Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.
This journal is © The Royal Society of Chemistry 2015

Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A. This journal is © The Royal Society of Chemistry 2015

Supplementary Information

Effect of 4-tert-butylpyridine on Perovskite Formation and Performance of Solution-Processed Perovskite Solar Cells

Yantao Shi,*[a] Xiangyuan Wang,[a] Hong Zhang,[a] Bo Li,[a] Huilan Lu,[a] Tingli Ma,[b] Ce Hao[a]

[a]State Key laboratory of Fine Chemicals, School of Chemistry, Dalian University of Technology, Dalian, 116024, China

[b]School Petroleum and Chemical Engineering, Dalian University of Technology, Panjin Campus, Panjin, 124221, P. R. China.

*To whom correspondence should be addressed-mail: shiyantao@dlut.edu.cn

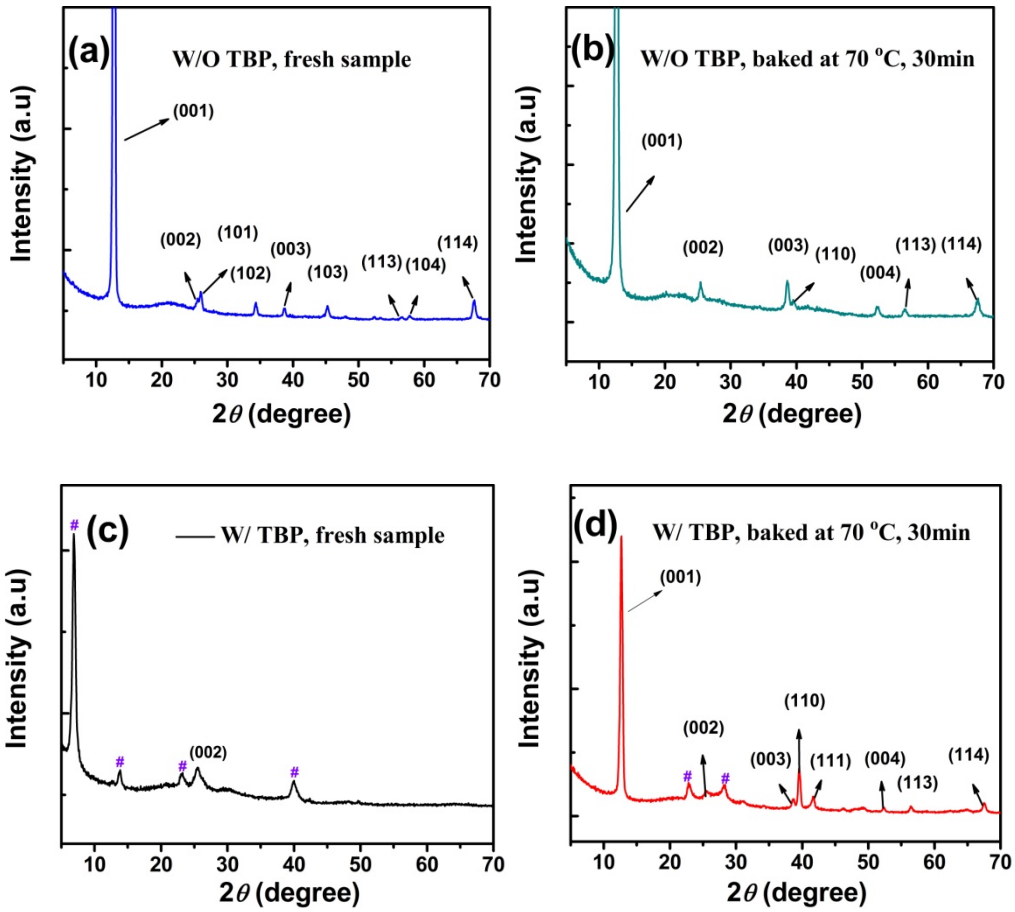

Figure S1. XRD pattern of PbI_2 films prepared under different conditions: (a) fresh sample prepared without TBP-guiding; (b) sample prepared without TBP-guiding and baked at 70° C for 30min; (c) fresh sample prepared with TBP-guiding; (d) sample with prepared with TBP-guiding

and baked at 70° C for 30min.

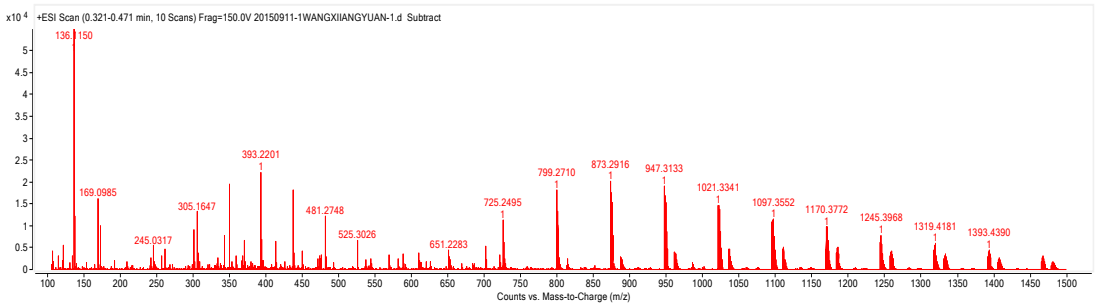

Figure S2. High resolution mass spectrometry (HRMS) of TBP-guided PbI_2 film, this measurement was conducted by re-dissolving the PbI_2 film into DMF. In the HRMS of TBP-guided PbI_2 film, we can find the TBP signal (136.1150) clearly.

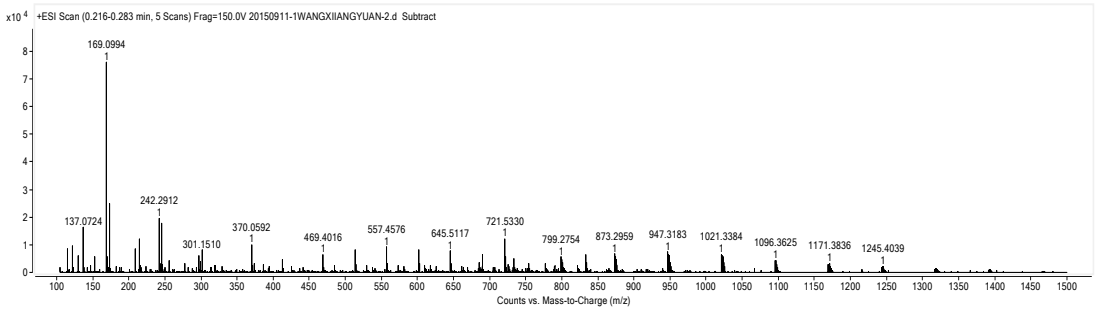

Figure S3. HRMS of $CH_3NH_3PbI_3$ film prepared by TBP-guided two-step route, in which we find no TBP signal, suggesting that TBP has been fully removed after the formation of perovskite.

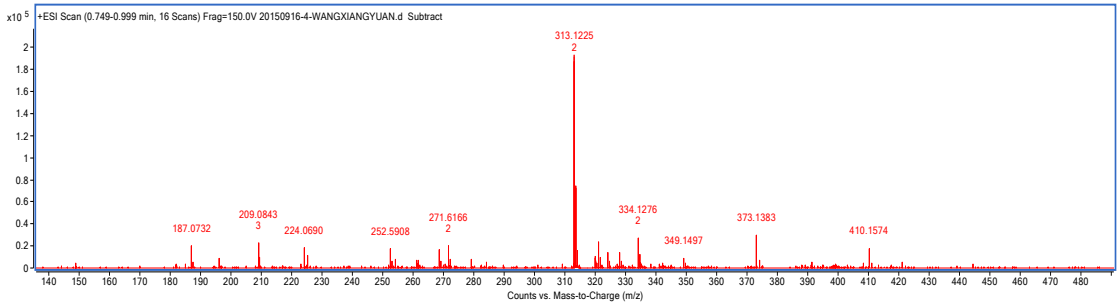

Figure S4. HRMS of $CH_3NH_3PbI_{3-x}Cl_x$ film prepared by TBP-guided one-step route, in which we find no TBP signal, suggesting that TBP has been fully removed after the formation of perovskite.