

Antibacterial activity of zinc oxide and copper oxide nanoparticles against nosocomial bacterial strains

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Abstract

The aim of this work is the development of nanomaterials based on metal oxide nanoparticles with enhanced microcide activity for surface decontamination. The synthesis of zinc and copper oxide nanoparticles of 5 nm diameters was performed by the sol-gel method. The antibacterial activity were measured on Gram-positive bacteria (*Staphylococcus aureus*) and Gram-negative bacteria (*Escherichia coli* and *Pseudomonas aeruginosa*) using the disk diffusion method and ATP bioluminescence analysis. This approach is used to select the best compromise between antimicrobial effect and nanoparticles concentration for coating applications. Thin films were carried out using Dip-coating technique. Relevant mechanisms of the antibacterial activity will be discussed.

Biography

Rabah AZOUANI has completed his PhD from University Sorbonne Paris Nord, France. He is professor in process engineering at Ecole de Biologie Industrielle, France. He has over 20 publications that have been cited over 220 times, and his publication H-index is 7 and has been serving as an editorial board member of reputed Journals.

Publication

Stability and Growth of Titanium-oxo-alkoxy TixOy(OiPr)z Clusters



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