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## Synthesis, Characterization and Antimicrobial Studies of SnO<sub>2</sub> Nanoparticles

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**Abstract :** This study was involved to synthesize and investigate the antimicrobial properties of highly pure nanocrystalline SnO<sub>2</sub> by simple chemical method. In the nanorods, SnO<sub>2</sub> nanoparticles, with a size of about 74 nm, the SnO<sub>2</sub> nanoparticles were maximum antibacterial activity against both bacterial and fungal with the zone of inhibition for Klebsiella pneumoniae, Staphylococcus aures, Salmonella typhi and Ascerpergillus Flavus, Ascerpergillus Niger from  $25\mu$ g/ml and  $100 \mu$ g/ml respectively. SnO<sub>2</sub> nanoparticles showed good activity against both Gram-negative and Gram-positive bacteria confirming these as future broad spectrum antibacterial a cost effective way and to study its antimicrobial properties. We observed an effective antibacterial and antifungal activity of the SnO<sub>2</sub> nanoparticle against bacteria and fungi. The results showed that SnO<sub>2</sub> nanoparticles enhanced the good antibacterial activity.

**Keywords :** SnO<sub>2</sub> Nanoparticles, Klebsiella pneumoniae, Staphylococcus aures, Salmonella typhi.

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