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# Preparation of Cupric Oxides Nanoparticles for Antibacterial Applications

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**Abstract :** This study reports to prepare cuprous oxide (Cu2O) particles with different dimension and shape for evaluating the antibacterial applications. In the preparation of Cu2O, the surfactant, cetyltrimethylammonium bromide (CTAB), was used as templates to modulate the size of the prepared Cu2O particles. Furthermore, ammonia water was used for adjusting the pH environment that four different shapes of particles including cubic, spherical, octahedral, and star-like Cu2O were synthesized. The physical characteristics of Cu2O particles were evaluated by scanning electron microscope (SEM), transmission electron microscopy (TEM), X-ray diffraction (XRD), UV/VIS spectrophotometer, and zeta potential meter/particle size analyzer (ZetaPALS). The resistance to bacteria was investigated against Escherichia coli (E. coli) and Staphylococcus aureus (S. aureus) by applying the synthesized Cu2O particles that the qualitative analyses were facilitated by measuring the inhibition zone on Agar plate.

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