

Synthesis and Characterization of Silver Nanoparticles Using *Daucus carota* Extract

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Abstract : Silver nanoparticles have been synthesized by *Daucus carota* extract as reducing agent was reported here. The involvement of phytochemicals in the *Daucus carota* extract in the reduction and stabilization of silver nanoparticles has been established using XRD and UV-vis studies. The UV-vis spectrum of the prepared silver nanoparticles showed surface plasmon absorbance peak at 450 nm. The obtained silver nanoparticles were almost spherical in shape with the average size of 15 nm. Crystalline nature of the nanoparticles was evident from bright spots in the SAED pattern and peaks in the XRD pattern. This new, simple and natural method for biosynthesis of silver nanoparticles offers a valuable contribution in the area of green synthesis and nanotechnology avoiding the presence of hazardous and toxic solvents and waste.

Keywords : *Daucus carota*, green synthesis, silver nanoparticles, surface plasmon resonance

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