

# **Certificate of Analysis**

Powered by Confident Cannabis 1 of 3

## **Boutanics LLC**

### Tempe, AZ 85284 brooke@boutanics.com (800) 462-8616 Lic. #

## Sample: 1812C4L0113.12818

Strain: Premium CBD Tincture Lot#:; Batch#: P-120518T0300C; Batch Size: - grams Sample Received: 12/14/2018; Report Created: 12/15/2018; Expires: 12/15/2019

# CBD Tincture 300 mg - Cinnamon





Dear Valued Colleague,

Thank you for selecting C4 Laboratories. Our goal at C4 is to provide reliable data that is interpreted within the appropriate physiological context, to ultimately empower patients to use cannabis medicine more effectively. The data within this report are the result of various analytical methods that have been developed by the team of scientists at C4 Laboratories. For the characterization and quantification of 21 terpene compounds and residual solvents we use Head-Space Gas Chromatography with Flame Ionization Detection (HS-GC-FID). Additionally, Ultra High Performance Liquid Chromatography (UHPLC) is used for the characterization and quantification of the 10 major phytocannabinoids found in cannabis. All data are collected in concert with proper quality assurance/quality control measures (QA/QC), including the use of intermittent analytical blanks, sample spikes, and commercial standards.

As an additional measure of quality control, we provide a historical reference (when available) to analytical results from an equivalent strain of cannabis/cannabis product to draw comparison. We understand that within an individual strain that results may vary as a result of variances in sample homogeniety, analytical methodology, crop conditions, genetic drift, and/or gene flow during hybridization. However, such a comparison can provide valuable insight into sample integrity and/or the phenotypic identity of the analyzed sample.

Additionally, we have interpreted all data within the physiological context provided to us by the growing body of peerreviewed scientific research studies. Key factors to consider when determining how to most appropriately use a particular strain of cannabis include, but are not limited to, an evaluation of the possible cannabinoid/terpene synergies and an analysis of the various cannabinoid ratios, particular the CBD-A/THC-A, CBD/THC and CBG/CBN ratios. Using the scientific interpretations provided within this report, consult a physician prior to adopting a medical cannabis regiment for the treatment of specific medical conditions.

It is important to note that when analyzing cannabis there can exist natural variability of cannabinoid and terpene concentrations within individual plants. Cannabinoid concentrations in cannabis flower have been found to increase distally with respect to the root mass. As such, the analysis of multiple samples from any plant of interest is recommended.

Thank you again for your confidence in C4 Laboratories. We strive to be an authority on cannabis education, targeted therapies and patient protection. Also, as a research laboratory, we hope to discover novel cannabis constituents through our efforts with academic research programs in the C4 Cannabinomics Collaborative. For more information about how you can collaborate with our research team please visit our website at www.c4lab.com.



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This product has been tested by C4 Laboratories LLC using valid testing methodologies and a quality system as required by state law. Values reported relate only to the product tested. C4 Laboratories LLC makes no claims as to the efficacy, safety or other risks associated with any detected or non-detected levels of any compounds reported herein. This Certificate shall not be reproduced except in full, without the written approval of C4 Laboratories LLC.



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### CBD Tincture 300 mg - Cinnamon

Ingestible, Liquid Fats (Oils), Other





nabinoids				Pass Foreign M
Analyte	LOQ	Mass	Mass	Std. Dev.
	mg/unit	mg/unit	%	
THCa	2.857	ND	ND	
Δ9-ΤΗϹ	2.857	ND	ND	
CBD	2.857	288.231	1.0090	
CBDa	2.857	ND	ND	
CBC	2.857	ND	ND	
CBG	2.857	ND	ND	
CBN	2.857	ND	ND	
THCV	2.857	ND	ND	
Δ8-THC	2.857	ND	ND	
CBDV	2.857	ND	ND	
Total		288.231	1.0090	

1 Unit = Bottle, 30 mL, 28.566g

#### Total THC = THCa \* 0.877 + d9-THC Total CBD = CBDa \* 0.877 + CBD

LOQ = Limit of Quantitation; NR = Not Reported; Unless otherwise stated all quality control samples performed within specifications established by the Laboratory.



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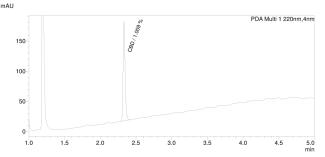


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### C4 Laboratories, LLC

Sample ID Data Filename Method Filename	: 1812C4L0113.12818_CBD_Tincture : Boutanics : 1812C4L0113.12818_CBD_Tincture : 10 cannabinoids 31 Oct 2018.lcm : Batch V3.lcb		
Vial #	: 1-4 : 5 uL	Sample Type	: Medible
Date Acquired	: 12/15/2018 10:05:32 AM : 12/15/2018 10:12:34 AM		: Aaron J. Hicks : Aaron J. Hicks

### Cannabinoids by HPLC



### Cannabinoids

Ret. Time	Area	Conc.	Name
			CBD-V
			CBD-A
			CBG
2.332	318143	1.009%	CBD
			THC-V
			CBN
			THC
			d8-THC
			CBC
			THC-A

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