

Polymer Aggregates Formed by Electrostatic Interactions

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Electrostatic interactions are important driving force to form water-soluble polymer aggregates. It is known that amphoteric random copolymers show protein antifouling property and good biocompatibility. We prepared an amphoteric random copolymer composed of anionic and cationic monomers via controlled/living radical polymerization. Furthermore, anionic and cationic monomers were polymerized using the amphoteric random copolymer macro-chain transfer agent to prepare anionic and cationic diblock copolymers. A stoichiometrically charge neutralized mixture of the oppositely charged diblock copolymers formed water-soluble polyion complex (PIC) micelles composed of segregated PIC core. It is expected an application of carrier of drug delivery system, because the PIC micelle is covered with biocompatible amphoteric random copolymer shells.

