

**Antibacterials and phytochemicals investigations of *Chromolaena odorata* (L.f) King and Robinson (Asteraceae) from Sabah, Malaysia**

**ABSTRACT**

Antimicrobial properties and phytochemical constituents in leaf extract of *Chromolaena odorata* was evaluated in this study. *C. odorata* leaves were subjected to liquid-liquid extraction by using methanol, hexane, ethyl acetate, chloroform, butanol and water. All extract partitions were tested for antibacterial activity against five Gram positive and Gram negative bacteria by using disc diffusion method. Crude methanolic extract (CME), ethyl acetate extract (EAE) and chloroform extract (CE) showed good antibacterial properties against the tested bacterial strains. However, only the CE was further separated using silica column chromatography. About 10 semi purified fractions was obtained and fraction 2 (F2) showed consistent inhibitory zones against all bacterial tested. Phytochemical investigations on the extract partitions and fractions showed the presence of alkaloids, flavonoids, tannins, polyphenols, saponins and triterpenoids. Fraction F2 was subjected to GC-MS analysis to characterised the bioactive compounds. The GC-MS spectral data has identified 10 major compounds which are hexachloro-ethane, n-nonylaldehyde, methyl-4-oxooctanoate, longiverbenone, 2-butenal, 2-methyl-4-(2,6,6-trimethyl-1-cyclohexen-1-yl), neophytadiene, phytol, dihydro-neoclovene, 2,6-ditert-butylquinone and aromadendrene.