

FIG. S1 EDS analysis of as prepared samples

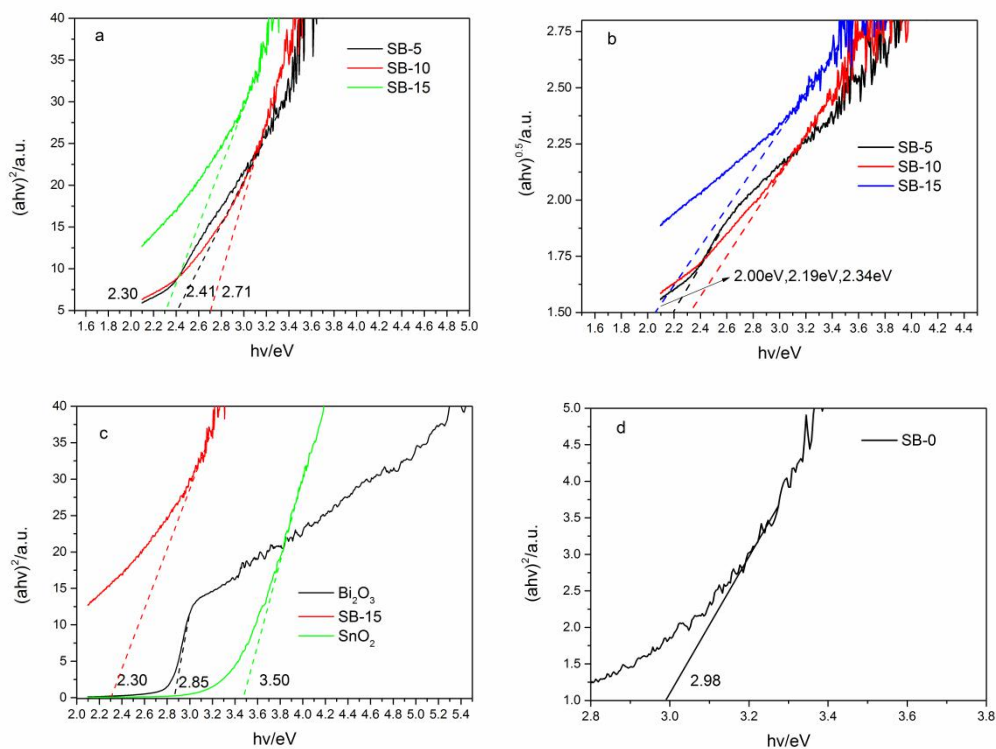


FIG. S2  $E_g$  calculated as direct semiconductor of SB-5, SB-10 and SB-15 (a) of pure  $\text{SnO}_2$  and pure  $\text{Bi}_2\text{O}_3$  (c) of SB-0 (d) and  $E_g$  calculated as indirect semiconductors of SB-5, SB-10 and SB-15 (b)

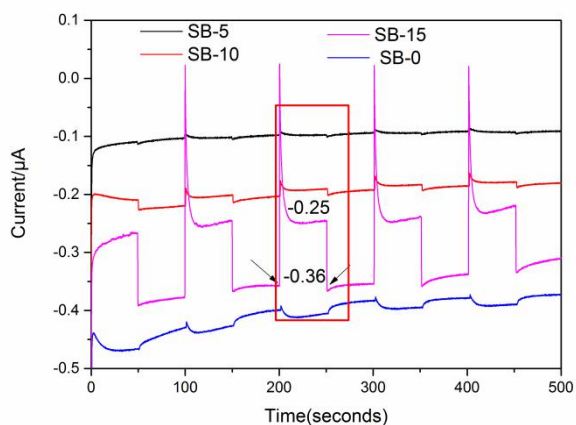


FIG. S3 Photocurrent of as prepared samples

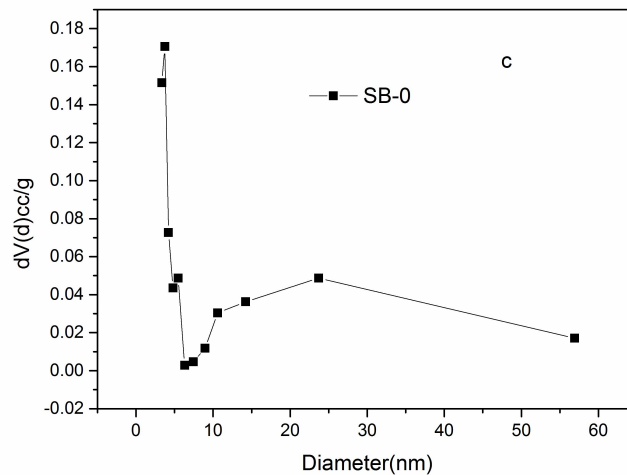
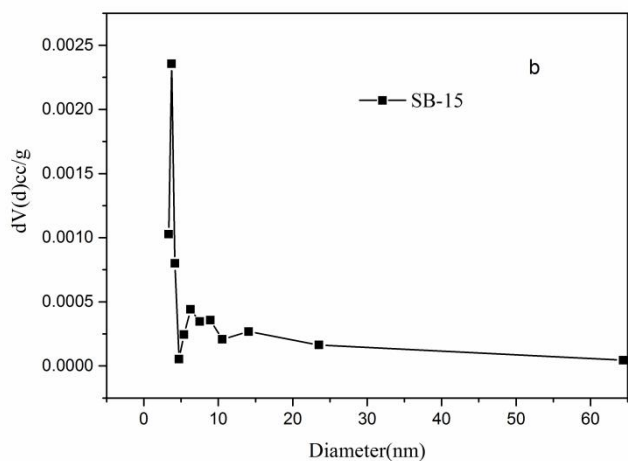
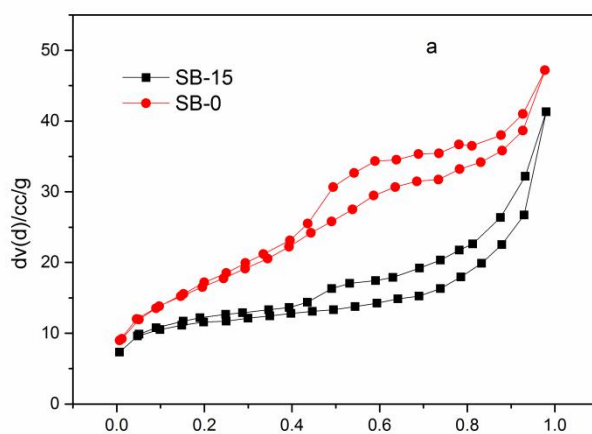


FIG. S4 The nitrogen adsorption/desorption isotherm (a) and the BJH pore size

distribution plot for SB-15(b) and SB-0(c)

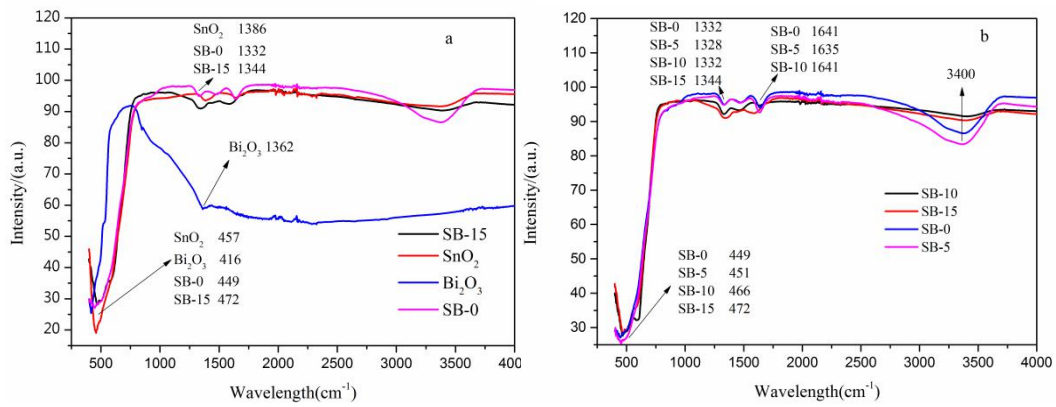


FIG. S5 The FTIR spectra of as prepared samples (a)SnO<sub>2</sub> and Bi<sub>2</sub>O<sub>3</sub> ; (b)SB-5 ,SB-10 ,SB-15 and

SB-0

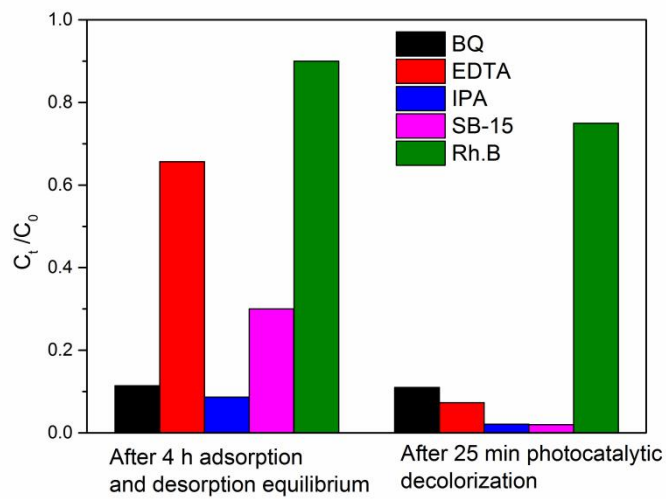


FIG. S6 The active oxidation species test of sample SB-15

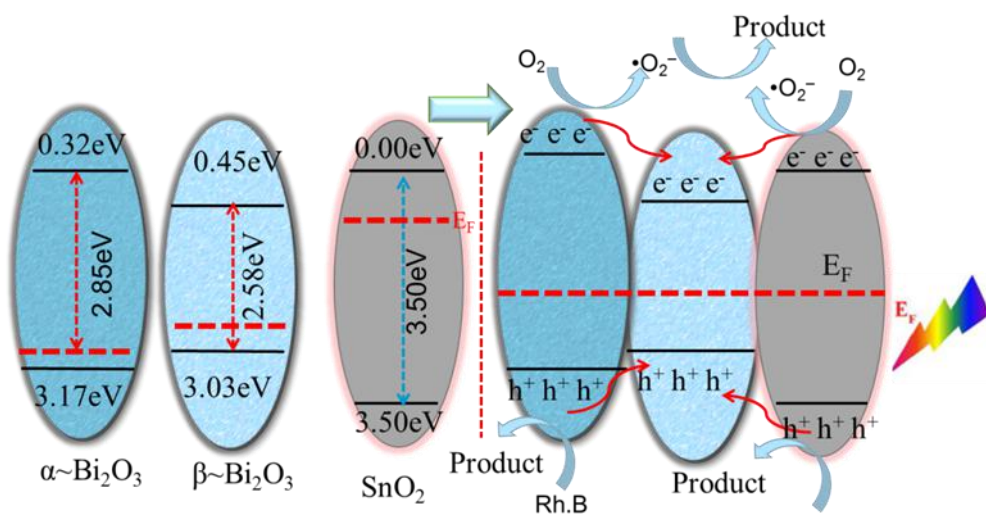


FIG. S7 The photocatalytic mechanism of SnO<sub>2</sub>/α-Bi<sub>2</sub>O<sub>3</sub>/β-Bi<sub>2</sub>O<sub>3</sub>