
ABSTRACT

Lawsonia inermis (Henna), (Lythraceae), contains a high amount of phenolic compounds which could activate antioxidants to help reduce free radicals. In this study, the compound content found in the ethanol:water (80:20) extract of local Lawsonia inermis was determined using HPLC-QTOFMS. The 1H-NMR results were used to determine the peak that exists for the group compounds. Chromatographic peaks were detected and integrated by the MassHunter Acquisition B.07.00 for the Agilent TOF and QTOF and MassHunter Qualitative Analysis B.07.00. The ethanol:water (80:20) extract of L. inermis have shown, predominantly, the presence of phenolic compounds (coumarins, flavonoids, naphthalene, and gallic acid) which are highly glycosylated. The presence of compounds such as apiin, lawsone, apigenin, luteolin, cosmoisin, and p-coumaric acid were also found.

Keywords: Ethanol:water (80:20); 1H-NMR; HPLC-QTOFMS; leaves Lawsonia inermis Malaysia

ABSTRAK


Kata kunci: Daun Lawsonia inermis Malaysia; etanol:air (80:20); 1H-NMR; HPLC-QTOFMS

INTRODUCTION

Lawsonia inermis (family Lythraceae) is a plant that has been widely studied and used throughout the world for traditional medicinal and cosmetic. Globally, Lawsonia inermis is used as a traditional or folk medicine for the treatment of a wide range of seemingly unrelated ailments such as induce abortion (Africa) diuretic, gonorrhoea and bronchitis (Cambodia), pain and skin affections intestinal amoebiasis (Egypt), headache, burning of skin, decoction used for sore throat (Ahmad & Beg 2001) jaundice and other liver disorders, itching and other skin disorders (India, Pakistan), hair tonic (India, Jordan), fever, malaria, as a blood tonic (Nigeria), boils, conjunctivitis, pimples, dandruff, scabies, baldness and other scalp disorders (Rusia, Asia) (Semwal et al. 2014). In Malaysia, people call it ‘Inai’ and it is used as coloring fingernails especially in weddings but not extensively used in medicine such as fungal pathogens treatment, head lice treatment, reduce dandruff, and also for digestive disorders, treating diabetics and ulcers (Othman et al. 2020).

Lawsonia inermis contain high amount of phenolic compounds which activate antioxidants to help reduce free radicals (Oroian & Escriche 2015). Many studies on L. inermis have found nearly 70 phenolic compounds that have been isolated from various parts of L. inermis include root, bark, flower, and leaves where it is proven to have various active compounds (Semwal et al. 2014). Lawsone (2-hydroxy-1, 4 naphthaquinone) is a natural pigment present in the leaves of L. inermis. It is the principal active ingredient of the henna plant...