Supporting Information

Synthesis of $Fe_2(MoO_4)_3/MoO_3$ heterostructured microrods and photocatalytic performances

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Photocatalytic oxidative degradation

The photocatalytic activities of the MoO_3 nanorods and $Fe_2(MoO_4)_3/MoO_3$ heterostructured microrods were evaluated by the MB decomposition under ultraviolet irradiation. Ultraviolet light was obtained by a 15 W Hg lamp (λ= 254 nm, Cnlight, Feshan) and the average light intensity was 600 μW cm^{-2}. The radiant flux was measured with a power meter (Beijing Normal University, Beijing). The photocatalytic degradation of MB in the aqueous solutions was studied by using MoO_3 nanorods and $Fe_2(MoO_4)_3/MoO_3$ heterostructured microrods as the photocatalyst under room temperature and normal atmosphere pressure. MoO_3 nanorods or $Fe_2(MoO_4)_3/MoO_3$ heterostructured microrods (50 mg) and 100 mL MB (2×10^{-5} M) aqueous solution were added into the reactor, and then stirred with a magnetic stirrer prior to irradiation with Hg lamp at room temperature. Prior to irradiation, the solution was put in the dark for 30 min to ensure equilibrium of the working solution. After the reaction, the sample solution was put in centrifuge to remove MoO_3 nanorods and $Fe_2(MoO_4)_3/MoO_3$ heterostructured microrods from solution. The solution obtained this way was extracted into a quartz cell. The absorbance of the solution was measured with quartz cells every 5 min.

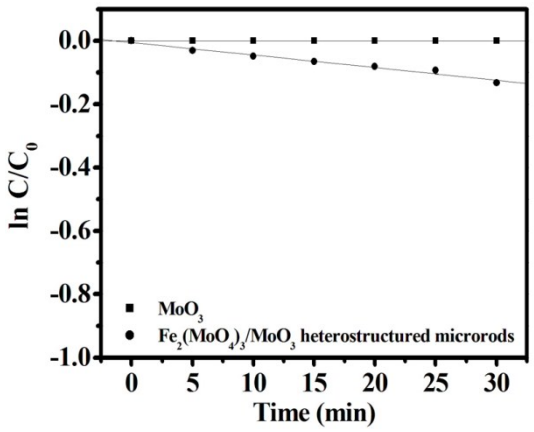

Fig. 1 First-order plots for the photocatalytic degradation of MB using MoO_3 nanorods and $Fe_2(MoO_4)_3/MoO_3$ heterostructured microrods.

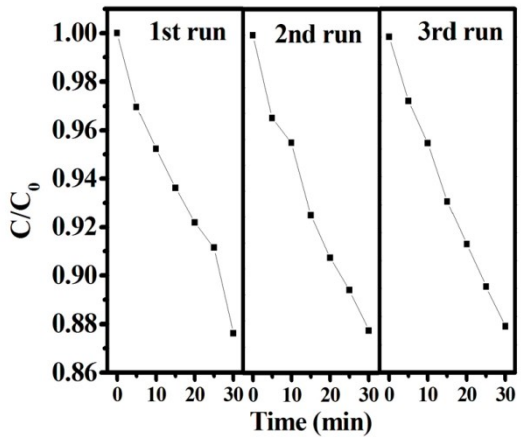

Fig. 2 Cycling runs in the photocatalytic degradation of MB in the presence of $Fe_2(MoO_4)_3/MoO_3$ heterostructured microrods under ultraviolet light irradiation; $Fe_2(MoO_4)_3/MoO_3$ heterostructured microrods loading, 0.5 g L^{-1}; initial concentration of MB, 2×10^{-5} M.