Supporting information

Mechanistic Insights into the Seed-Mediated Growth of Perovskite Nanostructures via a Two-Step Dissolution–Recrystallization Method

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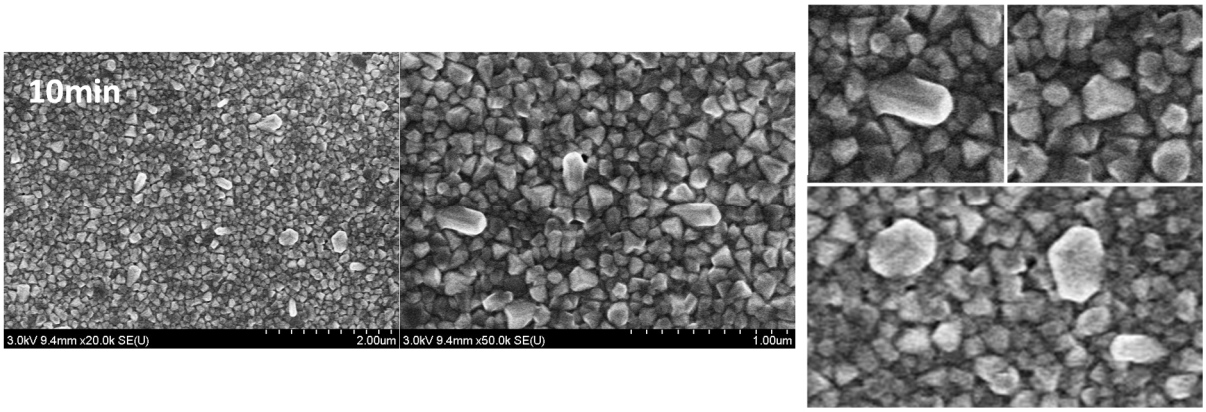


Figure S1. FE-SEM image showing various seed morphologies for perovskite nanostructures formed after 600 seconds of dipping in 0.063 M MAI solution.

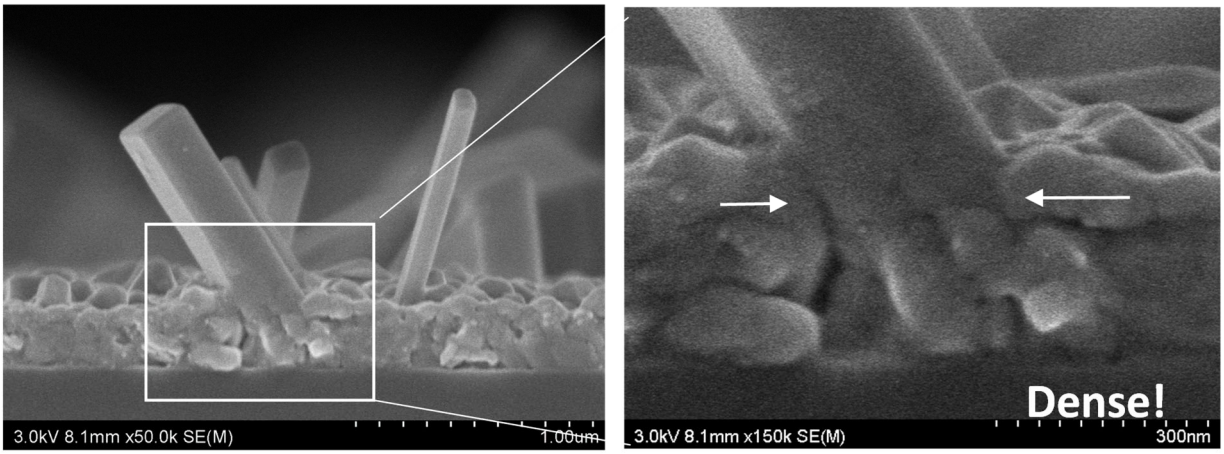


Figure S2. FE-SEM image showing the cross-sectional view of a perovskite nanorod.

The observation suggests that the nanostructure did not grow from a part of the grain, but rather, the entire grain itself acted as the seed.

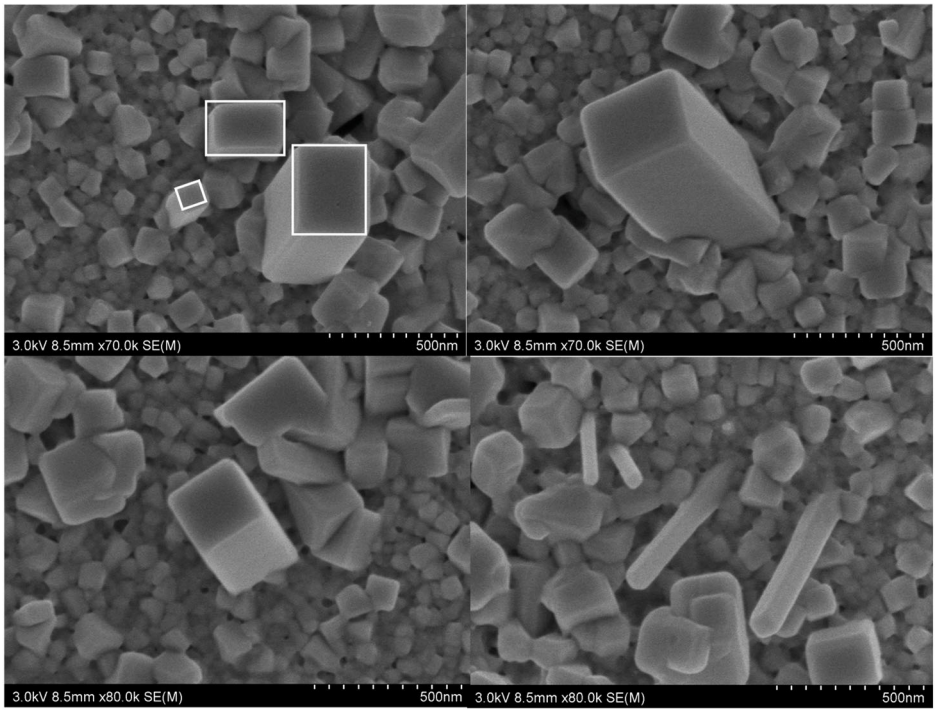


Figure S3. FE-SEM images showing the dimensional variation and aspect ratios of perovskite nanorods.

The cross-sectional dimensions and aspect ratios differ from rod to rod. The growth direction and initial cross-sectional size may depend on the local environment during seed formation.

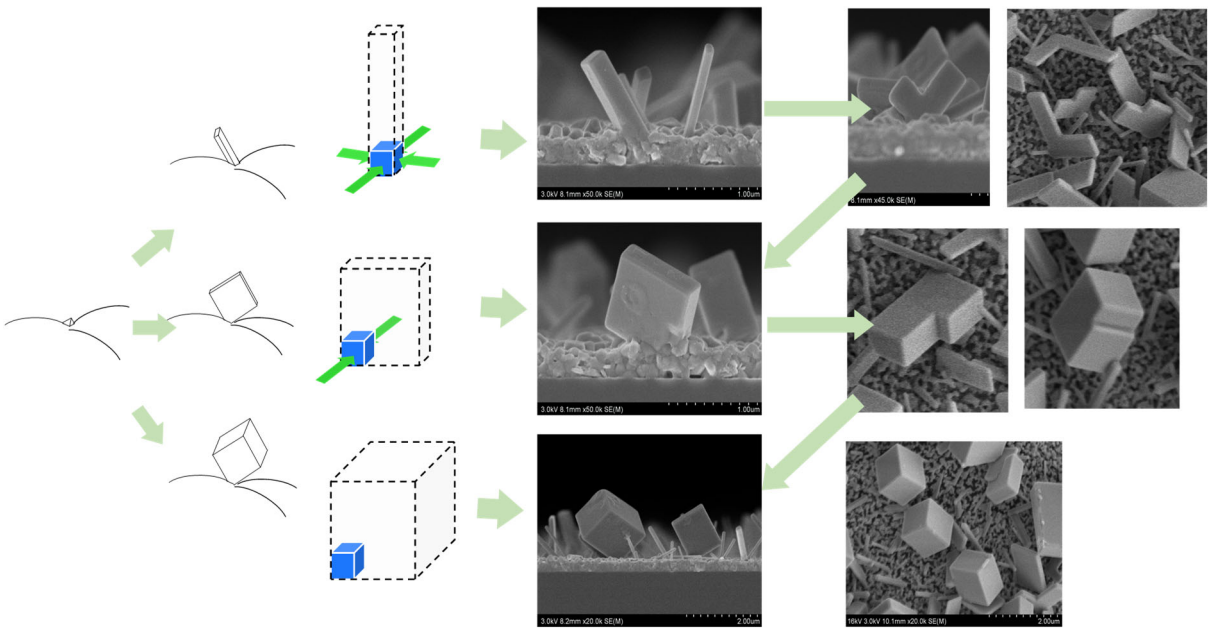


Figure S4. FE-SEM images of nanorods, plates, and cuboids exhibiting unique transitional shapes, such as rod-to-plate and plate-to-cuboid transformations.

These observations suggest that the compressive stress within the seed can be gradually released through the dissolution of surrounding pre-positioned grains. In other words, the shape of the nanostructure might be modulated by controlling the compressive stress,