

**Botany Evolution LLC**

2510 Kirby Circle NE

Palm Bay, FL 32945

321-802-4583

**Certificate Of Analysis****Sample Identification Information**Date of Analysis 2/26/2020Sample: S0831Product Name LATERAL ROOTSLot# VSSC190801LRCountry of Origin VANUATUCountry of Processing USAManufacture Date 08/01/19Best By Date 08/01/22**General Product Specifications**Product Species Piper MethysticumPart Used RootCommon Names Kava kava, Awa, YagonaAppearance Yellow, beige powder**Analyzed Characteristics****Specification****Result****Test Method**Standardization

2-17% Kavalactones

11.51%

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

423165

HPLC

K/DHM

3.80

Calculation

| Kavalactones        | Code | Peaks Ref.<br>(elution order) | Correction<br>Factor | Area *           | Area %         | Corrected<br>Kavalactones | Chemotype Identifier |
|---------------------|------|-------------------------------|----------------------|------------------|----------------|---------------------------|----------------------|
| Standard Kavain     | K    |                               |                      | 2387.755         |                |                           |                      |
| Methysticin         | M    | 1                             | 2.21                 | 879.801          | 8.11%          | 1.06%                     | 6                    |
| Dihydromethysticin  | DHM  | 2                             | 3.38                 | 523.344          | 4.82%          | 0.93%                     | 5                    |
| Kavain              | K    | 3                             | 1                    | 6422.955         | 59.18%         | 3.55%                     | 4                    |
| Dihydrokavain       | DHK  | 4                             | 3.08                 | 1461.857         | 13.47%         | 3.40%                     | 2                    |
| Desmethoxyyangonin  | DMY  | 5                             | 2.52                 | 727.682          | 6.71%          | 1.10%                     | 1                    |
| Yangonin            | Y    | 6                             | 3.12                 | 836.917          | 7.71%          | 1.46%                     | 3                    |
| <b>Kavalactones</b> |      |                               | <b>Total:</b>        | <b>10852.556</b> | <b>100.00%</b> | <b>11.51%</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.

Chemist

*Mistl Youngs*

Date

*2/27/20*

SAMPLE S0831  
Vial 12

0.75486g/50ml

wavelength 246 nm

C:\CHEM32\1\DATA\KAVA\_2\_26\_20\_15MINSTDTESTMETHOD 2020-02-26 16-16-14\012- ->

SEQUENCE C:\CHEM32\1\DATA\KAVA\_2\_26\_20\_ ->

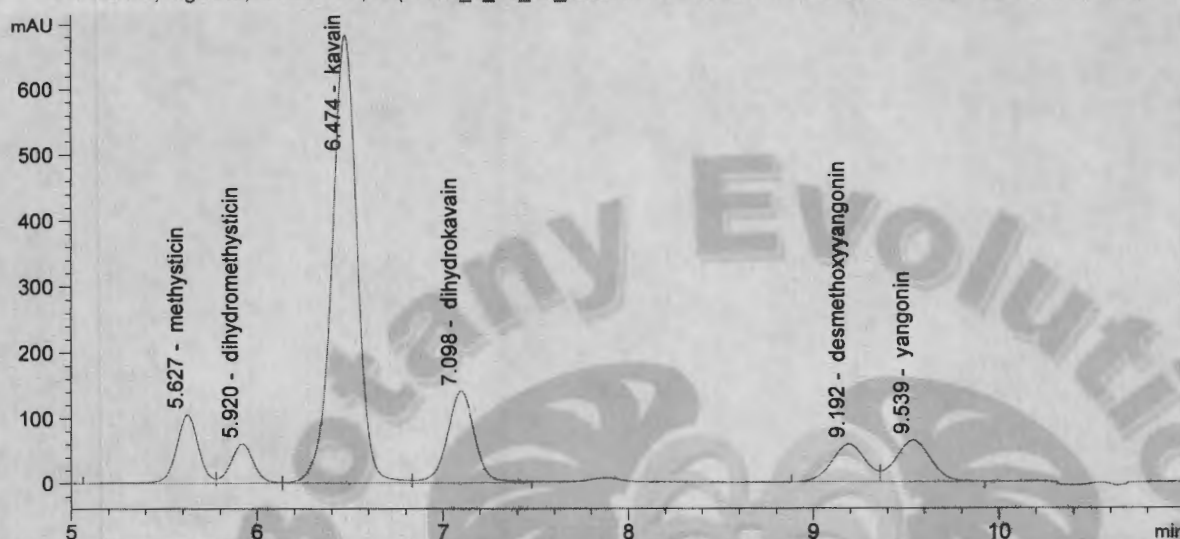
Injection date 2/26/2020

Injection time 8:19:18 PM

Acq. operator KRISTL

Method C:\CHEM32\1\DATA\KAVA\_2\_26\_20\_15MINSTDTESTMETH->

DAD1 C, Sig=246,10 Ref=500,60 (KAVA\_2\_26\_20\_15MINSTDTESTMETHOD 2020-02-26 16-16-14\012-1201.D)



| # | COMPOUND           | RET. TIME | AREA     | AREA % | AMOUNT |
|---|--------------------|-----------|----------|--------|--------|
| 1 | methysticin        | 5.627     | 879.801  | 8.11   | 0.000  |
| 2 | dihydromethysticin | 5.920     | 523.344  | 4.82   | 0.000  |
| 3 | kavain             | 6.474     | 6422.955 | 59.18  | 0.001  |
| 4 | dihydrokavain      | 7.098     | 1461.857 | 13.47  | 0.000  |
| 5 | desmethoxyyangonin | 9.192     | 727.682  | 6.71   | 0.000  |
| 6 | yangonin           | 9.539     | 836.917  | 7.71   | 0.000  |

2/27/20