Kai Zhu

List of Publications by Citations

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	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
196	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
195	Organic-inorganic hybrid lead halide perovskites for optoelectronic and electronic applications. *Chemical Society Reviews*, **2016**, 45, 655-89	58.5	1049
194	Towards stable and commercially available perovskite solar cells. *Nature Energy*, **2016**, 1,	62.3	763
193	Observation of a hot-phonon bottleneck in lead-iodide perovskites. *Nature Photonics*, **2016**, 10, 53-59	33.9	577
192	Scalable fabrication of perovskite solar cells. *Nature Reviews Materials*, **2018**, 3,	73.3	532
191	Origin of J-V Hysteresis in Perovskite Solar Cells. *Journal of Physical Chemistry Letters*, **2016**, 7, 905-17	6.4	530
190	Low-bandgap mixed tin–lead iodide perovskite absorbers with long carrier lifetimes for all-perovskite tandem solar cells. *Nature Energy*, **2017**, 2,	62.3	515
189	Carrier lifetimes of >1 μs in Sn-Pb perovskites enable efficient all-perovskite tandem solar cells. *Science*, **2019**, 364, 475-479	33.3	496
188	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
187	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
186	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
185	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
184	Perovskite ink with wide processing window for scalable high-efficiency solar cells. *Nature Energy*, **2017**, 2,	62.3	398
183	Consensus statement for stability assessment and reporting for perovskite photovoltaics based on ISOS procedures. *Nature Energy*, **2020**, 5, 35-49	62.3	369
182	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
181	Defect Tolerance in Methylammonium Lead Triiodide Perovskite. *ACS Energy Letters*, **2016**, 1, 360-366	20.1	357

180	Extrinsic ion migration in perovskite solar cells. *Energy and Environmental Science*, **2017**, 10, 1234-1242	35.4	336
179	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
178	Low surface recombination velocity in solution-grown CH3NH3PbBr3 perovskite single crystal. *Nature Communications*, **2015**, 6, 7961	17.4	329
177	Long-range hot-carrier transport in hybrid perovskites visualized by ultrafast microscopy. *Science*, **2017**, 356, 59-62	33.3	315
176	Efficient tandem solar cells with solution-processed perovskite on textured crystalline silicon. *Science*, **2020**, 367, 1135-1140	33.3	298
175	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
174	Scalable fabrication and coating methods for perovskite solar cells and solar modules. *Nature Reviews Materials*, **2020**, 5, 333-350	73.3	292
173	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
172	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
171	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
170	Top and bottom surfaces limit carrier lifetime in lead iodide perovskite films. *Nature Energy*, **2017**, 2,	62.3	275
169	Square-Centimeter Solution-Processed Planar CH3NH3PbI3 Perovskite Solar Cells with Efficiency Exceeding 15. *Advanced Materials*, **2015**, 27, 6363-70	24	272
168	Additive Engineering for Efficient and Stable Perovskite Solar Cells. *Advanced Energy Materials*, **2020**, 10, 1902579	21.8	259
167	Charge Transport and Recombination in Perovskite (CH3NH3)PbI3 Sensitized TiO2 Solar Cells. *Journal of Physical Chemistry Letters*, **2013**, 4, 2880-2884	6.4	255
166	Improved Phase Stability of Formamidinium Lead Triiodide Perovskite by Strain Relaxation. *ACS Energy Letters*, **2016**, 1, 1014-1020	20.1	244
165	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
164	Efficient, stable silicon tandem cells enabled by anion-engineered wide-bandgap perovskites. *Science*, **2020**, 368, 155-160	33.3	240
163	Advances in two-dimensional organic-inorganic hybrid perovskites. *Energy and Environmental Science*, **2020**, 13, 1154-1186	35.4	239

162	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
161	Controllable Sequential Deposition of Planar $CH_3NH_3PbI_3$ Perovskite Films via Adjustable Volume Expansion. *Nano Letters*, **2015**, 15, 3959-63	11.5	217
160	Solution Chemistry Engineering toward High-Efficiency Perovskite Solar Cells. *Journal of Physical Chemistry Letters*, **2014**, 5, 4175-86	6.4	209
159	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
158	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
157	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
156	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
155	Carrier separation and transport in perovskite solar cells studied by nanometre-scale profiling of electrical potential. *Nature Communications*, **2015**, 6, 8397	17.4	172
154	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
153	Enhanced Charge Transport in 2D Perovskites via Fluorination of Organic Cation. *Journal of the American Chemical Society*, **2019**, 141, 5972-5979	16.4	170
152	Four-Terminal All-Perovskite Tandem Solar Cells Achieving Power Conversion Efficiencies Exceeding 23%. *ACS Energy Letters*, **2018**, 3, 305-306	20.1	169
151	Impact of grain boundaries on efficiency and stability of organic-inorganic trihalide perovskites. *Nature Communications*, **2017**, 8, 2230	17.4	166
150	On-device lead sequestration for perovskite solar cells. *Nature*, **2020**, 578, 555-558	50.4	162
149	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
148	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
147	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
146	Substrate-controlled band positions in $CH_3NH_3PbI_3$ perovskite films. *Physical Chemistry Chemical Physics*, **2014**, 16, 22122-30	3.6	152
145	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

144	Do grain boundaries dominate non-radiative recombination in CHNHPbI perovskite thin films?. *Physical Chemistry Chemical Physics*, **2017**, 19, 5043-5050	3.6	141
143	Grain-Size-Limited Mobility in Methylammonium Lead Iodide Perovskite Thin Films. *ACS Energy Letters*, **2016**, 1, 561-565	20.1	141
142	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
141	Roll-to-Roll Printing of Perovskite Solar Cells. *ACS Energy Letters*, **2018**, 3, 2558-2565	20.1	137
140	Bimolecular Additives Improve Wide-Band-Gap Perovskites for Efficient Tandem Solar Cells with CIGS. *Joule*, **2019**, 3, 1734-1745	27.8	131
139	The 2020 photovoltaic technologies roadmap. *Journal Physics D: Applied Physics*, **2020**, 53, 493001	3	128
138	Pseudocapacitive Lithium-Ion Storage in Oriented Anatase TiO2 Nanotube Arrays. *Journal of Physical Chemistry C*, **2012**, 116, 11895-11899	3.8	124
137	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
136	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
135	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
134	Spin-dependent charge transport through 2D chiral hybrid lead-iodide perovskites. *Science Advances*, **2019**, 5, eaay0571	14.3	118
133	Electronic Structure and Optical Properties of CH3NH3PbBr3 Perovskite Single Crystal. *Journal of Physical Chemistry Letters*, **2015**, 6, 4304-8	6.4	113
132	Outlook and Challenges of Perovskite Solar Cells toward Terawatt-Scale Photovoltaic Module Technology. *Joule*, **2018**, 2, 1437-1451	27.8	113
131	Highly Efficient Perovskite Solar Modules by Scalable Fabrication and Interconnection Optimization. *ACS Energy Letters*, **2018**, 3, 322-328	20.1	111
130	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
129	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
128	Scalable slot-die coating of high performance perovskite solar cells. *Sustainable Energy and Fuels*, **2018**, 2, 2442-2449	5.8	109
127	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

126	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
125	300% Enhancement of Carrier Mobility in Uniaxial-Oriented Perovskite Films Formed by Topotactic-Oriented Attachment. *Advanced Materials*, **2017**, 29, 1606831	24	101
124	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
123	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
122	Ferroelectric solar cells based on inorganic–organic hybrid perovskites. *Journal of Materials Chemistry A*, **2015**, 3, 7699-7705	13	95
121	Selective dissolution of halide perovskites as a step towards recycling solar cells. *Nature Communications*, **2016**, 7, 11735	17.4	92
120	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
119	Perovskite Solar Cells Shine in the “Valley of the Sun” *ACS Energy Letters*, **2016**, 1, 64-67	20.1	90
118	Insights into operational stability and processing of halide perovskite active layers. *Energy and Environmental Science*, **2019**, 12, 1341-1348	35.4	89
117	Three-step sequential solution deposition of PbI2-free CH3NH3PbI3 perovskite. *Journal of Materials Chemistry A*, **2015**, 3, 9086-9091	13	89
116	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
115	Thermally evaporated methylammonium tin triiodide thin films for lead-free perovskite solar cell fabrication. *RSC Advances*, **2016**, 6, 90248-90254	3.7	88
114	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
113	Crystal Morphologies of Organolead Trihalide in Mesoscopic/Planar Perovskite Solar Cells. *Journal of Physical Chemistry Letters*, **2015**, 6, 2292-7	6.4	85
112	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
111	Self-Seeding Growth for Perovskite Solar Cells with Enhanced Stability. *Joule*, **2019**, 3, 1452-1463	27.8	83
110	Perovskite Solar Cells–Towards Commercialization. *ACS Energy Letters*, **2017**, 2, 1749-1751	20.1	82
109	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

108	High-Performance Formamidinium-Based Perovskite Solar Cells via Microstructure-Mediated □-to-□ Phase Transformation. *Chemistry of Materials*, **2017**, 29, 3246-3250	9.6	79
107	Determining the locus for photocarrier recombination in dye-sensitized solar cells. *Applied Physics Letters*, **2002**, 80, 685-687	3.4	79
106	Effects of alloying on the optical properties of organic□inorganic lead halide perovskite thin films. *Journal of Materials Chemistry C*, **2016**, 4, 7775-7782	7.1	75
105	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
104	Large polarization-dependent exciton optical Stark effect in lead iodide perovskites. *Nature Communications*, **2016**, 7, 12613	17.4	72
103	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
102	Tuning Hole Transport Layer Using Urea for High-Performance Perovskite Solar Cells. *Advanced Functional Materials*, **2019**, 29, 1806740	15.6	71
101	The Controlling Mechanism for Potential Loss in CH3NH3PbBr3 Hybrid Solar Cells. *ACS Energy Letters*, **2016**, 1, 424-430	20.1	70
100	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
99	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
98	Reconfiguring the band-edge states of photovoltaic perovskites by conjugated organic cations. *Science*, **2021**, 371, 636-640	33.3	69
97	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
96	Improving Charge Transport via Intermediate-Controlled Crystal Growth in 2D Perovskite Solar Cells. *Advanced Functional Materials*, **2019**, 29, 1901652	15.6	64
95	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
94	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
93	Scalable Deposition of High-Efficiency Perovskite Solar Cells by Spray-Coating. *ACS Applied Energy Materials*, **2018**, 1, 1853-1857	6.1	59
92	Stable Formamidinium-Based Perovskite Solar Cells via In Situ Grain Encapsulation. *Advanced Energy Materials*, **2018**, 8, 1800232	21.8	59
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89	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
88	Prospects for metal halide perovskite-based tandem solar cells. *Nature Photonics*, **2021**, 15, 411-425	33.9	52
87	Ionic and Optical Properties of Methylammonium Lead Iodide Perovskite across the Tetragonal-Cubic Structural Phase Transition. *ChemSusChem*, **2016**, 9, 2692-2698	8.3	51
86	Metastable Dion-Jacobson 2D structure enables efficient and stable perovskite solar cells. *Science*, **2022**, 375, 71-76	33.3	51
85	Electron and hole drift mobility measurements on methylammonium lead iodide perovskite solar cells. *Applied Physics Letters*, **2016**, 108, 173505	3.4	51
84	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
83	Thermally Stable Perovskite Solar Cells by Systematic Molecular Design of the Hole-Transport Layer. *ACS Energy Letters*, **2019**, 4, 473-482	20.1	48
82	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
81	Enhancing Charge Transport of 2D Perovskite Passivation Agent for Wide-Bandgap Perovskite Solar Cells Beyond 21%. *Solar Rrl*, **2020**, 4, 2000082	7.1	46
80	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
79	Perovskite Photovoltaics: The Path to a Printable Terawatt-Scale Technology. *ACS Energy Letters*, **2017**, 2, 2540-2544	20.1	42
78	Reduced Self-Doping of Perovskites Induced by Short Annealing for Efficient Solar Modules. *Joule*, **2020**, 4, 1949-1960	27.8	42
77	Methylammonium lead iodide grain boundaries exhibit depth-dependent electrical properties. *Energy and Environmental Science*, **2016**, 9, 3642-3649	35.4	42
76	Ultrafast Imaging of Carrier Transport across Grain Boundaries in Hybrid Perovskite Thin Films. *ACS Energy Letters*, **2018**, 3, 1402-1408	20.1	42
75	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
74	Sustainable lead management in halide perovskite solar cells. *Nature Sustainability*, **2020**, 3, 1044-1051	22.1	40
73	Divalent Anionic Doping in Perovskite Solar Cells for Enhanced Chemical Stability. *Advanced Materials*, **2018**, 30, e1800973	24	39

72	Third-order nonlinear optical properties of methylammonium lead halide perovskite films. *Journal of Materials Chemistry C*, **2016**, 4, 4847-4852	7.1	36
71	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
70	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
69	Efficient and Stable Graded CsPbI3Brx Perovskite Solar Cells and Submodules by Orthogonal Processable Spray Coating. *Joule*, **2021**, 5, 481-494	27.8	34
68	Proton Reduction Using a Hydrogenase-Modified Nanoporous Black Silicon Photoelectrode. *ACS Applied Materials & Interfaces*, **2016**, 8, 14481-7	9.5	33
67	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
66	Electrochemical impedance analysis of perovskite-electrolyte interfaces. *Chemical Communications*, **2017**, 53, 2467-2470	5.8	31
65	Surface-Activated Corrosion in TinLead Halide Perovskite Solar Cells. *ACS Energy Letters*, **2020**, 5, 3344-3351	26.1	31
64	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
63	Mitigating Measurement Artifacts in TOF-SIMS Analysis of Perovskite Solar Cells. *ACS Applied Materials & Interfaces*, **2019**, 11, 30911-30918	9.5	29
62	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
61	Wide-Bandgap Metal Halide Perovskites for Tandem Solar Cells. *ACS Energy Letters*, **2021**, 6, 232-248	20.1	26
60	Trend of Perovskite Solar Cells: Dig Deeper to Build Higher. *Journal of Physical Chemistry Letters*, **2015**, 6, 2315-7	6.4	25
59	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
58	Advances in SnO for Efficient and Stable n-i-p Perovskite Solar Cells.. *Advanced Materials*, **2022**, e2110438	24	25
57	26.7% Efficient 4-Terminal PerovskiteSilicon 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
56	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
55	Choose Your Own Adventure: Fabrication of Monolithic All-Perovskite Tandem Photovoltaics. *Advanced Materials*, **2020**, 32, e2003312	24	23

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52	Electronic and Morphological Inhomogeneities in Pristine and Deteriorated Perovskite Photovoltaic Films. *Nano Letters*, **2017**, 17, 1796-1801	11.5	22
51	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
50	Carbazole-Based Hole-Transport Materials for High-Efficiency and Stable Perovskite Solar Cells. *ACS Applied Energy Materials*, **2020**, 3, 4492-4498	6.1	22
49	Inhomogeneous Doping of Perovskite Materials by Dopants from Hole-Transport Layer. *Matter*, **2020**, 2, 261-272	12.7	22
48	8-Hydroxylquinoline-conjugated porphyrins as broadband light absorbers for dye-sensitized solar cells. *New Journal of Chemistry*, **2014**, 38, 1565	3.6	21
47	Effect of Water Vapor, Temperature, and Rapid Annealing on Formamidinium Lead Triiodide Perovskite Crystallization. *ACS Energy Letters*, **2016**, 1, 155-161	20.1	21
46	Individual Electron and Hole Mobilities in Lead-Halide Perovskites Revealed by Noncontact Methods. *ACS Energy Letters*, **2020**, 5, 47-55	20.1	20
45	3D/2D passivation as a secret to success for polycrystalline thin-film solar cells. *Joule*, **2021**, 5, 1057-1073	27.8	19
44	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
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41	Fluorene functionalized porphyrins as broadband absorbers for TiO2 nanocrystalline solar cells. *Journal of Materials Chemistry A*, **2014**, 2, 13667	13	17
40	Enhanced Charge Transport by Incorporating Formamidinium and Cesium Cations into Two-Dimensional Perovskite Solar Cells. *Angewandte Chemie*, **2019**, 131, 11863-11867	3.6	16
39	On-device lead-absorbing tapes for sustainable perovskite solar cells. *Nature Sustainability*,	22.1	15
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36	Multiple-Stage Structure Transformation of Organic-Inorganic Hybrid Perovskite CH3NH3PbI3. *Physical Review X*, **2016**, 6,	9.1	11
35	High-Performance and Stable Silicon Photoanode Modified by Crystalline Ni@ Amorphous Co Core-Shell Nanoparticles. *ChemCatChem*, **2018**, 10, 5025-5031	5.2	11
34	Unraveling the surface state of photovoltaic perovskite thin film. *Matter*, **2021**, 4, 2417-2428	12.7	9
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