

Abstract

Silver nanoparticles were formed by using green methodology. In this method polysaccharide linseeds hydrogel was used so that silver NPs may produce. The solution of AgNO₃ was added in solution of hydrogel solution and this mixture was placed in sunlight in sunlight for 2 hours the change in different colours was observed. Dark brown colour was observed at the end of reaction. All the samples were of different colours was characterized by using UV- Visible spectroscopy. Dark brown colour showed maximum absorbance at 430 nm. Particles of silver were further analyzed by Fourier transform and scanning electron spectroscopy. FTIR showed that biological compounds in polysaccharide gel were responsible for the silver ions reduction, .SEM analysis revealed spherical shape of silver nanoparticles with size 35 nm. Photo dye degradation of methyl orange was performed. Silver NPs carried this process well and degraded the dye. Antimicrobial activity was also performed on different bacteria. Siler nanoparticles showed highest activity against *E. coli bacteria*.