

# Recombination in Perovskite Solar Cells: Significance of and Defect Ions

ACS Energy Letters

2, 1214-1222

DOI: [10.1021/acsenergylett.7b00236](https://doi.org/10.1021/acsenergylett.7b00236)

Citation Report

#	ARTICLE	IF	CITATIONS
1	Colloidal engineering for monolayer CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> films toward high performance perovskite solar cells. <i>Journal of Materials Chemistry A</i> , 2017, 5, 24168-24177.	5.2	87
2	Zero-Dimensional Methylammonium Bismuth Iodide-Based Lead-Free Perovskite Capacitor. <i>ACS Omega</i> , 2017, 2, 5798-5802.	1.6	55
3	Tracking the maximum power point of hysteretic perovskite solar cells using a predictive algorithm. <i>Journal of Materials Chemistry C</i> , 2017, 5, 10152-10157.	2.7	18
4	Role of Ionic Functional Groups on Ion Transport at Perovskite Interfaces. <i>Advanced Energy Materials</i> , 2017, 7, 1701235.	10.2	37
5	Effect of Low Temperature on Charge Transport in Operational Planar and Mesoporous Perovskite Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 42769-42778.	4.0	4
6	Transfer Matrix Formalism-Based Analytical Modeling and Performance Evaluation of Perovskite Solar Cells. <i>IEEE Transactions on Electron Devices</i> , 2017, 64, 5034-5041.	1.6	16
7	Intrinsic and interfacial kinetics of perovskite solar cells under photo and bias-induced degradation and recovery. <i>Journal of Materials Chemistry C</i> , 2017, 5, 7799-7805.	2.7	34
8	Compact TiO <sub>2</sub> films with sandwiched Ag nanoparticles as electron-collecting layer in planar type perovskite solar cells: improvement in efficiency and stability. <i>RSC Advances</i> , 2018, 8, 7847-7854.	1.7	26
9	A first-principles prediction on the "healing effect" of graphene preventing carrier trapping near the surface of metal halide perovskites. <i>Chemical Science</i> , 2018, 9, 3341-3353.	3.7	19
10	From Nanostructural Evolution to Dynamic Interplay of Constituents: Perspectives for Perovskite Solar Cells. <i>Advanced Materials</i> , 2018, 30, e1704208.	11.1	54
11	Vacuum Deposited Triple-Cation Mixed-Halide Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2018, 8, 1703506.	10.2	147
12	Opto-electronic characterization of third-generation solar cells. <i>Science and Technology of Advanced Materials</i> , 2018, 19, 291-316.	2.8	91
13	On the importance of ferroelectric domains for the performance of perovskite solar cells. <i>Nano Energy</i> , 2018, 48, 20-26.	8.2	52
14	Investigating Recombination and Charge Carrier Dynamics in a One-Dimensional Nanopillared Perovskite Absorber. <i>ACS Nano</i> , 2018, 12, 4233-4245.	7.3	44
15	Temperature Variation-Induced Performance Decline of Perovskite Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 16390-16399.	4.0	89
16	Slot-Die Coated Perovskite Films Using Mixed Lead Precursors for Highly Reproducible and Large-Area Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 16133-16139.	4.0	92
17	Dual nanocomposite carrier transport layers enhance the efficiency of planar perovskite photovoltaics. <i>RSC Advances</i> , 2018, 8, 12526-12534.	1.7	20
18	The effects of interfacial recombination and injection barrier on the electrical characteristics of perovskite solar cells. <i>AIP Advances</i> , 2018, 8, .	0.6	17

#	ARTICLE	IF	CITATIONS
19	Hole Transfer Dynamics from Photoexcited Cesium Lead Halide Perovskite Nanocrystals: 1-Aminopyrene as Hole Acceptor. <i>Journal of Physical Chemistry C</i> , 2018, 122, 13617-13623.	1.5	42
20	Low-dimensional halide perovskites: review and issues. <i>Journal of Materials Chemistry C</i> , 2018, 6, 2189-2209.	2.7	165
21	Research progress on organic-inorganic halide perovskite materials and solar cells. <i>Journal Physics D: Applied Physics</i> , 2018, 51, 093001.	1.3	56
22	Green Antisolvent Processed Planar Perovskite Solar Cells with Efficiency Beyond 19%. <i>Solar Rrl</i> , 2018, 2, 1700213.	3.1	91
23	Practical Efficiency Limit of Methylammonium Lead Iodide Perovskite (CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> ) Solar Cells. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 426-434.	2.1	68
24	Device Physics of Hybrid Perovskite Solar cells: Theory and Experiment. <i>Advanced Energy Materials</i> , 2018, 8, 1702772.	10.2	186
25	How Methylammonium Cations and Chlorine Dopants Heal Defects in Lead Iodide Perovskites. <i>Advanced Energy Materials</i> , 2018, 8, 1702754.	10.2	86
26	Grain Boundary Modification via F4TCNQ To Reduce Defects of Perovskite Solar Cells with Excellent Device Performance. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 1909-1916.	4.0	115
27	Impact of Ultrathin C <sub>60</sub> on Perovskite Photovoltaic Devices. <i>ACS Nano</i> , 2018, 12, 876-883.	7.3	80
28	Interface-Dependent Radiative and Nonradiative Recombination in Perovskite Solar Cells. <i>Journal of Physical Chemistry C</i> , 2018, 122, 10691-10698.	1.5	40
29	Light-current-induced acceleration of degradation of methylammonium lead iodide perovskite solar cells. <i>Journal of Power Sources</i> , 2018, 384, 303-311.	4.0	9
30	Evidence of Bipolar Resistive Switching Memory in Perovskite Solar Cell. <i>IEEE Journal of the Electron Devices Society</i> , 2018, 6, 454-463.	1.2	15
31	Minimizing performance degradation induced by interfacial recombination in perovskite solar cells through tailoring of the transport layer electronic properties. <i>APL Materials</i> , 2018, 6, .	2.2	29
32	Interpretation and evolution of open-circuit voltage, recombination, ideality factor and subgap defect states during reversible light-soaking and irreversible degradation of perovskite solar cells. <i>Energy and Environmental Science</i> , 2018, 11, 151-165.	15.6	586
33	Polymer Doping for High-Efficiency Perovskite Solar Cells with Improved Moisture Stability. <i>Advanced Energy Materials</i> , 2018, 8, 1701757.	10.2	293
34	Effects of Cyclic Tetrapyrrole Rings of Aggregate-Forming Chlorophyll Derivatives as Hole-Transporting Materials on Performance of Perovskite Solar Cells. <i>ACS Applied Energy Materials</i> , 2018, 1, 9-16.	2.5	27
35	Ultrasensitive Heterojunctions of Graphene and 2D Perovskites Reveal Spontaneous Iodide Loss. <i>Joule</i> , 2018, 2, 2133-2144.	11.7	39
36	Precursor Concentration Affects Grain Size, Crystal Orientation, and Local Performance in Mixed-Ion Lead Perovskite Solar Cells. <i>ACS Applied Energy Materials</i> , 2018, 1, 6801-6808.	2.5	65

#	ARTICLE	IF	CITATIONS
37	Trap states in multication mesoscopic perovskite solar cells: A deep levels transient spectroscopy investigation. <i>Applied Physics Letters</i> , 2018, 113, .	1.5	33
38	Comprehensive Understanding and Controlling the Defect Structures: An Effective Approach for Organic-Inorganic Hybrid Perovskite-Based Solar-Cell Application. <i>Frontiers in Energy Research</i> , 2018, 6, .	1.2	35
39	Control of Interface Defects for Efficient and Stable Quasi-2D Perovskite Light-Emitting Diodes Using Nickel Oxide Hole Injection Layer. <i>Advanced Science</i> , 2018, 5, 1801350.	5.6	92
40	Drift-Diffusion and Analytical Modeling of the Recombination Mechanisms in Organic Solar Cells: Effect of the Nonconstant Charge Distribution Inside the Active Layer. <i>IEEE Journal of Photovoltaics</i> , 2018, 8, 1677-1684.	1.5	1
41	Bilayer SnO <sub>2</sub> as Electron Transport Layer for Highly Efficient Perovskite Solar Cells. <i>ACS Applied Energy Materials</i> , 2018, 1, 6027-6039.	2.5	88
42	MoS <sub>2</sub> Quantum Dot/Graphene Hybrids for Advanced Interface Engineering of a CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Perovskite Solar Cell with an Efficiency of over 20%. <i>ACS Nano</i> , 2018, 12, 10736-10754.	7.3	201
43	Enhanced Electron Collection and Light Harvesting of CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Perovskite Solar Cells Using Nanopatterned Substrates. <i>Advanced Materials Interfaces</i> , 2018, 5, 1801118.	1.9	10
44	Investigation of recombination in organic heterostructures by i-CELIV. <i>Applied Physics Letters</i> , 2018, 113, 123301.	1.5	2
45	The Interplay of Contact Layers: How the Electron Transport Layer Influences Interfacial Recombination and Hole Extraction in Perovskite Solar Cells. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 6249-6256.	2.1	68
46	Repairing Defects of Halide Perovskite Films To Enhance Photovoltaic Performance. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 37005-37013.	4.0	40
47	Control of Charge Recombination in Perovskites by Oxidation State of Halide Vacancy. <i>Journal of the American Chemical Society</i> , 2018, 140, 15753-15763.	6.6	129
48	Sequential Slot-Die Deposition of Perovskite Solar Cells Using Dimethylsulfoxide Lead Iodide Ink. <i>Materials</i> , 2018, 11, 2106.	1.3	14
49	Electrospun charge transport structures for hybrid perovskite solar cells. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2018, 36, .	0.6	0
50	Efficiency Exceeding 20% in Perovskite Solar Cells with Side-Chain Liquid Crystalline Polymer-“Doped Perovskite Absorbers. <i>Advanced Energy Materials</i> , 2018, 8, 1801637.	10.2	48
51	Possible interfacial ion/charge accumulation in thin-film perovskite/fullerene surfactant planar heterojunction solar cells. <i>Journal Physics D: Applied Physics</i> , 2018, 51, 504001.	1.3	3
52	Perovskite solar cells in N-I-P structure with four slot-die-coated layers. <i>Royal Society Open Science</i> , 2018, 5, 172158.	1.1	44
53	Ultrafast Imaging of Carrier Transport across Grain Boundaries in Hybrid Perovskite Thin Films. <i>ACS Energy Letters</i> , 2018, 3, 1402-1408.	8.8	55
54	ZnO-Assisted Growth of CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Cl Film and Efficient Planar Perovskite Solar Cells with a TiO <sub>2</sub> /ZnO/C <sub>60</sub> Electron Transport Trilayer. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 20578-20590.	4.0	19

#	ARTICLE	IF	CITATIONS
55	Probing the Correlation of Twin Boundaries and Charge Transport of CdTe Solar Cells Using Electron Backscattering Diffraction and Conductive Atomic Force Microscopy. <i>ACS Applied Energy Materials</i> , 2018, 1, 3646-3653.	2.5	2
56	Understanding the effect of chlorobenzene and isopropanol anti-solvent treatments on the recombination and interfacial charge accumulation in efficient planar perovskite solar cells. <i>Journal of Materials Chemistry A</i> , 2018, 6, 14307-14314.	5.2	94
57	Magnesium-Doped MAPbI <sub>3</sub> Perovskite Layers for Enhanced Photovoltaic Performance in Humid Air Atmosphere. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 24543-24548.	4.0	79
58	Precisely Controlling the Grain Sizes with an Ammonium Hypophosphite Additive for High-Performance Perovskite Solar Cells. <i>Advanced Functional Materials</i> , 2018, 28, 1802320.	7.8	65
59	High-performance pseudo-halide perovskite nanowire networks for stable and fast-response photodetector. <i>Nano Energy</i> , 2018, 51, 324-332.	8.2	53
60	Defect Engineering toward Highly Efficient and Stable Perovskite Solar Cells. <i>Advanced Materials Interfaces</i> , 2018, 5, 1800326.	1.9	40
61	Enhancing the efficiency of perovskite solar cells using mesoscopic zinc-doped TiO <sub>2</sub> as the electron extraction layer through band alignment. <i>Journal of Materials Chemistry A</i> , 2018, 6, 16920-16931.	5.2	71
62	Fluorescence Blinking Beyond Nanoconfinement: Spatially Synchronous Intermittency of Entire Perovskite Microcrystals. <i>Angewandte Chemie</i> , 2018, 130, 11777-11781.	1.6	9
63	Fluorescence Blinking Beyond Nanoconfinement: Spatially Synchronous Intermittency of Entire Perovskite Microcrystals. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 11603-11607.	7.2	32
64	Effect of the conduction band offset on interfacial recombination behavior of the planar perovskite solar cells. <i>Nano Energy</i> , 2018, 53, 17-26.	8.2	110
65	Characterization of trap states in perovskite films by simultaneous fitting of steady-state and transient photoluminescence measurements. <i>Journal of Applied Physics</i> , 2018, 124, .	1.1	10
66	Vapor transport deposition of antimony selenide thin film solar cells with 7.6% efficiency. <i>Nature Communications</i> , 2018, 9, 2179.	5.8	426
67	Beyond Fullerenes: Indacenodithiophene-Based Organic Charge-Transport Layer toward Upscaling of Low-Cost Perovskite Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 22143-22155.	4.0	27
68	Enhancing the power conversion efficiency of perovskite solar cells via the controlled growth of perovskite nanowires. <i>Nano Energy</i> , 2018, 51, 192-198.	8.2	64
69	Realization of a Highly Oriented MAPbBr <sub>3</sub> Perovskite Thin Film via Ion Exchange for Ultrahigh Color Purity Green Light Emission. <i>ACS Energy Letters</i> , 2018, 3, 1662-1669.	8.8	38
70	Stable and Colorful Perovskite Solar Cells Using a Nonperiodic SiO <sub>2</sub> /TiO <sub>2</sub> Multi-Nanolayer Filter. <i>ACS Nano</i> , 2019, 13, 10129-10139.	7.3	55
71	Importance of Functional Groups in Cross-Linking Methoxysilane Additives for High-Efficiency and Stable Perovskite Solar Cells. <i>ACS Energy Letters</i> , 2019, 4, 2192-2200.	8.8	157
72	Structured crystallization for efficient all-inorganic perovskite solar cells with high phase stability. <i>Journal of Materials Chemistry A</i> , 2019, 7, 20390-20397.	5.2	25

#	ARTICLE	IF	CITATIONS
73	Toward Highly Reproducible, Efficient, and Stable Perovskite Solar Cells via Interface Engineering with CoO Nanoplates. ACS Applied Materials & Interfaces, 2019, 11, 32159-32168.	4.0	41
74	Enhanced long-term stability of perovskite solar cells by passivating grain boundary with polydimethylsiloxane (PDMS). Journal of Materials Chemistry A, 2019, 7, 20832-20839.	5.2	31
75	Three-Dimensional FDTD Optical Simulation of Surface Roughness in the Perovskite Solar Cell. IEEE Journal of Photovoltaics, 2019, 9, 1046-1050.	1.5	1
76	Stable P3HT: amorphous non-fullerene solar cells with a high open-circuit voltage of 1 V and efficiency of 4%. RSC Advances, 2019, 9, 20733-20741.	1.7	9
77	Device Physics of the Carrier Transporting Layer in Planar Perovskite Solar Cells. Advanced Optical Materials, 2019, 7, 1900407.	3.6	34
78	CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> thin films prepared by hot-casting technique in the air: growth mechanism, trap states and relating solar cells. Japanese Journal of Applied Physics, 2019, 58, S1D07.	0.8	5
79	The impact of energy alignment and interfacial recombination on the internal and external open-circuit voltage of perovskite solar cells. Energy and Environmental Science, 2019, 12, 2778-2788.	15.6	570
80	Carrier-gas assisted vapor deposition for highly tunable morphology of halide perovskite thin films. Sustainable Energy and Fuels, 2019, 3, 2447-2455.	2.5	12
81	A new polytriarylamine derivative for dopant-free high-efficiency perovskite solar cells. Sustainable Energy and Fuels, 2019, 3, 2627-2632.	2.5	32
82	Charge Transport Layers Limiting the Efficiency of Perovskite Solar Cells: How To Optimize Conductivity, Doping, and Thickness. ACS Applied Energy Materials, 2019, 2, 6280-6287.	2.5	110
83	Theoretical Analysis of Two-Terminal and Four-Terminal Perovskite/Copper Indium Gallium Selenide Tandem Solar Cells. Solar Rrl, 2019, 3, 1900303.	3.1	38
84	Solution-processed WO <sub>3</sub> and water-free PEDOT:PSS composite for hole transport layer in conventional perovskite solar cell. Electrochimica Acta, 2019, 319, 349-358.	2.6	44
85	The Role of Surface Passivation Layer Preparation on Crystallization and Optoelectronic Performance of Hybrid Evaporated-Spincoated Perovskite Solar Cells. IEEE Journal of Photovoltaics, 2019, 9, 1428-1435.	1.5	2
86	Asymmetric 3D Hole-Transporting Materials Based on Triphenylethylene for Perovskite Solar Cells. Chemistry of Materials, 2019, 31, 5431-5441.	3.2	53
87	Unveiling the Nanoparticle-Seeded Catalytic Nucleation Kinetics of Perovskite Solar Cells by Time-Resolved GIXS. Advanced Functional Materials, 2019, 29, 1902582.	7.8	27
88	Imaging and Mapping Characterization Tools for Perovskite Solar Cells. Advanced Energy Materials, 2019, 9, 1900444.	10.2	44
89	Nonradiative Recombination in Perovskite Solar Cells: The Role of Interfaces. Advanced Materials, 2019, 31, e1902762.	11.1	422
90	HEMODYNAMIC MECHANISM OF BLOOD STOLEN-PHENOMENON IN CORONARY ARTERY ANEURYSM. Journal of Mechanics in Medicine and Biology, 2019, 19, 1950033.	0.3	1

#	ARTICLE	IF	CITATIONS
91	Impact of $\text{PbI}_2$ Passivation and Grain Size Engineering in $\text{CH}_3\text{NH}_3\text{PbI}_3$ Solar Absorbers as Revealed by Carrier-Resolved Photo-Hall Technique. <i>Advanced Energy Materials</i> , 2019, 9, 1902706.	10.2	52
92	Incorporating CsF into the $\text{PbI}_2$ Film for Stable Mixed Cation-Halide Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2019, 9, 1901726.	10.2	46
93	Effect of CsCl Additive on the Morphological and Optoelectronic Properties of Formamidinium Lead Iodide Perovskite. <i>Solar Rrl</i> , 2019, 3, 1900294.	3.1	30
94	Anharmonicity Extends Carrier Lifetimes in Lead Halide Perovskites at Elevated Temperatures. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 6219-6226.	2.1	66
95	The investigation of the unseen interrelationship of grain size, ionic defects, device physics and performance of perovskite solar cells. <i>Journal Physics D: Applied Physics</i> , 2019, 52, 125501.	1.3	38
96	The Role of Grain Boundaries in Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2019, 9, 1901489.	10.2	202
97	Enhanced photovoltaic properties of perovskite solar cells by the addition of cellulose derivatives to MAPbI <sub>3</sub> based photoactive layer. <i>Cellulose</i> , 2019, 26, 9229-9239.	2.4	18
98	2D-3D heterostructure enables scalable coating of efficient low-bandgap Sn-Pb mixed perovskite solar cells. <i>Nano Energy</i> , 2019, 66, 104099.	8.2	63
99	<i>In situ</i> monitoring of the charge carrier dynamics of $\text{CH}_3\text{NH}_3\text{PbI}_3$ perovskite crystallization process. <i>Journal of Materials Chemistry C</i> , 2019, 7, 12170-12179.	2.7	10
100	Influence of Interfacial Traps on the Operating Temperature of Perovskite Solar Cells. <i>Materials</i> , 2019, 12, 2727.	1.3	12
101	Oriented Attachment as the Mechanism for Microstructure Evolution in Chloride-Derived Hybrid Perovskite Thin Films. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 39930-39939.	4.0	26
102	Improving performance and moisture stability of perovskite solar cells through interface engineering with polymer-2D MoS <sub>2</sub> nanohybrid. <i>Solar Energy</i> , 2019, 193, 95-101.	2.9	30
103	Morphology control of perovskite in green antisolvent system for MAPbI <sub>3</sub> -based solar cells with over 20% efficiency. <i>Solar Energy Materials and Solar Cells</i> , 2019, 203, 110197.	3.0	25
104	Crystal Orientation and Grain Size: Do They Determine Optoelectronic Properties of MAPbI <sub>3</sub> Perovskite?. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 6010-6018.	2.1	82
105	Unraveling the Impacts Induced by Organic and Inorganic Hole Transport Layers in Inverted Halide Perovskite Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 7055-7065.	4.0	49
106	Influence of Urbach Energy, Temperature, and Longitudinal Position in the Active Layer on Carrier Diffusion Length in Perovskite Solar Cells. <i>ChemPhysChem</i> , 2019, 20, 2712-2717.	1.0	41
107	Synergistic Surface Passivation of $\text{CH}_3\text{NH}_3\text{PbBr}_3$ Perovskite Quantum Dots with Phosphonic Acid and (3-aminopropyl)triethoxysilane. <i>Chemistry - A European Journal</i> , 2019, 25, 5014-5021.	1.7	43
108	Cation influence on carrier dynamics in perovskite solar cells. <i>Nano Energy</i> , 2019, 58, 604-611.	8.2	75



#	ARTICLE	IF	CITATIONS
109	Effect of density of surface defects on photoluminescence properties in MAPbI <sub>3</sub> perovskite films. <i>Journal of Materials Chemistry C</i> , 2019, 7, 5285-5292.	2.7	57
110	Correlation of recombination and open circuit voltage in planar heterojunction perovskite solar cells. <i>Journal of Materials Chemistry C</i> , 2019, 7, 1273-1279.	2.7	22
111	Water-Based TiO <sub>2</sub> Nanocrystal as an Electronic Transport Layer for Operationally Stable Perovskite Solar Cells. <i>Solar Rrl</i> , 2019, 3, 1900167.	3.1	12
112	Oxysulfide photocatalyst for visible-light-driven overall water splitting. <i>Nature Materials</i> , 2019, 18, 827-832.	13.3	422
113	Influence of Defects on Excited-State Dynamics in Lead Halide Perovskites: Time-Domain ab Initio Studies. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 3788-3804.	2.1	66
114	Transient Sub-Band-Gap States at Grain Boundaries of CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Perovskite Act as Fast Temperature Relaxation Centers. <i>ACS Energy Letters</i> , 2019, 4, 1741-1747.	8.8	33
115	Triplet Sensitization by Lead Halide Perovskite Thin Films for Efficient Solid-State Photon Upconversion at Subsolar Fluxes. <i>Matter</i> , 2019, 1, 705-719.	5.0	84
116	Enhancing Efficiency and Stability of Hot Casting p-i-n Perovskite Solar Cell via Dipolar Ion Passivation. <i>ACS Applied Energy Materials</i> , 2019, 2, 4821-4832.	2.5	49
117	Tin( <sup>iv</sup> ) dopant removal through anti-solvent engineering enabling tin based perovskite solar cells with high charge carrier mobilities. <i>Journal of Materials Chemistry C</i> , 2019, 7, 8389-8397.	2.7	34
118	Tailoring the film morphology and interface band offset of caesium bismuth iodide-based Pb-free perovskite solar cells. <i>Journal of Materials Chemistry C</i> , 2019, 7, 8335-8343.	2.7	78
119	High-Performance Inverted Perovskite Solar Cells by Reducing Electron Capture Region for Electron Transport Layers. <i>Solar Rrl</i> , 2019, 3, 1900207.	3.1	6
120	Consistent Device Simulation Model Describing Perovskite Solar Cells in Steady-State, Transient, and Frequency Domain. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 23320-23328.	4.0	72
121	Analytic approximations for solar cell open circuit voltage, short circuit current and fill factor. <i>Solar Energy</i> , 2019, 187, 358-367.	2.9	11
122	Soft interfaces within hybrid perovskite solar cells: real-time dynamic tracking of interfacial electrical property evolution by EIS. <i>Journal of Materials Chemistry C</i> , 2019, 7, 8294-8302.	2.7	15
123	Imperfections and their passivation in halide perovskite solar cells. <i>Chemical Society Reviews</i> , 2019, 48, 3842-3867.	18.7	1,257
124	Efficiency of all-perovskite two-terminal tandem solar cells: A drift-diffusion study. <i>Solar Energy</i> , 2019, 187, 39-46.	2.9	27
125	Defect and Contact Passivation for Perovskite Solar Cells. <i>Advanced Materials</i> , 2019, 31, e1900428.	11.1	445
126	Surface Band Bending Influences the Open-Circuit Voltage of Perovskite Solar Cells. <i>ACS Applied Energy Materials</i> , 2019, 2, 4045-4052.	2.5	15



#	ARTICLE	IF	CITATIONS
127	Single-Crystal MAPbI <sub>3</sub> Perovskite Solar Cells Exceeding 21% Power Conversion Efficiency. ACS Energy Letters, 2019, 4, 1258-1259.	8.8	424
128	Trap passivation and efficiency improvement of perovskite solar cells by a guanidinium additive. Materials Chemistry Frontiers, 2019, 3, 1357-1364.	3.2	30
129	(CH <sub>3</sub> NH <sub>3</sub> ) <sub>4</sub> X <sub>2</sub> ·2H <sub>2</sub> O (X=Cl, Br) and (CH <sub>3</sub> NH <sub>3</sub> ) <sub>4</sub> Cl <sub>4</sub> : Low-Band Gap Lead-Free Layered Gold Halide Perovskite Materials. Chemistry - A European Journal, 2019, 25, 9875-9884.	1.7	15
130	Ruthenium doped mesoporous titanium dioxide for highly efficient, hysteresis-free and stable perovskite solar cells. Solar Energy, 2019, 186, 156-165.	2.9	30
131	Cation and anion immobilization through chemical bonding enhancement with fluorides for stable halide perovskite solar cells. Nature Energy, 2019, 4, 408-415.	19.8	831
132	Understanding Effects of Cesium in CH(NH <sub>2</sub> ) <sub>2</sub> PbI <sub>3</sub> for Stabilizing CH(NH <sub>2</sub> ) <sub>2</sub> PbI <sub>3</sub> /CsPbI <sub>3</sub> Interface under UV Illumination. Journal of Physical Chemistry C, 2019, 123, 12117-12125.	1.5	11
133	A Highly Sensitive Perovskite/Organic Semiconductor Heterojunction Phototransistor and Its Device Optimization Utilizing the Selective Electron Trapping Effect. Advanced Optical Materials, 2019, 7, 1900272.	3.6	35
134	Stable Efficiency Exceeding 20.6% for Inverted Perovskite Solar Cells through Polymer-Optimized PCBM Electron-Transport Layers. Nano Letters, 2019, 19, 3313-3320.	4.5	181
135	Bulk- and Nanocrystalline-Halide Perovskite Light-Emitting Diodes. , 2019, , 305-341.		3
136	Enhanced carrier transport over grain boundaries in lead-free CH <sub>3</sub> NH <sub>3</sub> Sn(I <sub>1-x</sub> Br <sub>x</sub> ) <sub>3</sub> (0 ≤ x ≤ 1) Tj184314		
137	Conjugated Polyelectrolytes as Multifunctional Passivating and Hole-Transporting Layers for Efficient Perovskite Light-Emitting Diodes. Advanced Materials, 2019, 31, e1900067.	11.1	44
138	Highly Crystalline Perovskite-Based Photovoltaics via Two-Dimensional Liquid Cage Annealing Strategy. Journal of the American Chemical Society, 2019, 141, 5808-5814.	6.6	29
139	Deprotonation and vacancies at the CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> /ZnO and CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> /GaN interfaces, detected in their theoretical XANES. Journal of Materials Chemistry C, 2019, 7, 5307-5313.	2.7	2
140	Electroluminescence Dynamics in Perovskite Solar Cells Reveals Giant Overshoot Effect. Journal of Physical Chemistry Letters, 2019, 10, 1779-1783.	2.1	16
141	Open Atmosphere-Processed Stable Perovskite Solar Cells Using Molecular Engineered, Dopant-Free, Highly Hydrophobic Polymeric Hole-Transporting Materials: Influence of Thiophene and Alkyl Chain on Power Conversion Efficiency. Journal of Physical Chemistry C, 2019, 123, 8560-8568.	1.5	18
142	Significant THz-wave absorption property in mixed I <sup>-</sup> - and I <sup>±</sup> -FAPbI <sub>3</sub> hybrid perovskite flexible thin film formed by sequential vacuum evaporation. Applied Physics Express, 2019, 12, 051003.	1.1	17
143	Study on the defect density of states in light soaking effect enhanced performance of perovskite solar cells. Journal Physics D: Applied Physics, 2019, 52, 265302.	1.3	19
144	Perovskite solar cells with an MoS <sub>2</sub> electron transport layer. Journal of Materials Chemistry A, 2019, 7, 7151-7158.	5.2	116

#	ARTICLE	IF	CITATIONS
145	On the Currentâ€“Voltage Hysteresis in Perovskite Solar Cells: Dependence on Perovskite Composition and Methods to Remove Hysteresis. <i>Advanced Materials</i> , 2019, 31, e1805214.	11.1	351
146	Time-Resolved Electrical Scanning Probe Microscopy of Layered Perovskites Reveals Spatial Variations in Photoinduced Ionic and Electronic Carrier Motion. <i>ACS Nano</i> , 2019, 13, 2812-2821.	7.3	38
147	Enhanced Hole Transportation for Inverted Tinâ€“Based Perovskite Solar Cells with High Performance and Stability. <i>Advanced Functional Materials</i> , 2019, 29, 1808059.	7.8	133
148	Improving Performance of Perovskite Solar Cells Using [7]Helicenes with Stable Partial Biradical Characters as the Holeâ€“Extraction Layers. <i>Advanced Functional Materials</i> , 2019, 29, 1808625.	7.8	44
149	Formamidinium Incorporation into Compact Lead Iodide for Low Band Gap Perovskite Solar Cells with Open-Circuit Voltage Approaching the Radiative Limit. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 9083-9092.	4.0	9
150	Role of direct and inverted undoped spiro-OMeTADâ€“perovskite architectures in determining solar cells performances: an investigation <i>via</i> electrical impedance spectroscopy. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 6613-6621.	1.3	3
151	Strain engineering in perovskite solar cells and its impacts on carrier dynamics. <i>Nature Communications</i> , 2019, 10, 815.	5.8	528
152	Simulation and Modeling of Graded Band-Gap Perovskite Solar Cells. , 2019, , .		0
153	Performance Improvement and Defects Analysis in Pervoskite based Solar Cell. , 2019, , .		1
154	Optimizing the Interface between Hole Transporting Material and Nanocomposite for Highly Efficient Perovskite Solar Cells. <i>Nanomaterials</i> , 2019, 9, 1627.	1.9	23
155	Modeling of Charge Transfer in Mesoscopic Perovskite Solar Cells by Considering a Trapassisted Interface. , 2019, , .		1
156	Tailoring solubility of methylammonium lead halide with non-stoichiometry molar ratio in perovskite solar cells: Morphological and electrical relationships for high current generation. <i>Solar Energy Materials and Solar Cells</i> , 2019, 192, 24-35.	3.0	13
157	Synthetic Approaches for Halide Perovskite Thin Films. <i>Chemical Reviews</i> , 2019, 119, 3193-3295.	23.0	454
158	3,4-Dihydroxybenzhydrazide as an additive to improve the morphology of perovskite films for efficient and stable perovskite solar cells. <i>Organic Electronics</i> , 2019, 66, 47-52.	1.4	9
159	Role of surface recombination in perovskite solar cells at the interface of HTL/CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> . <i>Nano Energy</i> , 2020, 67, 104186.	8.2	84
160	Recent Progresses on Defect Passivation toward Efficient Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2020, 10, 1902650.	10.2	516
161	Energyâ€“Level Modulation in Diboronâ€“Modified SnO <sub>2</sub> for Highâ€“Efficiency Perovskite Solar Cells. <i>Solar Rrl</i> , 2020, 4, 1900217.	3.1	28
162	Perovskite solar cells. , 2020, , 163-228.		8

#	ARTICLE	IF	CITATIONS
163	Carbon quantum dot-incorporated nickel oxide for planar p-i-n type perovskite solar cells with enhanced efficiency and stability. <i>Journal of Alloys and Compounds</i> , 2020, 818, 152887.	2.8	30
164	Additive Engineering for Efficient and Stable Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2020, 10, 1902579.	10.2	477
165	Unconventional Route to Oxygen Vacancy Enabled Highly Efficient Electron Extraction and Transport in Perovskite Solar Cells. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 1611-1618.	7.2	104
166	Solution-Processed Sb <sub>2</sub> S <sub>3</sub> Planar Thin Film Solar Cells with a Conversion Efficiency of 6.9% at an Open Circuit Voltage of 0.7 V Achieved via Surface Passivation by a SbCl <sub>3</sub> Interface Layer. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 4970-4979.	4.0	100
167	Unconventional Route to Oxygen Vacancy Enabled Highly Efficient Electron Extraction and Transport in Perovskite Solar Cells. <i>Angewandte Chemie</i> , 2020, 132, 1628-1635.	1.6	34
168	Phenomenological morphology design of hybrid organic-inorganic perovskite solar cell for high efficiency and less hysteresis. <i>Solar Energy Materials and Solar Cells</i> , 2020, 205, 110251.	3.0	25
169	A novel approach for preparation of CH <sub>3</sub> NH <sub>3</sub> PbBr <sub>3</sub> via direct transformation of electrodeposited PbO <sub>2</sub> for photodetector application. <i>Journal of Materials Science: Materials in Electronics</i> , 2020, 31, 154-160.	1.1	9
170	Impact of Residual Lead Iodide on Photophysical Properties of Lead Triiodide Perovskite Solar Cells. <i>Energy Technology</i> , 2020, 8, 1900627.	1.8	10
171	Engineering the Charge Transport Properties of Resonant Silicon Nanoparticles in Perovskite Solar Cells. <i>Energy Technology</i> , 2020, 8, 1900877.	1.8	12
172	TEMPO-promoted oxygen doping of a polytriarylamine hole-transport layer for efficient and stable lead halide perovskite solar cells. <i>Journal of Materials Chemistry C</i> , 2020, 8, 2419-2424.	2.7	5
173	Correlating hysteresis phenomena with interfacial charge accumulation in perovskite solar cells. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 245-251.	1.3	16
174	CoBr <sub>2</sub> -doping-induced efficiency improvement of CsPbBr <sub>3</sub> planar perovskite solar cells. <i>Journal of Materials Chemistry C</i> , 2020, 8, 1649-1655.	2.7	37
175	Phenyl-C <sub>61</sub> -butyric Acid as an Interface Passivation Layer for Highly Efficient and Stable Perovskite Solar Cells. <i>Journal of Physical Chemistry C</i> , 2020, 124, 1872-1877.	1.5	32
176	Photovoltaic Effect Related to Methylammonium Cation Orientation and Carrier Transport Properties in High-Performance Perovskite Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 3563-3571.	4.0	9
177	From 33% to 57% – an elevated potential of efficiency limit for indoor photovoltaics. <i>Journal of Materials Chemistry A</i> , 2020, 8, 1717-1723.	5.2	77
178	Observing Defect Passivation of the Grain Boundary with 2-Aminoterephthalic Acid for Efficient and Stable Perovskite Solar Cells. <i>Angewandte Chemie</i> , 2020, 132, 4190-4196.	1.6	29
179	Observing Defect Passivation of the Grain Boundary with 2-Aminoterephthalic Acid for Efficient and Stable Perovskite Solar Cells. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 4161-4167.	7.2	122
180	Influence of Surface Ligands on Energetics at FASn <sub>3</sub> /C <sub>60</sub> Interfaces and Their Impact on Photovoltaic Performance. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 5209-5218.	4.0	28

#	ARTICLE	IF	CITATIONS
181	Bionic Detectors Based on Low-Bandgap Inorganic Perovskite for Selective NIR Photon Detection and Imaging. <i>Advanced Materials</i> , 2020, 32, e1905362.	11.1	83
182	New Strategies for Defect Passivation in High-Efficiency Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2020, 10, 1903090.	10.2	237
183	Single Crystal Perovskite Solar Cells: Development and Perspectives. <i>Advanced Functional Materials</i> , 2020, 30, 1905021.	7.8	171
184	The Role of the Interfaces in Perovskite Solar Cells. <i>Advanced Materials Interfaces</i> , 2020, 7, 1901469.	1.9	239
185	The effect of indium doping on photovoltaic properties of chemically synthesized zinc oxide thin-film electrodes. <i>Journal of Solid State Electrochemistry</i> , 2020, 24, 313-320.	1.2	7
186	Origin of Open-Circuit Voltage Enhancements in Planar Perovskite Solar Cells Induced by Addition of Bulky Organic Cations. <i>Advanced Functional Materials</i> , 2020, 30, 1906763.	7.8	47
187	Current-voltage analysis: lessons learned from hysteresis. , 2020, , 81-108.		9
188	Light-Powered Directional Nanofluidic Ion Transport in Kirigami-Made Asymmetric Photonic-Ionic Devices. <i>Small</i> , 2020, 16, e1905557.	5.2	23
189	Device design rules and operation principles of high-power perovskite solar cells for indoor applications. <i>Nano Energy</i> , 2020, 68, 104321.	8.2	70
190	Effect of deep-level defect density of the absorber layer and n/i interface in perovskite solar cells by SCAPS-1D. <i>Results in Physics</i> , 2020, 16, 102839.	2.0	128
191	Toward Understanding Space-Charge Limited Current Measurements on Metal Halide Perovskites. <i>ACS Energy Letters</i> , 2020, 5, 376-384.	8.8	211
192	An Interlocking Fibrillar Polymer Layer for Mechanical Stability of Perovskite Solar Cells. <i>Advanced Materials Interfaces</i> , 2020, 7, 2001425.	1.9	9
193	Unraveling Reversible Quenching Processes of O <sub>2</sub> , N <sub>2</sub> , Ar, and H <sub>2</sub> O in Metal Halide Perovskites at Moderate Photon Flux Densities. <i>Advanced Optical Materials</i> , 2020, 9, 2001317.	3.6	11
194	Efficiency enhancement of perovskite solar cell by using doubly carrier transport layers with a distinct bandgap of MAPbI <sub>3</sub> active layer. <i>Optik</i> , 2020, 224, 165430.	1.4	27
195	g-C <sub>3</sub> N <sub>4</sub> @PMo <sub>12</sub> composite material double adjustment improves the performance of perovskite-based photovoltaic devices. <i>Solar Energy</i> , 2020, 209, 363-370.	2.9	13
196	Perceiving the temperature coefficients of carbon-based perovskite solar cells. <i>Sustainable Energy and Fuels</i> , 2020, 4, 6283-6298.	2.5	24
197	Radical Molecular Modulator for High-Performance Perovskite Solar Cells. <i>Frontiers in Chemistry</i> , 2020, 8, 825.	1.8	9
198	Investigating the effect of electric fields on lead halide perovskites by scanning tunneling microscopy. <i>Journal of Applied Physics</i> , 2020, 128, .	1.1	13

#	ARTICLE	IF	CITATIONS
199	Defect and interface engineering of highly efficient La <sub>2</sub> NiMnO <sub>6</sub> planar perovskite solar cell: A theoretical study. <i>Optical Materials</i> , 2020, 108, 110453.	1.7	13
200	Traps in metal halide perovskites: characterization and passivation. <i>Nanoscale</i> , 2020, 12, 22425-22451.	2.8	26
201	Elucidating the functional form of the recombination losses in a planar perovskite solar cell: A scaling analysis. <i>Journal of Applied Physics</i> , 2020, 128, .	1.1	6
202	Effect of Different Bromine Sources on the Dual Cation Mixed Halide Perovskite Solar Cells. <i>ACS Applied Energy Materials</i> , 2020, 3, 8285-8294.	2.5	8
203	Surface Sulfuration of NiO Boosts the Performance of Inverted Perovskite Solar Cells. <i>Solar Rrl</i> , 2020, 4, 2000270.	3.1	31
204	Arylammonium-Assisted Reduction of the Open-Circuit Voltage Deficit in Wide-Bandgap Perovskite Solar Cells: The Role of Suppressed Ion Migration. <i>ACS Energy Letters</i> , 2020, 5, 2560-2568.	8.8	131
205	Atomic Layer Deposition of an Effective Interface Layer of TiN for Efficient and Hysteresis-Free Mesoscopic Perovskite Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 8098-8106.	4.0	30
206	Defect/Interface Recombination Limited Quasi-Fermi Level Splitting and Open-Circuit Voltage in Mono- and Triple-Cation Perovskite Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 37647-37656.	4.0	28
207	Charge Transport Layer-Dependent Electronic Band Bending in Perovskite Solar Cells and Its Correlation to Light-Induced Device Degradation. <i>ACS Energy Letters</i> , 2020, 5, 2580-2589.	8.8	39
208	Enhanced performance of dye-sensitized solar cell with thermally stable natural dye-assisted TiO <sub>2</sub> /MnO <sub>2</sub> bilayer-assembled photoanode. <i>Materials for Renewable and Sustainable Energy</i> , 2020, 9, 1.	1.5	21
209	Thermosetting Polyurethane Resins as Low-Cost, Easily Scalable, and Effective Oxygen and Moisture Barriers for Perovskite Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 54862-54875.	4.0	30
210	Enhancing the Efficiency and Stability of Triple-Cation Perovskite Solar Cells by Eliminating Excess PbI <sub>2</sub> from the Perovskite/Hole Transport Layer Interface. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 54824-54832.	4.0	56
211	Tin-Based Defects and Passivation Strategies in Tin-Related Perovskite Solar Cells. <i>ACS Energy Letters</i> , 2020, 5, 3752-3772.	8.8	143
212	Atomic Model for Alkali Metal Passivation of Point Defects at Perovskite Grain Boundaries. <i>ACS Energy Letters</i> , 2020, 5, 3813-3820.	8.8	47
213	Orientation Regulation of Photoactive Layer in Tin-Based Perovskite Solar Cells with Allylammonium Cations. <i>Solar Rrl</i> , 2020, 4, 2000315.	3.1	19
214	An optimized lead-free formamidinium Sn-based perovskite solar cell design for high power conversion efficiency by SCAPS simulation. <i>Optical Materials</i> , 2020, 108, 110213.	1.7	107
215	Understanding the poor fill factor of solution-processed squaraine based solar cells in terms of charge carrier dynamics probed via impedance and transient spectroscopy. <i>Journal of Materials Chemistry C</i> , 2020, 8, 14748-14756.	2.7	4
216	Multifunctional molecules of surfactant to support enhanced efficiency and stability for perovskite solar cells. <i>Journal of Materials Science</i> , 2020, 55, 14761-14772.	1.7	15

#	ARTICLE	IF	CITATIONS
217	Perovskite Solar Cells with Enhanced Fill Factors Using Polymer-Capped Solvent Annealing. <i>ACS Applied Energy Materials</i> , 2020, 3, 7231-7238.	2.5	19
218	Toward Efficient and Stable Perovskite Solar Cells: Choosing Appropriate Passivator to Specific Defects. <i>Solar Rrl</i> , 2020, 4, 2000308.	3.1	31
219	High-Efficiency Perovskite Solar Cells. <i>Chemical Reviews</i> , 2020, 120, 7867-7918.	23.0	1,480
220	Photoinduced Dynamics of Charge Carriers in Metal Halide Perovskites from an Atomistic Perspective. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 7066-7082.	2.1	41
221	Perylenetetracarboxylic dianhydride as organic electron transport layer for n-i-p perovskite solar cells. <i>Synthetic Metals</i> , 2020, 268, 116497.	2.1	8
222	Efficient carrier utilization induced by conductive polypyrrole additives in organic-inorganic halide perovskite solar cells. <i>Solar Energy</i> , 2020, 207, 1300-1307.	2.9	15
223	Effect of solvent vapour annealing on bismuth triiodide film for photovoltaic applications and its optoelectronic properties. <i>Journal of Materials Chemistry C</i> , 2020, 8, 12173-12180.	2.7	19
224	Single-crystal perovskite detectors: development and perspectives. <i>Journal of Materials Chemistry C</i> , 2020, 8, 11664-11674.	2.7	35
225	Ambient condition-processing strategy for improved air-stability and efficiency in mixed-cation perovskite solar cells. <i>Materials Advances</i> , 2020, 1, 1866-1876.	2.6	20
226	Defect passivation of grain surface toward perovskite solar cells with a high open-circuit voltage exceeding 1.16 V. <i>Journal of Applied Physics</i> , 2020, 128, 044504.	1.1	13
227	Full Defects Passivation Enables 21% Efficiency Perovskite Solar Cells Operating in Air. <i>Advanced Energy Materials</i> , 2020, 10, 2001958.	10.2	117
228	An Efficient and Stable Perovskite Solar Cell with Suppressed Defects by Employing Dithizone as a Lead Indicator. <i>Angewandte Chemie</i> , 2020, 132, 21593-21597.	1.6	1
229	An Efficient and Stable Perovskite Solar Cell with Suppressed Defects by Employing Dithizone as a Lead Indicator. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 21409-21413.	7.2	33
230	MAPbI <sub>3</sub> Quasi-Single-Crystal Films Composed of Large-Sized Grains with Deep Boundary Fusion for Sensitive Vis-NIR Photodetectors. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 38314-38324.	4.0	12
231	Defects chemistry in high-efficiency and stable perovskite solar cells. <i>Journal of Applied Physics</i> , 2020, 128, .	1.1	91
232	Morphology Tuning and Its Role in Optimization of Perovskite Films Fabricated from A Novel Nonhalide Lead Source. <i>Advanced Science</i> , 2020, 7, 2002296.	5.6	14
233	Hydrophobic 2D Perovskite-Modified Layer with Polyfunctional Groups for Enhanced Performance and High Moisture Stability of Perovskite Solar Cells. <i>Solar Rrl</i> , 2020, 4, 2000647.	3.1	16
234	High efficiently CsPbBr <sub>3</sub> perovskite solar cells fabricated by multi-step spin coating method. <i>Solar Energy</i> , 2020, 211, 1223-1229.	2.9	42



#	ARTICLE	IF	CITATIONS
235	Optimizing quality of lead-free perovskite thin film with anti-solvent engineering and co-doping SnBr <sub>2</sub> /SnF <sub>2</sub> ; its solar cell performance. <i>Optical Materials</i> , 2020, 110, 110524.	1.7	16
236	Novel laser-assisted glass frit encapsulation for long-lifetime perovskite solar cells. <i>Journal of Materials Chemistry A</i> , 2020, 8, 20037-20046.	5.2	26
237	Multifunctional Charge Transporting Materials for Perovskite Light-Emitting Diodes. <i>Advanced Materials</i> , 2020, 32, e2002176.	11.1	55
238	Numerical Analysis of rGO/Silver-Nanowire- Based Single-Crystal Perovskite Solar Cell. <i>IEEE Transactions on Electron Devices</i> , 2020, 67, 4321-4327.	1.6	8
239	Cd-Doped Triple-Cation Perovskite Thin Films with a 20 $\frac{1}{4}$ s Carrier Lifetime. <i>Journal of Physical Chemistry C</i> , 2020, 124, 22011-22018.	1.5	10
240	Surface chelation of cesium halide perovskite by dithiocarbamate for efficient and stable solar cells. <i>Nature Communications</i> , 2020, 11, 4237.	5.8	106
241	A multifunctional additive of scandium trifluoromethanesulfonate to achieve efficient inverted perovskite solar cells with a high fill factor of 83.80%. <i>Journal of Materials Chemistry A</i> , 2020, 8, 19555-19560.	5.2	23
242	Interface passivation strategy improves the efficiency and stability of organic-inorganic hybrid metal halide perovskite solar cells. <i>Journal of Materials Research</i> , 2020, 35, 2166-2189.	1.2	4
243	Novel amphiphilic corannulene additive for moisture-resistant perovskite solar cells. <i>Chemical Communications</i> , 2020, 56, 11997-12000.	2.2	15
244	Gold Nanoparticles Functionalized with Fullerene Derivative as an Effective Interface Layer for Improving the Efficiency and Stability of Planar Perovskite Solar Cells. <i>Advanced Materials Interfaces</i> , 2020, 7, 2001144.	1.9	14
245	Extraction technique of trap states based on transient photo-voltage measurement. <i>Scientific Reports</i> , 2020, 10, 12888.	1.6	13
246	Towards commercialization: the operational stability of perovskite solar cells. <i>Chemical Society Reviews</i> , 2020, 49, 8235-8286.	18.7	371
247	New Extraction Technique of In-Gap Electronic-State Spectrum Based on Time-Resolved Charge Extraction. <i>ACS Omega</i> , 2020, 5, 21762-21767.	1.6	8
248	Isothermally crystallized perovskites at room-temperature. <i>Energy and Environmental Science</i> , 2020, 13, 3412-3422.	15.6	153
249	Regulated Crystallization of FASn <sub>3</sub> Films through Seeded Growth Process for Efficient Tin Perovskite Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 41454-41463.	4.0	28
250	Importance of tailoring lattice strain in halide perovskite crystals. <i>NPG Asia Materials</i> , 2020, 12, .	3.8	88
251	Perovskite Solar Cells with Low-Cost TiO <sub>2</sub> Mesoporous Photoanodes Prepared by Rapid Low-Temperature (70 $\text{\AA}$ C) Plasma Processing. <i>ACS Applied Energy Materials</i> , 2020, 3, 12009-12018.	2.5	21
252	Highly Efficient and Air-Stable Heterostructured Perovskite Quantum Dot Solar Cells Using a Solid-State Cation-Exchange Reaction. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 57124-57133.	4.0	21



#	ARTICLE	IF	CITATIONS
253	Crown Ether Modulation Enables over 23% Efficient Formamidinium-Based Perovskite Solar Cells. <i>Journal of the American Chemical Society</i> , 2020, 142, 19980-19991.	6.6	145
254	Methylamine-assisted growth of uniaxial-oriented perovskite thin films with millimeter-sized grains. <i>Nature Communications</i> , 2020, 11, 5402.	5.8	71
255	Effect of PbI <sub>2</sub> passivation to grain boundary of perovskite film with cation and anion co-mixing on performance of photovoltaic devices. <i>Materials Letters</i> , 2020, 273, 127979.	1.3	7
256	Photoluminescence-Based Characterization of Halide Perovskites for Photovoltaics. <i>Advanced Energy Materials</i> , 2020, 10, 1904134.	10.2	299
257	Potassium-Induced Phase Stability Enables Stable and Efficient Wide-Bandgap Perovskite Solar Cells. <i>Solar Rrl</i> , 2020, 4, 2000098.	3.1	37
258	Dendritic PAMAM polymers for strong perovskite intergranular interaction enhancing power conversion efficiency and stability of perovskite solar cells. <i>Electrochimica Acta</i> , 2020, 349, 136387.	2.6	19
259	Identifying, understanding and controlling defects and traps in halide perovskites for optoelectronic devices: a review. <i>Journal Physics D: Applied Physics</i> , 2020, 53, 373001.	1.3	20
260	Electrically Active Defects in Polycrystalline and Single Crystal Metal Halide Perovskite. <i>Energies</i> , 2020, 13, 1643.	1.6	14
261	A Highly Sensitive Single Crystal Perovskite-Graphene Hybrid Vertical Photodetector. <i>Small</i> , 2020, 16, e2000733.	5.2	55
262	Finding junction partners for CsPbI <sub>3</sub> in a two-terminal tandem solar cell: A theoretical prospect. <i>Nano Energy</i> , 2020, 75, 104866.	8.2	39
263	Ultra-thin MoS <sub>2</sub> nanosheet for electron transport layer of perovskite solar cells. <i>Optical Materials</i> , 2020, 104, 109933.	1.7	24
264	Stretchable Perovskite Solar Cells with Recoverable Performance. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 16602-16608.	7.2	122
265	Progress in Materials Development for the Rapid Efficiency Advancement of Perovskite Solar Cells. <i>Small</i> , 2020, 16, e1907531.	5.2	23
266	Understanding the thermal degradation mechanism of perovskite solar cells via dielectric and noise measurements. <i>Nanotechnology</i> , 2020, 31, 365403.	1.3	17
267	Stretchable Perovskite Solar Cells with Recoverable Performance. <i>Angewandte Chemie</i> , 2020, 132, 16745.	1.6	8
268	Impact of Interface Energy Alignment on the Dynamic Current-Voltage Response of Perovskite Solar Cells. <i>Journal of Physical Chemistry C</i> , 2020, 124, 12912-12921.	1.5	6
269	Dominant recombination mechanism in perovskite solar cells: A theoretical study. <i>Solar Energy</i> , 2020, 206, 27-34.	2.9	10
270	On the Origin of the Ideality Factor in Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2020, 10, 2000502.	10.2	175

#	ARTICLE	IF	CITATIONS
271	Highly efficient, stable and hysteresis-free planar perovskite solar cell based on chemical bath treated Zn <sub>2</sub> SnO <sub>4</sub> electron transport layer. <i>Nano Energy</i> , 2020, 75, 105038.	8.2	77
272	Tuning the crystallization process of perovskite active layer using a functionalized graphene oxide for enhanced photovoltaic performance. <i>Journal of Materials Science: Materials in Electronics</i> , 2020, 31, 12257-12268.	1.1	8
273	Mitigation of Vacuum and Illumination-Induced Degradation in Perovskite Solar Cells by Structure Engineering. <i>Joule</i> , 2020, 4, 1087-1103.	11.7	69
274	Probing Semiconductor Properties with Optical Scanning Tunneling Microscopy. <i>Joule</i> , 2020, 4, 524-538.	11.7	14
275	Charge localization and trapping at surfaces in lead-iodide perovskites: the role of polarons and defects. <i>Journal of Materials Chemistry A</i> , 2020, 8, 6882-6892.	5.2	49
276	High-Performance Green Light-Emitting Diodes Based on MAPbBr <sub>3</sub> with $\pi$ -Conjugated Ligand. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 16726-16735.	4.0	26
277	Near-infrared absorption enhancement for perovskite solar cells via the rear grating design. <i>Optical and Quantum Electronics</i> , 2020, 52, 1.	1.5	8
278	Insights from Device Modeling of Perovskite Solar Cells. <i>ACS Energy Letters</i> , 2020, 5, 1260-1270.	8.8	68
279	Ionic-Defect Distribution Revealed by Improved Evaluation of Deep-Level Transient Spectroscopy on Perovskite Solar Cells. <i>Physical Review Applied</i> , 2020, 13, .	1.5	50
280	Mo-vacancy induced high performance for photocatalytic hydrogen production over MoS <sub>2</sub> nanosheets cocatalyst. <i>Chemical Physics Letters</i> , 2020, 746, 137276.	1.2	22
281	Enhanced stability and performance of air-processed perovskite solar cells via defect passivation with a thiazole-bridged diketopyrrolopyrrole-based $\pi$ -conjugated polymer. <i>Journal of Materials Chemistry A</i> , 2020, 8, 8593-8604.	5.2	24
282	Tailoring optoelectronic properties of CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> perovskite photovoltaics using Al nanoparticle modified PC61BM layer. <i>Solar Energy</i> , 2020, 201, 621-627.	2.9	23
283	Polarons in Halide Perovskites: A Perspective. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 3271-3286.	2.1	110
284	Waterproof perovskites: high fluorescence quantum yield and stability from a methylammonium lead bromide/formate mixture in water. <i>Journal of Materials Chemistry C</i> , 2020, 8, 5873-5881.	2.7	9
285	Laser-Induced Optoelectronic and Crystallographic Tuning of Methyl Ammonium Iodobismuthate Perovskite for Improved Performance of Sandwich-Type Photodetectors. <i>ACS Applied Electronic Materials</i> , 2020, 2, 1145-1153.	2.0	12
286	A Self-Assembled Small-Molecule-Based Hole-Transporting Material for Inverted Perovskite Solar Cells. <i>Chemistry - A European Journal</i> , 2020, 26, 10276-10282.	1.7	19
287	Hysteric photo-conduction and negative differential resistance in cesium lead bromide. <i>Journal of Applied Physics</i> , 2020, 127, 224904.	1.1	5
288	Recent progress in hybrid perovskite solar cells through scanning tunneling microscopy and spectroscopy. <i>Nanoscale</i> , 2020, 12, 15970-15992.	2.8	19

#	ARTICLE	IF	CITATIONS
289	Easy Strategy to Enhance Thermal Stability of Planar PSCs by Perovskite Defect Passivation and Low-Temperature Carbon-Based Electrode. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 32536-32547.	4.0	28
290	Perovskite nanogels: synthesis, properties, and applications. <i>Journal of Materials Chemistry C</i> , 2020, 8, 12355-12379.	2.7	7
291	Analysis of Logic Inverter Based on Polycrystalline Silicon with Single Grain Boundary. <i>Journal of Nanoscience and Nanotechnology</i> , 2020, 20, 6616-6621.	0.9	0
292	Efficient and stable planar perovskite solar cells using co-doped tin oxide as the electron transport layer. <i>Journal of Power Sources</i> , 2020, 471, 228443.	4.0	14
293	Shallow defects levels and extract detrapped charges to stabilize highly efficient and hysteresis-free perovskite photovoltaic devices. <i>Nano Energy</i> , 2020, 71, 104556.	8.2	51
294	Correlation between Charge Transport Length Scales and Dielectric Relaxation Time Constant in Hybrid Halide Perovskite Semiconductors. <i>ACS Energy Letters</i> , 2020, 5, 728-735.	8.8	17
295	Conductive Hole-Selective Passivating Contacts for Crystalline Silicon Solar Cells. <i>Advanced Energy Materials</i> , 2020, 10, 1903851.	10.2	28
296	Twin domains modulate light-matter interactions in metal halide perovskites. <i>APL Materials</i> , 2020, 8, .	2.2	17
297	Boosting the efficiency and stability of perovskite solar cells through facile molecular engineering approaches. <i>Solar Energy</i> , 2020, 199, 136-142.	2.9	33
298	Investigating the performance of formamidinium tin-based perovskite solar cell by SCAPS device simulation. <i>Optical Materials</i> , 2020, 101, 109738.	1.7	277
299	Highly stable inverted methylammonium lead tri-iodide perovskite solar cells achieved by surface re-crystallization. <i>Energy and Environmental Science</i> , 2020, 13, 840-847.	15.6	44
300	Boosting Multiple Interfaces by Co-Doped Graphene Quantum Dots for High Efficiency and Durability Perovskite Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 13941-13949.	4.0	69
301	Relation between Fluorescence Quantum Yield and Open-Circuit Voltage in Complete Perovskite Solar Cells. <i>Solar Rrl</i> , 2020, 4, 1900554.	3.1	13
302	Tailoring Perovskite Adjacent Interfaces by Conjugated Polyelectrolyte for Stable and Efficient Solar Cells. <i>Solar Rrl</i> , 2020, 4, 2000060.	3.1	23
303	Molecularly engineered hole-transport material for low-cost perovskite solar cells. <i>Chemical Science</i> , 2020, 11, 2429-2439.	3.7	29
304	Synergy between Ion Migration and Charge Carrier Recombination in Metal-Halide Perovskites. <i>Journal of the American Chemical Society</i> , 2020, 142, 3060-3068.	6.6	91
305	Insights into Recombination Processes from Light Intensity-Dependent Open-Circuit Voltages and Ideality Factors in Planar Perovskite Solar Cells. <i>Energy Technology</i> , 2020, 8, 1901196.	1.8	21
306	Boosting Photovoltaic Performance and Stability of Super-Halogen-Substituted Perovskite Solar Cells by Simultaneous Methylammonium Immobilization and Vacancy Compensation. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 8249-8259.	4.0	19

#	ARTICLE	IF	CITATIONS
307	Efficient Nanorod Array Perovskite Solar Cells: A Suitable Structure for High Strontium Substitution in Nature. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 10515-10526.	4.0	9
308	Thioacetamide additive assisted crystallization of solution-processed perovskite films for high performance planar heterojunction solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2020, 208, 110435.	3.0	15
309	Exfoliated Fluorographene Quantum Dots as Outstanding Passivants for Improved Flexible Perovskite Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 22992-23001.	4.0	38
310	Tuning spin-orbit coupling towards enhancing photocurrent in hybrid organic-inorganic perovskites by using mixed organic cations. <i>Organic Electronics</i> , 2020, 81, 105671.	1.4	10
311	Heavy Water Additive in Formamidinium: A Novel Approach to Enhance Perovskite Solar Cell Efficiency. <i>Advanced Materials</i> , 2020, 32, e1907864.	11.1	51
312	Nanoscale spatial mapping of charge carrier dynamics in perovskite solar cells. <i>Nano Today</i> , 2020, 33, 100874.	6.2	21
313	Full Efficiency Recovery in Hole-Transporting Layer-Free Perovskite Solar Cells With Free-Standing Dry-Carbon Top-Contacts. <i>Frontiers in Chemistry</i> , 2020, 8, 200.	1.8	8
314	Pb-Free Cs <sub>3</sub> Bi <sub>2</sub> I <sub>9</sub> Perovskite as a Visible-Light-Active Photocatalyst for Organic Pollutant Degradation. <i>Nanomaterials</i> , 2020, 10, 763.	1.9	47
315	Device Model for Methylammonium Lead Iodide Perovskite With Experimentally Validated Ion Dynamics. <i>Advanced Electronic Materials</i> , 2020, 6, 1900935.	2.6	19
316	Tungsten-Doped Zinc Oxide and Indium-Zinc Oxide Films as High-Performance Electron-Transport Layers in n-p Perovskite Solar Cells. <i>Polymers</i> , 2020, 12, 737.	2.0	10
317	Spatially Resolved Performance Analysis for Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2020, 10, 1904001.	10.2	30
318	Perovskite CsPbBr <sub>3</sub> crystals: growth and applications. <i>Journal of Materials Chemistry C</i> , 2020, 8, 6326-6341.	2.7	87
319	Defect passivation by nontoxic biomaterial yields 21% efficiency perovskite solar cells. <i>Journal of Energy Chemistry</i> , 2021, 55, 265-271.	7.1	50
320	Energy level engineering of charge selective contact and halide perovskite by modulating band offset: Mechanistic insights. <i>Journal of Energy Chemistry</i> , 2021, 54, 822-829.	7.1	60
321	Boosting the efficiency of commercial available carbon-based perovskite solar cells using Zinc-doped TiO <sub>2</sub> nanorod arrays as electron transport layer. <i>Journal of Alloys and Compounds</i> , 2021, 851, 156785.	2.8	21
322	Heat mitigation in perovskite solar cells: The role of grain boundaries. <i>Solar Energy Materials and Solar Cells</i> , 2021, 220, 110837.	3.0	8
323	A simple engineering strategy with side chain liquid crystal polymers in perovskite absorbers for high efficiency and stability. <i>Organic Electronics</i> , 2021, 88, 105987.	1.4	5
324	Surface charge-transfer doping for highly efficient perovskite solar cells. <i>Nano Energy</i> , 2021, 79, 105505.	8.2	52

#	ARTICLE	IF	CITATIONS
325	Modeling Grain Boundaries in Polycrystalline Halide Perovskite Solar Cells. Annual Review of Condensed Matter Physics, 2021, 12, 95-109.	5.2	25
326	Improving hysteresis of room-temperature air-quenching MAPbI <sub>3</sub> -xCl <sub>x</sub> solar cells by using mixed-lead halide precursor. Materials Chemistry and Physics, 2021, 259, 124032.	2.0	7
327	Facile synthesis of ordered Nb <sub>2</sub> O <sub>5</sub> coated TiO <sub>2</sub> nanorod arrays for efficient perovskite solar cells. Applied Surface Science, 2021, 542, 148728.	3.1	9
328	Role of cation-mediated recombination in perovskite solar cells. Solar Energy Materials and Solar Cells, 2021, 221, 110912.	3.0	16
329	Tailoring carrier dynamics in inverted mesoporous perovskite solar cells with interface-engineered plasmonics. Journal of Materials Chemistry A, 2021, 9, 2394-2403.	5.2	9
330	Deep surface passivation for efficient and hydrophobic perovskite solar cells. Journal of Materials Chemistry A, 2021, 9, 2919-2927.	5.2	74
331	S <sub>8</sub> Additive Enables CsPbI <sub>2</sub> Br Perovskite with Reduced Defects and Improved Hydrophobicity for Inverted Solar Cells. Solar Rrl, 2021, 5, 2000714.	3.1	17
332	Bias effect on surface chemical states of CH <sub>3</sub> NH <sub>3</sub> PbBr <sub>3</sub> hybrid perovskite single crystal: Decreasing CH <sub>3</sub> NH <sub>2</sub> molecular defect. Applied Surface Science, 2021, 542, 148536.	3.1	3
333	Entropy-driven stabilization of the cubic phase of MaPbI <sub>3</sub> at room temperature. Journal of Materials Chemistry A, 2021, 9, 1089-1099.	5.2	35
334	New insight on the open-circuit voltage of perovskite solar cells: The role of defect density distribution and electric field in the active layer. International Journal of Energy Research, 2021, 45, 5190-5200.	2.2	8
335	Lead-Free Perovskite-Inspired Absorbers for Indoor Photovoltaics. Advanced Energy Materials, 2021, 11, 2002761.	10.2	95
336	An overview of rare earth coupled lead halide perovskite and its application in photovoltaics and light emitting devices. Progress in Materials Science, 2021, 120, 100737.	16.0	35
337	Recent progress in meniscus coating for large-area perovskite solar cells and solar modules. Sustainable Energy and Fuels, 2021, 5, 1926-1951.	2.5	11
338	Assigning ionic properties in perovskite solar cells; a unifying transient simulation/experimental study. Sustainable Energy and Fuels, 2021, 5, 3578-3587.	2.5	6
339	4-Chlorobenzylamine-based 2D/3D Perovskite Solar Cell. Wujii Cailiao Xuebao/Journal of Inorganic Materials, 2021, , 199.	0.6	1
340	Perovskite solar cells: A review of architecture, processing methods, and future prospects. , 2021, , 375-412.		6
341	Understanding Dark Current-Voltage Characteristics in Metal-Halide Perovskite Single Crystals. Physical Review Applied, 2021, 15, .	1.5	30
342	Design of a Novel Lead-Free Perovskite Solar Cell for 17.83% Efficiency. IEEE Access, 2021, 9, 54254-54263.	2.6	30

#	ARTICLE	IF	CITATIONS
343	Comparative study of inverted perovskite solar cells with different hole transporting materials by simulation using the software Setfos-5.0. <i>Materials Today: Proceedings</i> , 2021, 46, 3114-3120.	0.9	5
344	Crystal Reorientation and Amorphization Induced by Stressing Efficient and Stable $\text{CH}_3\text{NH}_3\text{PbI}_3$ Perovskite Solar Cells. <i>Advanced Energy and Sustainability Research</i> , 2021, 2, 2000065.	2.8	20
345	Defect tolerant device geometries for lead-halide perovskites. <i>Materials Advances</i> , 2021, 2, 3655-3670.	2.6	17
346	Methylamine-assisted secondary grain growth for $\text{CH}_3\text{NH}_3\text{PbI}_3$ perovskite films with large grains and a highly preferred orientation. <i>Journal of Materials Chemistry A</i> , 2021, 9, 7625-7630.	5.2	12
347	On the Investigation of Interface Defects of Solar Cells: Lead-Based vs Lead-Free Perovskite. <i>IEEE Access</i> , 2021, 9, 130221-130232.	2.6	46
348	Selective Defect Passivation and Topographical Control of 4-Dimethylaminopyridine at Grain Boundary for Efficient and Stable Planar Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2021, 11, 2003382.	10.2	82
349	Nanoscale properties of lead halide perovskites by scanning tunneling microscopy. <i>EcoMat</i> , 2021, 3, e12081.	6.8	6
350	Calculation of electronic and optical properties of methylammonium lead iodide perovskite for application in solar cell. <i>Environmental Science and Pollution Research</i> , 2021, 28, 25382-25389.	2.7	2
351	Electron-deficient 4-nitrophthalonitrile passivated efficient perovskite solar cells with efficiency exceeding 22%. <i>Sustainable Energy and Fuels</i> , 2021, 5, 2347-2353.	2.5	18
352	Comparison of surface-passivation ability of the BAI salt and its induced 2D perovskite for high-performance inverted perovskite solar cells. <i>RSC Advances</i> , 2021, 11, 23249-23258.	1.7	11
353	Stabilization of the J-V Characteristic of a Perovskite Solar Cell Using an Intelligent Control Loop. <i>Electronics (Switzerland)</i> , 2021, 10, 121.	1.8	0
354	Chemical passivation of the under coordinated $\text{Pb}^{2+}$ defects in inverted planar perovskite solar cells via $\beta$ -diketone Lewis base additives. <i>Photochemical and Photobiological Sciences</i> , 2021, 20, 357-367.	1.6	6
355	Inverted planer perovskite solar cells fabricated by all vapor phase process. <i>Japanese Journal of Applied Physics</i> , 2021, 60, SBBF10.	0.8	6
356	Kinetic Monte Carlo Simulation of Perovskite Solar Cells to Probe Film Coverage and Thickness. <i>Advanced Energy and Sustainability Research</i> , 2021, 2, 2000068.	2.8	3
357	Nanoscale Architecture of Polymer-Organolead Halide Perovskite Films and the Effect of Polymer Chain Mobility on Device Performance. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 1481-1489.	2.1	20
358	Tautomeric Molecule Acts as a "Sunscreen" for Metal Halide Perovskite Solar Cells. <i>Angewandte Chemie</i> , 2021, 133, 8755-8759.	1.6	7
359	Revealing Charge Carrier Mobility and Defect Densities in Metal Halide Perovskites via Space-Charge-Limited Current Measurements. <i>ACS Energy Letters</i> , 2021, 6, 1087-1094.	8.8	254
360	Tautomeric Molecule Acts as a "Sunscreen" for Metal Halide Perovskite Solar Cells. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 8673-8677.	7.2	67



#	ARTICLE	IF	CITATIONS
361	Identification of the dominant recombination process for perovskite solar cells based on machine learning. <i>Cell Reports Physical Science</i> , 2021, 2, 100346.	2.8	21
362	Impact of a Spun-Cast MoO <sub>x</sub> Layer on the Enhanced Moisture Stability and Performance-Limiting Behaviors of Perovskite Solar Cells. <i>ACS Applied Energy Materials</i> , 2021, 4, 3169-3181.	2.5	4
363	Use of Sodium Diethyldithiocarbamate to Enhance the Open-Circuit Voltage of CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Perovskite Solar Cells. <i>Solar Rrl</i> , 2021, 5, 2000811.	3.1	5
364	Advances in Metal Halide Perovskite Film Preparation: The Role of Anti-Solvent Treatment. <i>Small Methods</i> , 2021, 5, e2100046.	4.6	39
365	Evaluation of performance constraints and structural optimization of a core-shell ZnO nanorod based eco-friendly perovskite solar cell. <i>Solar Energy</i> , 2021, 215, 473-481.	2.9	20
366	Insights on Desired Fabrication Factors from Modeling Sandwich and Quasi-Interdigitated Back-Contact Perovskite Solar Cells. <i>ACS Applied Energy Materials</i> , 2021, 4, 1093-1107.	2.5	19
367	Enhanced Hole-Carrier Selectivity in Wide Bandgap Halide Perovskite Photovoltaic Devices for Indoor Internet of Things Applications. <i>Advanced Functional Materials</i> , 2021, 31, 2008908.	7.8	31
368	Formation of 1-D/3-D Fused Perovskite for Efficient and Moisture Stable Solar Cells. <i>ACS Applied Energy Materials</i> , 2021, 4, 2751-2760.	2.5	21
369	2D materials for conducting holes from grain boundaries in perovskite solar cells. <i>Light: Science and Applications</i> , 2021, 10, 68.	7.7	59
370	Simulation and analysis of schottky junction perovskite solar cells (SJPCs). <i>IOP Conference Series: Materials Science and Engineering</i> , 2021, 1120, 012017.	0.3	9
371	Dual Additive for Simultaneous Improvement of Photovoltaic Performance and Stability of Perovskite Solar Cell. <i>Advanced Functional Materials</i> , 2021, 31, 2100396.	7.8	66
372	Multifunctional potassium hexafluorophosphate passivate interface defects for high efficiency perovskite solar cells. <i>Journal of Power Sources</i> , 2021, 488, 229451.	4.0	39
373	A thioacetamide interlayer anchoring TiO <sub>2</sub> and (FAPbI <sub>3</sub> ) <sub>1-x</sub> (MAPbBr <sub>3</sub> ) <sub>x</sub> for high-performance perovskite solar cells. <i>Journal of the American Ceramic Society</i> , 2021, 104, 5120-5126.	1.9	2
374	Recent progress on defect modulation for highly efficient metal halide perovskite light-emitting diodes. <i>Applied Materials Today</i> , 2021, 22, 100946.	2.3	11
375	Crystal Engineering Approach for Fabrication of Inverted Perovskite Solar Cell in Ambient Conditions. <i>Energies</i> , 2021, 14, 1751.	1.6	8
376	Crystallization of CsPbBr <sub>3</sub> single crystals in water for X-ray detection. <i>Nature Communications</i> , 2021, 12, 1531.	5.8	161
377	Origin, Influence, and Countermeasures of Defects in Perovskite Solar Cells. <i>Small</i> , 2021, 17, e2005495.	5.2	61
378	Synergetic surface charge transfer doping and passivation toward high efficient and stable perovskite solar cells. <i>IScience</i> , 2021, 24, 102276.	1.9	30



#	ARTICLE	IF	CITATIONS
380	Making Room for Growing Oriented FASn <sub>3</sub> with Large Grains via Cold Precursor Solution. <i>Advanced Functional Materials</i> , 2021, 31, 2100931.	7.8	57
381	In Situ Interface Engineering with a Spiro-OMeTAD/CoO Hierarchical Structure via One-Step Spin-Coating for Efficient and Stable Perovskite Solar Cells. <i>Advanced Materials Interfaces</i> , 2021, 8, 2002041.	1.9	2
382	Beyond the First Quadrant: Origin of the High Frequency Intensity-Modulated Photocurrent/Photovoltage Spectroscopy Response of Perovskite Solar Cells. <i>Solar Rrl</i> , 2021, 5, 2100159.	3.1	21
383	A simple one-step method with wide processing window for high-quality perovskite mini-module fabrication. <i>Joule</i> , 2021, 5, 958-974.	11.7	55
384	High-Light-Tolerance Pbl <sub>2</sub> Boosting the Stability and Efficiency of Perovskite Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 24692-24701.	4.0	21
385	Insights into the Development of Monolithic Perovskite/Silicon Tandem Solar Cells. <i>Advanced Energy Materials</i> , 2022, 12, 2003628.	10.2	72
386	Perovskite Solar Cells: Current Trends in Graphene-Based Materials for Transparent Conductive Electrodes, Active Layers, Charge Transport Layers, and Encapsulation Layers. <i>Advanced Energy and Sustainability Research</i> , 2021, 2, 2100050.	2.8	12
387	Elucidating the Trajectory of the Charge Transfer Mechanism and Recombination Process of Hybrid Perovskite Solar Cells. <i>Materials</i> , 2021, 14, 2698.	1.3	5
388	Engineering Chemical Vapor Deposition for Lead-Free Perovskite-Inspired MA <sub>3</sub> Bi <sub>2</sub> I <sub>9</sub> Self-Powered Photodetectors with High Performance and Stability. <i>Advanced Optical Materials</i> , 2021, 9, 2100192.	3.6	17
389	Small grains as recombination hot spots in perovskite solar cells. <i>Matter</i> , 2021, 4, 1683-1701.	5.0	73
390	Improving Photovoltaic Performance of Pb-Free Halide Perovskite Solar Cells by Incorporating Bulky Phenylethylammonium Cations. <i>Energy Technology</i> , 2021, 9, 2100176.	1.8	1
391	Low-Temperature Blade-Coated Perovskite Solar Cells. <i>Industrial &amp; Engineering Chemistry Research</i> , 2021, 60, 7145-7154.	1.8	17
392	An Exploration of All-Inorganic Perovskite/Gallium Arsenide Tandem Solar Cells. <i>Solar Rrl</i> , 2021, 5, 2100121.	3.1	19
393	Comparative Study on TiO <sub>2</sub> and C <sub>60</sub> Electron Transport Layers for Efficient Perovskite Solar Cells. <i>ACS Applied Energy Materials</i> , 2021, 4, 5543-5553.	2.5	4
394	Molecularly Engineered Interfaces in Metal Halide Perovskite Solar Cells. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 4882-4901.	2.1	21
395	Navigating grain boundaries in perovskite solar cells. <i>Matter</i> , 2021, 4, 1442-1445.	5.0	12
396	In the Quest of Low-Frequency Impedance Spectra of Efficient Perovskite Solar Cells. <i>Energy Technology</i> , 2021, 9, 2100229.	1.8	16
397	Crystallographically Oriented Hybrid Perovskites via Thermal Vacuum Codeposition. <i>Solar Rrl</i> , 2021, 5, 2100191.	3.1	8

#	ARTICLE	IF	CITATIONS
398	Variational hysteresis and photoresponse behavior of MAPbX <sub>3</sub> (X = I, Br, Cl) perovskite single crystals. <i>Journal of Physics Condensed Matter</i> , 2021, 33, 285703.	0.7	7
399	Shape-Dependent Kinetics of Halide Vacancy Filling in Organolead Halide Perovskites. <i>Advanced Optical Materials</i> , 2021, 9, 2100355.	3.6	7
400	Research progress of absorber film of inorganic perovskite solar cells: Fabrication techniques and additive engineering in defect passivation. <i>Materials Science in Semiconductor Processing</i> , 2021, 127, 105666.	1.9	24
401	A Physics-Based Analytical Model for Current-Voltage Characteristics of Perovskite Solar Cells Incorporating Bulk Recombination. <i>Energies</i> , 2021, 14, 3868.	1.6	1
402	Multifunctional passivation strategy based on tetraoctylammonium bromide for efficient inverted perovskite solar cells. <i>Nano Energy</i> , 2021, 84, 105882.	8.2	46
403	Single-crystal halide perovskites: Opportunities and challenges. <i>Matter</i> , 2021, 4, 2266-2308.	5.0	35
404	Stable High-Performance Perovskite Solar Cells via Passivation of the Grain Boundary and Interface. <i>ACS Applied Energy Materials</i> , 2021, 4, 6883-6891.	2.5	18
405	Aerosol Assisted Solvent Treatment: A Universal Method for Performance and Stability Enhancements in Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2021, 11, 2101420.	10.2	21
406	Bias-Dependent Dynamics of Degradation and Recovery in Perovskite Solar Cells. <i>ACS Applied Energy Materials</i> , 2021, 4, 6562-6573.	2.5	11
407	Pathways toward 30% Efficient Single-Junction Perovskite Solar Cells and the Role of Mobile Ions. <i>Solar Rrl</i> , 2021, 5, 2100219.	3.1	48
408	The Role of Grain Boundaries in Charge Carrier Dynamics in Polycrystalline Metal Halide Perovskites. <i>European Journal of Inorganic Chemistry</i> , 2021, 2021, 3519-3527.	1.0	7
409	Self-Powered Organic Electrochemical Transistors with Stable, Light-Intensity Independent Operation Enabled by Carbon-Based Perovskite Solar Cells. <i>Advanced Materials Technologies</i> , 0, , 2100565.	3.0	7
410	Simultaneous Enhanced Efficiency and Stability of Perovskite Solar Cells Using Adhesive Fluorinated Polymer Interfacial Material. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 35595-35605.	4.0	20
411	Ion mobility independent large signal switching of perovskite devices. <i>Applied Physics Letters</i> , 2021, 119, .	1.5	5
412	Interfacial Defects Change the Correlation between Photoluminescence, Ideality Factor, and Open-Circuit Voltage in Perovskite Solar Cells. <i>Small</i> , 2021, 17, e2101839.	5.2	16
413	An in-situ defect passivation through a green anti-solvent approach for high-efficiency and stable perovskite solar cells. <i>Science Bulletin</i> , 2021, 66, 1419-1428.	4.3	29
414	Strong Electron Acceptor of a Fluorine-Containing Group Leads to High Performance of Perovskite Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 41149-41158.	4.0	24
415	Efficient and stable planar MAPbI <sub>3</sub> perovskite solar cells based on a small molecule passivator. <i>Surfaces and Interfaces</i> , 2021, 25, 101213.	1.5	3

#	ARTICLE	IF	CITATIONS
416	Superior photo-carrier diffusion dynamics in organic-inorganic hybrid perovskites revealed by spatiotemporal conductivity imaging. <i>Nature Communications</i> , 2021, 12, 5009.	5.8	10
417	Indoor Perovskite Photovoltaics for the Internet of Things—Challenges and Opportunities toward Market Uptake. <i>Advanced Energy Materials</i> , 2021, 11, 2101854.	10.2	52
418	In Operando, Photovoltaic, and Microscopic Evaluation of Recombination Centers in Halide Perovskite-Based Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 34171-34179.	4.0	4
419	Bifunctional interfacial engineering for piezo-phototronic enhanced photovoltaic performance of wearable perovskite solar cells. <i>Nano Energy</i> , 2021, 86, 106127.	8.2	19
420	Hysteresis-free perovskite solar cells with compact and nanoparticle NiO for indoor application. <i>Solar Energy Materials and Solar Cells</i> , 2021, 227, 111095.	3.0	35
421	Analysis of the Oxygen Passivation Effects on MAPbI <sub>3</sub> and MAPbBr <sub>3</sub> in Fresh and Aged Solar Cells by the Transient Photovoltage Technique. <i>ChemPlusChem</i> , 2021, 86, 1316-1321.	1.3	8
422	Fabrications of Halide Perovskite Single-Crystal Slices and Their Applications in Solar Cells, Photodetectors, and LEDs. <i>Crystal Growth and Design</i> , 2021, 21, 5983-5997.	1.4	9
423	Lithium Polystyrene Sulfonate as a Hole Transport Material in Inverted Perovskite Solar Cells. <i>Chemistry - an Asian Journal</i> , 2021, 16, 3151-3161.	1.7	4
424	Robust Unencapsulated Perovskite Solar Cells Protected by a Fluorinated Fullerene Electron Transporting Layer. <i>ACS Energy Letters</i> , 2021, 6, 3376-3385.	8.8	27
425	Long-Range Interfacial Charge Carrier Trapping in Halide Perovskite-C <sub>60</sub> and Halide Perovskite-TiO <sub>2</sub> Donor–Acceptor Films. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 8644-8651.	2.1	18
426	High-sensitivity high-resolution X-ray imaging with soft-sintered metal halide perovskites. <i>Nature Electronics</i> , 2021, 4, 681-688.	13.1	149
427	Exploring the Effect of Lewis-Base Additives on the Performance and Stability of Mesoscopic Carbon-Electrode Perovskite Solar Cells. <i>ACS Applied Energy Materials</i> , 2021, 4, 8810-8823.	2.5	7
428	Engineering of P3CT-Na through diprophylline treatment to realize efficient and stable inverted perovskite solar cells. <i>Chemical Engineering Journal</i> , 2021, 419, 129581.	6.6	11
429	Numerical study of lead free CsSn <sub>0.5</sub> Ge <sub>0.5</sub> I <sub>3</sub> perovskite solar cell by SCAPS-1D. <i>Optik</i> , 2021, 248, 168060.	1.4	53
430	Enhancement of the performance of planar perovskite solar cells by active-layer surface/interface modification with optimal mixed solvent-antisolvent post-treatment. <i>Organic Electronics</i> , 2022, 100, 106349.	1.4	4
431	Enhancement in charge extraction and moisture stability of perovskite solar cell via infiltration of charge transport material in grain boundaries. <i>Journal of Power Sources</i> , 2021, 506, 230212.	4.0	6
432	Defects in CsPbX <sub>3</sub> Perovskite: From Understanding to Effective Manipulation for High-Performance Solar Cells. <i>Small Methods</i> , 2021, 5, e2100725.	4.6	37
433	A study of the effects of a thermally evaporated nanoscale CsBr layer on the optoelectronic properties and stability of formamidinium-rich perovskite solar cells. <i>AIP Advances</i> , 2021, 11, 095112.	0.6	8

#	ARTICLE	IF	CITATIONS
434	Controlling the Crystallization Kinetics of Lead-Free Tin Halide Perovskites for High Performance Green Photovoltaics. <i>Advanced Energy Materials</i> , 2021, 11, 2102131.	10.2	47
435	Controllable Solution-Phase Epitaxial Growth of Q1D Sb <sub>2</sub> (S,Se) <sub>3</sub> /CdS Heterojunction Solar Cell with 9.2% Efficiency. <i>Advanced Materials</i> , 2021, 33, e2104346.	11.1	47
436	Performance analysis of lead-free CsBi <sub>3</sub> I <sub>10</sub> -based perovskite solar cell through the numerical calculation. <i>Solar Energy</i> , 2021, 226, 54-63.	2.9	20
437	Marked Near-Infrared Response of 2D Ca <sub>3</sub> Sn <sub>2</sub> S <sub>7</sub> Chalcogenide Perovskite via Solid and Electronic Structure Engineering. <i>Journal of Physical Chemistry C</i> , 2021, 125, 20241-20248.	1.5	6
438	Spatial Distribution of Solar Cell Parameters in Multigrain Halide-Perovskite Films: A Device Model Perspective. <i>ACS Applied Energy Materials</i> , 2021, 4, 8709-8714.	2.5	3
439	Device simulation of FASnI <sub>3</sub> based perovskite solar cell with Zn(O <sub>0.3</sub> , S <sub>0.7</sub> ) as electron transport layer using SCAPS-1D. <i>Optical Materials</i> , 2021, 119, 111362.	1.7	79
440	A review on perovskite solar cells (PSCs), materials and applications. <i>Journal of Materiomics</i> , 2021, 7, 940-956.	2.8	111
441	Exploring the Effect of Ammonium Iodide Salts Employed in Multication Perovskite Solar Cells with a Carbon Electrode. <i>Molecules</i> , 2021, 26, 5737.	1.7	8
442	Improved charge transfer dynamics of Antimony doped TiO <sub>2</sub> /rGO nanocomposites. <i>Materials Letters</i> , 2021, 302, 130294.	1.3	2
443	Role of silver-PC61BM composite electron transport layer in methylammonium lead iodide solar cell. <i>Materials Letters</i> , 2021, 302, 130448.	1.3	1
444	The effect of defects in tin-based perovskites and their photovoltaic devices. <i>Materials Today Physics</i> , 2021, 21, 100513.	2.9	17
445	CsCl-induced defect control of CsPbI <sub>2</sub> Br thin films for achieving open-circuit voltage of 1.33 V in all-inorganic perovskite solar cells. <i>Journal of Power Sources</i> , 2021, 512, 230481.	4.0	16
446	Light illumination and temperature-induced current-voltage hysteresis in single-crystal perovskite photodiodes. <i>CrystEngComm</i> , 2021, 23, 1663-1670.	1.3	9
447	Metal Halide Perovskite/2D Material Heterostructures: Syntheses and Applications. <i>Small Methods</i> , 2021, 5, e2000937.	4.6	24
448	The effect of storage cycle on improvement in the photovoltaic parameters of planar triple cation perovskite solar cells. <i>Materials Advances</i> , 2021, 2, 5396-5405.	2.6	7
449	Unravelling halide-dependent charge carrier dynamics in CsPb(Br/Cl) <sub>3</sub> perovskite nanocrystals. <i>Nanoscale</i> , 2021, 13, 3654-3661.	2.8	13
450	Doped Metal Oxide Thin Films for Dye-Sensitized Solar Cell and Other Non-Dye-Loaded Photoelectrochemical (PEC) Solar Cell Applications. , 2021, , 235-260.		0
451	Harnessing the potential of lead-free Sn-Ge based perovskite solar cells by unlocking the recombination channels. <i>Sustainable Energy and Fuels</i> , 2021, 5, 4661-4667.	2.5	34

#	ARTICLE	IF	CITATIONS
452	Spontaneous interface engineering for dopant-free poly(3-hexylthiophene) perovskite solar cells with efficiency over 24%. <i>Energy and Environmental Science</i> , 2021, 14, 2419-2428.	15.6	152
453	Mixed lead-tin perovskite films with $>7\frac{1}{4}$ s charge carrier lifetimes realized by maltol post-treatment. <i>Chemical Science</i> , 2021, 12, 13513-13519.	3.7	36
454	Application of two-dimensional materials in perovskite solar cells: recent progress, challenges, and prospective solutions. <i>Journal of Materials Chemistry C</i> , 2021, 9, 14065-14092.	2.7	24
455	Tailored Amphiphilic Molecular Mitigators for Stable Perovskite Solar Cells with 23.5% Efficiency. <i>Advanced Materials</i> , 2020, 32, e1907757.	11.1	303
456	Effect of the Device Architecture on the Performance of $\text{FA}_{0.85}\text{MA}_{0.15}\text{PbBr}_{0.45}\text{I}_{2.55}$ Planar Perovskite Solar Cells. <i>Advanced Materials Interfaces</i> , 2019, 6, 1801667.	1.9	15
457	Doped Bilayer Tin(IV) Oxide Electron Transport Layer for High Open-Circuit Voltage Planar Perovskite Solar Cells with Reduced Hysteresis. <i>Small</i> , 2021, 17, e2005671.	5.2	34
458	Perovskite Photovoltaics: From Laboratory to Industry. <i>Springer Series in Optical Sciences</i> , 2020, , 219-255.	0.5	9
459	Grain boundary passivation with triazine-graphdiyne to improve perovskite solar cell performance. <i>Science China Materials</i> , 2020, 63, 2465-2476.	3.5	26
460	Thiocyanate assisted nucleation for high performance mix-cation perovskite solar cells with improved stability. <i>Journal of Power Sources</i> , 2020, 466, 228320.	4.0	29
461	HI-assisted fabrication of Sn-doping $\text{TiO}_2$ electron transfer layer for air-processed perovskite solar cells with high efficiency and stability. <i>Solar Energy Materials and Solar Cells</i> , 2020, 215, 110594.	3.0	17
462	Bifunctional Organic Disulfide for High-Efficiency and High-Stability Planar Perovskite Solar Cells. <i>ACS Applied Energy Materials</i> , 2020, 3, 9724-9731.	2.5	7
463	Scalable fabrication and coating methods for perovskite solar cells and solar modules. <i>Nature Reviews Materials</i> , 2020, 5, 333-350.	23.3	568
464	Hysteresis-less and stable perovskite solar cells with a self-assembled monolayer. <i>Communications Materials</i> , 2020, 1, .	2.9	91
465	Cryogenic spatial-temporal imaging of surface photocarrier dynamics in $\text{MAPbI}_3$ films at the single grain level. <i>AIP Advances</i> , 2020, 10, .	0.6	2
466	Defects in halide perovskite semiconductors: impact on photo-physics and solar cell performance. <i>Journal Physics D: Applied Physics</i> , 2020, 53, 503003.	1.3	26
467	I/P interface modification for stable and efficient perovskite solar cells. <i>Journal of Semiconductors</i> , 2020, 41, 052202.	2.0	5
468	What is a deep defect? Combining Shockley-Read-Hall statistics with multiphonon recombination theory. <i>Physical Review Materials</i> , 2020, 4, .	0.9	38
469	Effects of band edge positions on defect structure in lead halide perovskites: A case study on the Br vacancy in $\text{CsPbBr}_3$ . <i>Physical Review Materials</i> , 2020, 4, .	0.9	20

#	ARTICLE	IF	CITATIONS
470	Impact of the trap-assisted recombination in the perovskite solar cells. , 2020, , .		1
471	Triple-cation perovskite solar cells for visible light communications. Photonics Research, 2020, 8, A16.	3.4	24
473	Recent advancements and perspectives on light management and high performance in perovskite light-emitting diodes. Nanophotonics, 2021, 10, 2103-2143.	2.9	35
474	Efficient Vacuum Deposited P-I-N Perovskite Solar Cells by Front Contact Optimization. Frontiers in Chemistry, 2019, 7, 936.	1.8	16
475	Conjugated polymers as functional hole selective layers in efficient metal halide perovskite solar cells. AIMS Materials Science, 2017, 4, 956-969.	0.7	3
476	Innovative PIN-type perovskite solar cells with 17% efficiency: processing and characterization. Materials Advances, 2021, 2, 7907-7921.	2.6	6
477	Effect of bromine doping on the charge transfer, ion migration and stability of the single crystalline MAPb(Br <sub>x</sub> I <sub>3-x</sub> ) <sub>3</sub> photodetector. Journal of Materials Chemistry C, 2021, 9, 15189-15200.	2.7	23
478	Increasing Molecular Packing Density and Dielectric Constant in Non-Fullerene Acceptors Enables to Boost the Fill Factor Approaching 0.82 in Organic Solar Cells. SSRN Electronic Journal, 0, , .	0.4	1
479	Construction of an Iodine Diffusion Barrier Using Network Structure Silicone Resin for Stable Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2021, 13, 8138-8146.	4.0	11
480	A comprehensive review on defect passivation and gradient energy alignment strategies for highly efficient perovskite solar cells. Journal Physics D: Applied Physics, 2022, 55, 043001.	1.3	9
481	Effect of Ion Vacancy Migration on Open-Circuit Voltage of Perovskite Solar Cells. Physica Status Solidi (A) Applications and Materials Science, 2022, 219, 2100472.	0.8	6
482	Interface Engineering of Mesoscopic Perovskite Solar Cells by Atomic Layer Deposition of Ta <sub>2</sub> O <sub>5</sub> . ACS Applied Energy Materials, 2021, 4, 10433-10441.	2.5	9
483	Monocrystalline Methylammonium Lead Halide Perovskite Materials for Photovoltaics. Advanced Materials, 2021, 33, e2102588.	11.1	22
484	Research progress of interface passivation of n-i-p perovskite solar cells. Wuli Xuebao/Acta Physica Sinica, 2019, 68, 158803.	0.2	1
485	Trap States Impact Photon Upconversion in Rubrene Sensitized by Lead Halide Perovskite Thin Films. SSRN Electronic Journal, 0, , .	0.4	1
486	Yüksek Verimli ve Uzun Ömür Kararlı Perovskit Çözeltmelerinin Üretimi için Perovskit/Spiro-OMeTAD Arayüzünün Thiol Molekülleri ile Modifikasyonu. European Journal of Science and Technology, 0, , 727-735.	0.5	0
487	Combined Precursor Engineering and Grain Anchoring Leading to MA-Free, Phase-Pure, and Stable Formamidinium Lead Iodide Perovskites for Efficient Solar Cells. Angewandte Chemie - International Edition, 2021, 60, 27299-27306.	7.2	46
488	Plasmon-induced trap filling at grain boundaries in perovskite solar cells. Light: Science and Applications, 2021, 10, 219.	7.7	30



#	ARTICLE	IF	CITATIONS
489	Combined precursor engineering and grain anchoring leading to MA-free, phase-pure and stable formamidinium lead iodide perovskites for efficient solar cells. <i>Angewandte Chemie</i> , 0, .	1.6	11
490	Improving inter-phase charge transfer via defect passivation for efficient Quasi-2D (BA) <sub>2</sub> (FA) <sub>8</sub> Pb <sub>9</sub> I <sub>28</sub> perovskite solar cells. <i>Materials Science in Semiconductor Processing</i> , 2022, 138, 106296.	1.9	2
491	Device Modeling of Perovskite Solar Cells: Insights and Outlooks. , 2020, , 4-1-4-32.		1
492	Device simulation of all-perovskite four-terminal tandem solar cells: towards 33% efficiency. <i>EPJ Photovoltaics</i> , 2021, 12, 4.	0.8	3
494	Interface and Grain Boundary Passivation by PEA-SCN Double Ions via One-Step Crystal Engineering for All Air-Processed, Stable Perovskite Solar Cells. <i>ACS Applied Energy Materials</i> , 2021, 4, 12290-12297.	2.5	6
496	Interfacial Defect Passivation and Charge Carrier Management for Efficient Perovskite Solar Cells via a Highly Crystalline Small Molecule. <i>ACS Energy Letters</i> , 2021, 6, 4209-4219.	8.8	63
498	Polymer Hole Transport Materials for Perovskite Solar Cells via Buchwald-Hartwig Amination. <i>ACS Applied Polymer Materials</i> , 2021, 3, 5578-5587.	2.0	14
500	Defect Behaviors in Perovskite Light-Emitting Diodes. , 2021, 3, 1702-1728.		27
501	CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Perovskite with Enhanced Absorption and Stability Using Silver Nanowires and the Anatase Structure of TiO <sub>2</sub> Nanowires. <i>Journal of Electronic Materials</i> , 2022, 51, 778-784.	1.0	1
502	Tailoring molecular termination for thermally stable perovskite solar cells. <i>Journal of Semiconductors</i> , 2021, 42, 112201.	2.0	3
503	Recent Progress on Emerging Transparent Metallic Electrodes for Flexible Organic and Perovskite Photovoltaics. <i>Solar Rrl</i> , 2022, 6, .	3.1	14
504	Vacuum-evaporated lead halide perovskite LEDs [Invited]. <i>Optical Materials Express</i> , 2022, 12, 256.	1.6	6
505	A review on advances in doping with alkali metals in halide perovskite materials. <i>SN Applied Sciences</i> , 2021, 3, 1.	1.5	12
506	Effect of Cs <sup>+</sup> and K <sup>+</sup> incorporation on the charge carrier lifetime, device performance and stability in perovskite solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2022, 236, 111512.	3.0	8
507	The Role of Ending Groups in Non-Fullerene Acceptors for Interfacial Modification in Perovskite Solar Cells. <i>Solar Rrl</i> , 0, , .	3.1	1
508	Role of conducting polymers in enhancing the stability and performance of perovskite solar cells: a brief review. <i>Materials Today Sustainability</i> , 2022, 17, 100090.	1.9	20
509	Cotton soot derived carbon nanoparticles for NiO supported processing temperature tuned ambient perovskite solar cells. <i>Scientific Reports</i> , 2021, 11, 23388.	1.6	13
510	Hybrid perovskites: Charge carrier recombination effects in photovoltaic devices. , 2022, 5, .		0



#	ARTICLE	IF	CITATIONS
511	Excited-State Dynamics in Metal Halide Perovskites: A Theoretical Perspective. , 2021, , 1-54.		0
512	A Compact Electron Transport Layer Using a Heated TinOxide Colloidal Solution for Efficient Perovskite Solar Cells. Solar Rrl, 0, , 2100794.	3.1	2
513	Design of dopant-free small molecular hole transport materials for perovskite solar cells: a viewpoint from defect passivation. Journal of Materials Chemistry A, 2022, 10, 1150-1178.	5.2	44
514	Electrode Engineering in Halide Perovskite Electronics: Plenty of Room at the Interfaces. Advanced Materials, 2022, 34, e2108616.	11.1	55
515	The Effect of Energy Level of Transport Layer on the Performance of Ambient Air Prepared Perovskite Solar Cell: A SCAPS-1D Simulation Study. Crystals, 2022, 12, 68.	1.0	13
516	Suppression of halide migration and immobile ionic surface passivation for blue perovskite light-emitting diodes. Journal of Materials Chemistry C, 2022, 10, 2060-2066.	2.7	12
517	Optimization of a Pb-free all-perovskite tandem solar cell with 30.85% efficiency. Optical Materials, 2022, 123, 111891.	1.7	18
518	Ambient environment induced synergetic improvement in morphology and iodine vacancy passivation by MAI surface engineering in mixed-cation lead mixed-halide (FA <sub>0.85</sub> MA <sub>0.15</sub> PbI <sub>0.55</sub> Br <sub>0.45</sub> ) perovskite solar cells. Surfaces and Interfaces, 2022, 29, 101703.	1.5	1
519	Impedance spectroscopy study of defect/ion mediated electric field and its effect on the photovoltaic performance of perovskite solar cells based on different active layers. Solar Energy Materials and Solar Cells, 2022, 237, 111548.	3.0	13
520	Effects of Defect on Work Function and Energy Alignment of PbI <sub>2</sub> : Implications for Solar Cell Applications. Chemistry of Materials, 2022, 34, 1020-1029.	3.2	20
521	Progress and Challenges of SnO <sub>2</sub> Electron Transport Layer for Perovskite Solar Cells: A Critical Review. Solar Rrl, 2022, 6, .	3.1	44
522	Perovskite Solar Cells with CarbonBased Electrodes “ Quantification of Losses and Strategies to Overcome Them. Advanced Energy Materials, 2022, 12, .	10.2	29
523	Highly Anisotropic Organometal Halide Perovskite Nanowalls Grown by GlancingAngle Deposition. Advanced Materials, 2022, 34, e2107739.	11.1	5
524	Influence of Perovskite Layer Parameters and Back Contact Material on Characteristics of Solar Cells. Lecture Notes in Electrical Engineering, 2022, , 193-202.	0.3	4
525	Dual Passivation of Point Defects at Perovskite Grain Boundaries with Ammonium Salts Greatly Inhibits Nonradiative Charge Recombination. Journal of Physical Chemistry Letters, 2022, 13, 954-961.	2.1	10
526	Revealing defective interfaces in perovskite solar cells from highly sensitive sub-bandgap photocurrent spectroscopy using optical cavities. Nature Communications, 2022, 13, 349.	5.8	21
527	Research progress of atomic layer deposition technology to improve the long-term stability of perovskite solar cells. Journal of Materials Chemistry C, 2022, 10, 819-839.	2.7	13
528	Quantification of Efficiency Losses Due to Mobile Ions in Perovskite Solar Cells via Fast Hysteresis Measurements. Solar Rrl, 2022, 6, .	3.1	36

#	ARTICLE	IF	CITATIONS
529	Performance Analysis of a Perovskite-Based Thing-to-Thing Optical Wireless Power Transfer System. IEEE Photonics Journal, 2022, 14, 1-8.	1.0	9
530	Defects and passivation in perovskite solar cells. Surface Innovations, 2022, 10, 3-20.	1.4	18
531	Antisolvents Treatment of Cs <sub>0.15</sub> FA <sub>0.85</sub> PbI <sub>3</sub> Boosting Efficiency for Perovskite Solar Cells. IEEE Journal of Photovoltaics, 2022, 12, 322-326.	1.5	1
532	Slow Hot-Carrier-Cooling in a 2D Lead-Iodide Perovskite Film and Its Photovoltaic Device. Journal of Physical Chemistry C, 2022, 126, 2374-2382.	1.5	6
533	Elucidating the underlying physics in a two-terminal all-perovskite tandem solar cell: A guideline towards 30% power conversion efficiency. Solar Energy, 2022, 231, 716-731.	2.9	12
534	Review on efficiency improvement effort of perovskite solar cell. Solar Energy, 2022, 233, 421-434.	2.9	74
535	Molecular Engineering of Polytriarylamine-Based Hole-Transport Materials for Perovskite Solar Cells: Methyl Groups Matter. ACS Applied Energy Materials, 2022, 5, 5388-5394.	2.5	6
536	Spacer Engineering of Thiophene-Based Two-Dimensional/Three-Dimensional Hybrid Perovskites for Stable and Efficient Solar Cells. Journal of Physical Chemistry C, 2022, 126, 3351-3358.	1.5	9
537	High fill factor organic solar cells with increased dielectric constant and molecular packing density. Joule, 2022, 6, 444-457.	11.7	117
538	Efficient and bending durable flexible perovskite solar cells via interface modification using a combination of thin MoS <sub>2</sub> nanosheets and molecules binding to the perovskite. Nano Energy, 2022, 95, 107044.	8.2	27
539	Computation-assisted performance optimization for photoelectrochemical photoelectrodes. Applied Physics Letters, 2022, 120, .	1.5	4
540	Phase segregation induced efficiency degradation and variability in mixed halide perovskite solar cells. Journal of Applied Physics, 2021, 130, .	1.1	12
541	Driftdiffusion: an open source code for simulating ordered semiconductor devices with mixed ionic-electronic conducting materials in one dimension. Journal of Computational Electronics, 2022, 21, 960-991.	1.3	16
542	Efficiency and Stability Enhancement of Perovskite Solar Cells Utilizing a Thiol Ligand and MoS <sub>2</sub> (100) Nanosheet Surface Modification. ACS Applied Energy Materials, 2021, 4, 14080-14092.	2.5	4
543	Tuning the morphology and optoelectronic properties of AgBiI <sub>4</sub> film through isopropanol treatment. Journal of Materials Chemistry C, 2022, 10, 5321-5327.	2.7	5
544	Simple approach for an electron extraction layer in an all-vacuum processed n-i-p perovskite solar cell. Energy Advances, 2022, 1, 252-257.	1.4	1
545	Recombination Pathways in Perovskite Solar Cells. Advanced Materials Interfaces, 2022, 9, .	1.9	20
546	High Efficiency Perovskite Solar Cells Employing Quasi-2D Ruddlesden-Popper/Dion-Jacobson Heterojunctions. Advanced Functional Materials, 2022, 32, .	7.8	23

#	ARTICLE	IF	CITATIONS
547	Hysteresis in hybrid perovskite indoor photovoltaics. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2022, 380, 20210144.	1.6	4
548	Semitransparent Perovskite Solar Cells with > 13% Efficiency and 27% Transparency Using Plasmonic Au Nanorods. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 11339-11349.	4.0	29
549	Deconvolution of Light-Induced Ion Migration Phenomena by Statistical Analysis of Cathodoluminescence in Lead Halide-Based Perovskites. <i>Advanced Science</i> , 2022, 9, e2103729.	5.6	13
550	High-Performance Planar-Type Photodetector Based on Hot-Pressed CsPbBr <sub>3</sub> Wafer. <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 3008-3015.	2.1	7
551	Manipulating Ion Migration and Interfacial Carrier Dynamics via Amino Acid Treatment in Planar Perovskite Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 15840-15848.	4.0	20
552	Negative capacitance and hysteresis in encapsulated MAPbI <sub>3</sub> and lead-tin (Pb-Sn) perovskite solar cells. <i>Journal of Materials Research</i> , 2022, 37, 1357-1372.	1.2	4
553	Reverse bias breakdown and photocurrent gain in CH <sub>3</sub> NH <sub>3</sub> PbBr <sub>3</sub> films. <i>Applied Physics Letters</i> , 2022, 120, .	1.5	5
554	Multifunctional Conjugated Additives for Halide Perovskite. <i>Advanced Science</i> , 2022, 9, e2105307.	5.6	33
555	Wide-Bandgap Organic-Inorganic Lead Halide Perovskite Solar Cells. <i>Advanced Science</i> , 2022, 9, e2105085.	5.6	60
556	Synergistic Passivation of Perovskite Absorber Films for Efficient Four-Terminal Perovskite/Silicon Tandem Solar Cells. <i>Advanced Energy and Sustainability Research</i> , 2022, 3, .	2.8	10
557	Defect Healing in FAPb(I <sub>1-x</sub> Br <sub>x</sub> ) <sub>3</sub> Perovskites: Multifunctional Fluorinated Sulfonate Surfactant Anchoring Enables >21% Modules with Improved Operation Stability. <i>Advanced Energy Materials</i> , 2022, 12, .	10.2	32
558	Uridine as additive in antisolvent for improving performance and reproducibility of perovskite solar cells. <i>Journal of Materials Science: Materials in Electronics</i> , 0, , 1.	1.1	0
559	Organic cation polystyrene sulfonate polyelectrolytes as hole transporting interfacial layers in perovskite solar cells. <i>Applied Surface Science</i> , 2022, 588, 152826.	3.1	6
560	High-Efficiency and scalable Solution-Sheared perovskite solar cells using green solvents. <i>Chemical Engineering Journal</i> , 2022, 437, 135477.	6.6	10
561	Sequential surface passivation for enhanced stability of vapor-deposited methylammonium lead iodide thin films. <i>Chemical Engineering Journal</i> , 2022, 439, 135715.	6.6	4
562	Recent Progress of Critical Interface Engineering for Highly Efficient and Stable Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2022, 12, .	10.2	78
563	Understanding the Limitations of Charge Transporting Layers in Mixed Lead-Tin Halide Perovskite Solar Cells. <i>Advanced Energy and Sustainability Research</i> , 2022, 3, .	2.8	13
564	Decreased surface defects and non-radiative recombination via the passivation of the halide perovskite film by 2-thiophenecarboxylic acid in triple-cation perovskite solar cells. <i>Physical Chemistry Chemical Physics</i> , 2022, 24, 10384-10393.	1.3	13

#	ARTICLE	IF	CITATIONS
565	High electron mobility in randomly oriented polycrystalline BaSi <sub>2</sub> films formed through radio-frequency sputtering. AIP Advances, 2022, 12, 045120.	0.6	7
566	Efficient Flexible Perovskite Solar Cells with Reduced Hysteresis Employing Cobalt Nitrate Treated SnO <sub>2</sub> . Solar Rrl, 2022, 6, .	3.1	7
567	A novel 1-D square-pyramidal coordinated palladium (II) hybrid compounds [C <sub>9</sub> H <sub>16</sub> N <sub>2</sub> ] <sub>4</sub> PdX <sub>4</sub> (X=Cl, Br) showing broadband emission, electrical properties and narrow optical band gap. Journal of Solid State Chemistry, 2022, 311, 123149.	1.4	5
570	Enhanced Hole Mobility and Decreased Ion Migration Originated from Interface Engineering for High Quality PSCs with Average FF beyond 80%. Small Methods, 2022, , 2200260.	4.6	10
571	Interfacial passivation with 4-chlorobenzene sulfonyl chloride for stable and efficient planar perovskite solar cells. Journal of Materials Chemistry C, 2022, 10, 9044-9051.	2.7	8
572	Out-of-Glovebox Integration of Recyclable Europium-Doped CsPbI <sub>3</sub> in Triple-Mesoscopic Carbon-Based Solar Cells Exceeding 9% Efficiency. Solar Rrl, 2022, 6, .	3.1	9
573	Sequential optimization of highly efficient all inorganic CsGeI <sub>3</sub> perovskite solar cell by numerical simulation. Japanese Journal of Applied Physics, 0, , .	0.8	3
574	Pseudohalide-Assisted Growth of Oriented Large Grains for High-Performance and Stable 2D Perovskite Solar Cells. ACS Energy Letters, 2022, 7, 1842-1849.	8.8	29
575	Photovoltaic Photodetectors Based on In <sub>2</sub> O <sub>3</sub> /InN Core-Shell Nanorods. ACS Applied Nano Materials, 2022, 5, 7418-7426.	2.4	10
576	Perovskite: Scintillators, direct detectors, and X-ray imagers. Materials Today, 2022, 55, 110-136.	8.3	111
577	Strategies for high-performance perovskite solar cells from materials, film engineering to carrier dynamics and photon management. Informa-Materially, 2022, 4, .	8.5	27
578	Pyridine Derivatives™ Surface Passivation Enables Efficient and Stable Carbon-Based Perovskite Solar Cells. , 2022, 4, 1101-1111.		30
579	Perovskite films passivated by a dendrimer toward high efficiency and high stability devices. Journal of Power Sources, 2022, 536, 231518.	4.0	1
580	Quaternary ammonium halide-containing cellulose derivatives for defect passivation in MAPbI <sub>3</sub> -based perovskite solar cells. Sustainable Energy and Fuels, 2022, 6, 3349-3362.	2.5	7
581	Suppressing Halide Segregation in Wide-Band-Gap Mixed-Halide Perovskite Layers through Post-Hot Pressing. ACS Applied Materials & Interfaces, 2022, , .	4.0	4
582	Characterization of interfaces: Lessons from the past for the future of perovskite solar cells. Journal of Semiconductors, 2022, 43, 051202.	2.0	6
583	Effect of cuprous iodide passivation in perovskite solar cells. Journal of Materials Science: Materials in Electronics, 2022, 33, 14457-14467.	1.1	3
584	Multiple-Route Exciton Recombination Dynamics and Improved Stability of Perovskite Quantum Dots by Plasmonic Photonic Crystal. Journal of Physical Chemistry Letters, 2022, 13, 5040-5048.	2.1	4

#	ARTICLE	IF	CITATIONS
585	Extension of in-gap electronic-state spectrum extraction method based on transient photo-voltage measurement. <i>Chemical Physics</i> , 2022, 561, 111593.	0.9	1
586	Efficient Perovskite Solar Cells with Enhanced Thermal Stability by Sulfide Treatment. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 27427-27434.	4.0	4
587	Low-Temperature Solution-Processed $\text{Lu}_2\text{O}_3$ Films for Deep-UV Photovoltaic Detectors With High Sensitivity. <i>IEEE Electron Device Letters</i> , 2022, 43, 1295-1298.	2.2	5
588	The high open-circuit voltage of perovskite solar cells: a review. <i>Energy and Environmental Science</i> , 2022, 15, 3171-3222.	15.6	181
589	Study on the effect of temperature on electrical and photovoltaic parameters of lead-free tin-based Perovskite solar cell. <i>Indian Journal of Physics</i> , 2023, 97, 447-455.	0.9	9
590	2D Material and Perovskite Heterostructure for Optoelectronic Applications. <i>Nanomaterials</i> , 2022, 12, 2100.	1.9	13
591	The role of $\text{Nb}_2\text{O}_5$ deposition process on perovskite solar cells.	0.8	2
592	Thermally-induced drift of A-site cations at solid–solid interface in physically paired lead halide perovskites. <i>Scientific Reports</i> , 2022, 12, .	1.6	2
593	Recent advances in dopant-free organic hole-transporting materials for efficient, stable and low-cost perovskite solar cells. <i>Energy and Environmental Science</i> , 2022, 15, 3630-3669.	15.6	58
594	Laminated Monolithic Perovskite/Silicon Tandem Photovoltaics. <i>Advanced Energy Materials</i> , 2022, 12, .	10.2	14
595	A Multifunctional Fluorinated Polymer Enabling Efficient $\text{MAPbI}_3$ -Based Inverted Perovskite Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 31285-31295.	4.0	7
596	Ink Engineering in Blade–Coating Large–Area Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2022, 12, .	10.2	39
597	Additive MXene and dominant recombination channel in perovskite solar cells. <i>Solar Energy</i> , 2022, 241, 720-727.	2.9	12
598	Investigation of a social group assisted differential evolution for the optimal PV parameter extraction of standard and modified diode models. <i>Energy Conversion and Management</i> , 2022, 268, 115955.	4.4	5
599	Influence of carrier mobility mismatch over the performance of heterojunction $\text{MAPbI}_3$ -based Perovskite solar cells. , 2020, , .		1
600	Nanoscale Structural Heterogeneity and Efficient Intergrain Charge Diffusion in a Series of Mixed MA/FA Halide Perovskite Films. <i>ACS Energy Letters</i> , 2022, 7, 2443-2449.	8.8	5
601	Surface Lattice Perturbation of Electron Transport Layer Reducing Oxygen Vacancies for Positive Photovoltaic Effect. <i>Solar Rrl</i> , 2022, 6, .	3.1	7
602	Avoid Pitfalls in Identifying Perovskite Grain Size. <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 7236-7242.	2.1	7

#	ARTICLE	IF	CITATIONS
603	Analysis and design of p-n homojunction Sb <sub>2</sub> Se <sub>3</sub> solar cells by numerical simulation. Solar Energy, 2022, 242, 276-286.	2.9	11
604	Recent Advances in CsPbX <sub>3</sub> Perovskite Solar Cells: Focus on Crystallization Characteristics and Controlling Strategies. Advanced Energy Materials, 2023, 13, .	10.2	27
605	A High-Performance Self-Powered Photodetector Based on MAPbBr <sub>3</sub> Single Crystal Thin Film/MoS <sub>2</sub> Vertical Van Der Waals Heterostructure. Advanced Materials Interfaces, 2022, 9, .	1.9	8
606	Determination of Suitable Transport Layers in Light of Interface Defect States in MASnX <sub>3</sub> -Based Perovskite Solar Cell. Physica Status Solidi - Rapid Research Letters, 2022, 16, .	1.2	4
607	Suppression of Defect and Trap Density through Dimethylammonium-Substituted Tin Perovskite Solar Cells. , 2022, 4, 1855-1862.		11
608	Planar heterojunction perovskite solar cell with graded energy band architecture via fast-drying spray deposition. Solar Energy, 2022, 244, 65-74.	2.9	2
609	Bismuth Complex Controlled Morphology Evolution and CuSCN-Induced Transport Improvement Enable Efficient BiI <sub>3</sub> Solar Cells. Nanomaterials, 2022, 12, 3121.	1.9	1
610	Highly efficient quasi-cubic structured perovskite for harvesting energy from artificial indoor LED light source. Solar Energy, 2022, 245, 332-339.	2.9	4
611	Passivation of positively charged cationic defects in perovskite with nitrogen-donor crown ether enabling efficient perovskite solar cells. Chemical Engineering Journal, 2023, 451, 138962.	6.6	14
612	A self-arranged metal-organic polyhedron/fullerene asymmetric structure improves the performance of inverted perovskite solar cells. Journal of Materials Chemistry C, 2022, 10, 14542-14548.	2.7	4
613	Passivation of Positively Charged Cationic Defects in Perovskite with Nitrogen-Donor Crown Ether Enabling Efficient Perovskite Solar Cells. SSRN Electronic Journal, 0, .	0.4	0
614	Intrinsic aging in mixed-cation lead halide perovskites. Sustainable Energy and Fuels, 2022, 6, 4925-4937.	2.5	4
615	Domain Size, Temperature, and Time Dependence of Photodegradation in MAPbI <sub>3</sub> Probed by Raman Spectroscopy. ACS Energy Letters, 2022, 7, 3095-3103.	8.8	7
616	Antisolvent Treatment on Wet Solution-Processed CuSCN Hole Transport Layer Enables Efficient and Stable Perovskite Solar Cells. Advanced Materials Interfaces, 2022, 9, .	1.9	6
617	Stabilization of Perovskite Solar Cells: Recent Developments and Future Perspectives. Advanced Materials, 2022, 34, .	11.1	67
618	Influence of FK209 Cobalt Doped Electron Transport Layer in Cesium Based Perovskite Solar Cells. Applied Sciences (Switzerland), 2022, 12, 9382.	1.3	0
619	Growth, characterization and photoelectrical properties of orthorhombic and cubic CsPbBr <sub>3</sub> single crystals. Journal of Materials Science: Materials in Electronics, 2022, 33, 24895-24905.	1.1	4
620	Control of Hot Carrier Cooling in Lead Halide Perovskites by Point Defects. Journal of the American Chemical Society, 2022, 144, 18126-18134.	6.6	15



#	ARTICLE	IF	CITATIONS
621	Effective Multifunctional Additive Engineering for Efficient and Stable Inverted Perovskite Solar Cells. <i>Solar Rrl</i> , 2022, 6, .	3.1	9
622	Scintillation properties of $(\text{CH}_3)_4\text{N}_3\text{BiCl}_6$ as a novel lead-free perovskite halide crystal. <i>Materials Research Express</i> , 2022, 9, 096202.	0.8	3
623	Double-side modification strategy for efficient carbon-based, all-inorganic $\text{CsPbI}_2\text{Br}_2$ perovskite solar cells with high photovoltage. <i>Journal of Materiomics</i> , 2023, 9, 35-43.	2.8	2
624	Optimization of the Power Conversion Efficiency of $\text{CsPbI}_3\text{Br}_x$ -Based Perovskite Photovoltaic Solar Cells Using ZnO and NiOx as an Inorganic Charge Transport Layer. <i>Applied Sciences (Switzerland)</i> , 2022, 12, 8987.	1.3	4
625	Effect of grain boundary orientation on the recombination in polycrystalline materials: a theoretical and simulation study. <i>Applied Physics A: Materials Science and Processing</i> , 2022, 128, .	1.1	1
626	Defect Passivation via Isoxazole Doping in Perovskite Solar Cells. <i>ACS Omega</i> , 2022, 7, 34278-34285.	1.6	2
627	Reduced interfacial recombination in perovskite solar cells by structural engineering simulation. <i>Journal of Optics (United Kingdom)</i> , 2022, 24, 115901.	1.0	4
628	Additive-assisted defect passivation of perovskite with metformin hydrochloride: toward high-performance p-i-n perovskite solar cells. <i>JPhys Energy</i> , 0, , .	2.3	0
629	Vacuum-Processed Perovskite Solar Cells: Materials and Methods. <i>Solar Rrl</i> , 2022, 6, .	3.1	0
630	High Open-Circuit Voltage $\text{Cs}_2\text{AgBiBr}_6$ Carbon-Based Perovskite Solar Cells via Green Processing of Ultrasonic Spray-Coated Carbon Electrodes from Waste Tire Sources. <i>ChemSusChem</i> , 2022, 15, .	3.6	37
631	Enhancement of photoelectric performance for $\text{CsPbI}_2\text{Br}$ solar cells by the synergistic effect of binary additives. <i>Journal of Materiomics</i> , 2023, 9, 27-34.	2.8	5
632	Organic-Inorganic Hybrid Devices Perovskite-Based Devices. , 2022, , 283-307.		0
633	A multifunctional phosphorylcholine-based polymer reduces energy loss for efficient perovskite solar cells. <i>Journal of Materials Chemistry C</i> , 2022, 10, 16781-16788.	2.7	6
634	Multifunctional Modifications Based on Carbonyl Material Enhanced Performance of Perovskite Solar Cells. <i>Solar Rrl</i> , 2022, 6, .	3.1	3
635	Multifunctional Histidine Cross-Linked Interface toward Efficient Planar Perovskite Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 47872-47881.	4.0	13
636	An improved perovskite solar cell employing $\text{In}_x\text{Ga}_{1-x}\text{As}$ as an efficient hole transport layer. <i>Journal of Computational Electronics</i> , 0, , .	1.3	0
637	Voltage Deficit in Wide Bandgap Perovskite Solar Cells: The Role of Traps, Band Energies, and Effective Density of States. <i>Solar Rrl</i> , 2022, 6, .	3.1	5
638	Terahertz Nanoimaging of Perovskite Solar Cell Materials. <i>ACS Photonics</i> , 2022, 9, 3550-3556.	3.2	12



#	ARTICLE	IF	CITATIONS
640	Multifunctional Ionic Fullerene Additive for Synergistic Boundary and Defect Healing of Tin Perovskite to Achieve High-Efficiency Solar Cells. ACS Applied Materials & Interfaces, 2022, 14, 46603-46614.	4.0	4
641	Pre-annealing treatment for high-efficiency perovskite solar cells via sequential deposition. Joule, 2022, 6, 2869-2884.	11.7	41
642	Optimized Photoelectric Performances via Composition Regulation of Precursor Solutions in CsPbI <sub>3</sub> Perovskite Solar Cells. Journal of Physics: Conference Series, 2022, 2310, 012013.	0.3	0
643	Metal Halide Perovskite/Electrode Contacts in Charge-Transporting-Layer-Free Devices. Advanced Science, 2022, 9, .	5.6	11
644	Enhancement of the photovoltaic performance of HTL-free-perovskite solar cells based on carbon electrode via the modification of electron transport layer with Copper oxide@Polyaniline nanocomposite. Energy Reports, 2022, 8, 13596-13609.	2.5	3
645	Precursor engineering for efficient and stable perovskite solar cells. Nanotechnology, 2023, 34, 055402.	1.3	5
646	Study on the interface defects of eco-friendly perovskite solar cells. Solar Energy, 2022, 247, 96-108.	2.9	17
647	Ion Migration and Accumulation in Halide Perovskite Solar Cells <sup>â€</sup> . Chinese Journal of Chemistry, 2023, 41, 861-876.	2.6	5
648	Stability and degradation in triple cation and methyl ammonium lead iodide perovskite solar cells mediated via Au and Ag electrodes. Scientific Reports, 2022, 12, .	1.6	17
649	Optimization of tin based perovskite solar cell employing CuSbS <sub>2</sub> as HTL: A numerical simulation approach. Optical Materials, 2022, 134, 113060.	1.7	6
650	Performance optimization of CZT thick films by CdTe buffer layers for solar-blind ultraviolet photoelectric detectors. Materials Science in Semiconductor Processing, 2023, 153, 107118.	1.9	4
651	Acquiring high-performance and commercially available carbon based air-stable perovskite solar cells by using ZnBr <sub>2</sub> additive. Journal of Alloys and Compounds, 2023, 930, 167445.	2.8	4
652	Defect formation and healing at grain boundaries in lead-halide perovskites. Journal of Materials Chemistry A, 2022, 10, 24854-24865.	5.2	12
653	Perovskite-inspired Cu <sub>2</sub> AgBiI <sub>6</sub> for mesoscopic indoor photovoltaics under realistic low-light intensity conditions. Sustainable Energy and Fuels, 2022, 7, 66-73.	2.5	11
654	Correlating the perovskite/polymer multi-mode reactions with deep-level traps in perovskite solar cells. Joule, 2022, 6, 2849-2868.	11.7	29
655	Early thermal aging detection in tin based perovskite solar cell. Heliyon, 2022, 8, e11455.	1.4	0
656	Observation of Grain Boundary Passivation and Charge Distribution in Perovskite Films Improved with Anti-solvent Treatment. Journal of Physical Chemistry C, 2022, 126, 19367-19375.	1.5	9
657	Simultaneous Surface Modification and Defect Passivation on Tin Oxideâ€“Perovskite Interfaces using Pseudohalide Salt of Sodium Tetrafluoroborate. Solar Rrl, 2023, 7, .	3.1	6

#	ARTICLE	IF	CITATIONS
658	Strategic approach for achieving high indoor efficiency of perovskite solar Cells: Frustration of charge recombination by dipole induced homogeneous charge distribution. Chemical Engineering Journal, 2023, 454, 140284.	6.6	7
659	Comparative performance analysis of HTLs in MXene-assisted perovskite solar cells. Optics Communications, 2023, 529, 129104.	1.0	3
660	Anisotropy growth of perovskite crystal induced by layered double hydroxide for efficiency enhancement of solar cell. Electrochimica Acta, 2023, 438, 141586.	2.6	1
661	Achieving high open circuit voltage for hole transport layer free ambient perovskite solar cells utilizing electric double layer effect. Solar Energy Materials and Solar Cells, 2023, 251, 112148.	3.0	4
662	Study of molybdenum oxide optimized hole carrier transport in perovskite solar cells. Organic Electronics, 2023, 113, 106697.	1.4	4
663	Deep-level transient spectroscopy of the charged defects in p-i-n perovskite solar cells induced by light-soaking. Optical Materials: X, 2022, 16, 100218.	0.3	3
664	Dual-Functional 3-Acetyl-2,5-dimethylthiophene Additive-Assisted Crystallization Control and Trap State Passivation for High-Performance Perovskite Solar Cells. ACS Applied Energy Materials, 2022, 5, 14701-14711.	2.5	4
665	In-situ surface defects passivation with small carbon chain molecules for highly efficient, air-processed inorganic CsPbI <sub>2</sub> Br perovskite photovoltaics. Applied Surface Science, 2023, 614, 156229.	3.1	7
666	Natural Product Additive with Multifunctional Groups Enhancing the Efficiency and Stability of Perovskite Solar Cells. Solar Rrl, 2023, 7, .	3.1	1
667	Fluorine-Containing Passivation Layer via Surface Chelation for Inorganic Perovskite Solar Cells. Angewandte Chemie, 2023, 135, .	1.6	8
668	Synergistic Surface Modification of Tin-Lead Perovskite Solar Cells. Advanced Materials, 2023, 35, .	11.1	22
669	Fluorine-Containing Passivation Layer via Surface Chelation for Inorganic Perovskite Solar Cells. Angewandte Chemie - International Edition, 2023, 62, .	7.2	46
670	Cl <sup>-</sup> Anion Engineering for Halide Perovskite Solar Cells and Modules with Enhanced Photostability. Solar Rrl, 2023, 7, .	3.1	4
671	Perovskite precursor concentration for enhanced recombination suppression in perovskite solar cells. , 2022, 1, 100006.		6
672	Enhancing Crystallization in Hybrid Perovskite Solar Cells Using Thermally Conductive 2D Boron Nitride Nanosheet Additive. Small, 2023, 19, .	5.2	3
673	24.64% Efficiency MA-Free Perovskite Solar Cell with $V_{oc}$ of 1.19 V Enabled by a Hinge-Type Fluorine-Rich Complex. Advanced Functional Materials, 2023, 33, .	7.8	18
674	Numerical modelling and impact analysis of traps incurred performance deterioration of perovskite solar cells using $I$ - $q$ curves, SRH and solar cell model. Optical and Quantum Electronics, 2023, 55, .	1.5	1
675	Bulk Incorporation with 4-Methylphenethylammonium Chloride for Efficient and Stable Methylammonium-Free Perovskite and Perovskite-Silicon Tandem Solar Cells. Advanced Energy Materials, 2023, 13, .	10.2	14

#	ARTICLE	IF	CITATIONS
676	Electronic effect of substituents on the charge-transfer dynamics at the CsPbBr <sub>3</sub> perovskite–small molecule interface. <i>Physical Chemistry Chemical Physics</i> , 0, , .	1.3	2
677	Surface-modification-induced synergies of crystal growth and defect passivation toward CsPbI <sub>2</sub> Br solar cells with efficiency exceeding 17%. <i>Chemical Engineering Journal</i> , 2023, 457, 141300.	6.6	6
678	Improved photovoltaic performance and stability of perovskite solar cells with device structure of (ITO/SnO <sub>2</sub> /CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> /rGO+spiro-MeOTAD/Au). <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2023, 289, 116227.	1.7	12
679	Localization control of 2D/3D perovskite heterostructures at grain boundaries by amine-vapor-induced dimensionality reduction. <i>Journal of Alloys and Compounds</i> , 2023, 939, 168680.	2.8	3
680	Electron transport bilayer with cascade energy alignment based on Nb <sub>2</sub> O <sub>5</sub> –Ti <sub>3</sub> C <sub>2</sub> MXene/TiO <sub>2</sub> for efficient perovskite solar cells. <i>Journal of Materials Chemistry C</i> , 2023, 11, 3571-3580.	2.7	4
681	High Fill Factor and Reduced Hysteresis Perovskite Solar Cells Using Small-Molecule-Engineered Nickel Oxide as the Hole Transport Layer. <i>ACS Applied Energy Materials</i> , 2023, 6, 1555-1564.	2.5	6
682	Other applications of halide perovskites. , 2023, , 301-333.		1
683	Challenges in the development of metal-halide perovskite single crystal solar cells. <i>Journal of Materials Chemistry A</i> , 2023, 11, 3822-3848.	5.2	3
684	Selective Control of Novel TiO <sub>2</sub> Nanorods: Excellent Building Blocks for the Electron Transport Layer of Mesoscopic Perovskite Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2023, 15, 9447-9456.	4.0	7
685	Passivating detrimental grain boundaries in perovskite films with strongly interacting polymer for achieving high-efficiency and stable perovskite solar cells. <i>Applied Surface Science</i> , 2023, 626, 157209.	3.1	6
686	Effect of Surface Termination on Carrier Dynamics of Metal Halide Perovskites: Ab Initio Quantum Dynamics Study. <i>Electronic Materials Letters</i> , 0, , .	1.0	0
687	Brief Outlook on Top Cell Absorber of Silicon–Based Tandem Solar Cells. <i>Solar Rrl</i> , 2023, 7, .	3.1	2
688	Enhanced moisture-resistant and highly efficient perovskite solar cells via surface treatment with long-chain alkylammonium iodide. <i>Applied Surface Science</i> , 2023, 623, 157003.	3.1	2
689	Enhanced performance of inverted hybrid perovskite solar cells with interfacial passivation filler. <i>Materials Today Sustainability</i> , 2023, 22, 100381.	1.9	0
690	Outer sidechain engineering of selenophene and thiophene-based Y-series acceptors to produce efficient indoor organic solar cells. <i>Applied Surface Science</i> , 2023, 623, 157140.	3.1	3
691	A Theoretical Study to Investigate the Impact of Bilayer Interfacial Modification in Perovskite Solar Cell. <i>Energy Technology</i> , 2023, 11, .	1.8	12
692	Passivation strategies for mitigating defect challenges in halide perovskite light-emitting diodes. <i>Joule</i> , 2023, 7, 272-308.	11.7	32
693	Decreased uncoordinated Pb <sup>2+</sup> defects induced by Lewis base for high-quality PSCs with much improved carrier transportation. <i>Journal of Materials Science: Materials in Electronics</i> , 2023, 34, .	1.1	0

#	ARTICLE	IF	CITATIONS
694	Phthalocyanine in perovskite solar cells: a review. <i>Materials Chemistry Frontiers</i> , 2023, 7, 1704-1736.	3.2	6
695	Collaborative Passivation for Dual Charge Transporting Layers Based on 4-(chloromethyl)benzotrile Additive toward Efficient and Stable Inverted Perovskite Solar Cells. <i>Small</i> , 2023, 19, .	5.2	1
696	Flexible Self-Powered Vertical Photodetectors Based on the [001]-Oriented CsPbBr <sub>3</sub> Film. <i>Journal of Physical Chemistry C</i> , 2023, 127, 4846-4852.	1.5	1
697	Passivation Engineering Using Ultrahydrophobic Donor-Acceptor Organic Dye with Machine Learning Insights for Efficient and Stable Perovskite Solar Cells. <i>Solar Rrl</i> , 2023, 7, .	3.1	4
698	Performance analysis and optimization of inverted inorganic CsGel <sub>3</sub> perovskite cells with carbon/copper charge transport materials using SCAPS-1D. <i>Royal Society Open Science</i> , 2023, 10, .	1.1	15
699	Numerical Investigation of Electron/Hole Transport Layer for Enhancement of Ecofriendly Tin-Ge Based Perovskite Solar Cell. <i>Energy Sources, Part A: Recovery, Utilization and Environmental Effects</i> , 2023, 45, 3087-3106.	1.2	6
700	Laterally Grown Strain-Engineered Semitransparent Perovskite Solar Cells with 16.01% Efficiency. <i>ACS Applied Materials &amp; Interfaces</i> , 2023, 15, 17994-18005.	4.0	6
701	Modeling and Quantifying Optimal Dynamics of Extraction of Charge Carriers in the Operation of Perovskite Solar Cells. <i>Advanced Materials Interfaces</i> , 2023, 10, .	1.9	0
702	Perovskite Materials for Photovoltaics: A Review. <i>EPJ Applied Physics</i> , 0, , .	0.3	0
703	High-Efficiency Wide-Bandgap Perovskite Solar Cells for Laser Energy Transfer Underwater. <i>Energy Technology</i> , 2023, 11, .	1.8	2
704	Influence of SWCNT on the Electrical Behavior of an Environmentally Friendly CH <sub>3</sub> NH <sub>3</sub> SnI <sub>3</sub> Perovskite-Based Optoelectronic Schottky Device. <i>ACS Applied Electronic Materials</i> , 0, , .	2.0	1
705	Photoinduced Interfacial Electron Transfer from Perovskite Quantum Dots to Molecular Acceptors for Solar Cells. <i>Nanoscale</i> , 0, , .	2.8	1
706	Numerical Analysis of Stable (FAPbI <sub>3</sub> ) <sub>0.85</sub> (MAPbBr <sub>3</sub> ) <sub>0.15</sub> -Based Perovskite Solar Cell with TiO <sub>2</sub> /ZnO Double Electron Layer. <i>Nanomaterials</i> , 2023, 13, 1313.	1.9	8
707	Elucidating the Role of Contact-Induced Gap States and Passivation Molecules at Perovskite/Metal Contacts. <i>ACS Applied Energy Materials</i> , 2023, 6, 4111-4118.	2.5	2
708	Heterogeneity of grain boundary properties in Cu <sub>2</sub> ZnSnS <sub>4</sub> : A first-principles study. <i>Journal of Applied Physics</i> , 2023, 133, .	1.1	4
709	Dim Indoor Light Photovoltaic Performance Improvement of Y-Series Acceptor via Halogenation of Terminal Group. <i>International Journal of Energy Research</i> , 2023, 2023, 1-10.	2.2	1
731	Optical Electrical Modeling of Band Gap Tunable Triple Cation Perovskite. , 2023, , .		0
747	Hyperspectral mapping of nanoscale photophysics and degradation processes in hybrid perovskite at the single grain level. <i>Nanoscale Advances</i> , 2023, 5, 4687-4695.	2.2	3

#	ARTICLE	IF	CITATIONS
794	Copper Oxide: A Potential Candidate for Hole Transport Material in Perovskite Solar Cells for Space. , 2023, , .		0
795	Analytical Study on the Effect of Perovskite Layer Thickness on Photo-capacitor Device for Retinomorphic Sensor Application. , 2023, , .		0