



«Tit» «Name» «Fam_Nam»
«Organization»
«Address1»
«Address_2»
«PO_Box» «City». «Country»

Sevilla. January. 2020

Proficiency Test 2019-2

Laboratory Code: «**Lab_code**»

Dear participants,

Enclosed you will find the report of the Proficiency Test 2019-2 on Drugs of Abuse in Hair, organized by the Society of Hair Testing.

Each of the participating laboratories received an identifying code. Your particular code is «**Lab_code**».

Sets of three samples were sent to sixty-eight participating laboratories. Sixty-four of them have sent the report forms back.

Sample contents were as follows:

- * Sample A contained opiates (6-MAM, morphine and codeine), cocaine (cocaine, BE, norcocaine and cocaethylene) and cannabis (THC, CBD, CBN and THC-COOH). It also contained dihydrocodeine, amphetamine compounds (very low concentrations of amphetamine, methamphetamine and MDMA), methadone, tramadol and low concentrations of diazepam and nordazepam.
- * Sample B contained opiates (6-MAM and low concentrations of morphine and codeine), cocaine (cocaine, BE and low concentrations of norcocaine and cocaethylene), amphetamine compounds (MDMA and low concentrations of amphetamine and methamphetamine), cannabis (THC, CBD, CBN and THC-COOH). It also contained dihydrocodeine and low concentrations of methadone, EDDP, tramadol, diazepam and nordazepam.
- * Sample C is a drug free sample.

Z-score

Z-score has been calculated based on robust estimators (median instead of mean and interquartile instead of standard deviation).

Z-score has been calculated as follows:

$$Z\text{-score} = (x - \chi) / IQR$$

Where:

x: Concentration reported by the participant

χ : Median concentration obtained from the participating laboratories

IQR: Interquartile range: It is calculated as: Q3-Q1 (the upper quartile minus the lower quartile)

Q3: Third quartile (percentile 75)

Q1: First quartile (percentile 25)

Decision criteria

The following criteria have been adopted:

Satisfactory results: $Z\text{-score} \leq \pm 2$

Questionable results: $\pm 2 < Z\text{-score} \leq \pm 3$

Unsatisfactory results: $Z\text{-score} \geq \pm 3$

Yours faithfully.

Carmen Jurado

QUALITATIVE RESULTS

Laboratory Code: **Lab**

Sample A				Sample B				Sample C			
Substances	A	T	F	Substances	A	T	F	Substances	A	T	F
MAM		P		MAM		P		Drugs		N	
Morphine		P		Morphine ¹		P					
Codeine		P		Cocaine		P					
Cocaine		P		BE		P					
BE		P		Amphetamine ²		P					
THC		P		Methamphetamine ³		P					
THC-COOH		P		MDMA		P					
Methadone		P		THC		P					
Tramadol		P		THC-COOH		P					
Diazepam		P		Methadone ⁴		P					
Nordazepam		P		Tramadol		P					

1. The median concentration of Morphine in Sample B is 0.13 ng/mg, which is lower than the cut-off proposed by SoHT (0.2 ng/mg).
2. The median concentration of Amphetamine in Sample B is 0.11 ng/mg, which is lower than the cut-off proposed by SoHT (0.2 ng/mg).
3. The median concentration of Methamphetamine in Sample B is 0.17 ng/mg, which is lower than the cut-off proposed by SoHT (0.2 ng/mg).
4. The median concentration of Methadone in Sample B is 0.14 ng/mg, which is lower than the cut-off proposed by SoHT (0.2 ng/mg).

A: Your answer

P: Positive

NR: Not reported

FN: False Negative

T: True answer

N: Negative

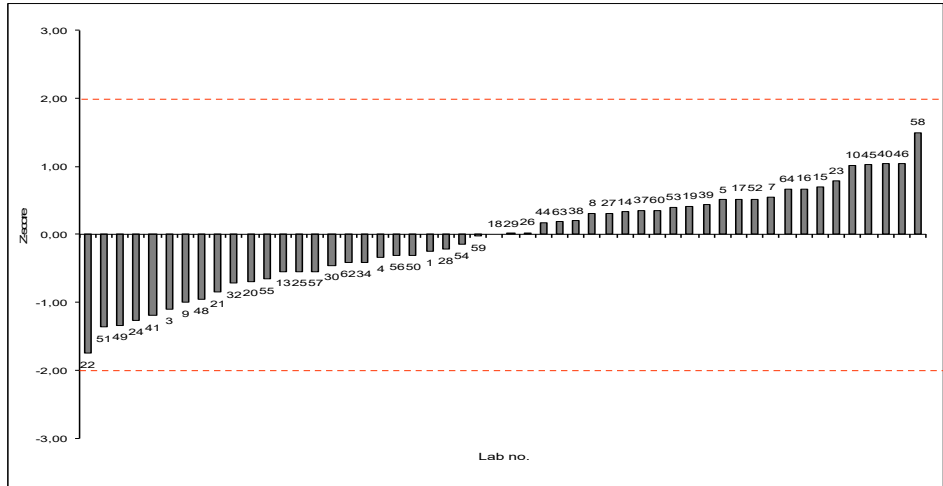
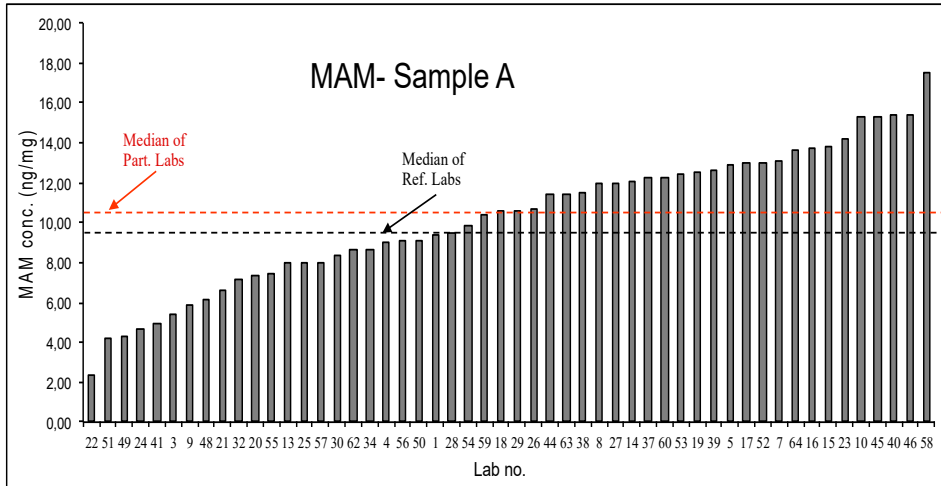
NA: Not analyzed

FP: False Positive

F: False answer

Comments:

- Sample A contains Dihydrocodeine, Norcocaine (0.09 ng/mg, median conc.), Cocaethylene (0.03 ng/mg, median conc.) and low concentrations of Amphetamine (0.07 ng/mg, median conc.), Methamphetamine (0.06 ng/mg, median conc.), MDMA (0.04 ng/mg, median conc.) and EDDP (0.09 ng/mg, median conc.).
- Sample B contains Dihydrocodeine, Norcocaine (0.02 ng/mg, median conc.), Cocaethylene (0.02 ng/mg, median conc.) and low concentrations of Codeine (0.04 ng/mg, median conc.), EDDP (0.02 ng/mg, median conc.), Diazepam (0.01 ng/mg, median conc.) and Nordazepam (0.006 ng/mg, median conc.).
- Sample C is a drug free sample.

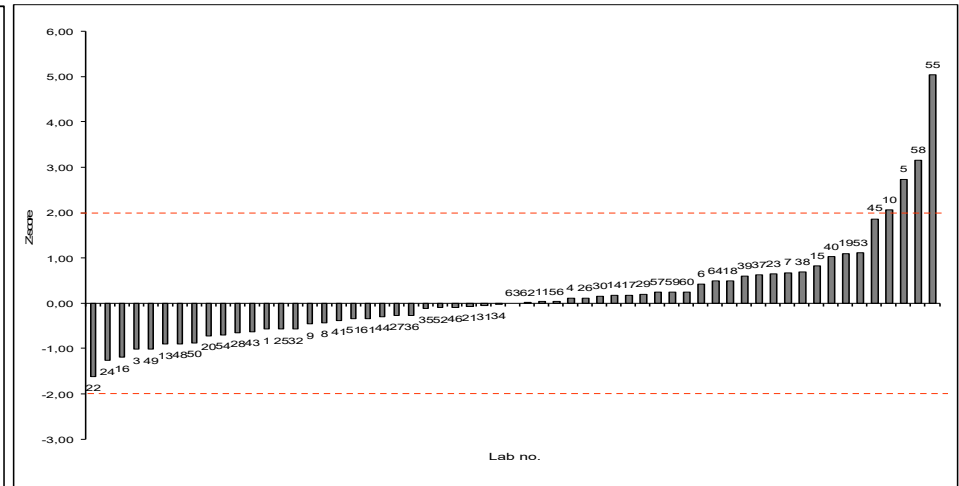
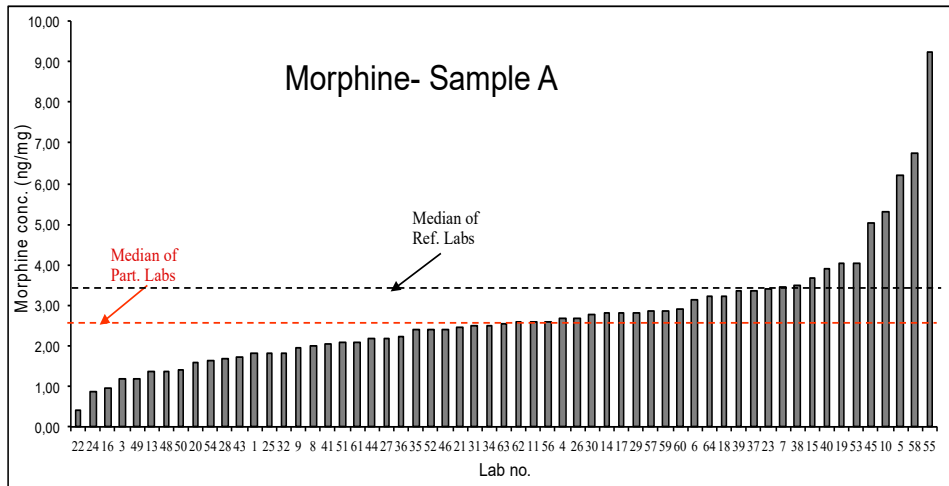


Lab	MAM (ng/mg)	Z-score
1	9.40	-0.25
2	>2.50	
3	5.40	-1.10
4	9.00	-0.33
5	12.93	0.51
6	>5.00	
7	13.11	0.55
8	12.00	0.31
9	5.87	-1.00
10	15.31	1.02
11	>10.00	
13	8.00	-0.54
14	12.10	0.33
15	13.82	0.70
16	13.70	0.67
17	13.00	0.52
18	10.55	0.00
19	12.48	0.41
20	7.32	-0.69
21	6.57	-0.85
22	2.36	-1.75
23	14.20	0.78
24	4.64	-1.26
25	8.00	-0.54
26	10.68	0.03
27	12.00	0.31

Lab	MAM (ng/mg)	Z-score
28	9.50	-0.22
29	10.56	0.00
30	8.40	-0.46
31	>3	
32	7.20	-0.72
34	8.65	-0.41
35	P	
36	>2.00	
37	12.20	0.35
38	11.50	0.20
39	12.60	0.44
40	15.40	1.04
41	4.95	-1.20
43	>5.00	
44	11.37	0.18
45	15.33	1.02
46	15.40	1.04
48	6.11	-0.95
49	4.30	-1.34
50	9.10	-0.31
51	4.20	-1.36
52	13.00	0.52
53	12.40	0.40
54	9.87	-0.15
55	7.48	-0.66
56	9.08	-0.31

Lab	MAM (ng/mg)	Z-score
57	8.00	-0.54
58	17.55	1.50
59	10.43	-0.03
60	12.20	0.35
62	8.62	-0.41
63	11.40	0.18
64	13.65	0.66

Average	10.25
SD	3.39
CV%	33.13
Median	10.55
Minimum	2.36
Quartile 25	8.00
Quartile 75	12.68
Maximum	17.55
Iqr	4.68

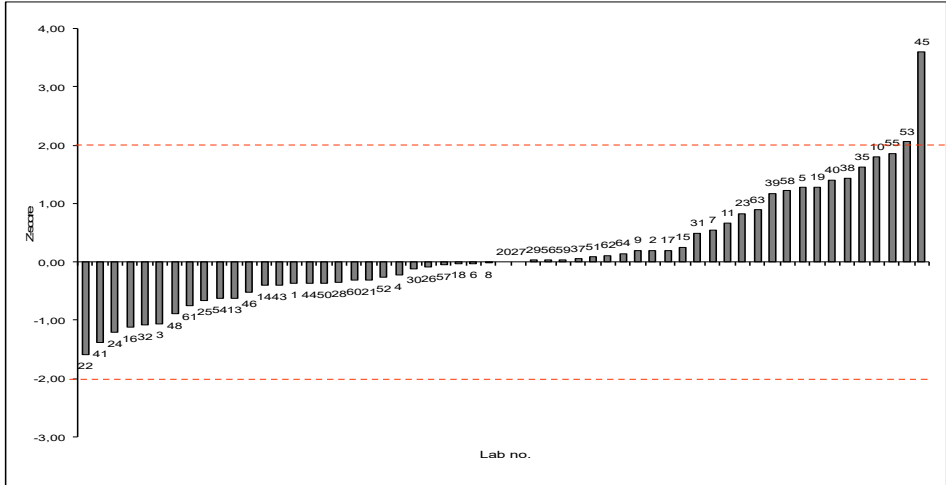
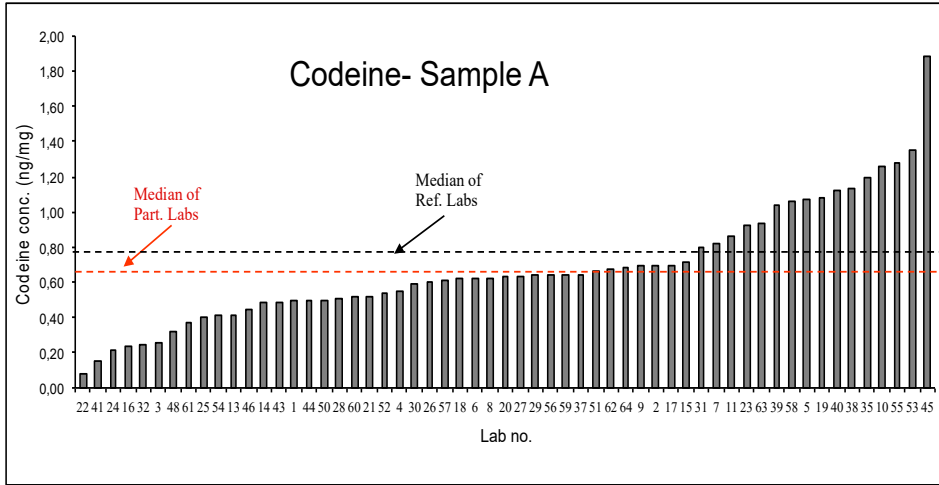


Lab	Morphine (ng/mg)	Z-score
1	1.80	-0.57
2	>2.50	
3	1.20	-1.02
4	2.70	0.11
5	6.20	2.73
6	3.12	0.42
7	3.46	0.68
8	2.00	-0.42
9	1.95	-0.46
10	5.29	2.05
11	2.60	0.03
13	1.35	-0.91
14	2.80	0.18
15	3.66	0.82
16	0.97	-1.20
17	2.80	0.18
18	3.21	0.49
19	4.02	1.10
20	1.61	-0.71
21	2.46	-0.07
22	0.41	-1.62
23	3.42	0.65
24	0.87	-1.27
25	1.80	-0.57
26	2.70	0.11
27	2.20	-0.27

Lab	Morphine (ng/mg)	Z-score
28	1.70	-0.65
29	2.83	0.20
30	2.76	0.15
31	2.50	-0.05
32	1.80	-0.57
34	2.52	-0.03
35	2.40	-0.12
36	2.21	-0.26
37	3.38	0.62
38	3.48	0.69
39	3.36	0.60
40	3.92	1.02
41	2.06	-0.38
43	1.73	-0.62
44	2.17	-0.29
45	5.04	1.86
46	2.43	-0.10
48	1.37	-0.89
49	1.20	-1.02
50	1.40	-0.87
51	2.10	-0.35
52	2.42	-0.11
53	4.04	1.11
54	1.63	-0.70
55	9.26	5.04
56	2.60	0.03

Lab	Morphine (ng/mg)	Z-score
57	2.88	0.24
58	6.77	3.17
59	2.88	0.24
60	2.89	0.25
61	2.10	-0.35
62	2.57	0.01
63	2.56	0.00
64	3.20	0.48

Average	2.76
SD	1.45
CV%	52.68
Median	2.56
Minimum	0.41
Quartile 25	1.88
Quartile 75	3.21
Maximum	9.26
Iqr	1.33



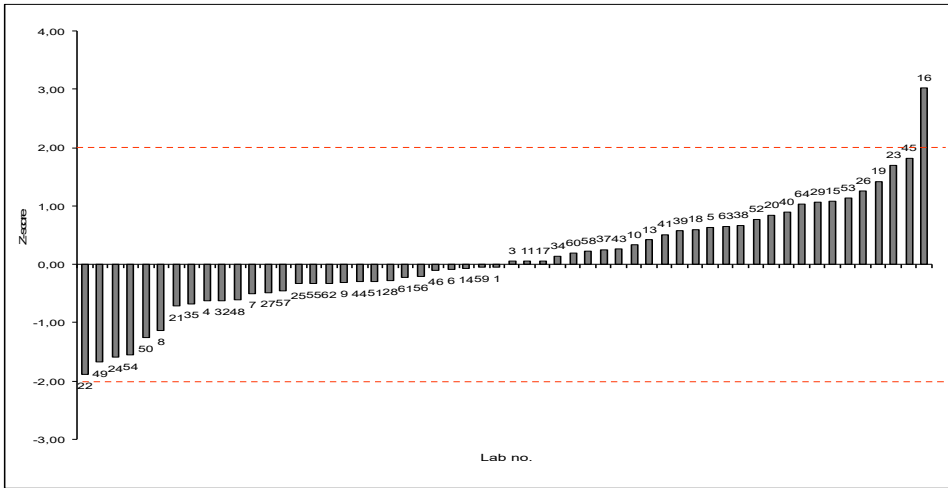
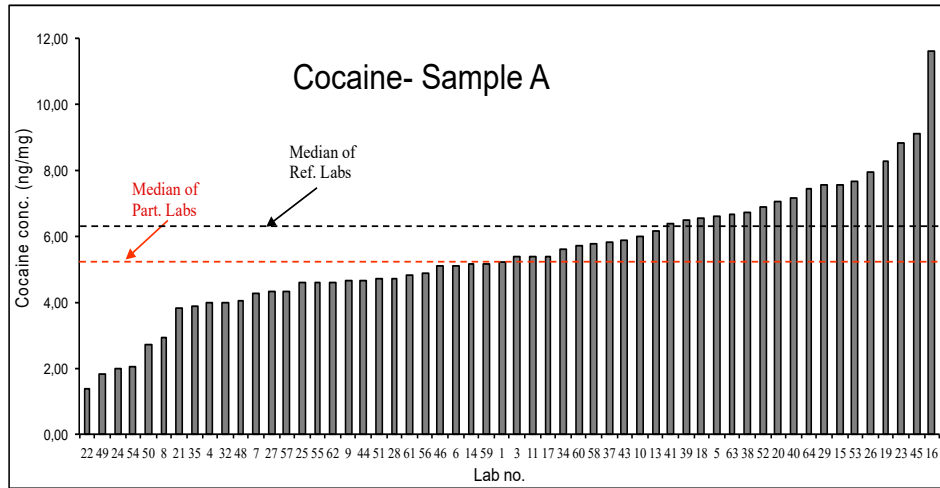
Lab	Codeine (ng/mg)	Z-score
1	0.50	-0.37
2	0.70	0.20
3	0.26	-1.06
4	0.55	-0.23
5	1.08	1.27
6	0.62	-0.03
7	0.82	0.55
8	0.63	-0.01
9	0.70	0.19
10	1.26	1.80
11	0.86	0.66
13	0.41	-0.62
14	0.49	-0.40
15	0.72	0.24
16	0.24	-1.11
17	0.70	0.20
18	0.62	-0.03
19	1.08	1.29
20	0.63	0.00
21	0.52	-0.31
22	0.08	-1.58
23	0.92	0.83
24	0.21	-1.20
25	0.40	-0.66
26	0.60	-0.09
27	0.63	0.00

Lab	Codeine (ng/mg)	Z-score
28	0.51	-0.34
29	0.64	0.03
30	0.59	-0.11
31	0.80	0.49
32	0.25	-1.09
34	N	
35	1.20	1.63
36	128.20	**
37	0.65	0.05
38	1.13	1.43
39	1.04	1.17
40	1.12	1.40
41	0.15	-1.37
43	0.49	-0.40
44	0.50	-0.37
45	1.89	3.60
46	0.45	-0.52
48	0.32	-0.89
49	N	
50	0.50	-0.37
51	0.66	0.09
52	0.54	-0.26
53	1.35	2.06
54	0.41	-0.63
55	1.28	1.86
56	0.64	0.03

Lab	Codeine (ng/mg)	Z-score
57	0.61	-0.06
58	1.06	1.22
59	0.64	0.03
60	0.52	-0.31
61	0.37	-0.74
62	0.67	0.11
63	0.94	0.89
64	0.68	0.14

** Outlier. It has not been included in the statistical study

Average	0,68
SD	0,33
CV%	48,87
Median	0,63
Minimum	0,08
Quartile 25	0,50
Quartile 75	0,82
Maximum	1,89
Iqr	0,32

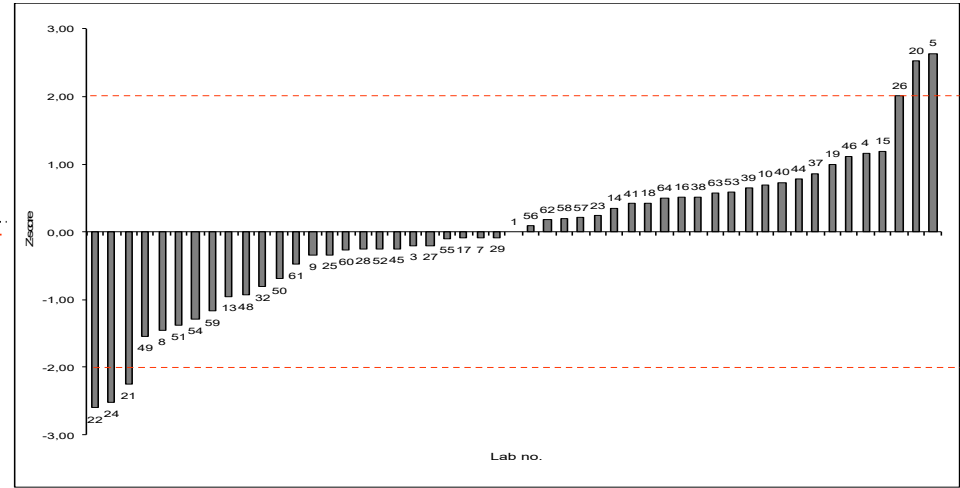
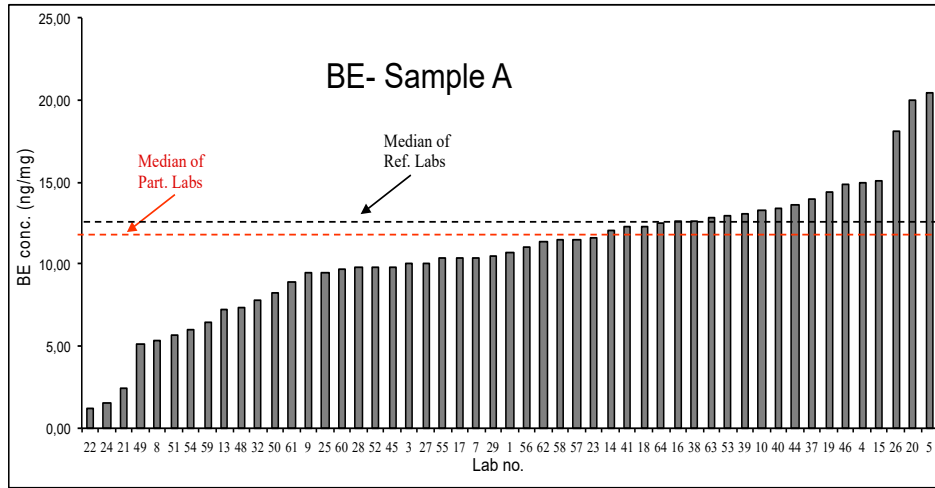


Lab	Cocaine (ng/mg)	Z-score
1	5.20	-0.05
2	>1.00	
3	5.40	0.05
4	4.00	-0.63
5	6.60	0.63
6	5.13	-0.08
7	4.26	-0.50
8	2.95	-1.13
9	4.66	-0.31
10	5.98	0.33
11	5.40	0.05
13	6.17	0.42
14	5.16	-0.07
15	7.56	1.09
16	11.60	3.03
17	5.40	0.05
18	6.55	0.60
19	8.25	1.42
20	7.05	0.84
21	3.81	-0.72
22	1.37	-1.89
23	8.82	1.69
24	1.98	-1.60
25	4.60	-0.34
26	7.92	1.26
27	4.30	-0.48

Lab	Cocaine (ng/mg)	Z-score
28	4.74	-0.27
29	7.53	1.07
31	>3.00	
32	4.00	-0.63
34	5.61	0.15
35	3.90	-0.67
36	>2.00	
37	5.83	0.25
38	6.69	0.67
39	6.50	0.58
40	7.17	0.90
41	6.36	0.51
43	5.86	0.27
44	4.67	-0.30
45	9.09	1.82
46	5.09	-0.10
48	4.02	-0.62
49	1.80	-1.68
50	2.70	-1.25
51	4.70	-0.29
52	6.91	0.77
53	7.65	1.13
54	2.06	-1.56
55	4.62	-0.33
56	4.87	-0.21
57	4.35	-0.46

Lab	Cocaine (ng/mg)	Z-score
58	5.78	0.23
59	5.19	-0.05
60	5.70	0.19
61	4.83	-0.23
62	4.63	-0.32
63	6.66	0.65
64	7.44	1.03

Average	5.48
SD	1.88
CV%	34.33
Median	5.30
Minimum	1.37
Quartile 25	4.54
Quartile 75	6.62
Maximum	11.60
Iqr	2.08

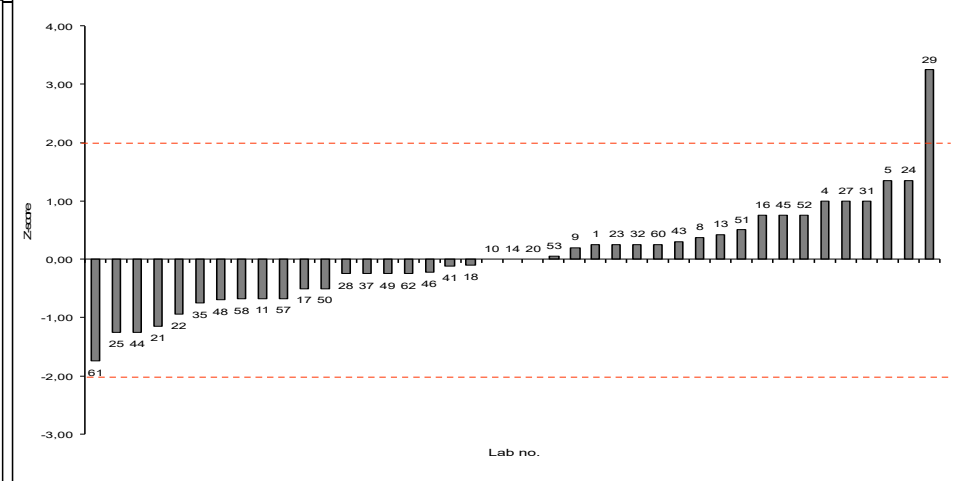
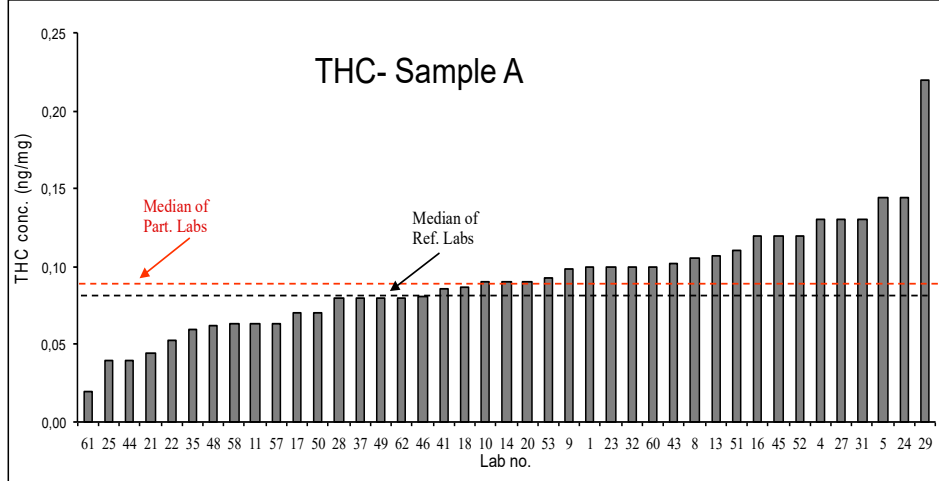


Lab	BE (ng/mg)	Z-score
1	10.74	0.00
2	>2.00	
3	10.00	-0.20
4	15.00	1.16
5	20.39	2.64
6	>5.00	
7	10.41	-0.09
8	5.40	-1.46
9	9.47	-0.35
10	13.30	0.70
11	>10.00	
13	7.24	-0.96
14	12.02	0.35
15	15.09	1.19
16	12.60	0.51
17	10.40	-0.09
18	12.28	0.42
19	14.40	1.00
20	19.95	2.52
21	2.48	-2.26
22	1.23	-2.60
23	11.60	0.23
24	1.53	-2.52
25	9.51	-0.34
26	18.10	2.01
27	10.00	-0.20

Lab	BE (ng/mg)	Z-score
28	9.80	-0.26
29	10.44	-0.08
31	>3.00	
32	7.80	-0.80
35	P	
36	>2.00	
37	13.90	0.86
38	12.60	0.51
39	13.10	0.64
40	13.40	0.73
41	12.26	0.42
43	>1.00	
44	13.58	0.78
45	9.82	-0.25
46	14.80	1.11
48	7.33	-0.93
49	5.10	-1.54
50	8.20	-0.69
51	5.70	-1.38
52	9.81	-0.25
53	12.90	0.59
54	6.00	-1.30
55	10.39	-0.10
56	11.06	0.09
57	11.49	0.20
58	11.47	0.20

Lab	BE (ng/mg)	Z-score
59	6.45	-1.17
60	9.76	-0.27
61	8.97	-0.48
62	11.40	0.18
63	12.85	0.58
64	12.55	0.49

Average	10.71
SD	3.92
CV%	36.64
Median	10.74
Minimum	1.23
Quartile 25	9.22
Quartile 75	12.88
Maximum	20.39
Iqr	3.66

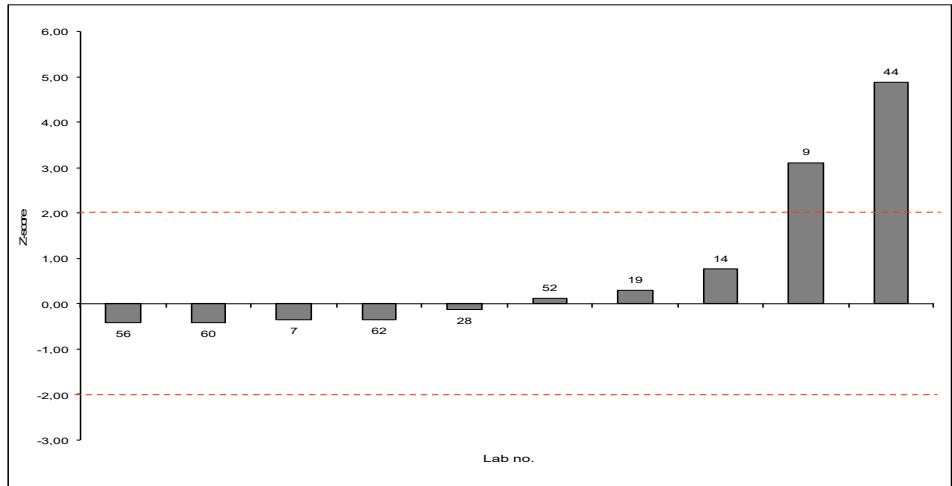
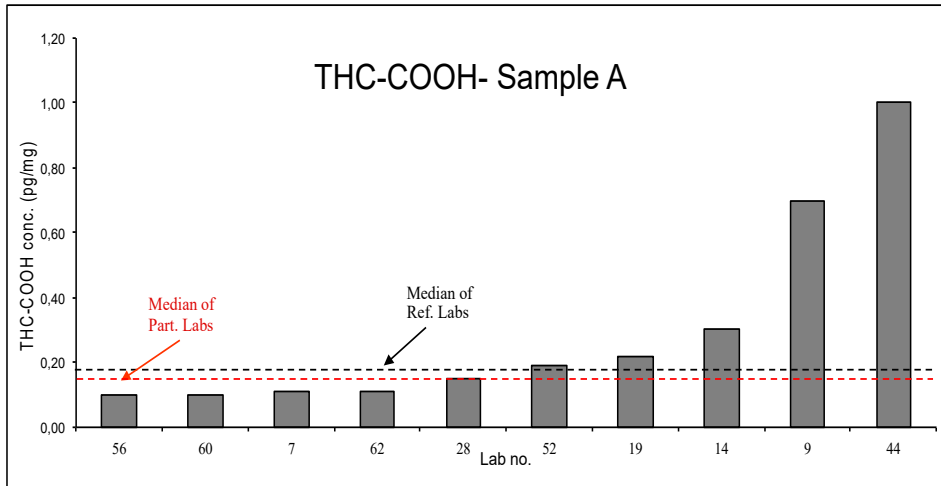


Lab	THC (ng/mg)	Z-score
1	0.10	0.25
4	0.13	1.00
5	0.14	1.35
8	0.11	0.38
9	0.10	0.20
10	0.09	0.00
11	0.06	-0.68
13	0.11	0.43
14	0.09	0.00
16	0.12	0.75
17	0.07	-0.50
18	0.09	-0.10
20	0.09	0.00
21	0.04	-1.15
22	0.05	-0.95
23	0.10	0.25
24	0.14	1.35
25	0.04	-1.25
27	0.13	1.00
28	0.08	-0.25
29	0.22	3.25
31	0.13	1.00
32	0.10	0.25
35	0.06	-0.75
37	0.08	-0.25
39	1.99	**

Lab	THC (ng/mg)	Z-score
41	0.09	-0.13
43	0.10	0.30
44	0.04	-1.25
45	0.12	0.75
46	0.08	-0.22
48	0.06	-0.70
49	0.08	-0.25
50	0.07	-0.50
51	0.11	0.50
52	0.12	0.75
53	0.09	0.05
54	P	
57	0.06	-0.68
58	0.06	-0.69
60	0.10	0.25
61	0.02	-1.75
62	0.08	-0.25
63	P	

** Outlier. It has not been included in the statistical study

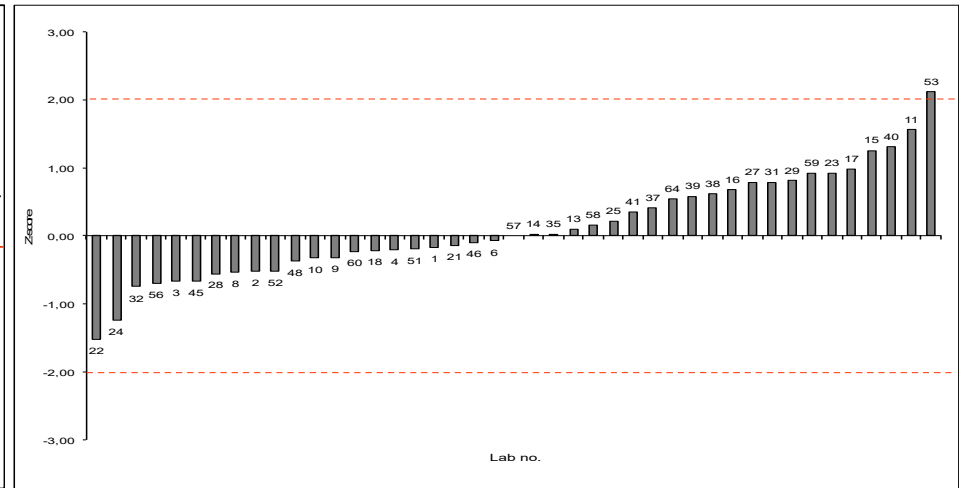
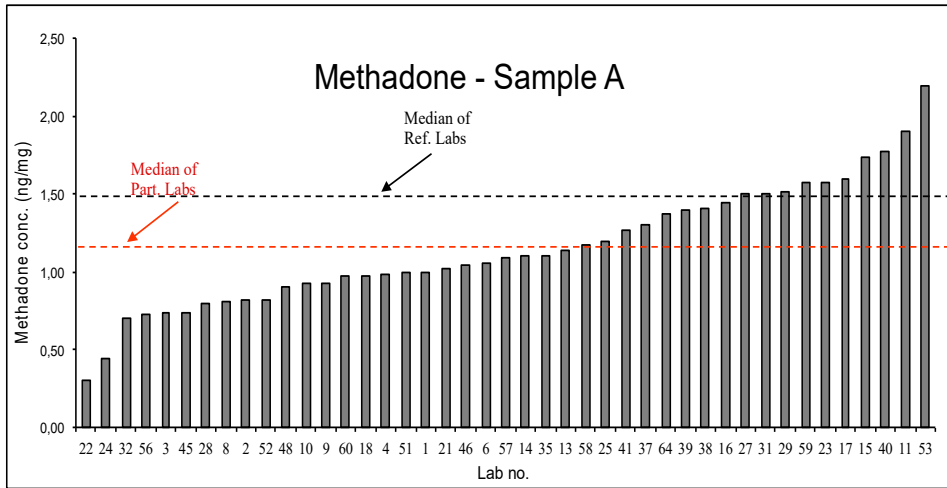
Average	0,09
SD	0,04
CV%	38,19
Median	0,09
Minimum	0,02
Quartile 25	0,07
Quartile 75	0,11
Maximum	0,22
Iqr	0,04



Lab	THC-COOH (pg/mg)	Z-score
1	N	
7	0.11	-0.35
9	0.70	3.12
14	0.30	0.76
19	0.22	0.29
25	<0.20	
28	0.15	-0.12
30	N	
35	N	
41	N	
44	1.00	4.89
45	18.80	**
49	N	
50	N	
51	N	
52	0.19	-0.12
55	N	
56	0.10	-0.41
57	N	
58	N	
60	0.10	-0.41
62	0.11	-0.35

Average	0,30
SD	0,21
CV%	71,65
Median	0,22
Minimum	0,11
Quartile 25	0,15
Quartile 75	0,30
Maximum	0,70
Iqr	0,15

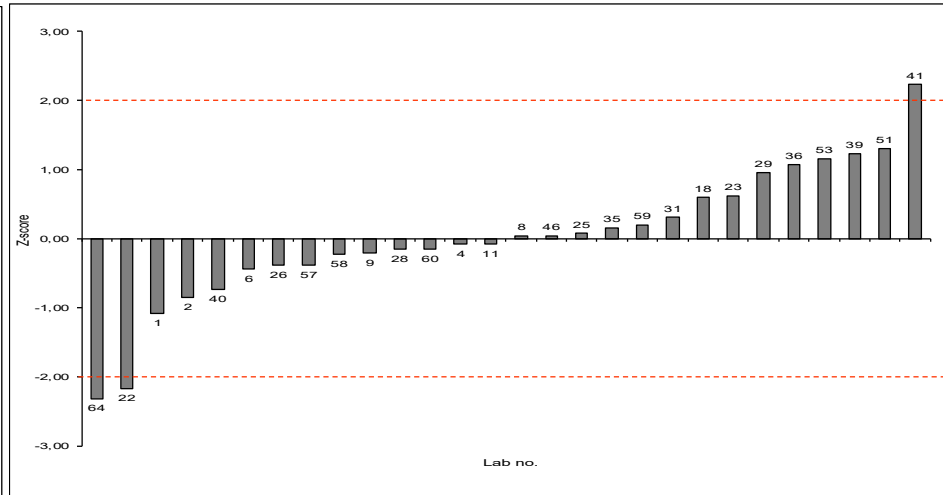
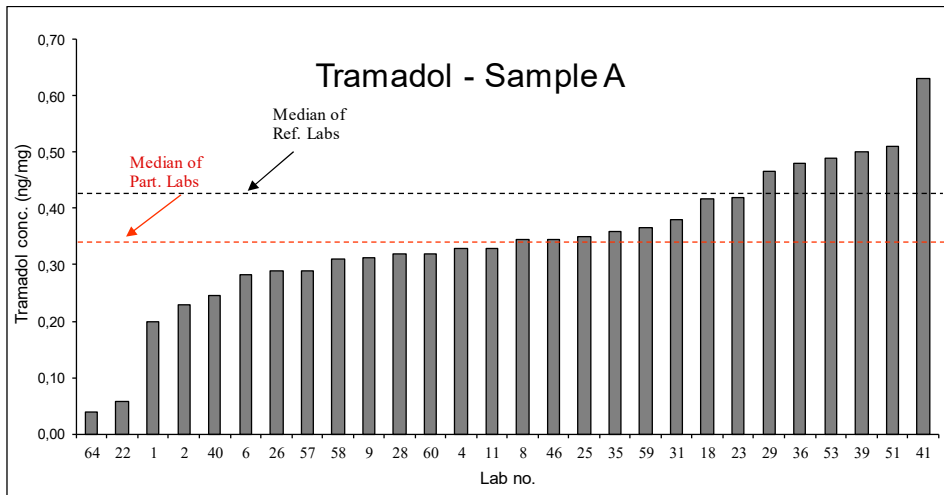
** Outlier. It has not been included in the statistical study



Lab	Methadone (ng/mg)	Z-score
1	1.00	-0.17
2	0.82	-0.52
3	0.74	-0.67
4	0.98	-0.21
6	1.05	-0.08
8	0.81	-0.54
9	0.93	-0.32
10	0.92	-0.33
11	1.90	1.56
13	1.14	0.10
14	1.10	0.02
15	1.74	1.25
16	1.44	0.67
17	1.60	0.98
18	0.98	-0.22
21	1.02	-0.14
22	0.30	-1.52
23	1.57	0.92
24	0.44	-1.24
25	1.20	0.21
27	1.50	0.79
28	0.80	-0.56
29	1.51	0.81
31	1.50	0.79
32	0.70	-0.75
34	N	

Lab	Methadone (ng/mg)	Z-score
35	1.10	0.02
37	1.30	0.40
38	1.41	0.62
39	1.39	0.58
40	1.77	1.31
41	1.27	0.35
43	P	
45	0.74	-0.67
46	1.04	-0.10
48	0.90	-0.37
51	0.99	-0.19
52	0.82	-0.52
53	2.19	2.12
54	N	
56	0.73	-0.69
57	1.09	0.00
58	1.17	0.15
59	1.57	0.92
60	0.97	-0.23
64	1.37	0.54

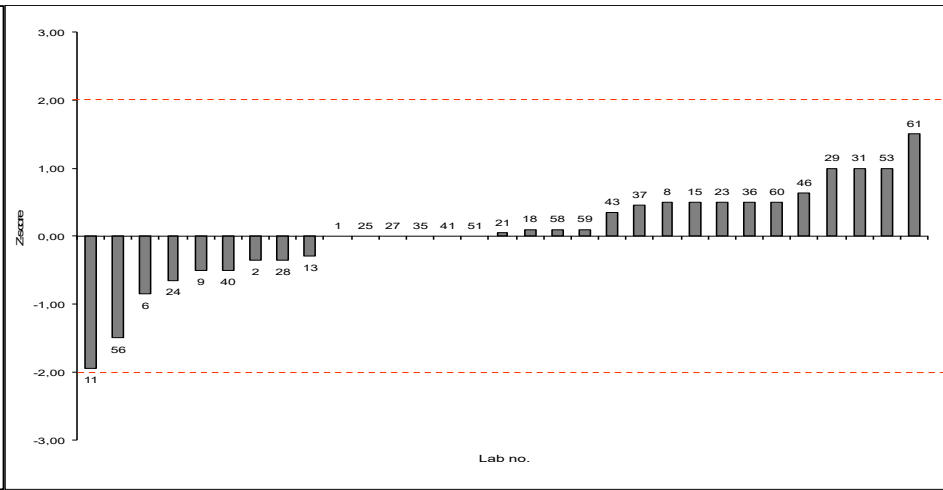
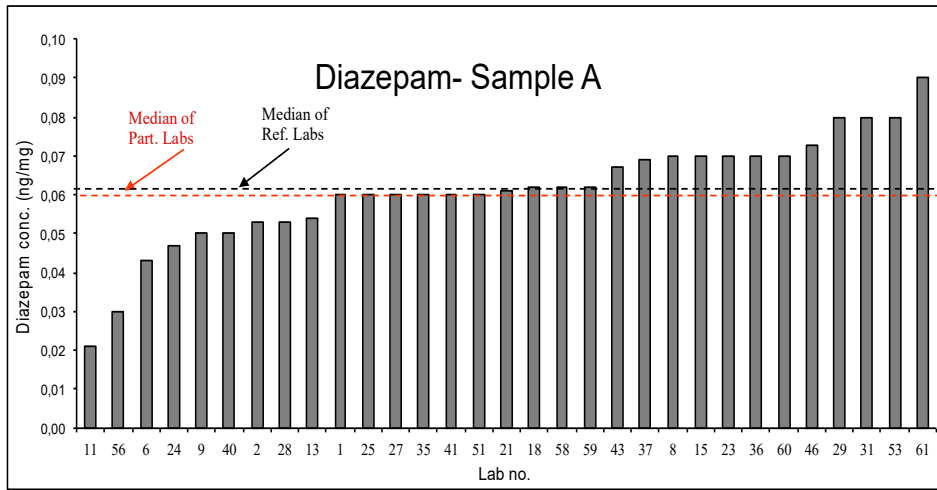
Average	1.15
SD	0.38
CV%	33.40
Median	1.09
Minimum	0.30
Quartile 25	0.91
Quartile 75	1.43
Maximum	2.19
Iqr	0.52



Lab	Tramadol (ng/mg)	Z-score
1	0.20	-1.08
2	0.23	-0.85
3	N	
4	0.33	-0.08
5	N	
6	0.28	-0.44
8	0.35	0.04
9	0.31	-0.21
11	0.33	-0.08
18	0.42	0.59
22	0.06	-2.17
23	0.42	0.62
25	0.35	0.08
26	0.29	-0.38
28	0.32	-0.15
29	0.47	0.96
31	0.38	0.31
35	0.36	0.15
36	0.48	1.08
37	P	
39	0.50	1.23
40	0.25	-0.73
41	0.63	2.23
46	0.35	0.04
51	0.51	1.31
53	0.49	1.15

Lab	Tramadol (ng/mg)	Z-score
54	P	
57	0.29	-0.38
58	0.31	-0.23
59	0.37	0.20
60	0.32	-0.15
64	0.04	-2.32

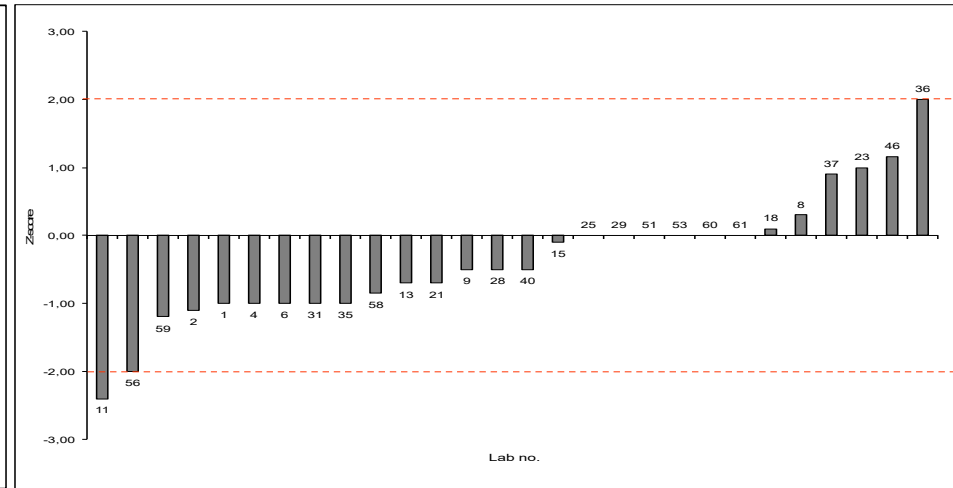
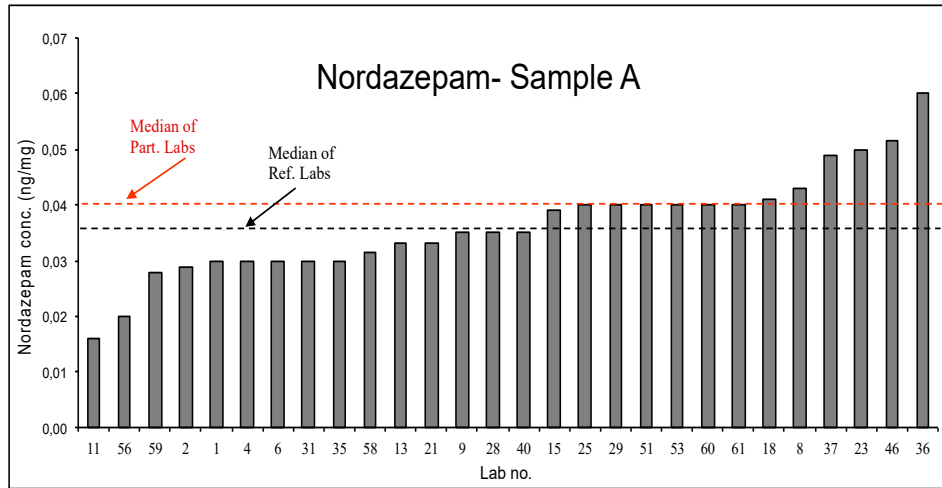
Average	0,34
SD	0,12
CV%	36,20
Median	0,34
Minimum	0,04
Quartile 25	0,29
Quartile 75	0,42
Maximum	0,63
Iqr	0,13



Lab	Diazepam (ng/mg)	Z-score
1	0.06	0.00
2	0.05	-0.35
4	N	
6	0.04	-0.85
7	N	
8	0.07	0.50
9	0.05	-0.50
11	0.02	-1.95
13	0.05	-0.30
15	0.07	0.50
18	0.06	0.10
21	0.06	0.05
23	0.07	0.50
24	0.05	-0.65
25	0.06	0.00
27	0.06	0.00
28	0.05	-0.35
29	0.08	1.00
31	0.08	1.00
35	0.06	0.00
36	0.07	0.50
37	0.07	0.45
39	N	
40	0.05	-0.50
41	0.06	0.00
43	0.07	0.35

Lab	Diazepam (ng/mg)	Z-score
46	0.07	0.63
51	0.06	0.00
53	0.08	1.00
54	N	
56	0.03	-1.50
57	N	
58	0.06	0.10
59	0.06	0.10
60	0.07	0.50
61	0.09	1.50

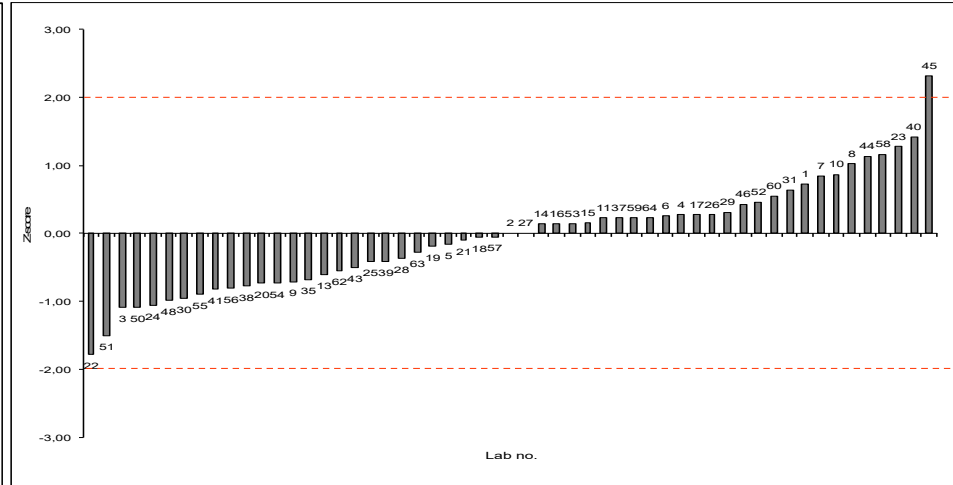
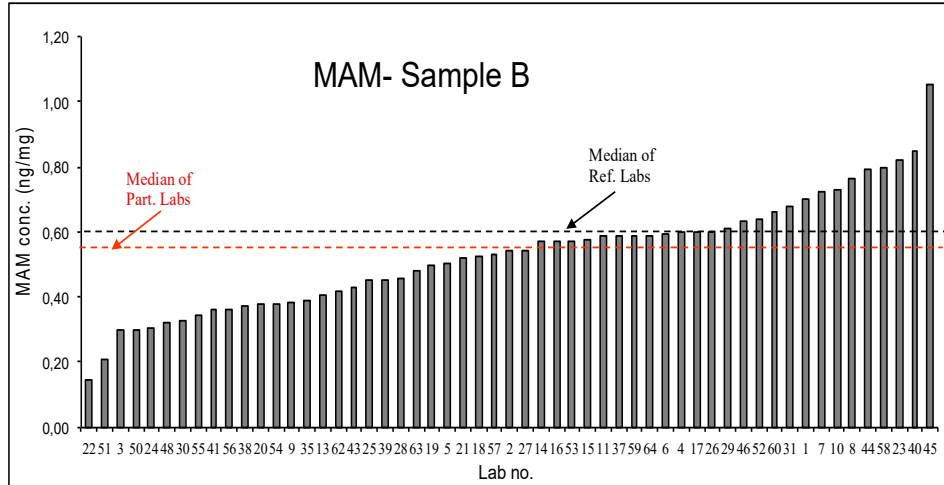
Average	0.06
SD	0.01
CV%	22.87
Median	0.06
Minimum	0.02
Quartile 25	0.05
Quartile 75	0.07
Maximum	0.09
Iqr	0.02



Lab	Nordazepam (ng/mg)	Z-score
1	0.03	-1.00
2	0.03	-1.10
4	0.03	-1.00
6	0.03	-1.00
7	N	
8	0.04	0.30
9	0.04	-0.50
11	0.02	-2.40
13	0.03	-0.70
15	0.04	-0.10
18	0.04	0.10
21	0.03	-0.70
23	0.05	1.00
24	N	
25	0.04	0.00
27	N	
28	0.04	-0.50
29	0.04	0.00
31	0.03	-1.00
35	0.03	-1.00
36	0.06	2.00
37	0.05	0.90
39	N	
40	0.04	-0.50
41	N	
43	N	

Lab	Nordazepam (ng/mg)	Z-score
46	0.05	1.16
51	0.04	0.00
53	0.04	0.00
54	N	
56	0.02	-2.00
57	N	
58	0.03	-0.85
59	0.03	-1.20
60	0.04	0.00
61	0.04	0.00

Average	0.04
SD	0.01
CV%	25.17
Median	0.04
Minimum	0.02
Quartile 25	0.03
Quartile 75	0.04
Maximum	0.06
Iqr	0.01



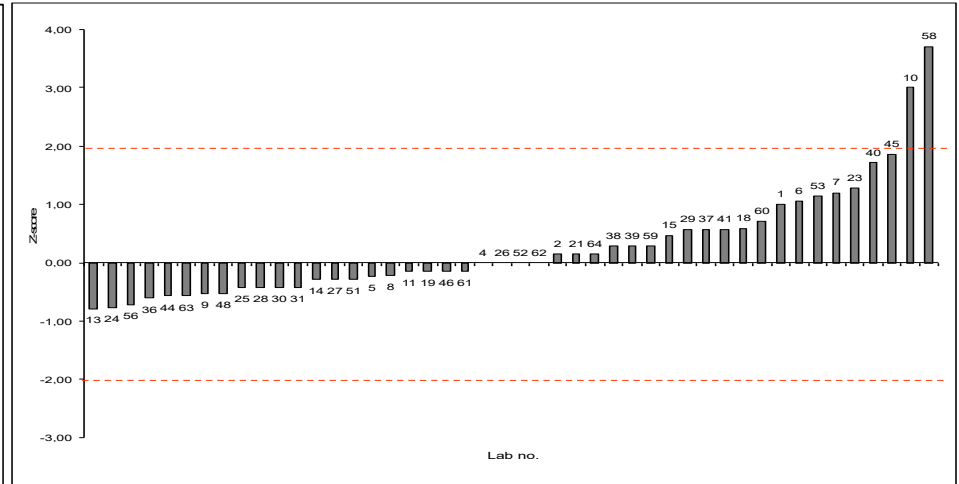
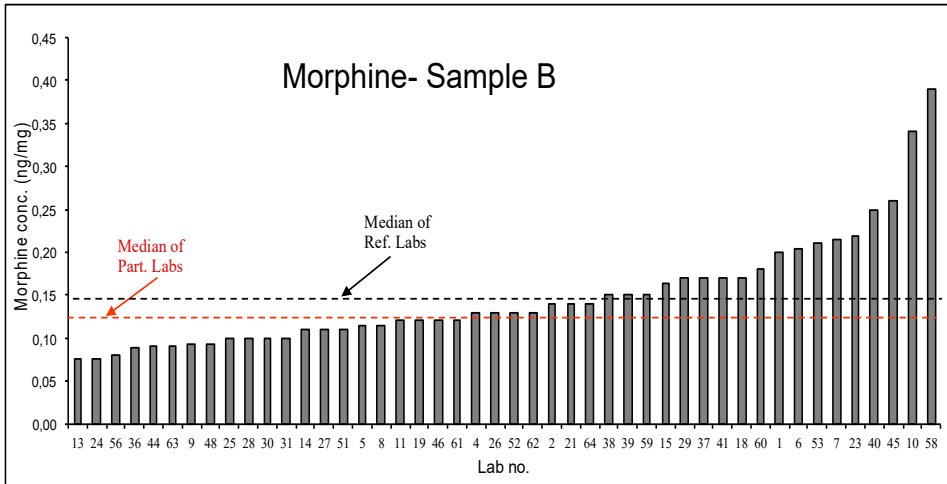
Lab	MAM (ng/mg)	Z-score
1	0.70	0.73
2	0.54	0.00
3	0.30	-1.09
4	0.60	0.27
5	0.51	-0.16
6	0.60	0.25
7	0.73	0.84
8	0.77	1.02
9	0.39	-0.70
10	0.73	0.86
11	0.59	0.23
13	0.41	-0.60
14	0.57	0.14
15	0.57	0.15
16	0.57	0.14
17	0.60	0.27
18	0.53	-0.05
19	0.50	-0.18
20	0.38	-0.73
21	0.52	-0.10
22	0.15	-1.78
23	0.82	1.27
24	0.31	-1.06
25	0.45	-0.41
26	0.60	0.27
27	0.54	0.00

Lab	MAM (ng/mg)	Z-score
28	0.46	-0.36
29	0.61	0.31
30	0.33	-0.95
31	0.68	0.64
32	N	
34	N	
35	0.39	-0.68
36	574.20	**
37	0.59	0.23
38	0.37	-0.77
39	0.45	-0.41
40	0.85	1.41
41	0.36	-0.82
43	0.43	-0.59
44	0.79	1.14
45	1.05	2.32
46	0.63	0.43
48	0.32	-0.98
49	N	
50	0.30	-1.09
51	0.21	-1.50
52	0.64	0.45
53	0.57	0.14
54	0.38	-0.73
55	0.35	-0.89
56	0.36	-0.80

Lab	MAM (ng/mg)	Z-score
57	0.53	-0.05
58	0.80	1.16
59	0.59	0.23
60	0.66	0.55
62	0.42	-0.55
63	0.48	-0.27
64	0.59	0.23

** Outlier. It has not been included in the statistical study

Average	0,53
SD	0,17
CV%	32,32
Median	0,54
Minimum	0,15
Quartile 25	0,39
Quartile 75	0,60
Maximum	1,05
Iqr	0,22



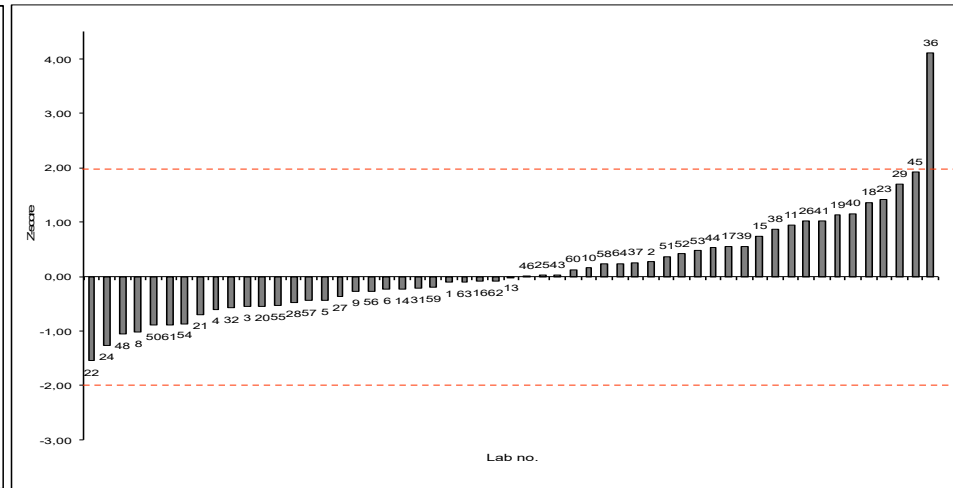
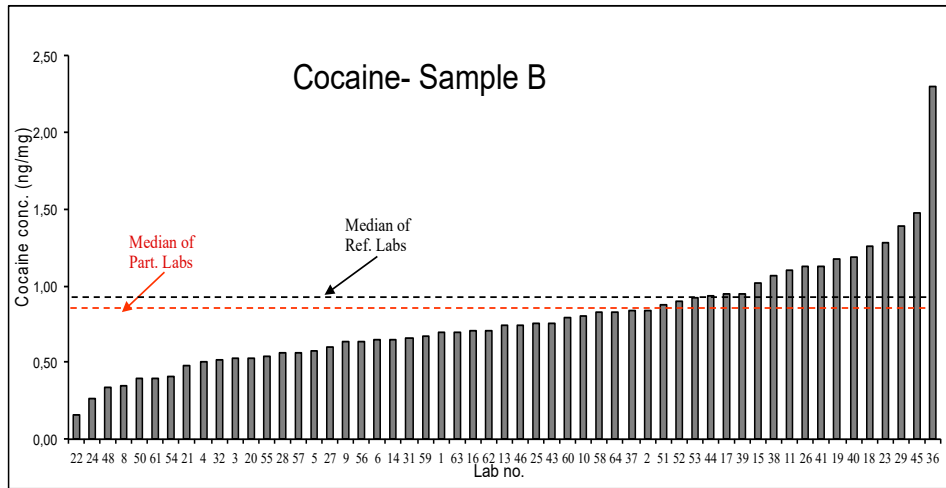
Lab	Morphine (ng/mg)	Z-score
1	0.20	1.00
2	0.14	0.14
3	N	
4	0.13	0.00
5	0.11	-0.23
6	0.20	1.06
7	0.21	1.20
8	0.12	-0.21
9	0.09	-0.53
10	0.34	3.00
11	0.12	-0.14
13	0.08	-0.79
14	0.11	-0.29
15	0.16	0.47
16	<0.05	
17	N	
18	0.17	0.59
19	0.12	-0.14
20	N	
21	0.14	0.14
23	0.22	1.29
24	0.08	-0.77
25	0.10	-0.43
26	0.13	0.00
27	0.11	-0.29
28	0.10	-0.43

Lab	Morphine (ng/mg)	Z-score
29	0.17	0.57
30	0.10	-0.43
31	0.10	-0.43
32	N	
34	N	
35	N	
36	0.09	-0.60
37	0.17	0.57
38	0.15	0.29
39	0.15	0.29
40	0.25	1.71
41	0.17	0.57
43	N	
44	0.09	-0.57
45	0.26	1.86
46	0.12	-0.14
48	0.09	-0.53
49	N	
50	N	
51	0.11	-0.29
52	0.13	0.00
53	0.21	1.14
54	U	
55	N	
56	0.08	-0.71
57	N	

Lab	Morphine (ng/mg)	Z-score
58	0.39	3.71
59	0.15	0.29
60	0.18	0.71
61	0.12	-0.14
62	0.13	0.00
63	0.09	-0.57
64	0.14	0.14

Average	0.15
SD	0.06
CV%	43.62
Median	0.13
Minimum	0.08
Quartile 25	0.10
Quartile 75	0.17
Maximum	0.39
Iqr	0.07

The median Morphine concentration is below the cut-off proposed by SoHT (0.20 ng/mg)

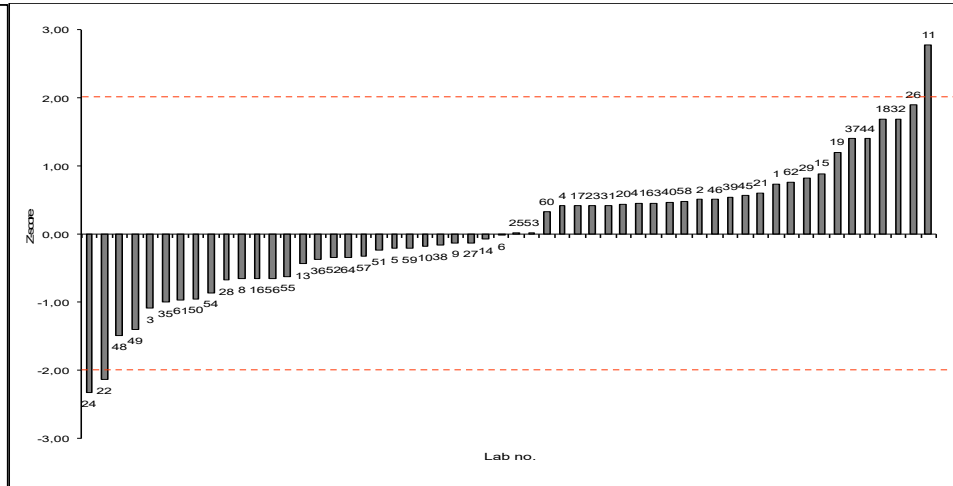
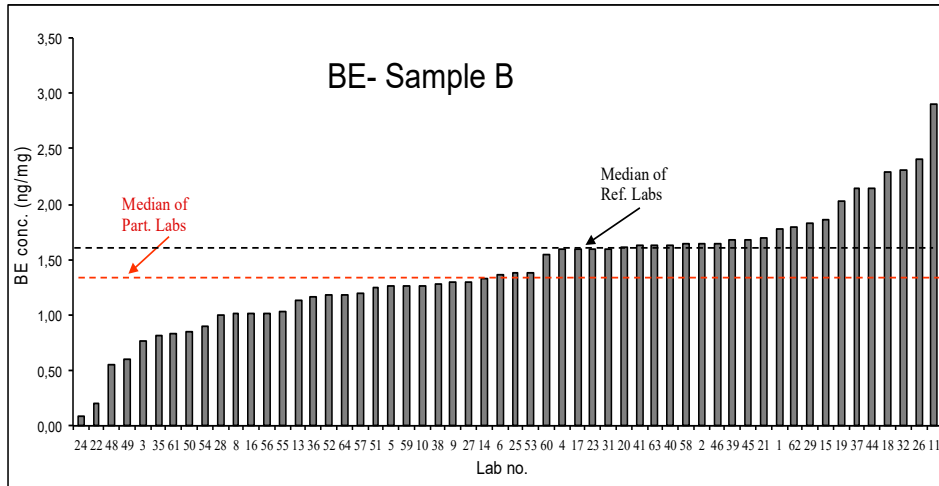


Lab	Cocaine (ng/mg)	Z-score
1	0.70	-0.11
2	0.84	0.26
3	0.53	-0.55
4	0.51	-0.61
5	0.57	-0.44
6	0.65	-0.24
7	N	
8	0.35	-1.03
9	0.64	-0.27
10	0.80	0.16
11	1.10	0.95
13	0.74	-0.01
14	0.65	-0.24
15	1.02	0.73
16	0.71	-0.08
17	0.95	0.55
18	1.26	1.36
19	1.17	1.13
20	0.53	-0.55
21	0.48	-0.69
22	0.15	-1.55
23	1.28	1.42
24	0.26	-1.26
25	0.75	0.03
26	1.13	1.03
27	0.60	-0.37

Lab	Cocaine (ng/mg)	Z-score
28	0.56	-0.47
29	1.39	1.70
31	0.66	-0.21
32	0.52	-0.58
34	N	
35	N	
36	2.30	4.11
37	0.84	0.26
38	1.07	0.87
39	0.95	0.55
40	1.18	1.16
41	1.13	1.03
43	0.75	0.03
44	0.94	0.53
45	1.47	1.92
46	0.74	0.01
48	0.34	-1.06
49	N	
50	0.40	-0.89
51	0.88	0.37
52	0.90	0.42
53	0.92	0.47
54	0.41	-0.87
55	0.54	-0.53
56	0.64	-0.26
57	0.57	-0.45

Lab	Cocaine (ng/mg)	Z-score
58	0.83	0.23
59	0.67	-0.19
60	0.79	0.13
61	0.40	-0.89
62	0.71	-0.08
63	0.70	-0.11
64	0.83	0.24

Average	0.79
SD	0.35
CV%	44.41
Median	0.74
Minimum	0.15
Quartile 25	0.57
Quartile 75	0.95
Maximum	2.30
Iqr	0.38

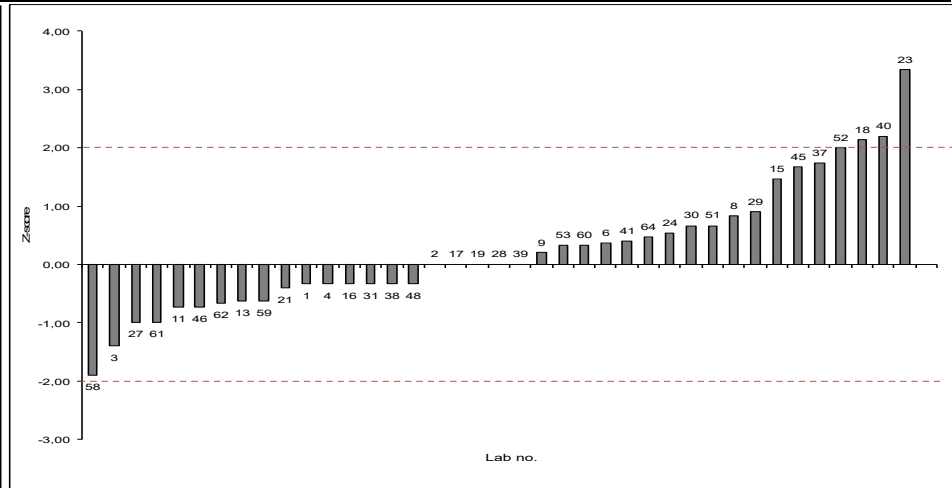
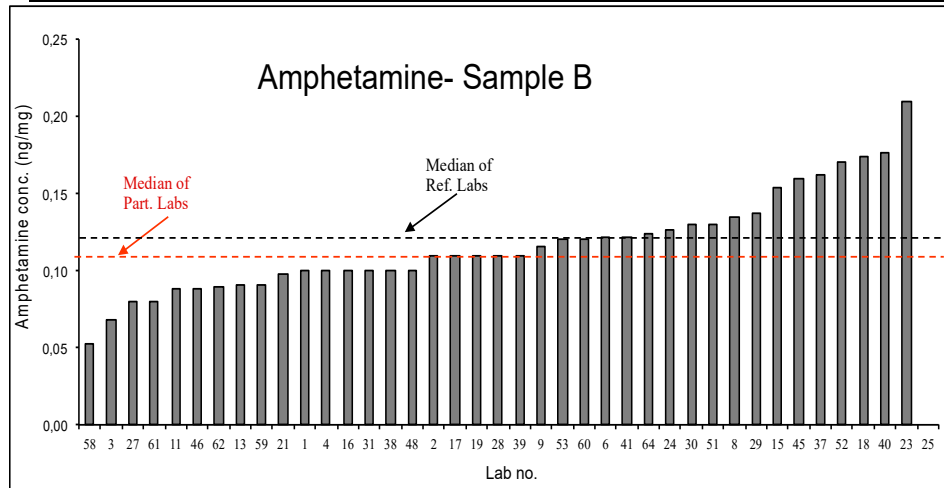


Lab	BE (ng/mg)	Z-score
1	1.77	0.73
2	1.65	0.51
3	0.77	-1.09
4	1.60	0.42
5	1.26	-0.21
6	1.36	-0.02
7	N	
8	1.01	-0.65
9	1.30	-0.13
10	1.27	-0.18
11	2.90	2.78
13	1.13	-0.44
14	1.33	-0.07
15	1.86	0.89
16	1.01	-0.65
17	1.60	0.42
18	2.30	1.69
19	2.03	1.20
20	1.61	0.44
21	1.70	0.59
22	0.20	-2.14
23	1.60	0.42
24	0.09	-2.32
25	1.38	0.02
26	2.41	1.89
27	1.30	-0.13

Lab	BE (ng/mg)	Z-score
28	1.00	-0.67
29	1.82	0.82
31	1.60	0.42
32	2.30	1.69
35	0.82	-1.00
36	1.17	-0.36
37	2.14	1.40
38	1.28	-0.16
39	1.67	0.55
40	1.63	0.47
41	1.62	0.45
43	>1	
44	2.14	1.40
45	1.68	0.56
46	1.65	0.51
48	0.55	-1.49
49	0.60	-1.40
50	0.85	-0.95
51	1.24	-0.24
52	1.18	-0.35
53	1.38	0.02
54	0.90	-0.85
55	1.03	-0.62
56	1.01	-0.65
57	1.19	-0.33
58	1.64	0.48

Lab	BE (ng/mg)	Z-score
59	1.26	-0.21
60	1.55	0.33
61	0.84	-0.96
62	1.79	0.76
63	1.62	0.45
64	1.18	-0.35

Average	1.41
SD	0.52
CV%	36.94
Median	1.37
Minimum	0.09
Quartile 25	1.10
Quartile 75	1.66
Maximum	2.90
Iqr	0.55



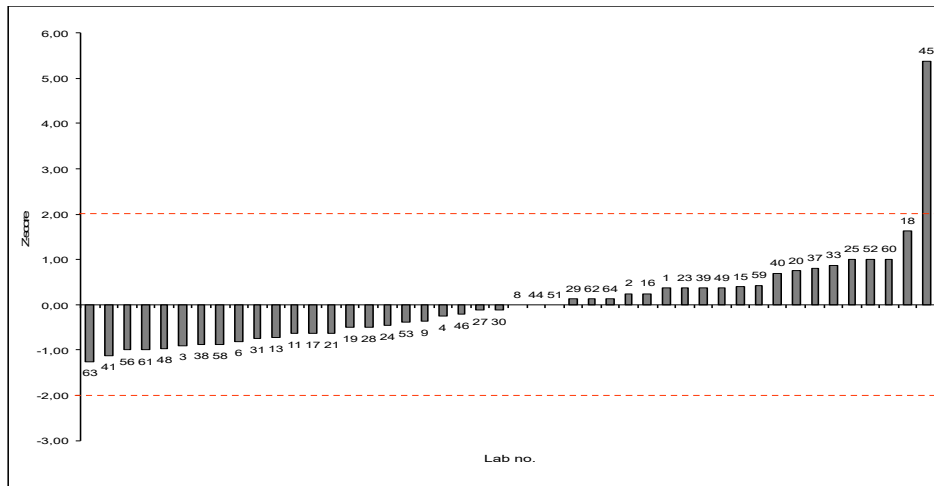
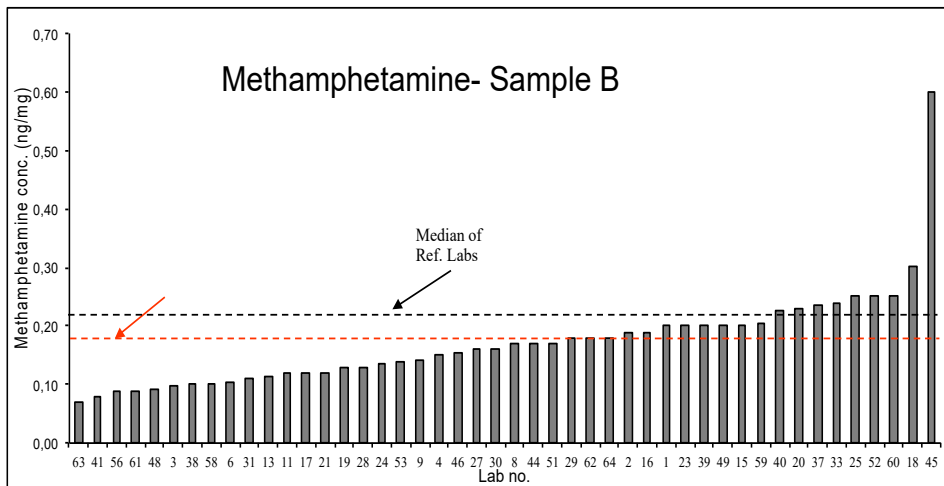
Lab	Amphetamine (ng/mg)	Z-score
1	0.10	-0.33
2	0.11	0.00
3	0.07	-1.40
4	0.10	-0.33
5	N	
6	0.12	0.37
7	N	
8	0.14	0.83
9	0.12	0.20
10	N	
11	0.09	-0.73
13	0.09	-0.63
14	N	
15	0.15	1.47
16	0.10	-0.33
17	0.11	0.00
18	0.17	2.13
19	0.11	0.00
20	N	
21	0.10	-0.40
23	0.21	3.33
24	0.13	0.53
25	<0.10	
27	0.08	-1.00
28	0.11	0.00
29	0.14	0.90

Lab	Amphetamine (ng/mg)	Z-score
30	0.13	0.67
31	0.10	-0.33
32	N	
33	<0.10	
34	N	
35	N	
36	N	
37	0.16	1.73
38	0.10	-0.33
39	0.11	0.00
40	0.18	2.20
41	0.12	0.40
43	N	
44	N	
45	0.16	1.67
46	0.09	-0.73
48	0.10	-0.33
49	N	
50	N	
51	0.13	0.67
52	0.17	2.00
53	0.12	0.33
54	P	
55	N	
56	N	
57	N	

Lab	Amphetamine (ng/mg)	Z-score
58	0.05	-1.90
59	0.09	-0.63
60	0.12	0.33
61	0.08	-1.00
62	0.09	-0.67
63	P	
64	0.12	0.47

Average	0,12
SD	0,03
CV%	27,37
Median	0,11
Minimum	0,05
Quartile 25	0,10
Quartile 75	0,13
Maximum	0,21
Iqr	0,03

The median Amphetamine concentration is below the cut-off proposed by SoHT (0.20 ng/mg)



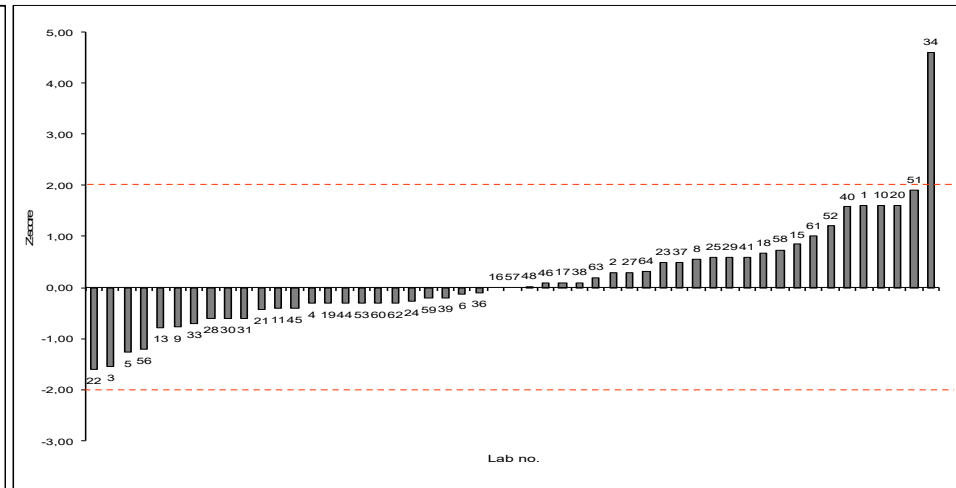
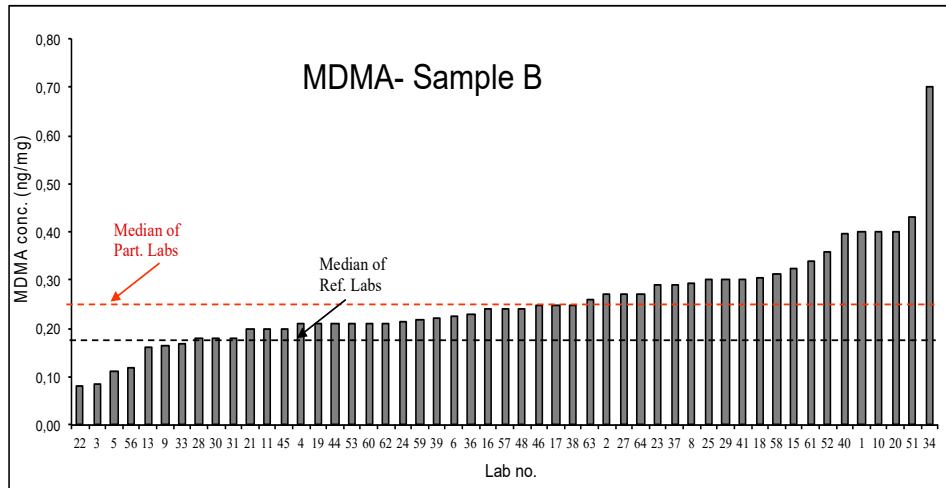
Lab	Methamphet. (ng/mg)	Z-score
1	0.20	0.38
2	0.19	0.25
3	0.10	-0.90
4	0.15	-0.25
5	N	
6	0.11	-0.81
7	N	
8	0.17	0.00
9	0.14	-0.36
10	N	
11	0.12	-0.63
13	0.11	-0.71
14	N	
15	0.20	0.40
16	0.19	0.25
17	0.12	-0.63
18	0.30	1.64
19	0.13	-0.50
20	0.23	0.69
21	0.12	-0.63
23	0.20	0.38
24	0.13	-0.45
25	0.25	1.00
27	0.16	-0.13
28	0.13	-0.50
29	0.18	0.13

Lab	Methamphet. (ng/mg)	Z-score
30	0.16	-0.13
31	0.11	-0.75
32	N	
33	0.24	0.88
34	N	
35	N	
36	N	
37	0.24	0.81
38	0.10	-0.88
39	0.20	0.38
40	0.23	0.69
41	0.08	-1.13
43	N	
44	0.17	0.00
45	0.60	5.38
46	0.15	-0.21
48	0.09	-0.96
49	0.20	0.38
50	N	
51	0.17	0.00
52	0.25	1.00
53	0.14	-0.38
54	P	
55	N	
56	0.09	-1.00
57	N	

Lab	Methamphet. (ng/mg)	Z-score
58	0.10	-0.88
59	0.20	0.43
60	0.25	1.00
61	0.09	-1.00
62	0.18	0.13
63	0.07	-1.25
64	0.18	0.13

Average	0,17
SD	0,08
CV%	48,51
Median	0,17
Minimum	0,07
Quartile 25	0,12
Quartile 75	0,20
Maximum	0,60
Iqr	0,08

The median Methamphetamine concentration is below the cut-off proposed by SoHT (0.20 ng/mg)

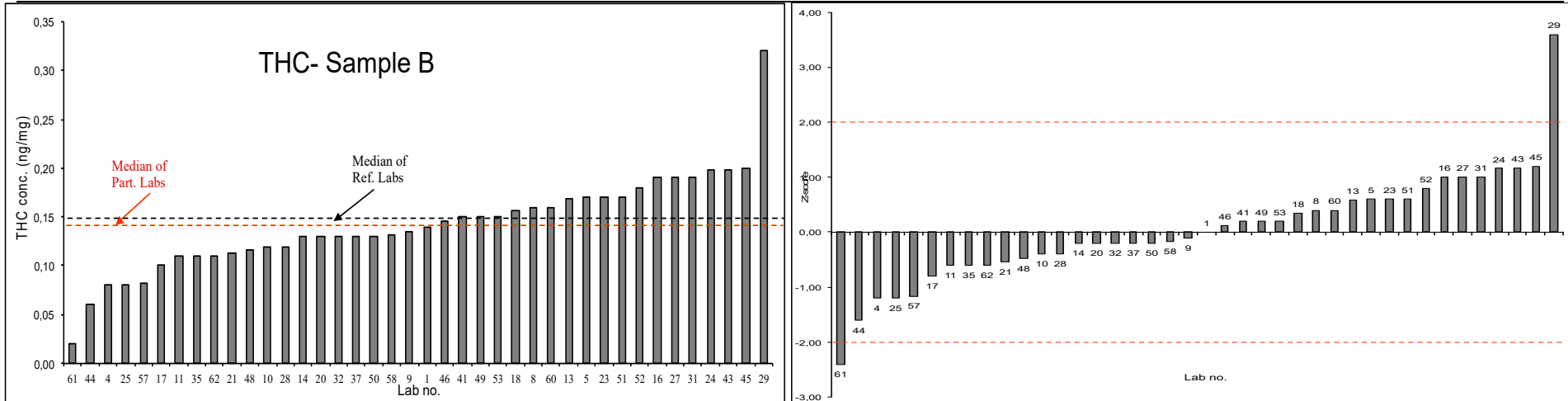


Lab	MDMA (ng/mg)	Z-score
1	0.40	1.60
2	0.27	0.30
3	0.09	-1.55
4	0.21	-0.30
5	0.11	-1.27
6	0.23	-0.13
7	N	
8	0.30	0.55
9	0.16	-0.77
10	0.40	1.60
11	0.20	-0.40
13	0.16	-0.78
14	N	
15	0.32	0.84
16	0.24	0.00
17	0.25	0.10
18	0.31	0.67
19	0.21	-0.30
20	0.40	1.60
21	0.20	-0.42
22	0.08	-1.61
23	0.29	0.50
24	0.21	-0.27
25	0.30	0.60
27	0.27	0.30
28	0.18	-0.60

Lab	MDMA (ng/mg)	Z-score
29	0.30	0.60
30	0.18	-0.60
31	0.18	-0.60
32	P	
33	0.17	-0.70
34	0.70	4.60
35	N	
36	0.23	-0.10
37	0.29	0.50
38	0.25	0.10
39	0.22	-0.20
40	0.40	1.58
41	0.30	0.60
43	N	
44	0.21	-0.30
45	0.20	-0.40
46	0.25	0.09
48	0.24	0.02
49	N	
50	N	
51	0.43	1.90
52	0.36	1.20
53	0.21	-0.30
54	N	
55	N	
56	0.12	-1.20

Lab	MDMA (ng/mg)	Z-score
57	0.24	0.00
58	0.31	0.74
59	0.22	-0.21
60	0.21	-0.30
61	0.34	1.00
62	0.21	-0.30
63	0.26	0.20
64	0.27	0.32

Average	0,26
SD	0,10
CV%	39,32
Median	0,24
Minimum	0,08
Quartile 25	0,21
Quartile 75	0,30
Maximum	0,70
Iqr	0,10

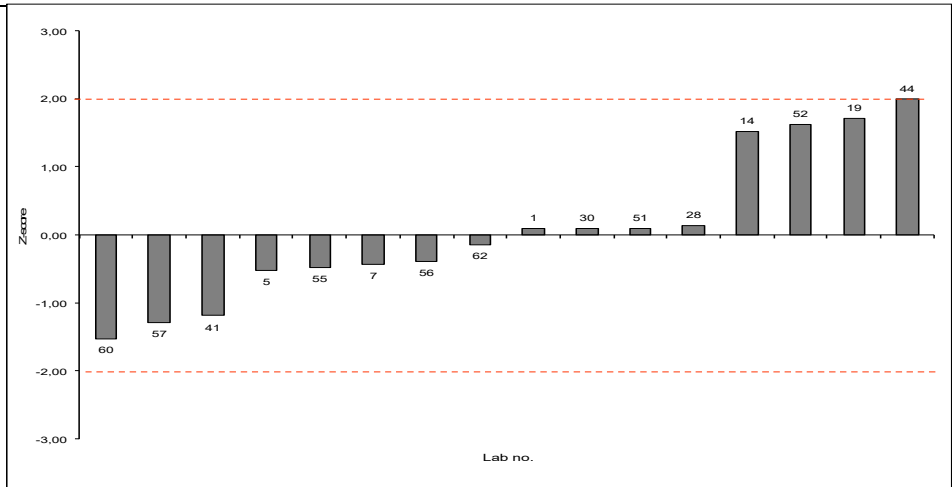
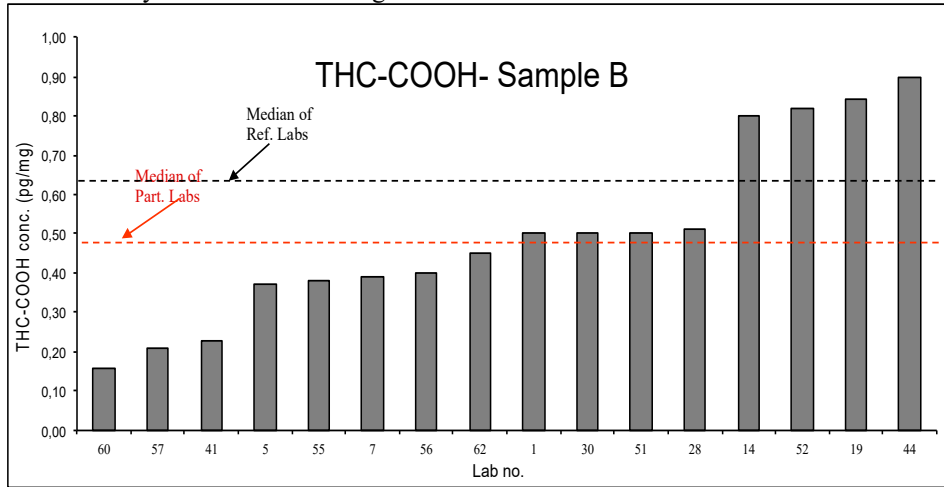


Lab	THC (ng/mg)	Z-score
1	0.14	0.00
4	0.08	-1.20
5	0.17	0.60
8	0.16	0.40
9	0.14	-0.10
10	0.12	-0.40
11	0.11	-0.60
13	0.17	0.58
14	0.13	-0.20
16	0.19	1.00
17	0.10	-0.80
18	0.16	0.34
20	0.13	-0.20
21	0.11	-0.54
22	0.81	**
23	0.17	0.60
24	0.20	1.16
25	0.08	-1.20
27	0.19	1.00
28	0.12	-0.40
29	0.32	3.60
31	0.19	1.00
32	0.13	-0.20
35	0.11	-0.60
37	0.13	-0.20
39	2.87	**

Lab	THC (ng/mg)	Z-score
41	0.15	0.20
43	0.20	1.17
44	0.06	-1.60
45	0.20	1.20
46	0.15	0.12
48	0.12	-0.48
49	0.15	0.20
50	0.13	-0.20
51	0.17	0.60
52	0.18	0.80
53	0.15	0.20
54	P	
57	0.08	-1.16
58	0.13	-0.16
60	0.16	0.40
61	0.02	-2.40
62	0.11	-0.60
63	P	

** Outliers. They have not been included in the statistical study

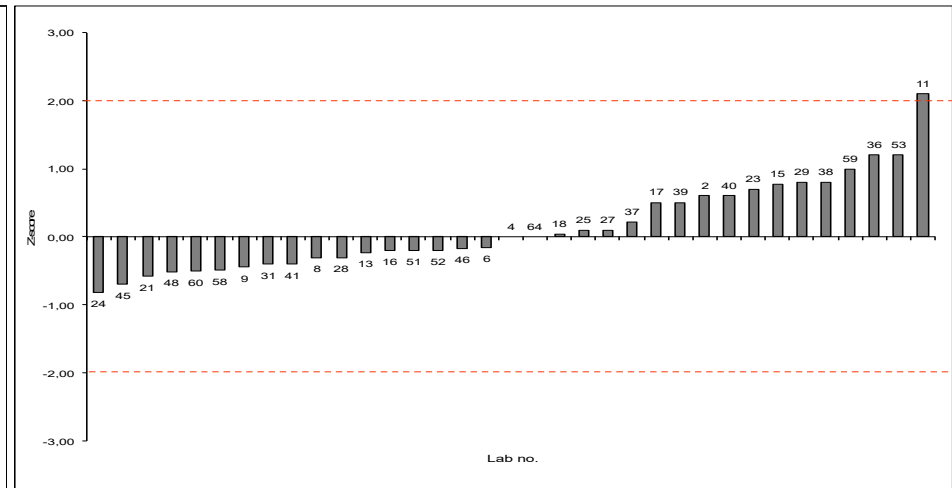
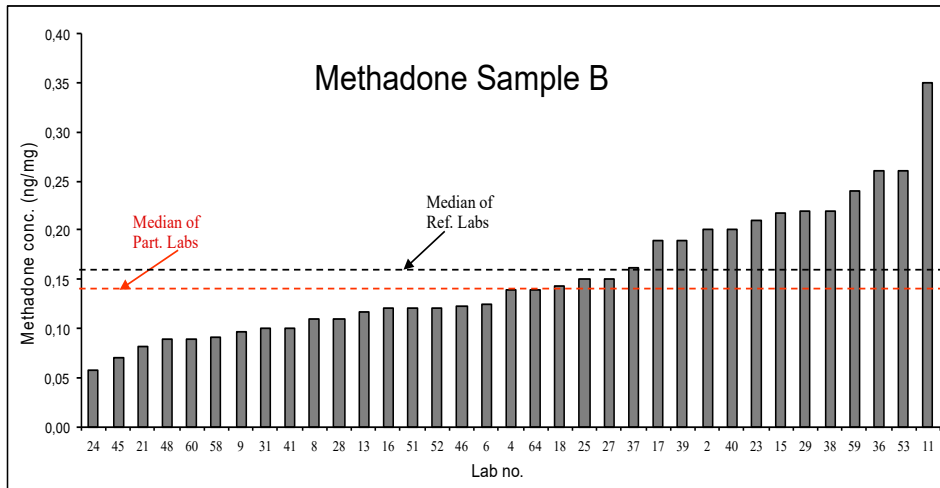
Average	0,14
SD	0,05
CV%	34,22
Median	0,14
Minimum	0,02
Quartile 25	0,12
Quartile 75	0,17
Maximum	0,32
Iqr	0,05



Lab	THC-COOH (pg/mg)	Z-score
1	0.50	0.10
5	0.37	-0.52
7	0.39	-0.43
9	<0.50	
14	0.80	1.52
19	0.84	1.71
25	<0.20	
28	0.51	0.14
30	0.50	0.10
35	N	
41	0.23	-01.19
44	0.90	2.00
45	46.80	**
49	N	
50	N	
51	0.50	0.10
52	0.82	1.62
55	0.38	-0.48
56	0.40	-0.38
57	0.21	-1.29
58	N	
60	0.16	-1.52
62	0.45	-0.14

Average	0,50
SD	0,22
CV%	44,85
Median	0,48
Minimum	0,16
Quartile 25	0,38
Quartile 75	0,58
Maximum	0,90
Iqr	0,21

** Outlier. They have not been included in the statistical study

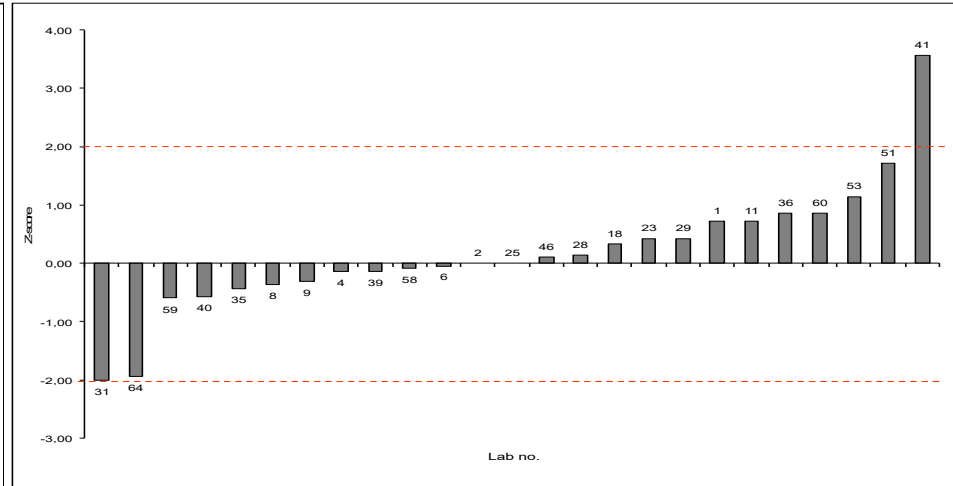
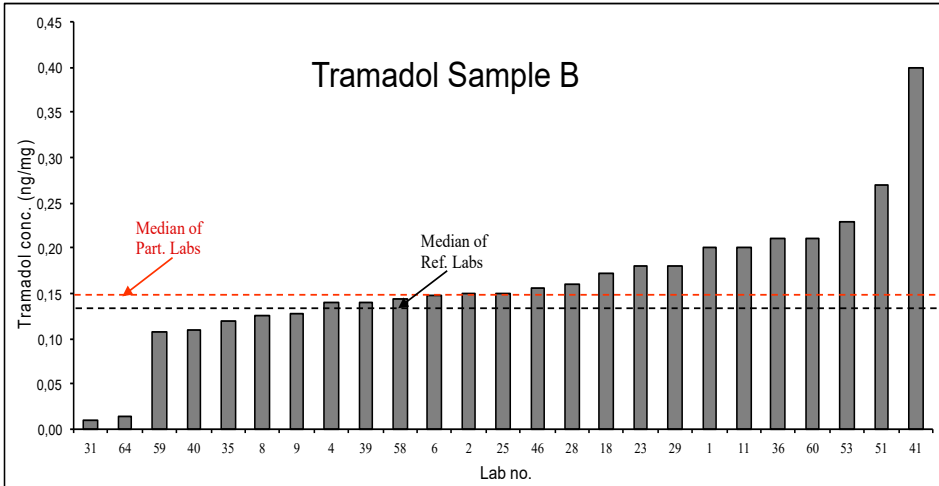


Lab	Methadone (ng/mg)	Z-score
1	N	
2	0.20	0.60
4	0.14	0.00
5	N	
6	0.12	-0.16
8	0.11	-0.30
9	0.10	-0.44
10	N	
11	0.35	2.10
13	0.12	-0.23
14	N	
15	0.22	0.77
16	0.12	-0.20
17	0.19	0.50
18	0.14	0.04
21	0.08	-0.58
23	0.21	0.70
24	0.06	-0.82
25	0.15	0.10
27	0.15	0.10
28	0.11	-0.30
29	0.22	0.80
31	0.10	-0.40
32	N	
34	N	
35	N	

Lab	Methadone (ng/mg)	Z-score
36	0.26	1.20
37	0.16	0.21
38	0.22	0.80
39	0.19	0.50
40	0.20	0.60
41	0.10	-0.40
43	N	
45	0.07	-0.70
46	0.12	-0.17
48	0.09	-0.51
51	0.12	-0.20
52	0.12	-0.20
53	0.26	1.20
54	N	
56	N	
57	N	
58	0.09	-0.49
59	0.24	1.00
60	0.09	-0.50
64	0.14	0.00

Average	0.15
SD	0.06
CV%	42.02
Median	0.14
Minimum	0.06
Quartile 25	0.11
Quartile 75	0.20
Maximum	0.35
Iqr	0.10

The median Methadone concentration is below the cut-off proposed by SoHT (0.20 ng/mg)



Lab	Tramadol (ng/mg)	Z-score
1	0.20	0.71
2	0.15	0.00
4	0.14	-0.14
5	N	
6	0.15	-0.04
8	0.13	-0.36
9	0.13	-0.31
11	0.20	0.71
18	0.17	0.33
23	0.18	0.43
25	0.15	0.00
26	N	
28	0.16	0.14
29	0.18	0.43
31	0.01	-2.00
35	0.12	-0.43
36	0.21	0.86
39	0.14	-0.14
40	0.11	-0.57
41	0.40	3.57
46	0.16	0.10
51	0.27	1.71
53	0.23	1.14
54	P	
57	N	
58	0.14	-0.09

Lab	Tramadol (ng/mg)	Z-score
59	0.11	-0.60
60	0.21	0.86
64	0.01	-1.94

Average	0.16
SD	0.07
CV%	45.79
Median	0.15
Minimum	0.01
Quartile 25	0.13
Quartile 75	0.20
Maximum	0.40
Iqr	0.07