

Wenchao Zhao

List of Publications by Year in descending order

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58
papers

11,801
citations

76326

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docs citations

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times ranked

6958
citing authors

#	ARTICLE	IF	CITATIONS
1	Molecular Optimization Enables over 13% Efficiency in Organic Solar Cells. <i>Journal of the American Chemical Society</i> , 2017, 139, 7148-7151.	13.7	2,524
2	Fullerene-Free Polymer Solar Cells with over 11% Efficiency and Excellent Thermal Stability. <i>Advanced Materials</i> , 2016, 28, 4734-4739.	21.0	1,698
3	Energy-Level Modulation of Small-Molecule Electron Acceptors to Achieve over 12% Efficiency in Polymer Solar Cells. <i>Advanced Materials</i> , 2016, 28, 9423-9429.	21.0	1,307
4	A Wide Band Gap Polymer with a Deep Highest Occupied Molecular Orbital Level Enables 14.2% Efficiency in Polymer Solar Cells. <i>Journal of the American Chemical Society</i> , 2018, 140, 7159-7167.	13.7	654
5	Highly Efficient 2D-Conjugated Benzodithiophene-Based Photovoltaic Polymer with Linear Alkylthio Side Chain. <i>Chemistry of Materials</i> , 2014, 26, 3603-3605.	6.7	531
6	Ternary Polymer Solar Cells based on Two Acceptors and One Donor for Achieving 12.2% Efficiency. <i>Advanced Materials</i> , 2017, 29, 1604059.	21.0	333
7	Realizing over 10% efficiency in polymer solar cell by device optimization. <i>Science China Chemistry</i> , 2015, 58, 248-256.	8.2	311
8	Bay-linked perylene bisimides as promising non-fullerene acceptors for organic solar cells. <i>Chemical Communications</i> , 2014, 50, 1024-1026.	4.1	290
9	Manipulating Aggregation and Molecular Orientation in All-Polymer Photovoltaic Cells. <i>Advanced Materials</i> , 2015, 27, 6046-6054.	21.0	264
10	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.	13.7	260
11	Side Chain Selection for Designing Highly Efficient Photovoltaic Polymers with 2D-Conjugated Structure. <i>Macromolecules</i> , 2014, 47, 4653-4659.	4.8	259
12	High-Efficiency Nonfullerene Organic Solar Cells: Critical Factors that Affect Complex Multi-Scale Morphology and Device Performance. <i>Advanced Energy Materials</i> , 2017, 7, 1602000.	19.5	232
13	Design of a New Small-Molecule Electron Acceptor Enables Efficient Polymer Solar Cells with High Fill Factor. <i>Advanced Materials</i> , 2017, 29, 1704051.	21.0	224
14	Interface design for high-efficiency non-fullerene polymer solar cells. <i>Energy and Environmental Science</i> , 2017, 10, 1784-1791.	30.8	187
15	Significant Influence of the Methoxyl Substitution Position on Optoelectronic Properties and Molecular Packing of Small-Molecule Electron Acceptors for Photovoltaic Cells. <i>Advanced Energy Materials</i> , 2017, 7, 1700183.	19.5	184
16	Environmentally Friendly Solvent-Processed Organic Solar Cells that are Highly Efficient and Adaptable for the Blade-Coating Method. <i>Advanced Materials</i> , 2018, 30, 1704837.	21.0	173
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.	19.5	157
18	Modulating Molecular Orientation Enables Efficient Nonfullerene Small-Molecule Organic Solar Cells. <i>Chemistry of Materials</i> , 2018, 30, 2129-2134.	6.7	157

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19	A Fluorinated Polythiophene Derivative with Stabilized Backbone Conformation for Highly Efficient Fullerene and Non-Fullerene Polymer Solar Cells. <i>Macromolecules</i> , 2016, 49, 2993-3000.	4.8	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. <i>Journal of Materials Chemistry A</i> , 2018, 6, 12132-12141.	10.3	119
21	Enhanced Efficiency in Fullerene-Free Polymer Solar Cell by Incorporating Fine-designed Donor and Acceptor Materials. <i>ACS Applied Materials & Interfaces</i> , 2015, 7, 9274-9280.	8.0	110
22	Highly Efficient Photovoltaic Polymers Based on Benzodithiophene and Quinoxaline with Deeper HOMO Levels. <i>Macromolecules</i> , 2015, 48, 5172-5178.	4.8	104
23	A universal halogen-free solvent system for highly efficient polymer solar cells. <i>Journal of Materials Chemistry A</i> , 2015, 3, 12723-12729.	10.3	97
24	High Efficiency Polymer Solar Cells Enabled by Environmentâ€“Friendly Singleâ€“Solvent Processing. <i>Advanced Energy Materials</i> , 2016, 6, 1502177.	19.5	91
25	Manipulation of Domain Purity and Orientational Ordering in High Performance All-Polymer Solar Cells. <i>Chemistry of Materials</i> , 2016, 28, 6178-6185.	6.7	87
26	Realizing 11.3% efficiency in fullerene-free polymer solar cells by device optimization. <i>Science China Chemistry</i> , 2016, 59, 1574-1582.	8.2	78
27	Selecting a Donor Polymer for Realizing Favorable Morphology in Efficient Nonâ€“fullerene Acceptorâ€“based Solar Cells. <i>Small</i> , 2014, 10, 4658-4663.	10.0	76
28	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.	10.3	75
29	Lead-Free Organicâ€“Perovskite Hybrid Quantum Wells for Highly Stable Light-Emitting Diodes. <i>ACS Nano</i> , 2021, 15, 6316-6325.	14.6	73
30	12.88% efficiency in doctor-blade coated organic solar cells through optimizing the surface morphology of a ZnO cathode buffer layer. <i>Journal of Materials Chemistry A</i> , 2019, 7, 212-220.	10.3	70
31	Ultrathin Polyaniline-based Buffer Layer for Highly Efficient Polymer Solar Cells with Wide Applicability. <i>Scientific Reports</i> , 2014, 4, 6570.	3.3	69
32	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.	5.5	60
33	Correlations among Chemical Structure, Backbone Conformation, and Morphology in Two Highly Efficient Photovoltaic Polymer Materials. <i>Macromolecules</i> , 2016, 49, 120-126.	4.8	59
34	Efficiency above 12% for 1 cm ² Flexible Organic Solar Cells with Ag/Cu Grid Transparent Conducting Electrode. <i>Advanced Science</i> , 2019, 6, 1901490.	11.2	58
35	Molecular Design and Application of a Photovoltaic Polymer with Improved Optical Properties and Molecular Energy Levels. <i>Macromolecules</i> , 2015, 48, 3493-3499.	4.8	52
36	Delicate crystallinity control enables high-efficiency P3HT organic photovoltaic cells. <i>Journal of Materials Chemistry A</i> , 2022, 10, 3418-3429.	10.3	45

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37	Dialkylthio Substitution: An Effective Method to Modulate the Molecular Energy Levels of 2D-BDT Photovoltaic Polymers. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 3575-3583.	8.0	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. <i>Journal of Materials Chemistry A</i> , 2018, 6, 12484-12492.	10.3	43
39	Morphology control enables thickness-insensitive efficient nonfullerene polymer solar cells. <i>Materials Chemistry Frontiers</i> , 2017, 1, 2057-2064.	5.9	42
40	Tribological and anti-corrosion performance of epoxy resin composite coatings reinforced with differently sized cubic boron nitride (CBN) particles. <i>Friction</i> , 2021, 9, 104-118.	6.4	42
41	Toward efficient non-fullerene polymer solar cells: Selection of donor polymers. <i>Organic Electronics</i> , 2015, 17, 295-303.	2.6	41
42	Enhancing the power conversion efficiency of polymer solar cells to 9.26% by a synergistic effect of fluoro and carboxylate substitution. <i>Journal of Materials Chemistry A</i> , 2016, 4, 8097-8104.	10.3	39
43	Thermally stable poly(3-hexylthiophene): Nonfullerene solar cells with efficiency breaking 10%. <i>Aggregate</i> , 2022, 3, .	9.9	38
44	Optimization of side chains in alkylthiophene-substituted benzo[1,2-b:4,5-b']dithiophene-based photovoltaic polymers. <i>Polymer Chemistry</i> , 2015, 6, 2752-2760.	3.9	37
45	Influence of Covalent and Noncovalent Backbone Rigidification Strategies on the Aggregation Structures of a Wide-Band-Gap Polymer for Photovoltaic Cells. <i>Chemistry of Materials</i> , 2020, 32, 1993-2003.	6.7	36
46	Efficient fullerene-based and fullerene-free polymer solar cells using two wide band gap thiophene-thiazolothiazole-based photovoltaic materials. <i>Journal of Materials Chemistry A</i> , 2016, 4, 9511-9518.	10.3	34
47	Environmentally-friendly solvent processed fullerene-free organic solar cells enabled by screening halogen-free solvent additives. <i>Science China Materials</i> , 2017, 60, 697-706.	6.3	33
48	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.	3.1	30
49	Thermoelectric Performance of Lead-Free Two-Dimensional Halide Perovskites Featuring Conjugated Ligands. <i>Nano Letters</i> , 2021, 21, 7839-7844.	9.1	28
50	Vacuum-assisted annealing method for high efficiency printable large-area polymer solar cell modules. <i>Journal of Materials Chemistry C</i> , 2019, 7, 3206-3211.	5.5	27
51	A Novel Strategy for Scalable High-Efficiency Planar Perovskite Solar Cells with New Precursors and Cation Displacement Approach. <i>Advanced Materials</i> , 2018, 30, e1804454.	21.0	25
52	Improving the open-circuit voltage of alkylthio-substituted photovoltaic polymers via post-oxidation. <i>Organic Electronics</i> , 2016, 28, 39-46.	2.6	14
53	Modulation of Building Block Size in Conjugated Polymers with A Structure for Polymer Solar Cells. <i>Macromolecules</i> , 2019, 52, 7929-7938.	4.8	10
54	Two-Dimensional Organic Semiconductor-Incorporated Perovskite (OSiP) Electronics. <i>ACS Applied Electronic Materials</i> , 2021, 3, 5155-5164.	4.3	9

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55	Preparation and Characterization of a Magnetic Solid Acid for Esterification of Ammonium Lactate with n-Butanol. <i>Catalysis Letters</i> , 2008, 121, 324-330.	2.6	8
56	A selenophene-containing conjugated organic ligand for two-dimensional halide perovskites. <i>Chemical Communications</i> , 2021, 57, 11469-11472.	4.1	7
57	A triptycene-cored peryleneimide derivative and its application in organic solar cells as a non-fullerene acceptor. <i>New Journal of Chemistry</i> , 2017, 41, 10237-10244.	2.8	6
58	Over 13% Efficiency in Blade-coated Organic Solar Cells. , 0, , .		0