

Nanocrystallization Strategies for Improving Stability of Perovskite Solar Cells

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Perovskite solar cells have attained tremendous interest due to their skyrocketing power conversion efficiency to 25.2% recently, becoming comparable to commercial silicon photovoltaics. However, there are still stability issues to be overcome for commercializing perovskite solar cells. Nanocrystal engineering can be one of the most effective strategies to improve the stability of perovskite devices. In particular, inorganic perovskite nanocrystals (NCs) have shown good potential as an emerging semiconducting building block owing to their excellent optoelectronic properties. In this work, we report a facile method for nanocrystallization of inorganic perovskite materials. We introduced the reprecipitation-based synthesis method, which facilitates the perovskite crystallization and leads to high chemical yield and stability. We believe our work would provide a widely utilizable method and an enormous promise for perovskite-based optoelectronic applications.