

Supplementary Information

Engineering Noble Metal-Like Bi onto Hierarchical SrWO₄ for the Enhancement of Photocatalytic Activity

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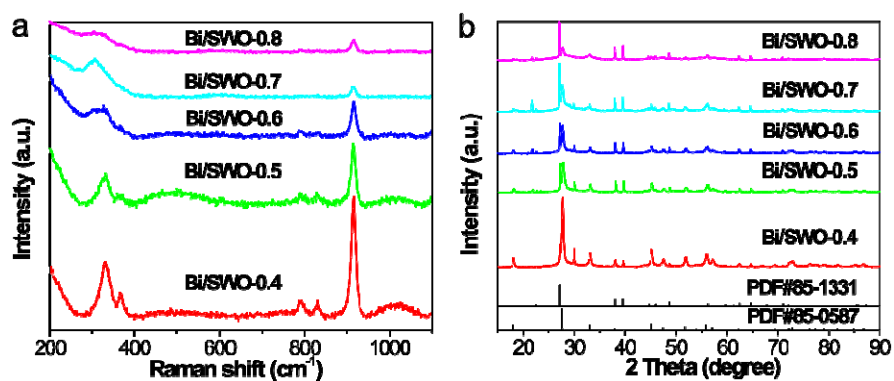


Figure S1. Raman spectra (a) and XRD patterns (b) of SWO with different mass ratio of Bi.

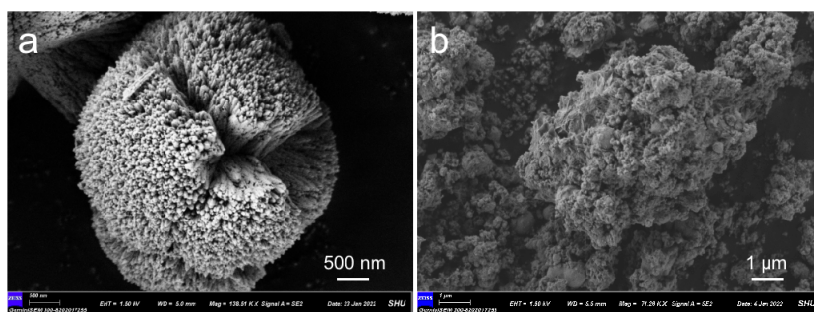


Figure S2. SEM images of SWO after hydrothermal treatment (a) and direct synthesis of Bi (b).

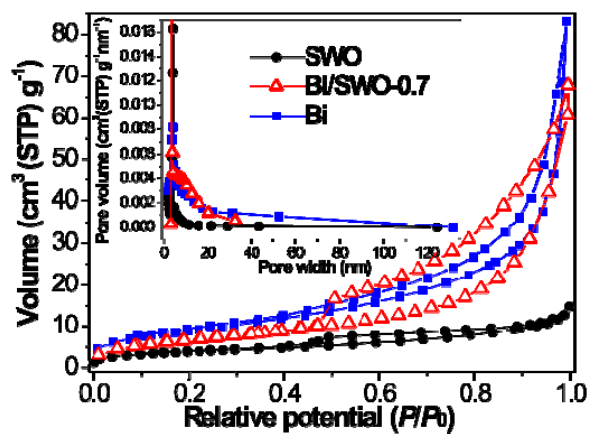


Figure S3. N₂ adsorption-desorption isotherms curves and pore diameter distribution curves (inset) of Bi, SWO and Bi/SWO-0.7, respectively.

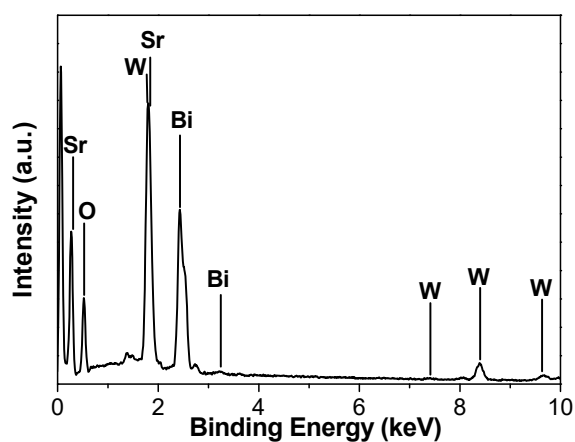


Figure S4. EDX spectrum of the resultant Bi/SWO-0.7.

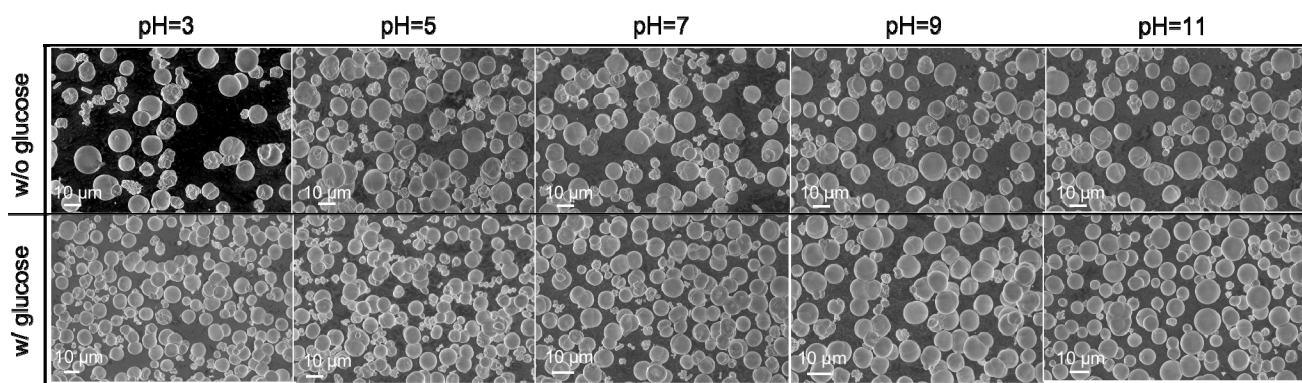


Figure S5. SEM images of pH independent morphology on the control products along with glucose addition.

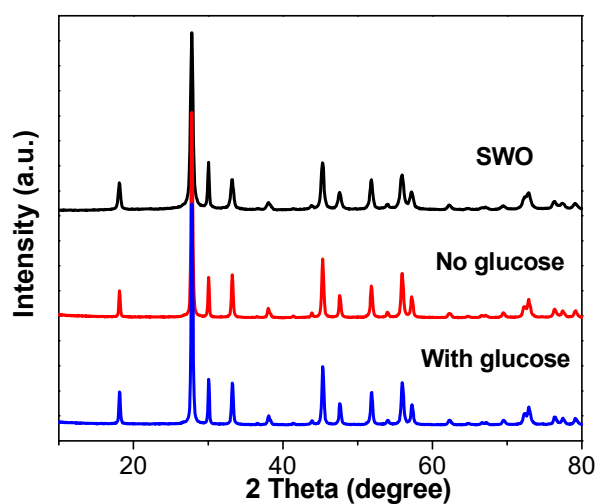


Figure S6. XRD patterns of SWO samples obtained with and without glucose addition from hydrothermal aging at pH=6.9.

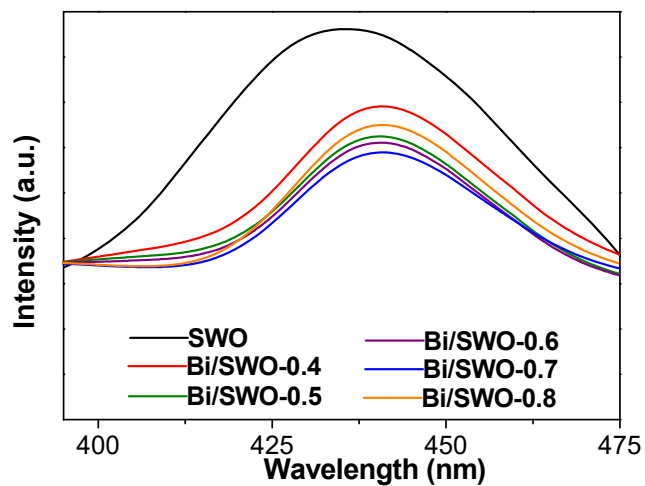


Figure S7. PL spectra for SWO and their composites with different amounts of Bi.

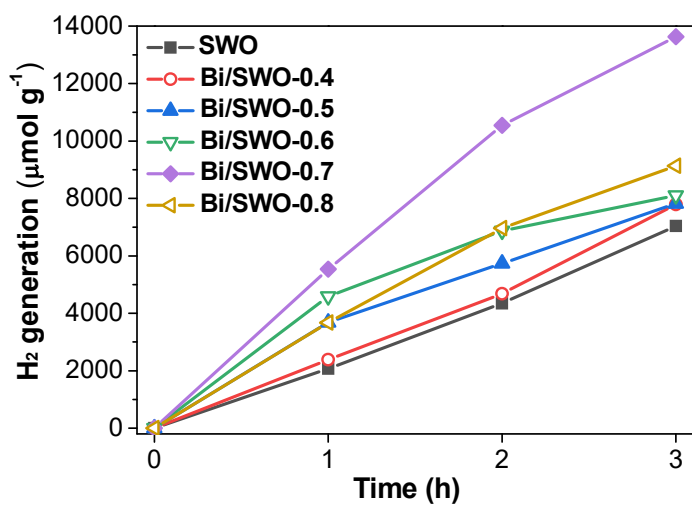


Figure S8. Comparable H₂ generation between SWO and their composites with different amounts of Bi.

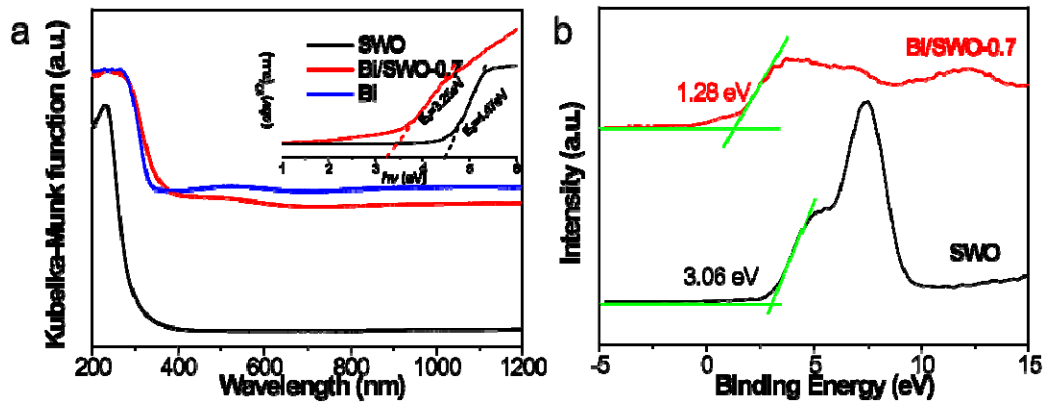


Figure S9. Steady-state diffuse reflectance UV-visible spectrum (a) with corresponding Tauc plots (inset) and valence-band XPS (b) for the samples.

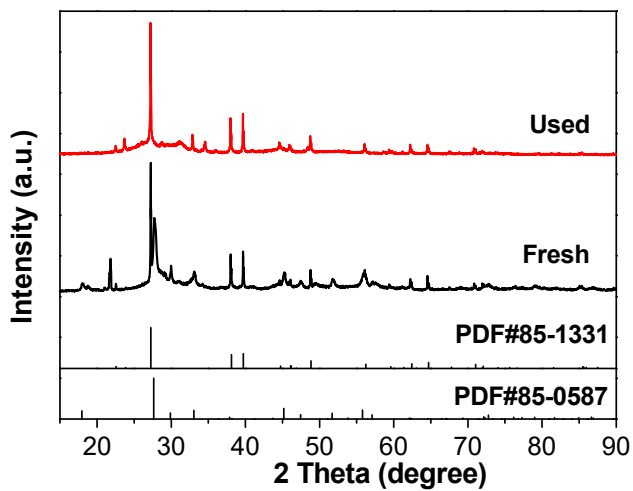


Figure S10. The comparable XRD patterns of Bi/SWO-0.7 before and after long-term experiment.

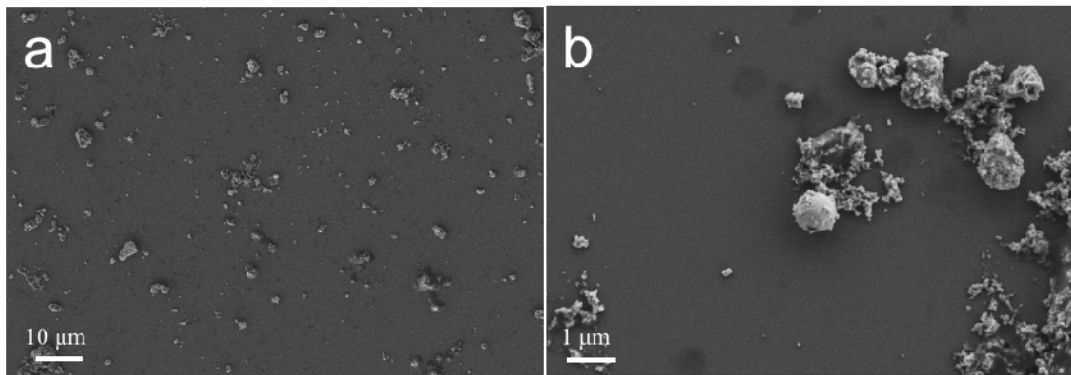


Figure S11. The SEM images of Bi/SWO-0.7 after long-term experiment.

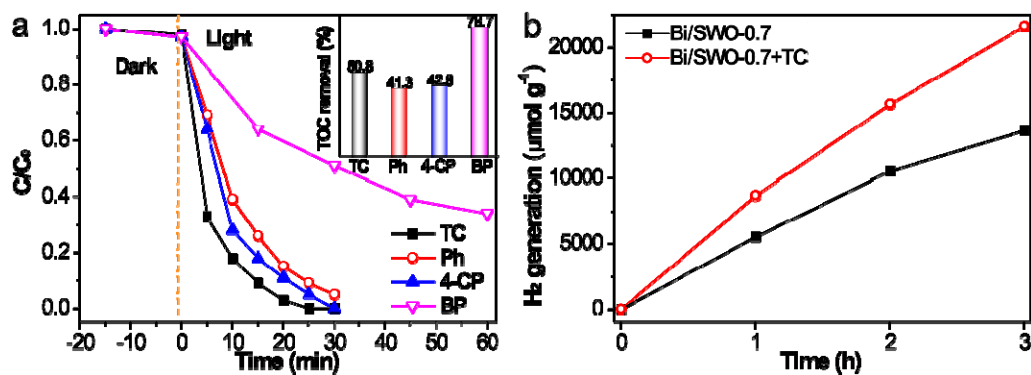


Figure S12. Photodegradation of typical pollutants (a) with their total organic carbon (TOC) removal (inset) and synchronous H₂ production and TC degradation (b).

Table S1. The specific surface area and the average pore size of the photocatalysts.

Samples	Surface area (m ² g ⁻¹)	Pore volume (cm ³ g ⁻¹)	Pore size (nm)
SWO	13.7226	0.0206	6.0047
Bi	32.8107	0.1232	15.0195
Bi/SWO-0.4	14.9995	0.0646	13.4927
Bi/SWO-0.5	15.3183	0.0606	12.5181
Bi/SWO-0.6	17.8408	0.0635	9.9259
Bi/SWO-0.7	24.8646	0.0886	7.7306
Bi/SWO-0.8	18.8506	0.0785	13.7516

Table S2. Elemental composition of Bi/SWO-0.7 from XPS and EDS.

Element	O	Sr	W	Bi	Total	Method
Atomic%	73.36	1.80	3.00	21.84	100.00	XPS
Wt%	18.21	2.45	8.55	70.79	100.00	
Atomic%	60.20	11.68	14.80	13.32	100.00	EDS
Wt%	14.15	14.52	37.38	33.95	100.00	