

عنوان مقاله:

Ultrasound-Assistant Solvothermal Design of Flower-Like BiVO₄-BiOI Nanophotocatalyst: Effective Rhodamine B Deletion

محل انتشار:

ششمین همایش بین المللی نفت، گاز، پتروشیمی و HSE (سال: 1400)

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خلاصه مقاله:

Flower-like BiVO₄-BiOI nanophotocatalyst was successfully synthesized ultrasound-assistant sono-solvothermal method to degrade the 50 mg/L rhodamine B (RhB) in the solar spectrum range. The mentioned nanophotocatalyst was characterized by X-ray diffraction (XRD) and field emission scanning electron microscopy (FESEM) analyses. The consequences obtained from XRD demonstrated that the samples were synthesized well. The result of reactor test shown that with 1 g/L catalyst and after 60 min simulated sunlight irradiation, the degradation percentage of RhB over the flower-like BiVO₄-BiOI was 87.4%. The high activity of the flower like BiVO₄-BiOI nanophotocatalyst could be devoted to its suitable bandgap, high activity in the solar light region originating from the high absorption light, which could lead to the increase of electron-hole pairs, decreasing the recombination rate of excitons and the effect of ultrasound energy

کلمات کلیدی:

.Flower-Like BiVO₄-BiOI, Sono-Solvothermal, Nanophotocatalyst, and Water Treatment

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