

**Botany Evolution LLC**

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**Certificate Of Analysis****Sample Identification Information****Date of Analysis** 3/13/2017**Sample:** S0094**Product Name** VANUATU KAVA LATERAL ROOT**Lot#** VFE170212LR**Country of Origin** VANUATU**Country of Processing** VANUATU**Manufacture Date** 02/12/17**Expiration Date** 02/12/20**General Product Specifications****Product Species** Piper Methysticum**Part Used** Root**Common Names** Kava kava, Awa, Yagona**Appearance** Beige powder

<b><u>Analyzed Characteristics</u></b>	<b><u>Specification</u></b>	<b><u>Result</u></b>	<b><u>Test Method</u></b>
<b><u>Standardization</u></b>	2-15% Kavalactones	13.96%	HPLC
<b><u>Identification</u></b>	Complies by HPLC	Conform	HPLC
<b><u>Kavalactone Profile</u></b>	Noble	PASS	HPLC
<b><u>Mesh Size</u></b>	60-30	60	Sieve
<b><u>Color</u></b>	Beige to Yellow	Pass	Visual
<b><u>Odor</u></b>		Pass	Organoleptic
<b><u>Taste</u></b>		Pass	Organoleptic
<b><u>Chemotype</u></b>		423165	HPLC
<b><u>K/DHM</u></b>		3.89	Calculation

<b>Kavalactones</b>	<b>Code</b>	<b>Peaks Ref.</b>	<b>Correction Factor</b>	<b>Area *</b>	<b>Area %</b>	<b>Corrected Kavalactones</b>	<b>Chemotype Identifier</b>
Standard Kavain	K			2731.483			
Methysticin	M	1	2.19	1066.98	7.80%	1.24%	6
Dihydromethysticin	DHM	2	3.23	640.297	4.68%	1.10%	5
Kavain	K	3	1	8047.426	58.85%	4.27%	4
Dihydrokavain	DHK	4	4.21	1755.462	12.84%	3.93%	2
Desmethoxyyangonin	Y	5	2.74	941.252	6.88%	1.37%	1
Yangonin	DMY	6	3.16	1222.122	8.94%	2.05%	3
<b>Kavalactones</b>			<b>Total:</b>	<b>13673.539</b>	<b>100.00%</b>	<b>13.96%</b>	<b>423165</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.

SAMPLE S0094  
 Vial 4

(g)  
 wt 0.75230/51 ml

\* 50ml volumetric overfilled. Excess transferred by pipet to 1ml volumetric and measured to that volume precisely  
 kg

wavelength 246 nm

C:\CHEM32\1\DATA\KAVA\_3\_13\_2017\_15MINSTDTESTMETHOD 2017-03-13 17-56-51\004->

SEQUENCE C:\CHEM32\1\DATA\KAVA\_3\_13\_2017\_ ->

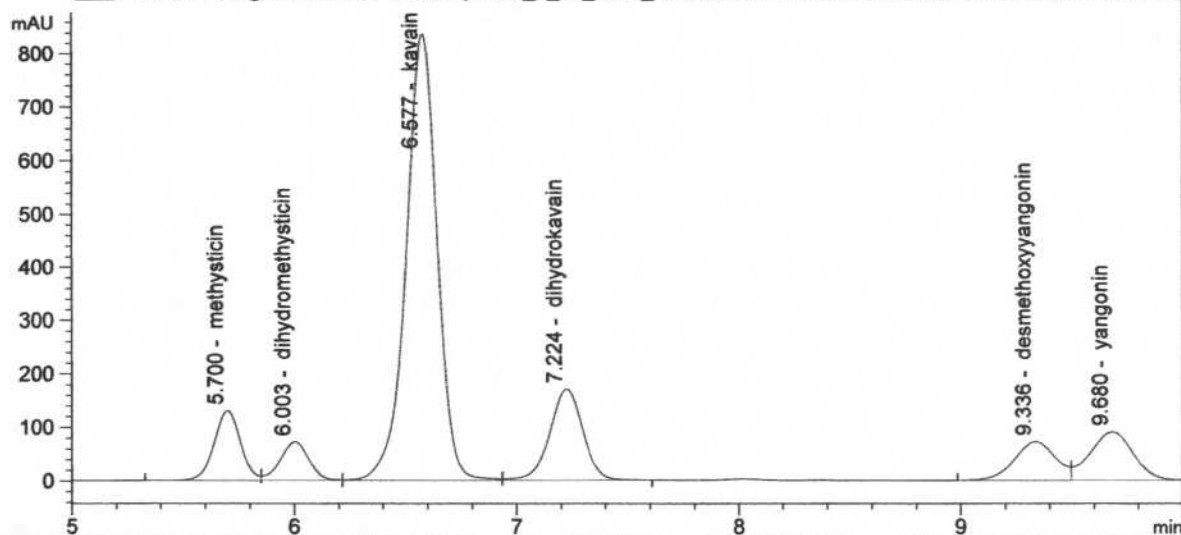
Injection date 3/13/2017

Injection time 7:34:21 PM

Acq. operator KRISTL

Method C:\CHEM32\1\METHODS\KAVA15MIN STD TEST.M

DAD1 C, Sig=246,10 Ref=500,60 (KAVA\_3\_13\_2017\_15MINSTDTESTMETHOD 2017-03-13 17-56-51\004-04)



#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
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1	methysticin	5.700	1066.980	7.80	0.076
2	dihydromethysticin	6.003	640.297	4.68	0.059
3	kavain	6.577	8047.426	58.85	3.034
4	dihydrokavain	7.224	1755.462	12.84	0.455
5	desmethoxyyangonin	9.336	941.252	6.88	0.067
6	yangonin	9.680	1222.122	8.94	0.103