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

Synthesis of Bi-deficient monolayered Bi_2WO_6 nanosheets with enhanced photocatalytic activity under visible light irradiation

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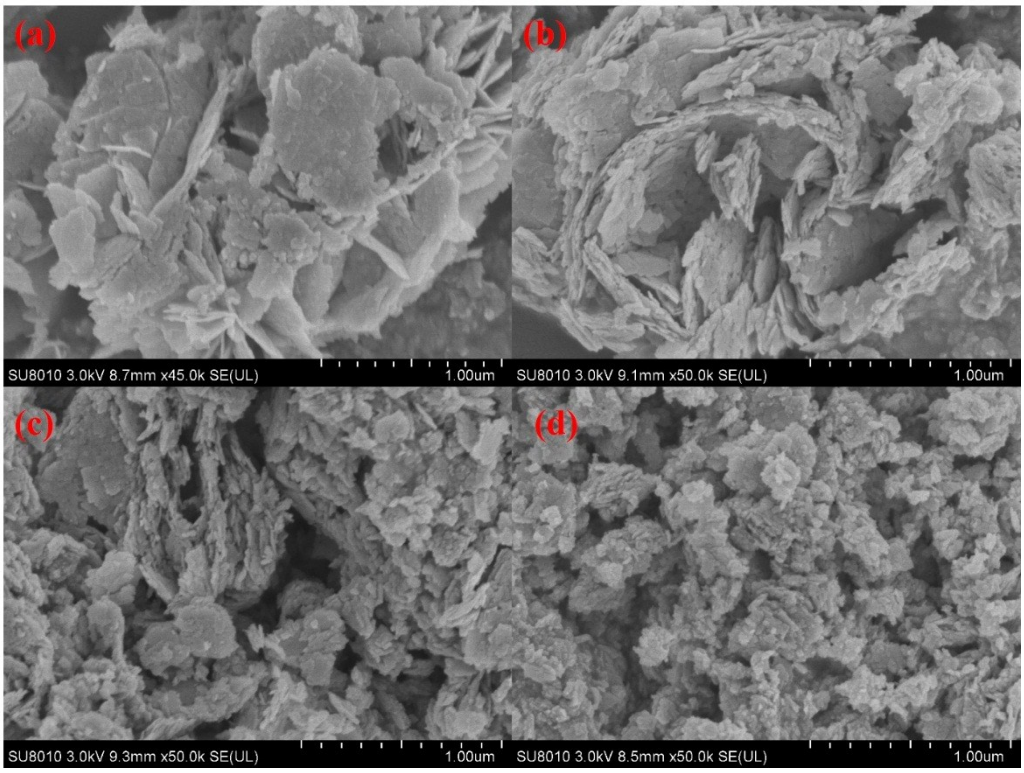

Fig. S1 SEM images of (a) mBWO, (b) 0.4M-mBWO, (c) 1.0M-mBWO and (d) 1.5M-mBWO

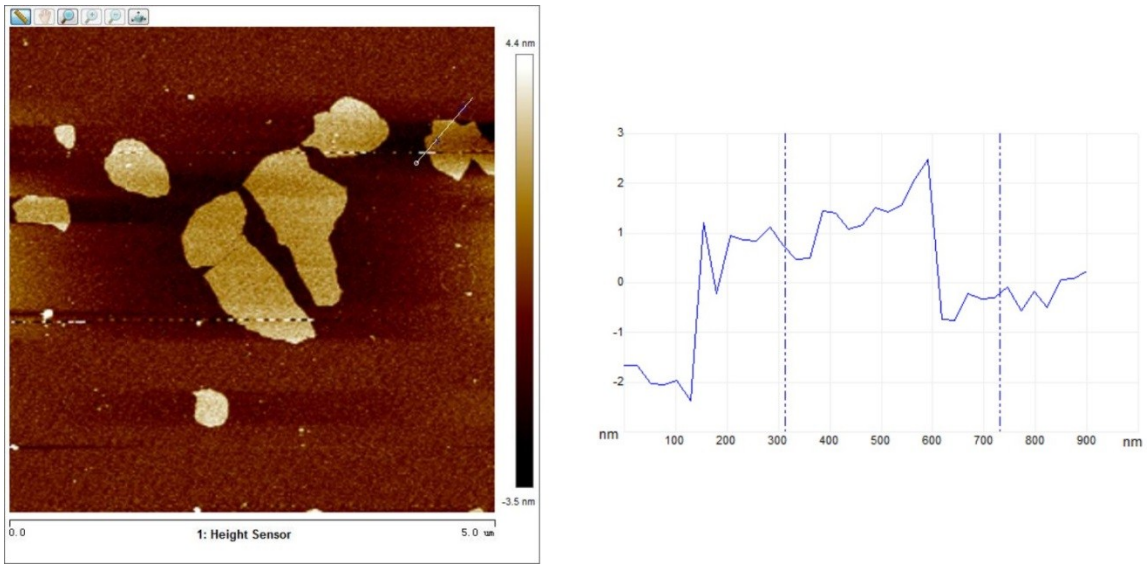

Fig. S2 AFM spectra of 1.0 M-mBWO sample

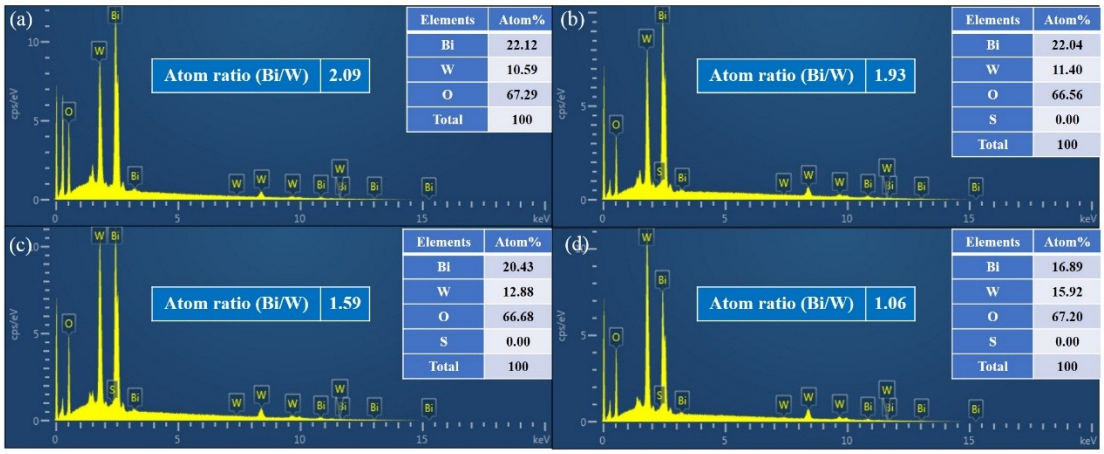

Fig. S3 EDX mapping and the calculated atom ratio of (a) mBWO, (b)0.4M-mBWO, (c) 1.0M-mBWO and (d) 1.5M-mBWO

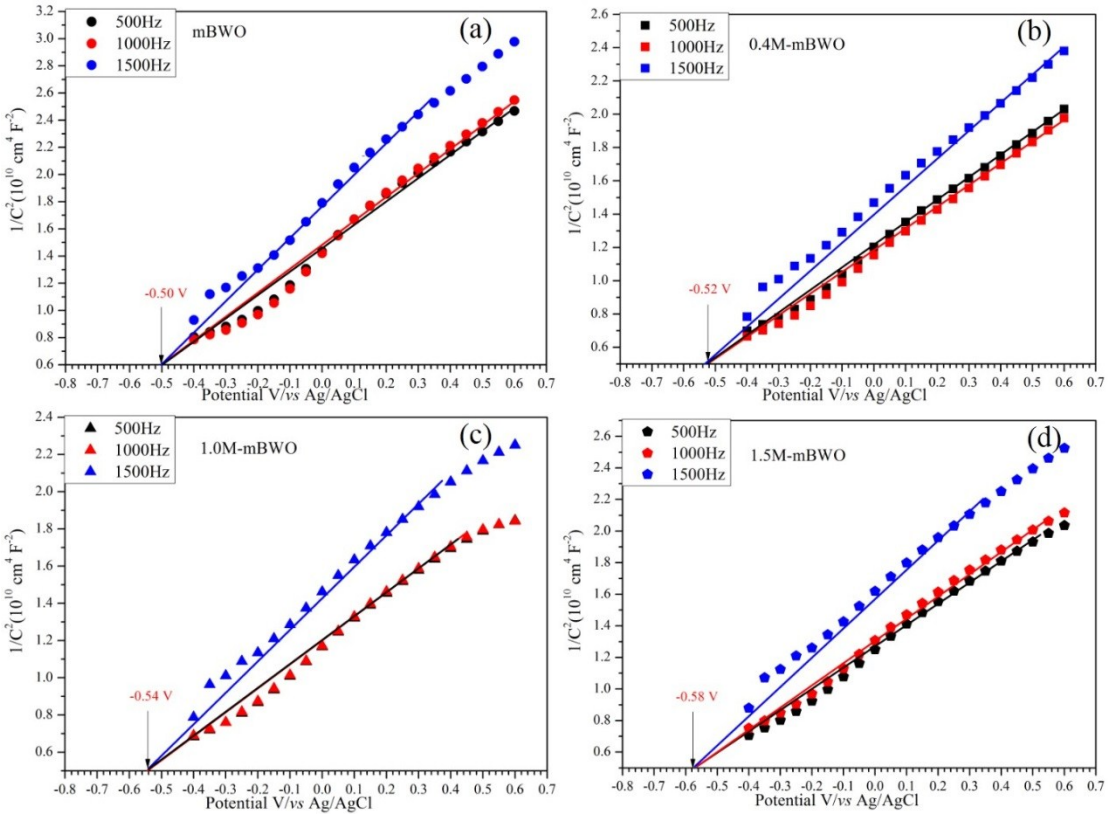

Fig. S4 Mott-Schottky (MS) analysis of various samples

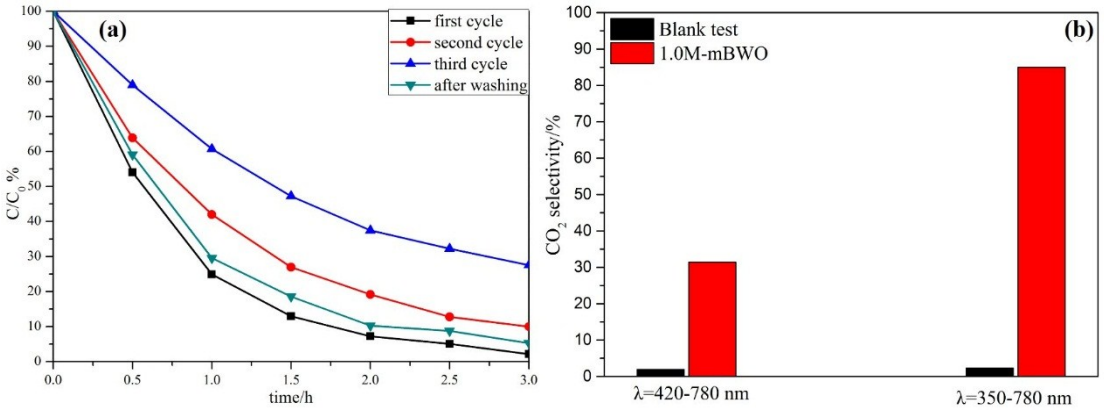

Fig. S5 (a) The stability and (b) CO_2 selectivity under different conditions of 1.0M-mBWO sample

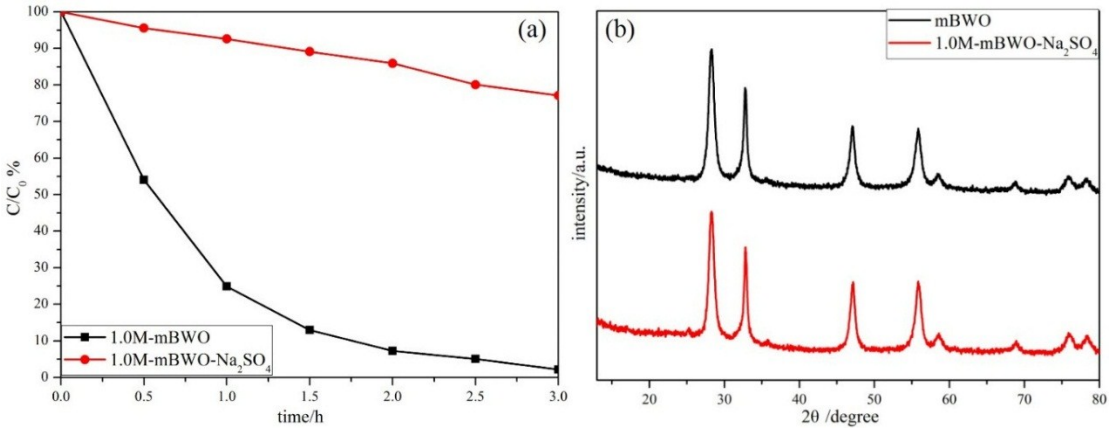

Fig. S6 (a) The photocatalytic activity and (b) XRD patterns of 1.0M-mBWO and 1.0M-mBWO-Na_2SO_4

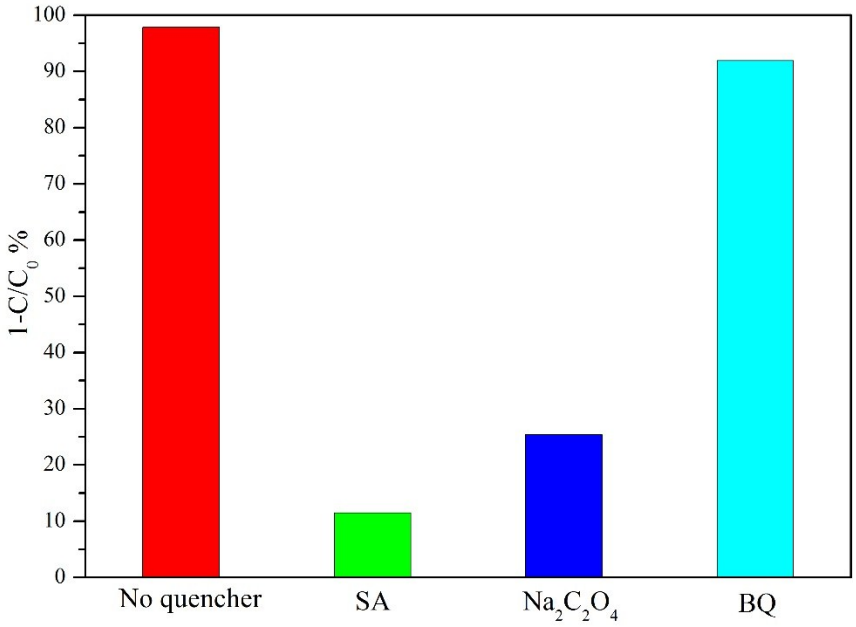

Fig.S7 Photocatalytic degradation of toluene over 1.0M-mBWO sample under visible light irradiation in the presence of difference quenchers

Table S1 ICP-MS results of different samples

Samples	Bi content/ μg/mL	W content/ μg/mL
0.4M-mBWO	363.50	1.50
1.0M-mBWO	1079.00	7.85
1.5M-mBWO	1536.00	6.26

Table S2 BET surface areas and pore parameters of different catalysts

Samples	Surface area (m^2/g)	Pore volume (cm^3/g)	Average pore size (nm)
mBWO	32.28	0.135	6.37
0.4M-mBWO	37.74	0.137	6.36
1.0M-mBWO	39.42	0.164	6.66
1.5M-mBWO	44.64	0.199	7.62

Table S3 Band gap, CB and VB edges (*vs* NHE) of different samples

Samples	Band gap/eV	CB edge/eV	VB edge/eV
mBWO	2.50	-0.85	1.65
0.4M-mBWO	2.50	-0.92	1.58
1.0M-mBWO	2.50	-0.99	1.51
1.5M-mBWO	2.20	-0.90	1.30