Wenchao Zhao

List of Publications by Year
in descending order

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58 papers	11,801 citations	76326 40 h-index	144013 57 g-index
58 all docs	58 docs citations	58 times ranked	6958 citing authors

#	Article	IF	Citations
1	Delicate crystallinity control enables high-efficiency P3HT organic photovoltaic cells. Journal of Materials Chemistry A, 2022, 10, 3418-3429.	10.3	45
2	Thermally stable poly(3â€hexylthiophene): Nonfullerene solar cells with efficiency breaking 10%. Aggregate, 2022, 3, .	9.9	38
3	Tribological and anti-corrosion performance of epoxy resin composite coatings reinforced with differently sized cubic boron nitride (CBN) particles. Friction, 2021, 9, 104-118.	6.4	42
4	Lead-Free Organicâ€“Perovskite Hybrid Quantum Wells for Highly Stable Light-Emitting Diodes. ACS Nano, 2021, 15, 6316-6325.	14.6	73
5	Thermoelectric Performance of Lead-Free Two-Dimensional Halide Perovskites Featuring Conjugated Ligands. Nano Letters, 2021, 21, 7839-7844.	9.1	28
6	A selenophene-containing conjugated organic ligand for two-dimensional halide perovskites. Chemical Communications, 2021, 57, 11469-11472.	4.1	7
7	Two-Dimensional Organic Semiconductor-Incorporated Perovskite (OSiP) Electronics. ACS Applied Electronic Materials, 2021, 3, 5155-5164.	4.3	9
8	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.	6.7	36
9	Modulation of Building Block Size in Conjugated Polymers with Dâ€“A Structure for Polymer Solar Cells. Macromolecules, 2019, 52, 7929-7938.	4.8	10
10	Efficiency above 12% for 1 cm² Flexible Organic Solar Cells with Ag/Cu Grid Transparent Conducting Electrode. Advanced Science, 2019, 6, 1901490.	11.2	58
11	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.	10.3	70
12	Vacuum-assisted annealing method for high efficiency printable large-area polymer solar cell modules. Journal of Materials Chemistry C, 2019, 7, 3206-3211.	5.5	27
13	Modulating Molecular Orientation Enables Efficient Nonfullerene Small-Molecule Organic Solar Cells. Chemistry of Materials, 2018, 30, 2129-2134.	6.7	157
14	Environmentally Friendly Solventâ€Processed Organic Solar Cells that are Highly Efficient and Adaptable for the Bladeâ€Coating Method. Advanced Materials, 2018, 30, 1704837.	21.0	173
15	A Novel Strategy for Scalable Highâ€Efficiency Planar Perovskite Solar Cells with New Precursors and Cation Displacement Approach. Advanced Materials, 2018, 30, e1804454.	21.0	25
16	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.	10.3	119
17	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.	13.7	654
18	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.	10.3	43

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19	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.	13.7	260
20	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.	19.5	184
21	Molecular Optimization Enables over 13% Efficiency in Organic Solar Cells. Journal of the American Chemical Society, 2017, 139, 7148-7151.	13.7	2,524
22	Morphology control enables thickness-insensitive efficient nonfullerene polymer solar cells. Materials Chemistry Frontiers, 2017, 1, 2057-2064.	5.9	42
23	Interface design for high-efficiency non-fullerene polymer solar cells. Energy and Environmental Science, 2017, 10, 1784-1791.	30.8	187
24	Highâ€Efficiency Nonfullerene Organic Solar Cells: Critical Factors that Affect Complex Multiâ€Length Scale Morphology and Device Performance. Advanced Energy Materials, 2017, 7, 1602000.	19.5	232
25	Design of a New Smallâ€Molecule Electron Acceptor Enables Efficient Polymer Solar Cells with High Fill Factor. Advanced Materials, 2017, 29, 1704051.	21.0	224
26	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.	2.8	6
27	Environmentally-friendly solvent processed fullerene-free organic solar cells enabled by screening halogen-free solvent additives. Science China Materials, 2017, 60, 697-706.	6.3	33
28	Ternary Polymer Solar Cells based on Two Acceptors and One Donor for Achieving 12.2% Efficiency. Advanced Materials, 2017, 29, 1604059.	21.0	333
29	Fullereneâ€Free Polymer Solar Cells with over 11% Efficiency and Excellent Thermal Stability. Advanced Materials, 2016, 28, 4734-4739.	21.0	1,698
30	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.	19.5	157
31	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.	10.3	34
32	A Fluorinated Polythiophene Derivative with Stabilized Backbone Conformation for Highly Efficient Fullerene and Non-Fullerene Polymer Solar Cells. Macromolecules, 2016, 49, 2993-3000.	4.8	141
33	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.	10.3	39
34	Energyâ€Level Modulation of Smallâ€Molecule Electron Acceptors to Achieve over 12% Efficiency in Polymer Solar Cells. Advanced Materials, 2016, 28, 9423-9429.	21.0	1,307
35	Realizing 11.3% efficiency in fullerene-free polymer solar cells by device optimization. Science China Chemistry, 2016, 59, 1574-1582.	8.2	78
36	Manipulation of Domain Purity and Orientational Ordering in High Performance All-Polymer Solar Cells. Chemistry of Materials, 2016, 28, 6178-6185.	6.7	87

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37	Highâ€Efficiency Polymer Solar Cells Enabled by Environmentâ€Friendly Singleâ€Solvent Processing. Advanced Energy Materials, 2016, 6, 1502177.	19.5	91
38	Correlations among Chemical Structure, Backbone Conformation, and Morphology in Two Highly Efficient Photovoltaic Polymer Materials. Macromolecules, 2016, 49, 120-126.	4.8	59
39	PBDT-TSR: a highly efficient conjugated polymer for polymer solar cells with a regioregular structure. Journal of Materials Chemistry A, 2016, 4, 1708-1713.	10.3	75
40	Improving the open-circuit voltage of alkylthio-substituted photovoltaic polymers via post-oxidation. Organic Electronics, 2016, 28, 39-46.	2.6	14
41	Dialkylthio Substitution: An Effective Method to Modulate the Molecular Energy Levels of 2D-BDT Photovoltaic Polymers. ACS Applied Materials & Interfaces, 2016, 8, 3575-3583.	8.0	43
42	Manipulating Aggregation and Molecular Orientation in Allâ€Polymer Photovoltaic Cells. Advanced Materials, 2015, 27, 6046-6054.	21.0	264
43	Molecular Design and Application of a Photovoltaic Polymer with Improved Optical Properties and Molecular Energy Levels. Macromolecules, 2015, 48, 3493-3499.	4.8	52
44	An Easily Accessible Cathode Buffer Layer for Achieving Multiple High Performance Polymer Photovoltaic Cells. Journal of Physical Chemistry C, 2015, 119, 27322-27329.	3.1	30
45	Toward efficient non-fullerene polymer solar cells: Selection of donor polymers. Organic Electronics, 2015, 17, 295-303.	2.6	41
46	Realizing over 10% efficiency in polymer solar cell by device optimization. Science China Chemistry, 2015, 58, 248-256.	8.2	311
47	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.	3.9	37
48	Highly Efficient Photovoltaic Polymers Based on Benzodithiophene and Quinoxaline with Deeper HOMO Levels. Macromolecules, 2015, 48, 5172-5178.	4.8	104
49	Enhanced Efficiency in Fullerene-Free Polymer Solar Cell by Incorporating Fine-designed Donor and Acceptor Materials. ACS Applied Materials & Interfaces, 2015, 7, 9274-9280.	8.0	110
50	A universal halogen-free solvent system for highly efficient polymer solar cells. Journal of Materials Chemistry A, 2015, 3, 12723-12729.	10.3	97
51	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.	5.5	60
52	Selecting a Donor Polymer for Realizing Favorable Morphology in Efficient Nonâ€fullerene Acceptorâ€based Solar Cells. Small, 2014, 10, 4658-4663.	10.0	76
53	Bay-linked perylene bisimides as promising non-fullerene acceptors for organic solar cells. Chemical Communications, 2014, 50, 1024-1026.	4.1	290
54	Side Chain Selection for Designing Highly Efficient Photovoltaic Polymers with 2D-Conjugated Structure. Macromolecules, 2014, 47, 4653-4659.	4.8	259

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55	Highly Efficient 2D-Conjugated Benzodithiophene-Based Photovoltaic Polymer with Linear Alkylthio Side Chain. Chemistry of Materials, 2014, 26, 3603-3605.	6.7	531
56	Ultrathin Polyaniline-based Buffer Layer for Highly Efficient Polymer Solar Cells with Wide Applicability. Scientific Reports, 2014, 4, 6570.	3.3	69
57	Preparation and Characterization of a Magnetic Solid Acid for Esterification of Ammonium Lactate with n-Butanol. Catalysis Letters, 2008, 121, 324-330.	2.6	8
58	Over 13% Efficiency in Blade-coated Organic Solar Cells. , 0, , .		0