



GREENBROZ

HAND VS MACHINE TRIMMED

THC & Cannabinoid Testing Data

ABSTRACT

Analysis of laboratory testing data from Steep Hill Labs demonstrates that machine trimming with GreenBroz trimmers consistently produces cannabis flower with higher cannabinoid potency compared to hand-trimmed methods. Across multiple cannabis strains (Bordello, Ghost OG, and strain "43"), machine-trimmed samples exhibited higher THCA percentages and improved THC conversion rates post-decarboxylation. Machine trimming preserves more trichomes—the resin glands containing cannabinoids and terpenes—by reducing physical handling and minimizing mechanical disruption to these delicate structures. This preservation results in a final product with enhanced potency while maintaining proper moisture levels comparable to carefully hand-trimmed cannabis. For producers seeking to maximize their product's therapeutic potential and market value, GreenBroz trimmers offer a quantifiable advantage backed by scientific testing.

DESCRIPTION OF TESTING

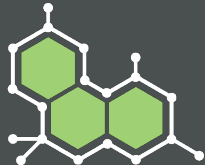
Steep Hill Labs performed comprehensive cannabinoid profiling using High-Performance Liquid Chromatography (HPLC) on paired samples of cannabis flower. Each strain was divided into two processing groups—hand-trimmed and machine-trimmed using GreenBroz equipment—while controlling for all other variables. The tests measured key cannabinoids as percentage of total sample mass, including THCA (tetrahydrocannabinolic acid), THC (delta-9-tetrahydrocannabinol), CBDA (cannabidiolic acid), CBD (cannabidiol), and precursor compounds like CBGA.

RESULTS

These results are significant for cannabis producers, processors, and consumers for several reasons:

- **Potency Maximization:** Machine trimming preserves more of the plant's natural potency, potentially increasing product value.
- **Conversion Efficiency:** The improved post-decarboxylation values in machine-trimmed samples suggest better preservation of cannabinoid integrity, resulting in more bioavailable THC when consumed.
- **Quality Consistency:** Machine trimming delivers more consistent results while maintaining proper moisture levels (9.2-9.5%) comparable to careful hand trimming.
- **Economic Impact:** Higher potency products typically command premium prices in the market, potentially offsetting equipment investment costs.

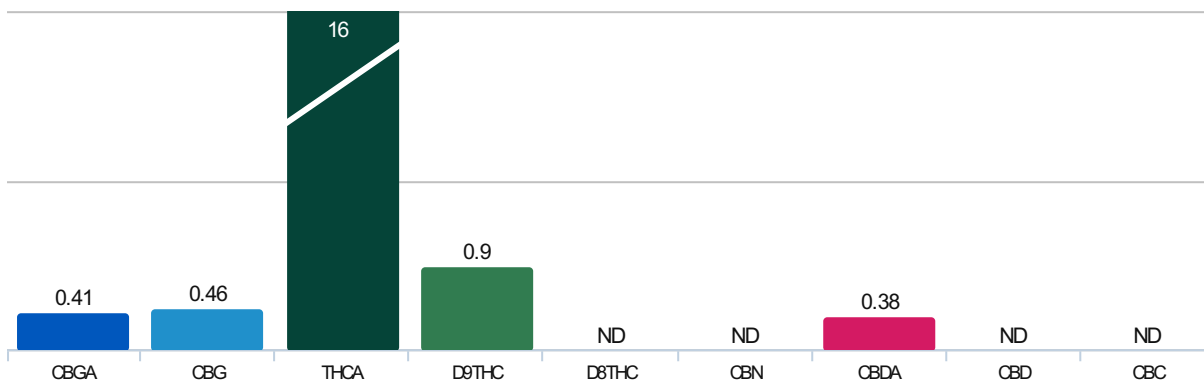
Strain	Trimming Method	THCA (%)	D9THC (%)	Post-Decarb THC (%)	% Improvement
Bordello	Hand	16.0	0.90	-	Baseline
Bordello	Machine	17.0	0.95	-	6.25%
Ghost OG	Hand	23.0	1.60	-	Baseline
Ghost OG	Machine	23.0	1.70	-	6.25%
"43"	Hand	19.3	<1.0	14.5	Baseline
"43"	Machine	19.3	<1.0	15.3	8.97%



Bordello - Hand

[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	Sample Mass: 528.9 mg

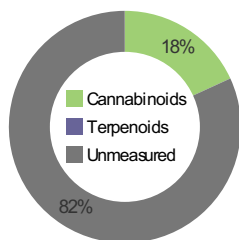
Cannabinoids as Percent of Total Sample Mass



Sample Overview

145x120

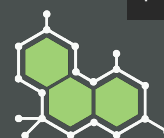
Bordello - Hand

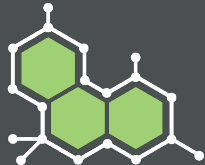


Sample Details

Mycotoxin	NOT REQUESTED
Pesticide	NOT REQUESTED

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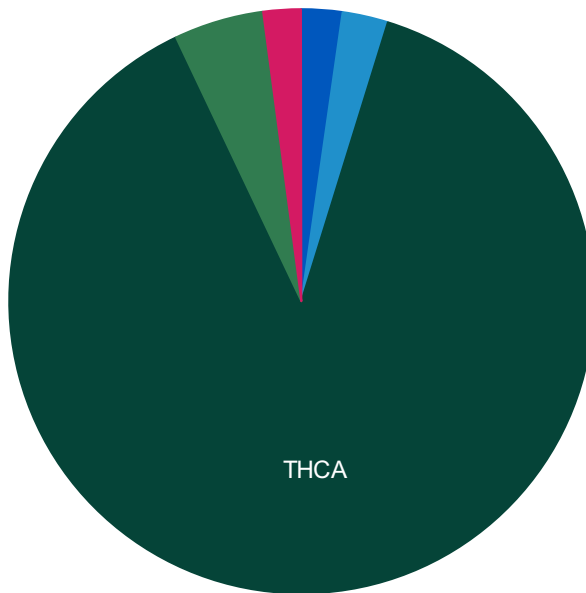
Bordello - Hand

[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	Sample Mass: 528.9 mg

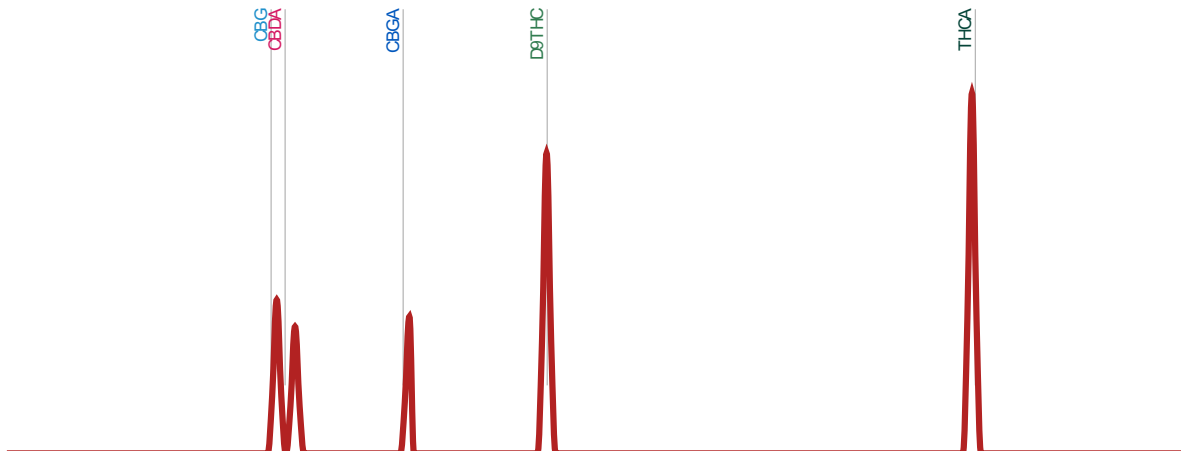
Cannabinoid Profile

Compound	% mass	≈ mg/g
CBGA	0.41	4.1
CBG	0.46	4.6
THCA	16	160
D9THC	0.9	9
D8THC	ND	ND
CBN	ND	ND
CBDA	0.38	3.8
CBD	ND	ND
CBC	ND	ND

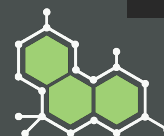
Fractions of Measured Cannabinoids

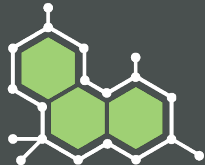


Calculated Liquid Chromatogram



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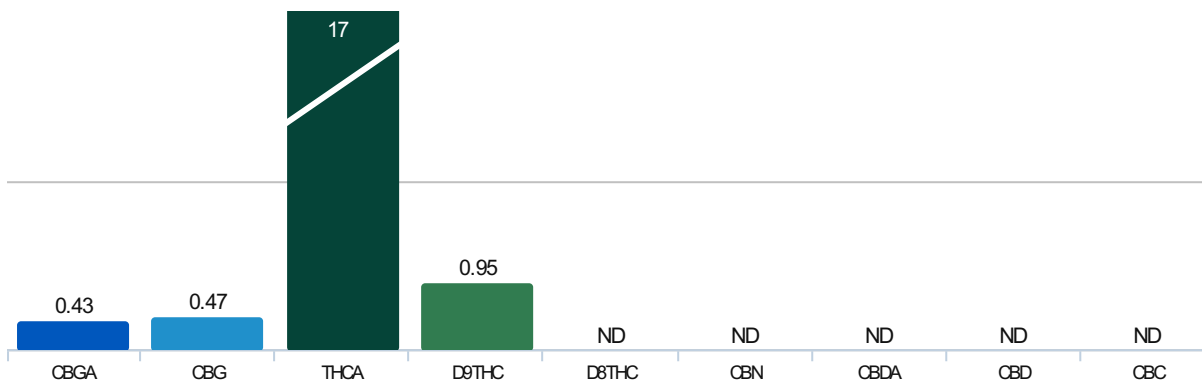




Bordello - Machine

[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	Sample Mass: 511.5 mg

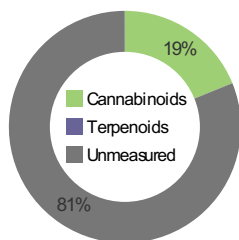
Cannabinoids as Percent of Total Sample Mass



Sample Overview

145x120

Bordello - Machine

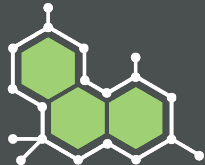


Sample Details

Mycotoxin	NOT REQUESTED
Pesticide	NOT REQUESTED

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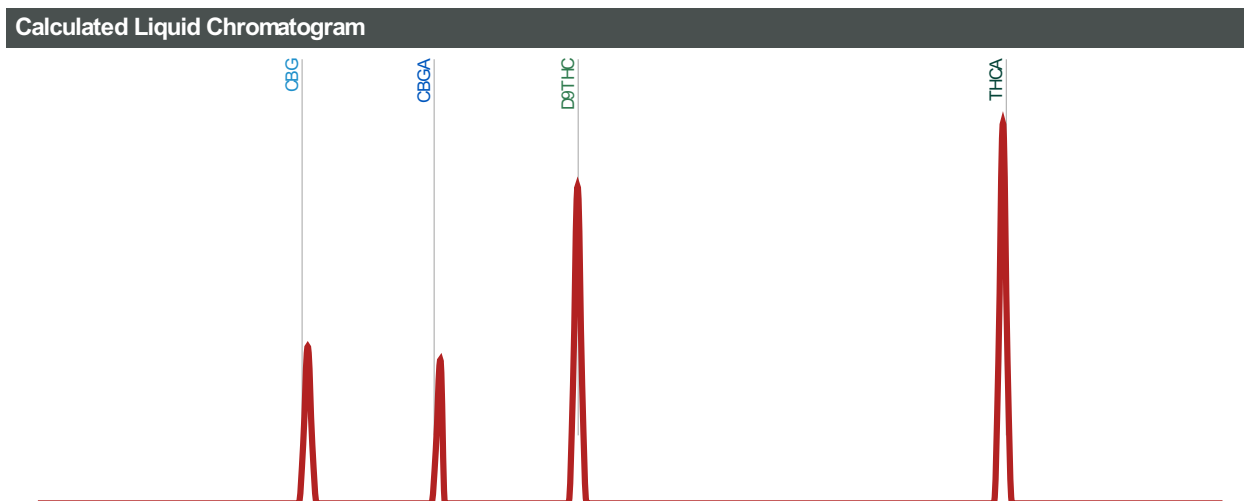
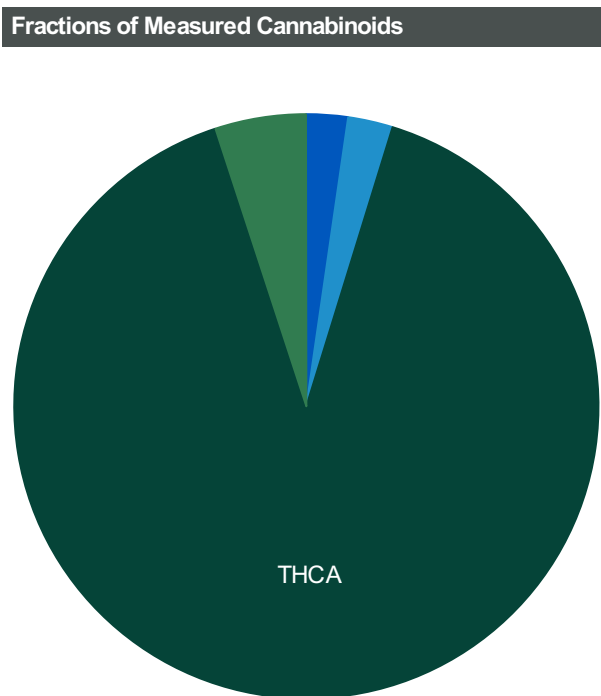




Bordello - Machine

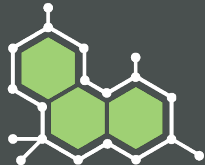
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[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	Sample Mass: 511.5 mg

Cannabinoid Profile		
Compound	% mass	≈ mg/g
CBGA	0.43	4.3
CBG	0.47	4.7
THCA	17	170
D9THC	0.95	9.5
D8THC	ND	ND
CBN	ND	ND
CBDA	ND	ND
CBD	ND	ND
CBC	ND	ND



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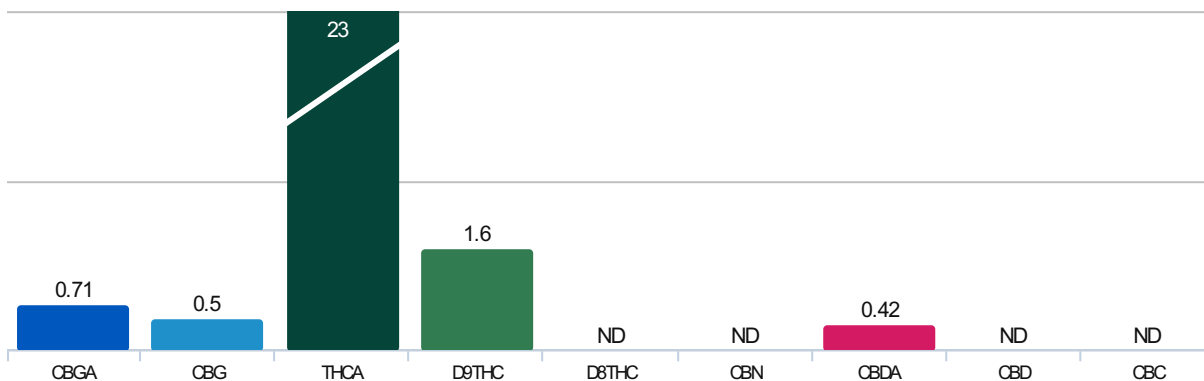




Ghost OG Hand

[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	Sample Mass: 510.8 mg

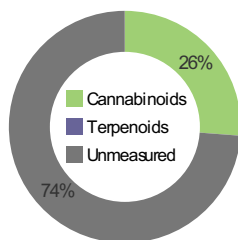
Cannabinoids as Percent of Total Sample Mass



Sample Overview

145x120

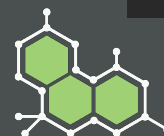
Ghost OG Hand

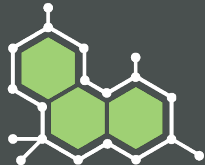


Sample Details

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Pesticide	NOT REQUESTED

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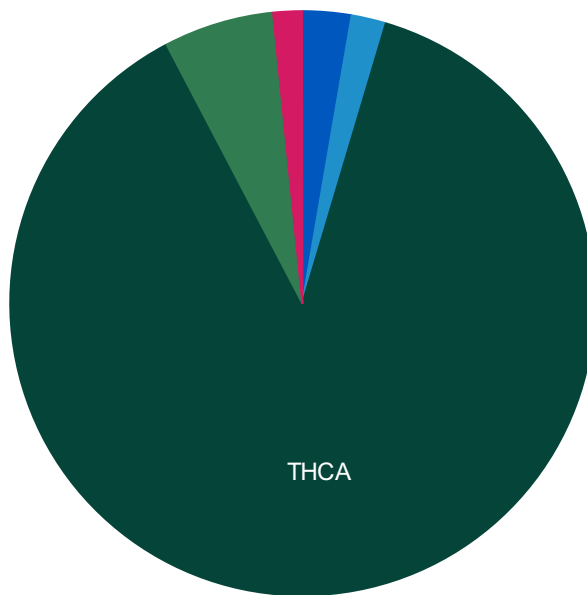
Ghost OG Hand

[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	Sample Mass: 510.8 mg

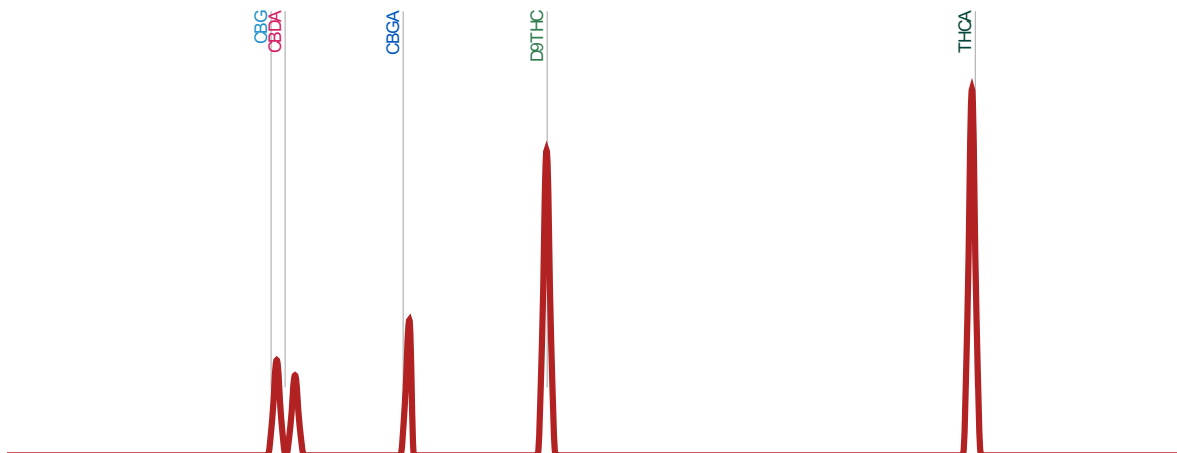
Cannabinoid Profile

Compound	% mass	≈ mg/g
CBGA	0.71	7.1
CBG	0.5	5
THCA	23	230
D9THC	1.6	16
D8THC	ND	ND
CBN	ND	ND
CBDA	0.42	4.2
CBD	ND	ND
CBC	ND	ND

Fractions of Measured Cannabinoids

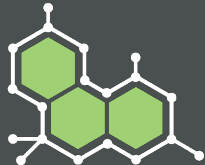


Calculated Liquid Chromatogram



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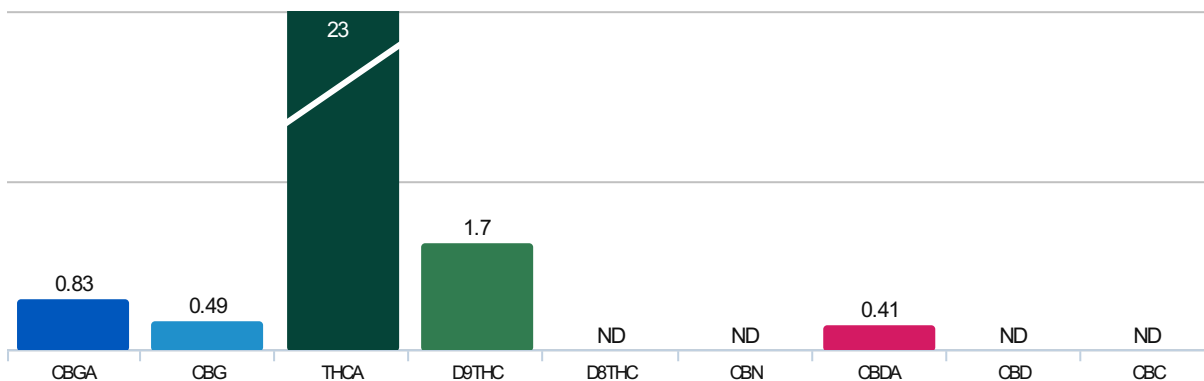




Ghost OG Machine

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[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	Sample Mass: 520.8 mg

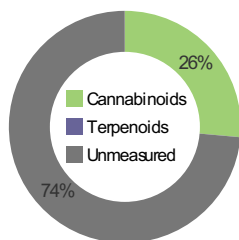
Cannabinoids as Percent of Total Sample Mass



Sample Overview

145x120

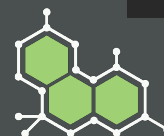
Ghost OG Machine

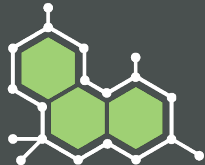


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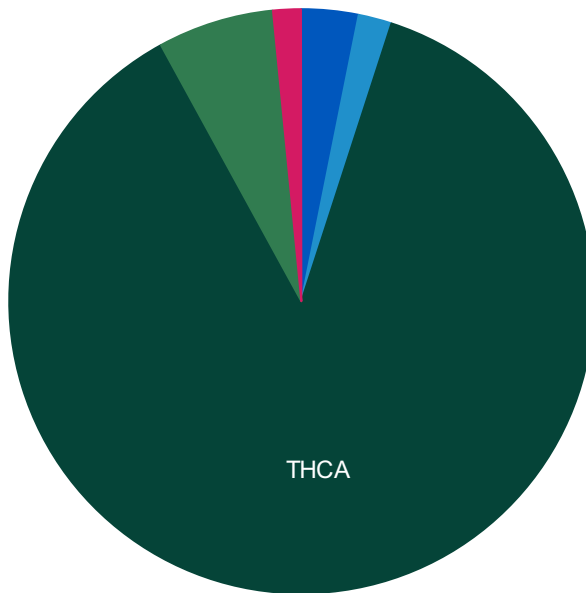
Ghost OG Machine

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[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	Sample Mass: 520.8 mg

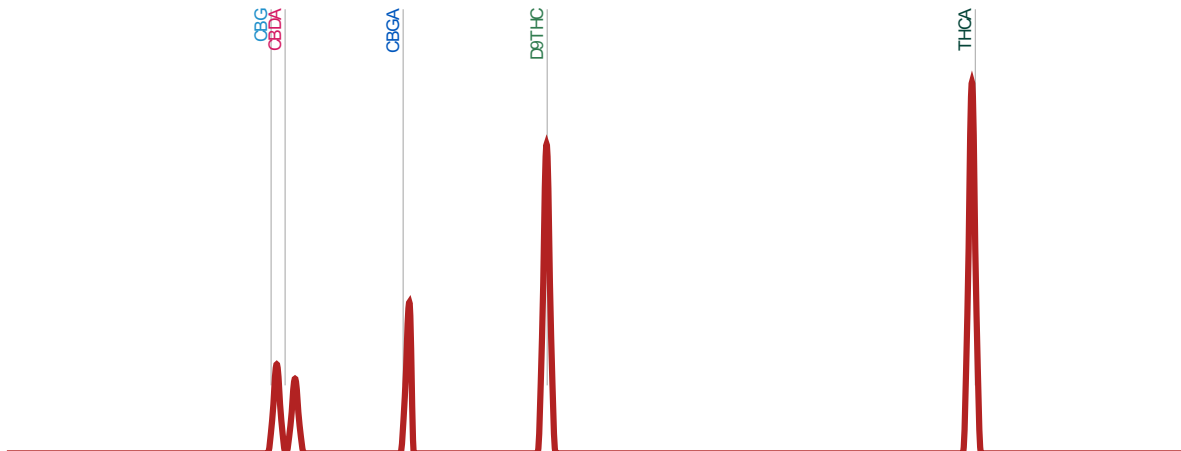
Cannabinoid Profile

Compound	% mass	≈ mg/g
CBGA	0.83	8.3
CBG	0.49	4.9
THCA	23	230
D9THC	1.7	17
D8THC	ND	ND
CBN	ND	ND
CBDA	0.41	4.1
CBD	ND	ND
CBC	ND	ND

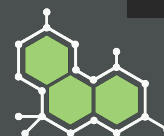
Fractions of Measured Cannabinoids

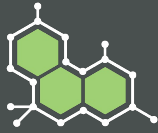


Calculated Liquid Chromatogram



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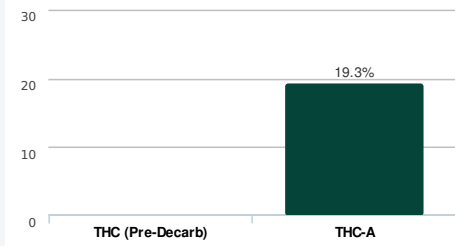


43 - H

Customer: [REDACTED]	Test Site: [REDACTED]	Instrument: Device-1	
Test: QuantaCann	Type: Flower	Customer's ID: [REDACTED]	Sample ID: [REDACTED]
Submitted: 11/20/2014	Tested: 11/20/2014	Reported: 11/20/2014	Intake Wt: N/A
		Sample Wt: N/A	

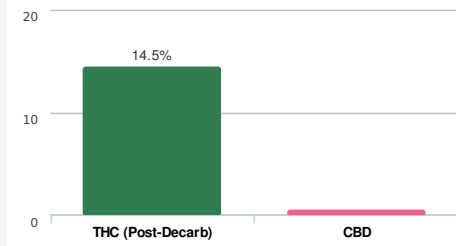
Pre-Decarboxylate Model — (Liquid Chromatography)

THC^{Pre-Decarb} Percent 0.2	THC-A Percent 19.3
THC, ≈ Mg/G 2	THC-A, ≈ Mg/G 193.3

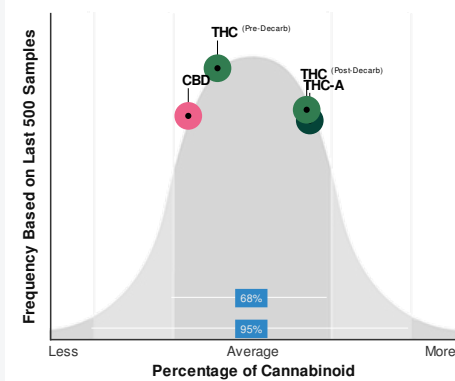


Post-Decarboxylate Model — (Gas Chromatography)

THC^{Post-Decarb} Percent 14.5	CBD Percent 0.6
THC, ≈ Mg/G 144.8	CBD, ≈ Mg/G 5.6

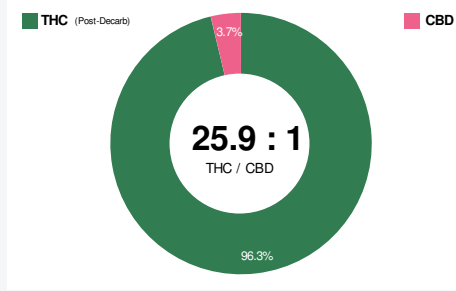


Sample Percentile vs. System Wide Index



Graph Description:
This graph compares your sample to the 500 most recent samples from other dispensary collectives, patients, and growers across the entire QuantaCann™ network.

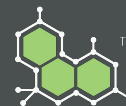
Ratio of Total THC (Post-Decarb) to CBD

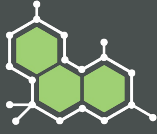


Test Summary - S322OBCA8A5

THC (Pre-Decarb) 0.2%	THC (Post-Decarb) 14.5%
THC-A 19.3%	CBD 0.6%
Moisture 9.2%	

About This Test
Testing was done with Steep Hill Lab's QuantaCann™ system using Near-Infrared Spectroscopy (NIRS). After scanning, the sample's spectral data was compared to reference samples already analyzed for high cannabinoid potency using High Pressure Liquid (HPLC) and Gas (GC) Chromatography.



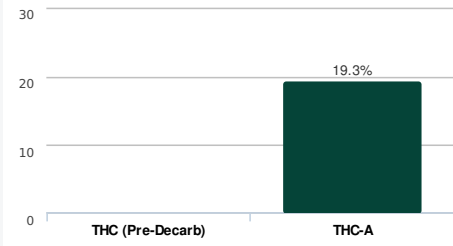


43 - M

Customer: [REDACTED]	Test Site: [REDACTED]	Instrument: Device-1
Test: QuantaCann	Type: Flower	Customer's ID: [REDACTED] Sample ID: [REDACTED]
Submitted: 11/20/2014	Tested: 11/20/2014	Reported: 11/20/2014 Intake Wt: N/A Sample Wt: N/A

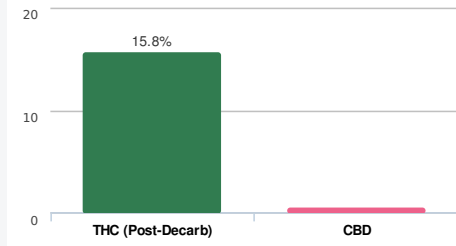
Pre-Decarboxylate Model — (Liquid Chromatography)

THC ^{Pre-Decarb} Percent < 1	THC-A Percent 19.3
THC, ≈ Mg/G ND	THC-A, ≈ Mg/G 193.3

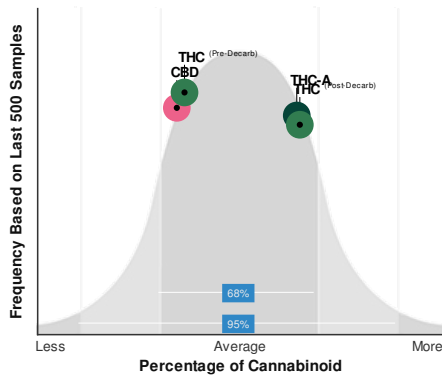


Post-Decarboxylate Model — (Gas Chromatography)

THC ^{Post-Decarb} Percent 15.8	CBD Percent 0.6
THC, ≈ Mg/G 158.3	CBD, ≈ Mg/G 5.8

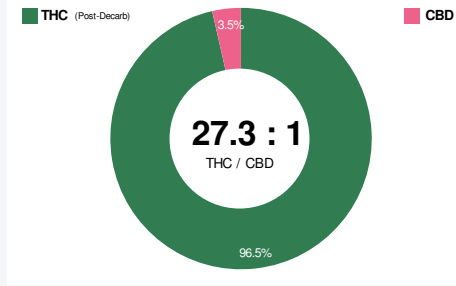


Sample Percentile vs. System Wide Index



Graph Description:
This graph compares your sample to the 500 most recent samples from other dispensary collectives, patients, and growers across the entire QuantaCann™ network.

Ratio of Total THC (Post-Decarb) to CBD



Test Summary - S322O8B04C9

THC (Pre-Decarb) < 1%	THC (Post-Decarb) 15.8%
THC-A 19.3%	CBD 0.6%
	Moisture 9.5%

About This Test
Testing was done with Steep Hill Lab's QuantaCann™ system using Near-Infrared Spectroscopy (NIRS). After scanning, the sample's spectral data was compared to reference samples already analyzed for high cannabinoid potency using High Pressure Liquid (HPLC) and Gas (GC) Chromatography.

