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Eco-Friendly Approach for Synthesising Silver Nanoparticles (SNPs) from an Exceptional Medicinal Plant *Bombax Ceiba* Bark Extract and its Anti-Bacterial Activity

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Abstract : Various divergent eco friendly methods of green mediated synthesis of nanoparticles are the present research trend in the limb of nanotechnology arena. Nowadays biologically synthesized silver nanoparticles are being widely used in the field of medicine. In the current study, green synthesis of silver nanoparticles (SNPs) was carried out by using a traditional medicinal plant, *Bombax ceiba* bark extract for the reduction of aqueous silver ions in a very short span period of time. The SNPs formation was physically visualised by colour change of the extract which was further confirmed by several techniques like UV-Vis spectroscopy, FTIR, and X-ray diffraction studies. In our study, green synthesized SNPs have showed a potential antimicrobial effects against infectious organisms such as *Escherichia coli*, *Pseudomonas aeruginosa*, *Salmonella typhi*, *Klebsiella pneumoniae* and *Staphylococcus aureus.* Based on the above results, it was inferred that the above plant extract can be efficiently used in the production of silver nanoparticles (SNPs) which could be employed in various fields of biomedical application.
Key words : Antimicrobial activity, medicinal plants,silver, nanoparticles, *Bombax ceiba*.

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