

# Botany Evolution LLC

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## Certificate Of Analysis

### Sample Identification Information

Date of Analysis 1/17/2017

Sample: S0079

Product Name Basal Root

Lot# VFE160829BR

Country of Origin Vanuatu

Country of Processing Vanuatu

Manufacture Date Aug-16

Expiration Date Aug-19

### General Product Specifications

Product Species Piper Methysticum

Part Used Root

Common Names Kava kava, Awa, Yagona

Appearance Beige powder

| <u>Analyzed Characteristics</u> | <u>Specification</u> | <u>Result</u> | <u>Test Method</u> |
|---------------------------------|----------------------|---------------|--------------------|
| <u>Standardization</u>          | 2-15% Kavalactones   | 6.03%         | 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>                |                      | 245361        | HPLC               |
| <u>K/DHM</u>                    |                      | 1.46          | Calculation        |

| Kavalactones        | Code | Peaks Ref. | Correction Factor | Area *          | Area %         | Corrected Kavalactones | Chemotype Identifier |
|---------------------|------|------------|-------------------|-----------------|----------------|------------------------|----------------------|
| Standard Kavain     | K    |            |                   | 2685.484        |                |                        |                      |
| Methysticin         | M    | 1          | 2.28              | 609.003         | 10.31%         | 0.64%                  | 6                    |
| Dihydromethysticin  | DHM  | 2          | 2.99              | 620.679         | 10.51%         | 0.98%                  | 5                    |
| Kavain              | K    | 3          | 1                 | 2704.887        | 45.79%         | 1.43%                  | 4                    |
| Dihydrokavain       | DHK  | 4          | 3.15              | 1154.659        | 19.55%         | 1.92%                  | 2                    |
| Desmethoxyyangonin  | Y    | 5          | 2.26              | 337.387         | 5.71%          | 0.40%                  | 1                    |
| Yangonin            | DMY  | 6          | 2.63              | 481.071         | 8.14%          | 0.67%                  | 3                    |
| <b>Kavalactones</b> |      |            | <b>Total:</b>     | <b>5907.686</b> | <b>100.00%</b> | <b>6.03%</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.

SAMPLE S0079  
Vial 37

0.75563g

wavelength 246 nm

C:\CHEM32\1\DATA\KAVA\_1\_17\_17\_15MINMETHOD 2017-01-17 17-50-25\037-1401.D

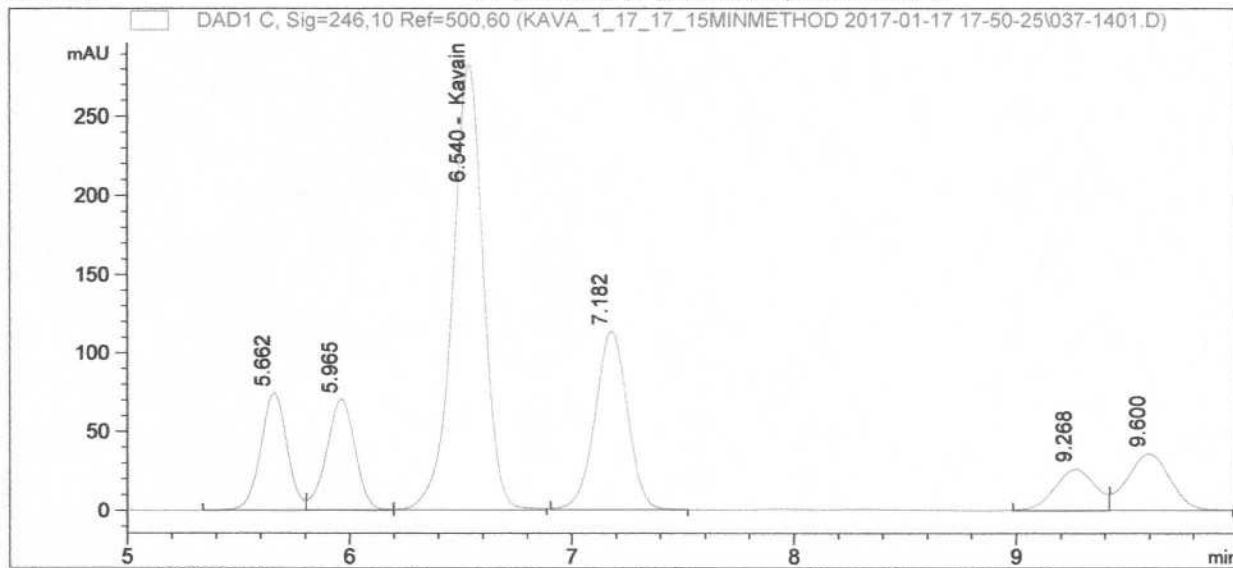
SEQUENCE C:\CHEM32\1\DATA\KAVA\_1\_17\_17\_15MINMETHOD->

Injection date 1/17/2017

Injection time 10:09:33 PM

Acq. operator KRISTL

Method C:\Chem32\1\METHODS\SLOWFLOW.M



| # | COMPOUND | RET. TIME | AREA     | AREA % | AMOUNT |
|---|----------|-----------|----------|--------|--------|
| 1 |          | 5.662     | 609.003  | 10.31  | 0.000  |
| 2 |          | 5.965     | 620.679  | 10.51  | 0.000  |
| 3 | Kavain   | 6.540     | 2704.887 | 45.79  | 0.009  |
| 4 |          | 7.182     | 1154.659 | 19.55  | 0.000  |
| 5 |          | 9.268     | 337.387  | 5.71   | 0.000  |
| 6 |          | 9.600     | 481.071  | 8.14   | 0.000  |