

Electronic Supplementary Information

Hierarchical Bi₇O₉I₃ micro/nano-architecture: Facile synthesis, growth mechanism, and high visible light photocatalytic performance

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Table S1 XPS quantification report of the as-synthesized Bi₇O₉I₃ sample

Peak	Position BE (eV)	FWHM (eV)	Raw Area (CPS)	RSF	Atomic Mass	Atomic Conc %	Mass Conc %
I 3d	618.900	1.334	68289.9	10.343	126.904	8.25	17.21
O 1s	529.700	1.344	16324.4	0.780	15.999	27.25	7.17
C 1s	284.600	1.937	7959.2	0.278	12.011	45.07	8.90
Bi 4f	158.800	1.203	101607.0	9.140	208.980	19.43	66.73

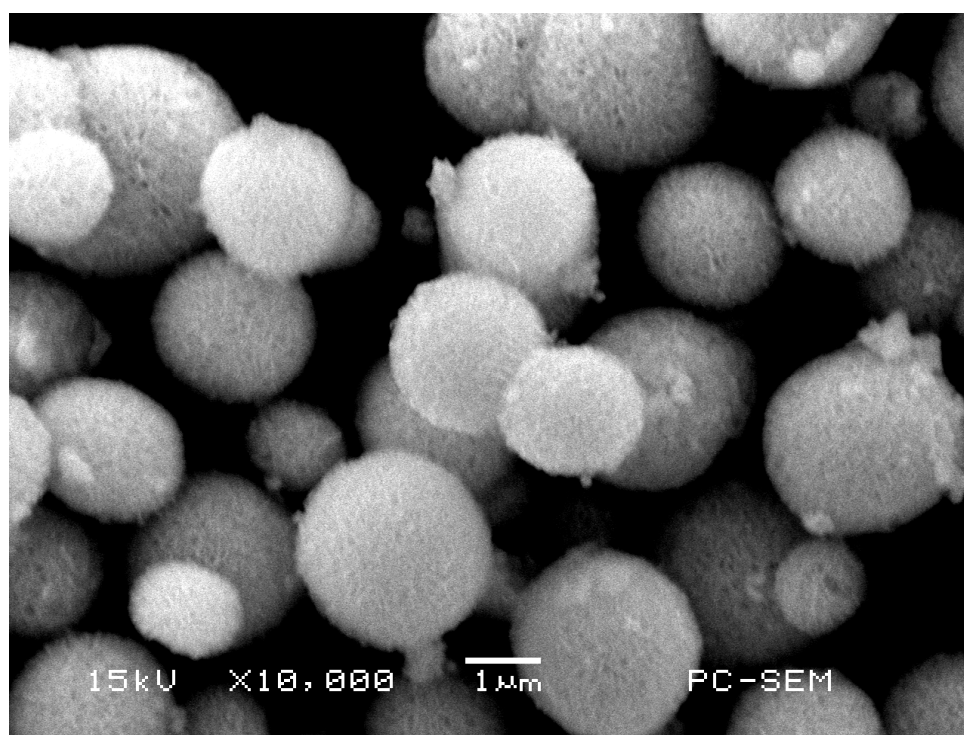


Figure S1. SEM images of the hierarchical BiOI microspheres.

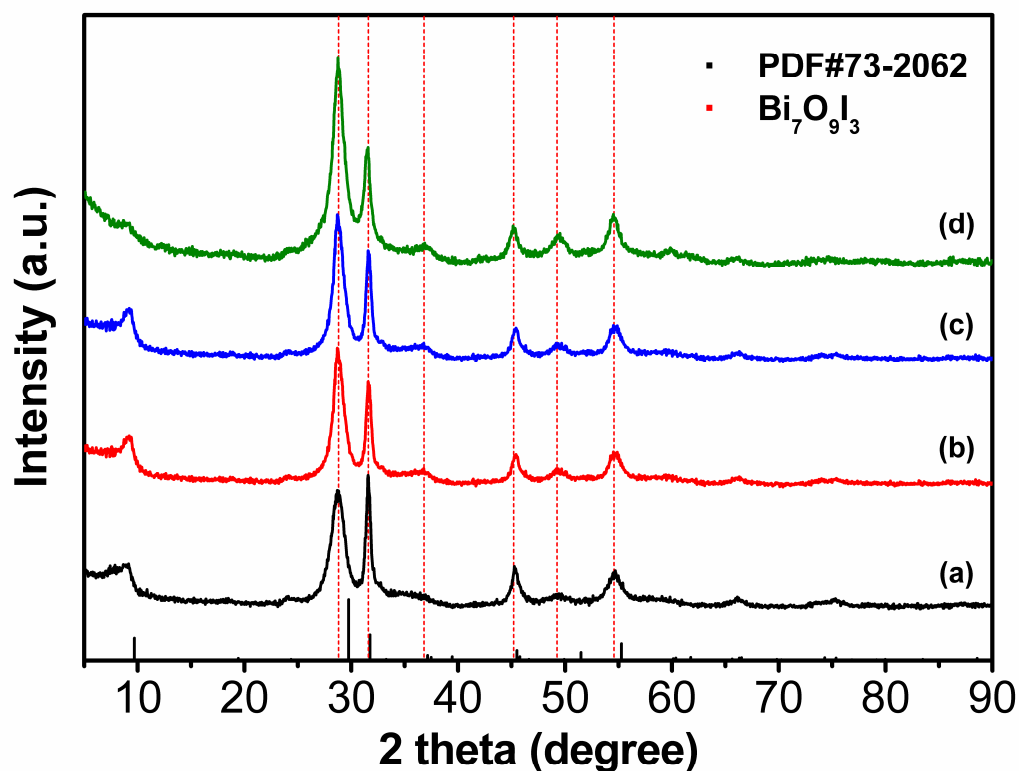


Figure S2. XRD patterns of the as-synthesized $\text{Bi}_7\text{O}_9\text{I}_3$ samples attained after reaction for (a) 5 min, (b) 30 min, (c) 1 h and (d) 3 h.

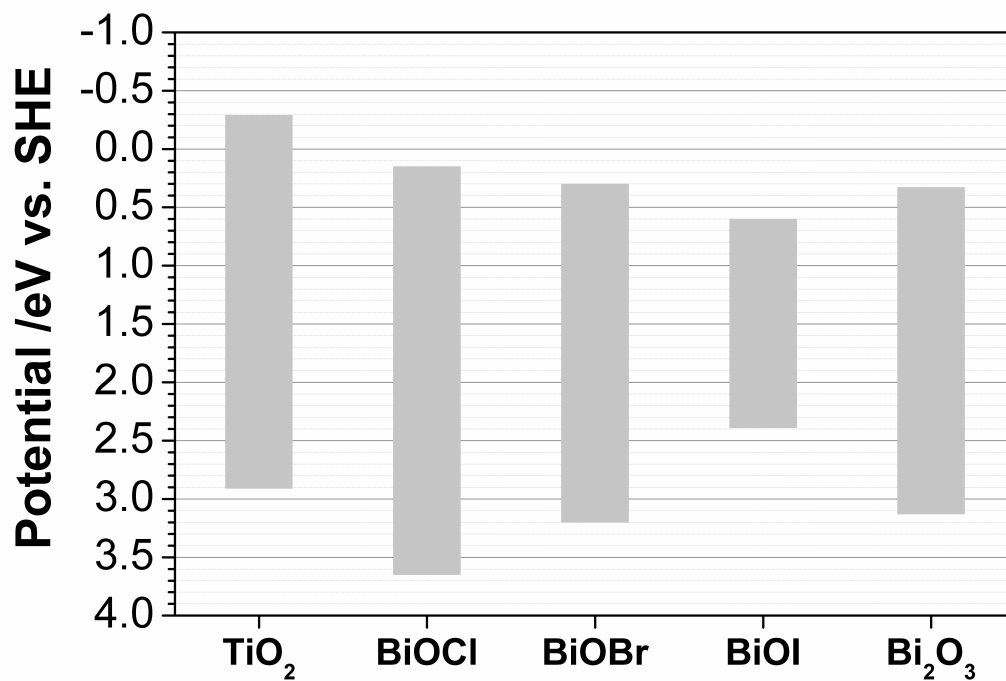


Figure S3. Suggested band structures of TiO_2 , BiOCl , BiOBr , BiOI and Bi_2O_3 with respect to the standard hydrogen electrode.

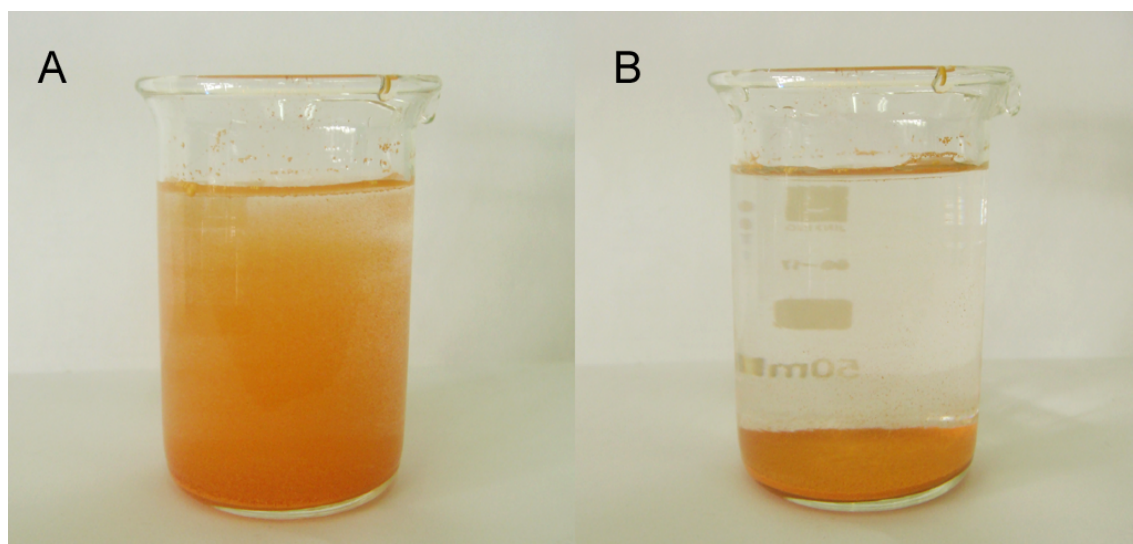


Figure S4. (A) $\text{Bi}_7\text{O}_9\text{I}_3$ powders suspended in water, (B) after naturally settled for 5 min.