Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Green Synthesis of Silver Nanoparticles: Understanding Biological Activities - Anticancer, Antimicrobial, and Plasmid DNA Cleavage through Reactive Oxygen Species Release

Naseemabee Syed Shabulal[1], Thiyagarajan Perumal[1*], Mohammed F. Albeshr[2], Karuppiah Nagaraj[3*], Gunasekaran Velmurugan[4*], Prasenjit Maity[5], Isai Mathivanan[6], S.M. Abhijith[3], Niyati Hemantkumar Lad[3]

[1]Department of Microbiology, Disease control and Entomology Laboratory, School of Life Sciences, Bharathidasan University, Tiruchirappalli- 620 024, Tamil Nadu, India.

[2]Department of Zoology, College of Sciences, King Saud University, P.O. Box. 2455, Riyadh, 11451, Saudi Arabia

[3]School of Pharmacy, National Forensic Sciences University, 6M56+XP8, Police Bhavan Rd, Sector 9, Gandhinagar, Gujarat 382007, India.

[4]Institute of Inorganic Chemistry, Heidelberg University, Im Neuenheimer Feld 275, Heidelberg - 69120, Germany.

[5]School of Engineering and Technology, National Forensic Sciences University, 6M56+XP8, Police Bhavan Rd, Sector 9, Gandhinagar, Gujarat 382007, India.

[6]Research Department of Zoology, Seethalakshmi Ramaswami College (Autonomous), Affiliated to Bharathidasan University, Tiruchirappalli, Tamil Nadu, India.

*Corresponding author

E- mail: surfactantnagaraj@gmail.com, velmurugan.gunasekaran@aci.uni-heidelberg.de

Supporting Information

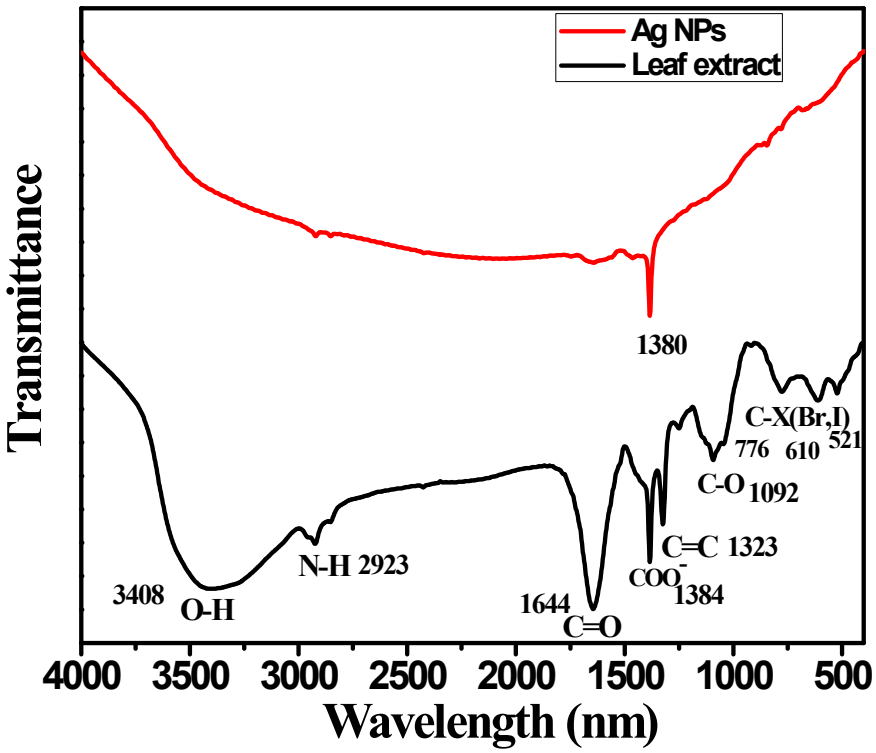

Fig. S1 FTIR spectra of CPL plant leaves extract and CPL-stabilized Ag-NPs**.**

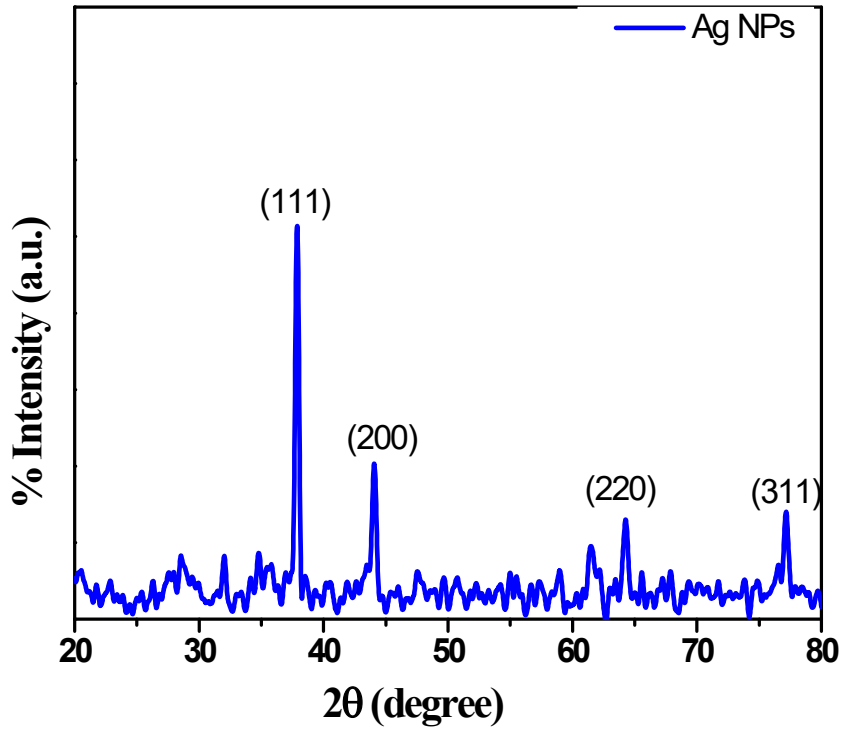

Fig. **S2** XRD spectra of CPL plant leaves extract and CPL-stabilized Ag-NPs.

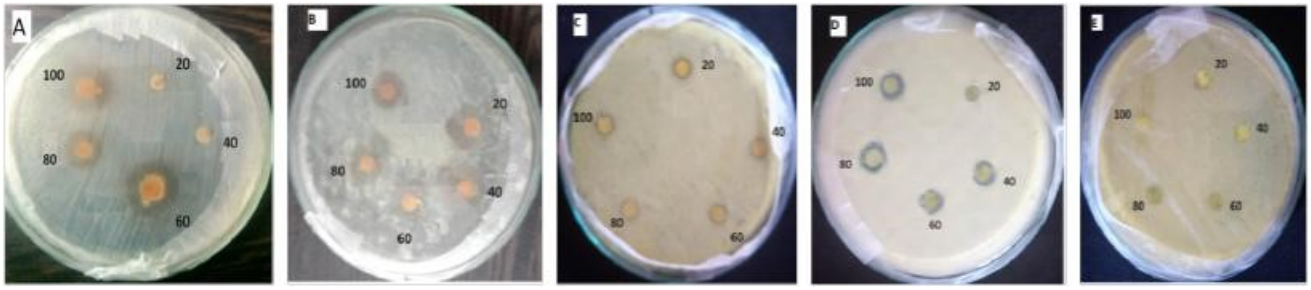

Fig. S3 Antibacterial Disc diffusion method. Zones of inhibition of biogenic Ag-NPs synthesized from CPL leaves extract, against the pathogenic strains. *(A) Bacillus subtilis., (B) Klebsiella pneumoniae., (C) Staphylococcus aureus.,(D) Escherichia coli., (E) Pseudomonas aeruginosa.*

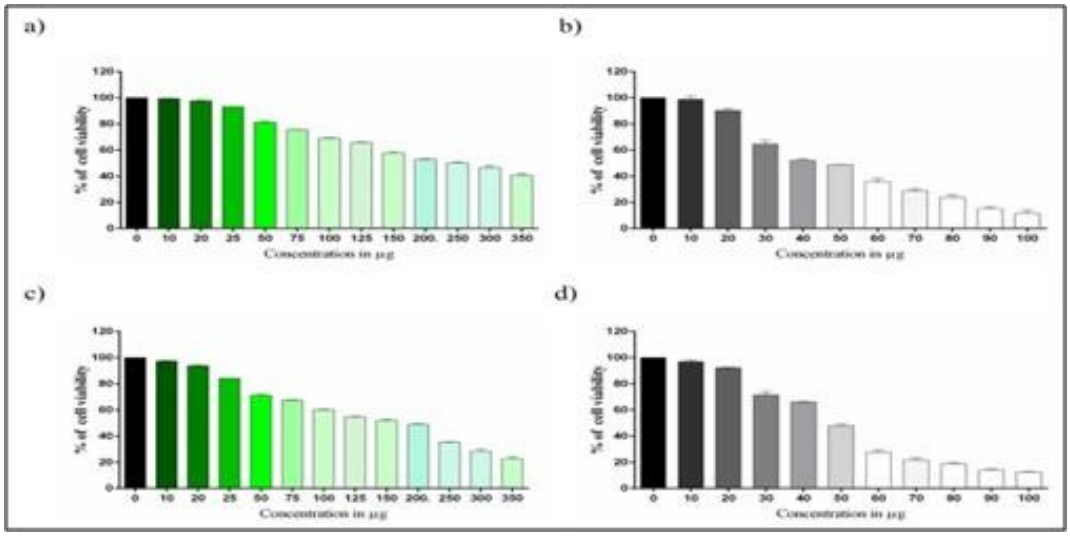

Fig. S4 a) Shows the plant extraction form of CPL induces the reduction of cell viability in dose dependent manner in MCF-7 cells. **b)** Shows the synthesized Ag-NPs produced the loss of cell viability in MCF-7 cells. **c)** Illustrated the plant extraction form CP_L induces the reduction of cell viability in dose dependent manner in MDA-MB-231 cells. **d)** Shows synthesized Ag-NPs produced the loss of cell viability in MDA-MB-231 cells.

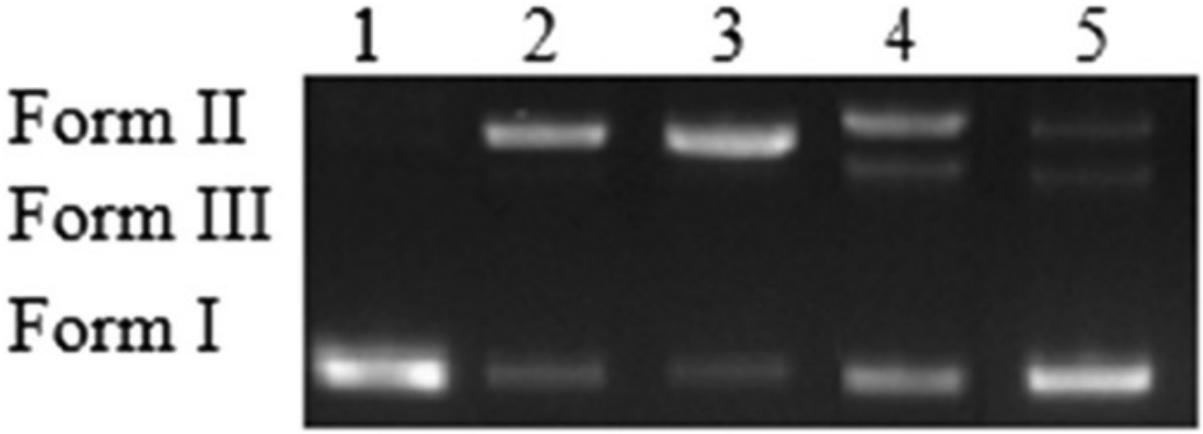

Fig. S5 Lane 1, pBR 322 DNA+200 mg/ml; Lane 2, pBR 322 DNA + 250 mg/ml Ag-NPs (60 min incubation); Lane 3, pBR 322 DNA + 300 mg/ml Ag-NPs (60 min incubation).