Blue Ti^{3+} self-doped TiO_2 nanosheets with rich {001} facets for photocatalytic performance

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Supporting Information (SI):

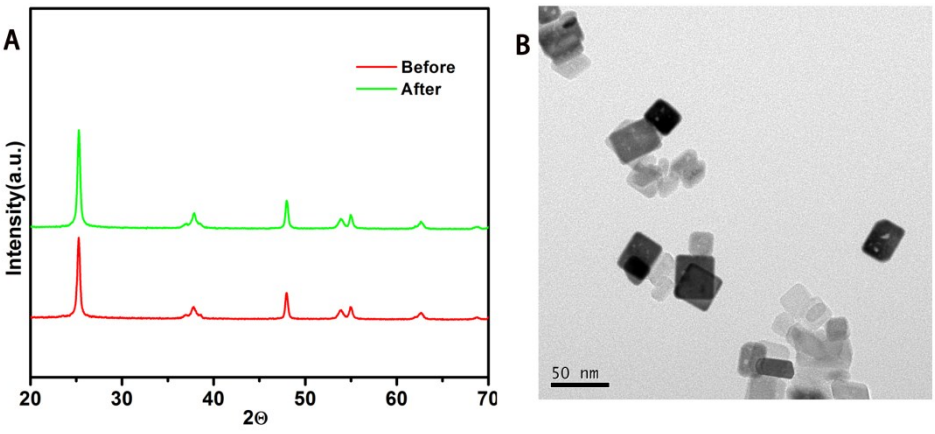

Figure S1. A. The powder XRD patterns of $BT_{1.5}$TNs before and after photocatalytic RhB decomposition. B. TEM image of $BT_{1.5}$TNs after photocatalytic RhB decomposition.

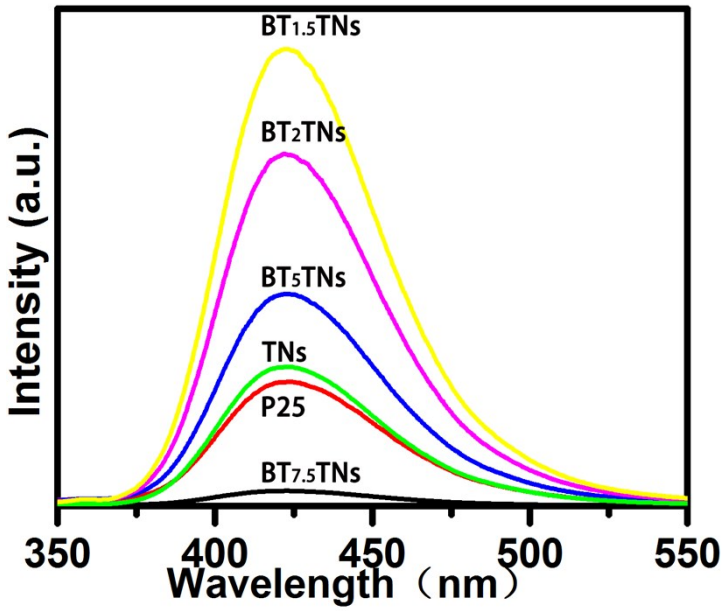

Figure S2. Room temperature PL spectra (λ = 320 nm) of test solution synthesized by incorporation of various BTTNs samples.

Method: 0.05 g BTTNs, 10 mM NaOH and 160 mL 3 mM terephthalic acid (TA) were mixed and stirred in dark for 30 min to achieve an adsorption-desorption equilibrium. The mixture was then exposed to simulated sunlight; after 60 min, 2 mL suspension was collected, centrifuged to remove the BTTNs, with the PL spectra of the solution then measured.

Table S1. Comparison of the performance of BTTNs photocatalytic RhB decomposition system with that of some noble-metal-containing systems.

Catalyst	Pollutant	k (min^{-1})	Ref.
BTTNs	RhB	0.095	This work
C-Fe-TNs	RhB	0.0078	1
N-CDs/TNs	RhB	0.013	2
Fe_2O_3/Gd_2O_3@TNs	RhB	0.040	3
Au-TNs	RhB	0.078	4
Ti^{3+}-TiO_2 nanoboxes	RhB	0.024	5
GD-NTNs	RhB	0.0092	6
C-N-Co-Au/TiO_2	RhB	0.015	7

Reference

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