

عنوان مقاله:

Chemical Analysis of Volatile Constituents of *Pulicaria Mauritanica* Isolated by Hydrodistillation and Headspace Solid-phase Micro-extraction Techniques. Antimicrobial Activity of its Essential Oil

محل انتشار:

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نویسندگان:

Ali Lbounhamdi - BP ۵۰۹ ERRACHIDIA MOROCCO

Mohamed Znini - BP ۵۰۹ ERRACHIDIA MOROCCO

Julien Paolini - Université de Corse

Jean Costa - Université de Corse

Lhou Majidi - BP ۵۰۹ ERRACHIDIA MOROCCO

خلاصه مقاله:

The objective of this study is to report the comparative chemical analysis of essential oil (EO) obtained by hydrodistillation (HD) and volatile fraction (VF) detected by headspace solid phase micro-extraction (HS-SPME) isolated from *Pulicaria mauritanica* using Gas Chromatography-Retention Indices (GC-RI) and GC-Mass Spectrometry (GC-MS) and to evaluate in vitro the antimicrobial activity of *P. mauritanica* EO against three bacterial strains referenced by the ATCC (American Type Culture Collection): *Escherichia coli* (ATCC ۲۵۹۲۲), *Staphylococcus aureus* (ATCC ۲۵۹۲۳) and *Pseudomonas aeruginosa* (ATCC ۲۷۸۵۳) and a one yeast *Candida albicans* using the paper disc diffusion and minimum inhibitory concentration (MIC) assays. The chromatographic profile indicates that quantitative and semi qualitative differences between the chemical compositions of both analysed samples were observed. The antimicrobial activity tested by two methods indicates that this EO was more effective against three strains tested excepted *P. aeruginosa* which was most resistant. Indeed, the results of the report MBC (Minimum Bactericidal Concentration)/MIC show that the EO has a bactericidal effect on *S. aureus* and a bacteriostatic and fungistatic effect on *E. coli* and *C. albicans*, respectively. *P. mauritanica* EO seems be a promising source of natural products with potential antimicrobial activity.

کلمات کلیدی:

Pulicaria mauritanica, Essential oil, Carvotanacetone, Antimicrobial activity, Headspace solid-phase micro-extraction, Microbial strains

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