components. Thus, the kinetic and rheological profiles can be modulated by the formulations factors in order to obtain the optimal drug amount released at the application site.

Keywords: Piroxicam, Hydrogel, Release, Formulation.

COMPARATIVE STUDIES OF THE TOTAL ANTRACENE DERIVAIES IN SPECIES OF THE GENUS *HYPERICUM* L. FROM THE FLORA OF REPUBLIC OF MOLDOVA

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Introduction: Genus Hypericum (St. John's wort) includes about 400 species. In the wild flora of the Republic of Moldova grow 5 species of *Hypericum*: *H. perforatum* L., *H. elegans* Steph., *H. hirsutum* L., *H tetrapterum* Fries., H. montanum L.. The European Pharmacopoeia 6th Ed. (2008) and the Romanian Pharmacopoeia Xth (1993) for obtaining plant material are allowed the species of H. perforatum L.. St. John's wort is a natural antidepressant remedy, due to numerous active components contained, including the content of anthracene derivatives (hypericin, pseudohypericin).

The aim of this study: Identification and determination of anthracene derivatives in different plant materials from fourspecies of Hypericum; the study of dynamics of accumulation of these compounds in H. perforatum species, depends on the phenological stage and geographic area.

Materials and methods: For quantitative ***determination of anthracene derivatives*** were collected aerial parts and separately the vegetative organs (flowers, leaves, stems) from June to August 2010 - at the flowering stage: the species *H. perforatum* L. and *H. elegans* Steph in the forest near the village Tîrnova of Donduseni district; H.hirsutum L. and H. tetrapterum Fries.–in reservation "Codru" Strășeni district. For this study the dynamics of accumulation of anthracene derivatives, from June to August 2011 were collected, the aerial parts of H. perforatum L. in different phenological stages (from floral budding stage to fruiting stage) and geographic area (meadow the village Nimoreni Ialoveni district, the village Tîrnova Dondușeni district forest; the village Lopățica Cahul district forest. The qualitative analysis of the anthracene derivatives was performed by thin layer chromatography (TLC). The determination of anthracene derivatives, in various plant materials, was performed with the UV-VIS spectrophotometric method developed by V. A. Kurkin et al. (2008).

Results: Was observed the presence of the hypericin on the chromatograms in all analyzed samples (Rf = 0,77; 0,88). Performed researches had shown that the total of anthracene derivatives (%, in terms of hypericin) contents are different: *in the aerial parts* of H. perforatum L. - 0,22% , H. elegans Steph. – 0,37% , H. tetrapterum Fries. - 0,17% , H. hirsutum L. - 0,06%; *in the flowers* of H. perforatum L. - 0,58%, H. elegans Steph.– 0,53% , H. tetrapterum Fries. – 0, 35%, H. hirsutum L. - 0,08%; ***in the leaves*** **of** H. perforatum L. – 0,21%, H.elegans Steph. – 0,26% , H. tetrapterum Fries. - 0,21%, H. hirsutum L. - 0,14%; ***in the stems*** of H. perforatum L. – 0,036%, H. elegans Steph. – 0,031%, H. tetrapterum Fries. - 0,035%, H. hirsutum L. - 0,017%.

Conclusions: The total of anthracene derivatives (%, in terms of hypericin) the contents are maximal in aerial parts of H. perforatum L in the flowering phase and collected in the North of the country.

Keywords: Hypericum, UV/VIS spectrophotometry, hypericins, TLC.