

**Botany Evolution LLC**

2510 Kirby Circle NE  
Palm Bay, FL 32945  
321-802-4583

**Certificate Of Analysis**

**Sample Identification Information**

<u>Date of Analysis</u> 10/17/2017	<u>Country of Origin</u> VANUATU
<u>Sample:</u> S0220	<u>Country of Processing</u> VANUATU
<u>Product Name</u> LATERAL ROOTS	<u>Manufacture Date</u> 10/08/17
<u>Lot#</u> VFE171008LR	<u>Expiration Date</u> 10/08/20

**General Product Specifications**

<u>Product Species</u> Piper Methysticum	<u>Common Names</u> Kava kava, Awa, Yagona
<u>Part Used</u> Root	<u>Appearance</u> Beige powder

<u>Analyzed Characteristics</u>	<u>Specification</u>	<u>Result</u>	<u>Test Method</u>
<u>Standardization</u>	2-15% Kavalactones	12.47%	HPLC
<u>Identification</u>	Complies by HPLC	Conform	HPLC
<u>Kavalactone Profile</u>	Noble	PASS	HPLC
<u>Mesh Size</u>	60-30	60	Sieve
<u>Color</u>	Beige to Yellow	Pass	Visual
<u>Odor</u>		Pass	Organoleptic
<u>Taste</u>		Pass	Organoleptic
<u>Chemotype</u>		423165	HPLC
<u>K/DHM</u>		4.95	Calculation

Kavalactones	Code	Peaks Ref.	Correction Factor	Area *	Area %	Corrected Kavalactones	Chemotype Identifier
Standard Kavain	K			2876.599			
Methysticin	M	1	2.19	966.91	7.05%	1.03%	6
Dihydromethysticin	DHM	2	3.23	528.313	3.85%	0.83%	5
Kavain	K	3	1	8444.791	61.57%	4.11%	4
Dihydrokavain	DHK	4	4.21	1741.251	12.70%	3.57%	2
Desmethoxyyangonin	Y	5	2.74	946.221	6.90%	1.26%	1
Yangonin	DMY	6	3.16	1087.66	7.93%	1.67%	3
<b>Kavalactones</b>			<b>Total:</b>	<b>13715.146</b>	<b>100.00%</b>	<b>12.47%</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.

*Muste Youngs 10/18/17*

SAMPLE S0220  
Vial 23

0.76464g/50ml

wavelength 246 nm

C:\CHEM32\1\DATA\KAVA\_10\_17\_2017\_15MINSTDTESTMETHOD 2017-10-17 17-31-34\02->

SEQUENCE C:\CHEM32\1\DATA\KAVA\_10\_17\_2017\_ ->

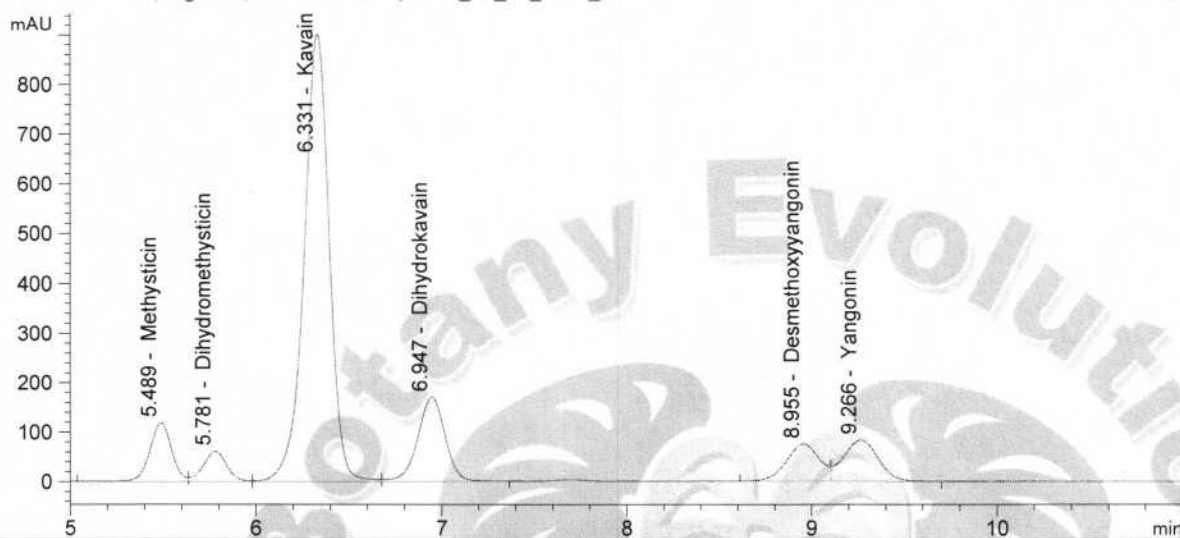
Injection date 10/17/2017

Injection time 10:06:22 PM

Acq. operator KRISTL

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

DAD1 C, Sig=246,10 Ref=500,60 (KAVA\_10\_17\_2017\_15MINSTDTESTMETHOD 2017-10-17 17-31-34\023-1601.D)



#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
1	Methysticin	5.489	966.910	7.05	0.000
2	Dihydromethysticin	5.781	528.313	3.85	0.000
3	Kavain	6.331	8444.791	61.57	0.001
4	Dihydrokavain	6.947	1741.251	12.70	0.001
5	Desmethoxyyangonin	8.955	946.221	6.90	0.000
6	Yangonin	9.266	1087.660	7.93	0.000

228  
10/18/17