

Characterization of Silver Nanoparticles Synthesized using Latex of *Jatropha curcas* and *Lannea grandis*

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Abstract

This paper reports rapid and eco-friendly biosynthesis of silver nanoparticles using latex of two different plants *Jatropha curcas* (*Jc*) and *Lannea grandis* (*Lg*). Latex of these plants act as both reducing as well as capping agent. The surface plasmon resonance (SPR) band of as-synthesized silver nanocolloids (AgNC) appeared at 440 nm and 415 nm for the AgNC synthesized by latex of *Jc* and *Lg*, respectively. TEM images show that the latex of *Lg* produced smaller regular-shaped particles than those produced by latex of *Jc*. The influence of different synthesis parameters like concentration of latex, concentration of metal ion, time of reaction etc., on the morphology of the particles were also studied by monitoring UV-Vis spectra of the samples.

Keywords: Green Synthesis, Latex Extract, Silver Nanoparticle, Surface Plasmon Resonance (SPR)