

### Outstanding Antibiofilm Features of Quanta-CuO Thin Film on Glass

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CuO quantum dots (quanta-CuO) synthesized by simple solution route, was formulated as paint to construct thin film coatings on glass. Antibiofilm assay showed a very high contact bacteria-killing capacity of as-coated CuO glass surfaces towards Escherichia coli and Staphylococcus aureus. This efficient antibacterial activity was ascribed to the intracellular ROS generation by quanta-CuO attached to the bacterial cells, which in turn provokes an oxidative stress. Furthermore, the synergetic effect of quanta-CuO and conventional antibiotics enhances the antibacterial efficacy of commonly used antibiotics. This state-of-the-art design qualifies them as promising candidates for novel biomedical device coatings.