Yi Hou

List of Publications by Year
in descending order

79 papers	10,259 citations	36303 51 h-index	69250 77 g-index
80 all docs	80 docs citations	80 times ranked	10071 citing authors

#	Article	IF	Citations
1	Managing grains and interfaces via ligand anchoring enables 22.3%-efficiency inverted perovskite solar cells. Nature Energy, 2020, 5, 131-140.	39.5	894
2	A generic interface to reduce the efficiency-stability-cost gap of perovskite solar cells. Science, 2017, 358, 1192-1197.	12.6	554
3	Bipolar-shell resurfacing for blue LEDs based on strongly confined perovskite quantum dots. Nature Nanotechnology, 2020, 15, 668-674.	31.5	541
4	Efficient tandem solar cells with solution-processed perovskite on textured crystalline silicon. Science, 2020, 367, 1135-1140.	12.6	525
5	All-perovskite tandem solar cells with 24.2% certified efficiency and area over 1â€‰cm2 using surface-anchoring zwitterionic antioxidant. Nature Energy, 2020, 5, 870-880.	39.5	497
6	Pervasive functional translation of noncanonical human open reading frames. Science, 2020, 367, 1140-1146.	12.6	400
7	Regulating strain in perovskite thin films through charge-transport layers. Nature Communications, 2020, 11, 1514.	12.8	346
8	High-performance semitransparent perovskite solar cells with solution-processed silver nanowires as top electrodes. Nanoscale, 2015, 7, 1642-1649.	5.6	300
9	Abnormal strong burn-in degradation of highly efficient polymer solar cells caused by spinodal donor-acceptor demixing. Nature Communications, 2017, 8, 14541.	12.8	298
10	One-Step Synthesis of SnI₂Â·(DMSO)_{<i>x</i>} Adducts for High-Performance Tin Perovskite Solar Cells. Journal of the American Chemical Society, 2021, 143, 10970-10976.	13.7	280
11	Bifunctional Surface Engineering on SnO₂ Reduces Energy Loss in Perovskite Solar Cells. ACS Energy Letters, 2020, 5, 2796-2801.	17.4	239
12	Interface Engineering of Perovskite Hybrid Solar Cells with Solution-Processed Peryleneâ€“Diimide Heterojunctions toward High Performance. Chemistry of Materials, 2015, 27, 227-234.	6.7	233
13	Quantum-size-tuned heterostructures enable efficient and stable inverted perovskite solar cells. Nature Photonics, 2022, 16, 352-358.	31.4	233
14	Quantum Dots Supply Bulk- and Surface-Passivation Agents for Efficient and Stable Perovskite Solar Cells. Joule, 2019, 3, 1963-1976.	24.0	222
15	Allâ€Inorganic Quantumâ€Dot LEDs Based on a Phaseâ€Stabilized Î±â€CsPbI₃ Perovskite. Angewandte Chemie - International Edition, 2021, 60, 16164-16170.	13.8	210
16	Overcoming the Interface Losses in Planar Heterojunction Perovskiteâ€Based Solar Cells. Advanced Materials, 2016, 28, 5112-5120.	21.0	188
17	Towards low-cost, environmentally friendly printed chalcopyrite and kesterite solar cells. Energy and Environmental Science, 2014, 7, 1829-1849.	30.8	187
18	Enhanced optical path and electron diffusion length enable high-efficiency perovskite tandems. Nature Communications, 2020, 11, 1257.	12.8	180

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19	Improved High-Efficiency Perovskite Planar Heterojunction Solar Cells via Incorporation of a Polyelectrolyte Interlayer. Chemistry of Materials, 2014, 26, 5190-5193.	6.7	178
20	Efficient bifacial monolithic perovskite/silicon tandem solar cells via bandgap engineering. Nature Energy, 2021, 6, 167-175.	39.5	164
21	Reducing Defects in Halide Perovskite Nanocrystals for Light-Emitting Applications. Journal of Physical Chemistry Letters, 2019, 10, 2629-2640.	4.6	162
22	Combining Efficiency and Stability in Mixed Tinâ€"Lead Perovskite Solar Cells by Capping Grains with an Ultrathin 2D Layer. Advanced Materials, 2020, 32, e1907058.	21.0	148
23	A Universal Interface Layer Based on an Amineâ€Functionalized Fullerene Derivative with Dual Functionality for Efficient Solution Processed Organic and Perovskite Solar Cells. Advanced Energy Materials, 2015, 5, 1401692.	19.5	144
24	Monolithic perovskite/organic tandem solar cells with 23.6% efficiency enabled by reduced voltage losses and optimized interconnecting layer. Nature Energy, 2022, 7, 229-237.	39.5	137
25	Suppressed Ion Migration in Reduced-Dimensional Perovskites Improves Operating Stability. ACS Energy Letters, 2019, 4, 1521-1527.	17.4	130
26	Efficient and Stable Inverted Perovskite Solar Cells Incorporating Secondary Amines. Advanced Materials, 2019, 31, e1903559.	21.0	128
27	Scalable processing for realizing 21.7%-efficient all-perovskite tandem solar modules. Science, 2022, 376, 762-767.	12.6	127
28	Photoinduced degradation of methylammonium lead triiodide perovskite semiconductors. Journal of Materials Chemistry A, 2016, 4, 15896-15903.	10.3	119
29	Chloride Insertionâ€"Immobilization Enables Bright, Narrowband, and Stable Blue-Emitting Perovskite Diodes. Journal of the American Chemical Society, 2020, 142, 5126-5134.	13.7	116
30	Coloring Semitransparent Perovskite Solar Cells <i>via</i> Dielectric Mirrors. ACS Nano, 2016, 10, 5104-5112.	14.6	100
31	Multi-cation perovskites prevent carrier reflection from grain surfaces. Nature Materials, 2020, 19, 412-418.	27.5	100
32	Passivation of the Buried Interface via Preferential Crystallization of 2D Perovskite on Metal Oxide Transport Layers. Advanced Materials, 2021, 33, e2103394.	21.0	99
33	Pushing efficiency limits for semitransparent perovskite solar cells. Journal of Materials Chemistry A, 2015, 3, 24071-24081.	10.3	95
34	Bright and Stable Light-Emitting Diodes Based on Perovskite Quantum Dots in Perovskite Matrix. Journal of the American Chemical Society, 2021, 143, 15606-15615.	13.7	94
35	Monolithic Perovskiteâ€Silicon Tandem Solar Cells: From the Lab to Fab?. Advanced Materials, 2022, 34, e2106540.	21.0	92
36	Doubleâ€Sideâ€Passivated Perovskite Solar Cells with Ultraâ€low Potential Loss. Solar Rrl, 2019, 3, 1800296.	5.8	89

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37	Strain-activated light-induced halide segregation in mixed-halide perovskite solids. Nature Communications, 2020, 11, 6328.	12.8	86
38	Inverted, Environmentally Stable Perovskite Solar Cell with a Novel Lowâ€Cost and Waterâ€Free PEDOT Holeâ€Extraction Layer. Advanced Energy Materials, 2015, 5, 1500543.	19.5	81
39	Ligand-bridged charge extraction and enhanced quantum efficiency enable efficient nâ€“iâ€“p perovskite/silicon tandem solar cells. Energy and Environmental Science, 2021, 14, 4377-4390.	30.8	79
40	Discovery of temperature-induced stability reversal in perovskites using high-throughput robotic learning. Nature Communications, 2021, 12, 2191.	12.8	77
41	Exploring the Stability of Novel Wide Bandgap Perovskites by a Robot Based High Throughput Approach. Advanced Energy Materials, 2018, 8, 1701543.	19.5	75
42	Effective Ligand Engineering of the Cu₂ZnSnS₄ Nanocrystal Surface for Increasing Hole Transport Efficiency in Perovskite Solar Cells. Advanced Functional Materials, 2016, 26, 8300-8306.	14.9	72
43	Exploring the Limiting Openâ€Circuit Voltage and the Voltage Loss Mechanism in Planar CH₃NH₃PbBr₃ Perovskite Solar Cells. Advanced Energy Materials, 2016, 6, 1600132.	19.5	71
44	Lowâ€Temperature and Hysteresisâ€Free Electronâ€Transporting Layers for Efficient, Regular, and Planar Structure Perovskite Solar Cells. Advanced Energy Materials, 2015, 5, 1501056.	19.5	69
45	The Interplay of Contact Layers: How the Electron Transport Layer Influences Interfacial Recombination and Hole Extraction in Perovskite Solar Cells. Journal of Physical Chemistry Letters, 2018, 9, 6249-6256.	4.6	68
46	A generic concept to overcome bandgap limitations for designing highly efficient multi-junction photovoltaic cells. Nature Communications, 2015, 6, 7730.	12.8	67
47	Organic and perovskite solar modules innovated by adhesive top electrode and depth-resolved laser patterning. Energy and Environmental Science, 2016, 9, 2302-2313.	30.8	64
48	A Series of Pyreneâ€Substituted Silicon Phthalocyanines as Nearâ€IR Sensitizers in Organic Ternary Solar Cells. Advanced Energy Materials, 2016, 6, 1502355.	19.5	59
49	An antibonding valence band maximum enables defect-tolerant and stable GeSe photovoltaics. Nature Communications, 2021, 12, 670.	12.8	58
50	Suppression of Hysteresis Effects in Organohalide Perovskite Solar Cells. Advanced Materials Interfaces, 2017, 4, 1700007.	3.7	57
51	All-Perovskite Tandem Solar Cells: A Roadmap to Uniting High Efficiency with High Stability. Accounts of Materials Research, 2020, 1, 63-76.	11.7	57
52	Extending the environmental lifetime of unpackaged perovskite solar cells through interfacial design. Journal of Materials Chemistry A, 2016, 4, 11604-11610.	10.3	49
53	Switching Off Hysteresis in Perovskite Solar Cells by Fineâ€Tuning Energy Levels of Extraction Layers. Advanced Energy Materials, 2018, 8, 1703376.	19.5	46
54	Engineering of the Electron Transport Layer/Perovskite Interface in Solar Cells Designed on TiO₂ Rutile Nanorods. Advanced Functional Materials, 2020, 30, 1909738.	14.9	46

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55	Solution-processed perovskite-colloidal quantum dot tandem solar cells for photon collection beyond 1000 nm. Journal of Materials Chemistry A, 2019, 7, 26020-26028.	10.3	44
56	Toward Stable Monolithic Perovskite/Silicon Tandem Photovoltaics: A Six-Month Outdoor Performance Study in a Hot and Humid Climate. ACS Energy Letters, 2021, 6, 2944-2951.	17.4	42
57	Visualizing and Suppressing Nonradiative Losses in High Open-Circuit Voltage n-i-p-Type CsPbI₃ Perovskite Solar Cells. ACS Energy Letters, 2020, 5, 271-279.	17.4	39
58	Synthesis, Applications, and Prospects of Quantumâ€Dotâ€inâ€Perovskite Solids. Advanced Energy Materials, 2022, 12, 2100774.	19.5	39
59	Dimensional Mixing Increases the Efficiency of 2D/3D Perovskite Solar Cells. Journal of Physical Chemistry Letters, 2020, 11, 5115-5119.	4.6	34
60	Resolving a Critical Instability in Perovskite Solar Cells by Designing a Scalable and Printable Carbon Based Electrodeâ€Interface Architecture. Advanced Energy Materials, 2018, 8, 1802085.	19.5	33
61	Evidence of Tailoring the Interfacial Chemical Composition in Normal Structure Hybrid Organohalide Perovskites by a Self-Assembled Monolayer. ACS Applied Materials & Interfaces, 2018, 10, 5511-5518.	8.0	32
62	Deciphering the Role of Impurities in Methylammonium Iodide and Their Impact on the Performance of Perovskite Solar Cells. Advanced Materials Interfaces, 2016, 3, 1600593.	3.7	31
63	Overcoming Electrodeâ€Induced Losses in Organic Solar Cells by Tailoring a Quasiâ€Ohmic Contact to Fullerenes via Solutionâ€Processed Alkali Hydroxide Layers. Advanced Energy Materials, 2016, 6, 1502195.	19.5	29
64	Ionic dipolar switching hinders charge collection in perovskite solar cells with normal and inverted hysteresis. Solar Energy Materials and Solar Cells, 2019, 195, 291-298.	6.2	29
65	Low-Temperature Solution-Processed Kesterite Solar Cell Based on in Situ Deposition of Ultrathin Absorber Layer. ACS Applied Materials & Interfaces, 2015, 7, 21100-21106.	8.0	28
66	Quantum Dot Selfâ€Assembly Enables Lowâ€Threshold Lasing. Advanced Science, 2021, 8, e2101125.	11.2	28
67	Single molecular precursor ink for AgBiS₂ thin films: synthesis and characterization. Journal of Materials Chemistry C, 2018, 6, 7642-7651.	5.5	20
68	Stable, Bromine-Free, Tetragonal Perovskites with 1.7 eV Bandgaps via A-Site Cation Substitution. , 2020, 2, 869-872.		18
69	Assembling Mesoscaleâ€Structured Organic Interfaces in Perovskite Photovoltaics. Advanced Materials, 2019, 31, e1806516.	21.0	16
70	Sub-bandgap photon harvesting for organic solar cells via integrating up-conversion nanophosphors. Organic Electronics, 2015, 19, 113-119.	2.6	13
71	Heterogeneous Supersaturation in Mixed Perovskites. Advanced Science, 2020, 7, 1903166.	11.2	13
72	Band Engineering via Gradient Molecular Dopants for CsFA Perovskite Solar Cells. Advanced Functional Materials, 2021, 31, 2010572.	14.9	12

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73	In-situ X-ray diffraction analysis of the recrystallization process in Cu 2 ZnSnS 4 nanoparticles synthesised by hot-injection. Thin Solid Films, 2015, 582, 269-271.	1.8	10
74	Developing the Next-Generation Perovskite/Si Tandems: Toward Efficient, Stable, and Commercially Viable Photovoltaics. ACS Applied Materials & Interfaces, 2022, 14, 34262-34268.	8.0	9
75	Elucidating the Excitedâ€State Properties of CuInS₂ Nanocrystals upon Phase Transformation: <i>Quasi</i>â€Quantum Dots Versus Bulk Behavior. Advanced Electronic Materials, 2015, 1, 1500040.	5.1	5
76	Dopant-Assisted Matrix Stabilization Enables Thermoelectric Performance Enhancement in n-Type Quantum Dot Films. ACS Applied Materials & Interfaces, 2021, 13, 18999-19007.	8.0	3
77	Perovskite Solar Cells: Efficient and Stable Inverted Perovskite Solar Cells Incorporating Secondary Amines (Adv. Mater. 46/2019). Advanced Materials, 2019, 31, 1970330.	21.0	1
78	Allâ€Inorganic Quantumâ€Dot LEDs Based on a Phaseâ€Stabilized Î±â€CsPbI 3 Perovskite. Angewandte Chemie, 2021, 133, 16300-16306.	2.0	1
79	The multiple ways of making perovskite/silicon tandem solar cells: Which way to go?. , 0, , .		0