



COMPARISON OF DIFFERENT EXTRACTION METHODS FOR THE DETERMINATION OF *PITURANTHOS SCOPARIUS* ESSENTIAL OILS: CHEMICAL COMPOSITION, ANTIMICROBIAL AND ANTI-INFLAMMATORY ACTIVITIES

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ABSTRACT

The essential oils of *Pituranthos Scoparius* obtained by hydrodistillation (HD), microwave assisted extraction (MAE) and steam distillation (SD) were investigated for their chemical components, oil yield diversity and microbial activity. As a result of this investigation, the anti-inflammatory activity of the essential oils is reported here for the first time. The essential oils extracted from *P. Scoparius* were analyzed by GC/MS. Sixty-three compounds were identified, representing (87.69 %) in HD, (82.45 %) in MAE, and (88.94 %) in SD of the essential oils' total compositions. The predominant compounds identified were Dillapiol (16.38-37.21%), α -Pinene (0.48-10.84%) and Myristicin (4.21-9.37%). The antimicrobial activity of the essential oils was Identified using the disk diffusion method against seven bacteria strains and two yeasts. An appreciable antimicrobial activity was observed against *sarcina lutea*, and weak activity was observed against *staphylococcus epidermidis*, *saccharomyces cerevisiae* and *candida albicans*. The anti-inflammatory activity of the essential oils was Identified using the carrageenan induced edema method. The essential oils extracted by HD, MEA and SD showed an anti-inflammatory activity comparable to Diclofenac. The results reveal that the method of extraction of *P. scoparius* influences the chemical composition and anti-inflammatory activity of the essential oils.