

Electronic Supplementary Information (ESI) available:

**Syntheses of two-dimensional propylammonium lead halide
perovskite microstructures by a solution route**

Dewei Ma*, Zhousu Xu, Fangjie Wang, Xujun Deng

Department of Applied Physics, Zhejiang University of Technology, Hangzhou

310014, PR China

* Corresponding author. E-mail: dwma@zjut.edu.cn

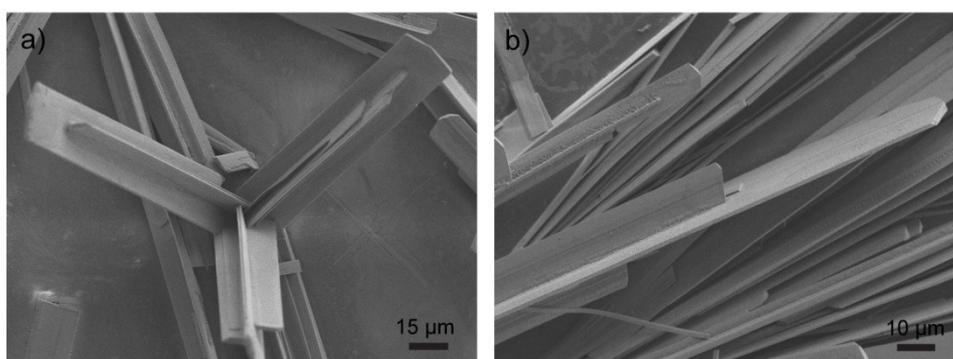


Fig. S1. (a) Flower-like hierarchical morphology with the “petals” consisting of approximately vertical-crossing ribbons. (b) The “petal” exhibits approximately vertical-crossing ribbons.

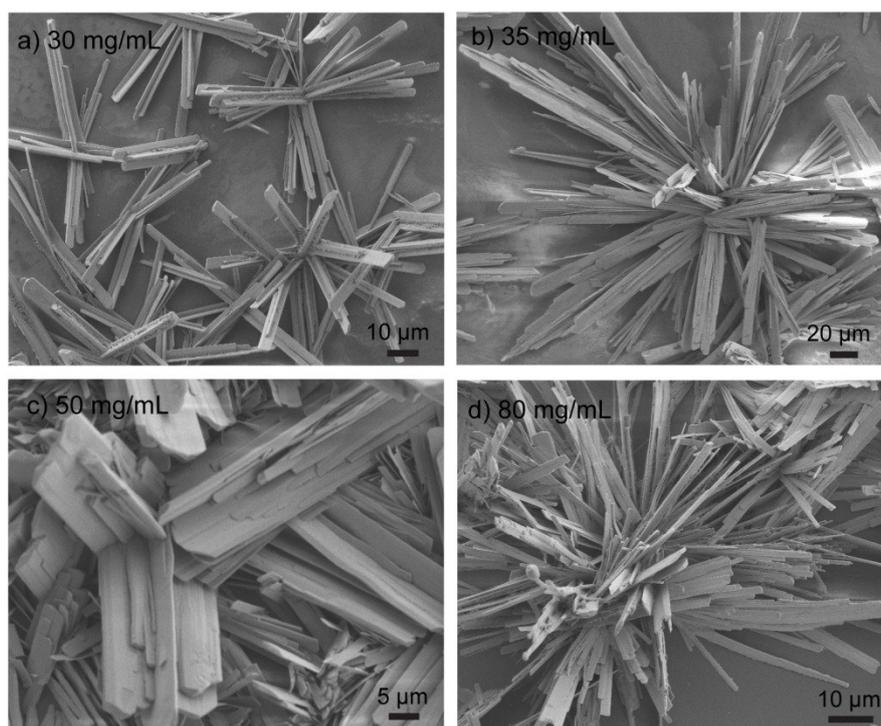


Fig. S2. SEM images of the samples grown at different C₃H₇NH₃I concentrations of (a) 30 mg/mL, (b) 35 mg/mL, (c) 50 mg/mL and (d) 80 mg/mL.

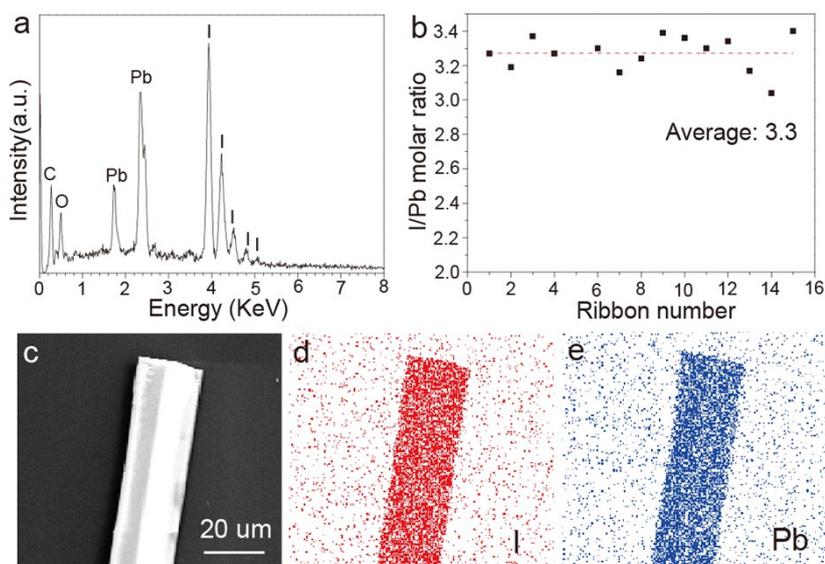


Fig. S3. EDX analysis of an individual $(C_3H_7NH_3)_6Pb_4I_{14}$ ribbon. (a) A representative EDX spectrum of a single $(C_3H_7NH_3)_6Pb_4I_{14}$ ribbon. (b) Quantitative elemental analysis of these $(C_3H_7NH_3)_6Pb_4I_{14}$ ribbons yields an average I/Pb molar ratio of 3.3. (c) The selected area SEM image of an individual $(C_3H_7NH_3)_6Pb_4I_{14}$ ribbon and (d, e) Element mapping images of I and Pb for the selected area shown in (c).

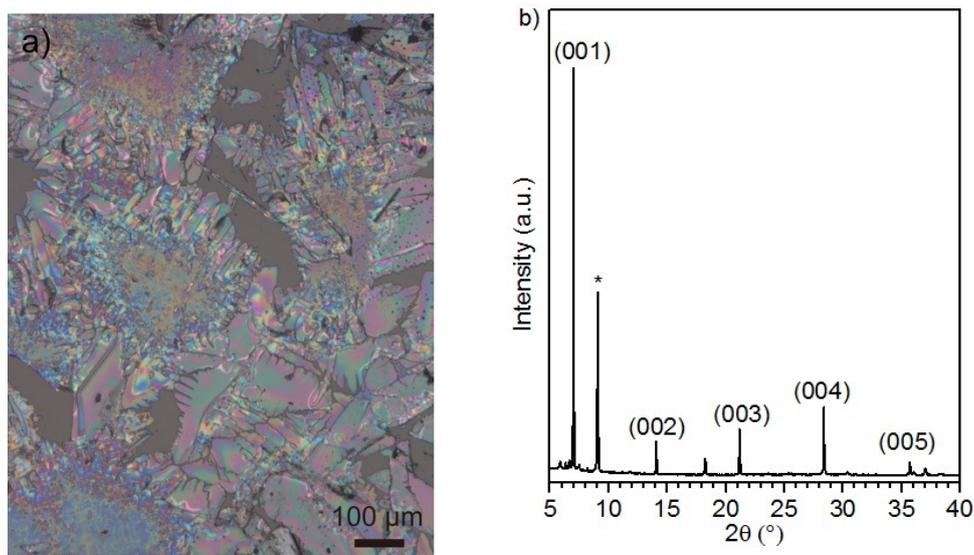


Fig. S4. (a) Optical microscopic image and (b) corresponding XRD pattern of $(\text{C}_3\text{H}_7\text{NH}_3)_2\text{PbBr}_4$ grown at a $\text{C}_3\text{H}_7\text{NH}_3\text{Br}$ concentration of 5 mg/mL for 8 h at room temperature (the peak marked “*” is from unreacted PbAc_2).