

Synthesis of Green Silver Nanoparticles with Aqueous Extract of Glycyrrhiza glabra and Its Characterization

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Abstract : Glycyrrhiza glabra grows in the sub- tropical and warm temperate regions of the world, in Mediterranean countries and China, America, Europe, Asia and Australia. It grows in areas with sunny, dry and hot climates. It has numerous medicinal properties like it is used to cure Peptic Ulcers, Canker sores, Eczema, Indigestion and Upper Respiratory Infections. Biosynthetic methods such as plant extract have emerged as a simple and viable alternative to more complex chemical synthetic procedures to obtain nanomaterials. Extract from plant may act both as reducing and capping agents in silver nanoparticles synthesis. In the present work, Green Silver nanoparticles were successfully formulated from bioreduction of silver nitrate solutions using Glycyrrhiza glabra root extract. These Green Silver nanoparticles have been appropriately characterized using Visible spectroscopy, colour change. The Antimicrobial activity was done by Agar disc diffusion assay. AgNPs were developed by using aqueous root extract of Glycyrrhiza glabra, which acts as a reducing as well as stabilizing agent. The green synthetic method is a fast, low cost and eco-friendly process in the field of nanotechnology. The study revealed that the green-synthesized silver nanoparticle provides a promising approach for antimicrobial activity.

Keywords : Glycyrrhiza glabra, nanoparticles, antimicrobial activity, aqueous extract

Conference Title : ICBN 2019 : International Conference on Biotechnology and Nanotechnology

Conference Location : New York, United States

Conference Dates : June 04-05, 2019