

Supporting Information

Enhanced Planar Perovskite Solar Cells Efficiency and Stability Using Perovskite/PCBM Heterojunction through One-Step Formation

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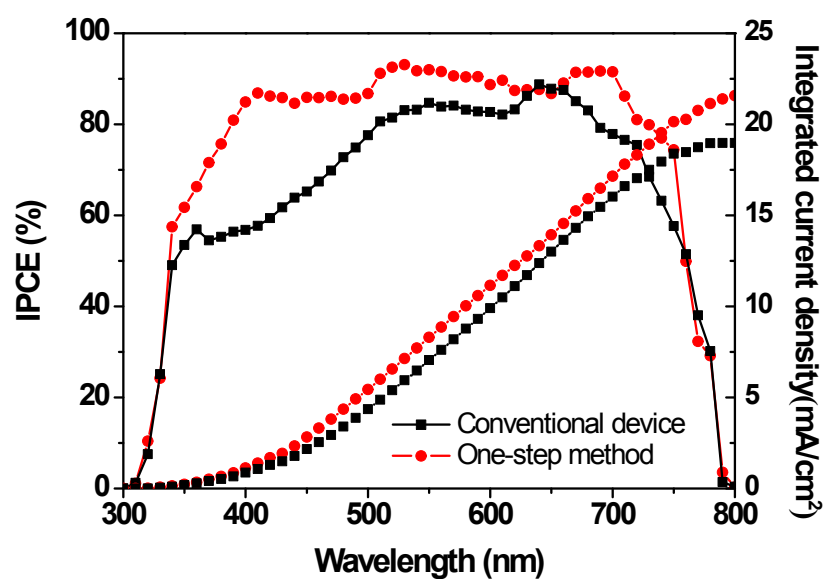


Figure S1. IPCE spectra of $\text{MAPbI}_{3-x}\text{Cl}_x$ PSCs for conventional device and one-step method based device.

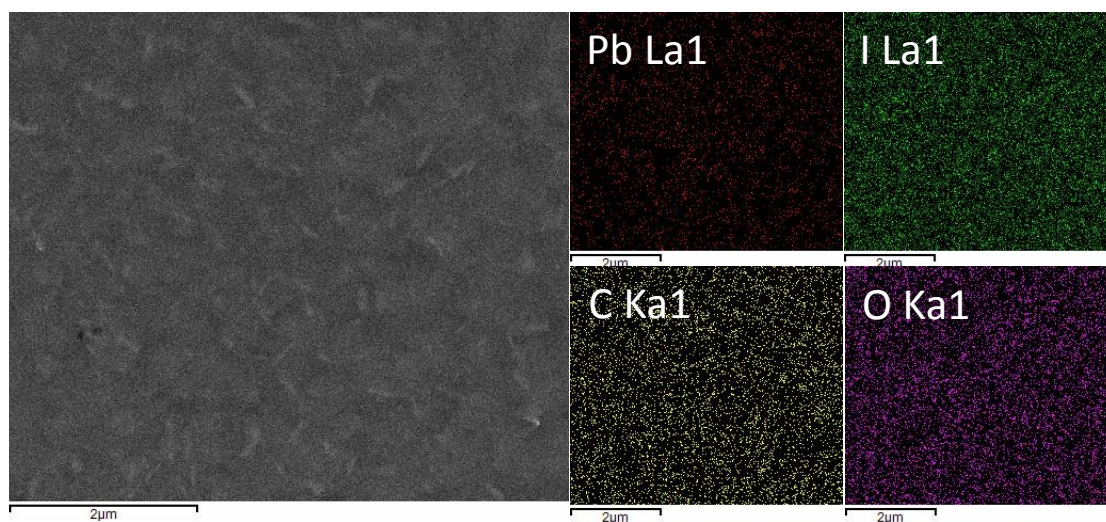


Figure S2. SEM image and corresponding EDX mapping for one-step formed perovskite thin film based on 20 mg/mL solution.

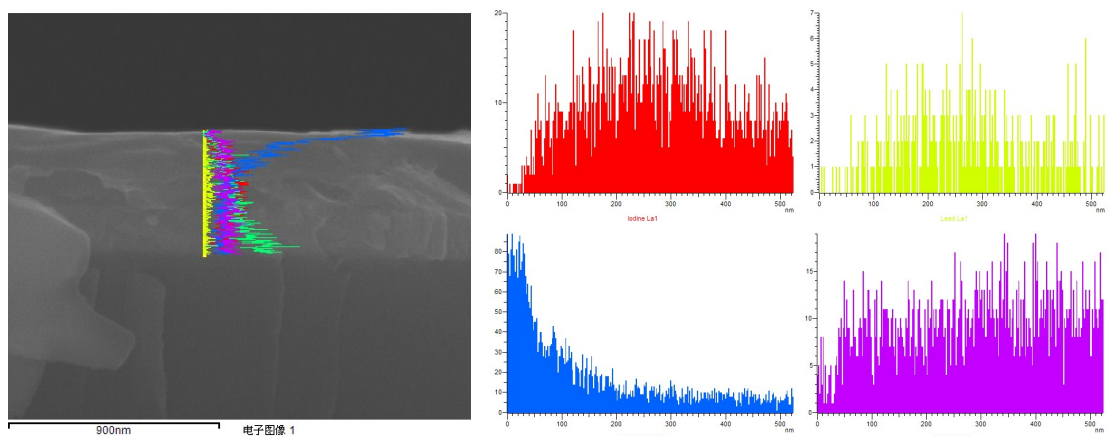


Figure S3. EDX line profile for the one-step formed perovskite:PCBM heterojunction film.

Table S1 Fitting decay times of perovskite films prepared with different contents of PCBM.

	A_1	$t_1(ns)$	A_2	$t_2(ns)$	$t_{ave}(ns)$
0	0.64	4.85	0.36	19.53	10.07
2	0.57	3.76	0.43	17.70	9.75
5	0.68	4.71	0.32	17.94	8.91
10	0.66	3.89	0.34	12.59	6.85
20	0.57	1.86	0.43	7.99	4.49
30	0.68	2.98	0.32	7.85	4.56