Supplementary Information to

Facile Fabrication of Well-polarized Bi_2WO_6 Nanosheets with Enhanced Visible-light Photocatalytic Activity

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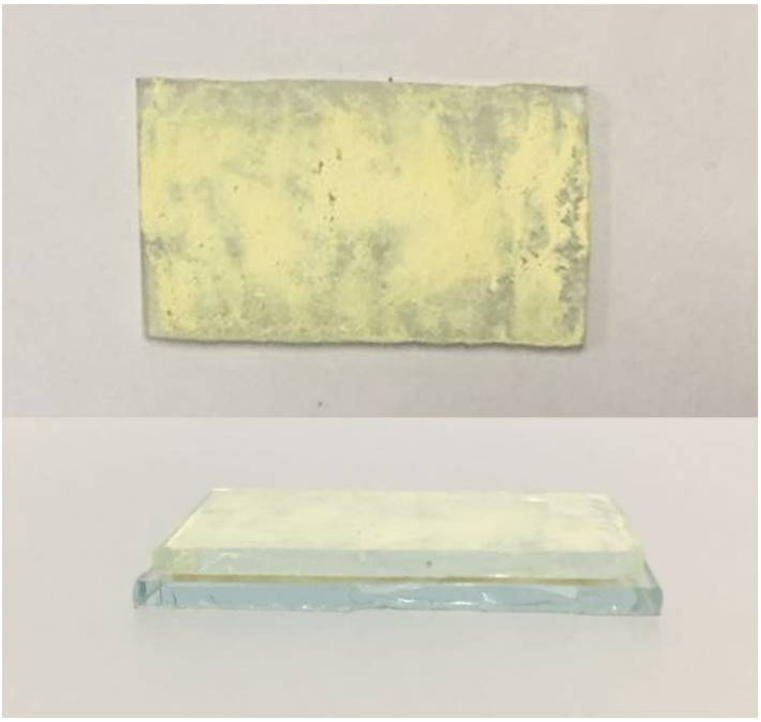

Figure S1. The optical photographs of Bi_2WO_6/PMMA composite film on the FTO substrate.

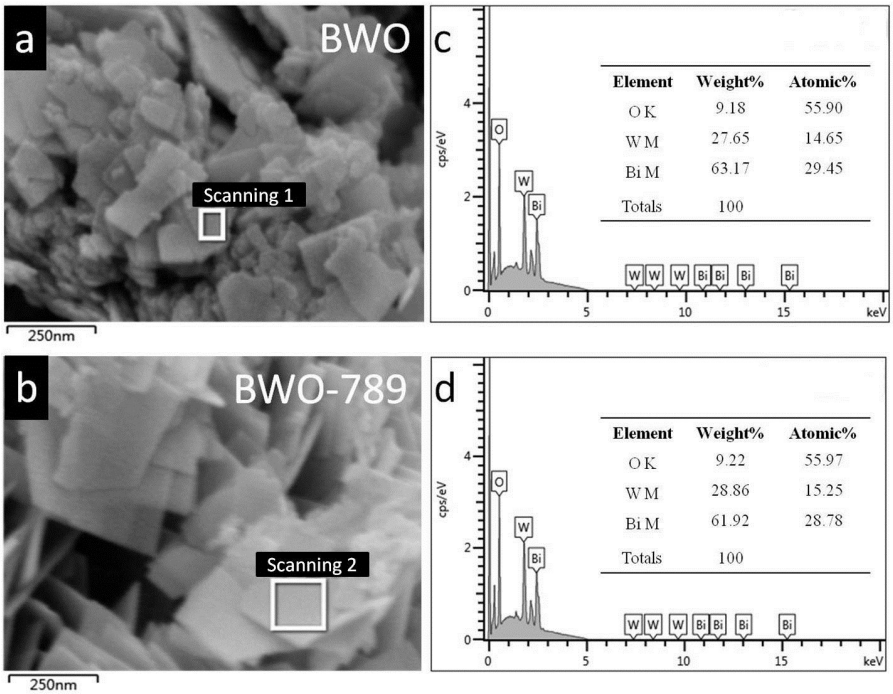

Figure S2. SEM and EDS results of pristine Bi_2WO_6 (a, c) and poled BWO-789 (b, d).

Figure S3. The optical photographs of as-grown Bi_2WO_6 (a), poled Bi_2WO_6 under under various electric fields (b-g) and BWO-789 after exposing to air for two weeks (h).

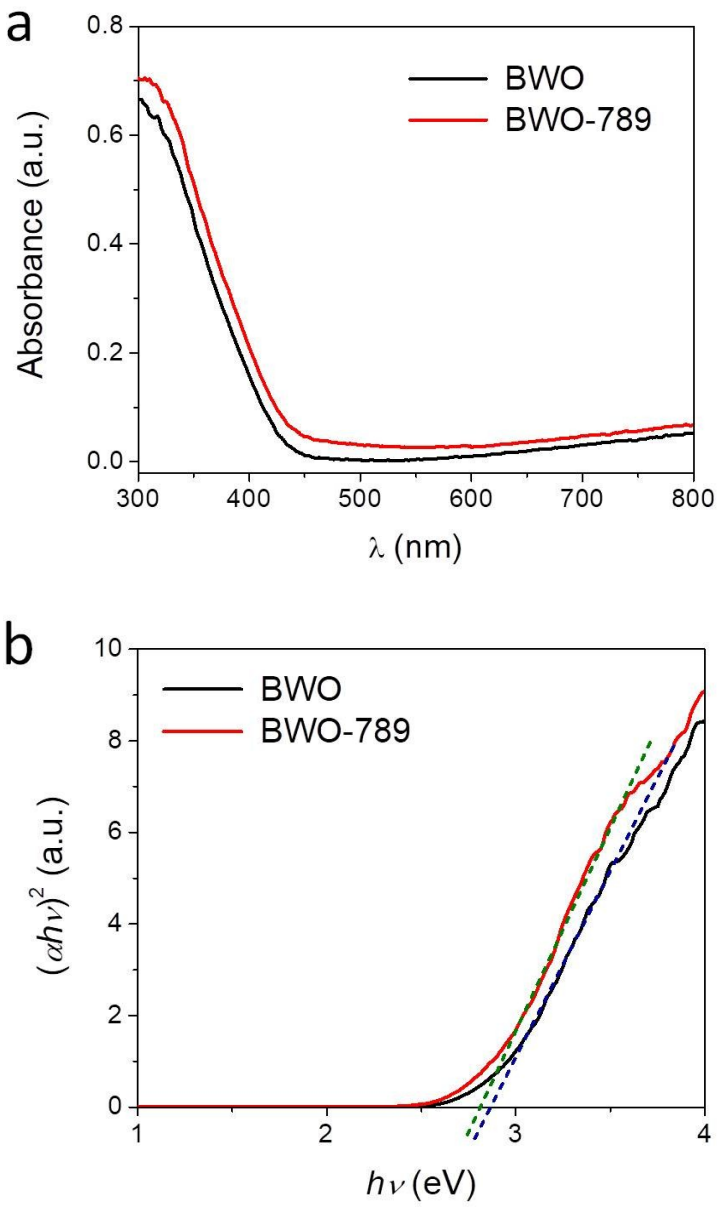

Figure S4. UV−vis diffuse reflection spectra (a) and $(\alpha hv)^2$ vs. hv plots (b) of pristine Bi_2WO_6 and poled BWO-789.

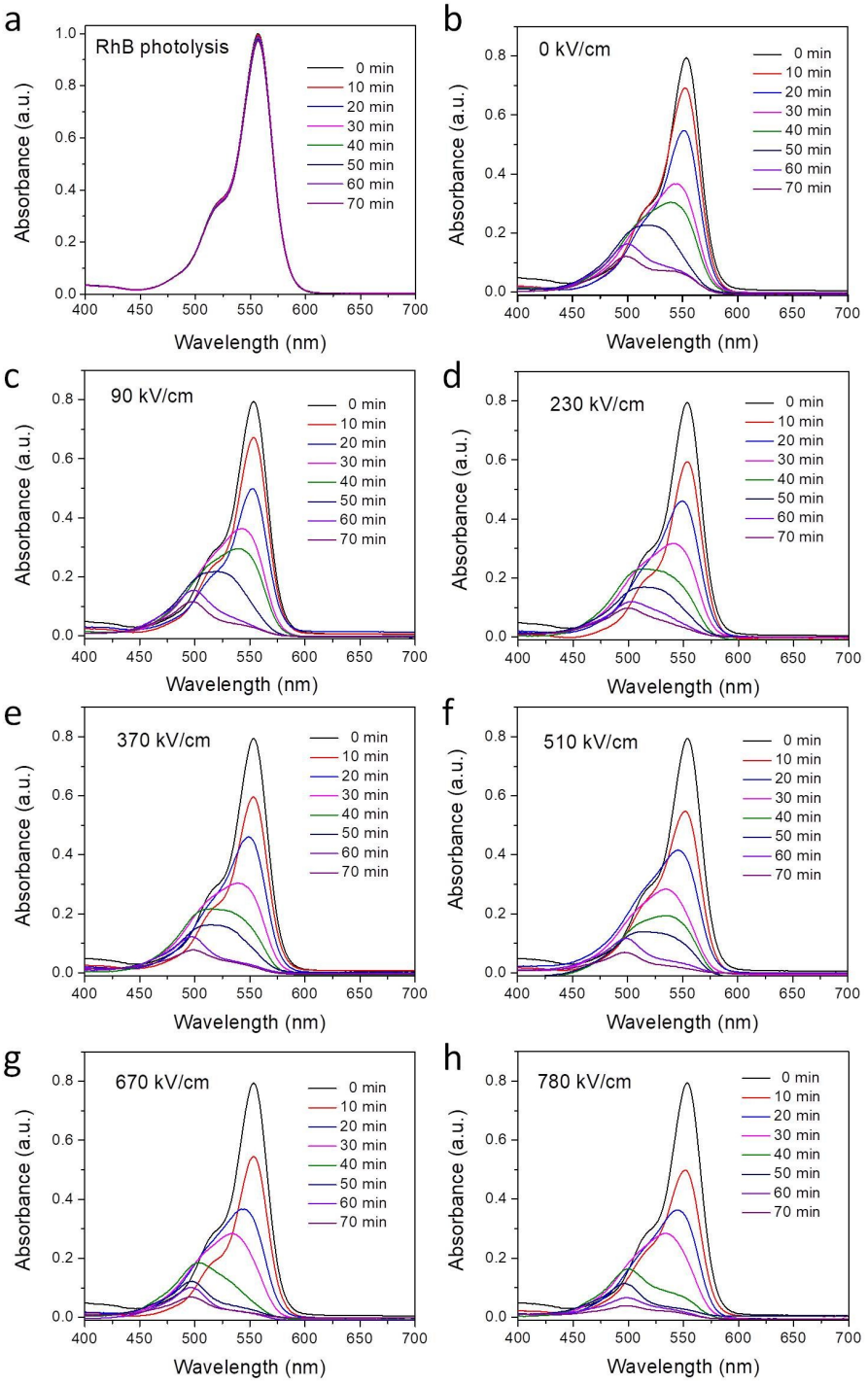

Figure S5. The temporal evolutions of all the absorption spectra of the RhB solution (10^{-5} mol/L) degraded by unpoled and poled Bi_2WO_6 under Xe lamp light irradiation.

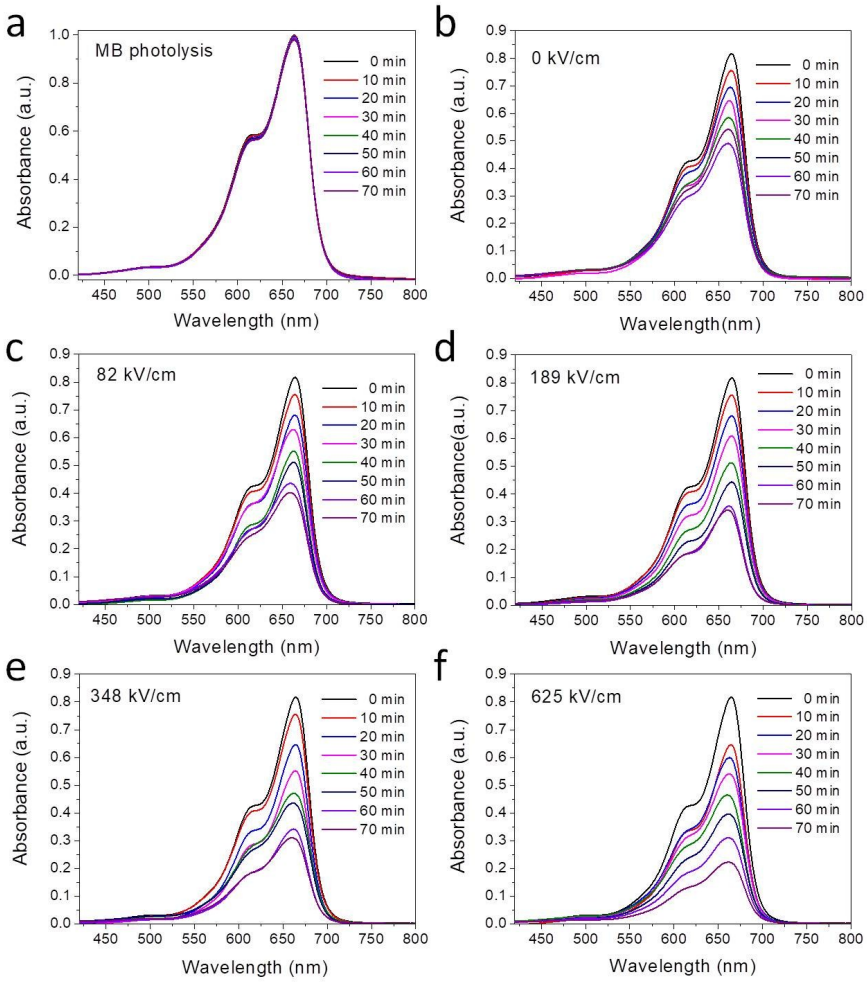

Figure S6. The temporal evolutions of all the absorption spectra of the MB solutions (10^{-5} mol/L) degraded by unpoled and poled Bi_2WO_6 under Xe lamp light irradiation.

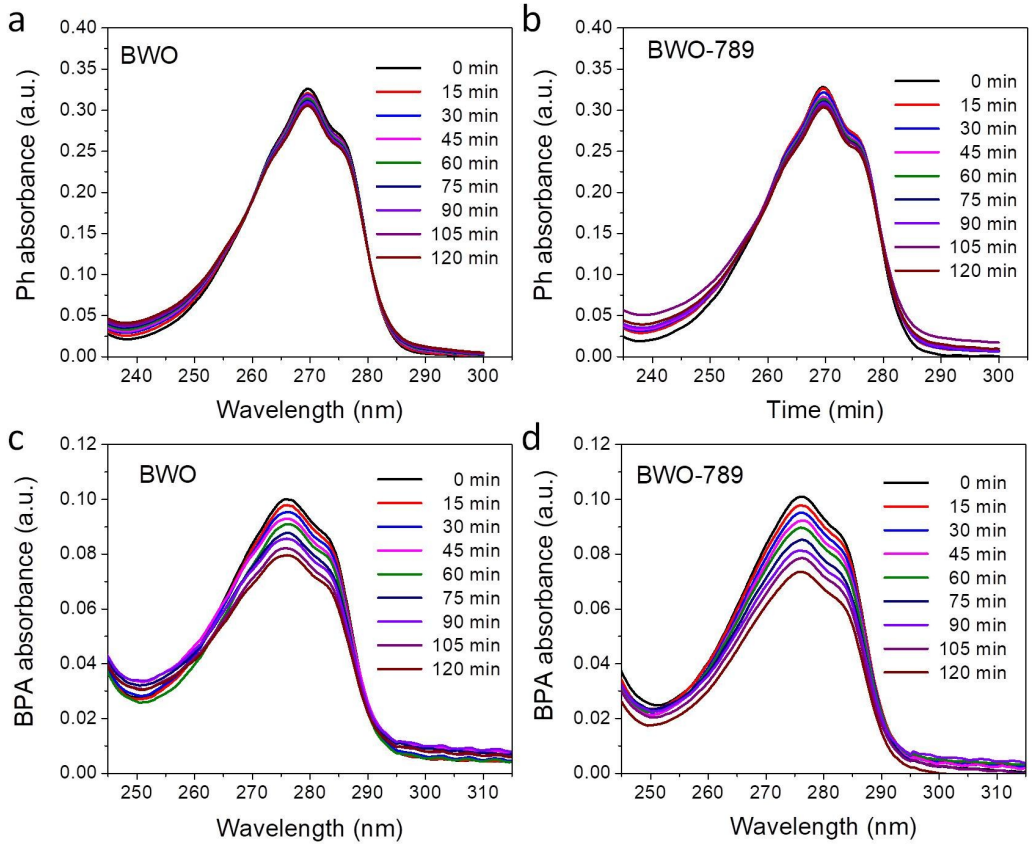

Figure S7. The temporal evolutions of all the absorption spectra of the Ph (a,b) and BPA (c,d) solutions (20 ppm) degraded by unpoled and poled Bi_2WO_6 under Xe lamp light irradiation.

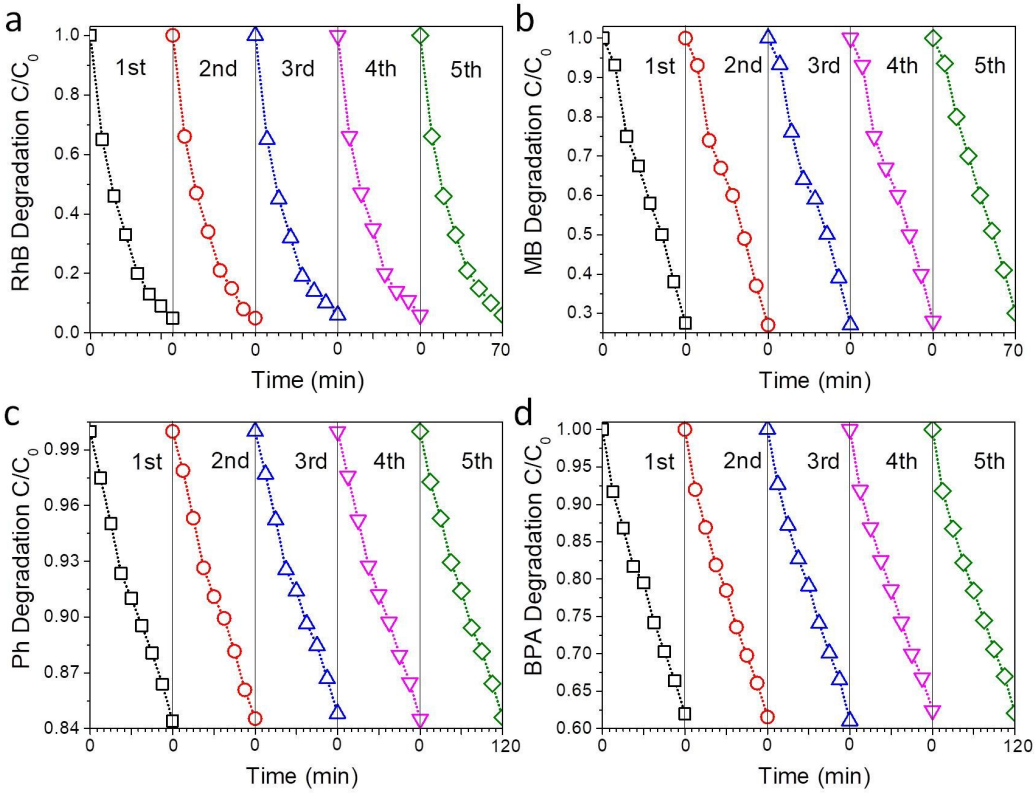

Figure S8. Cycling tests of visible-light driven photocatalytic activity of BWO-789 for RhB (a), MB (b), Ph (c) and BPA (d) photodegradations.

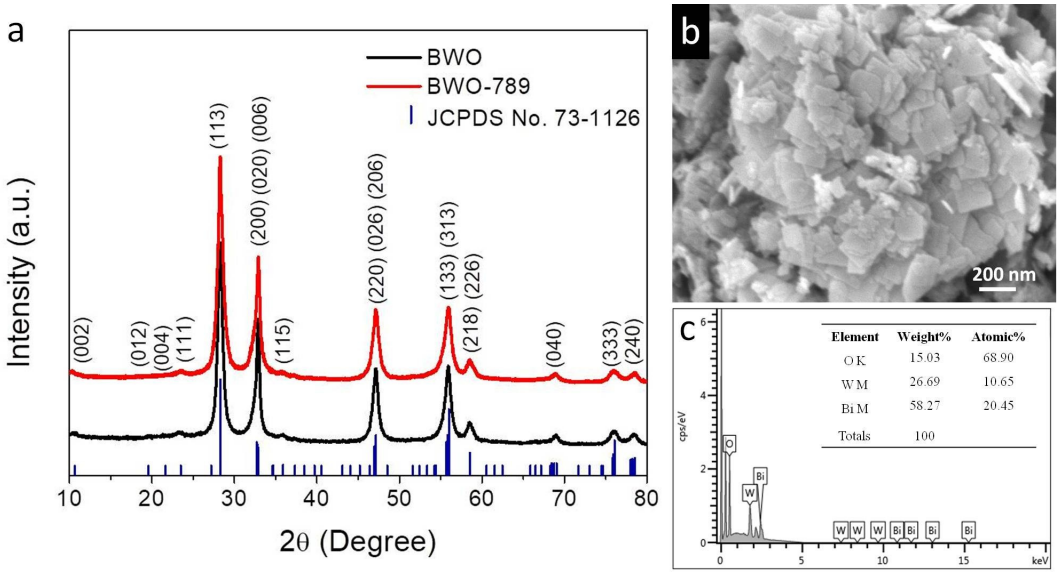

Figure S9. XRD (a), SEM (b) and EDS (c) results of poled BWO-789 after the cycling experiment.

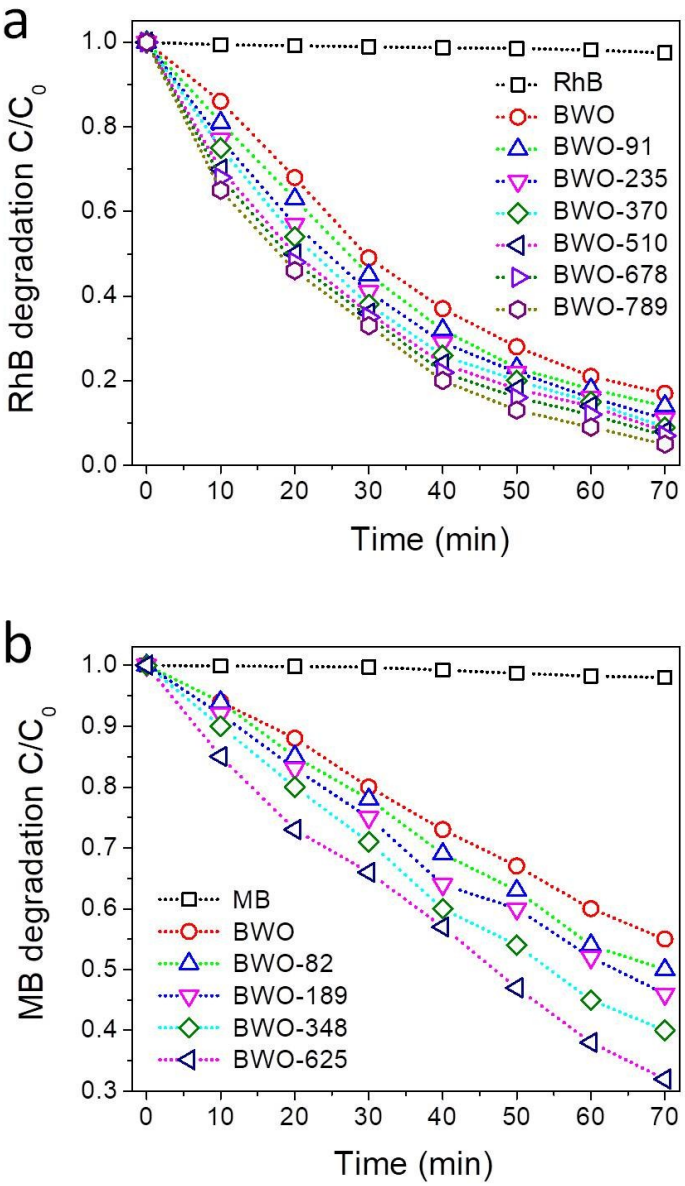

Figure S10. Photocatalytic decomposition of RhB (a) and MB (b) with the pristine Bi_2WO_6 and poled Bi_2WO_6 after exposing to air for two weeks.

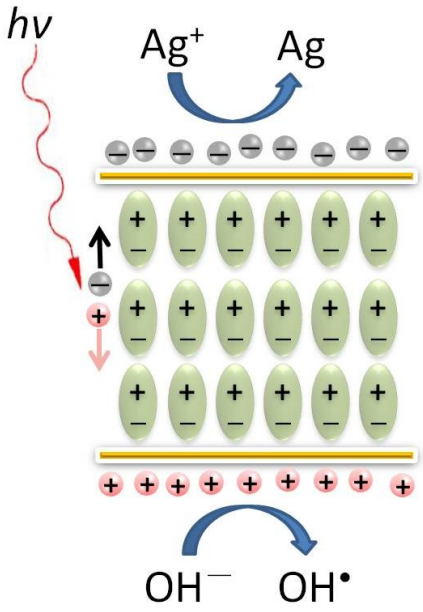

Figure S11. A schematic illustrating the photoinduced Ag deposition on the surface of ferroelectric materials.

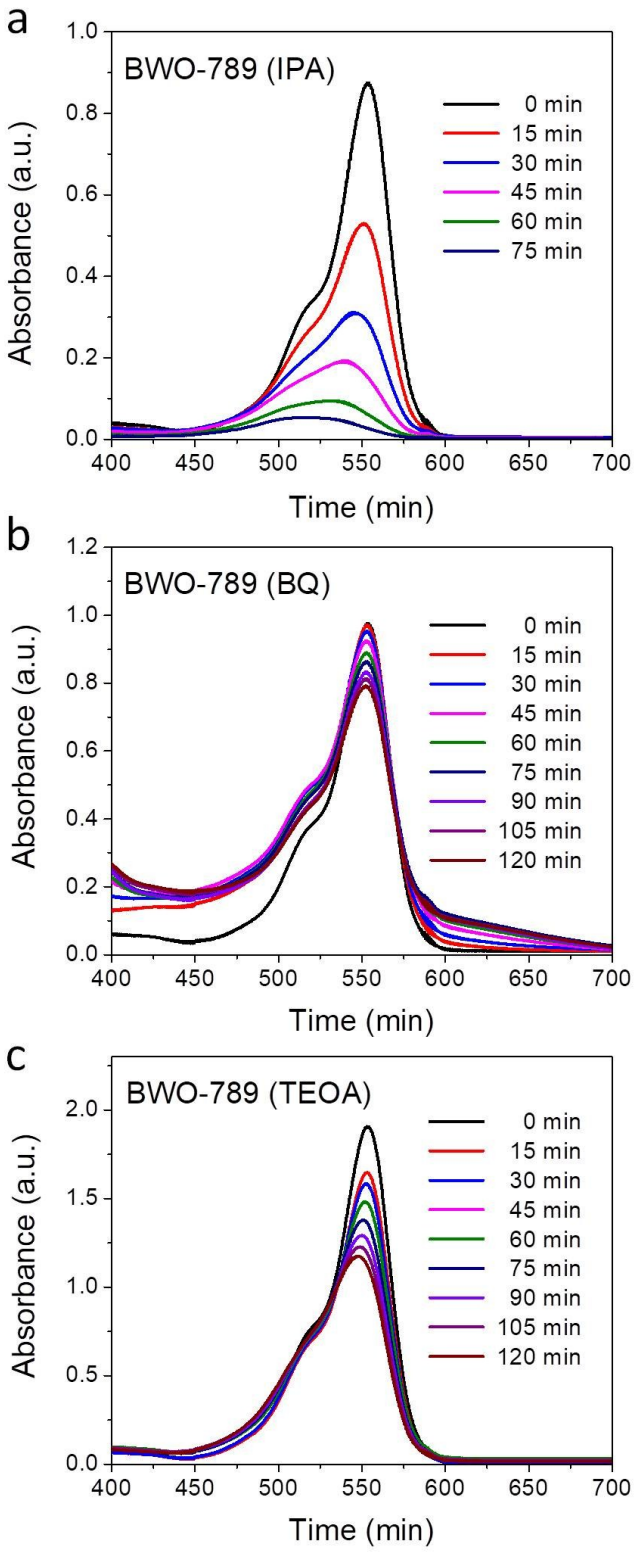

Figure S12. The temporal evolutions of all the absorption spectra of the RhB degraded by poled BWO-789 with IPA (a), BQ (b) and TEOA (c) under Xe lamp light irradiation.

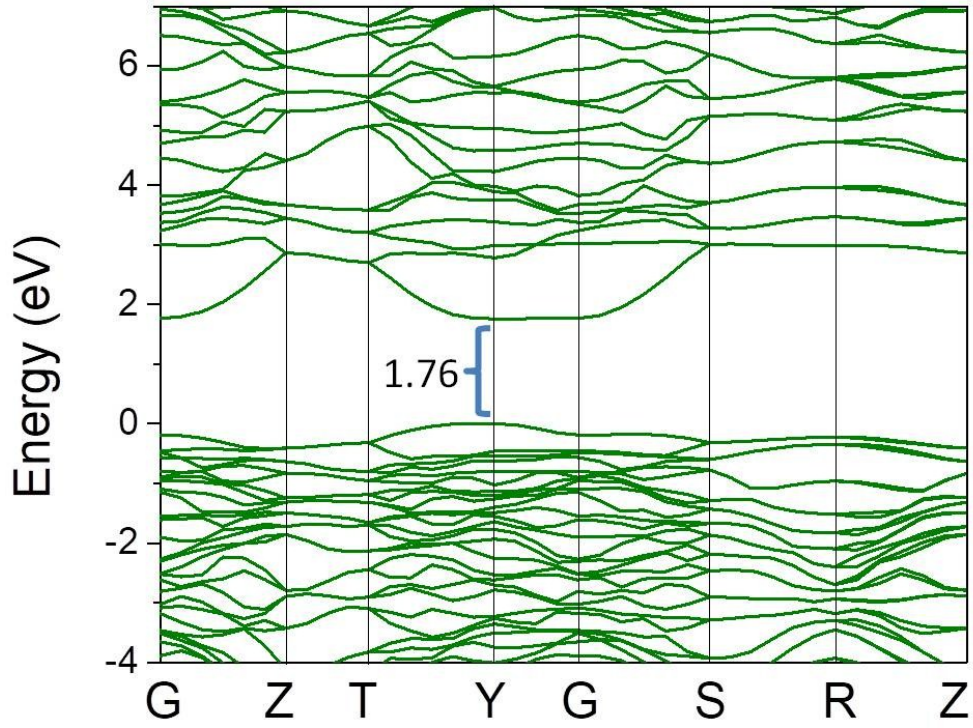

Figure S13. Band structure of Bi_2WO_6 calculated by the DFT method.

Table S1. The COD values of RhB and MB solutions with respect to visible irradiation time by using poled BWO-789 catalyst.

COD / Dyes	COD value (mg/L) at different irradiation time (min)							
	0	10	20	30	40	50	60	70
RhB	23.66	15.38	10.88	7.81	4.73	3.08	2.13	1.18
MB	10.42	8.86	7.61	6.88	5.94	4.90	3.96	3.34