

# Botany Evolution LLC

1510 Kirby Circle NE

Palm Bay, FL 32945

321-802-4583

## Certificate Of Analysis

### Sample Identification Information

Date of Analysis 3/22/2024  
Sample: S2085 A  
Product Name KAVA EXTRACT 30%  
Batch # CJ2403-KE30

Country of Origin VANUATU  
Country of Processing CHINA  
Manufacture Date 09/10/23  
Best By Date 09/09/26

### General Product Specifications

Product Species Piper Methysticum  
Part Used Root

Common Names Kava kava, Awa, Yagona  
Appearance YELLOW POWDER

### Analyzed Characteristics

#### Specification

#### Result

#### Test Method

<u>Standardization</u>	20-90% Kavalactones	30.16%	HPLC
<u>Identification</u>	Complies by HPLC	Conform	HPLC
<u>Kavalactone Profile</u>	Noble	PASS	HPLC
<u>Mesh Size</u>	60-30	30	Sieve
<u>Color</u>	Beige to Yellow	Pass	Visual
<u>Odor</u>		Pass	Organoleptic
<u>Taste</u>		Pass	Organoleptic
<u>Chemotype</u>		245316	HPLC
<u>K/DHM</u>		2.1	Calculation

Kavalactones	Code	Peaks Ref. (elution order)	Correction Factor	Area *	Area %	Corrected Kavalactones	Chemotype Identifier
Standard Kavain	K			12586			
Methysticin	M	1	2.21	1460.098	8.01%	2.56%	<b>6</b>
Dihydromethysticin	DHM	2	3.38	1209.575	6.63%	3.24%	<b>5</b>
Kavain	K	3	1	8705.033	47.74%	6.90%	<b>4</b>
Dihydrokavain	DHK	4	3.48	4159.318	22.81%	11.48%	<b>2</b>
Desmethoxyyangonin	DMY	5	2.52	1458.376	8.00%	2.91%	<b>1</b>
Yangonin	Y	6	3.12	1242.302	6.81%	3.07%	<b>3</b>
<b>Kavalactones</b>			<b>Total:</b>	<b>18234.702</b>	<b>100.00%</b>	<b>30.16%</b>	<b>245316</b>

\*See data in attachment HPLC1100 Agilent Certificate with Chromatogram graph.

This result are in house tested and the best of our knowledge and experience. Using calibrated equipment.

We are dedicated to offer the best Quality of Botanical products on the market. We test and stand behind our products.

Disclaimer\* the test results are accurate to the best of our knowledge and are based upon reputable laboratory and industry standard testing methods.

These results should not be used as a final determination for use in a finished product. It is recommended that you verify these test results with an in house quality control department or obtain an additional independent third party lab to verify that this material meets specifications

Botany Evolution, its board of directors, contract laboratories, employees, and affiliates are held harmless from any loss or damages resulting from the use or misuse of this document. The appropriate use of this product is the sole responsibility of the user of the purchasing party.

Chemist

*Justl Youngs*

Date

*3/25/24*

SAMPLE S2085 A  
Vial 27

1.50240g/50mL

wavelength 246 nm

Path: \CHEM32\1\DATA\KAVA\_03\_22\_2024\_15MINSTDTESTMETHOD 2024-03-22 15-33-40\02->

SEQUENCE C:\CHEM32\1\DATA\KAVA\_03\_22\_2024\_ ->

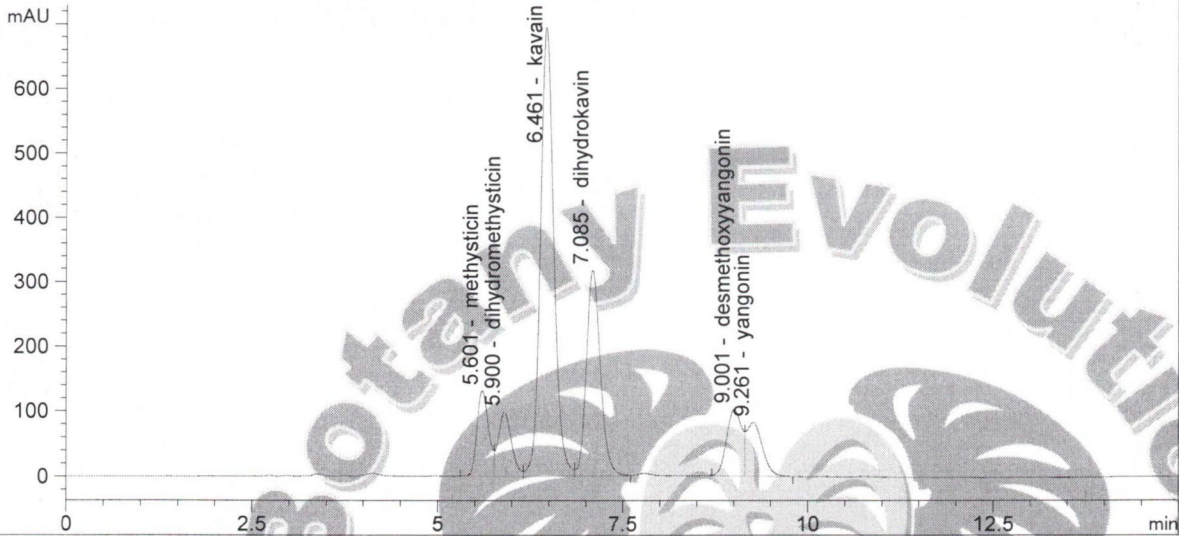
Injection date 3/22/2024

Injection time 11:39:35 PM

Acq. operator KRISTL

Method C:\CHEM32\1\DATA\KAVA\_03\_22\_202->

DAD1 C, Sig=246,10 Ref=500,60 (KAVA\_03\_22\_2024\_15MINSTDTESTMETHOD 2024-03-22 15-33-40\027-2701.D)



#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
1	methysticin	5.601	1460.098	8.01	0.000
2	dihydromethysticin	5.900	1209.575	6.63	0.000
3	kavain	6.461	8705.033	47.74	0.001
4	dihydrokavin	7.085	4159.318	22.81	0.001
5	desmethoxyyangonin	9.001	1458.376	8.00	0.000
6	yangonin	9.261	1242.302	6.81	0.000

3/25/24  
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# CERTIFICATE OF ANALYSIS

**GENERAL INFORMATION**

Report Date	3/22/2024	Country of Origin	Vanuatu
Sample Number	S2085	Country of Processing	China
Product Name	30% Kavalactone Extract	Manufacture Date	9/10/2023
Lot Number	CJ2403KE30	Best By Date	9/9/2026

ITEM	SPECIFICATION	TEST RESULTS	METHOD
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**PHYSICAL & CHEMICAL**

Identification	Piper methysticum	Complies	HPLC
Appearance	Beige to Yellow Powder	Complies	Organoleptic
Kavalactone Standard	2-17 % Kavalactones	30.16%	HPLC
Kavalactone Profile	Noble	Pass	HPLC
Chemotype	If # 5 is in 1st or 2nd in Abundance	245316	HPLC
K/DHM	> 1.2 for Noble	2.1	Calculation

**HEAVY METALS**

		Results	
Arsenic (As)	NMT 1,000 (ppb)*	37.7 ppb	FDA EAM 4.7
Cadmium (Cd)	NMT 1,000 (ppb)*	2.7 ppb	FDA EAM 4.7
Lead (Pb)	NMT 1,000 (ppb)*	60 ppb	FDA EAM 4.7
Mercury (Hg)	NMT 1,000 (ppb)*	43.1 ppb	FDA EAM 4.7

\*Heavy Metals Action Limits Based on Maximum PDE at 5% Kavalactones. Results May Exceed 1,000 ppb action limit with higher kavalactone contents.

**MICROBIOLOGICAL**

		Results	
AEROBIC PLATE COUNT	NMT 10,000,000 cfu	10 cfu / 10 g	USP 2021
E. COLI	ABSENT (cfu/10g)	Absent cfu / 10 g	USP 2022
PSEUDOMONAS AERUGINOSA	ABSENT (cfu/10g)	Absent cfu / 10 g	USP 2022
SALMONELLA	ABSENT (cfu/10g)	Absent cfu / 10 g	USP 2022
STAPHYLOCOCCUS AUREUS	ABSENT (cfu/10g)	Absent cfu / 10 g	USP 2022
YEAST	NMT 100,000 cfu (Combined)	5 cfu / 10 g	
MOLD	NMT 100,000 cfu (Combined)	5 cfu / 10 g	USP 2021
TOTAL YEAST & MOLD	NMT 100,000 cfu (Combined)	10 cfu / 10 g	

cfu/g = Colony Forming Units Per Gram      NMT = No More Than      PDE = Permitted Daily Exposure      PPB = Parts Per Billion

*Analysis Performed by a Third-Party Laboratory*

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Completed By: *Amy Saleh*

Title: *Manager*

Date: *3/26/24*