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Comparative Study on Different Extraction Methods for Stilbenoids: Maceration and Supercritical Fluid Extraction (SFE) of *Anisoptera laevis* Ridl.

(2024) *Malaysian Journal of Chemistry*, 26 (1), pp. 1-7.

DOI: 10.55373/mjchem.v26i1.1

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Abstract

Maceration is a conventional extraction method that is considered simple and inexpensive but takes a lengthy extraction period. Supercritical fluid extraction (SFE) is among the modern extraction techniques to extract natural chemical components such as flavonoids, essential oils, carotenoids, and fatty acids, and it is a more sustainable alternative to conventional extraction procedures. In this study, the stem bark of *Anisoptera laevis* was extracted using SFE and maceration techniques. Stilbenoids are a class of polyphenolic compounds that are rich in bioactivities. It is a secondary metabolite that plays an important role as a defensive mechanism in plants. This research aimed to extract stilbenoids from the stem bark of *A. laevis* using maceration and SFE techniques and compare the extraction of stilbenoids using both approaches. The LOTUS and MassBank of North America (MoNA) databases identified seventy peaks from each maceration and SFE crude extract with MS/MS values. In maceration and SFE crude extracts, nine stilbenoids were found, with two more peaks detected in maceration crude extract. The results for both extraction procedures are almost comparable, implying that SFE could be considered an option for the greener extraction method with a shorter period. © 2024 Malaysian Institute of Chemistry. All rights reserved.

Author Keywords

Anisoptera laevis; Dipterocarpaceae; maceration; stilbenoids; supercritical fluid extraction

Funding details

127/2022, 5/4

Funding details

This research was supported by the Geran Penyelidikan Fakulti UiTM Cawangan Selangor (DUCS-FAKULTI) 600-UiTMSEL (Pl. 5/4) (127/2022). The authors would like to thank the Centre of Foundation Studies, Universiti Teknologi MARA, International Islamic University Malaysia, and Universiti Malaysia Pahang Al-Sultan Abdullah for providing the research facilities.

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Publisher: Malaysian Institute of Chemistry

ISSN: 15112292

Language of Original Document: English

Abbreviated Source Title: Malays. J. Chem.

2-s2.0-85187000753

Document Type: Article

Publication Stage: Final

Source: Scopus

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