

ABSTRACT

This study represents the synthesis of metal nanoparticles via green way in which nanoparticles of silver were synthesized from Lemon leaves extract. In past, chemical and physical methods were used, which were found to be very toxic, eco unfriendly and expensive ones and it was replaced by biological methods like plants, bacteria, algae etc. Due to the activity and stability of nanoparticles synthesized from plants, green way is obtaining more consideration by scientists. Nanoparticles of silver have prominent place in research field. Here, extract of lemon leaves was prepared to synthesize Ag metal nanoparticles. The reaction was proceeded in sunlight and color of reaction mixture was changed from yellow to dark brown which indicates the production of Ag nanoparticles. UV-Visible analysis was studied and absorption peak at 420nm was found after 30minutes of reaction. For further characterization, sample was centrifuged at 10,000rpm for 12minutes and dried in oven for about 4-6 hours at 70°C. IR, SEM and EDX analysis was also performed that confirms formation of Ag nanoparticles. These silver nanoparticles are also used for development and enhancement of latent fingerprints. Silver nanoparticles synthesized from green method give better results for development of latent fingerprints with less cost and more eco-friendly methods.