



## HP-20: Chemical composition, antibacterial and anti-biofilm activities of selected essential oils produced by medicinal plants in Algeria.

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### Abstract

The resistance of bacterial biofilms to antibiotics has led to the search for alternative approaches for bioactive molecules of plant origin capable of destroying the biofilm. Essential oils are natural compounds with important biological activities. This work aims to study the chemical composition, and to evaluate the antibacterial and antibiofilm activities of 3 Essential oils extracted from plants from Souk Al-Ahras. The antibacterial activities were assessed against 5 isolated clinical pathogens. The essential oils were extracted by hydrodistillation *Rosmarinus officinalis*, *Aloysia citrodora* and *Artemisia herba alba* oils provided a yield of (0.93%), (0.24%) and (0.87%), respectively. The study of the antibacterial activities by the method of micro-dilution showed MICs values from 5 to 20  $\mu$ l/ml. The antibiofilm activity showed that essential oils exhibited antibiofilm activities even at sub-MIC concentrations. This study illustrates the great potential for natural compounds from plants to be used in the development of future phytotherapeutic antibiofilm agents.

**Keywords:** *Rosmarinus officinalis*, *Aloysia citrodora*, *Artemisia herba alba*, bioactive molecule, essential oil, antibiofilm