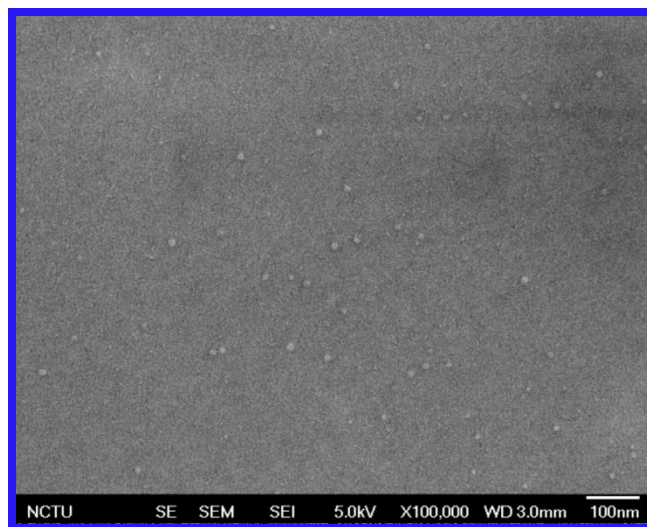


## Supporting Information for

### Self-Assembled Poly(ethylene glycol) Buffer Layers in Polymer Solar Cells: Toward Superior Stability and Efficiency

By *Shang-Chieh Chien, Fang-Chung Chen,\* Ming-Kai Chung, and Chain-Shu Hsu*

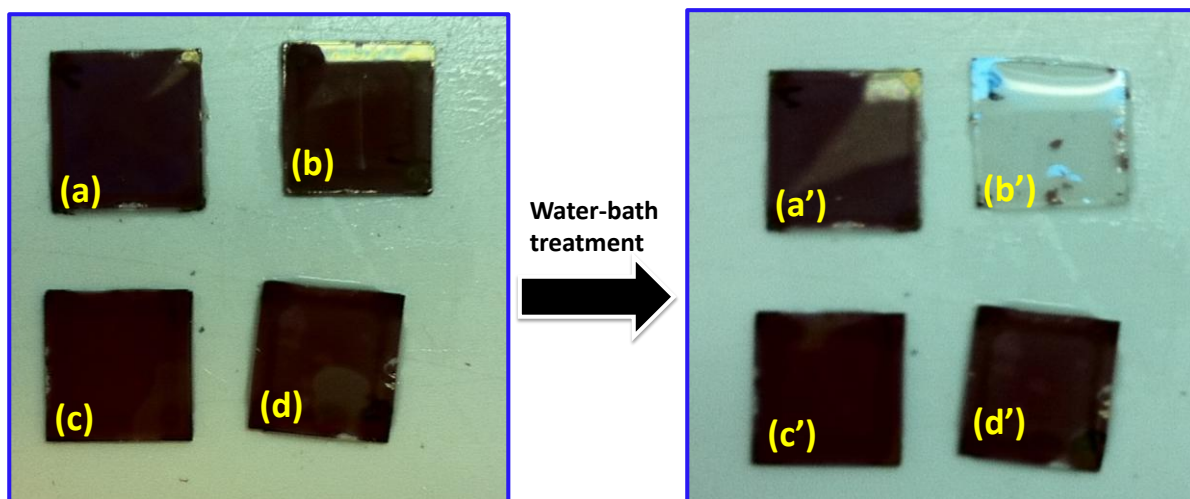


**Figure S1.** SEM image of the P3HT:PCBM thin film blended with PEG-6000 (1:1:0.1, wt%).

**Table S1.** Electrical characteristics of the P3HT:PCBM-based devices fabricated with PEGs on PEDOT:PSS and MoO<sub>3</sub> surfaces.

Substrate (Surface energy) <sup>[a]</sup>	Condition <sup>[b]</sup>	V <sub>oc</sub> (V)	J <sub>sc</sub> (mA cm <sup>-2</sup> )	FF	PCE
PEDOT:PSS (77.8 mN m <sup>-1</sup> )	Without PEG	0.49	8.36	54%	2.3%
	With PEG	0.59	9.25	65%	3.6%
MoO <sub>3</sub> (362.2 mN m <sup>-1</sup> )	Without PEG	0.45	6.53	53%	1.6%
	With PEG	0.15	0.60	26%	0.02%

<sup>[a]</sup>Surface energies were calculated using the Zisman model. <sup>[b]</sup>Photoactive layer contained either 0 or 10% PEG-400.



**Figure S2.** Photographs of P3HT:PCBM films prepared (b, b', d, d') with and (a, a', c, c') without 10% PEG-400, deposited on (a, a', b, b') MoO<sub>3</sub> and (c, c', d, d') PEDOT:PSS, (a–d) before and (a'–d') after water-bath treatment.