HPLC and GC-MS determination of bioactive compounds in microwave obtained extracts of three varieties of Labisia pumila Benth.

ABSTRACT

Microwave extraction of phytochemicals from medicinal plant materials has generated tremendous research interest and shown great potential. This research highlights the importance of microwave extraction in the analysis of flavonoids, isoflavonoid and phenolics and the antioxidant properties of extracts from three varieties of the Malaysian medicinal herb, Labisia pumila Benth. High and fast extraction performance ability, equal or higher extraction efficiencies than other methods, and the need for small samples and reagent volumes are some of the attractive features of this new promising microwave assisted extraction (MAE) technique. The aims of the present research were to determine the foliar phenolics and flavonoids contents of extracts of three varieties of L. pumila obtained by a microwave extraction method while flavonoid, isoflavonoid and phenolic compounds were analyzed using RP-HPLC. Furthermore, the antioxidant activities were measured by the DPPH and FRAP methods and finally, the chemical composition of the crude methanolic extracts of the leaves of all three varieties were analyzed by GS-MS.

Keyword: Microwave assisted extraction; Antioxidant properties; Phytochemicals composition; RP-HPLC analysis; GC-MS screening.