

# Synthesis and Characterization of BaBiO<sub>3</sub>/g-C<sub>3</sub>N<sub>4</sub> visible light active Nano composite photocatalysts for Methylene blue degradation

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## Abstract:

Photocatalysis using solar energy is highly expected to be an ideal “green” technology for sustainable development of human beings, where an active photocatalytic material is definitely an important key.<sup>1</sup> Surface chemistry and catalysis over metal oxide nanoparticles has been a topic of tremendous interest in the field of material science.<sup>2</sup> Herewith we report a novel semiconductor photocatalyst BaBiO<sub>3</sub> with perovskite structure was prepared by a soft chemical method.<sup>3</sup> and characterized by XRD, FT-IR, UV-DRS, TG-DTA, and PL etc. and its composites with cost effective and visible light active g-C<sub>3</sub>N<sub>4</sub><sup>4</sup> using ultra sonic dispersion method BBO/CN-5%, BBO/CN-10%, BBO/CN-15%,.. The efficiency of composites was demonstrated by photocatalytic degradation of Methylene blue under solar light irradiation. Our photocatalytic dye degradation results clearly shows that compare to pure g-C<sub>3</sub>N<sub>4</sub> and pure BaBiO<sub>3</sub> the composites having different weight ratios of BaBiO<sub>3</sub>/g-C<sub>3</sub>N<sub>4</sub> are enhanced photocatalytic activity because formation of hetero junction between two semiconductors.

## References:

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