

# Green Synthesis of Silver Nano Particles Derieved from Leaf Extract of *Syzygiumcumini* (SNSC) – to Evaluate Antibacterial Activity

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**Abstract:** *Synthesis of metals nanoparticles from the plant or plant extracts has emerged as an important alternative to the chemical method. The biological approach to the synthesis of nanoparticles has many advantages such as non-elaborative process, no multiple purification steps, no need of intracellular synthesis and doesn't require maintenance of microbial cell cultures. Medicinal plants and green synthesis of silver nanoparticles (AgNPs) have proven to be good sources of agents effective in the treatment of various diseases. The present study focuses on the green synthesis of SNSC, silver nanoparticles (AgNPs) from leaf extract of Syzygiumcumini in order to evaluate the antibacterial properties of this extract and synthesized AgNPs. The characterization of the Synthesized nanoparticles (SNSC) was determined using UV-VIS spectroscopy, TEM, X ray diffraction and FTIR studies, silver nanoparticles (AgNPs) showed absorption peak at 470 nm in aqueous medium in UV-VIS spectrum. TEM analysis shows the morphology of AgNPs as a hexagonal matrix with average particle size of about 50 nm. XRD analysis displays the crystalline structure of AgNPs. FTIR analysis shows that amide groups present in proteins are dominant reducing agents and play an important role in the bio reduction of Ag<sup>+</sup> ions to Ag<sup>0</sup>. The synthesized silver nanoparticles from leaf extract of Syzygiumcumini (SNSC) showed antibacterial activity against common clinical pathogens. Owing to the remarkable potential antibacterial activity against common pathogenic microorganisms, the synthesized AgNPs derived from SNSC can have potential for development in medical applications in the future..*

**Keywords:** Silver Nanoparticles, Syzygiumcumini, Antibacterial Activity

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