

A comprehensive review on zinc oxide based nanocomposites as advanced photocatalysts

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Abstract: In recent times, organic pollutants and pathogens represent the major contaminants of water resources. These pollutants not only degrade the water quality but are also detrimental to health and well-being of humans and other living organisms. The removal of organic and pathogenic pollutants owing to their different physical and chemical properties is a complex phenomenon. However, due to their harmful effects, their removal is unavoidable and highly recommended [1]. ZnO is believed to be one of the most widely studied materials for the purpose of photocatalysis due to its suitable characteristics such as the superiority of photocatalytic properties, low cost, and nontoxicity. There are numerous ZnO based nanocomposites which have been widely utilized for the photocatalytic degradation of organic dyes and environmental remediation including the removal of the volatile organic compounds (VOC) and pathogens [2]. Here in this work, we overview and stress on various possible pathways to synthesize and to characterize these composites and explore their applications in the field of photocatalytic activities.

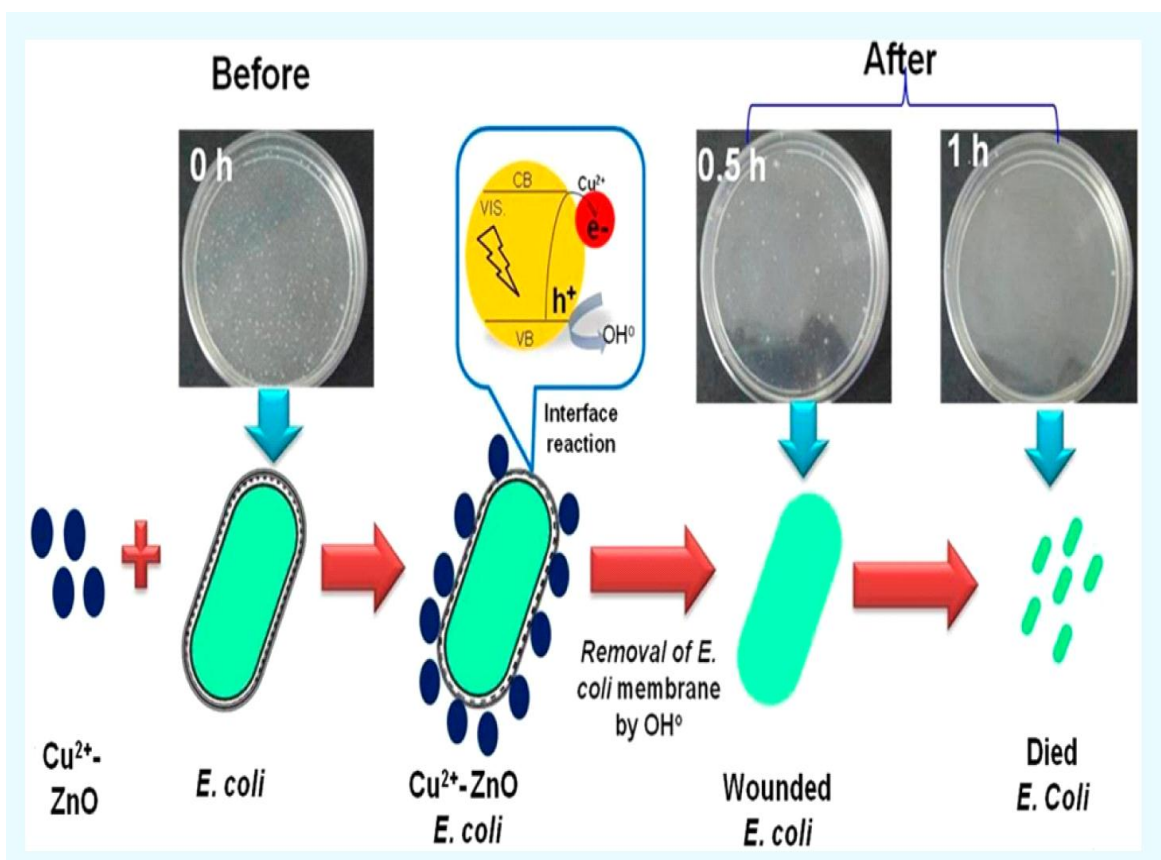


Figure 1: Schematic representation of Removal of E-Coli by ZnO nanocomposite materials.

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