

ABSTRACT

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Name of the student: **Hana Jakubíková**

Title of diploma thesis: Aciclovir release from mucoadhesive polyester matrices

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The aim of this diploma thesis was to investigate aciclovir release from polyesters of lactic acid and glycolic acid branched with mannitol, pentaerythritol, dipentaerythritol and tripentaerythritol, and plasticized using ethyl pyruvate or methyl salicylate. Theoretical part sums up the application possibilities of mucoadhesive preparations. Experimental part of thesis deals with aciclovir release from polyester matrices applied on mucous substrate. Short term dissolution experiments of aciclovir were carried out in phosphate citrate buffer of pH 7, 4 at 37 °C. Mucus from porcine stomach was used as model substrate. The amount of aciclovir released was determined spectrophotometrically at 256 nm contrary to a blank sample, and also using HPLC method. Dissolution of aciclovir was affected by molar mass of polyester, and by the type and concentration of plasticizer. Polyester branched with 3 % of tripentaerythritol, and plasticized by 40 % of methyl salicylate was found to be most suitable carrier of aciclovir for topical application on mucous membrane.

Keywords: drug release, polyesters, branched polyesters, plasticizers.