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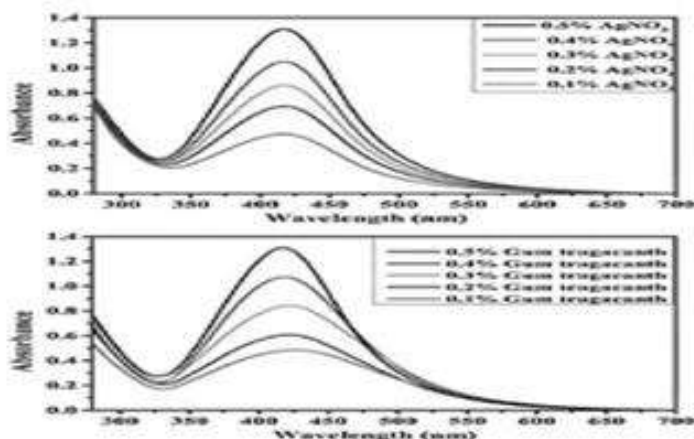
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(57) Abstract :

A New Green Synthesis and Characterization of Silver-Nanoparticle Abstract: Silver nanoparticles were synthesised in a simple and environmentally friendly manner by combining Astragalus gummifer, a naturally occurring phyto-exudate found in India, with a novel ultrasonication procedure. For approximately 45 minutes, silver nanoparticles were formed by reducing silver nitrate solution with a watery solution of gum tragacanth extract, which contains a high concentration of silver. The aqueous contains a substance that helps us by reducing and stabilising swelling. They determined the composition of the AgNPs using UV and FT. IR and X-ray diffraction, among other techniques. This study examined the effects of gum and silver precursor concentrations. Additionally, nanoparticles were used to catalyse the reduction of two different dye colours, one cationic and one anionic. This was done to ascertain the role of nanoparticles. The researchers assume that the conversion of Ag⁺ to AgNPs is mediated by gum matrix-derived -OH groups. According to those who performed X-ray diffraction measurements, the AgNPs they synthesised were extremely crystallised and had a face-centered cubic structure. According to the findings, the AgNPs generated by TEM had an average size of 18.2 nm. In this study, GT-capped AgNPs are used to effectively reduce hazardous pollutants such as MB and CR. Additionally, they manufacture AgNPs in an environmentally sustainable manner.



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