Hongwei Han

List of Publications by Year in Descending Order

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113 papers	10,221 citations	41 h-index	101 g-index
121 ext. papers	11,671 ext. citations	11.7 avg, IF	6.33 L-index

#	Paper	IF	Citations
113	Development of formamidinium lead iodide-based perovskite solar cells: efficiency and stability.. *Chemical Science*, **2022**, 13, 2167-2183	9.4	5
112	In Situ Formation of FAPbI3 at the Perovskite/Carbon Interface for Enhanced Photovoltage of Printable Mesoscopic Perovskite Solar Cells. *Chemistry of Materials*, **2022**, 34, 728-735	9.6	6
111	Interfacial Energy Band Alignment Enables the Reduction of Potential Loss for Hole-Conductor-Free Printable Mesoscopic Perovskite Solar Cells.. *Journal of Physical Chemistry Letters*, **2022**, 2144-2149	6.4	2
110	Cl-Assisted Perovskite Crystallization Pathway in the Confined Space of Mesoporous Metal Oxides Unveiled by In Situ Grazing Incidence Wide-Angle X-ray Scattering. *Chemistry of Materials*, **2022**, 34, 2231-2237	9.6	4
109	Halide Perovskite Crystallization Processes and Methods in Nanocrystals, Single Crystals and Thin Films.. *Advanced Materials*, **2022**, e2200720	24	7
108	Modeling and Balancing the Solvent Evaporation of Thermal Annealing Process for Metal Halide Perovskites and Solar Cells.. *Small Methods*, **2022**, e2200161	12.8	0
107	A multifunctional piperidine-based modulator for printable mesoscopic perovskite solar cells. *Chemical Engineering Journal*, **2022**, 136967	14.7	2
106	Printable Mesoscopic Perovskite Solar Cells **2021**, 431-452		
105	Highly oriented MAPbI3 crystals for efficient hole-conductor-free printable mesoscopic perovskite solar cells. *Fundamental Research*, **2021**,		12
104	Tailoring the Dimensionality of Hybrid Perovskites in Mesoporous Carbon Electrodes for Type-II Band Alignment and Enhanced Performance of Printable Hole-Conductor-Free Perovskite Solar Cells. *Advanced Energy Materials*, **2021**, 11, 2100292	21.8	40
103	Revealing the Role of Bifunctional Molecules in Crystallizing Methylammonium Lead Iodide through Geometric Isomers. *Chemistry of Materials*, **2021**, 33, 4014-4022	9.6	3
102	Cellulose-Based Oxygen-Rich Activated Carbon for Printable Mesoscopic Perovskite Solar Cells. *Solar Rrl*, **2021**, 5, 2100333	7.1	4
101	A 2D Model for Interfacial Recombination in Mesoscopic Perovskite Solar Cells with Printed Back Contact. *Solar Rrl*, **2021**, 5, 2000595	7.1	8
100	A Review on Scaling Up Perovskite Solar Cells. *Advanced Functional Materials*, **2021**, 31, 2008621	15.6	54
99	Enhanced efficiency of printable mesoscopic perovskite solar cells using ionic liquid additives. *Chemical Communications*, **2021**, 57, 4027-4030	5.8	7
98	Investigating the iodide and bromide ion exchange in metal halide perovskite single crystals and thin films. *Chemical Communications*, **2021**, 57, 6125-6128	5.8	1
97	Improving Hole-Conductor-Free Fully Printable Mesoscopic Perovskite Solar Cells Performance with Enhanced Open-Circuit Voltage via the Octyltrimethylammonium Chloride Additive. *Solar Rrl*, **2021**, 5, 2000825	7.1	1

96	Improving the Performance of Perovskite Solar Cells via a Novel Additive of N,1-Fluoroformamidinium Iodide with Electron-Withdrawing Fluorine Group. *Advanced Functional Materials*, **2021**, 31, 2010603	15.6	17
95	Enhanced perovskite electronic properties via A-site cation engineering. *Fundamental Research*, **2021**, 1, 385-392		16
94	Aiming at the industrialization of perovskite solar cells: Coping with stability challenge. *Applied Physics Letters*, **2021**, 119, 250503	3.4	1
93	A favored crystal orientation for efficient printable mesoscopic perovskite solar cells. *Journal of Materials Chemistry A*, **2020**, 8, 11148-11154	13	21
92	Influence of precursor concentration on printable mesoscopic perovskite solar cells. *Frontiers of Optoelectronics*, **2020**, 13, 256-264	2.8	5
91	Post-Treatment of Mesoporous Scaffolds for Enhanced Photovoltage of Triple-Mesoscopic Perovskite Solar Cells. *Solar Rrl*, **2020**, 4, 2000185	7.1	16
90	Hole-conductor-free perovskite solar cells. *MRS Bulletin*, **2020**, 45, 449-457	3.2	3
89	Solar Cells: Crystallization Control of Ternary-Cation Perovskite Absorber in Triple-Mesoscopic Layer for Efficient Solar Cells (Adv. Energy Mater. 5/2020). *Advanced Energy Materials*, **2020**, 10, 2070022	21.8	1
88	Efficient triple-mesoscopic perovskite solar mini-modules fabricated with slot-die coating. *Nano Energy*, **2020**, 74, 104842	17.1	34
87	transfer of CHNHPbI single crystals in mesoporous scaffolds for efficient perovskite solar cells. *Chemical Science*, **2020**, 11, 474-481	9.4	13
86	Guanine-Stabilized Formamidinium Lead Iodide Perovskites. *Angewandte Chemie - International Edition*, **2020**, 59, 4691-4697	16.4	40
85	Crystallization Control of Ternary-Cation Perovskite Absorber in Triple-Mesoscopic Layer for Efficient Solar Cells. *Advanced Energy Materials*, **2020**, 10, 1903092	21.8	47
84	Guanine-Stabilized Formamidinium Lead Iodide Perovskites. *Angewandte Chemie*, **2020**, 132, 4721-4727	3.6	
83	Stabilizing Perovskite Solar Cells to IEC61215:2016 Standards with over 9,000-h Operational Tracking. *Joule*, **2020**, 4, 2646-2660	27.8	97
82	Mesoporous-Carbon-Based Fully-Printable All-Inorganic Monoclinic CsPbBr Perovskite Solar Cells with Ultrastability under High Temperature and High Humidity. *Journal of Physical Chemistry Letters* , **2020**, 11, 9689-9695	6.4	12
81	Low-temperature fabrication of carbon-electrode based, hole-conductor-free and mesoscopic perovskite solar cells with power conversion efficiency > 12% and storage-stability > 220 days. *Applied Physics Letters*, **2020**, 117, 163501	3.4	6
80	van der Waals Mixed Valence Tin Oxides for Perovskite Solar Cells as UV-Stable Electron Transport Materials. *Nano Letters*, **2020**, 20, 8178-8184	11.5	11
79	Synergy effect of electronic characteristics and spatial configurations of electron donors on photovoltaic performance of organic dyes. *Journal of Materials Chemistry C*, **2020**, 8, 14453-14461	7.1	3

78	A Review on Additives for Halide Perovskite Solar Cells. *Advanced Energy Materials*, **2020**, 10, 1902492	21.8	131
77	Progress in Multifunctional Molecules for Perovskite Solar Cells. *Solar Rrl*, **2020**, 4, 1900248	7.1	9
76	Crystallization Control of Methylammonium-Free Perovskite in Two-Step Deposited Printable Triple-Mesoscopic Solar Cells. *Solar Rrl*, **2020**, 4, 2000455	7.1	11
75	Standardizing Perovskite Solar Modules beyond Cells. *Joule*, **2019**, 3, 2076-2085	27.8	29
74	High performance printable perovskite solar cells based on Cs0.1FA0.9PbI3 in mesoporous scaffolds. *Journal of Power Sources*, **2019**, 415, 105-111	8.9	29
73	A low-temperature carbon electrode with good perovskite compatibility and high flexibility in carbon based perovskite solar cells. *Chemical Communications*, **2019**, 55, 2765-2768	5.8	28
72	Suppressed Ion Migration in Reduced-Dimensional Perovskites Improves Operating Stability. *ACS Energy Letters*, **2019**, 4, 1521-1527	20.1	89
71	Screen printing process control for coating high throughput titanium dioxide films toward printable mesoscopic perovskite solar cells. *Frontiers of Optoelectronics*, **2019**, 12, 344-351	2.8	13
70	Modeling the edge effect for measuring the performance of mesoscopic solar cells with shading masks. *Journal of Materials Chemistry A*, **2019**, 7, 10942-10948	13	9
69	Stability improvement under high efficiency□next stage development of perovskite solar cells. *Science China Chemistry*, **2019**, 62, 684-707	7.9	38
68	Ethanol stabilized precursors for highly reproducible printable mesoscopic perovskite solar cells. *Journal of Power Sources*, **2019**, 424, 261-267	8.9	15
67	Encapsulation of Printable Mesoscopic Perovskite Solar Cells Enables High Temperature and Long-Term Outdoor Stability. *Advanced Functional Materials*, **2019**, 29, 1809129	15.6	75
66	Two-Stage Melt Processing of Phase-Pure Selenium for Printable Triple-Mesoscopic Solar Cells. *ACS Applied Materials & Interfaces*, **2019**, 11, 33879-33885	9.5	9
65	Modulation of Acceptor Position in Organic Sensitizers: The Optimization of Intramolecular and Interfacial Charge Transfer Processes. *ACS Applied Materials & Interfaces*, **2019**, 11, 27648-27657	9.5	9
64	Amide Additives Induced a Fermi Level Shift To Improve the Performance of Hole-Conductor-Free, Printable Mesoscopic Perovskite Solar Cells. *Journal of Physical Chemistry Letters*, **2019**, 10, 6865-6872	6.4	37
63	Recent multiple evidences for high stability of perovskite optoelectronic devices. *Science Bulletin*, **2019**, 64, 1731-1732	10.6	1
62	Spacer layer design for efficient fully printable mesoscopic perovskite solar cells.. *RSC Advances*, **2019**, 9, 29840-29846	3.7	10
61	Vanadium Oxide Post-Treatment for Enhanced Photovoltage of Printable Perovskite Solar Cells. *ACS Sustainable Chemistry and Engineering*, **2019**, 7, 2619-2625	8.3	21

60	Lead-Free Dion–Jacobson Tin Halide Perovskites for Photovoltaics. *ACS Energy Letters*, **2019**, 4, 276-277	20.1	73
59	Bifunctional Al2O3 Interlayer Leads to Enhanced Open-Circuit Voltage for Hole-Conductor-Free Carbon-Based Perovskite Solar Cells. *Solar Rrl*, **2018**, 2, 1800002	7.1	37
58	Improved Performance of Printable Perovskite Solar Cells with Bifunctional Conjugated Organic Molecule. *Advanced Materials*, **2018**, 30, 1705786	24	176
57	Efficient Perovskite Photovoltaic-Thermoelectric Hybrid Device. *Advanced Energy Materials*, **2018**, 8, 1702937	21.8	45
56	Chlorine-Incorporation-Induced Formation of the Layered Phase for Antimony-Based Lead-Free Perovskite Solar Cells. *Journal of the American Chemical Society*, **2018**, 140, 1019-1027	16.4	178
55	Fully printable hole-conductor-free mesoscopic perovskite solar cells based on mesoporous anatase single crystals. *New Journal of Chemistry*, **2018**, 42, 2669-2674	3.6	13
54	Mixed (5-AVA)xMA1−xPbI3−y(BF4)y perovskites enhance the photovoltaic performance of hole-conductor-free printable mesoscopic solar cells. *Journal of Materials Chemistry A*, **2018**, 6, 2360-2364	13	33
53	Evidence for Aggregation-Induced Emission from Free Rotation Restriction of Double Bond at Excited State. *Organic Letters*, **2018**, 20, 373-376	6.2	79
52	A Multifunctional Bis-Adduct Fullerene for Efficient Printable Mesoscopic Perovskite Solar Cells. *ACS Applied Materials & Interfaces*, **2018**, 10, 10835-10841	9.5	25
51	Printable carbon-based hole-conductor-free mesoscopic perovskite solar cells: From lab to market. *Materials Today Energy*, **2018**, 7, 221-231	7	35
50	Fully printable perovskite solar cells with highly-conductive, low-temperature, perovskite-compatible carbon electrode. *Carbon*, **2018**, 129, 830-836	10.4	53
49	A C60 Modification Layer Using a Scalable Deposition Technology for Efficient Printable Mesoscopic Perovskite Solar Cells. *Solar Rrl*, **2018**, 2, 1800174	7.1	12
48	Toward Industrial-Scale Production of Perovskite Solar Cells: Screen Printing, Slot-Die Coating, and Emerging Techniques. *Journal of Physical Chemistry Letters*, **2018**, 9, 2707-2713	6.4	78
47	Extending lead-free hybrid photovoltaic materials to new structures: thiazolium, aminothiazolium and imidazolium iodobismuthates. *Dalton Transactions*, **2018**, 47, 7050-7058	4.3	26
46	Oxygen management in carbon electrode for high-performance printable perovskite solar cells. *Nano Energy*, **2018**, 53, 160-167	17.1	59
45	Organic Dyes based on Tetraaryl-1,4-dihydropyrrolo-[3,2-b]pyrroles for Photovoltaic and Photocatalysis Applications with the Suppressed Electron Recombination. *Chemistry - A European Journal*, **2018**, 24, 18032-18042	4.8	19
44	Improvements in printable mesoscopic perovskite solar cells via thinner spacer layers. *Sustainable Energy and Fuels*, **2018**, 2, 2412-2418	5.8	10
43	Challenges for commercializing perovskite solar cells. *Science*, **2018**, 361,	33.3	853

42	Significantly improved performance of dye-sensitized solar cells by optimizing organic dyes with pyrrole as the isolation spacer and utilizing alkyl chain engineering. *Journal of Materials Chemistry A* , **2018**, 6, 22256-22265	13	13
41	The Influence of the Work Function of Hybrid Carbon Electrodes on Printable Mesoscopic Perovskite Solar Cells. *Journal of Physical Chemistry C*, **2018**, 122, 16481-16487	3.8	36
40	Stable Large-Area (10 □10 cm2) Printable Mesoscopic Perovskite Module Exceeding 10% Efficiency. *Solar Rrl*, **2017**, 1, 1600019	7.1	228
39	Synergy of ammonium chloride and moisture on perovskite crystallization for efficient printable mesoscopic solar cells. *Nature Communications*, **2017**, 8, 14555	17.4	234
38	Efficient hole-conductor-free, fully printable mesoscopic perovskite solar cells with carbon electrode based on ultrathin graphite. *Carbon*, **2017**, 120, 71-76	10.4	60
37	Spacer improvement for efficient and fully printable mesoscopic perovskite solar cells. *RSC Advances*, **2017**, 7, 10118-10123	3.7	16
36	Novel D-A-□A-Type Organic Dyes Containing a Ladderlike Dithienocyclopentacarbazole Donor for Effective Dye-Sensitized Solar Cells. *ACS Omega*, **2017**, 2, 7048-7056	3.9	18
35	Boron-Doped Graphite for High Work Function Carbon Electrode in Printable Hole-Conductor-Free Mesoscopic Perovskite Solar Cells. *ACS Applied Materials & Interfaces*, **2017**, 9, 31721-31727	9.5	55
34	Improvement and Regeneration of Perovskite Solar Cells via Methylamine Gas Post-Treatment. *Advanced Functional Materials*, **2017**, 27, 1703060	15.6	68
33	Tunable hysteresis effect for perovskite solar cells. *Energy and Environmental Science*, **2017**, 10, 2383-2391	33.4	135
32	Effect of guanidinium on mesoscopic perovskite solar cells. *Journal of Materials Chemistry A*, **2017**, 5, 73-78	13	119
31	Solvent effect on the hole-conductor-free fully printable perovskite solar cells. *Nano Energy*, **2016**, 27, 130-137	17.1	113
30	Hole-Conductor-Free Fully Printable Mesoscopic Solar Cell with Mixed-Anion Perovskite CH3NH3PbI(3□)(BF4)x. *Advanced Energy Materials*, **2016**, 6, 1502009	21.8	132
29	Enhanced electronic properties in CH3NH3PbI3via LiCl mixing for hole-conductor-free printable perovskite solar cells. *Journal of Materials Chemistry A*, **2016**, 4, 16731-16736	13	72
28	Efficient Compact-Layer-Free, Hole-Conductor-Free, Fully Printable Mesoscopic Perovskite Solar Cell. *Journal of Physical Chemistry Letters*, **2016**, 7, 4142-4146	6.4	29
27	Conjugated or Broken: The Introduction of Isolation Spacer ahead of the Anchoring Moiety and the Improved Device Performance. *ACS Applied Materials & Interfaces*, **2016**, 8, 28652-28662	9.5	11
26	The introduction of conjugated isolation groups into the common acceptor cyanoacrylic acid: an efficient strategy to suppress the charge recombination in dye sensitized solar cells and the dramatically improved efficiency from 5.89% to 9.44%. *Journal of Materials Chemistry A*, **2016**, 4, 16403-16409	13	26
25	Fully printable mesoscopic perovskite solar cells with organic silane self-assembled monolayer. *Journal of the American Chemical Society*, **2015**, 137, 1790-3	16.4	345

24	Outdoor Performance and Stability under Elevated Temperatures and Long-Term Light Soaking of Triple-Layer Mesoporous Perovskite Photovoltaics. *Energy Technology*, **2015**, 3, 551-555	3.5	300
23	Improved performance and stability of perovskite solar cells by crystal crosslinking with alkylphosphonic acid ω-ammonium chlorides. *Nature Chemistry*, **2015**, 7, 703-11	17.6	898
22	The effect of carbon counter electrodes on fully printable mesoscopic perovskite solar cells. *Journal of Materials Chemistry A*, **2015**, 3, 9165-9170	13	179
21	Beyond Efficiency: the Challenge of Stability in Mesoscopic Perovskite Solar Cells. *Advanced Energy Materials*, **2015**, 5, 1501066	21.8	335
20	Similar or Totally Different: the Adjustment of the Twist Conformation Through Minor Structural Modification, and Dramatically Improved Performance for Dye-Sensitized Solar Cell. *Advanced Energy Materials*, **2015**, 5, 1500846	21.8	45
19	Critical parameters in TiO2/ZrO2/Carbon-based mesoscopic perovskite solar cell. *Journal of Power Sources*, **2015**, 293, 533-538	8.9	93
18	The size effect of TiO2 nanoparticles on a printable mesoscopic perovskite solar cell. *Journal of Materials Chemistry A*, **2015**, 3, 9103-9107	13	137
17	Cooperative kinetics of depolarization in CH3NH3PbI3 perovskite solar cells. *Energy and Environmental Science*, **2015**, 8, 910-915	35.4	102
16	Highly ordered mesoporous carbon for mesoscopic CH3NH3PbI3/TiO2 heterojunction solar cell. *Journal of Materials Chemistry A*, **2014**, 2, 8607	13	80
15	Enhancement of monobasal solid-state dye-sensitized solar cells with polymer electrolyte assembling imidazolium iodide-functionalized silica nanoparticles. *Journal of Power Sources*, **2014**, 248, 283-288	8.9	28
14	Efficient monolithic quasi-solid-state dye-sensitized solar cells based on poly(ionic liquids) and carbon counter electrodes. *RSC Advances*, **2014**, 4, 9271	3.7	17
13	A hole-conductor-free, fully printable mesoscopic perovskite solar cell with high stability. *Science*, **2014**, 345, 295-8	33.3	2374
12	Hole-Conductor-Free Mesoscopic TiO2/CH3NH3PbI3 Heterojunction Solar Cells Based on Anatase Nanosheets and Carbon Counter Electrodes. *Journal of Physical Chemistry Letters*, **2014**, 5, 2160-4	6.4	211
11	Organic dyes incorporating N-functionalized pyrrole as conjugated bridge for dye-sensitized solar cells: Convenient synthesis, additional withdrawing group on the π-bridge and the suppressed aggregation. *Dyes and Pigments*, **2013**, 99, 863-870	4.6	31
10	Full printable processed mesoscopic $CH_3NH_3PbI_3/TiO_2$ heterojunction solar cells with carbon counter electrode. *Scientific Reports*, **2013**, 3, 3132	4.9	574
9	Attempt to improve the performance of pyrrole-containing dyes in dye sensitized solar cells by adjusting isolation groups. *ACS Applied Materials & Interfaces*, **2013**, 5, 12469-77	9.5	42
8	High performance organic sensitizers based on 11,12-bis(hexyloxy) dibenzo[a,c]phenazine for dye-sensitized solar cells. *Journal of Materials Chemistry*, **2012**, 22, 18830		83
7	Monolithic all-solid-state dye-sensitized solar module based on mesoscopic carbon counter electrodes. *Solar Energy Materials and Solar Cells*, **2012**, 105, 148-152	6.4	22

6	Highly efficient poly(3-hexylthiophene) based monolithic dye-sensitized solar cells with carbon counter electrode. *Energy and Environmental Science*, **2011**, 4, 2025	35.4	64
5	Minimizing the Voltage Loss in Hole-Conductor-Free Printable Mesoscopic Perovskite Solar Cells. *Advanced Energy Materials*,2102229	21.8	13
4	Halogen Bond Involved Post-Treatment for Improved Performance of Printable Hole-Conductor-Free Mesoscopic Perovskite Solar Cells. *Solar Rrl*,2100851	7.1	3
3	Series Resistance Modulation for Large-Area Fully Printable Mesoscopic Perovskite Solar Cells. *Solar Rrl*,2100554	7.1	5
2	Modulating Oxygen Vacancies in BaSnO3 for Printable Carbon-Based Mesoscopic Perovskite Solar Cells. *ACS Applied Energy Materials*,	6.1	1
1	On the interface reactions and stability of nonfullerene organic solar cells. *Chemical Science*,	9.4	2