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## Electronic Supplementary Information

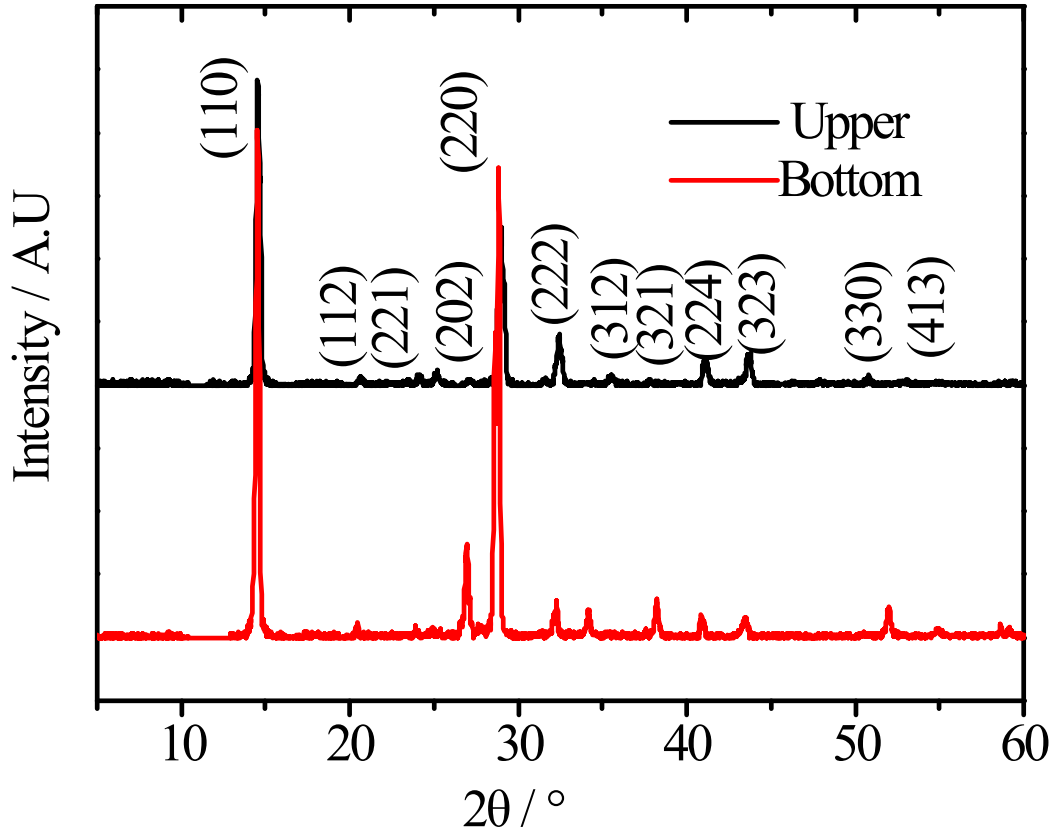
### **A Mixed Solvent for Rapid Fabrication of Large-area Methylammonium Lead Iodide Layers by One-step Coating at Room Temperature**

Qiuju Liu,<sup>a</sup> Yanan Zhao,<sup>a</sup> Yinxing Ma,<sup>a</sup> Xuan Sun,<sup>b</sup> Wenqi Ge,<sup>b</sup> Zhuliang Fang,<sup>b</sup> Hua Bai,<sup>\*a</sup>  
Qingyong Tian,<sup>\*b</sup> Bin Fan,<sup>\*b</sup> and Tongyi Zhang<sup>\*c</sup>

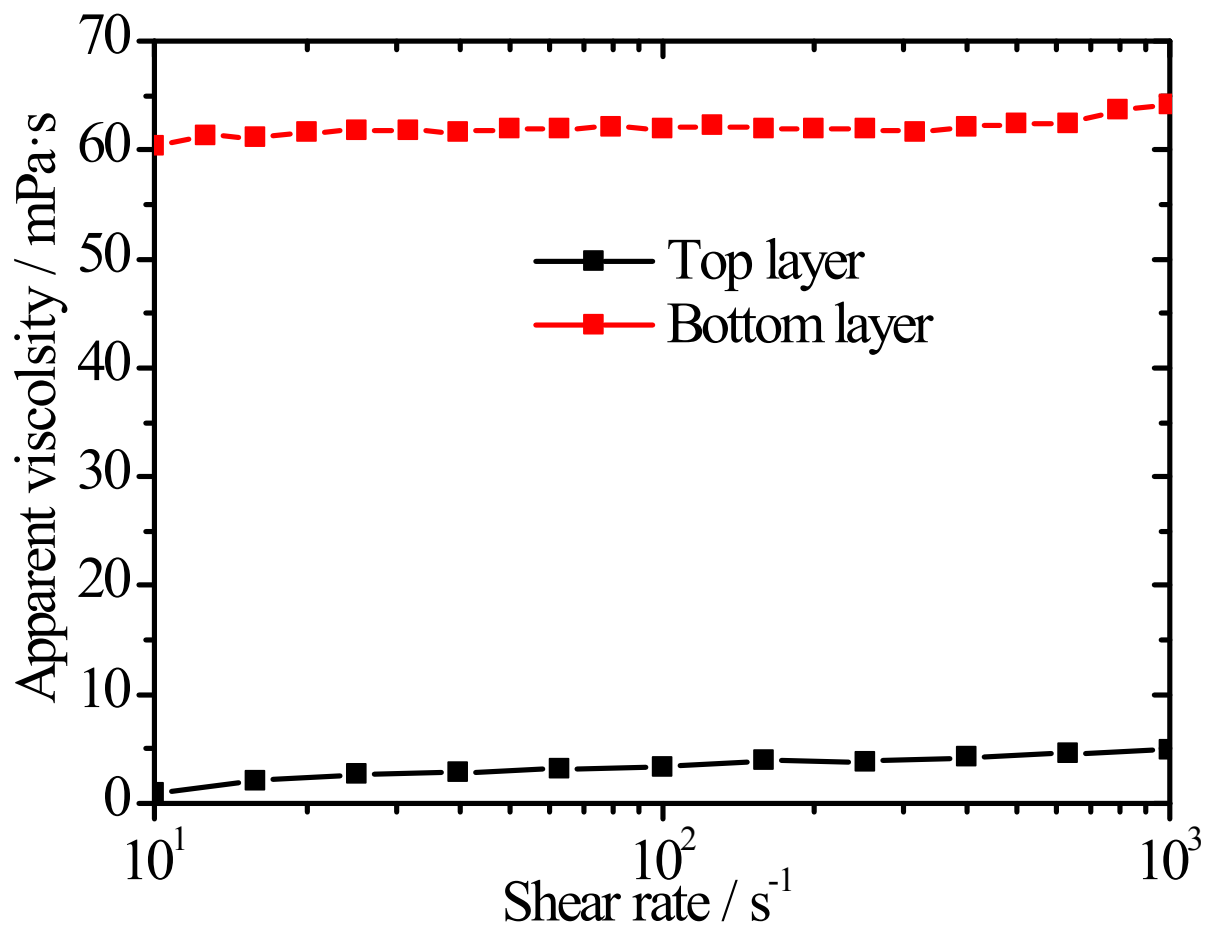
a College of Materials, Xiamen University, Xiamen 361005, P. R. China  
Email: baihua@xmu.edu.cn (H. B.)

b Suzhou GCL Nano Co., Ltd., Suzhou, 215028, P. R. China  
Email: tianqingyong@gcl-power.com (Q. T.), fanbin@gcl-power.com (B. F.)

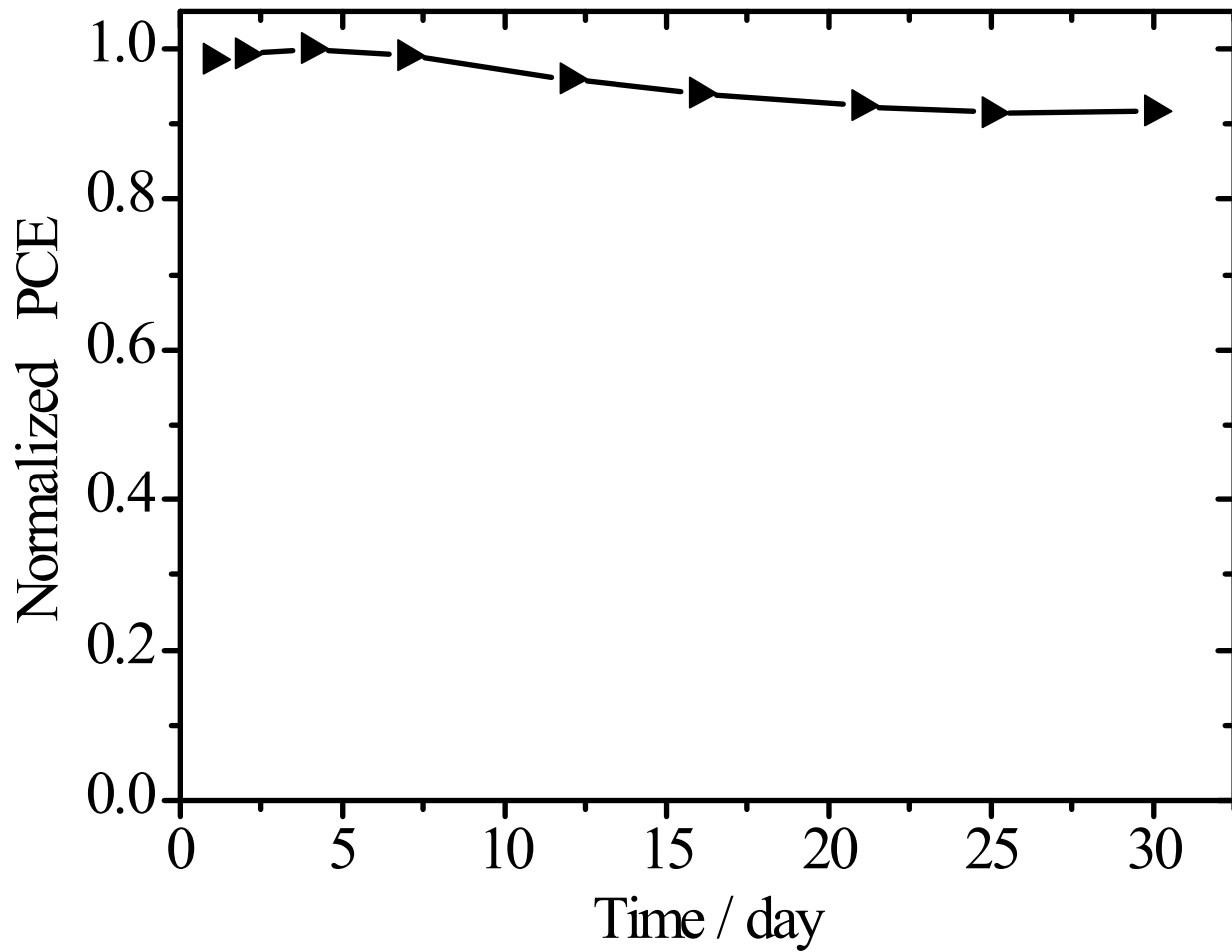
c Materials Genome Institute of Shanghai University, Shanghai Materials Genome Institute,  
Shanghai University, Shanghai, 200444, P. R. China  
E-mail: mezhangt@ust.hk & zhangty@shu.edu.cn (T. Z.)



**Fig. S1.** XRD patterns of MAPbI<sub>3</sub> films prepared by spin-coating the 0.6 M solution (Upper) and the bottom layer of 2.10 M MAPbI<sub>3</sub> solution (Down) on FTO Glass.



**Fig. S2.** Apparent viscosity of the top and bottom layer of the phase separated solution (1.65 M) at different shear rates.



**Fig. S3.** Long-term Stability of the unencapsulated MAPbI<sub>3</sub> device stored in N<sub>2</sub>-filled glove box.

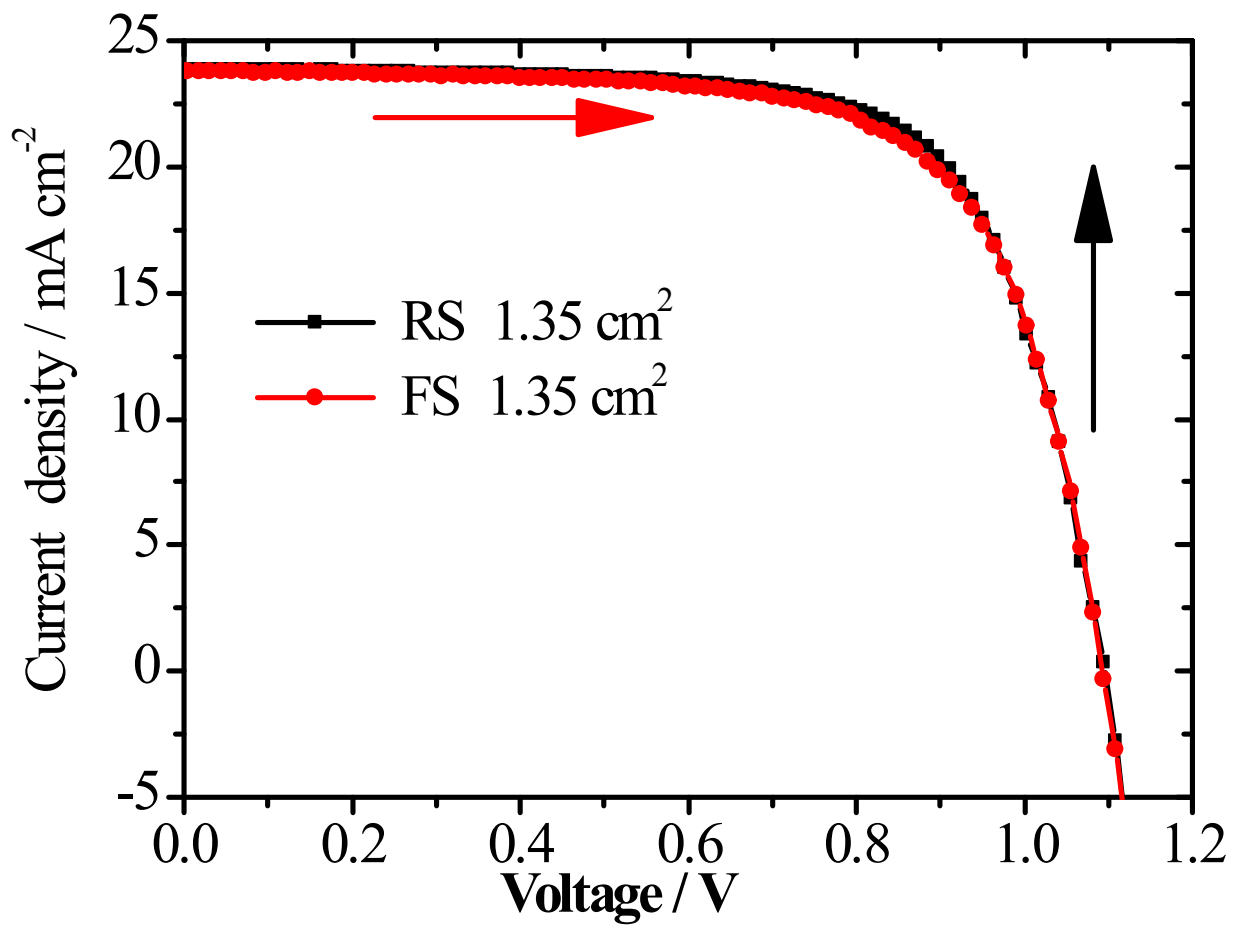


Fig. S4.  $J$ - $V$  curve of the device with the active area of 1.35 cm<sup>2</sup>.