

CERTIFICATE OF ANALYSIS

GENERAL INFORMATION

Report Date	2/5/2025	Country of Origin	Vanuatu
Sample Number	S2221	Country of Processing	China
Product Name	30% Kavalactone Extract	Manufacture Date	12/16/2024
Lot Number	CJ2501KE30	Best By Date	12/15/2027

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	31.76%	HPLC
Kavalactone Profile	Noble	Pass	HPLC
Chemotype	If # 5 is in 1st or 2nd in Abundance	241536	HPLC
K/DHM	> 1.2 for Noble	2.4	Calculation

HEAVY METALS

		Results	
Arsenic (As)	NMT 1,000 (ppb)*	14.4 ppb	FDA EAM 4.7
Cadmium (Cd)	NMT 1,000 (ppb)*	20.5 ppb	FDA EAM 4.7
Lead (Pb)	NMT 1,000 (ppb)*	< 1 ppb	FDA EAM 4.7
Mercury (Hg)	NMT 1,000 (ppb)*	< 10 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	USP 2021
MOLD		5 cfu / 10 g	
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

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.

Authorized By (Name / Title): Tony Sabeh / Manager Signature: Tony Sabeh

Botany Evolution LLC

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Palm Bay, FL 32945

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Certificate Of Analysis**Sample Identification Information**Date of Analysis 2/5/2025Sample: S2221Product Name KAVA EXTRACTBatch # CJ2501KE30Country of Origin VANUATUCountry of Processing CHINAManufacture Date 12/16/24Best By Date 12/15/27**General Product Specifications**Product Species Piper MethysticumPart Used RootCommon Names Kava kava, Awa, YagonaAppearance YELLOW POWDER**Analyzed Characteristics****Specification****Result****Test Method**Standardization

20-90% Kavalactones

31.76%

HPLC

Identification

Complies by HPLC

Conform

HPLC

Kavalactone Profile

Noble

PASS

HPLC

Mesh Size

60-30

30

Sieve

Color

Beige to Yellow

Pass

Visual

Odor

Pass

Organoleptic

Taste

Pass

Organoleptic

Chemotype

241536

HPLC

K/DHM

2.4

Calculation

Kavalactones	Code	Peaks Ref. (elution order)	Correction Factor	Area *	Area %	Corrected Kavalactones	Chemotype Identifier
Standard Kavain	K			11659.813			
Methysticin	M	1	2.21	1865.429	7.00%	2.36%	6
Dihydromethysticin	DHM	2	3.38	1605.761	6.02%	3.11%	5
Kavain	K	3	1	12979.191	48.68%	7.45%	4
Dihydrokavain	DHK	4	3.48	6404.405	24.02%	12.79%	2
Desmethoxyyangonin	DMY	5	2.52	2220.654	8.33%	3.21%	1
Yangonin	Y	6	3.12	1585.529	5.95%	2.84%	3
Kavalactones			Total:	26660.969	100.00%	31.76%	241536

*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.

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Chemist

Austel Youngs

Date

2/11/25

SAMPLE S2221
Vial 14

0.75201g/50mL

wavelength 246 nm

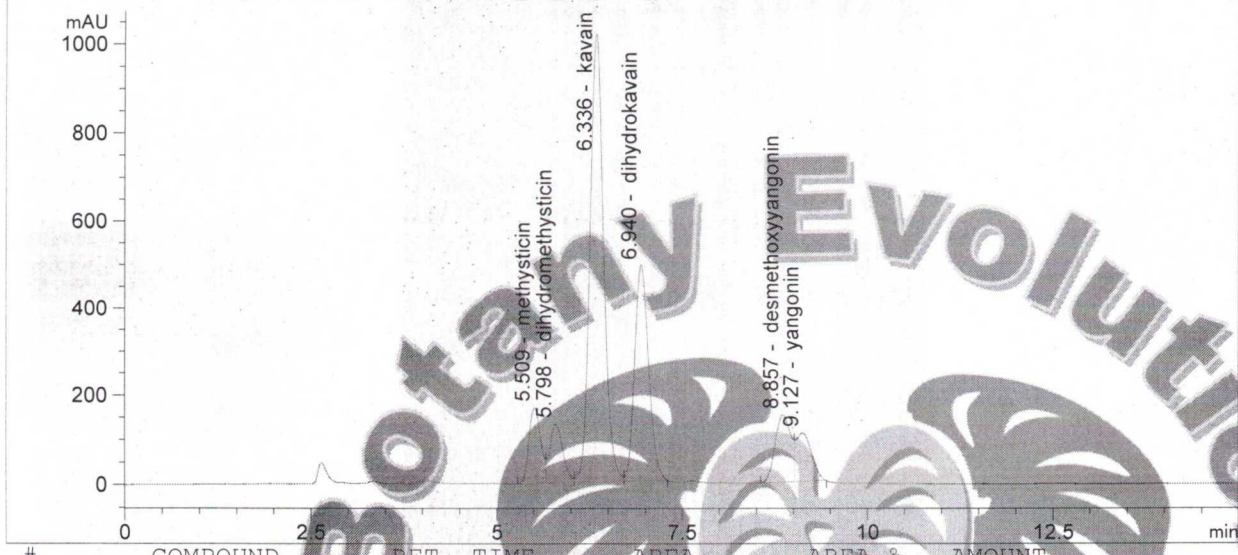
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SEQUENCE C:\CHEM32\1\DATA\KAVA_02_05_2025_ -->

Injection date 2/5/2025
Injection time 8:52:16 PM

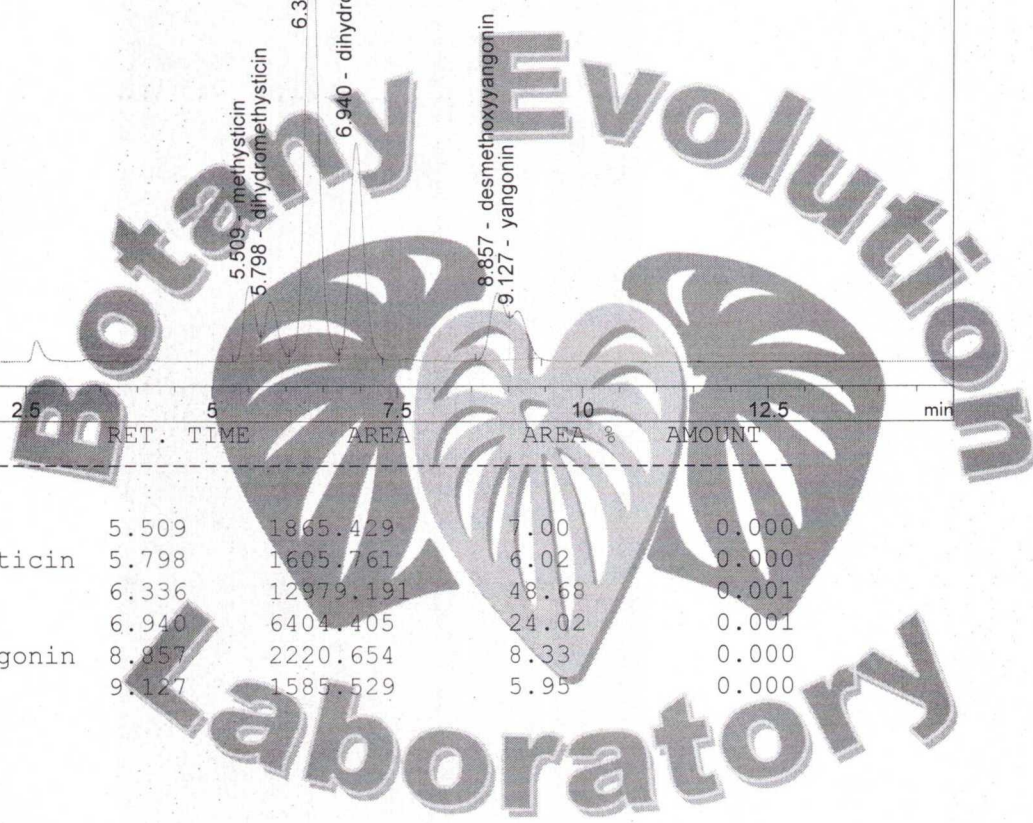
Acq. operator KRISTL

Method C:\CHEM32\1\DATA\KAVA_02_05_202->

DAD1 C, Sig=246,10 Ref=500.60 (KAVA_02_05_2025_15MINSTDTESTMETHOD 2025-02-05 16-17-08\014-1401.D)



#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
1	methysticin	5.509	1865.429	7.00	0.000
2	dihydromethysticin	5.798	1605.761	6.02	0.000
3	kavain	6.336	12979.191	48.68	0.001
4	dihydrokavain	6.940	6404.405	24.02	0.001
5	desmethoxyyangonin	8.857	2220.654	8.33	0.000
6	yangonin	9.127	1585.529	5.95	0.000



Handwritten signature and date: 2/11/25