

Green Synthesis of Silver Nanoparticles Using Tulsi (*Ocimum Sanctum*) and Alo vera Leaf Extract and its Characterization

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Abstract: *Nanotechnology, the exact creation of nanoparticles, has tremendous potential for the health of people due to its abilities to modify particles in terms of size, shape, chemical composition, and dispersity. Nanotechnology utilizes the creation, study, and manipulation of matter at the nano scale, generally between 1-100 nm, generating entities known as nanoparticles. Notably, researchers are concentrating on the burgeoning subject of green nanotechnology, which emphasizes environmentally benign techniques to nanoparticle manufacture. This paradigm shift intends to leverage the potential of natural sources for sustainable nanoparticle production, such as bacteria, fungus, and plants. The advancement of green nanotechnology illustrates the rising dedication of the nanoscience community to ecologically friendly practices. Environmentally sustainable customs, especially in the area of eco-friendly nanoparticle biosynthesis, have drawn the attention of researchers who are drawn to the rapidly evolving field of green nanotechnology. The use of biomolecules comprised of plant extracts for a one-step green manufacturing process that safely reduces metal ions to nanoparticles is one noteworthy method. Tulsi (*Ocimum sanctum* L.), a fragrant plant in the Lamiaceae family that has been used traditionally in Indian medicine, is the subject of this study's exploration of its potential. Tulsi is a strong option for the green production of nanoparticles because of its extensive range of stabilizing and bio-reduction agents. By highlighting both effectiveness and sustainability, this study advances the larger goal of creating environmentally conscious methods for the manufacture of nanoparticles.*

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