

Table 1 performance comparisons evaluating the performance of this passivation technique and the fabricated perovskite composite in comparison to state-of-the-art works published recently

Perovskite composite	Device structure	Perovskite passivator	J_{SC} (mA·cm ⁻²)	V_{OC} (V)	FF (%)	PCE (%)	Humidity stability	Test conditions	Ref.
							T_{80} (hours)		
Cs _{0.065} (FA _{0.70} MA _{0.30}) _{0.935} Pb(I _{0.96} Br _{0.04}) ₃	FTO/SnO ₂ /perovskite/spiro-OMeTAD/Ag	D-PFPAA	23.50	1.15	79.80	21.56	500	45% RH*	This work
Cs _{0.05} (FA _{0.83} MA _{0.17}) _{0.95} Pb(I _{0.83} Br _{0.17}) ₃	FTO/SnO ₂ /perovskite/spiro-OMeTAD/Au	Fe	24.11	1.14	78.01	21.51	-	-	1
Cs _{0.05} (FA _{0.85} MA _{0.15}) _{0.95} Pb(I _{0.85} Br _{0.15}) ₃	ITO/SnO ₂ /perovskite/spiro-OMeTAD/Au	PTI	21.79	1.13	77.85	19.12	350	25-45% RH	2
Cs _{0.05} FA _{0.80} MA _{0.15} Pb(I _{0.85} Br _{0.15}) ₃	ITO/SnO ₂ /perovskite/spiro-OMeTAD/MoO ₃ /Ag	PFPAA	23.68	1.19	79.37	22.42	350	45% RH	3
Cs _{0.05} (FA _{0.90} MA _{0.10}) _{0.95} Pb(I _{0.90} Br _{0.10}) ₃	ITO/SnO ₂ /perovskite/spiro-OMeTAD/Ag	DMAEMA	23.86	1.10	82.00	21.52	-	-	4
Cs _{0.175} FA _{0.75} MA _{0.075} PbI _{2.92} Br _{0.08}	FTO/SnO ₂ /perovskite/spiro-OMeTAD/Au	Thymine	24.07	1.02	78.96	19.46	750	50 ± 5% RH	5
Cs _{0.05} (FA _{0.83} MA _{0.17}) _{0.95} Pb(I _{0.83} Br _{0.17}) ₃	FTO/TiO ₂ /perovskite/spiro-OMeTAD/Au	PrCl ₃	22.73	1.06	76.00	18.56	90	50% RH	6
Cs _{0.05} (FA _{0.85} MA _{0.15}) _{0.95} PbI _{2.55} Br _{0.45}	FTO/TiO ₂ /perovskite/spiro-OMeTAD/Au	PFAD	24.04	1.11	76.27	20.48	840	30% RH	7
Cs _{0.05} (FA _{0.83} MA _{0.17}) _{0.95} Pb(I _{0.83} Br _{0.17}) ₃	FTO/SnO ₂ /perovskite/spiro-OMeTAD/Au	CHEA	23.23	1.17	79.14	21.53	720	15% RH	8
Cs _{0.05} (FA _{0.85} MA _{0.15}) _{0.95} Pb(I _{0.85} Br _{0.15}) ₃	FTO/SnO ₂ /perovskite/spiro-OMeTAD/Ag	APMS	23.03	1.15	78.20	20.72	200	50-60% RH	9
Cs _{0.05} (FA _{0.85} MA _{0.15}) _{0.95} Pb(I _{0.85} Br _{0.15}) ₃	ITO/SnO ₂ /perovskite/spiro-OMeTAD/Ag	SDBS	23.54	1.13	78.50	20.88	475	40 ± 5% RH	10

* RH: relative humidity

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