Supplementary information

Dual Additive Strategy for Ambient Blade-Coated $MAPbI_3$ Using a Green Ionic Liquid Solvent: Towards Fully Printable Perovskite Solar Cells with Carbon Electrodes

Saeed Rajabzade[a], Karim Abdizadeh[b],Hossein Taherianfard[c], Fariba Tajabadi[*d], Nima Taghavinia[*a,c]

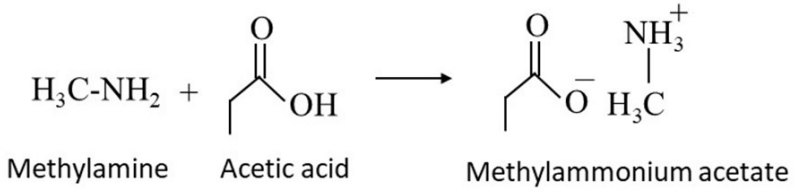

Fig.S1 Brønsted acid-base reaction of methylamine and acetic acid

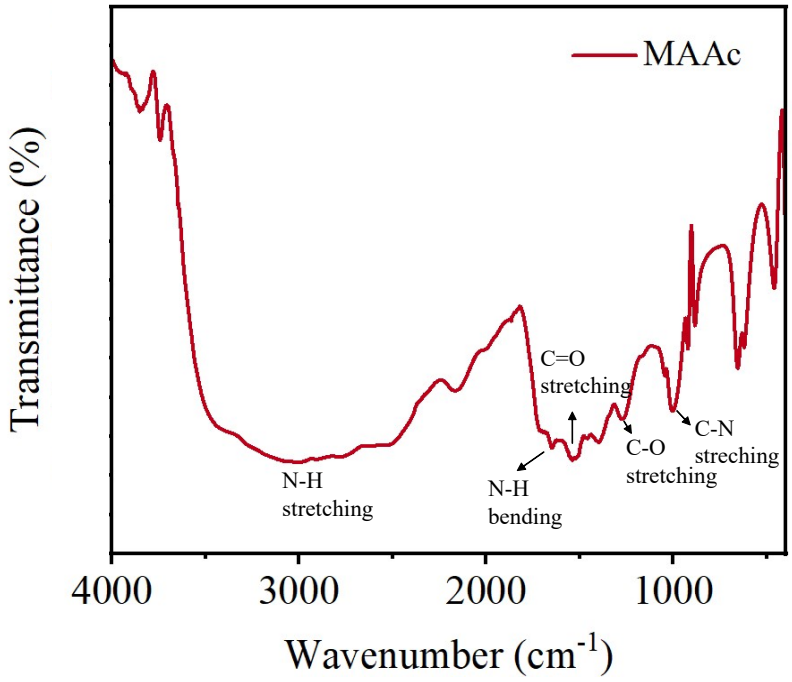

Fig. S2 FTIR spectra for MAAC. The characteristic signals of -NH and C=O and C-O are confirming the presence of methylammonium acetate

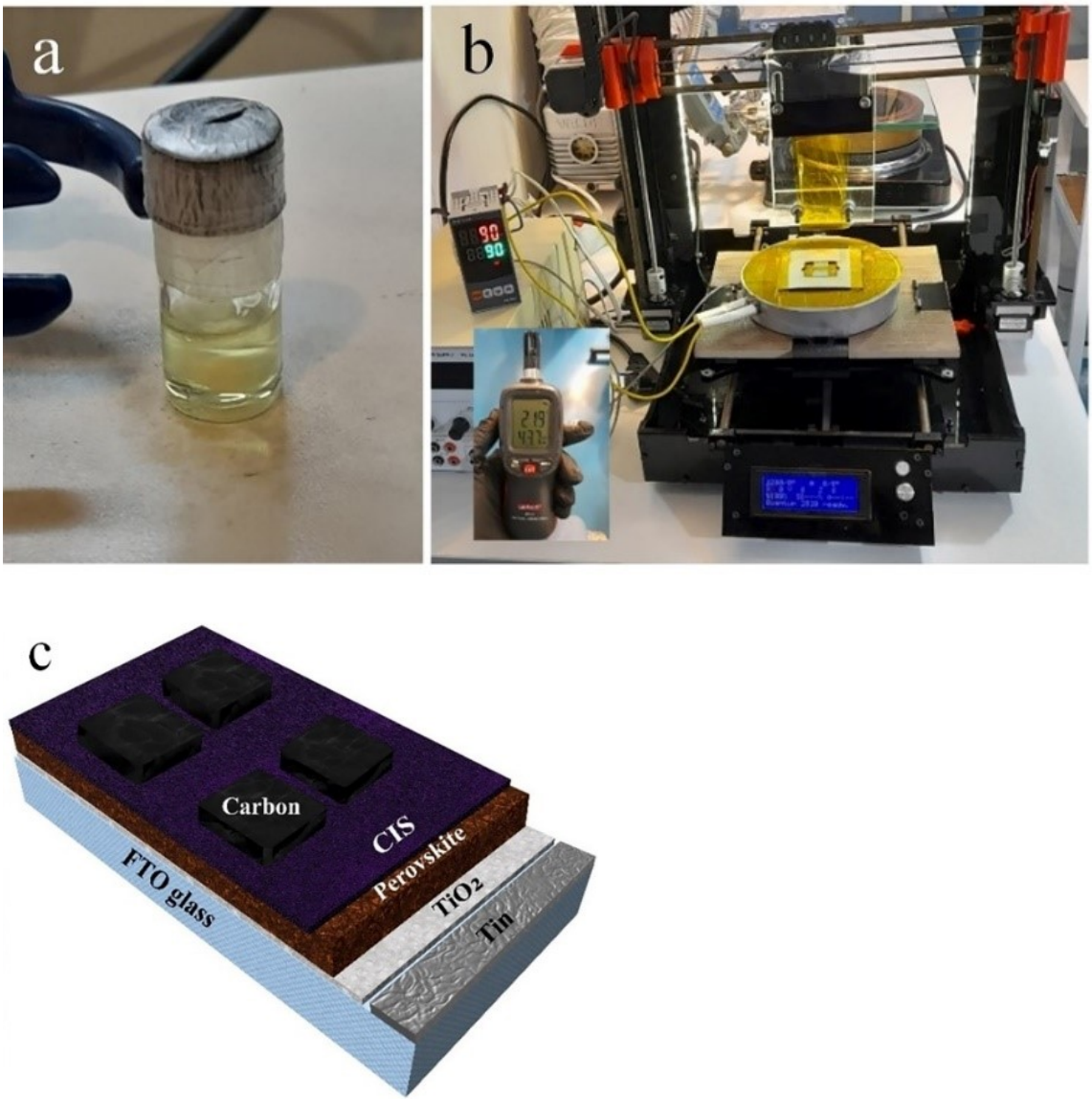

Fig. S3 a) Transparency of precursor solutions with dodecylpyridinium chloride (DPCl), showing solubility and homogeneity in MAAc solvent. **b)** The blade coating setup and environmental conditions used during the perovskite film deposition process.**c)** Schematic diagram of the device structure.

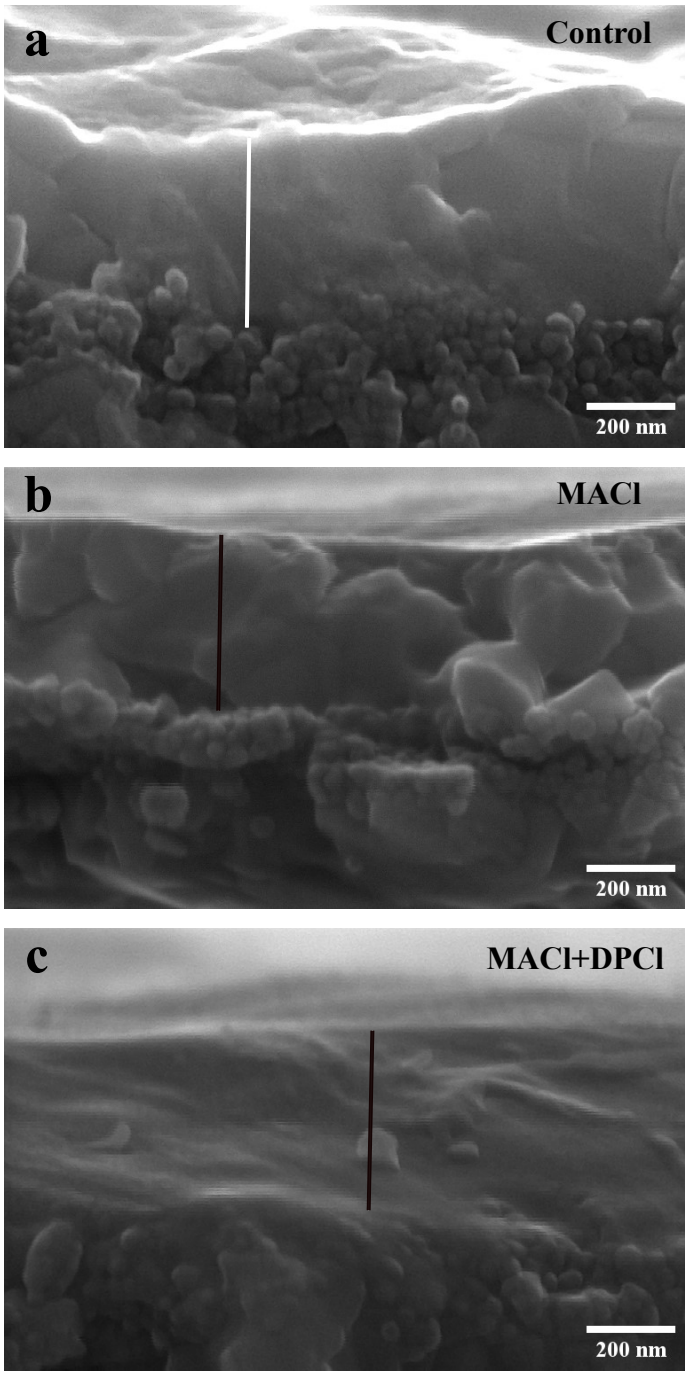

Fig. S4 Cross-sectional SEM images of **a)** Control perovskite film without chloride-based additives, **b)** with methylammonium chloride (MACl), and **c)** with both MACl and DPCl additives; the scale bar is 200 nm.