

Preparation and characterization of magnetite encapsulated polyaspartamide derivatives nanoparticles for molecular imaging

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Magnetic nanoparticles are widely studied for applications in biology and medicine fields such as magnetic resonance imaging (MRI), drug delivery, and therapy. Because the direct use of magnetite particles results in bio-fouling of the particles in blood stream and formation of a lump, the surface of magnetite nanoparticles are modified by various biopolymers. The aim of this study was to prepare the poly(aspartamide) derivatives-coated magnetite nanoparticles with good water stability and enhanced biocompatibility for the application of molecular imaging. Magnetite nanoparticles are prepared by co-precipitation method and coated by poly(aspartamide) derivatives. The product was characterized using FT-IR, NMR and XRD, etc. The resulting product has a potential application for Bio-imaging probe.