

Supporting Information:

Time-dependent Evolution of $\text{Bi}_{3.64}\text{Mo}_{0.36}\text{O}_{6.55}/\text{Bi}_2\text{MoO}_6$ Heterostructure for Enhanced Photocatalytic Activity *via* the Interfacial Hole Migration

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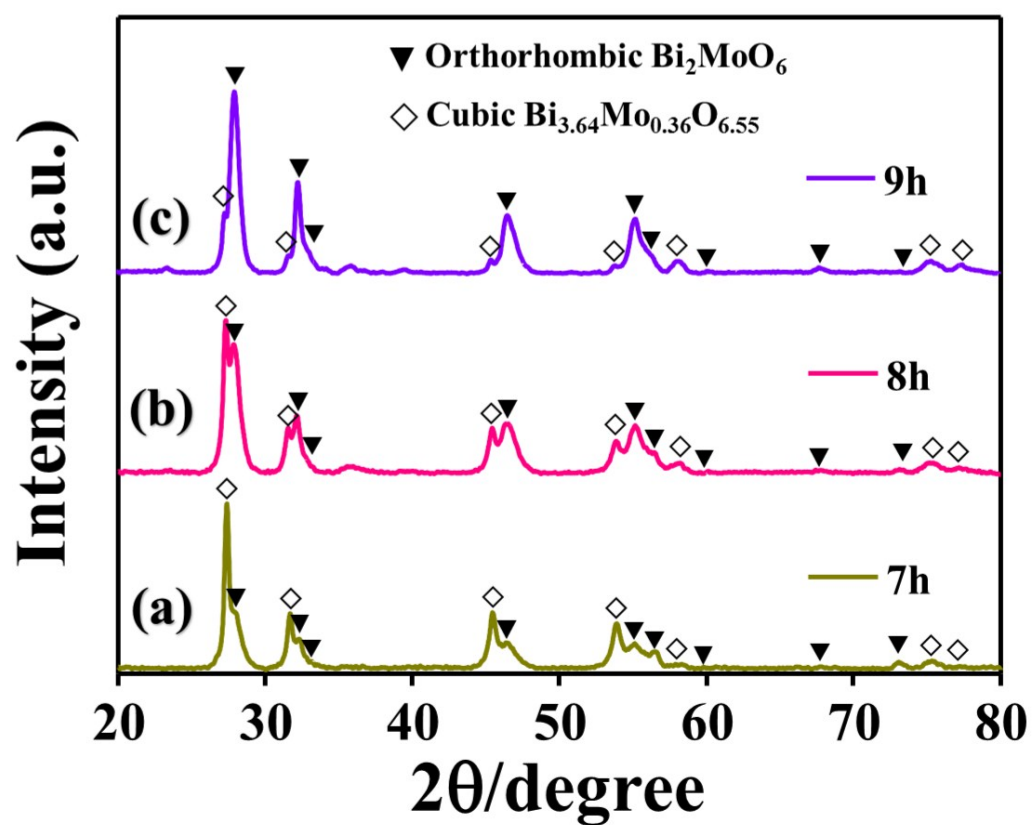


Fig. S1 XRD patterns of **BMO** samples obtained at different hydrothermal intervals. (a) 7 h; (b) 8 h; (c) 9 h.

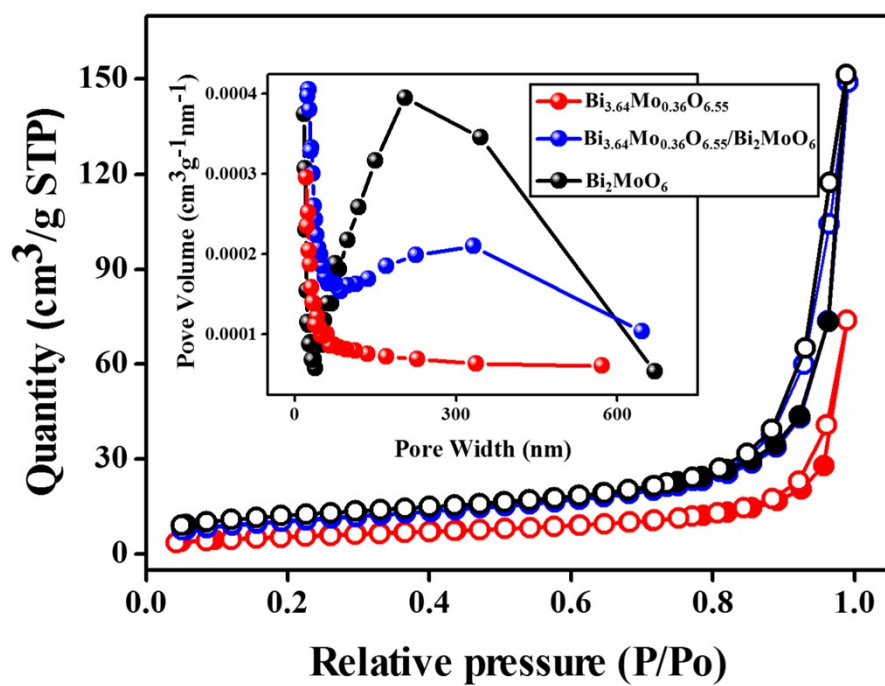


Fig. S2 N₂ adsorption–desorption isotherms and pore size distributions (insert) of **BMO** samples.

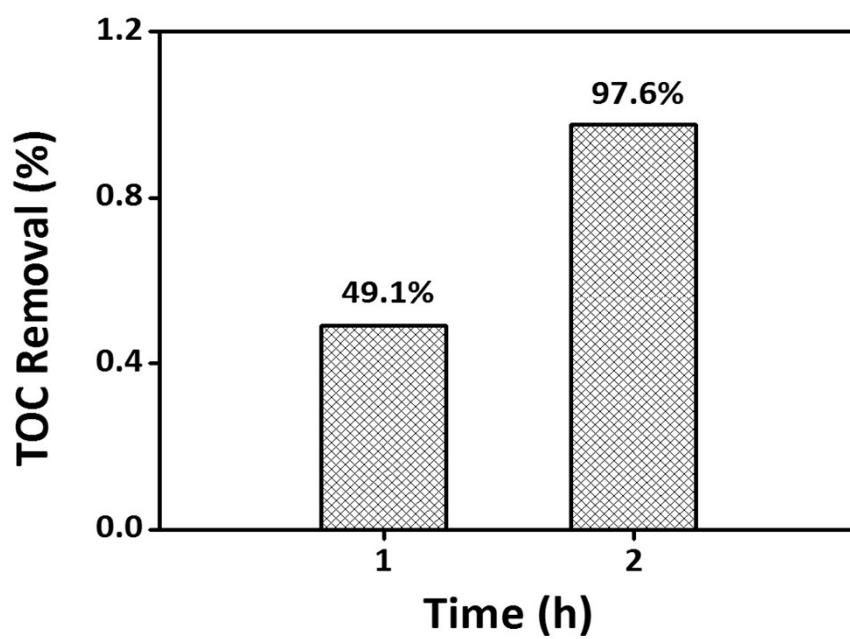


Fig. S3 Total organic carbon removal during photocatalytic degradation of RhB with **BMO-2** under visible light irradiation.

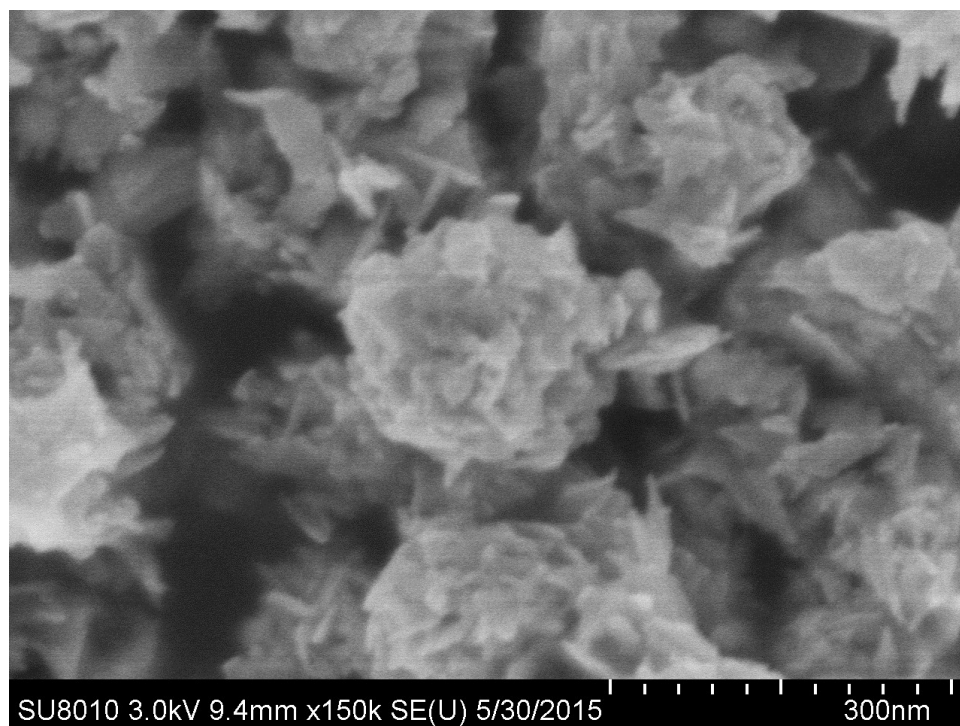


Fig. S4 SEM image of **BMO-2** after four consecutive photodegradation cycles.

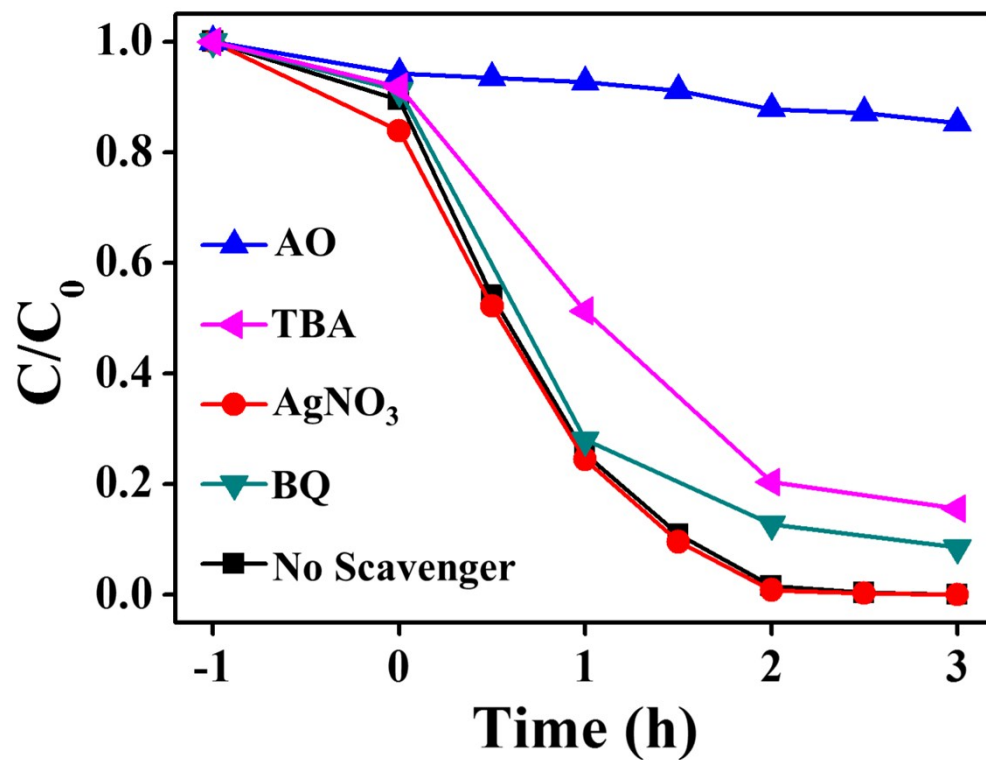


Fig. S5 Photodegradation of RhB over **BMO-2** in the presence of different scavengers: 1, 4-benzoquinone (BQ), ammonium oxalate (AO), $AgNO_3$, and tert-butyl alcohol (TBA) under visible light irradiation.

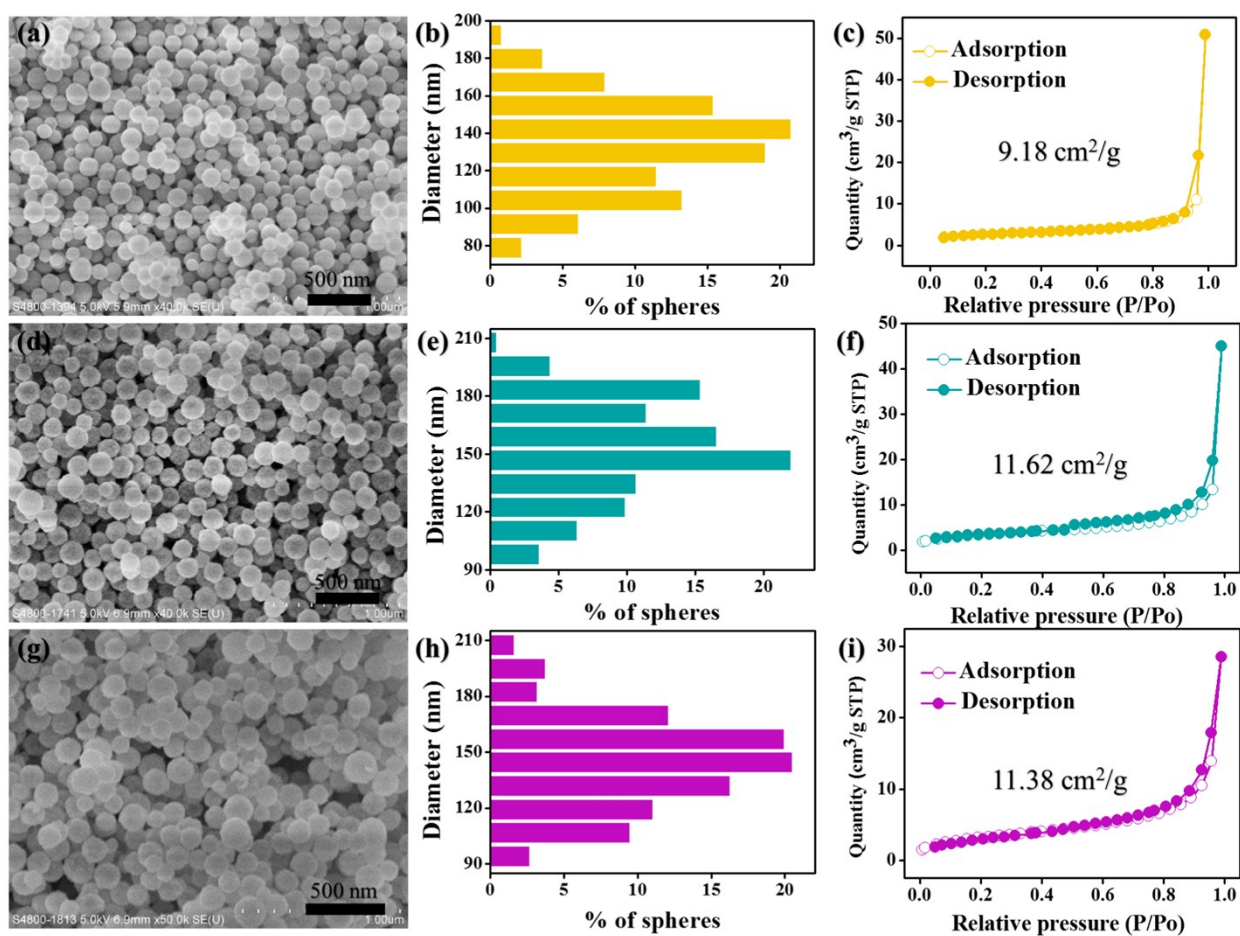


Fig. S6 SEM images, size distribution histograms and N_2 adsorption-desorption isotherms of Bi_2O_3 (a-c), $\text{Bi}_2\text{O}_3/\text{Bi}_2\text{WO}_6$ heterostructure (d-f) and Bi_2WO_6 (g-i).

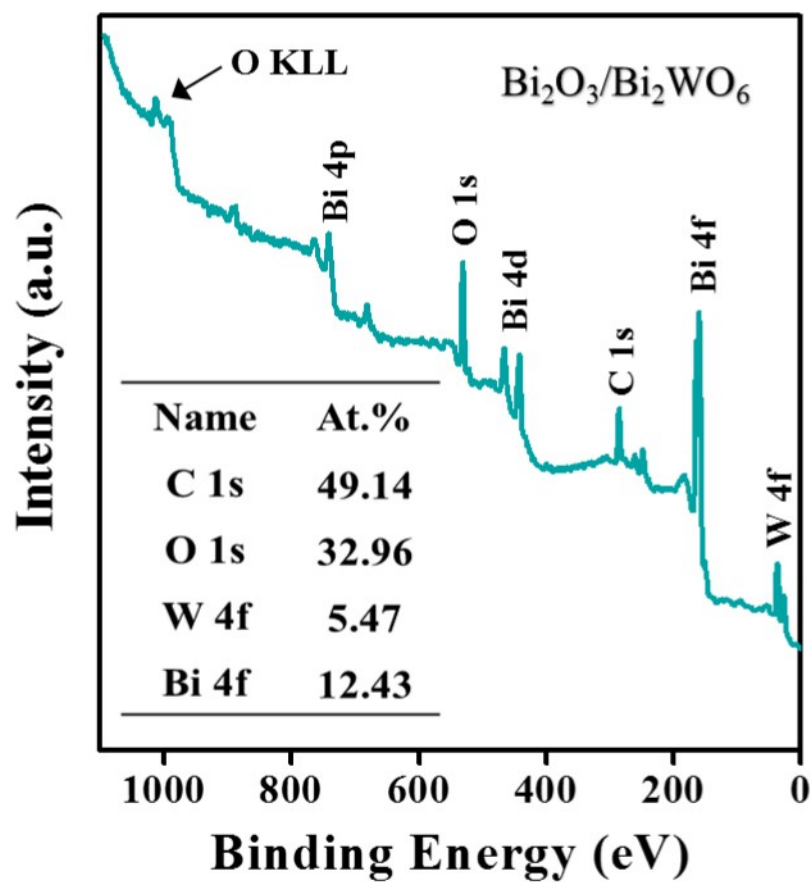


Fig. S7 XPS spectra of Bi₂O₃/Bi₂WO₆ heterostructure.

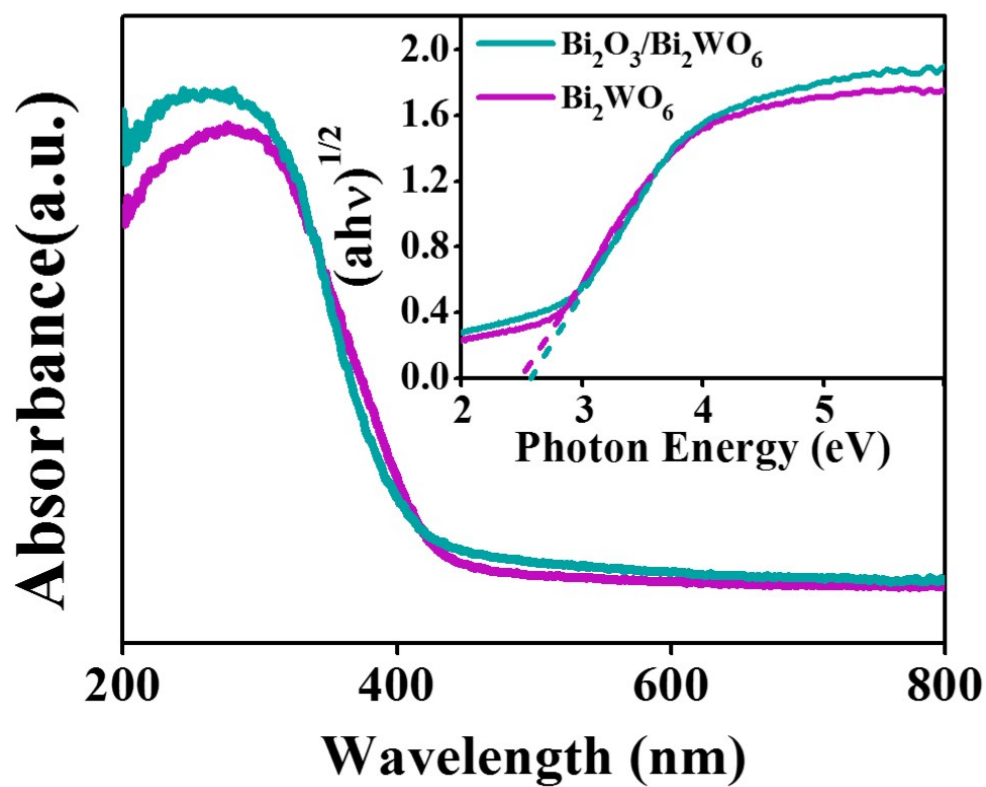


Fig. S8 UV-vis diffuse reflectance spectra of pure Bi_2WO_6 and $\text{Bi}_2\text{O}_3/\text{Bi}_2\text{WO}_6$ heterostructure.

Inset is the plot of transformed Kubelka-Munk function versus light energy.