

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. Experiments with two types of branched polymers were realized. The main difference between the both had origin in the concentration of tripenterythritol used as branching monomer and in the blending of this polymer with 20% triethylcitrate used as plasticizer. Matrices differ in size too. The method used included parallel gravimetric monitoring of erosion and swelling of matrices and alkalimetric quantifying of degradation acid hydrolysis products. The last mentioned parameter was obtained by the separation of hydrophilic and lipophilic fractions of matrices between organic and aqueous phase. Narrow correlation between matrices swelling rate and simultaneously proven concentration of hydrophilic oligoesters generated in matrices was established.