**Photocatalytic Degradation of Phenol Red Dye Using Hydrothermally Synthesized Hexagonal ZnO Nanorods**

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**Abstract**

Transition metal oxide semiconductors are known for their photocatalytic properties which make them popular due to their ability of absorption & degradation of antibiotics and dye molecules. In this work, ZnO Nanorods formed using simple hydrothermal technique was evaluated for photocatalytic technique. Morphological analysis was performed using Scanning Electron microscopy (SEM) that revealed the formation of nanoflakes having crystalline structure. The crystal structure analysis of the composite was also done using the X-Ray diffraction technique (XRD) which revealed hexagonal crystal structure. The photocatalytic activity of Phenol Red was done using UV-vis Spectroscopy which showed dye degradation of 90% in 120 minutes of photo irradiation. Hence, the results exhibits that the ZnOnanorods are formed using facile and green hydrothermal technique which shows efficient dye degradation on photoirradiation.