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

Certificate Of Analysis

Sample Identification Information

Date of Analyis	5/13/2020	**Country of Origin**	FIJI
Sample:	S0869	**Country of Processing**	CHINA
Product Name	30% KAVA EXTRACT	**Manufacture Date**	02/25/20
Lot#	CJ200303KE30	**Best By Date**	02/24/23

General Product Specifications

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

Analyzed Characteristics	Specification	Result	Test Method
Standardization	20-90% Kavalactones	31.54%	HPLC
Identification	Complies by HPLC	Conform	HPLC
Kavalactone Profile	Noble	PASS	HPLC
Mesh Size	60-30	30	Sieve
Color	Beige to Yellow	Pass	Visual
Odor		Pass	Organoleptic
Taste		Pass	Organoleptic
Chemotype		243156	HPLC
K/DHM		3.0	Calculation

Kavalactones	Code	Peaks Ref. (elution order)	Correction Factor	Area *	Area %	Corrected Kavalactones	Chemotype Identifier
Standard Kavain	**K**			**13285.44**			
Methysticin	**M**	1	2.21	2179.906	7.40%	2.56%	**6**
Dihydromethysticin	**DHM**	2	3.38	1707.188	5.80%	2.95%	**5**
Kavain	**K**	3	1	16749.896	56.88%	8.97%	**4**
Dihydrokavain	**DHK**	4	3.08	4674.036	15.87%	10.54%	**2**
Desmethoxyyangonin	**DMY**	5	2.52	2108.53	7.16%	3.09%	**1**
Yangonin	**Y**	6	3.12	2026.665	6.88%	3.43%	**3**
Kavalactones			**Total:**	**29446.221**	**100.00%**	**31.54%**	**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 Mustil Youngs Date 5/14/20

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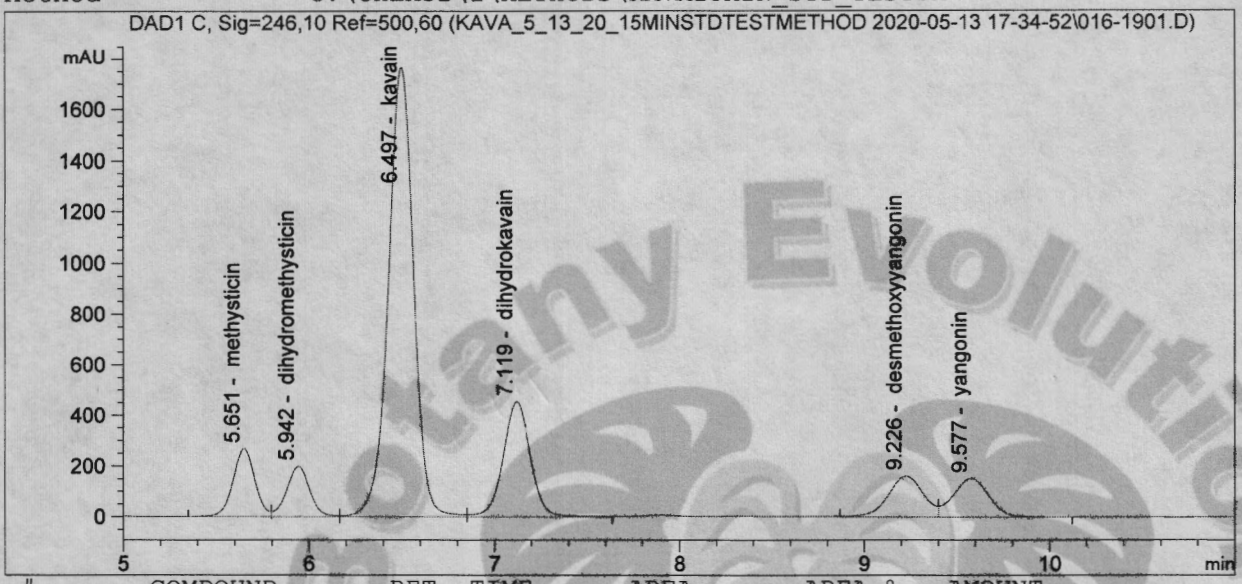
Kavalactone Analysis

SAMPLE S0869
Vial 16

0.35229g/25mL

wavelength 246 nm
C:\CHEM32\1\DATA\KAVA_5_13_20_15MINSTDTESTMETHOD 2020-05-13 17-34-52\016- ->
SEQUENCE C:\CHEM32\1\DATA\KAVA_5_13_20_ ->
Injection date 5/13/2020
Injection time 11:31:04 PM
Acq. operator KRISTL
Method C:\CHEM32\1\METHODS\KAVA15MIN_STD_TEST.M



#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
1	methysticin	5.651	2179.906	7.40	0.000
2	dihydromethysticin	5.942	1707.188	5.80	0.000
3	kavain	6.497	16749.896	56.88	0.001
4	dihydrokavain	7.119	4674.036	15.87	0.001
5	desmethoxyyangonin	9.226	2108.530	7.16	0.000
6	yangonin	9.577	2026.665	6.88	0.000

5/14/20
KS

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Microbiological and Heavy Metal
Certificate Of Analysis

Sample Identification Information

Date of Analyis	3/3/2020	**Country of Origin**	FIJI
Sample:	S0869	**Country of Processing**	CHINA
Product Name	30% KAVA EXTRACT	**Manufacture Date**	02/25/20
Lot#	CJ200303KE30	**Expiration Date**	02/24/23

General Product Specifications

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

Analyzed Characteristics	SPECIFICATION	RESULT	TEST METHOD
TOTAL AEROBIC PLATE COUNT	NMT 10,000 (cfu/g)	10	USP <2021>
TOTAL YEAST AND MOLD	NMT 1,000 (cfu/g)	40	USP <2021>
E. COLI	ABSENT (cfu/10g)	COMPLIES	USP <2022>
SALMONELLA SPECIES	ABSENT (cfu/10g)	COMPLIES	USP <2022>
STAPHYLOCOCCUS AUREUS	ABSENT (cfu/10g)	COMPLIES	USP <2022>

Heavy Metals	SPECIFICATION (PPM)	RESULT PPM (ug/g)	TEST METHOD
LEAD	NMT 2.0	0.0147	ICP-MS\\USP<730>
ARSENIC	NMT 2.0	0.0530	ICP-MS\\USP<730>
CADMIUM	NMT 1.0	0.0027	ICP-MS\\USP<730>
MERCURY	NMT 1.0	0.0439	ICP-MS\\USP<730>

NMT= NO MORE THAN PPM= PARTS PER MILLION cfu/g = colony forming units per gram

Analysis performed by a third party labaoratory.

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CHEMIST/DATE Kristl Youngs 5/15/20