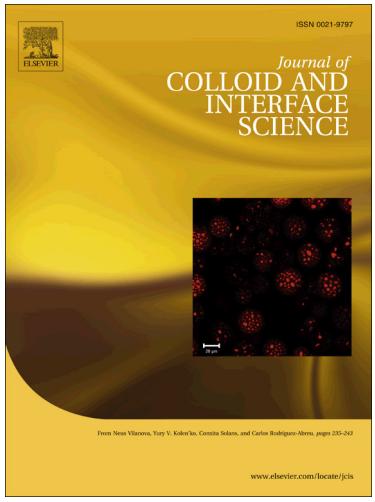

Regular Article

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Facile synthesis of Fe_2O_3 nanoparticles anchored on Bi_2MoO_6 microflowers with improved visible light photocatalytic activity

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Abstract: Constructing novel semiconductor heterojunctions is emerging as one of the efficient methods to develop excellent photocatalysts. Herein, we report the design and synthesis of Bi_2MoO_6 microflowers decorated by Fe_2O_3 nanoparticles as an efficient visible-light-driven photocatalyst *via* a simple solvothermal precipitation-calcination method. The as-prepared Fe_2O_3/Bi_2MoO_6 heterojunctions were systematically characterized by using several techniques. The photocatalytic properties of these heterojunctions were estimated by degrading rhodamine B (RhB) and *para*-chlorophenol (4-CP) under visible light ($\lambda > 400$ nm). They showed much higher photocatalytic activity than pure Fe_2O_3 or Bi_2MoO_6. The heterojunction with Fe/Bi molar ratio of 0.2 presented the highest activity. The RhB degradation rate constant was about 4.8 times or 3.8 times higher than that of Bi_2MoO_6 or a mechanical mixture of Fe_2O_3 and Bi_2MoO_6. The remarkable enhanced photocatalytic activity