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# Extracellular synthesis of Silver nanoparticles using the Bark extracts of *Mimusops elengi* L. (Sapotaceae) and their Antimicrobial activity

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## Résumé

**Objective:** To synthesize and characterize silver nanoparticles from aqueous bark extracts of *Mimusops elengi* L. and also evaluate the potentially synthesized silver nanoparticles as antimicrobial agents against pathogens.

**Methods:** The silver nanoparticles were generated using from the bark extracts of *Mimusops elengi* L. The characterization of synthesized nanoparticles was done by visual colour change, UV – vis spectroscopy, XRD, FTIR, SEM and EDAX. Antimicrobial activity of synthesized silver nanoparticles was tested against human pathogens by well diffusion method.

**Results:** It was found that aqueous silver ions can be reduced by aqueous bark extracts of *Mimusops elengi* to generate extremely stable silver nanoparticles in aqueous medium. The results of antimicrobial studies showed good inhibitory effect against *Staphylococcus aureus* and *Bacillus subtilis*. The zone of maximum inhibition is *Staphylococcus aureus* (18mm), *Bacillus subtilis* (16mm) and least effective against *Pseudomonas aeruginosa* (10mm). These results suggest that silver nanoparticles can be used as effective growth inhibitors in various microorganisms making them applicable to diverse medical devices and antimicrobial control systems.

**Conclusion:** It is concluded that the silver nanoparticles synthesized using *Mimusops elengi* bark extract would be a better antimicrobial effective against various human pathogens.

**Mots-Clés:** Green synthesis, *Mimusops elengi* L., Silver Nanoparticles, Synthesis, Antimicrobial activity

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