



Eco-friendly Synthesized Silver Nanoparticles for Photocatalytic Degradation of Methylene Blue Dye

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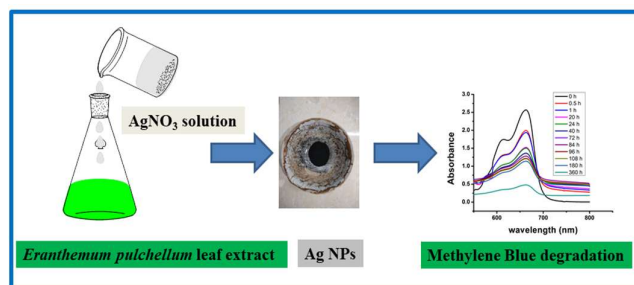
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Accepted on 19th March, 2025

ABSTRACT

A bio-mediated Synthesis of the silver nanoparticles (Ag NPs) by using aqueous leaves extract (PE) of plant *Eranthemum pulchellum* (blue sage) and its assessment for the photocatalytic degradation of methylene blue dye is reported here. These prepared Ag NPs were characterized by fourier transforms infrared spectroscopy (FTIR), ultraviolet-visible (UV-Vis) spectroscopy, X-ray diffraction (XRD), scanning electron microscope (SEM) and high resolution-transmission electron microscopy (HR-TEM). These synthesized Ag NPs have shown its potential towards photocatalytic degradation of harmful synthetic organic methylene blue dye up to 81.3 %.

Graphical abstract:



Bio-mediated Ag NPs synthesis and methylene blue dye degradation.

Keywords: Silver nanoparticles, Photocatalysis, Methylene blue dye, Bio-mediated, Reducing agents.