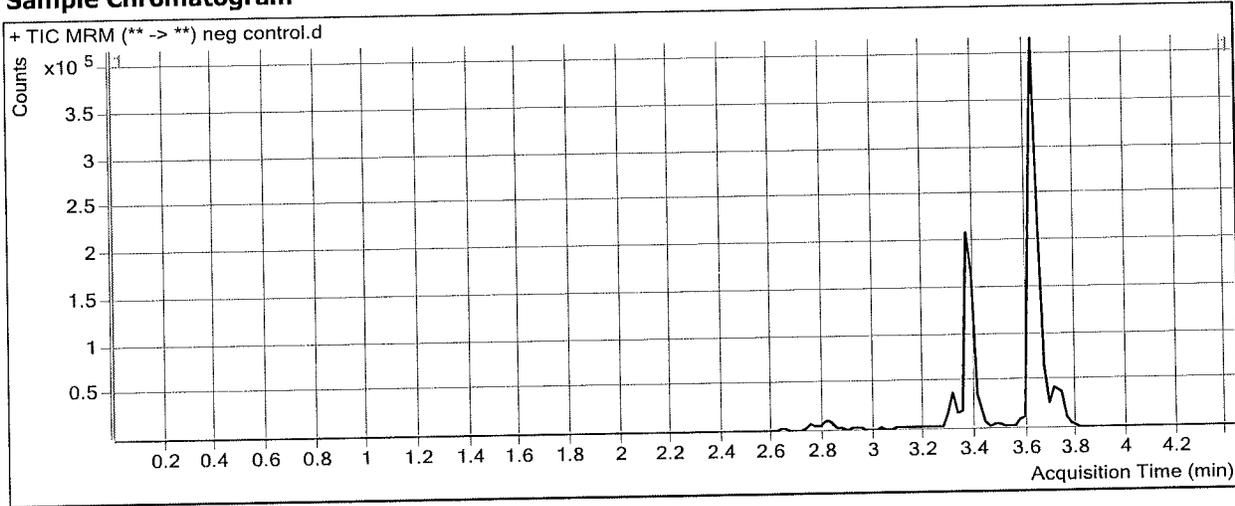
## Cannabinoid Screen Report

**Batch Data Path** I:\Instrument Data\CDA\Instrument 1 LCMSMS\2018 data\091718 am 25-26\QuantResults\cann s  
**Analysis Time** 9/18/2018 8:49 AM **Analyst Name** anord  
**Report Time** 9/21/2018 10:50 AM **Reporter Name** ISP Tox  
**Last Calib Update** 9/18/2018 8:49 AM **Batch State** Processed

### Analysis Info

**Acq Time** 2018-09-17 20:30 **Data File** neg control.d  
**Sample Type** Sample **Sample Name** neg control  
**Dilution** 1 **Acq Method** Screen THC 8-2017.m  
**Position** P1-A2 **Sample Info**  
**Inj Vol** -1 **Comment** AM 26 Cannabinoid screen

### Sample Chromatogram



### Results

| Compound | RT    | Response | ISTD Resp | Resp Ratio | Final Conc |
|----------|-------|----------|-----------|------------|------------|
| THC-COOH | 3.286 | 3790     | 90291     | 0.0420     | 0.0000     |

# ISP FORENSICS - Cd'A

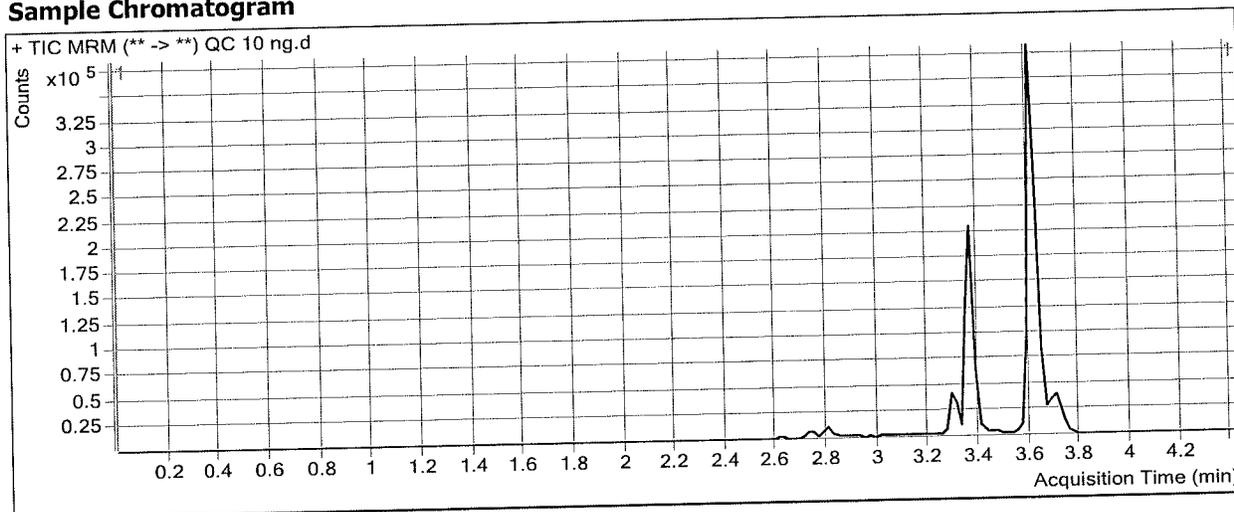
## Cannabinoid Screen Report

**Batch Data Path** I:\Instrument Data\CDA\Instrument 1 LCMSMS\2018 data\091718 am 25-26\QuantResults\cann s  
**Analysis Time** 9/18/2018 8:49 AM **Analyst Name** anord  
**Report Time** 9/21/2018 10:50 AM **Reporter Name** ISP Tox  
**Last Calib Update** 9/18/2018 8:49 AM **Batch State** Processed

### Analysis Info

**Acq Time** 2018-09-17 20:17 **Data File** QC 10 ng.d  
**Sample Type** QC **Sample Name** QC 10 ng  
**Dilution** 1 **Acq Method** Screen THC 8-2017.m  
**Position** P1-H1 **Sample Info**  
**Inj Vol** -1 **Comment** AM 26 Cannabinoid screen

### Sample Chromatogram



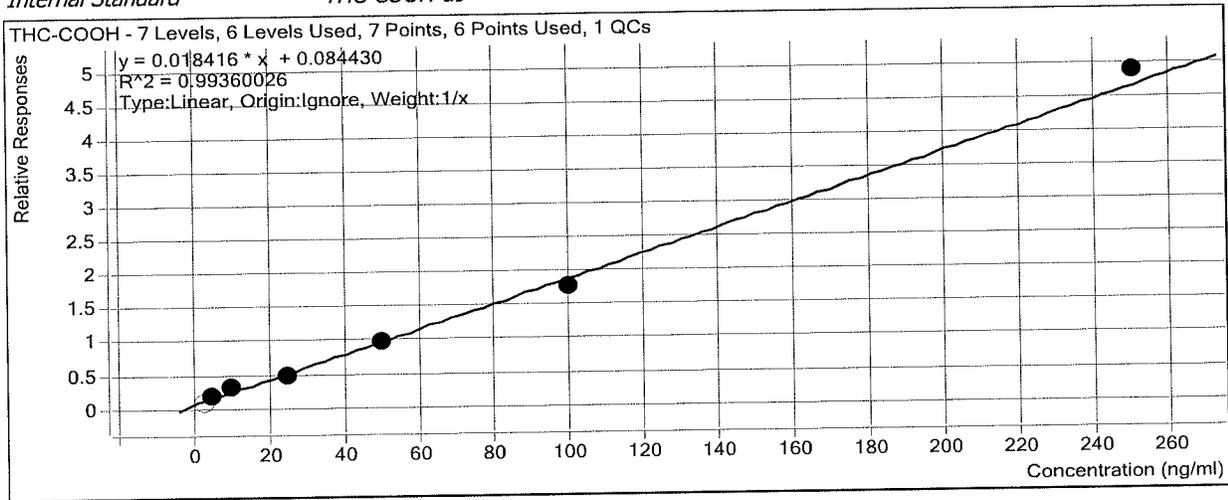
### Results

| Compound | RT    | Response | ISTD Resp | Resp Ratio | Final Conc |
|----------|-------|----------|-----------|------------|------------|
| THC-COOH | 3.306 | 20982    | 89684     | 0.2340     | 8.1197     |
| THC-OH   | 3.372 | 32840    | 442391    | 0.0742     | 8.3058     |
| THC      | 3.720 | 2205     | 24384     | 0.0904     | 9.3553     |

# ISP Forensics Calibration Curve Report

**Batch Data Path** I:\Instrument Data\CDA\Instrument 1 LCMSMS\2018 data\091718 am 25-26\QuantResults\cann screen.batch.bin  
**Last Calib Update** 9/18/2018 8:49 AM **Analyst Name** ISP TOX

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

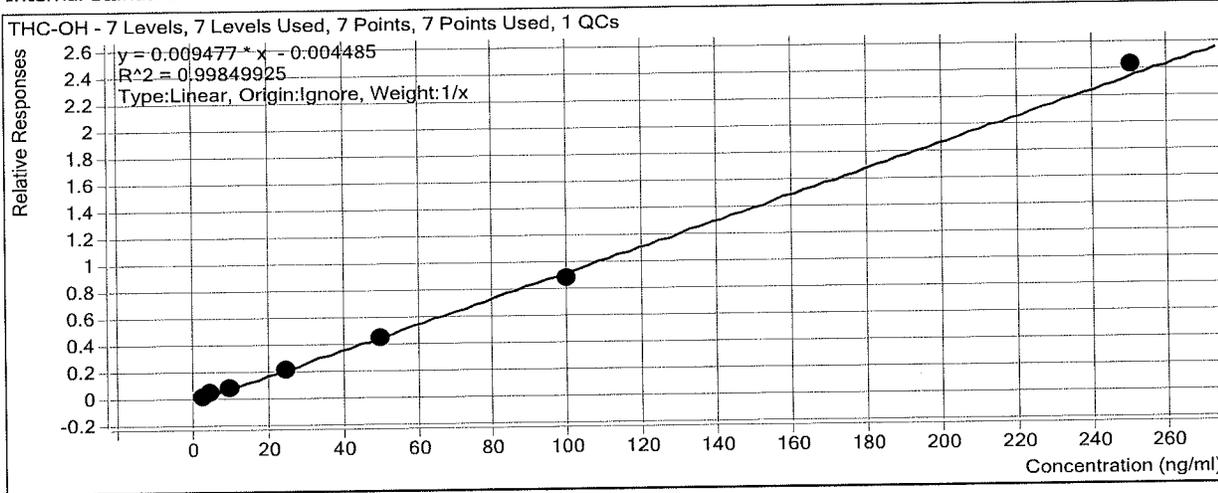


| Sample        | Level | Enabled                             | Exp Conc | Final Conc | Accuracy |
|---------------|-------|-------------------------------------|----------|------------|----------|
| cal 1 - 3ng   | 1     | <input type="checkbox"/>            | 3        | 0.8        | 28.0     |
| cal 2 - 5ng   | 2     | <input checked="" type="checkbox"/> | 5        | 5.0        | 99.9     |
| cal 3 - 10ng  | 3     | <input checked="" type="checkbox"/> | 10       | 12.2       | 122.1    |
| QC 10 ng      | 3     | <input checked="" type="checkbox"/> | 10       | 8.1        | 81.2     |
| cal 4 - 25ng  | 4     | <input checked="" type="checkbox"/> | 25       | 20.9       | 83.8     |
| cal 5 - 50ng  | 5     | <input checked="" type="checkbox"/> | 50       | 48.8       | 97.5     |
| cal 6 - 100ng | 6     | <input checked="" type="checkbox"/> | 100      | 92.4       | 92.4     |
| cal 7 - 250ng | 7     | <input checked="" type="checkbox"/> | 250      | 260.7      | 104.3    |

# ISP Forensics Calibration Curve Report

**Batch Data Path** I:\Instrument Data\CDA\Instrument 1 LCMSMS\2018 data\091718 am 25-26\QuantResults\cann screen.batch.bin  
**Last Calib Update** 9/18/2018 8:49 AM **Analyst Name** ISP TOX

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

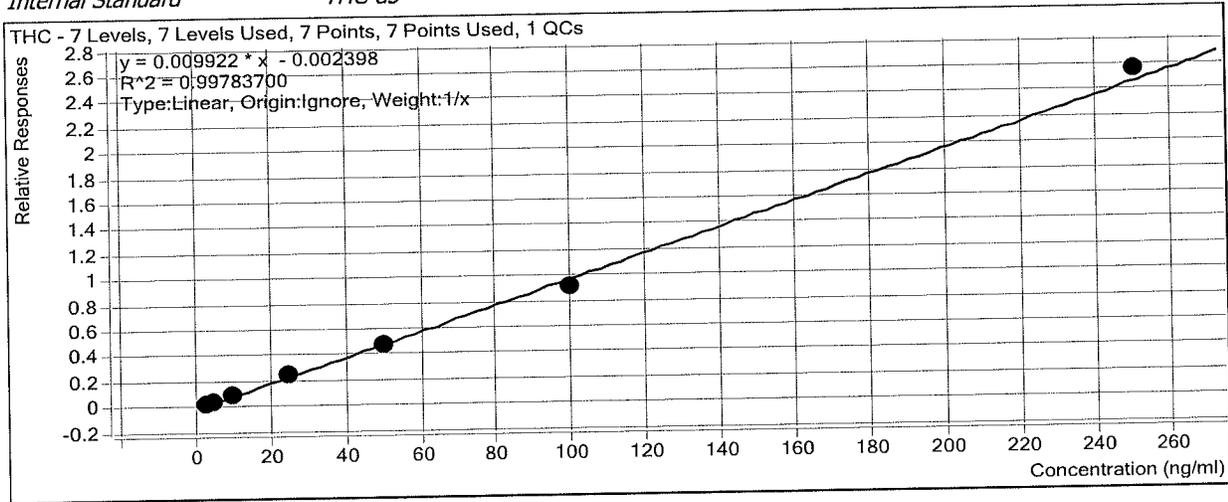


| Sample        | Level | Enabled                             | Exp Conc | Final Conc | Accuracy |
|---------------|-------|-------------------------------------|----------|------------|----------|
| cal 1 - 3ng   | 1     | <input checked="" type="checkbox"/> | 3        | 3.2        | 106.8    |
| cal 2 - 5ng   | 2     | <input checked="" type="checkbox"/> | 5        | 5.2        | 103.5    |
| cal 3 - 10ng  | 3     | <input checked="" type="checkbox"/> | 10       | 9.7        | 97.4     |
| QC 10 ng      | 3     | <input type="checkbox"/>            | 10       | 8.3        | 83.1     |
| cal 4 - 25ng  | 4     | <input checked="" type="checkbox"/> | 25       | 24.5       | 98.0     |
| cal 5 - 50ng  | 5     | <input checked="" type="checkbox"/> | 50       | 48.3       | 96.5     |
| cal 6 - 100ng | 6     | <input checked="" type="checkbox"/> | 100      | 94.9       | 94.9     |
| cal 7 - 250ng | 7     | <input checked="" type="checkbox"/> | 250      | 257.2      | 102.9    |

# ISP Forensics Calibration Curve Report

**Batch Data Path** I:\Instrument Data\CDA\Instrument 1 LCMSMS\2018 data\091718 am 25-26\QuantResults\cann screen.batch.bin  
**Last Calib Update** 9/18/2018 8:49 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        | 3.3        | 108.7    |
| cal 2 - 5ng   | 2     | <input checked="" type="checkbox"/> | 5        | 4.9        | 98.3     |
| cal 3 - 10ng  | 3     | <input checked="" type="checkbox"/> | 10       | 9.7        | 97.4     |
| QC 10 ng      | 3     | <input checked="" type="checkbox"/> | 10       | 9.4        | 93.6     |
| cal 4 - 25ng  | 4     | <input checked="" type="checkbox"/> | 25       | 25.7       | 102.9    |
| cal 5 - 50ng  | 5     | <input checked="" type="checkbox"/> | 50       | 48.0       | 96.0     |
| cal 6 - 100ng | 6     | <input checked="" type="checkbox"/> | 100      | 93.5       | 93.5     |
| cal 7 - 250ng | 7     | <input checked="" type="checkbox"/> | 250      | 257.9      | 103.2    |

# ISP FORENSICS - Cd'A

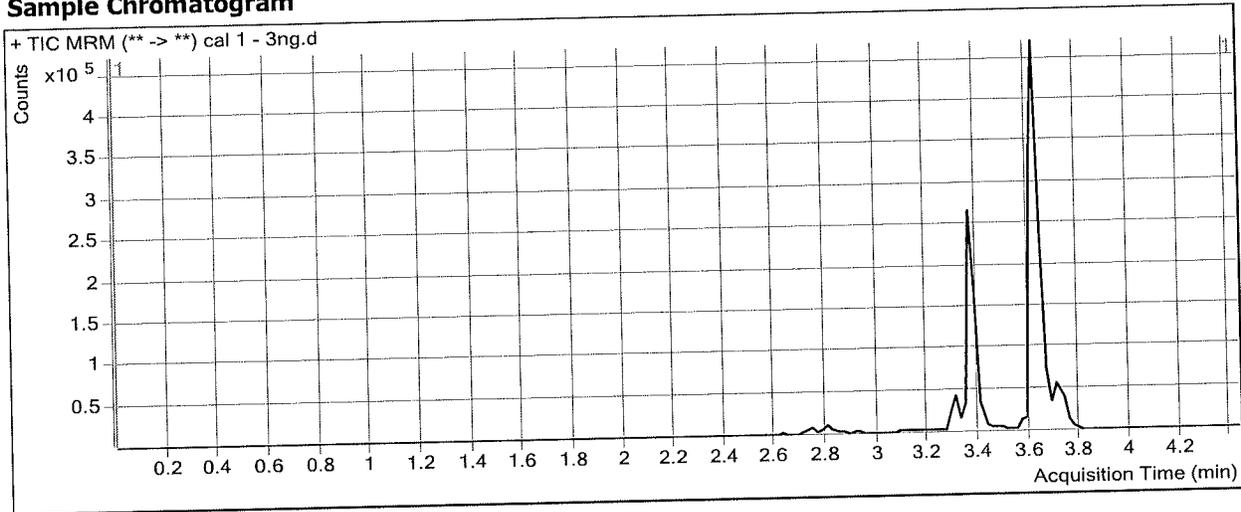
## Cannabinoid Screen Report

**Batch Data Path** I:\Instrument Data\CDA\Instrument 1 LCMSMS\2018 data\091718 am 25-26\QuantResults\cann s  
**Analysis Time** 9/18/2018 8:49 AM **Analyst Name** anord  
**Report Time** 9/21/2018 10:50 AM **Reporter Name** ISP Tox  
**Last Calib Update** 9/18/2018 8:49 AM **Batch State** Processed

### Analysis Info

**Acq Time** 2018-09-17 19:24 **Data File** cal 1 - 3ng.d  
**Sample Type** Calibration **Sample Name** cal 1 - 3ng  
**Dilution** 1 **Acq Method** Screen THC 8-2017.m  
**Position** p1-a1 **Sample Info**  
**Inj Vol** -1 **Comment** AM 26 Cannabinoid screen

### Sample Chromatogram



### Results

| Compound | RT    | Response | ISTD Resp | Resp Ratio | Final Conc |
|----------|-------|----------|-----------|------------|------------|
| THC-COOH | 3.306 | 10322    | 103323    | 0.0999     | 0.8402     |
| THC-OH   | 3.372 | 15194    | 586912    | 0.0259     | 3.2048     |
| THC      | 3.720 | 975      | 32541     | 0.0300     | 3.2623     |

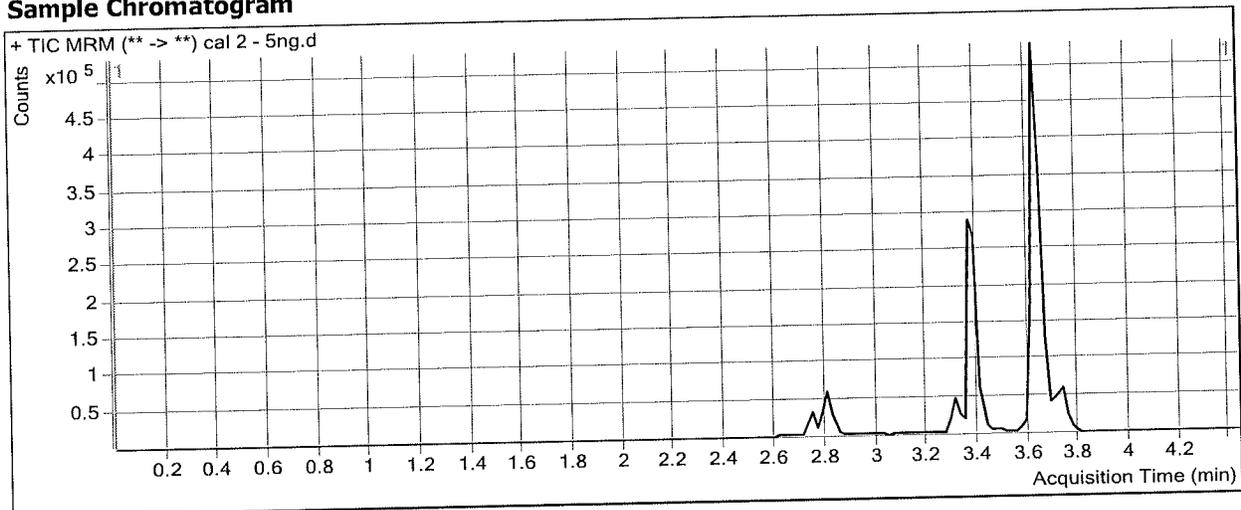
# ISP FORENSICS - Cd'A Cannabinoid Screen Report

**Batch Data Path** I:\Instrument Data\CDA\Instrument 1 LCMSMS\2018 data\091718 am 25-26\QuantResults\cann s  
**Analysis Time** 9/18/2018 8:49 AM **Analyst Name** anord  
**Report Time** 9/21/2018 10:50 AM **Reporter Name** ISP Tox  
**Last Calib Update** 9/18/2018 8:49 AM **Batch State** Processed

### Analysis Info

**Acq Time** 2018-09-17 19:31 **Data File** cal 2 - 5ng.d  
**Sample Type** Calibration **Sample Name** cal 2 - 5ng  
**Dilution** 1 **Acq Method** Screen THC 8-2017.m  
**Position** P1-B1 **Sample Info**  
**Inj Vol** -1 **Comment** AM 26 Cannabinoid screen

### Sample Chromatogram



### Results

| Compound | RT    | Response | ISTD Resp | Resp Ratio | Final Conc |
|----------|-------|----------|-----------|------------|------------|
| THC-COOH | 3.306 | 19404    | 109990    | 0.1764     | 4.9950     |
| THC-OH   | 3.392 | 32831    | 736948    | 0.0445     | 5.1739     |
| THC      | 3.720 | 1590     | 34276     | 0.0464     | 4.9175     |

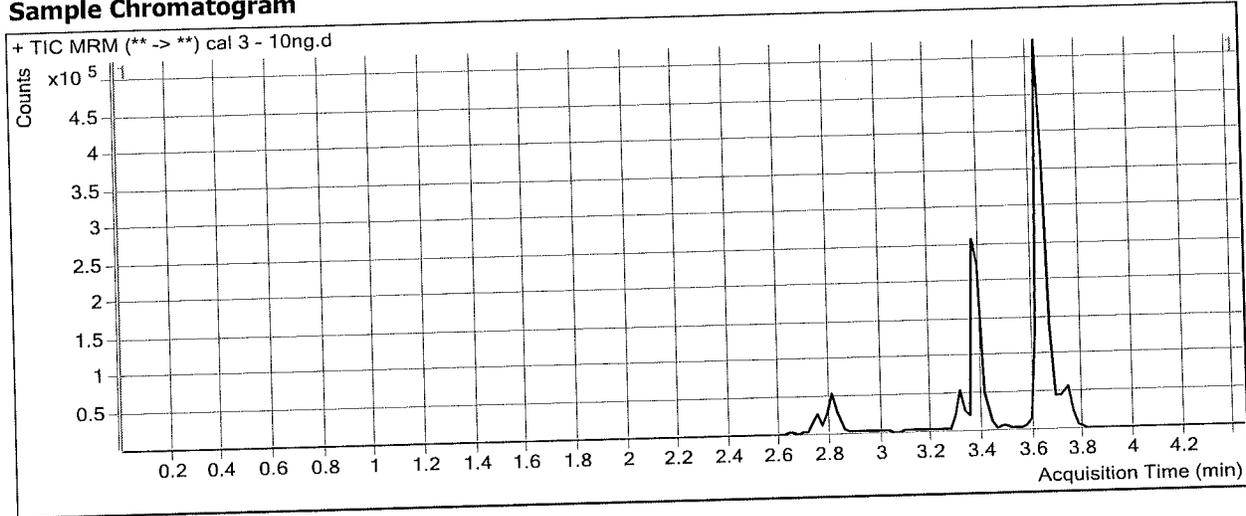
# ISP FORENSICS - Cd'A Cannabinoid Screen Report

|                          |  |                      |           |
|--------------------------|--|----------------------|-----------|
| <b>Batch Data Path</b>   | I:\Instrument Data\CDA\Instrument 1 LCMSMS\2018 data\091718 am 25-26\QuantResults\cann s |                      |           |
| <b>Analysis Time</b>     | 9/18/2018 8:49 AM  | <b>Analyst Name</b>  | anord     |
| <b>Report Time</b>       | 9/21/2018 10:50 AM   | <b>Reporter Name</b> | ISP Tox   |
| <b>Last Calib Update</b> | 9/18/2018 8:49 AM  | <b>Batch State</b>   | Processed |

### Analysis Info

|                    |                  |                    |                          |
|--------------------|------------------|--------------------|--------------------------|
| <b>Acq Time</b>    | 2018-09-17 19:38 | <b>Data File</b>   | cal 3 - 10ng.d           |
| <b>Sample Type</b> | Calibration      | <b>Sample Name</b> | cal 3 - 10ng             |
| <b>Dilution</b>    | 1                | <b>Acq Method</b>  | Screen THC 8-2017.m      |
| <b>Position</b>    | p1-c1            | <b>Sample Info</b> |                          |
| <b>Inj Vol</b>     | -1               | <b>Comment</b>     | AM 26 Cannabinoid screen |

### Sample Chromatogram



### Results

| Compound | RT    | Response | ISTD Resp | Resp Ratio | Final Conc |
|----------|-------|----------|-----------|------------|------------|
| THC-COOH | 3.306 | 33841    | 109403    | 0.3093     | 12.2121    |
| THC-OH   | 3.392 | 52822    | 601547    | 0.0878     | 9.7385     |
| THC      | 3.740 | 2973     | 31544     | 0.0943     | 9.7407     |

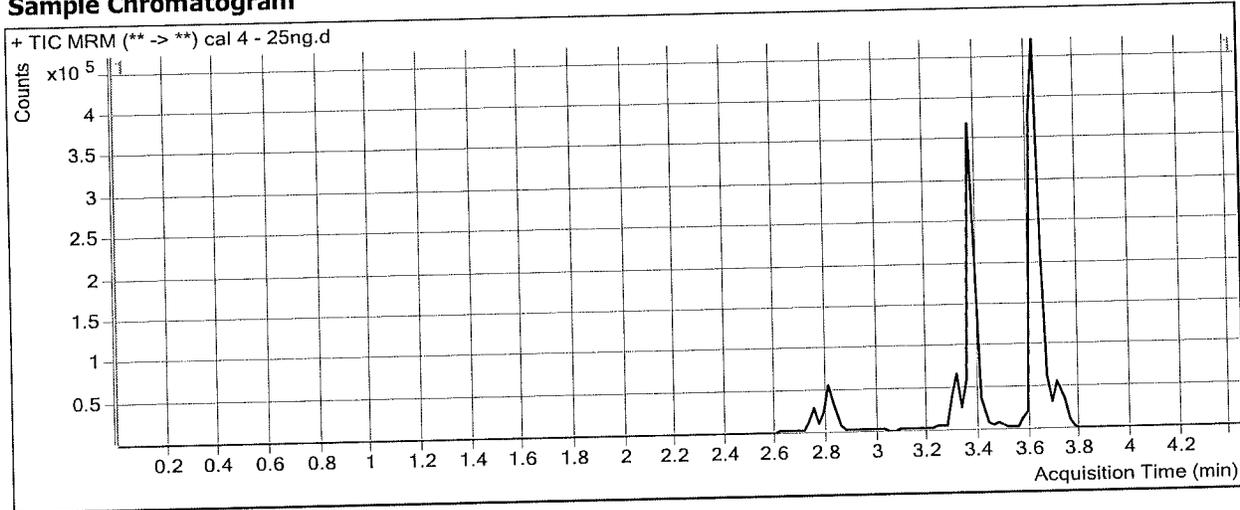
# ISP FORENSICS - Cd'A Cannabinoid Screen Report

Batch Data Path I:\Instrument Data\CDA\Instrument 1 LCMSMS\2018 data\091718 am 25-26\QuantResults\cann s  
Analysis Time 9/18/2018 8:49 AM Analyst Name anord  
Report Time 9/21/2018 10:50 AM Reporter Name ISP Tox  
Last Calib Update 9/18/2018 8:49 AM Batch State Processed

## Analysis Info

Acq Time 2018-09-17 19:44 Data File cal 4 - 25ng.d  
Sample Type Calibration Sample Name cal 4 - 25ng  
Dilution 1 Acq Method Screen THC 8-2017.m  
Position P1-D1 Sample Info  
Inj Vol -1 Comment AM 26 Cannabinoid screen

## Sample Chromatogram



## Results

| Compound | RT    | Response | ISTD Resp | Resp Ratio | Final Conc |
|----------|-------|----------|-----------|------------|------------|
| THC-COOH | 3.306 | 51141    | 108795    | 0.4701     | 20.9408    |
| THC-OH   | 3.372 | 144861   | 636393    | 0.2276     | 24.4911    |
| THC      | 3.720 | 6692     | 26465     | 0.2529     | 25.7274    |

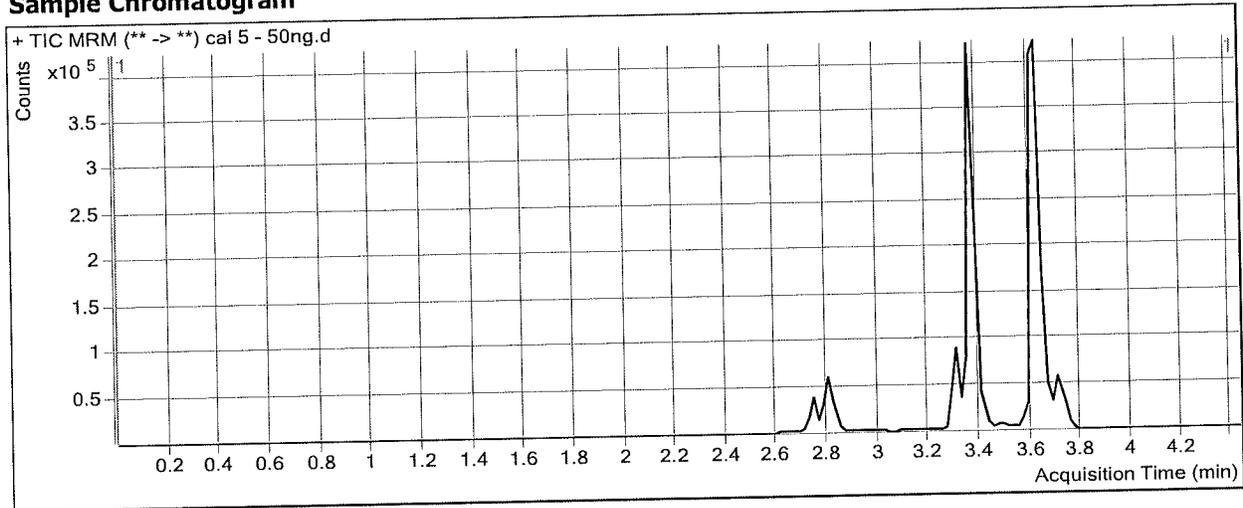
# ISP FORENSICS - Cd'A Cannabinoid Screen Report

**Batch Data Path** I:\Instrument Data\CDA\Instrument 1 LCMSMS\2018 data\091718 am 25-26\QuantResults\cann s  
**Analysis Time** 9/18/2018 8:49 AM **Analyst Name** anord  
**Report Time** 9/21/2018 10:50 AM **Reporter Name** ISP Tox  
**Last Calib Update** 9/18/2018 8:49 AM **Batch State** Processed

### Analysis Info

**Acq Time** 2018-09-17 19:51 **Data File** cal 5 - 50ng.d  
**Sample Type** Calibration **Sample Name** cal 5 - 50ng  
**Dilution** 1 **Acq Method** Screen THC 8-2017.m  
**Position** p1-e1 **Sample Info**  
**Inj Vol** -1 **Comment** AM 26 Cannabinoid screen

### Sample Chromatogram



### Results

| Compound | RT    | Response | ISTD Resp | Resp Ratio | Final Conc |
|----------|-------|----------|-----------|------------|------------|
| THC-COOH | 3.306 | 94048    | 95710     | 0.9826     | 48.7745    |
| THC-OH   | 3.372 | 274235   | 605356    | 0.4530     | 48.2724    |
| THC      | 3.720 | 11651    | 24598     | 0.4737     | 47.9794    |

# ISP FORENSICS - Cd'A

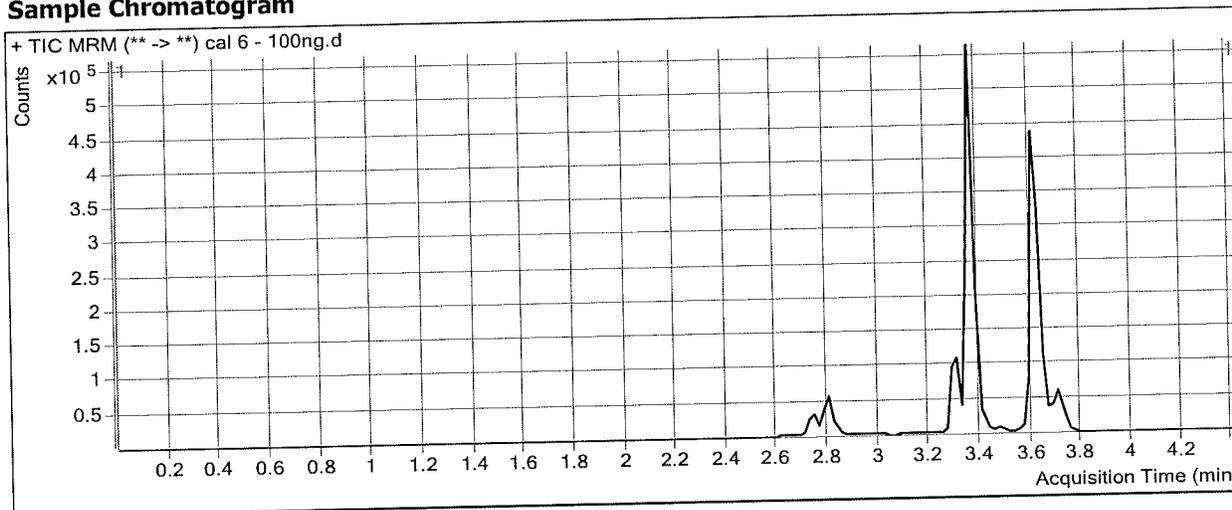
## Cannabinoid Screen Report

|                          |  |                      |           |
|--------------------------|--|----------------------|-----------|
| <b>Batch Data Path</b>   | I:\Instrument Data\CDA\Instrument 1 LCMSMS\2018 data\091718 am 25-26\QuantResults\cann s |                      |           |
| <b>Analysis Time</b>     | 9/18/2018 8:49 AM  | <b>Analyst Name</b>  | anord     |
| <b>Report Time</b>       | 9/21/2018 10:50 AM   | <b>Reporter Name</b> | ISP Tox   |
| <b>Last Calib Update</b> | 9/18/2018 8:49 AM  | <b>Batch State</b>   | Processed |

### Analysis Info

|                    |                  |                    |                          |
|--------------------|------------------|--------------------|--------------------------|
| <b>Acq Time</b>    | 2018-09-17 19:57 | <b>Data File</b>   | cal 6 - 100ng.d          |
| <b>Sample Type</b> | Calibration      | <b>Sample Name</b> | cal 6 - 100ng            |
| <b>Dilution</b>    | 1                | <b>Acq Method</b>  | Screen THC 8-2017.m      |
| <b>Position</b>    | P1-F1            | <b>Sample Info</b> |                          |
| <b>Inj Vol</b>     | -1               | <b>Comment</b>     | AM 26 Cannabinoid screen |

### Sample Chromatogram



### Results

| Compound | RT    | Response | ISTD Resp | Resp Ratio | Final Conc |
|----------|-------|----------|-----------|------------|------------|
| THC-COOH | 3.306 | 168635   | 94427     | 1.7859     | 92.3919    |
| THC-OH   | 3.372 | 557674   | 622994    | 0.8952     | 94.9237    |
| THC      | 3.720 | 23251    | 25136     | 0.9250     | 93.4697    |

# ISP FORENSICS - Cd'A

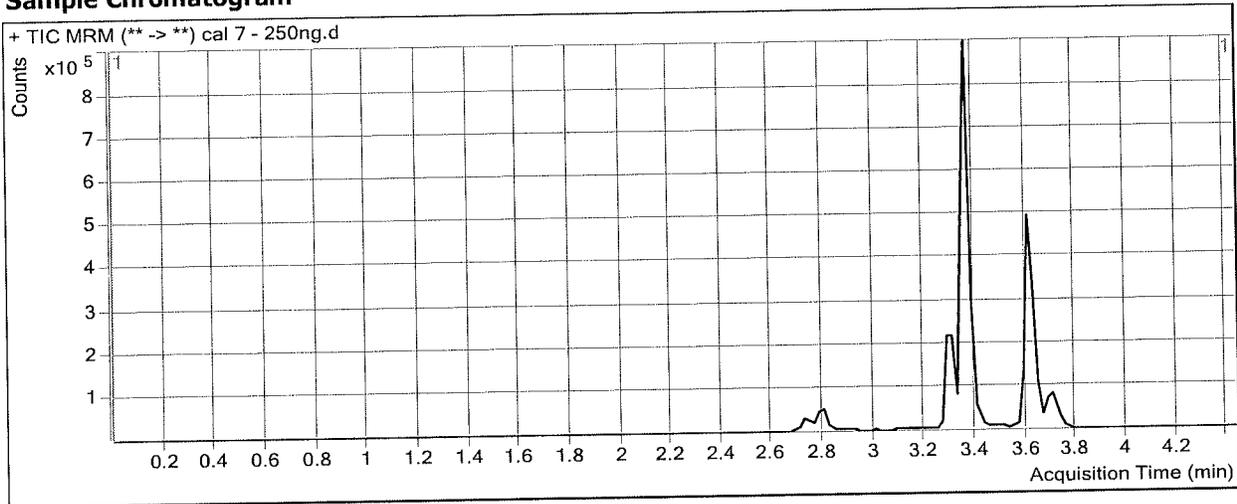
## Cannabinoid Screen Report

**Batch Data Path** I:\Instrument Data\CDA\Instrument 1 LCMSMS\2018 data\091718 am 25-26\QuantResults\cann s  
**Analysis Time** 9/18/2018 8:49 AM **Analyst Name** anord  
**Report Time** 9/21/2018 10:50 AM **Reporter Name** ISP Tox  
**Last Calib Update** 9/18/2018 8:49 AM **Batch State** Processed

### Analysis Info

**Acq Time** 2018-09-17 20:04 **Data File** cal 7 - 250ng.d  
**Sample Type** Calibration **Sample Name** cal 7 - 250ng  
**Dilution** 1 **Acq Method** Screen THC 8-2017.m  
**Position** p1-g1 **Sample Info**  
**Inj Vol** -1 **Comment** AM 26 Cannabinoid screen

### Sample Chromatogram



### Results

| Compound | RT    | Response | ISTD Resp | Resp Ratio | Final Conc |
|----------|-------|----------|-----------|------------|------------|
| THC-COOH | 3.306 | 416156   | 85189     | 4.8851     | 260.6857   |
| THC-OH   | 3.372 | 1372404  | 564061    | 2.4331     | 257.1956   |
| THC      | 3.720 | 73725    | 28838     | 2.5565     | 257.9030   |

**Request for Departure from an Analytical Method**

---

Date of Request

06/28/18

Forensic Scientist

Anne Nord

Analytical Method

Method 26

Type of Deviation

Minor

Major

Departure

Allow the response from 5ng/ml for Carboxy-THC to be evaluated as positive at the analyst's discretion.

4.3 Evaluation of Results

4.3.1 Minimum Criteria:

4.3.1.1

**Analyte Administrative Threshold**

THC 3 ng/mL

Carboxy-THC 10 ng/mL

THC-OH 3 ng/mL

Calculated sample concentration of 3 ng/mL or greater for THC and THC-OH, a calculated sample concentration of 10 ng/mL or greater for Carboxy-THC.

Allow for the positive control to be prepared in house.

Rationale for Departure

AM 26 is a screening method for cannabinoids, the function of the method is to indicate if cannabinoids are present. There is a potential for a positive sample to give a response in this range in the screen.

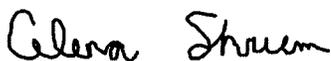
**Discipline Leader Review**

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Departure approved- this deviation will remain in effect until the next method revision at which time the change will be made in the analytical method.

Departure Not Approved

Comments:



Celena Shrum

Toxicology Program Discipline Leader

Date: 06/28/18

