

## Certificate Issued To:

American Herbal Products Association  
8630 Fenton Street, Suite 918  
Silver Springs, MD 20910



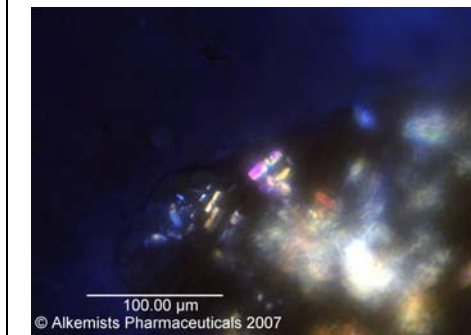
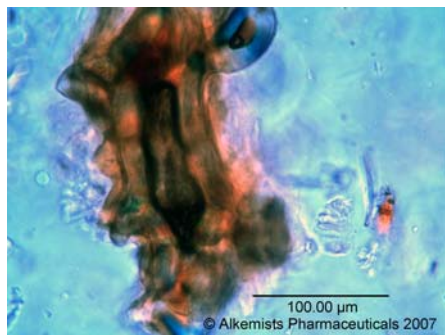
Work performed at:  
**Alkemists Pharmaceuticals Inc.**  
1260 Logan Ave B3  
Costa Mesa, CA 92626  
714-754-HERB (4372)  
714-668-9972 (FAX)  
E-mail: info@alkemist.com  
Web Site: www.alkemist.com

## Certificate of Analysis: *Illicium verum* fruit Macroscopy & Microscopy with Digital Photo-Documentation

1

2

3



Company Name: American Herbal Products Association  
Title: *Illicium verum*  
Plant Part: fruit  
Sample Received: 4/6/2007  
Sample Description: ~8g in a zip locked bag  
Form of Botanical: whole/dry  
Appearance: (1) brown/orange fragments of composite fruits with long slender follicles  
Lot #:   
Sample #: MT09607CHR  
Latin Name: *Illicium verum* Hook. f. [Illiciaceae]  
Reference Sample #: MT16604AHP1; MT13506CS1 *Illicium verum* Hook. f. [Illiciaceae], MU16604AHP *Illicium anisatum* L. authenticated by macroscopic, microscopic &/or TLC studies according to the reference sources cited below held at Alkemists Pharmaceuticals, Costa Mesa, CA.  
  
Examiner: EMS  
Magnification: (2) 400X  
Chemical Reagents: (2) acidified chloral hydrate glycerol solution  
Sample Findings: (2) large astrosclereid  
Magnification: (2) 400X  
Chemical Reagents: (3) acidified chloral hydrate glycerol solution  
Sample Findings: (3) rhomboidal or rectangular crystals of calcium oxalate  
Reference Source: British Pharmacopoeia, 2003;  
Herbal Drugs and Phytopharmaceuticals, Max Wichtl, 3rd ed., 2004  
USP-PF, Vol. 27(2) [Mar.-Apr. 2001]; Official Methods of Analysis of AOAC, 16<sup>th</sup> Ed.

### Comments & Conclusions:

This sample is representative of *Illicium verum* fruit based on authenticated reference samples and the consistent characteristic cellular structure of a fruit as well as the references cited above. The characteristic cellular structures identified in this sample are the large astrosclereid seen in micrograph (2) above. In micrograph (3) we see the rhomboidal or rectangular crystals of calcium oxalate. This test sample, *Illicium verum* is consistent with the microscopic characteristics of the reference samples of *I. verum* used above & is characteristic of *I. verum* fruit.

**NOTE: Significant differences found between *I. verum* and *I. anisatum* are the macroscopic variations as well as the lack of large astrosclereids in *I. anisatum*.**

Analyzed by: Élan M Sudberg

Authorized by: Sidney Sudberg, Director, Alkemists Pharmaceuticals

Report Date: 4/25/2007

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