

Abstract

In this study, silver nanoparticles were synthesized using the *Crataegus douglasii* fruit extract as a reducing agent. The reaction process was monitored by UV-Vis spectroscopy. Further characterization was carried out using scanning electron microscope. To optimize the biosynthesis of silver nanoparticles, the effect of process variables such as extract concentrations, mixing ratio of the reactants, time and pH were also investigated. The SEM images showed silver nanoparticles with 29.28 nm size and nearly spherical shape at 24 h interaction time. The antibacterial activity of the synthesized silver nanoparticles was confirmed against *Staphylococcus aureus* and *Escherichia coli*.

Keywords: Green synthesis; Silver nanoparticles; *Crataegus douglasii* Antibacterial activity; Scanning electron microscopy



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Biosynthesis of Silver Nanoparticles Using Some Medicinal Plants and Evaluation of its Antibacterial Properties

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