Supporting Information

A novel strategy to promote the photo-oxidative and reductive ability via constructing bipolar material of Bi_2WO_6/N-$SrTiO_3$

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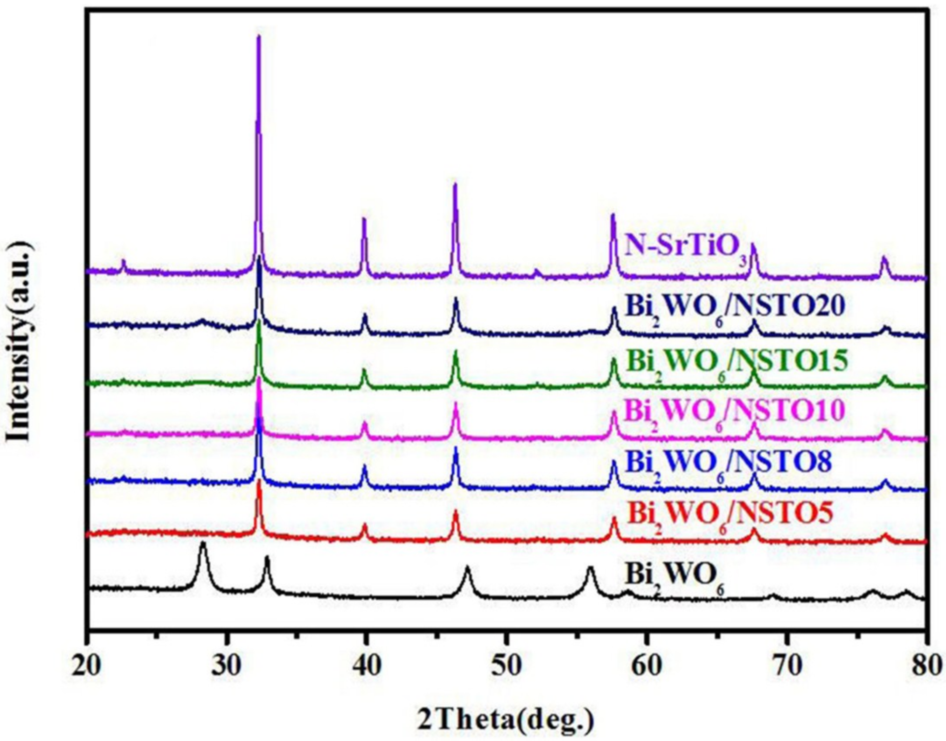

Fig. S1 XRD patterns of the samples prepared with the various ratios of Bi_2WO_6/N-$SrTiO_3$

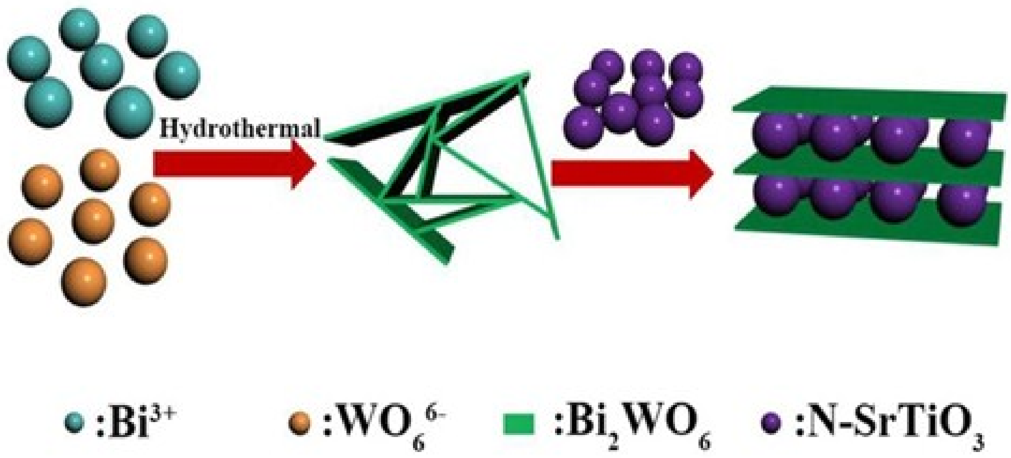

Fig. S2 The growth process of Bi_2WO_6/N-$SrTiO_3$.

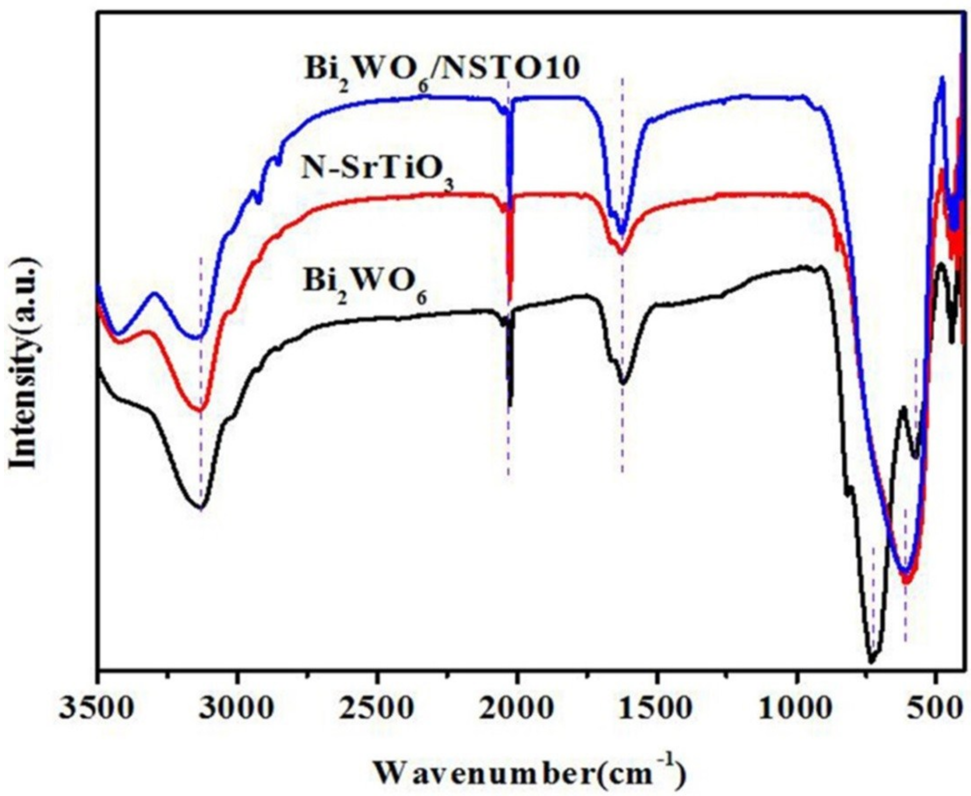

Fig. S3 FT-IR spectra of the as-prepared photocatalysts

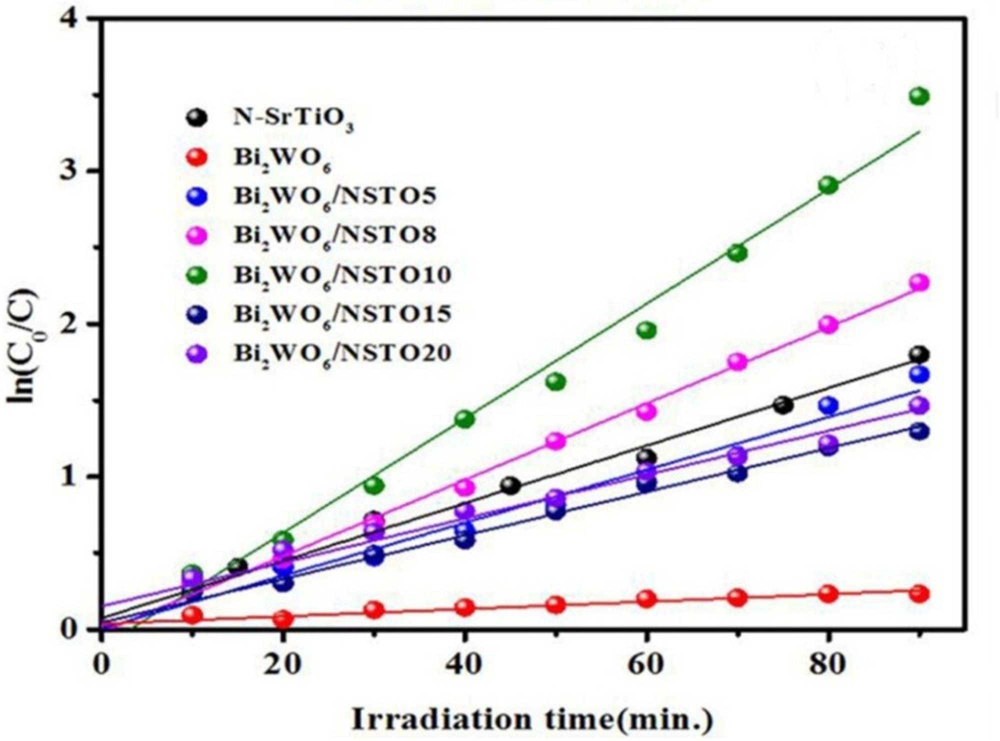

Fig. S4 Kinetic curves of photocatalytic degradation of Cr(VI) fitted from the data of Fig. 8 in the presence of Bi_2WO_6, N-$SrTiO_3$ and Bi_2WO_6/N-$SrTiO_3$ with various ratio of W:Ti= 5%, 8%, 10%, 15%, 20%, respectively.

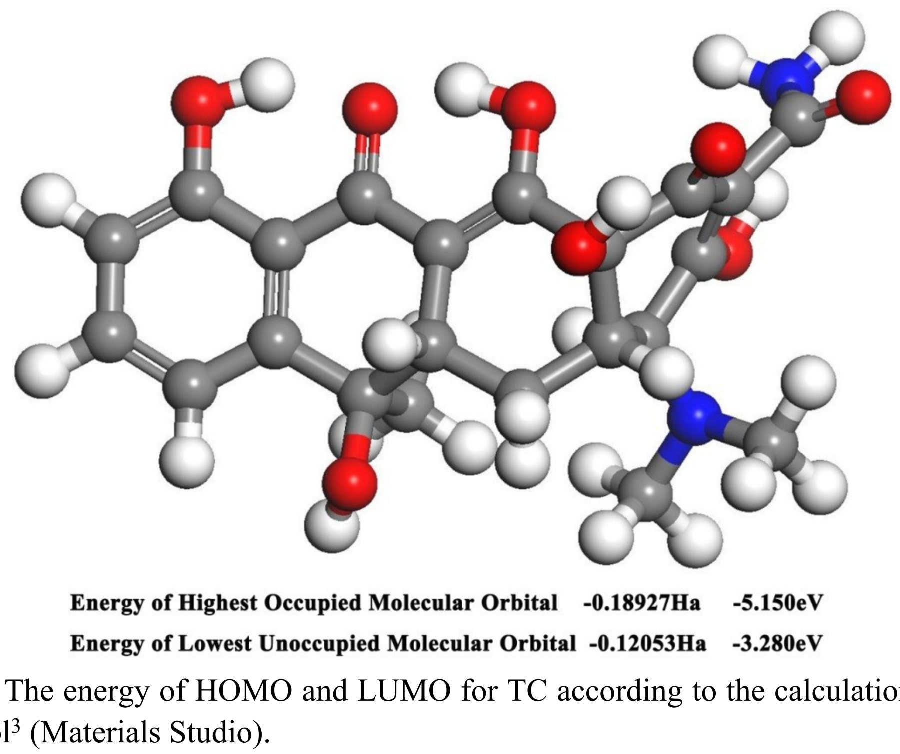

Fig. S5 The energy of HOMO and LUMO for TC according to the calculation results of DMol³ (Materials Studio).

Table S1 Comparison with the references for the photocatalytic reduction of Cr(VI) ions under visible light irradiation.

Systems	Catalyst dosage (mg/mL)	[Cr(VI)] (mg/L)	Time (min)	Removal efficiency (%)	Reference
Bi_2WO_6/NSTO10	0.3	5	20	100	The present work
BN/BiOCl	0.8	10	150	91.7	(Xu et al., 2017) [45]
TiO_2-10%rGO	0.67	10	180	98	(Liu et al., 2017) [44]
SPNH-MOSF@SnS_2	1	50	90	99.5	(Qu et al., 2017) [43]
ZnO/TiO_2	1	20	120	100	(Naimi-Joubani et al., 2015) [42]

Table S2 Comparison with the references for the photocatalytic degradation of TC under visible light irradiation.

Systems	Catalyst dosage (mg/mL)	TC (mg/L)	Time (min)	Removal efficiency (%)	Reference
Bi_2WO_6/NSTO10	0.3	20	20	100	The present work
MGO-Ce-TiO_2-10%	0.5	25	80	83	(Cao et al., 2016) [46]
AgBr/CSs	1	20	60	79.6	(Huo et al., 2016a) [47]
ZnO/CeO_2@HNTs	0.3	20	90	87	(Ye et al., 2016) [48]