Synthesis of Cu2O micro/nanocrystals with tunable morphologies using coordinating ligand as structure controlling agent and antimicrobial studies

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Figure S1. FE-SEM morphologies of Cu2O nano/microstructures synthesized using dextrose oxidizing agent with (a) alanine, (d) valine amino acid and ascorbic acid oxidation with (b) alanine, (c) valine amino acid.

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Figure S2. Representative EDX spectrum of Cu$_2$O synthesized using 1c with dextrose.

Figure S3. Antibacterial effect of Cu$_2$O nanocrystals (cube) dissolved in DMSO against representative bacteria. A- *E.coli*, B- *Staphylococcus aureus* and C- *Bacillus subtilis*. Left panel depicts Cu$_2$O nano particles dissolved in DMSO and tested against
Figure S4. Antibacterial effect of Cu$_2$O nanocrystals (cube) dispersed in water against representative bacteria. A- E.coli, B- Staphylococcus aureus and C- Bacillus subtilis.

Figure S5. Cu$_2$O nanocrystals (cube) reduce viable plate count of both gram negative and gram positive bacteria when dispersed in liquid culture. Test is with Cu$_2$O nanocrystals.
Figure S6. Cu$_2$O nanocrystals exert their antibacterial effect by altering membrane permeability of both gram positive and gram negative bacteria.