Drugs release from hydrogel films based on copolymers of acrylamide with 2-acrylamide-2-methylpropane-sulfonic acid and its sodium salt

L. B. Yakimtsova, E. S. Popko
Belarusian State University, Minsk, Belarus, e-mail: yakimtsova@bsu.by

Polyelectrolyte hydrogel films for incorporating medicinal formulations have been prepared by radical copolymerization of acrylamide with 2-acrylamide-2-methylpropanesulfonic acid or sodium 2-acrylamide-2-methylpropanesulfonate in the presence of N,N’-methylene-bis-acrylamide in concentrated water solutions on a glass substrate. Na-ampicillin salt was used as a model drug. Degree has been determined of a drug release from the hydrogel films depending on a quantity and a nature of monomer units in copolymers, and quantities of the cross-linking agent as well. A decreasing diffusion of a drug incorporated into the hydrogel films has been established. The polyelectrolyte hydrogels obtained could be used as a matrix for creating transdermal medicinal formulations of a controlled release.