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SUPPORTING INFORMATION

Effect of Different Lead Precursors in Perovskite Solar Cells Performance and Stability

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Figure S1: Absorption spectra of CH₃NH₃PbI₃ perovskite layers prepared with different precursors, no normalization has been applied.



Figure S2: SEM picture of $CH_3NH_3PbI_3$ perovskite layers grown on a flat substrate with (a) $PbCl_2$ and (b) $Pb(OAc)_2$ lead precursors, and on a substrate with mesoporous TiO_2 scaffold with (c) $PbCl_2$ and (d) $Pb(OAc)_2$ lead precursors. Scale bar represents 10 μ m.



Figure S3: SEM picture of CH₃NH₃PbI₃ perovskite layers grown on a flat substrate with (a) PbCl₂ and (b) Pb(OAc)₂ lead precursors, and on a substrate with mesoporous TiO₂ scaffold with (c) PbCl₂ and (d) Pb(OAc)₂ lead precursors. Scale bar represents 1 μ m.

Entry	Precursor	J _{sc} (mA/cm ²)	V _{oc} (V)	FF (%)	Efficiency (%)
1	PbCl ₂ time zero	15.29	0.831	69.31	8.7
2	PbCl ₂ two months	14.12	0.854	69.73	8.4
3	$Pb(OAc)_2$ time zero	15.02	0.839	62.73	7.9
4	$Pb(OAc)_2$ two months	11.95	0.865	63.90	6.6

Table S1: Cell performances of samples stored under conditions C (dark and N_2 atmosphere) during two months.



Figure S4: J-V curves for PSCs prepared with different lead precursors measured immediately after their preparation and two months after, during that period samples were stored at conditions C (dark and N_2 atmosphere). The parameters values were obtained from the J-V curves scanned from positive voltage to zero, at a scan rate of 50 mV·s⁻¹.



Figure S5: Absorbance at 750 nm of the perovskite films measured during 40 days. Perovskite films prepared on TiO_2 mesoporous substrates and stored under (a) air with light (Conditions A), (b) air without light (Conditions B) and (c) N_2 atmosphere without light (Conditions C).



Figure S6: Pictures of perovskite films taken at different times after film preparation. Perovkite films prepared on TiO_2 mesoporous substrates using PbCl₂ and Pb(OAc)₂ precursors. Samples were stored at different conditions: (a) air with light (Conditions A), (b) air without light (Conditions B) and (c) N₂ atmosphere without light (Conditions C).