

Methyl Red Adsorption and Photodegradation on TiO₂ Modified Mesoporous Carbon Photocatalyst

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Abstract : In this study, the highly ordered mesoporous carbon molecular sieve with high surface area and pore volume have been synthesized and modified by TiO₂ doping. The titanium oxide modified mesoporous carbon (Ti-OMC) was characterized by scanning electron microscope (SEM), BET surface area, DRS also XRD analysis (low and wide angle). Degradation experiments were conducted in batch mode with the variables such as amount of contact time, initial solution concentration, and solution pH. The optimal conditions for the degradation of methyl red (MR) were 100 mg/L dye concentration, pH of 7, and 0.12 mg/L of TiO₂ modified mesoporous carbon photocatalyst dosage.

Keywords : mesoporous carbon, photodegradation, surface modification, titanium oxide

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