ABSTRACT

The present study was conducted to evaluate the silver nanoparticle synthesized using leaf extract of *Prosopis juliflora*. For possible dye degradation and antibacterial activity on Gram positive and gram-negative bacteria (*Bacillus subtilis* and *Pseudomonas putida*). The acetone extract showed good anti-bacterial activity against both the organisms, the inhibitory effect increased with increase in concentration of the extract. The presence of Silver Nanoparticles in the leaf extract was observed by reduction of silver ions into silver nanoparticles. Fourier Transform Infra-Red (FTIR) analysis was done to detect the functional groups which will promote the antibacterial and dye degradation capabilites.