Full Paper

Registration Code of Publication: 10-20-5-52

Thematic Section: Physical-Chemical Researches.

Subsection: Physical Organic Chemistry.

Publication is available for discussion in the framework of the on-line Internet conference "Novel synthetic methods, structure and application of organoelemental compounds". http://butlerov.com/synthesys/ Contributed: June 30, 2010.

Self-organization, morphological and thermodynamic characteristics of the selenium containing nanostructures on the basis of strong polyacids

© Svetlana V. Valueva, and Lyudmila N. Borovikova

Institute of Macromolecular Compounds of the russian academy of sciences. Bolshoy Pr., 31. St.-Petersburg, 199004. Russia. Phone: +7 (812) 328-85-27. E-mail: svalu67@mail.ru

*Supervising author; ⁺Corresponding author

Keywords: amorphous selenium, molecular optics, spectrophotometry, nanostructures, polymeric stabilizer, self-organization, morphological.

Abstract

Selenium-containing nanostructures on the basis of strong poly-acids - poly-2-acrylamide-2methylpropansulfacid and deoxyribonucleic acid were studied by the methods of molecular optics and spectrophotometric methods. It has been shown that polyanion - nanoparticle complex obtained under conditions of total saturation of adsorption capacity of selenium nanoparticles is close to its thermodynamic stability boundary. It has been found that in both cases spherical supramolecular structures were formed with close dimensions and average densities.