

Bioactivities and Phytochemical Studies of Petroleum Ether Extract of Pleiogynium timorense Bark

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Abstract : Pleiogynium timorense(DC.) Leenh is one of the therapeutically active plants belonging to the family Anacardiaceae. The bark of Pleiogynium timorense needs further studies to investigate its phytochemical and biological activities. This work was carried out to investigate the chemical composition of petroleum ether extract of Pleiogynium timorense bark as well as to evaluate the analgesic and anti-inflammatory activities. The unsaponifiable matter and fatty acid methyl esters were analyzed by Gas chromatography-mass spectrometry (GC-MS). Moreover, analgesic and anti-inflammatory activities were evaluated using acetic acid-induced writhing test and carrageen hind paw oedema models in rats, respectively. The results showed that twenty one compounds in the unsaponifiable fraction were identified representing 92.54 % of the total peak area, the major compounds were 1-Heptene (35.32%), Butylated hydroxy toluene (19.42%) and phytol (12.53%), whereas fifteen compounds were identified in the fatty acid methyl esters fraction representing 94.15% of the total identified peak area. The major compounds were 9-Octadecenoic acid methyl ester (35.34%) and 9,12-Octadecadienoic acid methyl ester (29.32%). Moreover, petroleum ether extract showed a significant reduction in pain and inflammation in a dose dependent manner. This study aims to be the first step toward the use of petroleum ether extract of Pleiogynium timorense bark as analgesic and anti-inflammatory drug.

Keywords : analgesic, anti-inflammatory, bark, petroleum ether extract, Pleiogynium timorense

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