

Supporting Information

Water-resistant PEDOT:PSS hole transport layer by photo-crosslinking agent for high-performance perovskite and polymer solar cells

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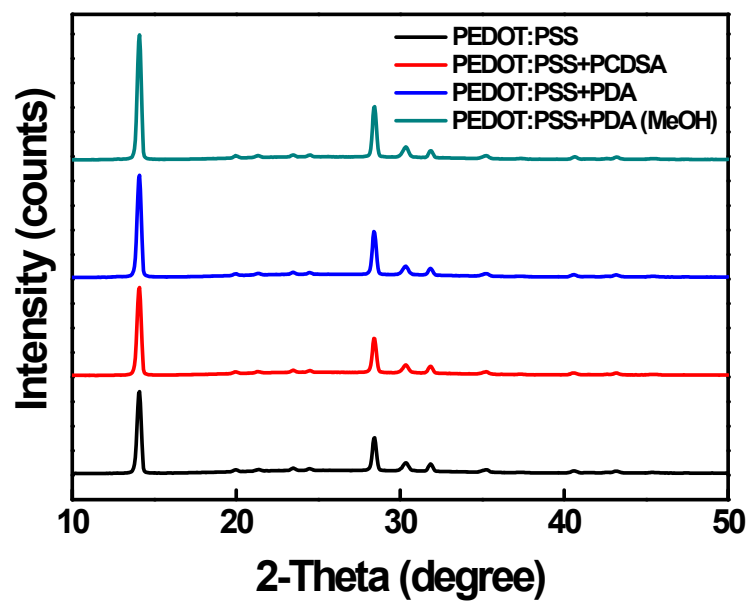


Figure S1. XRD patterns of $\text{CH}_3\text{NH}_3\text{PbI}_3$ perovskite films coated on PEDOT:PSS with different treatments.

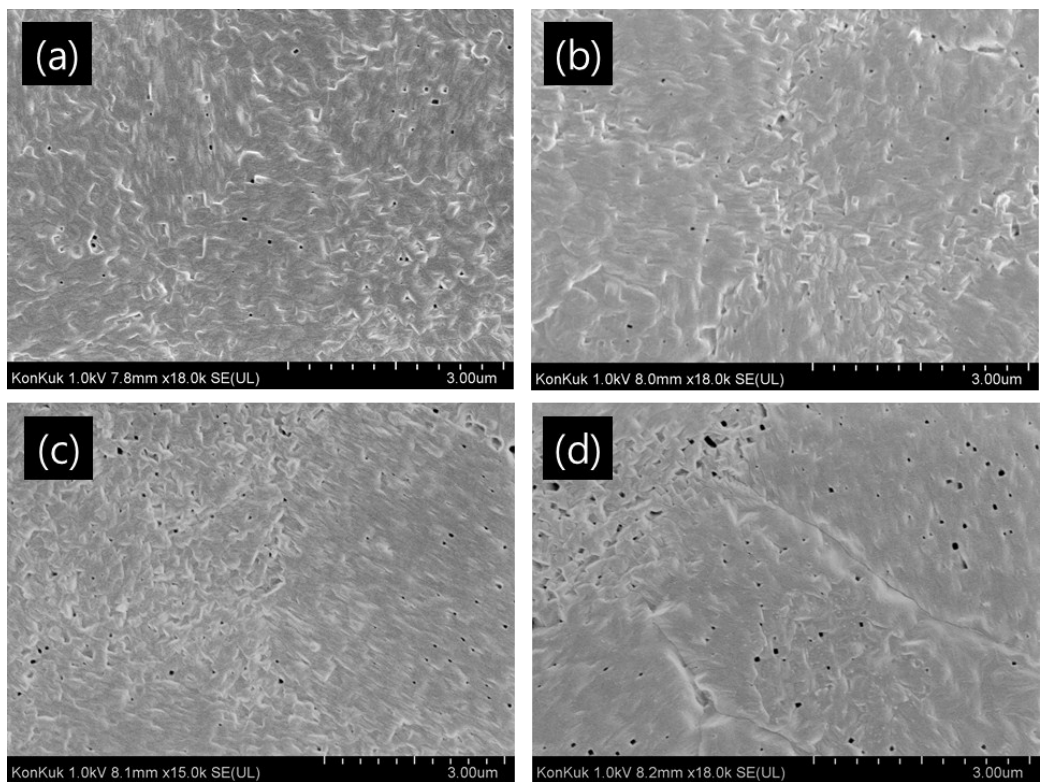


Figure S2. Top-view SEM images of CH₃NH₃PbI₃ perovskite films coated on (a) pristine PEDOT:PSS, (b) PEDOT:PSS with PCDSA, (c) PEDOT:PSS with PDA, and (d) PEDOT:PSS with PDA and MeOH treatment.

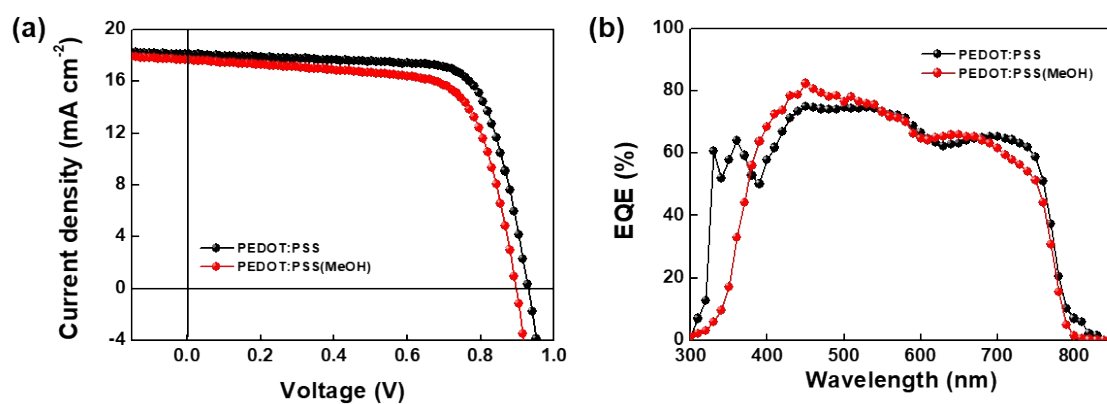


Figure S3. (a) Current density-voltage (J - V) and (b) EQE curves of pero-SCs based on PEDOT:PSS HTL with and without MeOH treatment.

Table S1. Photovoltaic parameters of pero-SCs based on PEDOT:PSS HTL with and without MeOH treatment.

HTL	V_{oc} (V)	J_{sc} (mA cm ⁻²)	FF	PCE (%)	EQE (%)
Pristine PEDOT:PSS	0.93	18.08	0.74	12.38	17.36
MeOH treated PEDOT:PSS	0.90	17.63	0.70	11.10	16.81

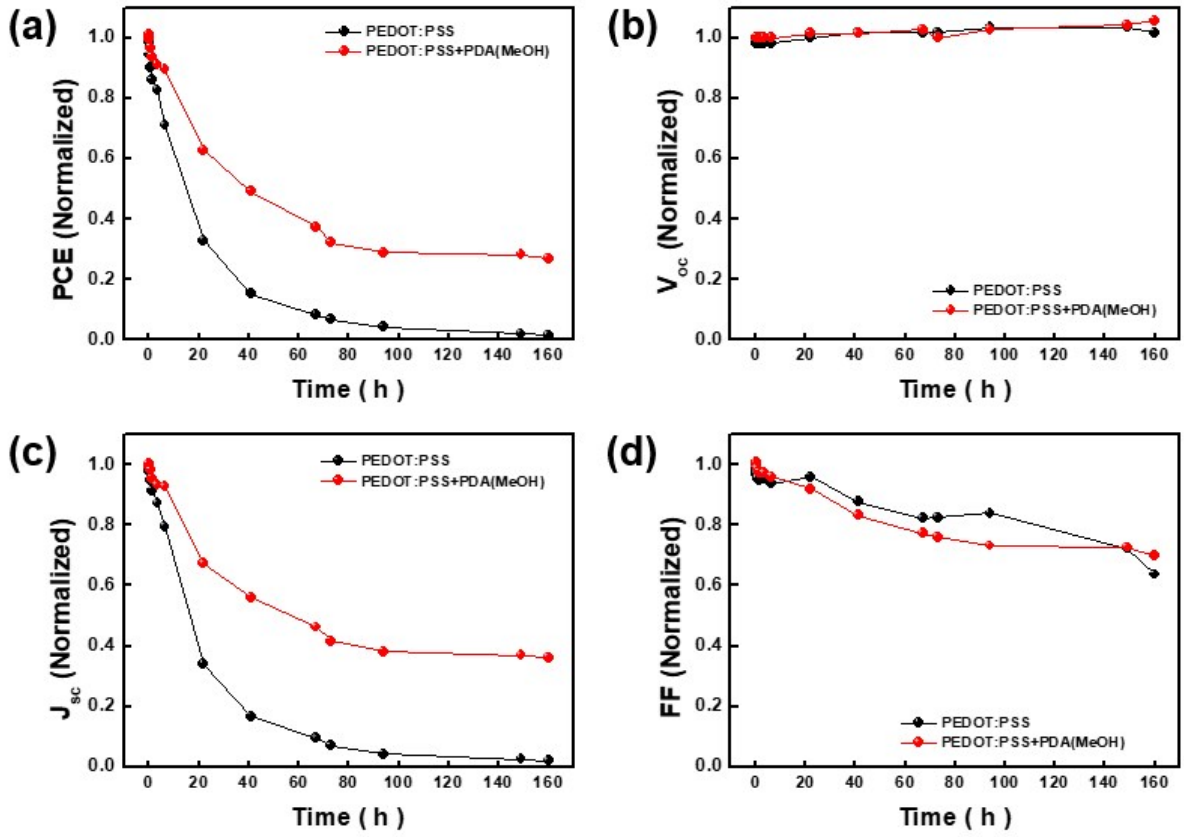


Figure S4. Effect of the crosslinking agent on the stability of PTB7-Th:PC₇₀BM PSCs under ambient condition (average temperature: $20 \pm 5^\circ\text{C}$, humidity: $40 \pm 10\%$): (a) Normalized PCEs, (b) V_{oc} , (c) J_{sc} , and (d) FF.