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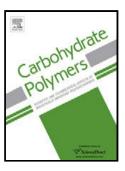
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## Synthesis and antioxidant properties of chitosan and carboxymethyl chitosan-stabilized selenium nanoparticles

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7 **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

16 180 nm or so in size. The DPPH scavenging ability of CS-SeNPs was higher than that

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