

GC-MS analysis of phytocomponents in the ethanol extract of *Polygonum chinense* L.

Bagavathi Perumal Ezhilan, Ramasamy Neelamegam

Department of Botany and Research Centre, S.T. Hindu College, Nagercoil-629 002,

Kanyakumari (Dist.), Tamil Nadu, India

ABSTRACT

Background The presence of diverse secondary metabolites has been reported from species of the genus *Polygonum*. However, there has been not much information available on phytochemical components and biological activity in the whole plant ethanol extract of *Polygonum chinense* L. **Objective** This study was designed to determine the phytocomponents in the whole plant ethanol extract of *P. chinense*. **Materials and Methods** GC-MS analysis of the whole plant ethanol extract of *P. chinense* was performed using a Perkin-Elmer GC Clarus 500 system comprising an AOC-20i auto-sampler and a gas chromatograph interfaced to a mass spectrometer (GC-MS). **Results** This investigation was carried out to determine the possible chemical components from *P. chinense* by GC-MS. This analysis revealed that the ethanol extract of *P. chinense* (whole plant) contained mainly a triterpene compound-squalene (47.01%), and a plasticizer compound-1,2-benzenedicarboxylic acid, mono[2-ethylhexyl]ester (40.30%). All identified compounds were, generally, reported as having antimicrobial activity. In addition, the squalene compound also having anti-cancer, anti-oxidant, anti-tumor, chemo-preventive, pesticidal and sun-screen properties, while the plasticizer compound -1,2-benzenedicarboxylic acid, mono[2-ethylhexyl] ester reported to have anti-oxidant and anti-inflammatory properties. No activity was reported in the alcoholic compound-4-hexene-1-ol, 5-methyl-2-(1-methylethanyl)-acetate-(R)-. **Conclusions** From the results, it is evident that *P. chinense* contains various bioactive compounds and is recommended as a plant of phytopharmaceutical importance.

KEYWORDS

GC-MS analysis . phytocomponents . *Polygonum chinense* . whole plant ethanol extract

REFERENCES