ABSTRACT

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Title of thesis: Contribution to the formulation of polyester nanoparticles with terbinafine

In the theoretical part of this thesis are published some basic information concerning some aspects of nanotechnology as perspective field of human activity, indicated main possibilities of the realisation of nanotechnological methods used for ameliorating the pharmacotherapy efficiency, described nanoparticulate systems used as drug carriers, and also presented for the praxis valuable methods of nanoparticles preparation with relevancy for the eventual production in the future. The experimental part of the thesis refers about granulometric characterisation of nanoparticles prepared from terpolymer of DL-lactic acid, glycolic acid, and tripentaerythritol by the emulsion-solvent distribution method via emulsion of the o/w type. The reason of the nanoparticles selection was in the use of them as potential carrier for prolongation of liberation or targeting of antimycotic drug terbinafine. The experimental variables selected as studied factors was concentration of polymeric carrier, concentration of the base of terbinafine in the carrier, type of emulsifier ind its concentration, and stirring intensity in the process of dispersion in the homogenizer of the type Ultra-Turrax. In this work were verified recent results of the workplace concerning possibilities of incorporation of the base of terbinafine into nanoparticles up to 30 % concentration. Some of the prepared samples was passed on the Department of analytical chemistry, where was evaluated and declared stability of the base of terbinafine as substance after its preparation procedure by the precipitation method from solution and stability after nanoparticles preparation. The stability and stabilization of the drug during formulation of stable form appropriate for long-term storage, and stability during the period of liberation testing in the in vitro conditions will be the aim of the scienfitic aktivity in the future.