Electronic Supplementary Material (ESI) for Dalton Transactions.


# Electronic Supplementary Information

# Facile Fabrication and Enhanced Photosensitized Degradation Performance of g-$C_3N_4$-$Bi_2O_2CO_3$ Composite

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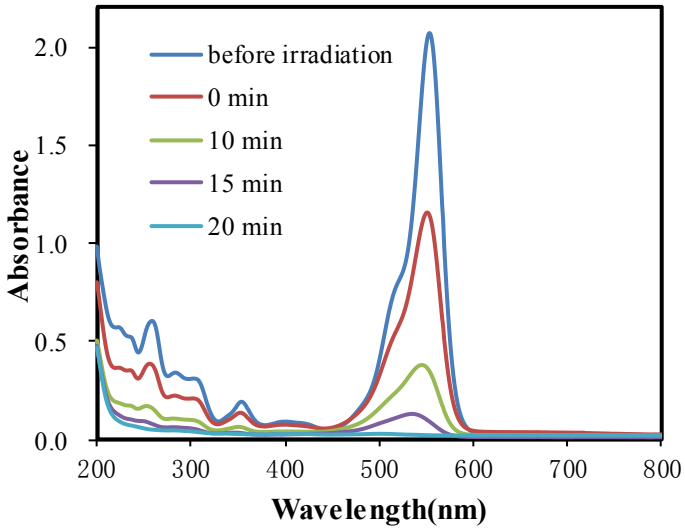


Figure S1. Absorption spectra of Rh-B with irradiation time over 10% CN-BOC under visible light irradiation

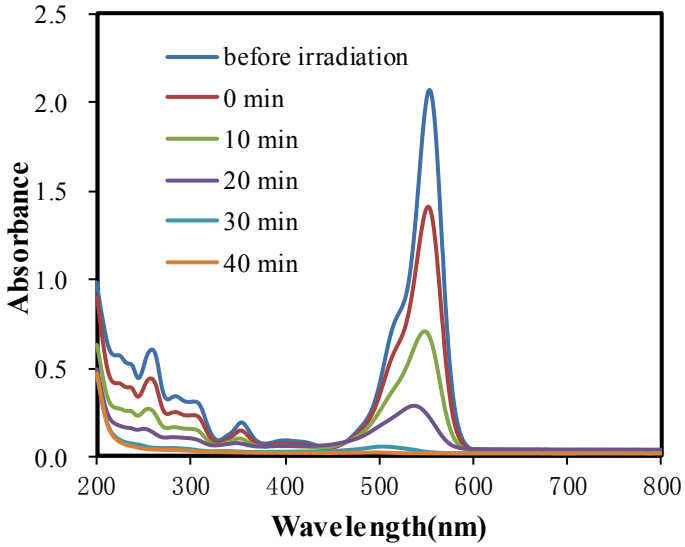


Figure S2. Absorption spectra of Rh-B with irradiation time over $Bi_2O_2CO_3$ under visible light irradiation

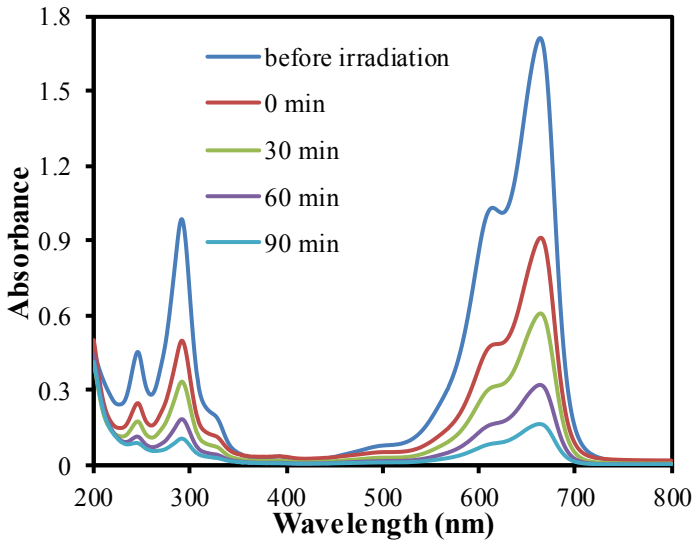


Figure S3. Temporal absorption spectra of methylene blue solution over 10% CN-BOC under visible light irradiation

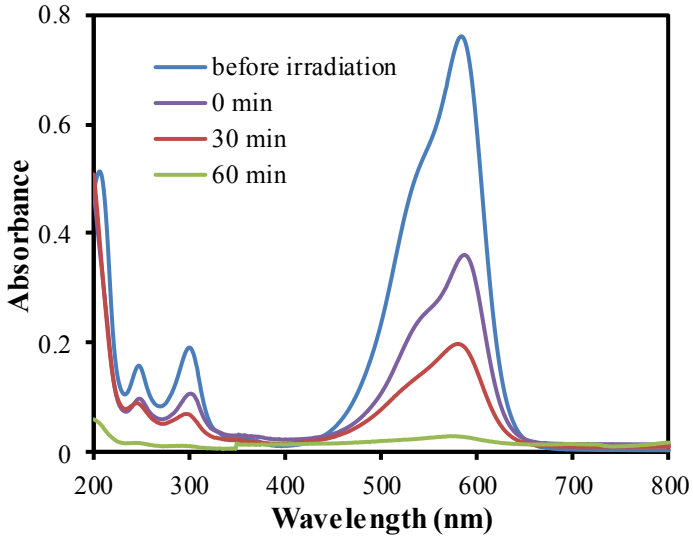


Figure S4. Temporal absorption spectra of violet solution over 10% CN-BOC under visible light irradiation

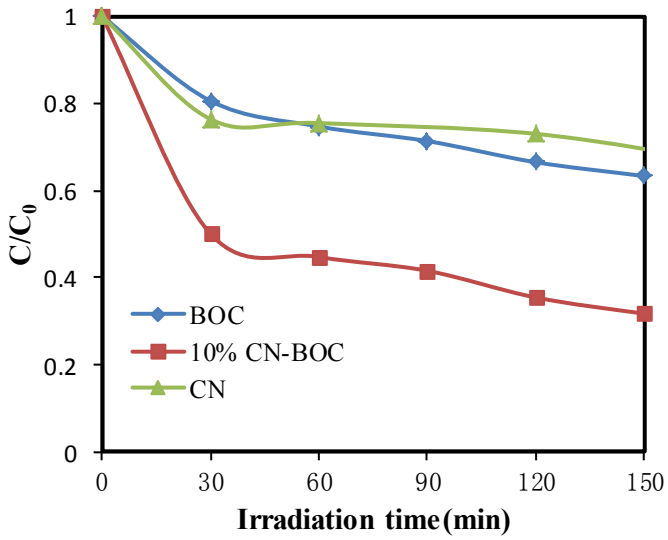


Figure S5. Degradation rates of methyl orange under visible light irradiation in the presence of g-$C_3N_4$, $Bi_2O_2CO_3$ and 10% CN-BOC

The potentials of conduction band (CB) and valence band (VB) edges of $Bi_2O_2CO_3$ were estimated according to the Mulliken electronegativity theory: $E_{VB} = X_{semiconductor} - E^0 + 0.5E_g$, where $E_{VB}$ is the VB edge potential, $X_{semiconductor}$ is the electronegativity of the semiconductor (which is the geometric mean of the electronegativity of the constituent atoms), and $E^0$ is the standard electrode potential with respect to the hydrogen scale (ca. 4.5 eV).[S1]

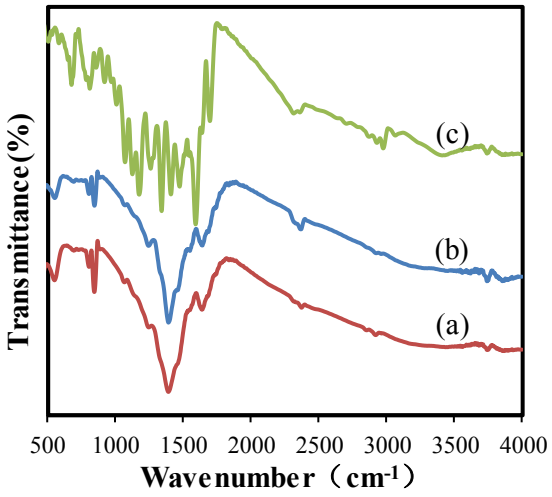


Figure S6. FT-IR spectrum of (a) 10% CN-BOC, (b) 10% CN-BOC after five recycle experiments, (c) Rh-B

REFERENCES

[S1] A. H. Nethercot, *Phys. Rev. Lett.*, 1974, ***33***, 1088-1091