

Thymus essential oils: chemical composition and in vitro antioxidant and antibacterial activities. Communication Orale: BOUHIDID Samira,

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In the last years, there is an increasing concern regarding the safety and potentially adverse effects of synthetic chemicals used for food preservation or in medicine. Therefore, many research groups were interested to the functional role of natural products especially plant extracts. Essential oils extracted by distillation from aromatic plants are appreciated for their bioactive efficacy as fungicides, bacteriostatics, antioxidants, and other biological activities.

In this study, the essential oils obtained from *Thymus satureioides*, *Thymus vulgaris* and *Corydanthus capitatus* by steam distillation were analyzed by gas chromatography coupled to mass spectrometry (GC-MS) in order to determine their chemical compositions. The results demonstrated that the major components of these essential oils are borneol, thymol and carvacrol respectively.

The in vitro antioxidant activity was investigated with three different methods: 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical scavenging assay, β -carotene bleaching test and reducing power. Butylated hydroxytoluene (BHT) and ascorbic acid were employed as positive control. The obtained results showed that the oils can act as radical scavengers and displayed a lipid peroxidation inhibitory activity. The oils were also subjected to a screening for their possible antibacterial activity against a panel of Gram+ and Gram- bacteria by using well diffusion assay. For all the oils no activity was observed against *Pseudomonas aeruginosa* strains while a good antibacterial effect was showed on other bacteria.

Key words: essential oils, chemical composition, antibacterial activity, antioxidant activity, Thymus