

Supporting Information

Investigating Perovskite Nanocrystal Stability through Polymer Encapsulation: A Nano-Array Method

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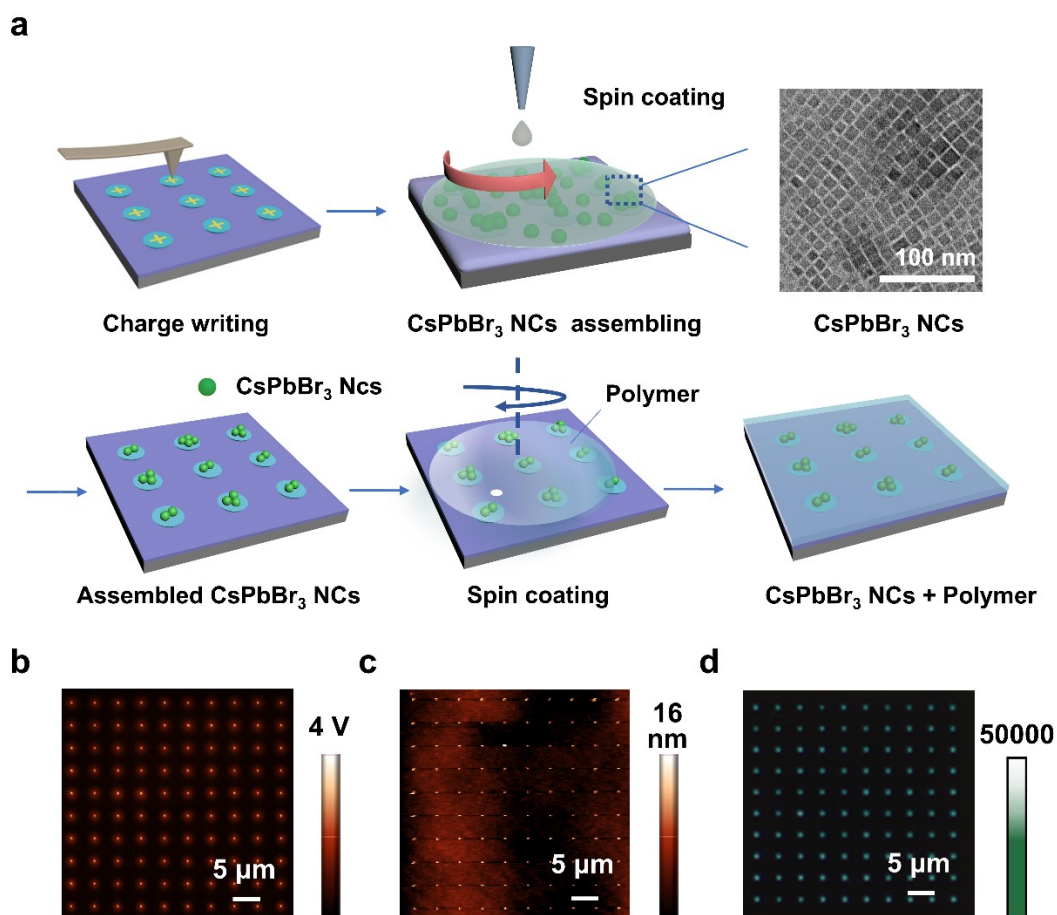


Figure S1. (a) Schematic illustration of the fabrication process involving charge patterning, NC deposition, and polymer coating. (b) Kelvin probe microscopy (KFM) image of the charged pattern on the substrate. (c, d) Atomic force microscopy (AFM) and fluorescence microscopy images of the assembled CsPbBr₃ NC array.

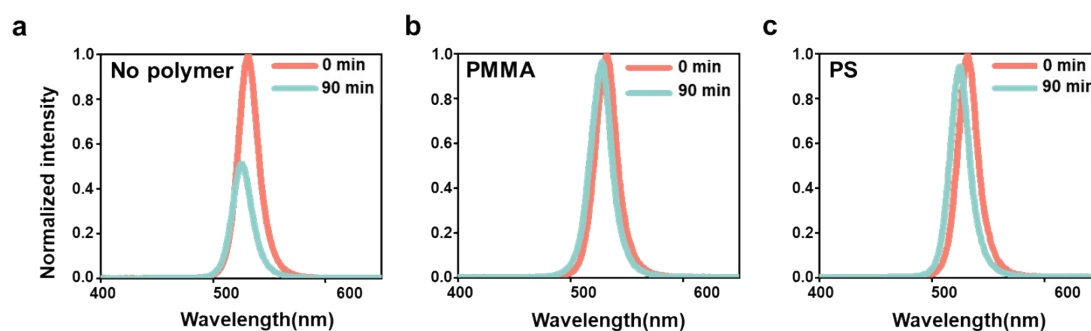


Figure S2. PL spectra of CsPbBr₃ NC arrays with (a) no polymer coating, (b) PMMA coating, and (c) PS coating, before and after 1.5 hours of storage in ambient conditions (room temperature, 50% humidity).

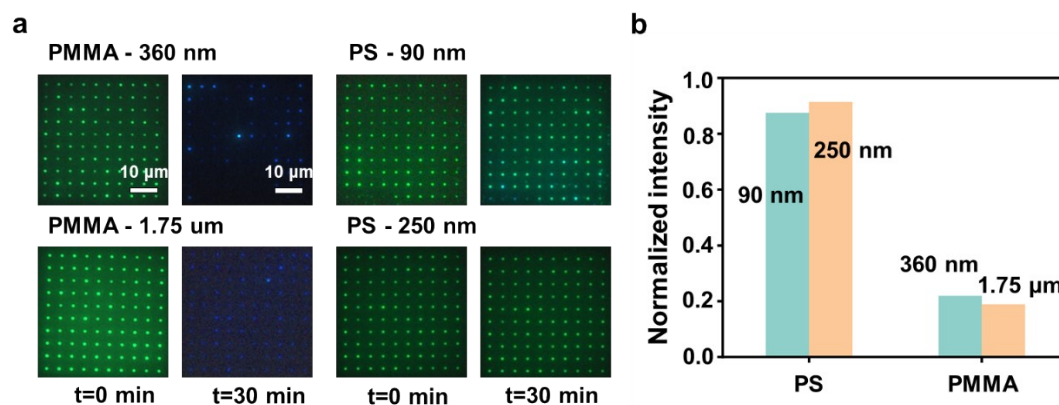


Figure S3. (a) PL images of CsPbBr₃ NC arrays with different polymer film thicknesses before and after 30 minutes of laser irradiation (8.1 mW/cm²). (b) Normalized PL intensity of individual CsPbBr₃ NC spots under different polymer thicknesses after 30 minutes of laser exposure.

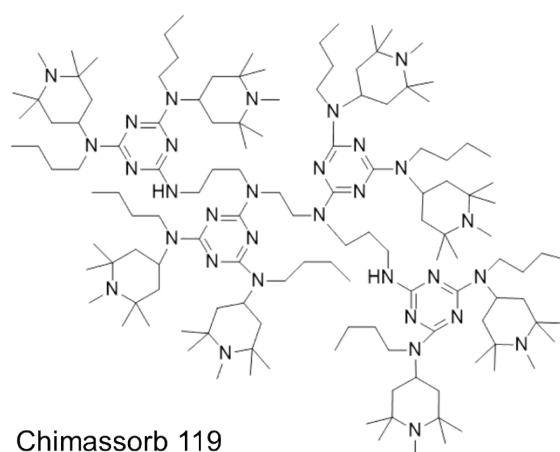


Figure S4. Molecular structures of Chimassorb 119.

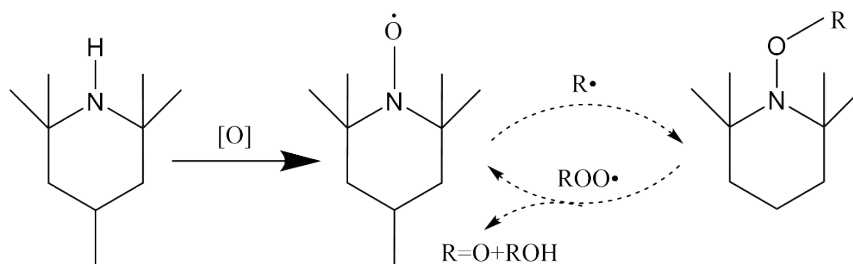


Figure S5. Schematic diagram for radical trap mechanism of Chimassorb 119.