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# Study on bioactive compounds in some Tunisian medicinal and aromatic plants

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The essential oils, isolated by hydrodistillation, from the aerial parts of Thymus capitatus, Ocimum basilicum, Myrtus communis, Laurus nobilis, Lavandula stoechas, Ruta graveoleus, Junipreus phoenicea, Mentha pulegium, Citrus bergamia risso, Cyperus rotendus, and three varieties of Eucalyptus camaludulensis, rudis and lehmanii, were analyzed by gas chromatography (GC) and gas chromatography coupled to mass spectrometry (GC-MS). The highest oil yield was obtained from Citrus bergamia risso (9.7%), while the lowest one was obtained from Ocimum basilicum (0.2%). Monoterpenes hydrocarbons were dominant in Myrtus communis, Junipreus phoenicea, Citrus bergamia risso oils (68.3, 63.93 and 66.37%, respectively), the other essential oil were dominated by oxygen-containing monoterpenes, from 59.39% to 92.40%. The essential oils investigated, exhibited good antioxidant activities when tested by DPPH free radical-scavenging ability and bleaching β-carotene in linoleic acid system. Evaluation of antimicrobial activity of the essential oils, against different microorganisms: Escherchia coli, Pseudomonos aeruginosa, Klebsiella pneumonia, Salmonella enteritidis, Staphylococcus aureus, Streptococcus A, Candida albicans and Geotrichum candidum, was assessed by submerged culture method and measurement of determination of minimum inhibitory concentration. The isolated essential oils have potential for development as natural antimicrobial and antioxidant agent. Cytochrome P450s (CYPs) inhibitory activity of Tunisian Salicornia herbacea L., and Cyperus rotundus methanol extracts studied for the first time was evaluated against three CYP isozymes namely CYP1A2, CYP3A4 and CYP2D6. The two extracts were a potent inhibitor against CYP2D6 respectively with (IC50=3.88±0.02 µg /mL) and (EC50=11.13±0.04 µg/mL).

## Biography

Nabiha Bouzouita is Professor in High School of Food Industries in Tunisia; she has obtained in 2003 Thesis of Doctorate at Faculty of Sciences of Tunisia. She has completed postdoctoral studies from Walloon Center of Industrial Biology in Liege Belgium. Its field of competence is Natural products (Aromatic and Medicinal Plants). She is director of the Laboratory of valorization of natural substances of plant origin in High School of Food Industries, and she is overseeing several PhD She has published more than 20 papers in reputed journals.

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