Electronic Supplementary Information

Synthesis of A Novel Amphiphilic Polymeric Ionic Liquid and Its Application in Quasi–Solid–State Dye-Sensitized Solar Cells

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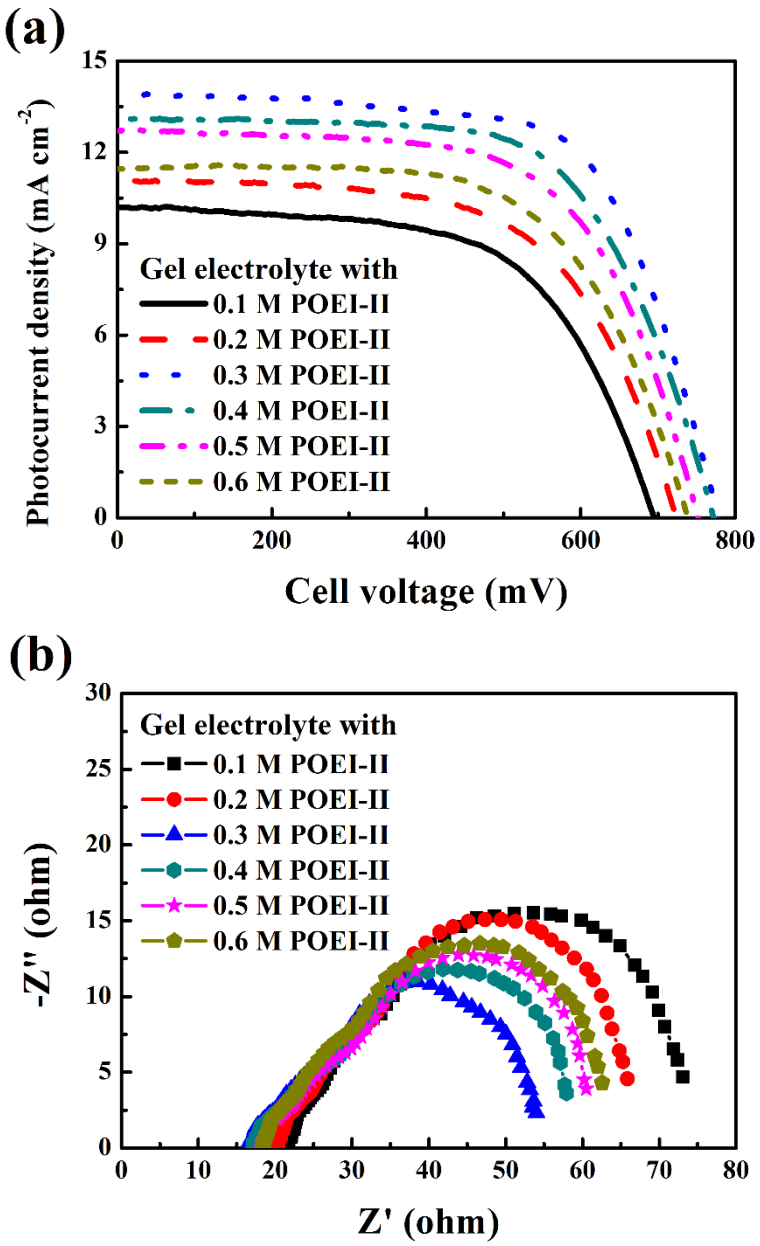

Fig. S1. (a) Photocurrent density-voltage curves and (b) EIS spectra of the DSSCs using the gel electrolytes containing different concentration of POEI-II, measured at 100 mW cm^{-2} light intensity.

Table S1. Photovoltaic and EIS parameters of the DSSCs using the gel electrolytes containing different concentration of POEI-II, measured at 100 mW cm^{-2} light intensity.

Gel electrolyte with different concentration of POEI-II (M)	V_{OC} (mV)	J_{SC} (mA cm^{-2})	η (%)	FF	Z_w (Ω)
0.1	693	10.19	4.27	0.60	47.29
0.2	722	11.06	4.89	0.61	41.69
0.3	778	13.97	7.19	0.66	36.00
0.4	771	13.12	6.53	0.65	37.03
0.5	752	12.71	6.02	0.63	37.71
0.6	738	11.46	5.33	0.63	40.31

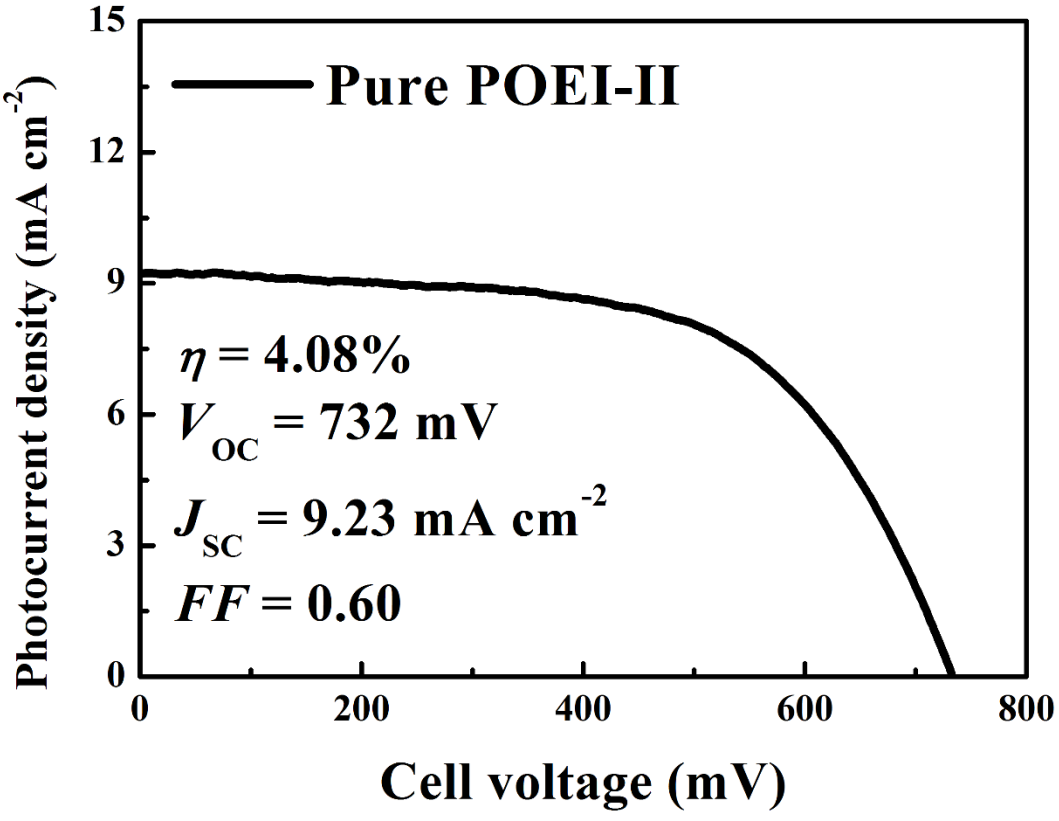

Fig. S2. Photocurrent density-voltage curves of the DSSCs using pure POEI-II as the electrolyte, measured at 100 mW cm^{-2} light intensity.

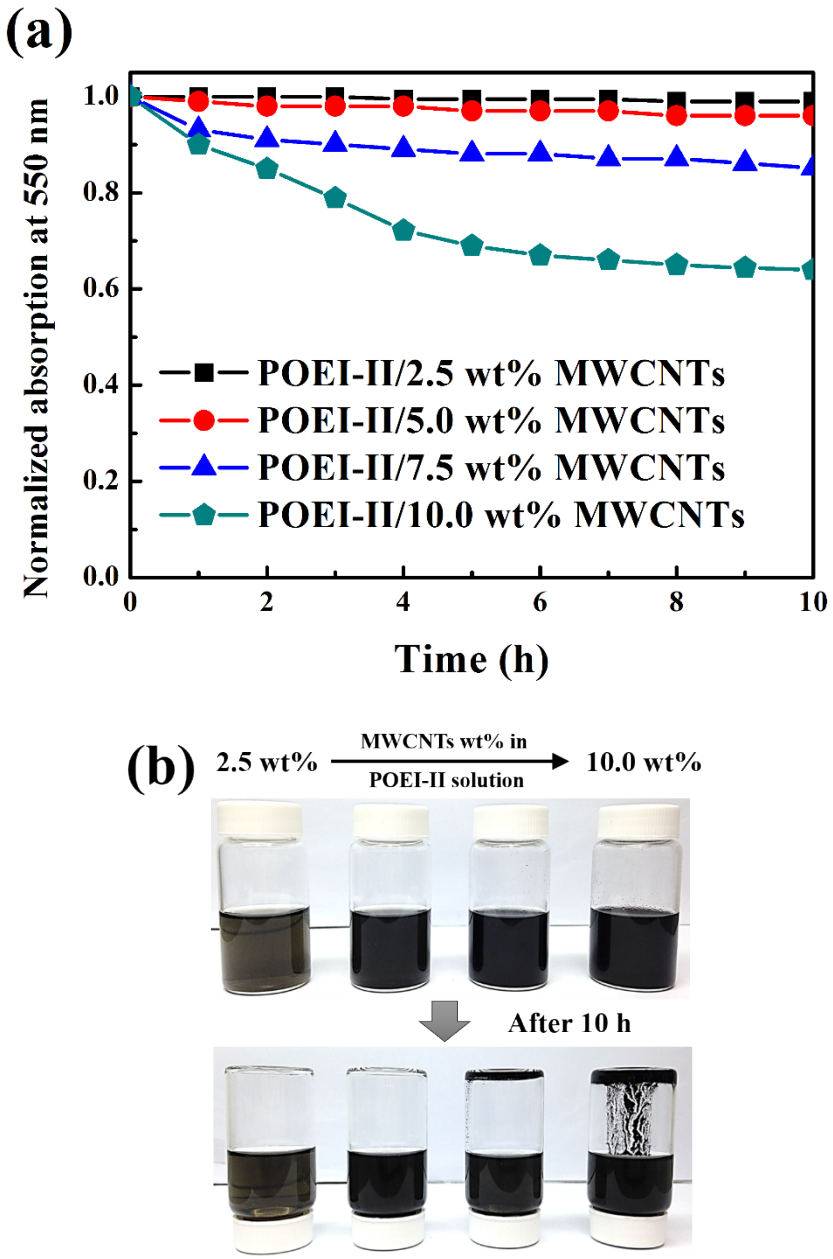

Fig. S3. (a) Plots of normalized absorption versus time at 550 nm for the POEI-II based ACN solutions containing different amount of MWCNTs (2.5 wt% to 10.0 wt%), and (b) the corresponding photographic images at 0 and 10 h separately.