



Phytochemical Synthesis of palladium-gold nanoparticles using in-vitro grown hypericin rich shoot culture of *Hypericum hookerianum*

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Abstract : Green nanobiotechnology pave tremendous attention not only to innovative scientific motto but also an emerging potential area of research, aimed at categorizing compounds of natural origin and establishing economically efficient routes for the production of benign materials that have applicability in environmentally harmless (biodegradable), simple and biocompatible devices. In recent years, the utilization of bio-organic moieties from different biological sources has become a modern technology for the green synthesis of nanoparticles. We synthesized the gold-palladium (Au-Pd) nanoparticles using *Hypericum hookerianum* shoot extract as reducing and capping material. The grown nanoparticles were investigated by UV-Vis, XRD, TEM, SAED and FTIR studies. The morphology, distribution and size of the biomolecule stabilized Au-Pd nanoparticles were carried out by Transmission electron microscopy studies, crystalline nature of the Au-Pd nanoparticles were characterized by SAED and X-ray diffraction analysis. The capping involvement of the water soluble phyto-organic moieties was studied with FT-IR Studies.

Keywords: Phytochemical synthesis; *Hypericum hookerianum*; Pd-Au Nanoparticles; TEM,

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