Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

The Interaction between Hybrid Organic-Inorganic Halide Perovskite and Selective Contacts in Perovskite Solar Cells: an Infrared Spectroscopy Study

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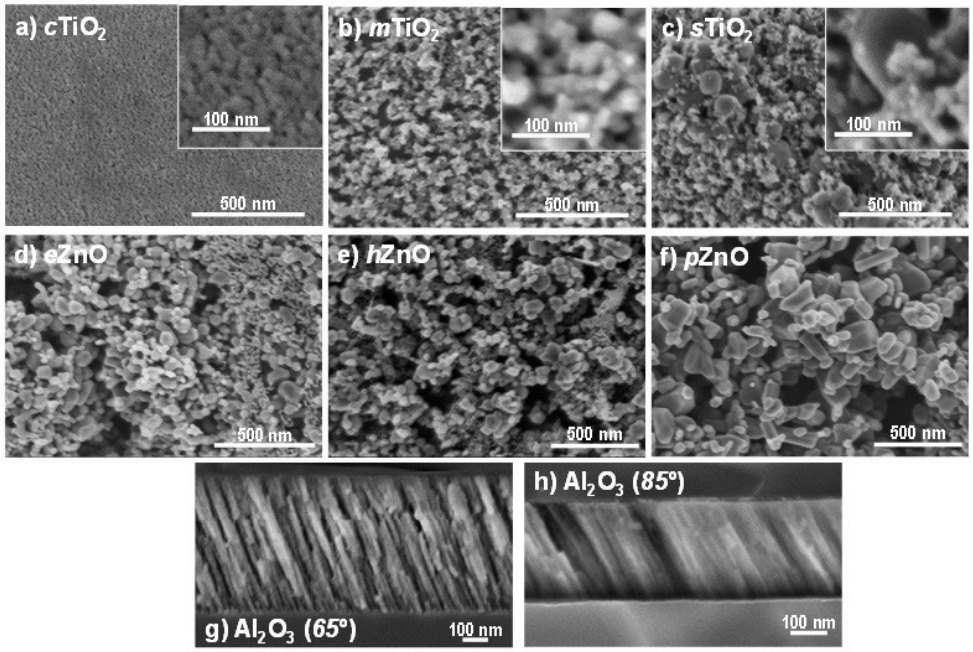


Figure S1: SEM a-f, normal view) and g-h) cross-section of different metal-oxide film employed as substrates. Insets in a-c) gather high magnification images showing the details of the TiO_2 particles.

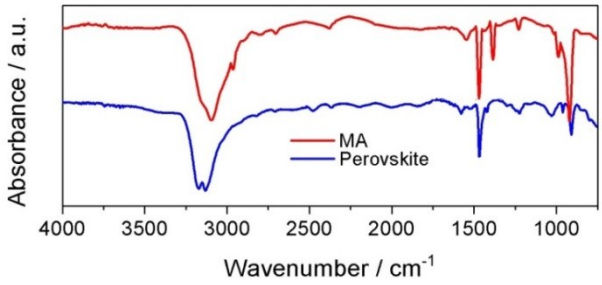


Figure S2: FTIR spectra of MA and $MAPbI_3$ deposited on m-TiO_2 film.

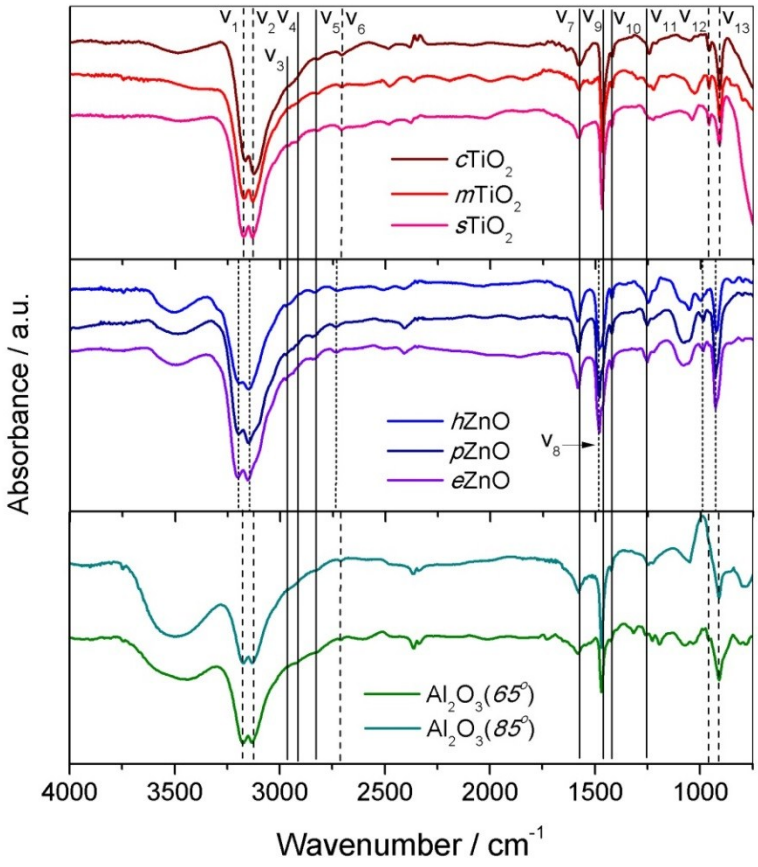


Figure S3: FTIR spectra of perovskite layer deposited on the different substrates in the range of 4000-750 cm^{-1}.

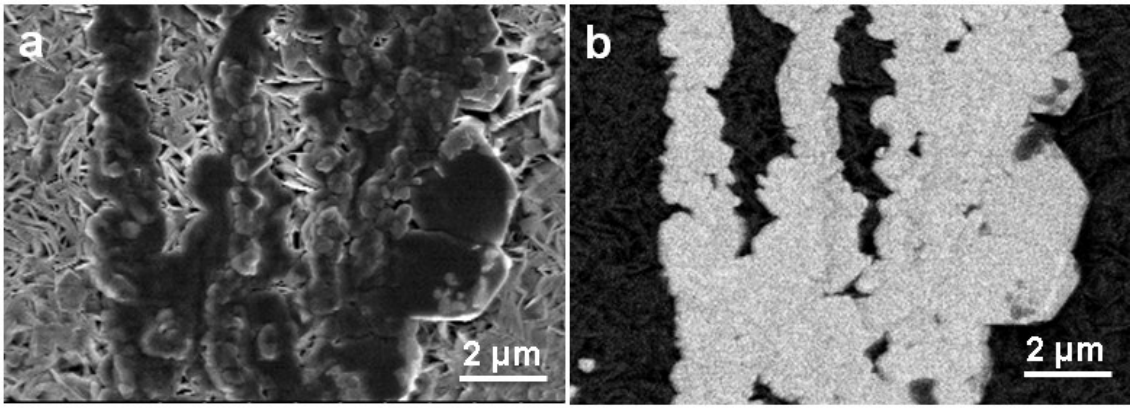


Figure S4: (a) SEM and (b) BSE images of perovskite deposited on *h*ZnO where the brighter features correspond to the perovskite in comparison to the darker contrast from the ZnO particles.

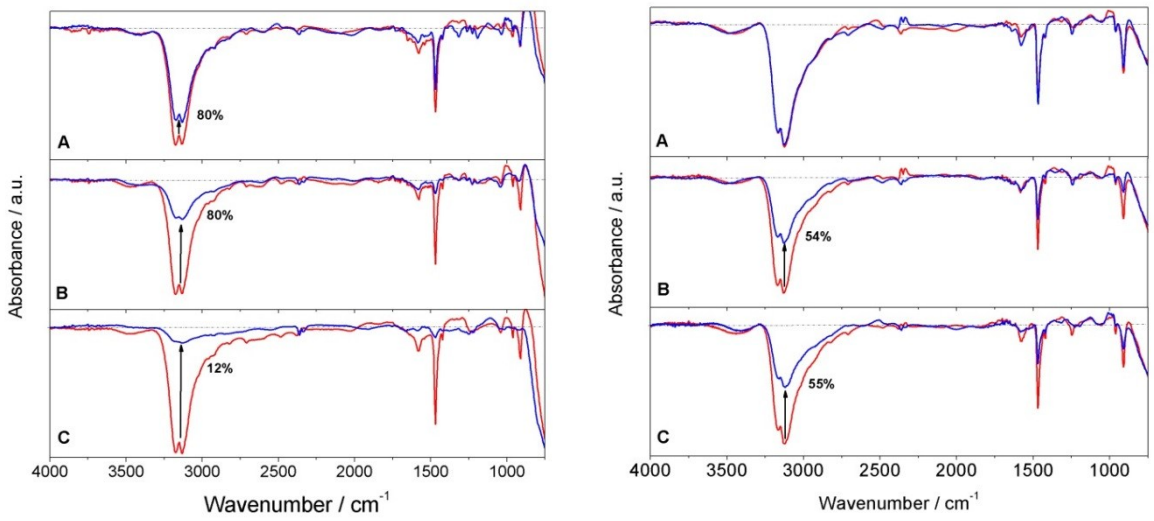


Figure S5: FT IR spectra of perovskite layer deposited on *s*TiO_2 (left) and *c*TiO_2 (right) films before (red line) and after (blue line) moisture exposure for (A) 1, (B) 3 and (C) 5 hours.

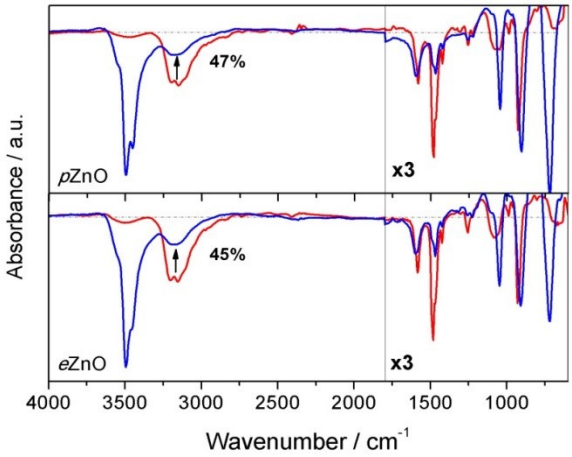


Figure S6: FTIR spectra of perovskite layer deposited on *p*ZnO and *e*ZnO films before (red line) and after (blue line) moisture exposure for 3 hours in the range of 4000-600 cm^{-1}.

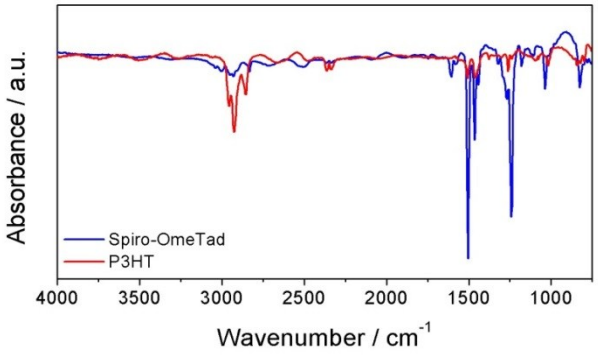
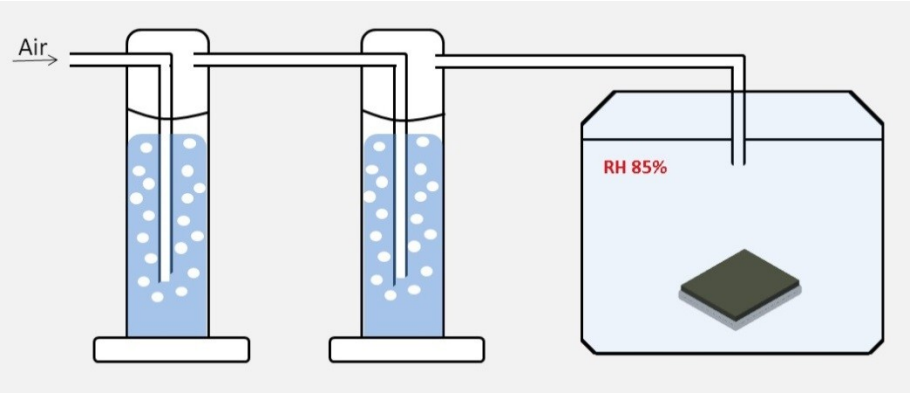


Figure S7: FTIR spectra of different HSMs deposited on bare-Si in the range of 4000-500 cm^{-1}.



Scheme 1: Schematic of system employed to submit the samples to controlled humid conditions.