

Phytofabrication of Metal Nanoparticle using Reducing Agents obtained from *Solanum virginianum* - A Therapeutic Approach

Rajeswari Anburaj*

*Department of Microbiology, Nadara Saraswathi Arts and Science College, Theni, Tamil Nadu, India.

Published November 01, 2019

ABSTRACT

Plant-derived nanoparticles produced by readily available plant materials and the nontoxic nature of plants are suitable for fulfilling the high demand for nanoparticles with applications in the biomedical and environmental areas. In this present paper, we demonstrated a hitherto green biological route for the synthesis of silver nanoparticles using an extract derived from *S. virginianum* fruit. Our keen interest is to scrutinize the inhibitory effect of synthesized AgNPs against several pathogenic bacteria and fungi. Inhibitory effect was found to be maximum in 400 μ l of synthesized AgNP against *S. epidermis* (24 mm) and *Bacillus* sp. (23.3 mm), whereas minimum in *F. oxysporum* (12 mm). UV-visible spectroscopy profile confirms the presence of peak at 240 nm. Spectral assignments indicate that the wavenumber at 1021.12 cm^{-1} denoted the stretching vibrations of primary amine, CN stretch. Therefore, utilization of plants for the green synthesis is beneficial than other sources while it is economical and might be scaled up for large-scale production.

Keywords: Phytonanotechnology, Silver ions, Spectral assignments, Bioreduction, *S. virginianum*

Corresponding author: Rajeswari Anburaj, Assistant Professor, Department of Microbiology, Nadara Saraswathi Arts and Science College, Theni, Tamil Nadu, India, E-mail: raji.anburaj@gmail.com

Citation: Anburaj R. (2019) Phytofabrication of Metal Nanoparticle using Reducing Agents obtained from *Solanum virginianum* - A Therapeutic Approach. Adv Nanomed Nanotechnol Res, 1(S1): 21.

Copyright: ©2019 Anburaj R. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.