
























**Worklist: 3685**

<u>LAB_CASE</u>	<u>ITEM</u>	<u>TASK_ID</u>	<u>DESCRIPTION</u>	
M2019-3058	1	161591	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-3588	1	159369	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-3622	1	159678	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-3622	2	159682	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-3624	1	159690	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-3625	1	159694	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-3634	6	160092	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-3742	1	160565	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2646	1	161737	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2650	1	161799	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2651	1	161865	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2652	1	161868	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2654	1	161874	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2655	1	161912	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2660	1	162028	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2662	1	162035	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2684	1	162082	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2685	1	162085	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2691	1	162224	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2710	1	162258	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2735	1	162363	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2736	1	162366	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2744	1	162414	AM 25 Blood Multi-Drug Screen by LC-QQQ	

**Worklist: 3685**

<u>LAB CASE</u>	<u>ITEM</u>	<u>TASK ID</u>	<u>DESCRIPTION</u>
P2019-2745	1	162426	AM 25 Blood Multi-Drug Screen by LC-QQQ
P2019-2746	1	162429	AM 25 Blood Multi-Drug Screen by LC-QQQ



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

Extraction Date: 9/16/19  
 Plate lot#: 0543908

Analyst: Sarah Pickle  
 Plate Expiration: 11/28/19

**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:** 445283-2

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

**LCMS-QQQ ID:** 069901

### Pre-Analytic:

- 1. Check levels of mobile phases and needle wash refill as needed. Ensure waste is not full.
- 2. Ensure correct column is installed and begin mobile phase flow allow to equilibrate ~ 30 minutes.

### Analytic:

- 1. Remove standards, plate, controls, and samples from cold storage. Allow to reach room temperature.
- 2. Pipette **250 µL blood (calibrated pipette)** in wells of analytical (standards) plate. **Pipette ID: #3**
- 3. Place on shaking incubator at ambient temp., 900 rpm for 15 minutes. *Shaker ID: 067105*
- 4. Pipette **250 µL of 0.5 M ammonium hydroxide** in wells of analytical plate.
- 5. Place on shaking incubator at ambient temp., 900 rpm for 15 minutes.
- 6. Transfer **300 µL 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: 067104*
- 8. Wait 5 minutes.
- 9. Add **900 µL ethyl acetate.**
- 10. Wait 5 minutes.
- 11. Apply positive pressure for approx. 10-15 seconds. *(12-15 PSI- Selector to the left).*
- 12. Add **900 µL ethyl acetate.**
- 13. Wait 5 minutes.
- 14. Apply positive pressure for approx. 10-15 seconds. *(12-15 PSI- Selector to the left).*
- 15. Remove plate containing eluate. Place on SPE Dry and evaporate to dryness at approx. 35°C.  
*SPE Dry ID: 067103*
- 16. Reconstitute in **100 µL 100% 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: MDS SP Worklist path: D:\MassHunter\Data\2019\AM 25\091619 MDS SP TS
- 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. Calculated concentration 5 or greater or 2-5 for discretionary range.
- 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:



# Idaho State Police Forensic Services

## AM #25 Blood Multi-Drug Screen by LCMS-QQQ

### Methanol External Control Solution (Lot: 042719)

100 ul of 1mg/mL stock was added to each drug to 9600 ul of LC MeOH.

<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>	<i>Expiration Date</i>
Methanol (LCMS)	Fisher	184782	
Morphine	Cerilliant	FE08141515	November 2020
Metoprolol	Cerilliant	FN06091510	July 2020
Flunitrazepam	Cerilliant	FE08051602	August 2021
Trazodone	Cerilliant	FN12151403	January 2020
Prepared:	04/27/19		
Prepared By:	Tamara Salazar		
Expires:	01/31/2020		

### Blood External Control Solution (Lot: WS042719)

100 ul of methanol external control solution was added to 9900 ul of blood.

Approximately 50ng/mL of each compound.

<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>
Negative Blood	Hemostat	445283-1
Methanol External Control Solution		042719
Prepared:	04/27/19	
Prepared by:	Tamara Salazar	
Expires:	01/31/2020	

# AM #25 Multi-Drug Screen Results



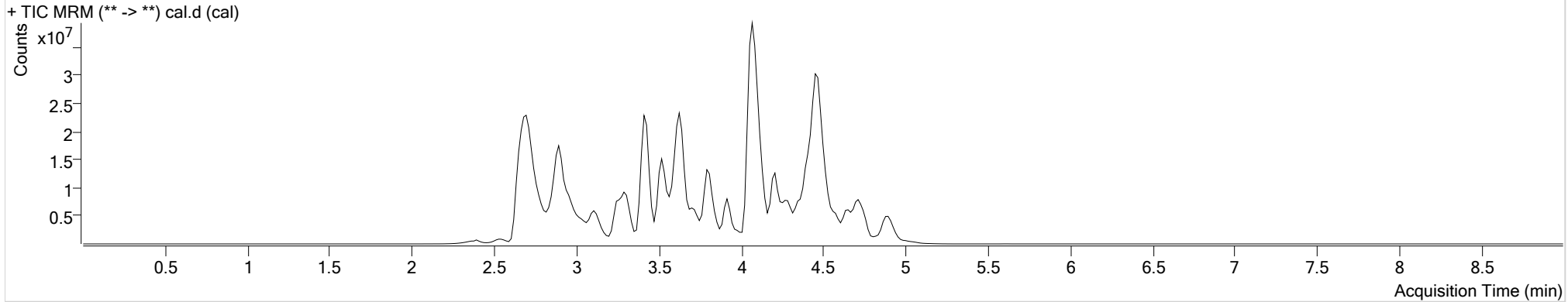
**Batch results**  
**Calibration Last Update**

D:\MassHunter\Data\2019\AM 25\091619 MDS SP TS\QuantResults\MDS SP.batch.bin  
9/17/2019 9:42:31 AM

**Instrument** Falco  
**Type** Cal  
**Acq. Method** am 25 all.m  
**Sample Position** P1-B1  
**Injection Volume** 5  
**Acq. Date-Time** 9/16/2019 12:46:57 PM  
**Sample Info.**

**Data File** cal.d  
**Sample** cal  
**Operator**  
**Comment**

**Sample Chromatogram**



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
6-MAM	3.012	39386	∞	19807.04	883377	10.0000
7-aminoclonazepam	3.551	132293	125.74	95.07	528114	10.0000
7-aminoflunitrazepam	3.765	633704	332.58	94.68	3405112	10.0000
Acetyl Fentanyl	4.054	162041	26.97	∞	14010124	10.0000
Acetyl Norfentanyl	2.869	223378	200188.74	48.44	9799522	10.0000
a-hydroxyalprazolam	4.499	17321	6379.62	85.26	94549	10.0000
alpha-hydroxymidazolam	4.574	677864	554.03	∞	4323300	10.0000
alpha-PVP	3.604	3217695	1017.37	476.02	14079768	10.0000
Alprazolam	4.593	814938	150.87	777.30	2398469	10.0000
Amitriptyline	4.537	3641319	∞	306.70	7622252	10.0000
Amphetamine	2.888	1021142	1288.55	∞	2685475	10.0000
Benzoyllecgonine	3.336	856199	13698.65	63.15	3617995	10.0000
Buprenorphine	5.042	474459	∞	2155.78	1425436	10.0000
Bupropion	3.863	2638563	530.68	719.21	8310603	10.0000
Carbamazepine	4.218	4424586	810.43	512.35	24657059	10.0000
Carisoprodol	4.201	362882	520.39	135.34	2133479	10.0000
Chlordiazepoxide	4.717	187835	265.02	530.28	4880343	10.0000
Chlorpheniramine	3.998	16036	60.30	∞	31212765	10.0000

# AM #25 Multi-Drug Screen Results



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Citalopram	4.130	2633534	441.09	514900.43	11394856	10.0000
Clonazepam	4.439	54427	63.57	20.26	116027	10.0000
Cocaine	3.611	3872622	32931.51	∞	17337765	10.0000
Codeine	2.910	321924	24.15	239.69	1477803	10.0000
Cyclobenzaprine	4.430	2336227	∞	205.15	7079607	10.0000
Desipramine	4.446	3102878	168.46	∞	18713557	10.0000
Dextromethorphan	4.138	2146058	∞	148912.69	9825766	10.0000
Dextrorphan	3.417	2400950	330.92	365903.69	14836301	10.0000
Diazepam	4.841	418552	401.67	325.14	1981949	10.0000
Dihydrocodeine	2.787	1130144	84.05	∞	5604831	10.0000
Diphenhydramine	4.061	4479962	9032.21	1129.68	31212765	10.0000
Doxepin	4.259	2126167	178.10	6.97	13113791	10.0000
Doxylamine	3.645	9724498	16876.64	∞	35126980	10.0000
EDDP	4.075	3521393	4991.27	1845.03	20981455	10.0000
Estazolam	4.519	1048310	160.71	140.84	2733880	10.0000
Etizolam	4.604	138946	547.87	229897.63	2733880	10.0000
Fentanyl	4.298	236927	48.01	137455.02	13297794	10.0000
Flunitrazepam	4.562	419260	1318.73	173.71	66989	10.0000
Fluoxetine	4.364	2938829	2221.40	240.66	11619364	10.0000
Flurazepam	4.342	2156589	456.60	108.19	66989	10.0000
Hydrocodone	3.137	894589	113.43	∞	4845832	10.0000
Hydromorphone	2.562	751307	∞	194.93	2889862	10.0000
Imipramine	4.490	4560500	168540.15	∞	16480104	10.0000
Ketamine	3.741	3216538	419.36	329.63	14036453	10.0000
Lamotrigine	3.617	168764	86.27	121.01	9856817	10.0000
Levamisole	3.053	3170189	∞	∞	17337765	10.0000
Lorazepam	4.423	6415	∞	7.68	116027	10.0000
Maprotiline	4.537	3641319	∞	∞	7622252	10.0000
MDA	3.039	1022172	188.44	154.62	4733270	10.0000
MDEA	3.267	4381663	9944.09	1360.49	19434553	10.0000
MDMA	3.115	4465250	∞	1079.64	2693781	10.0000
Meperidine	3.648	2173977	∞	∞	9856817	10.0000
Meprobamate	3.636	60116	182.09	28.91	265603	10.0000
Methadone	4.409	5999916	1257.30	∞	23524517	10.0000
Methamphetamine	2.994	2294189	∞	∞	11322282	10.0000
Methocarbamol	3.541	175276	68419.13	26.88	9856817	10.0000
Methylphenidate	3.527	9175237	∞	∞	3775426	10.0000
Metoprolol	3.446	603566	742.63	3891.39	9856817	10.0000
Midazolam	4.758	523023	532.89	530.96	5462089	10.0000
Mirtazapine	4.277	2985343	472563.73	∞	9856817	10.0000
Mitragynine	4.372	366705	317817.05	196527.28	13113791	10.0000
Morphine	2.368	224030	∞	3680.00	184711	10.0000
Norbuprenorphine	3.912	22147	11253.59	15.33	133744	10.0000
Nordiazepam	4.676	128991	2176.53	232.85	409787	10.0000

cal

# AM #25 Multi-Drug Screen Results



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Norfentanyl	3.312	4415274	7215.22	346.56	16865177	10.0000
Norhydrocodone	2.972	68943	529.80	24.18	1058848	10.0000
Normeperidine	3.604	1246614	3477.66	53.35	4032070	10.0000
Noroxycodone	2.909	565762	60.59	52.45	1731024	10.0000
Nortriptyline	4.493	1291118	71.28	∞	3138517	10.0000
O-desmethyl-tramadol	2.898	9077103	∞	2351.07	38119839	10.0000
Olanzapine	4.132	680955	∞	156.89	16840	10.0000
Oxazepam	4.489	27596	18.19	5.56	144218	10.0000
Oxycodone	2.967	1769640	∞	461.27	7020828	10.0000
Oxymorphone	2.393	577644	134.74	∞	1658493	10.0000
Paroxetine	4.467	196527	∞	5098.55	6994644	10.0000
Phenazepam	4.634	122209	63431.32	268.29	570387	10.0000
Phencyclidine	3.939	4172607	404.19	78.09	18307710	10.0000
Phentermine	3.147	594753	∞	4.04 <b>Low</b>	6058045	10.0000
Phenytoin	4.109	4813	5.69	7.89	16840	10.0000
Promethazine	4.489	7097994	138157.00	2603.23	29803329	10.0000
Pseudoephedrine	2.704	35647525	5534.12	4574.24	131096747	10.0000
Quetiapine	4.679	4933480	21423930.66	9538.71	5321502	10.0000
Sertraline	4.655	1477304	265.47	300.03	6994644	10.0000
Sufentanil	4.725	282971	63666.46	464.18	16372553	10.0000
Tapentadol	3.436	3964303	716.55	1397.72	18691330	10.0000
Temazepam	4.656	428059	92.18	29.81	2115623	10.0000
Tramadol	3.431	8316080	1336.37	156.30	34656769	10.0000
Trazodone	4.910	4290749	123292.48	5343.63	17093448	10.0000
Venlafaxine	3.796	6651146	∞	307.21	30945303	10.0000
Zaleplon	4.334	751944	586.45	261.04	1666682	10.0000
Zolpidem	4.471	7174907	735.51	821.42	33261783	10.0000
Zopiclone	4.419	101824	295.24	19666.11	568401	10.0000

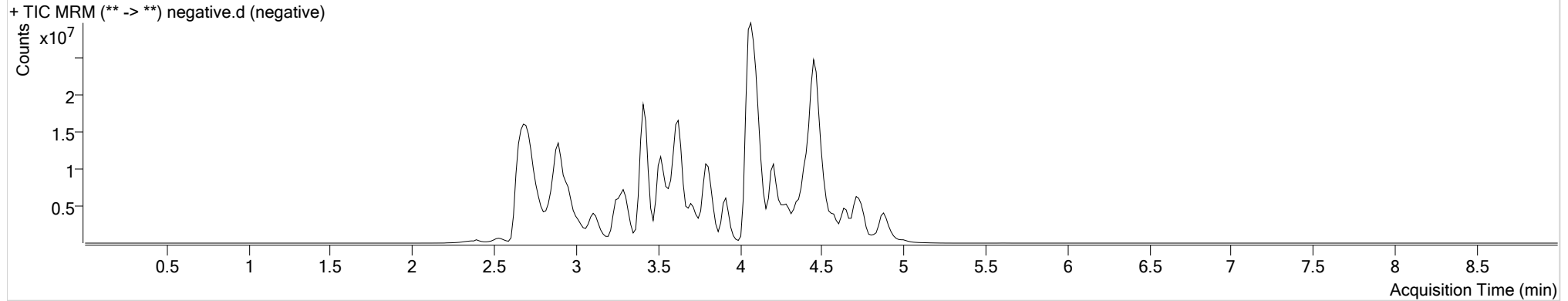
# AM #25 Multi-Drug Screen Results



**Batch results** D:\MassHunter\Data\2019\AM 25\091619 MDS SP TS\QuantResults\MDS SP.batch.bin  
**Calibration Last Update** 9/17/2019 9:42:31 AM

<b>Instrument</b>	Falco	<b>Data File</b>	negative.d
<b>Type</b>	Sample	<b>Sample</b>	negative
<b>Acq. Method</b>	am 25 all.m	<b>Operator</b>	
<b>Sample Position</b>	P1-B8	<b>Comment</b>	
<b>Injection Volume</b>	5		
<b>Acq. Date-Time</b>	9/16/2019 12:56:35 PM		
<b>Sample Info.</b>			

## Sample Chromatogram





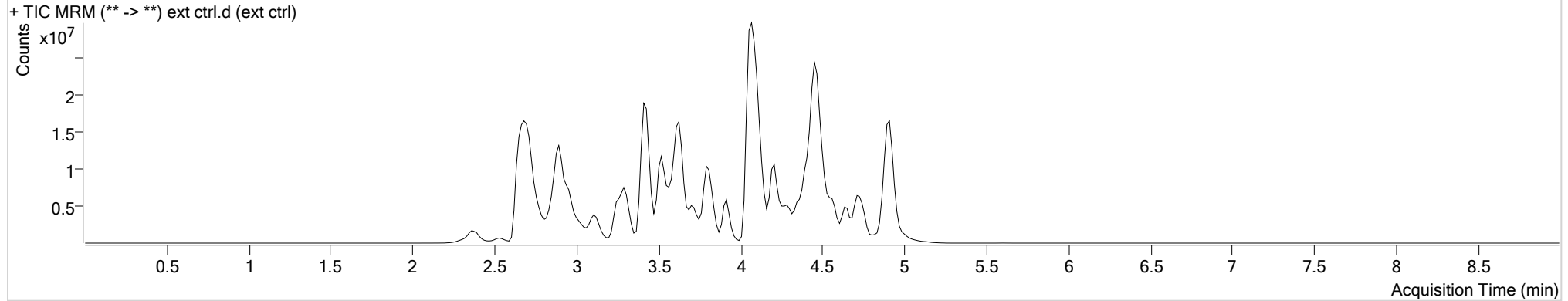
# AM #25 Multi-Drug Screen Results



**Batch results** D:\MassHunter\Data\2019\AM 25\091619 MDS SP TS\QuantResults\MDS SP.batch.bin  
**Calibration Last Update** 9/17/2019 9:42:31 AM

<b>Instrument</b>	Falco	<b>Data File</b>	ext ctrl.d
<b>Type</b>	Sample	<b>Sample</b>	ext ctrl
<b>Acq. Method</b>	am 25 all.m	<b>Operator</b>	
<b>Sample Position</b>	P1-C8	<b>Comment</b>	
<b>Injection Volume</b>	5		
<b>Acq. Date-Time</b>	9/16/2019 1:06:03 PM		
<b>Sample Info.</b>			

**Sample Chromatogram**



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Flunitrazepam	4.562	3905126	723.05	157225.20	69396	89.9125
Metoprolol	3.446	4799329	1893.83	799.44	10448724	75.0117
Morphine	2.368	2249365	∞	∞	131655	140.8676
Trazodone	4.910	33744826	46761.67	∞	15689535	85.6828