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

Certificate Of Analysis

Sample Identification Information

Date of Analyis	12/30/2019	**Country of Origin**	VANUATU
Sample:	S0816	**Country of Processing**	VANUATU
Product Name	BLACK LABEL	**Manufacture Date**	12/04/19
Lot#	VFE191204BL	**Best By Date**	12/04/22

General Product Specifications

Product Species	Piper Methysticum	**Common Names**	Kava kava, Awa, Yagona
Part Used	Root	**Appearance**	Yellow, beige powder

Analyzed Characteristics	Specification	Result	Test Method
Standardization	2-17% Kavalactones	9.75%	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		243156	HPLC
K/DHM		4.36	Calculation

Kavalactones	Code	Peaks Ref. (elution order)	Correction Factor	Area *	Area %	Corrected Kavalactones	Chemotype Identifier
Standard Kavain	**K**			**2444.068**			
Methysticin	**M**	1	2.21	534.987	5.81%	0.64%	**6**
Dihydromethysticin	**DHM**	2	3.38	393.796	4.27%	0.69%	**5**
Kavain	**K**	3	1	5544.202	60.17%	3.01%	**4**
Dihydrokavain	**DHK**	4	3.08	1497.273	16.25%	3.42%	**2**
Desmethoxyyangonin	**DMY**	5	2.52	579.092	6.28%	0.86%	**1**
Yangonin	**Y**	6	3.12	665.118	7.22%	1.14%	**3**
Kavalactones			**Total:**	**9214.468**	**100.00%**	**9.75%**	**243156**

*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 Kristel Youngs Date 12/31/19

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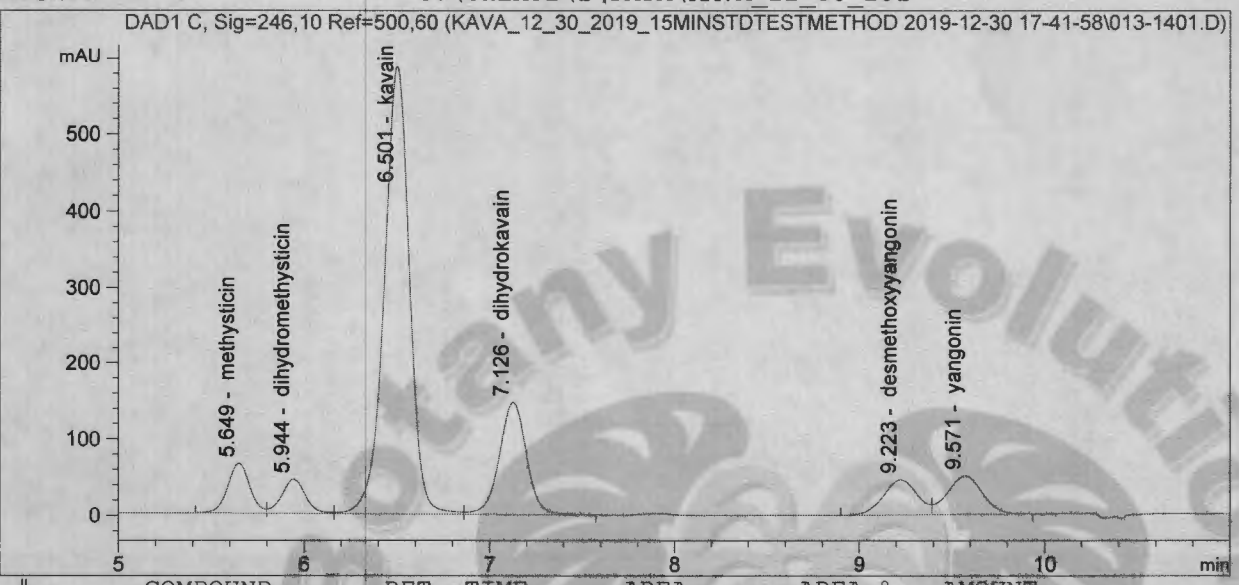
Kavalactone Analysis

SAMPLE S0816
Vial 13

0.75170g/50mL

wavelength 246 nm
C:\CHEM32\1\DATA\KAVA_12_30_2019_15MINSTDTESTMETHOD 2019-12-30 17-41-58\01->
SEQUENCE C:\CHEM32\1\DATA\KAVA_12_30_2019_ ->
Injection date 12/30/2019
Injection time 10:17:29 PM
Acq. operator KRISTL
Method C:\CHEM32\1\DATA\KAVA_12_30_201->



#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
1	methysticin	5.649	534.987	5.81	0.000
2	dihydromethysticin	5.944	393.796	4.27	0.000
3	kavain	6.501	5544.202	60.17	0.000
4	dihydrokavain	7.126	1497.273	16.25	0.001
5	desmethoxyyangonin	9.223	579.092	6.28	0.000
6	yangonin	9.571	665.118	7.22	0.000

12/31/19