



POLLUTANTS REMOVAL WITH SYNTHETIC POLYCATIONS AND THEIR COMPLEXES

Ecaterina Stela Dragan^{*}, Luminita Ghimici, Marcela Mihai

*"Petru Poni" Institute of Macromolecular Chemistry, Aleea Grigore Ghica Voda 41 A, Iasi,
Romania*

Abstract

The flocculation efficiency of some polycations with quaternary ammonium salt groups located in the backbone, such as N,N-dimethyl-2-hydroxypropylammonium chloride in PCA₅, P CA₂₀, PCA₅D₁, PCA₅H₁, PCA₅H₂, and poly(diallyldimethylammonium chloride) (PDADMAC), on the montmorillonite and silica nanoparticles contained in synthetic aqueous suspensions has been studied in this work. The influence of the charge density, polycation dose as well as of temperature on the separation of the inorganic particles was followed by turbidity measurements. Dual flocculation of dyes and flocculation of silica with preformed nonstoichiometric interpolyelectrolyte complexes as colloidal dispersions were also discussed comparative with single polycations.

Keywords: polycation, montmorillonite, silica, azo dye, turbidity, dual flocculation

^{*} Author to whom all correspondence should be addressed: e-mail: sdragan@icmpp.ro