



Sm–ZnO–Ag: An efficient photo degradation of Congo Red dye with Light Emitting Diodes illumination

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Abstract : The Sm-ZnO-Ag photocatalyst was successfully synthesized by precipitation-decomposition method. The photocatalytic activity of Sm-ZnO-Ag was investigated for the degradation of Congo Red (CR) in aqueous solution using Light emitting diodes. Sm-ZnO-Ag is found to be more efficient than doped and undoped ZnO Nps at pH 9 for the mineralization of Congo red under LEDs. The influence of operational parameters such as the amount of photocatalyst, dye concentration, initial pH on photo mineralization of congo red has been analyzed. The catalyst is found to be reusable and the mechanism of degradation by Sm-ZnO-Ag is proposed.

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