

# 《低温溶液加工 CsPbBr<sub>3</sub> 纳晶薄膜制备钙钛矿太阳电池的补充材料

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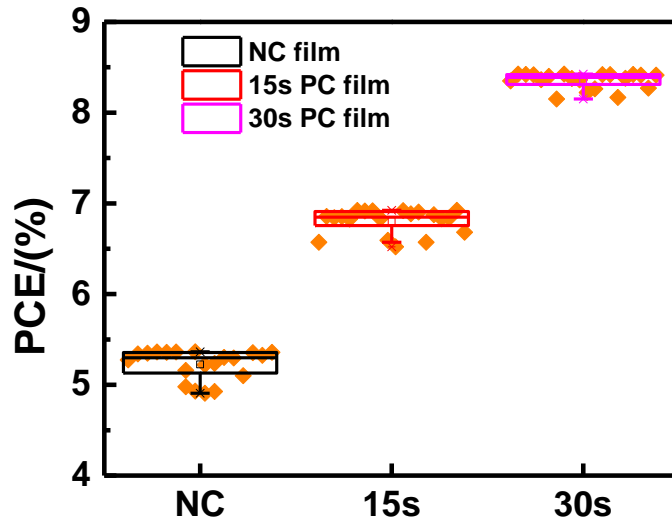


图 S1 CsPbBr<sub>3</sub> 纳晶薄膜, 饱和溶液处理 15 s 和 30 s 所得 CsPbBr<sub>3</sub> 多晶薄膜分别作为吸收层制备太阳能电池效率统计图 (各 20 个器件)

Fig. S1. The PCE distribution histograms of solar cells with CsPbBr<sub>3</sub> nanocrystalline film, polycrystalline films obtained by nanocrystalline film treated with saturated solution for 15 s and 30 s as absorbed layer, respectively (each batch of 20 devices)

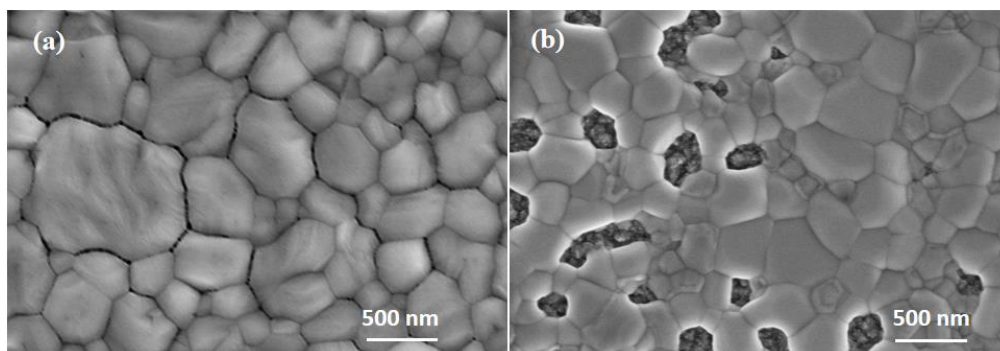


Fig S2 (a), (b) CsPbBr<sub>3</sub> 纳晶薄膜经饱和溶液分别处理 40 s 和 90 s 所得的多晶薄膜表面 SEM 图

Fig. S2. (a), (b) SEM images of CsPbBr<sub>3</sub> polycrystalline films obtained by treating nanocrystalline films with saturated solution for 40 s and 90 s, respectively.

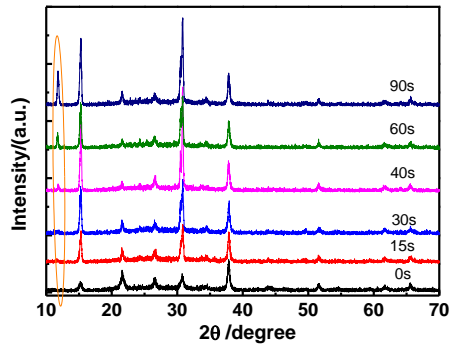


图 S3. CsPbBr<sub>3</sub> 纳晶及经饱和溶液处理不同时间所得多晶薄膜的 XRD 谱

Fig. S3. XRD patterns of CsPbBr<sub>3</sub> nanocrystalline and polycrystalline films obtained by treating it with saturated solution for different time.

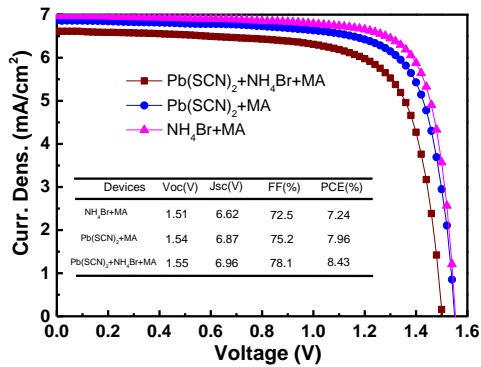


图 S4 采用 Pb(SCN)<sub>2</sub> 乙酸甲酯饱和溶液和 NH<sub>4</sub>Br 乙酸甲酯饱和溶液分别单独与同时处理 30 s 所得器件的光伏性能

Fig. S4. Photovoltaic performance of the device was obtained by treating Pb(SCN)<sub>2</sub> MA saturated solution and NH<sub>4</sub>Br methyl acetate saturated solution for 30 s separately and simultaneously

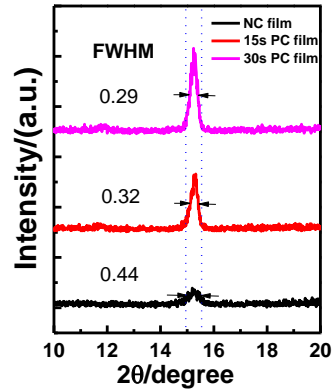


图 S5 CsPbBr<sub>3</sub> 纳晶及经饱和溶液处理 15 s 和 30 s 所得多晶薄膜 XRD 对比图

Fig. S5. XRD comparisons of CsPbBr<sub>3</sub> nanocrystalline and polycrystalline films obtained by treating it with saturated solution for 15 s and 30 s

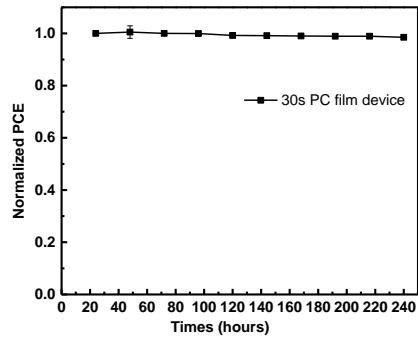


图 S6 CsPbBr<sub>3</sub> 纳晶经饱和溶液处理 30 s 所得多晶薄膜所制备的钙钛矿太阳能电池的稳定性

Fig. S6. Long-term stability of PCE of the CsPbBr<sub>3</sub> solar cells fabricated with polycrystalline films obtained by treating its nanocrystalline film with saturated solution for 30 s