

Poly(N-isopropyl acrylamide-co-Acrylic acid)-graft-Polyaspartate coated Magnetic Nanoparticles for Molecular Imaging and Therapy

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A series of pH- and thermo-sensitive poly(N-isopropyl acrylamide-co-acrylic acid) were synthesized by radical polymerization and grafted on polysuccinimide backbones. The polysuccinimide derivatives synthesized were coated on iron oxide magnetic nanoparticles to make core-shell structure for potential applications in drug delivery systems with molecular imaging and therapy. The structure of polymer-shell was confirmed by FT-IR, ¹H-NMR spectroscopies . Its thermal behaviors was tested by UV-Vis spectroscopy. The particle size and its distribution was measured by dynamic light scattering (DLS) and transmission electron microscope (TEM). The mean diameter of the core-shell structure is from 20 to 80 nm.