

Fig. S1 XRD pattern of BSO1 with flower-like nanostructure.

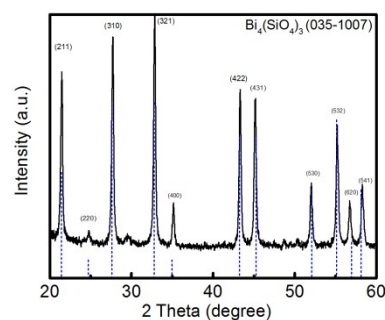


Fig. S2 XRD pattern of BSO2 with sphere-like microstructure.

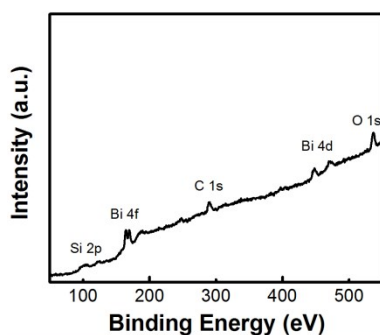


Fig. S3 XPS survey spectrum of as-prepared BSO-HNS.

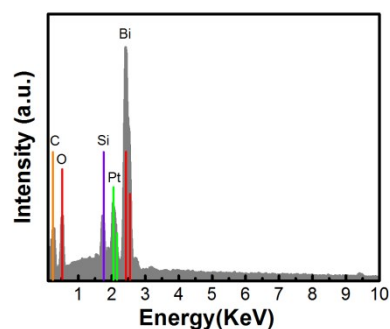


Fig. S4 EDS pattern of as-prepared BSO-HNS

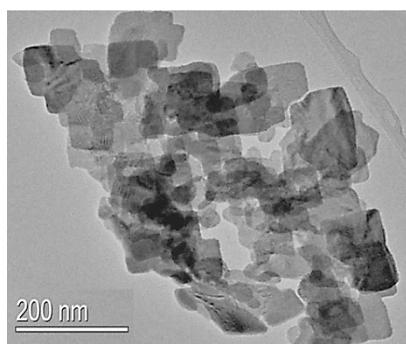


Fig. S5 TEM image of as-prepared BSO-HNS.

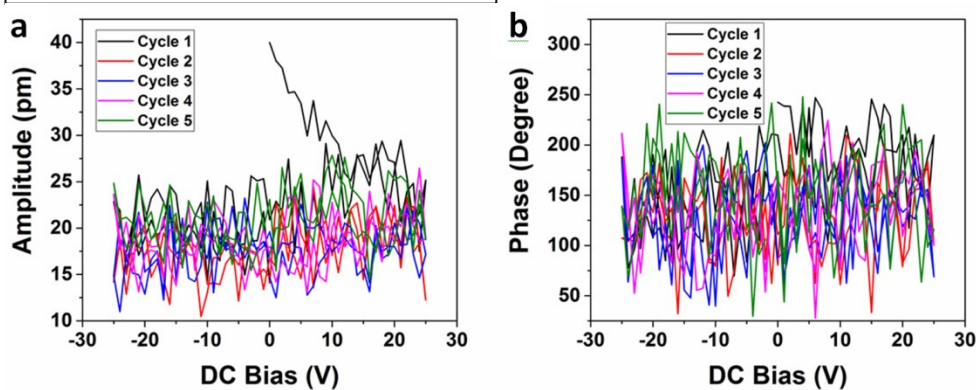


Fig. S6 (A) PFM amplitude and (B) phase curves of as-prepared BSO-HNS for 5 cycles of sweeping triangle/square waves on the substrate, measured by SS-PFM.

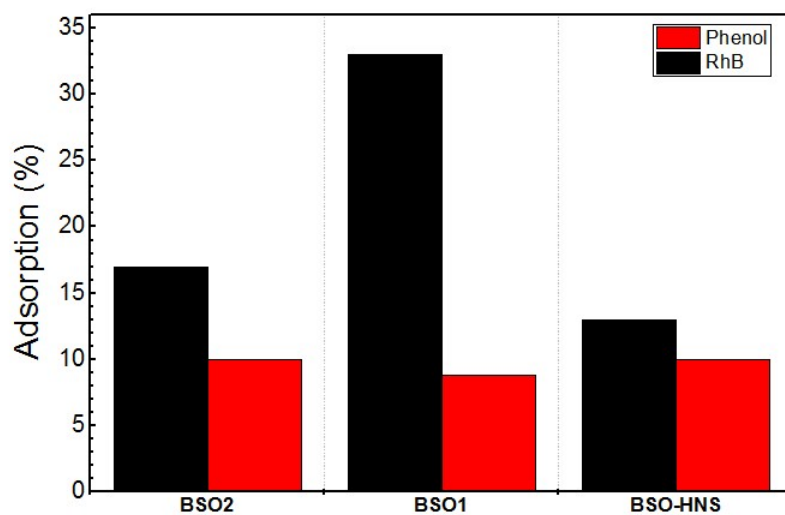


Fig. S7 Adsorption performance of three samples BSO1, BSO-HNS and BSO2 has carried out in dark in interval 30 min for each RhB and phenol.

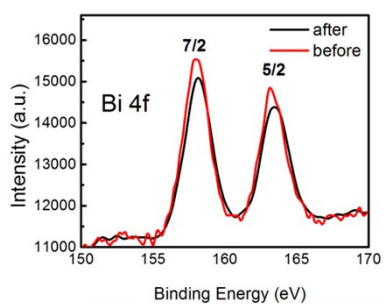


Fig. S8 XPS spectra of Bi 4f before and after 5 recycling runs in the photodegradation of RhB by BSO-HNS under UV-Vis light.

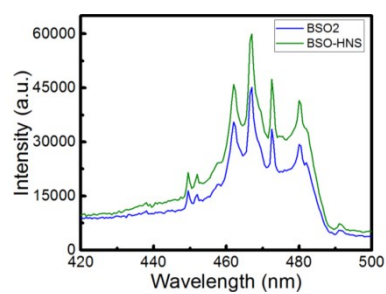


Fig. S9 PL spectra for each BSO2 and BSO-HNS samples

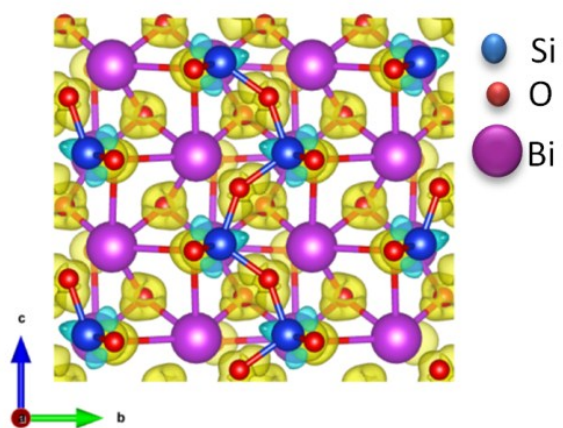


Fig. S10 Charge density map of {100} facet of BSO-HNS