

Green Synthesis, Spectral Characterization, Particle Image and Size Analysis of Silver Oxide Nanoparticles Mediated by Extract of Orange (*Citrus sinensis*) waste peel

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Abstract: A novel approach for the utilization of Orange fruit waste is attempted in the present investigation. Orange (*Citrus sinensis*) fruit seed aqueous extract was utilized for green synthesis of silver oxide nanoparticles (AgONPs). The phytoconstituents in the seed acted as reducing and stabilizing agent for AgONPs formation. UV-Vis, FT-IR, FL, XRD, DLS and SEM, analysis were used to characterize the green synthesized AgONPs. 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 AgONP formation. The nanoparticles showed more CV study of silver oxide nanoparticle. Orange Fruit waste can be successfully utilized for serium nano particles formation which can be therapeutically useful and effective.

Keywords: Green synthesis, AgONPs, Orange (*Citrus sinensis*), UV-Vis, FT-IR, FL, XRD, DLS and SEM and CV study

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