

Supporting Information for

Glucose Aided Preparation of Tungsten Sulfide/Multi-Wall Carbon Nanotube Hybrid and Used as Counter Electrode in Dye-Sensitized Solar Cells

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This PDF file includes:

FIGURE S1-S6

TABLE S1

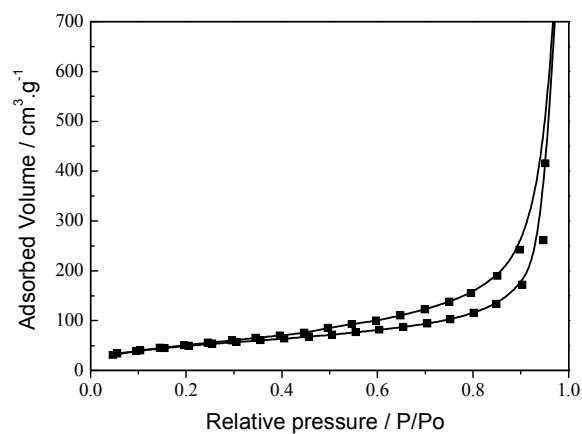


FIGURE S1. N₂ absorption-desorption isotherms of WS₂/MWCNTs.

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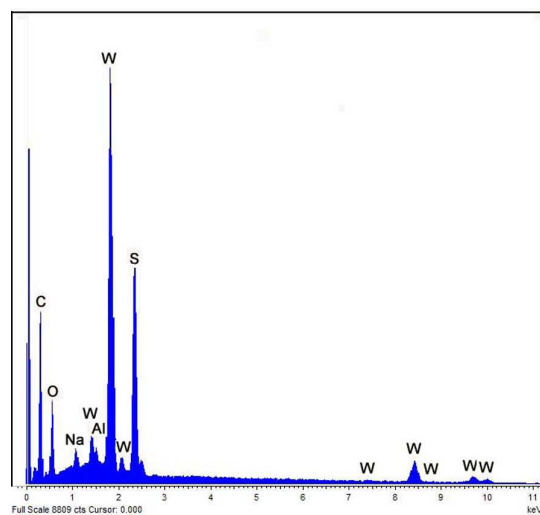


FIGURE S2. EDS spectrum of the WS₂/MWCNTs.

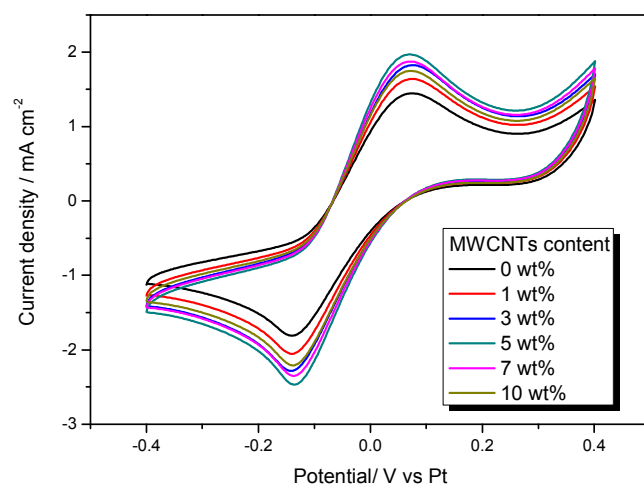


FIGURE S3. CVs of WS₂/MWCNT electrodes with different MWCNT contents at the scan rate of 10 mV·s⁻¹ in the I₃⁻/I⁻ redox electrolyte.

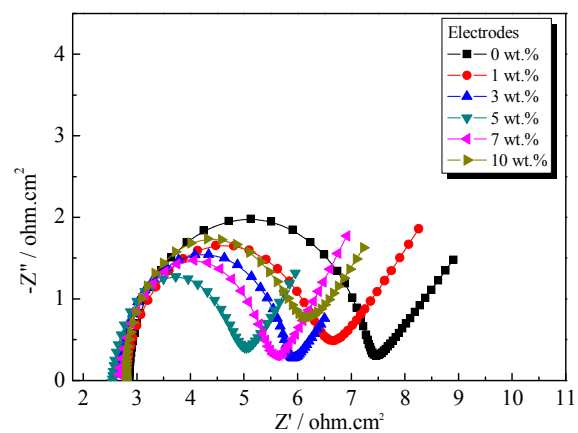


FIGURE S4. EIS spectra of WS_2/MWCNT electrodes with different MWCNT contents.

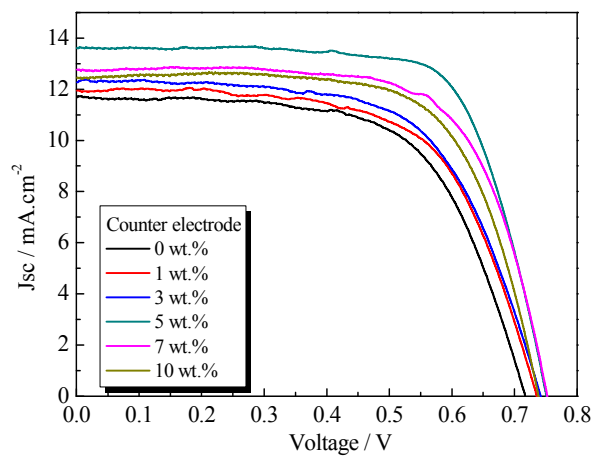


FIGURE S5. J - V curves for the DSSCs with WS_2/MWCNT electrode in different MWCNT contents.

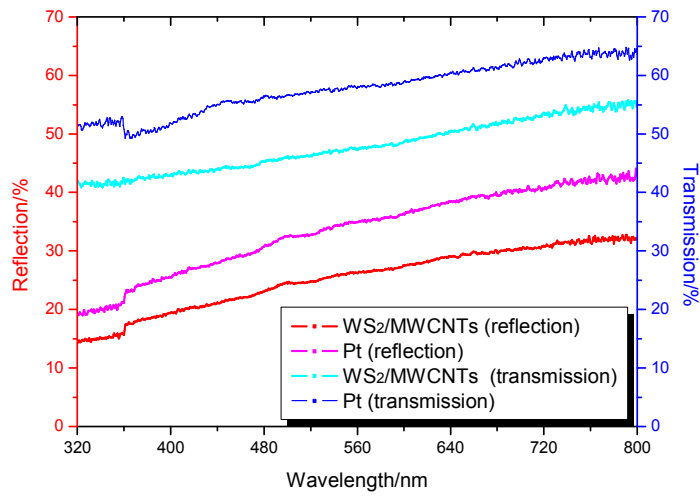


FIGURE S6. UV-vis reflection and transmission spectra for Pt and WS₂/MWCNT electrodes.

TABLE S1. EIS data of the dummy cells with two identical WS₂/MWCNT electrodes and photovoltaic parameters of the DSSCs with the same electrodes.

MWCNTs cont	$R_s(\Omega \cdot \text{cm}^2)$	$R_{ct}(\Omega \cdot \text{cm}^2)$	$J_0(\text{mA} \cdot \text{cm}^{-2})$	$V_{oc}(\text{V})$	$J_{sc}(\text{mA} \cdot \text{cm}^{-2})$	FF	$\eta(\%)$
0 wt. %	2.86±0.01	4.60±0.01	2.79	0.72	11.72	0.63	5.32
1 wt. %	2.80±0.01	3.86±0.01	3.33	0.73	11.95	0.63	5.50
3 wt. %	2.69±0.01	3.23±0.01	3.98	0.74	12.37	0.64	5.86
5 wt. %	2.54±0.01	2.49±0.01	5.16	0.75	13.63	0.72	7.36
7 wt. %	2.67±0.01	2.94±0.01	4.37	0.75	12.75	0.68	6.50
10 wt. %	2.78±0.02	3.46±0.01	3.71	0.74	12.47	0.68	6.27