

Summary

This work deals with interaction of oligoester carriers based on DL-lactic-co-glycolic acid, with hydrophilic medium. The interaction results with phenomena of degradation, erosion and swelling of delivery system. The purpose of this work was to quantify water soluble, high osmotically active degradation products generated via hydrolysis in the matrices, and to find a connection between concentration of degradation products and changes of swelling in time. There were experiments with four types of branched polymers, which differ in branching unit and its concentration. There were chosen delivery systems, where in the three week observation outstanding maximum of swelling grade was expected. This method included gravimetric monitoring of erosion and swelling of matrices and alkalimetric quantifying of acid degradation products. The last parameter was obtained by the separation of hydrophilic and lipophilic fractions of matrices between organic and aqueous phase. Narrow correlation between matrices swelling and concentration of hydrophilic oligoesters generated in matrices was proven.