

Eco-friendly Synthesis, Spectral Characterization, Particle Image and Size Analysis of Cerium Oxide Nanoparticles Mediated by Mango Seed Aqueous Extract

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Abstract: *A novel approach for the utilization of fruit waste is attempted in the present investigation. Mangifera indica seed aqueous extract was utilized for green synthesis of cerium oxide nanoparticles (CeONPs). The phyto constituents in the seed acted as reducing and stabilizing agent for CeONPs formation. UV-Vis, FT-IR, FL, XRD, DLS and SEM, analysis were used to characterize the green synthesized CeONPs. UV-vis spectra showed characteristic spectra at 333 nm; DLS and SEM confirmed the crystalline nature. FT-IR revealed functional groups like alcohol or phenols, carboxylic acids, ketones, amines, aromatic amines, aliphatic amines, alkyl halides and alkynes which were responsible for CeONP formation. The nanoparticles showed more CV study of cerium oxide nanoparticle. Fruit waste can be successfully utilized for cerium nanoparticles formation which can be therapeutically useful and effective.*

Keywords: Eco-friendly synthesis, CeONPs, Mangifera indica seed, Spectral characterization and CV study

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