

Supporting information

Synthesis, Characterization, Enhanced Sunlight Photocatalytic Properties, and

Stability of Ag/Ag₃PO₄ Nanostructure-Sensitized BiPO₄

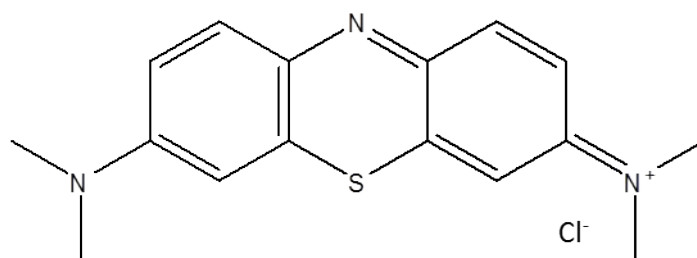
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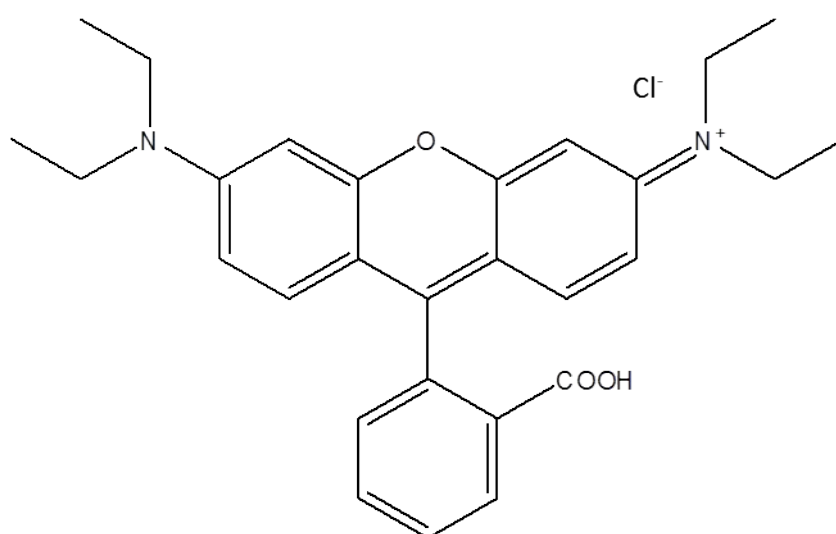
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MB



RhB



MO

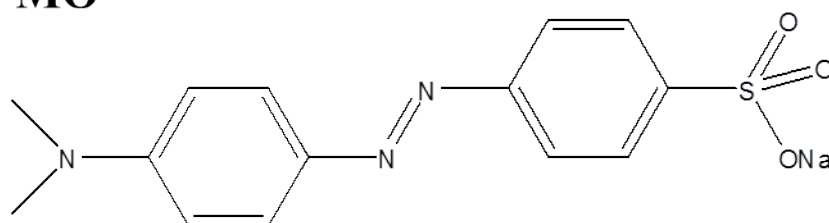


Figure S1. Molecular structures of MB, RhB, and MO.

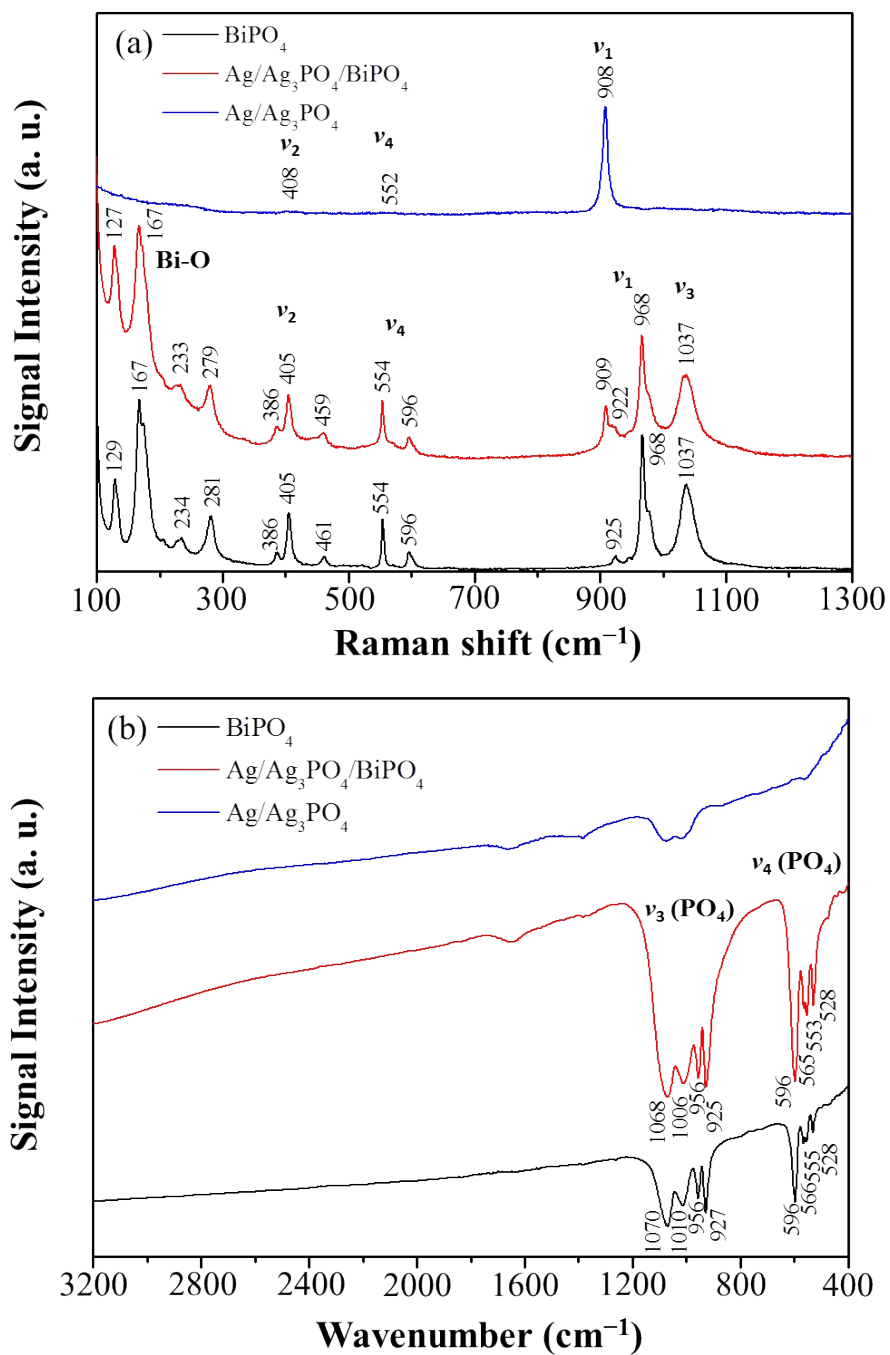


Figure S2. (a) Raman and (b) FTIR spectra of as-prepared BiPO₄, Ag/Ag₃PO₄/BiPO₄, and Ag/Ag₃PO₄.

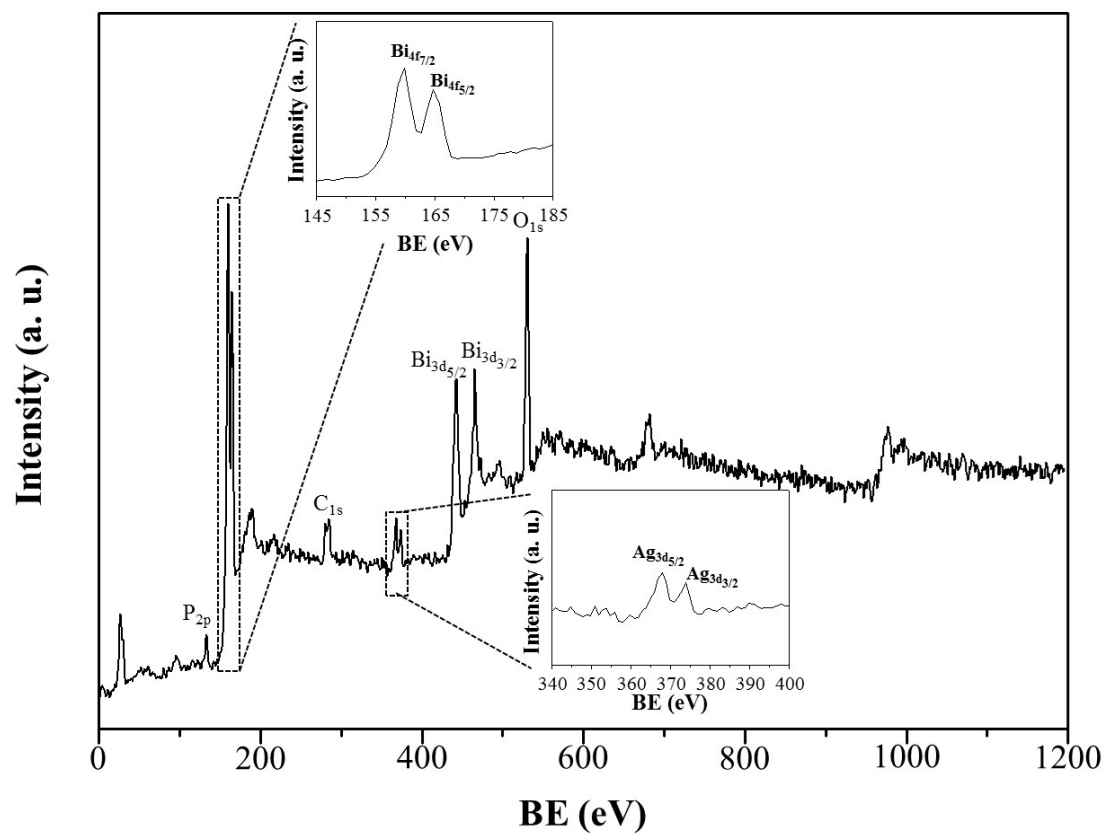


Figure S3. X-ray photoelectron spectroscopy (XPS) spectra of as-prepared Ag/Ag₃PO₄/BiPO₄.

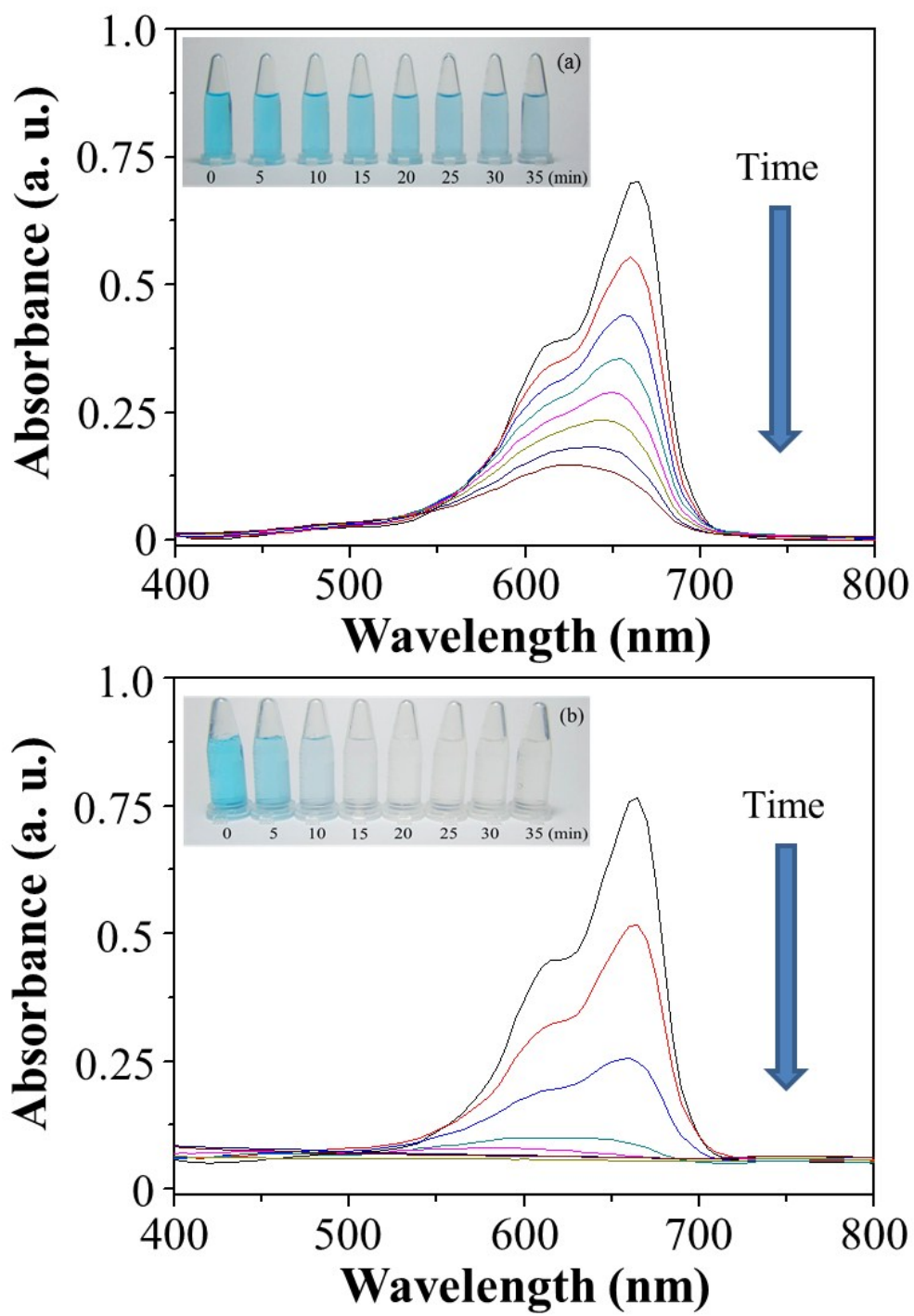


Figure S4. Temporal evolution of the spectral change upon MB degradation over (a)

BiPO₄ and (b) 15%Ag/Ag₃PO₄/BiPO₄.

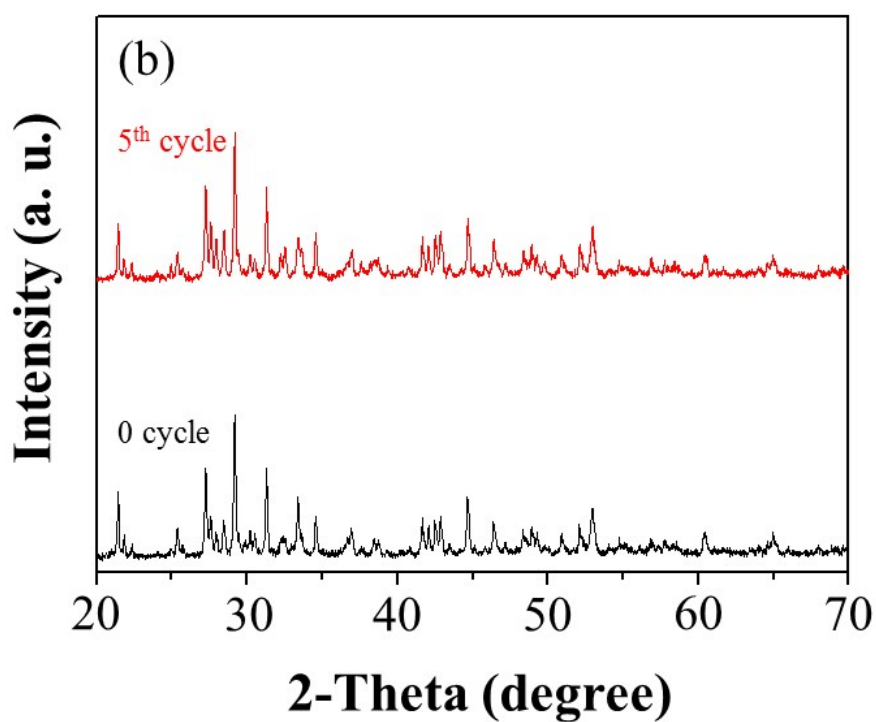
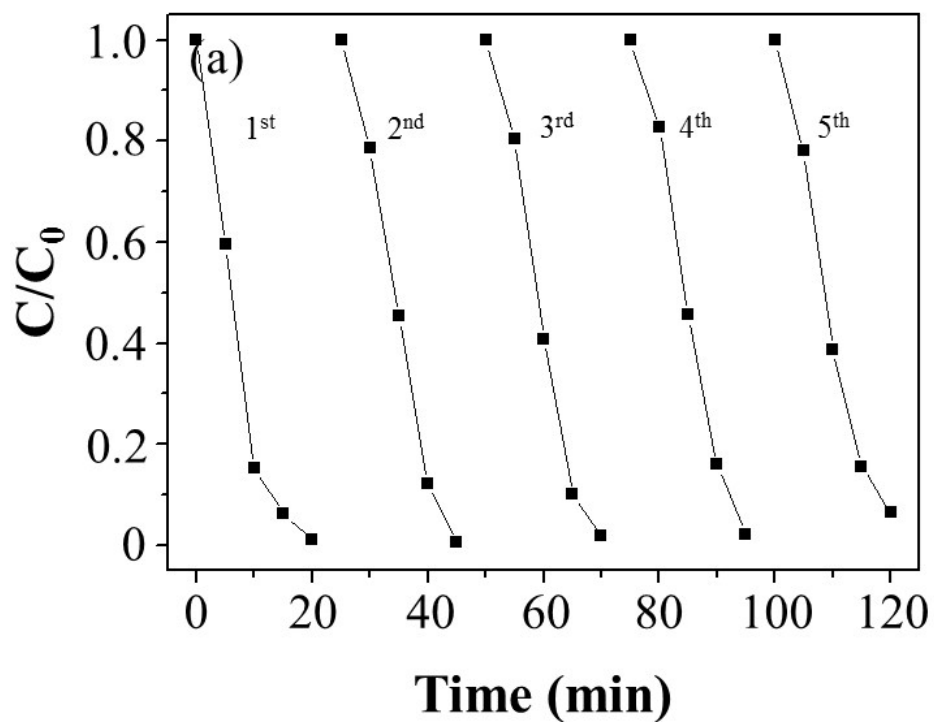


Figure S5. (a) Cycling runs of MB photocatalytic degradation in the presence of 15%Ag/Ag₃PO₄/BiPO₄ products and (b) XRD pattern for 15%Ag/Ag₃PO₄/BiPO₄ after being used for five reaction cycles.

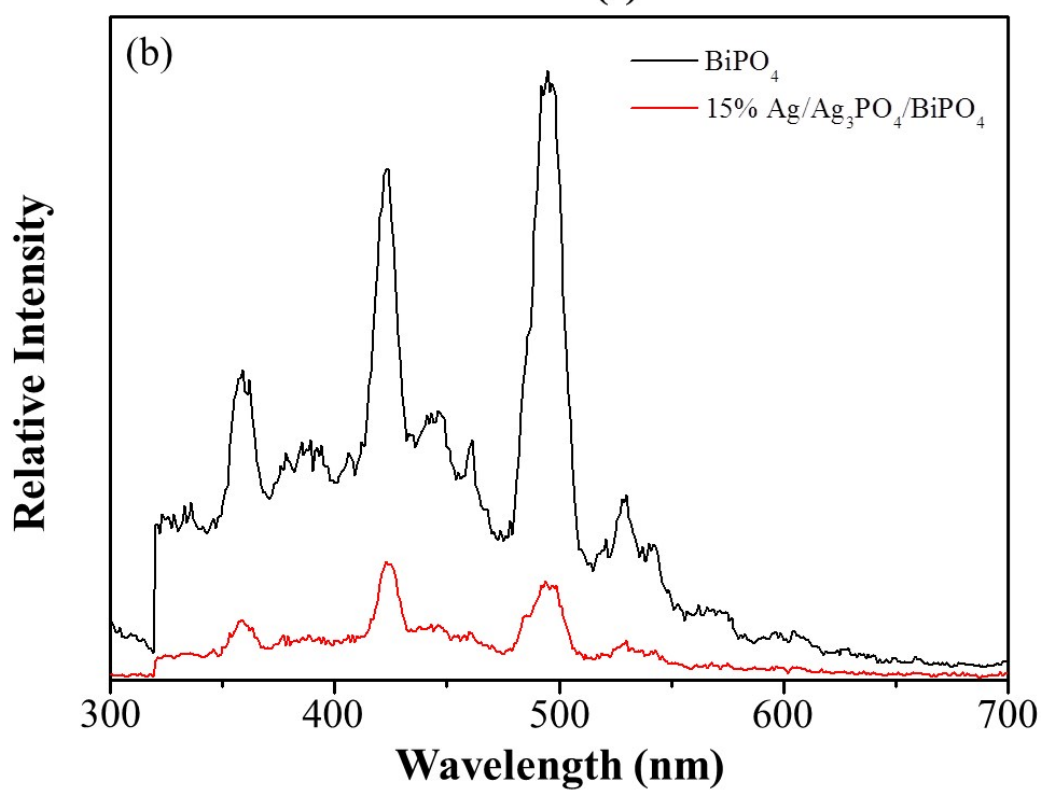
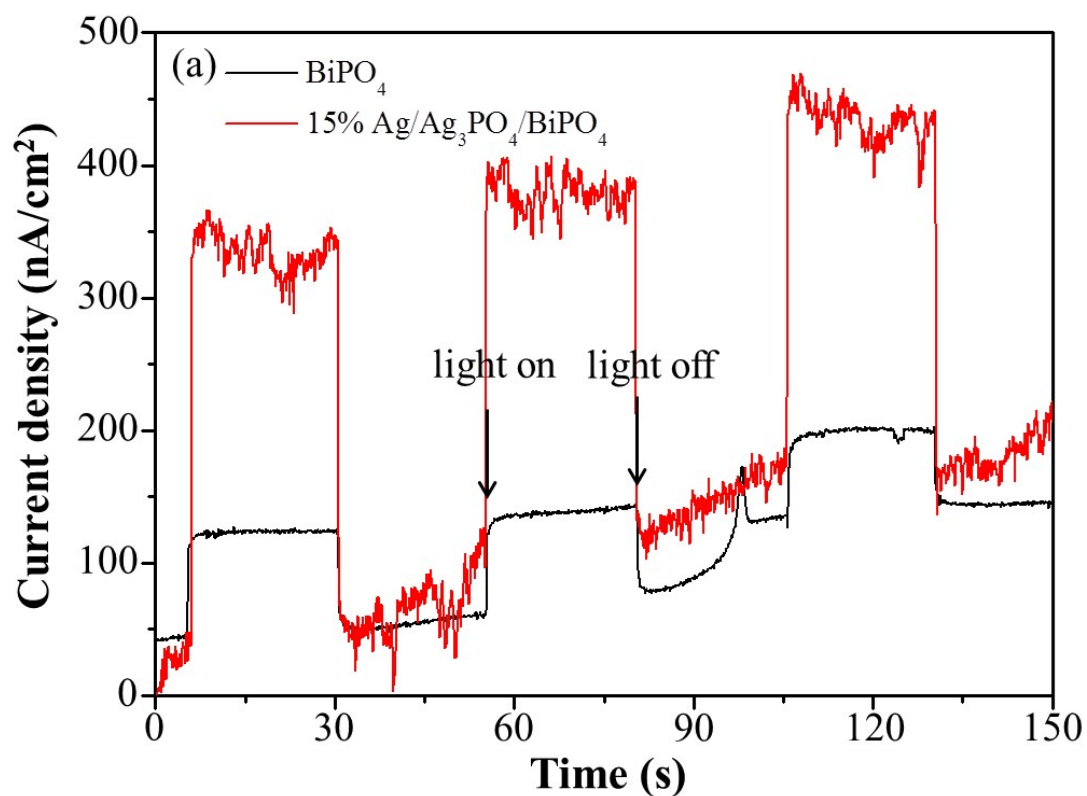


Figure S6. (a) Photocurrents and (b) PL spectra measured at $\lambda_{\text{ex}} = 250$ nm of BiPO₄ and 15%Ag/Ag₃PO₄/BiPO₄.

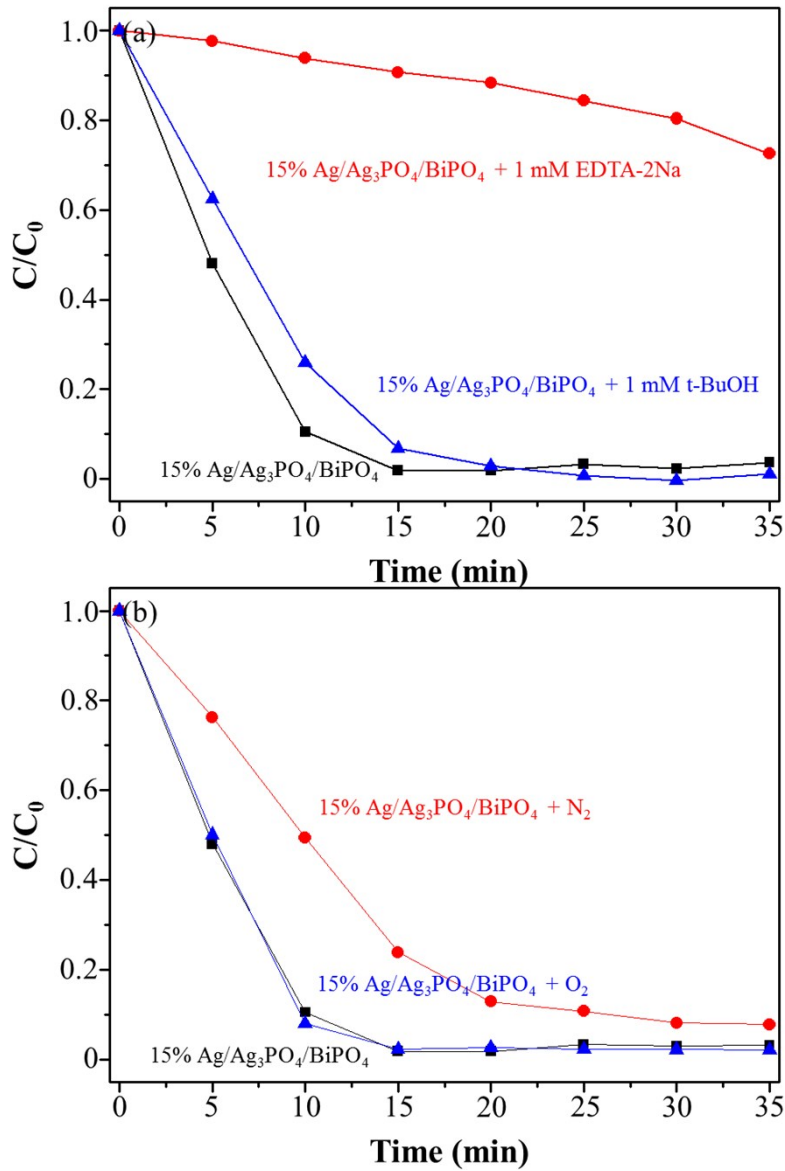


Figure S7. (a) Plots of photogenerated carrier trapping for MB photodegradation catalyzed by 15%Ag/Ag₃PO₄/BiPO₄. (b) Effect of O₂ and N₂ on MB photocatalytic degradation in the presence of 15%Ag/Ag₃PO₄/BiPO₄.

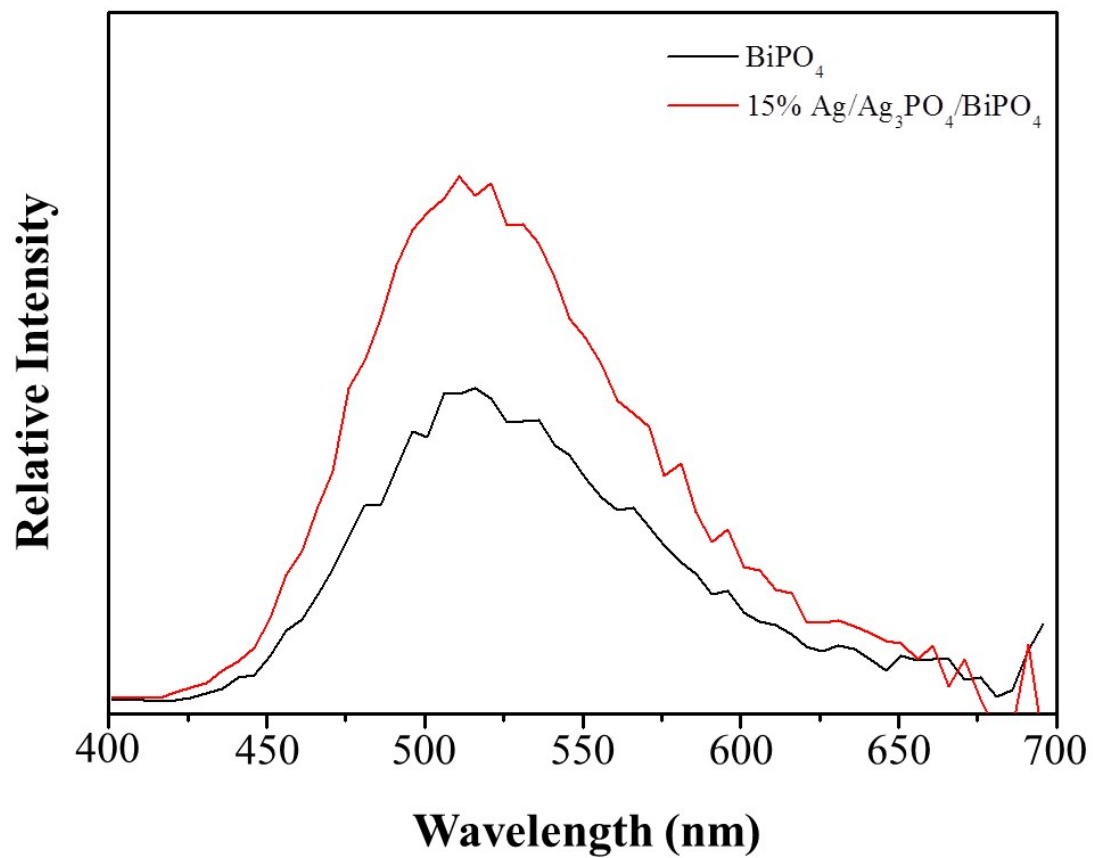


Figure S8. PL spectra of BiPO₄ and 15%Ag/Ag₃PO₄/BiPO₄ in coumarin solution measured at $\lambda_{\text{ex}} = 370$ nm (each sample was illuminated for 15 min under visible light).