

Accepted Manuscript

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PII: S1386-1425(17)30257-3

DOI: doi: [10.1016/j.saa.2017.03.070](https://doi.org/10.1016/j.saa.2017.03.070)

Reference: SAA 15049

To appear in: *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*

Received date: 6 September 2016

Revised date: 21 March 2017

Accepted date: 30 March 2017

Please cite this article as: Jianbo Chen, Baolin Guo, Rui Yan, Suqin Sun, Qun Zhou , Rapid and automatic chemical identification of the medicinal flower buds of Lonicera plants by the benchtop and hand-held Fourier transform infrared spectroscopy. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Saa(2017), doi: [10.1016/j.saa.2017.03.070](https://doi.org/10.1016/j.saa.2017.03.070)

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Rapid and automatic chemical identification of the medicinal
flower buds of *Lonicera* plants by the benchtop and hand-held
Fourier transform infrared spectroscopy

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Abstract

With the utilization of the hand-held equipment, Fourier transform infrared (FT-IR) spectroscopy is a promising analytical technique to minimize the time cost for the chemical identification of herbal materials. This research examines the feasibility of the hand-held FT-IR spectrometer for the on-site testing of herbal materials, using *Lonicerae Japonicae Flos* (LJF) and *Lonicerae Flos* (LF) as examples. Correlation-based linear discriminant models for LJF and LF are established based on the benchtop and hand-held FT-IR instruments. The benchtop FT-IR models can exactly recognize all articles of LJF and LF. Although a few LF articles are misjudged at the sub-class level, the hand-held FT-IR models are able to exactly discriminate LJF and LF. As a direct and

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