



Marihuana Identification and THC Quantification Test No. 18-503 Summary Report

Each sample pack consisted of three questioned samples containing plant material which participants were requested to analyze. Data were returned from 107 participants and are compiled into the following tables:

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This report contains the data received from the participants in this test. Since these participants are located in many countries around the world, and it is their option how the samples are to be used (e.g., training exercise, known or blind proficiency testing, research and development of new techniques, etc.), the results compiled in the Summary Report are not intended to be an overview of the quality of work performed in the profession and cannot be interpreted as such. The Summary Comments are included for the benefit of participants to assist with maintaining or enhancing the quality of their results. These comments are not intended to reflect the general state of the art within the profession.

Participant results are reported using a randomly assigned "WebCode". This code maintains participant's anonymity, provides linking of the various report sections, and will change with every report.

Manufacturer's Information

Each sample pack consisted of three items containing 400 mg of loose plant material. Item 1 consisted of marihuana with a THC concentration of 10.3%. Item 2 consisted of marihuana with a THC concentration of 8.6%. Item 3 consisted of oregano. Concentration of THC determined by the supplier utilizing GC. Marihuana is a Schedule I controlled substance in the United States.

SAMPLE PREPARATION-

ITEMS 1 and 2 (PREPARATION): Approximately 400 mg of loose marihuana plant material was weighed out and deposited into a glassine bag, which was folded and secured with a label. The folded glassine bag was placed into a small colored bag. A gold-colored bag was used for Item 1 and a red-colored bag was used for Item 2. The bags were heat sealed and then placed into a pre-labeled envelope.

Item 3 (PREPARATION): Approximately 400 mg of loose oregano plant material was weighed out and deposited into a glassine bag which was folded and taped with a label. The folded glassine bag was placed into a small silver-colored bag. The bag was heat sealed and then placed into a pre-labeled envelope.

SAMPLE PACK ASSEMBLY: One envelope of each Item was placed into a larger pre-labeled sample pack envelope.

VERIFICATION: Laboratories that conducted predistribution analysis reported the identification of marihuana in Items 1 and 2. The following methods were used to examine the items: microscopic analysis, color tests, TLC, LC, GC-FID, and GC/MS.

Summary Comments

The purpose of this test was to allow participants to assess their proficiency in the qualitative and quantitative analysis of questioned plant material. Item 1 consisted of marihuana plant material with a THC concentration of 10.3%. Item 2 consisted of marihuana plant material with a THC concentration of 8.6%. Item 3 consisted of oregano plant material. Marihuana is a Schedule I controlled substance in the United States. (See the Manufacturer's Information for preparation details.)

Of the 107 participants that returned results for this test, all performed qualitative analysis. The most frequently reported methods of examination were microscopy followed by color tests, GC/MS, and macroscopy.

All participants reported the identification of marihuana in Item 1 and identified no marihuana in Item 3. All but one participant reported the identification of marihuana in Item 2. The remaining participant left the response blank for this question.

Seventy-two participants reported the identification of individual cannabinoids for Items 1 and 2. All but 2 participants reported testing for Tetrahydrocannabinol (THC) in both Items 1 and 2. Thirty-seven participants reported testing for Cannabinol (CBN) in Item 1, while 35 participants reported Cannabinol (CBN) in Item 2. Other cannabinoids reported among several participants include Cannabigerol (CBG), Tetrahydrocannabinolic Acid (THCA), and Cannabichromene (CBC).

Eighteen participants reported performing quantitative analysis of both Items 1 and 2 for Tetrahydrocannabinol (THC), with the most frequent quantification method being GC-FID and the second most frequent method being LC. Only 17 participants reported concentration values for the items while the remaining participant reported in the "Additional Comments" section that the concentrations were above 0.3%.

Comparative statistics are used to provide participants and accrediting bodies with the ability to evaluate their quantitative results and determine the acceptability of their values. The most common quantitative reporting method was the mean of duplicate/several determinations. The raw data provided by the participants were used to calculate both the grand mean and the standard deviation for each item. A value of ± 3 standard deviations (STD) was applied in order to determine whether data was considered extreme. If data was considered extreme, it would be marked with an "X" and excluded from these calculations. In these results, only one participant's data was marked as extreme and excluded from statistical analysis for Item 2.

Marihuana Identification - Item 1

TABLE 1A

Webcode		Was marihuana (cannabis) detected/identified?			
29A997	Yes	BRU3AD	Yes	MQGR2N	Yes
2TDWXG	Yes	BT3ERE	Yes	MRBFHX	Yes
2ZF72N	Yes	C82TB9	Yes	N6D72H	Yes
3MKC87	Yes	CBKVCM	Yes	N7N6VQ	Yes
3X4Q9M	Yes	DLGZ2E	Yes	NN9YLF	Yes
43VE4K	Yes	E3HHBA	Yes	NXGB2X	Yes
4X2HJZ	Yes	ELFGXC	Yes	PDHNUZ	Yes
6B49XD	Yes	EQKJFX	Yes	PU8HMP	Yes
6UWCED	Yes	ETW2Y3	Yes	Q3XQHZ	Yes
6WLJYB	Yes	DFMUA	Yes	Q94EXM	Yes
72AM6J	Yes	FJ2JXY	Yes	Q9QQYG	Yes
7UG3AJ	Yes	FNWA4B	Yes	QDLDXW	Yes
8C9DN7	Yes	HA7G8Z	Yes	QEVLHG	Yes
8CRJLB	Yes	HJUBLH	Yes	QZTV2J	Yes
8Y6A2Q	Yes	KDELW6	Yes	RPA4PE	Yes
968LV3	Yes	L3F4YB	Yes	RQN8LQ	Yes
9C78KG	Yes	LADV86	Yes	RRYA9P	Yes
9GXF6B	Yes	LCJXV	Yes	RVGK6U	Yes
9NZHEH	Yes	LDXMGL	Yes	T2FFHY	Yes
9RZWFE	Yes	LGYJ93	Yes	TAT88W	Yes
9YVXV7	Yes	LLQZEZ	Yes	TCZMJ9	Yes
A8TP4Z	Yes	LM2TEU	Yes	TDARRQ	Yes
AKGNU3	Yes	LNEAPM	Yes	TQHDFQ	Yes
ALMC88	Yes	LTMX24	Yes	TRFNDE	Yes
BBL7TY	Yes	LYZB9H	Yes	TVAKYY	Yes
BCGUAA	Yes	MAAD6Z	Yes	TVUF48	Yes
BPMVT7	Yes	MN9EJL	Yes	TZMFPU	Yes
BR9QB6	Yes	MNDPKY	Yes	U2T6JQ	Yes

TABLE 1A - Marihuana Identification - Item 1

Webcode	Was marihuana (cannabis) detected/identified?
U3T6KB	Yes
U4JJTL	Yes
UEH8YW	Yes
UV7HNC	Yes
VD6WLQ	Yes
VPZ3HA	Yes
VR7JWT	Yes
W4DNMK	Yes
WVWGFF	Yes
X6ZUCA	Yes
XBTY6E	Yes
XEPH8C	Yes
XNVPMC	Yes
XPPD4M	Yes
XXHLQY	Yes
Y9FL33	Yes
YCHM4Z	Yes
YVRKKB	Yes
Z6RU66	Yes
Z772QM	Yes
ZKT4BZ	Yes
ZT66X6	Yes
ZWMKZ2	Yes

Marihuana Identification Response Summary for Item 1		Participants: 107
Was marihuana (cannabis) detected/ identified in this Item?		
<u>Response</u>	<u>Total</u>	
Yes	107	
No	0	

Cannabinoid Tested For - Item 1

Which cannabinoids were tested for in Item 1?

TABLE 1B

Webcode	What Cannabinoids were tested for in Item 1?
29A997	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
2TDWXG	Tetrahydrocannabinol
3MKC87	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
3X4Q9M	Other cannabinoids: Total THC (THC & THCA)
43VE4K	None
4X2HJZ	Tetrahydrocannabinol Cannabinol Cannabidiol
6B49XD	Tetrahydrocannabinol
6UWCED	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol
6WLJYB	None
72AM6J	None
7UG3AJ	Tetrahydrocannabinol
8C9DN7	None
8CRJLB	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol
8Y6A2Q	Tetrahydrocannabinol Cannabinol Cannabidiol
9C78KG	Tetrahydrocannabinol
9GXF6B	None
9NZHEH	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol Other cannabinoids: Detected THC, CBN and THC-A. Tested for CBG and CBD, but not detected.

TABLE 1B - Cannabinoids - Item 1

Webcode	What Cannabinoids were tested for in Item 1?
A8TP4Z	None
AKGNU3	Other cannabinoids: Cannabinoids
ALMC88	Cannabigerol Tetrahydrocannabinol Cannabinol Other cannabinoids: Cannabichromene
BBL7TY	Tetrahydrocannabinol
BPMVT7	None
BRU3AD	None
BT3ERE	Tetrahydrocannabinol
C82TB9	Tetrahydrocannabinol
CBKVCM	Tetrahydrocannabinol
E3HHBA	None
ELFGXC	Tetrahydrocannabinol
EQKJFX	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
ETW2Y3	Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol
FDFMUA	None
FJ2JXY	Tetrahydrocannabinol
FNWA4B	None
HA7G8Z	Tetrahydrocannabinol
HJUBLH	Tetrahydrocannabinol
KDELW6	None
L3F4YB	Tetrahydrocannabinol
LADV86	None
LCJXV	Tetrahydrocannabinol
LDXMGL	Tetrahydrocannabinol Cannabinol
LGYJ93	Tetrahydrocannabinol
LLQZEZ	Cannabigerol Tetrahydrocannabinol Cannabinol
LM2TEU	None
LNEAPM	Cannabigerol Tetrahydrocannabinol Cannabinol Other cannabinoids: CBC (cannabichromene) and THCV (tetrahydrocannabivarin)

TABLE 1B - Cannabinoids - Item 1

Webcode	What Cannabinoids were tested for in Item 1?
LTMX24	Tetrahydrocannabinol
LYZB9H	Tetrahydrocannabinol Cannabinol Cannabidiol
MAAD6Z	Tetrahydrocannabinol
MN9EJL	None
MNDPKY	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
MQGR2N	Tetrahydrocannabinol
MRBFHX	Tetrahydrocannabinol
N6D72H	None
N7N6VQ	Tetrahydrocannabinol Tetrahydrocannabinolic Acid
NN9YLF	Tetrahydrocannabinol
NXGB2X	Tetrahydrocannabinol
PDHNUZ	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
PU8HMP	Tetrahydrocannabinol
Q3XQHZ	Tetrahydrocannabinol Cannabinol Cannabidiol
Q94EXM	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol
Q9QQYG	Tetrahydrocannabinol Cannabinol
QDLXW	Tetrahydrocannabinol Cannabinol
QEVLHG	Tetrahydrocannabinol Cannabinol
QZTV2J	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol

Other cannabinoids: 3 propyl delta9 thc, cannabichromene, cannabidiolic acid, cannabigerolic acid, cannabinolic acid

TABLE 1B - Cannabinoids - Item 1

Webcode	What Cannabinoids were tested for in Item 1?
RPA4PE	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
RRYA9P	Tetrahydrocannabinol Cannabinol
RVGK6U	Tetrahydrocannabinol
T2FFHY	None
TCZMJ9	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
TDARRQ	Tetrahydrocannabinol
TQHDFQ	None
TRFNDE	Tetrahydrocannabinol Other cannabinoids: Cannabinoids
TVAKYY	Tetrahydrocannabinol Cannabinol Cannabidiol
TVUF48	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol
TZMFPU	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
U2T6JQ	None
U3T6KB	Tetrahydrocannabinol Cannabinol Cannabidiol
U4JJTL	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
UEH8YW	None
UV7HNK	Tetrahydrocannabinol
VD6WLQ	Tetrahydrocannabinol
VPZ3HA	None
VR7JWT	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol

TABLE 1B - Cannabinoids - Item 1

Webcode	What Cannabinoids were tested for in Item 1?
W4DNMK	None
WWWGFF	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol
X6ZUCA	Tetrahydrocannabinol Cannabinol
XBTY6E	Other cannabinoids: THC and CBN were detected, but were not confirmed.
XEPH8C	Tetrahydrocannabinol
XNVPMC	Tetrahydrocannabinol
XPPD4M	Tetrahydrocannabinol
XXHLQY	None
Y9FL33	Tetrahydrocannabinol Cannabinol Cannabidiol
YCHM4Z	Cannabigerol Tetrahydrocannabinol Cannabinol
YVRKKB	None
Z6RU66	None
ZKT4BZ	Cannabinol
ZT66X6	Tetrahydrocannabinol
ZWMKZ2	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol

Response Summary for Item 1		Participants: 72
None:	25	
Cannabigerol (CBG):	22	
Tetrahydrocannabinol (THC):	68	
Tetrahydrocannabinolic Acid (THCA)	9	
Cannabinol (CBN):	37	
Cannabidiol (CBD):	26	
*Other:	8	
The total may be more than the total number of participants because participants can report multiple cannabinoids.		

*This value represents the number of participants that reported text for the "Other" response blank on the data entry form.

Examination Method of Analysis - Item 1

TABLE 1C

Webcode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
29A997			✓			✓		
2TDWXG	✓		✓		✓	✓		
2ZF72N	✓				✓	✓		
3MKC87			✓		✓	✓		
3X4Q9M		✓	✓			✓		
43VE4K	✓		✓		✓	✓		
4X2HJZ			✓	✓				
6B49XD	✓		✓		✓	✓		
6UWCED	✓				✓	✓		
6WLJYB	✓				✓	✓		
72AM6J	✓				✓	✓		
7UG3AJ						✓	✓	
8C9DN7	✓				✓	✓		
8CRJLB	✓				✓	✓		
8Y6A2Q							✓	
968LV3	✓				✓	✓		
9C78KG	✓				✓	✓		
9GXF6B	✓				✓	✓	✓	
9NZHEH			✓	✓				
9RZWFE	✓				✓	✓		Duquenois-Levine Tests
9YVXV7	✓				✓	✓		
A8TP4Z	✓		✓		✓	✓		
AKGNU3	✓				✓	✓		
ALMC88			✓			✓		
BBL7TY			✓		✓	✓		
BCGUAA	✓				✓	✓	✓	
BPMVT7					✓	✓		
BR9QB6	✓				✓	✓		
BRU3AD	✓				✓	✓		
BT3ERE		✓	✓		✓	✓		
C82TB9			✓			✓		

TABLE 1C - Examination Method(s) - Item 1

Webcode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
CBKVCM	✓		✓		✓	✓		
DLGZ2E	✓				✓	✓		
E3HHBA	✓				✓	✓		
ELFGXC			✓			✓		
EQKJFX			✓					
ETW2Y3			✓				✓	
FDFMUA	✓				✓	✓		
FJ2JXY			✓			✓		Weight Determination
FNWA4B	✓				✓	✓		
HA7G8Z	✓				✓	✓	✓	
HJUBLH	✓		✓		✓	✓		
KDELW6	✓				✓	✓		
L3F4YB	✓		✓			✓		
LADV86	✓				✓	✓		
LCJXFV	✓				✓	✓		
LDXMGL	✓		✓					
LGYJ93			✓	✓		✓		Electronic Balance
LLQZEZ			✓			✓		Weight/balance
LM2TEU					✓	✓		
LNEAPM	✓		✓		✓	✓	✓	
LTMX24	✓		✓		✓	✓		
LYZB9H			✓					
MAAD6Z			✓			✓		Electronic balance
MN9EJL	✓				✓	✓		
MNDPKY			✓			✓		Electronic Balance
MQGR2N	✓		✓		✓	✓		
MRBFHX	✓		✓			✓		
N6D72H	✓				✓	✓		
N7N6VQ			✓					
NN9YLF	✓				✓	✓		
NXGB2X			✓			✓		
PDHNUZ			✓		✓	✓		
PU8HMP			✓			✓		Weight Determination

TABLE 1C - Examination Method(s) - Item 1

Webcode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
Q3XQHZ		✓	✓			✓		
Q94EXM			✓			✓		
Q9QQYG	✓		✓			✓		
QDLDXW			✓			✓		
QEVLHG			✓			✓		
QZTV2J			✓					
RPA4PE	✓		✓			✓		
RQN8LQ	✓				✓	✓		
RRYA9P	✓		✓					
RVGK6U			✓			✓		
T2FFHY	✓				✓	✓		
TAT88W	✓				✓	✓		
TCZMJ9			✓		✓	✓		
TDARRQ	✓		✓			✓		
TQHDFQ	✓				✓	✓		
TRFNDE	✓		✓		✓	✓		
TVAKYY		✓	✓			✓		
TVUF48			✓		✓	✓		
TZMFPU			✓			✓		
U2T6JQ	✓				✓	✓	✓	
U3T6KB	✓					✓	✓	
U4JJTL	✓		✓			✓		
UEH8YW	✓				✓	✓		
UV7HMK	✓				✓	✓		
VD6WLQ	✓		✓			✓		
VPZ3HA	✓				✓	✓		
VR7JWT			✓	✓		✓		
W4DNMK						✓		
WWGFF								
X6ZUCA	✓		✓					
XBTY6E	✓		✓		✓	✓		
XEPH8C	✓					✓		
XNVPKC	✓		✓			✓		

TABLE 1C - Examination Method(s) - Item 1

Webcode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
XPPD4M	✓		✓			✓		
XXHLQY					✓	✓		Duquenois-Levine
Y9FL33			✓			✓		
YCHM4Z	✓		✓			✓	✓	
YVRKKB	✓				✓	✓		
Z6RU66	✓				✓	✓		
Z772QM			✓			✓		Balance
ZKT4BZ	✓		✓		✓	✓		
ZT66X6	✓					✓	✓	
ZWMKZ2	✓		✓		✓	✓		
Response Summary for Item 1								Participants: 106
Total	65	4	61	4	58	95	11	
Percent	61%	4%	57%	4%	54%	89%	10%	

Quantitative Method of Analysis - Item 1

TABLE 1D

Webcode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
3MKC87		✓						
3X4Q9M		✓						
4X2HJZ		✓						
7UG3AJ		✓						
8Y6A2Q		✓						
EQKJFX		✓						
ETW2Y3				✓				
LNEAPM				✓				
LYZB9H			✓					
N7N6VQ				✓				
PDHNUZ		✓						
Q94EXM		✓						
QZTV2J		✓						
TCZMJ9		✓						
TVUF48		✓						
WWGFF				✓				
Y9FL33		✓						
ZWMKZ2		✓						

Response Summary for Item 1								Participants: 18
Total	0	13	1	4	0	0	0	
Percent	0%	72%	6%	22%	0%	0%	0%	

Quantitative Results - Item 1

What is the total THC concentration in Item 1?

TABLE 1E

Item Contents and Preparation Concentration: Marihuana, 10.3% THC

Webcode	Reported Concentration	Uncertainty	K Value	Units
3MKC87	5	11.55	2	%
4X2HJZ	11	1.5	1	%
7UG3AJ	10			%
8Y6A2Q	7.9	2	2	%THC
EQKJFX	8.6			%
ETW2Y3	9,15	0,50	2	by weight %
LNEAPM	9,77	0,11		%
LYZB9H	67.9			µg/mg
N7N6VQ	11.7	5.4	4.53	% w/w
PDHNUZ	9	0,6	2	%
Q94EXM	11.6			%
QZTV2J	128	10,9	2	mg/L
TCZMJ9	7.12	4.5	2	%
TVUF48	8.5	4.5	2	%
WWWGFF	7.9			%, w/w
Y9FL33	8.31	4.5	2	%
ZWMKZ2	8	4.5	2	%

Raw Data - Item 1

List of raw data determinations in percent of total THC.

TABLE 1F

Preparation concentration: (10.3% THC)

Webcode	Raw Data (%)				Participant Mean
3MKC87	4.780	5.590			5.185
4X2HJZ	11.482	11.496			11.49
7UG3AJ	10.300	11.700	8.200		10.07
8Y6A2Q	6.760	9.140	7.780		7.893
EQKJFX	7.900	9.400	8.600		8.633
ETW2Y3	9.086	9.097	9.314		9.166
LNEAPM	9.670	9.900	9.730		9.767
LYZB9H	6.980	6.940	6.450		6.790
N7N6VQ	10.090	14.000	10.870		11.65
PDHNUZ	10.200	8.300	7.500		8.667
Q94EXM	11.600				11.60
QZTV2J	12.820	12.960			12.89
TCZMJ9	6.860	6.870	7.370	7.390	7.123
TVUF48	8.740	8.740	8.220	8.220	8.480
WWGFF	7.900				3.955
Y9FL33	7.530	7.530	9.080	9.090	8.308
ZWMKZ2	7.432	7.604	7.613	7.622	7.568

Statistical Analysis for Item 1

Grand Mean 9.080	Number of Participants Included 16	Participants without Raw Data or Data that was 0
Standard Deviation 2.066	Number of Participants Excluded 0	not reported in %

Reporting Procedures - Item 1

If quantitative analysis was performed, the reported concentrations are:

TABLE 1G

Webcode	Quantitative Reporting Procedures
3MKC87	The mean of duplicate/several determinations.
3X4Q9M	Single sample, mean of triplicate injections
4X2HJZ	The mean of duplicate/several determinations.
7UG3AJ	The mean of duplicate/several determinations.
8Y6A2Q	The mean of duplicate/several determinations.
EQKJFX	The mean of duplicate/several determinations.
ETW2Y3	The mean of duplicate/several determinations.
LNEAPM	The mean of duplicate/several determinations.
LYZB9H	The mean of duplicate/several determinations.
N7N6VQ	The mean of duplicate/several determinations.
PDHNUZ	The mean of duplicate/several determinations.
Q94EXM	The mean of duplicate/several determinations.
QZTV2J	The mean of duplicate/several determinations.
TCZMJ9	The mean of duplicate/several determinations.
TVUF48	The mean of duplicate/several determinations.
WWGFF	A single determination
Y9FL33	The mean of duplicate/several determinations.
ZWMKZ2	The mean of duplicate/several determinations.

Response Summary for Item 1	Participants: 18
A single determination:	1 (5.6%)
The mean of duplicate/several determinations:	16 (88.9%)
Other:	1 (5.6%)

Marihuana Identification - Item 2

TABLE 2A

Webcode		Was marihuana (cannabis) detected/identified?			
29A997	Yes	BRU3AD	Yes	MQGR2N	Yes
2TDWXG	Yes	BT3ERE	Yes	MRBFHX	Yes
2ZF72N	Yes	C82TB9	Yes	N6D72H	Yes
3MKC87	Yes	CBKVCM	Yes	N7N6VQ	Yes
3X4Q9M	Yes	DLGZ2E	Yes	NN9YLF	Yes
43VE4K	Yes	E3HHBA	Yes	NXGB2X	Yes
4X2HJZ	Yes	ELFGXC	Yes	PDHNUZ	Yes
6B49XD	Yes	EQKJFX	Yes	PU8HMP	Yes
6UWCED	Yes	ETW2Y3	Yes	Q3XQHZ	Yes
6WLJYB	Yes	DFMUA	Yes	Q94EXM	Yes
72AM6J	Yes	FJ2JXY	Yes	Q9QQYG	Yes
7UG3AJ	Yes	FNWA4B	Yes	QDLDXW	Yes
8C9DN7	Yes	HA7G8Z	Yes	QEVLHG	Yes
8CRJLB	Yes	HJUBLH	Yes	QZTV2J	Yes
8Y6A2Q	Yes	KDELW6	Yes	RPA4PE	Yes
968LV3	Yes	L3F4YB	Yes	RQN8LQ	Yes
9C78KG		LADV86	Yes	RRYA9P	Yes
9GXF6B	Yes	LCJXV	Yes	RVGK6U	Yes
9NZHEH	Yes	LDXMGL	Yes	T2FFHY	Yes
9RZWFE	Yes	LGYJ93	Yes	TAT88W	Yes
9YVXV7	Yes	LLQZEZ	Yes	TCZMJ9	Yes
A8TP4Z	Yes	LM2TEU	Yes	TDARRQ	Yes
AKGNU3	Yes	LNEAPM	Yes	TQHDFQ	Yes
ALMC88	Yes	LTMX24	Yes	TRFNDE	Yes
BBL7TY	Yes	LYZB9H	Yes	TVAKYY	Yes
BCGUAA	Yes	MAAD6Z	Yes	TVUF48	Yes
BPMVT7	Yes	MN9EJL	Yes	TZMFPU	Yes
BR9QB6	Yes	MNDPKY	Yes	U2T6JQ	Yes

TABLE 2A - Marihuana Identification - Item 2

Webcode	Was marihuana (cannabis) detected/identified?
U3T6KB	Yes
U4JJTL	Yes
UEH8YW	Yes
UV7HNC	Yes
VD6WLQ	Yes
VPZ3HA	Yes
VR7JWT	Yes
W4DNMK	Yes
WVWGFF	Yes
X6ZUCA	Yes
XBTY6E	Yes
XEPH8C	Yes
XNVPMC	Yes
XPPD4M	Yes
XXHLQY	Yes
Y9FL33	Yes
YCHM4Z	Yes
YVRKKB	Yes
Z6RU66	Yes
Z772QM	Yes
ZKT4BZ	Yes
ZT66X6	Yes
ZWMKZ2	Yes

Marihuana Identification Response Summary for Item 2		Participants: 107
Was marihuana (cannabis) detected/ identified in this Item?		
<u>Response</u>	<u>Total</u>	
Yes	106	
No	0	

Cannabinoid Tested For - Item 2

Which cannabinoids were tested for in Item 2?

TABLE 2B

Webcode	What Cannabinoids were tested for in Item 2?
29A997	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
2TDWXG	Tetrahydrocannabinol
3MKC87	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
3X4Q9M	Other cannabinoids: Total THC (THC & THCA)
43VE4K	None
4X2HJZ	Tetrahydrocannabinol Cannabinol Cannabidiol
6B49XD	Tetrahydrocannabinol
6UWCED	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol
6WLJYB	None
72AM6J	None
7UG3AJ	Tetrahydrocannabinol
8C9DN7	None
8CRJLB	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol
8Y6A2Q	Tetrahydrocannabinol Cannabinol Cannabidiol
9C78KG	Tetrahydrocannabinol
9GXF6B	None
9NZHEH	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol Other cannabinoids: Detected THC, CBD, CBN and THC-A. Tested for CBG, but not detected.

TABLE 2B - Cannabinoids - Item 2

Webcode	What Cannabinoids were tested for in Item 2?
A8TP4Z	None
AKGNU3	Other cannabinoids: Cannabinoids
ALMC88	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
BBL7TY	Tetrahydrocannabinol
BPMVT7	None
BRU3AD	None
BT3ERE	Tetrahydrocannabinol
C82TB9	Tetrahydrocannabinol
CBKVCM	Tetrahydrocannabinol
E3HHBA	None
ELFGXC	Tetrahydrocannabinol
EQKJFX	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
ETW2Y3	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol
FDFMUA	None
FJ2JXY	Tetrahydrocannabinol
FNWA4B	None
HA7G8Z	Tetrahydrocannabinol
HJUBLH	Tetrahydrocannabinol
KDELW6	None
L3F4YB	Tetrahydrocannabinol
LADV86	None
LCJXV	Tetrahydrocannabinol
LDXMGL	Tetrahydrocannabinol Cannabinol Cannabidiol
LGJ93	Tetrahydrocannabinol
LLQZEZ	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
LM2TEU	None

TABLE 2B - Cannabinoids - Item 2

Webcode	What Cannabinoids were tested for in Item 2?
LNEAPM	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol Other cannabinoids: THCV (tetrahydrocannabivarin), CBDV (cannabidivarin) and CBT (cannabicitran)
LTMX24	Tetrahydrocannabinol
LYZB9H	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
MAAD6Z	Tetrahydrocannabinol
MN9EJL	None
MNDPKY	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
MQGR2N	Tetrahydrocannabinol
MRBFHX	Tetrahydrocannabinol
N6D72H	None
N7N6VQ	Tetrahydrocannabinol Tetrahydrocannabinolic Acid
NN9YLF	Tetrahydrocannabinol
NXGB2X	Tetrahydrocannabinol
PDHNUZ	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
PU8HMP	Tetrahydrocannabinol
Q3XQHZ	Tetrahydrocannabinol Cannabinol Cannabidiol
Q94EXM	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol
Q9QQYG	Tetrahydrocannabinol Cannabinol Cannabidiol
QDLDXW	Tetrahydrocannabinol Cannabinol Cannabidiol

TABLE 2B - Cannabinoids - Item 2

Webcode	What Cannabinoids were tested for in Item 2?
QEVLHG	Tetrahydrocannabinol Cannabidiol
QZTV2J	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Other cannabinoids: cannabigerol, cannabigerolic acid, cannabilolic acid
RPA4PE	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
RRYA9P	Tetrahydrocannabinol Cannabinol Cannabidiol
RVGK6U	Tetrahydrocannabinol
T2FFHY	None
TCZMJ9	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
TDARRQ	Tetrahydrocannabinol
TQHDFQ	None
TRFNDE	Tetrahydrocannabinol Other cannabinoids: Cannabinoids
TVAKYY	Tetrahydrocannabinol Cannabinol Cannabidiol
TVUF48	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol
TZMFPU	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
U2T6JQ	None
U3T6KB	Tetrahydrocannabinol Cannabinol Cannabidiol
U4JJTL	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol

TABLE 2B - Cannabinoids - Item 2

Webcode	What Cannabinoids were tested for in Item 2?
UEH8YW	None
UV7HNK	Tetrahydrocannabinol
VD6WLQ	Tetrahydrocannabinol
VPZ3HA	None
VR7JWT	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
W4DNMK	None
WWWGFF	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol
X6ZUCA	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
XBTY6E	Other cannabinoids: THC, CBN, CBG, and CBD were detected, but were not confirmed.
XEPH8C	Tetrahydrocannabinol
XNVPMC	Tetrahydrocannabinol
XPPD4M	Tetrahydrocannabinol
XXHLQY	None
Y9FL33	Tetrahydrocannabinol Cannabinol Cannabidiol
YCHM4Z	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
YVRKKB	None
Z6RU66	None
ZKT4BZ	Cannabinol Cannabidiol
ZT66X6	Tetrahydrocannabinol
ZWMKZ2	Tetrahydrocannabinol

Response Summary for Item 2**Participants: 72**

None:	25
Cannabigerol (CBG):	24
Tetrahydrocannabinol (THC):	68
Tetrahydrocannabinolic Acid (THCA)	9
Cannabinol (CBN):	35
Cannabidiol (CBD):	35
*Other:	7

The total may be more than the total number of participants because participants can report multiple cannabinoids.

*This value represents the number of participants that reported text for the "Other" response blank on the data entry form.

Examination Method of Analysis - Item 2

TABLE 2C

Webcode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
29A997			✓			✓		
2TDWXG	✓		✓		✓	✓		
2ZF72N	✓				✓	✓		
3MKC87			✓		✓	✓		
3X4Q9M		✓	✓			✓		
43VE4K	✓		✓		✓	✓		
4X2HJZ			✓	✓				
6B49XD	✓		✓		✓	✓		
6UWCED	✓				✓	✓		
6WLJYB	✓				✓	✓		
72AM6J	✓				✓	✓		
7UG3AJ						✓	✓	
8C9DN7	✓				✓	✓		
8CRJLB	✓				✓	✓		
8Y6A2Q							✓	
968LV3	✓				✓	✓		
9C78KG	✓				✓	✓		
9GXF6B	✓				✓	✓	✓	
9NZHEH			✓	✓				
9RZWFE	✓				✓	✓		Duquenois-Levine Tests
9YVXV7	✓				✓	✓		
A8TP4Z	✓		✓		✓	✓		
AKGNU3	✓				✓	✓		
ALMC88			✓			✓		
BBL7TY			✓		✓	✓		
BCGUAA	✓				✓	✓	✓	
BPMVT7					✓	✓		
BR9QB6	✓				✓	✓		
BRU3AD	✓				✓	✓		
BT3ERE		✓	✓		✓	✓		
C82TB9			✓			✓		

TABLE 2C - Examination Method(s) - Item 2

Webcode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
CBKVCM	✓		✓		✓	✓		
DLGZ2E	✓				✓	✓		
E3HHBA	✓				✓	✓		
ELFGXC			✓			✓		
EQKJFX			✓					
ETW2Y3			✓				✓	
FDFMUA	✓				✓	✓		
FJ2JXY			✓			✓		Weight Determination
FNWA4B	✓				✓	✓		
HA7G8Z	✓				✓	✓	✓	
HJUBLH	✓		✓		✓	✓		
KDELW6	✓				✓	✓		
L3F4YB	✓		✓				✓	
LADV86	✓				✓	✓		
LCJXFV	✓				✓	✓		
LDXMGL	✓		✓					
LGJ93			✓	✓		✓		Electronic Balance
LLQZEZ			✓			✓		Weight/balance
LM2TEU					✓	✓		
LNEAPM	✓		✓		✓	✓	✓	
LTMX24	✓		✓		✓	✓		
LYZB9H			✓					
MAAD6Z			✓			✓		Electronic balance
MN9EJL	✓				✓	✓		
MNDPKY			✓			✓		Electronic Balance
MQGR2N	✓		✓		✓	✓		
MRBFHX	✓		✓			✓		
N6D72H	✓				✓	✓		
N7N6VQ			✓					
NN9YLF	✓				✓	✓		
NXGB2X			✓			✓		
PDHNUZ			✓		✓	✓		
PU8HMP			✓			✓		Weight Determination

TABLE 2C - Examination Method(s) - Item 2

Webcode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
Q3XQHZ		✓	✓			✓		
Q94EXM			✓			✓		
Q9QQYG	✓		✓			✓		
QDLDXW			✓			✓		
QEVLHG			✓			✓		
QZTV2J			✓					
RPA4PE	✓		✓			✓		
RQN8LQ	✓				✓	✓		
RRYA9P	✓		✓					
RVGK6U			✓			✓		
T2FFHY	✓				✓	✓		
TAT88W	✓				✓	✓		
TCZMJ9			✓		✓	✓		
TDARRQ	✓		✓			✓		
TQHDFQ	✓				✓	✓		
TRFNDE	✓		✓		✓	✓		
TVAKYY		✓	✓			✓		
TVUF48			✓		✓	✓		
TZMFPU			✓			✓		
U2T6JQ	✓				✓	✓	✓	
U3T6KB	✓					✓	✓	
U4JJTL	✓		✓			✓		
UEH8YW	✓				✓	✓		
UV7HMK	✓				✓	✓		
VD6WLQ	✓		✓			✓		
VPZ3HA	✓				✓	✓		
VR7JWT			✓	✓		✓		
W4DNMK						✓		
WWGFF								
X6ZUCA	✓		✓					
XBTY6E	✓		✓		✓	✓		
XEPH8C	✓					✓		
XNVPKC	✓		✓			✓		

TABLE 2C - Examination Method(s) - Item 2

Webcode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
XPPD4M	✓		✓			✓		
XXHLQY					✓	✓		Duquenois-Levine
Y9FL33			✓			✓		
YCHM4Z	✓		✓			✓	✓	
YVRKKB	✓				✓	✓		
Z6RU66	✓				✓	✓		
Z772QM			✓			✓		Balance
ZKT4BZ	✓		✓		✓	✓		
ZT66X6	✓					✓	✓	
ZWMKZ2	✓				✓	✓		
Response Summary for Item 2								Participants: 106
Total	65	4	60	4	58	94	12	
Percent	61%	4%	56%	4%	54%	88%	11%	

Quantitative Method of Analysis - Item 2

TABLE 2D

Webcode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
3MKC87		✓						
3X4Q9M		✓						
4X2HJZ		✓						
7UG3AJ		✓						
8Y6A2Q		✓						
EQKJFX		✓						
ETW2Y3				✓				
LNEAPM				✓				
LYZB9H			✓					
N7N6VQ				✓				
PDHNUZ		✓						
Q94EXM		✓						
QZTV2J		✓						
TCZMJ9		✓						
TVUF48		✓						
WWGFF				✓				
Y9FL33		✓						
ZWMKZ2		✓						

Response Summary for Item 2								Participants: 18
Total	0	13	1	4	0	0	0	
Percent	0%	72%	6%	22%	0%	0%	0%	

Quantitative Results - Item 2

What is the total THC concentration in Item 2?

TABLE 2E

Item Contents and Preparation Concentration: Marihuana, 8.6% THC

Webcode	Reported Concentration	Uncertainty	K Value	Units
3MKC87	6	11.55	2	%
4X2HJZ	9	1.2	1	%
7UG3AJ	8			%
8Y6A2Q	9.0	2	2	%THC
EQKJFX	7.3			%
ETW2Y3	8,66	0,52	2	by weight %
LNEAPM	9,07	0,16		%
LYZB9H	80.2			µg/mg
N7N6VQ	13.9	4.5	4.53	% w/w
PDHNUZ	8	0,5	2	%
Q94EXM	9.06			%
QZTV2J	96,8	8,22	2	mg/L
TCZMJ9	7.28	4.5	2	%
TVUF48	8	4.5	2	%
WWGFF	7.8			
Y9FL33	8.48	4.5	2	%
ZWMKZ2	6	4.5	2	%

Raw Data - Item 2

List of raw data determinations in percent of total THC.

TABLE 2F

Preparation concentration: (8.6% THC)

Webcode	Raw Data (%)				Participant Mean
3MKC87	5.960	6.450			6.205
4X2HJZ	8.351	9.151			8.751
7UG3AJ	8.100	9.500	7.900	9.500	8.750
8Y6A2Q	8.630	8.530	9.750		8.970
EQKJFX	7.600	6.900	7.400		7.300
ETW2Y3	8.913	8.410	8.720		8.681
LNEAPM	8.940	9.280	9.010		9.077
LYZB9H	8.030	7.890	8.150		8.023
N7N6VQ	14.080	15.420	12.070		13.86 X
PDHNUZ	7.900	8.800	7.100		7.933
Q94EXM	9.060				9.060
QZTV2J	9.210	10.300			9.755
TCZMJ9	7.620	7.620	6.960	6.930	7.283
TVUF48	8.140	8.020	7.730	7.770	7.915
WWGFF	7.800				3.890
Y9FL33	8.850	8.880	8.100	8.080	8.478
ZWMKZ2	6.616	6.548	6.371	6.398	6.483

Statistical Analysis for Item 2

Grand Mean 8.178	Number of Participants Included 15	Participants without Raw Data or Data that was 0
Standard Deviation 1.007	Number of Participants Excluded 1	not reported in %

Reporting Procedures - Item 2

If quantitative analysis was performed, the reported concentrations are:

TABLE 2G

Webcode	Quantitative Reporting Procedures
3MKC87	The mean of duplicate/several determinations.
3X4Q9M	Single sample, mean of triplicate injections
4X2HJZ	The mean of duplicate/several determinations.
7UG3AJ	The mean of duplicate/several determinations.
8Y6A2Q	The mean of duplicate/several determinations.
EQKJFX	The mean of duplicate/several determinations.
ETW2Y3	The mean of duplicate/several determinations.
LNEAPM	The mean of duplicate/several determinations.
LYZB9H	The mean of duplicate/several determinations.
N7N6VQ	The mean of duplicate/several determinations.
PDHNUZ	The mean of duplicate/several determinations.
Q94EXM	The mean of duplicate/several determinations.
QZTV2J	The mean of duplicate/several determinations.
TCZMJ9	The mean of duplicate/several determinations.
TVUF48	The mean of duplicate/several determinations.
WWGFF	A single determination
Y9FL33	The mean of duplicate/several determinations.
ZWMKZ2	The mean of duplicate/several determinations.

Response Summary for Item 2	Participants: 18
A single determination:	1 (5.6%)
The mean of duplicate/several determinations:	16 (88.9%)
Other:	1 (5.6%)

Marihuana Identification - Item 3

TABLE 3A

Webcode		Was marihuana (cannabis) detected/identified?			
29A997	No	BRU3AD	No	MQGR2N	No
2TDWXG	No	BT3ERE	No	MRBFHX	No
2ZF72N	No	C82TB9	No	N6D72H	No
3MKC87	No	CBKVCM	No	N7N6VQ	No
3X4Q9M	No	DLGZ2E	No	NN9YLF	No
43VE4K	No	E3HHBA	No	NXGB2X	No
4X2HJZ	No	ELFGXC	No	PDHNUZ	No
6B49XD	No	EQKJFX	No	PU8HMP	No
6UWCED	No	ETW2Y3	No	Q3XQHZ	No
6WLJYB	No	DFDMUA	No	Q94EXM	No
72AM6J	No	FJ2JXY	No	Q9QQYG	No
7UG3AJ	No	FNWA4B	No	QDLDXW	No
8C9DN7	No	HA7G8Z	No	QEVLHG	No
8CRJLB	No	HJUBLH	No	QZTV2J	No
8Y6A2Q	No	KDELW6	No	RPA4PE	No
968LV3	No	L3F4YB	No	RQN8LQ	No
9C78KG	No	LADV86	No	RRYA9P	No
9GXF6B	No	LCJXV	No	RVGK6U	No
9NZHEH	No	LDXMGL	No	T2FFHY	No
9RZWFE	No	LGJY93	No	TAT88W	No
9YVXV7	No	LLQZEZ	No	TCZMJ9	No
A8TP4Z	No	LM2TEU	No	TDARRQ	No
AKGNU3	No	LNEAPM	No	TQHDFQ	No
ALMC88	No	LTMX24	No	TRFNDE	No
BBL7TY	No	LYZB9H	No	TVAKYY	No
BCGUAA	No	MAAD6Z	No	TVUF48	No
BPMVT7	No	MN9EJL	No	TZMFPU	No
BR9QB6	No	MNDPKY	No	U2T6JQ	No

TABLE 3A - Marihuana Identification - Item 3

Webcode	Was marihuana (cannabis) detected/identified?
U3T6KB	No
U4JJTL	No
UEH8YW	No
UV7HNC	No
VD6WLQ	No
VPZ3HA	No
VR7JWT	No
W4DNMK	No
WVWGFF	No
X6ZUCA	No
XBTY6E	No
XEPH8C	No
XNVPMC	No
XPPD4M	No
XXHLQY	No
Y9FL33	No
YCHM4Z	No
YVRKKB	No
Z6RU66	No
Z772QM	No
ZKT4BZ	No
ZT66X6	No
ZWMKZ2	No

Marihuana Identification Response Summary for Item 3		Participants: 107
Was marihuana (cannabis) detected/ identified in this Item?		
<u>Response</u>	<u>Total</u>	
Yes	0	
No	107	

Cannabinoid Tested For - Item 3

Which cannabinoids were tested for in Item 3?

TABLE 3B

Webcode	What Cannabinoids were tested for in Item 3?
29A997	None
2TDWXG	Tetrahydrocannabinol
3MKC87	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
43VE4K	None
4X2HJZ	Tetrahydrocannabinol Cannabinol Cannabidiol
6B49XD	Tetrahydrocannabinol
6UWCED	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol
6WLJYB	None
72AM6J	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol Other cannabinoids: Cannabichromene (CBC), tetrahydrocannabivarin (THCV)
7UG3AJ	Tetrahydrocannabinol
8C9DN7	None
8CRJLB	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol
8Y6A2Q	Tetrahydrocannabinol Cannabinol Cannabidiol
9C78KG	Tetrahydrocannabinol
9GXF6B	None
9NZHEH	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol Other cannabinoids: Tested for THC, CBD, CBN and CBG, but no cannabinoids detected.
A8TP4Z	None

TABLE 3B - Cannabinoids - Item 3

Webcode	What Cannabinoids were tested for in Item 3?
AKGNU3	Other cannabinoids: Cannabinoids
BBL7TY	Tetrahydrocannabinol
BPMVT7	None
BRU3AD	None
BT3ERE	None
CBKVCM	Tetrahydrocannabinol
E3HHBA	None
ELFGXC	Tetrahydrocannabinol
EQKJFX	None
ETW2Y3	None
FDFMUA	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol Other cannabinoids: CBC, THCV
FJ2JXY	Tetrahydrocannabinol
FNWA4B	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol Other cannabinoids: cannabichromene, cannabicyclol
HA7G8Z	Tetrahydrocannabinol
HJUBLH	None
KDELW6	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
L3F4YB	None
LADV86	None
LCJXFV	Tetrahydrocannabinol
LGYJ93	None
LLQZEZ	None
LM2TEU	None
LNEAPM	None
LTMX24	Tetrahydrocannabinol
LYZB9H	None
MAAD6Z	None
MN9EJL	None

TABLE 3B - Cannabinoids - Item 3

Webcode	What Cannabinoids were tested for in Item 3?
MNDPKY	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
MQGR2N	Tetrahydrocannabinol
MRBFHX	Tetrahydrocannabinol
N6D72H	None
N7N6VQ	Tetrahydrocannabinol Tetrahydrocannabinolic Acid
NN9YLF	Tetrahydrocannabinol
NXGB2X	None
PDHNUZ	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
PU8HMP	Tetrahydrocannabinol
Q3XQHZ	Tetrahydrocannabinol Cannabinol Cannabidiol
Q94EXM	None
Q9QQYG	None
QDLDXW	None
QZTV2J	None
RPA4PE	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
RRYA9P	None
RVGK6U	None
T2FFHY	None
TCZMJ9	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
TDARRQ	Tetrahydrocannabinol
TQHDFQ	Tetrahydrocannabinol
TRFNDE	Other cannabinoids: Cannabinoids
TVAKYY	Tetrahydrocannabinol Cannabinol Cannabidiol

TABLE 3B - Cannabinoids - Item 3

Webcode	What Cannabinoids were tested for in Item 3?
TVUF48	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol
TZMFPU	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol
U2T6JQ	None
U3T6KB	Tetrahydrocannabinol Cannabinol Cannabidiol
U4JJTL	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol
UEH8YW	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol Other cannabinoids: Cannabichromene (CBC)
UV7HNK	Tetrahydrocannabinol
VD6WLQ	Tetrahydrocannabinol
VPZ3HA	Tetrahydrocannabinol
VR7JWT	None
W4DNMK	Tetrahydrocannabinol
WWWGFF	Cannabigerol Tetrahydrocannabinol Tetrahydrocannabinolic Acid Cannabinol Cannabidiol
XEPH8C	Tetrahydrocannabinol
XNVPMC	Tetrahydrocannabinol
XPPD4M	Tetrahydrocannabinol
XXHLQY	None
Y9FL33	Tetrahydrocannabinol Cannabinol Cannabidiol
YCHM4Z	None
YVRKKB	None
Z6RU66	None

TABLE 3B - Cannabinoids - Item 3

Webcode	What Cannabinoids were tested for in Item 3?
ZKT4BZ	None
ZT66X6	Tetrahydrocannabinol
ZWMKZ2	Cannabigerol Tetrahydrocannabinol Cannabinol Cannabidiol

Response Summary for Item 3	Participants: 52
None:	38
Cannabigerol (CBG):	18
Tetrahydrocannabinol (THC):	50
Tetrahydrocannabinolic Acid (THCA)	10
Cannabinol (CBN):	24
Cannabidiol (CBD):	24
*Other:	7

The total may be more than the total number of participants because participants can report multiple cannabinoids.

*This value represents the number of participants that reported text for the "Other" response blank on the data entry form.

Examination Method of Analysis - Item 3

TABLE 3C

Webcode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
29A997			✓			✓		
2TDWXG	✓		✓		✓	✓		
2ZF72N	✓		✓		✓	✓		
3MKC87			✓		✓	✓		
3X4Q9M			✓			✓		
43VE4K	✓		✓		✓	✓		
4X2HJZ			✓	✓				
6B49XD	✓		✓		✓	✓		
6UWCED			✓					UV
6WLJYB	✓				✓	✓		
72AM6J	✓		✓		✓	✓		
7UG3AJ						✓	✓	
8C9DN7	✓				✓	✓		
8CRJLB	✓		✓		✓	✓		
8Y6A2Q			✓				✓	
968LV3	✓		✓		✓	✓		
9C78KG	✓	✓	✓		✓	✓		
9GXF6B	✓		✓		✓	✓	✓	
9NZHEH			✓					
9RZWFE	✓		✓		✓	✓		Duquenois-Levine Tests
9YVXV7	✓				✓	✓		
A8TP4Z	✓		✓		✓	✓		
AKGNU3	✓		✓		✓	✓		
ALMC88			✓			✓		
BBL7TY			✓		✓	✓		
BCGUAA	✓				✓	✓	✓	
BPMVT7					✓	✓		
BR9QB6	✓				✓	✓		
BRU3AD			✓		✓	✓		
BT3ERE		✓	✓		✓	✓		
C82TB9			✓	✓		✓		

TABLE 3C - Examination Method(s) - Item 3

Webcode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
CBKVCM	✓		✓		✓	✓		
DLGZ2E	✓		✓		✓	✓		
E3HHBA	✓		✓		✓	✓		
ELFGXC			✓			✓		
EQKJFX			✓					
ETW2Y3			✓				✓	
FDFMUA	✓		✓		✓	✓		
FJ2JXY			✓			✓		Weight Determination
FNWA4B	✓		✓		✓	✓		
HA7G8Z	✓				✓	✓	✓	
HJUBLH	✓		✓		✓	✓		
KDELW6	✓		✓		✓	✓		
L3F4YB	✓		✓			✓		
LADV86	✓				✓	✓		
LCJXFV	✓		✓		✓	✓		
LDXMGL	✓		✓					
LGYJ93			✓	✓		✓		Electronic Balance
LLQZEZ			✓	✓		✓		Weight/balance
LM2TEU					✓	✓		
LNEAPM	✓		✓		✓	✓	✓	
LTMX24	✓		✓		✓	✓		
LYZB9H			✓					
MAAD6Z			✓	✓		✓		Electronic balance
MN9EJL	✓		✓		✓	✓		
MNDPKY			✓	✓		✓		Electronic Balance
MQGR2N	✓		✓		✓	✓		
MRBFHX	✓		✓			✓		
N6D72H	✓				✓	✓		
N7N6VQ			✓					
NN9YLF	✓		✓		✓	✓		
NXGB2X			✓	✓		✓		
PDHNUZ			✓		✓	✓		
PU8HMP			✓			✓		Weight Determination

TABLE 3C - Examination Method(s) - Item 3

Webcode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
Q3XQHZ		✓	✓			✓		
Q94EXM			✓			✓		
Q9QQYG	✓		✓			✓		
QDLDXW			✓					UV
QEVLHG			✓			✓		
QZTV2J								
RPA4PE	✓		✓			✓		
RQN8LQ	✓		✓		✓	✓		
RRYA9P	✓		✓			✓		
RVGK6U			✓	✓		✓		
T2FFHY	✓		✓		✓	✓		
TAT88W		✓	✓		✓	✓		
TCZMJ9			✓		✓	✓		
TDARRQ	✓		✓			✓		
TQHDFQ	✓		✓		✓	✓		
TRFNDE	✓		✓		✓	✓		
TVAKYY		✓	✓			✓		
TVUF48			✓		✓	✓		
TZMFPU			✓	✓		✓		
U2T6JQ	✓				✓	✓	✓	
U3T6KB	✓					✓	✓	
U4JJTL	✓		✓			✓		
UEH8YW	✓		✓		✓	✓		
UV7HMK	✓		✓		✓	✓		
VD6WLQ	✓		✓			✓		
VPZ3HA	✓		✓		✓	✓		
VR7JWT			✓	✓		✓		
W4DNMK			✓			✓		
WWGFF								
X6ZUCA	✓		✓					
XBTY6E	✓		✓		✓	✓		
XEPH8C	✓					✓		
XNVPKC	✓		✓			✓		

TABLE 3C - Examination Method(s) - Item 3

Webcode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
XPPD4M	✓		✓			✓		
XXHLQY			✓		✓	✓		Duquenois-Levine
Y9FL33			✓			✓		
YCHM4Z	✓		✓			✓	✓	
YVRKKB	✓		✓		✓	✓		
Z6RU66	✓				✓	✓		
Z772QM			✓	✓		✓		Balance
ZKT4BZ	✓		✓		✓	✓		
ZT66X6	✓					✓	✓	
ZWMKZ2			✓					
Response Summary for Item 3								Participants: 105
Total	61	5	89	11	56	93	11	
Percent	57%	5%	83%	10%	52%	87%	10%	

Quantitative Method of Analysis - Item 3

TABLE 3D

Webcode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
4X2HJZ		✓						
LYZB9H			✓					
WWGFF				✓				
Response Summary for Item 3								Participants: 3
Total	0	1	1	1	0	0	0	
Percent	0%	33%	33%	33%	0%	0%	0%	

Quantitative Results - Item 3

What is the total THC concentration in Item 3?

TABLE 3E

Item Contents and Preparation Concentration: Oregano, N/A

Webcode	Reported Concentration	Uncertainty	K Value	Units
4X2HJZ	not detected			
WWGFF	0.0			

Raw Data - Item 3

List of raw data determinations in percent of total THC.

TABLE 3F

Preparation concentration: (N/A)

Webcode	Raw Data (%)	Participant Mean
WWGFF	0.000 0.000	

Statistical Analysis for Item 3

Please note Statistical Analysis for this Item has not been provided due to the zero value of most responses. This did not allow for the generation of accurate statistics.

Reporting Procedures - Item 3

If quantitative analysis was performed, the reported concentrations are:

TABLE 3G

Webcode	Quantitative Reporting Procedures
4X2HJZ	The mean of duplicate/several determinations.
WWGFF	A single determination

Response Summary for Item 3	Participants: 2
A single determination:	1 (50.0%)
The mean of duplicate/several determinations:	1 (50.0%)

Additional Comments

TABLE 4

WebCode	Additional Comments
29A997	In sample "18-503 Item 3" Carvacrol was detected.
2ZF72N	[From Tables 1B & 2B - Cannabinoids Tested For, Items 1 -2, Other Cannabinoids: "Color test = Test for cannabinoids, no instrument test(s)."; From Table 3B - Cannabinoids Tested For, Item 3, Other Cannabinoids: "Color test = test for cannabinoids, GCMS = screen run"]
3X4Q9M	Results and Conclusions: A portion of the material from items 1 and 2 was analyzed separately and each was found to contain marijuana based on a Total THC concentration greater than 0.3 percent. No controlled substances or other known drugs of forensic interest were identified in item 3. Evidence: A sealed envelope holding a sealed envelope containing three sealed envelopes, labeled items 1, 2, and 3, was received. Item 1 was a sealed envelope holding a gold colored heat-sealed package containing a glassine bag holding 0.39 gram of green plant material. Item 2 was a sealed envelope holding a red colored heat-sealed package containing a glassine bag holding 0.39 gram of green plant material. Item 3 was a sealed envelope holding a silver colored heat-sealed package containing a glassine bag holding 0.40 gram of green plant material. Methods and Observations: The plant material was examined using a stereomicroscope to observe specific physical characteristics. A portion of the material from items 1, 2, and 3 was extracted with methanol and was analyzed using a gas chromatograph/mass spectrometer. A second portion of the material from items 1 and 2 was extracted with methanol containing an internal standard and was analyzed using a gas chromatograph equipped with a flame ionization detector. Remarks: Marijuana contains both delta-9-tetrahydrocannabinol (THC) and delta-9-tetrahydrocannabinolic acid (THCA). THCA is known to convert to THC upon storage and heating, which occurs during smoking and when analyzed using a gas chromatograph. The identification of marijuana and marijuana concentrates is based on the combined concentrations of THC and THCA (also known as Total THC).
7UG3AJ	Our THC quantitation is for hemp sample analysis only, and has not been validated for levels above 0.35%THC. This proficiency test was completed for information purposes only
9NZHEH	The laboratory does not routinely report "marihuana".
9RZWFE	The Duquenois-Levine Tests are the color tests.
A8TP4Z	This laboratory does not perform quantitative analysis for THC.
BPMVT7	A proportion of the plant material in items 1 and 2 was too finely fragmented for botanical identification.
EQKJFX	Item 1 : cannabidiol < 0.1% cannabinol 0.9%. Item 2 : cannabidiol 8.1% cannabinol 0.6%. Item 3 : identification of thymol
KDELW6	[From Tables 3 - Cannabinoids Tested For, Item 3, Other Cannabinoids: "Full scan GC/MS performed for all cannabinoids in library"]
L3F4YB	The quantification test is not a service provided by the laboratory in this area, a project is being developed in that sense. For this reason, THC quantification is not performed.
LADV86	Only botanical identification is performed by this Forensic Scientist. This lab does not practice quantitation for any illicit drugs. If a controlled substance was suspected but not identified with the combination of Duquenois-Levine color test, Macroscopic exam, & microscopic exam; a true case item would be forwarded to another Forensic Scientist for further chemical analysis.
LCJXFV	Question 2 for each item was confusing. Last year this question asked for the cannabinoids identified.
LM2TEU	All three items were identified by Botanical examination.
MN9EJL	This laboratory does not perform quantitative analysis for THC.
MRBFHX	For item 3, no controlled substances were detected.
N7N6VQ	Plant material analyzed as received. No further chopping, grinding or homogenizing

TABLE 4

WebCode	Additional Comments
Q9QQYG	The laboratory does not perform quantitative analysis on cannabis.
QEVLHG	The three samples contain pulverized plant material green color, in good conditions.
TCZMJ9	Thymol was detected in the ghm in item 3. [From Tablea 1B, 2B & 3B - Cannabinoids Tested For, Items 1 - 3, Other Cannabinoids: "General drugs screen"]
TDARRQ	Item 3, vegetable matter, no controlled substances detected.
VD6WLQ	Item 3, no controlled substances were detected.
VPZ3HA	Thymol indicated in item 3.
W4DNMK	THC quantitation is not performed by our laboratory at this time. With respect to Item 3 - Laboratory protocol states non-Cannabis plant material must be screened for controlled substances by GC/MS. Results showed 'No Controlled Substances' detected.
WWGFF	Sample 1 = cannabis (7.9% THCs). Sample 2 = cannabis (7.8% THCs + 8.4% CBDs). Sample 3 = not cannabis. [From Table 1F - Raw Data Item 1: "8.23% THCA (which calculations to 7.22% THC) and 0.69% THC". From Table 2F - Raw Data Item 2: "7.19% THC and 0.59% CBD".]
XBTY6E	[From Table 3B - Cannabinoids Tested For, Item 3, Other Cannabinoids: "No controlled substances were detected"]
XPPD4M	Item 3, no controlled substances were detected.
YVRKKB	This laboratory does not perform quantitative analysis for THC.
Z772QM	[From Tables 1B & 2B - Cannabinoids Tested For, Items 1 -2, Other Cannabinoids: "GCMS Screen for common drugs of abuse"; From Table 3B - Cannabinoids Tested For, Item 3, Other Cannabinoids: "GCMS and HPLC screen for common drugs of abuse"]
ZWMKZ2	For item 1 and 2, the raw data values have been expressed to 6 decimal places for accuracy and rounded up after the average was taken. If this was normal casework, 5 grams would be the minimum sample size before quantitative analysis is performed. Item 1: Multiple cannabinoids tested for by GCMS, two detected, THC and CBD). Item 2: Only THC quant performed. Cannabis ID through micro, macro and negms. Item 3: Multiple cannabinoids tested for. Non detected by GCMS

-End of Report-
(Appendix may follow)

Appendix: Data Sheet

Collaborative Testing Services ~ Forensic Testing Program

Test No. 18-503: Marihuana Identification and THC Quantitation

DATA MUST BE RECEIVED BY August 27, 2018 TO BE INCLUDED IN THE REPORT

Participant Code:

WebCode:

Accreditation Release Statement

CTS submits external proficiency test data directly to ASCLD/LAB, ANAB and A2LA. Please select one of the following statements to ensure your data is handled appropriately.

- This participant's data is intended for submission to ASCLD/LAB, ANAB, and/or A2LA. (Accreditation Release section on the last page must be completed and submitted.)
- This participant's data is NOT intended for submission to ASCLD/LAB, ANAB or A2LA.

Scenario:

An investigator has submitted three separate questioned samples containing what appears to be plant material for analysis. Please examine these samples and determine if marihuana (cannabis) is present. Determine the quantitative value of THC in the identified marihuana (cannabis) sample(s), if that is your laboratory's policy.

Items Submitted (Sample Pack MID):

Items 1-3: Plant material

Please return all pages of this data sheet.

Page 1 of 6

Examination Results for Item 1

1-1) Is marihuana (cannabis) detected/identified in Item 1?

Yes, marihuana (cannabis) detected/identified No, marihuana (cannabis) not detected/identified

1-2) What cannabinoids were tested for in Item 1?

None Cannabigerol (CBG)
Tetrahydrocannabinol (THC) Tetrahydrocannabinolic Acid (THCA)
Cannabinol (CBN) Cannabidiol (CBD)

Other(s): _____

1-3) What method(s) were used to examine and/or quantitate Item 1?

	<u>Examination</u>	<u>Quantitation</u>
Color Tests	<input type="checkbox"/>	<input type="checkbox"/>
GC-FID	<input type="checkbox"/>	<input type="checkbox"/>
GC/MS	<input type="checkbox"/>	<input type="checkbox"/>
LC	<input type="checkbox"/>	<input type="checkbox"/>
Macroscopic	<input type="checkbox"/>	<input type="checkbox"/>
Microscopic	<input type="checkbox"/>	<input type="checkbox"/>
TLC	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>

Quantitative Results for Item 1

No quantitative analysis performed

1-4) Please record the concentration of total THC (combination of THC and THCA) that was obtained. (Results should be reported using your laboratory reporting criteria for decimal places, uncertainty, and units.)

Reported Concentration Uncertainty (k= _____) Units
_____- +/- _____

1-5) Please list your raw data determinations below in percent of total THC. (Results not reported in % will be excluded from statistical calculations.)

Raw Data (%):

1-6) For quantitative analysis of THC, are reported concentrations:

A single determination? The mean of duplicate / several determinations?
 Other? (Specify): _____

Please return all pages of this data sheet.

Examination Results for Item 3

3-1) Is marihuana (cannabis) detected/identified in Item 3?

Yes, marihuana (cannabis) detected/identified No, marihuana (cannabis) not detected/identified

3-2) What cannabinoids were tested for in Item 3?

None Cannabigerol (CBG)
Tetrahydrocannabinol (THC) Tetrahydrocannabinolic Acid (THCA)
Cannabinol (CBN) Cannabidiol (CBD)

Other(s): _____

3-3) What method(s) were used to examine and/or quantitate Item 3?

	<u>Examination</u>	<u>Quantitation</u>
Color Tests	<input type="checkbox"/>	<input type="checkbox"/>
GC-FID	<input type="checkbox"/>	<input type="checkbox"/>
GC/MS	<input type="checkbox"/>	<input type="checkbox"/>
LC	<input type="checkbox"/>	<input type="checkbox"/>
Macroscopic	<input type="checkbox"/>	<input type="checkbox"/>
Microscopic	<input type="checkbox"/>	<input type="checkbox"/>
TLC	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>

Quantitative Results for Item 3

No quantitative analysis performed

3-4) Please record the concentration of total THC (combination of THC and THCA) that was obtained. (Results should be reported using your laboratory reporting criteria for decimal places, uncertainty, and units.)

Reported Concentration Uncertainty (k= _____) Units
_____- +/- _____

3-5) Please list your raw data determinations below in percent of total THC. (Results not reported in % will be excluded from statistical calculations.)

Raw Data (%):

3-6) For quantitative analysis of THC, are reported concentrations:

A single determination? The mean of duplicate / several determinations?
 Other? (Specify): _____

Please return all pages of this data sheet.

Additional Comments

Analyst Survey (Optional)

CTS is committed to aiding the forensic science community. The following information is being collected on behalf of the Organization of Scientific Area Committees for Forensic Science (OSAC) - Seized Drugs Subcommittee. A summary of these responses will be provided to this subcommittee and will not be associated with identifying information.

a) Does your laboratory follow the SWGDRUG guidelines?

b) Is your laboratory accredited? If yes, under what standard (e.g. ISO 17025) is your laboratory accredited?

c) Please indicate which of the following best describes your position: Non-practicing, trainee, or qualified to conduct casework.

<p>Return Instructions: Data must be received via online data entry, fax (please include a cover sheet), or mail by August 27, 2018 to be included in the report. Emailed data sheets are not accepted.</p> <p>QUESTIONS? TEL: +1-571-434-1925 (8 am - 4:30 pm EST) EMAIL: forensics@cts-interlab.com www.ctsforensics.com</p>	<p>Participant Code: ONLINE DATA ENTRY: www.cts-portal.com FAX: +1-571-434-1937 MAIL: Collaborative Testing Services, Inc. P.O. Box 650820 Sterling, VA 20165-0820 USA</p>
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Please return all pages of this data sheet.

RELEASE OF DATA TO ACCREDITATION BODIES

The following Accreditation Releases will apply only to:

Participant Code:

WebCode:

for Test No. **18-503: Marihuana Identification and THC Quantitation**

This release page must be completed and received by **August 27, 2018** to have this participant's submitted data included in the reports forwarded to the respective Accreditation Bodies.

Have the laboratory's designated individual complete the following steps **only if your laboratory is accredited in this testing/calibration discipline** by one or more of the following Accreditation Bodies.

Step 1: Provide the applicable Accreditation Certificate Number(s) for your laboratory

ANAB Certificate No. _____

(Include ASCLD/LAB Certificate here)

A2LA Certificate No. _____

Step 2: Complete the Laboratory Identifying Information in its entirety

Signature and Title _____

Laboratory Name _____

Location (City/State) _____

Return Instructions

Accreditation Release

Please submit the completed Accreditation Release at the same time as your full data sheet. See Data Sheet Return Instructions on the previous page.

*Questions? Contact us 8 am-4:30 pm EST
Telephone: +1-571-434-1925
email: forensics@cts-interlab.com*

Please return all pages of this data sheet.

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