Wenchao Zhao

List of Publications by Year
in descending order

58 papers	11,801 citations	76196 40 h-index	143772 57 g-index
58 all docs	58 docs citations	58 times ranked	6958 citing authors

#	Article	IF	Citations
1	Molecular Optimization Enables over 13% Efficiency in Organic Solar Cells. Journal of the American Chemical Society, 2017, 139, 7148-7151.	6.6	2,524
2	Fullereneâ€Free Polymer Solar Cells with over 11% Efficiency and Excellent Thermal Stability. Advanced Materials, 2016, 28, 4734-4739.	11.1	1,698
3	Energyâ€Level Modulation of Smallâ€Molecule Electron Acceptors to Achieve over 12% Efficiency in Polymer Solar Cells. Advanced Materials, 2016, 28, 9423-9429.	11.1	1,307
4	A Wide Band Gap Polymer with a Deep Highest Occupied Molecular Orbital Level Enables 14.2% Efficiency in Polymer Solar Cells. Journal of the American Chemical Society, 2018, 140, 7159-7167.	6.6	654
5	Highly Efficient 2D-Conjugated Benzodithiophene-Based Photovoltaic Polymer with Linear Alkylthio Side Chain. Chemistry of Materials, 2014, 26, 3603-3605.	3.2	531
6	Ternary Polymer Solar Cells based on Two Acceptors and One Donor for Achieving 12.2% Efficiency. Advanced Materials, 2017, 29, 1604059.	11.1	333
7	Realizing over 10% efficiency in polymer solar cell by device optimization. Science China Chemistry, 2015, 58, 248-256.	4.2	311
8	Bay-linked perylene bisimides as promising non-fullerene acceptors for organic solar cells. Chemical Communications, 2014, 50, 1024-1026.	2.2	290
9	Manipulating Aggregation and Molecular Orientation in Allâ€Polymer Photovoltaic Cells. Advanced Materials, 2015, 27, 6046-6054.	11.1	264
10	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
11	Side Chain Selection for Designing Highly Efficient Photovoltaic Polymers with 2D-Conjugated Structure. Macromolecules, 2014, 47, 4653-4659.	2.2	259
12	Highâ€Efficiency Nonfullerene Organic Solar Cells: Critical Factors that Affect Complex Multiâ€Length Scale Morphology and Device Performance. Advanced Energy Materials, 2017, 7, 1602000.	10.2	232
13	Design of a New Smallâ€Molecule Electron Acceptor Enables Efficient Polymer Solar Cells with High Fill Factor. Advanced Materials, 2017, 29, 1704051.	11.1	224
14	Interface design for high-efficiency non-fullerene polymer solar cells. Energy and Environmental Science, 2017, 10, 1784-1791.	15.6	187
15	Significant Influence of the Methoxyl Substitution Position on Optoelectronic Properties and Molecular Packing of Smallâ€Molecule Electron Acceptors for Photovoltaic Cells. Advanced Energy Materials, 2017, 7, 1700183.	10.2	184
16	Environmentally Friendly Solventâ€Processed Organic Solar Cells that are Highly Efficient and Adaptable for the Bladeâ€Coating Method. Advanced Materials, 2018, 30, 1704837.	11.1	173
17	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
18	Modulating Molecular Orientation Enables Efficient Nonfullerene Small-Molecule Organic Solar Cells. Chemistry of Materials, 2018, 30, 2129-2134.	3.2	157

#	ARTICLE	IF	CITATIONS
19	A Fluorinated Polythiophene Derivative with Stabilized Backbone Conformation for Highly Efficient Fullerene and Non-Fullerene Polymer Solar Cells. Macromolecules, 2016, 49, 2993-3000.	2.2	141
20	Revealing the effects of molecular packing on the performances of polymer solar cells based on Aâ€“Dâ€“Câ€“Dâ€“A type non-fullerene acceptors. Journal of Materials Chemistry A, 2018, 6, 12132-12141.	5.2	119
21	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
22	Highly Efficient Photovoltaic Polymers Based on Benzodithiophene and Quinoxaline with Deeper HOMO Levels. Macromolecules, 2015, 48, 5172-5178.	2.2	104
23	A universal halogen-free solvent system for highly efficient polymer solar cells. Journal of Materials Chemistry A, 2015, 3, 12723-12729.	5.2	97
24	Highâ€Efficiency Polymer Solar Cells Enabled by Environmentâ€Friendly Singleâ€Solvent Processing. Advanced Energy Materials, 2016, 6, 1502177.	10.2	91
25	Manipulation of Domain Purity and Orientational Ordering in High Performance All-Polymer Solar Cells. Chemistry of Materials, 2016, 28, 6178-6185.	3.2	87
26	Realizing 11.3% efficiency in fullerene-free polymer solar cells by device optimization. Science China Chemistry, 2016, 59, 1574-1582.	4.2	78
27	Selecting a Donor Polymer for Realizing Favorable Morphology in Efficient Nonâ€fullerene Acceptorâ€based Solar Cells. Small, 2014, 10, 4658-4663.	5.2	76
28	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
29	Lead-Free Organicâ€“Perovskite Hybrid Quantum Wells for Highly Stable Light-Emitting Diodes. ACS Nano, 2021, 15, 6316-6325.	7.3	73
30	12.88% efficiency in doctor-blade coated organic solar cells through optimizing the surface morphology of a ZnO cathode buffer layer. Journal of Materials Chemistry A, 2019, 7, 212-220.	5.2	70
31	Ultrathin Polyaniline-based Buffer Layer for Highly Efficient Polymer Solar Cells with Wide Applicability. Scientific Reports, 2014, 4, 6570.	1.6	69
32	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
33	Correlations among Chemical Structure, Backbone Conformation, and Morphology in Two Highly Efficient Photovoltaic Polymer Materials. Macromolecules, 2016, 49, 120-126.	2.2	59
34	Efficiency above 12% for 1 cm² Flexible Organic Solar Cells with Ag/Cu Grid Transparent Conducting Electrode. Advanced Science, 2019, 6, 1901490.	5.6	58
35	Molecular Design and Application of a Photovoltaic Polymer with Improved Optical Properties and Molecular Energy Levels. Macromolecules, 2015, 48, 3493-3499.	2.2	52
36	Delicate crystallinity control enables high-efficiency P3HT organic photovoltaic cells. Journal of Materials Chemistry A, 2022, 10, 3418-3429.	5.2	45

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37	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
38	Polymer non-fullerene solar cells of vastly different efficiencies for minor side-chain modification: impact of charge transfer, carrier lifetime, morphology and mobility. Journal of Materials Chemistry A, 2018, 6, 12484-12492.	5.2	43
39	Morphology control enables thickness-insensitive efficient nonfullerene polymer solar cells. Materials Chemistry Frontiers, 2017, 1, 2057-2064.	3.2	42
40	Tribological and anti-corrosion performance of epoxy resin composite coatings reinforced with differently sized cubic boron nitride (CBN) particles. Friction, 2021, 9, 104-118.	3.4	42
41	Toward efficient non-fullerene polymer solar cells: Selection of donor polymers. Organic Electronics, 2015, 17, 295-303.	1.4	41
42	Enhancing the power conversion efficiency of polymer solar cells to 9.26% by a synergistic effect of fluoro and carboxylate substitution. Journal of Materials Chemistry A, 2016, 4, 8097-8104.	5.2	39
43	Thermally stable poly(3â€hexylthiophene): Nonfullerene solar cells with efficiency breaking 10%. Aggregate, 2022, 3, .	5.2	38
44	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
45	Influence of Covalent and Noncovalent Backbone Rigidification Strategies on the Aggregation Structures of a Wide-Band-Gap Polymer for Photovoltaic Cells. Chemistry of Materials, 2020, 32, 1993-2003.	3.2	36
46	Efficient fullerene-based and fullerene-free polymer solar cells using two wide band gap thiophene-thiazolothiazole-based photovoltaic materials. Journal of Materials Chemistry A, 2016, 4, 9511-9518.	5.2	34
47	Environmentally-friendly solvent processed fullerene-free organic solar cells enabled by screening halogen-free solvent additives. Science China Materials, 2017, 60, 697-706.	3.5	33
48	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
49	Thermoelectric Performance of Lead-Free Two-Dimensional Halide Perovskites Featuring Conjugated Ligands. Nano Letters, 2021, 21, 7839-7844.	4.5	28
50	Vacuum-assisted annealing method for high efficiency printable large-area polymer solar cell modules. Journal of Materials Chemistry C, 2019, 7, 3206-3211.	2.7	27
51	A Novel Strategy for Scalable Highâ€Efficiency Planar Perovskite Solar Cells with New Precursors and Cation Displacement Approach. Advanced Materials, 2018, 30, e1804454.	11.1	25
52	Improving the open-circuit voltage of alkylthio-substituted photovoltaic polymers via post-oxidation. Organic Electronics, 2016, 28, 39-46.	1.4	14
53	Modulation of Building Block Size in Conjugated Polymers with Dâ€"A Structure for Polymer Solar Cells. Macromolecules, 2019, 52, 7929-7938.	2.2	10
54	Two-Dimensional Organic Semiconductor-Incorporated Perovskite (OSiP) Electronics. ACS Applied Electronic Materials, 2021, 3, 5155-5164.	2.0	9

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55	Preparation and Characterization of a Magnetic Solid Acid for Esterification of Ammonium Lactate with n-Butanol. Catalysis Letters, 2008, 121, 324-330.	1.4	8
56	A selenophene-containing conjugated organic ligand for two-dimensional halide perovskites. Chemical Communications, 2021, 57, 11469-11472.	2.2	7
57	A triptycene-cored perylenediimide derivative and its application in organic solar cells as a non-fullerene acceptor. New Journal of Chemistry, 2017, 41, 10237-10244.	1.4	6
58	Over 13% Efficiency in Blade-coated Organic Solar Cells. , 0, , .		0