

ABSTRACT

Syntheses of ZnO-NPs are synthesized by using an innovative technique of chemical synthesis (co-precipitate technique). In this technique ZnO-NPs and Capped ZnO-NPs with glucose are produced by adding NaOH solution drop by drop on continuous magnetic stirring. Characterization of these particles were done by using confirmatory techniques like UV-Visible Spectroscopy, Photoluminescence Spectroscopy, Particle size analyzer, Zeta potential, Fourier transform Infrared radiations spectroscopy (FTIR Spectroscopy) and scanned electron microscopy (SEM). There are two different applications against which nanoparticles are added. 1st is Fingerprint enhancement and the 2nd is Antimicrobial activity. ZnO-NPs Provide very effective results against finger print analysis on both smooth and rough surfaces. Antimicrobial activity is studied under two different bacteria one is gram +ve *S. aureus* and the other is gram -ve *E. coli*. *S. aureus* show sensitivity with ZnO-NPs while *E. coli* didn't.