

ABSTRACT

Charles University in Prague

Faculty of Pharmacy in Hradec Králové

Department of Pharmaceutical Technology

Candidate: Mgr. Barbora Sulíková

Consultant: Doc. RNDr. Milan Dittrich, CSc.

Title of Thesis: Biodegradable submicron particles with terbinafine.

The theoretical part is dealing with physical emulsion and emulsion polymer method preparation of nanoparticles systems, classification of nanoparticles with the main emphasis on information of nanocapsules and nanospheres made from biodegradable polymers and their physical stability in the form of nanodispersions. Experimental part of the thesis is focused on study of formulation factors leading to the achievement to maximal effectivity of the dispersion. The size of the nanoparticles was presented by the form of intensity diameter as a result of the measurement by the method of PCS. The positive effectivity was proved with addition of the terbinafine and lecithine to the internal phase of the emulsion. The combined effect of turbulent flow of the solvent and dispersion shear was used. There was confirmed sufficient efficiency of the cetrimide as emulsifier at very low concentrations and as inappropriate ingredient was revealed sodium chloride used as additive in external phase of the emulsion. Continuous flow method provides a better quality nanodispersion than dispersion in the homogeniser by the batchwise method.