

用于太阳能电池钙钛矿前体的高纯碘化铅(II)

Lead(II) Iodide [for Perovskite precursor] (99.99%, trace metal basis)

1g / 5g / 25g / 100g / 1kg [L0279]

优势

- 含水量极低的PbI₂ [L0279]可以制备高浓度澄清的DMF溶液。
- 制造高效的钙钛矿太阳能电池器件 (PCE>10%)，重复性高。

TCI的PbI₂ [L0279]和市面上产品的对比

PbI₂ [L0279]



结晶固体



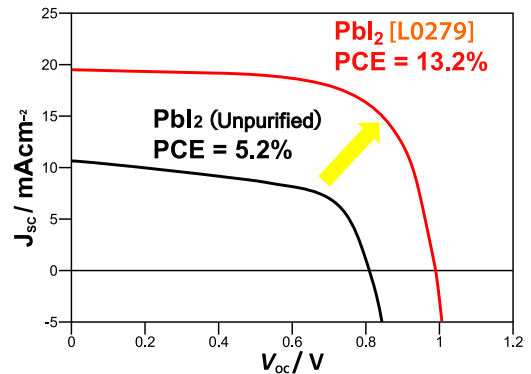
DMF soln.
(澄清的, 1M)

市面上其它产品



DMF soln.
(浑浊的)

PCE



参考文献 A. Wakamiya, M. Endo, Y. Murata, Patent, Appl. No. JP2015-138822; A. Wakamiya, S. Hayase, Y. Murata, *Chem. Lett.* **2014**, 43, 711.

PbI₂ [L0279]有助于形成高效稳定的大面积的钙钛矿太阳能电池

PSC器件系统	PCE	有效面积大小	稳定性和条件	参考文献
(FAPbI ₃) _{0.85} (MAPbI ₃) _{0.15} PTAA, SnO ₂ , ALD method	20%	0.16 cm ²	90 days, RH 20% in dark, uncapsulated	Lee, Nazeeruddin <i>et al.</i> , <i>Adv. Sci.</i> 2018 , 1800130.
(Rb/Cs/MA/FA)PbI ₃ Spiro-OMeTAD, TiO ₂	19%	0.5 cm ²	500 H, 85 deg-C, under full solar illumination, polymer coated	Gratzel <i>et al.</i> , <i>Science</i> 2016 , 354, 206.
BA _{0.05} (FA _{0.83} Cs _{0.17})Pb(I _{0.8} Br _{0.2}) ₃ Spiro-OMeTAD, PCBM, SnO ₂	17.5%	0.0919 cm ²	1000 H in air, 4000 H in encapsulated	Snaith <i>et al.</i> , <i>Nat. Energy</i> 2017 , 2, 17135.
FA _{0.98} Cs _{0.02} PbI ₃ Spiro-OMeTAD, SnO ₂ , Adduct approach	19.34%	0.1 cm ²	-	Yang <i>et al.</i> , <i>J. Am. Chem. Soc.</i> 2018 , 140, 6317.
MAPbI ₃ Spiro-OMeTAD, PMMA, TiO ₂	19.9%	0.1 cm ²	40 days, RH 40% in dark	Wakamiya, Matsuda <i>et al.</i> , <i>Adv. Mater. Interfaces</i> 2018 , 5, 1701256.
FA _{0.5} MA _{0.5} Sn _{0.5} Pb _{0.5} I ₃ PEDOT:PSS, PCBM, C ₆₀ , BCP	17.6%	0.1 cm ²	-	Kapil, Segawa, Hayase <i>et al.</i> , <i>Nano Lett.</i> 2018 , 18, 3600.
(FAPbI ₃) _{0.85} (MAPbI ₃) _{0.15} Spiro-OMeTAD, SnO ₂ , ALD method	18%	0.16 cm ²	30 days, uncapsulated, in dry air	Baena, Hagfeldt <i>et al.</i> , <i>Energy Environ. Sci.</i> 2015 , 8, 2928.
(FAPbI ₃) _{0.83} (MAPbI ₃) _{0.17} NiO, PCBM, SnO ₂ /ZTO, ALD method, with Si tandem	23.6%	1 cm ²	1000 H, 85 deg-C, RH 85%	McGehee <i>et al.</i> , <i>Nat. Energy</i> 2017 , 2, 17009.
(5-AVA) _x (MA) _{1-x} PbI ₃ TiO ₂ /ZnO ₂ /Carbon, Monolithic solar module	10.74%	70 cm ²	2000 H, 25-30 deg-C, RH 65-70%	Mhaisalkar <i>et al.</i> , <i>Energy Environ. Sci.</i> 2016 , 9, 3687.

该材料是与Atsushi Wakamiya教授合作生产的。

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相关产品

阳离子 \ 阴离子	碘化物	溴化物	氯化物
Lead	L0279	L0288	L0291, L0292
Cesium	C2205	C2202	C2203
Bismuth	B5787	B6339	B3546
Methylammonium	M2556	M2589	M0138
Formamidinium	F0974	F0973	F0103
Acetamidinium	A2902	A3292	A0008
Guanidinium	G0450	G0449	G0162
Ethylammonium	E1045	E0056	E0205
Propylammonium	P2212	P2502	P0522
Isopropylammonium	-	I1041	I0166
Butylammonium	B4433	B5186	B0710
Isobutylammonium	I0935	I1007	I0096
tert-Butylammonium	B4434	B5187	-
Dimethylammonium	D4555	D5092	-
Diethylammonium	D4643	D4667	D0468
Imidazolium	I0970	I1006	-
Phenylammonium	A2778	A2985	-
Benzylammonium	B4566	B5185	B0407
2-Phenylethylammonium	-	-	-
5-Aminovaleric Acid	A2984	A3094	A0436

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