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Synthesis of Silver Nanoparticles by Different Types of Plants

Authors : Khamael Abualnaja, Hala M. Abo-Dief

Abstract : Silver nanoparticles (AgNPs) are the subject of important recent interest, present in a large range of applications such as electronics, catalysis, chemistry, energy, and medicine. Metallic nanoparticles are traditionally synthesized by wet chemical techniques, where the chemicals used are quite often toxic and flammable. In this work, we describe an effective and environmental-friendly technique of green synthesis of silver nanoparticles. Silver nanoparticles (AgNPs) synthesized using silver nitrate solution and the extract of mint, basil, orange peel and Tangerines peel which used as reducing agents. Silver Nanoparticles were characterized using Fourier transform infrared spectroscopy (FTIR), scanning electron microscopy (SEM) and UV–Vis absorption spectroscopy. SEM analysis showed the average particle size of mint, basil, orange peel, Tangerines peel are 30, 20, 12, 10 nm respectively. This is for the first time that any plant extract was used for the synthesis of nanoparticles.

Keywords : silver nanoparticles, green synthesis, scanning electron microscopy, plants
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