

Photocatalytic organic dye degradation using oxygen doped mesoporous graphitic carbon nitride

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Here, we present an efficient photocatalyst synthesized by oxygen atom doped mesoporous graphitic carbon nitride. Oxygen doping on mesoporous graphitic carbon nitride was accomplished by incorporating cyanamide and malonic acid as co-monomers, and the nanostructure was introduced by the hard template method using 3D cubic (Ia3d) structured mesoporous silica (KIT-6). The resulting graphitic carbon nitrides showed enhanced photocatalytic activity for organic dye removal in aqueous solution under visible light irradiation (≥ 420 nm).