Huifeng Yao

List of Publications by Year
in descending order

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124 papers	22,130 citations	20759 60 h-index	18606 119 g-index
125 all docs	125 docs citations	125 times ranked	8663 citing authors

#	Article	IF	Citations
1	Heatingâ€induced aggregation control for efficient sequentialâ€cast organic solar cells. Aggregate, 2022, 3, e104.	5.2	10
2	Non-fullerene acceptor pre-aggregates enable high efficiency pseudo-bulk heterojunction organic solar cells. Science China Chemistry, 2022, 65, 373-381.	4.2	20
3	Design of ultranarrow-bandgap acceptors for efficient organic photovoltaic cells and highly sensitive organic photodetectors. Journal of Energy Chemistry, 2022, 72, 388-394.	7.1	10
4	A Thiazole-Based Polymer Donor for Efficient Organic Solar Cells. Transactions of Tianjin University, 2022, 28, 398-405.	3.3	3
5	Organic photovoltaic cells with high efficiencies for both indoor and outdoor applications. Materials Chemistry Frontiers, 2021, 5, 893-900.	3.2	32
6	Recent progress in reducing voltage loss in organic photovoltaic cells. Materials Chemistry Frontiers, 2021, 5, 709-722.	3.2	41
7	17% efficiency all-small-molecule organic solar cells enabled by nanoscale phase separation with a hierarchical branched structure. Energy and Environmental Science, 2021, 14, 5903-5910.	15.6	116
8	Organic cathode interfacial materials for non-fullerene organic solar cells. Journal of Materials Chemistry A, 2021, 9, 13506-13514.	5.2	21
9	Design of ultra-high luminescent polymers for organic photovoltaic cells with low energy loss. Chemical Communications, 2021, 57, 9132-9135.	2.2	12
10	Quadrupole Moment Induced Morphology Control Via a Highly Volatile Small Molecule in Efficient Organic Solar Cells. Advanced Functional Materials, 2021, 31, 2010535.	7.8	55
11	Hybrid Perovskite Quantum Dot/Nonâ€Fullerene Molecule Solar Cells with Efficiency Over 15%. Advanced Functional Materials, 2021, 31, 2101272.	7.8	44
12	A New Conjugated Polymer that Enables the Integration of Photovoltaic and Lightâ€Emitting Functions in One Device. Advanced Materials, 2021, 33, e2101090.	11.1	129
13	Elucidating End-Group Modifications of Carbazole-Based Nonfullerene Acceptors in Indoor Applications for Achieving a PCE of over 20%. ACS Applied Materials & Interfaces, 2021, 13, 26247-26255.	4.0	14
14	Simultaneous Improvement of Efficiency and Stability of Organic Photovoltaic Cells by using a Crossâ€Linkable Fullerene Derivative. Small, 2021, 17, e2101133.	5.2	34
15	A unified description of non-radiative voltage losses in organic solar cells. Nature Energy, 2021, 6, 799-806.	19.8	235
16	Impact of Electrostatic Interaction on Bulk Morphology in Efficient Donorâ€“Acceptor Photovoltaic Blends. Angewandte Chemie - International Edition, 2021, 60, 15988-15994.	7.2	60
17	Impact of Electrostatic Interaction on Bulk Morphology in Efficient Donorâ€“Acceptor Photovoltaic Blends. Angewandte Chemie, 2021, 133, 16124-16130.	1.6	11
18	Miscibility Control by Tuning Electrostatic Interactions in Bulk Heterojunction for Efficient Organic Solar Cells. , 2021, 3, 1276-1283.		26

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19	Nonâ€Fullerene Molecules: Hybrid Perovskite Quantum Dot/Nonâ€Fullerene Molecule Solar Cells with Efficiency Over 15% (Adv. Funct. Mater. 27/2021). Advanced Functional Materials, 2021, 31, 2170196.	7.8	3
20	Singleâ€Junction Organic Photovoltaic Cell with 19% Efficiency. Advanced Materials, 2021, 33, e2102420.	11.1	1,072
21	18.5% Efficiency Organic Solar Cells with a Hybrid Planar/Bulk Heterojunction. Advanced Materials, 2021, 33, e2103091.	11.1	136
22	Squaraine organic crystals with strong dipole effect toward stable lithium-organic batteries. Energy Storage Materials, 2021, 41, 240-247.	9.5	16
23	TCNQ as a volatilizable morphology modulator enables enhanced performance in non-fullerene organic solar cells. Journal of Materials Chemistry C, 2020, 8, 44-49.	2.7	16
24	PBDB-T and its derivatives: A family of polymer donors enables over 17% efficiency in organic photovoltaics. Materials Today, 2020, 35, 115-130.	8.3	269
25	Organic photovoltaic cell with 17% efficiency and superior processability. National Science Review, 2020, 7, 1239-1246.	4.6	443
26	Recent advances in high-efficiency organic solar cells fabricated by eco-compatible solvents at relatively large-area scale. APL Materials, 2020, 8, .	2.2	45
27	Chlorinated Carbonâ€Bridged and Siliconâ€Bridged Carbazoleâ€Based Nonfullerene Acceptors Manifest Synergistic Enhancement in Ternary Organic Solar Cell with Efficiency over 15%. Solar Rrl, 2020, 4, 2000357.	3.1	19
28	Reduced Nonradiative Recombination Energy Loss Enabled Efficient Polymer Solar Cells via Tuning Alkyl Chain Positions on Pendent Benzene Units of Polymers. ACS Applied Materials & Interfaces, 2020, 12, 24184-24191.	4.0	7
29	Efficient charge generation at low energy losses in organic solar cells: a key issues review. Reports on Progress in Physics, 2020, 83, 082601.	8.1	43
30	Organic photovoltaic cells for low light applications offering new scope and orientation. Organic Electronics, 2020, 85, 105798.	1.4	26
31	Efficient Exciton Dissociation Enabled by the End Group Modification in Non-Fullerene Acceptors. Journal of Physical Chemistry C, 2020, 124, 7691-7698.	1.5	18
32	Tuning the Hybridization of Local Exciton and Chargeâ€Transfer States in Highly Efficient Organic Photovoltaic Cells. Angewandte Chemie - International Edition, 2020, 59, 9004-9010.	7.2	144
33	15.3% efficiency all-small-molecule organic solar cells enabled by symmetric phenyl substitution. Science China Materials, 2020, 63, 1142-1150.	3.5	140
34	Carbonyl Bridge-Based pâ˜Ï€ Conjugated Polymers as High-Performance Electrodes of Organic Lithium-Ion Batteries. ACS Applied Materials & Interfaces, 2020, 12, 18457-18464.	4.0	39
35	Recent Progress in Chlorinated Organic Photovoltaic Materials. Accounts of Chemical Research, 2020, 53, 822-832.	7.6	198
36	Singleâ€Junction Organic Photovoltaic Cells with Approaching 18% Efficiency. Advanced Materials, 2020, 32, e1908205.	11.1	1,407

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37	Tuning the Hybridization of Local Exciton and Chargeâ€Transfer States in Highly Efficient Organic Photovoltaic Cells. Angewandte Chemie, 2020, 132, 9089-9095.	1.6	24
38	Efficient and photostable ternary organic solar cells with a narrow band gap non-fullerene acceptor and fullerene additive. Journal of Materials Chemistry A, 2020, 8, 6682-6691.	5.2	37
39	Exceptionally low charge trapping enables highly efficient organic bulk heterojunction solar cells. Energy and Environmental Science, 2020, 13, 2422-2430.	15.6	152
40	Toward Visibly Transparent Organic Photovoltaic Cells Based on a Near-Infrared Harvesting Bulk Heterojunction Blend. ACS Applied Materials & Interfaces, 2020, 12, 32764-32770.	4.0	40
41	Enhanced photovoltaic effect from naphtho[2,3-c]thiophene-4,9-dione-based polymers through alkyl side chain induced backbone distortion. Journal of Materials Chemistry A, 2020, 8, 14706-14712.	5.2	10
42	Realizing Ultrahigh Mechanical Flexibility and >15% Efficiency of Flexible Organic Solar Cells via a â€œWeldingâ€•Flexible Transparent Electrode. Advanced Materials, 2020, 32, e1908478.	11.1	216
43	An inorganic molecule-induced electron transfer complex for highly efficient organic solar cells. Journal of Materials Chemistry A, 2020, 8, 5580-5586.	5.2	21
44	High-Efficiency Nonfullerene Organic Solar Cells Enabled by 1000 nm Thick Active Layers with a Low Trap-State Density. ACS Applied Materials & Interfaces, 2020, 12, 18777-18784.	4.0	74
45	Ecoâ€Compatible Solventâ€Processed Organic Photovoltaic Cells with Over 16% Efficiency. Advanced Materials, 2019, 31, e1903441.	11.1	445
46	Wide-gap non-fullerene acceptor enabling high-performance organic photovoltaic cells for indoor applications. Nature Energy, 2019, 4, 768-775.	19.8	407
47	Reduced Nonradiative Energy Loss Caused by Aggregation of Nonfullerene Acceptor in Organic Solar Cells. Advanced Energy Materials, 2019, 9, 1901823.	10.2	72
48	Effects of energy-level offset between a donor and acceptor on the photovoltaic performance of non-fullerene organic solar cells. Journal of Materials Chemistry A, 2019, 7, 18889-18897.	5.2	87
49	Improved Charge Transport and Reduced Nonradiative Energy Loss Enable Over 16% Efficiency in Ternary Polymer Solar Cells. Advanced Materials, 2019, 31, e1902302.	11.1	364
50	Investigating the Trade-Off between Device Performance and Energy Loss in Nonfullerene Organic Solar Cells. ACS Applied Materials & Interfaces, 2019, 11, 29124-29131.	4.0	24
51	Modulation of Building Block Size in Conjugated Polymers with Dâ€“A Structure for Polymer Solar Cells. Macromolecules, 2019, 52, 7929-7938.	2.2	10
52	Efficient Organic Solar Cells with a High Openâ€Circuit Voltage of 1.34 V. Chinese Journal of Chemistry, 2019, 37, 1153-1157.	2.6	20
53	1 cm² Organic Photovoltaic Cells for Indoor Application with over 20% Efficiency. Advanced Materials, 2019, 31, e1904512.	11.1	140
54	Enhanced intermolecular interactions to improve twisted polymer photovoltaic performance. Science China Chemistry, 2019, 62, 370-377.	4.2	29

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55	Over 16% efficiency organic photovoltaic cells enabled by a chlorinated acceptor with increased open-circuit voltages. Nature Communications, 2019, 10, 2515.	5.8	1,431
56	14.7% Efficiency Organic Photovoltaic Cells Enabled by Active Materials with a Large Electrostatic Potential Difference. Journal of the American Chemical Society, 2019, 141, 7743-7750.	6.6	379
57	Enhanced Ï€â€“Ï€ Interactions of Nonfullerene Acceptors by Volatilizable Solid Additives in Efficient Polymer Solar Cells. Advanced Materials, 2019, 31, e1900477.	11.1	99
58	Energy level modulation of ITIC derivatives: Effects on the photodegradation of conventional and inverted organic solar cells. Organic Electronics, 2019, 69, 255-262.	1.4	31
59	Achieving Over 15% Efficiency in Organic Photovoltaic Cells via Copolymer Design. Advanced Materials, 2019, 31, e1808356.	11.1	388
60	Recent Advances in Fullereneâ€free Polymer Solar Cells: Materials and Devices. Chinese Journal of Chemistry, 2019, 37, 207-215.	2.6	46
61	A Selfâ€Organized Poly(vinylpyrrolidone)â€Based Cathode Interlayer in Inverted Fullereneâ€Free Organic Solar Cells. Advanced Materials, 2019, 31, e1804657.	11.1	43
62	A Printable Organic Cathode Interlayer Enables over 13% Efficiency for 1-cm2 Organic Solar Cells. Joule, 2019, 3, 227-239.	11.7	193
63	Realizing Green Solvent Processable Non-fullerene Organic Solar Cells by Modulating the Side Groups of Conjugated Polymers. Wuli Huaxue Xuebao/ Acta Physico - Chimica Sinica, 2019, 35, 1391-1398.	2.2	2
64	Critical Role of Molecular Electrostatic Potential on Charge Generation in Organic Solar Cells. Chinese Journal of Chemistry, 2018, 36, 491-494.	2.6	163
65	The Critical Role of Anode Work Function in Non-Fullerene Organic Solar Cells Unveiled by Counterion-Size-Controlled Self-Doping Conjugated Polymers. Chemistry of Materials, 2018, 30, 1078-1084.	3.2	44
66	Controlling Blend Morphology for Ultrahigh Current Density in Nonfullerene Acceptor-Based Organic Solar Cells. ACS Energy Letters, 2018, 3, 669-676.	8.8	242
67	Recent Progress in Ternary Organic Solar Cells Based on Nonfullerene Acceptors. Advanced Energy Materials, 2018, 8, 1702814.	10.2	170
68	The crucial role of intermolecular Ï€â€“Ï€ interactions in Aâ€“Dâ€“A-type electron acceptors and their effective modulation. Journal of Materials Chemistry A, 2018, 6, 2664-2670.	5.2	26
69	A Highâ€Efficiency Organic Solar Cell Enabled by the Strong Intramolecular Electron Pushâ€“Pull Effect of the Nonfullerene Acceptor. Advanced Materials, 2018, 30, e1707170.	11.1	351
70	Tunable Electron Donating and Accepting Properties Achieved by Modulating the Steric Hindrance of Side Chains in A-D-A Small-Molecule Photovoltaic Materials. Chemistry of Materials, 2018, 30, 619-628.	3.2	49
71	Multi-component non-fullerene acceptors with tunable bandgap structures for efficient organic solar cells. Journal of Materials Chemistry A, 2018, 6, 23644-23649.	5.2	47
72	Design and application of volatilizable solid additives in non-fullerene organic solar cells. Nature Communications, 2018, 9, 4645.	5.8	205

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73	Exceeding 14% Efficiency for Solution-Processed Tandem Organic Solar Cells Combining Fullerene- and Nonfullerene-Based Subcells with Complementary Absorption. ACS Energy Letters, 2018, 3, 2566-2572.	8.8	45
74	Enhancing the Photovoltaic Performance of Nonfullerene Acceptors via Conjugated Rotatable End Groups. Advanced Energy Materials, 2018, 8, 1802131.	10.2	24
75	Over 14% Efficiency in Organic Solar Cells Enabled by Chlorinated Nonfullerene Smallâ€Molecule Acceptors. Advanced Materials, 2018, 30, e1800613.	11.1	623
76	Polyamino acid interlayer facilitates electron extraction in narrow band gap fullerene-free organic solar cells with an outstanding short-circuit current. Nano Energy, 2018, 50, 169-175.	8.2	50
77	Fluorination vs. chlorination: a case study on high performance organic photovoltaic materials. Science China Chemistry, 2018, 61, 1328-1337.	4.2	177
78	Heat-Insulating Multifunctional Semitransparent Polymer Solar Cells. Joule, 2018, 2, 1816-1826.	11.7	173
79	A chlorinated low-bandgap small-molecule acceptor for organic solar cells with 14.1% efficiency and low energy loss. Science China Chemistry, 2018, 61, 1307-1313.	4.2	210
80	Toward Efficient Polymer Solar Cells Processed by a Solutionâ€Processed Layerâ€Byâ€Layer Approach. Advanced Materials, 2018, 30, e1802499.	11.1	116
81	Design rules for minimizing voltage losses in high-efficiency organic solar cells. Nature Materials, 2018, 17, 703-709.	13.3	701
82	Design, Synthesis, and Photovoltaic Characterization of a Small Molecular Acceptor with an Ultraâ€Narrow Band Gap. Angewandte Chemie, 2017, 129, 3091-3095.	1.6	61
83	Design, Synthesis, and Photovoltaic Characterization of a Small Molecular Acceptor with an Ultraâ€Narrow Band Gap. Angewandte Chemie - International Edition, 2017, 56, 3045-3049.	7.2	711
84	New Wide Band Gap Donor for Efficient Fullerene-Free All-Small-Molecule Organic Solar Cells. Journal of the American Chemical Society, 2017, 139, 1958-1966.	6.6	260
85	Investigation of Conjugated Polymers Based on Naphtho[2,3-c]thiophene-4,9-dione in Fullerene-Based and Fullerene-Free Polymer Solar Cells. Macromolecules, 2017, 50, 1453-1462.	2.2	32
86	Fine-Tuned Photoactive and Interconnection Layers for Achieving over 13% Efficiency in a Fullerene-Free Tandem Organic Solar Cell. Journal of the American Chemical Society, 2017, 139, 7302-7309.	6.6	427
87	From Binary to Ternary: Improving the External Quantum Efficiency of Smallâ€Molecule Acceptorâ€Based Polymer Solar Cells with a Minute Amount of Fullerene Sensitization. Advanced Energy Materials, 2017, 7, 1700328.	10.2	54
88	Achieving 12.8% Efficiency by Simultaneously Improving Openâ€Circuit Voltage and Shortâ€Circuit Current Density in Tandem Organic Solar Cells. Advanced Materials, 2017, 29, 1606340.	11.1	100
89	Two Wellâ€Miscible Acceptors Work as One for Efficient Fullereneâ€Free Organic Solar Cells. Advanced Materials, 2017, 29, 1700437.	11.1	157
90	Low band-gap conjugated polymer based on diketopyrrolopyrrole units and its application in organic photovoltaic cells. Journal of Materials Chemistry A, 2017, 5, 10416-10423.	5.2	23

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91	Molecular Optimization Enables over 13% Efficiency in Organic Solar Cells. Journal of the American Chemical Society, 2017, 139, 7148-7151.	6.6	2,524
92	Strong polymer molecular weight-dependent material interactions: impact on the formation of the polymer/fullerene bulk heterojunction morphology. Journal of Materials Chemistry A, 2017, 5, 13176-13188.	5.2	49
93	Subtle side-chain tuning on terminal groups of small molecule electron acceptors for efficient fullerene-free polymer solar cells. Journal of Materials Chemistry A, 2017, 5, 15175-15182.	5.2	52
94	Potential of Nonfullerene Small Molecules with High Photovoltaic Performance. Chemistry - an Asian Journal, 2017, 12, 2160-2171.	1.7	45
95	Achieving Highly Efficient Nonfullerene Organic Solar Cells with Improved Intermolecular Interaction and Openâ€Circuit Voltage. Advanced Materials, 2017, 29, 1700254.	11.1	363
96	Efficient Semitransparent Organic Solar Cells with Tunable Color enabled by an Ultralowâ€Bandgap Nonfullerene Acceptor. Advanced Materials, 2017, 29, 1703080.	11.1	325
97	Control of Mesoscale Morphology and Photovoltaic Performance in Diketopyrrolopyrroleâ€Based Small Band Gap Terpolymers. Advanced Energy Materials, 2017, 7, 1601138.	10.2	59
98	A Wide Bandgap Polymer with Strong Ï€â€“Ï€ Interaction for Efficient Fullereneâ€Free Polymer Solar Cells. Advanced Energy Materials, 2016, 6, 1600742.	10.2	76
99	Greenâ€Solventâ€Processed Allâ€Polymer Solar Cells Containing a Perylene Diimideâ€Based Acceptor with an Efficiency over 6.5%. Advanced Energy Materials, 2016, 6, 1501991.	10.2	157
100	Effectively Improving Extinction Coefficient of Benzodithiophene and Benzodithiophenedioneâ€based Photovoltaic Polymer by Grafting Alkylthio Functional Groups. Chemistry - an Asian Journal, 2016, 11, 2650-2655.	1.7	11
101	Perylene Diimide Trimers Based Bulk Heterojunction Organic Solar Cells with Efficiency over 7%. Advanced Energy Materials, 2016, 6, 1600060.	10.2	111
102	High Performance Organic Solar Cells Processed by Blade Coating in Air from a Benign Food Additive Solution. Chemistry of Materials, 2016, 28, 7451-7458.	3.2	91
103	Manipulation of Domain Purity and Orientational Ordering in High Performance All-Polymer Solar Cells. Chemistry of Materials, 2016, 28, 6178-6185.	3.2	87
104	Design and Synthesis of a Low Bandgap Small Molecule Acceptor for Efficient Polymer Solar Cells. Advanced Materials, 2016, 28, 8283-8287.	11.1	421
105	Fullerene-free polymer solar cell based on a polythiophene derivative with an unprecedented energy loss of less than 0.5 eV. Journal of Materials Chemistry A, 2016, 4, 18043-18049.	5.2	88
106	A Novel pH Neutral Self-Doped Polymer for Anode Interfacial Layer in Efficient Polymer Solar Cells. Macromolecules, 2016, 49, 8126-8133.	2.2	69
107	Highâ€Efficiency Polymer Solar Cells Enabled by Environmentâ€Friendly Singleâ€Solvent Processing. Advanced Energy Materials, 2016, 6, 1502177.	10.2	91
108	Molecular Design of Benzodithiophene-Based Organic Photovoltaic Materials. Chemical Reviews, 2016, 116, 7397-7457.	23.0	998

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109	PBDT-TSR: a highly efficient conjugated polymer for polymer solar cells with a regioregular structure. Journal of Materials Chemistry A, 2016, 4, 1708-1713.	5.2	75
110	Dialkylthio Substitution: An Effective Method to Modulate the Molecular Energy Levels of 2D-BDT Photovoltaic Polymers. ACS Applied Materials & Interfaces, 2016, 8, 3575-3583.	4.0	43
111	Manipulating Aggregation and Molecular Orientation in Allâ€Polymer Photovoltaic Cells. Advanced Materials, 2015, 27, 6046-6054.	11.1	264
112	Molecular Design and Application of a Photovoltaic Polymer with Improved Optical Properties and Molecular Energy Levels. Macromolecules, 2015, 48, 3493-3499.	2.2	52
113	An Easily Accessible Cathode Buffer Layer for Achieving Multiple High Performance Polymer Photovoltaic Cells. Journal of Physical Chemistry C, 2015, 119, 27322-27329.	1.5	30
114	Optimization of side chains in alkylthiothiophene-substituted benzo[1,2-b:4,5-bâ€²]dithiophene-based photovoltaic polymers. Polymer Chemistry, 2015, 6, 2752-2760.	1.9	37
115	Enhanced Efficiency in Fullerene-Free Polymer Solar Cell by Incorporating Fine-designed Donor and Acceptor Materials. ACS Applied Materials & Interfaces, 2015, 7, 9274-9280.	4.0	110
116	Influence of the alkyl substitution position on photovoltaic properties of 2D-BDT-based conjugated polymers. Science China Materials, 2015, 58, 213-222.	3.5	21
117	2D-Conjugated Benzodithiophene-Based Polymer Acceptor: Design, Synthesis, Nanomorphology, and Photovoltaic Performance. Macromolecules, 2015, 48, 7156-7163.	2.2	70
118	Enhanced efficiency of polymer photovoltaic cells via the incorporation of a water-soluble naphthalene diimide derivative as a cathode interlayer. Journal of Materials Chemistry C, 2015, 3, 9565-9571.	2.7	60
119	Side Chain Selection for Designing Highly Efficient Photovoltaic Polymers with 2D-Conjugated Structure. Macromolecules, 2014, 47, 4653-4659.	2.2	259
120	Highly Efficient 2D-Conjugated Benzodithiophene-Based Photovoltaic Polymer with Linear Alkylthio Side Chain. Chemistry of Materials, 2014, 26, 3603-3605.	3.2	531
121	Squaraine Organic Crystals with Strong Dipole Effect Toward Stable Lithium-Organic Batteries. SSRN Electronic Journal, 0, , .	0.4	0
122	Modulation of Intramolecular Charge Transfer Effect in Highly Efficient Non-fullerene Acceptor. , 0, , .		0
123	Optimization of Active Layers in Highly Efficient Organic Solar Cells. , 0, , .		0
124	Optimization of Active Layers in Highly Efficient Organic Solar Cells. , 0, , .		0