

Support Information

Inorganic Lead-Free Antimony-based Perovskite-inspired Solar Cells with Carbon Electrode and Green Anti-solvent Regulation

Jun Zhou^a, Fei Zhao^a, Junhao Shen^a, Yang Zhou^a, Yuyao Wu^a, Yixin Guo^{*a}, Jinchun Jiang^{*a} and Junhao Chu^a

^aSchool of Physics and Electronic Science, East China Normal University, Shanghai 200241, China

Dr. Yixin Guo*, Prof. Jinchun Jiang*

School of Physics and Electronic Science, East China Normal University, Shanghai 200241, China

*E-mail: yxguo@ee.ecnu.edu.cn; jcjiang@ee.ecnu.edu.cn

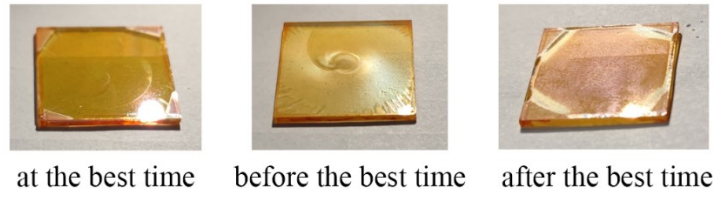


Fig. S1 Photographs of the $\text{Cs}_3\text{Sb}_2\text{Cl}_x\text{I}_{9-x}$ films prepared by the anti-solvent at the different dropping time.

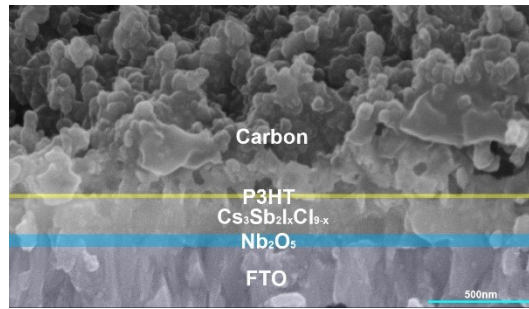


Fig. S2 Cross-sectional SEM image of Sb-based perovskite-like solar cell.

Table S1. Performance parameters of Sb-based perovskite-like solar cells using different solvents.

DMF: DMSO	V_{oc} (V)	J_{sc} (mA/cm ²)	FF (%)	PCE (%)
1:0	0.84(0.84 ± 0.02)	4.47(4.20 ± 0.27)	55.20(54.45 ± 1.33)	2.07(1.91 ± 0.13)
0:1	0.79(0.74 ± 0.08)	4.00(3.27 ± 0.51)	53.81(49.75 ± 5.94)	1.69(1.23 ± 0.34)

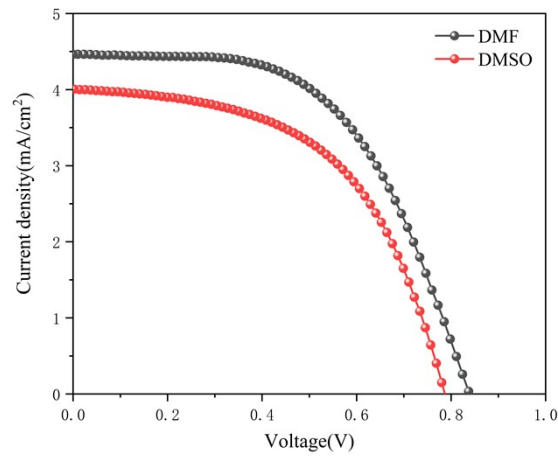


Fig. S3 J-V curves of Sb-based perovskite-like solar cells fabricated by different solvents

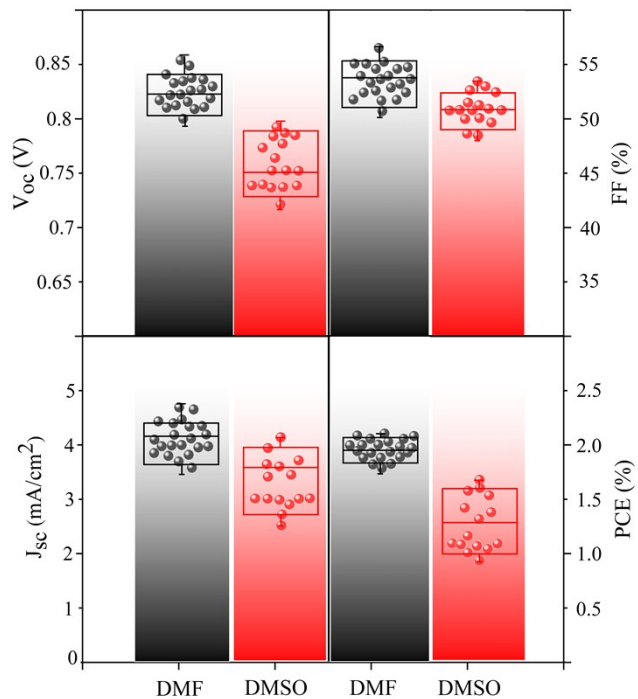


Fig. S4 Statistical photovoltaic parameters for Sb-based perovskite-like solar cells with different solvents.

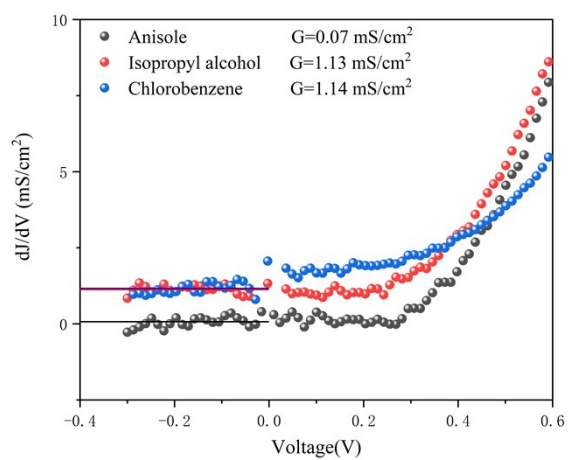


Fig. S5 Plot of dJ/dV vs V

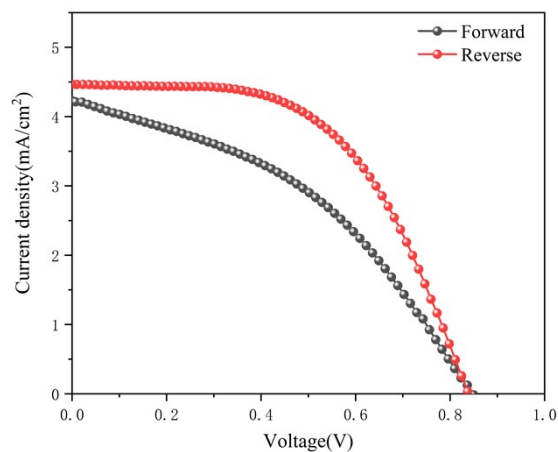


Fig. S6 J-V curves of devices prepared by anisole from forward and reverse scanning direction

Table S2. Performance parameters from the calibrated Si solar cells

Instrument model	Efficiency (%)	V_{oc} (V)	J_{sc} (mA)
Sol3A	14.67 ± 0.04	0.5810 ± 0.0004	135.00 ± 0.13

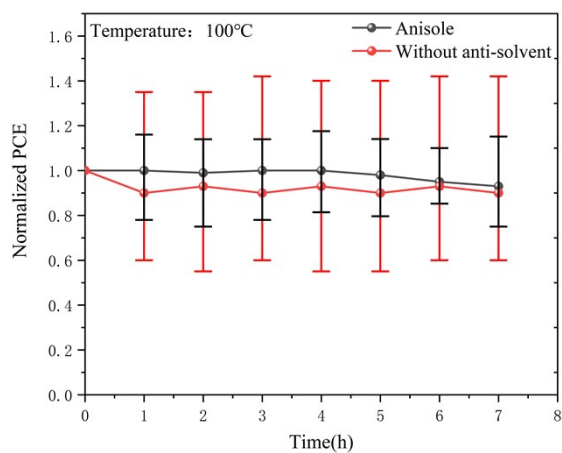


Fig. S7 Thermal stability