

Electronic Supplementary Information

Two structurally diverse Zn-based coordination polymers with excellent antibacterial activity

*Ian R. Colinas, Mauricio D. Rojas-Andrade, Indranil Chakraborty and Scott R. J. Oliver**

E-mail: soliver@ucsc.edu

University of California, Santa Cruz, Department of Chemistry and Biochemistry,
1156 High Street, Santa Cruz, California, 95064, United States

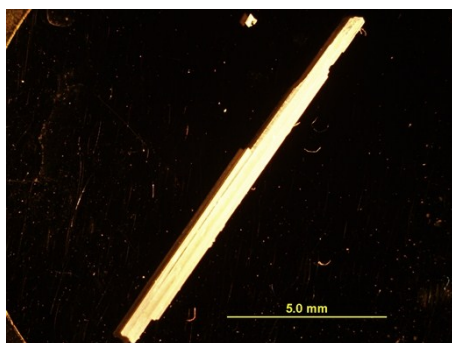


Figure S1. Optical micrograph of SLUG-39 crystals.

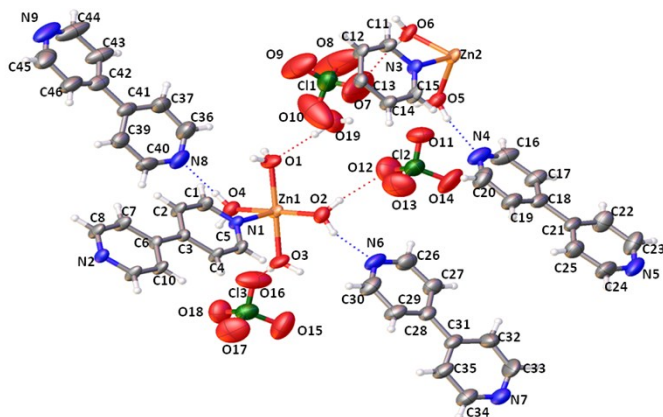


Figure S2. ORTEP diagram and atomic labeling of SLUG-39. Thermal ellipsoids are shown at 50% probability.

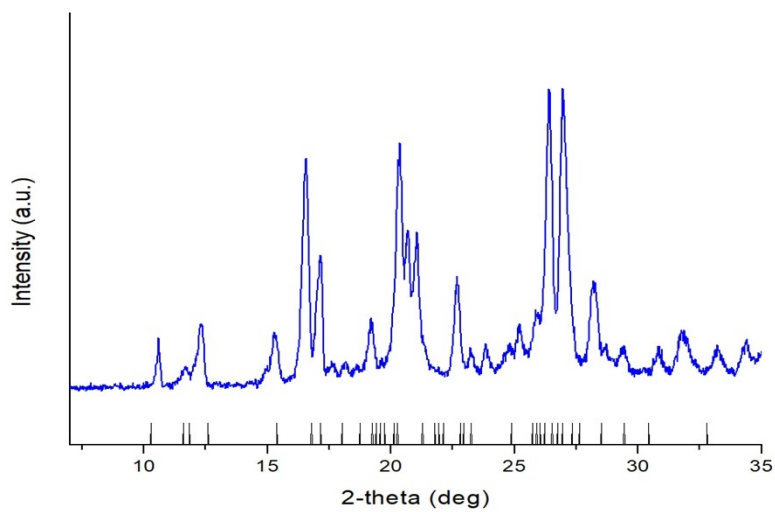


Figure S3. PXRD of as-synthesized SLUG-39. The theoretical peaks based on the single crystal structure solution are shown as bars at the bottom.

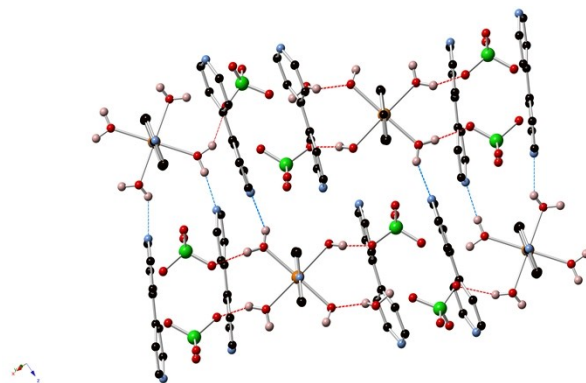


Figure S4. Extended structure of SLUG-39 depicting the hydrogen bonding interaction (dashed blue lines) between the terminal waters of the chains and the free waters and neighboring free 4,4'-bipy molecules.

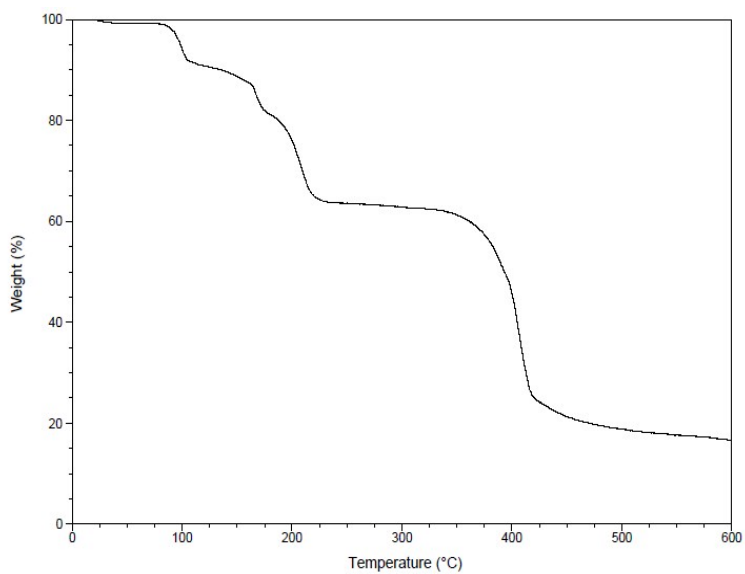


Figure S5. Thermogravimetric profile of SLUG-39.

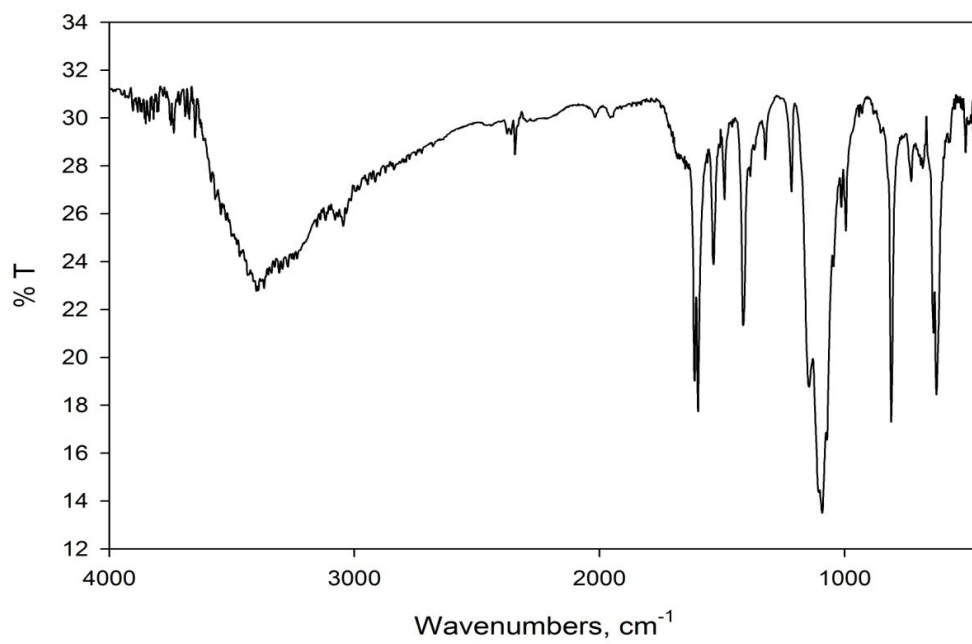


Figure S6. FTIR spectrum of as-synthesized SLUG-39.

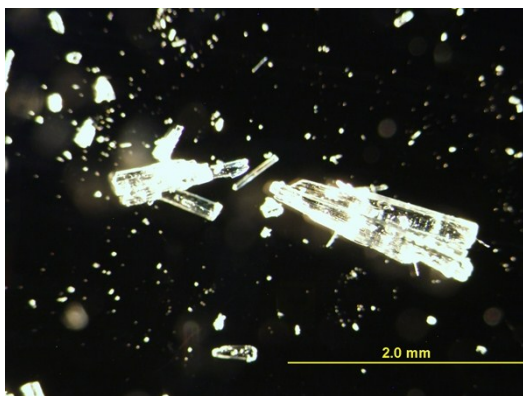


Figure S7. Optical micrograph of SLUG-40 crystals.

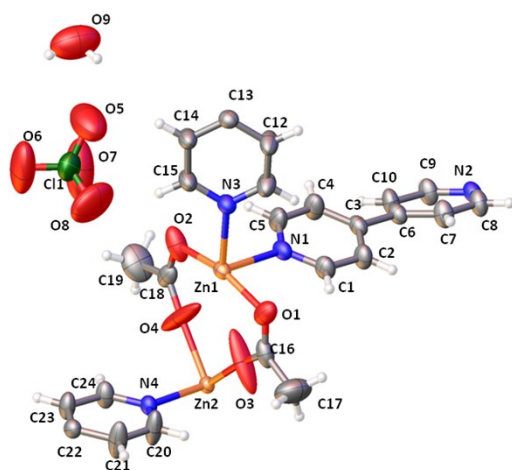


Figure S8. ORTEP diagram and atomic labeling of SLUG-40. Thermal ellipsoids are shown at 50% probability.

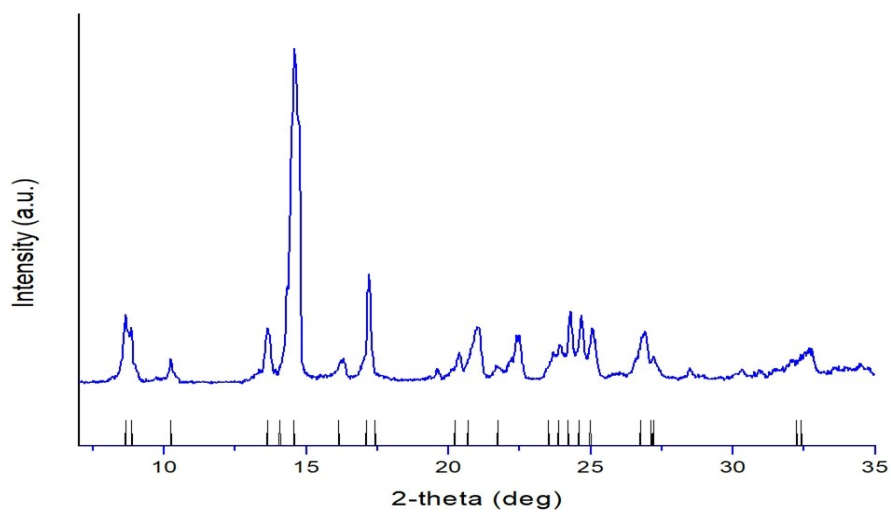


Figure S9. PXRD of as-synthesized SLUG-40. The theoretical peaks based on the single crystal structure solution are shown as bars at the bottom.

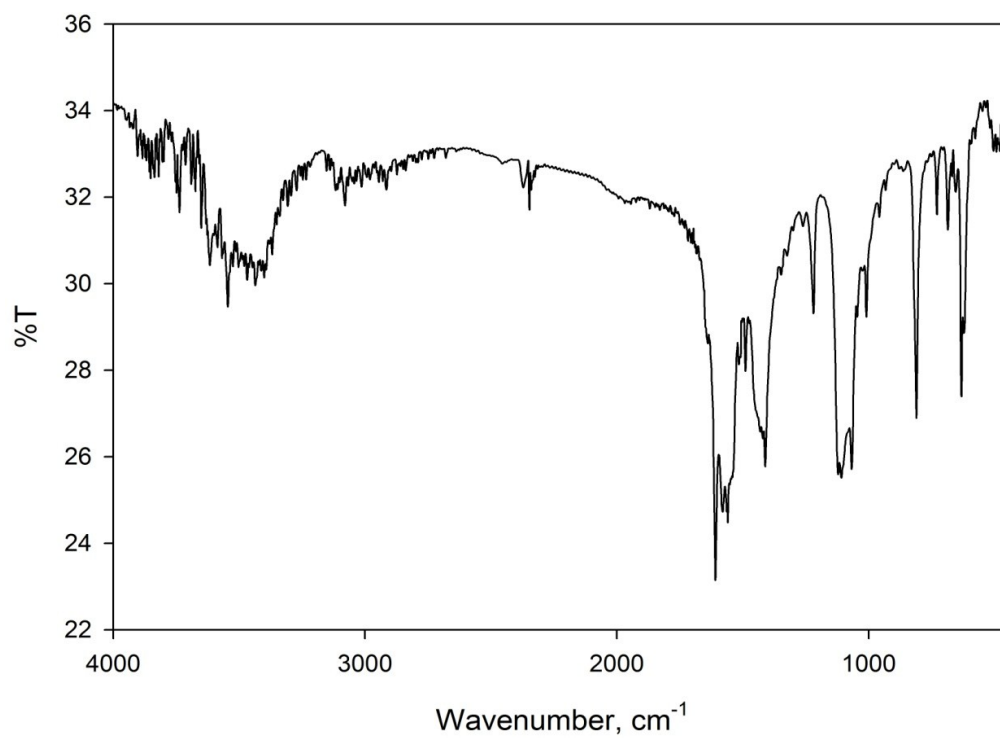


Figure S10. FTIR spectrum of as-synthesized SLUG-40.

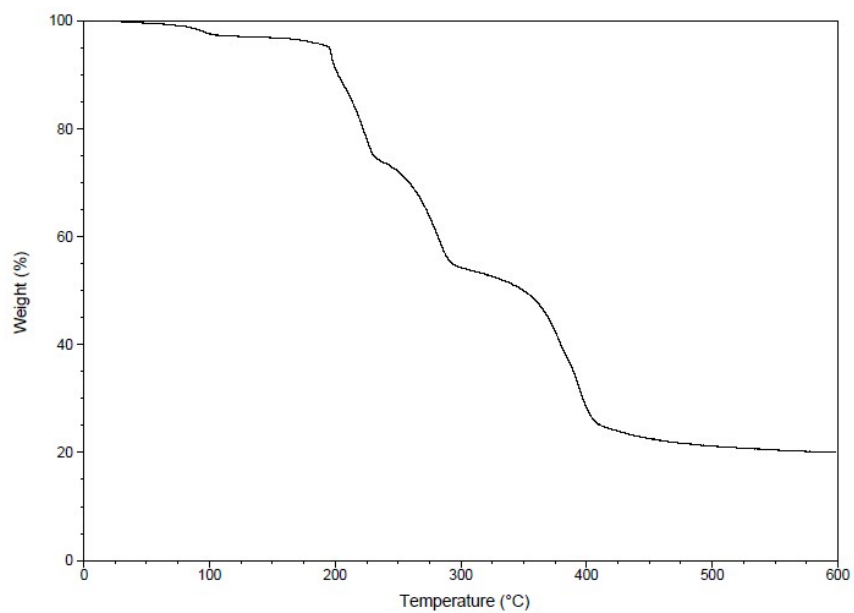


Figure S11. Thermogravimetric profile of SLUG-40.

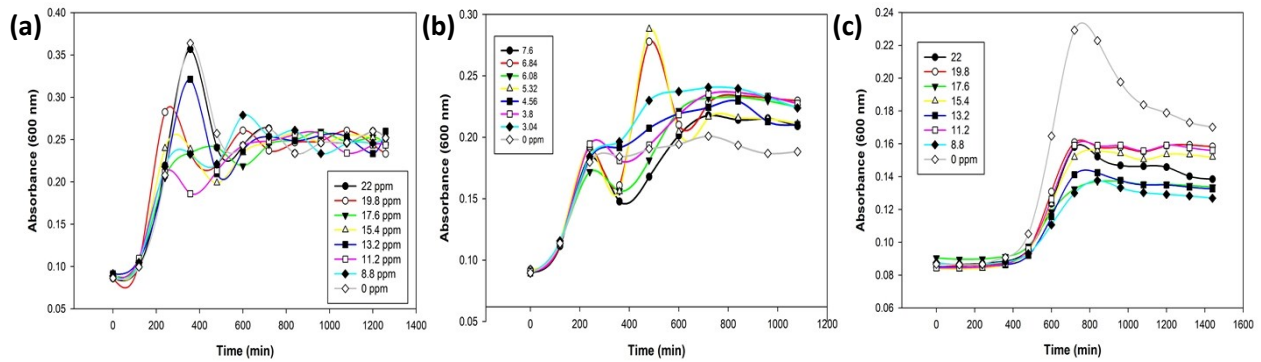


Figure S12. Bacterial growth curves of *E. coli* displaying no inhibition in the presence of: (a) 4,4'-bipy; (b) NaClO₄; (c) Bacterial growth curves of *S. epidermidis* displaying no inhibition in the presence of 4,4'-bipy.

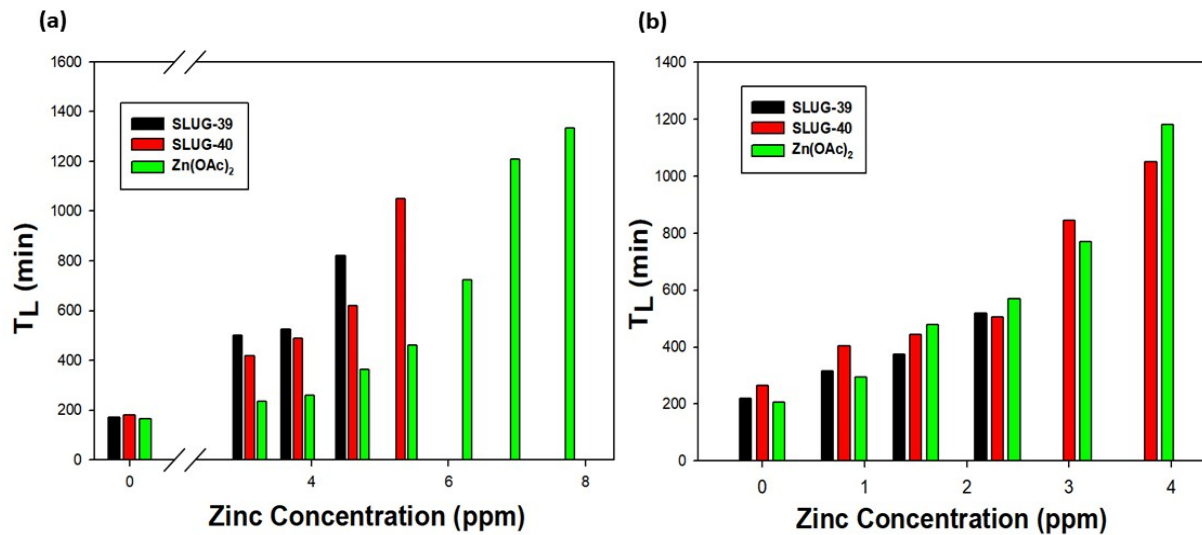


Figure S13. Bar chart summarizing lag phase durations (T_L) of: (a) *E. coli* and (b) *S. epidermidis*; at varying concentrations of SLUG-39, SLUG-40, and Zn(OAc)₂ normalized by their zinc content.

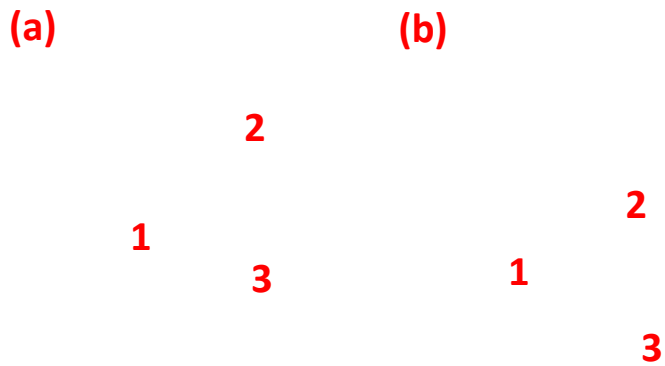


Figure S14. Agar diffusion test of: (a) *E. coli*; (b) *S. epidermidis*, treated with: (1) KBr; (2) 4,4'-bipy; (3) NaClO₄.

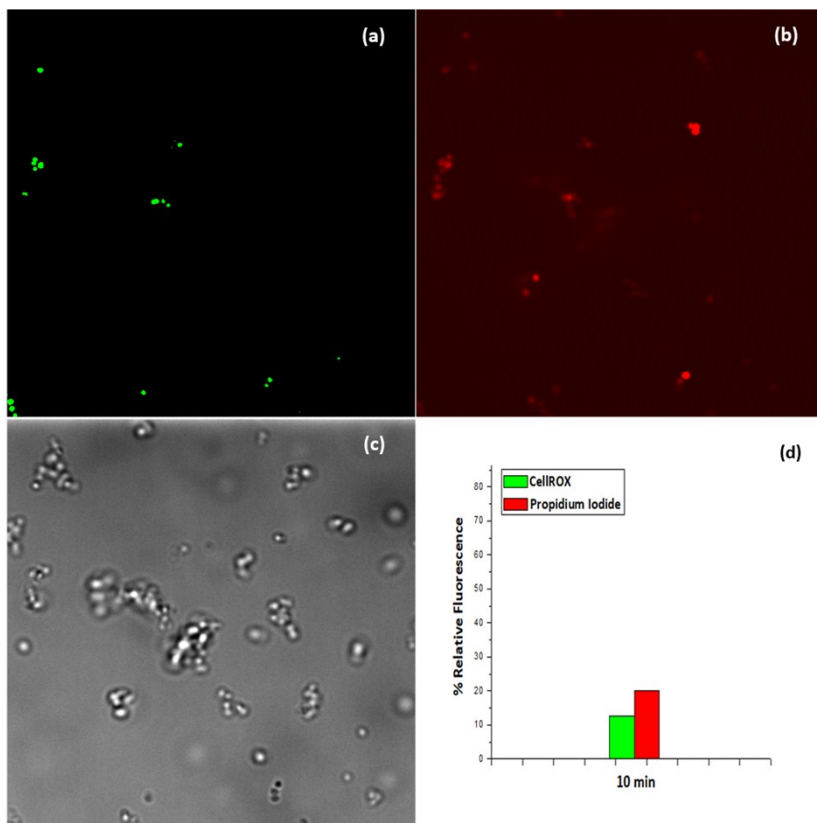


Figure S15. Fluorescence microscopy images of *S. epidermidis* incubated with 5 μM CellROX Green and 10 μM propidium iodide in water after 10 min: (a) 488 nm excitation, 500-550 emission ; (b) 561 nm excitation, 573-613 nm emission; (c) Bright-field channel; (d) Relative fluorescence from CellROX Green and propidium iodide.

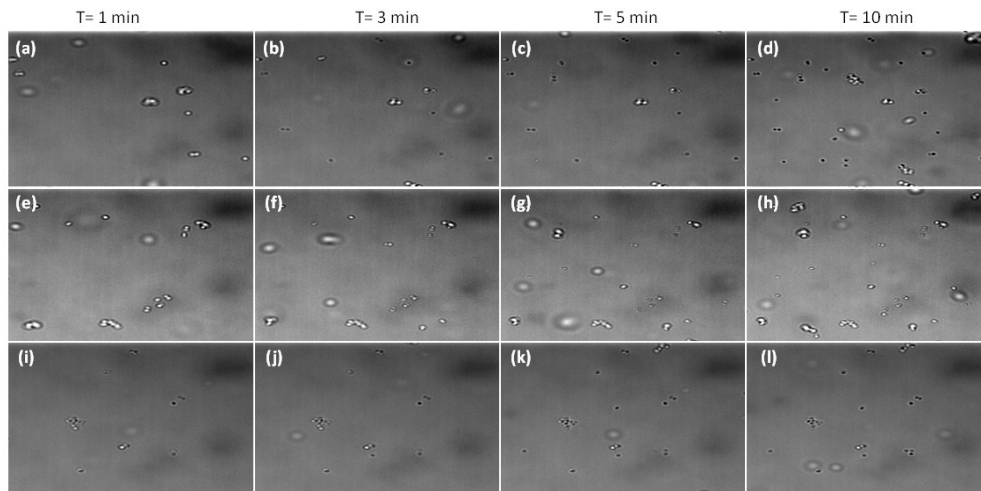


Figure S16. Bright-field microscopy images of *S. epidermidis* incubated with 5 μ M CellROX and 10 μ M propidium iodide treated with: (a-d) SLUG-39; (e-h) SLUG-40; (i-l) Zn(OAc)₂.