Kai Zhu

List of Publications by Year in Descending Order

197 papers	26,008 citations	85 h-index	160 g-index
210 ext. papers	30,322 ext. citations	17.6 avg, IF	7.72 L-index

#	Paper	IF	Citations
197	Metastable Dion-Jacobson 2D structure enables efficient and stable perovskite solar cells. *Science*, **2022**, 375, 71-76	33.3	51
196	Atomically Resolved Electrically Active Intragrain Interfaces in Perovskite Semiconductors.. *Journal of the American Chemical Society*, **2022**,	16.4	7
195	Construction of reduced graphene oxide coupled with CoSe-MoSe heterostructure for enhanced electrocatalytic hydrogen production. *Journal of Colloid and Interface Science*, **2022**, 608, 922-930	9.3	3
194	Incorporation of 2D Perovskite Systems into 3D Perovskite Solar Cells **2022**, 81-114		
193	Nanoscale Photoexcited Carrier Dynamics in Perovskites.. *Journal of Physical Chemistry Letters*, **2022**, 2388-2395	6.4	0
192	Advances in SnO for Efficient and Stable n-i-p Perovskite Solar Cells.. *Advanced Materials*, **2022**, e2110438	24	25
191	Mixing Matters: Nanoscale Heterogeneity and Stability in Metal Halide Perovskite Solar Cells. *ACS Energy Letters*, **2022**, 7, 471-480	20.1	6
190	Reliable Go Game Images Recognition Under Strong Light Attack. *IEEE Access*, **2021**, 9, 160064-160071	3.5	0
189	Surface lattice engineering through three-dimensional lead iodide perovskitoid for high-performance perovskite solar cells. *CheM*, **2021**, 7, 774-785	16.2	18
188	High-performance methylammonium-free ideal-band-gap perovskite solar cells. *Matter*, **2021**, 4, 1365-1376	17.7	23
187	3D/2D passivation as a secret to success for polycrystalline thin-film solar cells. *Joule*, **2021**, 5, 1057-1073	27.8	19
186	Prospects for metal halide perovskite-based tandem solar cells. *Nature Photonics*, **2021**, 15, 411-425	33.9	52
185	Breakthrough: Phase-Pure 2D Perovskite Films. *Joule*, **2021**, 5, 14-15	27.8	4
184	Efficient and Stable Graded CsPbI3−xBrx Perovskite Solar Cells and Submodules by Orthogonal Processable Spray Coating. *Joule*, **2021**, 5, 481-494	27.8	34
183	Wide-Bandgap Metal Halide Perovskites for Tandem Solar Cells. *ACS Energy Letters*, **2021**, 6, 232-248	20.1	26
182	SMART Perovskite Growth: Enabling a Larger Range of Process Conditions. *ACS Energy Letters*, **2021**, 6, 650-658	20.1	4
181	In situ Al2O3 incorporation enhances the efficiency of CuIn(S,Se)2 solar cells prepared from molecular-ink solutions. *Journal of Materials Chemistry A*, **2021**, 9, 10419-10426	13	2

180	Performance and limits of 2.0 eV bandgap CuInGaS2 solar absorber integrated with CdS buffer on F:SnO2 substrate for multijunction photovoltaic and photoelectrochemical water splitting devices. *Materials Advances*, **2021**, 2, 5752-5763	3.3	2
179	Investigating the iodide and bromide ion exchange in metal halide perovskite single crystals and thin films. *Chemical Communications*, **2021**, 57, 6125-6128	5.8	1
178	Reconfiguring the band-edge states of photovoltaic perovskites by conjugated organic cations. *Science*, **2021**, 371, 636-640	33.3	69
177	Unraveling the surface state of photovoltaic perovskite thin film. *Matter*, **2021**, 4, 2417-2428	12.7	9
176	Superior photo-carrier diffusion dynamics in organic-inorganic hybrid perovskites revealed by spatiotemporal conductivity imaging. *Nature Communications*, **2021**, 12, 5009	17.4	3
175	Metastable Dion-Jacobson 2D structure enables efficient and stable perovskite solar cells. *Science*, **2021**, eabj2637	33.3	2
174	Choose Your Own Adventure: Fabrication of Monolithic All-Perovskite Tandem Photovoltaics. *Advanced Materials*, **2020**, 32, e2003312	24	23
173	The 2020 photovoltaic technologies roadmap. *Journal Physics D: Applied Physics*, **2020**, 53, 493001	3	128
172	Enhancing Charge Transport of 2D Perovskite Passivation Agent for Wide-Bandgap Perovskite Solar Cells Beyond 21%. *Solar Rrl*, **2020**, 4, 2070065	7.1	1
171	Efficient tandem solar cells with solution-processed perovskite on textured crystalline silicon. *Science*, **2020**, 367, 1135-1140	33.3	298
170	Enhancing Charge Transport of 2D Perovskite Passivation Agent for Wide-Bandgap Perovskite Solar Cells Beyond 21%. *Solar Rrl*, **2020**, 4, 2000082	7.1	46
169	Efficient, stable silicon tandem cells enabled by anion-engineered wide-bandgap perovskites. *Science*, **2020**, 368, 155-160	33.3	240
168	An analysis of carrier dynamics in methylammonium lead triiodide perovskite solar cells using cross correlation noise spectroscopy. *Applied Physics Letters*, **2020**, 116, 253902	3.4	4
167	Advances in two-dimensional organic–inorganic hybrid perovskites. *Energy and Environmental Science*, **2020**, 13, 1154-1186	35.4	239
166	Investigating the Effects of Chemical Gradients on Performance and Reliability within Perovskite Solar Cells with TOF-SIMS. *Advanced Energy Materials*, **2020**, 10, 1903674	21.8	29
165	From Defects to Degradation: A Mechanistic Understanding of Degradation in Perovskite Solar Cell Devices and Modules. *Advanced Energy Materials*, **2020**, 10, 1904054	21.8	119
164	26.7% Efficient 4-Terminal Perovskite–Silicon Tandem Solar Cell Composed of a High-Performance Semitransparent Perovskite Cell and a Doped Poly-Si/SiOx Passivating Contact Silicon Cell. *IEEE Journal of Photovoltaics*, **2020**, 10, 417-422	3.7	24
163	Consensus statement for stability assessment and reporting for perovskite photovoltaics based on ISOS procedures. *Nature Energy*, **2020**, 5, 35-49	62.3	369

162	Carbazole-Based Hole-Transport Materials for High-Efficiency and Stable Perovskite Solar Cells. *ACS Applied Energy Materials*, **2020**, 3, 4492-4498	6.1	22
161	Surface-Activated Corrosion in Tin-Lead Halide Perovskite Solar Cells. *ACS Energy Letters*, **2020**, 5, 3344-3351	20.1	31
160	Scalable fabrication and coating methods for perovskite solar cells and solar modules. *Nature Reviews Materials*, **2020**, 5, 333-350	73.3	292
159	On-device lead sequestration for perovskite solar cells. *Nature*, **2020**, 578, 555-558	50.4	162
158	Additive Engineering for Efficient and Stable Perovskite Solar Cells. *Advanced Energy Materials*, **2020**, 10, 1902579	21.8	259
157	Sub-1.4eV bandgap inorganic perovskite solar cells with long-term stability. *Nature Communications*, **2020**, 11, 151	17.4	55
156	Individual Electron and Hole Mobilities in Lead-Halide Perovskites Revealed by Noncontact Methods. *ACS Energy Letters*, **2020**, 5, 47-55	20.1	20
155	Inhomogeneous Doping of Perovskite Materials by Dopants from Hole-Transport Layer. *Matter*, **2020**, 2, 261-272	12.7	22
154	Sustainable lead management in halide perovskite solar cells. *Nature Sustainability*, **2020**, 3, 1044-1051	22.1	40
153	Reduced Self-Doping of Perovskites Induced by Short Annealing for Efficient Solar Modules. *Joule*, **2020**, 4, 1949-1960	27.8	42
152	Energy Spotlight. *ACS Energy Letters*, **2020**, 5, 2739-2741	20.1	1
151	Learning from existing photovoltaic technologies to identify alternative perovskite module designs. *Energy and Environmental Science*, **2020**, 13, 3393-3403	35.4	18
150	Thermally Stable Perovskite Solar Cells by Systematic Molecular Design of the Hole-Transport Layer. *ACS Energy Letters*, **2019**, 4, 473-482	20.1	48
149	Lewis acid activated CO reduction over a Ni modified Ni-Ge hydroxide driven by visible-infrared light. *Dalton Transactions*, **2019**, 48, 1672-1679	4.3	6
148	Enhanced Charge Transport by Incorporating Formamidinium and Cesium Cations into Two-Dimensional Perovskite Solar Cells. *Angewandte Chemie - International Edition*, **2019**, 58, 11737-11741	16.4	48
147	Enhanced Charge Transport by Incorporating Formamidinium and Cesium Cations into Two-Dimensional Perovskite Solar Cells. *Angewandte Chemie*, **2019**, 131, 11863-11867	3.6	16
146	Carrier lifetimes of >1 μs in Sn-Pb perovskites enable efficient all-perovskite tandem solar cells. *Science*, **2019**, 364, 475-479	33.3	496
145	Achieving a high open-circuit voltage in inverted wide-bandgap perovskite solar cells with a graded perovskite homojunction. *Nano Energy*, **2019**, 61, 141-147	17.1	97

144	Self-Seeding Growth for Perovskite Solar Cells with Enhanced Stability. *Joule*, **2019**, 3, 1452-1463	27.8	83
143	Highly selective electrochemical CO2 reduction to CO using a redox-active couple on low-crystallinity mesoporous ZnGa2O4 catalyst. *Journal of Materials Chemistry A*, **2019**, 7, 9316-9323	13	18
142	Enhanced Charge Transport in 2D Perovskites via Fluorination of Organic Cation. *Journal of the American Chemical Society*, **2019**, 141, 5972-5979	16.4	170
141	Insights into operational stability and processing of halide perovskite active layers. *Energy and Environmental Science*, **2019**, 12, 1341-1348	35.4	89
140	Improving Charge Transport via Intermediate-Controlled Crystal Growth in 2D Perovskite Solar Cells. *Advanced Functional Materials*, **2019**, 29, 1901652	15.6	64
139	Mitigating Measurement Artifacts in TOF-SIMS Analysis of Perovskite Solar Cells. *ACS Applied Materials & Interfaces*, **2019**, 11, 30911-30918	9.5	29
138	Bimolecular Additives Improve Wide-Band-Gap Perovskites for Efficient Tandem Solar Cells with CIGS. *Joule*, **2019**, 3, 1734-1745	27.8	131
137	Electrochemical Deposition of Conformal Semiconductor Layers in Nanoporous Oxides for Sensitized Photoelectrodes. *ACS Omega*, **2019**, 4, 19772-19776	3.9	3
136	Understanding Measurement Artifacts Causing Inherent Cation Gradients in Depth Profiles of Perovskite Photovoltaics with TOF-SIMS **2019**,		1
135	Monolithic Two-Terminal All-Perovskite Tandem Solar Cells with Power Conversion Efficiency Exceeding 21% **2019**,		2
134	Spin-dependent charge transport through 2D chiral hybrid lead-iodide perovskites. *Science Advances*, **2019**, 5, eaay0571	14.3	118
133	Tuning Hole Transport Layer Using Urea for High-Performance Perovskite Solar Cells. *Advanced Functional Materials*, **2019**, 29, 1806740	15.6	71
132	Reducing Saturation-Current Density to Realize High-Efficiency Low-Bandgap Mixed Tin□lead Halide Perovskite Solar Cells. *Advanced Energy Materials*, **2019**, 9, 1803135	21.8	162
131	Highly Efficient Perovskite Solar Modules by Scalable Fabrication and Interconnection Optimization. *ACS Energy Letters*, **2018**, 3, 322-328	20.1	111
130	Four-Terminal All-Perovskite Tandem Solar Cells Achieving Power Conversion Efficiencies Exceeding 23%. *ACS Energy Letters*, **2018**, 3, 305-306	20.1	169
129	Scalable Deposition of High-Efficiency Perovskite Solar Cells by Spray-Coating. *ACS Applied Energy Materials*, **2018**, 1, 1853-1857	6.1	59
128	Scalable fabrication of perovskite solar cells. *Nature Reviews Materials*, **2018**, 3,	73.3	532
127	Effect of non-stoichiometric solution chemistry on improving the performance of wide-bandgap perovskite solar cells. *Materials Today Energy*, **2018**, 7, 232-238	7	26

126	Perovskite Solar Cells: Stable Formamidinium-Based Perovskite Solar Cells via In Situ Grain Encapsulation (Adv. Energy Mater. 22/2018). *Advanced Energy Materials*, **2018**, 8, 1870101	21.8	1
125	Scalable slot-die coating of high performance perovskite solar cells. *Sustainable Energy and Fuels*, **2018**, 2, 2442-2449	5.8	109
124	Divalent Anionic Doping in Perovskite Solar Cells for Enhanced Chemical Stability. *Advanced Materials*, **2018**, 30, e1800973	24	39
123	Probing Perovskite Inhomogeneity beyond the Surface: TOF-SIMS Analysis of Halide Perovskite Photovoltaic Devices. *ACS Applied Materials & Interfaces*, **2018**, 10, 28541-28552	9.5	49
122	Impact of Layer Thickness on the Charge Carrier and Spin Coherence Lifetime in Two-Dimensional Layered Perovskite Single Crystals. *ACS Energy Letters*, **2018**, 3, 2273-2279	20.1	84
121	Outlook and Challenges of Perovskite Solar Cells toward Terawatt-Scale Photovoltaic Module Technology. *Joule*, **2018**, 2, 1437-1451	27.8	113
120	Recent Advances in Perovskite Tandem Devices. *Materials and Energy*, **2018**, 141-197		
119	100-Fold Enhancement of Charge Transport in Uniaxially Oriented Mesoporous Anatase TiO Films. *Chemistry - A European Journal*, **2018**, 24, 89-92	4.8	8
118	Suppressing defects through the synergistic effect of a Lewis base and a Lewis acid for highly efficient and stable perovskite solar cells. *Energy and Environmental Science*, **2018**, 11, 3480-3490	35.4	202
117	Efficient two-terminal all-perovskite tandem solar cells enabled by high-quality low-bandgap absorber layers. *Nature Energy*, **2018**, 3, 1093-1100	62.3	284
116	High-Performance and Stable Silicon Photoanode Modified by Crystalline Ni@ Amorphous Co Core-Shell Nanoparticles. *ChemCatChem*, **2018**, 10, 5025-5031	5.2	11
115	Roll-to-Roll Printing of Perovskite Solar Cells. *ACS Energy Letters*, **2018**, 3, 2558-2565	20.1	137
114	3D/2D multidimensional perovskites: Balance of high performance and stability for perovskite solar cells. *Current Opinion in Electrochemistry*, **2018**, 11, 105-113	7.2	41
113	Stability at Scale: Challenges of Module Interconnects for Perovskite Photovoltaics. *ACS Energy Letters*, **2018**, 3, 2502-2503	20.1	23
112	Ultrafast Imaging of Carrier Transport across Grain Boundaries in Hybrid Perovskite Thin Films. *ACS Energy Letters*, **2018**, 3, 1402-1408	20.1	42
111	Stable Formamidinium-Based Perovskite Solar Cells via In Situ Grain Encapsulation. *Advanced Energy Materials*, **2018**, 8, 1800232	21.8	59
110	Low-Cost, Efficient, and Durable H Production by Photoelectrochemical Water Splitting with CuGaSe Photocathodes. *ACS Applied Materials & Interfaces*, **2018**, 10, 19573-19579	9.5	25
109	Top and bottom surfaces limit carrier lifetime in lead iodide perovskite films. *Nature Energy*, **2017**, 2,	62.3	275

108	Electronic and Morphological Inhomogeneities in Pristine and Deteriorated Perovskite Photovoltaic Films. *Nano Letters*, **2017**, 17, 1796-1801	11.5	22
107	Do grain boundaries dominate non-radiative recombination in CHNHPbI perovskite thin films?. *Physical Chemistry Chemical Physics*, **2017**, 19, 5043-5050	3.6	141
106	Low-bandgap mixed tin□ead iodide perovskite absorbers with long carrier lifetimes for all-perovskite tandem solar cells. *Nature Energy*, **2017**, 2,	62.3	515
105	Electrochemical impedance analysis of perovskite-electrolyte interfaces. *Chemical Communications*, **2017**, 53, 2467-2470	5.8	31
104	Extrinsic ion migration in perovskite solar cells. *Energy and Environmental Science*, **2017**, 10, 1234-1242	35.4	336
103	300% Enhancement of Carrier Mobility in Uniaxial-Oriented Perovskite Films Formed by Topotactic-Oriented Attachment. *Advanced Materials*, **2017**, 29, 1606831	24	101
102	Highly Efficient and Uniform 1 cm Perovskite Solar Cells with an Electrochemically Deposited NiO Hole-Extraction Layer. *ChemSusChem*, **2017**, 10, 2660-2667	8.3	67
101	Synergistic Effects of Lead Thiocyanate Additive and Solvent Annealing on the Performance of Wide-Bandgap Perovskite Solar Cells. *ACS Energy Letters*, **2017**, 2, 1177-1182	20.1	142
100	Hybrid Perovskite Phase Transition and Its Ionic, Electrical and Optical Properties. *MRS Advances*, **2017**, 2, 3077-3082	0.7	3
99	Long-range hot-carrier transport in hybrid perovskites visualized by ultrafast microscopy. *Science*, **2017**, 356, 59-62	33.3	315
98	High-Performance Formamidinium-Based Perovskite Solar Cells via Microstructure-Mediated □to-□ Phase Transformation. *Chemistry of Materials*, **2017**, 29, 3246-3250	9.6	79
97	Perovskite ink with wide processing window for scalable high-efficiency solar cells. *Nature Energy*, **2017**, 2,	62.3	398
96	Quantitative analysis of time-resolved microwave conductivity data. *Journal Physics D: Applied Physics*, **2017**, 50, 493002	3	56
95	Perovskite Photovoltaics: The Path to a Printable Terawatt-Scale Technology. *ACS Energy Letters*, **2017**, 2, 2540-2544	20.1	42
94	Additive-Assisted Controllable Growth of Perovskites. *Series on Chemistry, Energy and the Environment*, **2017**, 1-26	0.2	4
93	Determination of the True Lateral Grain Size in Organic-Inorganic Halide Perovskite Thin Films. *ACS Applied Materials & Interfaces*, **2017**, 9, 33565-33570	9.5	12
92	In situ investigation of halide incorporation into perovskite solar cells. *MRS Communications*, **2017**, 7, 575-582	2.7	6
91	Effect of Rubidium Incorporation on the Structural, Electrical, and Photovoltaic Properties of Methylammonium Lead Iodide-Based Perovskite Solar Cells. *ACS Applied Materials & Interfaces*, **2017**, 9, 41898-41905	9.5	46

90	Perovskite Solar Cells□owards Commercialization. *ACS Energy Letters*, **2017**, 2, 1749-1751	20.1	82
89	Acid Additives Enhancing the Conductivity of Spiro-OMeTAD Toward High-Efficiency and Hysteresis-Less Planar Perovskite Solar Cells. *Advanced Energy Materials*, **2017**, 7, 1601451	21.8	90
88	Impact of grain boundaries on efficiency and stability of organic-inorganic trihalide perovskites. *Nature Communications*, **2017**, 8, 2230	17.4	166
87	Lead-Free Inverted Planar Formamidinium Tin Triiodide Perovskite Solar Cells Achieving Power Conversion Efficiencies up to 6.22. *Advanced Materials*, **2016**, 28, 9333-9340	24	480
86	Ionic and Optical Properties of Methylammonium Lead Iodide Perovskite across the Tetragonal-Cubic Structural Phase Transition. *ChemSusChem*, **2016**, 9, 2692-2698	8.3	51
85	Grain-Size-Limited Mobility in Methylammonium Lead Iodide Perovskite Thin Films. *ACS Energy Letters*, **2016**, 1, 561-565	20.1	141
84	Cooperative tin oxide fullerene electron selective layers for high-performance planar perovskite solar cells. *Journal of Materials Chemistry A*, **2016**, 4, 14276-14283	13	178
83	Large polarization-dependent exciton optical Stark effect in lead iodide perovskites. *Nature Communications*, **2016**, 7, 12613	17.4	72
82	Thermally evaporated methylammonium tin triiodide thin films for lead-free perovskite solar cell fabrication. *RSC Advances*, **2016**, 6, 90248-90254	3.7	88
81	Fabrication of Efficient Low-Bandgap Perovskite Solar Cells by Combining Formamidinium Tin Iodide with Methylammonium Lead Iodide. *Journal of the American Chemical Society*, **2016**, 138, 12360-3	16.4	298
80	Effects of alloying on the optical properties of organic□norganic lead halide perovskite thin films. *Journal of Materials Chemistry C*, **2016**, 4, 7775-7782	7.1	75
79	The Controlling Mechanism for Potential Loss in CH3NH3PbBr3 Hybrid Solar Cells. *ACS Energy Letters*, **2016**, 1, 424-430	20.1	70
78	Simultaneous band-gap narrowing and carrier-lifetime prolongation of organic-inorganic trihalide perovskites. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 8910-5	11.5	199
77	Electron-Rotor Interaction in Organic-Inorganic Lead Iodide Perovskites Discovered by Isotope Effects. *Journal of Physical Chemistry Letters*, **2016**, 7, 2879-87	6.4	69
76	The layer boundary effect on multi-layer mesoporous TiO2 film based dye sensitized solar cells. *RSC Advances*, **2016**, 6, 98167-98170	3.7	2
75	Towards stable and commercially available perovskite solar cells. *Nature Energy*, **2016**, 1,	62.3	763
74	Improved Phase Stability of Formamidinium Lead Triiodide Perovskite by Strain Relaxation. *ACS Energy Letters*, **2016**, 1, 1014-1020	20.1	244
73	Facile fabrication of large-grain CH3NH3PbI3-xBrx films for high-efficiency solar cells via CH3NH3Br-selective Ostwald ripening. *Nature Communications*, **2016**, 7, 12305	17.4	358

72	Selective dissolution of halide perovskites as a step towards recycling solar cells. *Nature Communications*, **2016**, 7, 11735	17.4	92
71	Employing Lead Thiocyanate Additive to Reduce the Hysteresis and Boost the Fill Factor of Planar Perovskite Solar Cells. *Advanced Materials*, **2016**, 28, 5214-21	24	403
70	Proton Reduction Using a Hydrogenase-Modified Nanoporous Black Silicon Photoelectrode. *ACS Applied Materials & Interfaces*, **2016**, 8, 14481-7	9.5	33
69	Charge Transfer Dynamics between Carbon Nanotubes and Hybrid Organic Metal Halide Perovskite Films. *Journal of Physical Chemistry Letters*, **2016**, 7, 418-25	6.4	69
68	Understanding and removing surface states limiting charge transport in TiO nanowire arrays for enhanced optoelectronic device performance. *Chemical Science*, **2016**, 7, 1910-1913	9.4	24
67	Organic-inorganic hybrid lead halide perovskites for optoelectronic and electronic applications. *Chemical Society Reviews*, **2016**, 45, 655-89	58.5	1049
66	Origin of J-V Hysteresis in Perovskite Solar Cells. *Journal of Physical Chemistry Letters*, **2016**, 7, 905-17	6.4	530
65	Planar versus mesoscopic perovskite microstructures: The influence of CH3NH3PbI3 morphology on charge transport and recombination dynamics. *Nano Energy*, **2016**, 22, 439-452	17.1	64
64	Efficient charge extraction and slow recombination in organic□inorganic perovskites capped with semiconducting single-walled carbon nanotubes. *Energy and Environmental Science*, **2016**, 9, 1439-1449	35.4	109
63	Transformative Evolution of Organolead Triiodide Perovskite Thin Films from Strong Room-Temperature Solid-Gas Interaction between HPbI3-CH3NH2 Precursor Pair. *Journal of the American Chemical Society*, **2016**, 138, 750-3	16.4	141
62	Stabilizing Perovskite Structures by Tuning Tolerance Factor: Formation of Formamidinium and Cesium Lead Iodide Solid-State Alloys. *Chemistry of Materials*, **2016**, 28, 284-292	9.6	1186
61	Manipulating Crystallization of Organolead Mixed-Halide Thin Films in Antisolvent Baths for Wide-Bandgap Perovskite Solar Cells. *ACS Applied Materials & Interfaces*, **2016**, 8, 2232-7	9.5	72
60	Annealing-free efficient vacuum-deposited planar perovskite solar cells with evaporated fullerenes as electron-selective layers. *Nano Energy*, **2016**, 19, 88-97	17.1	109
59	Intercalation crystallization of phase-pure □HC(NH)□PbI□upon microstructurally engineered PbI□ thin films for planar perovskite solar cells. *Nanoscale*, **2016**, 8, 6265-70	7.7	33
58	Observation of a hot-phonon bottleneck in lead-iodide perovskites. *Nature Photonics*, **2016**, 10, 53-59	33.9	577
57	Defect Tolerance in Methylammonium Lead Triiodide Perovskite. *ACS Energy Letters*, **2016**, 1, 360-366	20.1	357
56	Electron and hole drift mobility measurements on methylammonium lead iodide perovskite solar cells. *Applied Physics Letters*, **2016**, 108, 173505	3.4	51
55	Polarization and Dielectric Study of Methylammonium Lead Iodide Thin Film to Reveal its Nonferroelectric Nature under Solar Cell Operating Conditions. *ACS Energy Letters*, **2016**, 1, 142-149	20.1	82

54	In situ investigation of the formation and metastability of formamidinium lead tri-iodide perovskite solar cells. *Energy and Environmental Science*, **2016**, 9, 2372-2382	35.4	64
53	Influence of Electrode Interfaces on the Stability of Perovskite Solar Cells: Reduced Degradation Using MoOx/Al for Hole Collection. *ACS Energy Letters*, **2016**, 1, 38-45	20.1	209
52	Exceptional Morphology-Preserving Evolution of Formamidinium Lead Triiodide Perovskite Thin Films via Organic-Cation Displacement. *Journal of the American Chemical Society*, **2016**, 138, 5535-8	16.4	153
51	Structural and chemical evolution of methylammonium lead halide perovskites during thermal processing from solution. *Energy and Environmental Science*, **2016**, 9, 2072-2082	35.4	153
50	Perovskite Solar Cells Shine in the Valley of the Sun *ACS Energy Letters*, **2016**, 1, 64-67	20.1	90
49	Effect of Water Vapor, Temperature, and Rapid Annealing on Formamidinium Lead Triiodide Perovskite Crystallization. *ACS Energy Letters*, **2016**, 1, 155-161	20.1	21
48	Third-order nonlinear optical properties of methylammonium lead halide perovskite films. *Journal of Materials Chemistry C*, **2016**, 4, 4847-4852	7.1	36
47	Multiple-Stage Structure Transformation of Organic-Inorganic Hybrid Perovskite CH3NH3PbI3. *Physical Review X*, **2016**, 6,	9.1	11
46	Methylammonium lead iodide grain boundaries exhibit depth-dependent electrical properties. *Energy and Environmental Science*, **2016**, 9, 3642-3649	35.4	42
45	Growth control of compact CH3NH3PbI3 thin films via enhanced solid-state precursor reaction for efficient planar perovskite solar cells. *Journal of Materials Chemistry A*, **2015**, 3, 9249-9256	13	118
44	Room-temperature crystallization of hybrid-perovskite thin films via solvent–solvent extraction for high-performance solar cells. *Journal of Materials Chemistry A*, **2015**, 3, 8178-8184	13	336
43	Trend of Perovskite Solar Cells: Dig Deeper to Build Higher. *Journal of Physical Chemistry Letters*, **2015**, 6, 2315-7	6.4	25
42	Ferroelectric solar cells based on inorganic–organic hybrid perovskites. *Journal of Materials Chemistry A*, **2015**, 3, 7699-7705	13	95
41	Carrier separation and transport in perovskite solar cells studied by nanometre-scale profiling of electrical potential. *Nature Communications*, **2015**, 6, 8397	17.4	172
40	Mesoporous scaffolds based on TiO2 nanorods and nanoparticles for efficient hybrid perovskite solar cells. *Journal of Materials Chemistry A*, **2015**, 3, 24315-24321	13	22
39	Low surface recombination velocity in solution-grown CH3NH3PbBr3 perovskite single crystal. *Nature Communications*, **2015**, 6, 7961	17.4	329
38	Electronic Structure and Optical Properties of CH3NH3PbBr3 Perovskite Single Crystal. *Journal of Physical Chemistry Letters*, **2015**, 6, 4304-8	6.4	113
37	Stability of inverted organic solar cells with ZnO contact layers deposited from precursor solutions. *Energy and Environmental Science*, **2015**, 8, 592-601	35.4	88

36	Three-step sequential solution deposition of PbI2-free CH3NH3PbI3 perovskite. *Journal of Materials Chemistry A*, **2015**, 3, 9086-9091	13	89
35	Square-Centimeter Solution-Processed Planar CH3NH3PbI3 Perovskite Solar Cells with Efficiency Exceeding 15. *Advanced Materials*, **2015**, 27, 6363-70	24	272
34	Controllable Sequential Deposition of Planar CH₃NH₃PbI₃ Perovskite Films via Adjustable Volume Expansion. *Nano Letters*, **2015**, 15, 3959-63	11.5	217
33	Crystal Morphologies of Organolead Trihalide in Mesoscopic/Planar Perovskite Solar Cells. *Journal of Physical Chemistry Letters*, **2015**, 6, 2292-7	6.4	85
32	Controlled Humidity Study on the Formation of Higher Efficiency Formamidinium Lead Triiodide-Based Solar Cells. *Chemistry of Materials*, **2015**, 27, 4814-4820	9.6	108
31	Impact of Capacitive Effect and Ion Migration on the Hysteretic Behavior of Perovskite Solar Cells. *Journal of Physical Chemistry Letters*, **2015**, 6, 4693-700	6.4	285
30	Comparison of Recombination Dynamics in CH3NH3PbBr3 and CH3NH3PbI3 Perovskite Films: Influence of Exciton Binding Energy. *Journal of Physical Chemistry Letters*, **2015**, 6, 4688-92	6.4	284
29	CH3NH3Cl-Assisted One-Step Solution Growth of CH3NH3PbI3: Structure, Charge-Carrier Dynamics, and Photovoltaic Properties of Perovskite Solar Cells. *Journal of Physical Chemistry C*, **2014**, 118, 9412-9418	3.8	461
28	Solid-State Mesostructured Perovskite CH3NH3PbI3 Solar Cells: Charge Transport, Recombination, and Diffusion Length. *Journal of Physical Chemistry Letters*, **2014**, 5, 490-4	6.4	244
27	8-Hydroxylquinoline-conjugated porphyrins as broadband light absorbers for dye-sensitized solar cells. *New Journal of Chemistry*, **2014**, 38, 1565	3.6	21
26	Fast Supercapacitors Based on Graphene-Bridged V2O3/VOx Core–Shell Nanostructure Electrodes with a Power Density of 1 MW kg⁻¹. *Advanced Materials Interfaces*, **2014**, 1, 1400398	4.6	88
25	Solution Chemistry Engineering toward High-Efficiency Perovskite Solar Cells. *Journal of Physical Chemistry Letters*, **2014**, 5, 4175-86	6.4	209
24	Fluorene functionalized porphyrins as broadband absorbers for TiO2 nanocrystalline solar cells. *Journal of Materials Chemistry A*, **2014**, 2, 13667	13	17
23	Substrate-controlled band positions in CH₃NH₃PbI₃ perovskite films. *Physical Chemistry Chemical Physics*, **2014**, 16, 22122-30	3.6	152
22	Transparent TiO nanotube array photoelectrodes prepared via two-step anodization. *Nano Convergence*, **2014**, 1, 9	9.2	8
21	Electrocatalytic properties of a vertically oriented graphene film and its application as a catalytic counter electrode for dye-sensitized solar cells. *Journal of Materials Chemistry A*, **2014**, 2, 12746-12753	13	35
20	Charge Transport and Recombination in Perovskite (CH3NH3)PbI3 Sensitized TiO2 Solar Cells. *Journal of Physical Chemistry Letters*, **2013**, 4, 2880-2884	6.4	255
19	The effect of a metallic Ni core on charge dynamics in CdS-sensitized p-type NiO nanowire mesh photocathodes. *RSC Advances*, **2013**, 3, 13342	3.7	1

18	Effects of TiCl4 Treatment of Nanoporous TiO2 Films on Morphology, Light Harvesting, and Charge-Carrier Dynamics in Dye-Sensitized Solar Cells. *Journal of Physical Chemistry C*, **2012**, 116, 21285-21290	3.8	119
17	Pseudocapacitive Lithium-Ion Storage in Oriented Anatase TiO2 Nanotube Arrays. *Journal of Physical Chemistry C*, **2012**, 116, 11895-11899	3.8	124
16	Controlled synthesis of aligned Ni-NiO core-shell nanowire arrays on glass substrates as a new supercapacitor electrode. *RSC Advances*, **2012**, 2, 8281	3.7	54
15	Effects of water intrusion on the charge-carrier dynamics, performance, and stability of dye-sensitized solar cells. *Energy and Environmental Science*, **2012**, 5, 9492	35.4	34
14	Rapid Charge Transport in Dye-Sensitized Solar Cells Made from Vertically Aligned Single-Crystal Rutile TiO2 Nanowires. *Angewandte Chemie*, **2012**, 124, 2781-2784	3.6	97
13	Rapid charge transport in dye-sensitized solar cells made from vertically aligned single-crystal rutile TiO(2) nanowires. *Angewandte Chemie - International Edition*, **2012**, 51, 2727-30	16.4	236
12	Converting light to electrons in oriented nanotube arrays used in sensitized solar cells. *MRS Bulletin* , **2011**, 36, 446-452	3.2	13
11	Effects of Annealing Temperature on the Charge-Collection and Light-Harvesting Properties of TiO2 Nanotube-Based Dye-Sensitized Solar Cells. *Journal of Physical Chemistry C*, **2010**, 114, 13433-13441	3.8	104
10	Constructing ordered sensitized heterojunctions: bottom-up electrochemical synthesis of p-type semiconductors in oriented n-TiO(2) nanotube arrays. *Nano Letters*, **2009**, 9, 806-13	11.5	75
9	Enhanced charge-collection efficiencies and light scattering in dye-sensitized solar cells using oriented TiO2 nanotubes arrays. *Nano Letters*, **2007**, 7, 69-74	11.5	1894
8	Removing structural disorder from oriented TiO2 nanotube arrays: reducing the dimensionality of transport and recombination in dye-sensitized solar cells. *Nano Letters*, **2007**, 7, 3739-46	11.5	425
7	Influence of surface area on charge transport and recombination in dye-sensitized TiO2 solar cells. *Journal of Physical Chemistry B*, **2006**, 110, 25174-80	3.4	171
6	Determining the locus for photocarrier recombination in dye-sensitized solar cells. *Applied Physics Letters*, **2002**, 80, 685-687	3.4	79
5	Polymer Hole Transport Materials for Perovskite Solar Cells via Buchwald□Hartwig Amination. *ACS Applied Polymer Materials*,	4.3	3
4	Super Flexible Transparent Conducting Oxide-Free Organic□Inorganic Hybrid Perovskite Solar Cells with 19.01% Efficiency (Active Area = 1 cm2). *Solar Rrl*,2100733	7.1	2
3	On-device lead-absorbing tapes for sustainable perovskite solar cells. *Nature Sustainability*,	22.1	15
2	Ultrafast Fenton-like reaction route to FeOOH/NiFe-LDH heterojunction electrode for efficient oxygen evolution reaction. *Journal of Materials Chemistry A*,	13	7
1	Understanding the Effect of Lead Iodide Excess on the Performance of Methylammonium Lead Iodide Perovskite Solar Cells. *ACS Energy Letters*,1912-1919	20.1	3