

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

Sevilla, January, 2018

Proficiency Test 2017-2

Laboratory Code: «**Lab_code**»

Dear participants,

Enclosed you will find the report of the Proficiency Test 2016-2 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 fifty-eight participating laboratories. Fifty five of them sent the report forms back.

Sample contents were as follows:

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

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:

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

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

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

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
Drugs of abuse		N		MAM		P		MAM		P	
				Morphine		P		Morphine		P	
				Codeine*		P		Codeine***		P	
				Cocaine		P		Cocaine		P	
				BE		P		BE		P	
				MDMA**		P		Amphetamine		P	
				THC		P		Methamphetamine		P	
				THC-COOH		P		MDMA		P	
								THC		P	
								THC-COOH		P	

* The median concentration of Codeine in Sample B is 0.16 ng/mg, which is lower than the cut-off proposed by SoHT (0.2 ng/mg).

** The median concentration of MDMA in Sample B is 0.10 ng/mg, which is lower than the cut-off proposed by SoHT (0.2 ng/mg).

*** The median concentration of Codeine in Sample C is 0.13 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

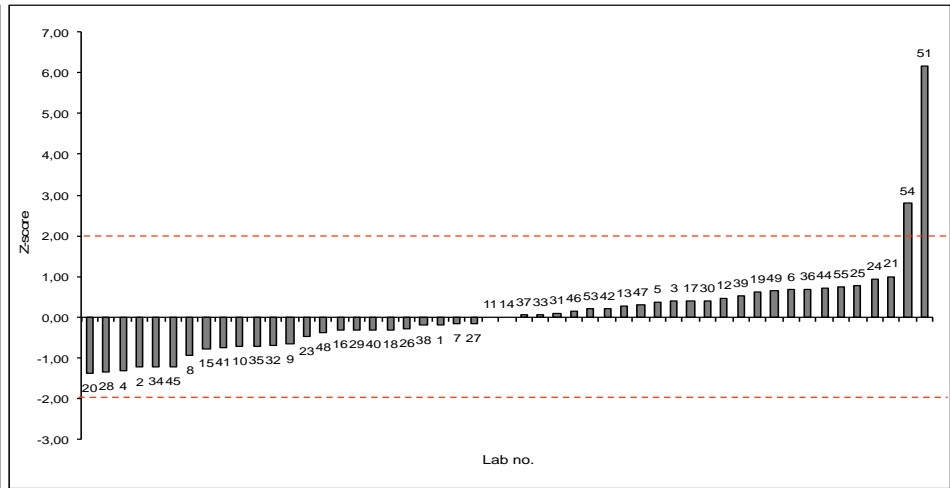
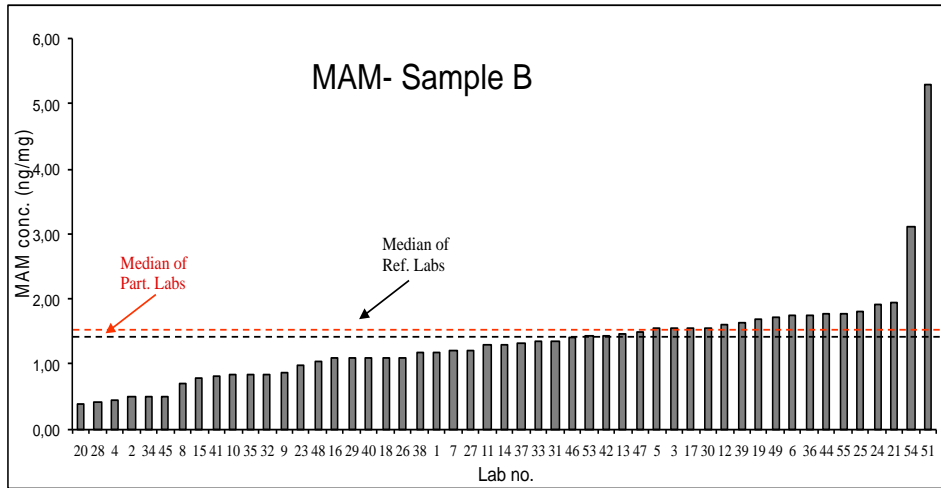
NA: Not analyzed

FP: False Positive

F: False answer

Comments:

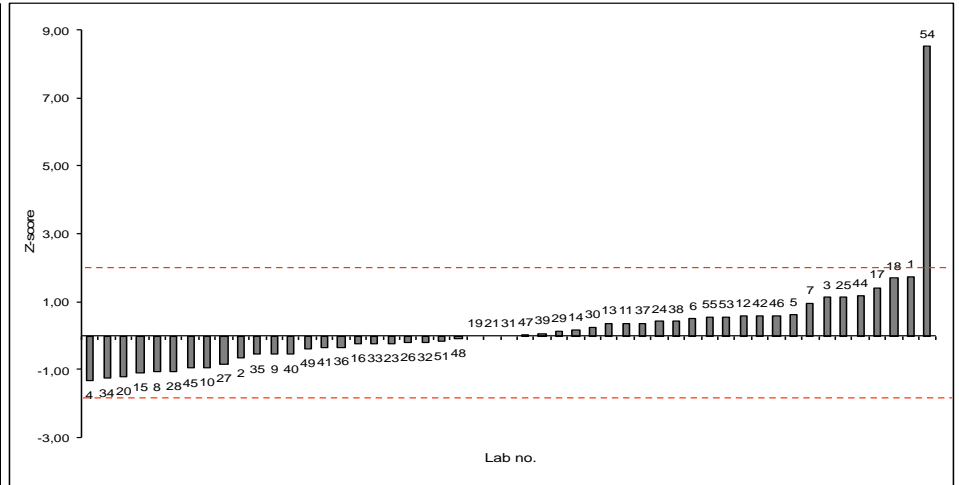
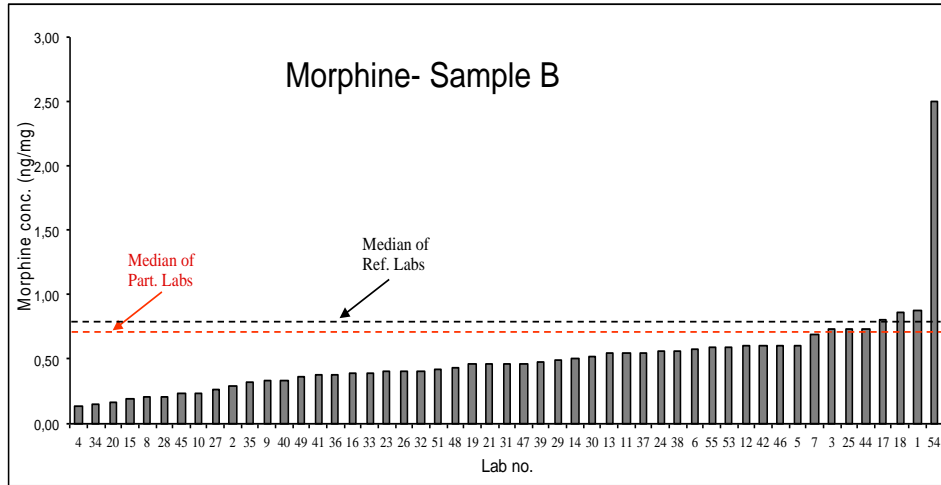
- Sample B contains methadone, norcocaine, cocaethylene, diazepam, nordiazepam and tramadol and traces of codeine (0.16 ng/mg, median concentration), MDMA (0.10 ng/mg, median concentration) and amphetamine (0.09 ng/mg, median concentration).
- Sample C contains methadone, diazepam, nordiazepam and tramadol and traces of codeine (0.13 ng/mg, median concentration), norcocaine (0.033 ng/mg, median concentration) and cocaethylene (0.038 ng/mg, median concentration).



Lab.	MAM (ng/mg)	Z-score	Result
20	0,41	-1,38	Satisfactory
28	0,43	-1,34	Satisfactory
4	0,44	-1,32	Satisfactory
2	0,50	-1,23	Satisfactory
34	0,50	-1,23	Satisfactory
45	0,51	-1,22	Satisfactory
8	0,69	-0,94	Satisfactory
15	0,80	-0,77	Satisfactory
41	0,82	-0,74	Satisfactory
10	0,84	-0,71	Satisfactory
35	0,84	-0,70	Satisfactory
32	0,85	-0,69	Satisfactory
9	0,87	-0,66	Satisfactory
23	0,99	-0,47	Satisfactory
48	1,05	-0,38	Satisfactory
16	1,10	-0,31	Satisfactory
29	1,10	-0,31	Satisfactory
40	1,10	-0,31	Satisfactory
18	1,10	-0,30	Satisfactory
26	1,11	-0,29	Satisfactory
38	1,17	-0,20	Satisfactory
1	1,18	-0,19	Satisfactory
7	1,20	-0,15	Satisfactory
27	1,20	-0,15	Satisfactory
11	1,30	0,00	Satisfactory
14	1,30	0,00	Satisfactory

Lab.	MAM (ng/mg)	Z-score	Result
37	1,33	0,05	Satisfactory
33	1,34	0,06	Satisfactory
31	1,36	0,09	Satisfactory
46	1,40	0,15	Satisfactory
53	1,43	0,20	Satisfactory
42	1,44	0,22	Satisfactory
13	1,48	0,28	Satisfactory
47	1,50	0,31	Satisfactory
5	1,54	0,37	Satisfactory
3	1,56	0,40	Satisfactory
17	1,56	0,40	Satisfactory
30	1,56	0,40	Satisfactory
12	1,60	0,46	Satisfactory
39	1,64	0,52	Satisfactory
19	1,70	0,62	Satisfactory
49	1,72	0,65	Satisfactory
6	1,74	0,68	Satisfactory
36	1,75	0,69	Satisfactory
44	1,77	0,72	Satisfactory
55	1,78	0,74	Satisfactory
25	1,80	0,77	Satisfactory
24	1,91	0,94	Satisfactory
21	1,95	1,00	Satisfactory
54	3,11	2,78	Questionable
51	5,30	6,15	Unsatisfactory
52	P		

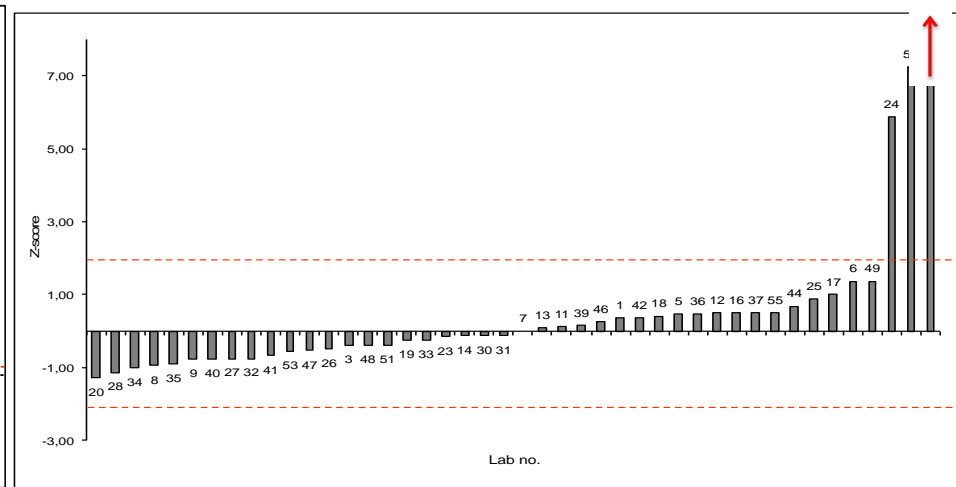
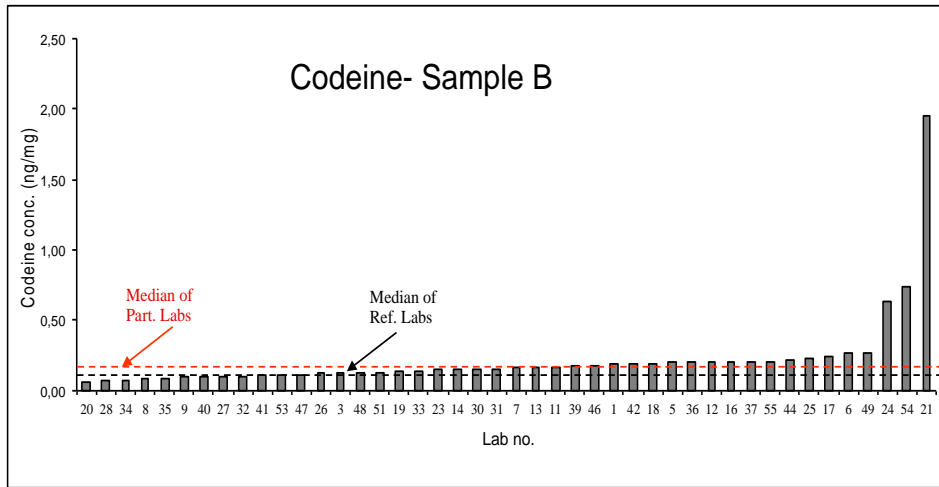
Average	1,346
SD	0,744
CV%	55,282
Median	1,300
Minimum	0,41
Quartile 25	0,931
Quartile 75	1,580
Maximum	5,30
Iqr	0,649



Lab.	Morphine (ng/mg)	Z-score	Result
4	0,14	-1,33	Satisfactory
34	0,16	-1,26	Satisfactory
20	0,17	-1,21	Satisfactory
15	0,20	-1,08	Satisfactory
8	0,20	-1,08	Satisfactory
28	0,21	-1,04	Satisfactory
45	0,23	-0,96	Satisfactory
10	0,23	-0,94	Satisfactory
27	0,26	-0,83	Satisfactory
2	0,30	-0,67	Satisfactory
35	0,33	-0,55	Satisfactory
9	0,33	-0,54	Satisfactory
40	0,33	-0,54	Satisfactory
49	0,37	-0,38	Satisfactory
41	0,37	-0,37	Satisfactory
36	0,38	-0,33	Satisfactory
16	0,40	-0,25	Satisfactory
33	0,40	-0,25	Satisfactory
23	0,40	-0,23	Satisfactory
26	0,41	-0,21	Satisfactory
32	0,41	-0,21	Satisfactory
51	0,42	-0,17	Satisfactory
48	0,44	-0,08	Satisfactory
19	0,46	0,00	Satisfactory
21	0,46	0,00	Satisfactory
31	0,46	0,00	Satisfactory

Lab.	Morphine (ng/mg)	Z-score	Result
47	0,47	0,03	Satisfactory
39	0,48	0,07	Satisfactory
29	0,49	0,13	Satisfactory
14	0,50	0,17	Satisfactory
30	0,52	0,25	Satisfactory
13	0,55	0,37	Satisfactory
11	0,55	0,38	Satisfactory
37	0,55	0,38	Satisfactory
24	0,56	0,42	Satisfactory
38	0,56	0,42	Satisfactory
6	0,58	0,50	Satisfactory
55	0,59	0,54	Satisfactory
53	0,59	0,55	Satisfactory
12	0,60	0,58	Satisfactory
42	0,60	0,58	Satisfactory
46	0,60	0,58	Satisfactory
5	0,61	0,61	Satisfactory
7	0,69	0,96	Satisfactory
3	0,73	1,13	Satisfactory
25	0,73	1,13	Satisfactory
44	0,74	1,16	Satisfactory
17	0,80	1,42	Satisfactory
18	0,86	1,68	Satisfactory
1	0,87	1,72	Satisfactory
54	2,50	8,50	Unsatisfactory
52	P		

Average	0,506
SD	0,334
CV%	66,067
Median	0,460
Minimum	0,14
Quartile 25	0,350
Quartile 75	0,591
Maximum	2,50
Iqr	0,241

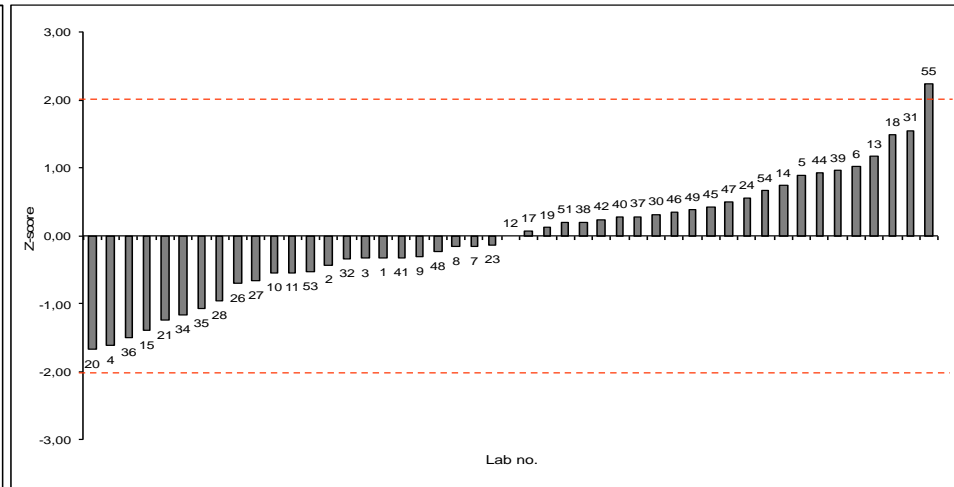
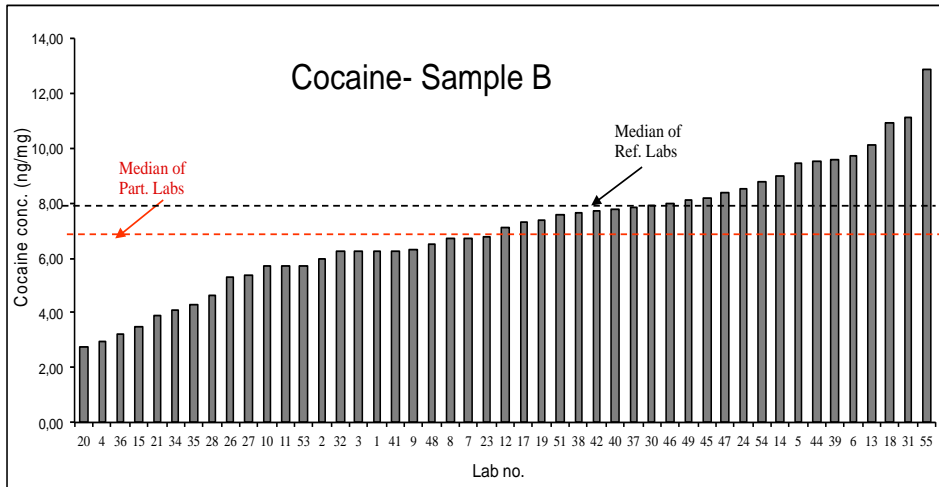


Lab.	Codeine (ng/mg)	Z-score	Result
20	0,06	-1,28	Satisfactory
28	0,07	-1,13	Satisfactory
34	0,08	-1,01	Satisfactory
8	0,08	-0,95	Satisfactory
35	0,09	-0,91	Satisfactory
9	0,10	-0,78	Satisfactory
40	0,10	-0,76	Satisfactory
27	0,10	-0,75	Satisfactory
32	0,10	-0,75	Satisfactory
41	0,11	-0,68	Satisfactory
53	0,12	-0,55	Satisfactory
47	0,12	-0,54	Satisfactory
26	0,12	-0,50	Satisfactory
3	0,13	-0,38	Satisfactory
48	0,13	-0,38	Satisfactory
51	0,13	-0,38	Satisfactory
19	0,14	-0,25	Satisfactory
33	0,14	-0,25	Satisfactory
23	0,15	-0,16	Satisfactory
14	0,15	-0,13	Satisfactory
30	0,15	-0,13	Satisfactory
31	0,15	-0,13	Satisfactory
7	0,16	0,00	Satisfactory
13	0,17	0,10	Satisfactory
11	0,17	0,13	Satisfactory
39	0,17	0,16	Satisfactory

Lab.	Codeine (ng/mg)	Z-score	Result
46	0,18	0,25	Satisfactory
1	0,19	0,38	Satisfactory
42	0,19	0,38	Satisfactory
18	0,19	0,41	Satisfactory
5	0,20	0,46	Satisfactory
36	0,20	0,46	Satisfactory
12	0,20	0,50	Satisfactory
16	0,20	0,50	Satisfactory
37	0,20	0,50	Satisfactory
55	0,20	0,50	Satisfactory
44	0,22	0,69	Satisfactory
25	0,23	0,88	Satisfactory
17	0,24	1,00	Satisfactory
6	0,27	1,38	Satisfactory
49	0,27	1,38	Satisfactory
24	0,63	5,88	Unsatisfactory
54	0,74	7,25	Unsatisfactory
21	1,95	22,40	Unsatisfactory
52	U		

Average	0,220
SD	0,291
CV%	132,471
Median	0,155
Minimum	0,06
Quartile 25	0,117
Quartile 75	0,200
Maximum	1,95
Iqr	0,083

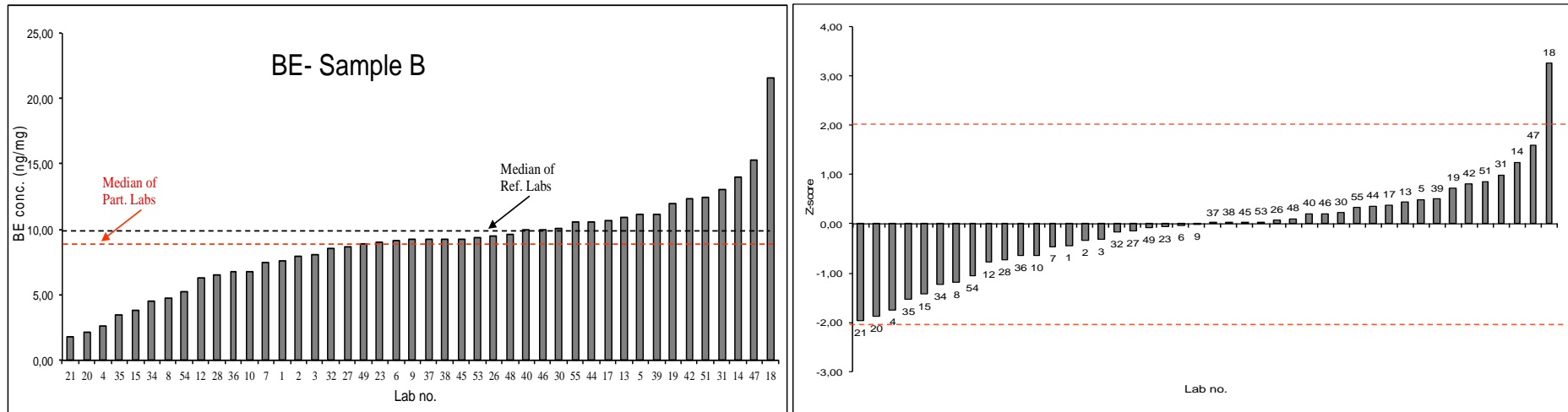
The median Codeine concentration is below the cut-off proposed by SoHT (0.20 ng/mg)



Lab.	Cocaine (ng/mg)	Z-score	Result
20	2,79	-1,67	Satisfactory
4	2,94	-1,61	Satisfactory
36	3,23	-1,50	Satisfactory
15	3,50	-1,40	Satisfactory
21	3,89	-1,24	Satisfactory
34	4,12	-1,16	Satisfactory
35	4,32	-1,08	Satisfactory
28	4,65	-0,95	Satisfactory
26	5,28	-0,71	Satisfactory
27	5,40	-0,66	Satisfactory
10	5,70	-0,54	Satisfactory
11	5,70	-0,54	Satisfactory
53	5,72	-0,53	Satisfactory
2	6,00	-0,43	Satisfactory
32	6,22	-0,34	Satisfactory
3	6,25	-0,33	Satisfactory
1	6,25	-0,33	Satisfactory
41	6,26	-0,33	Satisfactory
9	6,30	-0,31	Satisfactory
48	6,50	-0,23	Satisfactory
8	6,68	-0,16	Satisfactory
7	6,70	-0,16	Satisfactory
23	6,77	-0,13	Satisfactory
12	7,10	0,00	Satisfactory
17	7,29	0,07	Satisfactory
19	7,40	0,12	Satisfactory

Lab.	Cocaine (ng/mg)	Z-score	Result
51	7,60	0,19	Satisfactory
38	7,61	0,20	Satisfactory
42	7,73	0,24	Satisfactory
40	7,80	0,27	Satisfactory
37	7,83	0,28	Satisfactory
30	7,91	0,31	Satisfactory
46	8,00	0,35	Satisfactory
49	8,09	0,38	Satisfactory
45	8,20	0,43	Satisfactory
47	8,38	0,50	Satisfactory
24	8,51	0,55	Satisfactory
54	8,81	0,66	Satisfactory
14	9,00	0,74	Satisfactory
5	9,42	0,90	Satisfactory
44	9,49	0,93	Satisfactory
39	9,57	0,96	Satisfactory
6	9,72	1,02	Satisfactory
13	10,10	1,16	Satisfactory
18	10,93	1,48	Satisfactory
31	11,10	1,55	Satisfactory
55	12,87	2,23	Questionable
25	>2,5		
16	P		
33	P		
52	P		

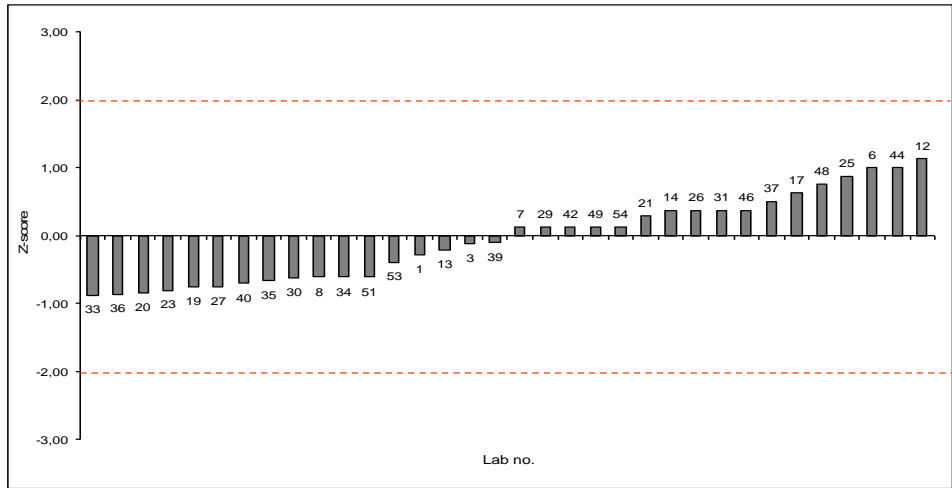
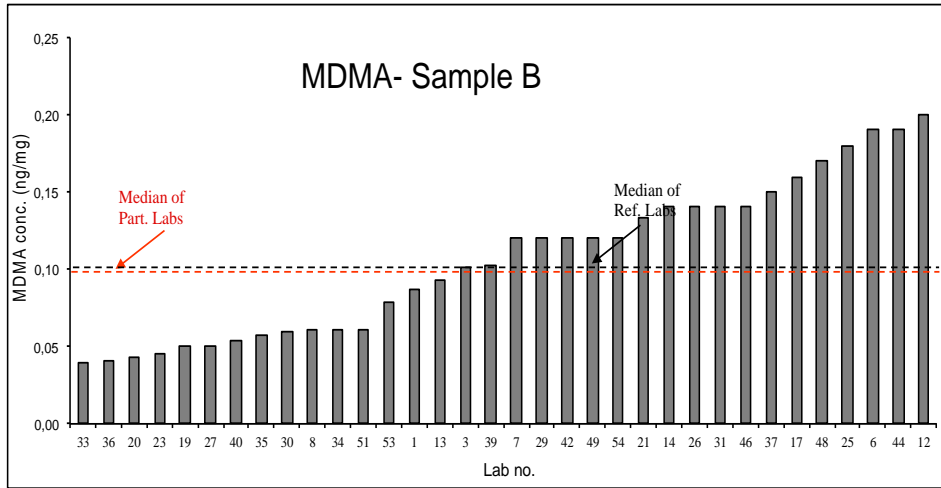
Average	7,056
SD	2,198
CV%	31,155
Median	7,100
Minimum	2,79
Quartile 25	5,711
Quartile 75	8,291
Maximum	12,87
Iqr	2,580



Lab.	BE (ng/mg)	Z-score	Result
21	1,76	-1,97	Satisfactory
20	2,13	-1,87	Satisfactory
4	2,64	-1,74	Satisfactory
35	3,41	-1,53	Satisfactory
15	3,82	-1,43	Satisfactory
34	4,55	-1,23	Satisfactory
8	4,73	-1,19	Satisfactory
54	5,20	-1,06	Satisfactory
12	6,30	-0,77	Satisfactory
28	6,48	-0,73	Satisfactory
36	6,80	-0,64	Satisfactory
10	6,83	-0,63	Satisfactory
7	7,50	-0,46	Satisfactory
1	7,56	-0,44	Satisfactory
2	7,94	-0,34	Satisfactory
3	8,03	-0,32	Satisfactory
32	8,60	-0,17	Satisfactory
27	8,70	-0,14	Satisfactory
49	8,95	-0,08	Satisfactory
23	9,00	-0,06	Satisfactory
6	9,13	-0,03	Satisfactory
9	9,22	-0,01	Satisfactory
37	9,26	0,01	Satisfactory
38	9,30	0,02	Satisfactory
45	9,30	0,02	Satisfactory
53	9,39	0,04	Satisfactory

Lab.	BE (ng/mg)	Z-score	Result
26	9,50	0,07	Satisfactory
48	9,61	0,10	Satisfactory
40	10,00	0,20	Satisfactory
46	10,00	0,20	Satisfactory
30	10,10	0,23	Satisfactory
55	10,52	0,34	Satisfactory
44	10,60	0,36	Satisfactory
17	10,70	0,38	Satisfactory
13	10,90	0,44	Satisfactory
5	11,11	0,49	Satisfactory
39	11,14	0,50	Satisfactory
19	12,00	0,73	Satisfactory
42	12,32	0,81	Satisfactory
51	12,50	0,86	Satisfactory
31	13,00	0,99	Satisfactory
14	14,00	1,25	Satisfactory
47	15,26	1,59	Satisfactory
18	21,62	3,26	Unsatisfactory
25	>2,5		
33	>3,1		
41	>4.0		
11	>5		
16	P		
52	P		

Average	8,895
SD	3,619
CV%	40,684
Median	9,240
Minimum	1,76
Quartile 25	6,823
Quartile 75	10,625
Maximum	21,62
Iqr	3,803

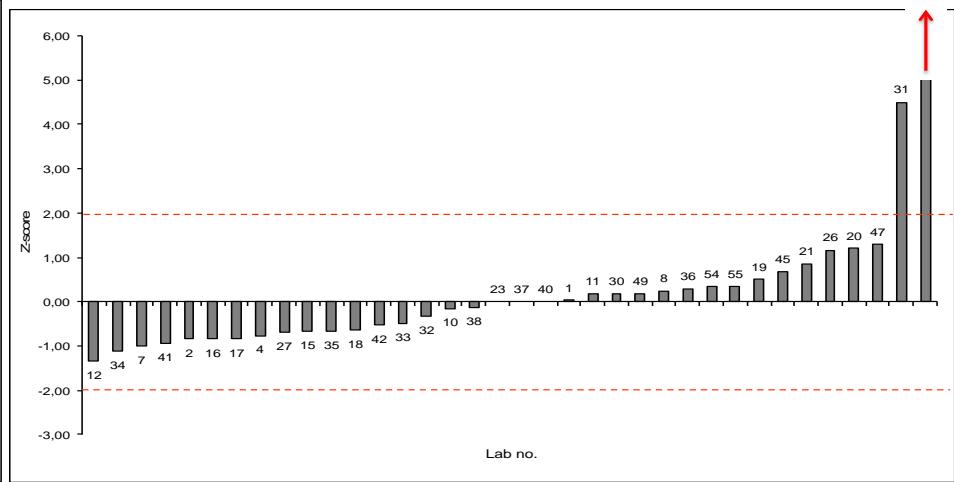
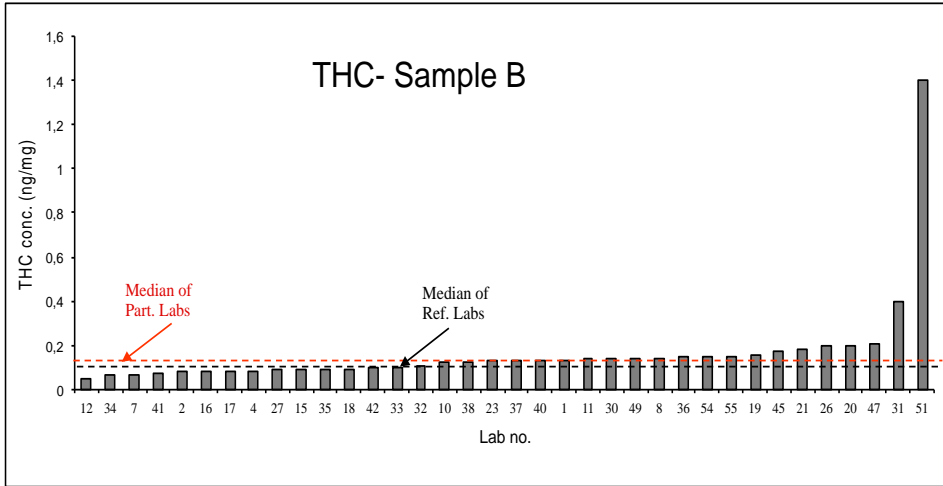


Lab	MDMA (ng/mg)	Z-score	Result
33	0,04	-0,88	Satisfactory
36	0,04	-0,86	Satisfactory
20	0,04	-0,84	Satisfactory
23	0,05	-0,80	Satisfactory
19	0,05	-0,75	Satisfactory
27	0,05	-0,75	Satisfactory
40	0,05	-0,70	Satisfactory
35	0,06	-0,66	Satisfactory
30	0,06	-0,63	Satisfactory
8	0,06	-0,61	Satisfactory
34	0,06	-0,61	Satisfactory
51	0,06	-0,61	Satisfactory
53	0,08	-0,39	Satisfactory
1	0,09	-0,29	Satisfactory
13	0,09	-0,21	Satisfactory
3	0,10	-0,11	Satisfactory
39	0,10	-0,10	Satisfactory
7	0,12	0,13	Satisfactory
29	0,12	0,13	Satisfactory
42	0,12	0,13	Satisfactory
49	0,12	0,13	Satisfactory
54	0,12	0,13	Satisfactory
21	0,13	0,29	Satisfactory
14	0,14	0,38	Satisfactory
26	0,14	0,38	Satisfactory
31	0,14	0,38	Satisfactory

Lab.	MDMA (ng/mg)	Z-score	Result
46	0,14	0,38	Satisfactory
37	0,15	0,50	Satisfactory
17	0,16	0,63	Satisfactory
48	0,17	0,75	Satisfactory
25	0,18	0,88	Satisfactory
6	0,19	1,00	Satisfactory
44	0,19	1,00	Satisfactory
12	0,20	1,13	Satisfactory
52	U		

Average	0,106
SD	0,049
CV%	45,790
Median	0,111
Minimum	0,04
Quartile 25	0,060
Quartile 75	0,140
Maximum	0,20
Iqr	0,080

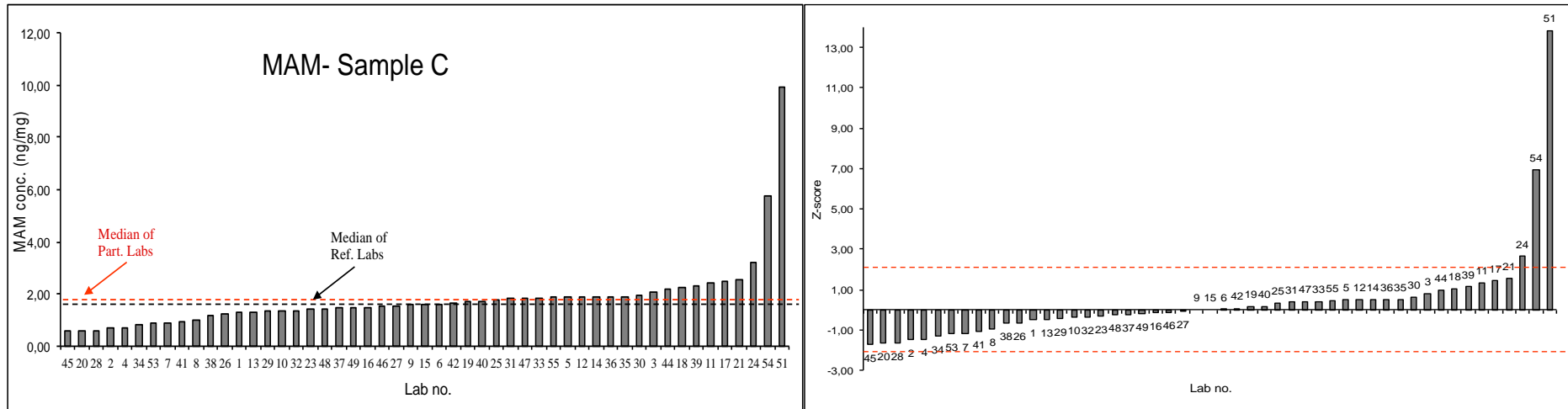
The median MDMA concentration is below the cut-off proposed by SoHT (0.20 ng/mg)



Lab.	THC (ng/mg)	Z-score	Result
12	0,05	-1,33	Satisfactory
34	0,063	-1,12	Satisfactory
7	0,07	-1,00	Satisfactory
41	0,074	-0,93	Satisfactory
2	0,08	-0,83	Satisfactory
16	0,08	-0,83	Satisfactory
17	0,08	-0,83	Satisfactory
4	0,084	-0,77	Satisfactory
27	0,088	-0,70	Satisfactory
15	0,09	-0,67	Satisfactory
35	0,09	-0,67	Satisfactory
18	0,0915	-0,64	Satisfactory
42	0,098	-0,53	Satisfactory
33	0,1	-0,50	Satisfactory
32	0,11	-0,33	Satisfactory
10	0,121	-0,15	Satisfactory
38	0,122	-0,13	Satisfactory
23	0,13	0,00	Satisfactory
37	0,13	0,00	Satisfactory
40	0,13	0,00	Satisfactory
1	0,131	0,02	Satisfactory
11	0,14	0,17	Satisfactory
30	0,14	0,17	Satisfactory
49	0,14	0,17	Satisfactory
8	0,144	0,23	Satisfactory
36	0,147	0,28	Satisfactory

Lab.	THC (ng/mg)	Z-score	Result
54	0,15	0,33	Satisfactory
55	0,15	0,33	Satisfactory
19	0,16	0,50	Satisfactory
45	0,17	0,67	Satisfactory
21	0,181	0,85	Satisfactory
26	0,2	1,17	Satisfactory
20	0,202	1,20	Satisfactory
47	0,207	1,28	Satisfactory
31	0,4	4,50	Unsatisfactory
51	1,4	21,17	Unsatisfactory
52	P		

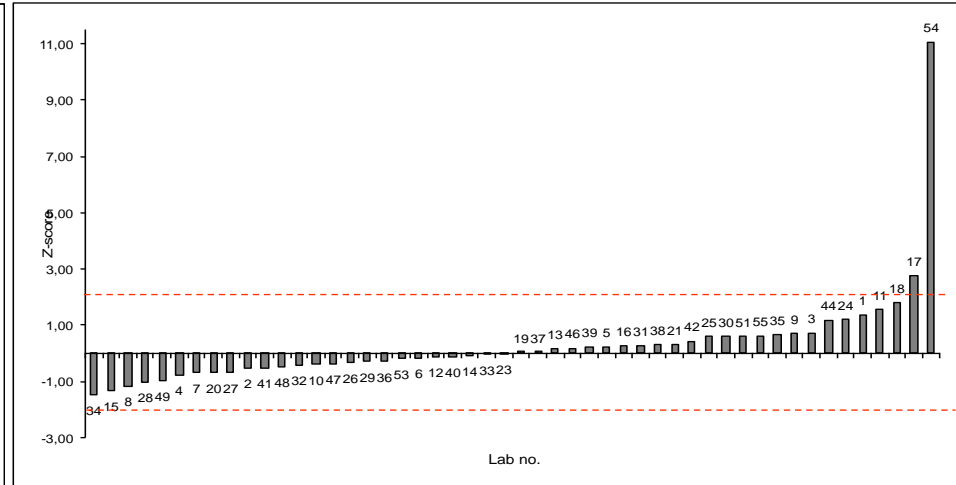
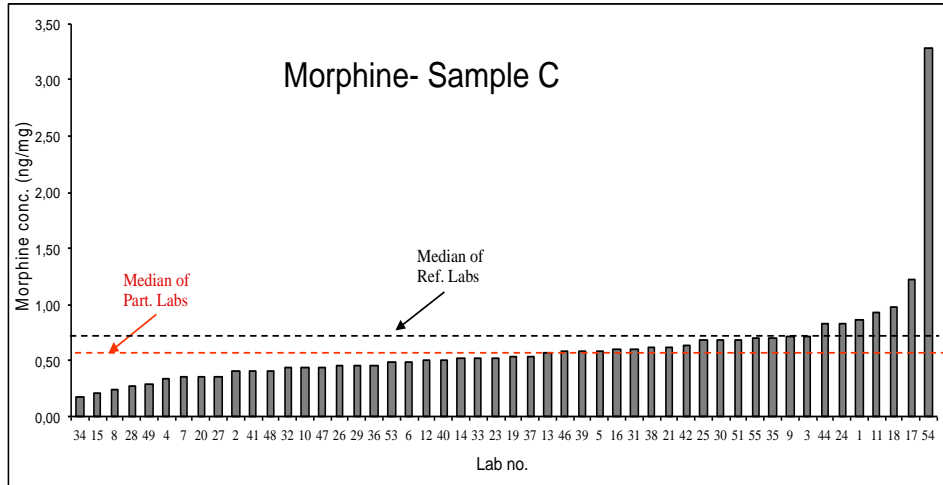
Average	0,165
SD	0,217
CV%	131,636
Median	0,130
Minimum	0,05
Quartile 25	0,090
Quartile 75	0,150
Maximum	1,40
Iqr	0,061



Lab.	MAM (ng/mg)	Z-score	Result
45	0,56	-1,73	Satisfactory
20	0,59	-1,68	Satisfactory
28	0,60	-1,67	Satisfactory
2	0,70	-1,50	Satisfactory
4	0,72	-1,47	Satisfactory
34	0,81	-1,31	Satisfactory
53	0,89	-1,19	Satisfactory
7	0,89	-1,18	Satisfactory
41	0,97	-1,06	Satisfactory
8	1,02	-0,97	Satisfactory
38	1,20	-0,67	Satisfactory
26	1,21	-0,65	Satisfactory
1	1,30	-0,50	Satisfactory
13	1,30	-0,50	Satisfactory
29	1,34	-0,43	Satisfactory
10	1,37	-0,38	Satisfactory
32	1,38	-0,37	Satisfactory
23	1,40	-0,33	Satisfactory
48	1,44	-0,27	Satisfactory
37	1,46	-0,23	Satisfactory
49	1,48	-0,20	Satisfactory
16	1,50	-0,17	Satisfactory
46	1,53	-0,12	Satisfactory
27	1,56	-0,07	Satisfactory
9	1,60	0,00	Satisfactory
15	1,60	0,00	Satisfactory

Lab.	MAM (ng/mg)	Z-score	Result
6	1,61	0,02	Satisfactory
42	1,64	0,07	Satisfactory
19	1,70	0,17	Satisfactory
40	1,70	0,17	Satisfactory
25	1,80	0,33	Satisfactory
31	1,82	0,37	Satisfactory
47	1,85	0,41	Satisfactory
33	1,85	0,42	Satisfactory
55	1,88	0,47	Satisfactory
5	1,89	0,48	Satisfactory
12	1,90	0,50	Satisfactory
14	1,90	0,50	Satisfactory
36	1,90	0,50	Satisfactory
35	1,91	0,51	Satisfactory
30	1,98	0,63	Satisfactory
3	2,07	0,78	Satisfactory
44	2,19	0,98	Satisfactory
18	2,23	1,05	Satisfactory
39	2,29	1,14	Satisfactory
11	2,40	1,33	Satisfactory
17	2,46	1,43	Satisfactory
21	2,52	1,54	Satisfactory
24	3,19	2,65	Questionable
54	5,76	6,93	Unsatisfactory
51	9,90	13,83	Unsatisfactory
52	P		

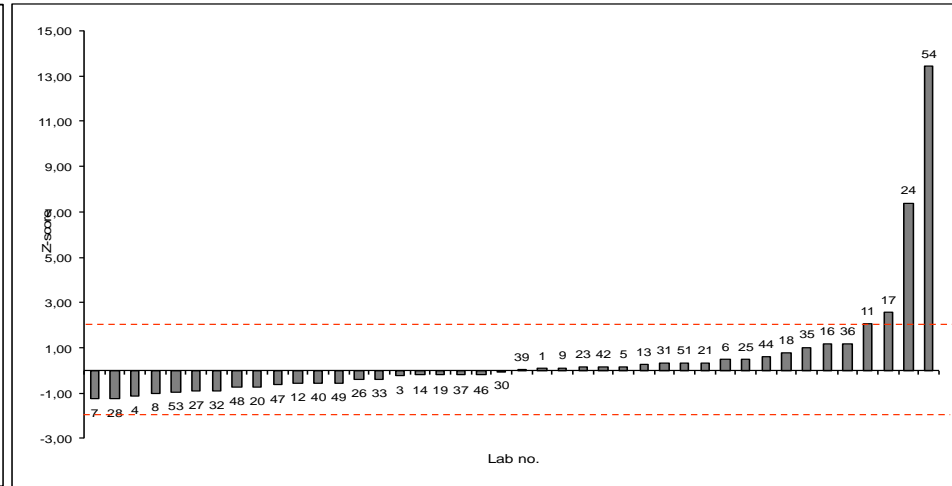
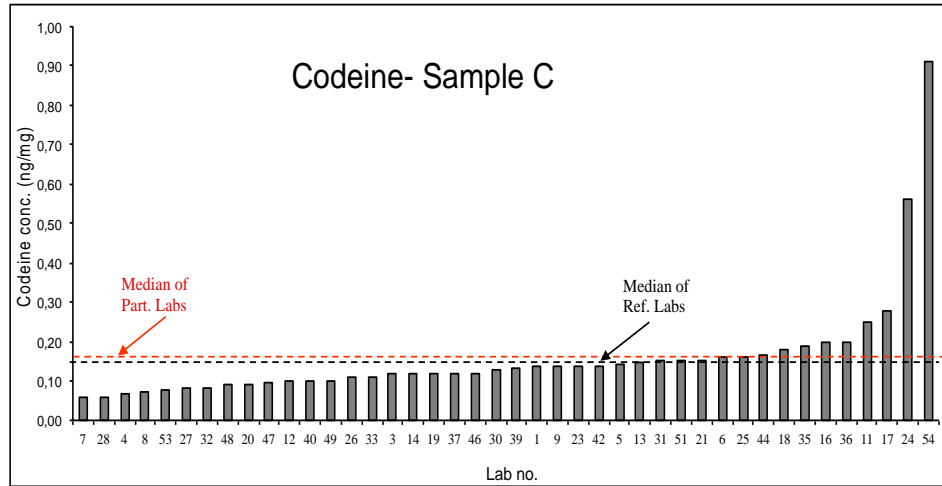
Average	1,819
SD	1,391
CV%	76,487
Median	1,600
Minimum	0,56
Quartile 25	1,300
Quartile 75	1,900
Maximum	9,90
Iqr	0,600



Lab.	Morphine (ng/mg)	Z-score	Result
34	0,17	-1,46	Satisfactory
15	0,20	-1,33	Satisfactory
8	0,24	-1,16	Satisfactory
28	0,28	-1,01	Satisfactory
49	0,29	-0,97	Satisfactory
4	0,34	-0,77	Satisfactory
7	0,36	-0,69	Satisfactory
20	0,36	-0,69	Satisfactory
27	0,36	-0,69	Satisfactory
2	0,40	-0,53	Satisfactory
41	0,41	-0,51	Satisfactory
48	0,41	-0,49	Satisfactory
32	0,43	-0,41	Satisfactory
10	0,43	-0,39	Satisfactory
47	0,44	-0,37	Satisfactory
26	0,45	-0,33	Satisfactory
29	0,46	-0,29	Satisfactory
36	0,46	-0,29	Satisfactory
53	0,48	-0,19	Satisfactory
6	0,49	-0,17	Satisfactory
12	0,50	-0,13	Satisfactory
40	0,50	-0,13	Satisfactory
14	0,51	-0,09	Satisfactory
33	0,52	-0,05	Satisfactory
23	0,52	-0,03	Satisfactory
19	0,54	0,03	Satisfactory

Lab.	Morphine (ng/mg)	Z-score	Result
37	0,54	0,03	Satisfactory
13	0,57	0,16	Satisfactory
46	0,58	0,19	Satisfactory
39	0,59	0,22	Satisfactory
5	0,59	0,23	Satisfactory
16	0,60	0,27	Satisfactory
31	0,60	0,27	Satisfactory
38	0,61	0,31	Satisfactory
21	0,61	0,32	Satisfactory
42	0,64	0,43	Satisfactory
25	0,68	0,59	Satisfactory
30	0,68	0,59	Satisfactory
51	0,68	0,59	Satisfactory
55	0,69	0,63	Satisfactory
35	0,70	0,67	Satisfactory
9	0,71	0,70	Satisfactory
3	0,71	0,72	Satisfactory
44	0,83	1,18	Satisfactory
24	0,83	1,20	Satisfactory
1	0,87	1,35	Satisfactory
11	0,92	1,56	Satisfactory
18	0,98	1,81	Satisfactory
17	1,22	2,76	Questionable
54	3,29	11,08	Unsatisfactory
52	P		

Average	0,605
SD	0,432
CV%	71,431
Median	0,532
Minimum	0,17
Quartile 25	0,431
Quartile 75	0,680
Maximum	3,29
Iqr	0,249

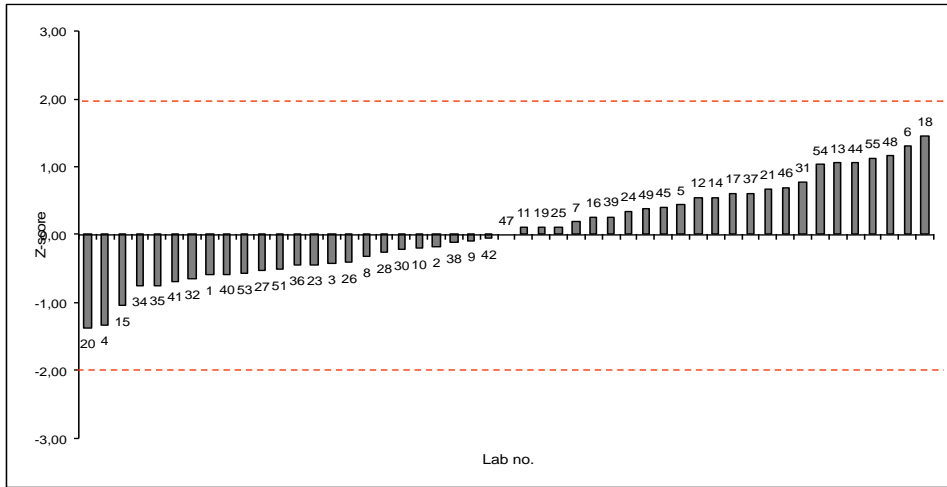
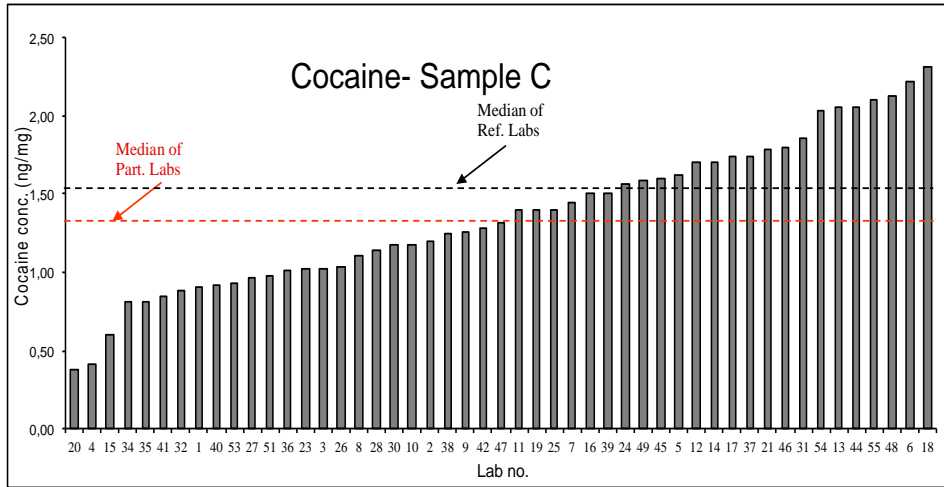


Lab.	Codeine (ng/mg)	Z-score	Result
7	0,06	-1,24	Satisfactory
28	0,06	-1,24	Satisfactory
4	0,07	-1,14	Satisfactory
8	0,07	-1,00	Satisfactory
53	0,08	-0,96	Satisfactory
27	0,08	-0,90	Satisfactory
32	0,08	-0,90	Satisfactory
48	0,09	-0,74	Satisfactory
20	0,09	-0,72	Satisfactory
47	0,09	-0,66	Satisfactory
12	0,10	-0,55	Satisfactory
40	0,10	-0,55	Satisfactory
49	0,10	-0,55	Satisfactory
26	0,11	-0,38	Satisfactory
33	0,11	-0,38	Satisfactory
3	0,12	-0,24	Satisfactory
14	0,12	-0,21	Satisfactory
19	0,12	-0,21	Satisfactory
37	0,12	-0,21	Satisfactory
46	0,12	-0,21	Satisfactory
30	0,13	-0,03	Satisfactory
39	0,13	0,03	Satisfactory
1	0,14	0,09	Satisfactory
9	0,14	0,10	Satisfactory
23	0,14	0,14	Satisfactory
42	0,14	0,14	Satisfactory

Lab.	Codeine (ng/mg)	Z-score	Result
5	0,14	0,17	Satisfactory
13	0,15	0,24	Satisfactory
31	0,15	0,31	Satisfactory
51	0,15	0,31	Satisfactory
21	0,15	0,33	Satisfactory
6	0,16	0,48	Satisfactory
25	0,16	0,48	Satisfactory
44	0,17	0,60	Satisfactory
18	0,18	0,79	Satisfactory
35	0,19	1,02	Satisfactory
16	0,20	1,17	Satisfactory
36	0,20	1,17	Satisfactory
11	0,25	2,03	Questionable
17	0,28	2,55	Questionable
24	0,56	7,38	Unsatisfactory
54	0,91	13,41	Unsatisfactory
55	<0.2		
52	U		

Average	0,160
SD	0,142
CV%	89,052
Median	0,132
Minimum	0,06
Quartile 25	0,100
Quartile 75	0,158
Maximum	0,91
Iqr	0,058

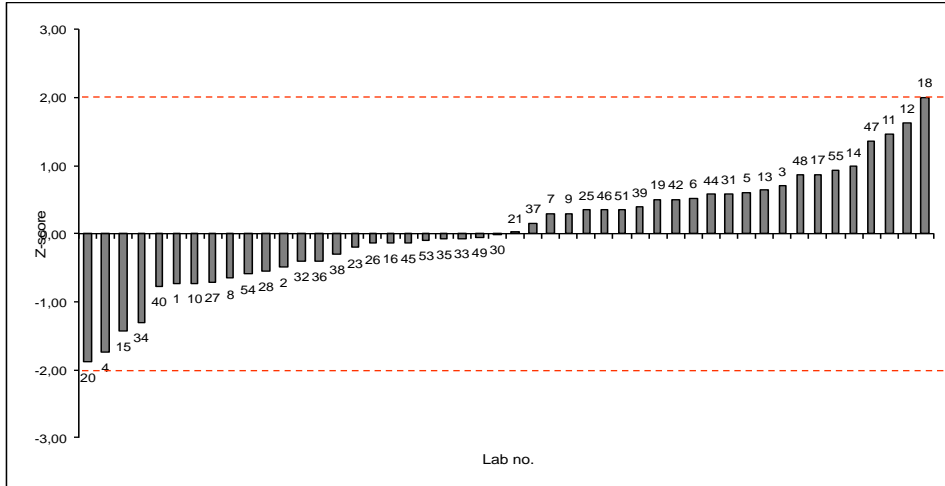
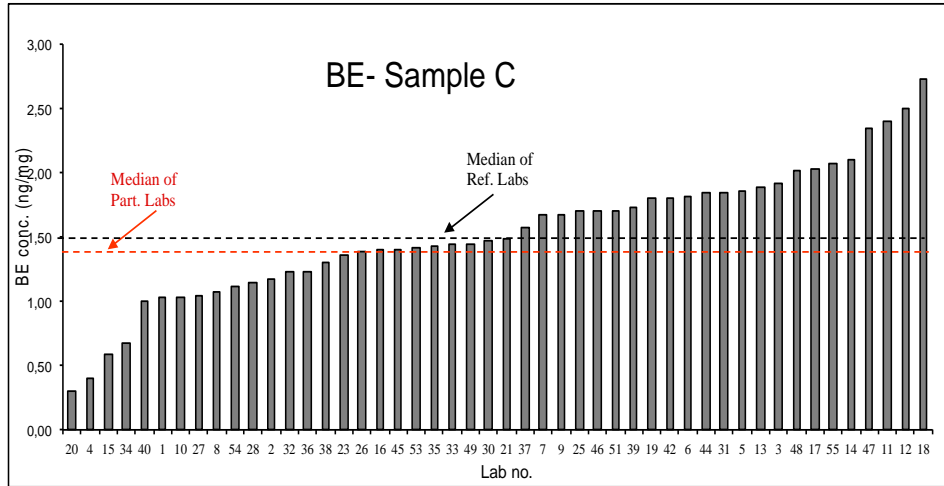
The median Codeine concentration is below the cut-off proposed by SoHT (0.20 ng/mg)



Lab.	Cocaine (ng/mg)	Z-score	Result
20	0,38	-1,37	Satisfactory
4	0,41	-1,32	Satisfactory
15	0,60	-1,05	Satisfactory
34	0,81	-0,75	Satisfactory
35	0,81	-0,74	Satisfactory
41	0,85	-0,69	Satisfactory
32	0,88	-0,64	Satisfactory
1	0,91	-0,60	Satisfactory
40	0,92	-0,58	Satisfactory
53	0,93	-0,57	Satisfactory
27	0,96	-0,52	Satisfactory
51	0,97	-0,51	Satisfactory
36	1,01	-0,45	Satisfactory
23	1,02	-0,44	Satisfactory
3	1,02	-0,43	Satisfactory
26	1,04	-0,41	Satisfactory
8	1,10	-0,32	Satisfactory
28	1,14	-0,26	Satisfactory
30	1,17	-0,22	Satisfactory
10	1,18	-0,20	Satisfactory
2	1,20	-0,17	Satisfactory
38	1,24	-0,12	Satisfactory
9	1,26	-0,09	Satisfactory
42	1,28	-0,06	Satisfactory
47	1,32	0,00	Satisfactory
11	1,40	0,12	Satisfactory

Lab.	Cocaine (ng/mg)	Z-score	Result
19	1,40	0,12	Satisfactory
25	1,40	0,12	Satisfactory
7	1,45	0,19	Satisfactory
16	1,50	0,26	Satisfactory
39	1,50	0,27	Satisfactory
24	1,56	0,35	Satisfactory
49	1,58	0,38	Satisfactory
45	1,60	0,41	Satisfactory
5	1,62	0,44	Satisfactory
12	1,70	0,55	Satisfactory
14	1,70	0,55	Satisfactory
17	1,74	0,61	Satisfactory
37	1,74	0,61	Satisfactory
21	1,79	0,68	Satisfactory
46	1,80	0,70	Satisfactory
31	1,85	0,77	Satisfactory
54	2,03	1,03	Satisfactory
13	2,05	1,06	Satisfactory
44	2,05	1,06	Satisfactory
55	2,10	1,13	Satisfactory
48	2,12	1,16	Satisfactory
6	2,22	1,31	Satisfactory
18	2,32	1,45	Satisfactory
33	P		
52	P		

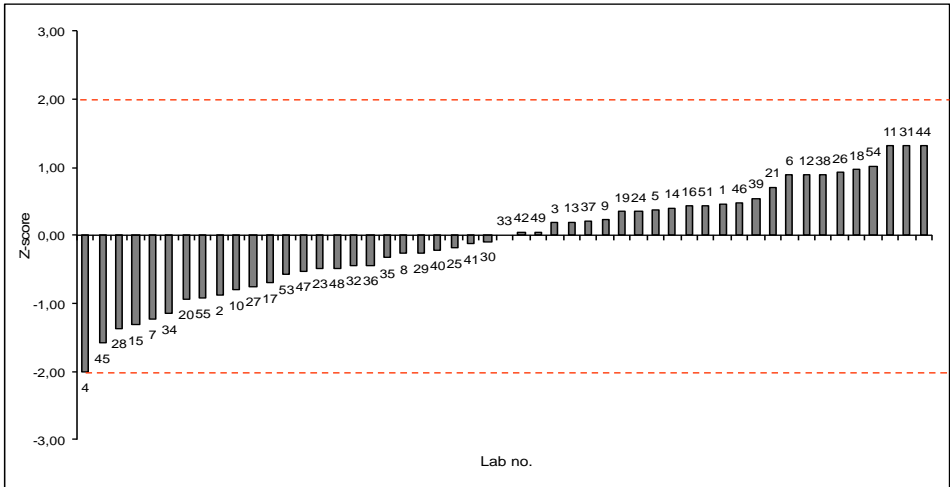
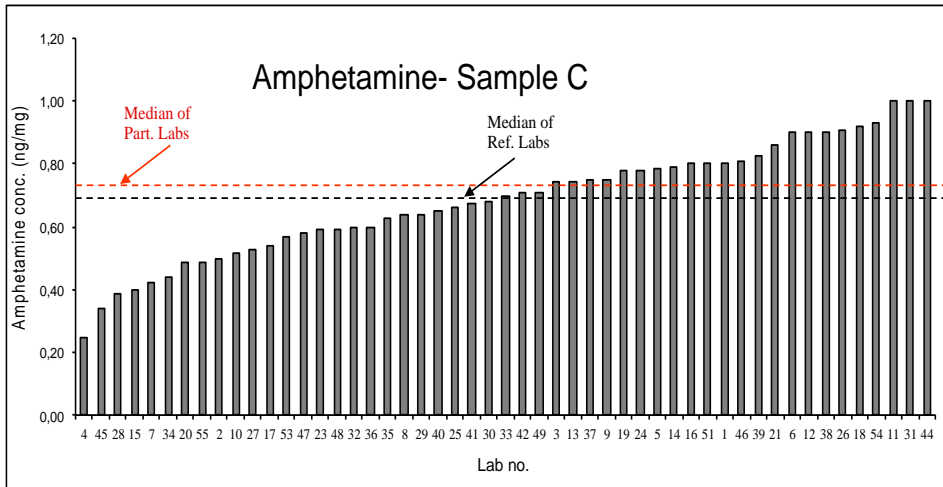
Average	1,360
SD	0,468
CV%	34,396
Median	1,320
Minimum	0,38
Quartile 25	1,013
Quartile 75	1,700
Maximum	2,32
Iqr	0,687



Lab.	BE (ng/mg)	Z-score	Result
20	0,30	-1,89	Satisfactory
4	0,40	-1,73	Satisfactory
15	0,59	-1,43	Satisfactory
34	0,67	-1,30	Satisfactory
40	1,00	-0,77	Satisfactory
1	1,03	-0,73	Satisfactory
10	1,03	-0,72	Satisfactory
27	1,04	-0,71	Satisfactory
8	1,07	-0,66	Satisfactory
54	1,11	-0,60	Satisfactory
28	1,14	-0,55	Satisfactory
2	1,18	-0,48	Satisfactory
32	1,23	-0,40	Satisfactory
36	1,23	-0,40	Satisfactory
38	1,30	-0,29	Satisfactory
23	1,35	-0,21	Satisfactory
26	1,39	-0,15	Satisfactory
16	1,40	-0,13	Satisfactory
45	1,40	-0,13	Satisfactory
53	1,42	-0,10	Satisfactory
35	1,43	-0,08	Satisfactory
33	1,44	-0,07	Satisfactory
49	1,45	-0,05	Satisfactory
30	1,48	0,00	Satisfactory
21	1,49	0,00	Satisfactory
37	1,58	0,16	Satisfactory

Lab.	BE (ng/mg)	Z-score	Result
7	1,67	0,30	Satisfactory
9	1,67	0,30	Satisfactory
25	1,70	0,35	Satisfactory
46	1,70	0,35	Satisfactory
51	1,70	0,35	Satisfactory
39	1,73	0,39	Satisfactory
19	1,80	0,51	Satisfactory
42	1,80	0,51	Satisfactory
6	1,81	0,52	Satisfactory
44	1,84	0,57	Satisfactory
31	1,85	0,59	Satisfactory
5	1,86	0,60	Satisfactory
13	1,88	0,64	Satisfactory
3	1,92	0,70	Satisfactory
48	2,02	0,86	Satisfactory
17	2,03	0,88	Satisfactory
55	2,07	0,93	Satisfactory
14	2,10	0,99	Satisfactory
47	2,34	1,37	Satisfactory
11	2,40	1,47	Satisfactory
12	2,50	1,63	Satisfactory
18	2,73	2,00	Questionable
41	> 1.0		
52	P		

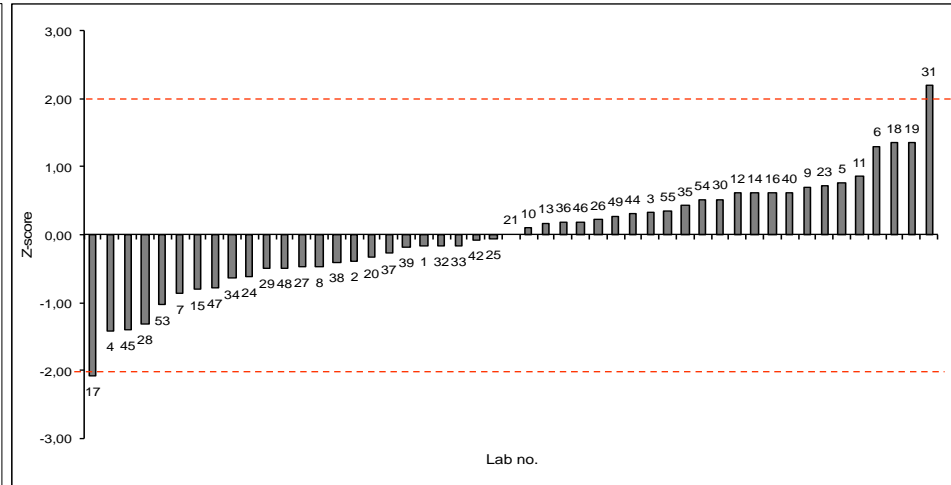
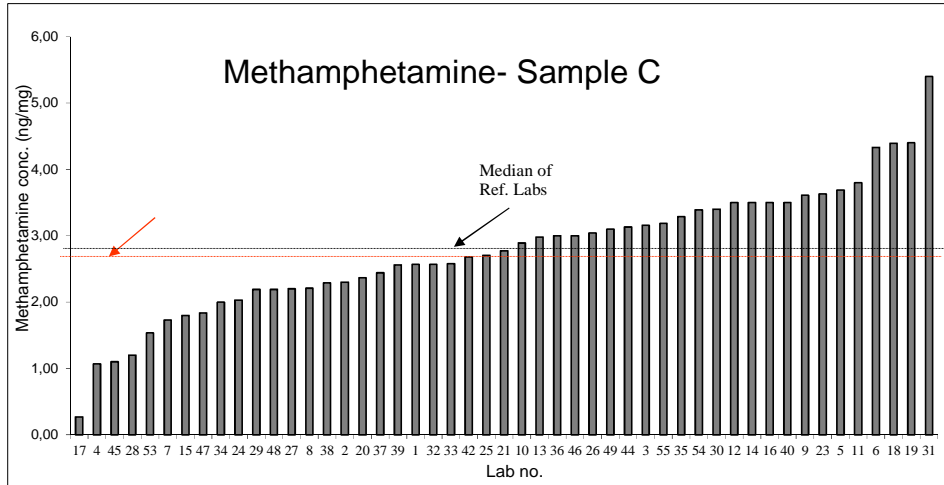
Average	1,527
SD	0,507
CV%	33,190
Median	1,483
Minimum	0,30
Quartile 25	1,218
Quartile 75	1,843
Maximum	2,73
Iqr	0,625



Lab.	Amphetamine (ng/mg)	Z-score	Result
4	0,24	-2,00	Questionable
45	0,34	-1,58	Satisfactory
28	0,39	-1,36	Satisfactory
15	0,40	-1,32	Satisfactory
7	0,42	-1,23	Satisfactory
34	0,44	-1,15	Satisfactory
20	0,49	-0,94	Satisfactory
55	0,49	-0,93	Satisfactory
2	0,50	-0,88	Satisfactory
10	0,52	-0,80	Satisfactory
27	0,53	-0,75	Satisfactory
17	0,54	-0,70	Satisfactory
53	0,57	-0,57	Satisfactory
47	0,58	-0,53	Satisfactory
23	0,59	-0,48	Satisfactory
48	0,59	-0,48	Satisfactory
32	0,60	-0,44	Satisfactory
36	0,60	-0,44	Satisfactory
35	0,63	-0,33	Satisfactory
8	0,64	-0,27	Satisfactory
29	0,64	-0,26	Satisfactory
40	0,65	-0,22	Satisfactory
25	0,66	-0,18	Satisfactory
41	0,67	-0,12	Satisfactory
30	0,68	-0,09	Satisfactory
33	0,70	0,00	Satisfactory

Lab.	Amphetamine (ng/mg)	Z-score	Result
42	0,71	0,04	Satisfactory
49	0,71	0,04	Satisfactory
3	0,74	0,18	Satisfactory
13	0,74	0,19	Satisfactory
37	0,75	0,22	Satisfactory
9	0,75	0,22	Satisfactory
19	0,78	0,35	Satisfactory
24	0,78	0,35	Satisfactory
5	0,79	0,38	Satisfactory
14	0,79	0,39	Satisfactory
16	0,80	0,44	Satisfactory
51	0,80	0,44	Satisfactory
1	0,81	0,46	Satisfactory
46	0,81	0,48	Satisfactory
39	0,82	0,54	Satisfactory
21	0,86	0,71	Satisfactory
6	0,90	0,88	Satisfactory
12	0,90	0,88	Satisfactory
38	0,90	0,88	Satisfactory
26	0,91	0,92	Satisfactory
18	0,92	0,96	Satisfactory
54	0,93	1,01	Satisfactory
11	1,00	1,32	Satisfactory
31	1,00	1,32	Satisfactory
44	1,00	1,32	Satisfactory
52	P		

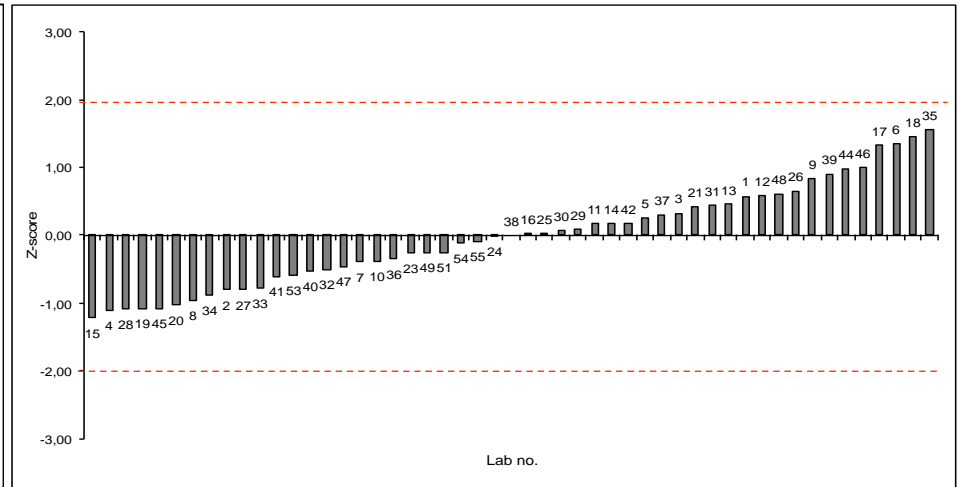
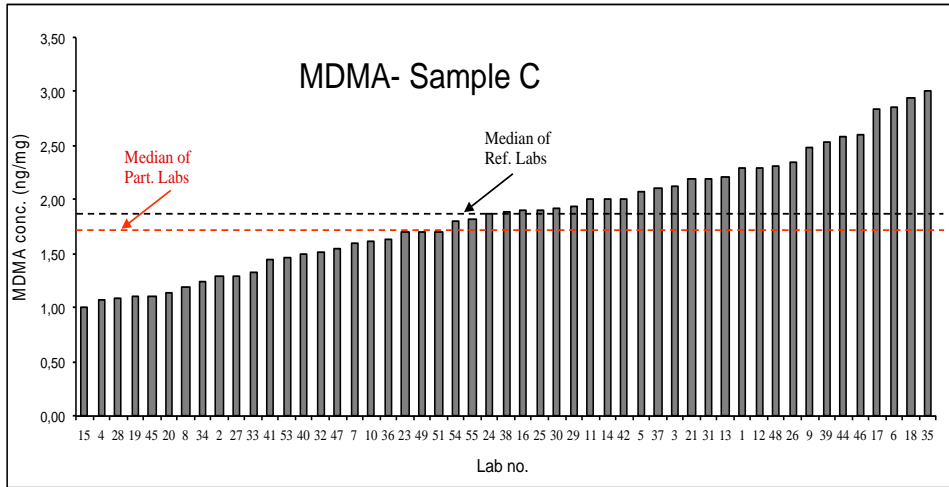
Average	0,686
SD	0,179
CV%	26,061
Median	0,700
Minimum	0,24
Quartile 25	0,575
Quartile 75	0,803
Maximum	1,00
Iqr	0,228



Lab.	Methamphetamine (ng/mg)	Z-score	Result
17	0,27	-2,09	Questionable
4	1,07	-1,42	Satisfactory
45	1,10	-1,40	Satisfactory
28	1,20	-1,31	Satisfactory
53	1,54	-1,03	Satisfactory
7	1,73	-0,87	Satisfactory
15	1,80	-0,81	Satisfactory
47	1,84	-0,78	Satisfactory
34	2,00	-0,65	Satisfactory
24	2,03	-0,62	Satisfactory
29	2,19	-0,49	Satisfactory
48	2,19	-0,49	Satisfactory
27	2,20	-0,48	Satisfactory
8	2,21	-0,47	Satisfactory
38	2,29	-0,40	Satisfactory
2	2,30	-0,40	Satisfactory
20	2,37	-0,34	Satisfactory
37	2,44	-0,28	Satisfactory
39	2,56	-0,18	Satisfactory
1	2,57	-0,17	Satisfactory
32	2,57	-0,17	Satisfactory
33	2,58	-0,16	Satisfactory
42	2,68	-0,08	Satisfactory
25	2,70	-0,06	Satisfactory
21	2,78	0,00	Satisfactory
10	2,89	0,10	Satisfactory

Lab.	Methamphetamine (ng/mg)	Z-score	Result
13	2,98	0,17	Satisfactory
36	3,00	0,19	Satisfactory
46	3,00	0,19	Satisfactory
26	3,04	0,22	Satisfactory
49	3,10	0,27	Satisfactory
44	3,13	0,30	Satisfactory
3	3,16	0,32	Satisfactory
55	3,19	0,34	Satisfactory
35	3,29	0,43	Satisfactory
54	3,39	0,51	Satisfactory
30	3,40	0,52	Satisfactory
12	3,50	0,60	Satisfactory
14	3,50	0,60	Satisfactory
16	3,50	0,60	Satisfactory
40	3,50	0,60	Satisfactory
9	3,61	0,70	Satisfactory
23	3,63	0,71	Satisfactory
5	3,69	0,76	Satisfactory
11	3,80	0,85	Satisfactory
6	4,33	1,30	Satisfactory
18	4,40	1,35	Satisfactory
19	4,40	1,35	Satisfactory
31	5,40	2,19	Questionable
41	> 4.0		
52	P		

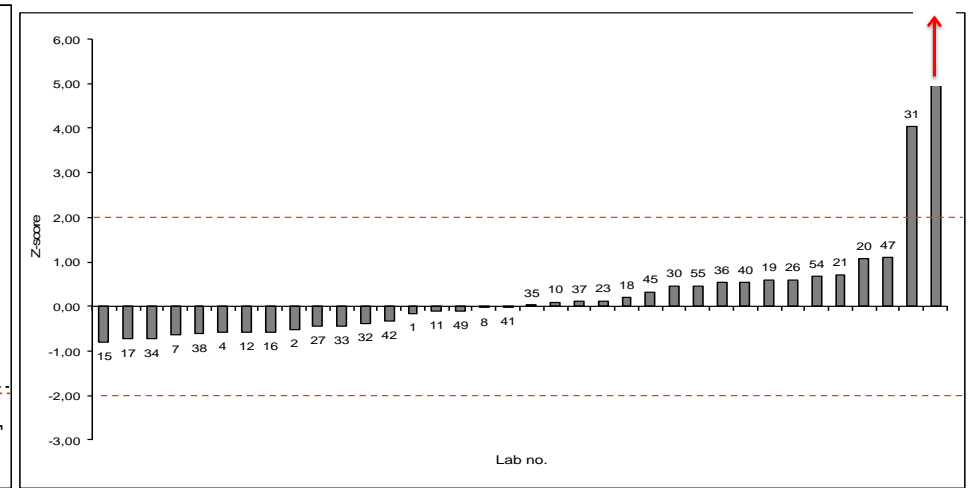
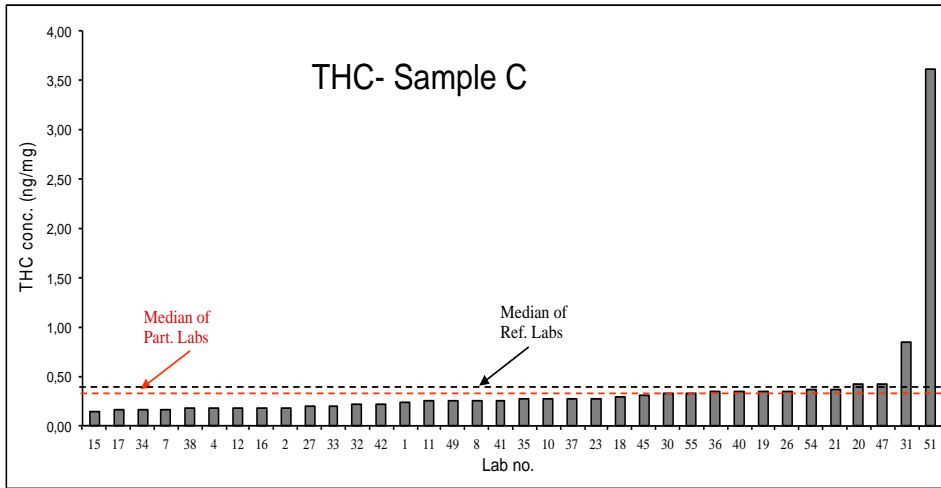
Average	2,776
SD	0,949
CV%	34,194
Median	2,775
Minimum	0,27
Quartile 25	2,200
Quartile 75	3,400
Maximum	5,40
Iqr	1,200



Lab.	MDMA (ng/mg)	Z-score	Result
15	1,00	-1,21	Satisfactory
4	1,08	-1,10	Satisfactory
28	1,09	-1,09	Satisfactory
19	1,10	-1,07	Satisfactory
45	1,10	-1,07	Satisfactory
20	1,14	-1,02	Satisfactory
8	1,19	-0,95	Satisfactory
34	1,24	-0,88	Satisfactory
2	1,30	-0,80	Satisfactory
27	1,30	-0,80	Satisfactory
33	1,32	-0,77	Satisfactory
41	1,44	-0,60	Satisfactory
53	1,46	-0,58	Satisfactory
40	1,50	-0,52	Satisfactory
32	1,52	-0,50	Satisfactory
47	1,55	-0,45	Satisfactory
7	1,60	-0,39	Satisfactory
10	1,61	-0,37	Satisfactory
36	1,63	-0,34	Satisfactory
23	1,70	-0,25	Satisfactory
49	1,70	-0,25	Satisfactory
51	1,70	-0,25	Satisfactory
54	1,80	-0,11	Satisfactory
55	1,82	-0,09	Satisfactory
24	1,87	-0,01	Satisfactory
38	1,88	0,00	Satisfactory

Lab.	MDMA (ng/mg)	Z-score	Result
16	1,90	0,03	Satisfactory
25	1,90	0,03	Satisfactory
30	1,93	0,07	Satisfactory
29	1,94	0,08	Satisfactory
11	2,00	0,17	Satisfactory
14	2,00	0,17	Satisfactory
42	2,00	0,17	Satisfactory
5	2,07	0,26	Satisfactory
37	2,10	0,30	Satisfactory
3	2,12	0,33	Satisfactory
21	2,19	0,42	Satisfactory
31	2,20	0,44	Satisfactory
13	2,21	0,45	Satisfactory
1	2,30	0,58	Satisfactory
12	2,30	0,58	Satisfactory
48	2,32	0,61	Satisfactory
26	2,35	0,65	Satisfactory
9	2,48	0,83	Satisfactory
39	2,53	0,90	Satisfactory
44	2,59	0,98	Satisfactory
46	2,60	0,99	Satisfactory
17	2,84	1,32	Satisfactory
6	2,86	1,35	Satisfactory
18	2,93	1,45	Satisfactory
35	3,01	1,55	Satisfactory
52	P		

Average	1,869
SD	0,525
CV%	28,122
Median	1,880
Minimum	1,00
Quartile 25	1,480
Quartile 75	2,205
Maximum	3,01
Iqr	0,726



Lab.	THC (ng/mg)	Z-score	Result
15	0,15	-0,80	Satisfactory
17	0,16	-0,73	Satisfactory
34	0,16	-0,72	Satisfactory
7	0,17	-0,65	Satisfactory
38	0,18	-0,62	Satisfactory
4	0,18	-0,59	Satisfactory
12	0,18	-0,59	Satisfactory
16	0,18	-0,59	Satisfactory
2	0,19	-0,52	Satisfactory
27	0,20	-0,45	Satisfactory
33	0,20	-0,45	Satisfactory
32	0,21	-0,38	Satisfactory
42	0,22	-0,33	Satisfactory
1	0,24	-0,15	Satisfactory
11	0,25	-0,10	Satisfactory
49	0,25	-0,10	Satisfactory
8	0,26	-0,03	Satisfactory
41	0,26	-0,01	Satisfactory
35	0,27	0,01	Satisfactory
10	0,28	0,10	Satisfactory
37	0,28	0,11	Satisfactory
23	0,28	0,13	Satisfactory
18	0,29	0,20	Satisfactory
45	0,31	0,32	Satisfactory
30	0,33	0,46	Satisfactory
55	0,33	0,46	Satisfactory

Lab.	THC (ng/mg)	Z-score	Result
36	0,34	0,53	Satisfactory
40	0,34	0,53	Satisfactory
19	0,35	0,60	Satisfactory
26	0,35	0,60	Satisfactory
54	0,36	0,67	Satisfactory
21	0,36	0,70	Satisfactory
20	0,42	1,06	Satisfactory
47	0,42	1,09	Satisfactory
31	0,84	4,03	Unsatisfactory
51	3,60	23,33	Unsatisfactory

Average	0,372
SD	0,559
CV%	150,263
Median	0,264
Minimum	0,15
Quartile 25	0,198
Quartile 75	0,340
Maximum	3,60
Iqr	0,143