



# **Marihuana Identification and THC Quantitation Test No. 19-503 Summary Report**

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Each sample pack consisted of three questioned samples containing plant material which participants were requested to analyze. Data were returned from 108 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 7.7%. Item 2 consisted of marshmallow leaf. Item 3 consisted of marihuana with a THC concentration of 11.7%. Concentration of THC is determined by the supplier utilizing GC. Marihuana is a Schedule I controlled substance in the United States.

### **SAMPLE PREPARATION-**

ITEMS 1 and 3 (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 red-colored bag was used for Item 1 and a silver-colored bag was used for Item 3. The bags were heat sealed and then placed into a pre-labeled envelope.

Item 2 (PREPARATION): Approximately 400 mg of loose marshmallow leaf 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, gold-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 3. The following methods were used to examine the items: microscopic and macroscopic analysis, color tests, GC/MS, LC, and HPLC-UV-DAD.

## **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 7.7%. Item 2 consisted of marshmallow leaf plant material. Item 3 consisted of marihuana plant material with a THC concentration of 11.7%. Marihuana is a Schedule I controlled substance in the United States. (See the Manufacturer's Information for preparation details.)

All 108 participants that returned results for this test performed qualitative analysis. The most frequently reported methods of examination were microscopy, GC/MS, macroscopy, and color tests.

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

For Item 1, 86 participants reported the identification of individual cannabinoids. The cannabinoids most frequently tested for were Tetrahydrocannabinol (THC) and Cannabidiol (CBD). Seventy-nine of the 80 participants that reported testing for THC identified it as being present (99%). Fifty-six of the 60 participants that reported testing for CBD identified it as being present (93%). Other cannabinoids identified as being present include Cannabinol (CBN), Cannabigerol (CBG), Tetrahydrocannabinolic Acid (THCA), and Cannabidiolic Acid (CBDA).

For Item 3, 87 participants reported the identification of individual cannabinoids. The cannabinoids most frequently tested for were THC and CBN. Seventy-nine of the 81 participants that reported testing for THC identified it as being present (98%). Forty-six of the 55 participants that reported testing for CBN identified it as being present (84%). Other cannabinoids identified as being present include CBD, CBG, and THCA.

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  $\pm 3$  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 1.

For Items 1 and 3, 26 participants performed quantitative analysis for THC. The most frequent quantification methods reported were GC-FID and LC. For Item 1, the grand mean of reported raw data was a THC concentration of 7.218% with a standard deviation of 1.262. For Item 3, the grand mean was a THC concentration of 10.16% with a standard deviation of 2.303.

# Marihuana Identification - Item 1

TABLE 1A

Was marihuana (cannabis) detected/identified?

WebCode		WebCode		WebCode	
2VT94V	Yes	CPT9HW	Yes	MXPXBV	Yes
2YTG96	Yes	CVZUAZ	Yes	N76PPZ	Yes
2YU6VB	Yes	D2L3DQ	Yes	N7ZD24	Yes
343WGT	Yes	D7EBFC	Yes	N8FRBY	Yes
39CAYR	Yes	DXKA7D	Yes	NHA6EC	Yes
3RADZ3	Yes	E46GGQ	Yes	NPBGB9	Yes
3RC9CL	Yes	EB2FPR	Yes	NZR2WQ	Yes
3WHTAQ	Yes	FDQV39	Yes	P6M3NW	Yes
4CDJVF	Yes	FTZVJQ	Yes	P7RYKK	Yes
4JB3A4	Yes	G7JY6R	Yes	PCJ2TQ	Yes
4TYY8Y	Yes	GPYFH7	Yes	PQKQTX	Yes
69DHM7	Yes	H4AAGA	Yes	Q3BYD	Yes
6K4F7V	Yes	HPDVGF	Yes	QDTBGH	Yes
6K74T2	Yes	HTP68P	Yes	QJE966	Yes
6R4XK8	Yes	HX9ZBG	Yes	QQZADV	Yes
73JX3M	Yes	HXRPMMA	Yes	R8X4BE	Yes
7M8GZQ	Yes	J4TNB6	Yes	RDVEUT	Yes
7PXLQC	Yes	JCKXTM	Yes	RLGT7A	Yes
7RZJZK	Yes	JDWPMP	Yes	RXAAVB	Yes
89MBC6	Yes	JRWJZJ	Yes	T9BXM9	Yes
8BPBC2	Yes	K6Y79Z	Yes	TVXXQE	Yes
8J6ZYG	Yes	K932R4	Yes	U6367E	Yes
8WA769	Yes	L6XT2Y	Yes	U7GQG2	Yes
9EKHA4	Yes	LH3X8Q	Yes	UAYNCJ	Yes
AHZE8T	Yes	LVNHJ8	Yes	UC8Y9M	Yes
BP2UPE	Yes	LYPEBM	No	UDG78A	Yes
C68HBD	Yes	MFRMJL	Yes	ULR8TA	Yes

TABLE 1A - Marihuana Identification - Item 1

<b>WebCode</b>	<b>WebCode</b>	<b>WebCode</b>
UM7M9W	Yes	
UNERU8	Yes	
UVF8BT	Yes	
V4TH3Y	Yes	
V8RT4Z	Yes	
VC4KNZ	Yes	
VGWVBJ	Yes	
VKXPG2	Yes	
WVBNAA	Yes	
X3M4D4	Yes	
X8KFGF	Yes	
XEZ4AW	Yes	
XPLFDM	Yes	
XWMF4C	Yes	
XVWVUV	Yes	
Y3JYF7	Yes	
Y8WKFQ	Yes	
YC7W4Q	Yes	
YDJH3R	Yes	
YFNVX9	Yes	
YLF697	Yes	
YMUFDQ	Yes	
YN6LAR	Yes	
Z6NQ6X	Yes	
ZKH7D6	Yes	
ZTBNJZ	Yes	
ZTVBAV	Yes	

**Marihuana Identification Response Summary for Item 1****Participants: 108**

Was marihuana (cannabis) detected/ identified in this Item?

<u>Response</u>	<u>Total</u>
Yes	107
No	1
No Response	0

# Cannabinoids Tested For & Identified - Item 1

*Which cannabinoids were tested for and identified in Item 1?*

TABLE 1B

WebCode	What Cannabinoids were tested for and identified in Item 1?	
	Tested For	Identified
2VT94V	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
2YTG96	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
2YU6VB	Tetrahydrocannabinol (THC)	✓
	Cannabidiol (CBD)	✓
343WGT	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
	Cannabidiol (CBD)	✓
39CAYR	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
	Cannabidiol (CBD)	✓
3RADZ3	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
	Cannabidiol (CBD)	✓
3RC9CL	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	
	Cannabigerol (CBG)	
	Cannabidiol (CBD)	✓
4TYY8Y	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	✓
	<b>Other cannabinoids:</b> CBDA	
69DHM7	Tetrahydrocannabinol (THC)	✓
6K4F7V	Tetrahydrocannabinol (THC)	✓
	Cannabidiol (CBD)	✓
6K74T2	<b>Other cannabinoids:</b> none specific	

TABLE 1B - Cannabinoids - Item 1

<b>WebCode</b>	<b>What Cannabinoids were tested for and identified in Item 1?</b>	
	<b>Tested For</b>	<b>Identified</b>
73JX3M	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
7M8GZQ	Tetrahydrocannabinol (THC)	✓
7PXLQC	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	✓
	<b>Other cannabinoids:</b> CBDA, THCV, CBC	
7RZJZK	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	✓
89MBC6	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	✓
8BPBC2	Tetrahydrocannabinol (THC)	✓
8J6ZYG	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	
	Cannabigerol (CBG)	
	Tetrahydrocannabinolic Acid (THCA)	
	Cannabidiol (CBD)	
9EKHA4	Tetrahydrocannabinol (THC)	✓
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	✓
AHZE8T	Tetrahydrocannabinol (THC)	✓
BP2UPE	Tetrahydrocannabinol (THC)	✓
C68HBD	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
CPT9HW	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	
	Cannabidiol (CBD)	✓
D2L3DQ	<b>Other cannabinoids:</b> None specific	



TABLE 1B - Cannabinoids - Item 1

<b>WebCode What Cannabinoids were tested for and identified in Item 1?</b>		
	<b>Tested For</b>	<b>Identified</b>
D7EBFC	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
	Cannabidiol (CBD)	✓
DXKA7D	Tetrahydrocannabinol (THC)	✓
E46GGQ	<b>Other cannabinoids: non-specific test</b>	
EB2FPR	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
FDQV39	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	
	Cannabigerol (CBG)	
	Cannabidiol (CBD)	
FTZVJQ	Tetrahydrocannabinol (THC)	✓
G7JY6R	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	✓
	<b>Other cannabinoids: CBDA, CBGA, CBC</b>	
HPDVGf	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	✓
HTP68P	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
	Cannabidiol (CBD)	✓
HX9ZBG	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	✓

TABLE 1B - Cannabinoids - Item 1

<b>WebCode What Cannabinoids were tested for and identified in Item 1?</b>		
	<b>Tested For</b>	<b>Identified</b>
HXRPM	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	
	Cannabidiol (CBD)	✓
J4TNB6	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	
	Tetrahydrocannabinolic Acid (THCA)	
	Cannabidiol (CBD)	✓
JCKXTM	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
JDWPMP	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
	Cannabidiol (CBD)	✓
JRWJZJ	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
K932R4	Tetrahydrocannabinol (THC)	✓
L6XT2Y	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	
	Cannabigerol (CBG)	
	Cannabidiol (CBD)	
LH3X8Q	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	
	Cannabigerol (CBG)	
	Cannabidiol (CBD)	✓
LYPEBM	Tetrahydrocannabinol (THC)	✓
	Cannabidiol (CBD)	✓
MFRMJL	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	✓
N76PPZ	Tetrahydrocannabinol (THC)	✓

TABLE 1B - Cannabinoids - Item 1

<b>WebCode What Cannabinoids were tested for and identified in Item 1?</b>		
	<b>Tested For</b>	<b>Identified</b>
N8FRBY	Tetrahydrocannabinol (THC)	✓
NHA6EC	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
NPGB9	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	✓
<b>Other cannabinoids:</b> Cannabichromene, cannabidiolic acid, cannabinolic acid		
P7RYKK	Tetrahydrocannabinol (THC)	✓
	Cannabidiol (CBD)	✓
PCJ2TQ	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
PQKQTX	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	
	Cannabigerol (CBG)	
	Tetrahydrocannabinolic Acid (THCA)	
	Cannabidiol (CBD)	
Q3BYD	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	✓
QDTBGH	Tetrahydrocannabinol (THC)	✓
QJE966	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
QQZADV	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
	Cannabidiol (CBD)	✓
R8X4BE	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Tetrahydrocannabinolic Acid (THCA)	✓

TABLE 1B - Cannabinoids - Item 1

WebCode What Cannabinoids were tested for and identified in Item 1?		
WebCode	Tested For	Identified
RDVEUT	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	✓
<b>Other cannabinoids:</b> CBDA: [Tested for] - Yes; [Identified] - Yes		
RLGT7A	Tetrahydrocannabinol (THC)	✓
	Cannabidiol (CBD)	✓
RXAAVB	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	
	Cannabidiol (CBD)	✓
TVXXQE	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
	Cannabidiol (CBD)	✓
U6367E	Tetrahydrocannabinol (THC)	✓
	Cannabidiol (CBD)	✓
U7GQG2	Tetrahydrocannabinol (THC)	✓
	Cannabidiol (CBD)	✓
UAYNCJ	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
UC8Y9M	Tetrahydrocannabinol (THC)	
UDG78A	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
ULR8TA	Tetrahydrocannabinol (THC)	✓
UM7M9W	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
UNERU8	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	✓
<b>Other cannabinoids:</b> cannabidiolic acid (CBDA)		
UVF8BT	<b>Other cannabinoids:</b> marijuana - macro/micro/modified duquenois levine	

TABLE 1B - Cannabinoids - Item 1

<b>WebCode What Cannabinoids were tested for and identified in Item 1?</b>		
	<b>Tested For</b>	<b>Identified</b>
V4TH3Y	Tetrahydrocannabinol (THC)	✓
	Cannabidiol (CBD)	✓
V8RT4Z	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
	Cannabidiol (CBD)	✓
VC4KNZ	<b>Other cannabinoids:</b> Cannabinoids "General"	
VKXPG2	<b>Other cannabinoids:</b> cannabinoids (general)	
X3M4D4	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
	Cannabidiol (CBD)	✓
XEZ4AW	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
XWMF4C	Tetrahydrocannabinol (THC)	✓
Y8WKFQ	Tetrahydrocannabinol (THC)	✓
YC7W4Q	Tetrahydrocannabinol (THC)	✓
YDJH3R	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
YFNVX9	Tetrahydrocannabinol (THC)	✓
YLF697	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
YMUFDQ	Tetrahydrocannabinol (THC)	✓
YN6LAR	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	
	Cannabidiol (CBD)	✓
Z6NQ6X	Tetrahydrocannabinol (THC)	✓
	Cannabidiol (CBD)	✓
ZKH7D6	Tetrahydrocannabinol (THC)	✓
	Cannabidiol (CBD)	✓
ZTVBAV	Tetrahydrocannabinol (THC)	✓

<b>Response Summary for Item 1</b>		<b>Participants: 86</b>
	<u>Tested For</u>	<u>Identified</u>
Cannabigerol (CBG):	25	16
Tetrahydrocannabinol (THC):	80	79
Tetrahydrocannabinolic Acid (THCA)	17	14
Cannabinol (CBN):	50	39
Cannabidiol (CBD):	60	56
*Other:	12	

**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
2VT94V	✓		✓					
2YTG96							✓	
2YU6VB			✓		✓	✓		
343WGT			✓		✓	✓		
39CAYR	✓		✓					
3RADZ3			✓					
3RC9CL			✓			✓		
3WHTAQ	✓				✓	✓		
4CDJVF					✓	✓		
4JB3A4	✓				✓	✓		
4TY8Y			✓					UPLC/MS
69DHM7			✓		✓	✓		
6K4F7V	✓		✓		✓	✓		
6K74T2	✓				✓	✓		
6R4XK8	✓				✓	✓		
73JX3M			✓			✓		balance
7M8GZQ	✓		✓		✓	✓		
7PXLQC	✓		✓	✓	✓	✓		
7RZJZK			✓	✓		✓		Electronic Balance
89MBC6			✓	✓		✓		
8BPBC2			✓			✓		
8J6ZYG			✓			✓		
8WA769	✓		✓		✓	✓		
9EKHA4	✓		✓			✓	✓	
AHZE8T	✓					✓		
BP2UPE	✓				✓	✓	✓	
C68HBD			✓			✓		Electronic balance and/or mechanical scale
CPT9HW					✓	✓	✓	
CVZUAZ	✓				✓	✓		
D2L3DQ	✓				✓	✓		
D7EBFC			✓			✓		

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

WebCode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
DXKA7D	✓		✓			✓		
E46GGQ	✓				✓	✓		
EB2FPR	✓				✓	✓	✓	
FDQV39			✓			✓		electronic balance
FTZVJQ	✓				✓	✓		
G7JY6R				✓				
GPYFH7	✓				✓	✓		
H4AAGA	✓				✓	✓		
HPDVGF	✓		✓	✓	✓	✓		
HTP68P			✓					
HX9ZBG	✓		✓		✓	✓	✓	
HXRPMA			✓			✓		balance
J4TNB6			✓	✓		✓		
JCKXTM	✓		✓		✓	✓		
JDWPMP		✓	✓		✓	✓		
JRWJZJ	✓		✓		✓	✓		
K6Y79Z						✓		
K932R4			✓			✓		Electronic balance
L6XT2Y								
LH3X8Q			✓		✓	✓		
LVNHJ8	✓				✓	✓		
LYPEBM			✓			✓		GC
MFRMJL			✓			✓		
MXPXBV	✓				✓	✓		
N76PPZ	✓				✓	✓		
N7ZD24	✓				✓	✓		
N8FRBY	✓		✓		✓	✓		
NHA6EC	✓		✓		✓	✓		
NPBGB9			✓					
NZR2WQ	✓				✓	✓		
P6M3NW					✓	✓		
P7RYKK			✓					
PCJ2TQ	✓	✓	✓		✓	✓		



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

WebCode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
PQKQTX			✓	✓		✓		balance
Q3BYYD			✓				✓	
QDTBGH	✓				✓	✓		
QJE966			✓			✓		
QQZADV	✓		✓			✓		
R8X4BE	✓				✓	✓	✓	
RDVEUT			✓	✓				
RLGT7A	✓		✓		✓	✓		
RXAAVB			✓			✓		
T9BXM9	✓					✓		
TVXXQE			✓		✓	✓		
U6367E					✓	✓		
U7GQG2			✓			✓		
UAYNCJ			✓					
UC8Y9M	✓		✓		✓	✓		
UDG78A			✓	✓				
ULR8TA	✓		✓		✓	✓		
UM7M9W			✓			✓		
UNERU8			✓					
UVF8BT	✓				✓	✓		
V4TH3Y	✓		✓		✓	✓		
V8RT4Z	✓		✓					
VC4KNZ	✓				✓	✓		
VGWVBJ	✓				✓	✓		
VKXPG2	✓				✓	✓		
WVBNAA					✓	✓		Duquenois-Levine
X3M4D4	✓		✓			✓		
X8KFGF	✓				✓	✓		
XEZ4AW	✓		✓			✓		
XPLFDM						✓		
XWMF4C	✓					✓	✓	
XWWWUV	✓				✓	✓		
Y3JYF7	✓				✓	✓		

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

WebCode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
Y8WKFQ	✓		✓			✓		
YC7W4Q	✓		✓			✓		
YDJH3R			✓		✓	✓		
YFNVX9	✓		✓		✓	✓		
YLF697			✓		✓	✓	✓	
YMUFDQ	✓				✓	✓		
YN6LAR			✓			✓		
Z6NQ6X			✓		✓	✓		
ZKH7D6	✓		✓		✓	✓		
ZTBNJZ	✓				✓	✓		
ZTVBAV	✓				✓	✓		
<b>Response Summary for Item 1</b>								<b>Participants: 107</b>
Total	59	2	66	9	60	92	10	
Percent	55%	2%	61%	8%	56%	85%	9%	

# Quantitative Method of Analysis - Item 1

TABLE 1D

WebCode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
2YTG96		✓						
343WGT		✓						
3RADZ3			✓					
4TY8Y								UPLC/MS
7PXLQC				✓				
89MBC6			✓	✓				
8BPBC2		✓						
9EKHA4				✓				
CPT9HW		✓						
FTZVJQ		✓						
G7JY6R				✓				
HPDVGF				✓				
HTP68P		✓						
JCKXTM		✓						
JDWPMP		✓						
MFRMJL		✓						
NPBGB9		✓						
P7RYKK			✓					
Q3BYYD				✓				
QQZADV			✓					
TVXXQE		✓						
U6367E			✓					
UAYNCJ			✓					
UDG78A		✓						
UNERU8				✓				
X3M4D4		✓						
YDJH3R		✓						

Response Summary for Item 1								Participants: 27
Total	0	14	6	7	0	0	0	
Percent	0%	52%	22%	26%	0%	0%	0%	

# Quantitative Results - Item 1

What is the total THC concentration in Item 1?

TABLE 1E

Item Contents and Preparation Concentration: Marihuana, 7.7% THC

WebCode	Reported Concentration	Uncertainty	K Value	Units
2YTG96	8.2	0.2	2	%
343WGT	6.57	0.56	2	%
3RADZ3	19.8			ug/ml
4TY8Y	7.02	0.81	2	% m/m
7PXLQC	8.14	1.07	2	%
89MBC6	6.02	.5	2	%
8BPBC2	6.4	0.6	1	%
9EKHA4	6.7	1.6	2.576	% by weight
CPT9HW	7	0.63	2	percent
FTZVJQ	6	0.54	2	%
G7JY6R	7.2			% (w/w)
HPDVGf	9.231	0.200		%
HTP68P	8.3			%
JCKXTM	7.06	0.635	2	%
JDWPMP	7.22	0.4		%
MFRMJL	8.14			%
NPBGB9	7.11	0.65	2	%
P7RYKK	8	1.6	20	%
Q3BYD	7.94	0.45	2	by weight %
QQZADV	11.0	1	10%	%

TABLE 1E - Quantitative Results - Item 1

<b>WebCode</b>	<b>Reported Concentration</b>	<b>Uncertainty</b>	<b>K Value</b>	<b>Units</b>
TVXXQE	6.39	0.58	2	%
U6367E	>1			
UAYNCJ	73.8			$\mu\text{g}/\text{mg}$
UDG78A	7	0.7	1	%
UNERU8	7.4	0.3	2.2	%w/w
X3M4D4	7.1	0.3	2	%
YDJH3R	6.1	0.4	2	%

# Raw Data - Item 1

*List of raw data determinations in percent of total THC.*

TABLE 1F

**Preparation concentration: (7.7% THC)**

WebCode	Raw Data (%)				Participant Mean
2YTG96	8.320	7.870	8.370		8.187
343WGT	6.570	6.560			6.565
3RADZ3	20.150	19.400			19.78 X
4TYY8Y	6.790	7.400	6.570	7.310	7.018
7PXLQC	8.159	8.143			8.151
89MBC6	6.590	6.220	5.240		6.017
8BPBC2	6.310	6.490			6.400
9EKHA4	6.683	6.781	6.815		6.760
CPT9HW	6.570	6.590	6.580	6.590	6.583
FTZVJQ	5.470	5.380	5.980	5.940	5.693
G7JY6R	7.000	7.500			7.250
HPDVGF	9.223	9.465	9.005		9.231
HTP68P	8.300	8.300			8.300
JCKXTM	6.953	6.888	7.154	7.238	7.058
JDWPMP	7.280	7.220	7.180		7.227
MFRMJL	8.140				8.140
NPBGB9	6.780	6.500	7.290	7.860	7.108
Q3BYYD	7.976	7.767	8.082		7.942
QQZADV	10.100	11.900			11.00
TVXXQE	6.230	6.150	6.600	6.590	6.393
U6367E	4.430				4.430
UAYNCJ	7.170	7.590			7.380
UDG78A	6.815	7.438			7.127
UNERU8	7.280	7.370	7.560		7.403
X3M4D4	6.910	6.900	7.210	7.220	7.060
YDJH3R	6.200	6.100	5.800		6.033

### Statistical Analysis for Item 1

Grand Mean <b>7.218</b>	Number of Participants Included <b>25</b>	Participants without Raw Data or Data that was not reported in % <b>0</b>
Standard Deviation <b>1.262</b>	Number of Participants Excluded <b>1</b>	

# **Reporting Procedures - Item 1**

*If quantitative analysis was performed, the reported concentrations are:*

TABLE 1G

WebCode	Quantitative Reporting Procedures
2YTG96	The mean of duplicate/several determinations.
343WGT	The mean of duplicate/several determinations.
3RADZ3	The mean of duplicate/several determinations.
4TY8Y	The mean of duplicate/several determinations.
7PXLQC	The mean of duplicate/several determinations.
89MBC6	The mean of duplicate/several determinations.
8BPBC2	The mean of duplicate/several determinations.
9EKHA4	The mean of duplicate/several determinations.
CPT9HW	The mean of duplicate/several determinations.
FTZVJQ	The mean of duplicate/several determinations.
G7JY6R	The mean of duplicate/several determinations.
HPDVGF	The mean of duplicate/several determinations.
HTP68P	The mean of duplicate/several determinations.
JCKXTM	The mean of duplicate/several determinations.
JDWPMP	internal standard method/ absolute calibration with internal standard
MFRMJL	The mean of duplicate/several determinations.
NPBGB9	The mean of duplicate/several determinations.
P7RYKK	A single determination
Q3BYD	The mean of duplicate/several determinations.
QQZADV	The mean of duplicate/several determinations.
TVXXQE	The mean of duplicate/several determinations.
U6367E	A single determination
UAYNCJ	The mean of duplicate/several determinations.
UDG78A	The mean of duplicate/several determinations.
UNERU8	The mean of duplicate/several determinations.

TABLE 1G - Reporting Procedures - Item 1

WebCode	Quantitative Reporting Procedures
X3M4D4	The mean of duplicate/several determinations.
YDJH3R	The mean of duplicate/several determinations.

Response Summary for Item 1	Participants: 27
A single determination:	2 (7.4%)
The mean of duplicate/several determinations:	24 (88.9%)
Other:	1 (3.7%)



## Marihuana Identification - Item 2

TABLE 2A

Was marihuana (cannabis) detected/identified?

WebCode		WebCode		WebCode	
2VT94V	No	CPT9HW	No	MXPXBV	No
2YTG96	No	CVZUAZ	No	N76PPZ	No
2YU6VB	No	D2L3DQ	No	N7ZD24	No
343WGT	No	D7EBFC	No	N8FRBY	No
39CAYR	No	DXKA7D	No	NHA6EC	No
3RADZ3	No	E46GGQ	No	NPBGB9	No
3RC9CL	No	EB2FPR	No	NZR2WQ	No
3WHTAQ	No	FDQV39	No	P6M3NW	No
4CDJVF	No	FTZVJQ	No	P7RYKK	No
4JB3A4	No	G7JY6R	No	PCJ2TQ	No
4TYY8Y	No	GPYFH7	No	PQKQTX	No
69DHM7	No	H4AAGA	No	Q3BYVD	No
6K4F7V	No	HPDVGF	No	QDTBGH	No
6K74T2	No	HTP68P	No	QJE966	No
6R4XK8	No	HX9ZBG	No	QQZADV	No
73JX3M	No	HXRPMMA	No	R8X4BE	No
7M8GZQ	No	J4TNB6	No	RDVEUT	No
7PXLQC	No	JCKXTM	No	RLGT7A	No
7RZJZK	No	JDWPMP	No	RXAAVB	No
89MBC6	No	JRWJZJ	No	T9BXM9	No
8BPBC2	No	K6Y79Z	No	TVXXQE	No
8J6ZYG	No	K932R4	No	U6367E	No
8WA769	No	L6XT2Y	No	U7GQG2	No
9EKHA4	No	LH3X8Q	No	UAYNCJ	No
AHZE8T	No	LVNHJ8	No	UC8Y9M	No
BP2UPE	No	LYPEBM	No	UDG78A	No
C68HBD	No	MFRMJL	No	ULR8TA	No

TABLE 2A - Marihuana Identification - Item 2

<b>WebCode</b>	<b>WebCode</b>	<b>WebCode</b>
UM7M9W	No	
UNERU8	No	
UVF8BT	No	
V4TH3Y	No	
V8RT4Z	No	
VC4KNZ	No	
VGWVBJ	No	
VKXPG2	No	
WVBNAA	No	
X3M4D4	No	
X8KFGF	No	
XEZ4AW	No	
XPLFDM	No	
XWMF4C	No	
XVWVUV	No	
Y3JYF7	No	
Y8WKFQ	No	
YC7W4Q	No	
YDJH3R	No	
YFNVX9	No	
YLF697	No	
YMUFDQ	No	
YN6LAR	No	
Z6NQ6X	No	
ZKH7D6	No	
ZTBNJZ	No	
ZTVBAV	No	

**Marihuana Identification Response Summary for Item 2****Participants: 108**

Was marihuana (cannabis) detected/ identified in this Item?

<u>Response</u>	<u>Total</u>
Yes	0
No	108
No Response	0

# Cannabinoids Tested For & Identified - Item 2

*Which cannabinoids were tested for and identified in Item 2?*

TABLE 2B

WebCode	What Cannabinoids were tested for and identified in Item 2?	
	Tested For	Identified
2VT94V	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	
2YTG96	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	
2YU6VB	Tetrahydrocannabinol (THC)	
343WGT	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Cannabidiol (CBD)	
	<b>Other cannabinoids:</b> synthetic cannabinoids tested for but not identified	
39CAYR	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	
3RADZ3	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Cannabidiol (CBD)	
3RC9CL	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Tetrahydrocannabinolic Acid (THCA) Cannabidiol (CBD)	
3WHTAQ	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Tetrahydrocannabinolic Acid (THCA) Cannabidiol (CBD)	
4TY8Y	Tetrahydrocannabinol (THC) Cannabinol (CBN) Tetrahydrocannabinolic Acid (THCA) Cannabidiol (CBD)	
6K4F7V	Tetrahydrocannabinol (THC)	

TABLE 2B - Cannabinoids - Item 2

WebCode	What Cannabinoids were tested for and identified in Item 2?	
	Tested For	Identified
6K74T2	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Cannabidiol (CBD)	
73JX3M	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Cannabidiol (CBD)	
7M8GZQ	Tetrahydrocannabinol (THC)	
7RZJZK	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	
89MBC6	Tetrahydrocannabinol (THC) Cannabinol (CBN) Tetrahydrocannabinolic Acid (THCA) Cannabidiol (CBD)	
8BPBC2	Tetrahydrocannabinol (THC)	
8J6ZYG	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Tetrahydrocannabinolic Acid (THCA) Cannabidiol (CBD)	
9EKHA4	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	
AHZE8T	Tetrahydrocannabinol (THC)	
BP2UPE	Tetrahydrocannabinol (THC)	
CPT9HW	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	
D2L3DQ	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Cannabidiol (CBD)	
D7EBFC	Tetrahydrocannabinol (THC)	
DXKA7D	Tetrahydrocannabinol (THC)	

TABLE 2B - Cannabinoids - Item 2

WebCode	What Cannabinoids were tested for and identified in Item 2?	
	Tested For	Identified
E46GGQ	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Cannabidiol (CBD)	
EB2FPR	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	
FDQV39	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Tetrahydrocannabinolic Acid (THCA) Cannabidiol (CBD)	
FTZVJQ	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	
G7JY6R	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Tetrahydrocannabinolic Acid (THCA) Cannabidiol (CBD)	
GPYFH7	Tetrahydrocannabinol (THC)	
HPDVGF	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Tetrahydrocannabinolic Acid (THCA) Cannabidiol (CBD)	
HTP68P	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Cannabidiol (CBD)	
HX9ZBG	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Cannabidiol (CBD)	

TABLE 2B - Cannabinoids - Item 2

<b>WebCode What Cannabinoids were tested for and identified in Item 2?</b>		
	<b>Tested For</b>	<b>Identified</b>
HXRPM	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Tetrahydrocannabinolic Acid (THCA) Cannabidiol (CBD)	
J4TNB6	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Tetrahydrocannabinolic Acid (THCA) Cannabidiol (CBD)	
JCKXTM	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	
JDWPMP	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Cannabidiol (CBD)	
JRWJZJ	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	
L6XT2Y	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Cannabidiol (CBD)	
LH3X8Q	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Cannabidiol (CBD)	
LYPEBM	Tetrahydrocannabinol (THC) Cannabidiol (CBD)	
N76PPZ	Tetrahydrocannabinol (THC)	
N7ZD24	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Cannabidiol (CBD)	

TABLE 2B - Cannabinoids - Item 2

WebCode	What Cannabinoids were tested for and identified in Item 2?	
	Tested For	Identified
NHA6EC	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	
P7RYKK	Tetrahydrocannabinol (THC) Cannabidiol (CBD)	
PCJ2TQ	Tetrahydrocannabinol (THC)	
PQKQTX	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Tetrahydrocannabinolic Acid (THCA) Cannabidiol (CBD)	
Q3BYD	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Tetrahydrocannabinolic Acid (THCA) Cannabidiol (CBD)	
QDTBGH	Tetrahydrocannabinol (THC)	
QJE966	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	
QQZADV	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Cannabidiol (CBD)	
R8X4BE	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	
RDVEUT	Tetrahydrocannabinol (THC) Cannabinol (CBN) Tetrahydrocannabinolic Acid (THCA) Cannabidiol (CBD)	
	<b>Other cannabinoids:</b> CBDA: [Tested for] - Yes; [Identified] - No	
RLGT7A	Tetrahydrocannabinol (THC)	
RXAAVB	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	



TABLE 2B - Cannabinoids - Item 2

WebCode What Cannabinoids were tested for and identified in Item 2?		
WebCode	Tested For	Identified
TVXXQE	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Cannabidiol (CBD)	
<b>Other cannabinoids:</b> None identified		
U6367E	Tetrahydrocannabinol (THC)	
UC8Y9M	Tetrahydrocannabinol (THC)	
UDG78A	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	
ULR8TA	Tetrahydrocannabinol (THC)	
UM7M9W	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	
UNERU8	Tetrahydrocannabinol (THC) Cannabinol (CBN) Tetrahydrocannabinolic Acid (THCA) Cannabidiol (CBD)	
<b>Other cannabinoids:</b> cannabidiolic acid (CBDA)		
UVF8BT	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Cannabidiol (CBD)	
V4TH3Y	Tetrahydrocannabinol (THC) Cannabidiol (CBD)	
V8RT4Z	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	
VC4KNZ	<b>Other cannabinoids:</b> Cannabinoids "General"	
VKXPG2	<b>Other cannabinoids:</b> cannabinoids (general)	
WVBNAA	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Tetrahydrocannabinolic Acid (THCA) Cannabidiol (CBD)	
<b>Other cannabinoids:</b> No controlled substance identified		

TABLE 2B - Cannabinoids - Item 2

WebCode	What Cannabinoids were tested for and identified in Item 2?	
	Tested For	Identified
X3M4D4	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	
X8KFGF	Tetrahydrocannabinol (THC)	
XEZ4AW	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	
XWMF4C	Tetrahydrocannabinol (THC)	
XVWVUV	Tetrahydrocannabinol (THC) Cannabinol (CBN)	
Y8WKFQ	Tetrahydrocannabinol (THC)	
YC7W4Q	Tetrahydrocannabinol (THC)	
YDJH3R	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	
YFNX9	Tetrahydrocannabinol (THC)	
YLF697	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	
YMUFDQ	Tetrahydrocannabinol (THC)	
YN6LAR	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	
Z6NQ6X	Tetrahydrocannabinol (THC) Cannabidiol (CBD)	
ZKH7D6	Tetrahydrocannabinol (THC)	
ZTVBAV	Tetrahydrocannabinol (THC)	

<b>Response Summary for Item 2</b>		<b>Participants: 83</b>
	<u>Tested For</u>	<u>Identified</u>
Cannabigerol (CBG):	26	0
Tetrahydrocannabinol (THC):	81	0
Tetrahydrocannabinolic Acid (THCA)	15	0
Cannabinol (CBN):	53	0
Cannabidiol (CBD):	56	0
*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
2VT94V	✓		✓					
2YTG96							✓	
2YU6VB			✓		✓	✓		
343WGT			✓		✓	✓		
39CAYR	✓		✓					
3RADZ3			✓					
3RC9CL			✓	✓		✓		
3WHTAQ	✓		✓		✓	✓		
4CDJVF					✓	✓		
4JB3A4	✓				✓	✓		
4TY8Y			✓					UPLC/MS
69DHM7			✓		✓	✓		
6K4F7V	✓		✓		✓	✓		
6K74T2	✓		✓		✓	✓		
6R4XK8					✓	✓		
73JX3M			✓			✓	✓	balance
7M8GZQ	✓		✓		✓	✓		
7PXLQC								
7RZJZK			✓	✓		✓	✓	Electronic Balance
89MBC6			✓	✓		✓		
8BPBC2			✓					
8J6ZYG			✓	✓		✓		
8WA769	✓		✓		✓	✓		
9EKHA4	✓		✓			✓	✓	
AHZE8T	✓					✓		
BP2UPE	✓				✓	✓	✓	
C68HBD			✓	✓		✓		Electronic balance and/or mechanical scale
CPT9HW					✓	✓	✓	
CVZUAZ	✓				✓	✓		
D2L3DQ	✓		✓		✓	✓		
D7EBFC			✓			✓		

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

WebCode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
DXKA7D	✓		✓			✓		
E46GGQ	✓		✓		✓	✓		
EB2FPR	✓				✓	✓	✓	
FDQV39			✓	✓		✓		electronic balance
FTZVJQ			✓		✓			
G7JY6R				✓				
GPYFH7	✓		✓		✓	✓		
H4AAGA	✓		✓		✓	✓		
HPDVGF	✓		✓		✓	✓		
HTP68P			✓					
HX9ZBG	✓		✓		✓	✓		
HXRPMA			✓	✓				balance
J4TNB6			✓	✓		✓		
JCKXTM			✓		✓			
JDWPMP		✓	✓		✓	✓		
JRWJZJ	✓		✓		✓	✓		
K6Y79Z						✓		
K932R4			✓	✓		✓		Electronic Balance
L6XT2Y								
LH3X8Q			✓		✓	✓		
LVNHJ8	✓		✓		✓	✓		
LYPEBM			✓			✓		GC
MFRMJL			✓			✓		
MXPXBV	✓		✓		✓	✓		
N76PPZ	✓		✓		✓	✓		
N7ZD24	✓		✓		✓	✓		
N8FRBY	✓		✓		✓	✓		
NHA6EC	✓		✓		✓	✓		
NPBGB9			✓					
NZR2WQ	✓				✓	✓		
P6M3NW					✓	✓		
P7RYKK			✓					
PCJ2TQ	✓	✓	✓		✓	✓		

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

WebCode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
PQKQTX			✓	✓		✓	✓	balance
Q3BYYD			✓				✓	
QDTBGH	✓		✓		✓	✓		
QJE966			✓			✓		
QQZADV	✓		✓			✓		
R8X4BE	✓				✓	✓	✓	
RDVEUT			✓					
RLGT7A	✓		✓		✓	✓		
RXAAVB			✓			✓		
T9BXM9	✓					✓		
TVXXQE			✓					
U6367E					✓	✓		
U7GQG2			✓			✓		
UAYNCJ			✓					
UC8Y9M	✓		✓		✓	✓		
UDG78A			✓	✓				
ULR8TA	✓		✓		✓	✓		
UM7M9W			✓	✓		✓		
UNERU8			✓					
UVF8BT	✓		✓		✓	✓		
V4TH3Y	✓		✓		✓	✓		
V8RT4Z	✓		✓					
VC4KNZ	✓		✓		✓	✓		
VGWVBJ	✓		✓		✓	✓		
VKXPG2	✓		✓		✓	✓		
WVBNAA			✓		✓	✓		Duquenois-Levine
X3M4D4	✓		✓			✓		
X8KFGF	✓		✓		✓	✓		
XEZ4AW	✓		✓			✓		
XPLFDM			✓			✓		
XWMF4C	✓					✓	✓	
XWWWUV	✓		✓		✓	✓		
Y3JYF7	✓				✓	✓		

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

WebCode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
Y8WKFQ	✓		✓			✓		
YC7W4Q	✓		✓			✓		
YDJH3R			✓		✓	✓		
YFNVX9	✓		✓		✓	✓		
YLF697			✓		✓	✓	✓	
YMUFDQ	✓		✓		✓	✓		
YN6LAR			✓			✓	✓	
Z6NQ6X			✓		✓	✓		
ZKH7D6	✓		✓		✓	✓		
ZTBNJZ	✓				✓	✓		
ZTVBAV	✓		✓		✓	✓		
<b>Response Summary for Item 2</b>								<b>Participants: 106</b>
Total	55	2	87	13	58	86	13	
Percent	51%	2%	81%	12%	54%	80%	12%	

## Quantitative Method of Analysis - Item 2

TABLE 2D

WebCode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
G7JY6R				✓				
HTP68P		✓						
U6367E			✓					
UDG78A		✓						
X3M4D4		✓						
Response Summary for Item 2								Participants: 5
Total	0	3	1	1	0	0	0	
Percent	0%	60%	20%	20%	0%	0%	0%	



## Quantitative Results - Item 2

*What is the total THC concentration in Item 2?*

TABLE 2E

Item Contents and Preparation Concentration: Marshmallow Leaf, N/A

WebCode	Reported Concentration	Uncertainty	K Value	Units
G7JY6R	0			
U6367E	<1			
UDG78A	0			
X3M4D4	0.0		2	%

## Raw Data - Item 2

*List of raw data determinations in percent of total THC.*

TABLE 2F

**Preparation concentration: (N/A)**

WebCode	Raw Data (%)		Participant Mean	
G7JY6R	0.000	0.000		
U6367E	0.000			
UDG78A	0.000	0.000		
X3M4D4	0.000	0.000	0.000	0.000

### Statistical Analysis for Item 2

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 2**

*If quantitative analysis was performed, the reported concentrations are:*

TABLE 2G

WebCode	Quantitative Reporting Procedures
G7JY6R	The mean of duplicate/several determinations.
JDWPMP	internal standard method/ absolute calibration with external standard
TVXXQE	No controlled substances detected
U6367E	A single determination
UDG78A	The mean of duplicate/several determinations.
X3M4D4	The mean of duplicate/several determinations.

Response Summary for Item 2	Participants: 6
A single determination:	1 (16.7%)
The mean of duplicate/several determinations:	3 (50.0%)
Other:	2 (33.3%)

## Marihuana Identification - Item 3

TABLE 3A

Was marihuana (cannabis) detected/identified?

WebCode		WebCode		WebCode	
2VT94V	Yes	CPT9HW	Yes	MXPXBV	Yes
2YTG96	Yes	CVZUAZ	Yes	N76PPZ	Yes
2YU6VB	Yes	D2L3DQ	Yes	N7ZD24	Yes
343WGT	Yes	D7EBFC	Yes	N8FRBY	Yes
39CAYR	Yes	DXKA7D	Yes	NHA6EC	Yes
3RADZ3	Yes	E46GGQ	Yes	NPBGB9	Yes
3RC9CL	Yes	EB2FPR	Yes	NZR2WQ	Yes
3WHTAQ	Yes	FDQV39	Yes	P6M3NW	Yes
4CDJVF	Yes	FTZVJQ	Yes	P7RYKK	Yes
4JB3A4	Yes	G7JY6R	Yes	PCJ2TQ	Yes
4TYY8Y	Yes	GPYFH7	Yes	PQKQTX	Yes
69DHM7	Yes	H4AAGA	Yes	Q3BYVD	Yes
6K4F7V	Yes	HPDVGF	Yes	QDTBGH	Yes
6K74T2	Yes	HTP68P	Yes	QJE966	Yes
6R4XK8	Yes	HX9ZBG	Yes	QQZADV	Yes
73JX3M	Yes	HXRPM A	Yes	R8X4BE	Yes
7M8GZQ	Yes	J4TNB6	Yes	RDVEUT	Yes
7PXLQC	Yes	JCKXTM	Yes	RLGT7A	Yes
7RZJZK	Yes	JDWPMP	Yes	RXAAVB	Yes
89MBC6	Yes	JRWJZJ	Yes	T9BXM9	Yes
8BPBC2	Yes	K6Y79Z	Yes	TVXXQE	Yes
8J6ZYG	Yes	K932R4	Yes	U6367E	Yes
8WA769	Yes	L6XT2Y	Yes	U7GQG2	Yes
9EKHA4	Yes	LH3X8Q	Yes	UAYNCJ	Yes
AHZE8T	Yes	LVNHJ8	Yes	UC8Y9M	Yes
BP2UPE	Yes	LYPEBM	Yes	UDG78A	
C68HBD	Yes	MFRMJL	Yes	ULR8TA	Yes

TABLE 3A - Marihuana Identification - Item 3

<b>WebCode</b>	<b>WebCode</b>	<b>WebCode</b>
UM7M9W	Yes	
UNERU8	Yes	
UVF8BT	Yes	
V4TH3Y	Yes	
V8RT4Z	Yes	
VC4KNZ	Yes	
VGWVBJ	Yes	
VKXPG2	Yes	
WVBNAA	Yes	
X3M4D4	Yes	
X8KFGF	Yes	
XEZ4AW	Yes	
XPLFDM	Yes	
XWMF4C	Yes	
XVWVUV	Yes	
Y3JYF7	Yes	
Y8WKFQ	Yes	
YC7W4Q	Yes	
YDJH3R	Yes	
YFNVX9	Yes	
YLF697	Yes	
YMUFDQ	Yes	
YN6LAR	Yes	
Z6NQ6X	Yes	
ZKH7D6	Yes	
ZTBNJZ	Yes	
ZTVBAV	Yes	

**Marihuana Identification Response Summary for Item 3****Participants: 108**

Was marihuana (cannabis) detected/ identified in this Item?

<u>Response</u>	<u>Total</u>
Yes	107
No	0
No Response	1

# Cannabinoids Tested For & Identified - Item 3

*Which cannabinoids were tested for and identified in Item 3?*

TABLE 3B

WebCode	What Cannabinoids were tested for and identified in Item 3?	
	Tested For	Identified
2VT94V	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	
2YTG96	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	
2YU6VB	Tetrahydrocannabinol (THC)	✓
343WGT	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	
	Cannabidiol (CBD)	
39CAYR	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	
3RADZ3	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
	Cannabidiol (CBD)	
3RC9CL	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	
	Cannabigerol (CBG)	
	Cannabidiol (CBD)	
4TY8Y	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	
69DHM7	Tetrahydrocannabinol (THC)	✓
6K4F7V	Tetrahydrocannabinol (THC)	✓
6K74T2	<b>Other cannabinoids:</b> none specific	
73JX3M	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	
7M8GZQ	Tetrahydrocannabinol (THC)	✓

TABLE 3B - Cannabinoids - Item 3

WebCode What Cannabinoids were tested for and identified in Item 3?		
WebCode	Tested For	Identified
7PXLQC	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	✓
	<b>Other cannabinoids:</b> CBDA, THCV, CBC	
7RZJZK	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	
89MBC6	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	✓
8BPBC2	Tetrahydrocannabinol (THC)	✓
8J6ZYG	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	
	Cannabigerol (CBG)	
	Tetrahydrocannabinolic Acid (THCA)	
	Cannabidiol (CBD)	
9EKHA4	Tetrahydrocannabinol (THC)	✓
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	
AHZE8T	Tetrahydrocannabinol (THC)	✓
BP2UPE	Tetrahydrocannabinol (THC)	✓
C68HBD	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	
CPT9HW	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	
	Cannabidiol (CBD)	
D2L3DQ	<b>Other cannabinoids:</b> None specific	
D7EBFC	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
DXKA7D	Tetrahydrocannabinol (THC)	✓



TABLE 3B - Cannabinoids - Item 3

WebCode	What Cannabinoids were tested for and identified in Item 3?	
	Tested For	Identified
E46GGQ	<b>Other cannabinoids:</b> non-specific test	
EB2FPR	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	
FDQV39	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	
	Cannabigerol (CBG)	
	Cannabidiol (CBD)	
FTZVJQ	Tetrahydrocannabinol (THC)	✓
G7JY6R	Tetrahydrocannabinol (THC)	
	Cannabinol (CBN)	
	Cannabigerol (CBG)	
	Tetrahydrocannabinolic Acid (THCA)	
	Cannabidiol (CBD)	
	<b>Other cannabinoids:</b> CBGA, CBC	
HPDVGf	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	
HTP68P	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
	Cannabidiol (CBD)	✓
HX9ZBG	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	
HXRPMa	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	
	Cannabidiol (CBD)	✓

TABLE 3B - Cannabinoids - Item 3

<b>WebCode What Cannabinoids were tested for and identified in Item 3?</b>		
	<b>Tested For</b>	<b>Identified</b>
J4TNB6	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Tetrahydrocannabinolic Acid (THCA) Cannabidiol (CBD)	✓
JCKXTM	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	✓ ✓
JDWPMP	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Cannabidiol (CBD)	✓ ✓ ✓ ✓
JRWJZJ	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	✓ ✓
K932R4	Tetrahydrocannabinol (THC)	✓
L6XT2Y	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Cannabidiol (CBD)	✓
LH3X8Q	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Cannabidiol (CBD)	✓ ✓
LYPEBM	Tetrahydrocannabinol (THC)	✓
MFRMJL	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabigerol (CBG) Tetrahydrocannabinolic Acid (THCA) Cannabidiol (CBD)	✓ ✓ ✓ ✓ ✓
N76PPZ	Tetrahydrocannabinol (THC)	✓
N8FRBY	Tetrahydrocannabinol (THC)	✓
NHA6EC	Tetrahydrocannabinol (THC) Cannabinol (CBN) Cannabidiol (CBD)	✓ ✓ ✓

TABLE 3B - Cannabinoids - Item 3

WebCode What Cannabinoids were tested for and identified in Item 3?		
WebCode	Tested For	Identified
NPBGB9	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Tetrahydrocannabinolic Acid (THCA)	✓
	<b>Other cannabinoids:</b> Cannabichromene, cannabinolic acid	
P7RYKK	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	
PCJ2TQ	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
PQKQTX	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	
	Cannabigerol (CBG)	
	Tetrahydrocannabinolic Acid (THCA)	
	Cannabidiol (CBD)	
Q3BYDD	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	
QDTBGH	Tetrahydrocannabinol (THC)	✓
QJE966	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
QQZADV	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
R8X4BE	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	
RDVEUT	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	
<b>Other cannabinoids:</b> CBDA: [Tested for] - Yes; [Identified] - No		

TABLE 3B - Cannabinoids - Item 3

WebCode	What Cannabinoids were tested for and identified in Item 3?	
	Tested For	Identified
RLGT7A	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
RXAAVB	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	
TVXXQE	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
	Cannabidiol (CBD)	
U6367E	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
U7GQG2	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
UAYNCJ	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
UC8Y9M	Tetrahydrocannabinol (THC)	
UDG78A	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
ULR8TA	Tetrahydrocannabinol (THC)	✓
UM7M9W	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	
UNERU8	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Tetrahydrocannabinolic Acid (THCA)	✓
	Cannabidiol (CBD)	
	<b>Other cannabinoids:</b> cannabidiolic acid (CBDA)	
UVF8BT	<b>Other cannabinoids:</b> marijuana - macro/micro/modified duquenois levine	
V4TH3Y	Tetrahydrocannabinol (THC)	✓
	Cannabidiol (CBD)	
V8RT4Z	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabigerol (CBG)	✓
	Cannabidiol (CBD)	

TABLE 3B - Cannabinoids - Item 3

WebCode	What Cannabinoids were tested for and identified in Item 3?	
	Tested For	Identified
VC4KNZ	Other cannabinoids: Cannabinoids "General"	
VKXPG2	Other cannabinoids: cannabinoids (general)	
X3M4D4	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	
XEZ4AW	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
XWMF4C	Tetrahydrocannabinol (THC)	✓
XVWVUV	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
Y8WKFQ	Tetrahydrocannabinol (THC)	✓
YC7W4Q	Tetrahydrocannabinol (THC)	✓
YDJH3R	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	
YFNVX9	Tetrahydrocannabinol (THC)	✓
YLF697	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
YMUFDQ	Tetrahydrocannabinol (THC)	✓
YN6LAR	Tetrahydrocannabinol (THC)	✓
	Cannabinol (CBN)	✓
	Cannabidiol (CBD)	✓
Z6NQ6X	Tetrahydrocannabinol (THC)	✓
	Cannabidiol (CBD)	✓
ZKH7D6	Tetrahydrocannabinol (THC)	✓
ZTVBAV	Tetrahydrocannabinol (THC)	✓

<b>Response Summary for Item 3</b>		<b>Participants: 87</b>
	<u>Tested For</u>	<u>Identified</u>
Cannabigerol (CBG):	22	9
Tetrahydrocannabinol (THC):	81	79
Tetrahydrocannabinolic Acid (THCA)	16	12
Cannabinol (CBN):	55	46
Cannabidiol (CBD):	51	15
*Other:	11	

**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
2VT94V	✓		✓					
2YTG96							✓	
2YU6VB			✓		✓	✓		
343WGT			✓		✓	✓		
39CAYR	✓		✓			✓		
3RADZ3			✓					
3RC9CL			✓			✓		
3WHTAQ	✓				✓	✓		
4CDJVF					✓	✓		
4JB3A4	✓				✓	✓		
4TY8Y			✓					UPLC/MS
69DHM7			✓		✓	✓		
6K4F7V	✓		✓		✓	✓		
6K74T2	✓				✓	✓		
6R4XK8	✓				✓	✓		
73JX3M			✓			✓		balance
7M8GZQ	✓		✓		✓	✓		
7PXLQC	✓		✓	✓	✓	✓		
7RZJZK			✓	✓		✓		Electronic Balance
89MBC6			✓	✓		✓		
8BPBC2			✓			✓		
8J6ZYG			✓			✓		
8WA769	✓		✓		✓	✓		
9EKHA4	✓		✓			✓	✓	
AHZE8T	✓					✓		
BP2UPE	✓				✓	✓	✓	
C68HBD			✓			✓		Electronic balance and/or mechanical scale
CPT9HW					✓	✓	✓	
CVZUAZ	✓				✓	✓		
D2L3DQ	✓				✓	✓		
D7EBFC			✓			✓		

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

WebCode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
DXKA7D	✓		✓			✓		
E46GGQ	✓				✓	✓		
EB2FPR	✓				✓	✓	✓	
FDQV39			✓			✓		electronic balance
FTZVJQ	✓				✓	✓		
G7JY6R				✓				
GPYFH7	✓				✓	✓		
H4AAGA	✓				✓	✓		
HPDVGF	✓		✓	✓	✓	✓		
HTP68P			✓					
HX9ZBG	✓		✓		✓	✓	✓	
HXRPMA			✓			✓		balance
J4TNB6			✓	✓		✓		
JCKXTM	✓		✓		✓	✓		
JDWPMP		✓	✓		✓	✓		
JRWJZJ	✓		✓		✓	✓		
K6Y79Z						✓		
K932R4			✓			✓		Electronic balance
L6XT2Y								
LH3X8Q			✓		✓	✓		
LVNHJ8	✓				✓	✓		
LYPEBM			✓			✓		GC
MFRMJL			✓			✓		
MXPXBV	✓				✓	✓		
N76PPZ	✓				✓	✓		
N7ZD24	✓				✓	✓		
N8FRBY	✓		✓		✓	✓		
NHA6EC	✓		✓		✓	✓		
NPBGB9			✓					
NZR2WQ	✓				✓	✓		
P6M3NW					✓	✓		
P7RYKK			✓					
PCJ2TQ	✓	✓	✓		✓	✓		



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

WebCode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
PQKQTX			✓	✓		✓		balance
Q3BYYD			✓				✓	
QDTBGH	✓				✓	✓		
QJE966			✓			✓		
QQZADV	✓		✓			✓		
R8X4BE	✓				✓	✓	✓	
RDVEUT			✓	✓				
RLGT7A	✓		✓		✓	✓		
RXAAVB			✓			✓		
T9BXM9	✓					✓		
TVXXQE			✓		✓	✓		
U6367E					✓	✓		
U7GQG2			✓			✓		
UAYNCJ			✓					
UC8Y9M	✓		✓		✓	✓		
UDG78A			✓	✓				
ULR8TA	✓		✓		✓	✓		
UM7M9W			✓			✓		
UNERU8			✓					
UVF8BT	✓				✓	✓		
V4TH3Y	✓		✓		✓	✓		
V8RT4Z	✓		✓					
VC4KNZ	✓				✓	✓		
VGWVBJ	✓		✓		✓	✓		
VKXPG2	✓				✓	✓		
WVBNAA					✓	✓		Duquenois-Levine
X3M4D4	✓		✓			✓		
X8KFGF	✓				✓	✓		
XEZ4AW	✓		✓			✓		
XPLFDM						✓		
XWMF4C	✓					✓	✓	
XWVWUV	✓		✓		✓	✓		
Y3JYF7	✓				✓	✓		

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

WebCode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
Y8WKFQ	✓		✓			✓		
YC7W4Q	✓		✓			✓		
YDJH3R			✓		✓	✓		
YFNVX9	✓		✓		✓	✓		
YLF697			✓		✓	✓	✓	
YMUFDQ	✓		✓		✓	✓		
YN6LAR			✓			✓		
Z6NQ6X			✓		✓	✓		
ZKH7D6	✓		✓		✓	✓		
ZTBNJZ	✓				✓	✓		
ZTVBAV	✓				✓	✓		
<b>Response Summary for Item 3</b>								<b>Participants: 107</b>
Total	59	2	69	9	60	93	10	
Percent	55%	2%	64%	8%	56%	86%	9%	

## Quantitative Method of Analysis - Item 3

TABLE 3D

WebCode	Color	GC-FID	GC/MS	LC	Macro	Micro	TLC	Other
2YTG96		✓						
343WGT		✓						
3RADZ3			✓					
4TYY8Y								UPLC/MS
7PXLQC				✓				
89MBC6			✓	✓				
8BPBC2		✓						
9EKHA4				✓				
CPT9HW		✓						
FTZVJQ		✓						
G7JY6R				✓				
HPDVGF				✓				
HTP68P		✓						
JCKXTM		✓						
JDWPMP		✓						
MFRMJL		✓						
NPBGB9		✓						
P7RYKK			✓					
Q3BYYD				✓				
QQZADV			✓					
TVXXQE		✓						
U6367E			✓					
UAYNCJ			✓					
UDG78A		✓						
UNERU8				✓				
X3M4D4		✓						
YDJH3R		✓						

Response Summary for Item 3								Participants: 27
Total	0	14	6	7	0	0	0	
Percent	0%	52%	22%	26%	0%	0%	0%	

## Quantitative Results - Item 3

*What is the total THC concentration in Item 3?*

TABLE 3E

Item Contents and Preparation Concentration: Marihuana, 11.7% THC

WebCode	Reported Concentration	Uncertainty	K Value	Units
2YTG96	7.7	0.2	2	%
343WGT	9.63	0.83	2	%
3RADZ3	10.9			ug/ml
4TY8Y	9.45	1.16	2	% m/m
7PXLQC	11.30	1.48	2	%
89MBC6	7.87	0.5	2	%
8BPBC2	9.18	0.8	1	%
9EKHA4	11	2.6	2.576	% by weight
CPT9HW	7	0.63	2	percent
FTZVJQ	7	0.63	2	%
G7JY6R	11.2			% (w/w)
HPDVGf	14.998	0.465		%
HTP68P	12.1			%
JCKXTM	7.70	0.693	2	%
JDWPMP	11.31	0.34		%
MFRMJL	11.2			%
NPBGB9	9.84	0.90	2	%
P7RYKK	11	2.2	20	%
Q3BYD	13.08	0.70	2	by weight%
QQZADV	13.4	1.3	10%	%

TABLE 3E - Quantitative Results - Item 3

<b>WebCode</b>	<b>Reported Concentration</b>	<b>Uncertainty</b>	<b>K Value</b>	<b>Units</b>
TVXXQE	9.05	0.81	2	%
U6367E	>1			
UAYNCJ	84.2			$\mu\text{g}/\text{mg}$
UDG78A	13	1.3	1	%
UNERU8	12	1	3.3	%w/w
X3M4D4	8.6	0.4	2	%
YDJH3R	11.4	0.8	2	%

## Raw Data - Item 3

*List of raw data determinations in percent of total THC.*

TABLE 3F

**Preparation concentration: (11.7% THC)**

WebCode	Raw Data (%)				Participant Mean
2YTG96	7.820	7.510	7.860		7.730
343WGT	10.010	9.250			9.630
3RADZ3	10.220	11.670			10.95
4TYY8Y	8.650	9.470	9.640	10.020	9.445
7PXLQC	11.701	10.938			11.32
89MBC6	7.670	7.750	8.180		7.867
8BPBC2	9.090	9.270			9.180
9EKHA4	10.707	11.151	11.473		11.11
CPT9HW	6.630	6.670	7.750	7.820	7.218
FTZVJQ	7.470	7.500	6.510	6.510	6.998
G7JY6R	11.500	10.800			11.15
HPDVGF	15.395	14.389	15.210		15.00
HTP68P	12.100	12.100			12.10
JCKXTM	8.077	8.067	7.322	7.316	7.695
JDWPMP	11.284	11.362	11.291		11.31
MFRMJL	11.200				11.20
NPBGB9	9.150	7.430	10.960	11.830	9.843
Q3BYYD	13.071	13.095	13.048		13.07
QQZADV	14.900	11.800			13.35
TVXXQE	9.110	9.130	8.970	9.020	9.058
U6367E	5.380				5.380
UAYNCJ	12.390	5.950	9.760	5.580	8.420
UDG78A	12.021	13.523			12.77
UNERU8	12.300	13.000	12.000		12.43
X3M4D4	8.170	8.170	9.140	9.080	8.640
YDJH3R	11.700	11.100	11.200		11.33

### Statistical Analysis for Item 3

Grand Mean <b>10.16</b>	Number of Participants Included <b>26</b>	Participants without Raw Data or Data that was <b>0</b> not reported in %
Standard Deviation <b>2.303</b>	Number of Participants Excluded <b>0</b>	

## **Reporting Procedures - Item 3**

*If quantitative analysis was performed, the reported concentrations are:*

TABLE 3G

WebCode	Quantitative Reporting Procedures
2YTG96	The mean of duplicate/several determinations.
343WGT	The mean of duplicate/several determinations.
3RADZ3	The mean of duplicate/several determinations.
4TY8Y	The mean of duplicate/several determinations.
7PXLQC	The mean of duplicate/several determinations.
89MBC6	The mean of duplicate/several determinations.
8BPBC2	The mean of duplicate/several determinations.
9EKHA4	The mean of duplicate/several determinations.
CPT9HW	The mean of duplicate/several determinations.
FTZVJQ	The mean of duplicate/several determinations.
G7JY6R	The mean of duplicate/several determinations.
HPDVGF	The mean of duplicate/several determinations.
HTP68P	The mean of duplicate/several determinations.
JCKXTM	The mean of duplicate/several determinations.
JDWPMP	internal standard method/ absolute calibration with external standard
MFRMJL	The mean of duplicate/several determinations.
NPBGB9	The mean of duplicate/several determinations.
P7RYKK	A single determination
Q3BYD	The mean of duplicate/several determinations.
QQZADV	The mean of duplicate/several determinations.
TVXXQE	The mean of duplicate/several determinations.
U6367E	A single determination
UAYNCJ	The mean of duplicate/several determinations.
UDG78A	The mean of duplicate/several determinations.
UNERU8	The mean of duplicate/several determinations.

### TABLE 3G - Reporting Procedures - Item 3

WebCode	Quantitative Reporting Procedures
X3M4D4	The mean of duplicate/several determinations.
YDJH3R	The mean of duplicate/several determinations.

Response Summary for Item 3	Participants: 27
A single determination:	2 (7.4%)
The mean of duplicate/several determinations:	24 (88.9%)
Other:	1 (3.7%)



## Additional Comments

TABLE 4

WebCode	Additional Comments
7PXLQC	3.4) Please note reported total THC result is determined by averaging duplicate results for THCA and THC separately, followed by the addition of these averages. Our methodology is validated for quantification of 8 listed cannabinoids (THCA, THC, CDBA, CBD, CBN, CBG, CBC and THCV) due to its use in medicinal cannabis testing as well as prohibited cannabis seizures. As feedback for future improvement it would be beneficial if this PT would include quantification of these major and minor cannabinoids. Especially considering the legalisation of cannabis products for medicinal use - which can lead to samples submitted by law enforcement to forensic drug laboratories.
8BPBC2	The reported THC concentrations for item 1 and 3 are the average of duplicate analysis. Normally the THC concentration of a material is reported as the integer of the average of duplicate analysis. The integer reported is always rounded down (without decimals). This would mean that the THC concentration for item 1 and 3 would be reported as 6% and 9% respectively. The uncertainty is normally not included in THC concentration reports. This is uniform with THC concentration reports within the justice system of our country.
9EKHA4	"THC" = Delta-9 THC. Total THC = Delta-9 THC + THCA
D7EBFC	For question 2, laboratory policy is to perform a microscopic examination of the vegetation. If there are sufficient botanical features for the identification of marihuana, we run a second sample on a GCMS and identify only THC, for this test we also identified other cannabinoids. If there are insufficient botanical features for the identification of marihuana, we perform a GCMS screen and look for THC and 1 other cannabinoid (CBD or CBG or CBN) and then confirm the THC and one other cannabinoid on a second sample run on the GCMS. This laboratory does not perform quantitative analysis for THC.
DXKA7D	item 1-2, vegetable matter, no controlled substances were detected.
K6Y79Z	A proportion of the plant material in Items 1 and 3 were too finely fragmented to allow botanical identification.
LVNHJ8	Color test: Duquenois-Levine
LYPEBM	Based on item 1 GC and GCMS peak intensities of components THC and CBD per policy the laboratory identifies the individual components and not Marihuana (Cannabis).
N7ZD24	For item's #1 and #3, marijuana was identified using our analytical scheme which consists of macroscopic, microscopic, and Duquenois-Levine color test.
NZR2WQ	Our lab does not conduct quantitative analysis on controlled substances.
RDVEUT	Our laboratory does not routinely use the term Marihuana in our reports.
T9BXM9	No testing specific to any cannabinoid was performed during the analysis of these items.
TVXXQE	The THC concentrations have been reported to 2 decimal places for accuracy. In an actual report these would be reported as whole numbers i.e. Item 1 6% THC and Item 3 9% THC.
UNERU8	For each item the plant material was ground using a mortar and pestle; however, the plant material remained heterogeneous.
VKXPG2	For plant material, if it is positive for the color test and macro/micro it is identified as marijuana and no further testing is needed
WVBNA4	Item #2 was tested for all controlled substances by GC/MS, none were identified.
X8KFGF	No cannabinoids were detected by GCMS. Additional examination(s) will be conducted on Item 2.

TABLE 4

WebCode	Additional Comments
XEZ4AW	The laboratory does not perform quantitative analysis on Cannabis.
XPLFDM	Quantitative analysis of cannabinoids is not conducted within our laboratory at this point in time.
YLF697	No Quantitation done on all 3 items
ZTVBAV	Item 1: One glassine bag was analyzed and was found to contain: Marijuana - Schedule VI. (Federal Schedule I); Net weight of material - 0.38 (+/- 0.05) gram(s). Item 2: One glassine bag was analyzed and was found to contain: No Controlled Substances Identified; Net weight of material - 0.40 (+/- 0.05) gram(s). Item 3: One glassine bag was analyzed and was found to contain: Marijuana - Schedule VI. (Federal Schedule I); Net weight of material - 0.39 (+/- 0.05) gram(s). Analysis of the above item(s) was conducted using two or more of the following methods: color test, microcrystalline test, microscopic examination, macroscopic examination, GC, MS. Measurement uncertainty of reported net weights is at a 99.7% level of confidence.

-End of Report-  
(Appendix may follow)

## Test No. 19-503: Marihuana Identification and THC Quantitation

DATA MUST BE SUBMITTED BY **Aug. 26, 2019, 11:59 p.m.** TO BE INCLUDED IN THE REPORT

Participant Code: U1234A

WebCode: GZYNKX

The Accreditation Release section can be accessed by using the "Continue to Final Submission" button above. This information can be entered at any time prior to submitting to CTS.

**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):**

Item 1: Plant Material

Item 2: Plant Material

Item 3: Plant Material

**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 and identified in Item 1?**

	<u>Tested For</u>	<u>Identified</u>
Tetrahydrocannabinol (THC)	<input type="checkbox"/>	<input type="checkbox"/>
Cannabinol (CBN)	<input type="checkbox"/>	<input type="checkbox"/>
Cannabigerol (CBG)	<input type="checkbox"/>	<input type="checkbox"/>
Tetrahydrocannabinolic Acid (THCA)	<input type="checkbox"/>	<input type="checkbox"/>
Cannabidiol (CBD)	<input type="checkbox"/>	<input type="checkbox"/>
Other cannabinoids identified (specify):	<input style="width: 300px; height: 15px;" type="text"/>	

**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 (specify):	<input type="checkbox"/>	<input type="checkbox"/>
<input style="width: 100px; height: 15px;" type="text"/>		

**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.)

<b>Reported Concentration</b>	<b>Uncertainty (k= <input style="width: 40px;" type="text"/>)</b>	<b>Units</b>
Item 1: <input style="width: 80px;" type="text"/>	± <input style="width: 80px;" type="text"/>	( <input style="width: 80px;" type="text"/> )

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

<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
---	---	---	---

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

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

**Examination Results for Item 2**

**2-1) Is marihuana (cannabis) detected/identified in Item 2?**

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

**2-2) What cannabinoids were tested for and identified in Item 2?**

	<u>Tested For</u>	<u>Identified</u>
Tetrahydrocannabinol (THC)	<input type="checkbox"/>	<input type="checkbox"/>
Cannabinol (CBN)	<input type="checkbox"/>	<input type="checkbox"/>
Cannabigerol (CBG)	<input type="checkbox"/>	<input type="checkbox"/>
Tetrahydrocannabinolic Acid (THCA)	<input type="checkbox"/>	<input type="checkbox"/>
Cannabidiol (CBD)	<input type="checkbox"/>	<input type="checkbox"/>
Other cannabinoids identified (specify):	<input style="width: 300px;" type="text"/>	

**2-3) What method(s) were used to examine and/or quantitate Item 2?**

	<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 (specify):	<input type="checkbox"/>	<input type="checkbox"/>
<input style="width: 100px;" type="text"/>		

**Quantitative Results for Item 2**

No quantitative analysis performed

**2-4) 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.)

<b>Reported Concentration</b>	<b>Uncertainty (k= <input style="width: 50px;" type="text"/>)</b>	<b>Units</b>
Item 2: <input style="width: 100px;" type="text"/>	± <input style="width: 100px;" type="text"/>	( <input style="width: 100px;" type="text"/> )

**2-5) Please list your raw data determinations below in percent of total THC.** (Results not reported in % will be excluded from statistical calculations.)

<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
---	---	---	---

**2-6) For quantitative analysis of THC, are reported concentrations:**

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

**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 and identified in Item 3?**

	<u>Tested For</u>	<u>Identified</u>
Tetrahydrocannabinol (THC)	<input type="checkbox"/>	<input type="checkbox"/>
Cannabinol (CBN)	<input type="checkbox"/>	<input type="checkbox"/>
Cannabigerol (CBG)	<input type="checkbox"/>	<input type="checkbox"/>
Tetrahydrocannabinolic Acid (THCA)	<input type="checkbox"/>	<input type="checkbox"/>
Cannabidiol (CBD)	<input type="checkbox"/>	<input type="checkbox"/>
Other cannabinoids identified (specify):	<input style="width: 300px; height: 15px;" type="text"/>	

**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 (specify):	<input type="checkbox"/>	<input type="checkbox"/>
<input style="width: 100px; height: 15px;" type="text"/>		

**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.)

<b>Reported Concentration</b>	<b>Uncertainty (k= <input style="width: 40px;" type="text"/>)</b>	<b>Units</b>
Item 3: <input style="width: 80px;" type="text"/>	± <input style="width: 80px;" type="text"/>	( <input style="width: 80px;" type="text"/> )

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

<input style="width: 100%; height: 15px;" type="text"/>	<input style="width: 100%; height: 15px;" type="text"/>	<input style="width: 100%; height: 15px;" type="text"/>	<input style="width: 100%; height: 15px;" type="text"/>
---	---	---	---

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

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

**Additional Comments**

*Please note: Any additional formatting applied in the free form space below will not transfer to the Summary Report and may cause your information to be illegible. This includes additional spacing and returns that present your responses in lists and tabular formats.*

## RELEASE OF DATA TO ACCREDITATION BODIES

The Accreditation Release is accessed by pressing the "Continue to Final Submission" button online and can be completed at any time prior to submission to CTS.

CTS submits external proficiency test data directly to ASCLD/LAB, ANAB, and/or 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 below must be completed.)
- This participant's data is **not** intended for submission to ASCLD/LAB, ANAB, and/or A2LA.

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.**

Authorized Contact Person and Title

Laboratory Name

Location (City/State)