CHM-1

High Yield Exfoliation and Visible-light Photocatalysis of Two-Dimensional MoS2 Nanosheets

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The typical Photocatalytic technology is becoming one of the highlights in the current research of solar utilization for its visible advantages. However, curent photocatalytic material's photocatalytic activity can only be excitated under UV light due to its large band gap width. We found that the band gap of a thin layer of nanostructured MoS2 is 1.9eV which matches the visible light energy. Therefore, it can be selected as an ideal photocatalytic material. To prepare the nanosheets, we put forward an ultrasonic-assisted method of molybdenum disulfide nanoparticles piece exfoliation and examined the visible light catalytic activity by observing the degradation of Rhodamine B.