Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Temperature-Modulated Crystal Growth and Performance for Highly Reproducible and Efficient Perovskite Solar Cells

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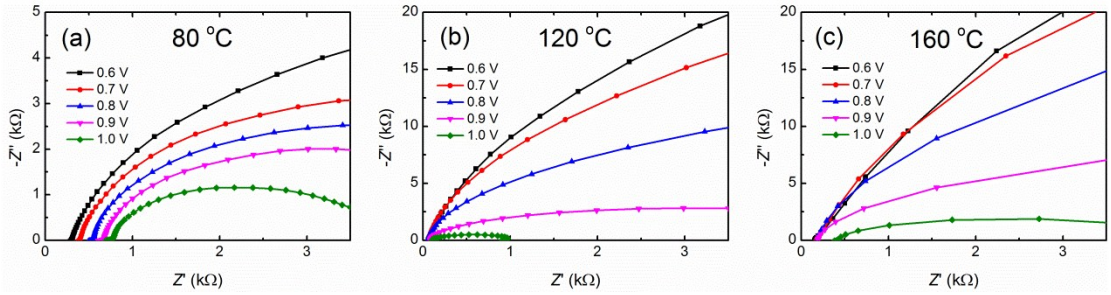

Fig. S1 Nyquist plots at different bias for the devices prepared at various T_a.

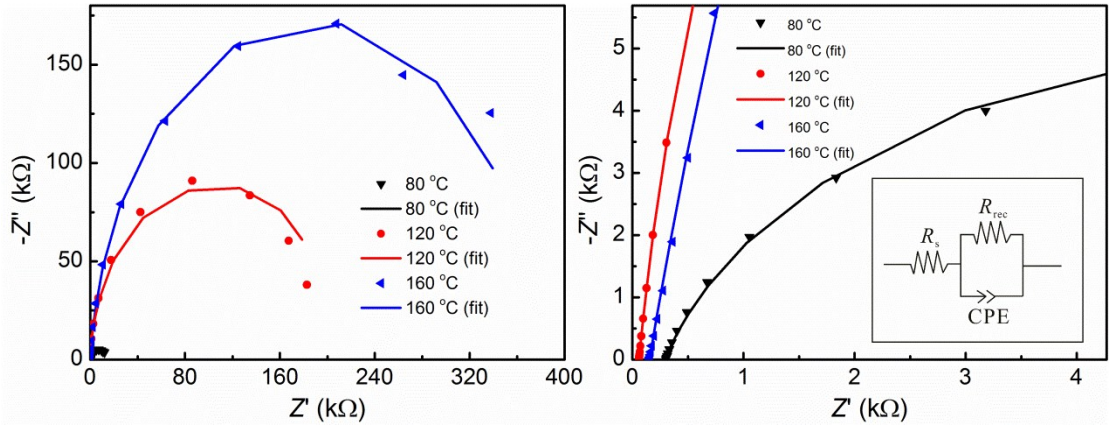

Fig. S2 (a) Nyquist plots at 0.6 V for devices with the perovskite films prepared at various T_a. (b) A zoom-in of the high-frequency region of Nyquist plots. Inset is equivalent circuit for fitting IS.

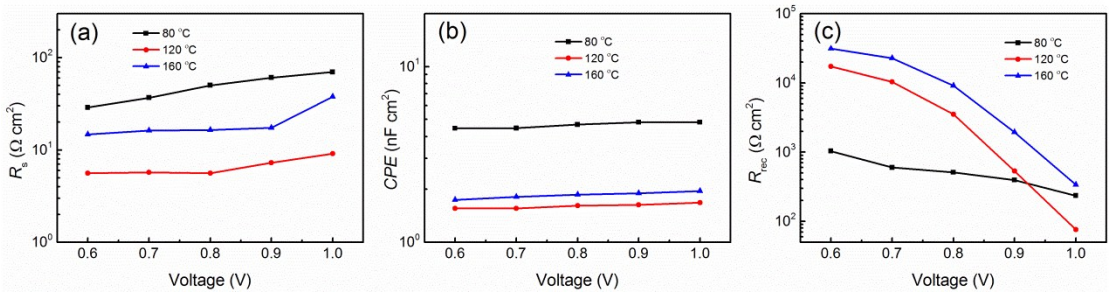

Fig. S3 (a) Series resistance (R_s), (b) constant phase element (*CPE*), and (c) recombination resistance (R_{rec}) as a function of bias.

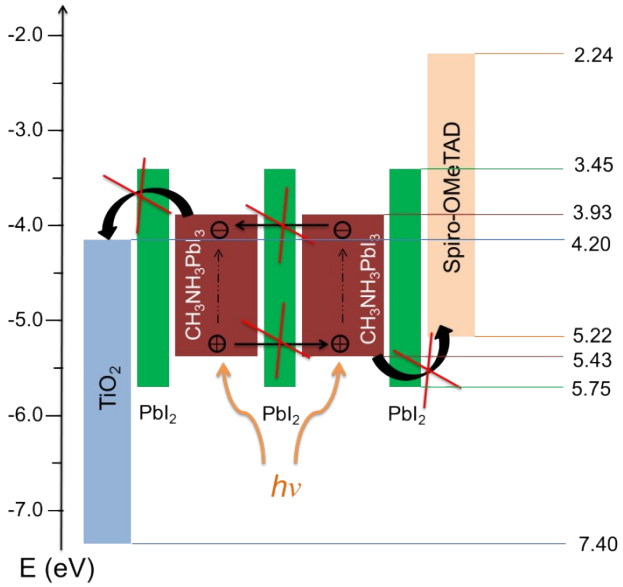

Fig. S4 Energy band gap diagram of the device at T_a >120 °C