

Abstract

The aim of these graduation thesis was the study of adhesive properties of branched oligoesters and acyclovir and fluconazole release from these carriers. The theoretical part introduces the often used polymers, their properties and application. Furthermore there is the mechanism of biodegradation, the factors affecting mechanism and speed of drug release and therapeutic systems with examples. The practical part is regarded to the adhesion of the polyesters of lactic and glycolic acid branched using pentaerythritol and tripentaerythritol (1P, 3P, 5P, 1T, 3T, 5T). These polyesters were plasticized by 20% of triethylcitrate. All the tested polyesters were adhesive. The lowest adhesion power was measured out by carrier 5P with low molar weight $M_w = 2700$ g/mol and degree of branching $g' = 0.61$. Acyclovir and fluconazole release from these carriers was tested. The fastest release was measured regarding to carrier 1T. Polyesters 1P, 3T and 5T have been shown as suitable drug carriers.

Keywords: branched polyesters, bioadhesion, acyclovir release, fluconazole release