




cg

Worklist: 3601

<u>LAB_CASE</u>	<u>ITEM</u>	<u>TASK_ID</u>	<u>DESCRIPTION</u>	
C2019-1460	2	159731	AM 13 Urine LCMS-QQQ Benzodiazepines and ;	
M2019-3289	2	159734	AM 13 Urine LCMS-QQQ Benzodiazepines and ;	
M2019-3357	3	159732	AM 13 Urine LCMS-QQQ Benzodiazepines and ;	

The Cal 5 had to be reinjected due to low ISTD response. There was also low ISTD response in the glucuronide negative control. The sample was reinjected several times but there was no ISTD response likely indicating that the vial had broken.

cg

A method revision occurred after this batch had been done. The revision that applies to this batch is revision 8.

AM 13: Benzo and Z-Drugs LCMS Urine Extraction

Extraction Date: 08/09/2019
Negative Blood/Urine Lot: POC031319
Positive Control Working Solution Lot: WS013119
Calibrator Working Solution Lot #'s: WS021319
Oxazepam Glucuronide Lot: Alltech 715-5035
LC Column: Agilent Poroshell 120 EC-C18 (2.1x75mm; 2.7 Micron)

Analyst: Celena Shrum
LCMS-QQQ ID: Falco
b-glucuronidase Lot: Kura 4150

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. Prep Non-Extracted Calibrators:

Level	ng/mL	Working Solution (ng/μL)	Volume to add (μL)
Blank	-	-	-
1	10	1	10
2	25	1	25
3	50	1	50
4	100	1	100
5	500	10	50
6	1000	10	100
7	3000 (Urine)	10	300

Analytic:

- 1. Remove working solutions, external control, negative urine and case samples from cold storage.
- 2. **Blood:** Add 1mL samples, and controls to Extraction tube. **Urine:** To each labeled round bottomed tube add 1mL sample, using negative blood or urine sample for both negative and positive control. Positive control: spike negative blood or urine with 300uL positive control working solution. Urine Required additional glucuronide positive and negative controls.
- 3. To all samples: add 100uL Internal Standard Working Solution.
- 4. For Urine Only: Glucuronide Cleaving:
 - 4.1. Add 20uL of 2M Acetate buffer to all urine samples, Vortex.
 - 4.2. To all but negative glucuronide control: add 76uL Kura b-glucuronidase. Cap and gently rock.
 - 4.3. Place in oven at ~60C for approx. 30 minutes.
- 5. Add 4mL water to all extraction tubes. Urine Samples: Transfer into the extraction tubes.
- 6. Place on tube rocker at ambient temp for ~ 10 minutes.
- 7. Centrifuge for ~ 10 min at ~2500rpm.
Optional: To break up emulsions: re-centrifuge at ~3000rpm for ~5 minutes
- 8. Transfer solvent to tapered bottom tube and evaporate to dryness under nitrogen @ 37C.
- 9. Reconstitute with 100uL of 9:1 mobile phase A:B
- 10. Transfer to labeled ALS vial with insert.
- 11. Run using appropriate LCMS Instrument Acquisition.

Post-Analytic

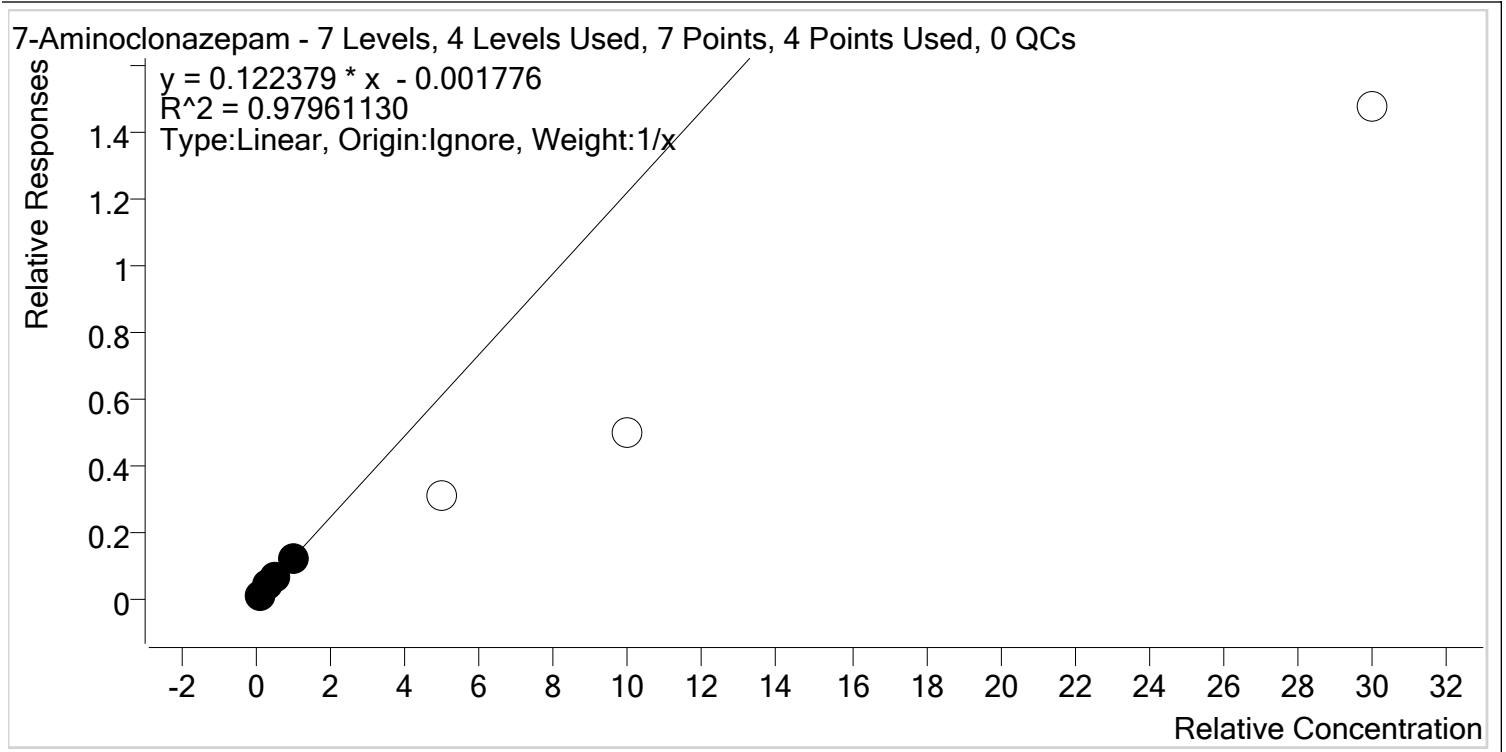
- 1. Complete Data Analysis on all samples and corresponding sample blanks
 LCMS Data Path: C:\MassHunter\Data\2019\AM 13\AM 13 Worklist 3601 CS\QuantResults\am 13 worklist 3601
- 2. Did positive and negative control samples provide intended response? Y / N
- 3. RT within +/-5% of Calibrators; Ion Ratios within +/- 20% of the calibrator average for the run.
- 4. Central File Packet to include: LIMS Worklist, Method Checklist, Working solution prep sheet, and Control sample LCMS data printouts.

Comments: Cutoff for 7-aminoflunitrazepam and flurazepam for this run will be 100ng/mL, no samples can be called inconclusive for chlordiazepoxide or nordiazepam. Quetiapine not evaluated for this run.



Compound Calibration Report

Batch results D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin
Last Cal. Update 8/13/2019 12:37 PM
Analyst Name ISP\Datator
Analyte 7-Aminoclonazepam **Internal Standard** 7-Aminoflunitrazepam-D7 ISTD



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1-10ng	1	✓	10.0	8.1	80.7
Cal 2- 25ng	2	✓	25.0	29.5	118.1
Cal 3 -50ng	3	✓	50.0	53.8	107.6
Cal 4-100ng	4	✓	100.0	93.6	93.6
Cal 5-500ng-reinject	5	✗	500.0	256.3	51.3
Cal 6-1000ng	6	✗	1000.0	405.6	40.6
Cal 7-3000ng	7	✗	3000.0	1207.1	40.2

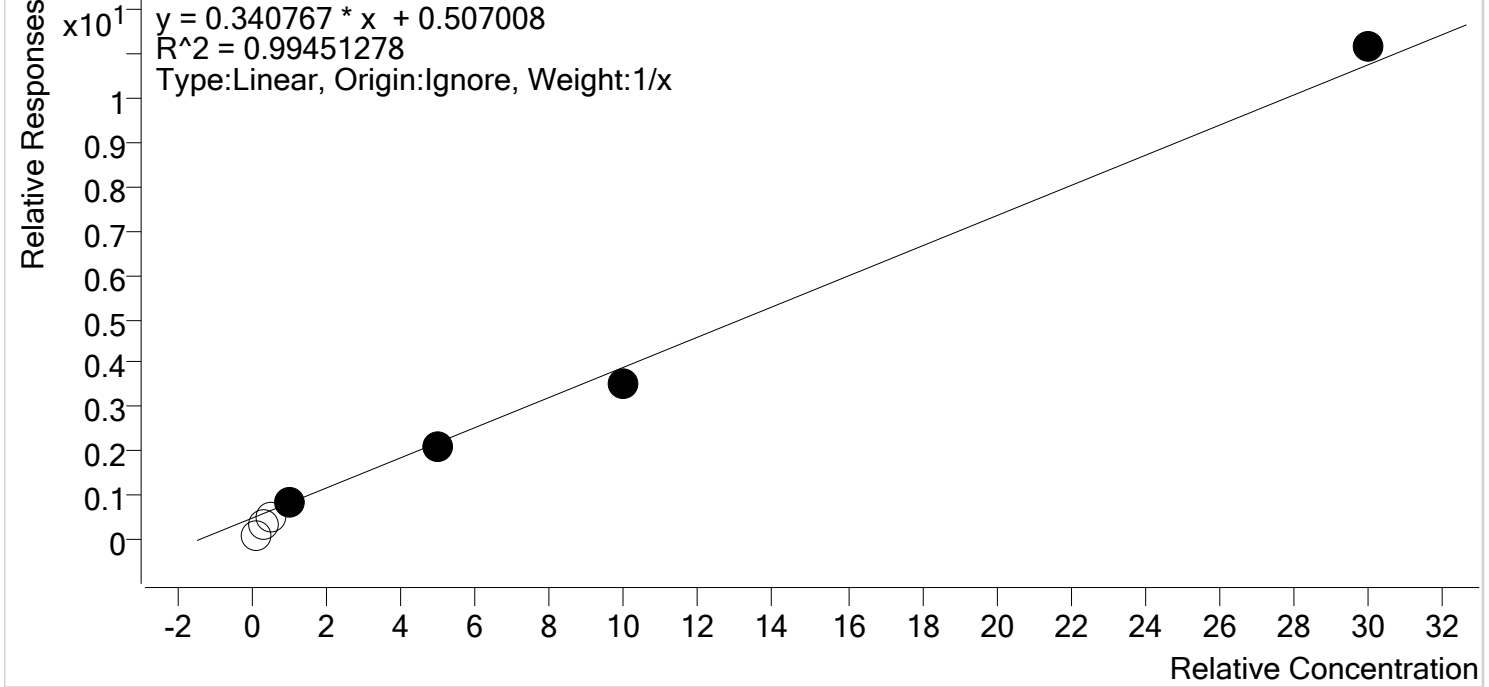
Compound Calibration Report

Cutoff for this compound for this run is 100ng.



Batch results	D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin		
Last Cal. Update	8/13/2019 12:37 PM		
Analyst Name	ISP\Datator		
Analyte	7-Aminoflunitrazepam	Internal Standard	7-Aminoflunitrazepam-D7 ISTD

7-Aminoflunitrazepam - 7 Levels, 4 Levels Used, 7 Points, 4 Points Used, 0 QCs

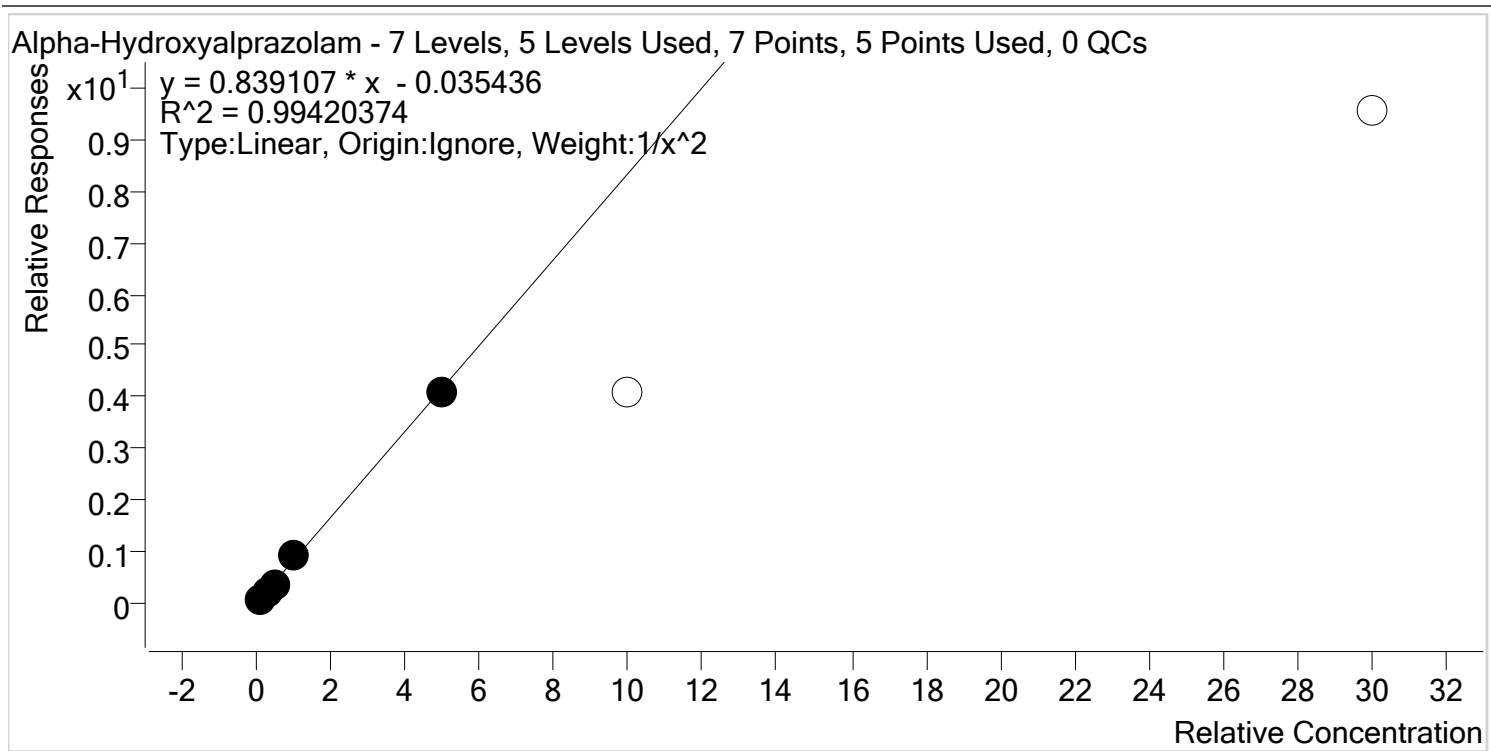


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1-10ng	1	x	10.0	0.0	0.0
Cal 2- 25ng	2	x	25.0	0.0	0.0
Cal 3 -50ng	3	x	50.0	18.0	35.9
Cal 4-100ng	4	✓	100.0	110.7	110.7
Cal 5-500ng-reinject	5	✓	500.0	482.2	96.4
Cal 6-1000ng	6	✓	1000.0	889.0	88.9
Cal 7-3000ng	7	✓	3000.0	3118.1	103.9



Compound Calibration Report

Batch results D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin
Last Cal. Update 8/13/2019 12:37 PM
Analyst Name ISP\Datator
Analyte Alpha-Hydroxyalprazolam **Internal Standard** Alphahydroxyalprazolam-D5 ISTD

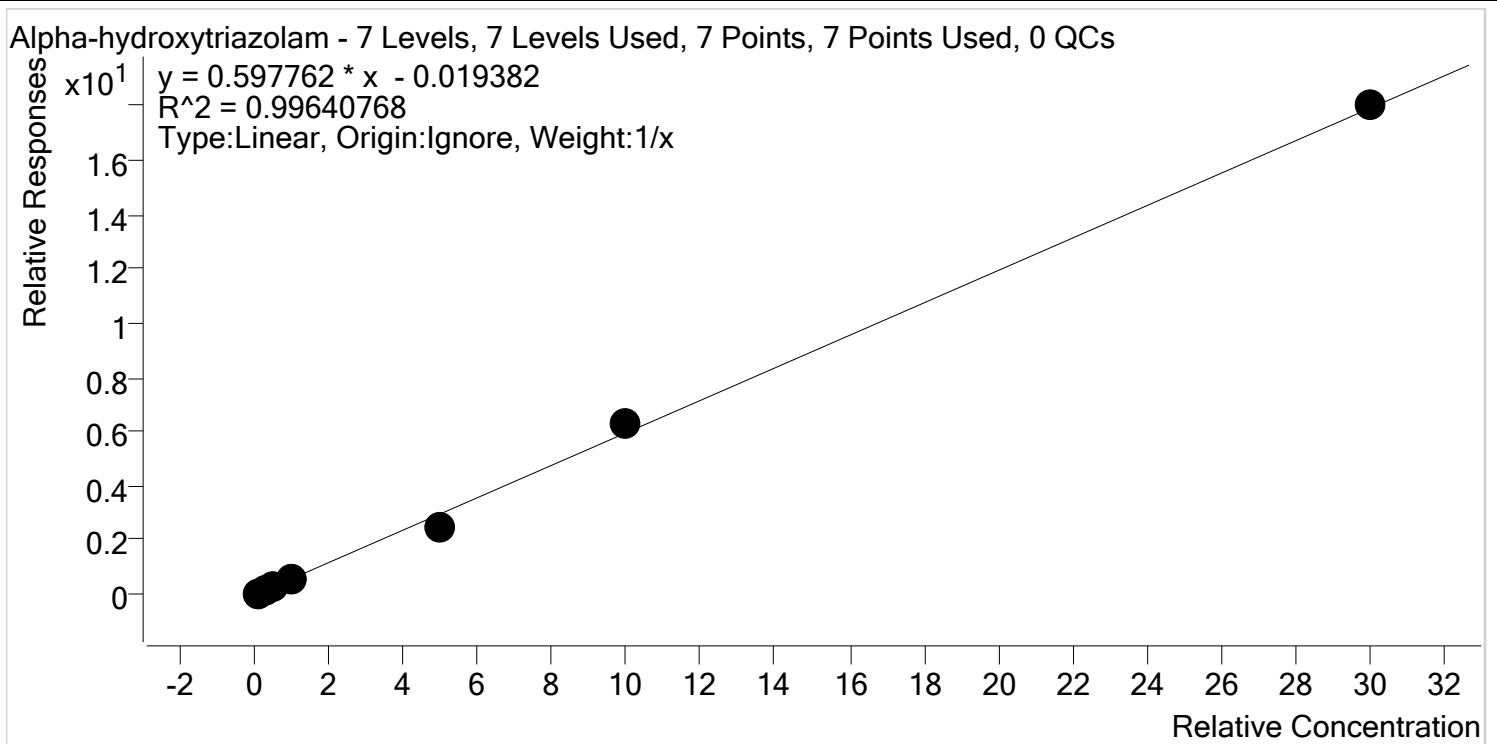


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1-10ng	1	✓	10.0	10.0	100.4
Cal 2- 25ng	2	✓	25.0	25.4	101.5
Cal 3 -50ng	3	✓	50.0	45.5	91.0
Cal 4-100ng	4	✓	100.0	108.0	108.0
Cal 5-500ng-reinject	5	✓	500.0	495.3	99.1
Cal 6-1000ng	6	✗	1000.0	494.1	49.4
Cal 7-3000ng	7	✗	3000.0	1144.7	38.2



Compound Calibration Report

Batch results D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin
Last Cal. Update 8/13/2019 12:37 PM
Analyst Name ISP\Datator
Analyte Alpha-hydroxytriazolam **Internal Standard** Nordiazepam-D5 ISTD



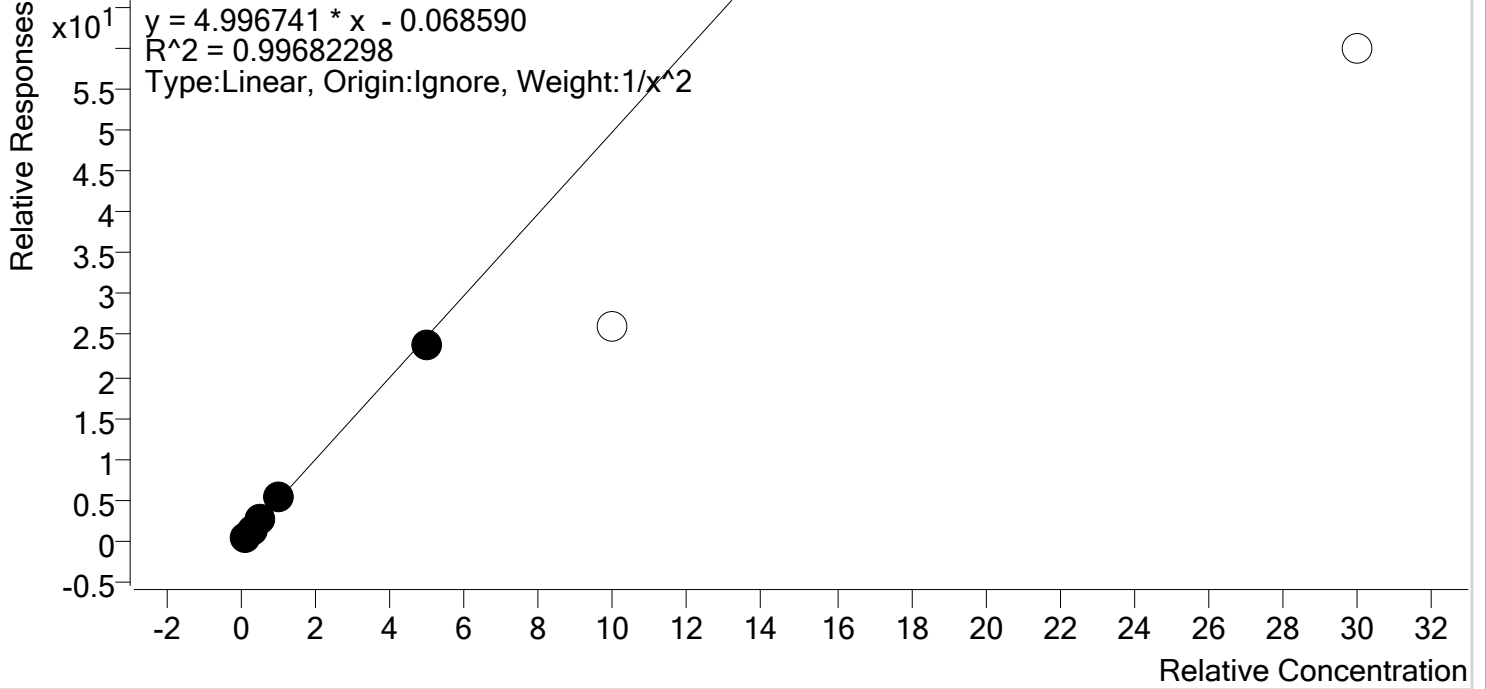
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1-10ng	1	✓	10.0	10.2	101.8
Cal 2- 25ng	2	✓	25.0	27.1	108.4
Cal 3 -50ng	3	✓	50.0	47.8	95.6
Cal 4-100ng	4	✓	100.0	103.6	103.6
Cal 5-500ng-reinject	5	✓	500.0	421.9	84.4
Cal 6-1000ng	6	✓	1000.0	1056.2	105.6
Cal 7-3000ng	7	✓	3000.0	3018.2	100.6



Compound Calibration Report

Batch results D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin
Last Cal. Update 8/13/2019 12:37 PM
Analyst Name ISP\Datator
Analyte Alprazolam **Internal Standard** Alphahydroxyalprazolam-D5 ISTD

Alprazolam - 7 Levels, 5 Levels Used, 7 Points, 5 Points Used, 0 QCs



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1-10ng	1	✓	10.0	10.1	100.6
Cal 2- 25ng	2	✓	25.0	24.3	97.1
Cal 3 -50ng	3	✓	50.0	49.8	99.6
Cal 4-100ng	4	✓	100.0	107.2	107.2
Cal 5-500ng-reinject	5	✓	500.0	477.6	95.5
Cal 6-1000ng	6	✗	1000.0	526.2	52.6
Cal 7-3000ng	7	✗	3000.0	1200.0	40.0

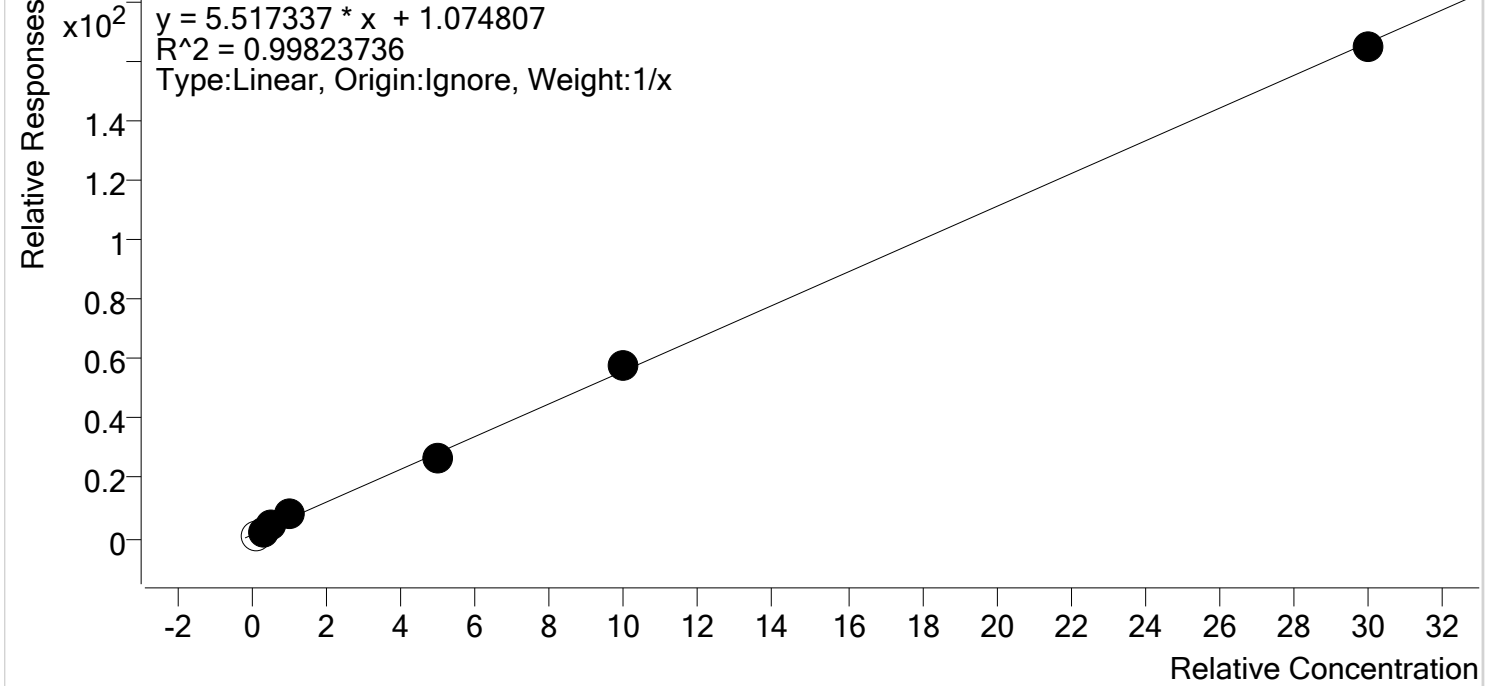
Compound Calibration Report

Samples cannot be reported as inconclusive for this compound for this run



Batch results D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin
Last Cal. Update 8/13/2019 12:37 PM
Analyst Name ISP\Datastor
Analyte Chlordiazepoxide **Internal Standard** Nordiazepam-D5 ISTD

Chlordiazepoxide - 7 Levels, 6 Levels Used, 7 Points, 6 Points Used, 0 QCs



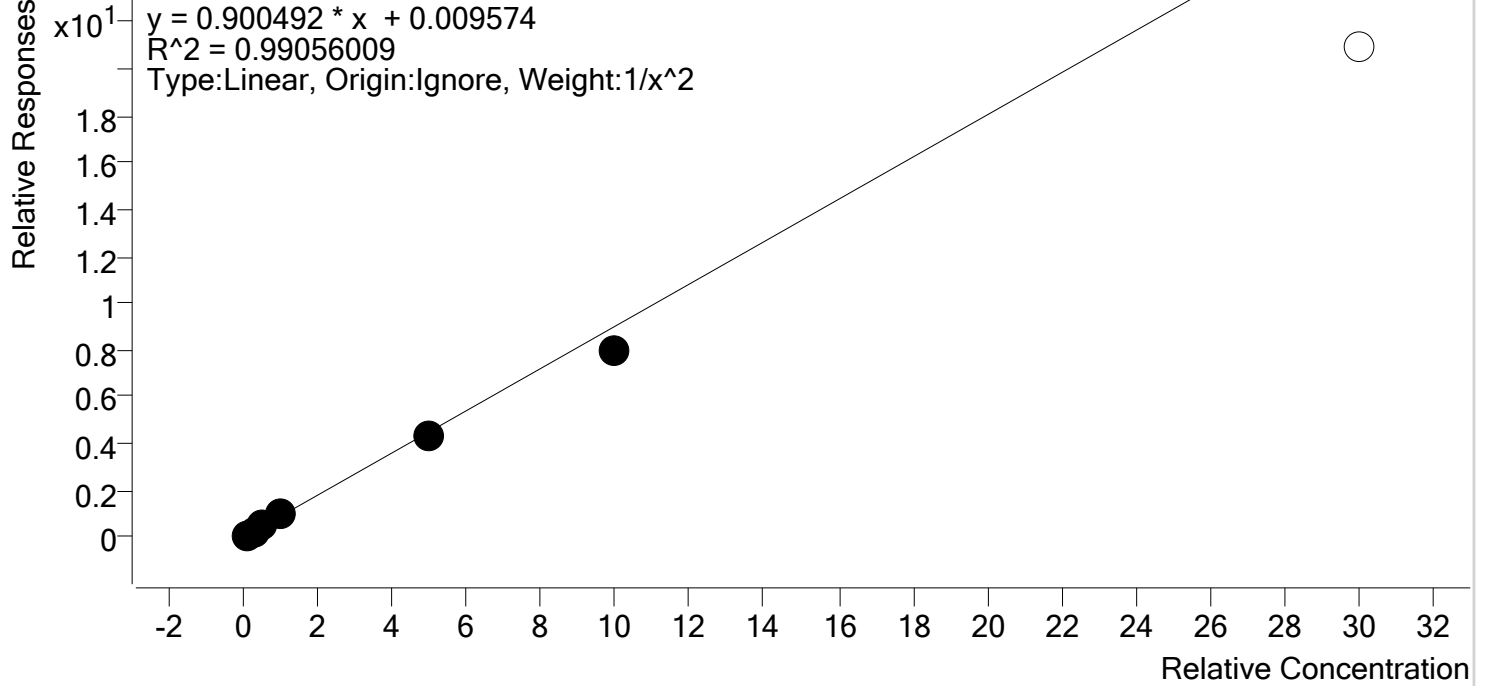
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1-10ng	1	x	10.0	0.0	0.0
Cal 2- 25ng	2	✓	25.0	21.2	84.7
Cal 3 -50ng	3	✓	50.0	49.9	99.8
Cal 4-100ng	4	✓	100.0	117.8	117.8
Cal 5-500ng-reinject	5	✓	500.0	472.0	94.4
Cal 6-1000ng	6	✓	1000.0	1042.4	104.2
Cal 7-3000ng	7	✓	3000.0	2971.7	99.1



Compound Calibration Report

Batch results D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin
Last Cal. Update 8/13/2019 12:37 PM
Analyst Name ISP\Datator
Analyte Clonazepam **Internal Standard** Clonazepam-D4 ISTD

Clonazepam - 7 Levels, 6 Levels Used, 7 Points, 6 Points Used, 0 QCs



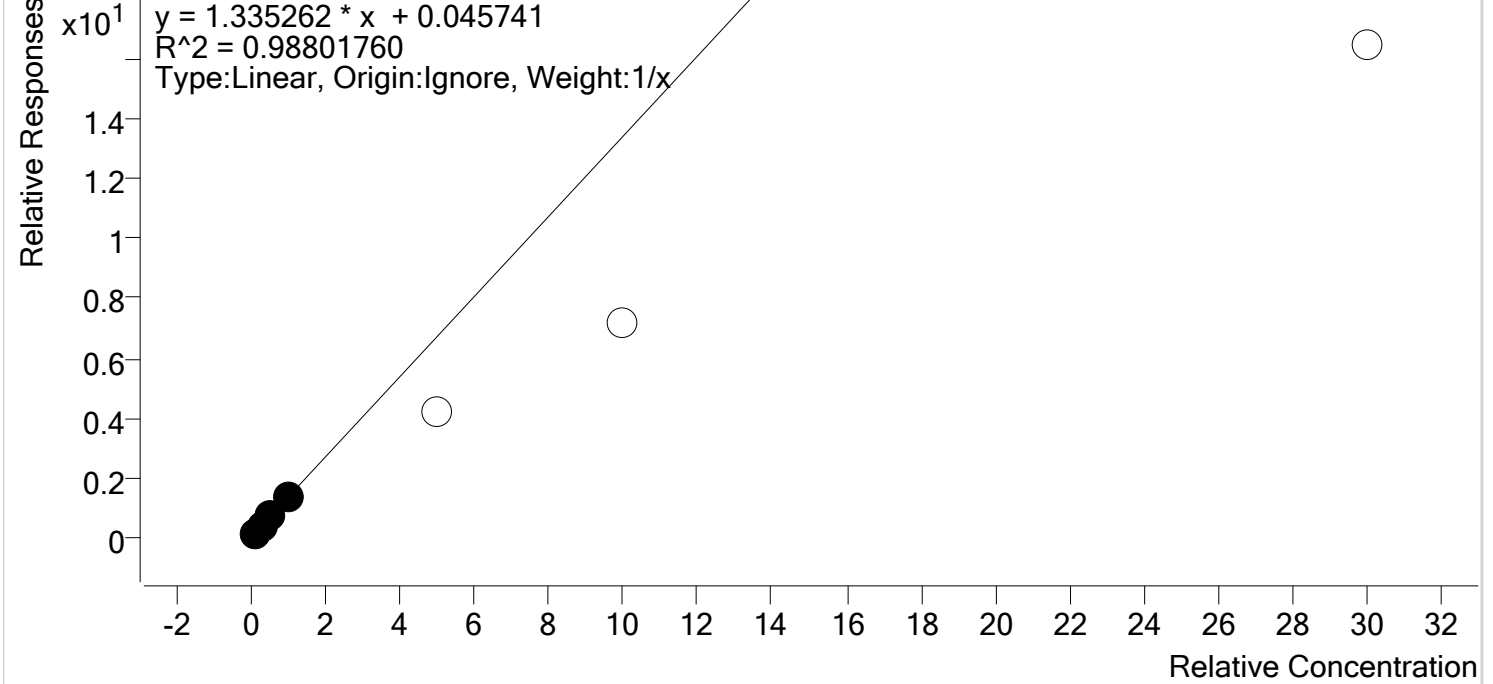
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1-10ng	1	✓	10.0	9.5	94.5
Cal 2- 25ng	2	✓	25.0	27.5	110.0
Cal 3 -50ng	3	✓	50.0	52.7	105.5
Cal 4-100ng	4	✓	100.0	105.7	105.7
Cal 5-500ng-reinject	5	✓	500.0	476.9	95.4
Cal 6-1000ng	6	✓	1000.0	889.2	88.9
Cal 7-3000ng	7	✗	3000.0	2320.2	77.3



Compound Calibration Report

Batch results D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin
Last Cal. Update 8/13/2019 12:37 PM
Analyst Name ISP\Datator
Analyte Diazepam **Internal Standard** Diazepam-D5 ISTD

Diazepam - 7 Levels, 4 Levels Used, 7 Points, 4 Points Used, 0 QCs

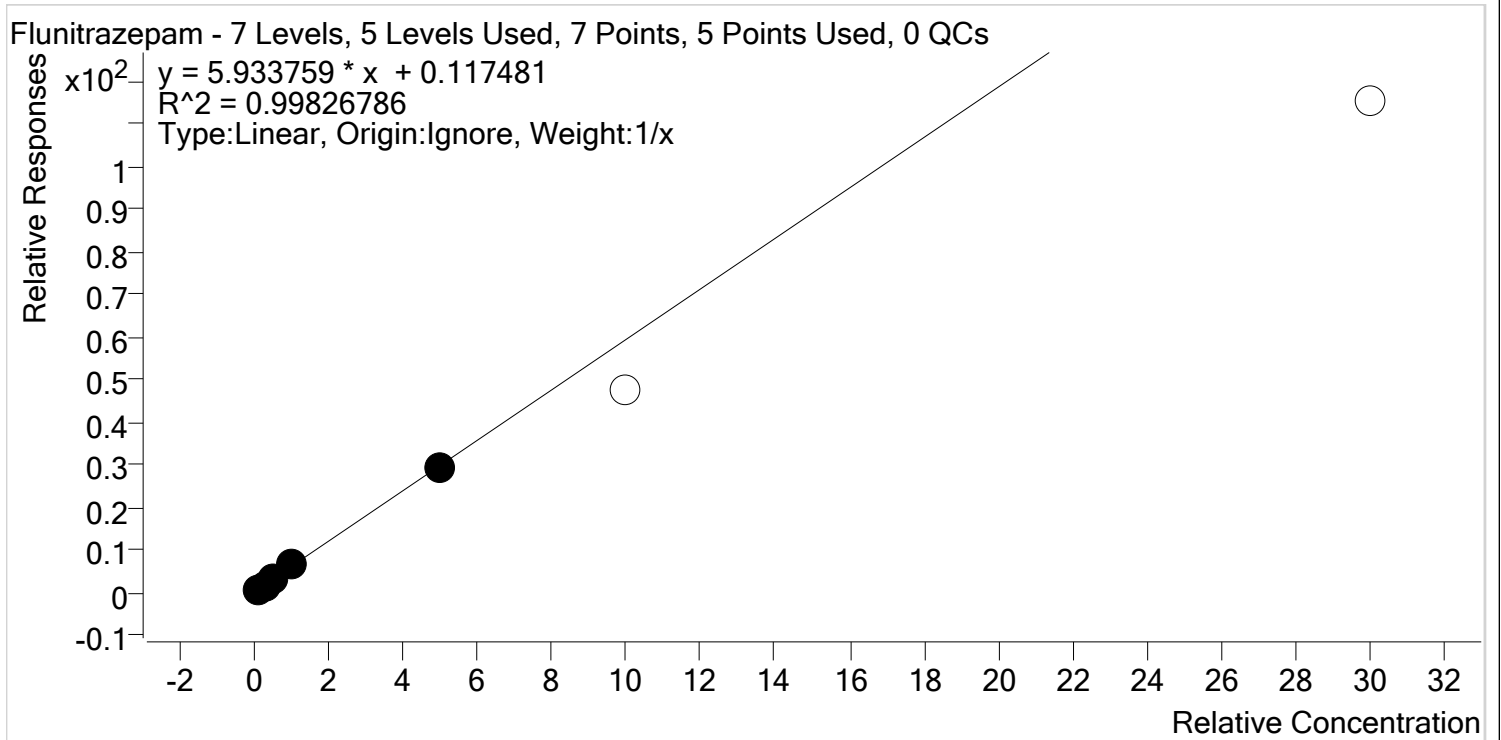


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1-10ng	1	✓	10.0	8.5	84.8
Cal 2- 25ng	2	✓	25.0	29.1	116.4
Cal 3 -50ng	3	✓	50.0	51.4	102.7
Cal 4-100ng	4	✓	100.0	96.0	96.0
Cal 5-500ng-reinject	5	✗	500.0	312.9	62.6
Cal 6-1000ng	6	✗	1000.0	536.7	53.7
Cal 7-3000ng	7	✗	3000.0	1226.5	40.9



Compound Calibration Report

Batch results D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin
Last Cal. Update 8/13/2019 12:37 PM
Analyst Name ISP\Datator
Analyte Flunitrazepam **Internal Standard** Clonazepam-D4 ISTD



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1-10ng	1	✓	10.0	8.4	84.1
Cal 2- 25ng	2	✓	25.0	27.2	108.8
Cal 3 -50ng	3	✓	50.0	51.4	102.8
Cal 4-100ng	4	✓	100.0	105.7	105.7
Cal 5-500ng-reinject	5	✓	500.0	492.2	98.4
Cal 6-1000ng	6	✗	1000.0	802.5	80.2
Cal 7-3000ng	7	✗	3000.0	1943.9	64.8

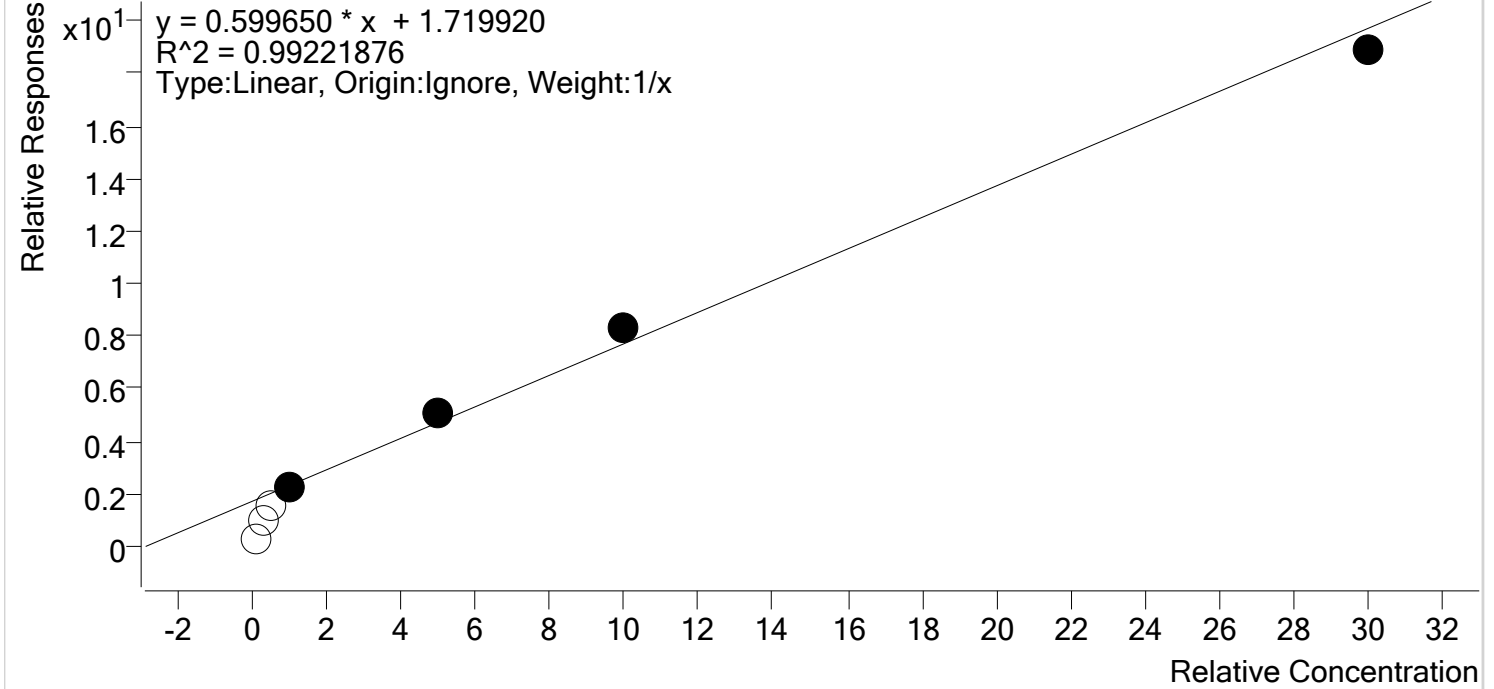
Compound Calibration Report

Cutoff for this compound for this run is 100ng.



Batch results D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin
Last Cal. Update 8/13/2019 12:37 PM
Analyst Name ISP\Datator
Analyte Flurazepam **Internal Standard** Diazepam-D5 ISTD

Flurazepam - 7 Levels, 4 Levels Used, 7 Points, 4 Points Used, 0 QCs

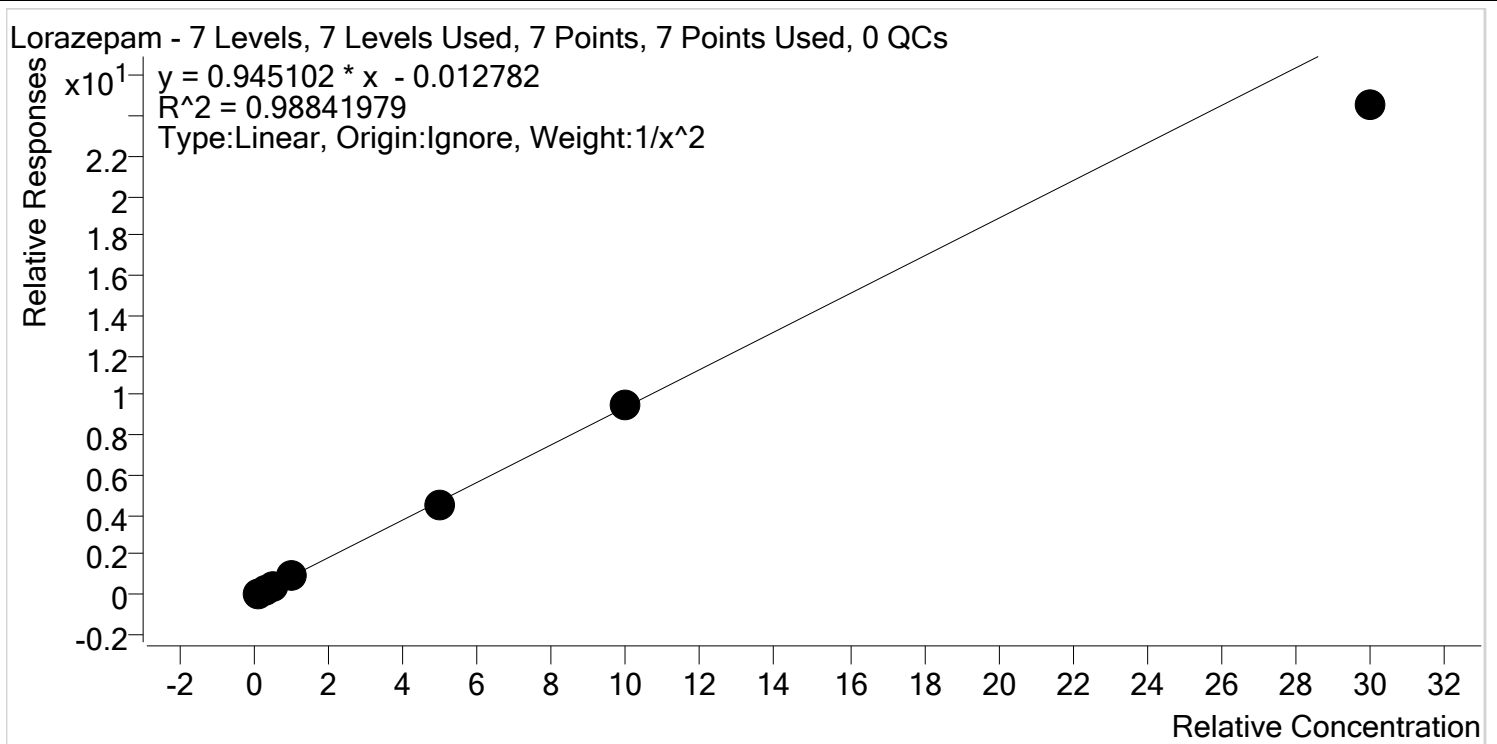


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1-10ng	1	x	10.0	0.0	0.0
Cal 2- 25ng	2	x	25.0	0.0	0.0
Cal 3 -50ng	3	x	50.0	0.0	0.0
Cal 4-100ng	4	✓	100.0	82.3	82.3
Cal 5-500ng-reinject	5	✓	500.0	567.0	113.4
Cal 6-1000ng	6	✓	1000.0	1090.0	109.0
Cal 7-3000ng	7	✓	3000.0	2860.8	95.4



Compound Calibration Report

Batch results D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin
Last Cal. Update 8/13/2019 12:37 PM
Analyst Name ISP\Datastor
Analyte Lorazepam **Internal Standard** Nordiazepam-D5 ISTD

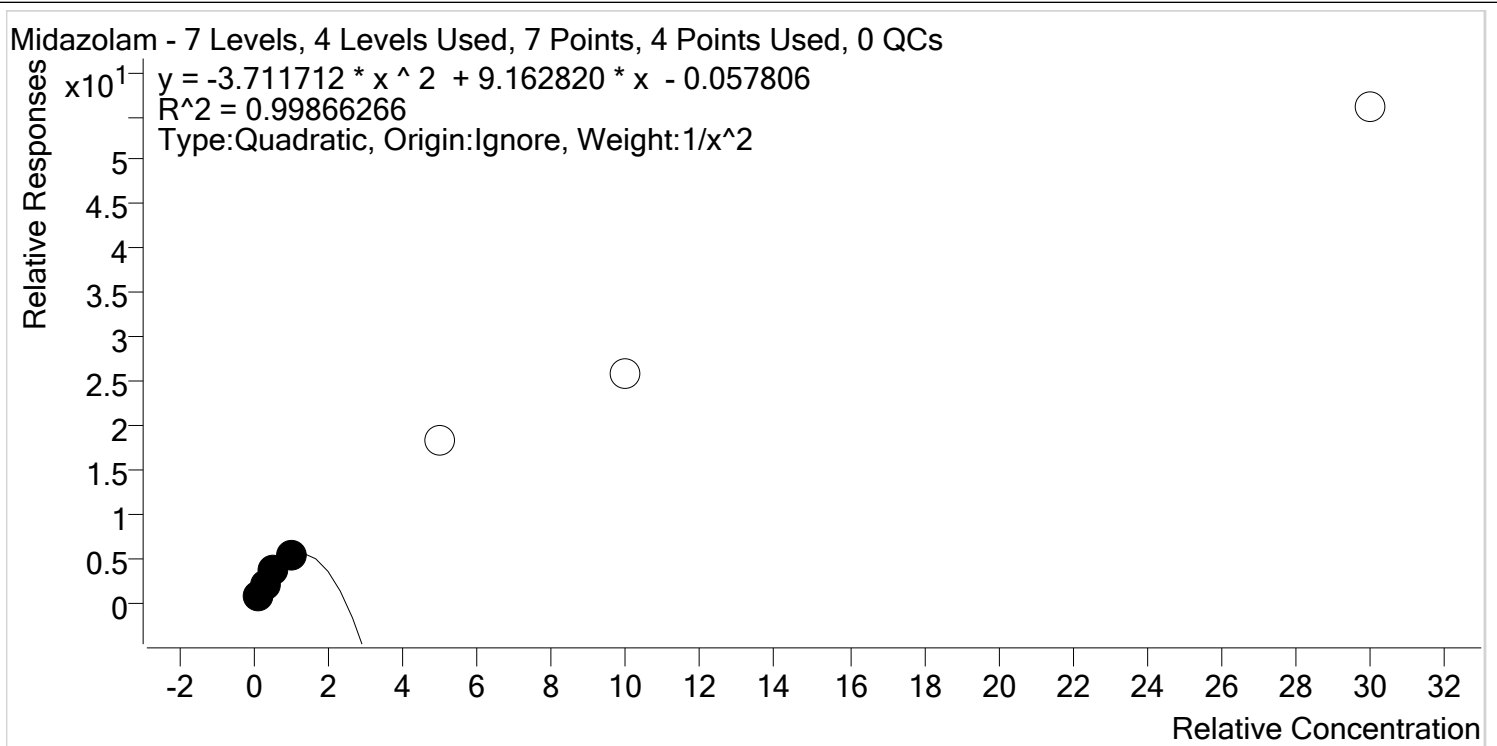


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1-10ng	1	✓	10.0	9.4	94.5
Cal 2- 25ng	2	✓	25.0	27.7	110.7
Cal 3 -50ng	3	✓	50.0	50.2	100.4
Cal 4-100ng	4	✓	100.0	113.1	113.1
Cal 5-500ng-reinject	5	✓	500.0	470.8	94.2
Cal 6-1000ng	6	✓	1000.0	1003.7	100.4
Cal 7-3000ng	7	✓	3000.0	2601.4	86.7



Compound Calibration Report

Batch results D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin
Last Cal. Update 8/13/2019 12:37 PM
Analyst Name ISP\Datator
Analyte Midazolam **Internal Standard** Clonazepam-D4 ISTD

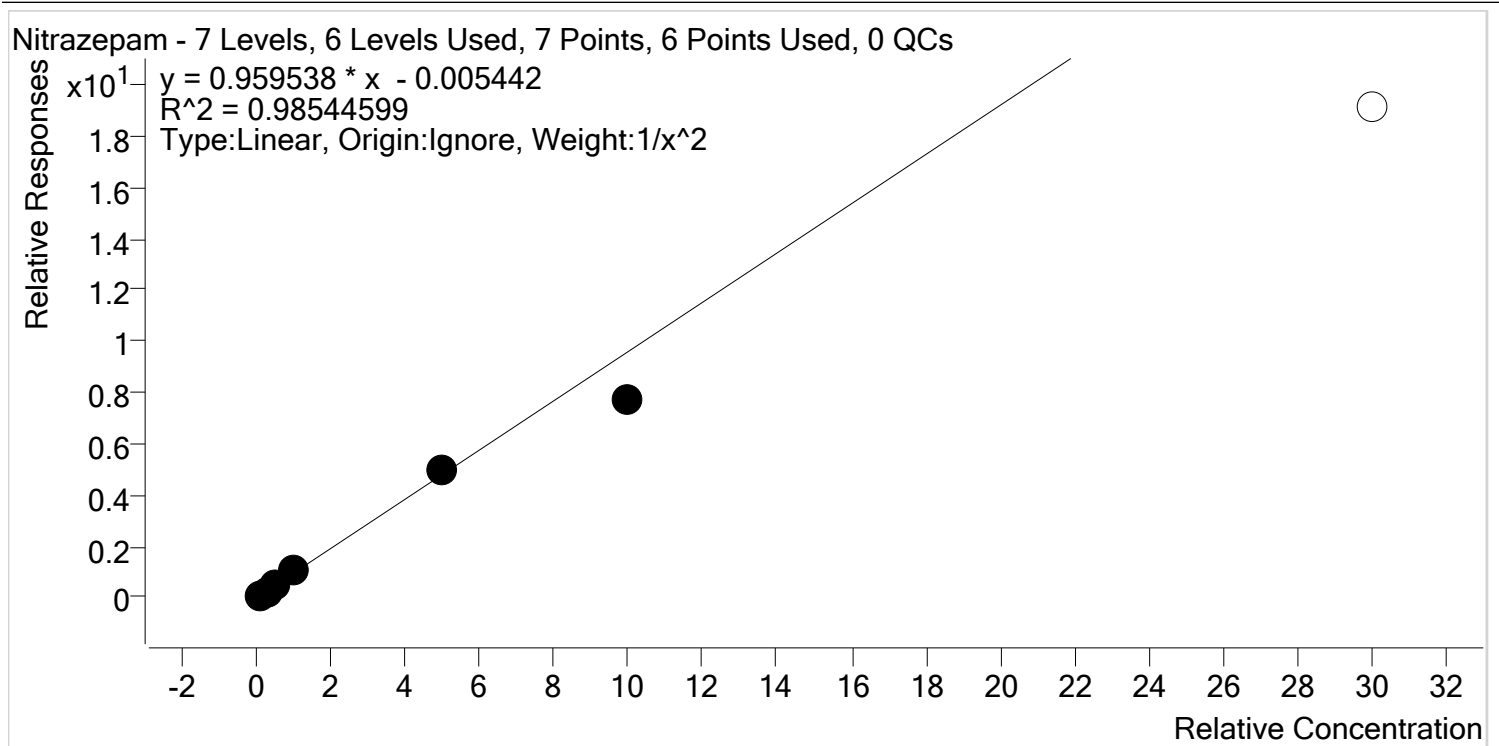


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1-10ng	1	✓	10.0	10.0	99.5
Cal 2- 25ng	2	✓	25.0	25.6	102.6
Cal 3 -50ng	3	✓	50.0	48.1	96.2
Cal 4-100ng	4	✓	100.0	103.9	103.9
Cal 5-500ng-reinject	5	✗	500.0	ND	
Cal 6-1000ng	6	✗	1000.0	ND	
Cal 7-3000ng	7	✗	3000.0	ND	



Compound Calibration Report

Batch results D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin
Last Cal. Update 8/13/2019 12:37 PM
Analyst Name ISP\Datastor
Analyte Nitrazepam **Internal Standard** Clonazepam-D4 ISTD



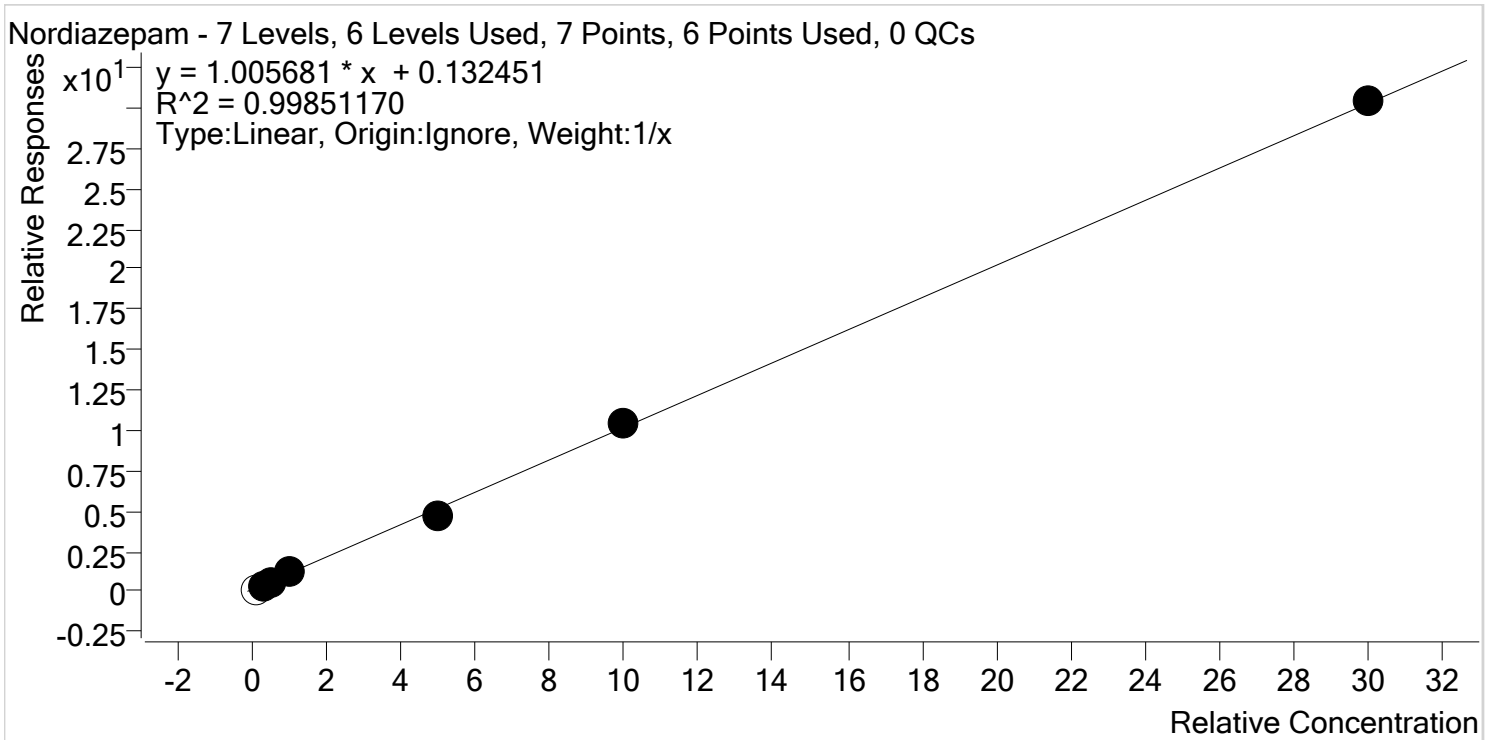
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1-10ng	1	✓	10.0	9.6	96.4
Cal 2- 25ng	2	✓	25.0	26.0	104.0
Cal 3 -50ng	3	✓	50.0	53.2	106.3
Cal 4-100ng	4	✓	100.0	108.9	108.9
Cal 5-500ng-reinject	5	✓	500.0	516.9	103.4
Cal 6-1000ng	6	✓	1000.0	810.1	81.0
Cal 7-3000ng	7	✗	3000.0	1991.8	66.4

Compound Calibration Report

Samples cannot be reported as inconclusive for this compound for this run.



Batch results D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin
Last Cal. Update 8/13/2019 12:37 PM
Analyst Name ISP\Datator
Analyte Nordiazepam **Internal Standard** Nordiazepam-D5 ISTD

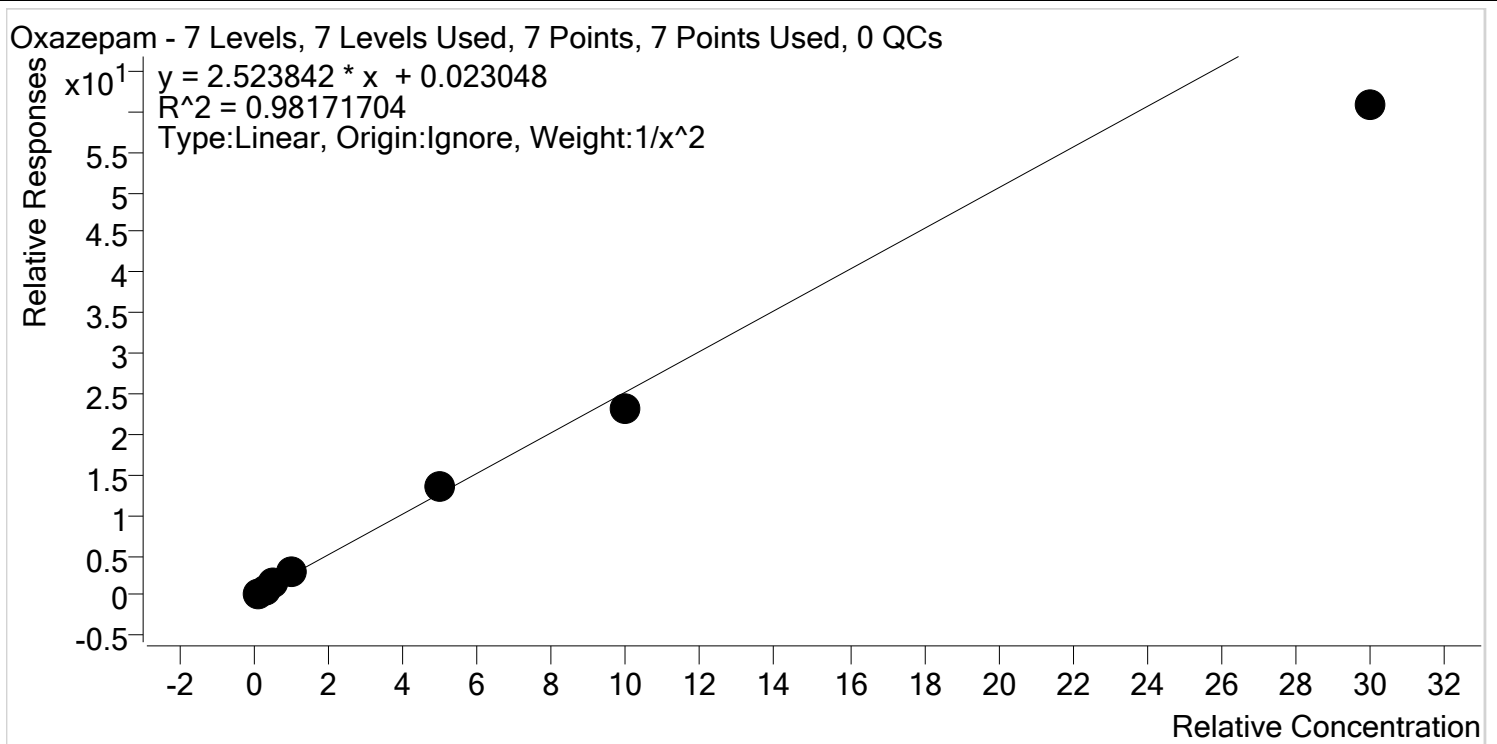


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1-10ng	1	x	10.0	0.0	0.0
Cal 2- 25ng	2	✓	25.0	22.1	88.2
Cal 3 -50ng	3	✓	50.0	51.7	103.4
Cal 4-100ng	4	✓	100.0	114.7	114.7
Cal 5-500ng-reinject	5	✓	500.0	458.8	91.8
Cal 6-1000ng	6	✓	1000.0	1014.7	101.5
Cal 7-3000ng	7	✓	3000.0	3013.0	100.4



Compound Calibration Report

Batch results D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin
Last Cal. Update 8/13/2019 12:37 PM
Analyst Name ISP\Datastor
Analyte Oxazepam **Internal Standard** Oxazepam-D5 ISTD



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1-10ng	1	✓	10.0	9.4	93.6
Cal 2- 25ng	2	✓	25.0	27.4	109.7
Cal 3 -50ng	3	✓	50.0	53.2	106.4
Cal 4-100ng	4	✓	100.0	113.3	113.3
Cal 5-500ng-reinject	5	✓	500.0	526.3	105.3
Cal 6-1000ng	6	✓	1000.0	916.2	91.6
Cal 7-3000ng	7	✓	3000.0	2406.6	80.2

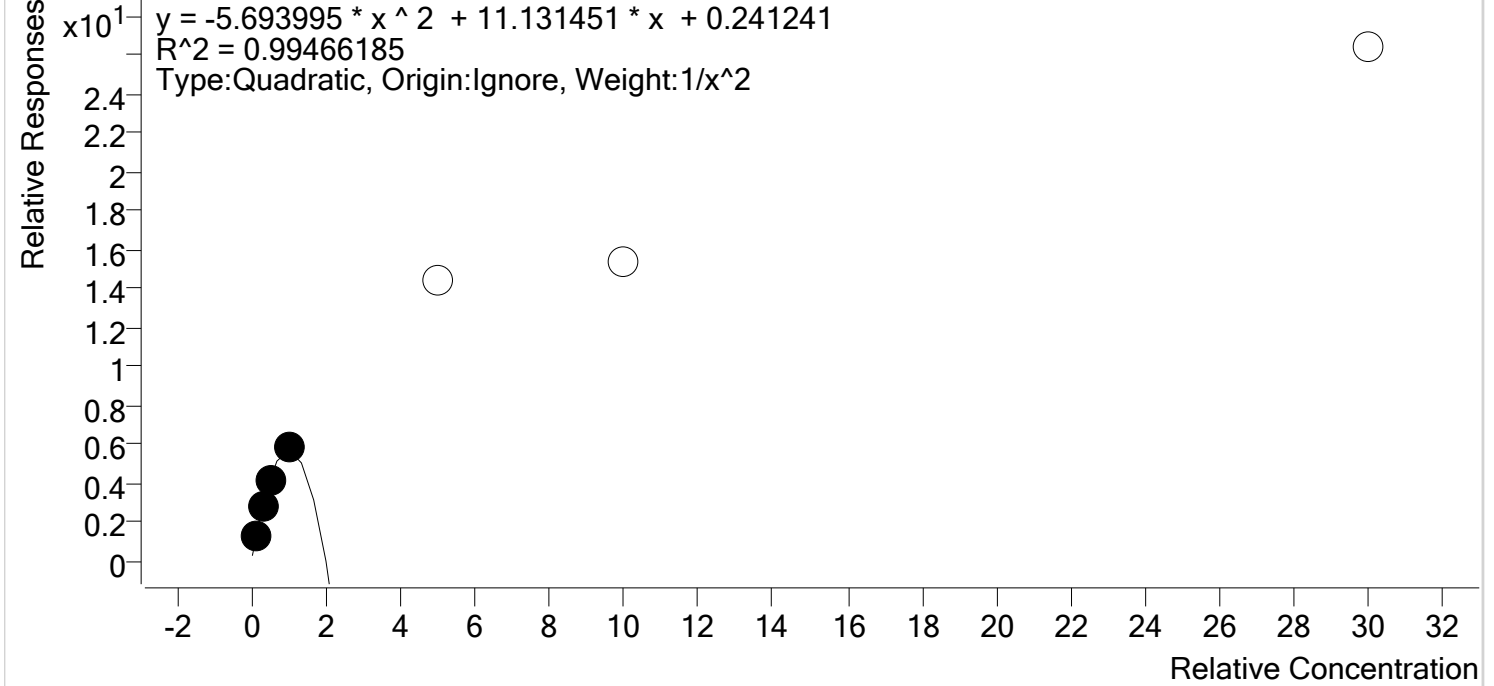
Compound Calibration Report

Compound not evaluated for this run.



Batch results D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin
Last Cal. Update 8/13/2019 12:37 PM
Analyst Name ISP\Datator
Analyte Quetiapine **Internal Standard** Temazepam-D5 ISTD

Quetiapine - 7 Levels, 4 Levels Used, 7 Points, 4 Points Used, 0 QCs

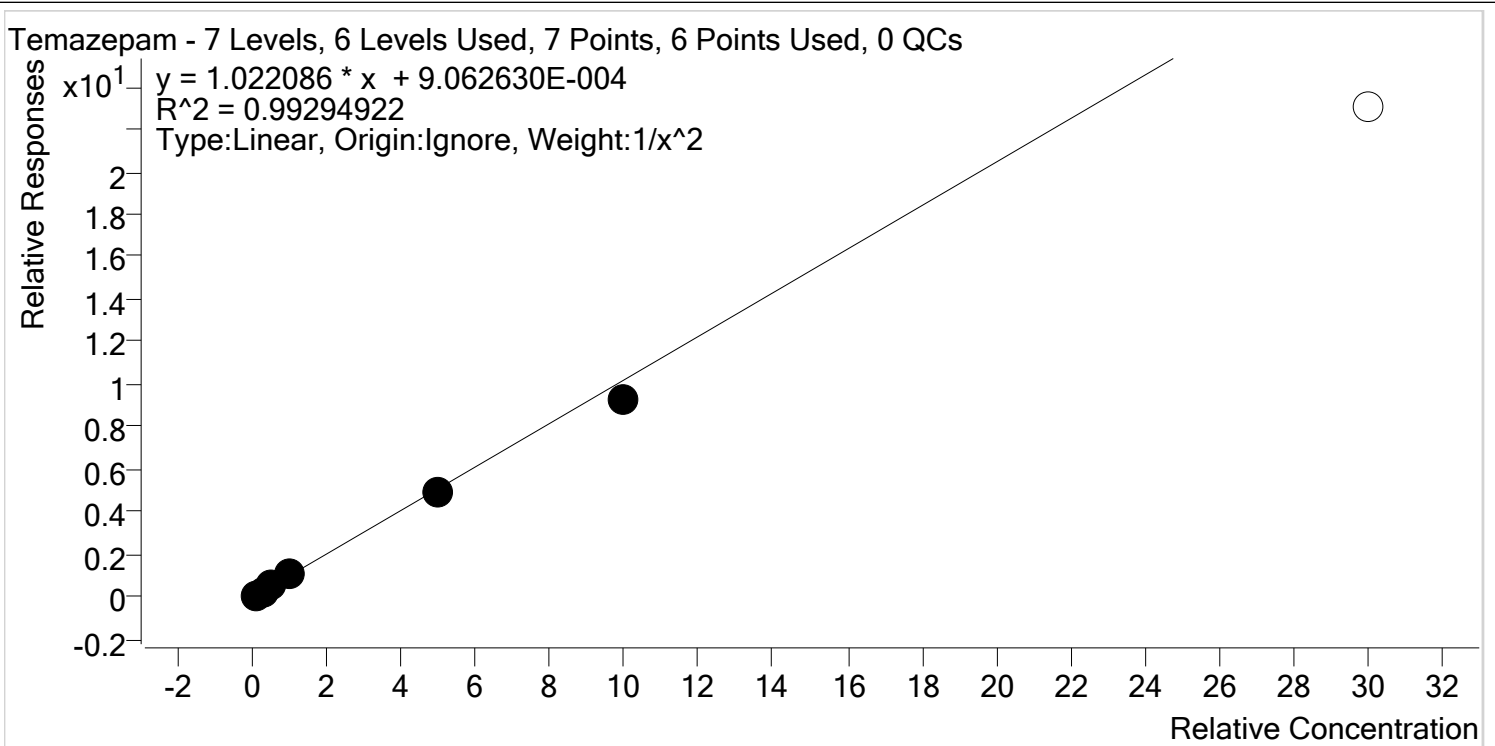


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1-10ng	1	✓	10.0	9.9	99.2
Cal 2- 25ng	2	✓	25.0	26.2	105.0
Cal 3 -50ng	3	✓	50.0	46.0	91.9
Cal 4-100ng	4	✓	100.0	ND	
Cal 5-500ng-reinject	5	✗	500.0	ND	
Cal 6-1000ng	6	✗	1000.0	ND	
Cal 7-3000ng	7	✗	3000.0	ND	



Compound Calibration Report

Batch results D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin
Last Cal. Update 8/13/2019 12:37 PM
Analyst Name ISP\Datator
Analyte Temazepam **Internal Standard** Temazepam-D5 ISTD

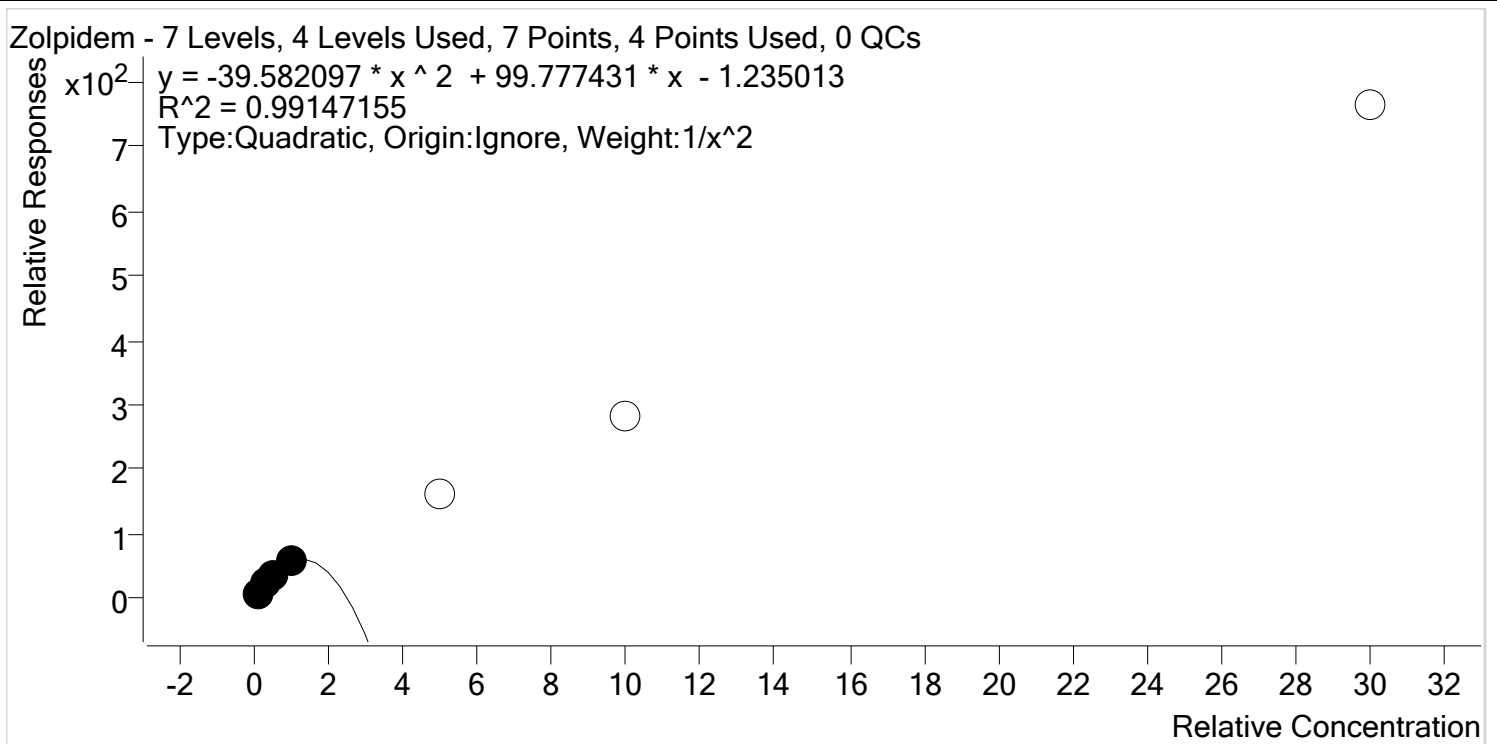


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1-10ng	1	✓	10.0	9.5	95.2
Cal 2- 25ng	2	✓	25.0	27.3	109.1
Cal 3 -50ng	3	✓	50.0	52.0	104.1
Cal 4-100ng	4	✓	100.0	105.0	105.0
Cal 5-500ng-reinject	5	✓	500.0	479.1	95.8
Cal 6-1000ng	6	✓	1000.0	907.6	90.8
Cal 7-3000ng	7	✗	3000.0	2252.0	75.1



Compound Calibration Report

Batch results D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin
Last Cal. Update 8/13/2019 12:37 PM
Analyst Name ISP\Datator
Analyte Zolpidem **Internal Standard** Nordiazepam-D5 ISTD

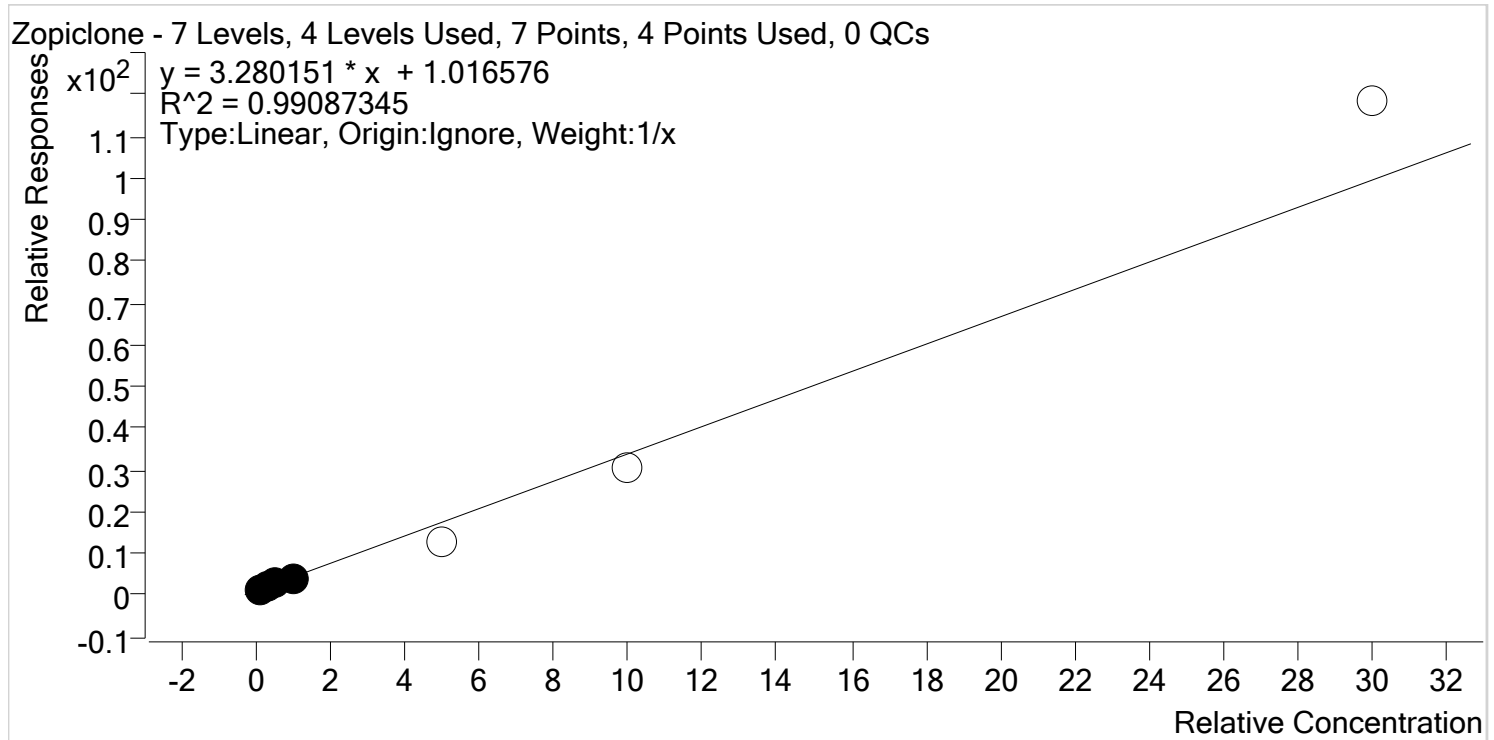


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1-10ng	1	✓	10.0	9.9	98.8
Cal 2- 25ng	2	✓	25.0	26.7	106.6
Cal 3 -50ng	3	✓	50.0	45.2	90.5
Cal 4-100ng	4	✓	100.0	110.7	110.7
Cal 5-500ng-reinject	5	x	500.0	ND	
Cal 6-1000ng	6	x	1000.0	ND	
Cal 7-3000ng	7	x	3000.0	ND	



Compound Calibration Report

Batch results D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin
Last Cal. Update 8/13/2019 12:37 PM
Analyst Name ISP\Datastor
Analyte Zopiclone **Internal Standard** Nordiazepam-D5 ISTD



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1-10ng	1	✓	10.0	8.7	86.7
Cal 2- 25ng	2	✓	25.0	28.6	114.4
Cal 3 -50ng	3	✓	50.0	51.1	102.3
Cal 4-100ng	4	✓	100.0	96.6	96.6
Cal 5-500ng-reinject	5	x	500.0	369.9	74.0
Cal 6-1000ng	6	x	1000.0	895.9	89.6
Cal 7-3000ng	7	x	3000.0	3575.9	119.2

AM #13 Benzodiazepines and Z-Drugs



Batch results

D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin

Calibration Last Update

8/13/2019 12:37:28 PM

Instrument

Falco

Data File

Negative Control.d

Type

Sample

Sample

Negative Control

Acq. Method

Benzos_Z_Drugs 053019 FINAL-5ul.m

Comment

Worklist 3601

Sample Position

P5-B1

Injection Volume

5

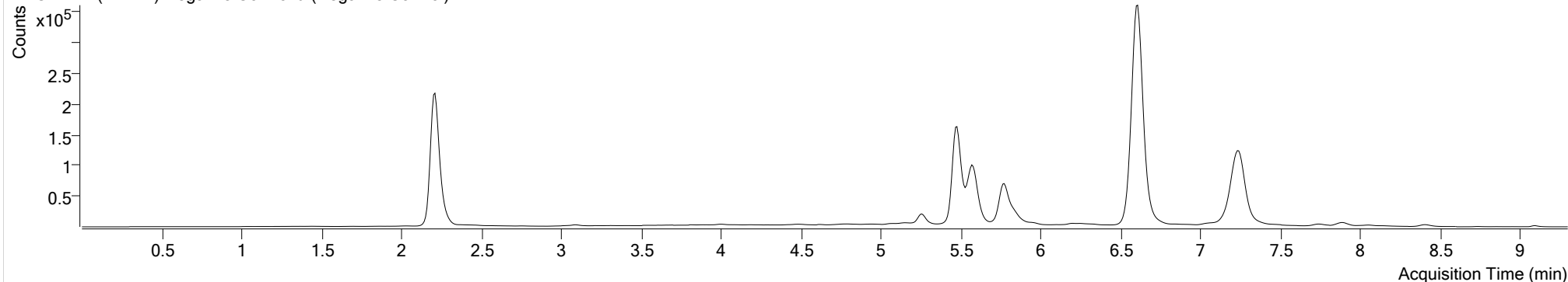
Acq. Date-Time

8/9/2019 1:00:22 PM

Sample Info.

Sample Chromatogram

+ TIC MRM (** -> **) Negative Control.d (Negative Control)



AM #13 Benzodiazepines and Z-Drugs



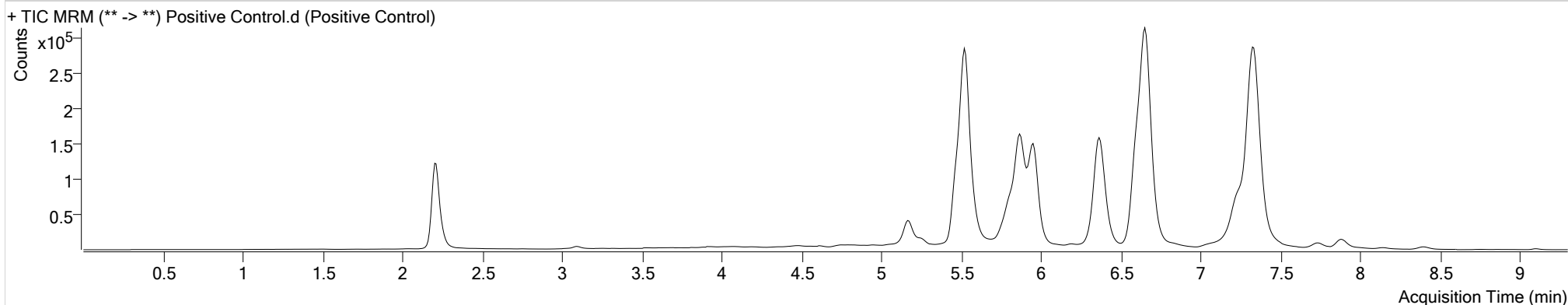
Batch results
Calibration Last Update

D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin
8/13/2019 12:37:28 PM

Instrument Falco
Type Sample
Acq. Method Benzos_Z_Drugs 053019 FINAL-5ul.m
Sample Position P5-B2
Injection Volume 5
Acq. Date-Time 8/9/2019 1:12:52 PM
Sample Info.

Data File Positive Control.d
Sample Positive Control
Comment Worklist 3601

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
Alprazolam	5.950	465601	∞	34.5	2498.80	32906	284.5473 ng/ml
Clonazepam	5.798	106169	2577.73	41.9	929.67	48580	241.6346 ng/ml
Diazepam	7.335	1210393	∞	39.0	3647.72	252158	356.0652 ng/ml
Flunitrazepam	6.363	523830	4898.57	42.4	2020.67	48580	179.7420 ng/ml
Lorazepam	5.864	142002	2090.77	100.9	5125.40	59783	252.6796 ng/ml
Nitrazepam	5.168	87390	2838.82	52.1	1268.45	48580	188.0436 ng/ml
Oxazepam	5.522	796906	4905.24	40.5	∞	105550	298.2344 ng/ml
Temazepam	6.651	1065516	16894.76	33.9	1053.71	451497	230.8082 ng/ml

AM #13 Benzodiazepines and Z-Drugs

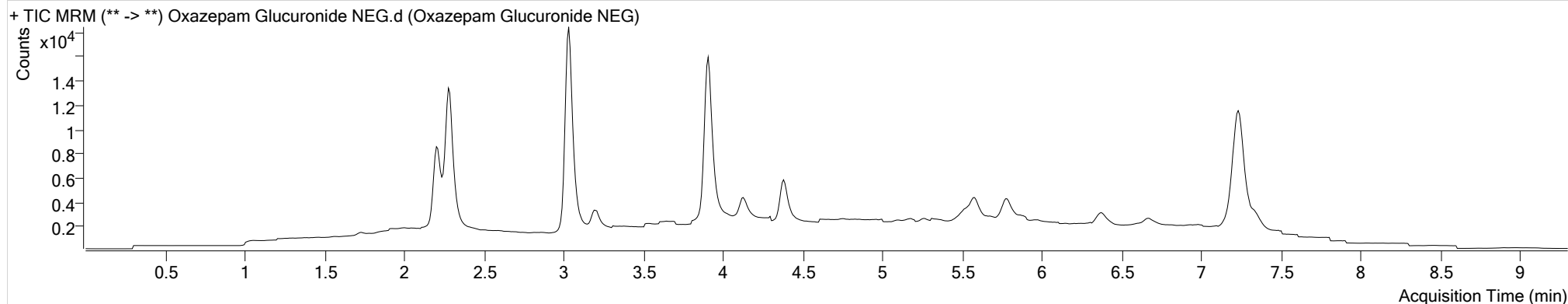


Batch results D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin
Calibration Last Update 8/13/2019 12:37:28 PM

Instrument Falco
Type Sample
Acq. Method Benzos_Z_Drugs 053019 FINAL-5ul.m
Sample Position P5-A8
Injection Volume 5
Acq. Date-Time 8/9/2019 12:10:23 PM
Sample Info.

Data File Oxazepam Glucuronide NEG.d
Sample Oxazepam Glucuronide NEG
Comment Worklist 3601

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
Oxazepam	5.530	2100	13.28	39.9	4.72	455	182.1342 ng/ml

AM #13 Benzodiazepines and Z-Drugs

**Batch results**

D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin

Calibration Last Update

8/13/2019 12:37:28 PM

Instrument

Falco

Data File

Oxazepam Glucuronide POS.d

Type

Sample

Sample

Oxazepam Glucuronide POS

Acq. Method

Benzos_Z_Drugs 053019 FINAL-5ul.m

Comment

Worklist 3601

Sample Position

P5-A9

Injection Volume

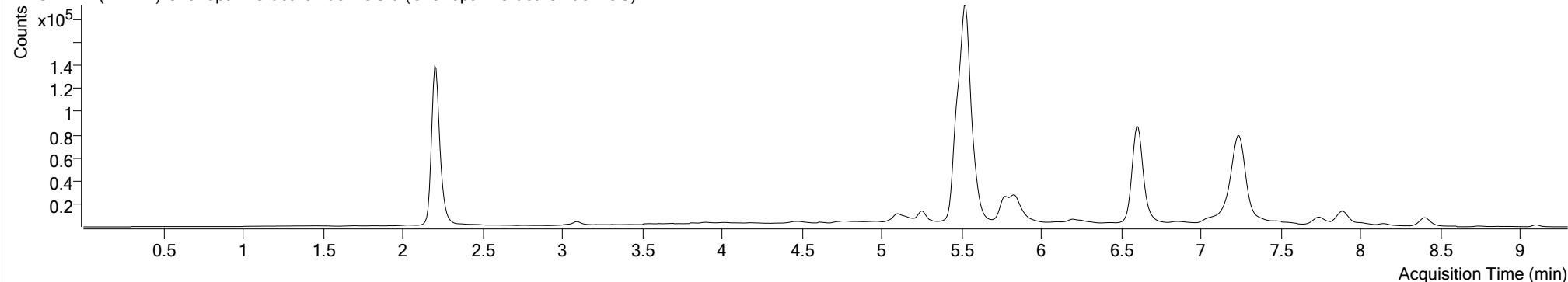
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Acq. Date-Time

8/9/2019 12:22:53 PM

Sample Info.**Sample Chromatogram**

+ TIC MRM (** -> **) Oxazepam Glucuronide POS.d (Oxazepam Glucuronide POS)



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
Oxazepam	5.530	509930	∞	41.2	2689.82	104158	193.0654 ng/ml

AM #13 Benzodiazepines and Z-Drugs



Batch results

D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin

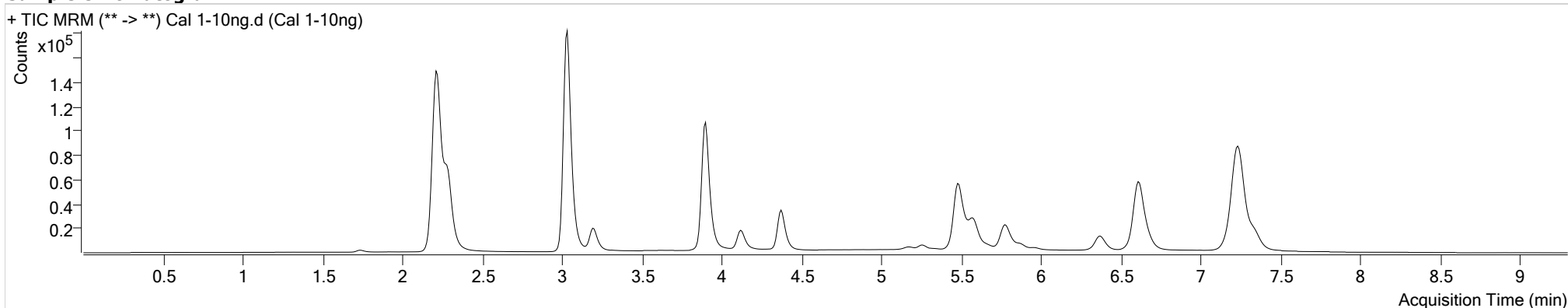
Calibration Last Update

8/13/2019 12:37:28 PM

Instrument Type Falco
Acq. Method Benzos_Z_Drugs 053019 FINAL-5ul.m
Sample Position P5-A1
Injection Volume 5
Acq. Date-Time 8/9/2019 10:30:23 AM
Sample Info.

Data File Cal 1-10ng.d
Sample Cal 1-10ng
Comment Worklist 3601

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
7-Aminoclonazepam	1.737	4159	289.26	38.6	105.13	513491	8.0691 ng/ml
Alpha-Hydroxyalprazolam	5.290	736	13.88	97.0	32.80	15066	10.0428 ng/ml
Alpha-hydroxytriazolam	5.339	2375	128.65	49.0	31.54	57287	10.1793 ng/ml
Alprazolam	5.959	6542	79.25	26.5	25.71	15066	10.0629 ng/ml
Clonazepam	5.814	5618	251.72	39.5	108.22	59316	9.4539 ng/ml
Diazepam	7.335	47414	1389.40	40.6	678.35	298320	8.4774 ng/ml
Flunitrazepam	6.371	36585	1226.90	41.5	409.98	59316	8.4145 ng/ml
Lorazepam	5.873	4382	141.17	95.0	231.56	57287	9.4465 ng/ml
Midazolam	4.117	48487	1732.03	20.8	459.51	59316	9.9534 ng/ml
Nitrazepam	5.168	5162	226.18	47.9	213.93	59316	9.6367 ng/ml
Oxazepam	5.522	18085	679.97	41.2	213.24	69782	9.3557 ng/ml
Quetiapine	3.896	262328	4982.33	45.3	6483.82	203521	9.9150 ng/ml
Temazepam	6.668	19992	679.01			203521	9.5221 ng/ml
Zolpidem	3.033	471910	36487.78	36.8	5071.32	57287	9.8811 ng/ml
Zopiclone	2.283	74534	2723.58	61.8	2813.82	57287	8.6732 ng/ml

AM #13 Benzodiazepines and Z-Drugs



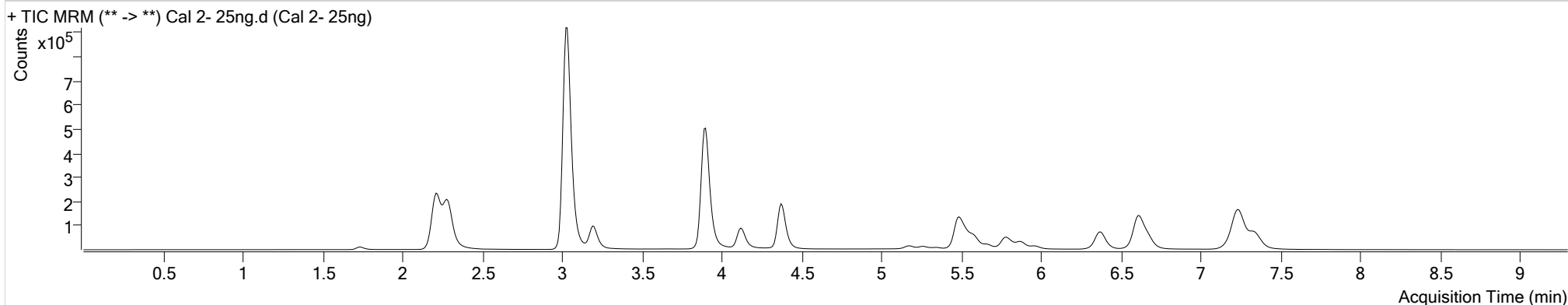
Batch results
Calibration Last Update

D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin
8/13/2019 12:37:28 PM

Instrument Falco
Type Cal
Acq. Method Benzos_Z_Drugs 053019 FINAL-5ul.m
Sample Position P5-A2
Injection Volume 5
Acq. Date-Time 8/9/2019 10:42:53 AM
Sample Info.

Data File Cal 2- 25ng.d
Sample Cal 2- 25ng
Comment Worklist 3601

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
7-Aminoclonazepam	1.737	29697	1482.98	35.1	685.57	864496	29.5216 ng/ml
Alpha-Hydroxyalprazolam	5.298	6837	31.75	83.5	133.72	38539	25.3667 ng/ml
Alpha-hydroxytriazolam	5.348	16465	424.02	48.5	893.09	115508	27.0889 ng/ml
Alprazolam	5.959	44087	2073.37	28.2	138.60	38539	24.2669 ng/ml
Chlordiazepoxide	3.193	259141	11068.65	32.4	4298.22	115508	21.1821 ng/ml
Clonazepam	5.814	34250	1288.61	41.5	589.68	133164	27.4994 ng/ml
Diazepam	7.335	252590	4920.48	40.3	1609.58	581401	29.1112 ng/ml
Flunitrazepam	6.371	230666	2422.07	42.2	876.35	133164	27.2123 ng/ml
Lorazepam	5.873	28745	800.17	102.2	1480.59	115508	27.6835 ng/ml
Midazolam	4.117	272719	∞	22.4	1252.49	133164	25.6464 ng/ml
Nitrazepam	5.177	32492	1360.52	51.6	683.18	133164	25.9964 ng/ml
Nordiazepam	5.667	40925	916.98	58.6	1255.70	115508	22.0600 ng/ml
Oxazepam	5.530	118398	2375.61	40.2	708.00	165502	27.4321 ng/ml
Quetiapine	3.896	1373536	32512.59	45.0	49644.53	495828	26.2413 ng/ml
Temazepam	6.668	138656	2112.13	33.9	1038.44	495828	27.2715 ng/ml
Zolpidem	3.024	2604279	290124.80	36.3	29904.80	115508	26.6523 ng/ml
Zopiclone	2.292	225785	3704.01	62.5	4382.80	115508	28.6005 ng/ml

AM #13 Benzodiazepines and Z-Drugs



Batch results

D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin

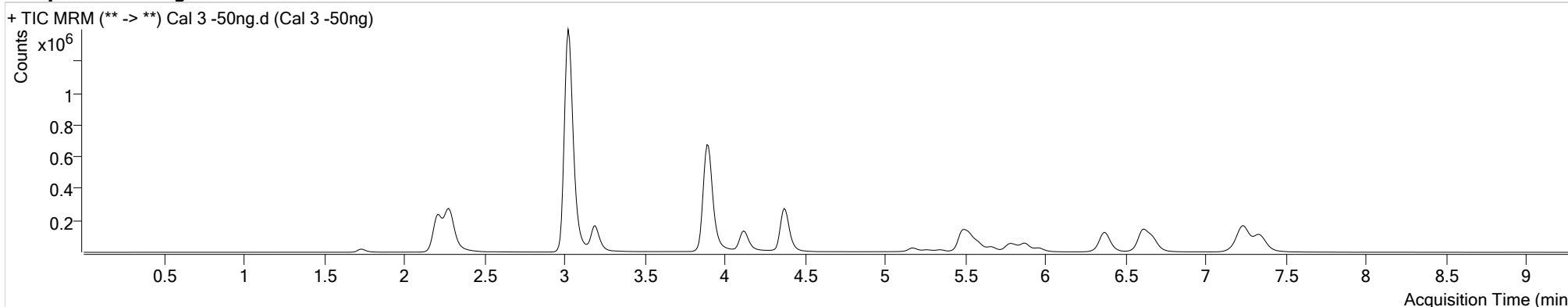
Calibration Last Update

8/13/2019 12:37:28 PM

Instrument Type Falco
Acq. Method Benzos_Z_Drugs 053019 FINAL-5ul.m
Sample Position P5-A3
Injection Volume 5
Acq. Date-Time 8/9/2019 10:55:23 AM
Sample Info.

Data File Cal 3 -50ng.d
Sample Cal 3 -50ng
Comment Worklist 3601

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
7-Aminoclonazepam	1.737	54189	3248.59	34.7	1098.94	845643	53.8132 ng/ml
7-Aminoflunitrazepam	2.274	480477	12078.98	35.3	4664.65	845643	17.9512 ng/ml
Alpha-Hydroxyalprazolam	5.298	12688	384.92	90.9	409.86	36635	45.4981 ng/ml
Alpha-hydroxytriazolam	5.348	30592	1187.88	50.2	853.09	114836	47.8084 ng/ml
Alprazolam	5.959	88609	141.16	28.0	1069.51	36635	49.7778 ng/ml
Chlordiazepoxide	3.193	439513	13888.26	32.2	7018.60	114836	49.8883 ng/ml
Clonazepam	5.814	60984	1652.32	40.8	938.89	125861	52.7445 ng/ml
Diazepam	7.335	419802	3861.69	40.4	2552.16	573758	51.3704 ng/ml
Flunitrazepam	6.371	398765	4252.20	42.7	2481.52	125861	51.4146 ng/ml
Lorazepam	5.873	53030	1124.78	99.1	1645.31	114836	50.2140 ng/ml
Midazolam	4.117	439222	∞	23.1	1658.98	125861	48.0818 ng/ml
Nitrazepam	5.177	63530	3732.31	49.7	1610.88	125861	53.1718 ng/ml
Nordiazepam	5.667	74913	1791.53	55.2	654.67	114836	51.6956 ng/ml
Oxazepam	5.530	219241	4101.55	40.6	1579.40	160598	53.1770 ng/ml
Quetiapine	3.887	2004772	91637.89	45.7	16418.80	482605	45.9526 ng/ml
Temazepam	6.668	257138	6636.85	33.5	1517.73	482605	52.0412 ng/ml
Zolpidem	3.024	4112137	226540.63	36.5	141997.94	114836	45.2488 ng/ml
Zopiclone	2.292	309372	26566.01	63.2	5138.07	114836	51.1397 ng/ml

Cal 3 -50ng

AM #13 Benzodiazepines and Z-Drugs



Batch results

D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin

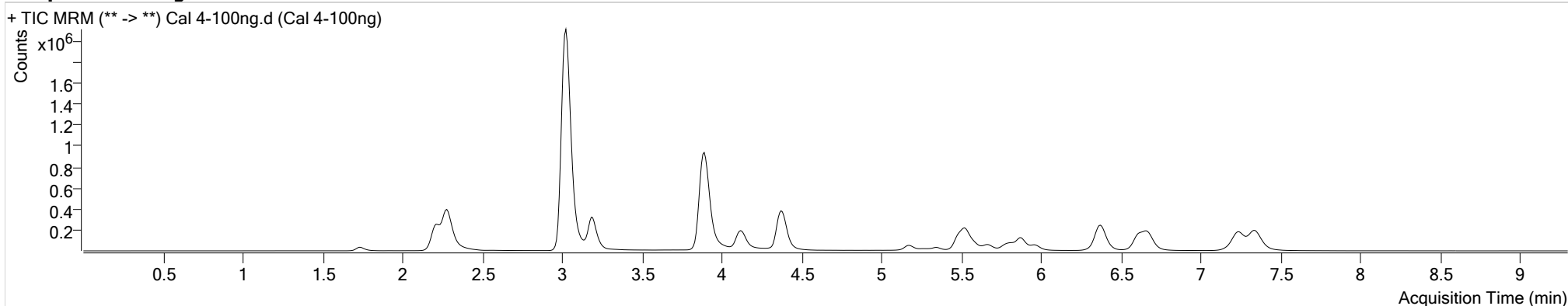
Calibration Last Update

8/13/2019 12:37:28 PM

Instrument Type Falco
Acq. Method Benzos_Z_Drugs 053019 FINAL-5ul.m
Sample Position P5-A4
Injection Volume 5
Acq. Date-Time 8/9/2019 11:07:53 AM
Sample Info.

Data File Cal 4-100ng.d
Sample Cal 4-100ng
Comment Worklist 3601

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
7-Aminoclonazepam	1.737	97190	5778.28	35.7	2169.07	861881	93.5961 ng/ml
7-Aminoflunitrazepam	2.274	762182	4209.50	35.0	3190.19	861881	110.7258 ng/ml
Alpha-Hydroxyalprazolam	5.298	27921	991.30	92.4	468.20	32050	108.0454 ng/ml
Alpha-hydroxytriazolam	5.348	67635	1904.84	53.3	1860.65	112710	103.6310 ng/ml
Alprazolam	5.959	169520	3285.24	34.2	329.33	32050	107.2259 ng/ml
Chlordiazepoxide	3.193	853662	39167.25	32.1	9505.99	112710	117.7956 ng/ml
Clonazepam	5.814	122680	3359.47	41.2	1516.59	127640	105.6718 ng/ml
Diazepam	7.343	800499	6362.52	40.6	∞	602721	96.0411 ng/ml
Flunitrazepam	6.371	815780	12496.87	41.9	∞	127640	105.7305 ng/ml
Flurazepam	4.368	1333906	∞	29.5	10407.23	602721	82.2517 ng/ml
Lorazepam	5.873	119072	1958.66	98.8	2771.87	112710	113.1337 ng/ml
Midazolam	4.117	696411	∞	23.6	∞	127640	103.9401 ng/ml
Nitrazepam	5.177	132709	2911.58	50.0	883.88	127640	108.9231 ng/ml
Nordiazepam	5.667	144946	2194.13	55.8	1039.29	112710	114.7048 ng/ml
Oxazepam	5.530	487739	9461.06	40.7	4253.76	169271	113.2546 ng/ml
Temazepam	6.668	558124	5560.37	34.1	3029.17	519407	105.0435 ng/ml
Zolpidem	3.024	6842397	373924.77	36.4	152749.08	112710	110.6617 ng/ml
Zopiclone	2.283	471664	29004.38	62.9	1513.80	112710	96.5866 ng/ml

Cal 4-100ng

AM #13 Benzodiazepines and Z-Drugs



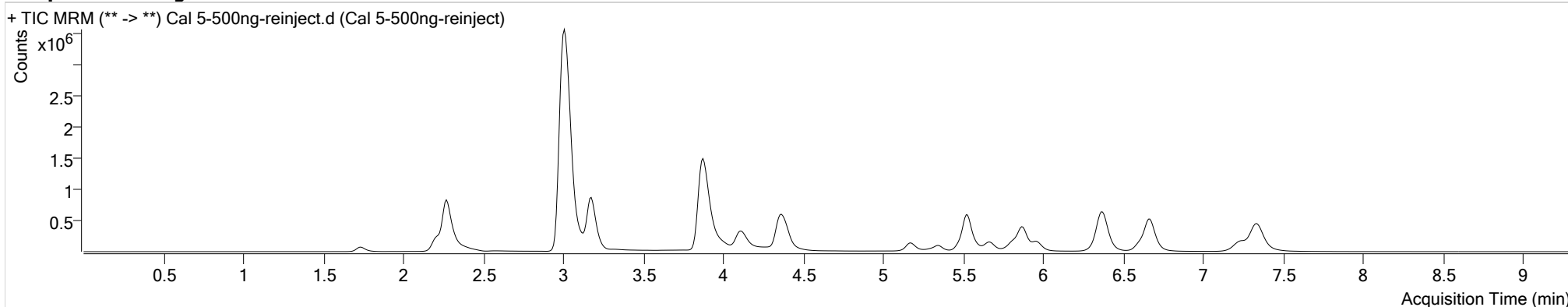
Batch results
Calibration Last Update

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8/13/2019 12:37:28 PM

Instrument Type Falco
Acq. Method Benzos_Z_Drugs 053019 FINAL-5ul.m
Sample Position P5-A5
Injection Volume 5
Acq. Date-Time 8/9/2019 12:35:22 PM
Sample Info.

Data File Cal 5-500ng-reinject.d
Sample Cal 5-500ng-reinject
Comment Worklist 3601

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
7-Aminoclonazepam	1.737	219237	4075.36	36.0	1949.44	703006	256.2804 ng/ml
7-Aminoflunitrazepam	2.274	1511593	∞	35.2	∞	703006	482.1997 ng/ml
Alpha-Hydroxyalprazolam	5.298	96566	1425.25	86.1	∞	23434	495.3167 ng/ml
Alpha-hydroxytriazolam	5.339	216728	6598.72	55.9	5013.57	86603	421.8950 ng/ml
Alprazolam	5.959	557641	∞	29.8	3910.34	23434	477.6100 ng/ml
Chlordiazepoxide	3.176	2348337	47380.67	32.5	93765.16	86603	471.9911 ng/ml
Clonazepam	5.814	326141	2896.41	42.1	6082.37	75774	476.9133 ng/ml
Diazepam	7.335	2045002	∞	40.1	∞	484106	312.9380 ng/ml
Flunitrazepam	6.363	2222073	6540.87	42.2	3546.87	75774	492.2280 ng/ml
Flurazepam	4.359	2478474	∞	27.6	3410.90	484106	566.9599 ng/ml
Lorazepam	5.864	384219	4429.90	102.4	8792.56	86603	470.7785 ng/ml
Nitrazepam	5.177	375384	3557.93	50.1	2041.18	75774	516.8579 ng/ml
Nordiazepam	5.667	411048	1762.36	55.4	1697.34	86603	458.7845 ng/ml
Oxazepam	5.530	1644801	26395.41	40.9	73803.51	123605	526.3348 ng/ml
Temazepam	6.668	1879772	22049.88	34.1	164457.56	383844	479.0513 ng/ml
Zopiclone	2.267	1138719	79453.31	64.0	72642.71	86603	369.8662 ng/ml

AM #13 Benzodiazepines and Z-Drugs



Batch results

D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin

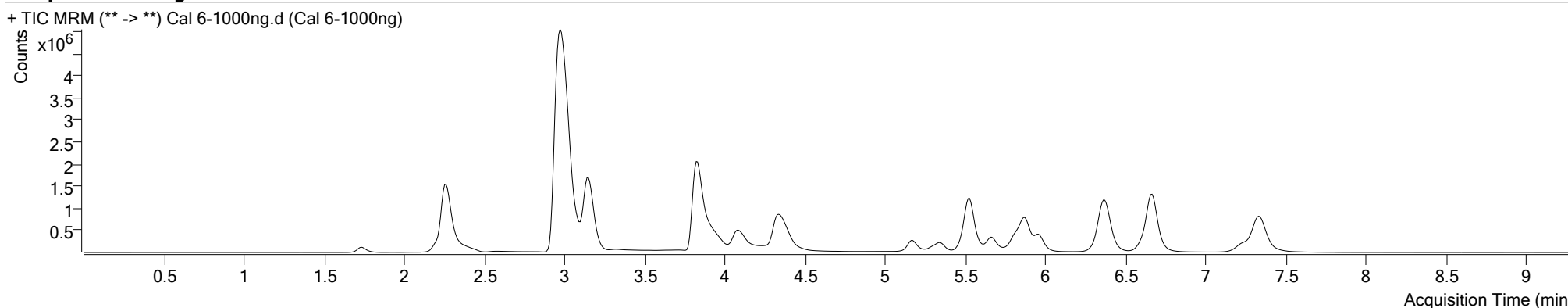
Calibration Last Update

8/13/2019 12:37:28 PM

Instrument Type Falco
Acq. Method Benzos_Z_Drugs 053019 FINAL-5ul.m
Sample Position P5-A6
Injection Volume 5
Acq. Date-Time 8/9/2019 11:32:53 AM
Sample Info.

Data File Cal 6-1000ng.d
Sample Cal 6-1000ng
Comment Worklist 3601

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
7-Aminoclonazepam	1.737	353688	13317.56	36.9	2284.60	715120	405.5952 ng/ml
7-Aminoflunitrazepam	2.274	2528910	∞	36.0	1140.01	715120	888.9762 ng/ml
Alpha-Hydroxyalprazolam	5.298	183682	8094.60	101.5	3038.11	44683	494.1187 ng/ml
Alpha-hydroxytriazolam	5.339	537340	10537.34	56.0	6240.11	85374	1056.1626 ng/ml
Alprazolam	5.959	1171684	∞	31.3	6009.87	44683	526.1531 ng/ml
Chlordiazepoxide	3.151	5002084	242932.55	31.8	14151.94	85374	1042.4485 ng/ml
Clonazepam	5.814	736073	8537.45	43.2	6421.81	91817	889.1964 ng/ml
Diazepam	7.335	3862063	∞	40.8	11813.34	535459	536.7395 ng/ml
Flunitrazepam	6.363	4382743	∞	42.2	12524.87	91817	802.4565 ng/ml
Flurazepam	4.334	4420644	∞	28.0	58291.59	535459	1089.9504 ng/ml
Lorazepam	5.873	808759	52365.26	103.5	29712.44	85374	1003.6907 ng/ml
Nitrazepam	5.168	713205	11299.17	49.1	5842.06	91817	810.0876 ng/ml
Nordiazepam	5.667	882544	3025.11	55.7	6104.95	85374	1014.7288 ng/ml
Oxazepam	5.530	3786301	14358.94	41.4	21384.00	163583	916.1820 ng/ml
Temazepam	6.668	5015310	131310.78	34.4	∞	540615	907.5688 ng/ml
Zopiclone	2.250	2595662	114372.25	63.4	120485.55	85374	895.8989 ng/ml

AM #13 Benzodiazepines and Z-Drugs



Batch results

D:\MassHunter\Data\2019\AM 13\AM 13 worklist 3601 CS\QuantResults\am 13 worklist 3601.batch.bin

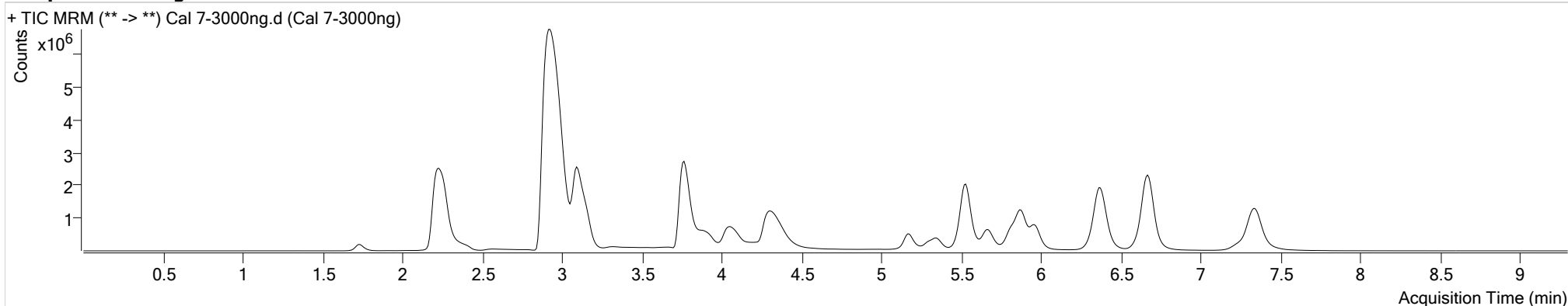
Calibration Last Update

8/13/2019 12:37:28 PM

Instrument Falco
Type Cal
Acq. Method Benzos_Z_Drugs 053019 FINAL-5ul.m
Sample Position P5-A7
Injection Volume 5
Acq. Date-Time 8/9/2019 11:45:23 AM
Sample Info.

Data File Cal 7-3000ng.d
Sample Cal 7-3000ng
Comment Worklist 3601

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
7-Aminoclonazepam	1.737	560313	18011.62	37.2	7666.57	379760	1207.0871 ng/ml
7-Aminoflunitrazepam	2.266	4227656	∞	36.6	∞	379760	3118.0983 ng/ml
Alpha-Hydroxyalprazolam	5.290	364308	3654.13	102.1	13654.35	38067	1144.7354 ng/ml
Alpha-hydroxytriazolam	5.339	967207	∞	58.8	∞	53667	3018.2348 ng/ml
Alprazolam	5.959	2279925	∞	31.0	183.72	38067	1199.9942 ng/ml
Chlordiazepoxide	3.101	8856788	∞	32.0	80202.02	53667	2971.6944 ng/ml
Clonazepam	5.806	1334730	4654.65	43.3	9345.76	63853	2320.2310 ng/ml
Diazepam	7.335	6506285	∞	40.4	∞	396183	1226.4779 ng/ml
Flunitrazepam	6.363	7372674	10348.22	42.7	∞	63853	1943.8814 ng/ml
Flurazepam	4.300	7477917	∞	27.6	∞	396183	2860.8380 ng/ml
Lorazepam	5.873	1318776	16257.62	104.3	51027.28	53667	2601.4370 ng/ml
Nitrazepam	5.168	1220043	7747.27	50.5	8435.76	63853	1991.8349 ng/ml
Nordiazepam	5.667	1633286	∞	55.9	∞	53667	3013.0263 ng/ml
Oxazepam	5.530	6866160	62911.16	40.5	22953.58	113000	2406.6323 ng/ml
Temazepam	6.668	9772634	∞	33.7	83133.92	424556	2252.0210 ng/ml
Zopiclone	2.216	6349388	368321.20	63.3	149369.13	53667	3575.9008 ng/ml

Idaho State Police
Forensic Services
Toxicology Discipline

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Request for Departure from an Analytical Method

Date of Request

08/20/2019

Forensic Scientist

Celena Shrum

Analytical Method

Toxicology AM #13: LCMS-QQQ Confirmation of Benzodiazepines and Z Drugs in Blood and Urine

Request

I am requesting a deviation to use this batch without the glucuronide negative control. There was a problem with the injection and the ISTD responses were very low. I tried to reinject the sample but there was no ISTD in the reinjections (it is likely that the vial or insert broke). The positive glucuronide control worked and the glucuronide and glucuronidase lots were the same as those used in previous batches and have shown to work.

Discipline Leader Review

Departure approved

Comments: This is a minor deviation.

Departure Not Approved

Comments:



Rachel Cutler
Pocatello Laboratory Manager

Date:8/20/19