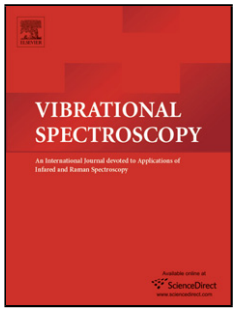

Title: Application of mid-infared spectroscopy with multivariate analysis for the discrimination of toxic plant, *Gelsemium elegans*

Authors: Chiew Hoong Ng, Ying Chen, Yung Sing Ch'ng, Chu Shan Tan, Zhao Qin Yeap, Yean Chun Loh, Shui-Sheng Wu, Mun Fei Yam

PII: S0924-2031(18)30050-X
DOI: https://doi.org/10.1016/j.vibspec.2018.08.013
Reference: VIBSPE 2844

To appear in: *VIBSPE*

Received date: 23-2-2018
Revised date: 9-8-2018
Accepted date: 22-8-2018

Please cite this article as: Ng CH, Chen Y, Ch'ng YS, Tan CS, Yeap ZQ, Loh YC, Wu S-Sheng, Yam MF, Application of mid-infared spectroscopy with multivariate analysis for the discrimination of toxic plant, *Gelsemium elegans*, *Vibrational Spectroscopy* (2018), https://doi.org/10.1016/j.vibspec.2018.08.013

Application of mid-infared spectroscopy with multivariate analysis for the discrimination of toxic plant, Gelsemium elegans

Chiew Hoong Ng[a], Ying Chen[b], Yung Sing Ch'ng[a], Chu Shan Tan[a], Zhao Qin Yeap[a], Yean Chun Loh[a], Shui-Sheng Wu[b], Mun Fei Yam[a]*

[a]School of Pharmaceutical Sciences, Universiti Sains Malaysia, 11800, Minden, Pulau Pinang, Malaysia.

[b]Faculty of Pharmacy, Fujian University of Traditional Chinese Medicine, 1 Qiuyang Road, Shangjie, Minhou, Fuzhou 350122, Fujian, P.R. China.

Figure No.: 9

Table No.: 4

*Corresponding author

Dr. Yam Mun Fei
School of Pharmaceutical Sciences,
Universiti Sains Malaysia,
11800, Pulau Pinang, Malaysia.
Email: yammunfei@yahoo.com
Phone number: +604-653 4586
Fax no.: 604-6570017

Highlights

- Different parts of the *Gelsemium elegans* plant were studied by FT-IR, SD-IR and 2D-IR.
- Similarities and differences of 1D, SD and 2D FT-IR spectra among the three different parts and different plants were shown.
- 75 Gelsemium elegans samples and 70 other traditional Chinese medicines were objectively classified by SIMCA based on 1D-FTIR spectra.
- Tri-step FT-IR method combined with SIMCA can rapidly discriminate the three different parts and different traditional Chinese medicines.

Abstract