



Visible light Responsive Photocatalytic Activity of Pd/Fe₂O₃ Nanoparticles for Congo Red dye Degradation

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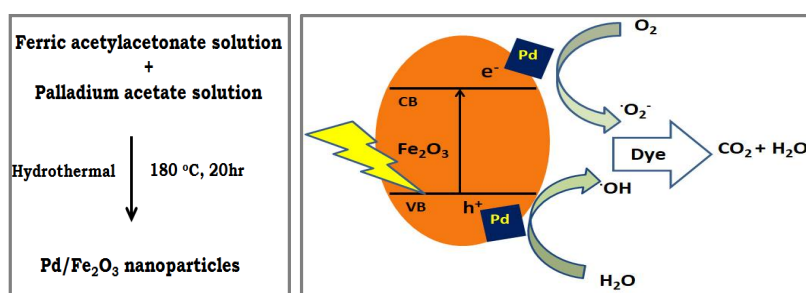
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ABSTRACT

The Photocatalytic activity of hydrothermal synthesized Pd/Fe₂O₃ nanoparticles on Congo red dye degradation was presented in this paper. The phase, functionality, structural and morphological features of prepared nanoparticles were characterized by X-ray diffraction (XRD), Fourier transform infrared Spectroscopy (FTIR), scanning electron microscopy (SEM) and surface area was measured by Brunauer-Emmett-Teller (BET) analysis. The photocatalytic activity of as-synthesized materials was determined by degradation efficiency of Congo red, and the results show that Pd/Fe₂O₃ nanoparticles exhibits higher photodegradation activity than Fe₂O₃ nanoparticles.

Graphical Abstract



Schematic diagram of a possible photocatalysis mechanism.

Keywords: Hydrothermal, Pd/Fe₂O₃ nanoparticles, Congo red and Photocatalysis.