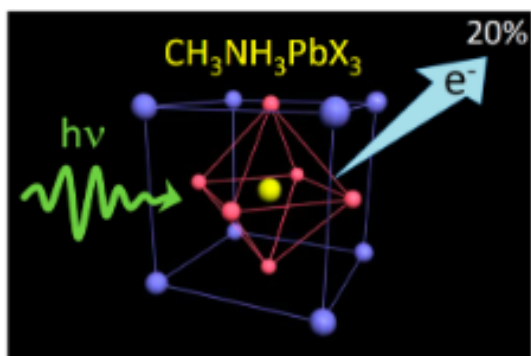


Perovskite Hybrid Solar Cell



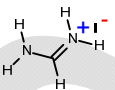
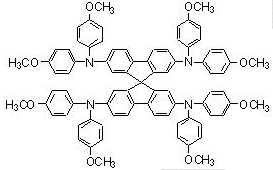
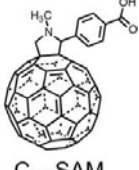
1-Material Inc
2290 Chemin St-Francois
Dorval, Quebec
H9P 1K2, Canada



Perovskite sensitizer made a breakthrough in solid-state mesoscopic solar cells, where the first record efficiency of ~10% was reported in 2012 using submicrometer-thick TiO₂ film sensitized with **CH₃NH₃PbI₃**. A rapid increase in efficiency over 16% followed shortly. On the basis of the recent achievements, a power conversion efficiency as high as 20% is expected based on optimized perovskite-based solid-state solar cells.

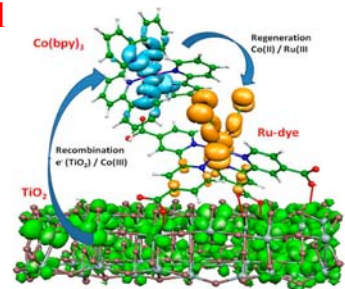
Ref: J. Phy. Chem. Lett. (2013), 4(15), 2423

I-Materials for your further advancement in PEROVSKITE Hybrid Solar Cell

Formula/Structure	CAS No.	Chemical Name	Specification	IM No.
CH ₃ NH ₃ PbI ₃	69507-98-8	Methylammonium lead-iodide	Black powder Yellow solution -40% γ -butyrolactone	OS0998 OS0998-40
CH ₃ NH ₃ I	14965-49-2	Methylammonium iodide	Crystal	IT0492
CH ₃ NH ₃ Br	6876-37-5	Methylammonium bromide	White flake	IT0375
	879643-71-7	Formamidinium iodide	White Powder	IT0717
CH ₃ NH ₃ SnI ₃	67908-87-6	Methylammonium tin triiodide	Yellow powder	OS0876
	207739-72-8	Spiro-OMeTAD 2,2',7,7'-Tetrakis[N,N-di(4-methoxyphenyl)amino]-9,9'-spirobifluorene	Light yellow crystal 99.5%	HT0728
 C ₆₀ -SAM	631918-72-4	C60-SAM Self-Assembly Material for organic electronic devices	Brown powder 99.9%	OS0724

For more information, please contact: info@1-material.com

Perovskite Hybrid Solar Cell



Cobalt Complexes

LIMITED RELEASE

Structure	CAS No.	Common Name/ Chemical Name/Formula	IM No.
	1346416-70-3	FK102-Co(III) Cobalt(3+), tris[2-(1 <i>H</i> -pyrazol-1-yl-κ <i>N</i> ²)pyridine-κ <i>N</i>]-, (<i>OC</i> -6-22)- C ₂₄ H ₂₁ Co N ₉	OS0703
	1392221-68-9	FK102-Co(II) Cobalt(3+), tris[2-(1 <i>H</i> -pyrazol-1-yl-κ <i>N</i> ²)pyridine-κ <i>N</i>]-, (<i>OC</i> -6-22)- C ₂₄ H ₂₁ Co N ₉	OS0689
	1346416-71-4	FK102Co(III) PF6 salt Cobalt(3+), tris[2-(1 <i>H</i> -pyrazol-1-yl-κ <i>N</i> ²)pyridine-κ <i>N</i>]-, (<i>OC</i> -6-22)-, hexafluorophosphate(1-) (1:3) C ₂₄ H ₂₁ Co N ₉ · 3 F ₆ P	OS0714
	1392221-69-0	FK102Co(II) PF6 salt Cobalt(2+), tris[2-(1 <i>H</i> -pyrazol-1-yl-κ <i>N</i> ²)pyridine-κ <i>N</i>]-, (<i>OC</i> -6-22)-, hexafluorophosphate(1-) (1:2) C ₂₄ H ₂₁ Co N ₉ · 2 F ₆ P	OS0690
	na	FK102Co(III) TFSI salt Cobalt(3+), tris[2-(1 <i>H</i> -pyrazol-1-yl-κ <i>N</i> ²)pyridine-κ <i>N</i>]- salt with 1,1,1-trifluoro- <i>N</i> -[(trifluoromethyl)sulfonyl]methanesulfonamide (1:3) C ₂₄ H ₂₁ Co N ₉ · 3 C ₂ F ₆ N O ₄ S ₂	OS1033
	na	FK102Co(II) TFSI salt Cobalt(2+), tris[2-(1 <i>H</i> -pyrazol-1-yl-κ <i>N</i> ²)pyridine-κ <i>N</i>]- salt with 1,1,1-trifluoro- <i>N</i> -[(trifluoromethyl)sulfonyl]methanesulfonamide (1:2) C ₂₄ H ₂₁ Co N ₉ · 3 C ₂ F ₆ N O ₄ S ₂	OS1022
	1447938-61-5	FK209 Tris(2-(1 <i>H</i> -pyrazol-1-yl)-4- <i>tert</i> -butylpyridine)cobalt(III) Tris(bis(trifluoromethylsulfonyl)imide)) C ₃₆ H ₄₅ Co N ₉ · 3 C ₂ F ₆ N O ₄ S ₂	OS0615
	1447938-63-7	FK269 Cobalt(3+), bis[2,6-di(1 <i>H</i> -pyrazol-1-yl-κ <i>N</i> ²)pyridine-κ <i>N</i>]-, (<i>OC</i> -6-11')-, salt with 1,1,1-trifluoro- <i>N</i> -[(trifluoromethyl)sulfonyl]methanesulfonamide (1:3) C ₂₂ H ₁₈ Co N ₁₀ · 3 C ₂ F ₆ N O ₄ S ₂	OS0637

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