

**Botany Evolution LLC**

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**Certificate Of Analysis****Sample Identification Information**Date of Analysis 2/28/2017Sample: S0093Product Name WAKA (LATERAL ROOTS)Lot# FSS161108WCountry of Origin FIJICountry of Processing USAManufacture Date 11/08/16Expiration Date 11/08/19**General Product Specifications**Product Species Piper MethysticumPart Used RootCommon Names Kava kava, Awa, YagonaAppearance Beige powder

| <u>Analyzed Characteristics</u> | <u>Specification</u> | <u>Result</u> | <u>Test Method</u> |
|---------------------------------|----------------------|---------------|--------------------|
| <u>Standardization</u>          | 2-15% Kavalactones   | 8.45%         | 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>                |                      | 426351        | HPLC               |
| <u>K/DHM</u>                    |                      | 2.04          | Calculation        |

| Kavalactones        | Code | Peaks Ref. | Correction Factor | Area *          | Area %         | Corrected Kavalactones | Chemotype Identifier |
|---------------------|------|------------|-------------------|-----------------|----------------|------------------------|----------------------|
| Standard Kavain     | K    |            |                   | 2630.323        |                |                        |                      |
| Methysticin         | M    | 1          | 2.19              | 1321.551        | 17.01%         | 1.55%                  | 6                    |
| Dihydromethysticin  | DHM  | 2          | 3.23              | 573.972         | 7.39%          | 0.99%                  | 5                    |
| Kavain              | K    | 3          | 1                 | 3783.646        | 48.70%         | 2.03%                  | 4                    |
| Dihydrokavain       | DHK  | 4          | 4.21              | 768.127         | 9.89%          | 1.74%                  | 2                    |
| Desmethoxyyangonin  | Y    | 5          | 2.74              | 441.986         | 5.69%          | 0.65%                  | 1                    |
| Yangonin            | DMY  | 6          | 3.16              | 879.829         | 11.32%         | 1.49%                  | 3                    |
| <b>Kavalactones</b> |      |            | <b>Total:</b>     | <b>7769.111</b> | <b>100.00%</b> | <b>8.45%</b>           | <b>426351</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 S0093  
Vial 8

wt 0.75817g

wavelength 246 nm

C:\CHEM32\1\DATA\KAVA\_2\_28\_2017\_STD\_CHECK\_15MINMETHOD 2017-02-28 15-42-26\->

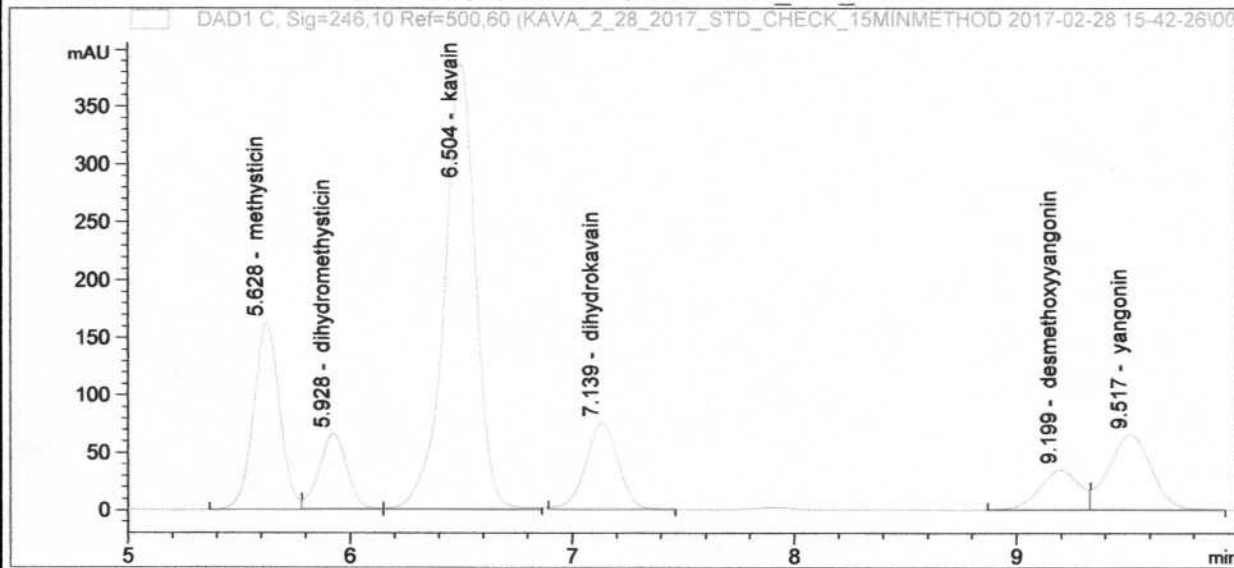
SEQUENCE C:\CHEM32\1\DATA\KAVA\_2\_28\_2017\_STD\_CHECK->

Injection date 2/28/2017

Injection time 9:05:39 PM

Acq. operator KRISTL

Method C:\CHEM32\1\METHODS\KAVAL5MIN\_STD\_TEST.M



| # | COMPOUND           | RET. TIME | AREA     | AREA % | AMOUNT |
|---|--------------------|-----------|----------|--------|--------|
| 1 | methysticin        | 5.628     | 1321.551 | 17.01  | 0.094  |
| 2 | dihydromethysticin | 5.928     | 573.972  | 7.39   | 0.053  |
| 3 | kavain             | 6.504     | 3783.646 | 48.70  | 1.426  |
| 4 | dihydrokavain      | 7.139     | 768.127  | 9.89   | 0.199  |
| 5 | desmethoxyyangonin | 9.199     | 441.986  | 5.69   | 0.032  |
| 6 | yangonin           | 9.517     | 879.829  | 11.32  | 0.074  |