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Volatile constituents of leaves of *Swertia chirata* by microwave-assisted steam distillation and its antibacterial activity

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Swertia chirata is a therapeutically active shrub that is utilized for treatment of numerous ailments such as ulcer, asthma, snake bite, fever, and hiccough etc. This study is based on microwave-assisted steam distillation and gas chromatography-mass spectrometry (GC-MS) analysis for the extraction and analysis of volatile oils from its leaves. 35 constituents were separated and identified from the leaves of the sample. These components comprised around 97.71% of its whole composition while 0.1% oil yield was obtained. Results showed that the most abundant components found were o-guaiacol (12.3%), Tetradecane (8.0%), trans-Methyl cinnamate, (7.49%), p-Vinylguaiacol (7.07%), Indole (6.19%), 3-Allyl-6-methoxyphenol (5.98 %) and 3,4-Dehydro-β-Ionone (5.2%) and the plant is enriched in volatiles such as Eugenol, Syringol, Thymol, Palmitic acid etc., that have numerous bioactive properties. The oil was evaluated against pathogenic and drug-resistant strains such as MRSA, *E. coli*, P. aeruginosa, and MSSA and was found active against most tested strains.

Biography

Muhammad Irfan has completed his Master of Science in Chemistry at the age of 25 from University of Education Township Campus, Lahore Pakistan and Master of Philosophy in Applied Chemistry at the age of 29 from University of Engineering and Technology (U.E.T) Lahore main Campus, Pakistan. Currently enrolled as a Doctor of Philosophy (Organic Chemistry) in College of Chemistry and Chemical Engineering, Lanzhou University, Gansu, P.R. China. Lanzhou University is one of the premier learning institutions in Lanzhou, Gansu, P.R. China, a knowledge-rich zone in Chemistry. Having basic knowledge about GC-MS and HPLC which are known as the world's most sensitive detecting instruments.

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