

عنوان مقاله:

ZnFe₂O₄ nanoparticle: Synthesis and photocatalytic activity under UV-Vis and visible light

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خلاصه مقاله:

In the present work, the ZnFe₂O₄ nanoparticle has been successfully synthesized. The obtained sample was characterized by X-ray diffraction (XRD) and emission scanning electron microscopy (FE-SEM) and its optical property were examined by UV-Vis spectrophotometer. FE-SEM revealed that the particle size of the ZnFe₂O₄ of about 47 nm was synthesized. The photocatalytic performance under UV-Vis and visible light was evaluated by decolorization of congo red (CR) anionic dye solution. The UV-Vis and visible light irradiation source consist of a high pressure mercury lamp 400 W and filament tungsten lamp 100 W respectively. The photocatalytic results show that the ZnFe₂O₄ sample can degrade (CR) dye solution up to 100% after 30 and 120 min under UV-Vis and visible irradiation respectively.

کلمات کلیدی:

ZnFe₂O₄; photocatalyst; visible light; congo red

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