

Abstract

The Nanotechnology deals with the study of the nanoparticles on nano-scale. The silver and platinum nanoparticles exhibit unique properties. They can be synthesized by various methods i.e. physical, chemical and biological but the most effective method for the synthesis of nanoparticles is biological methods because the biologically synthesized silver and platinum nanoparticles are eco-friendly and inexpensive. The biosynthesized silver and platinum nanoparticles have wide range of applications which are beneficial to living systems. The biosynthesized silver and platinum nanoparticles are useful in various applications such as textile, agriculture, environmental safety and in biomedicines due to their potential properties. The anti-oxidant activity is an important application which was determined by two assays i.e. ABTS and DPPH assays. Silver and platinum nanoparticles also showed photocatalytic activity in which they degrade the 20 ppm standard solution of four dyes when irradiated in the presence of sunlight. The absorbance value was taken through UV-Vis spectrophotometer at 665nm for methylene blue, 460 nm for methyl orange, 592 nm for bromophenol blue and 540 nm for 2,7-dichloroflouroscein. The degradation of dye was indicated by the decrease in absorbance value with time. The antimicrobial activity for biosynthesized silver and platinum nanoparticles was observed by using well-diffusion method against four bacterial strains (two gram positive and two gram negative). The concentration of each sample solution was kept 1mg/ml and antimicrobial activity was observed by measuring diameters of zone of inhibition.