

CERTIFICATE OF ANALYSIS

GENERAL INFORMATION

Report Date	3/5/2025	Country of Origin	Solomon Islands
Sample Number	S2238	Country of Processing	USA
Product Name	Gold Lateral Roots	Manufacture Date	Mar-25
Lot Number	SIK2502-GLR3	Best By Date	Mar-28

ITEM	SPECIFICATION	TEST RESULTS	METHOD
------	---------------	--------------	--------

PHYSICAL & CHEMICAL

Identification	Piper methysticum	Complies	HPLC
Appearance	Beige to Yellow Powder	Complies	Organoleptic
Kavalactone Standard	2-17 % Kavalactones	22.73%	HPLC
Kavalactone Profile	Noble	Pass	HPLC
Chemotype	If # 5 is in 1st or 2nd in Abundance	423156	HPLC
K/DHM	> 1.2 for Noble	6.0	Calculation

HEAVY METALS

		Results	
Arsenic (As)	NMT 1,000 (ppb)*	685 ppb	FDA EAM 4.7
Cadmium (Cd)	NMT 1,000 (ppb)*	358 ppb	FDA EAM 4.7
Lead (Pb)	NMT 1,000 (ppb)*	149 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	790,000 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)	420,000 cfu / 10 g	
MOLD		10 cfu / 10 g	USP 2021
TOTAL YEAST & MOLD	NMT 100,000 cfu (Combined)	420010 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.

Completed By: Ray Salich Title: Director of Operations Date: 3/26/2025

Botany Evolution LLC

2510 Kirby Circle NE

Palm Bay, FL 32945

321-802-4583

Certificate Of Analysis**Sample Identification Information**Date of Analysis 3/5/2025Sample: S2238Product Name GOLD LATERAL ROOTSLot# SIK2502-GLR3Country of Origin

SOLOMON ISLANDS

Country of Processing

USA

Manufacture Date

Mar-25

Best By Date

Mar-28

General Product SpecificationsProduct Species Piper MethysticumPart Used RootCommon Names

Kava kava, Awa, Yagona

Appearance

Yellow, Brown, beige powder

Analyzed Characteristics**Specification****Result****Test Method**Standardization

2-23% Kavalactones

22.73%

HPLC

Identification

Complies by HPLC

Conform

HPLC

Kavalactone Profile

Noble

PASS

HPLC

Mesh Size

60-30

60

Sieve

Color

Beige to Yellow

Pass

Visual

Odor

Pass

Organoleptic

Taste

Pass

Organoleptic

Chemotype

423156

HPLC

K/DHM

TUDEI < 1.2 > NOBLE

6.0

Calculation

Kavalactones	Code	Peaks Ref. (elution order)	Correction Factor	Area *	Area %	Corrected Kavalactones	Chemotype Identifier
Standard Kavain	K			2380.544			
Methysticin	M	1	2.21	947.236	4.31%	1.23%	6
Dihydromethysticin	DHM	2	3.38	682.609	3.10%	1.35%	5
Kavain	K	3	1	13895.862	63.19%	8.14%	4
Dihydrokavain	DHK	4	3.48	2972.12	13.51%	6.06%	2
Desmethoxyyangonin	DMY	5	2.52	1256.609	5.71%	1.86%	1
Yangonin	Y	6	3.12	2237.739	10.18%	4.09%	3
Kavalactones			Total:	21992.175	100.00%	22.73%	423156

*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

Nustle Youngs

Date

3/5/2025

SAMPLE S2238
Vial 13

0.75128g/50mL

wavelength 246 nm

C:\CHEM32\1\DATA\KAVA_03_21_2025_15MINSTDTESTMETHOD 2025-03-21 16-48-50\01->
SEQUENCE C:\CHEM32\1\DATA\KAVA_03_21_2025_ ->

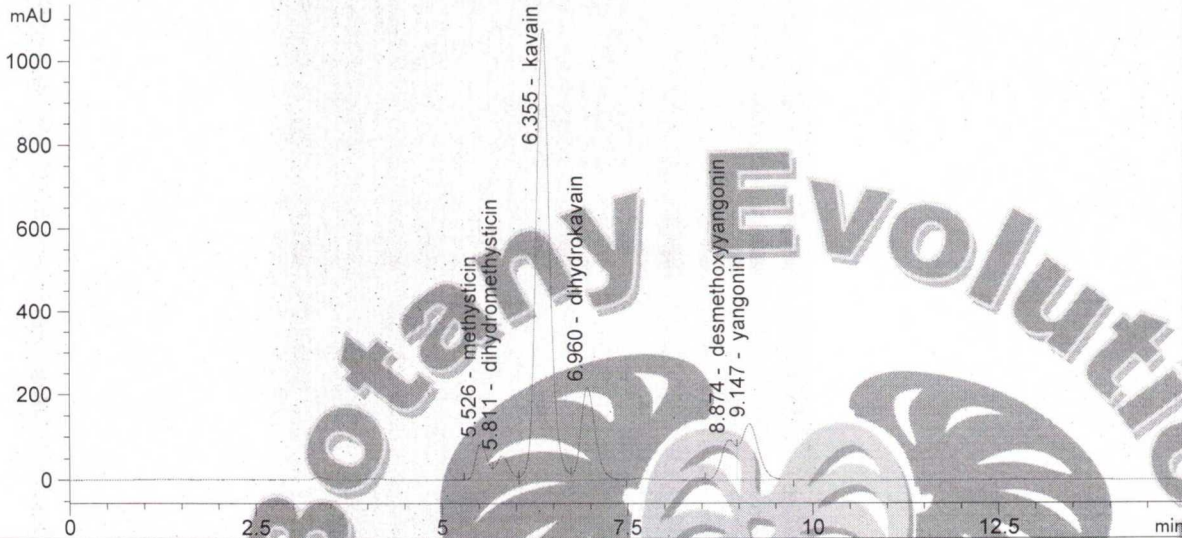
Injection date 3/21/2025

Injection time 9:08:09 PM

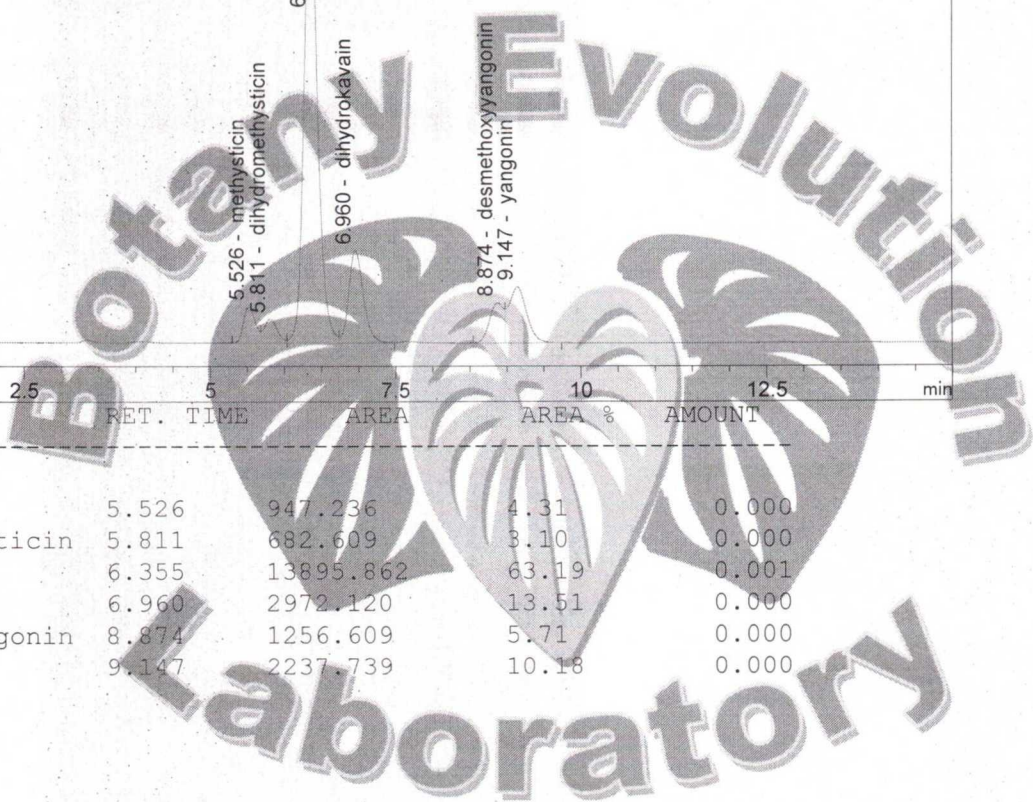
Acq. operator KRISTL

Method C:\CHEM32\1\DATA\KAVA_03_21_202->

DAD1 C, Sig=246,10 Ref=500,60 (KAVA_03_21_2025_15MINSTDTESTMETHOD 2025-03-21 16-48-50\013-1301.D)



#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
1	methysticin	5.526	947.236	4.31	0.000
2	dihydromethysticin	5.811	682.609	3.10	0.000
3	kavain	6.355	13895.862	63.19	0.001
4	dihydrokavain	6.960	2972.120	13.51	0.000
5	desmethoxyyangonin	8.874	1256.609	5.71	0.000
6	yangonin	9.147	2237.739	10.18	0.000



3/24/25
5