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Efficient photoactivity of Ag/$CeCoO_3$ toward the conversion of MB dye under the irradiation of light source

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Photocatalysts are potent substances that play a vital role in the conversion of organic dyes [1]. Through the process of photocatalysis, photocatalysts harness light energy to initiate chemical reactions that break down harmful organic substances into harmless byproducts. These catalysts find wide-ranging applications, including water and air purification [2], as they offer an efficient and environmental friendly solution for eliminating organic pollutants [3].With their ability to harness the power of light, photocatalysts have emerged as a promising tool in the pursuit of cleaner and safer environments [4]. Here in, silver nanoparticles (AgNPs) were doped on the surface of $CeCoO_3$ perovskite. Several measurement techniques including UV-Visible spectroscopy, XRD, TEM, FE-SEM, EDS, and FT-IR were utilized to characterize the catalyst.The synthesized photocatalyst was employed for the conversion of Methylene Blue (MB) dye under UV light. The results demonstrated complete conversion of the MB dye within 25 min.

Keywords: Conversion , Silver nanoparticles,Photocatalyst, $CeCoO_3$

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