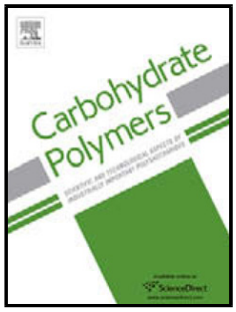

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Synthesis and antioxidant properties of chitosan and carboxymethyl chitosan-stabilized selenium nanoparticles

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Abstract: Monodispersible selenium nanoparticles (SeNPs) were synthesized by using chitosan (CS) and carboxymethyl chitosan (CCS) as the stabilizer and capping agent using a facile synthetic approach. The structure, size, morphology and antioxidant activity of the nanocomposites were characterized by Transmission electron microscopy (TEM), Ultraviolet-visible spectroscopy (UV-vis), Dynamic Light Scattering (DLS), Fourier transform infrared (FTIR), Thermogravimetric analysis (TGA).The results revealed that the monodispersible SeNPs (mean particle size of about 50 nm) were ligated with CS and CCS to form nanocomposites in aqueous solution for at least 30 days, and for 120 days the nanoparticles increased to 180 nm or so in size. The DPPH scavenging ability of CS-SeNPs was higher than that

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