Kai Zhang

List of Publications by Year
in descending order

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Version: 2024-02-01

73 papers	7,405 citations	76196 40 h-index	82410 72 g-index
73 all docs	73 docs citations	73 times ranked	6832 citing authors

#	Article	IF	Citations
1	MoS₂â€“Ni₃S₂ Heteronanorods as Efficient and Stable Bifunctional Electrocatalysts for Overall Water Splitting. ACS Catalysis, 2017, 7, 2357-2366.	5.5	963
2	Recent advances in water/alcohol-soluble Ï€-conjugated materials: new materials and growing applications in solar cells. Chemical Society Reviews, 2013, 42, 9071.	18.7	437
3	Design and Synthesis of a Low Bandgap Small Molecule Acceptor for Efficient Polymer Solar Cells. Advanced Materials, 2016, 28, 8283-8287.	11.1	421
4	High-Performance Ternary Organic Solar Cell Enabled by a Thick Active Layer Containing a Liquid Crystalline Small Molecule Donor. Journal of the American Chemical Society, 2017, 139, 2387-2395.	6.6	404
5	High-Efficiency Polymer Solar Cells via the Incorporation of an Amino-Functionalized Conjugated Metallopolymer as a Cathode Interlayer. Journal of the American Chemical Society, 2013, 135, 15326-15329.	6.6	321
6	14.4% efficiency all-polymer solar cell with broad absorption and low energy loss enabled by a novel polymer acceptor. Nano Energy, 2020, 72, 104718.	8.2	280
7	A high dielectric constant non-fullerene acceptor for efficient bulk-heterojunction organic solar cells. Journal of Materials Chemistry A, 2018, 6, 395-403.	5.2	272
8	Highâ€Efficiency Allâ€Polymer Solar Cells Based on a Pair of Crystalline Lowâ€Bandgap Polymers. Advanced Materials, 2014, 26, 7224-7230.	11.1	228
9	Single-Component Non-halogen Solvent-Processed High-Performance Organic Solar Cell Module with Efficiency over 14%. Joule, 2020, 4, 2004-2016.	11.7	225
10	Interface design for high-efficiency non-fullerene polymer solar cells. Energy and Environmental Science, 2017, 10, 1784-1791.	15.6	187
11	High-performance polymer solar cells with efficiency over 18% enabled by asymmetric side chain engineering of non-fullerene acceptors. Science China Chemistry, 2021, 64, 1192-1199.	4.2	181
12	Toward green solvent processable photovoltaic materials for polymer solar cells: the role of highly polar pendant groups in charge carrier transport and photovoltaic behavior. Energy and Environmental Science, 2013, 6, 3022.	15.6	158
13	Water/alcohol soluble conjugated polymers for the interface engineering of highly efficient polymer light-emitting diodes and polymer solar cells. Chemical Communications, 2015, 51, 5572-5585.	2.2	156
14	Highâ€Performance Polymer Tandem Solar Cells Employing a New nâ€Type Conjugated Polymer as an Interconnecting Layer. Advanced Materials, 2016, 28, 4817-4823.	11.1	156
15	Highly Efficient Inverted Polymer Solar Cells Based on a Cross-linkable Water-/Alcohol-Soluble Conjugated Polymer Interlayer. ACS Applied Materials & Interfaces, 2014, 6, 10429-10435.	4.0	155
16	Highâ€Performance Largeâ€Area Organic Solar Cells Enabled by Sequential Bilayer Processing via Nonhalogenated Solvents. Advanced Energy Materials, 2019, 9, 1802832.	10.2	152
17	Highâ€Performance Nonfullerene Polymer Solar Cells based on Imideâ€Functionalized Wideâ€Bandgap Polymers. Advanced Materials, 2017, 29, 1606396.	11.1	147
18	15% Efficiency Tandem Organic Solar Cell Based on a Novel Highly Efficient Wideâ€Bandgap Nonfullerene Acceptor with Low Energy Loss. Advanced Energy Materials, 2019, 9, 1803657.	10.2	146

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19	Plasmonic Electrically Functionalized TiO₂ for Highâ€Performance Organic Solar Cells. Advanced Functional Materials, 2013, 23, 4255-4261.	7.8	138
20	Self-filtering narrowband high performance organic photodetectors enabled by manipulating localized Frenkel exciton dissociation. Nature Communications, 2020, 11, 2871.	5.8	131
21	Toward Solution-Processed High-Performance Polymer Solar Cells: from Material Design to Device Engineering. Chemistry of Materials, 2017, 29, 141-148.	3.2	122
22	Highâ€Performance Polymer Solar Cells with Electrostatic Layerâ€byâ€Layer Selfâ€Assembled Conjugated Polyelectrolytes as the Cathode Interlayer. Advanced Materials, 2015, 27, 3607-3613.	11.1	111
23	Amino Nâ€Oxide Functionalized Conjugated Polymers and their Aminoâ€Functionalized Precursors: New Cathode Interlayers for Highâ€Performance Optoelectronic Devices. Advanced Functional Materials, 2012, 22, 2846-2854.	7.8	101
24	Processâ€Aid Solid Engineering Triggers Delicately Modulation of Yâ€Series Nonâ€Fullerene Acceptor for Efficient Organic Solar Cells. Advanced Materials, 2022, 34, e2200907.	11.1	94
25	11.2% Allâ€Polymer Tandem Solar Cells with Simultaneously Improved Efficiency and Stability. Advanced Materials, 2018, 30, e1803166.	11.1	92
26	Tandem Organic Solar Cells with 18.7% Efficiency Enabled by Suppressing the Charge Recombination in Front Subâ€Cell. Advanced Functional Materials, 2021, 31, 2103283.	7.8	84
27	Highâ€Performance Inverted Organic Photovoltaics with Over 1â€Î¼m Thick Active Layers. Advanced Energy Materials, 2014, 4, 1400378.	10.2	83
28	Ïâ€Extended Conjugated Polymer Acceptor Containing Thienyleneâ€“Vinyleneâ€“Thienylene Unit for Highâ€Performance Thickâ€Film Allâ€Polymer Solar Cells with Superior Longâ€Term Stability. Advanced Energy Materials, 2021, 11, 2102559.	10.2	83
29	Efficient Large Area Organic Solar Cells Processed by Bladeâ€Coating With Singleâ€Component Green Solvent. Solar Rrl, 2018, 2, 1700169.	3.1	79
30	Semitransparent Organic Solar Cells with Efficiency Surpassing 15%. Advanced Energy Materials, 2022, 12, .	10.2	63
31	Crosslinkable Aminoâ€Functionalized Conjugated Polymer as Cathode Interlayer for Efficient Inverted Polymer Solar Cells. Advanced Energy Materials, 2016, 6, 1502563.	10.2	62
32	Semitransparent Organic Solar Cells Enabled by a Sequentially Deposited Bilayer Structure. ACS Applied Materials & Interfaces, 2020, 12, 18473-18481.	4.0	58
33	All-polymer solar cells with efficiency approaching 16% enabled using a dithieno[3â€²,2â€²:3,4;2â€²â€²,3â€²â€²:5,6]benzo[1,2-c][1,2,5]thiadiazole (fDTBT)-based polymer donor. Journal of Materials Chemistry A, 2021, 9, 8975-8983.	10.2	54
34	Fineâ€Tuning Batch Factors of Polymer Acceptors Enables a Binary Allâ€Polymer Solar Cell with High Efficiency of 16.11%. Advanced Energy Materials, 2022, 12, .	10.2	52
35	Temperatureâ€Dependent Aggregation Donor Polymers Enable Highly Efficient Sequentially Processed Organic Photovoltaics Without the Need of Orthogonal Solvents. Advanced Functional Materials, 2019, 29, 1902478.	7.8	50
36	Layerâ€byâ€Layer Processed PM6:Y6â€Based Stable Ternary Polymer Solar Cells with Improved Efficiency over 18% by Incorporating an Asymmetric Thieno[3,2â€b]indoleâ€Based Acceptor. Advanced Functional Materials, 2022, 32, .	7.8	50

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37	Improving the efficiency and stability of non-fullerene polymer solar cells by using N2200 as the Additive. Nano Energy, 2019, 58, 724-731.	8.2	49
38	Suppressing the excessive aggregation of nonfullerene acceptor in bladeâ€coated active layer by using nâ€type polymer additive to achieve largeâ€area printed organic solar cells with efficiency over 15%. EcoMat, 2019, 1, e12006.	6.8	45
39	Visible-to-near-infrared organic photodiodes with performance comparable to commercial silicon-based detectors. Applied Physics Letters, 2020, 117, .	1.5	45
40	Low temperature processed high-performance thick film ternary polymer solar cell with enhanced stability. Nano Energy, 2018, 48, 53-62.	8.2	44
41	Highly Efficient Tandem Organic Solar Cell Enabled by Environmentally Friendly Solvent Processed Polymeric Interconnecting Layer. Advanced Energy Materials, 2018, 8, 1703180.	10.2	44
42	In-situ self-organized anode interlayer enables organic solar cells with simultaneously simplified processing and greatly improved efficiency to 17.8%. Nano Energy, 2022, 93, 106814.	8.2	42
43	Electrostatically self-assembled chitosan derivatives working as efficient cathode interlayers for organic solar cells. Nano Energy, 2017, 34, 164-171.	8.2	40
44	Polymer Preâ€Aggregation Enables Optimal Morphology and High Performance in Allâ€Polymer Solar Cells. Solar Rrl, 2020, 4, 1900385.	3.1	39
45	Crossâ€Linkable and Dual Functional Hybrid Polymeric Electron Transporting Layer for Highâ€Performance Inverted Polymer Solar Cells. Advanced Materials, 2017, 29, 1701507.	11.1	38
46	High-performance fullerene-free polymer solar cells with solution-processed conjugated polymers as anode interfacial layer. Chinese Journal of Polymer Science (English Edition), 2017, 35, 219-229.	2.0	35
47	A Shockleyâ€Type Polymer: Fullerene Solar Cell. Advanced Energy Materials, 2018, 8, 1701450.	10.2	34
48	Highly smooth, stable and reflective Ag-paper electrode enabled by silver mirror reaction for organic optoelectronics. Chemical Engineering Journal, 2019, 370, 1048-1056.	6.6	33
49	High-Performance Ternary Nonfullerene Polymer Solar Cells with Both Improved Photon Harvesting and Device Stability. ACS Applied Materials & Interfaces, 2018, 10, 25594-25603.	4.0	30
50	Chlorinated Fused Nonacyclic Non-Fullerene Acceptor Enables Efficient Large-Area Polymer Solar Cells with High Scalability. Chemistry of Materials, 2020, 32, 1022-1030.	3.2	27
51	An efficient binary cathode interlayer for large-bandgap non-fullerene organic solar cells. Journal of Materials Chemistry A, 2019, 7, 12426-12433.	5.2	26
52	Semiconductive Polymer-Doped PEDOT with High Work Function, Conductivity, Reversible Dispersion, and Application in Organic Solar Cells. ACS Sustainable Chemistry and Engineering, 2019, 7, 8206-8214.	3.2	25
53	Nonhalogenatedâ€Solventâ€Processed Highâ€Performance Allâ€Polymer Solar Cell with Efficiency over 14%. Solar Rrl, 2021, 5, 2100076.	3.1	24
54	One-step coating inverted polymer solar cells using a conjugated polymer as an electron extraction additive. Journal of Materials Chemistry A, 2015, 3, 20500-20507.	5.2	23

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55	Synchronously regulating the alkyl side-chain and regioisomer of polymerized small molecule acceptor enabling highly efficient all-polymer solar cells processed with non-halogenated solvent. Chemical Engineering Journal, 2022, 433, 133575.	6.6	22
56	Efficient organic-inorganic hybrid cathode interfacial layer enabled by polymeric dopant and its application in large-area polymer solar cells. Science China Chemistry, 2019, 62, 67-73.	4.2	21
57	Heptacyclic S,N-Heteroacene-Based Near-Infrared Nonfullerene Acceptor Enables High-Performance Organic Solar Cells with Small Highest Occupied Molecular Orbital Offsets. ACS Applied Materials & Interfaces, 2020, 12, 51776-51784.	4.0	21
58	Toward Efficient Tandem Organic Solar Cells: From Materials to Device Engineering. ACS Applied Materials & Interfaces, 2020, 12, 39937-39947.	4.0	20
59	Phylogenetic Relationships and Adaptation in Deep-Sea Mussels: Insights from Mitochondrial Genomes. International Journal of Molecular Sciences, 2021, 22, 1900.	1.8	20
60	Alkali Salt-Doped Highly Transparent and Thickness-Insensitive Electron-Transport Layer for High-Performance Polymer Solar Cell. ACS Applied Materials & Interfaces, 2018, 10, 1939-1947.	4.0	18
61	Tandem organic solar cells with 18.67% efficiency via careful subcell design and selection. Journal of Materials Chemistry A, 2022, 10, 11238-11245.	5.2	18
62	High-performance inverted polymer solar cells without an electron extraction layer via a one-step coating of cathode buffer and active layer. Journal of Materials Chemistry A, 2019, 7, 1429-1434.	5.2	16
63	The regioisomeric bromination effects of fused-ring electron acceptors: modulation of the optoelectronic property and miscibility endowing the polymer solar cells with 15% efficiency. Journal of Materials Chemistry A, 2020, 8, 25101-25108.	5.2	16
64	Highly Efficient Nonfullerene Organic Solar Cells with a Selfâ€Doped Waterâ€Soluble Neutral Polyaniline as Hole Transport Layer. Solar Rrl, 2021, 5, 2000625.	3.1	16
65	Spiropyran based recognitions of amines: UVâ€“Vis spectra and mechanisms. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2021, 250, 119385.	2.0	16
66	A Near-infrared Non-fullerene Acceptor with Thienopyrrole-expanded Benzo[1,2-b:4,5-bâ€²]dithiophene Core for Polymer Solar Cells. Chinese Journal of Polymer Science (English Edition), 2021, 39, 35-42.	2.0	15
67	Non-fullerene electron acceptors with benzotrithiophene with Ï€-extension terminal groups for the development of high-efficiency organic solar cells. Journal of Materials Chemistry C, 2021, 9, 13896-13903.	2.7	15
68	High-Performance Elastomer from Trans-1,4 Copolymerization of Ethylene and Butadiene. Macromolecules, 2021, 54, 9445-9451.	2.2	9
69	Improving the all-polymer solar cell performance by adding a narrow bandgap polymer as the second donor. RSC Advances, 2020, 10, 38344-38350.	1.7	7
70	Improving the fill factor of N2200-based all polymer solar cells by introducing EPPDI as a solid additive. Organic Electronics, 2021, 99, 106319.	1.4	6
71	Rationally regulating the terminal unit and copolymerization spacer of polymerized small-molecule acceptors for all-polymer solar cells with high open-circuit voltage over 1.10 V. Journal of Materials Chemistry A, 0, , .	5.2	6
72	High-performance non-fullerene polymer solar cells based on naphthobistriazole wide bandgap donor copolymers. Journal of Materials Chemistry C, 2019, 7, 4709-4715.	2.7	2

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73	Anionâ€Doped Thicknessâ€Insensitive Electron Transport Layer for Efficient Organic Solar Cells. Macromolecular Rapid Communications, 2022, 43, e2200190.	2.0	2