

Title: Studies on Synthesis, Characterization, and Monitoring of Ag NPs for Power Production Using Tomato(Conference Paper)

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Abstract

In this research paper, tomato extract has been synthesized and characterized for Ag NPs. This synthesized Ag NPs have been used for power production. This produced Ag NPs using tomato extract are very useful and eco-friendly. Different characterizations have been conducted UV-visible spectroscopy, FTIR, XRD, and FESEM. It is found that the absorption peak at around 428 nm for UV-visible spectrum. It is also found that the biomolecule compounds were responsible for the reduction and capping material of silver nanoparticles using FTIR spectra. It is also found that the particles to be crystalline in nature by XRD study, with a face-centered cubic (FCC) structure. The power production activity of Ag NPs was assessed to find their potential use in electrochemical cell. It is found that the open circuit voltage (V_{oc}), short circuit current (I_{sc}), and maximum power (P_{max}) were better for using Ag NPs from the tomato extract of a single electrochemical cell. © 2023, The Author(s), under exclusive license to Springer Nature Singapore Pte Ltd.

Author keywords

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