materials

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Supplementary

Article

Incidence Dependency of Photonic Crystal Substrate and Its Application on Solar Energy Conversion: Ag_2S Sensitized WO_3 in FTO Photonic Crystal Film

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Table S1. Calculated and experimental PSB of PC-FTO film from (111) plane.

Incidence (degree)	Calculated PSB (nm)	Experimental PSB (nm)
15	643	635
30	581	607
45	514	585
60	438	-
75	374	-

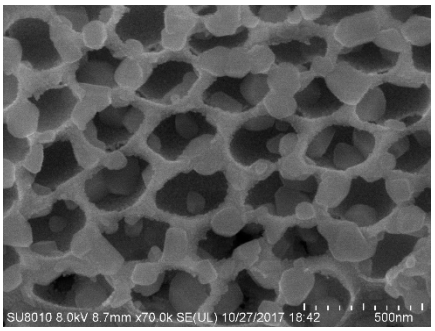
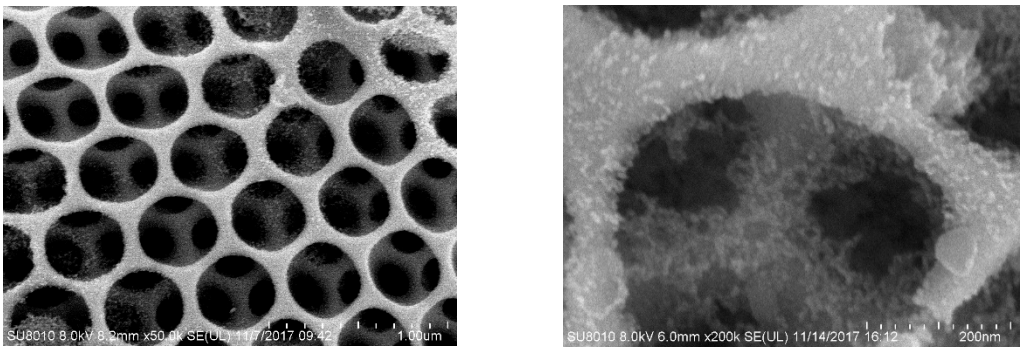


Figure S1. SEM image of bare WO_3@mac-FTO photoanode.



(**a**) (**b**)

Figure S2. SEM images of mac-FTO film coated with only Ag_2S quantum dots.

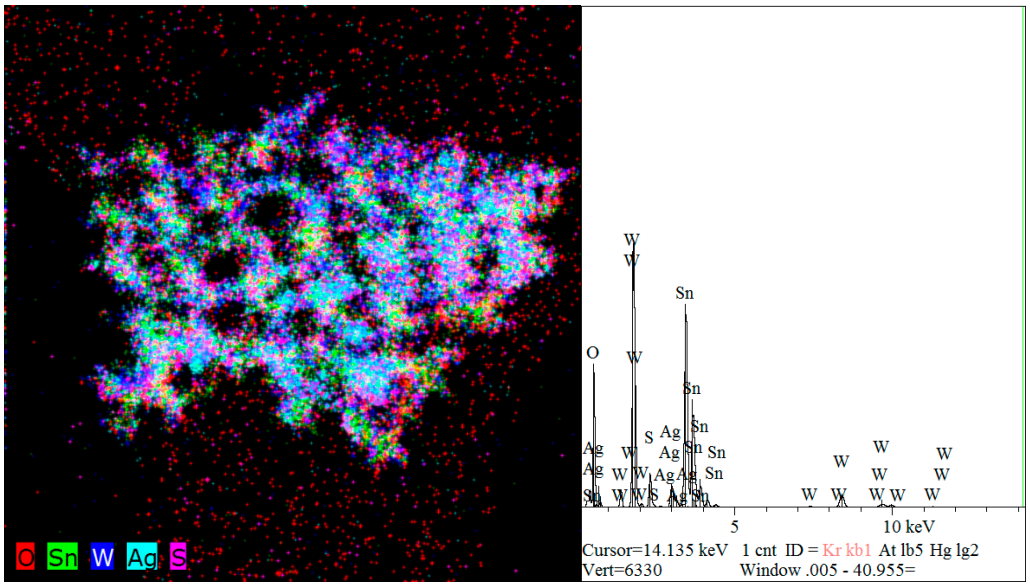


Figure S3. EDX elemental mapping of Ag_2S/WO_3@mac-FTO with 3 SILAR cycles.

Table S2. Elemental ratios of Ag_2S/WO_3@PC-FTO with 3 SILAR cycles.

Elt.	Line	Intensity (c/s)	Atomic %	Atomic Ratio	Conc	Units	Error 2-sig	MDL 3-sig	
O	Ka	105.08	53.736	1.0000	12.344	wt.%	0.257	0.138	
S	Ka	37.46	2.749	0.0512	1.266	wt.%	0.061	0.070	
Ag	La	23.64	2.149	0.0400	3.328	wt.%	0.252	0.324	
Sn	La	276.14	27.941	0.5200	47.625	wt.%	0.635	0.419	
W	La	26.00	13.425	0.2498	35.437	wt.%	2.003	2.207	
			100.000		100.000	wt.%			Total

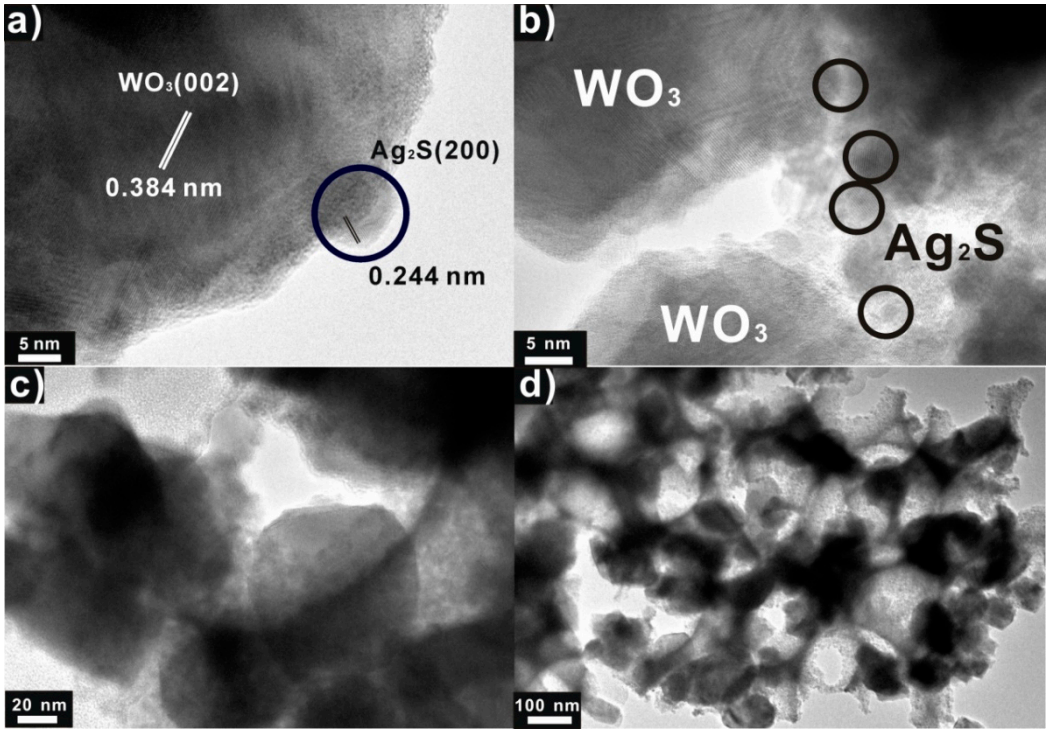


Figure S4. TEM of Ag_2S/WO_3@PC-FTO in different magnification.

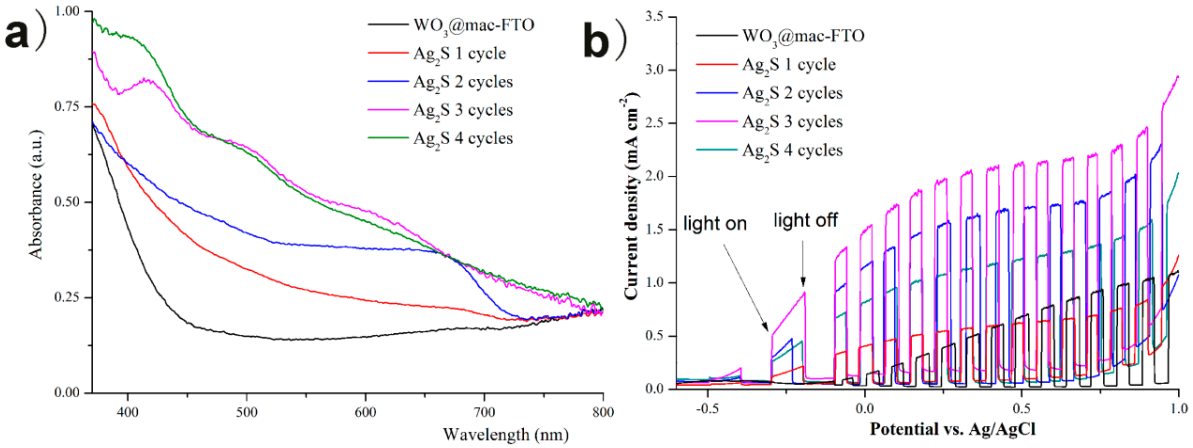


Figure S5. (**a**) UV-vis absorption and (**b**) LSV of Ag_2S/WO_3@PC-FTO with different SILAR cycles.

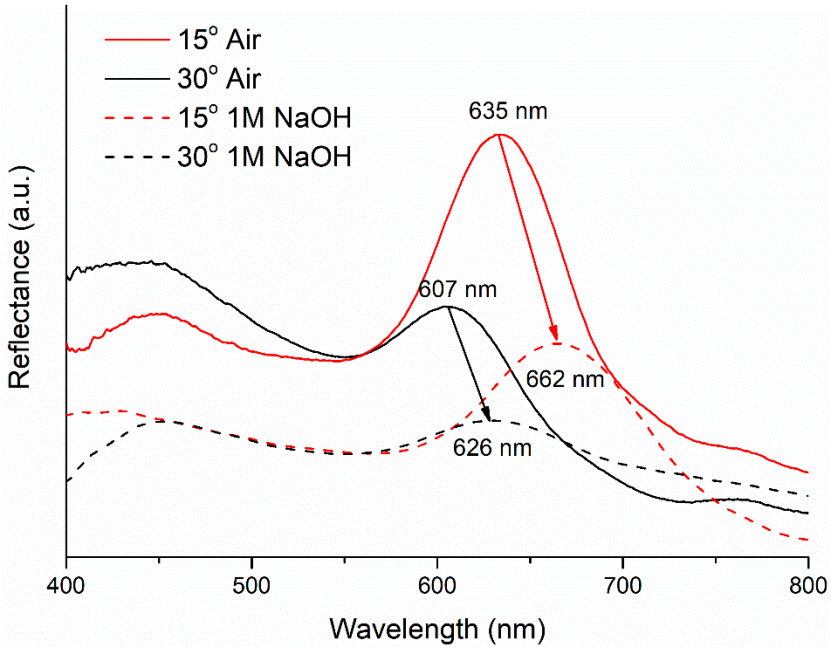


Figure S6. PSB spectra of PC-FTO in NaOH electrolyte.

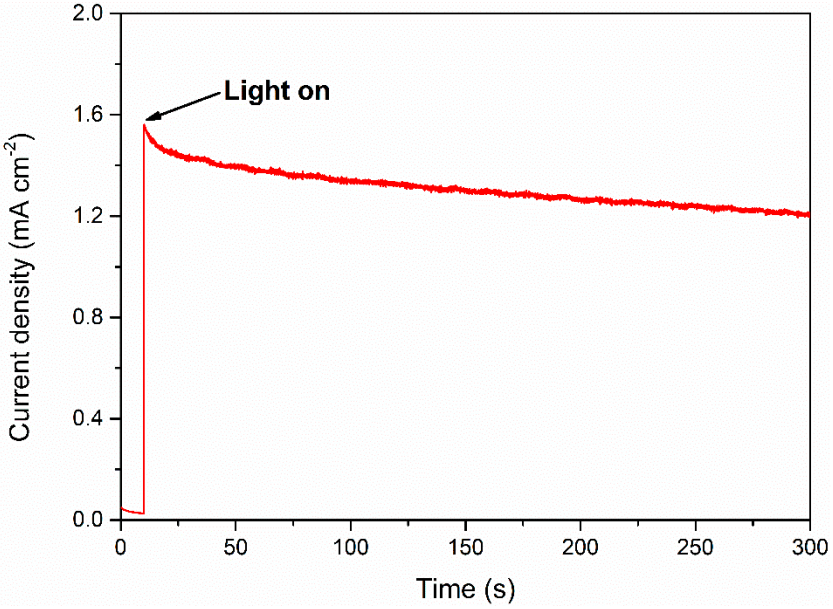


Figure S7. Stability test of Ag_2S/WO_3@PC-FTO electrode under illumination from surface normal for 5 min.

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