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Isolation of Liriodenine and Cleistopholine and Biological Activity of Methanolic Extracts from *Enicosanthellum Pulchrum*

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Liriodenine and cleistopholine were isolated from the roots of *Enicosanthellum pulchrum* by preparative HPLC method. The root was extracted successively with hexane, ethyl ecetate and methanol. The ethyl ecetate extract was chromatographed by vacuum liquid chromatography to yield eight fractions. Fraction three was then separated by Prep HPLC using a Waters prep short steel C-18 reverse phase column. The two known compounds were identified as liriodenine and cleistopholine by analysis of ^{1}H-NMR and MS spectrum. Meanwhile, the crude methanol of leaves, twigs, barks and roots were also screened against *in vitro* antioxidant and anti bacterial activities. The biological screening of antioxidant activities were determined using DPPH scavenging and ferric reducing antioxidant power (FRAP) assays. The results for DPPH scavenging assay revealed that bark and twigs extracts showed high inhibitory activity of DPPH with 60 and 56% inhibition, while the IC_{50} values of these extracts were 0.43 and 0.64 mg/mL, respectively. The bark and stem samples also displayed greater reducing power than quarcetin, trolox and ascorbic acid as standard drugs. The biological screening of antibacterial activities were determined using disk diffusion method. Among all extracts were tested against twelth bacteria, bark and twig samples showed high inhibitory activity to *bacillus subtilis* with 13.3 and 12.0 mm inhibition, respectively.

Keywords: *Enicosanthellum pulchrum*, liriodenine, cleistopholine, antioxidant, antibacterial.