HYDROTHERMAL SYNTHESIS AND CHARACTERIZATION OF SILVER NANOPARTICLES USING AQUEOUS EXTRACT OF *Eleusine indica* L. (PARAGIS)

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ABSTRACT

In this study, silver nanoparticles (AgNPs) were synthesized by green hydrothermal treatment of *Eleusine indica* aqueous extract and silver nitrate. The effect of increasing reaction time (6 to 48 hours) on the morphology and functionality of hydrothermal synthesized AgNPs were evaluated by Scanning Electron Microscopy, and Fourier Transforms Infrared Spectroscopy, respectively. Moreover, AgNPs had highly agglomerated spherical particles having a size of 128-171 nm. The aggregation of AgNPs in the solution was measured by UV-Vis spectroscopy. As determined by energy-disperse spectroscopy, silver is the most abundant component (84.07 %) in the nanoparticle, supporting the synthesis of silver nanoparticles.

Key words: green synthesis, silver nanoparticles, Eleusine indica