GREEN SYNTHESIS OF SILVER NANOPARTICLES USING TEUCRIUM CHAMAEDRYS EXTRACT THEIR CHARACTERIZATIONS

Sura Ahmed[1] , Erol Palivan[2]

1 Selcuk University, Master student in Department of Chemical Engineering, Konya - Turkey .
E-mail: sura_ahmed8086@yahoo.com

2 Selcuk University, Faculty of Engineering, Department of Chemical Engineering, 42079 Konya- Turkey
E-mail: erolpehlivan@gmail.com

There is an increasing commercial demand for nanoparticles due to their wide applicability in various areas such as electronics, catalysis, chemistry, energy, and medicine.The metallic nanoparticles have great attention of Chemists, Physists, Biologists and Engineers who wish to use them for development of new generation nanodevices[1-3]. In this work, we describe a cost effective and environment friendly technique for green synthesis of silver nanoparticles from aqueous silver nitrate $AgNO_3$ through the extracts of TEUCRIUM CHAMAEDRYS and INULA HELENIUM as reducing agents as well as capping agents. The bioreduced silver nanoparticles were characterized by UV-Vis spectrophotometer, X-ray diffraction (XRD), Transmission electron microscopy (TEM) and Fourier transform infra-red (FTIR) spectroscopy.

1.P. Hartemann, P. Hoet, A. Proykova, T. Fernandes, A. Baun, W. De Jong, et al.
Nanosilver: safety, health and environmental effects and role in antimicrobial resistance,Mater Today, 18 (2015), pp. 122–123

2.R. Pati, R. Mehta, S. Mohanty, M. Padhi, M. Sengupta, B. Vaseeharan, et al.Topical application of zinc oxide nanoparticles reduces bacterial skin infection in mice and exhibits antibacterial activity by inducing oxidative stress response and cell membrane disintegration in macrophages Nanomedicine, 10 (2014), pp. 1195–1208

3.A. Bankar, B. Joshi, A.R. Kumar, S. Zinjarde
Banana peel extract mediated novel route for the synthesis of silver nanoparticles

Colloid Surf A, 368 (2010), pp. 58–63