



GC-MS Analysis and Antimicrobial Activity of *Artemisia Herba Alba* Plant from Libya

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ABSTRACT

Artemisia Herba-alba plant is well known in Libya as a folk medicine treatment for parasitic worms. Identification of biologically active constituents was necessary and guide for useful research. Primarily phytochemical screening was performed on ethanolic extract and revealed presence of most phytochemicals such as alkaloids, carbohydrates, saponines, glycosides, phenols, flavonoids, proteins and amino acids, phytosterols and diterpenoids. More advanced analysis tool, GC-MS, was also used identifying many biologically active compounds including fatty acids and their esters, long chain alcohols, sterols, terpenoids, heterocyclic compounds and peptides. The highest concentration in the chromatogram were 5,5-Dimethyl-1-ethyl-1,3-Cyclopentadiene, 1,6-Dimethylhepta-1,3,5-triene, (-) Spathulenol. Antibacterial assay of the extract was accomplished showing significant activity against two pathogenic organisms, *Escherichia coli* (Gram negative bacteria) and *Staphylococcus aureus* (Gram positive bacteria) comparing to control compound, gentamycin.

Graphical abstract:



Artemisia Herba Alba plant.

Keywords: *Artemisia Herba Alba*, Biological activity, Antioxidant activity, Phytochemical screening.