Yang Bai

List of Publications by Citations

74	8,851	43	82
papers	citations	h-index	g-index
82	10,642	15.4	6.27
ext. papers	ext. citations	avg, IF	L-index

#	Paper	IF	Citations
74	Defect passivation in hybrid perovskite solar cells using quaternary ammonium halide anions and cations. *Nature Energy*, **2017**, 2,	62.3	1241
73	Efficiency enhancement of perovskite solar cells through fast electron extraction: the role of graphene quantum dots. *Journal of the American Chemical Society*, **2014**, 136, 3760-3	16.4	590
72	Scaling behavior of moisture-induced grain degradation in polycrystalline hybrid perovskite thin films. *Energy and Environmental Science*, **2017**, 10, 516-522	35.4	525
71	Cation and anion immobilization through chemical bonding enhancement with fluorides for stable halide perovskite solar cells. *Nature Energy*, **2019**, 4, 408-415	62.3	511
70	Conjugated Lewis Base: Efficient Trap-Passivation and Charge-Extraction for Hybrid Perovskite Solar Cells. *Advanced Materials*, **2017**, 29, 1604545	24	431
69	Enhanced Efficiency and Stability of Inverted Perovskite Solar Cells Using Highly Crystalline SnO2 Nanocrystals as the Robust Electron-Transporting Layer. *Advanced Materials*, **2016**, 28, 6478-84	24	382
68	In Situ Growth of 2D Perovskite Capping Layer for Stable and Efficient Perovskite Solar Cells. *Advanced Functional Materials*, **2018**, 28, 1706923	15.6	361
67	Enhancing stability and efficiency of perovskite solar cells with crosslinkable silane-functionalized and doped fullerene. *Nature Communications*, **2016**, 7, 12806	17.4	293
66	Strain engineering in perovskite solar cells and its impacts on carrier dynamics. *Nature Communications*, **2019**, 10, 815	17.4	286
65	Dimensional Engineering of a Graded 3D–2D Halide Perovskite Interface Enables Ultrahigh Voc Enhanced Stability in the p-i-n Photovoltaics. *Advanced Energy Materials*, **2017**, 7, 1701038	21.8	251
64	Interface Engineering for Highly Efficient and Stable Planar p-i-n Perovskite Solar Cells. *Advanced Energy Materials*, **2018**, 8, 1701883	21.8	249
63	Effects of a Molecular Monolayer Modification of NiO Nanocrystal Layer Surfaces on Perovskite Crystallization and Interface Contact toward Faster Hole Extraction and Higher Photovoltaic Performance. *Advanced Functional Materials*, **2016**, 26, 2950-2958	15.6	239
62	Dual Interfacial Modifications Enable High Performance Semitransparent Perovskite Solar Cells with Large Open Circuit Voltage and Fill Factor. *Advanced Energy Materials*, **2017**, 7, 1602333	21.8	161
61	High performance inverted structure perovskite solar cells based on a PCBM:polystyrene blend electron transport layer. *Journal of Materials Chemistry A*, **2015**, 3, 9098-9102	13	160
60	High-Performance Hole-Extraction Layer of Sol–Gel-Processed NiO Nanocrystals for Inverted Planar Perovskite Solar Cells. *Angewandte Chemie*, **2014**, 126, 12779-12783	3.6	158
59	Polyfluorene Derivatives are High-Performance Organic Hole-Transporting Materials for Inorganic–Organic Hybrid Perovskite Solar Cells. *Advanced Functional Materials*, **2014**, 24, 7357-7365	15.6	150
58	Iron-doping-enhanced photoelectrochemical water splitting performance of nanostructured WO3: a combined experimental and theoretical study. *Nanoscale*, **2015**, 7, 2933-40	7.7	143

57	Boron Doping of Multiwalled Carbon Nanotubes Significantly Enhances Hole Extraction in Carbon-Based Perovskite Solar Cells. *Nano Letters*, **2017**, 17, 2496-2505	11.5	138
56	Low Temperature Solution-Processed Sb:SnO Nanocrystals for Efficient Planar Perovskite Solar Cells. *ChemSusChem*, **2016**, 9, 2686-2691	8.3	138
55	Understanding the relationship between ion migration and the anomalous hysteresis in high-efficiency perovskite solar cells: A fresh perspective from halide substitution. *Nano Energy*, **2016**, 26, 620-630	17.1	127
54	Matching Charge Extraction Contact for Wide-Bandgap Perovskite Solar Cells. *Advanced Materials*, **2017**, 29, 1700607	24	126
53	Interfacial Residual Stress Relaxation in Perovskite Solar Cells with Improved Stability. *Advanced Materials*, **2019**, 31, e1904408	24	126
52	A pure and stable intermediate phase is key to growing aligned and vertically monolithic perovskite crystals for efficient PIN planar perovskite solar cells with high processibility and stability. *Nano Energy*, **2017**, 34, 58-68	17.1	123
51	High-performance hole-extraction layer of sol-gel-processed NiO nanocrystals for inverted planar perovskite solar cells. *Angewandte Chemie - International Edition*, **2014**, 53, 12571-5	16.4	121
50	Amorphous Ni(OH)2 nanoboxes: fast fabrication and enhanced sensing for glucose. *Small*, **2013**, 9, 3147-52	13	121
49	Profiling the organic cation-dependent degradation of organolead halide perovskite solar cells. *Journal of Materials Chemistry A*, **2017**, 5, 1103-1111	13	108
48	Thin-film semiconductor perspective of organometal trihalide perovskite materials for high-efficiency solar cells. *Materials Science and Engineering Reports*, **2016**, 101, 1-38	30.9	91
47	Unveiling a Key Intermediate in Solvent Vapor Postannealing to Enlarge Crystalline Domains of Organometal Halide Perovskite Films. *Advanced Functional Materials*, **2017**, 27, 1604944	15.6	86
46	Oligomeric Silica-Wrapped Perovskites Enable Synchronous Defect Passivation and Grain Stabilization for Efficient and Stable Perovskite Photovoltaics. *ACS Energy Letters*, **2019**, 4, 1231-1240	20.1	83
45	Self-Elimination of Intrinsic Defects Improves the Low-Temperature Performance of Perovskite Photovoltaics. *Joule*, **2020**, 4, 1961-1976	27.8	82
44	Molecular design enabled reduction of interface trap density affords highly efficient and stable perovskite solar cells with over 83% fill factor. *Nano Energy*, **2018**, 52, 300-306	17.1	74
43	Mesoporous SnO_2 single crystals as an effective electron collector for perovskite solar cells. *Physical Chemistry Chemical Physics*, **2015**, 17, 18265-8	3.6	74
42	Progress and Perspective in Low-Dimensional Metal Halide Perovskites for Optoelectronic Applications. *Solar Rrl*, **2018**, 2, 1700186	7.1	69
41	An in situ cross-linked 1D/3D perovskite heterostructure improves the stability of hybrid perovskite solar cells for over 3000 h operation. *Energy and Environmental Science*, **2020**, 13, 4344-4352	35.4	68
40	An Ultrathin Ferroelectric Perovskite Oxide Layer for High-Performance Hole Transport Material Free Carbon Based Halide Perovskite Solar Cells. *Advanced Functional Materials*, **2019**, 29, 1806506	15.6	65

39	An amorphous precursor route to the conformable oriented crystallization of CH3NH3PbBr3 in mesoporous scaffolds: toward efficient and thermally stable carbon-based perovskite solar cells. *Journal of Materials Chemistry A*, **2016**, 4, 12897-12912	13	63
38	1000 h Operational Lifetime Perovskite Solar Cells by Ambient Melting Encapsulation. *Advanced Energy Materials*, **2020**, 10, 1902472	21.8	60
37	Designing new fullerene derivatives as electron transporting materials for efficient perovskite solar cells with improved moisture resistance. *Nano Energy*, **2016**, 30, 341-346	17.1	60
36	Liquid medium annealing for fabricating durable perovskite solar cells with improved reproducibility. *Science*, **2021**, 373, 561-567	33.3	60
35	Ultrasound-spray deposition of multi-walled carbon nanotubes on NiO nanoparticles-embedded perovskite layers for high-performance carbon-based perovskite solar cells. *Nano Energy*, **2017**, 42, 322-333	17.1	59
34	Excess Cesium Iodide Induces Spinodal Decomposition of CsPbIBr Perovskite Films. *Journal of Physical Chemistry Letters*, **2019**, 10, 194-199	6.4	55
33	A PCBM Electron Transport Layer Containing Small Amounts of Dual Polymer Additives that Enables Enhanced Perovskite Solar Cell Performance. *Advanced Science*, **2016**, 3, 1500353	13.6	52
32	Pinning Down the Anomalous Light Soaking Effect toward High-Performance and Fast-Response Perovskite Solar Cells: The Ion-Migration-Induced Charge Accumulation. *Journal of Physical Chemistry Letters*, **2017**, 8, 5069-5076	6.4	43
31	Dual-Ion-Diffusion Induced Degradation in Lead-Free Cs2AgBiBr6 Double Perovskite Solar Cells. *Advanced Functional Materials*, **2020**, 30, 2002342	15.6	39
30	Hierarchical Dual-Scaffolds Enhance Charge Separation and Collection for High Efficiency Semitransparent Perovskite Solar Cells. *Advanced Materials Interfaces*, **2016**, 3, 1600484	4.6	34
29	Integration of inverse nanocone array based bismuth vanadate photoanodes and bandgap-tunable perovskite solar cells for efficient self-powered solar water splitting. *Journal of Materials Chemistry A*, **2017**, 5, 19091-19097	13	33
28	Tuning the A-site cation composition of FA perovskites for efficient and stable NiO-based p-i-n perovskite solar cells. *Journal of Materials Chemistry A*, **2017**, 5, 21858-21865	13	31
27	Understanding the Defect Properties of Quasi-2D Halide Perovskites for Photovoltaic Applications. *Journal of Physical Chemistry Letters*, **2020**, 11, 3521-3528	6.4	29
26	Synergistic Effects of Eu-MOF on Perovskite Solar Cells with Improved Stability. *Advanced Materials*, **2021**, 33, e2102947	24	29
25	Promoting Thermodynamic and Kinetic Stabilities of FA-based Perovskite by an in Situ Bilayer Structure. *Nano Letters*, **2020**, 20, 3864-3871	11.5	25
24	In-situ fabrication of dual porous titanium dioxide films as anode for carbon cathode based perovskite solar cell. *Journal of Energy Chemistry*, **2015**, 24, 736-743	12	21
23	Probing Phase Distribution in 2D Perovskites for Efficient Device Design. *ACS Applied Materials & Interfaces*, **2020**, 12, 3127-3133	9.5	21
22	The Role of Surface Termination in Halide Perovskites for Efficient Photocatalytic Synthesis. *Angewandte Chemie - International Edition*, **2020**, 59, 12931-12937	16.4	19

21	Cation Diffusion Guides Hybrid Halide Perovskite Crystallization during the Gel Stage. *Angewandte Chemie - International Edition*, **2020**, 59, 5979-5987	16.4	19
20	Structure-dependent electrocatalysis of Ni(OH)2 hourglass-like nanostructures towards L-histidine. *Chemistry - A European Journal*, **2013**, 19, 501-8	4.8	19
19	Sandwiched electrode buffer for efficient and stable perovskite solar cells with dual back surface fields. *Joule*, **2021**, 5, 2148-2163	27.8	18
18	An Ultra-low Concentration of Gold Nanoparticles Embedded in the NiO Hole Transport Layer Boosts the Performance of p-i-n Perovskite Solar Cells. *Solar Rrl*, **2018**, 3, 1800278	7.1	17
17	Surface Sulfuration of NiO Boosts the Performance of Inverted Perovskite Solar Cells. *Solar Rrl*, **2020**, 4, 2000270	7.1	13
16	Molecular Hinges Stabilize Formamidinium-Based Perovskite Solar Cells with Compressive Strain. *Advanced Functional Materials*,2201193	15.6	13
15	Size mismatch induces cation segregation in CsPbI3: Forming energy level gradient and 3D/2D heterojunction promotes the efficiency of carbon-based perovskite solar cells to over 15%. *Nano Energy*, **2021**, 89, 106411	17.1	11
14	A new perspective for evaluating the photoelectric performance of organic-inorganic hybrid perovskites based on the DFT calculations of excited states. *Physical Chemistry Chemical Physics*, **2021**, 23, 11548-11556	3.6	8
13	High Performance Perovskite Solar Cells through Surface Modification, Mixed Solvent Engineering and Nanobowl-Assisted Light Harvesting. *MRS Advances*, **2016**, 1, 3175-3184	0.7	7
12	Extracting ammonium halides by solvent from the hybrid perovskites with various dimensions to promote the crystallization of CsPbI3 perovskite. *Nano Energy*, **2022**, 94, 106925	17.1	6
11	HxMoO3 nanobelts: an excellent alternative to carbon electrodes for high performance mesoscopic perovskite solar cells. *Journal of Materials Chemistry A*, **2019**, 7, 1499-1508	13	5
10	Thermal Management Enables More Efficient and Stable Perovskite Solar Cells. *ACS Energy Letters*, **2021**, 6, 3029-3036	20.1	5
9	Strain Modulation for Light-Stable n-i-p Perovskite/Silicon Tandem Solar Cells.. *Advanced Materials*, **2022**, e2201315	24	5
8	Avoiding Structural Collapse to Reduce Lead Leakage in Perovskite Photovoltaics.. *Angewandte Chemie - International Edition*, **2022**,	16.4	5
7	Strategies for Improving Efficiency and Stability of Perovskite Solar Cells. *MRS Advances*, **2017**, 2, 3051-3060	0.7	3
6	Cation Diffusion Guides Hybrid Halide Perovskite Crystallization during the Gel Stage. *Angewandte Chemie*, **2020**, 132, 6035-6043	3.6	2
5	Nanostructures: Amorphous Ni(OH)2 Nanoboxes: Fast Fabrication and Enhanced Sensing for Glucose (Small 18/2013). *Small*, **2013**, 9, 3184-3184	11	2
4	Improving Heat Transfer Enables Durable Perovskite Solar Cells. *Advanced Energy Materials*,2200869	21.8	2

3	The Role of Surface Termination in Halide Perovskites for Efficient Photocatalytic Synthesis. *Angewandte Chemie*, **2020**, 132, 13031-13037	3.6	1
2	Tailoring molecular termination for thermally stable perovskite solar cells. *Journal of Semiconductors*, **2021**, 42, 112201	2.3	1
1	A descriptor for the structural stability of organic-inorganic hybrid perovskites based on binding mechanism in electronic structure.. *Journal of Molecular Modeling*, **2022**, 28, 80	2	1