



Electronic Supplementary Information - ESI

New Hybrid Copper Nanoparticles/Conjugated Polyelectrolyte Composite with Antibacterial Activity

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Figure S1. ¹H NMR spectra of CP entry in CDCl₃.



Figure S2. ¹H NMR spectra of CPE entry in DMSO-*d*₆.



Figure S3. Images of the reaction flasks containing the CuNPs and different amounts of CPE: a) 5 mg, b) 15 mg, c) 30 mg. d) Suspension b) after 48 h uncapped.



HOMO



Figure S4. (a) HOMO and (b) LUMO frontier orbitals of CPE at B3LYP/TZVP level.



Figure S5. (a) HOMO and (b) LUMO frontier orbitals of complexes T-Cus-4 and T-Cus-5.



Figure S6. Images of the *S. enteriditis* bacteria cultures incubated with CPE composite for 24 h (a) in the dark and (b) under irradiation.



Figure S7. Image of an experiment run under white light irradiation.





(b)

Figure S8. Images of the *S. aureous* bacteria cultures incubated with CuNPs/CPE composite for 24 h (a) in the dark and (b) under irradiation.