

**Botany Evolution LLC**

2510 Kirby Circle NE

Palm Bay, FL 32945

321-802-4583

**Certificate Of Analysis****Sample Identification Information****Date of Analysis** 9/20/2017**Sample:** S0207**Product Name** LATERAL ROOTS**Lot#** PNGNK170907IM**Country of Origin** PAPUA NEW GUINEA**Country of Processing** PAPUA NEW GUINEA**Manufacture Date** 09/07/17**Expiration Date** 09/07/20**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	8.63%	HPLC
<b><u>Identification</u></b>	Complies by HPLC	Conform	HPLC
<b><u>Kavalactone Profile</u></b>	Noble	TUDEI	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>		254631	HPLC
<b><u>K/DHM</u></b>		0.71	Calculation

Kavalactones	Code	Peaks Ref.	Correction Factor	Area *	Area %	Corrected Kavalactones	Chemotype Identifier
Standard Kavain	K			<b>2849.617</b>			
Methysticin	M	1	2.19	1123.1	15.70%	1.22%	<b>6</b>
Dihydromethysticin	DHM	2	3.23	1107.2	15.48%	1.77%	<b>5</b>
Kavain	K	3	1	2555.8	35.74%	1.27%	<b>4</b>
Dihydrokavain	DHK	4	4.21	1452.1	20.30%	3.03%	<b>2</b>
Desmethoxyyangonin	Y	5	2.74	355.3	4.97%	0.48%	<b>1</b>
Yangonin	DMY	6	3.16	558.1	7.80%	0.87%	<b>3</b>
<b>Kavalactones</b>			<b>Total:</b>	<b>7151.600</b>	<b>100.00%</b>	<b>8.63%</b>	<b>254631</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 9/20/17

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Kavalactone Analysis

SAMPLE S0207  
Vial 21

0.75856g/50ml

wavelength 246 nm

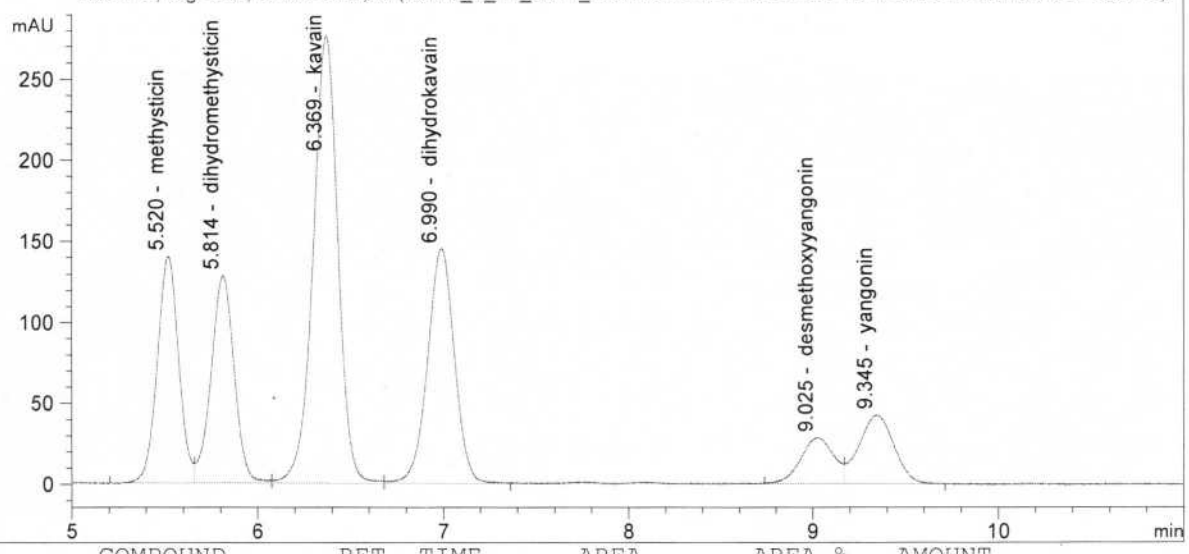
C:\CHEM32\1\DATA\KAVA\_9\_21\_2017\_15MINSTDTESTMETHOD 2017-09-21 14-30-30\021->  
SEQUENCE C:\CHEM32\1\DATA\KAVA\_9\_21\_2017\_ ->

Injection date 9/21/2017  
Injection time 3:51:58 PM

Acq. operator KRISTL

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

DAD1 C, Sig=246,10 Ref=500,60 (KAVA\_9\_21\_2017\_15MINSTDTESTMETHOD 2017-09-21 14-30-30\021-0501.D)



#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
1	methysticin	5.520	1123.101	15.70	0.000
2	dihydromethysticin	5.814	1107.232	15.48	0.000
3	kavain	6.369	2555.767	35.74	0.000
4	dihydrokavain	6.990	1452.135	20.30	0.001
5	desmethoxyyangonin	9.025	355.326	4.97	0.000
6	yangonin	9.345	558.130	7.80	0.000

*Handwritten signature*  
9/26/17