

Supplementary information

Facile and Single-step Entrapment of Chloramphenicol in ZIF-8 and Evaluation of Its Performance in Killing Infectious Bacteria with High Loading Content and Controlled Release of Drug

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S1. Synthesis of ZIF-8

The solution of $\text{Zn}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$ (0.20g in 5mL H_2O) was added to the solution of the 2-methylimidazole (0.3312g in 5mL H_2O + 0.2 mL TEA). After stirring the solution for 90 s, the precipitate was separated from the solution by centrifugation at 7000 rpm for 10 min, washed twice with water and separated again by centrifugation. Finally, the falcon tube containing the product was dried overnight at 30 °C in a vacuum oven.

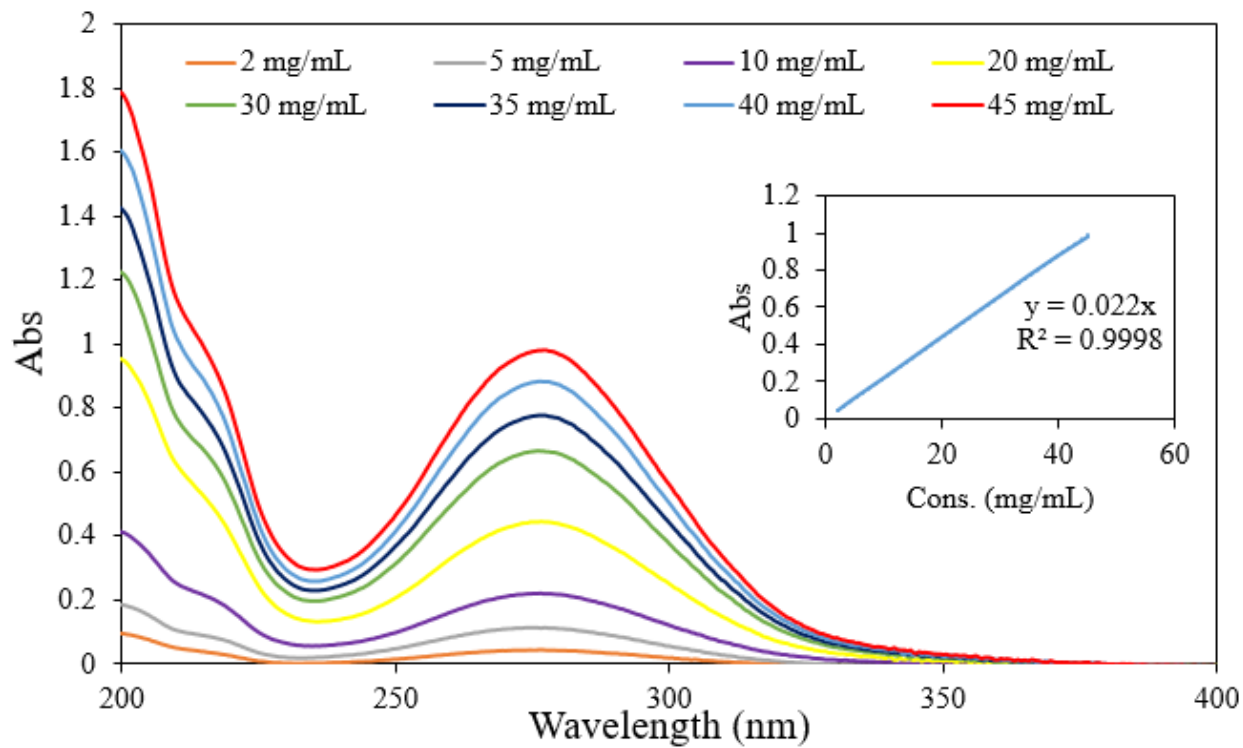


Figure S1. Chloramphenicol (CLN) calibration curve.

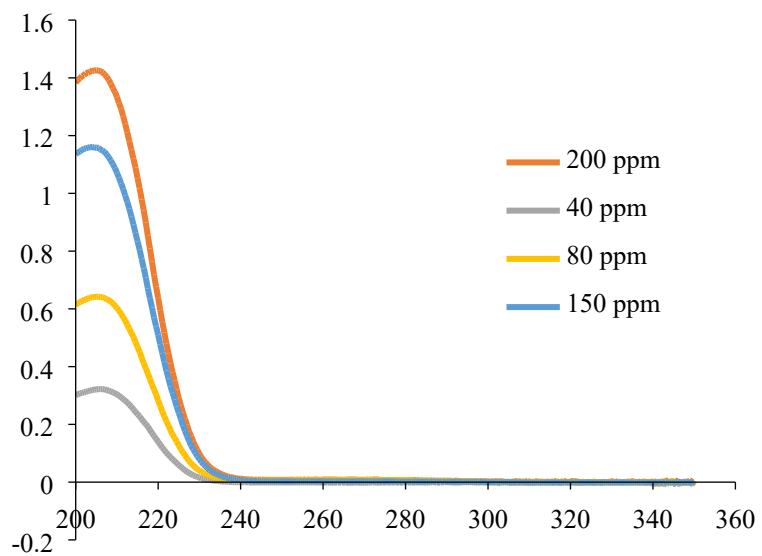


Figure S2. 2-methylimidazole ligand calibration curve.

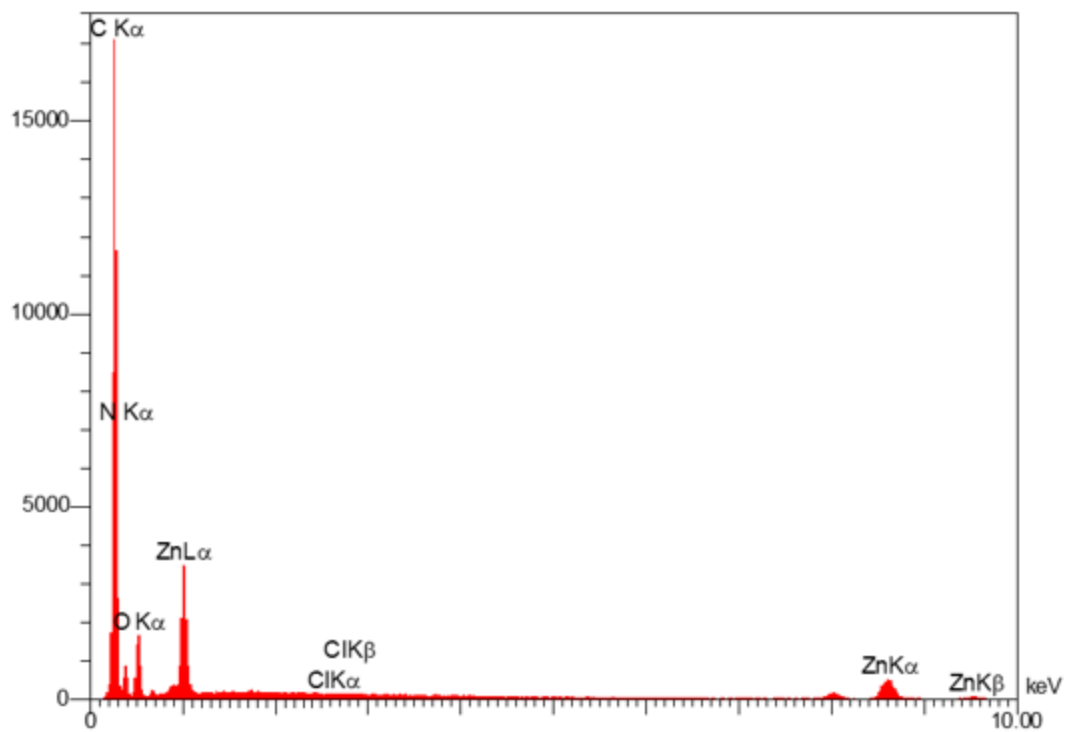


Figure S3. EDS analysis of CLN@ZIF-8.

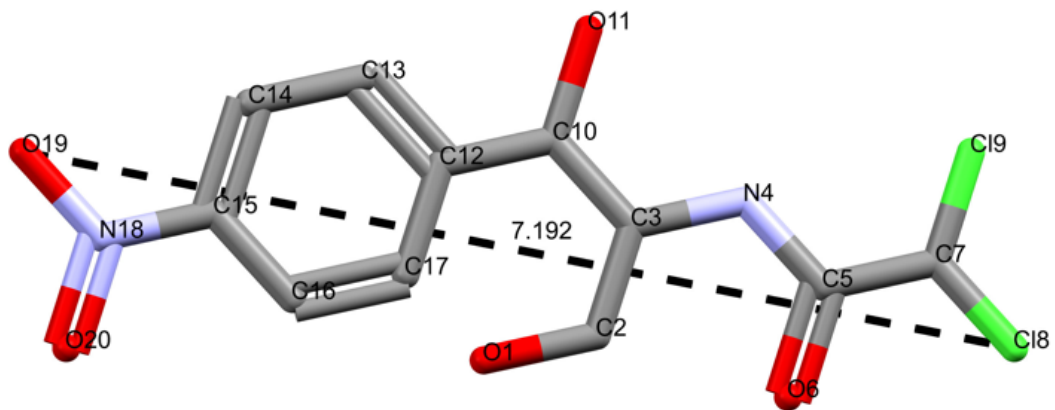


Figure S4. View of the CLN and its size obtained by Mercury software.

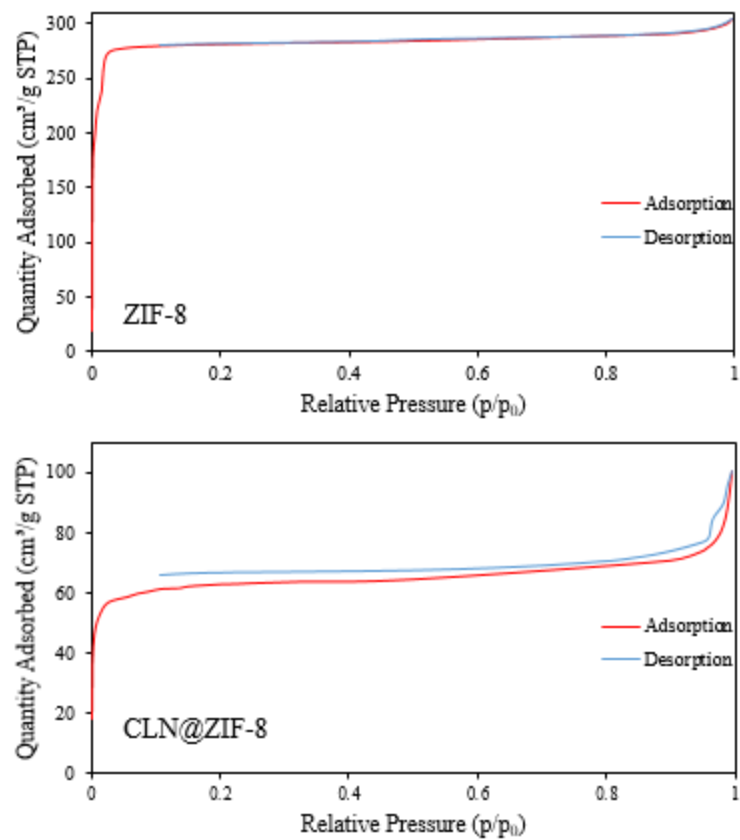


Figure S5. N₂ adsorption and desorption isotherms of ZIF-8 and CLN@ZIF-8.

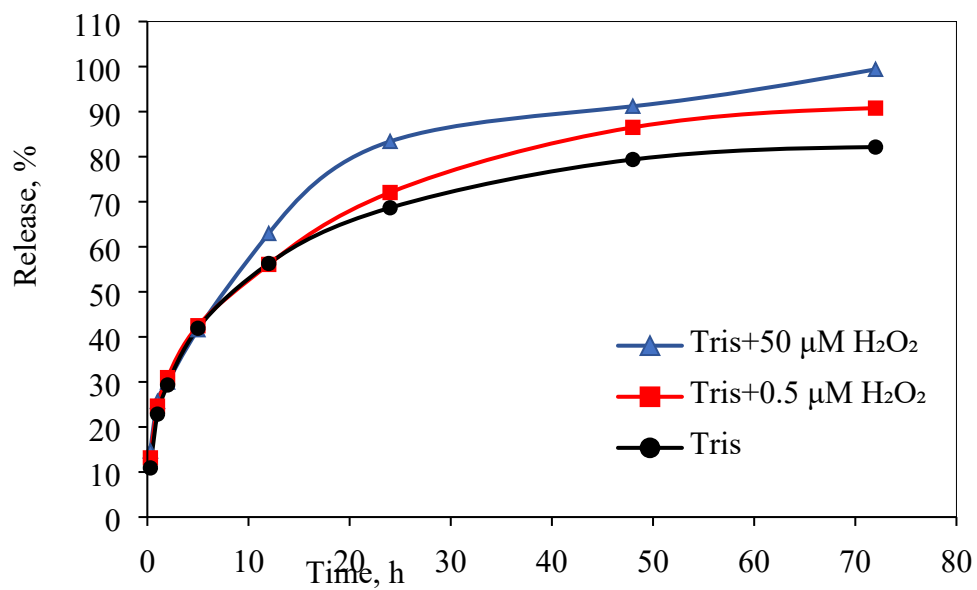


Figure S6. The cumulative release curve of CLN from CLN@ZIF-8 in Tris buffer.

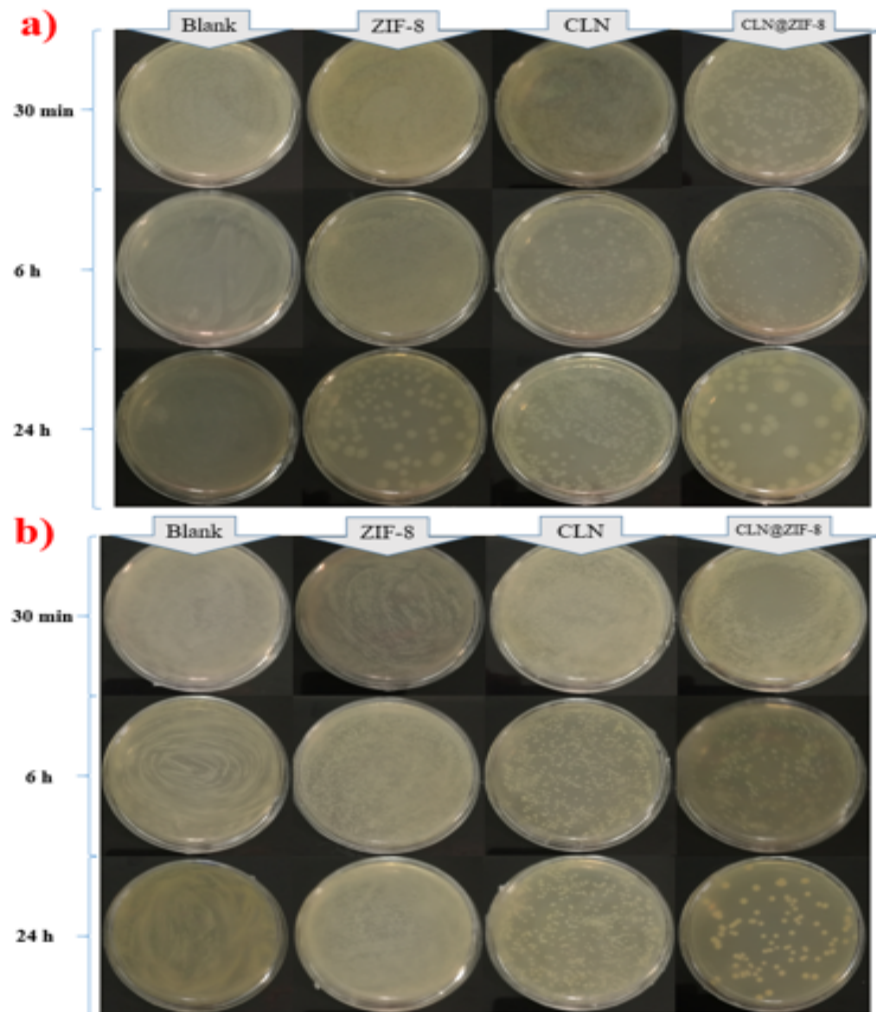


Figure S7. Antibacterial activity of CLN@ZIF-8, CLN, and ZIF-8 in the viable cell count method on a) *E. coli* and b) *S. aureus* bacteria. Blank plates are also provided for comparison and accuracy of results.