

Huifeng Yao

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

116
papers

16,325
citations

55
h-index

124
g-index

124
ext. papers

19,428
ext. citations

15.4
avg, IF

7.19
L-index

#	Paper	IF	Citations
116	Hybrid Perovskite Quantum Dot/Non-Fullerene Molecule Solar Cells with Efficiency Over 15%. <i>Advanced Functional Materials</i> , 2021 , 31, 2101272	15.6	23
115	A New Conjugated Polymer that Enables the Integration of Photovoltaic and Light-Emitting Functions in One Device. <i>Advanced Materials</i> , 2021 , 33, e2101090	24	58
114	Elucidating End-Group Modifications of Carbazole-Based Nonfullerene Acceptors in Indoor Applications for Achieving a PCE of over 20. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 26247-26255	9.5	3
113	Simultaneous Improvement of Efficiency and Stability of Organic Photovoltaic Cells by using a Cross-Linkable Fullerene Derivative. <i>Small</i> , 2021 , 17, e2101133	11	10
112	A unified description of non-radiative voltage losses in organic solar cells. <i>Nature Energy</i> , 2021 , 6, 799-806	6.3	70
111	Impact of Electrostatic Interaction on Bulk Morphology in Efficient Donor-Acceptor Photovoltaic Blends. <i>Angewandte Chemie - International Edition</i> , 2021 , 60, 15988-15994	16.4	17
110	Impact of Electrostatic Interaction on Bulk Morphology in Efficient Donor-Acceptor Photovoltaic Blends. <i>Angewandte Chemie</i> , 2021 , 133, 16124-16130	3.6	3
109	Miscibility Control by Tuning Electrostatic Interactions in Bulk Heterojunction for Efficient Organic Solar Cells 2021 , 3, 1276-1283		8
108	Organic photovoltaic cells with high efficiencies for both indoor and outdoor applications. <i>Materials Chemistry Frontiers</i> , 2021 , 5, 893-900	7.8	13
107	Recent progress in reducing voltage loss in organic photovoltaic cells. <i>Materials Chemistry Frontiers</i> , 2021 , 5, 709-722	7.8	20
106	Organic cathode interfacial materials for non-fullerene organic solar cells. <i>Journal of Materials Chemistry A</i> , 2021 , 9, 13506-13514	13	7
105	Design of ultra-high luminescent polymers for organic photovoltaic cells with low energy loss. <i>Chemical Communications</i> , 2021 , 57, 9132-9135	5.8	4
104	Quadrupole Moment Induced Morphology Control Via a Highly Volatile Small Molecule in Efficient Organic Solar Cells. <i>Advanced Functional Materials</i> , 2021 , 31, 2010535	15.6	26
103	Non-Fullerene Molecules: Hybrid Perovskite Quantum Dot/Non-Fullerene Molecule Solar Cells with Efficiency Over 15% (Adv. Funct. Mater. 27/2021). <i>Advanced Functional Materials</i> , 2021 , 31, 2170196	15.6	1
102	Single-Junction Organic Photovoltaic Cell with 19% Efficiency. <i>Advanced Materials</i> , 2021 , 33, e2102420	24	302
101	18.5% Efficiency Organic Solar Cells with a Hybrid Planar/Bulk Heterojunction. <i>Advanced Materials</i> , 2021 , 33, e2103091	24	37
100	Squaraine organic crystals with strong dipole effect toward stable lithium-organic batteries. <i>Energy Storage Materials</i> , 2021 , 41, 240-247	19.4	5

99	Reduced Nonradiative Recombination Energy Loss Enabled Efficient Polymer Solar Cells via Tuning Alkyl Chain Positions on Pendent Benzene Units of Polymers. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 24184-24191	9.5	6
98	Efficient charge generation at low energy losses in organic solar cells: a key issues review. <i>Reports on Progress in Physics</i> , 2020 , 83, 082601	14.4	26
97	Organic photovoltaic cells for low light applications offering new scope and orientation. <i>Organic Electronics</i> , 2020 , 85, 105798	3.5	17
96	Efficient Exciton Dissociation Enabled by the End Group Modification in Non-Fullerene Acceptors. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 7691-7698	3.8	11
95	Tuning the Hybridization of Local Exciton and Charge-Transfer States in Highly Efficient Organic Photovoltaic Cells. <i>Angewandte Chemie - International Edition</i> , 2020 , 59, 9004-9010	16.4	74
94	15.3% efficiency all-small-molecule organic solar cells enabled by symmetric phenyl substitution. <i>Science China Materials</i> , 2020 , 63, 1142-1150	7.1	99
93	Carbonyl Bridge-Based p-Conjugated Polymers as High-Performance Electrodes of Organic Lithium-Ion Batteries. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 18457-18464	9.5	14
92	Recent Progress in Chlorinated Organic Photovoltaic Materials. <i>Accounts of Chemical Research</i> , 2020 , 53, 822-832	24.3	106
91	Single-Junction Organic Photovoltaic Cells with Approaching 18% Efficiency. <i>Advanced Materials</i> , 2020 , 32, e1908205	24	896
90	Tuning the Hybridization of Local Exciton and Charge-Transfer States in Highly Efficient Organic Photovoltaic Cells. <i>Angewandte Chemie</i> , 2020 , 132, 9089-9095	3.6	17
89	Efficient and photostable ternary organic solar cells with a narrow band gap non-fullerene acceptor and fullerene additive. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 6682-6691	13	23
88	Exceptionally low charge trapping enables highly efficient organic bulk heterojunction solar cells. <i>Energy and Environmental Science</i> , 2020 , 13, 2422-2430	35.4	86
87	Toward Visibly Transparent Organic Photovoltaic Cells Based on a Near-Infrared Harvesting Bulk Heterojunction Blend. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 32764-32770	9.5	21
86	Enhanced photovoltaic effect from naphtho[2,3-c]thiophene-4,9-dione-based polymers through alkyl side chain induced backbone distortion. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 14706-14712	13	7
85	Realizing Ultrahigh Mechanical Flexibility and >15% Efficiency of Flexible Organic Solar Cells via a "Welding" Flexible Transparent Electrode. <i>Advanced Materials</i> , 2020 , 32, e1908478	24	133
84	An inorganic molecule-induced electron transfer complex for highly efficient organic solar cells. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 5580-5586	13	13
83	High-Efficiency Nonfullerene Organic Solar Cells Enabled by 1000 nm Thick Active Layers with a Low Trap-State Density. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 18777-18784	9.5	50
82	TCNQ as a volatilizable morphology modulator enables enhanced performance in non-fullerene organic solar cells. <i>Journal of Materials Chemistry C</i> , 2020 , 8, 44-49	7.1	11

81	PBDB-T and its derivatives: A family of polymer donors enables over 17% efficiency in organic photovoltaics. <i>Materials Today</i> , 2020 , 35, 115-130	21.8	141
80	Organic photovoltaic cell with 17% efficiency and superior processability. <i>National Science Review</i> , 2020 , 7, 1239-1246	10.8	318
79	Recent advances in high-efficiency organic solar cells fabricated by eco-compatible solvents at relatively large-area scale. <i>APL Materials</i> , 2020 , 8, 120901	5.7	20
78	Chlorinated Carbon-Bridged and Silicon-Bridged Carbazole-Based Nonfullerene Acceptors Manifest Synergistic Enhancement in Ternary Organic Solar Cell with Efficiency over 15%. <i>Solar Rrl</i> , 2020 , 4, 2000357	7.1	13
77	1 cm Organic Photovoltaic Cells for Indoor Application with over 20% Efficiency. <i>Advanced Materials</i> , 2019 , 31, e1904512	24	87
76	Enhanced intermolecular interactions to improve twisted polymer photovoltaic performance. <i>Science China Chemistry</i> , 2019 , 62, 370-377	7.9	24
75	Over 16% efficiency organic photovoltaic cells enabled by a chlorinated acceptor with increased open-circuit voltages. <i>Nature Communications</i> , 2019 , 10, 2515	17.4	1093
74	14.7% Efficiency Organic Photovoltaic Cells Enabled by Active Materials with a Large Electrostatic Potential Difference. <i>Journal of the American Chemical Society</i> , 2019 , 141, 7743-7750	16.4	244
73	Enhanced π - π Interactions of Nonfullerene Acceptors by Volatilizable Solid Additives in Efficient Polymer Solar Cells. <i>Advanced Materials</i> , 2019 , 31, e1900477	24	69
72	Energy level modulation of ITIC derivatives: Effects on the photodegradation of conventional and inverted organic solar cells. <i>Organic Electronics</i> , 2019 , 69, 255-262	3.5	23
71	Eco-Compatible Solvent-Processed Organic Photovoltaic Cells with Over 16% Efficiency. <i>Advanced Materials</i> , 2019 , 31, e1903441	24	318
70	Wide-gap non-fullerene acceptor enabling high-performance organic photovoltaic cells for indoor applications. <i>Nature Energy</i> , 2019 , 4, 768-775	62.3	256
69	Reduced Nonradiative Energy Loss Caused by Aggregation of Nonfullerene Acceptor in Organic Solar Cells. <i>Advanced Energy Materials</i> , 2019 , 9, 1901823	21.8	53
68	Effects of energy-level offset between a donor and acceptor on the photovoltaic performance of non-fullerene organic solar cells. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 18889-18897	13	57
67	Improved Charge Transport and Reduced Nonradiative Energy Loss Enable Over 16% Efficiency in Ternary Polymer Solar Cells. <i>Advanced Materials</i> , 2019 , 31, e1902302	24	311
66	Investigating the Trade-Off between Device Performance and Energy Loss in Nonfullerene Organic Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 29124-29131	9.5	19
65	Modulation of Building Block Size in Conjugated Polymers with D π A Structure for Polymer Solar Cells. <i>Macromolecules</i> , 2019 , 52, 7929-7938	5.5	6
64	Efficient Organic Solar Cells with a High Open-Circuit Voltage of 1.34 V. <i>Chinese Journal of Chemistry</i> , 2019 , 37, 1153-1157	4.9	15

63	Achieving Over 15% Efficiency in Organic Photovoltaic Cells via Copolymer Design. <i>Advanced Materials</i> , 2019 , 31, e1808356	24	314
62	Recent Advances in Fullerene-free Polymer Solar Cells: Materials and Devices. <i>Chinese Journal of Chemistry</i> , 2019 , 37, 207-215	4.9	36
61	A Self-Organized Poly(vinylpyrrolidone)-Based Cathode Interlayer in Inverted Fullerene-Free Organic Solar Cells. <i>Advanced Materials</i> , 2019 , 31, e1804657	24	35
60	A Printable Organic Cathode Interlayer Enables over 13% Efficiency for 1-cm ² Organic Solar Cells. <i>Joule</i> , 2019 , 3, 227-239	27.8	127
59	Critical Role of Molecular Electrostatic Potential on Charge Generation in Organic Solar Cells. <i>Chinese Journal of Chemistry</i> , 2018 , 36, 491-494	4.9	125
58	The Critical Role of Anode Work Function in Non-Fullerene Organic Solar Cells Unveiled by Counterion-Size-Controlled Self-Doping Conjugated Polymers. <i>Chemistry of Materials</i> , 2018 , 30, 1078-1084	8.6	32
57	Controlling Blend Morphology for Ultrahigh Current Density in Nonfullerene Acceptor-Based Organic Solar Cells. <i>ACS Energy Letters</i> , 2018 , 3, 669-676	20.1	187
56	The crucial role of intermolecular π -interactions in A-D-A-type electron acceptors and their effective modulation. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 2664-2670	13	25
55	A High-Efficiency Organic Solar Cell Enabled by the Strong Intramolecular Electron Push-Pull Effect of the Nonfullerene Acceptor. <i>Advanced Materials</i> , 2018 , 30, e1707170	24	295
54	A chlorinated low-bandgap small-molecule acceptor for organic solar cells with 14.1% efficiency and low energy loss. <i>Science China Chemistry</i> , 2018 , 61, 1307-1313	7.9	184
53	Toward Efficient Polymer Solar Cells Processed by a Solution-Processed Layer-By-Layer Approach. <i>Advanced Materials</i> , 2018 , 30, e1802499	24	83
52	Design rules for minimizing voltage losses in high-efficiency organic solar cells. <i>Nature Materials</i> , 2018 , 17, 703-709	27	500
51	Tunable Electron Donating and Accepting Properties Achieved by Modulating the Steric Hindrance of Side Chains in A-D-A Small-Molecule Photovoltaic Materials. <i>Chemistry of Materials</i> , 2018 , 30, 619-628	9.6	39
50	Multi-component non-fullerene acceptors with tunable bandgap structures for efficient organic solar cells. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 23644-23649	13	35
49	Design and application of volatilizable solid additives in non-fullerene organic solar cells. <i>Nature Communications</i> , 2018 , 9, 4645	17.4	130
48	Exceeding 14% Efficiency for Solution-Processed Tandem Organic Solar Cells Combining Fullerene- and Nonfullerene-Based Subcells with Complementary Absorption. <i>ACS Energy Letters</i> , 2018 , 3, 2566-2572	20.1	39
47	Enhancing the Photovoltaic Performance of Nonfullerene Acceptors via Conjugated Rotatable End Groups. <i>Advanced Energy Materials</i> , 2018 , 8, 1802131	21.8	21
46	Over 14% Efficiency in Organic Solar Cells Enabled by Chlorinated Nonfullerene Small-Molecule Acceptors. <i>Advanced Materials</i> , 2018 , 30, e1800613	24	538

45	Polyamino acid interlayer facilitates electron extraction in narrow band gap fullerene-free organic solar cells with an outstanding short-circuit current. <i>Nano Energy</i> , 2018 , 50, 169-175	17.1	41
44	Fluorination vs. chlorination: a case study on high performance organic photovoltaic materials. <i>Science China Chemistry</i> , 2018 , 61, 1328-1337	7.9	142
43	Heat-Insulating Multifunctional Semitransparent Polymer Solar Cells. <i>Joule</i> , 2018 , 2, 1816-1826	27.8	105
42	Design, Synthesis, and Photovoltaic Characterization of a Small Molecular Acceptor with an Ultra-Narrow Band Gap. <i>Angewandte Chemie</i> , 2017 , 129, 3091-3095	3.6	43
41	Design, Synthesis, and Photovoltaic Characterization of a Small Molecular Acceptor with an Ultra-Narrow Band Gap. <i>Angewandte Chemie - International Edition</i> , 2017 , 56, 3045-3049	16.4	590
40	New Wide Band Gap Donor for Efficient Fullerene-Free All-Small-Molecule Organic Solar Cells. <i>Journal of the American Chemical Society</i> , 2017 , 139, 1958-1966	16.4	225
39	Investigation of Conjugated Polymers Based on Naphtho[2,3-c]thiophene-4,9-dione in Fullerene-Based and Fullerene-Free Polymer Solar Cells. <i>Macromolecules</i> , 2017 , 50, 1453-1462	5.5	27
38	Fine-Tuned Photoactive and Interconnection Layers for Achieving over 13% Efficiency in a Fullerene-Free Tandem Organic Solar Cell. <i>Journal of the American Chemical Society</i> , 2017 , 139, 7302-7309	16.4	399
37	From Binary to Ternary: Improving the External Quantum Efficiency of Small-Molecule Acceptor-Based Polymer Solar Cells with a Minute Amount of Fullerene Sensitization. <i>Advanced Energy Materials</i> , 2017 , 7, 1700328	21.8	49
36	Achieving 12.8% Efficiency by Simultaneously Improving Open-Circuit Voltage and Short-Circuit Current Density in Tandem Organic Solar Cells. <i>Advanced Materials</i> , 2017 , 29, 1606340	24	91
35	Two Well-Miscible Acceptors Work as One for Efficient Fullerene-Free Organic Solar Cells. <i>Advanced Materials</i> , 2017 , 29, 1700437	24	140
34	Low band-gap conjugated polymer based on diketopyrrolopyrrole units and its application in organic photovoltaic cells. <i>Journal of Materials Chemistry A</i> , 2017 , 5, 10416-10423	13	21
33	Molecular Optimization Enables over 13% Efficiency in Organic Solar Cells. <i>Journal of the American Chemical Society</i> , 2017 , 139, 7148-7151	16.4	2152
32	Strong polymer molecular weight-dependent material interactions: impact on the formation of the polymer/fullerene bulk heterojunction morphology. <i>Journal of Materials Chemistry A</i> , 2017 , 5, 13176-13188	13	38
31	Subtle side-chain tuning on terminal groups of small molecule electron acceptors for efficient fullerene-free polymer solar cells. <i>Journal of Materials Chemistry A</i> , 2017 , 5, 15175-15182	13	47
30	Potential of Nonfullerene Small Molecules with High Photovoltaic Performance. <i>Chemistry - an Asian Journal</i> , 2017 , 12, 2160-2171	4.5	39
29	Achieving Highly Efficient Nonfullerene Organic Solar Cells with Improved Intermolecular Interaction and Open-Circuit Voltage. <i>Advanced Materials</i> , 2017 , 29, 1700254	24	314
28	Efficient Semitransparent Organic Solar Cells with Tunable Color enabled by an Ultralow-Bandgap Nonfullerene Acceptor. <i>Advanced Materials</i> , 2017 , 29, 1703080	24	276

27	Control of Mesoscale Morphology and Photovoltaic Performance in Diketopyrrolopyrrole-Based Small Band Gap Terpolymers. <i>Advanced Energy Materials</i> , 2017 , 7, 1601138	21.8	53
26	Dialkylthio Substitution: An Effective Method to Modulate the Molecular Energy Levels of 2D-BDT Photovoltaic Polymers. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 3575-83	9.5	41
25	Manipulation of Domain Purity and Orientational Ordering in High Performance All-Polymer Solar Cells. <i>Chemistry of Materials</i> , 2016 , 28, 6178-6185	9.6	78
24	Design and Synthesis of a Low Bandgap Small Molecule Acceptor for Efficient Polymer Solar Cells. <i>Advanced Materials</i> , 2016 , 28, 8283-8287	24	373
23	Fullerene-free polymer solar cell based on a polythiophene derivative with an unprecedented energy loss of less than 0.5 eV. <i>Journal of Materials Chemistry A</i> , 2016 , 4, 18043-18049	13	75
22	A Novel pH Neutral Self-Doped Polymer for Anode Interfacial Layer in Efficient Polymer Solar Cells. <i>Macromolecules</i> , 2016 , 49, 8126-8133	5.5	49
21	High-Efficiency Polymer Solar Cells Enabled by Environment-Friendly Single-Solvent Processing. <i>Advanced Energy Materials</i> , 2016 , 6, 1502177	21.8	83
20	Molecular Design of Benzodithiophene-Based Organic Photovoltaic Materials. <i>Chemical Reviews</i> , 2016 , 116, 7397-457	68.1	824
19	PBDT-TSR: a highly efficient conjugated polymer for polymer solar cells with a regioregular structure. <i>Journal of Materials Chemistry A</i> , 2016 , 4, 1708-1713	13	68
18	A Wide Bandgap Polymer with Strong π Interaction for Efficient Fullerene-Free Polymer Solar Cells. <i>Advanced Energy Materials</i> , 2016 , 6, 1600742	21.8	74
17	Green-Solvent-Processed All-Polymer Solar Cells Containing a Perylene Diimide-Based Acceptor with an Efficiency over 6.5%. <i>Advanced Energy Materials</i> , 2016 , 6, 1501991	21.8	148
16	Effectively Improving Extinction Coefficient of Benzodithiophene and Benzodithiophenedione-based Photovoltaic Polymer by Grafting Alkylthio Functional Groups. <i>Chemistry - an Asian Journal</i> , 2016 , 11, 2650-2655	4.5	10
15	Perylene Diimide Trimers Based Bulk Heterojunction Organic Solar Cells with Efficiency over 7%. <i>Advanced Energy Materials</i> , 2016 , 6, 1600060	21.8	97
14	High Performance Organic Solar Cells Processed by Blade Coating in Air from a Benign Food Additive Solution. <i>Chemistry of Materials</i> , 2016 , 28, 7451-7458	9.6	83
13	Optimization of side chains in alkylthiothiophene-substituted benzo[1,2-b:4,5-b']dithiophene-based photovoltaic polymers. <i>Polymer Chemistry</i> , 2015 , 6, 2752-2760	4.9	33
12	Enhanced Efficiency in Fullerene-Free Polymer Solar Cell by Incorporating Fine-designed Donor and Acceptor Materials. <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 9274-80	9.5	97
11	Influence of the alkyl substitution position on photovoltaic properties of 2D-BDT-based conjugated polymers. <i>Science China Materials</i> , 2015 , 58, 213-222	7.1	20
10	2D-Conjugated Benzodithiophene-Based Polymer Acceptor: Design, Synthesis, Nanomorphology, and Photovoltaic Performance. <i>Macromolecules</i> , 2015 , 48, 7156-7163	5.5	64

9	Enhanced efficiency of polymer photovoltaic cells via the incorporation of a water-soluble naphthalene diimide derivative as a cathode interlayer. <i>Journal of Materials Chemistry C</i> , 2015 , 3, 9565-9571	7.1	49
8	Manipulating aggregation and molecular orientation in all-polymer photovoltaic cells. <i>Advanced Materials</i> , 2015 , 27, 6046-54	2.4	232
7	Molecular Design and Application of a Photovoltaic Polymer with Improved Optical Properties and Molecular Energy Levels. <i>Macromolecules</i> , 2015 , 48, 3493-3499	5.5	46
6	An Easily Accessible Cathode Buffer Layer for Achieving Multiple High Performance Polymer Photovoltaic Cells. <i>Journal of Physical Chemistry C</i> , 2015 , 119, 27322-27329	3.8	29
5	Side Chain Selection for Designing Highly Efficient Photovoltaic Polymers with 2D-Conjugated Structure. <i>Macromolecules</i> , 2014 , 47, 4653-4659	5.5	240
4	Highly Efficient 2D-Conjugated Benzodithiophene-Based Photovoltaic Polymer with Linear Alkylthio Side Chain. <i>Chemistry of Materials</i> , 2014 , 26, 3603-3605	9.6	509
3	Non-fullerene acceptor pre-aggregates enable high efficiency pseudo-bulk heterojunction organic solar cells. <i>Science China Chemistry</i> , 1	7.9	4
2	Heating-induced aggregation control for efficient sequential-cast organic solar cells. <i>Aggregate</i> , e104	22.9	3
1	17% efficiency all-small-molecule organic solar cells enabled by nanoscale phase separation with a hierarchical branched structure. <i>Energy and Environmental Science</i> ,	35.4	39