Electronic Supplementary Information (ESI) for

Enhanced Visible-Light Photocatalytic Performance of BiOBr/UiO-66(Zr) Composite for Dye Degradation with the Assistance of UiO-66

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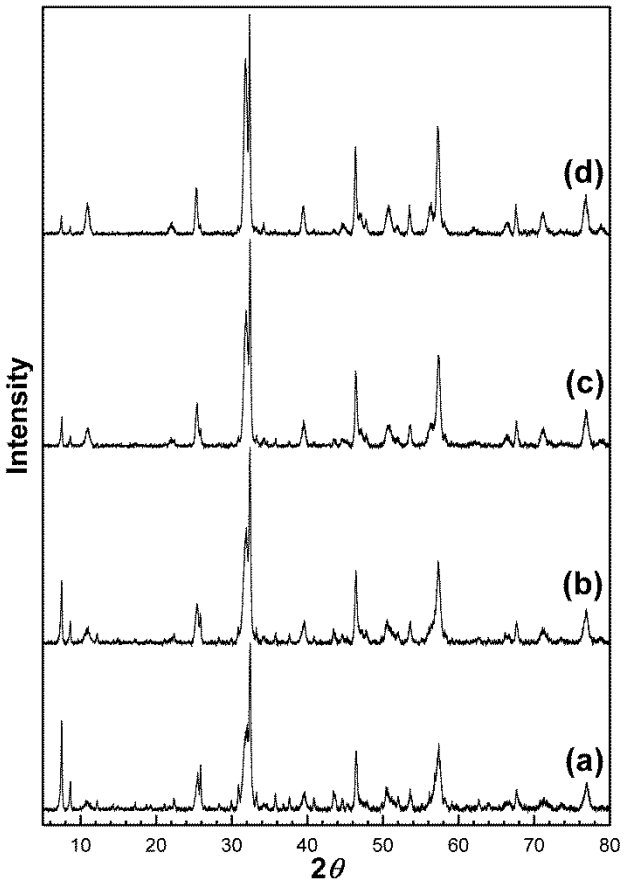

Fig. S1 XRD patterns of (a) BiOBr/UiO-66-0.5, (b) BiOBr/UiO-66-1, (c) BiOBr/UiO-66-2, and (d) BiOBr/UiO-66-4.

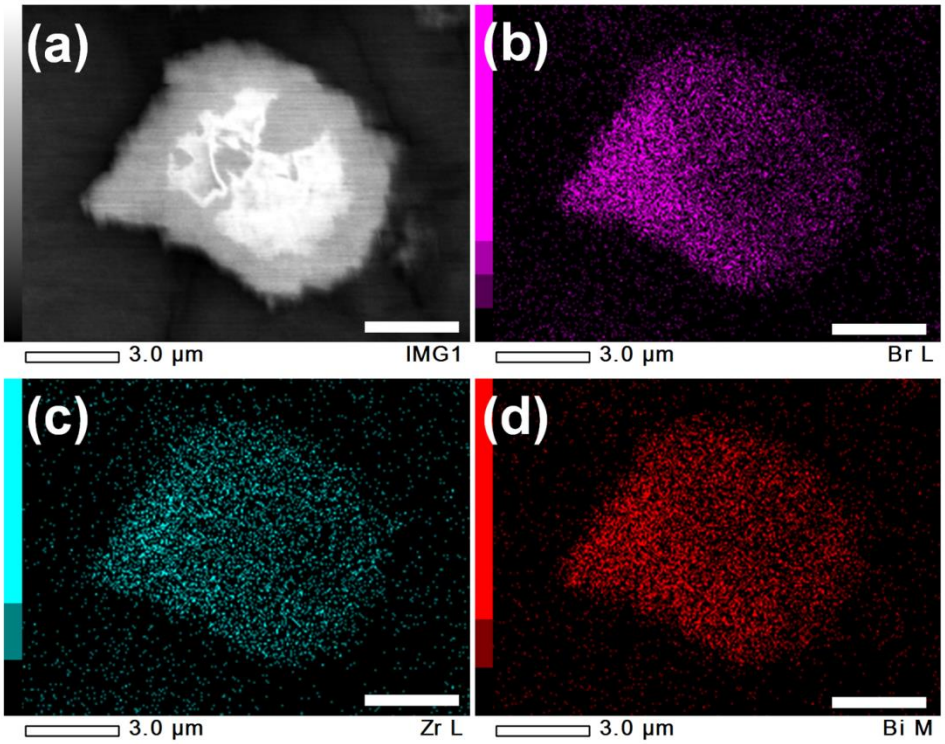

Fig. S2 (a) SEM image of BiOBr/UiO-66-3, and corresponding EDS elemental mapping images of (b) Br and (c) Zr, and (d) Bi (scale bars are 3 µm).

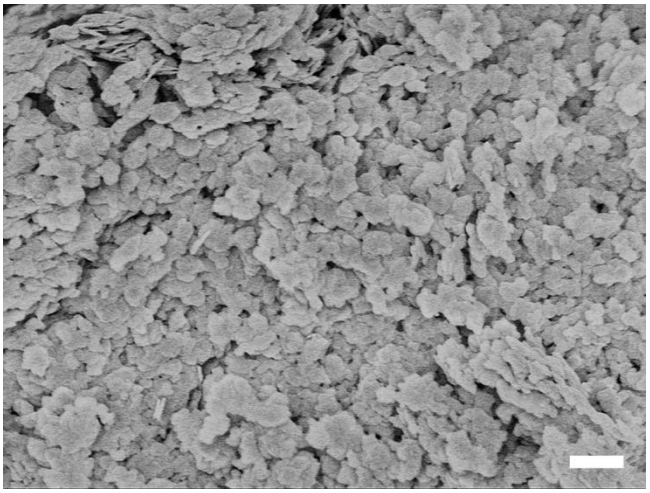

Fig. S3 SEM image of pristine BiOBr (scale bar is 1 µm).

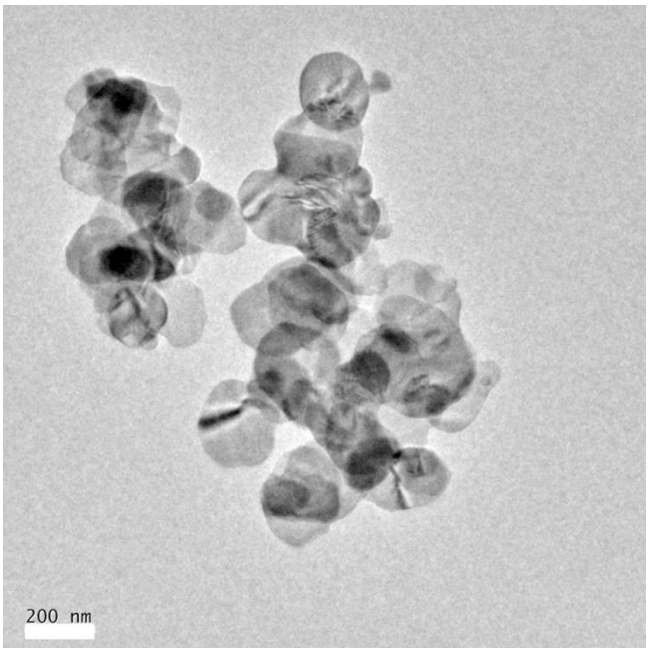

Fig. S4 TEM image of pristine BiOBr (scale bar is 200 nm).

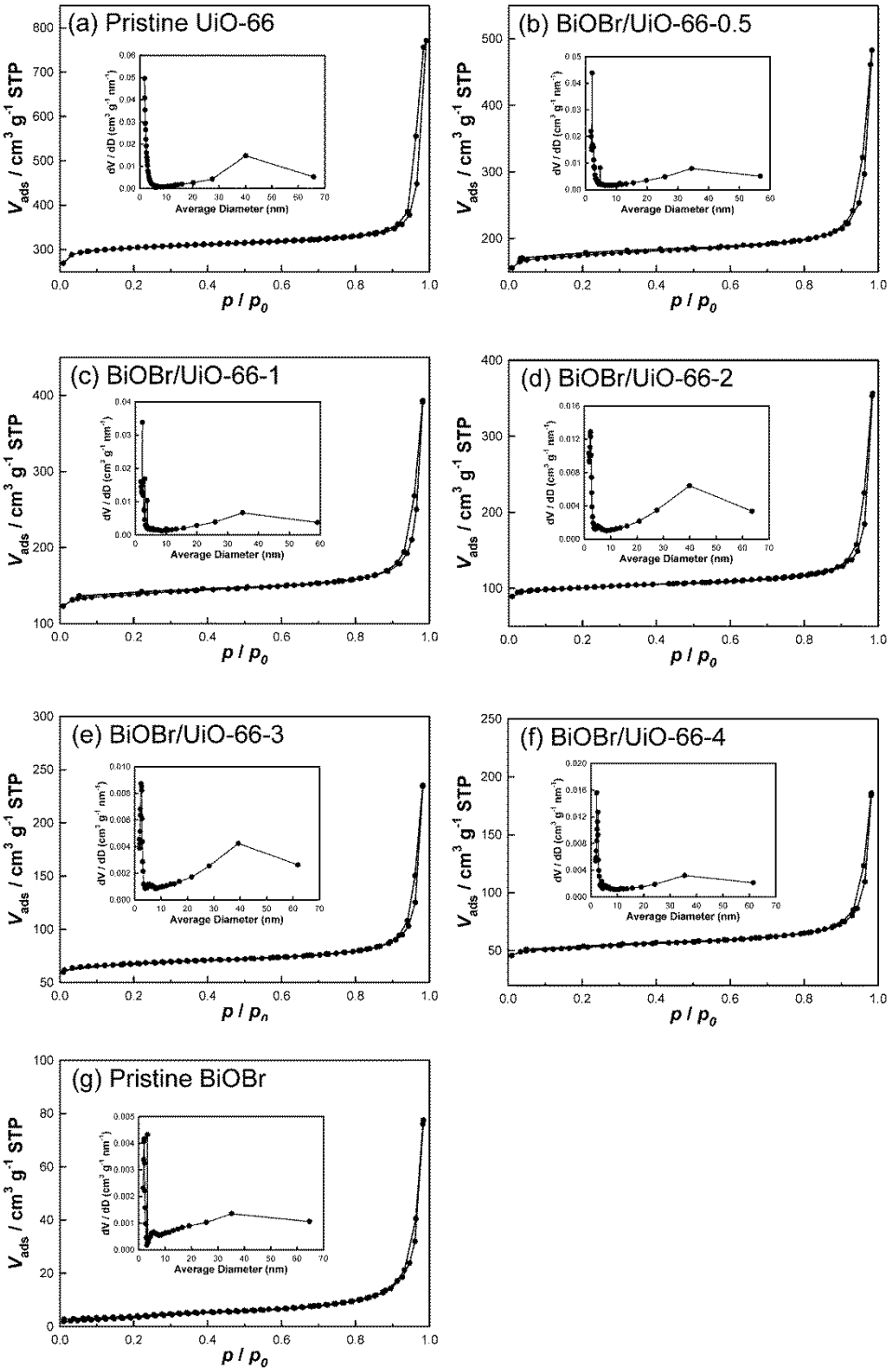

Fig. S5 Nitrogen adsorption-desorption isotherms and pore size distributions (inset) of (a) pristine UiO-66, (b) BiOBr/UiO-66-0.5, (c) BiOBr/UiO-66-1, (d) BiOBr/UiO-66-2, (e) BiOBr/UiO-66-3, (f) BiOBr/UiO-66-4, and (g) pristine BiOBr.

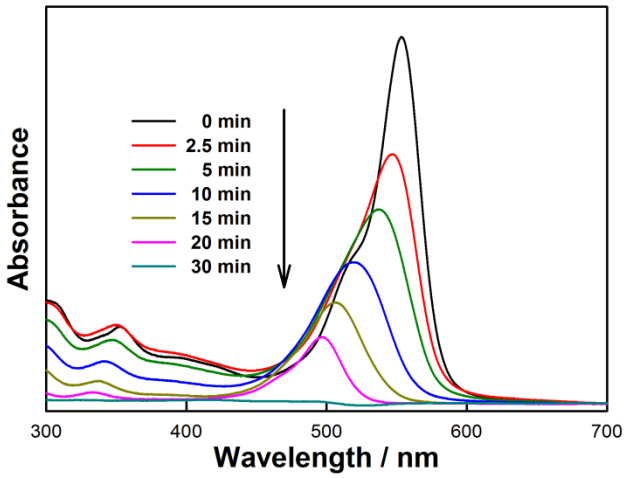

Fig. S6 UV-Vis spectral changes of RhB solutions as a function of irradiation time in the presence of BiOBr/UiO-66-3.

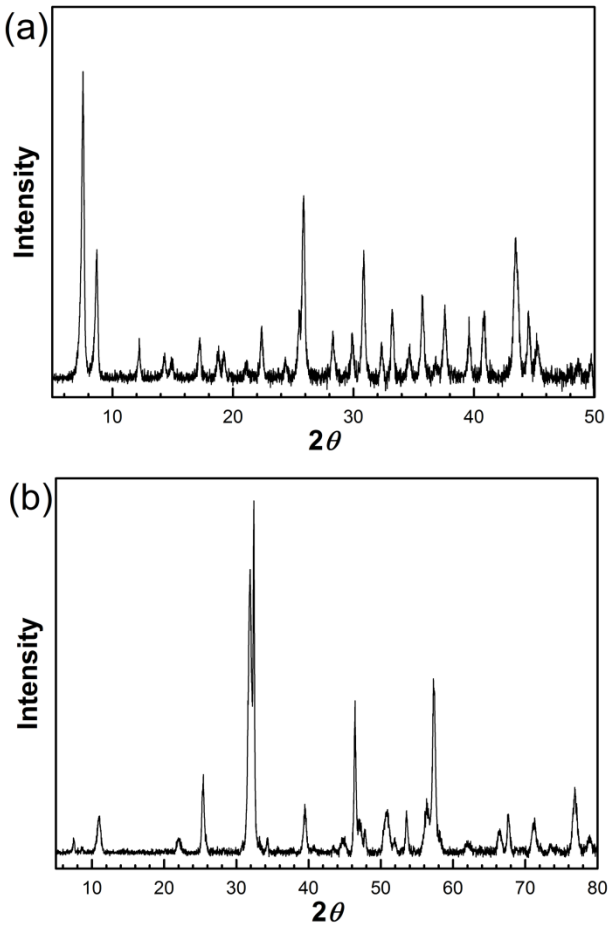

Fig. S7 XRD patterns of (a) pristine UiO-66-NH_2 and (b) BiOBr/UiO-66-NH_2-3.

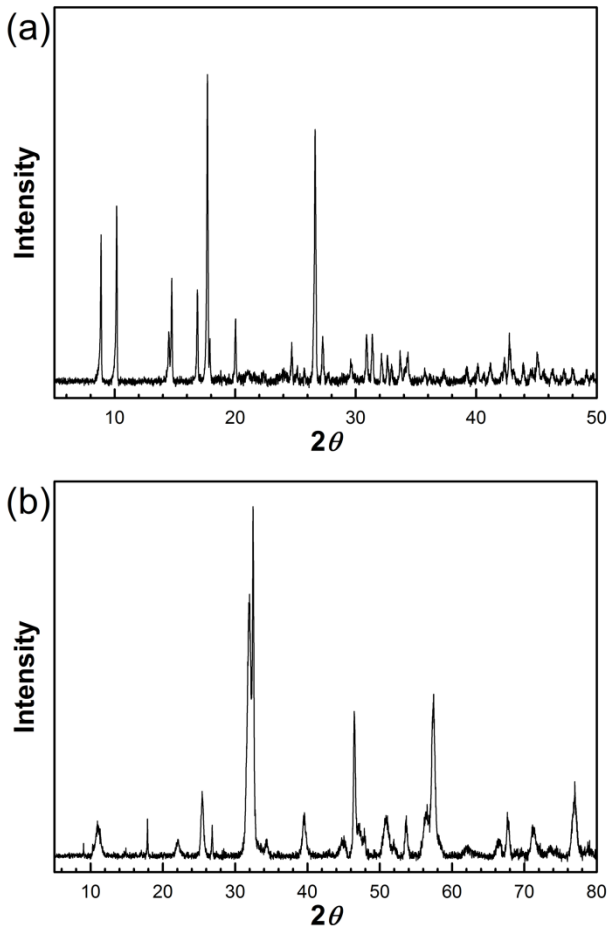

Fig. S8 XRD patterns of (a) pristine Fe-MIL-53-NH_2 and (b) BiOBr/Fe-MIL-53-NH_2-3.

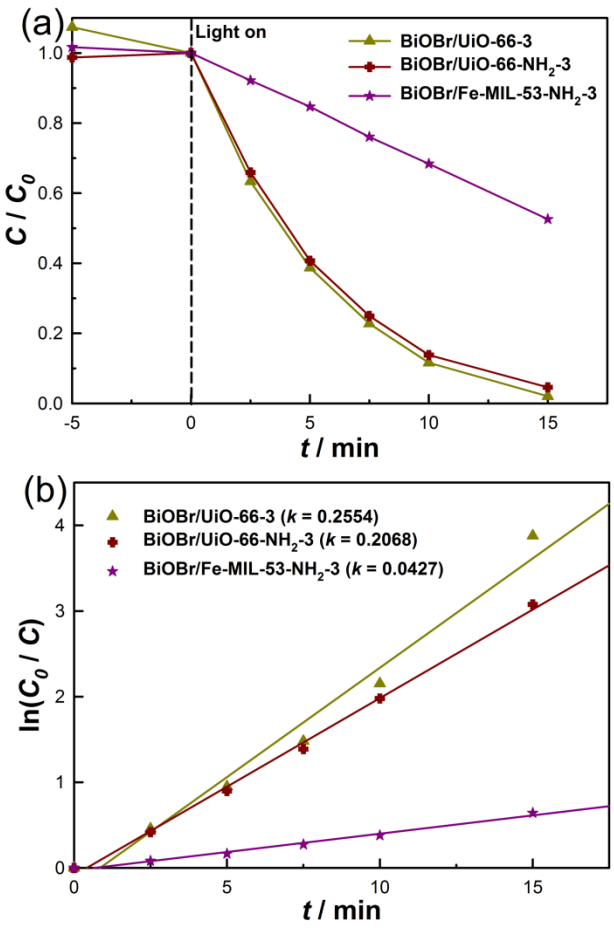

Fig. S9 Photocatalytic degradation of RhB in the presence of BiOBr/UiO-66-3, BiOBr/UiO-66-NH_2-3, and BiOBr/Fe-MIL-53-NH_2-3 under visible-light irradiation. (b) Comparison of the reaction rate constant (k) in the presence of BiOBr/UiO-66-3, BiOBr/UiO-66-NH_2-3, and BiOBr/Fe-MIL-53-NH_2-3 (assuming that the reactions follow the pseudo-first-order kinetic model).

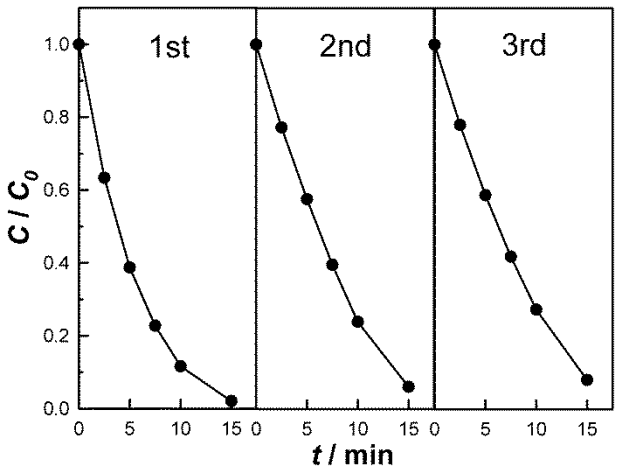

Fig. S10 Three cycles of the RhB degradation in the presence of BiOBr/UiO-66-3 under visible-light irradiation.

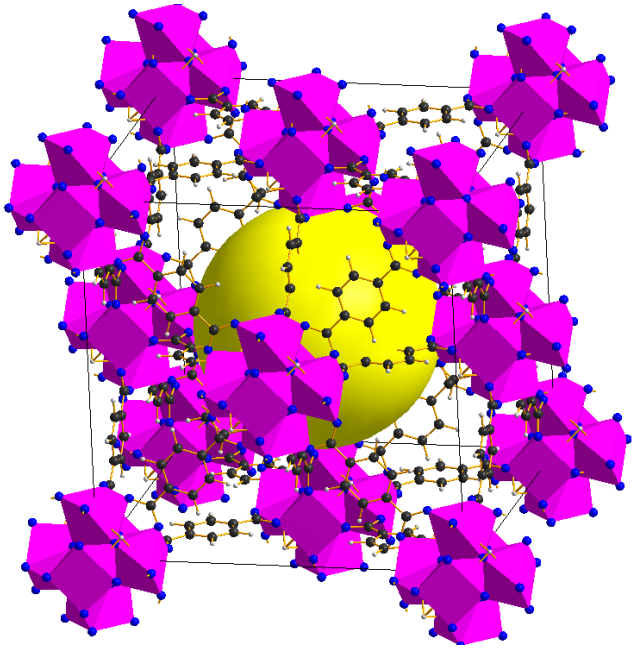

Fig. S11 Crystal structural illustration of UiO-66. Zirconium, oxygen, carbon, and hydrogen atoms are represented in pink, dark blue, black, and gray, respectively. The large yellow sphere represents the enclosed cavity.

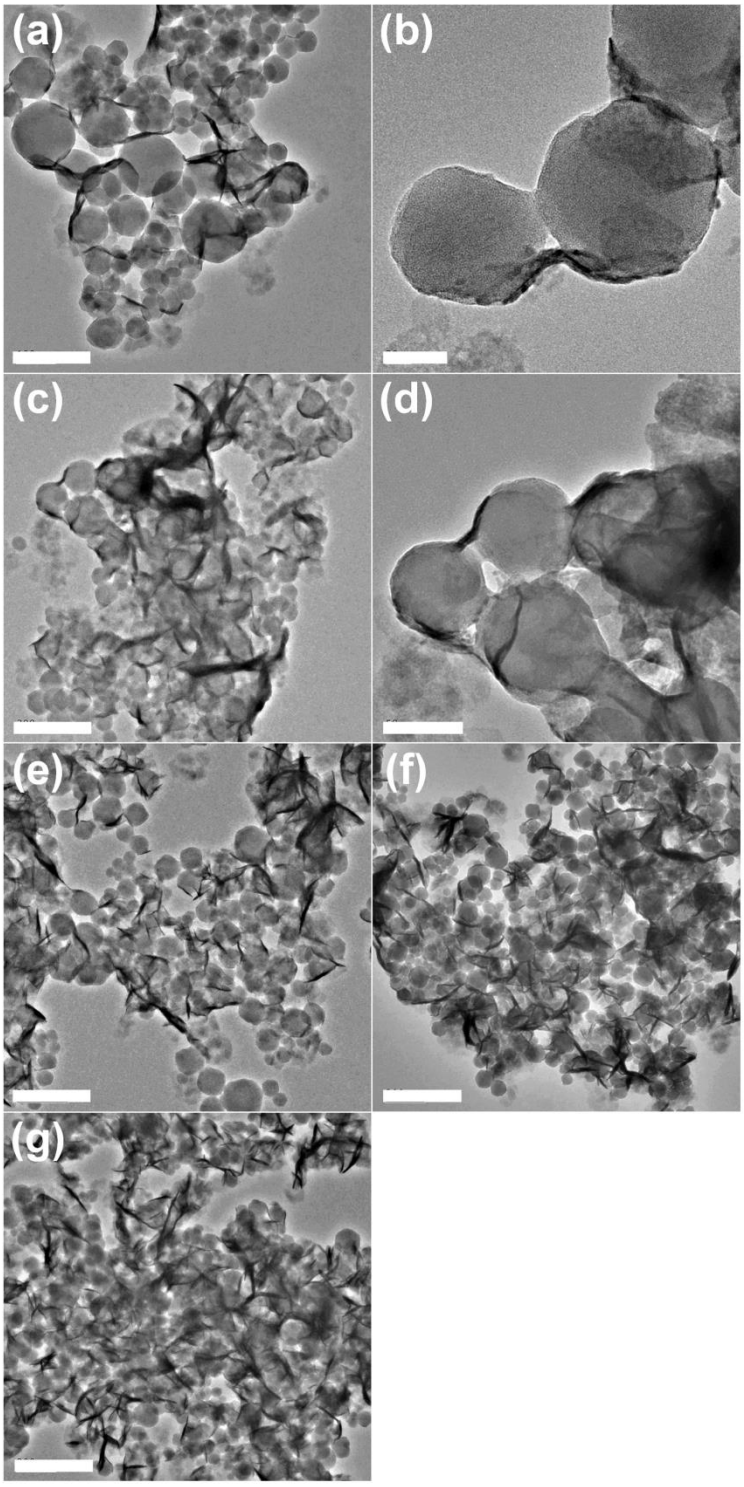

Fig. S12 TEM images of BiOBr/UiO-66-0.5 sampled at different reaction time: (a, b) 1 min, (c, d) 3 min, (e) 5 min, (f) 10 min, (g) 15 min (scale bars are 200 nm in (a), 50 nm in (b), 300 nm in (c, e), 100 nm in (d), and 400 nm in (f, g)).

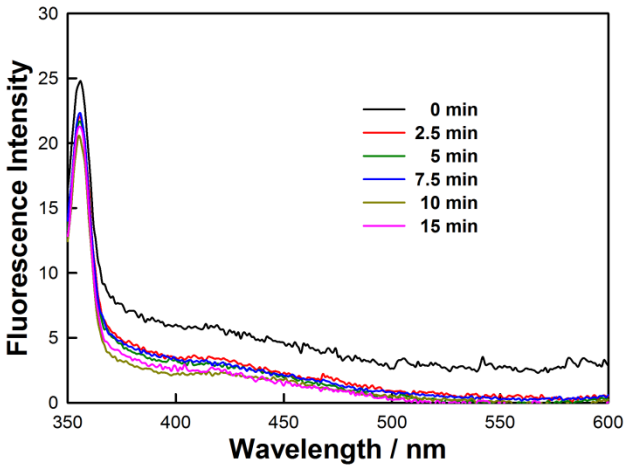

Fig. S13 Photoluminescence spectral changes with visible-light irradiation time in the presence of BiOBr/UiO-66-3 in a 5×10^{-4} M basic solution of terephthalic acid.