

## Article

### **The preparation of application relevant nanoparticles - fluorinated water-soluble copolymer of acrylamide of sodium acrylate with high complexation ability**

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## Abstract

Fluorinated water-soluble copolymers as nanoparticles are capable of forming complexes with the surfactant cetyltrimethylammonium bromide (CTAB) or the polycation poly (diallyldimethylammonium chloride). The interaction between fluorinated polyelectrolytes (PE) and CTAB or with oppositely charged PEs in aqueous solution has been studied using dynamic surface tension and PE titration. It is revealed that the dynamic surface tension is reduced by a factor of 1.3 to 1.75 using fluorinated water-soluble copolymers with surfactant. Aqueous solutions of fluorinated copolymers of poly (acrylamide-co-sodium acrylate) may be applied for the hydrophobization of paper.

**Keywords:** Nanoparticle, fluorinated copolymer, poly (acrylamide-co-sodium acrylate), cetyltrimethylammonium bromide, complexation .