

Abstract

Charles University

Faculty of Pharmacy in Hradec Králové

Department of Pharmaceutical Technology

Consultant: doc. RNDr. Milan Dittrich, CSc.

Student: Andrea Balciarová

Title of Thesis: Formulation and testing of rifampicin-loaded branched polyesters nanoparticles

In presented thesis, the main attention in theoretical part is focused on nanoparticles for targeted drug delivery, their types, structure and carriers used for their preparation. Moreover, in this part there is an overview of physicochemical characteristics and preparation methods of polymeric nanoparticles applicable in formulation of pharmaceutical products. The experimental part is concerned on studying the influence of the concentration of biodegradable polymers, the presence of cationic surfactants and rifampicin as model drug substance on nanoparticles' size and zeta-potential. The main attention is given to nanoparticles decoration with anionic biopolymers, hyaluronic acid and xanthan gum. The simple method of preparation which is usable in nanosystems formulation that influence biological functions purposefully was tried and tested in different contexts.