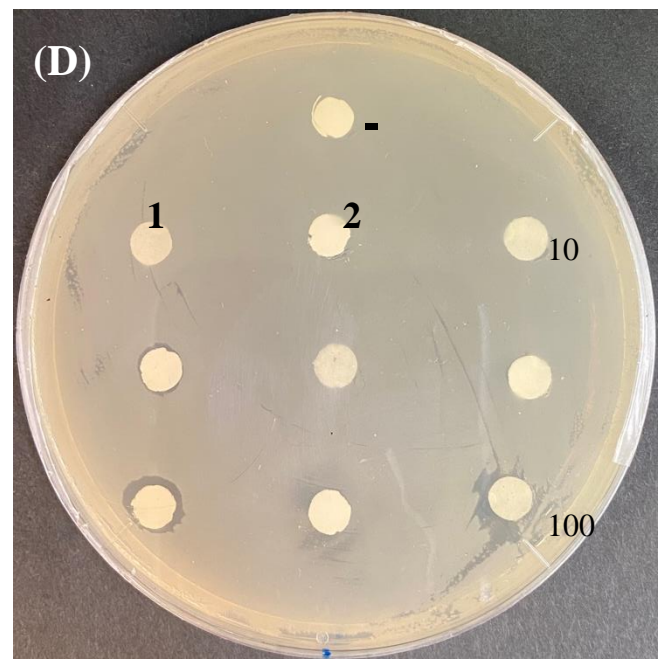
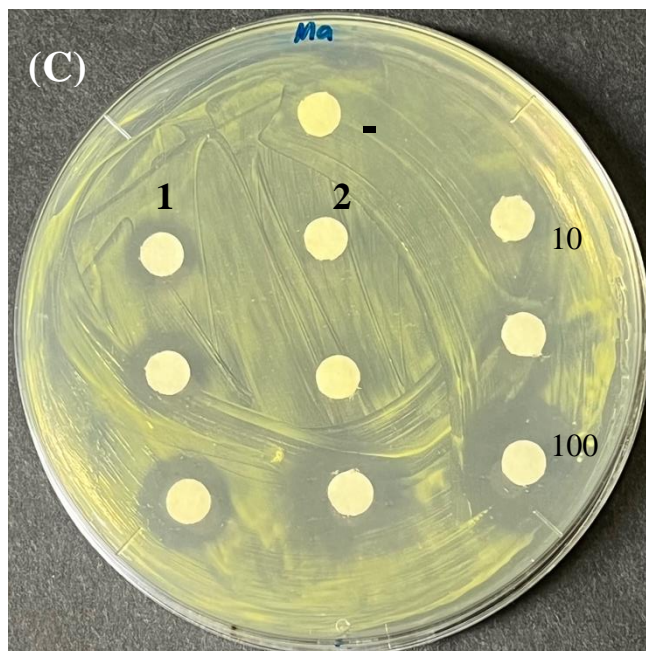
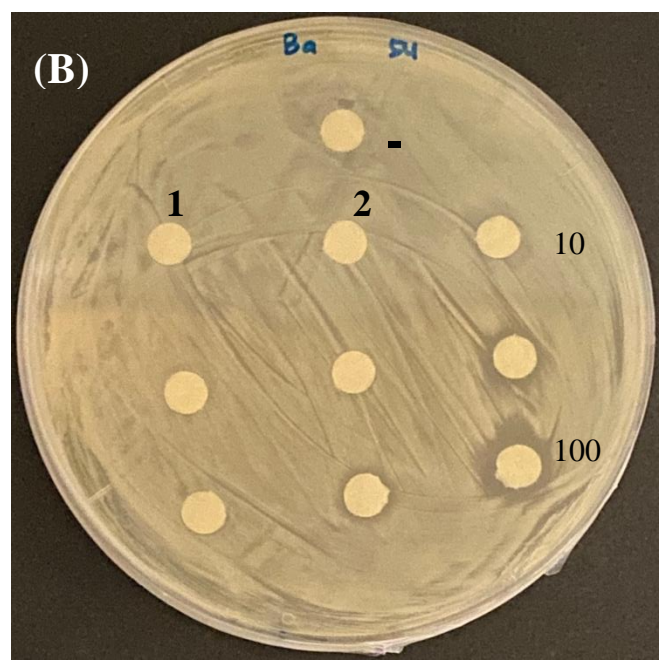
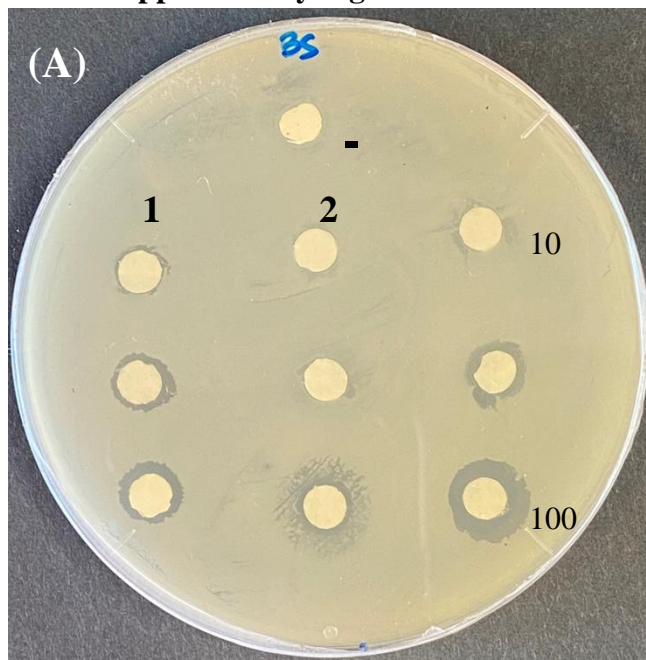
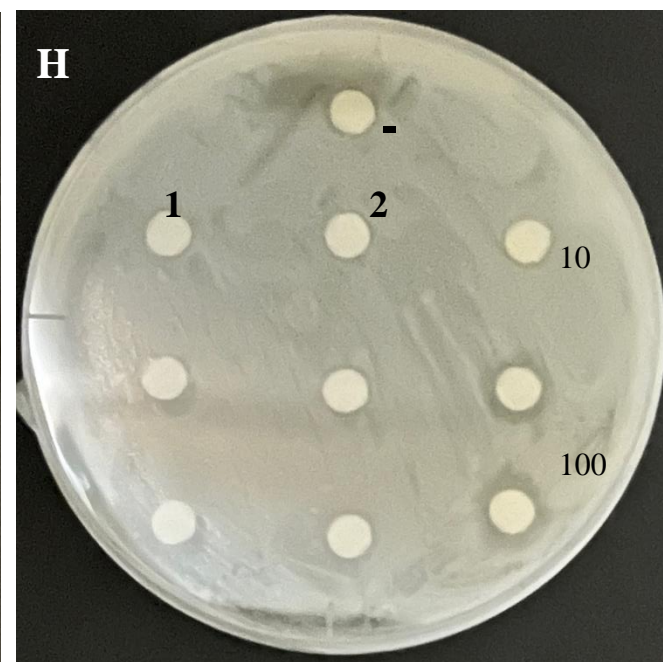
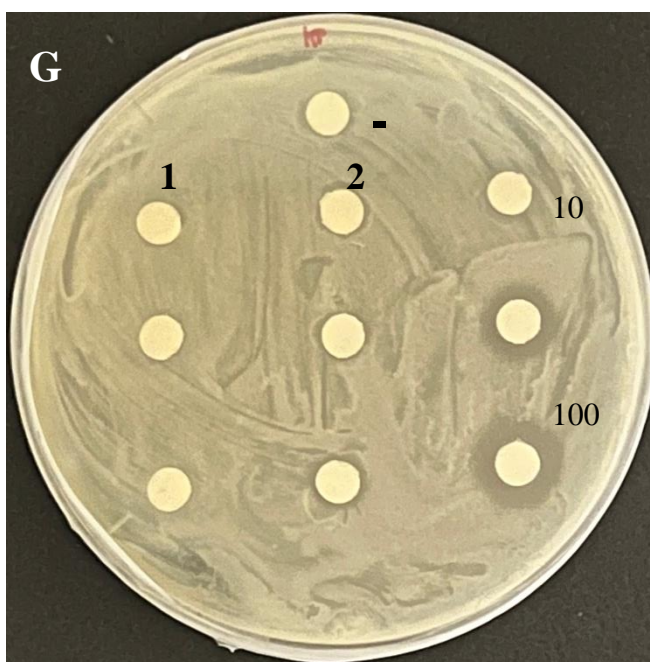
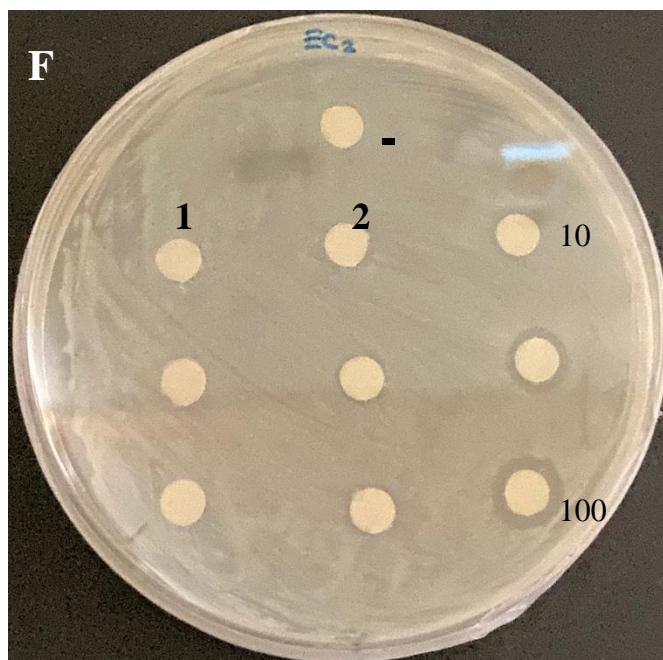
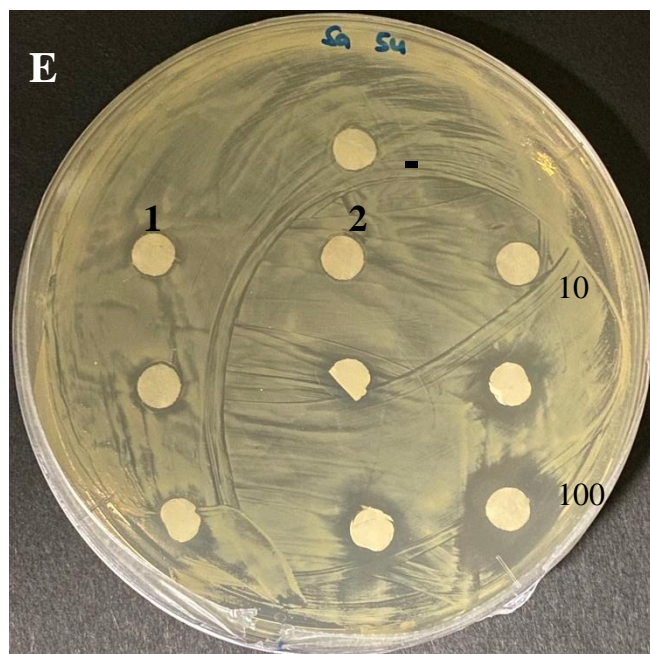


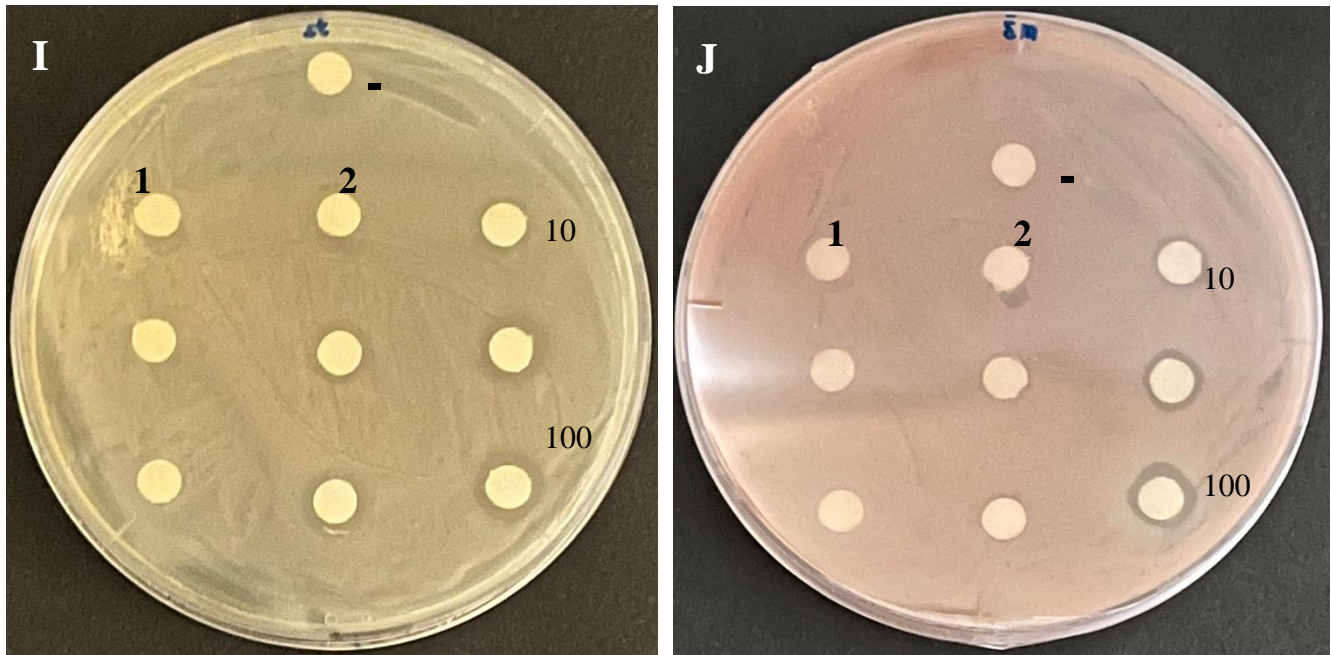
Supplementary Material

1 Supplementary Figures

1.1 Supplementary Figures

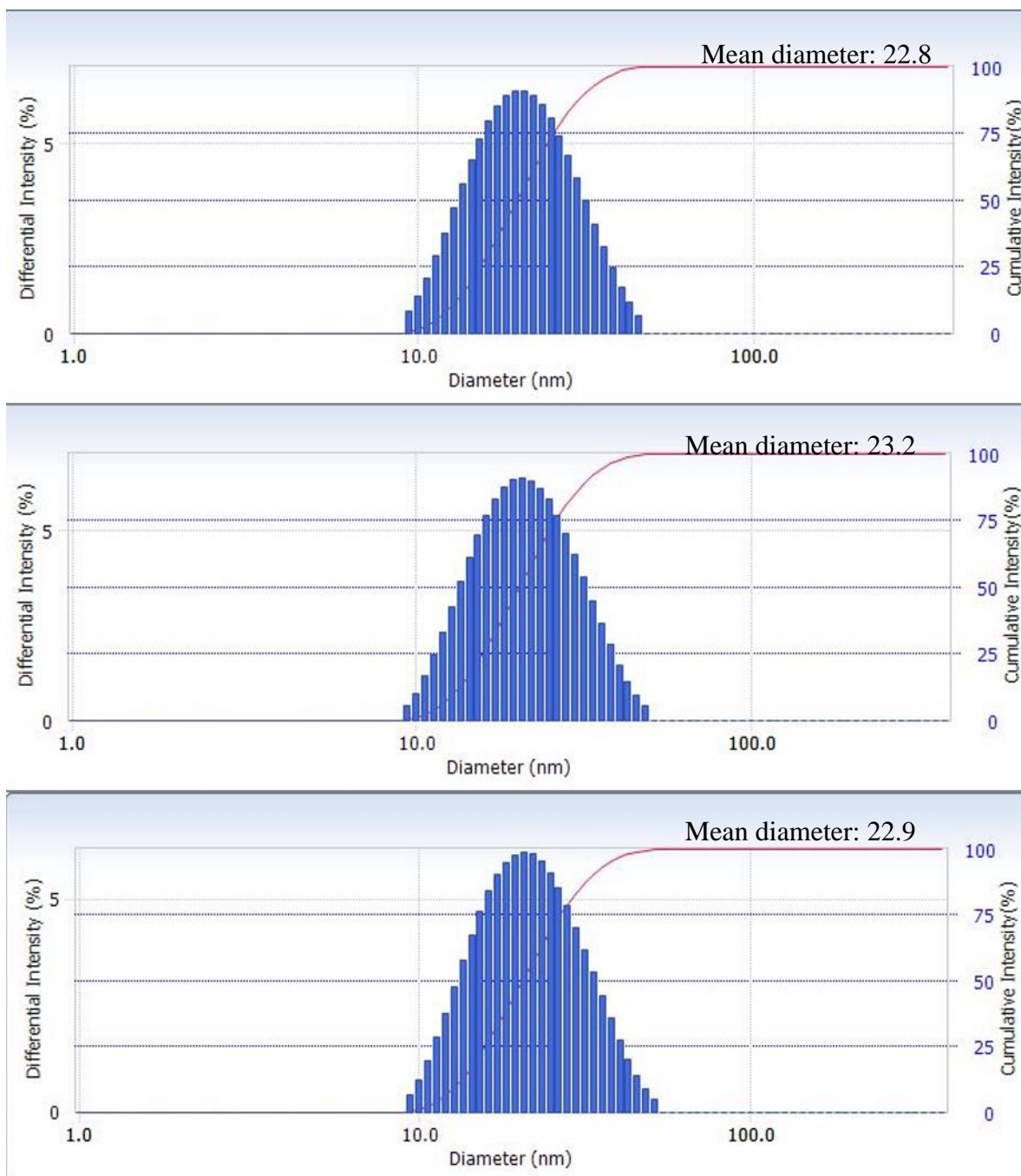




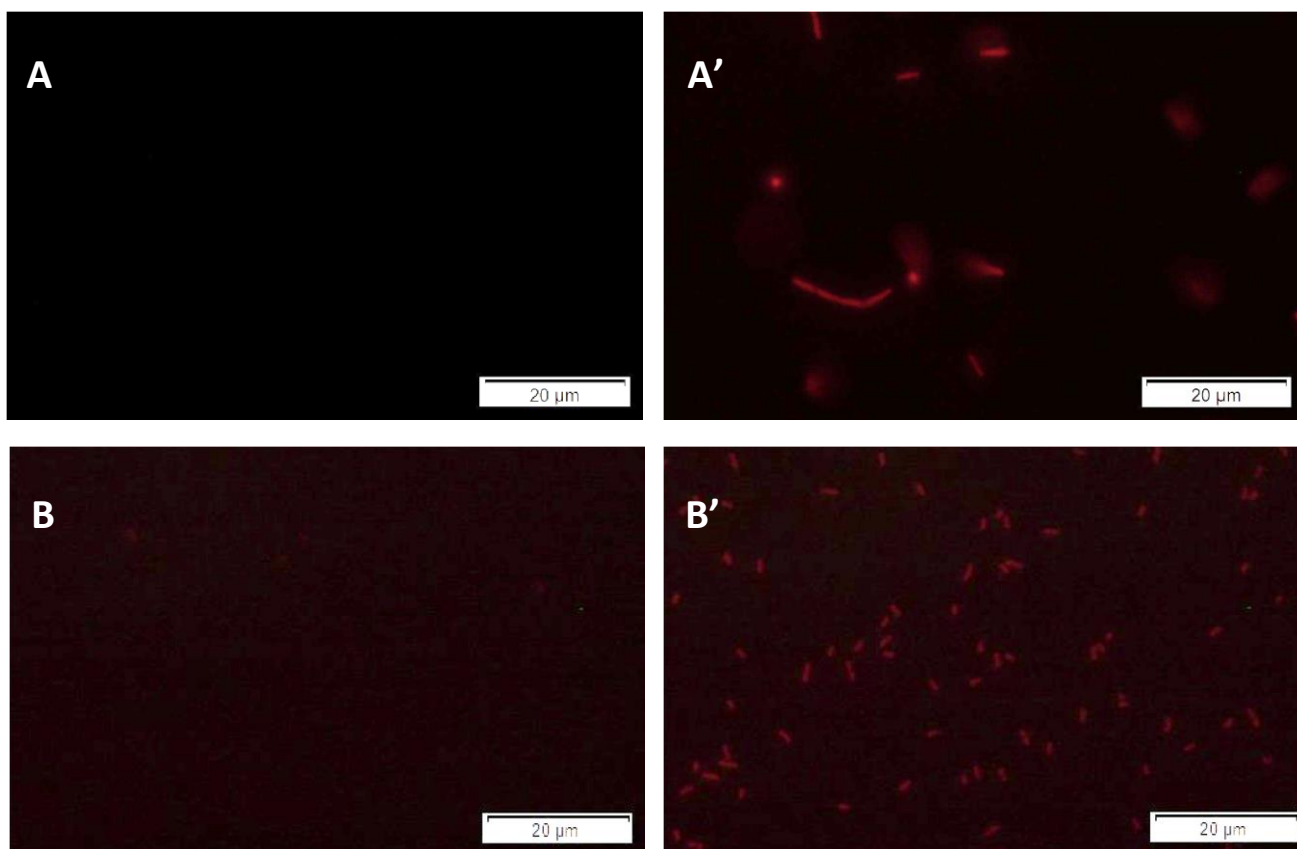


Supplementary Figure S1. Non cell growth zone appeared around paper disks containing iBCA-NPs, EECA-NPs, or ECA-NPs. Gram-positive bacteria: A, *Bacillus subtilis*; B, *Brevibacillus agri*; C, *Microbacterium aurum*; D, *Propobacterium acnes*; E, *Staphylococcus aureus*; Gram-negative bacteria: F, *Escherichia coli*; G, *Klebsiella pneumoniae*; H, *Pseudomonas aeruginosa*; I, *Salmonella typhimurium*; J, *Serratia marcescens*.

(-), control paper disk contains Tween80; 1, paper disk contains iBCA-NPs; 2, paper disk contains EECA-NPs; 3, paper disk contains ECA-NPs.



Supplementary Figure S2. Particle size distribution histogram of iBCA-NPs used in the present study.



Supplementary Figure S3. Fluorescence microscopy of cells after 2 h exposure with 100 mg/L of ECA-NPs and untreated cells. Fluorescence probe PI was used to detect the cell membrane damage. (A), *Bacillus subtilis* (Gram-positive); (B), *Escherichia coli* (Gram-negative); alphabet, fluorescence of untreated cells; alphabet with quotation mark ('), fluorescence image of treated samples.