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Photocatalytic Degradation of Organic Dye Methyl Orange with Phosphotungstic Acid

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ABSTRACT

Silicotungstic acid and phosphotungstic acid were prepared and characterized by Fourier Transform Infrared Spectroscopy (FTIR) and X-ray diffraction (XRD). The results showed that the prepared catalysts possess classical Keggin structure. The factors on the degradation of methyl orange, such as the kind of catalyst, the amount of catalyst, the original concentration of dye and illumination time were investigated under metal halide lamp. The degradation of methyl orange is up to 93.6% with phosphotungstic acid at the best reaction conditions at 8.89 g/L concentration of phosphotungstic acid, 5.56 mg/L concentration of methyl orange and 80 min illumination time.

KEYWORDS

Phosphotungstic Acid, Photocatalytic, Degradation, Methyl Orange

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