

Electronic Supplementary Information

Enzyme Responsive Nucleotide Functionalized Silver Nanoparticles with Effective Antimicrobial & Anticancer Activity

Lakshmi Priya Datta^a, Ananya Chatterjee^b, Krishnendu Acharya^b, Priyadarsi De^c and
Mahuya Das^{*a}

^aDepartment of Nanoscience and Technology, JIS College of Engineering, Kalyani-
741235, Nadia, West Bengal, India

^bCentre of Advanced Study, Department of Botany, 35, Ballygunge Circular Road,
University of Calcutta, Kolkata- 700019, India

^cPolymer Research Centre, Department of Chemical Sciences, Indian Institute of Science
Education and Research Kolkata, Mohanpur - 741246, Nadia, West Bengal, India

*Author to whom correspondence should be addressed; E-mail: d_mahuya@yahoo.com,

Telephone/Fax number: +91339830525456/+913325822158

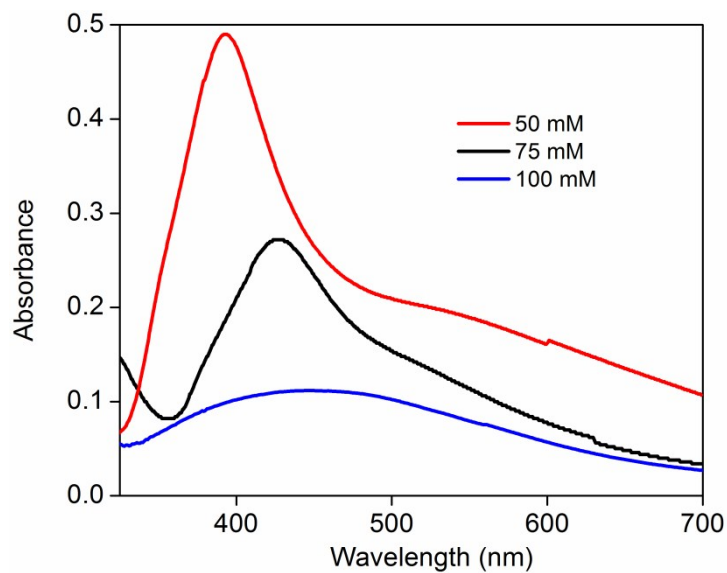


Fig S1. UV-Vis spectral feature regarding formation of ATP coated AgNPs at higher metallic concentration.

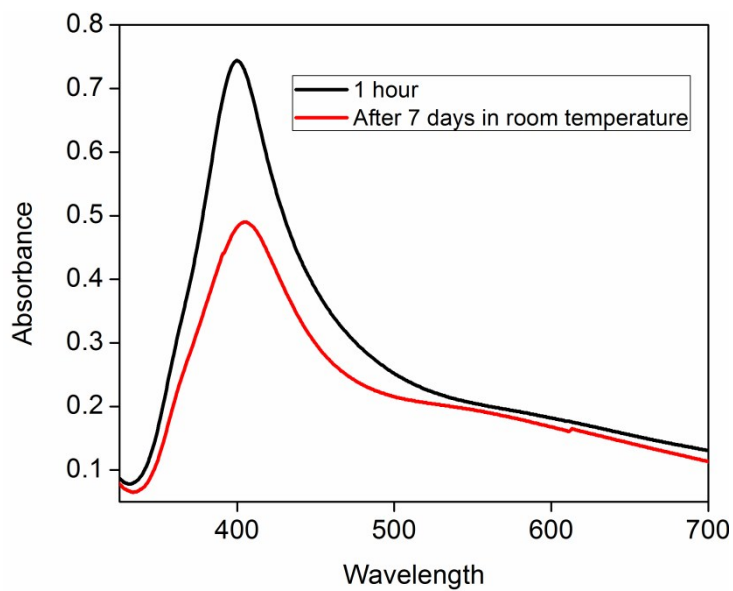


Fig S2. UV-Vis spectral feature regarding formation of uncoated AgNPs under similar reaction condition and after 7 days.

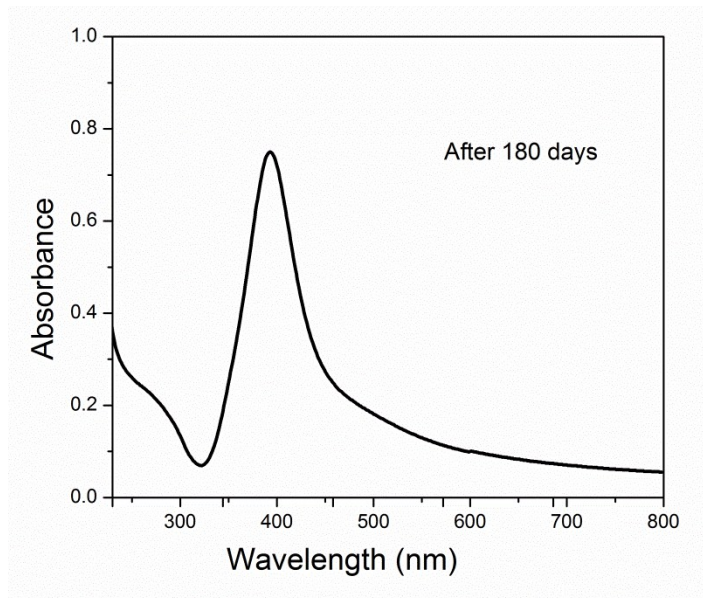


Fig S3. UV-Vis spectral feature regarding formation of ATP coated AgNPs after 180 days of synthesis.

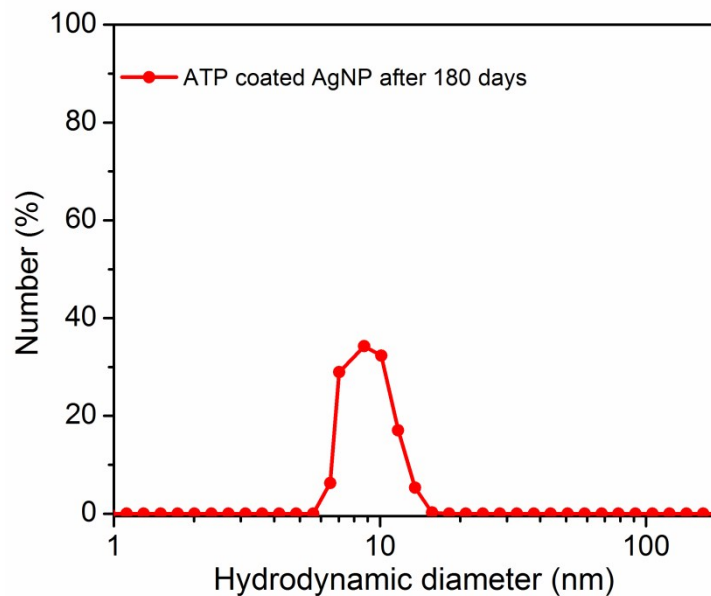


Fig S4. DLS Characterization of ATP coated AgNPs after 180 days of synthesis.

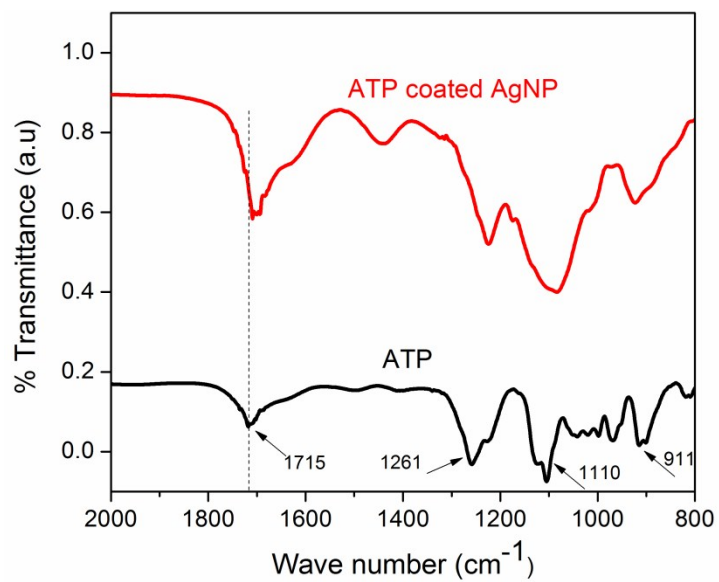


Fig S5. FT-IR spectra of ATP and ATP coated AgNPs.

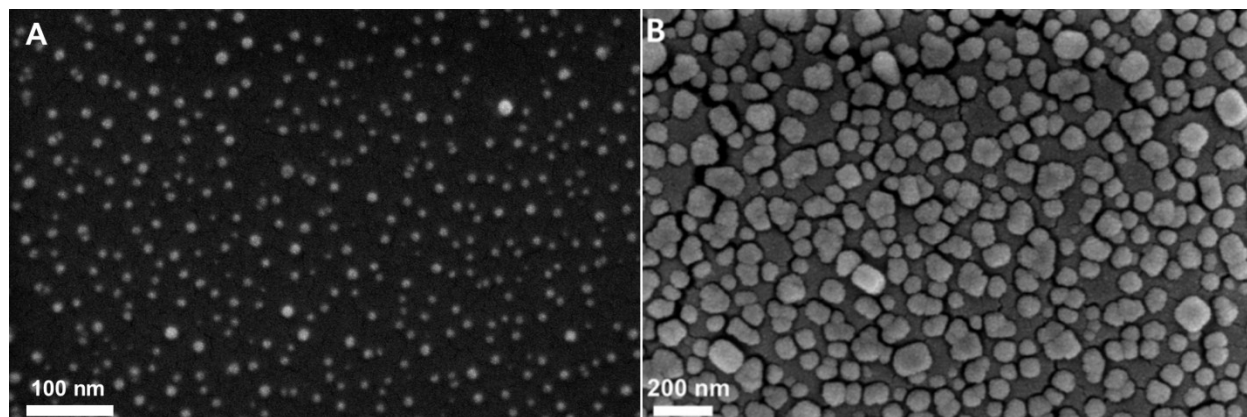


Fig S6. SEM images of the ATP coated AgNPs: (A) at lower concentration of metal ion and (B) higher concentration of metal ion.

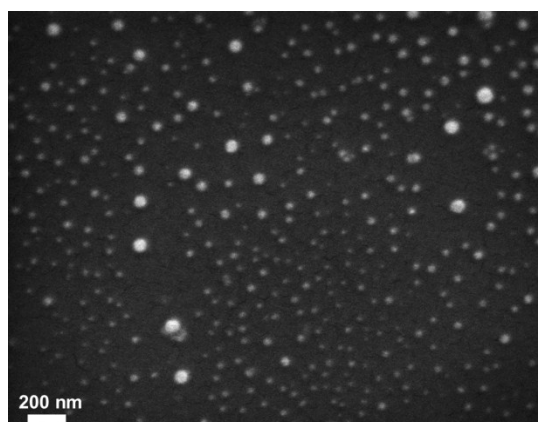


Fig S7. SEM images of the uncoated AgNPs.

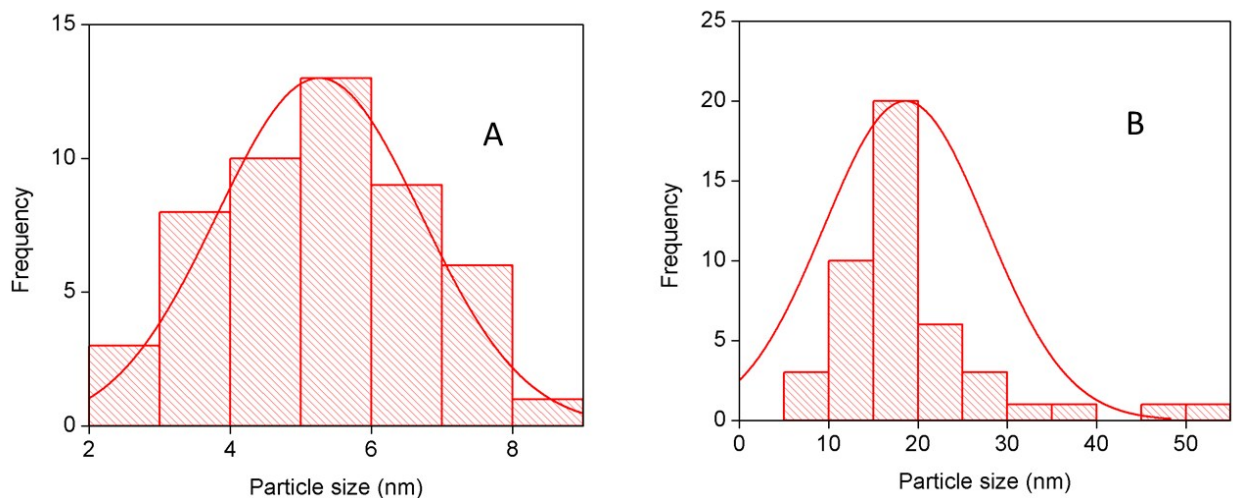


Fig S8. Particle size distribution from SEM images of the (A) ATP coated AgNPs and (B) uncoated AgNPs.

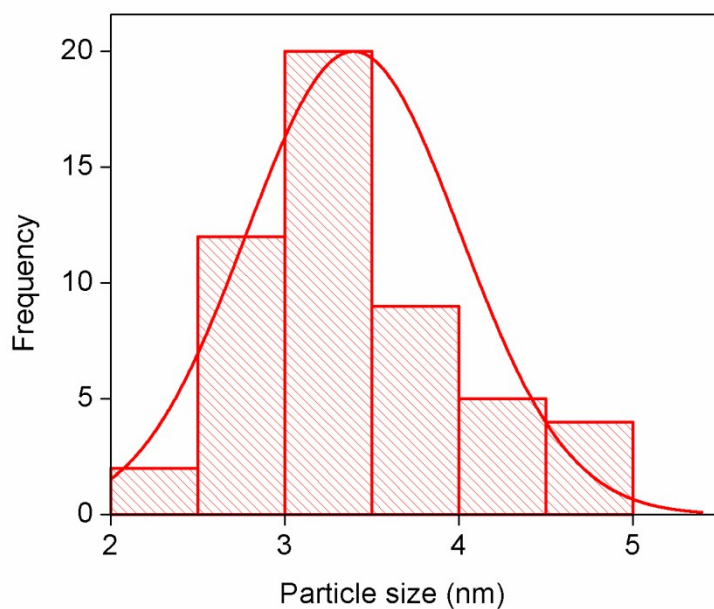


Fig S9. Particle size distribution from TEM images of the ATP coated AgNPs with metallic concentration 10 mM.

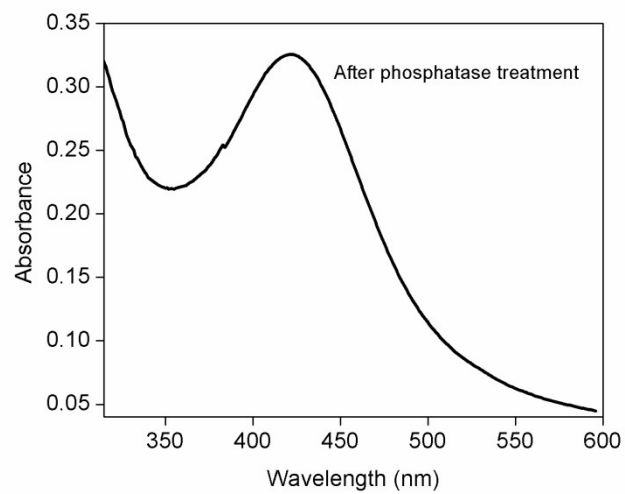


Fig S10. UV-Vis spectral feature after treatment with phosphatase enzyme.

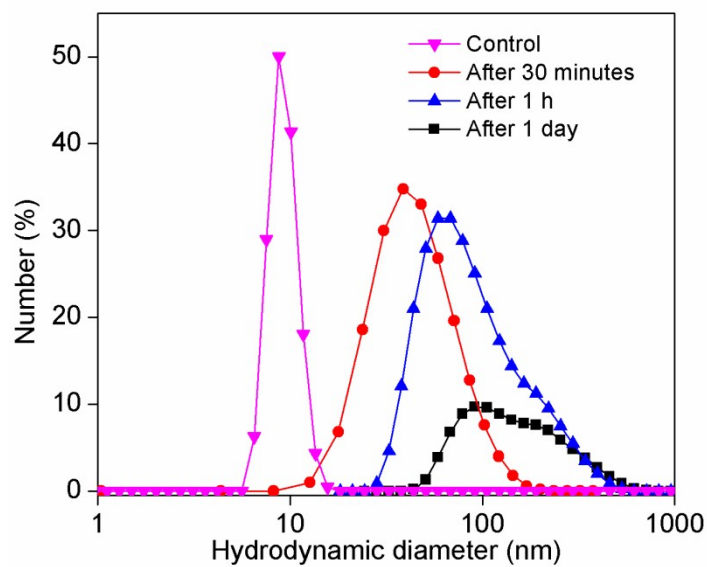


Fig S11. DLS Characterization of ATP coated AgNPs after treatment with phosphatase enzyme.

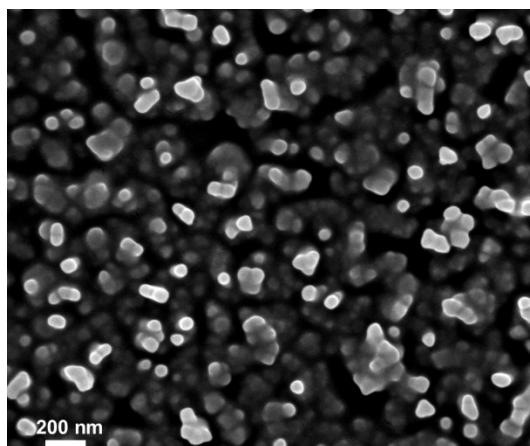


Fig S12. SEM images of the ATP coated AgNPs after phosphatase enzyme treatment.

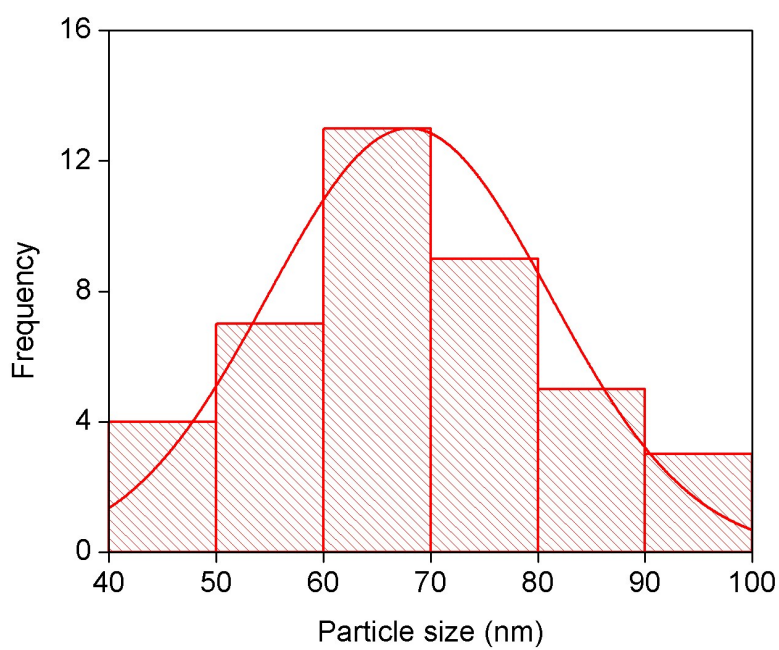


Fig S13. Particle size distribution from SEM images of ATP coated AgNPs after phosphatase treatment.

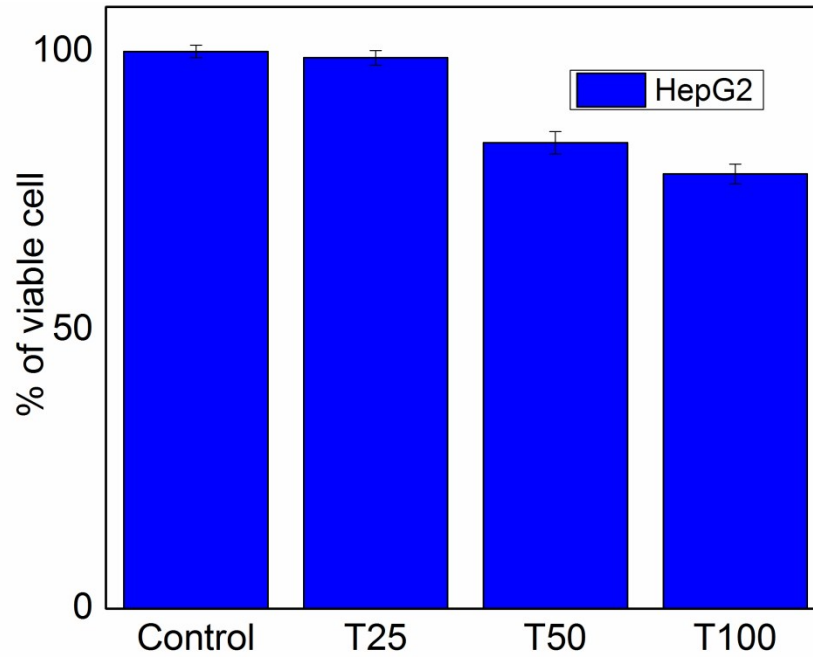


Fig S14. Cell viability study of uncoated AgNPs on the human liver cancer cell line (HepG₂). Cell viability was studied by WST-1 cell viability assay kit at 24h.

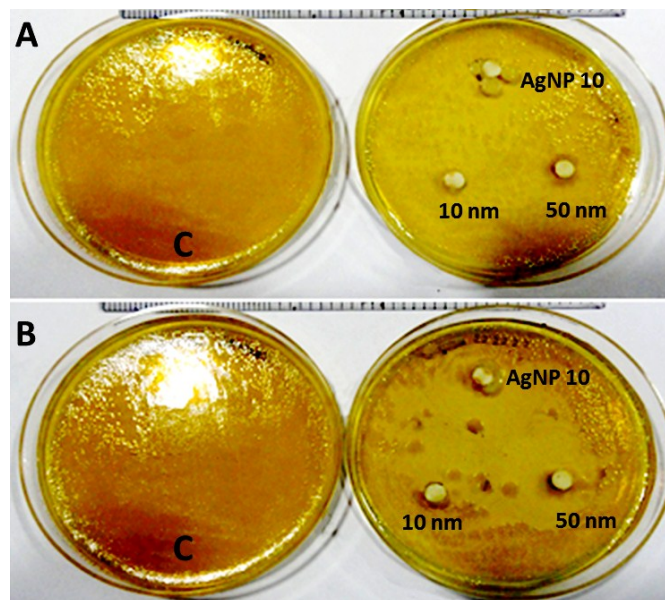


Fig S15. Zone of inhibition experiment of different sized silver nanoparticles against (A) *P. aeruginosa* (gram-negative) and (B) *S. aureus* (gram-positive) bacteria.