



ABSTRACT

Nanotechnology is a rising field of science and is used for the benefit of mankind. Nanotechnology has numerous applications and nanomedicine is one of the important applications of it. In the field of nanomedicine nanoparticles are now being replaced by the antibiotics because of their quick and less harmful effects. In this study, Bismuth oxide nanoparticles were synthesized by chemical co-precipitation method. The coordinated nanoparticles were then subjected for the depiction using UV-VIS spectroscopy. Band gap for Bismuth oxide nanoparticles was learned using UV-VIS spectroscopy and the size synthesized nanoparticles was checked by Particle size analyser. Crystallite size was in the range of 15-20 nm. Band gap and optical properties was registered by using UV and it was seen to be 3.5 eV for bismuth oxide nano particles. Bismuth oxide exhibited antibacterial effects against intestinal bacteria, *E. coli* and *L. acidophilus*. After preparation of bismuth oxide nanoparticles, antibacterial activity was checked against gram negative bacteria *Escherichia Coli*. Inhibitory effects slightly increased as the concentrations of NPs increased.