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In-Vitro Phytosynthesis of Silver (AgNP's) and Gold Nanoparticles (AuNP's) in Peel and Bark of Plant Punica Granatum (Pomegranate)

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Abstract: *Nanoparticles are extensively used in biological and medical research due to their unique properties. Use of such nanoparticles in biological & medicinal field gives rise to the concept of biomedical nanotechnology, bio nanotechnology & nanomedicines. Phytosynthesis of nanoparticles is an emerging area in plant science research. Different plants are used for this purpose being it is the most eco friendly and convenient method of synthesizing nano scale particles of different salts. The plants are their potent sources of many valuable bioactive constituents and these constituents contributes reduction of salt in the system. In present work, fruit peel and plant bark of Punica granatum plant was taken as an experimental system for Phytosynthesis of silver and gold nanoparticles from silver nitrates and gold chloride salt. Punica granatum is rich source in secondary metabolites especially polyphenols such as alkaloids, tannins, flavonoids and also steroids, triterpenes etc. which has lots of medicinal importance. The extract reaction mechanism of the nanoparticles synthesis by using biomaterials is yet to elucidate in detail; the work done proposes the involvement of redox enzymes in the reduction of silver and gold ions.*

Keywords: Nanoparticles, Phytosynthesis, Pomegranate, Silver Nanoparticles, Gold Nanoparticles, NTA, TEM, UV-Vis

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