

## Hemp Quality Assurance Testing **CERTIFICATE OF ANALYSIS**

DATE ISSUED 05/02/2021

### SAMPLE NAME: Whole Plant 0013

Concentrate, Product Inhalable

### **CULTIVATOR / MANUFACTURER**

**Business Name:** License Number: Address:

### **DISTRIBUTOR / TESTED FOR**

Business Name: Tonic CBD License Number: Address: 2466 Pennsylvania Ave Sayre PA 18840

SAMPLE DETAIL

Batch Number: 0013WP Sample ID: 210429X020

Date Collected: 04/29/2021 Date Received: 04/29/2021 Batch Size: Sample Size: 1.0 units Unit Mass: 5 grams per Unit Serving Size:





Scan QR code to verify authenticity of results.

### **CANNABINOID ANALYSIS - SUMMARY**

Total THC: NT	Total THC/CBD is calculated using the following formulas to take into account the loss of a carboxyl group during the decarboxylation step: Total THC = $\Delta$ 9THC + (THCa (0.877))	Moisture: NT
Total CBD: NT	Total CBD = CBD + (CBDa (0.877))	Density: NT
Sum of Cannabinoids: NT	Sum of Cannabinoids = $\Delta$ 9THC + THCa + CBD + CBDa + CBG + CBGa + THCV + THCVa + CBC + CBCa + CBDV + CBDVa + $\Delta$ 8THC + CBL + CBN Total Cannabinoids = ( $\Delta$ 9THC+0.877*THCa) + (CBD+0.877*CBDa) +	Viscosity: NT
Total Cannabinoids: NT	(CBG+0.877*CBGa) + (THCV+0.877*THCVa) + (CBC+0.877*CBCa) + (CBDV+0.877*CBDVa) + Δ8THC + CBL + CBN	

### **TERPENOID ANALYSIS - SUMMARY**

**39 TESTED, TOP 3 HIGHLIGHTED** 

Total Terpenoids: 1.4924%

 $\beta$  Caryophyllene 5.353 mg/g

 $\alpha$  Humulene 2.305 mg/g

α Bisabolol 2.274 mg/g

NT

## SAFETY ANALYSIS - SUMMARY

Pesticides: NT	Heavy Metals: NT	Foreign Material: NT
Mycotoxins: NT	Microbiology (PCR): NT	Water Activity: NT
Residual Solvents: NT	Microbiology (Plating): NT	Vitamin E: NT

For quality assurance purposes. Not a Pre-Harvest Hemp Lab Test Report. These results relate only to the sample included on this report. This report shall not be reproduced, except in full, without written approval of the laboratory.

Sample Certification: California Code of Regulations Title 16 Effect Date January 16, 2019. Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

Decision Rule: Statements of conformity (e.g. Pass/Fail) to specifications are made in this report without taking measurement uncertainty into account. Where statements of conformity are made in this report, the following decision rules are applied: PASS - Results within limits/specifications, FAIL - Results exceed limits/specifications. References: limit of detection (LOD), limit of quantification (LOQ), not detected (ND), not tested (NT)

C verified by: Kevin Flores ate: 05/02/2021

oproved by: Josh Wurzer, President ate: 05/02/2021

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### Hemp Quality Assurance Testing CERTIFICATE OF ANALYSIS

WHOLE PLANT 0013 | DATE ISSUED 05/02/2021

# 🔗 Terpenoid Analysis

Terpene analysis utilizing gas chromatographyflame ionization detection (GC-FID).

Method: QSP 1192 - Analysis of Terpenoids by GC-FID

### $\beta$ Caryophyllene

A sesquiterpene with a fragrance that can be described as spicy, woody, dry, dusty and mildly sweet. It was one of the first organic compounds to fully synthesized in a laboratory and plays a role in the endocannabinoid system as it is a functional CB<sub>2</sub> receptor agonist. Found in black pepper, clove, hops, rosemary, black-jack, perilla, spicebush, Indian pennywort, celery, frankincense, vitex, parsley, marigold, tamarind...etc.

### $\alpha$ Humulene

Also known as  $\alpha$ -caryophyllene, it is an isomer of the sesquiterpene  $\beta$ -Caryophyllene which frequently occurs in nature with many aromatic plants across the globe. It has a fragrance that can be described as earthy or musky with spicy undertones. Found in hops, forskohlii, skullcaps, basil, nutmeg, cloves, sage, cotton, tamarind, black pepper, guava, Scotch pine...etc.

### $\alpha$ Bisabolol

A sesquiterpene alcohol with a fragrance that can be described as floral, peppery, sweet and clean. Found in chamomile, figwort, yarrow, skullcaps, lavender, ironwort, germander...etc.



#### TERPENOID TEST RESULTS - 05/02/2021

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
$\beta$ Caryophyllene	0.004/0.012	±0.1906	5.353	0.5353
$\alpha$ Humulene	0.009/0.029	±0.0740	2.305	0.2305
$\alpha$ Bisabolol	0.008/0.026	±0.1214	2.274	0.2274
Guaiol	0.009/0.030	±0.0787	1.668	0.1668
Caryophyllene Oxide	0.010/0.033	±0.0482	1.048	0.1048
$trans$ - $\beta$ -Farnesene	0.008/0.025	±0.0149	0.420	0.0420
Nerolidol	0.009/0.028	±0.0248	0.395	0.0395
Valencene	0.009/0.030	±0.0207	0.301	0.0301
Linalool	0.009/0.032	±0.0108	0.283	0.0283
Terpineol	0.016/0.055	±0.0149	0.242	0.0242
Fenchol	0.010/0.034	±0.0081	0.209	0.0209
Borneol	0.005/0.016	±0.0046	0.110	0.0110
Myrcene	0.008/0.025	±0.0007	0.055	0.0055
Terpinolene	0.008/0.026	±0.0011	0.052	0.0052
Geranyl Acetate	0.004/0.014	±0.0018	0.044	0.0044
Citronellol	0.003/0.010	±0.0020	0.042	0.0042
Sabinene	0.004/0.014	±0.0003	0.029	0.0029
Limonene	0.005/0.016	±0.0004	0.027	0.0027
$\alpha$ Terpinene	0.005/0.017	±0.0004	0.024	0.0024
Geraniol	0.002/0.007	±0.0010	0.023	0.0023
Nerol	0.003/0.011	±0.0009	0.020	0.0020
βPinene	0.004/0.014	N/A	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
Eucalyptol	0.006/0.018	N/A	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
γTerpinene	0.006/0.018	N/A	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
Sabinene Hydrate	0.006 / 0.022	N/A	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
Fenchone	0.009/0.028	N/A	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
αPinene	0.005 / 0.017	N/A	ND	ND
Camphene	0.005 / 0.015	N/A	ND	ND
$\alpha$ Phellandrene	0.006 / 0.020	N/A	ND	ND
3 Carene	0.005/0.018	N/A	ND	ND
p-Cymene	0.005/0.016	N/A	ND	ND
Ocimene	0.011/0.038	N/A	ND	ND
(-)-lsopulegol	0.005/0.016	N/A	ND	ND
Camphor	0.006/0.019	N/A	ND	ND
Isoborneol	0.004/0.012	N/A	ND	ND
Menthol	0.008 / 0.025	N/A	ND	ND
R-(+)-Pulegone	0.003/0.011	N/A	ND	ND
α Cedrene	0.005 / 0.016	N/A	ND	ND
Cedrol	0.008 / 0.027	N/A	ND	ND
TOTAL TERPENOIDS			14.924 mg/g	1.4924%

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