

Supplementary information for:

## Swelling-processed High Luminescent Organic Perovskite with Superior Stability

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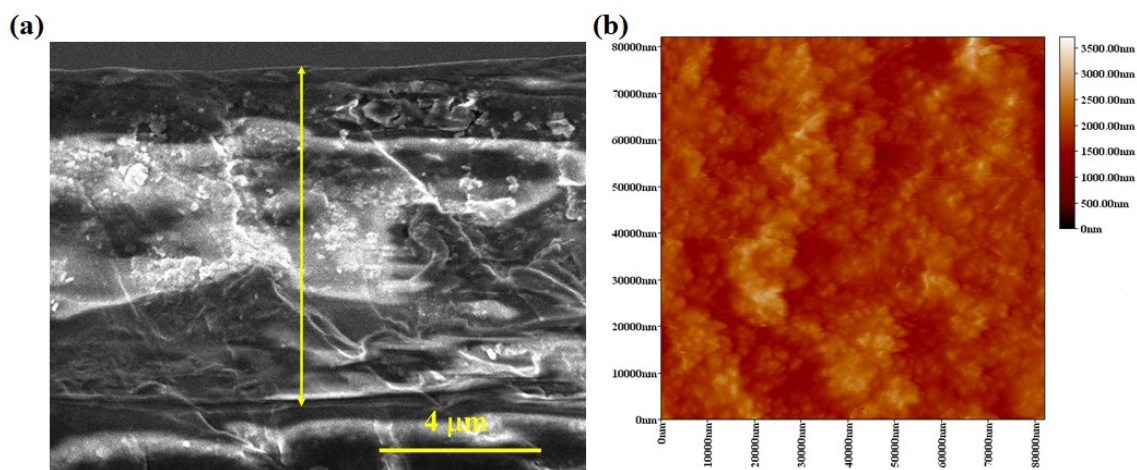


Fig. S1. (a) the SEM image of PVF/PVDF-CH<sub>3</sub>NH<sub>3</sub>PbBr<sub>3</sub> nanocrystals film cross section profile, (b) the AFM image of PVF/PVDF-CH<sub>3</sub>NH<sub>3</sub>PbBr<sub>3</sub> film surface.

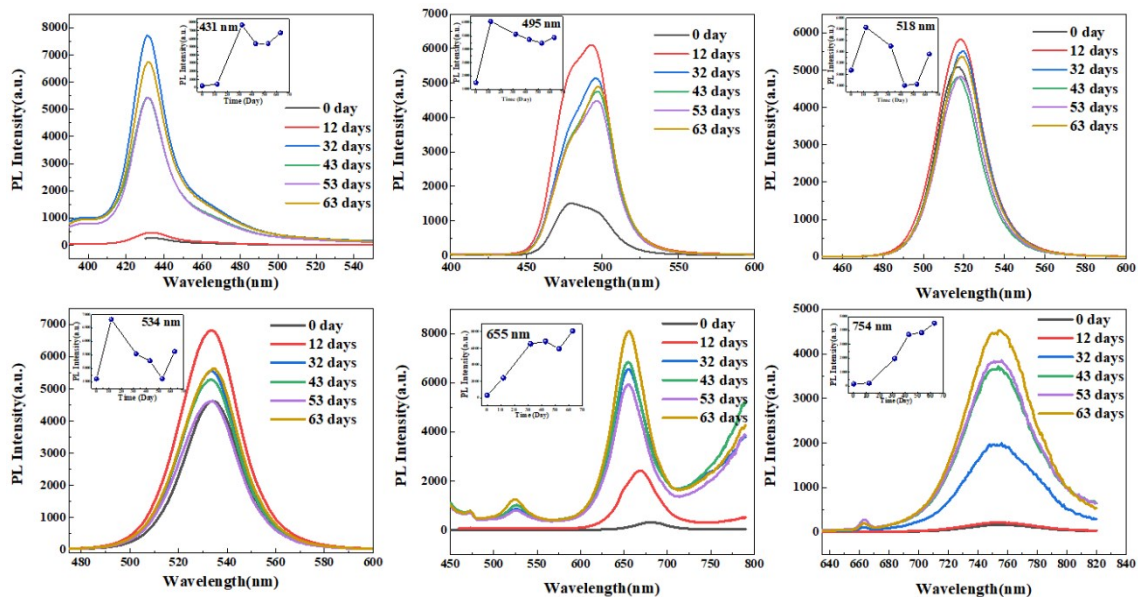


Fig. S2. PL intensity evolution of  $\text{CH}_3\text{NH}_3\text{PbBr}_n\text{I}_{3-n}$  and  $\text{CH}_3\text{NH}_3\text{PbCl}_n\text{I}_{3-n}$  film nanocrystals film in the air at room temperature for more than 63 days.

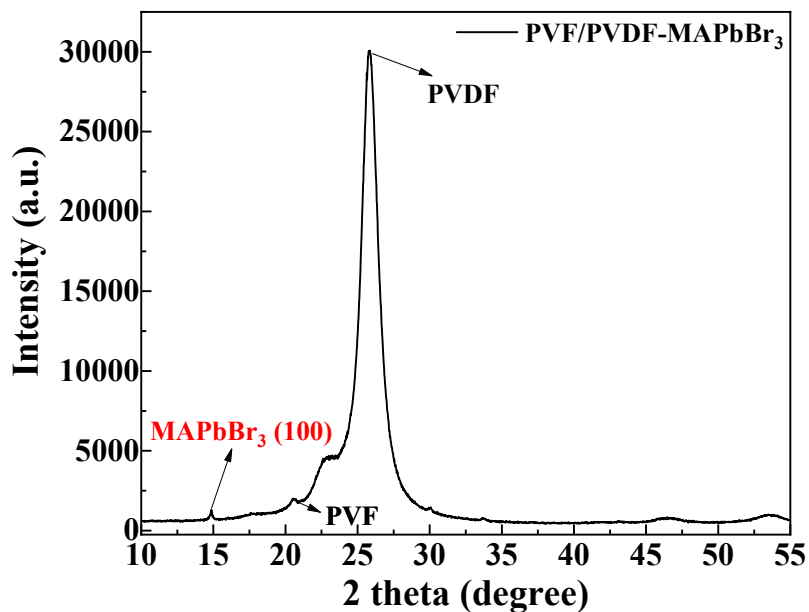


Fig. S3. XRD patterns of PVF/PVDF-MAPbBr<sub>3</sub> film.

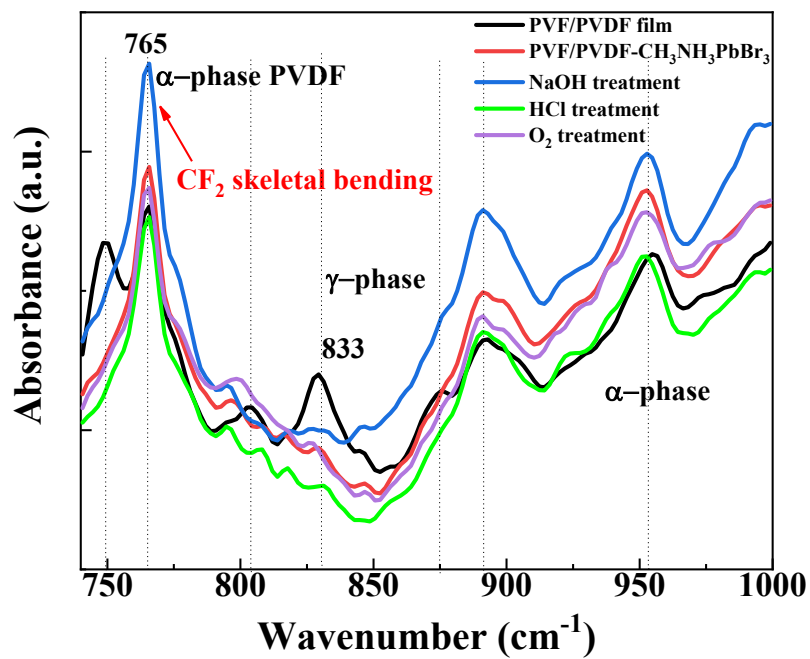


Fig. S4. FTIR spectra of PVF/PVDF film, PVF/PVDF-MAPbBr<sub>3</sub> film before and after NaOH, HCl, O<sub>2</sub> plasma treatment.