ABSTRACT

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Title of diploma thesis:	Biodegradation of branched polyesthers in the aquous medium with various ionic force

The theoretical part of the diploma thesis deals with the physical and chemical properties of the copolymer of lactid and glycolic acid (PLGA). It is also mentioned mechanism of biodegradation and factors influencing this process and biocompatibility. It also deals with the implants, the use of PLGA and other polymers in in situ forming implants. Then briefly mentioned the use of biopolymers in medicine. Within the experimental part, the influence of ionic strength on the degradation of branched polyesters, namely the PLGA branched mannitol and linear PLGA. Polymeric matrices were stored at 37 ° C in phosphate buffer at various concentrations and in an aqueous medium without addition of ions. Subsequently, the calculated value of degree of swelling and the degree of erosion during a period of 1, 3, 7, 14 and 21 days. The results confirmed that the tested linear polymer PLGA swells more with decreasing ionic strength, but in an aqueous medium swells limited. Branched polymers also swell more in an environment containing ions than in water, but less in comparison with the linear polymer.