Kai Zhu

List of Publications by Year
in descending order

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207 papers	35,284 citations	2543 96 h-index	3260 185 g-index
210 all docs	210 docs citations	210 times ranked	22711 citing authors

#	Article	IF	Citations
1	Enhanced Charge-Collection Efficiencies and Light Scattering in Dye-Sensitized Solar Cells Using Oriented TiO2Nanotubes Arrays. Nano Letters, 2007, 7, 69-74.	4.5	2,001
2	Stabilizing Perovskite Structures by Tuning Tolerance Factor: Formation of Formamidinium and Cesium Lead Iodide Solid-State Alloys. Chemistry of Materials, 2016, 28, 284-292.	3.2	1,606
3	Organicâ€“inorganic hybrid lead halide perovskites for optoelectronic and electronic applications. Chemical Society Reviews, 2016, 45, 655-689.	18.7	1,285
4	Towards stable and commercially available perovskite solar cells. Nature Energy, 2016, 1, .	19.8	941
5	Consensus statement for stability assessment and reporting for perovskite photovoltaics based on ISOS procedures. Nature Energy, 2020, 5, 35-49.	19.8	797
6	Carrier lifetimes of >1 Î¼s in Sn-Pb perovskites enable efficient all-perovskite tandem solar cells. Science, 2019, 364, 475-479.	6.0	781
7	Scalable fabrication of perovskite solar cells. Nature Reviews Materials, 2018, 3, .	23.3	764
8	Observation of a hot-phonon bottleneck in lead-iodide perovskites. Nature Photonics, 2016, 10, 53-59.	15.6	760
9	Leadâ€Free Inverted Planar Formamidinium Tin Triiodide Perovskite Solar Cells Achieving Power Conversion Efficiencies up to 6.22%. Advanced Materials, 2016, 28, 9333-9340.	11.1	636
10	Low-bandgap mixed tinâ€“lead iodide perovskite absorbers with long carrier lifetimes for all-perovskite tandem solar cells. Nature Energy, 2017, 2, .	19.8	634
11	Origin of <i><i>J</i>â€“<i>V</i></i> Hysteresis in Perovskite Solar Cells. Journal of Physical Chemistry Letters, 2016, 7, 905-917.	2.1	631
12	Scalable fabrication and coating methods for perovskite solar cells and solar modules. Nature Reviews Materials, 2020, 5, 333-350.	23.3	568
13	Efficient tandem solar cells with solution-processed perovskite on textured crystalline silicon. Science, 2020, 367, 1135-1140.	6.0	525
14	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.	1.5	516
15	Defect Tolerance in Methylammonium Lead Triiodide Perovskite. ACS Energy Letters, 2016, 1, 360-366.	8.8	500
16	Perovskite ink with wide processing window for scalable high-efficiency solar cells. Nature Energy, 2017, 2, .	19.8	499
17	Employing Lead Thiocyanate Additive to Reduce the Hysteresis and Boost the Fill Factor of Planar Perovskite Solar Cells. Advanced Materials, 2016, 28, 5214-5221.	11.1	487
18	Additive Engineering for Efficient and Stable Perovskite Solar Cells. Advanced Energy Materials, 2020, 10, 1902579.	10.2	477

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19	Extrinsic ion migration in perovskite solar cells. Energy and Environmental Science, 2017, 10, 1234-1242.	15.6	458
20	Removing Structural Disorder from Oriented TiO₂ Nanotube Arrays:â€‰ Reducing the Dimensionality of Transport and Recombination in Dye-Sensitized Solar Cells. Nano Letters, 2007, 7, 3739-3746.	4.5	449
21	Facile fabrication of large-grain CH3NH3PbI3âˆ’xBrx films for high-efficiency solar cells via CH3NH3Br-selective Ostwald ripening. Nature Communications, 2016, 7, 12305.	5.8	444
22	Long-range hot-carrier transport in hybrid perovskites visualized by ultrafast microscopy. Science, 2017, 356, 59-62.	6.0	434
23	Efficient two-terminal all-perovskite tandem solar cells enabled by high-quality low-bandgap absorber layers. Nature Energy, 2018, 3, 1093-1100.	19.8	422
24	Efficient, stable silicon tandem cells enabled by anion-engineered wide-bandgap perovskites. Science, 2020, 368, 155-160.	6.0	420
25	Advances in two-dimensional organicâ€“inorganic hybrid perovskites. Energy and Environmental Science, 2020, 13, 1154-1186.	15.6	420
26	Low surface recombination velocity in solution-grown CH3NH3PbBr3 perovskite single crystal. Nature Communications, 2015, 6, 7961.	5.8	406
27	Room-temperature crystallization of hybrid-perovskite thin films via solventâ€“solvent extraction for high-performance solar cells. Journal of Materials Chemistry A, 2015, 3, 8178-8184.	5.2	385
28	Top and bottom surfaces limit carrier lifetime in lead iodide perovskite films. Nature Energy, 2017, 2, .	19.8	376
29	Improved Phase Stability of Formamidinium Lead Triiodide Perovskite by Strain Relaxation. ACS Energy Letters, 2016, 1, 1014-1020.	8.8	367
30	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, 12360-12363.	6.6	362
31	Comparison of Recombination Dynamics in CH₃NH₃PbBr₃ and CH₃NH₃PbI₃ Perovskite Films: Influence of Exciton Binding Energy. Journal of Physical Chemistry Letters, 2015, 6, 4688-4692.	2.1	350
32	Impact of Capacitive Effect and Ion Migration on the Hysteretic Behavior of Perovskite Solar Cells. Journal of Physical Chemistry Letters, 2015, 6, 4693-4700.	2.1	335
33	Squareâ€Centimeter Solutionâ€Processed Planar CH₃NH₃PbI₃ Perovskite Solar Cells with Efficiency Exceeding 15%. Advanced Materials, 2015, 27, 6363-6370.	11.1	311
34	Charge Transport and Recombination in Perovskite (CH₃NH₃)PbI₃ Sensitized TiO₂ Solar Cells. Journal of Physical Chemistry Letters, 2013, 4, 2880-2884.	2.1	284
35	On-device lead sequestration for perovskite solar cells. Nature, 2020, 578, 555-558.	13.7	284
36	Solid-State Mesostructured Perovskite CH₃NH₃PbI₃ Solar Cells: Charge Transport, Recombination, and Diffusion Length. Journal of Physical Chemistry Letters, 2014, 5, 490-494.	2.1	275

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37	Spin-dependent charge transport through 2D chiral hybrid lead-iodide perovskites. Science Advances, 2019, 5, eaay0571.	4.7	275
38	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.	15.6	274
39	Enhanced Charge Transport in 2D Perovskites via Fluorination of Organic Cation. Journal of the American Chemical Society, 2019, 141, 5972-5979.	6.6	274
40	The 2020 photovoltaic technologies roadmap. Journal Physics D: Applied Physics, 2020, 53, 493001.	1.3	274
41	Simultaneous band-gap narrowing and carrier-lifetime prolongation of organicâ€“inorganic trihalide perovskites. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 8910-8915.	3.3	269
42	From Defects to Degradation: A Mechanistic Understanding of Degradation in Perovskite Solar Cell Devices and Modules. Advanced Energy Materials, 2020, 10, 1904054.	10.2	256
43	Reducing Saturationâ€Current Density to Realize Highâ€Efficiency Lowâ€Bandgap Mixed Tinâ€“Lead Halide Perovskite Solar Cells. Advanced Energy Materials, 2019, 9, 1803135.	10.2	255
44	Controllable Sequential Deposition of Planar CH₃NH₃PbI₃ Perovskite Films via Adjustable Volume Expansion. Nano Letters, 2015, 15, 3959-3963.	4.5	245
45	Rapid Charge Transport in Dyeâ€Sensitized Solar Cells Made from Vertically Aligned Singleâ€Crystal Rutile TiO₂ Nanowires. Angewandte Chemie - International Edition, 2012, 51, 2727-2730.	7.2	244
46	Influence of Electrode Interfaces on the Stability of Perovskite Solar Cells: Reduced Degradation Using MoO_{<i>x</i>}/Al for Hole Collection. ACS Energy Letters, 2016, 1, 38-45.	8.8	237
47	Solution Chemistry Engineering toward High-Efficiency Perovskite Solar Cells. Journal of Physical Chemistry Letters, 2014, 5, 4175-4186.	2.1	227
48	Bimolecular Additives Improve Wide-Band-Gap Perovskites for Efficient Tandem Solar Cells with CIGS. Joule, 2019, 3, 1734-1745.	11.7	227
49	Impact of grain boundaries on efficiency and stability of organic-inorganic trihalide perovskites. Nature Communications, 2017, 8, 2230.	5.8	220
50	Four-Terminal All-Perovskite Tandem Solar Cells Achieving Power Conversion Efficiencies Exceeding 23%. ACS Energy Letters, 2018, 3, 305-306.	8.8	219
51	Metastable Dion-Jacobson 2D structure enables efficient and stable perovskite solar cells. Science, 2022, 375, 71-76.	6.0	216
52	Carrier separation and transport in perovskite solar cells studied by nanometre-scale profiling of electrical potential. Nature Communications, 2015, 6, 8397.	5.8	205
53	Cooperative tin oxide fullerene electron selective layers for high-performance planar perovskite solar cells. Journal of Materials Chemistry A, 2016, 4, 14276-14283.	5.2	204
54	Roll-to-Roll Printing of Perovskite Solar Cells. ACS Energy Letters, 2018, 3, 2558-2565.	8.8	199

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55	Prospects for metal halide perovskite-based tandem solar cells. Nature Photonics, 2021, 15, 411-425.	15.6	195
56	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.	8.8	190
57	Structural and chemical evolution of methylammonium lead halide perovskites during thermal processing from solution. Energy and Environmental Science, 2016, 9, 2072-2082.	15.6	188
58	Advances in SnO₂ for Efficient and Stable nâ€“iâ€“p Perovskite Solar Cells. Advanced Materials, 2022, 34, e2110438.	11.1	186
59	Influence of Surface Area on Charge Transport and Recombination in Dye-Sensitized TiO2Solar Cellsâ€. Journal of Physical Chemistry B, 2006, 110, 25174-25180.	1.2	184
60	Reconfiguring the band-edge states of photovoltaic perovskites by conjugated organic cations. Science, 2021, 371, 636-640.	6.0	184
61	Exceptional Morphology-Preserving Evolution of Formamidinium Lead Triiodide Perovskite Thin Films via Organic-Cation Displacement. Journal of the American Chemical Society, 2016, 138, 5535-5538.	6.6	178
62	Substrate-controlled band positions in CH₃NH₃PbI₃perovskite films. Physical Chemistry Chemical Physics, 2014, 16, 22122-22130.	1.3	177
63	Outlook and Challenges of Perovskite Solar Cells toward Terawatt-Scale Photovoltaic Module Technology. Joule, 2018, 2, 1437-1451.	11.7	162
64	Do grain boundaries dominate non-radiative recombination in CH₃NH₃PbI₃ perovskite thin films?. Physical Chemistry Chemical Physics, 2017, 19, 5043-5050.	1.3	161
65	Grain-Size-Limited Mobility in Methylammonium Lead Iodide Perovskite Thin Films. ACS Energy Letters, 2016, 1, 561-565.	8.8	160
66	Transformative Evolution of Organolead Triiodide Perovskite Thin Films from Strong Room-Temperature Solidâ€“Gas Interaction between HPbI₃-CH₃NH₂ Precursor Pair. Journal of the American Chemical Society, 2016, 138, 750-753.	6.6	156
67	Scalable slot-die coating of high performance perovskite solar cells. Sustainable Energy and Fuels, 2018, 2, 2442-2449.	2.5	155
68	Achieving a high open-circuit voltage in inverted wide-bandgap perovskite solar cells with a graded perovskite homojunction. Nano Energy, 2019, 61, 141-147.	8.2	152
69	Highly Efficient Perovskite Solar Modules by Scalable Fabrication and Interconnection Optimization. ACS Energy Letters, 2018, 3, 322-328.	8.8	143
70	Pseudocapacitive Lithium-Ion Storage in Oriented Anatase TiO₂ Nanotube Arrays. Journal of Physical Chemistry C, 2012, 116, 11895-11899.	1.5	138
71	Electronic Structure and Optical Properties of Î±-CH₃NH₃PbBr₃ Perovskite Single Crystal. Journal of Physical Chemistry Letters, 2015, 6, 4304-4308.	2.1	136
72	Controlled Humidity Study on the Formation of Higher Efficiency Formamidinium Lead Triiodide-Based Solar Cells. Chemistry of Materials, 2015, 27, 4814-4820.	3.2	133

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73	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.	1.5	131
74	Selective dissolution of halide perovskites as a step towards recycling solar cells. Nature Communications, 2016, 7, 11735.	5.8	129
75	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.	5.2	128
76	Efficient charge extraction and slow recombination in organicâ€“inorganic perovskites capped with semiconducting single-walled carbon nanotubes. Energy and Environmental Science, 2016, 9, 1439-1449.	15.6	126
77	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.	8.8	126
78	Annealing-free efficient vacuum-deposited planar perovskite solar cells with evaporated fullerenes as electron-selective layers. Nano Energy, 2016, 19, 88-97.	8.2	125
79	Insights into operational stability and processing of halide perovskite active layers. Energy and Environmental Science, 2019, 12, 1341-1348.	15.6	125
80	Acid Additives Enhancing the Conductivity of Spiroâ€OMeTAD Toward Highâ€Efficiency and Hysteresisâ€Less Planar Perovskite Solar Cells. Advanced Energy Materials, 2017, 7, 1601451.	10.2	123
81	Carrier control in Snâ€“Pb perovskites via 2D cation engineering for all-perovskite tandem solar cells with improved efficiency and stability. Nature Energy, 2022, 7, 642-651.	19.8	121
82	300% Enhancement of Carrier Mobility in Uniaxialâ€Oriented Perovskite Films Formed by Topotacticâ€Oriented Attachment. Advanced Materials, 2017, 29, 1606831.	11.1	120
83	Self-Seeding Growth for Perovskite Solar Cells with Enhanced Stability. Joule, 2019, 3, 1452-1463.	11.7	120
84	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.	1.5	114
85	Thermally evaporated methylammonium tin triiodide thin films for lead-free perovskite solar cell fabrication. RSC Advances, 2016, 6, 90248-90254.	1.7	114
86	Perovskite Solar Cellsâ€”Towards Commercialization. ACS Energy Letters, 2017, 2, 1749-1751.	8.8	107
87	Ferroelectric solar cells based on inorganicâ€“organic hybrid perovskites. Journal of Materials Chemistry A, 2015, 3, 7699-7705.	5.2	103
88	Stability of inverted organic solar cells with ZnO contact layers deposited from precursor solutions. Energy and Environmental Science, 2015, 8, 592-601.	15.6	103
89	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.	8.8	103
90	Improving Charge Transport via Intermediateâ€Controlled Crystal Growth in 2D Perovskite Solar Cells. Advanced Functional Materials, 2019, 29, 1901652.	7.8	103

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91	Fast Supercapacitors Based on Grapheneâ€Bridged V₂O₃/VO<i>_x</i> Coreâ€“Shell Nanostructure Electrodes with a Power Density of 1 MW kg^{âˆ’1}. Advanced Materials Interfaces, 2014, 1, 1400398.	1.9	101
92	Perovskite Solar Cells Shine in the â€œValley of the Sunâ€. ACS Energy Letters, 2016, 1, 64-67.	8.8	101
93	Tuning Hole Transport Layer Using Urea for Highâ€Performance Perovskite Solar Cells. Advanced Functional Materials, 2019, 29, 1806740.	7.8	101
94	Three-step sequential solution deposition of PbI₂-free CH₃NH₃PbI₃perovskite. Journal of Materials Chemistry A, 2015, 3, 9086-9091.	5.2	100
95	Effects of alloying on the optical properties of organicâ€“inorganic lead halide perovskite thin films. Journal of Materials Chemistry C, 2016, 4, 7775-7782.	2.7	100
96	High-Performance Formamidinium-Based Perovskite Solar Cells via Microstructure-Mediated Î´-to-Î± Phase Transformation. Chemistry of Materials, 2017, 29, 3246-3250.	3.2	99
97	Large polarization-dependent exciton optical Stark effect in lead iodide perovskites. Nature Communications, 2016, 7, 12613.	5.8	98
98	Crystal Morphologies of Organolead Trihalide in Mesoscopic/Planar Perovskite Solar Cells. Journal of Physical Chemistry Letters, 2015, 6, 2292-2297.	2.1	93
99	Sub-1.4eV bandgap inorganic perovskite solar cells with long-term stability. Nature Communications, 2020, 11, 151.	5.8	92
100	Manipulating Crystallization of Organolead Mixed-Halide Thin Films in Antisolvent Baths for Wide-Bandgap Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2016, 8, 2232-2237.	4.0	91
101	Wide-Bandgap Metal Halide Perovskites for Tandem Solar Cells. ACS Energy Letters, 2021, 6, 232-248.	8.8	89
102	Sustainable lead management in halide perovskite solar cells. Nature Sustainability, 2020, 3, 1044-1051.	11.5	87
103	Determining the locus for photocarrier recombination in dye-sensitized solar cells. Applied Physics Letters, 2002, 80, 685-687.	1.5	86
104	Highly Efficient and Uniform 1â€…cm² Perovskite Solar Cells with an Electrochemically Deposited NiO_{<i>x</i>} Holeâ€Extraction Layer. ChemSusChem, 2017, 10, 2660-2667.	3.6	84
105	Charge Transfer Dynamics between Carbon Nanotubes and Hybrid Organic Metal Halide Perovskite Films. Journal of Physical Chemistry Letters, 2016, 7, 418-425.	2.1	83
106	Efficient and Stable Graded CsPbI3âˆ’xBrx Perovskite Solar Cells and Submodules by Orthogonal Processable Spray Coating. Joule, 2021, 5, 481-494.	11.7	81
107	Constructing Ordered Sensitized Heterojunctions: Bottom-Up Electrochemical Synthesis of p-Type Semiconductors in Oriented n-TiO₂ Nanotube Arrays. Nano Letters, 2009, 9, 806-813.	4.5	80
108	In situ investigation of the formation and metastability of formamidinium lead tri-iodide perovskite solar cells. Energy and Environmental Science, 2016, 9, 2372-2382.	15.6	79

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109	Electronâ€“Rotor Interaction in Organicâ€“Inorganic Lead Iodide Perovskites Discovered by Isotope Effects. Journal of Physical Chemistry Letters, 2016, 7, 2879-2887.	2.1	79
110	Enhancing Charge Transport of 2D Perovskite Passivation Agent for Wideâ€Bandgap Perovskite Solar Cells Beyond 21%. Solar Rrl, 2020, 4, 2000082.	3.1	79
111	Scalable Deposition of High-Efficiency Perovskite Solar Cells by Spray-Coating. ACS Applied Energy Materials, 2018, 1, 1853-1857.	2.5	78
112	Stable Formamidiniumâ€Based Perovskite Solar Cells via In Situ Grain Encapsulation. Advanced Energy Materials, 2018, 8, 1800232.	10.2	78
113	The Controlling Mechanism for Potential Loss in CH₃NH₃PbBr₃ Hybrid Solar Cells. ACS Energy Letters, 2016, 1, 424-430.	8.8	77
114	Planar versus mesoscopic perovskite microstructures: The influence of CH3NH3PbI3 morphology on charge transport and recombination dynamics. Nano Energy, 2016, 22, 439-452.	8.2	76
115	Quantitative analysis of time-resolved microwave conductivity data. Journal Physics D: Applied Physics, 2017, 50, 493002.	1.3	74
116	Probing Perovskite Inhomogeneity beyond the Surface: TOF-SIMS Analysis of Halide Perovskite Photovoltaic Devices. ACS Applied Materials & Interfaces, 2018, 10, 28541-28552.	4.0	72
117	Reduced Self-Doping of Perovskites Induced by Short Annealing for Efficient Solar Modules. Joule, 2020, 4, 1949-1960.	11.7	72
118	Enhanced Charge Transport by Incorporating Formamidinium and Cesium Cations into Twoâ€Dimensional Perovskite Solar Cells. Angewandte Chemie - International Edition, 2019, 58, 11737-11741.	7.2	67
119	Thermally Stable Perovskite Solar Cells by Systematic Molecular Design of the Hole-Transport Layer. ACS Energy Letters, 2019, 4, 473-482.	8.8	66
120	Perovskite Photovoltaics: The Path to a Printable Terawatt-Scale Technology. ACS Energy Letters, 2017, 2, 2540-2544.	8.8	64
121	Controlled synthesis of aligned Ni-NiO core-shell nanowire arrays on glass substrates as a new supercapacitor electrode. RSC Advances, 2012, 2, 8281.	1.7	62
122	Ionic and Optical Properties of Methylammonium Lead Iodide Perovskite across the Tetragonalâ€“Cubic Structural Phase Transition. ChemSusChem, 2016, 9, 2692-2698.	3.6	61
123	Electron and hole drift mobility measurements on methylammonium lead iodide perovskite solar cells. Applied Physics Letters, 2016, 108, .	1.5	60
124	3D/2D multidimensional perovskites: Balance of high performance and stability for perovskite solar cells. Current Opinion in Electrochemistry, 2018, 11, 105-113.	2.5	59
125	Ultrafast Imaging of Carrier Transport across Grain Boundaries in Hybrid Perovskite Thin Films. ACS Energy Letters, 2018, 3, 1402-1408.	8.8	55
126	Ultrafast Fenton-like reaction route to FeOOH/NiFe-LDH heterojunction electrode for efficient oxygen evolution reaction. Journal of Materials Chemistry A, 2021, 9, 21785-21791.	5.2	55

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127	Surface-Activated Corrosion in Tinâ€“Lead Halide Perovskite Solar Cells. ACS Energy Letters, 2020, 5, 3344-3351.	8.8	55
128	On-device lead-absorbing tapes for sustainable perovskite solar cells. Nature Sustainability, 2021, 4, 1038-1041.	11.5	53
129	Investigating the Effects of Chemical Gradients on Performance and Reliability within Perovskite Solar Cells with TOFâ€•SIMS. Advanced Energy Materials, 2020, 10, 1903674.	10.2	52
130	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.	4.0	51
131	High-performance methylammonium-free ideal-band-gap perovskite solar cells. Matter, 2021, 4, 1365-1376.	5.0	51
132	Divalent Anionic Doping in Perovskite Solar Cells for Enhanced Chemical Stability. Advanced Materials, 2018, 30, e1800973.	11.1	50
133	3D/2D passivation as a secret to success for polycrystalline thin-film solar cells. Joule, 2021, 5, 1057-1073.	11.7	48
134	Methylammonium lead iodide grain boundaries exhibit depth-dependent electrical properties. Energy and Environmental Science, 2016, 9, 3642-3649.	15.6	47
135	Carbazole-Based Hole-Transport Materials for High-Efficiency and Stable Perovskite Solar Cells. ACS Applied Energy Materials, 2020, 3, 4492-4498.	2.5	47
136	Electrochemical impedance analysis of perovskiteâ€“electrolyte interfaces. Chemical Communications, 2017, 53, 2467-2470.	2.2	46
137	Third-order nonlinear optical properties of methylammonium lead halide perovskite films. Journal of Materials Chemistry C, 2016, 4, 4847-4852.	2.7	45
138	Surface engineering with oxidized Ti3C2Tx MXene enables efficient and stable p-i-n-structured CsPbI3 perovskite solar cells. Joule, 2022, 6, 1672-1688.	11.7	45
139	Proton Reduction Using a Hydrogenase-Modified Nanoporous Black Silicon Photoelectrode. ACS Applied Materials & Interfaces, 2016, 8, 14481-14487.	4.0	44
140	Mitigating Measurement Artifacts in TOF-SIMS Analysis of Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2019, 11, 30911-30918.	4.0	44
141	Learning from existing photovoltaic technologies to identify alternative perovskite module designs. Energy and Environmental Science, 2020, 13, 3393-3403.	15.6	43
142	Intercalation crystallization of phase-pure Î±-HC(NH₂)₂PbI₃upon microstructurally engineered PbI₂thin films for planar perovskite solar cells. Nanoscale, 2016, 8, 6265-6270.	2.8	41
143	26.7% Efficient 4-Terminal Perovskiteâ€“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.	1.5	40
144	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.	5.2	39

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145	Choose Your Own Adventure: Fabrication of Monolithic Allâ€Perovskite Tandem Photovoltaics. Advanced Materials, 2020, 32, e2003312.	11.1	39
146	Inhomogeneous Doping of Perovskite Materials by Dopants from Hole-Transport Layer. Matter, 2020, 2, 261-272.	5.0	38
147	Individual Electron and Hole Mobilities in Lead-Halide Perovskites Revealed by Noncontact Methods. ACS Energy Letters, 2020, 5, 47-55.	8.8	37
148	Surface lattice engineering through three-dimensional lead iodide perovskitoid for high-performance perovskite solar cells. CheM, 2021, 7, 774-785.	5.8	37
149	Atomically Resolved Electrically Active Intragrain Interfaces in Perovskite Semiconductors. Journal of the American Chemical Society, 2022, 144, 1910-1920.	6.6	37
150	Effects of water intrusion on the charge-carrier dynamics, performance, and stability of dye-sensitized solar cells. Energy and Environmental Science, 2012, 5, 9492.	15.6	36
151	Low-Cost, Efficient, and Durable H₂ Production by Photoelectrochemical Water Splitting with CuGa₃Se₅ Photocathodes. ACS Applied Materials & Interfaces, 2018, 10, 19573-19579.	4.0	33
152	Effect of non-stoichiometric solution chemistry on improving the performance of wide-bandgap perovskite solar cells. Materials Today Energy, 2018, 7, 232-238.	2.5	31
153	Stability at Scale: Challenges of Module Interconnects for Perovskite Photovoltaics. ACS Energy Letters, 2018, 3, 2502-2503.	8.8	31
154	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.	5.2	30
155	Mesoporous scaffolds based on TiO₂ nanorods and nanoparticles for efficient hybrid perovskite solar cells. Journal of Materials Chemistry A, 2015, 3, 24315-24321.	5.2	29
156	Understanding and removing surface states limiting charge transport in TiO₂ nanowire arrays for enhanced optoelectronic device performance. Chemical Science, 2016, 7, 1910-1913.	3.7	29
157	Trend of Perovskite Solar Cells: Dig Deeper to Build Higher. Journal of Physical Chemistry Letters, 2015, 6, 2315-2317.	2.1	27
158	Effect of Water Vapor, Temperature, and Rapid Annealing on Formamidinium Lead Triiodide Perovskite Crystallization. ACS Energy Letters, 2016, 1, 155-161.	8.8	27
159	Construction of reduced graphene oxide coupled with CoSe2-MoSe2 heterostructure for enhanced electrocatalytic hydrogen production. Journal of Colloid and Interface Science, 2022, 608, 922-930.	5.0	26
160	Electronic and Morphological Inhomogeneities in Pristine and Deteriorated Perovskite Photovoltaic Films. Nano Letters, 2017, 17, 1796-1801.	4.5	25
161	8-Hydroxylquinoline-conjugated porphyrins as broadband light absorbers for dye-sensitized solar cells. New Journal of Chemistry, 2014, 38, 1565.	1.4	23
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