**Preparation and characterization of gelatin mediated silver nanoparticles by laser ablation.**

ABSTRACT

We successfully prepared colloidal silver nanoparticles (Ag-NPs) using a nanosecond pulsed Nd:YAG laser, $\lambda$ = 532 nm, with laser fluence of approximately about 0.6 J/pulse, in an aqueous gelatin solution. The size and optical absorption properties of samples were studied as a function of the laser repetition rates. The results from the UV-vis spectroscopy demonstrated that the mean diameter of Ag-NPs increase with the laser repetition rate increases. The Ag-NPs have mean diameters ranging from approximately 9 nm to 15 nm. Compared with other preparation methods, this work is clean, rapid, and simple to use.

**Keyword:** Gelatin; Laser ablation; Silver nanoparticles; UV-vis spectroscopy.