

**Poster SCF23**

**Supercritical Carbon Dioxide Extraction of *Teucrium ramosissimum* (aerial parts) and Comparison with Hydrodistillation: Yields and Chemical Composition**

Nessrine GHAZOUANI<sup>a</sup>, Séverine CAMY<sup>b</sup>, Jalloul BOUJILA<sup>c</sup>, Jean-Stéphane CONDORET<sup>b</sup>, Manef ABDERRABBA<sup>a</sup>

<sup>a</sup>Laboratoire Matériaux, Molécules et Applications, Institut Préparatoire aux Etudes Scientifiques et Techniques de la Marsa, La MARSa, TUNISIA, <sup>b</sup> Université de Toulouse; INPT, UPS; Laboratoire de Génie Chimique UMR CNRS 5503; 4, Allée Emile Monso, F-31030 Toulouse, France, toulouse, FRANCE, <sup>c</sup>Laboratoire des Interactions Moléculaires et Réactivité Chimique et Photochimique UMR CNRS 5623, Université Paul Sabatier, 118 route de Narbonne, F-31062 Toulouse, France, Toulouse, FRANCE

✉ghazouani2009@gmail.com

*T. ramosissimum* is frequently used in tunisian traditional medicine for the treatment of intestinal inflammation, gastric ulcer and particularly as cicatrizing agent in external use [1]. In this study supercritical fluid extraction (SFE) with CO<sub>2</sub> is used for the extraction of interesting compounds from *T. ramosissimum* (aerial parts). The influence of pressure (100, 150, 200 and 1000 bar) on the crude extracts yield was investigated in order to select the most favourable extraction pressure. Since carbon dioxide is a non-polar solvent, and in order to modify the selectivity of the solvent and improve the extraction efficiency, ethanol was used as a modifier. Quantification and identification were realized by GC/FID and GC/MS, respectively. The experimental data obtained were also compared with those obtained with traditional hydrodistillation technique and the influence of the change was investigated regarding their extraction yields and chemical composition. The results indicated that the addition of ethanol (5%) in the solvent mixture (scCO<sub>2</sub>/ethanol) was essential to combine high contents of valuable compounds and high extraction yield. The yields of *T. ramosissimum* obtained using hydrodistillation and SFE (CO<sub>2</sub>+ethanol) at 40°C, 1h and 200 bar, were 0.55 and 3.12%, respectively.

**References**

[1] BEN SGHAIER, M., CHRAIEF, I., SKANDRANI, I., BOUHLEL, I., BOUBAKER, J., KILANI, S., Chem. Biodivers., Vol.4, **2007**, p.1480