

Electronic Supplementary Information

Novel one-step combustion synthesis of BiOBr:Yb³⁺,Er³⁺/AgBr upconversion heterojunction photocatalysts with enhanced Vis/NIR photocatalytic activities

Shuhui Liang,^a Yukun Chang,^a Yue Wang,^a Dafeng Zhang^a and Xipeng Pu^{*a}

^a School of Materials Science and Engineering, Liaocheng University, Liaocheng, Shandong 252000, P.

R. China

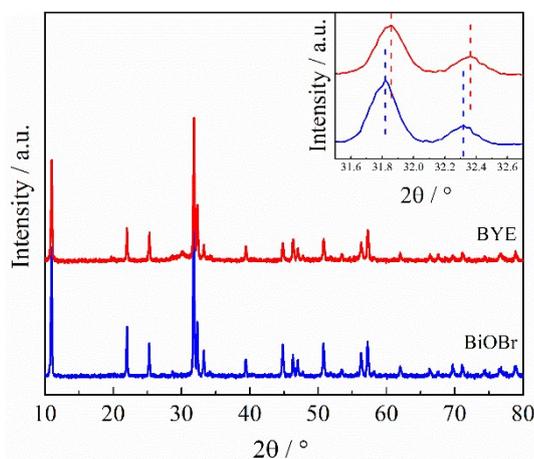


Fig. S1 XRD patterns of BiOBr and BYE, and the inset is the main diffraction peaks from 31.4° to 32.8°.

Table. S1 The crystallographic parameters of as synthesized BiOBr and BYE.

Samples	Crystallite size (nm)	Cell volume
BiOBr	55.0	123.83
BYE	49.8	123.69

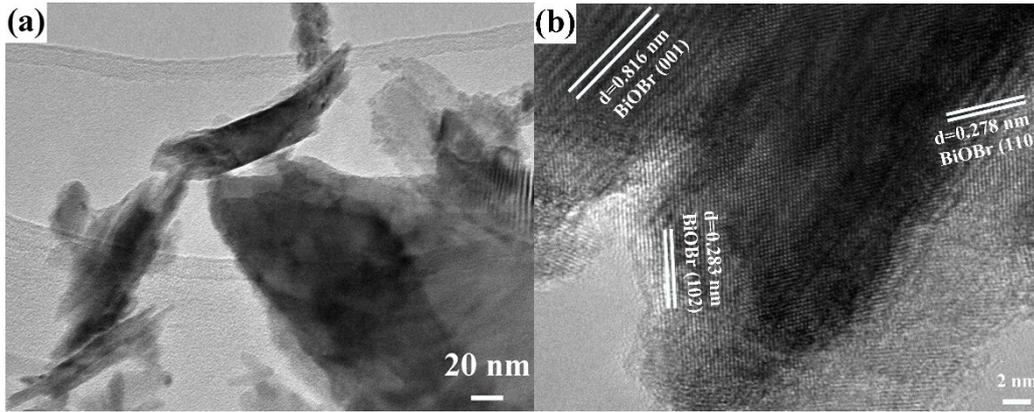


Fig. S2 TEM images of the pure BiOBr.

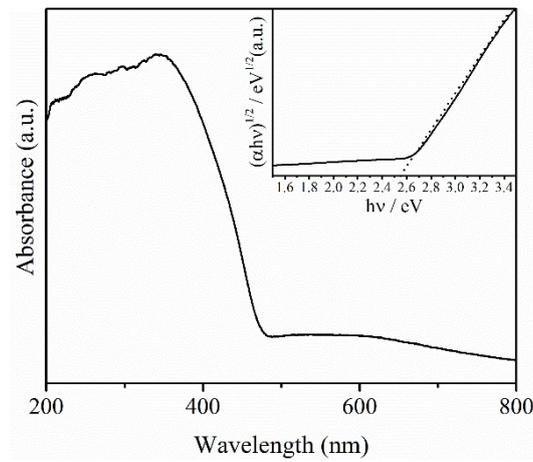
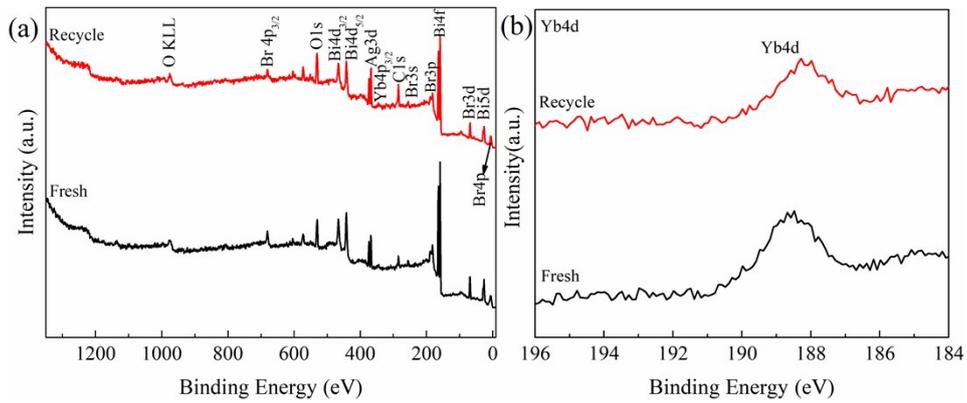


Fig. S3 The UV-Vis-NIR absorption spectrum and (b) corresponding Tauc plot of $(\alpha hv)^2$ versus $h\nu$ of the AgBr.



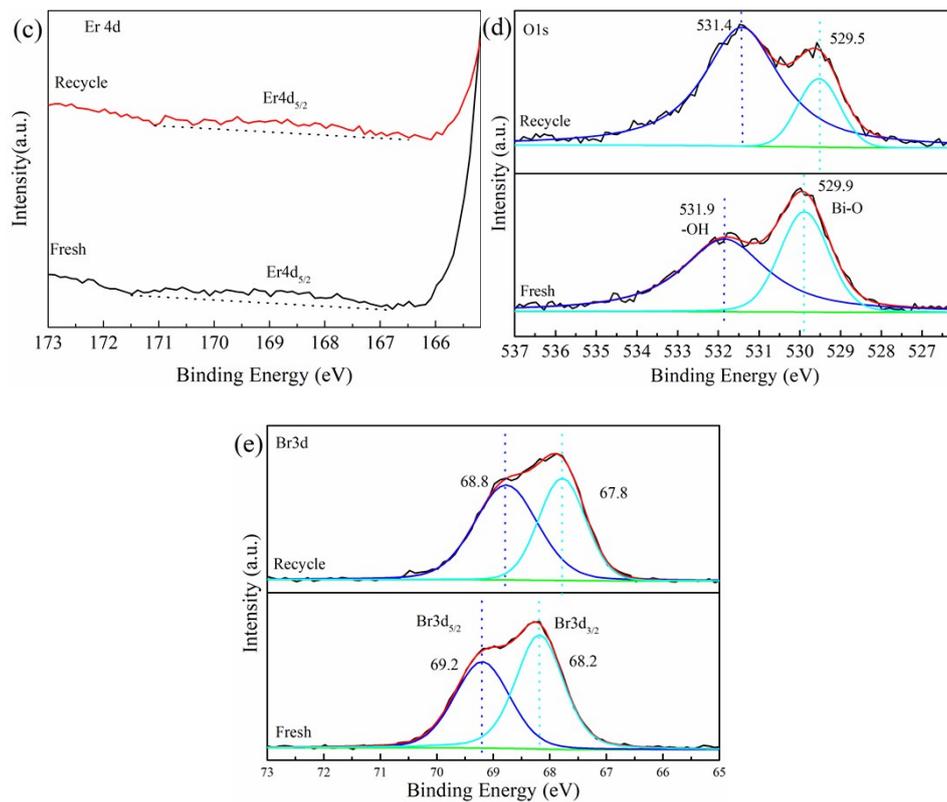


Fig. S4 (a) Typical XPS survey, (b) Yb 4d spectra, (c) Er 4d spectra, (d) O1s spectra and (e) Br3d spectra of the as-prepared BYE/AgBr-1:1.5 before and after 6-cycle photocatalytic test.

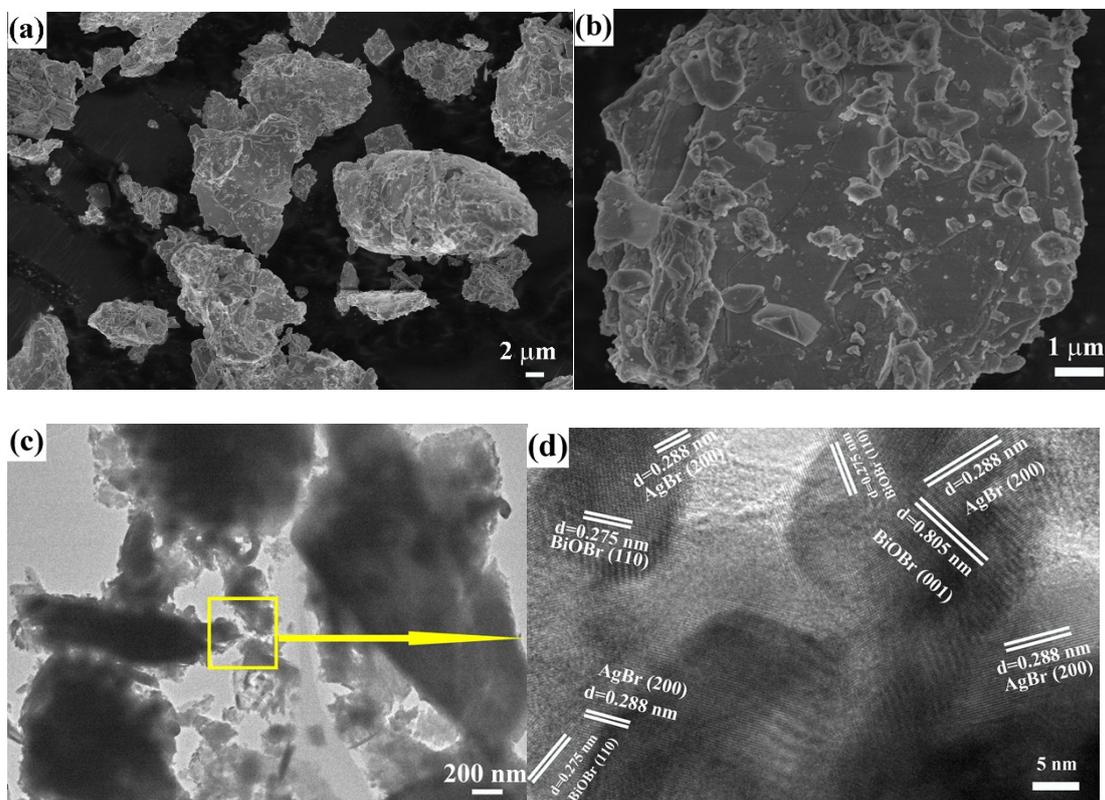


Fig. S5 (a, b) SEM, (c) TEM and (d) HRTEM images of the BYE/AgBr-1:1.5 after 6-cycle photocatalytic test.

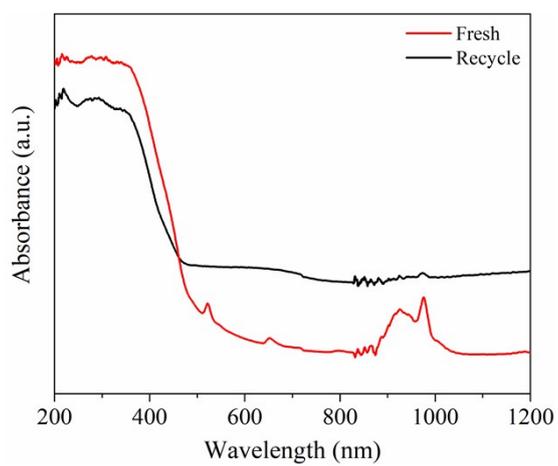


Fig. S6 The UV-Vis-NIR absorption spectrum of the as-prepared BYE/AgBr-1:1.5 before and after 6-cycle photocatalytic test.