

Electronic supplementary information

A resistance change effect in perovskite $\text{CH}_3\text{NH}_3\text{PbI}_3$ films induced by ammonia

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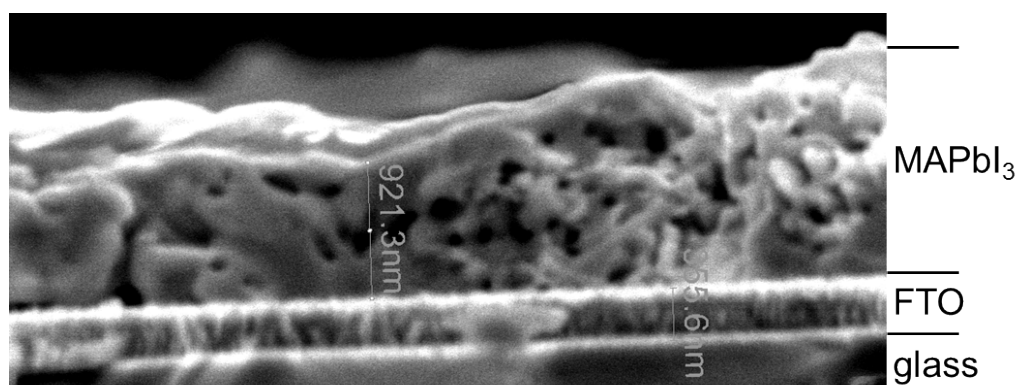


Fig. S1 The cross section SEM image of the pristine perovskite MAPbI_3 film, which indicates that the thickness of the film is about 1 μm .

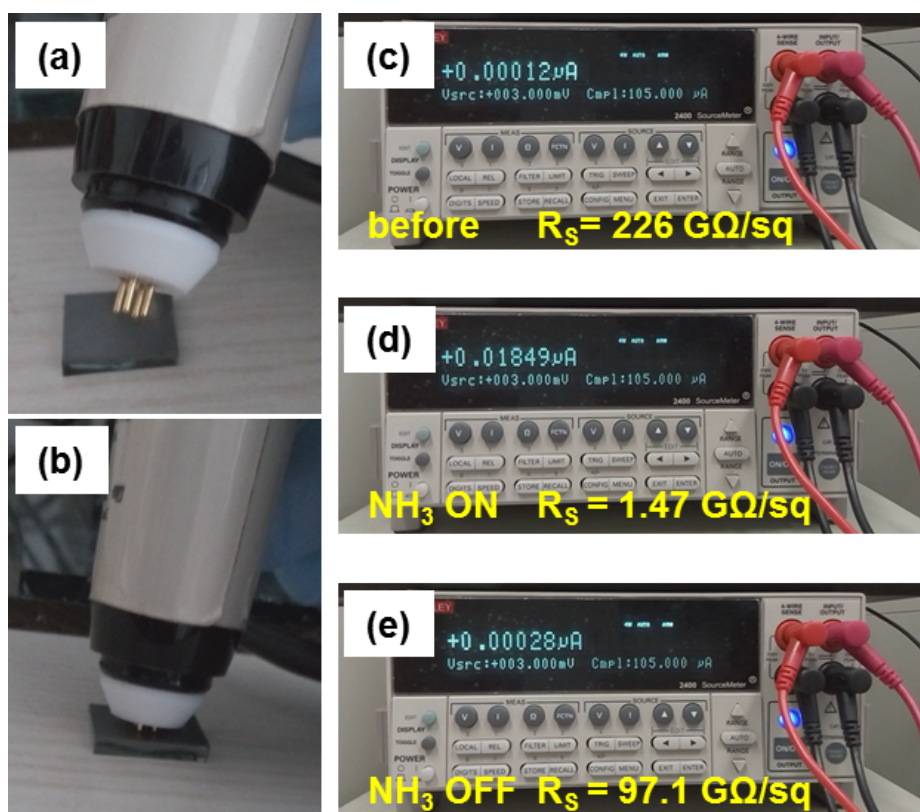


Fig. S2 (a) Photograph of the four copper probes used to measure the sheet resistance of the perovskite MAPbI₃ film. The perovskite MAPbI₃ film was deposited on the insulating side of a 1.5×1.5 cm² FTO glass. (b) During the measurement the probes were pressed to contact with the film. (c) Before the NH₃ ON, the measured sheet resistance of the pristine film is 226 GΩ/sq. (d) When the NH₃ is ON, the sheet resistance of the film decreased to 1.47 GΩ/sq. (e) After the NH₃ was removed, the sheet resistance of the film restored to a high value of 97.1 GΩ/sq.

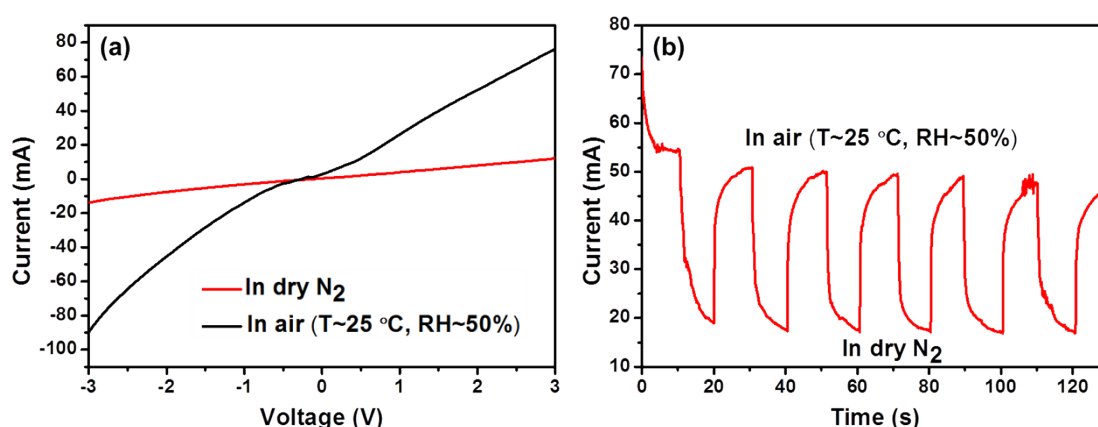


Fig. S3 (a) I-V curves of pristine perovskite MAPbI₃ in dry N₂ and moist air with a relative humidity of around 50% and temperature of around 25 °C. (b) I-t curve of the MAPbI₃ film when posited in dry N₂ and moist air alternatively with the applied voltage of 3 V.