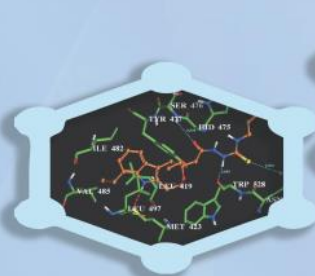




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ABSTRACT BOOK

PP 3 THE EFFECTS OF SOLVENTS ON MICELLE FORMATION OF AMP IN AQUEOUS MEDIA IN THE PRESENCE OF COSOLVENTS

HASAN TOLGA ÖZÇAM, SINEM GÖKTÜRK

DEPARTMENT OF BASIC PHARMACEUTICAL SCIENCES, GENERAL CHEMISTRY DIVISION, FACULTY OF PHARMACY, MARMARA UNIVERSITY, ISTANBUL, TURKEY

Several drug molecules such as phenothiazine and benzodiazepine tranquilizers, analgesics, tricyclic antidepressants and non-steroidal anti-inflammatory drugs display surface activity i.e. amphiphilic behavior (1-3). Amitriptyline hydrochloride (AMT) is a pharmacologically active compound and is amphiphilic in nature. It belongs to the family of tricyclic antidepressants and possesses a rigid, almost planar tricyclic ring system and a short hydrocarbon chain carrying a terminal nitrogen atom. In the present study micellization of the amphiphilic drug AMT in the absence and presence of cosolvents have been reported by using conductometric measurements at 298 K. Conductometric measurements were successfully used in determination of critical micelle concentration (CMC) of AMT in aqueous media. The effect of various concentrations of organic solvents such as methanol and ethanol (v/v) on micelle formation of AMP in aqueous solutions has been also studied. From conductivity data the ionization degree (α) and counterion binding parameter (β) have been obtained. It was observed that the presence of cosolvents, diminished the micelle formation of AMT i.e. increased the CMC. Micellization of AMT totally inhibited when cosolvent concentration reached a certain value. 1. Schreier S, Malheiros S.V.P, de Paula E. Surface active drugs: self-association and interaction with membranes and surfactants. Physicochemical and biological aspects. *Biochimica et Biophysica Acta* 2000; 1508: 210–234. 2. Erdinc N, Gokturk S, Tunçay M. A study on the adsorption characteristics of an amphiphilic phenothiazine drug on activated charcoal in the presence of surfactants. *Colloids and Surfaces B: Biointerfaces* 2010; 75: 194–203 3. Göktürk S, Var Ü. Effect of pharmaceutically important cosolvents on the interaction of promethazine and trifluopromazine HCl with sodium dodecyl sulfate micelles. *Journal of Dispersion Science and Technology* 2012; 33:527–535. Acknowledgements: This study was financially supported by Research Fund of Marmara UNIVERSITY with the project numbers of SAG-CYLP-280214-0041.

PP 2 CHEMICAL COMPOSITION AND ANTIMICROBIAL ACTIVITY OF THE ESSENTIAL OIL FROM CULTIVATED SATUREJA HORVATII SILIĆ (LAMIACEAE)

MARINA MILENKOVIC¹, MIHAILO RISTIC², DMITAR LAKUSIC³, VIOLETA SLAVKOVSKA⁴, BRANISLAVA LAKUSIC⁴

¹DEPARTMENT OF MICROBIOLOGY, FACULTY OF PHARMACY, UNIVERSITY OF BELGRADE, VOJVODE STEPE BELGRADE, SERBIA

²INSTITUTE FOR MEDICINAL PLANT RESEARCH "JOSIF PANCIC", SERBIA

³INSTITUTE OF BOTANY AND BOTANICAL GARDEN, SERBIA

⁴DEPARTMENT OF BOTANY, FACULTY OF PHARMACY, UNIVERSITY OF BELGRADE, SERBIA

In this study the chemical composition and antimicrobial activity of the essential oils of *Satureja horvatii* cultivated plants (Belgrade, Serbia) were characterized. *S. horvatii* is an endemo-relict species of Montenegro. The essential oils were isolated, from the aerial parts of the plants at different phenological stages, by hydrodistillation and analyzed by GC and GC/MS. Chemical compositions of the *S. horvatii* oils showed differences between the plants at different phenological stages. The main compounds of the essential oil from plants at the flowering stage were linalool (53.5%), thymol (17.9%), and α -terpineol (8.5%). At the stage of full fruiting the percentage of linalool (58.4–59.5%) and α -terpineol (11.8-12.3%) increased, while those of thymol (4.6–7.6%) significantly decreased. The antimicrobial activity of tested oils was evaluated against ten standard strains of microorganisms. The working solutions of essential oils (40 μ L/mL) were prepared by dissolving the essential oils (EOs) in DMSO and subsequent mixing with Müller–Hinton or Sabouraud dextrose broth. The EOs were tested in the final concentration range of 0.313 - 20.000 μ L/mL. All analyzed oils showed the greatest and uniform antimicrobial activity against the yeast (*Candida albicans*). The essential oil isolated from plant in the flowering stage showed the maximum activity against *Staphylococcus epidermidis* and *Staphylococcus aureus*. This oil exhibited moderate activity against the *Enterococcus faecalis* and weak activity against the other microorganisms. Oils isolated from plants at fruiting stage showed moderate activity against *Staphylococcus epidermidis*, *Staphylococcus aureus* and *Pseudomonas aeruginosa* and weak activity against the other microorganisms.

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