Electronic Supplementary Material (ESI) for Catalysis Science & Technology.

Oxygen vacancy induced donor-acceptor conjugated microporous poly(triphenylamine-benzothiadiazole)/TiO_2 as a Z-scheme heterojunction photocatalyst towards visible-light-driven degradation of Bisphenol A

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Procedures of preparing TPA:

50 mL of 1,4-dioxane was added to a mixture of tris- (4-bromophenyl)-amine (1.93 g, 4 mmol), bis(pinacolato)diboron (3.75 g, 15.0 mmol), potassium acetate (2.45 g, 25 mmol) and Pd(dppf)Cl_2 (0.2 g). The reaction solution was then was purged with nitrogen gas to remove oxygen and heated up to reflux for overnight. Afterwards, the mixture solution was cooled to room temperature, and poured into water (mixture solution: water = 1:1). The water layer was extracted with ethyl acetate for 2-3 times and the combined organic layer were dried over anhydrous Na_2SO_4. After the volatile solvent was removed under reduced pressure, the residue was purified by column chromatography using hexane/ethyl acetate (4/1) as an eluent to yield the product.

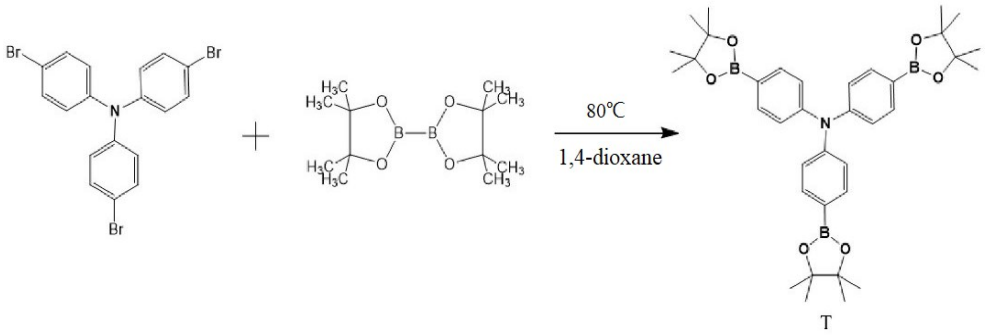

Fig. S1. Synthetic rout to TPA

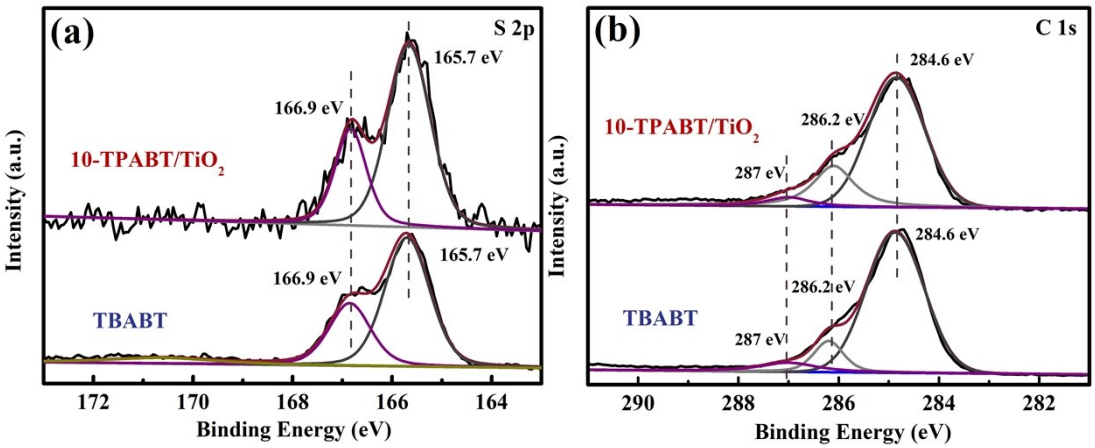

Fig. S2 XPS spectra of TPABT, 10-TPABT/TiO_2 composite. (a): S 2p, (b): C 1s.

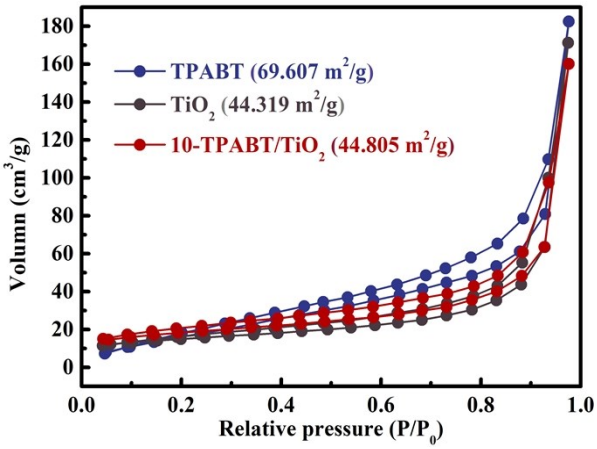

Fig. S3 N_2 adsorption–desorption isotherms of TPABT, TiO_2 and 10-TPABT /TiO_2.

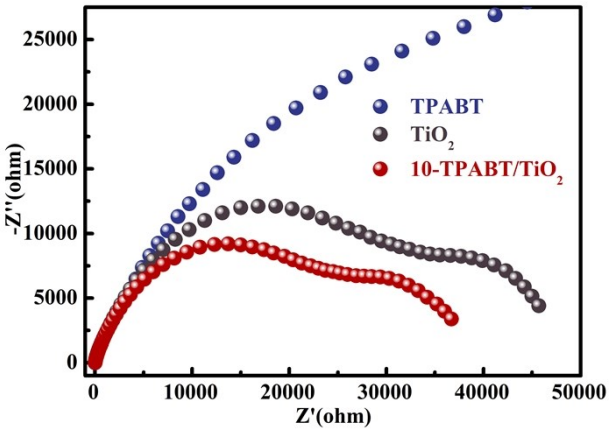

Fig. S4 EIS Nyquist plots of TPABT, TiO_2 and 10-TPABT/TiO_2.

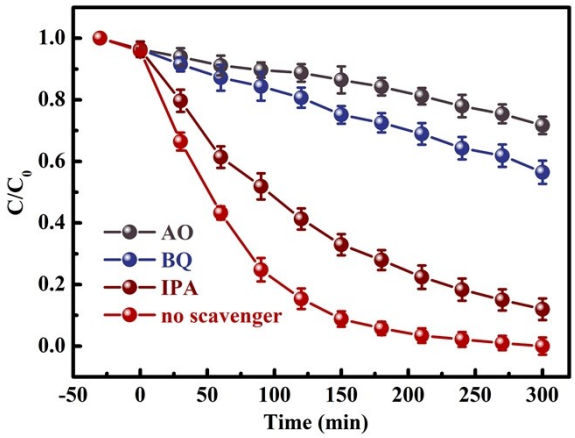

Fig. S5 Trapping experiment of active species (AO→h^+, BQ→$O_2^{\bullet-}$, IPA→•OH) for photodegradation of BPA.