

Supporting Information

Synthesis of highly symmetrical BiOI single-crystal nanosheets and their {001} facet-dependent photoactivity

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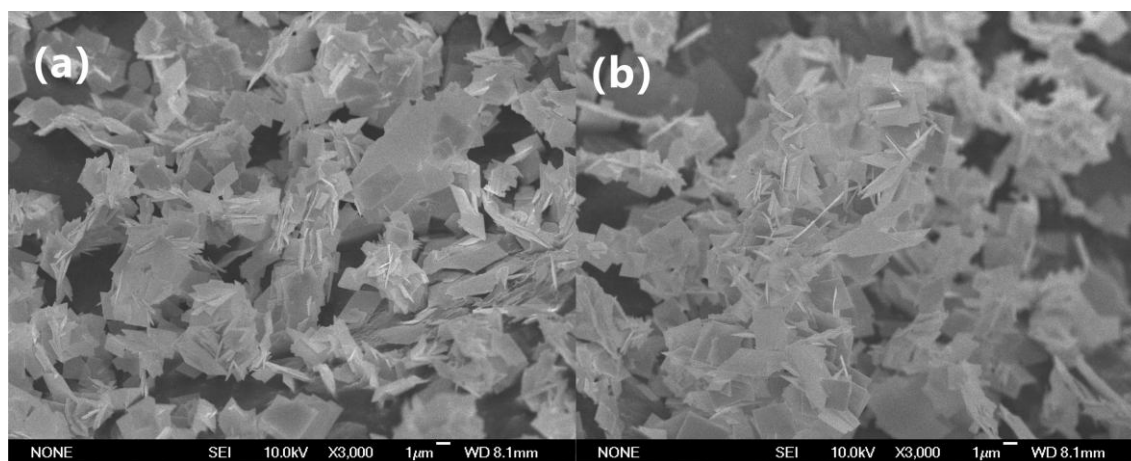


Fig. S1 (a) FESEM image of BiOI SCN-4; and (b) FESEM image of BiOI SCN-6.

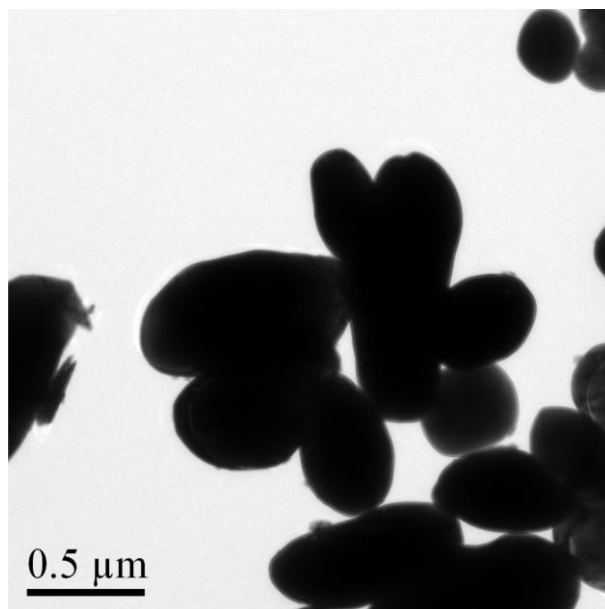


Fig. S2 TEM image of irregular BiOI.

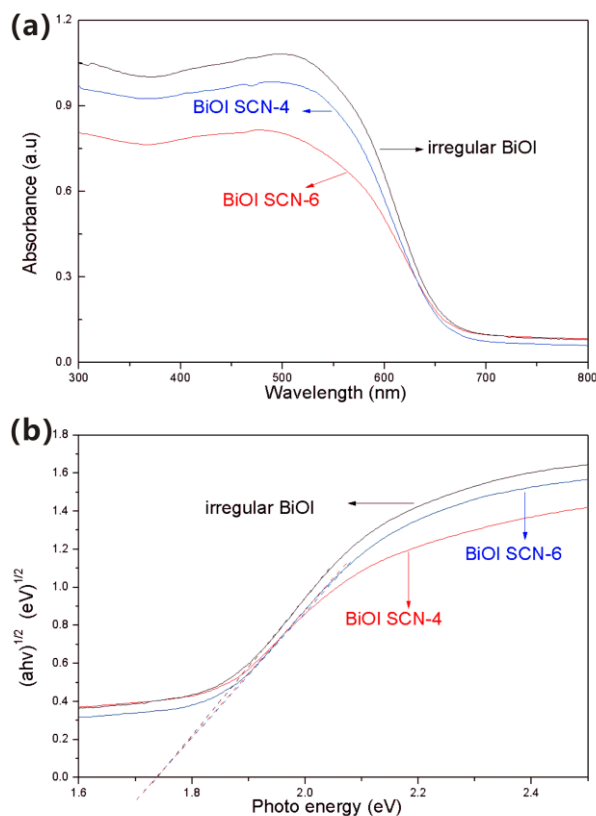


Fig. S3 DRS spectra (a) and Plots of $(\alpha h\nu)^{1/2}$ vs photon energy ($h\nu$) (b) of irregular BiOI, BiOI SCN-4 and BiOI SCN-6.

As a semiconductor, the optical absorption near the band edge follows the equation $\alpha h\nu = A(h\nu - E_g)^{n/2}$, where α , ν , E_g , and A are the absorption coefficient, light frequency, band gap energy, and a constant, respectively. For BiOI, the value of n is 4 for the indirect transition.²²

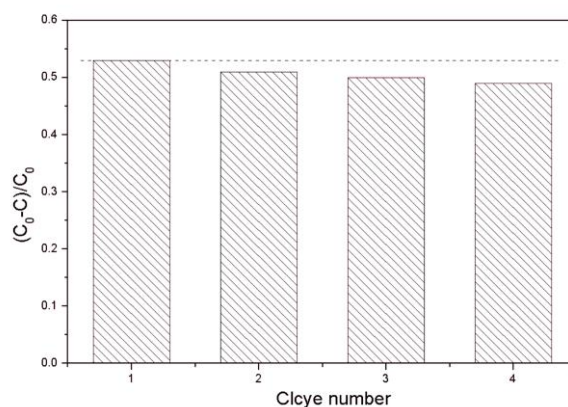


Fig. S4 Cycle runs in the photocatalytic degradation of RhB in the presence of BiOI SCNs under visible light irradiation for 1 h.

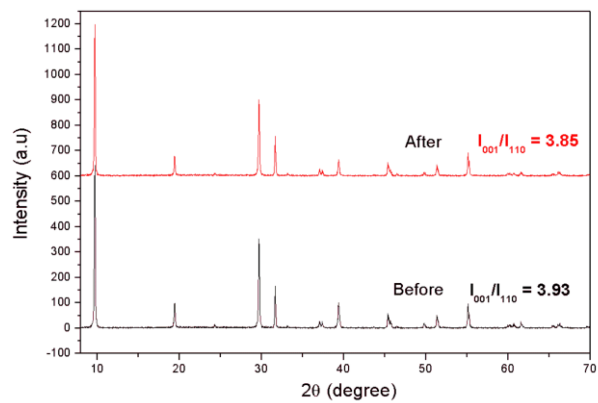


Fig. S5 XRD pattern of BiOI SCN-4 before and after photocatalytic reaction.