

Qualitative phytochemical screening and GC-MS profiling of *Azadirachta excelsa* leaf extract

ABSTRACT

Azadirachta excelsa is traditionally used by the locals to treat diabetes mellitus but the active compounds of the leaves have not been identified yet. Hence, the aim of the study was to identify the components of *Azadirachta excelsa* leaf extract by qualitative phytochemical screening and gas chromatography-mass spectrometry (GC-MS). Five grams of leaf extract were extracted using various solvents for phytochemical screening, while another five grams of ethanolic leaf extract was subjected for GC-MS analysis where the mass spectra of the compounds detected were matched with the National Institute of Standards and Technology (NIST) library. The results showed the presence of flavonoids, condensed tannin, triterpenes and steroids in phytochemical screening tests, while GC-MS analysis revealed the presence of seven major compounds in the ethanolic leaf extract. The major component of *A. excelsa* ethanolic leaf extract was 9, 12, 15-octadecatrienoic acid (42.34%), followed by pentadecanoic acid, 14-methyl-, methyl ester (28.99%), phytol (10.63%), 9, 12, 15-octadecatrien-1-ol (5.37%), octadecanoic acid, methyl ester (4.36%), 9, 12-octadecadienoic acid, methyl ester (4.24%) and hexadecanoic acid, ethyl ester (4.06%). Therefore, the findings of this study form a basis for the characterization of the compounds and allow researchers to investigate the potential of this plant in treating diabetes mellitus. © 2015, Malaysian Society of Applied Biology. All rights reserved.

Keyword: *Azadirachta excelsa*; Phytochemical screening; GC-MS analysis