



«Tit» «Name» «Fam\_Nam»  
«Organization»  
«Address1»  
«Address\_2»  
«PO\_Box» «City». «Country»

Sevilla, December, 2012

### **Proficiency Test 2012-2**

Laboratory Code: «**Lab\_code**»

Dear participants,

Enclosed you will find the report of the Proficiency Test 2012-2 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 participating laboratories. Forty seven of them sent the report forms back.

Sample contents were as follows:

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

$\chi$ : 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:  $Z\text{-score} \geq 3$

### **Certificate**

A certificate will be mailed to the participants.

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		P					
Codeine*		P		Codeine**		P					
THC		P		Cocaine		P					
				BE		P					
				Amphetamine		P					
				Methamphetamine		P					
				MDMA		P					
				THC		P					

\* The median concentration of codeine in Sample A is 0.15 ng/mg, which is lower than the cut-off proposed by SoHT (0.2 ng/mg)

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

**A:** Your answer  
**T:** True answer  
**F:** False answer

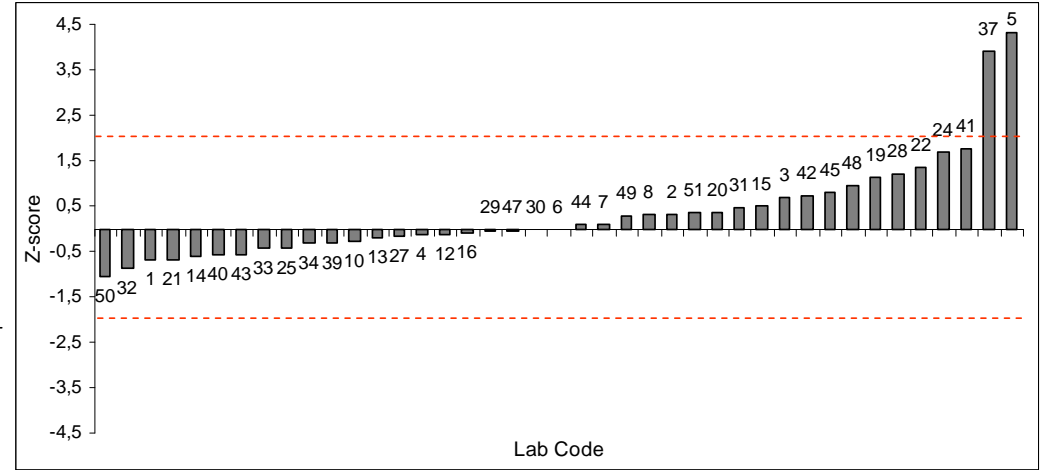
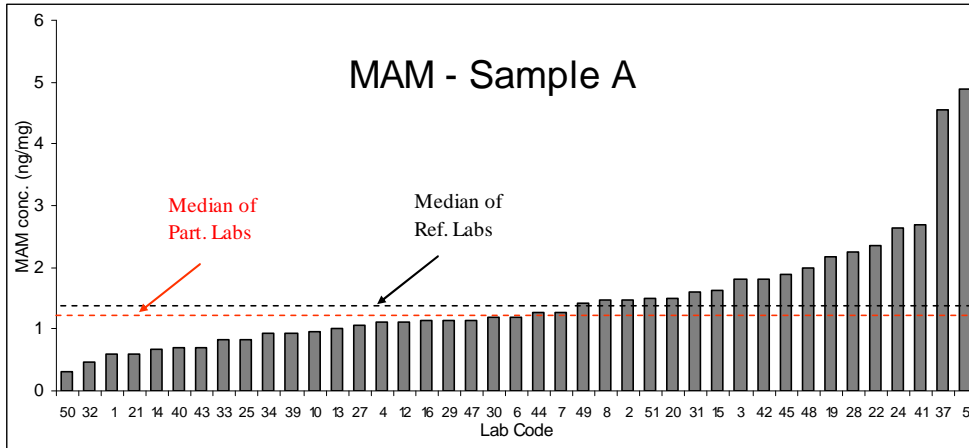
**P:** Positive  
**N:** Negative

**NR:** Not reported  
**NA:** Not analyzed

**FN:** False Negative  
**FP:** False Positive

## Comments:

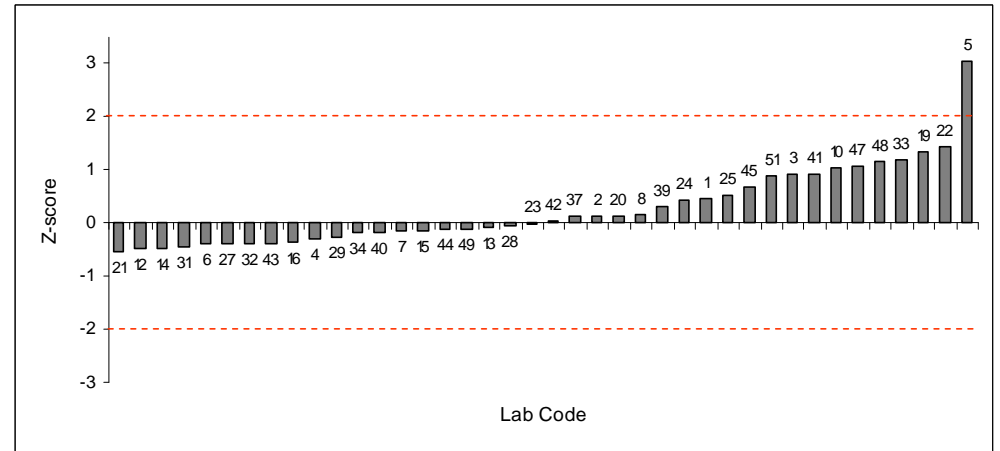
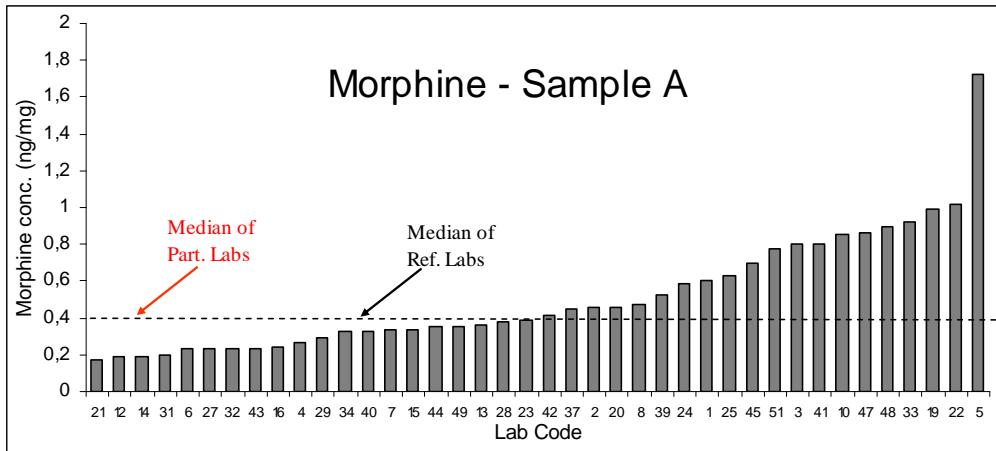
- Sample A contains THC-COOH, methadone, tramadol, pethidine and traces of amphetamine compounds (amphetamine, methamphetamine, MDMA). The median concentrations of amphetamine, methamphetamine and MDMA are 0.06, 0.05 and 0.12 ng/mg, respectively. All of them are below 0.2 ng/mg, which is the cut-off proposed by SoHT for these compounds.
- Sample B contains THC-COOH, cocaethylene, norcocaine, tramadol and traces of methadone and MDA.



Lab.	MAM (ng/mg)	Z-score	Result
50	0,3	-1,045	Satisfactory
32	0,46	-0,86	Satisfactory
1	0,6	-0,70	Satisfactory
21	0,6	-0,70	Satisfactory
14	0,67	-0,62	Satisfactory
40	0,7	-0,58	Satisfactory
43	0,71	-0,57	Satisfactory
33	0,82	-0,44	Satisfactory
25	0,84	-0,421	Satisfactory
34	0,92	-0,33	Satisfactory
39	0,94	-0,30	Satisfactory
10	0,96	-0,28	Satisfactory
13	1,01	-0,22	Satisfactory
27	1,05	-0,17	Satisfactory
4	1,1	-0,12	Satisfactory
12	1,1	-0,12	Satisfactory
16	1,13	-0,08	Satisfactory
29	1,14	-0,07	Satisfactory
47	1,15	-0,06	Satisfactory
30	1,19	-0,01	Satisfactory
6	1,2	0	Satisfactory
44	1,27	0,08	Satisfactory
7	1,28	0,09	Satisfactory
49	1,43	0,27	Satisfactory
8	1,47	0,31	Satisfactory
2	1,48	0,32	Satisfactory

Lab.	MAM (ng/mg)	Z-score	Result
51	1,49	0,337209302	Satisfactory
20	1,51	0,360465116	Satisfactory
31	1,6	0,465116279	Satisfactory
15	1,64	0,511627907	Satisfactory
3	1,8	0,697674419	Satisfactory
42	1,82	0,720930233	Satisfactory
45	1,9	0,813953488	Satisfactory
48	2	0,930232558	Satisfactory
19	2,17	1,127906977	Satisfactory
28	2,25	1,220930233	Satisfactory
22	2,36	1,348837209	Satisfactory
24	2,64	1,674418605	Satisfactory
41	2,7	1,744186047	Satisfactory
37	4,56	3,906976744	Unsatisfactory
5	4,9	4,302325581	Unsatisfactory
9	NR		
36	N		
18	NA		
23	NA		
35	P		
46	P		

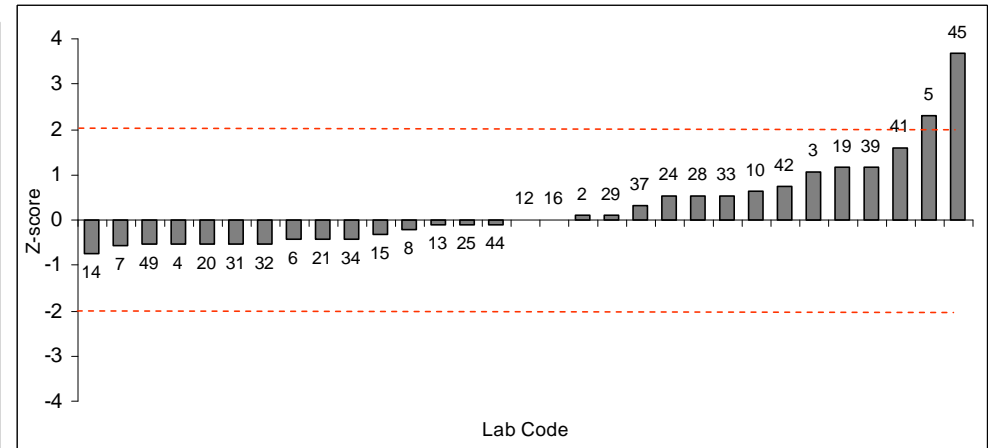
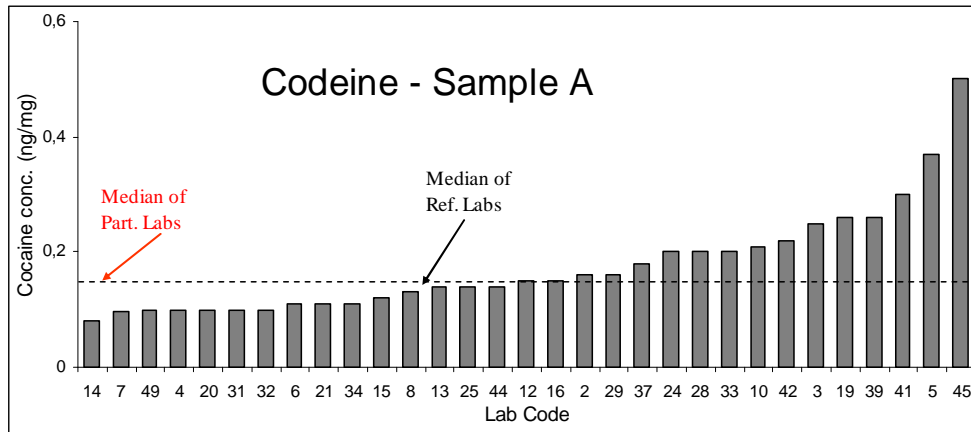
Average	1,48
SD	0,93
CV%	62,61
Median	1,2
Minimum	0,3
Quartile 25	0,94
Quartile 75	1,8
Maximum	4,9
Iqr	0,86



Lab.	Morphine (ng/mg)	Z-score	Result
21	0,17	-0,53	Satisfactory
12	0,19	-0,483	Satisfactory
14	0,19	-0,483	Satisfactory
31	0,2	-0,46	Satisfactory
6	0,23	-0,39	Satisfactory
27	0,23	-0,39	Satisfactory
32	0,23	-0,39	Satisfactory
43	0,23	-0,39	Satisfactory
16	0,24	-0,37	Satisfactory
4	0,27	-0,30	Satisfactory
29	0,29	-0,25	Satisfactory
34	0,33	-0,16	Satisfactory
40	0,33	-0,16	Satisfactory
7	0,34	-0,14	Satisfactory
15	0,34	-0,14	Satisfactory
44	0,35	-0,11	Satisfactory
49	0,35	-0,11	Satisfactory
13	0,36	-0,09	Satisfactory
28	0,38	-0,04	Satisfactory
23	0,39	-0,02	Satisfactory
42	0,41	0,02	Satisfactory
37	0,45	0,11	Satisfactory
2	0,46	0,14	Satisfactory
20	0,46	0,14	Satisfactory
8	0,47	0,16	Satisfactory
39	0,53	0,30	Satisfactory

Lab.	Morphine (ng/mg)	Z-score	Result
24	0,59	0,44	Satisfactory
1	0,6	0,46	Satisfactory
25	0,63	0,53	Satisfactory
45	0,7	0,69	Satisfactory
51	0,78	0,87	Satisfactory
3	0,8	0,92	Satisfactory
41	0,8	0,92	Satisfactory
10	0,85	1,03	Satisfactory
47	0,86	1,06	Satisfactory
48	0,9	1,15	Satisfactory
33	0,92	1,19	Satisfactory
19	0,99	1,36	Satisfactory
22	1,02	1,42	Satisfactory
5	1,72	3,03	Unsatisfactory
30	<0,6		
18	NA		
35	P		
36	P		
46	P		
50	P		
9	NR		

Average	0,51
SD	0,31
CV%	61,27
Median	0,40
Minimum	0,17
Quartile 25	0,285
Quartile 75	0,72
Maximum	1,72
Iqr	0,435

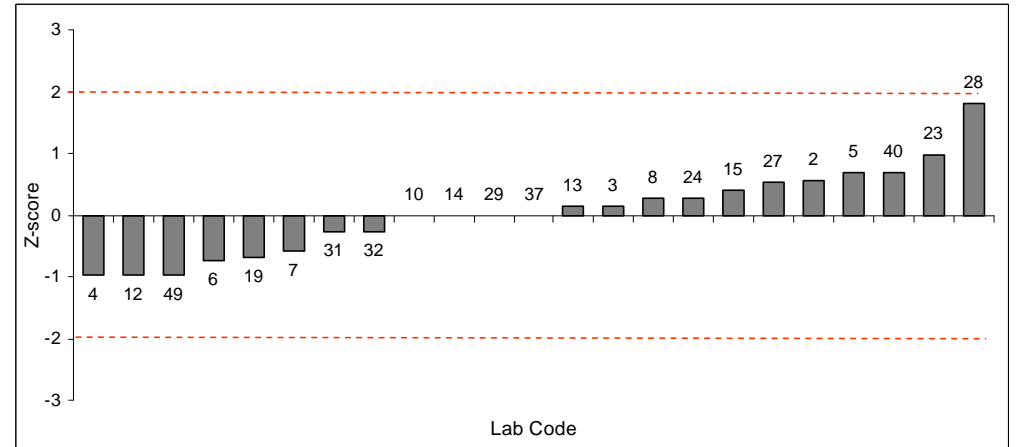
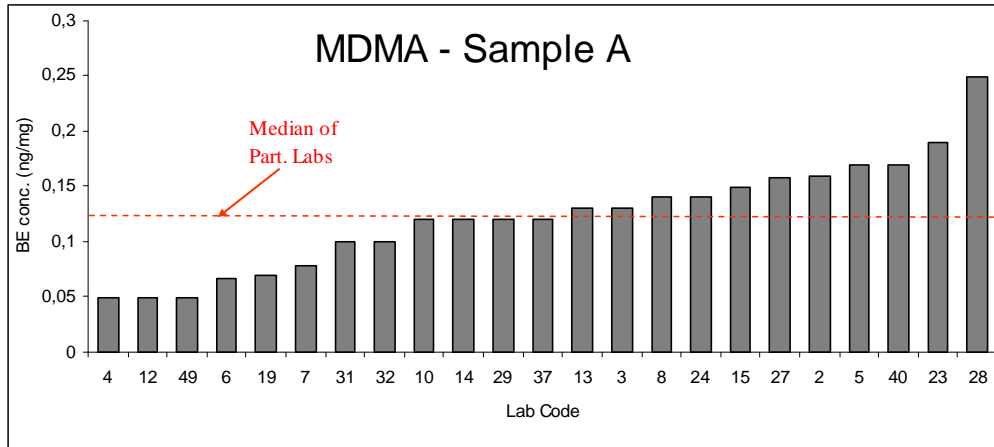


Lab.	Codeine (ng/mg)	Z-score	Result
14	0,08	-0,74	Satisfactory
7	0,096	-0,57	Satisfactory
49	0,098	-0,55	Satisfactory
4	0,1	-0,53	Satisfactory
20	0,1	-0,53	Satisfactory
31	0,1	-0,53	Satisfactory
32	0,1	-0,53	Satisfactory
6	0,11	-0,42	Satisfactory
21	0,11	-0,42	Satisfactory
34	0,11	-0,42	Satisfactory
15	0,12	-0,31	Satisfactory
8	0,13	-0,21	Satisfactory
13	0,14	-0,10	Satisfactory
25	0,14	-0,10	Satisfactory
44	0,14	-0,108	Satisfactory
12	0,15	0	Satisfactory
16	0,15	0	Satisfactory
2	0,16	0,10	Satisfactory
29	0,16	0,10	Satisfactory
37	0,18	0,31	Satisfactory
24	0,2	0,53	Satisfactory
28	0,2	0,53	Satisfactory
33	0,2	0,53	Satisfactory
10	0,21	0,63	Satisfactory
42	0,22	0,74	Satisfactory
3	0,25	1,05	Satisfactory

Lab.	Codeine (ng/mg)	Z-score	Result
19	0,26	1,16	Satisfactory
39	0,26	1,16	Satisfactory
41	0,3	1,58	Satisfactory
5	0,37	2,31	Questionable
45	0,5	3,68	Unsatisfactory
1	N		
22	N		
23	N		
27	N		
30	N		
36	N		
40	N		
43	N		
46	N		
48	N		
50	N		
51	N		
18	NA		
35	U		
47	U		
9	NR		

Average	0,17
SD	0,09
CV%	51,27
Median	0,15
Minimum	0,08
Quartile 25	0,11
Quartile 75	0,205
Maximum	0,5
Iqr	0,095

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

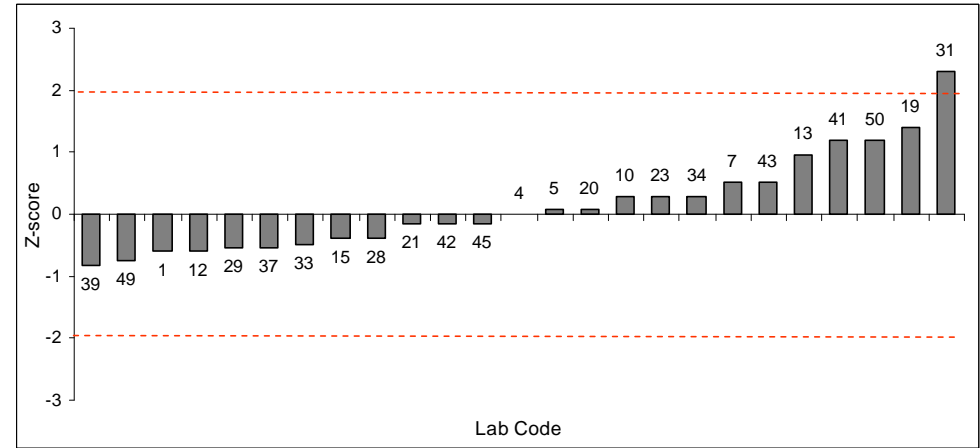
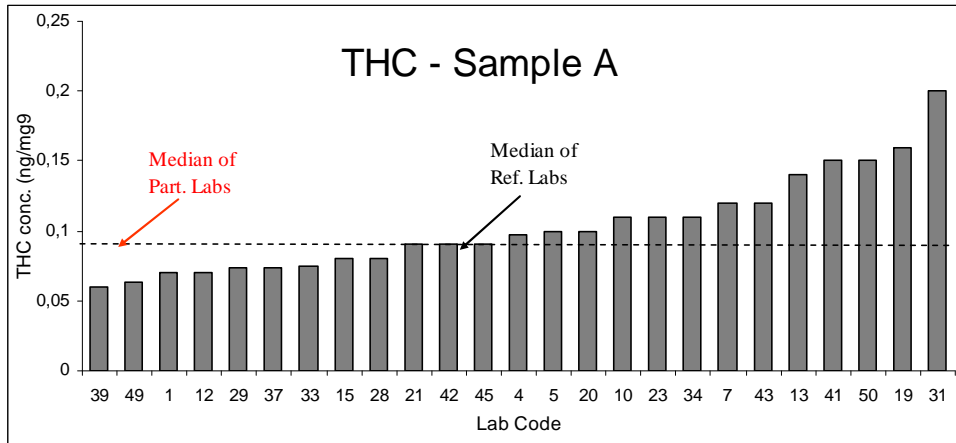


Lab.	MDMA (ng/mg)	Z-score	Result
4	0,05	-0,96	Satisfactory
12	0,05	-0,96	Satisfactory
49	0,05	-0,96	Satisfactory
6	0,066	-0,74	Satisfactory
19	0,07	-0,69	Satisfactory
7	0,078	-0,58	Satisfactory
31	0,1	-0,27	Satisfactory
32	0,1	-0,27	Satisfactory
10	0,12	0	Satisfactory
14	0,12	0	Satisfactory
29	0,12	0	Satisfactory
37	0,12	0	Satisfactory
13	0,13	0,14	Satisfactory
3	0,13	0,14	Satisfactory
8	0,14	0,27	Satisfactory
24	0,14	0,27	Satisfactory
15	0,15	0,41	Satisfactory
27	0,158	0,52	Satisfactory
2	0,16	0,55	Satisfactory
5	0,17	0,69	Satisfactory
40	0,17	0,69	Satisfactory
23	0,19	0,96	Satisfactory
28	0,25	1,79	Satisfactory
45	<LOQ		
1	N		
9	N		

Lab.	MDMA (ng/mg)	Z-score	Result
16	N		
20	N		
22	N		
25	N		
30	N		
33	N		
39	N		
41	N		
43	N		
44	N		
48	N		
50	N		
51	N		
18	NA		
34	NA		
46	NA		
36	P		
35	U		
21	NR		
42	NR		
47	NR		

Average	0,12
SD	0,05
CV%	40,39
Median	0,12
Minimum	0,05
Quartile 25	0,0835
Quartile 75	0,156
Maximum	0,25
Iqr	0,0725

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

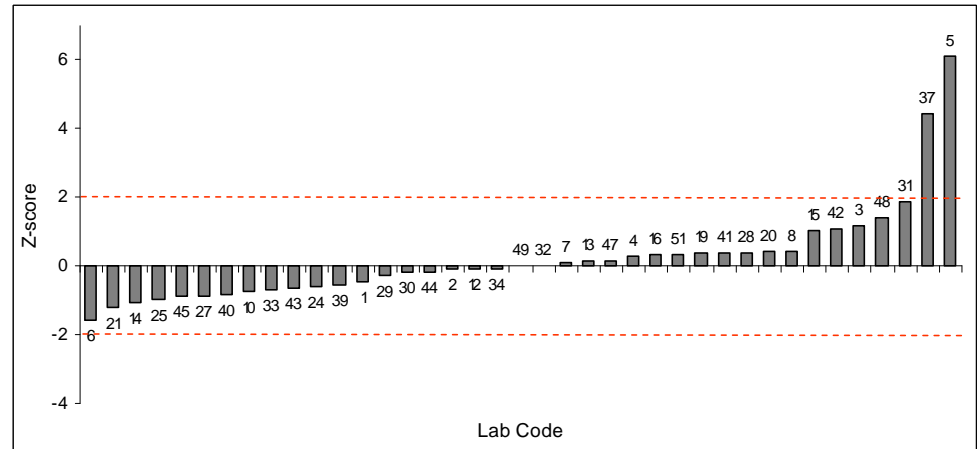
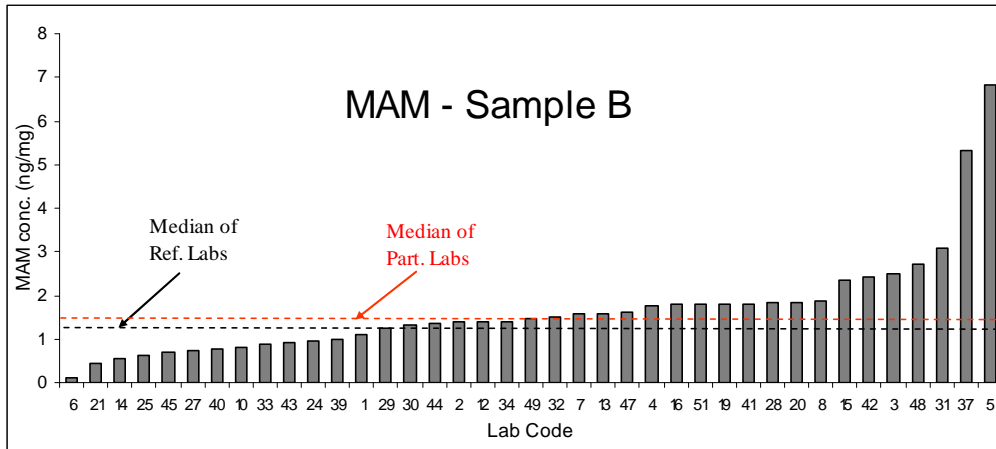


Lab.	THC (ng/mg)	Z-score	Result
39	0,06	-0,82	Satisfactory
49	0,063	-0,75	Satisfactory
1	0,07	-0,60	Satisfactory
12	0,07	-0,60	Satisfactory
29	0,073	-0,53	Satisfactory
37	0,073	-0,53	Satisfactory
33	0,075	-0,49	Satisfactory
15	0,08	-0,38	Satisfactory
28	0,08	-0,38	Satisfactory
21	0,09	-0,15	Satisfactory
42	0,09	-0,15	Satisfactory
45	0,09	-0,15	Satisfactory
4	0,097	0	Satisfactory
5	0,1	0,07	Satisfactory
20	0,1	0,07	Satisfactory
10	0,11	0,29	Satisfactory
23	0,11	0,29	Satisfactory
34	0,11	0,29	Satisfactory
7	0,12	0,51	Satisfactory
43	0,12	0,51	Satisfactory
13	0,14	0,95	Satisfactory
41	0,15	1,18	Satisfactory
50	0,15	1,18	Satisfactory
19	0,16	1,40	Satisfactory
31	0,2	2,29	Questionable
47	N		

Lab.	THC (ng/mg)	Z-score	Result
14	N		
16	N		
22	N		
25	N		
2	NA		
3	NA		
6	NA		
8	NA		
9	NA		
18	NA		
24	NA		
27	NA		
40	NA		
44	NA		
46	NA		
48	NA		
51	NA		
30	P		
32	P		
36	P		
35	U		

Average	0,10324
SD	0,034
CV%	32,99
Median	0,097
Minimum	0,06
Quartile 25	0,075
Quartile 75	0,12
Maximum	0,2
Iqr	0,045

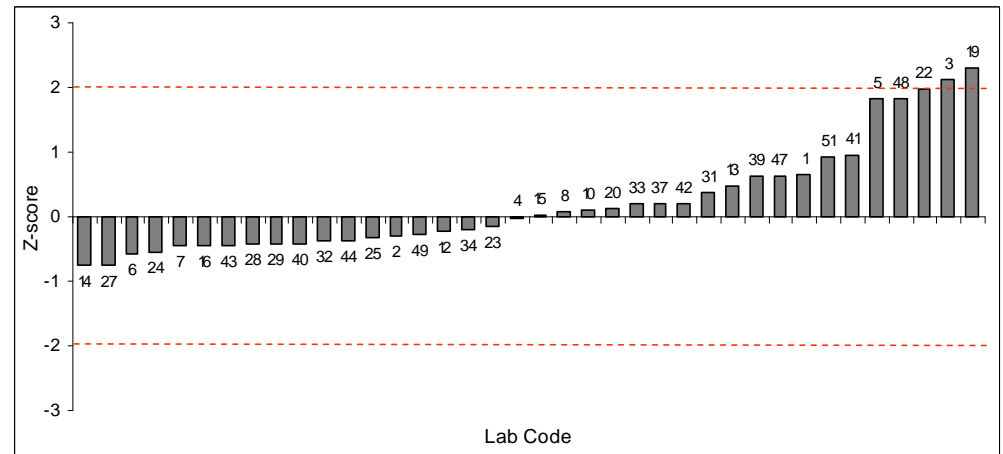
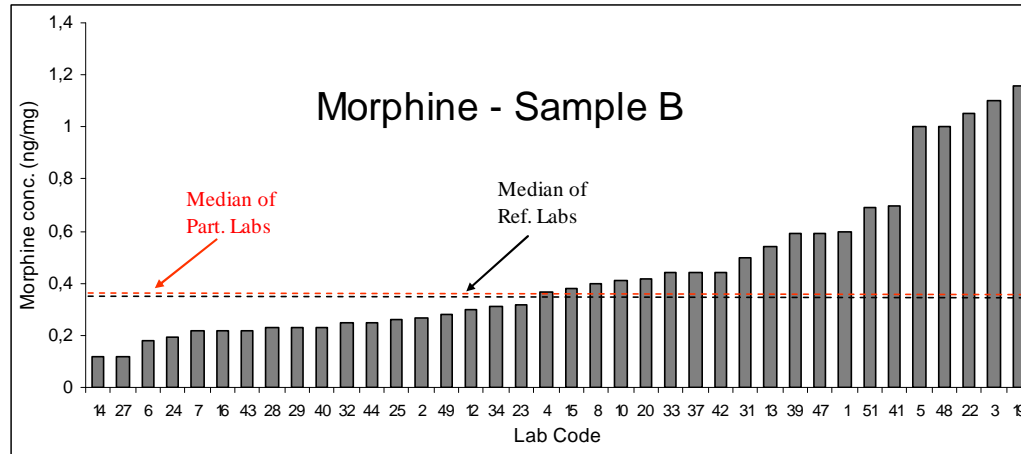




Lab.	MAM (ng/mg)	Z-score	Result
6	0,098	-1,59	Satisfactory
21	0,43	-1,21	Satisfactory
14	0,56	-1,06	Satisfactory
25	0,64	-0,96	Satisfactory
45	0,7	-0,90	Satisfactory
27	0,72	-0,87	Satisfactory
40	0,76	-0,83	Satisfactory
10	0,82	-0,76	Satisfactory
33	0,89	-0,68	Satisfactory
43	0,93	-0,63	Satisfactory
24	0,96	-0,60	Satisfactory
39	0,99	-0,56	Satisfactory
1	1,1	-0,44	Satisfactory
29	1,26	-0,25	Satisfactory
30	1,31	-0,19	Satisfactory
44	1,34	-0,16	Satisfactory
2	1,39	-0,10	Satisfactory
12	1,4	-0,09	Satisfactory
34	1,41	-0,08	Satisfactory
49	1,48	0	Satisfactory
32	1,5	0,02	Satisfactory
7	1,56	0,09	Satisfactory
13	1,59	0,13	Satisfactory
47	1,62	0,16	Satisfactory
4	1,75	0,31	Satisfactory
16	1,78	0,34	Satisfactory

Lab.	MAM (ng/mg)	Z-score	Result
51	1,79	0,36	Satisfactory
19	1,8	0,37	Satisfactory
41	1,8	0,37	Satisfactory
28	1,83	0,40	Satisfactory
20	1,84	0,41	Satisfactory
8	1,87	0,45	Satisfactory
15	2,36	1,01	Satisfactory
42	2,44	1,10	Satisfactory
3	2,5	1,17	Satisfactory
48	2,7	1,40	Satisfactory
31	3,1	1,86	Satisfactory
37	5,32	4,41	Unsatisfactory
5	6,81	6,13	Unsatisfactory
22	N		
36	N		
50	N		
18	NA		
23	NA		
9	NR		
35	P		
46	P		

Average	1,670461538
SD	1,215515884
CV%	72,7652721
Median	1,48
Minimum	0,098
Quartile 25	0,945
Quartile 75	1,815
Maximum	6,81
Iqr	0,87

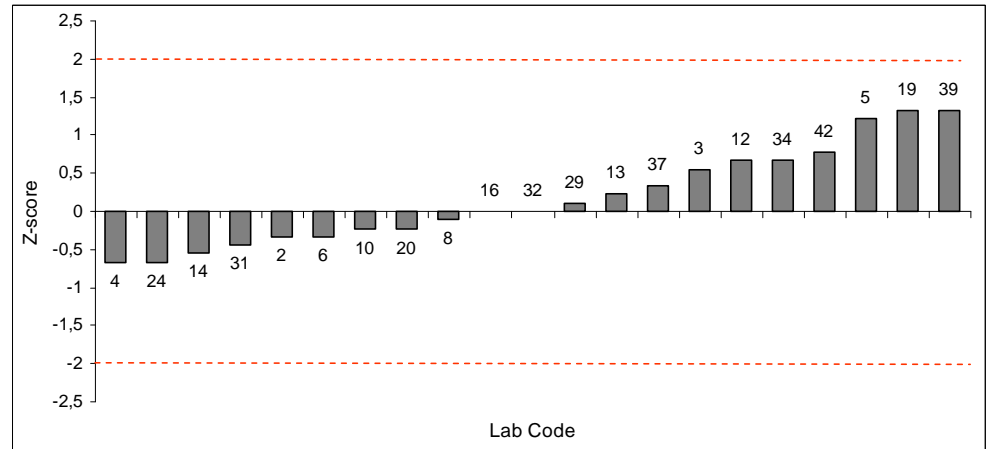
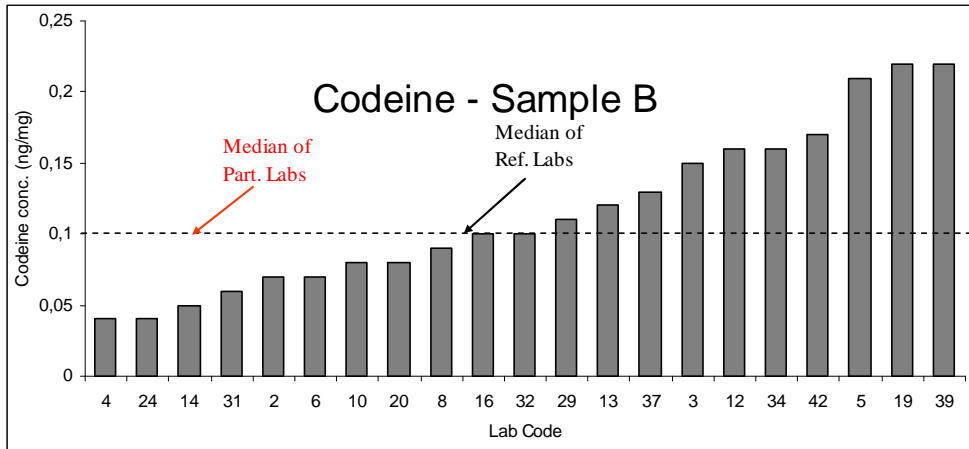


Lab.	Morphine (ng/mg)	Z-score	Result
14	0,12	-0,74	Satisfactory
27	0,12	-0,74	Satisfactory
6	0,18	-0,57	Satisfactory
24	0,19	-0,54	Satisfactory
7	0,22	-0,45	Satisfactory
16	0,22	-0,45	Satisfactory
43	0,22	-0,45	Satisfactory
28	0,23	-0,42	Satisfactory
29	0,23	-0,42	Satisfactory
40	0,23	-0,42	Satisfactory
32	0,25	-0,36	Satisfactory
44	0,25	-0,36	Satisfactory
25	0,26	-0,33	Satisfactory
2	0,27	-0,31	Satisfactory
49	0,28	-0,28	Satisfactory
12	0,3	-0,22	Satisfactory
34	0,31	-0,19	Satisfactory
23	0,32	-0,16	Satisfactory
4	0,37	-0,01	Satisfactory
15	0,38	0,01	Satisfactory
8	0,4	0,07	Satisfactory
10	0,41	0,10	Satisfactory
20	0,42	0,13	Satisfactory
33	0,44	0,19	Satisfactory
37	0,44	0,19	Satisfactory
42	0,44	0,19	Satisfactory

Lab.	Morphine (ng/mg)	Z-score	Result
31	0,5	0,36	Satisfactory
13	0,54	0,48	Satisfactory
39	0,59	0,63	Satisfactory
47	0,59	0,63	Satisfactory
1	0,6	0,66	Satisfactory
51	0,69	0,92	Satisfactory
41	0,7	0,95	Satisfactory
5	1	1,82	Satisfactory
48	1	1,82	Satisfactory
22	1,05	1,97	Satisfactory
3	1,1	2,12	Questionable
19	1,16	2,29	Questionable
30	<0,6		
50	N		
18	NA		
45	NA		
21	NR		
35	P		
36	P		
46	P		
9	NR		

Average	0,45
SD	0,28
CV%	62,72
Median	0,375
Minimum	0,12
Quartile 25	0,235
Quartile 75	0,5775
Maximum	1,16
Iqr	0,3425

Proficiency Test 2012-2 on Drugs of Abuse in hair

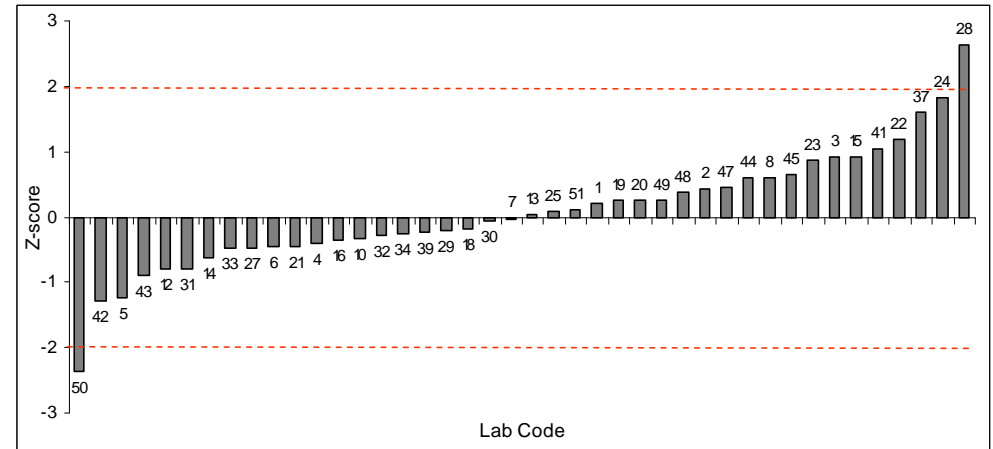
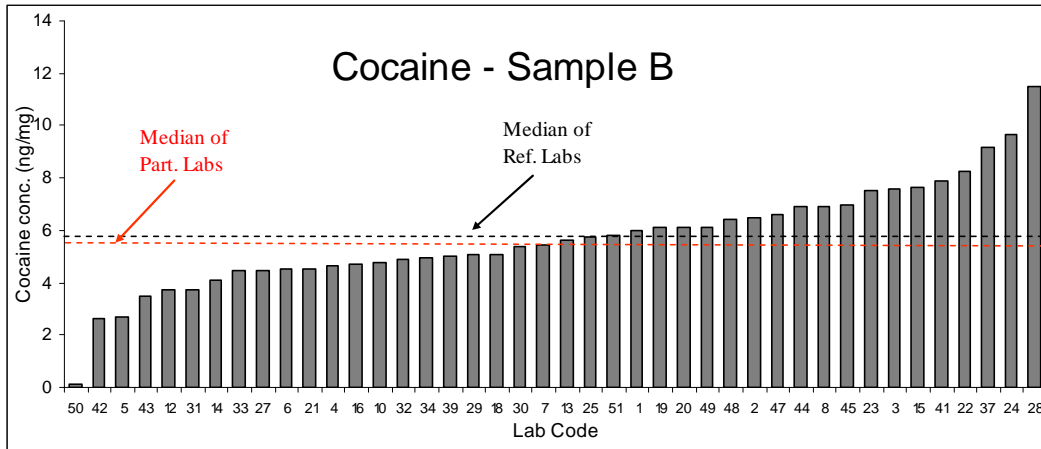


Lab.	Codeine (ng/mg)	Z-score	Result
4	0,04	-0,67	Satisfactory
24	0,04	-0,67	Satisfactory
14	0,05	-0,55	Satisfactory
31	0,06	-0,44	Satisfactory
2	0,07	-0,33	Satisfactory
6	0,07	-0,33	Satisfactory
10	0,08	-0,22	Satisfactory
20	0,08	-0,22	Satisfactory
8	0,09	-0,11	Satisfactory
16	0,1	0	Satisfactory
32	0,1	0	Satisfactory
29	0,11	0,11	Satisfactory
13	0,12	0,22	Satisfactory
37	0,13	0,33	Satisfactory
3	0,15	0,55	Satisfactory
12	0,16	0,67	Satisfactory
34	0,16	0,67	Satisfactory
42	0,17	0,78	Satisfactory
5	0,21	1,22	Satisfactory
19	0,22	1,33	Satisfactory
39	0,22	1,33	Satisfactory
7	<0,05		
1	N		
15	N		
22	N		
23	N		

Lab.	Codeine (ng/mg)	Z-score	Result
25	N		
27	N		
28	N		
30	N		
33	N		
36	N		
40	N		
43	N		
44	N		
45	N		
46	N		
48	N		
49	N		
50	N		
51	N		
18	NA		
21	NR		
41	P		
35	U		
47	U		
9	NR		

Average	0,11
SD	0,05
CV%	48,34
Median	0,1
Minimum	0,04
Quartile 25	0,07
Quartile 75	0,16
Maximum	0,22
Iqr	0,09

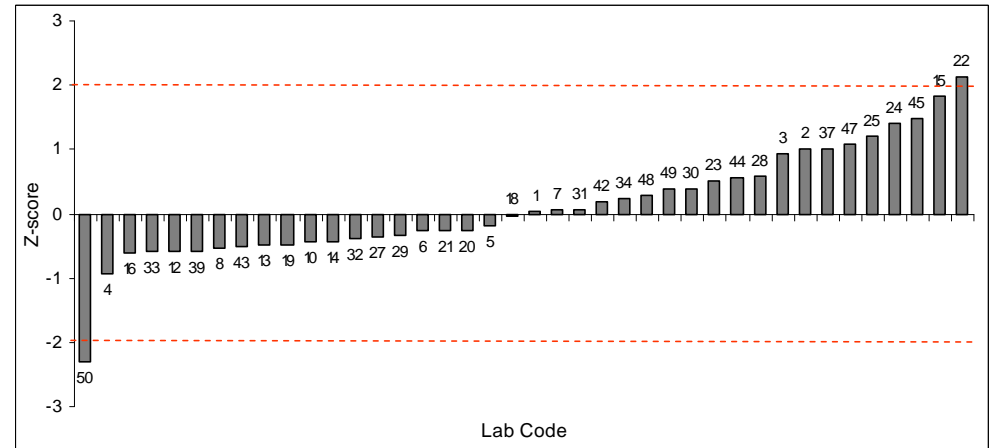
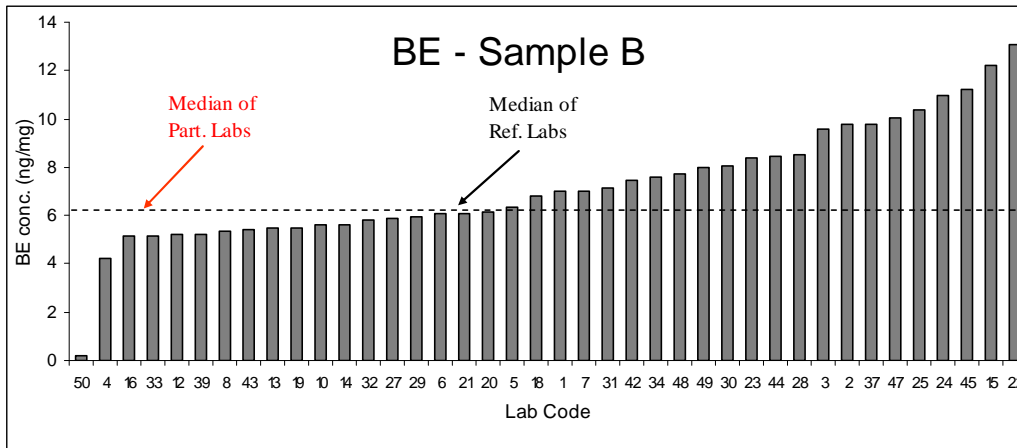
The median Codeine concentration is below the cut-off proposed by SoHT (0.20 ng/mg)



Lab.	Cocaine (ng/mg)	Z-score	Result
50	0,14	-2,37	Questionable
42	2,62	-1,28	Satisfactory
5	2,71	-1,24	Satisfactory
43	3,48	-0,90	Satisfactory
12	3,7	-0,81	Satisfactory
31	3,7	-0,81	Satisfactory
14	4,11	-0,63	Satisfactory
33	4,46	-0,47	Satisfactory
27	4,47	-0,47	Satisfactory
6	4,5	-0,45	Satisfactory
21	4,5	-0,45	Satisfactory
4	4,62	-0,40	Satisfactory
16	4,71	-0,36	Satisfactory
10	4,78	-0,33	Satisfactory
32	4,9	-0,28	Satisfactory
34	4,95	-0,26	Satisfactory
39	5	-0,23	Satisfactory
29	5,05	-0,21	Satisfactory
18	5,09	-0,19	Satisfactory
30	5,38	-0,07	Satisfactory
7	5,45	-0,04	Satisfactory
13	5,62	0,04	Satisfactory
25	5,72	0,08	Satisfactory
51	5,8	0,12	Satisfactory
1	6	0,20	Satisfactory
19	6,1	0,25	Satisfactory

Lab.	Cocaine (ng/mg)	Z-score	Result
20	6,11	0,252747253	Satisfactory
49	6,14	0,265934066	Satisfactory
48	6,4	0,38021978	Satisfactory
2	6,5	0,424175824	Satisfactory
47	6,58	0,459340659	Satisfactory
44	6,88	0,591208791	Satisfactory
8	6,92	0,608791209	Satisfactory
45	7	0,643956044	Satisfactory
23	7,52	0,872527473	Satisfactory
3	7,6	0,907692308	Satisfactory
15	7,65	0,92967033	Satisfactory
41	7,9	1,03956044	Satisfactory
22	8,25	1,193406593	Satisfactory
37	9,2	1,610989011	Satisfactory
24	9,67	1,817582418	Satisfactory
28	11,5	2,621978022	Questionable
40	NA		
9	NR		
35	P		
36	P		
46	P		

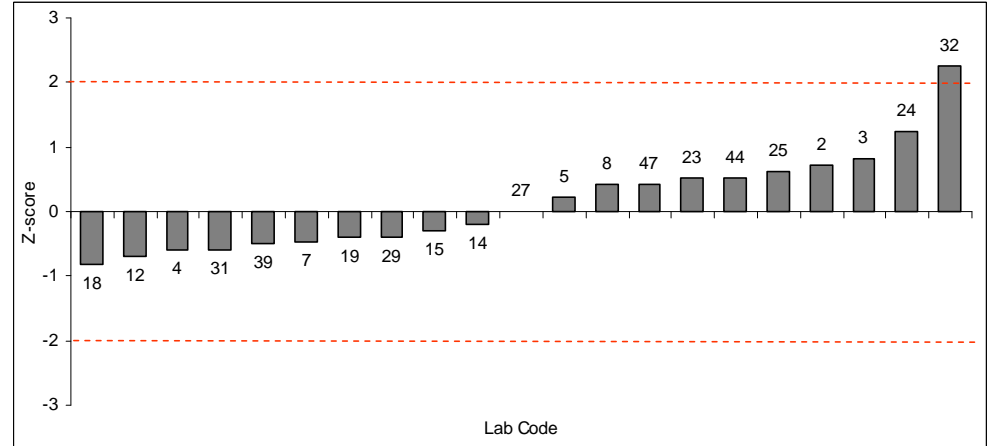
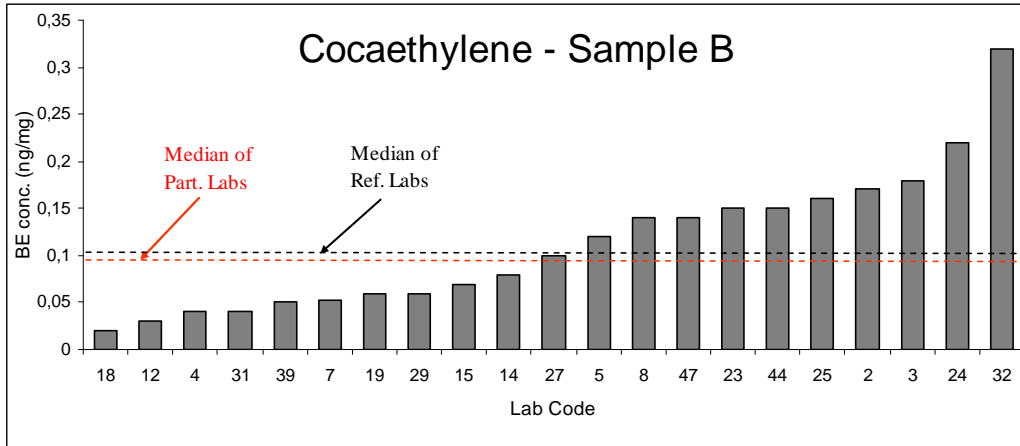
Average	5,70
SD	1,99
CV%	35,01
Median	5,535
Minimum	0,14
Quartile 25	4,53
Quartile 75	6,805
Maximum	11,5
Iqr	2,275



Lab.	BE (ng/mg)	Z-score	Result
50	0,2	-2,31	Questionable
4	4,2	-0,93	Satisfactory
16	5,13	-0,61	Satisfactory
33	5,16	-0,60	Satisfactory
12	5,2	-0,58	Satisfactory
39	5,2	-0,58	Satisfactory
8	5,37	-0,52	Satisfactory
43	5,4	-0,51	Satisfactory
13	5,5	-0,48	Satisfactory
19	5,5	-0,48	Satisfactory
10	5,63	-0,43	Satisfactory
14	5,63	-0,43	Satisfactory
32	5,8	-0,37	Satisfactory
27	5,87	-0,35	Satisfactory
29	5,94	-0,33	Satisfactory
6	6,1	-0,27	Satisfactory
21	6,1	-0,27	Satisfactory
20	6,13	-0,26	Satisfactory
5	6,36	-0,18	Satisfactory
18	6,77	-0,04	Satisfactory
1	7	0,04	Satisfactory
7	7,03	0,05	Satisfactory
31	7,1	0,07	Satisfactory
42	7,46	0,20	Satisfactory
34	7,57	0,24	Satisfactory
48	7,7	0,28	Satisfactory

Lab.	BE (ng/mg)	Z-score	Result
49	8	0,38	Satisfactory
30	8,03	0,39	Satisfactory
23	8,36	0,51	Satisfactory
44	8,47	0,55	Satisfactory
28	8,55	0,57	Satisfactory
3	9,6	0,94	Satisfactory
2	9,8	1,01	Satisfactory
37	9,8	1,02	Satisfactory
47	10,03	1,09	Satisfactory
25	10,37	1,20	Satisfactory
24	10,98	1,41	Satisfactory
45	11,2	1,49	Satisfactory
15	12,2	1,84	Satisfactory
22	13,07	2,14	Questionable
40	NA		
41	NA		
51	NA		
9	NR		
35	P		
36	P		
46	P		

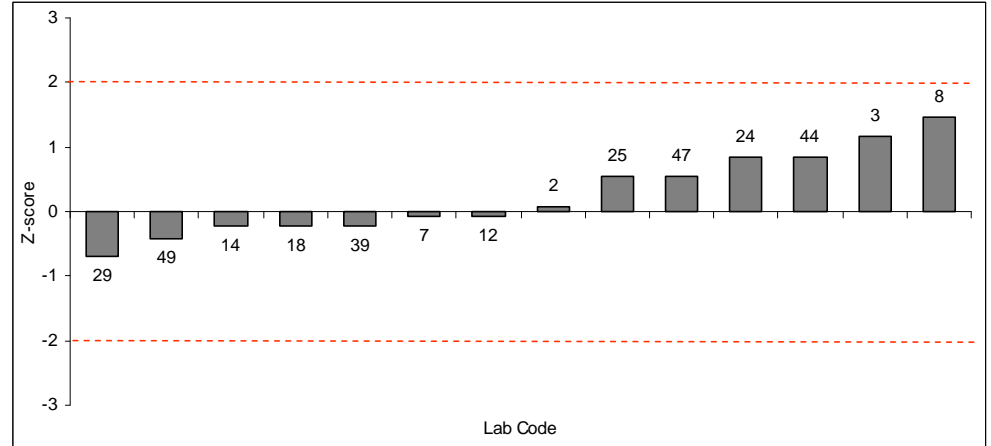
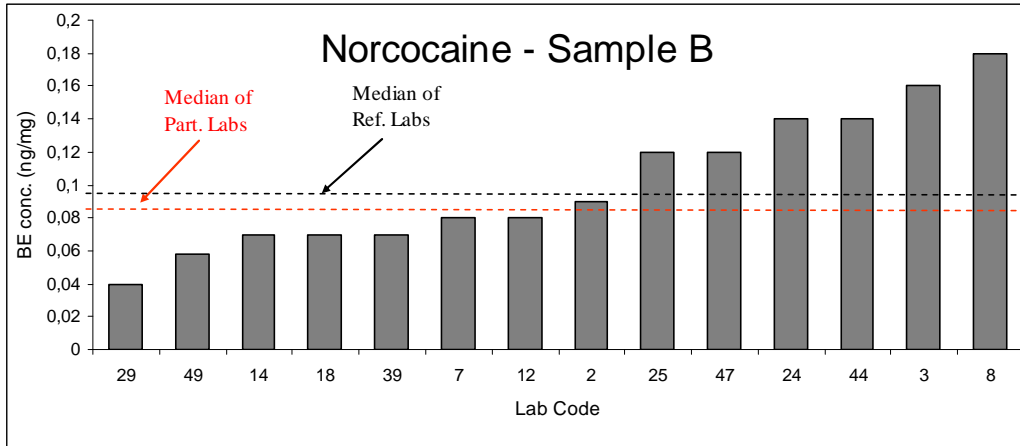
Average	7,24
SD	2,42
CV%	33,50
Median	6,885
Minimum	0,2
Quartile 25	5,5975
Quartile 75	8,49
Maximum	13,07
Iqr	2,8925



Lab.	Cocaethylene (ng/mg)	Z-score	Result
18	0,02	-0,81	Satisfactory
12	0,03	-0,70	Satisfactory
4	0,04	-0,60	Satisfactory
31	0,04	-0,60	Satisfactory
39	0,05	-0,50	Satisfactory
7	0,052	-0,48	Satisfactory
19	0,06	-0,40	Satisfactory
29	0,06	-0,40	Satisfactory
15	0,07	-0,29	Satisfactory
14	0,08	-0,19	Satisfactory
27	0,099	0	Satisfactory
5	0,12	0,21	Satisfactory
8	0,14	0,42	Satisfactory
47	0,14	0,42	Satisfactory
23	0,15	0,52	Satisfactory
44	0,15	0,52	Satisfactory
25	0,16	0,62	Satisfactory
2	0,17	0,72	Satisfactory
3	0,18	0,83	Satisfactory
24	0,22	1,23	Satisfactory
32	0,32	2,25	Satisfactory
1	N		
10	N		
16	N		
33	N		
43	N		

Lab.	Cocaethylene (ng/mg)	Z-score	Result
48	N		
6	NA		
13	NA		
20	NA		
21	NA		
22	NA		
28	NA		
34	NA		
37	NA		
41	NA		
42	NA		
49	NA		
35	P		
9	NR		
30	NR		
36	NR		
40	NR		
45	NR		
46	NR		
50	NR		
51	NR		

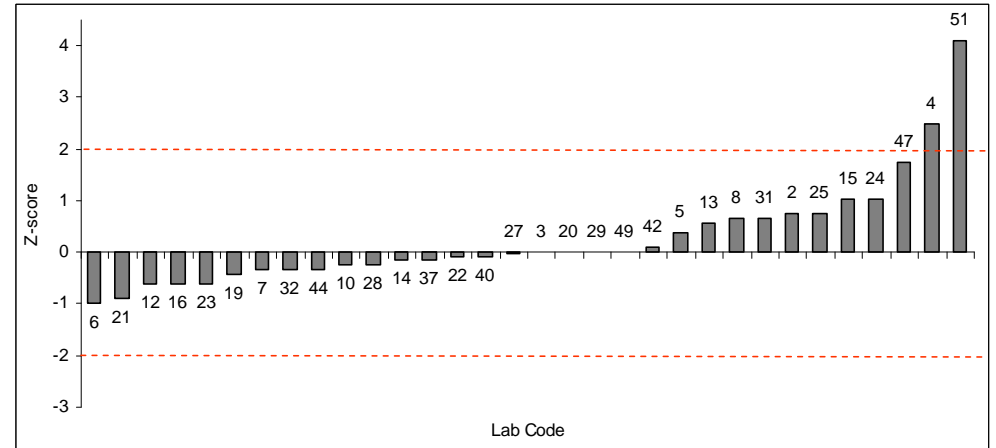
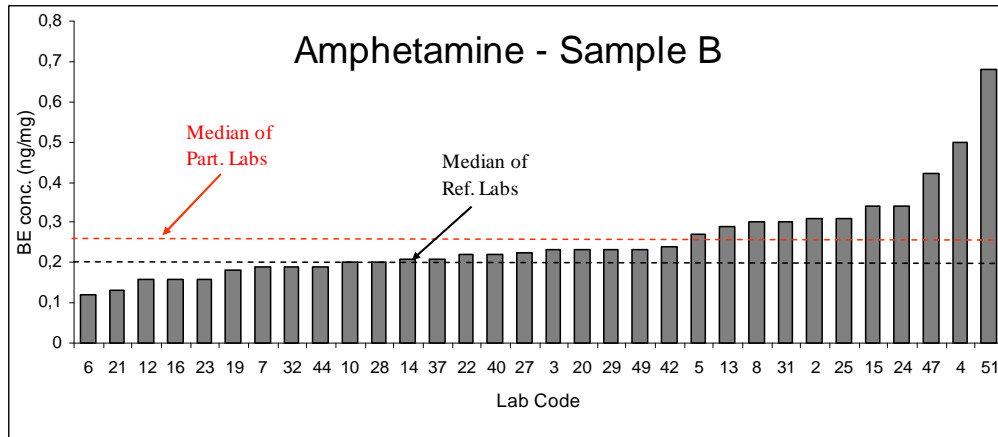
Average	0,11
SD	0,07
CV%	64,97
Median	0,099
Minimum	0,02
Quartile 25	0,052
Quartile 75	0,15
Maximum	0,32
Iqr	0,098



Lab.	Norcocaine (ng/mg)	Z-score	Result
29	0,04	-0,69	Satisfactory
49	0,058	-0,41	Satisfactory
14	0,07	-0,23	Satisfactory
18	0,07	-0,23	Satisfactory
39	0,07	-0,23	Satisfactory
7	0,08	-0,08	Satisfactory
12	0,08	-0,08	Satisfactory
2	0,09	0,08	Satisfactory
25	0,12	0,54	Satisfactory
47	0,12	0,54	Satisfactory
24	0,14	0,85	Satisfactory
44	0,14	0,85	Satisfactory
3	0,16	1,15	Satisfactory
8	0,18	1,46	Satisfactory
1	N		
10	N		
15	N		
19	N		
32	N		
35	N		
4	NA		
5	NA		
6	NA		
13	NA		
16	NA		
20	NA		

Lab.	Norcocaine (ng/mg)	Z-score	Result
21	NA		
22	NA		
27	NA		
28	NA		
31	NA		
33	NA		
34	NA		
37	NA		
41	NA		
42	NA		
43	NA		
48	NA		
9	NR		
23	NR		
30	NR		
36	NR		
40	NR		
45	NR		
46	NR		
50	NR		
51	NR		

Average	0,10
SD	0,04
CV%	39,97
Median	0,085
Minimum	0,04
Quartile 25	0,07
Quartile 75	0,135
Maximum	0,18
Iqr	0,065

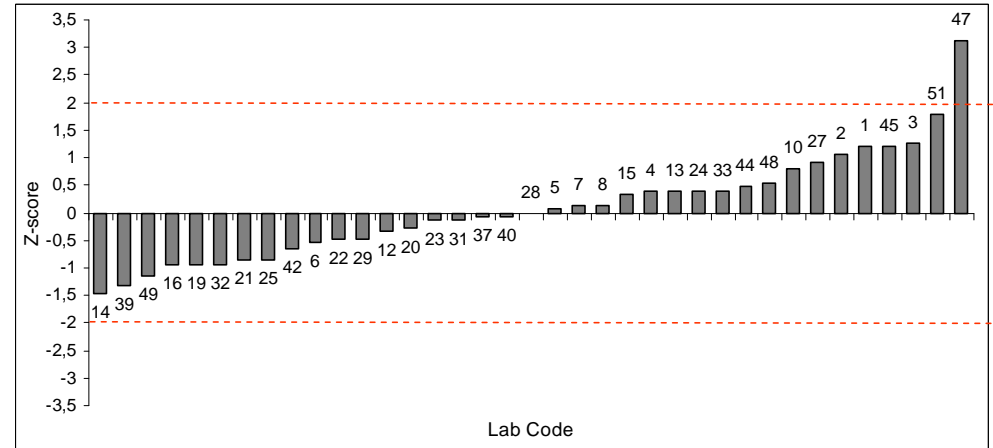
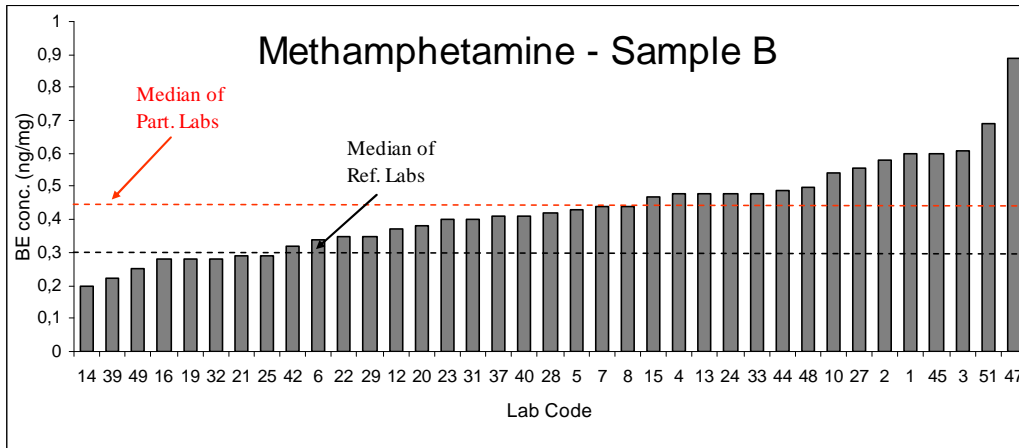


Lab.	Amphetamine (ng/mg)	Z-score	Result
6	0,12	-0,98	Satisfactory
21	0,13	-0,89	Satisfactory
12	0,16	-0,62	Satisfactory
16	0,16	-0,62	Satisfactory
23	0,16	-0,62	Satisfactory
19	0,18	-0,44	Satisfactory
7	0,19	-0,34	Satisfactory
32	0,19	-0,34	Satisfactory
44	0,19	-0,34	Satisfactory
10	0,2	-0,25	Satisfactory
28	0,2	-0,25	Satisfactory
14	0,21	-0,16	Satisfactory
37	0,21	-0,16	Satisfactory
22	0,22	-0,07	Satisfactory
40	0,22	-0,07	Satisfactory
27	0,226	-0,02	Satisfactory
3	0,23	0,02	Satisfactory
20	0,23	0,02	Satisfactory
29	0,23	0,02	Satisfactory
49	0,23	0,02	Satisfactory
42	0,24	0,11	Satisfactory
5	0,27	0,38	Satisfactory
13	0,29	0,56	Satisfactory
8	0,3	0,65	Satisfactory
31	0,3	0,65	Satisfactory
2	0,31	0,74	Satisfactory

Lab.	Amphetamine (ng/mg)	Z-score	Result
25	0,31	0,74	Satisfactory
15	0,34	1,02	Satisfactory
24	0,34	1,02	Satisfactory
47	0,42	1,74	Satisfactory
4	0,5	2,47	Questionable
51	0,68	4,11	Unsatisfactory
1	N		
9	N		
30	N		
33	N		
39	N		
43	N		
45	N		
48	N		
50	N		
18	NA		
34	NA		
41	NA		
46	NA		
35	P		
36	P		

Average	0,25
SD	0,11
CV%	43,11
Median	0,228
Minimum	0,12
Quartile 25	0,19
Quartile 75	0,3
Maximum	0,68
Iqr	0,11

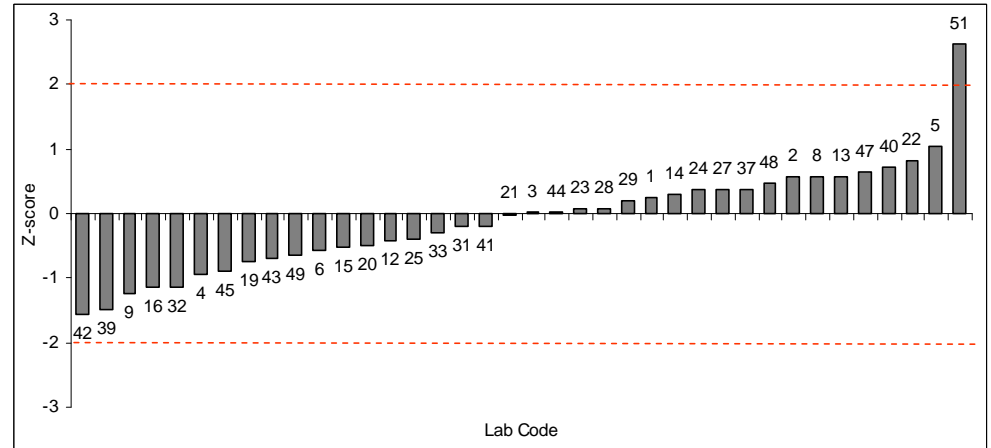
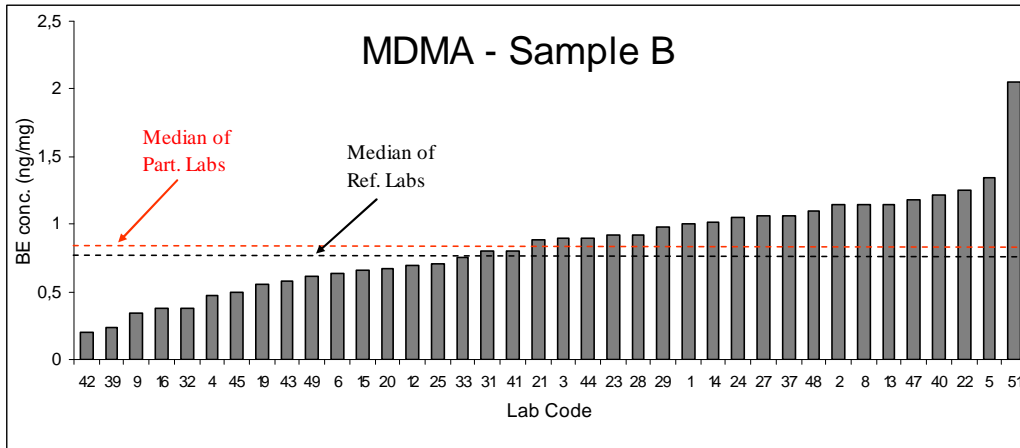




Lab.	Methamphet. (ng/mg)	Z-score	Result
14	0,2	-1,47	Satisfactory
39	0,22	-1,33	Satisfactory
49	0,25	-1,13	Satisfactory
16	0,28	-0,93	Satisfactory
19	0,28	-0,93	Satisfactory
32	0,28	-0,93	Satisfactory
21	0,29	-0,87	Satisfactory
25	0,29	-0,87	Satisfactory
42	0,32	-0,67	Satisfactory
6	0,34	-0,53	Satisfactory
22	0,35	-0,47	Satisfactory
29	0,35	-0,47	Satisfactory
12	0,37	-0,33	Satisfactory
20	0,38	-0,27	Satisfactory
23	0,4	-0,13	Satisfactory
31	0,4	-0,13	Satisfactory
37	0,41	-0,07	Satisfactory
40	0,41	-0,07	Satisfactory
28	0,42	0	Satisfactory
5	0,43	0,07	Satisfactory
7	0,44	0,13	Satisfactory
8	0,44	0,13	Satisfactory
15	0,47	0,33	Satisfactory
4	0,48	0,40	Satisfactory
13	0,48	0,40	Satisfactory
24	0,48	0,40	Satisfactory

Lab.	Methamphet (ng/mg)	Z-score	Result
33	0,48	0,4	Satisfactory
44	0,49	0,47	Satisfactory
48	0,5	0,53	Satisfactory
10	0,54	0,80	Satisfactory
27	0,56	0,91	Satisfactory
2	0,58	1,07	Satisfactory
1	0,6	1,20	Satisfactory
45	0,6	1,20	Satisfactory
3	0,61	1,27	Satisfactory
51	0,69	1,80	Satisfactory
47	0,89	3,13	Unsatisfactory
30	<0,4		
9	N		
36	N		
43	N		
50	N		
18	NA		
34	NA		
41	NA		
46	NA		
35	P		

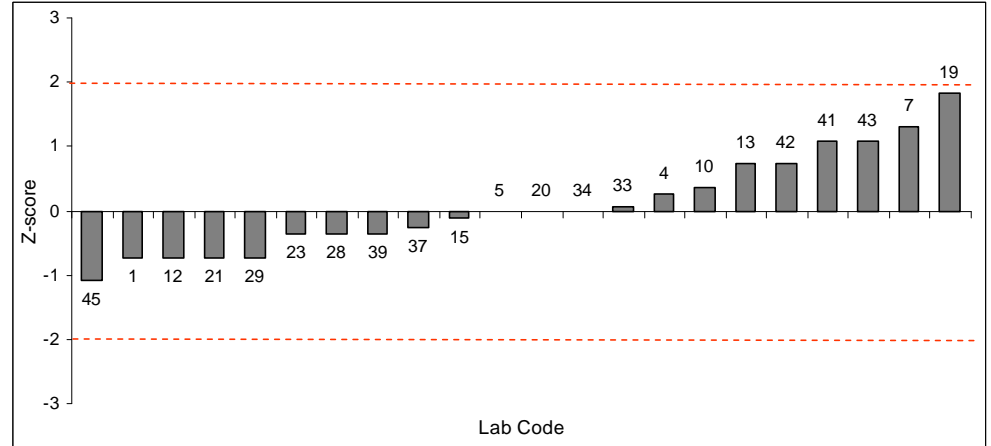
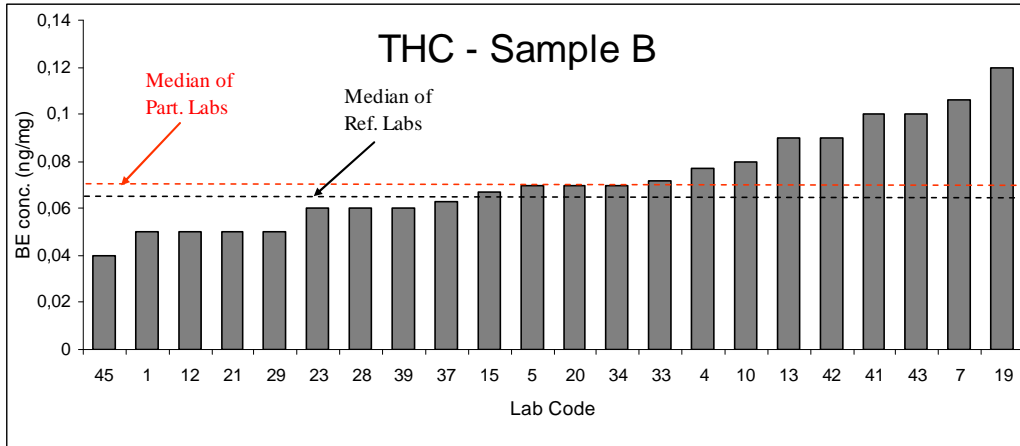
Average	0,43
SD	0,14
CV%	32,22
Median	0,42
Minimum	0,20
Quartile 25	0,34
Quartile 75	0,49
Maximum	0,89
Iqr	0,15



Lab.	MDMA (ng/mg)	Z-score	Result
42	0,2	-1,56	Satisfactory
39	0,23	-1,49	Satisfactory
9	0,34	-1,24	Satisfactory
16	0,38	-1,15	Satisfactory
32	0,38	-1,15	Satisfactory
4	0,47	-0,95	Satisfactory
45	0,5	-0,88	Satisfactory
19	0,56	-0,74	Satisfactory
43	0,58	-0,70	Satisfactory
49	0,61	-0,63	Satisfactory
6	0,64	-0,56	Satisfactory
15	0,66	-0,52	Satisfactory
20	0,67	-0,50	Satisfactory
12	0,7	-0,43	Satisfactory
25	0,71	-0,41	Satisfactory
33	0,76	-0,29	Satisfactory
31	0,8	-0,20	Satisfactory
41	0,8	-0,20	Satisfactory
21	0,88	-0,02	Satisfactory
3	0,9	0,02	Satisfactory
44	0,9	0,02	Satisfactory
23	0,92	0,07	Satisfactory
28	0,92	0,07	Satisfactory
29	0,98	0,20	Satisfactory
1	1	0,25	Satisfactory
14	1,02	0,29	Satisfactory

Lab.	MDMA (ng/mg)	Z-score	Result
24	1,05	0,36	Satisfactory
27	1,06	0,38	Satisfactory
37	1,06	0,38	Satisfactory
48	1,1	0,47	Satisfactory
2	1,14	0,56	Satisfactory
8	1,14	0,56	Satisfactory
13	1,14	0,56	Satisfactory
47	1,18	0,65	Satisfactory
40	1,21	0,72	Satisfactory
22	1,25	0,81	Satisfactory
5	1,35	1,03	Satisfactory
51	2,05	2,62	Questionable
7	N		
10	N		
30	N		
50	N		
18	NA		
34	NA		
46	NA		
35	P		
36	U		

Average	0,85
SD	0,35
CV%	41,77
Median	0,89
Minimum	0,2
Quartile 25	0,6175
Quartile 75	1,06
Maximum	2,05
Iqr	0,4425



Lab.	THC (ng/mg)	Z-score	Result
45	0,04	-1,09	Satisfactory
1	0,05	-0,73	Satisfactory
12	0,05	-0,73	Satisfactory
21	0,05	-0,73	Satisfactory
29	0,05	-0,73	Satisfactory
23	0,06	-0,36	Satisfactory
28	0,06	-0,36	Satisfactory
39	0,06	-0,36	Satisfactory
37	0,063	-0,25	Satisfactory
15	0,067	-0,11	Satisfactory
5	0,07	0	Satisfactory
20	0,07	0	Satisfactory
34	0,07	0	Satisfactory
33	0,072	0,07	Satisfactory
4	0,077	0,25	Satisfactory
10	0,08	0,36	Satisfactory
13	0,09	0,73	Satisfactory
42	0,09	0,73	Satisfactory
41	0,1	1,09	Satisfactory
43	0,1	1,09	Satisfactory
7	0,106	1,31	Satisfactory
19	0,12	1,82	Satisfactory
14	N		
16	N		
22	N		
25	N		

Lab.	THC (ng/mg)	Z-score	Result
31	N		
49	N		
50	N		
2	NA		
3	NA		
6	NA		
8	NA		
9	NA		
18	NA		
24	NA		
27	NA		
40	NA		
44	NA		
46	NA		
48	NA		
51	NA		
47	NR		
30	NR		
32	P		
36	P		
35	U		

Average	0,07
SD	0,02
CV%	28,31
Median	0,07
Minimum	0,04
Quartile 25	0,06
Quartile 75	0,0875
Maximum	0,12
Iqr	0,0275