

## QUICK DISTINCTION OF THE *LABISIA PUMILA* (KACIP FATIMAH) GEOGRAPHICALLY USING FTIR-CHEMOMETRICS TECHNIQUES

Nurul Haniza Mustapa\*, Mohammad Razak Hamdan, Zhari Ismail

School of Pharmaceutical Sciences, University Science Malaysia, 11800 Minden Penang, Malaysia

Fax: 604-6563443, email: sapienfc@hotmail.com

---

### ABSTRACT

Fourier Transform Infra red (FTIR) spectroscopy, in combination with chemometrics method was developed to discriminate the local medicinal herb- *Labisia pumila* based on geographical origin. A semi-quantitative approach is proposed to measure nine different origins of dried root samples on the basis of spectral data at the finger print ( $1900\text{-}800\text{ cm}^{-1}$ ) frequency region. The recorded spectra were treated with two preprocessing techniques involving baseline correction and normalization prior to chemometric analysis. Natural groupings relate to sample origin were observed using Principle Component Analysis (PCA). Chemometrics analysis of spectral data is simple since no chemical treatments of samples are required. This method can be used extensively as a quality control tool for rapid authenticating and identifying the origin and the varieties of herbal samples.

Keywords: *Labisia pumila*; FTIR spectroscopy; Chemometrics; Principle Component Analysis.