

Anti-Bacterial Activity Of Metallic/Metallic Oxide Nanoparticles Synthesised In Surfactant And Antibiotic Shells

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Recently, nanoparticles biological and medical applications is gaining a great interest because of their great positive influence in finding novel innovations and solving escalating medical problems like the multi drug resistance in infectious microorganisms that threaten the world of not finding a curing drug. Nanoparticles of different physical and chemical properties are of primary concern to find a compound with antibacterial activity. Moreover, the ability to synthesis nanoparticles in different shells; ranging from pure chemical to natural materials open new era of investigating the antipacterial activity and finding the magical antibacterial drug. In this study, different forms of metallic nanoparticles synthesized in different shells will be investigated for their antibacterial activities.

Size selective synthesis of ZnO nanoparticles is being prepared by electrochemical and/or reduction methods. Two forms of stabilization; with alkyl quaternary ammonium compounds surfactants and with quaternary surfactant in combination with antibiotics are in progress to investigate their antibacterial activity. Primarily, antibacterial activity presented by the minimum inhibitory concentration of the different forms of the prepared nanoparticles is being evaluated spectrophotometrically or visually. The reference materials and the individual nanoparticles possess a relative antibacterial activity. A more detailed analysis of the nanoparticles prepared with tetra-alkyl ammonium salt as stabilizing matrix and tetra-alkyl ammonium salt with amoxicillin is now in progress.