

P-149**Discrimination of *Alternanthera Sessilis* of Different Origins in Malaysia Using FT-IR and Two-Dimensional Infrared Correlation Spectroscopy and Multivariate Data Analysis**

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Alternanthera sessilis is one of the herbal medicines used in Malaysia especially among Chinese race. The metabolite fingerprinting analysis of ethanolic extracts of leaves of *A.sessilis* was carried out using Fourier-transform infrared (FTIR) spectroscopy in combination with multivariate data analysis to differentiate between four different origins of plant harvested. Principle component analysis (PCA) of the infrared spectra showed an obvious cluster between origin 1(from Putrajaya) and origin 3 (from Rantau Panjang), meanwhile, origin 2 (from Serdang) and 4 (from Ampang) is almost closer by PC1 and PC2 (99.2% and 0.4% total variance, respectively) score plots. The results of PLS-DA similar with the PCA result. The samples were further analyzed using two-dimensional infrared correlation spectroscopy and the results showed remarkable differences between samples of different origins.

Keywords: *Alternanthera sessilis*, FT-IR, 2D-IR, Multivariate data analysis, Metabolomics, multivariate data analysis.
