



Modification of Surface of Zinc Oxide by Sensitization with Methyl Orange Photosensitizer

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ABSTRACT

This study involves removal of methylene blue dye (MB) from its aqueous solution using the concept of the photocatalytic reaction. Removal of this dye was conducted using neat zinc oxide nanopowder as a photocatalyst. Also the removal of this dye was performed via using modified photocatalyst by sensitization surface of the photocatalyst. Sensitization of ZnO surface using methyl orange sensitizer was conducted by impregnation method. Surface sensitization with this photosensitizer was investigated using powder X- ray diffraction (XRD), and Fourier transform infrared spectroscopy (FTIR). Removal of MB dye from aqueous solution was conducted by following the absorbance of the supernatant liquid at 665 nm. Sensitized zinc oxide with MO was more efficient than neat form in removal of MB from aqueous solution.

Keywords: Zinc oxide, Methylene blue, Photosensitizer.
