

**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> 7/29/2019	<u>Country of Origin</u> VANUATU
<u>Sample:</u> S0711	<u>Country of Processing</u> USA
<u>Product Name</u> INSTANT BULA CEREMONIAL	<u>Manufacture Date</u> 07/30/19
<u>Lot#</u> VBE190730CI	<u>Best By Date</u> 07/30/22

**General Product Specifications**

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

<u>Analyzed Characteristics</u>	<u>Specification</u>	<u>Result</u>	<u>Test Method</u>
<u>Standardization</u>	2-17% Kavalactones	6.51%	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>		243516	HPLC
<u>K/DHM</u>		2.56	Calculation

Kavalactones	Code	Peaks Ref. (elution order)	Correction Factor	Area *	Area %	Corrected Kavalactones	Chemotype Identifier
Standard Kavain	K			<b>2380.758</b>			
Methysticin	M	1	2.21	470.729	8.23%	0.57%	<b>6</b>
Dihydromethysticin	DHM	2	3.38	368.436	6.44%	0.66%	<b>5</b>
Kavain	K	3	1	3046.069	53.23%	1.69%	<b>4</b>
Dihydrokavain	DHK	4	3.08	805.245	14.07%	1.88%	<b>2</b>
Desmethoxyyangonin	DMY	5	2.52	416.311	7.27%	0.63%	<b>1</b>
Yangonin	Y	6	3.12	615.705	10.76%	1.08%	<b>3</b>
<b>Kavalactones</b>			<b>Total:</b>	<b>5722.495</b>	<b>100.00%</b>	<b>6.51%</b>	<b>243516</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.

Chemist Russell Young Date 7/30/19

SAMPLE S0711  
Vial 19

0.75471g/50mL

wavelength 246 nm

C:\CHEM32\1\DATA\KAVA\_7\_29\_2019\_15MINSTDTESTMETHOD 2019-07-29 14-19-28\019->  
SEQUENCE C:\CHEM32\1\DATA\KAVA\_7\_29\_2019\_ ->

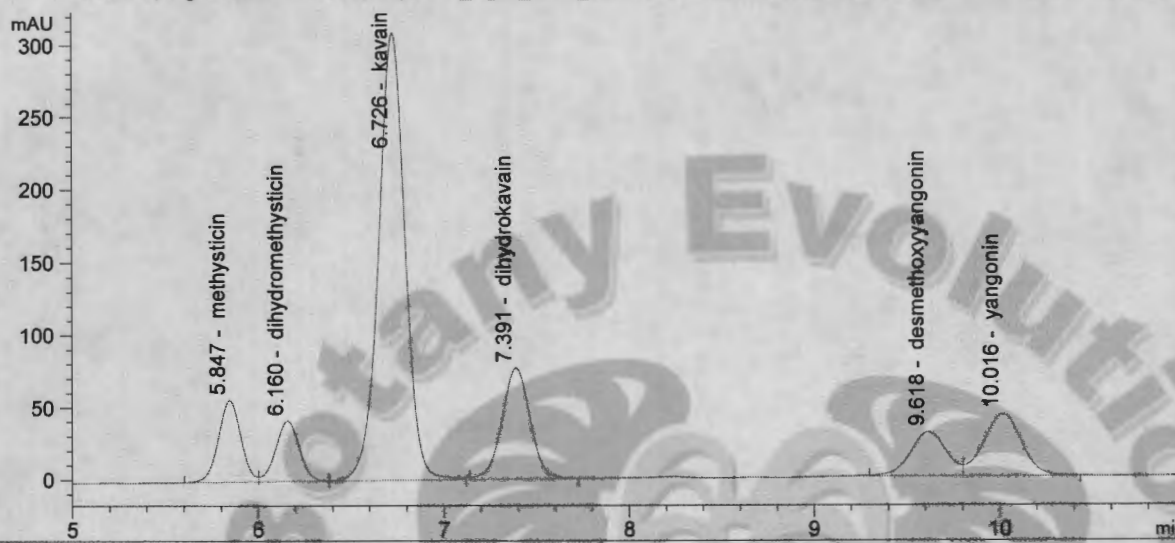
Injection date 7/29/2019

Injection time 8:15:27 PM

Acq. operator KRISTL

Method C:\CHEM32\1\DATA\KAVA\_7\_29\_201->

DAD1 C, Sig=246,10 Ref=500,60 (KAVA\_7\_29\_2019\_15MINSTDTESTMETHOD 2019-07-29 14-19-28\019-1901.D)



#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
1	methysticin	5.847	470.729	8.23	0.000
2	dihydromethysticin	6.160	368.436	6.44	0.000
3	kavain	6.726	3046.069	53.23	0.000
4	dihydrokavain	7.391	805.245	14.07	0.000
5	desmethoxyyangonin	9.618	416.311	7.27	0.000
6	yangonin	10.016	615.705	10.76	0.000

7/30/19  
MS