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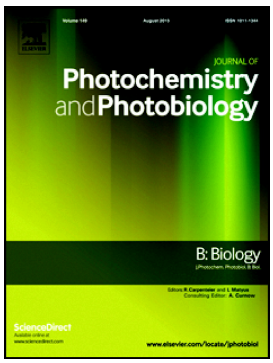

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Tahir Rasheed, Muhammad Bilal, Chuanlong Li, Faran Nabeel, Muhammad Khalid, Hafiz M.N. Iqbal

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Catalytic potential of bio-synthesized silver nanoparticles using *Convolvulus arvensis* extract for the degradation of environmental pollutants

Tahir Rasheed*[1], Muhammad Bilal[2], Chuanlong Li[1], Faran Nabeel[1], Muhammad Khalid[3] and Hafiz M. N. Iqbal[4]

[1]The School of Chemistry & Chemical Engineering, State Key Laboratory of Metal Matrix Composites, Shanghai Jiao Tong University, Shanghai 200240, China; [2]State Key Laboratory of Microbial Metabolism, School of Life Sciences and Biotechnology, Shanghai Jiao Tong University, Shanghai 200240, China; [3]School of Agriculture and Biology, Shanghai Jiao Tong University, Shanghai, 200240, P.R. China; [4]Tecnologico de Monterrey, School of Engineering and Sciences, Campus Monterrey, Ave. Eugenio Garza Sada 2501, Monterrey, N.L., CP 64849, Mexico. *Corresponding author email: masil@sjtu.edu.cn (T. Rasheed)

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Abstract

Herein, we reported a facile, green and environmental friendlier biosynthesis of silver nanoparticles using the *Convolvulus arvensis* extract. The influences of various physicochemical factors such as the concentration of the plant extract, reaction time, and different pH levels were investigated by UV–Vis spectroscopy. The UV-Visible absorption spectrum of biogenic silver nanoparticles at λmax around ~400 nm suggested the biosynthesis of silver nanoparticles. Fourier transform infrared spectroscopy was employed to confirm the chemical transformation and role of various phyto-reductants in the conversion of Ag^{+} to Ag^{0}. The surface morphology, topography, and elemental composition were analyzed by scanning electron microscopy, transmission electron microscopy, and energy dispersive X-ray spectroscopy, respectively. X-ray

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