Zheng Tang

List of Publications by Citations

116 papers	3,920 citations	34 h-index	59 g-index
129 ext. papers	5,685 ext. citations	13.8 avg, IF	5.7 L-index

#	Paper	IF	Citations
116	Single-layered organic photovoltaics with double cascading charge transport pathways: 18% efficiencies. *Nature Communications*, **2021**, 12, 309	17.4	302
115	Efficient Organic Solar Cell with 16.88% Efficiency Enabled by Refined Acceptor Crystallization and Morphology with Improved Charge Transfer and Transport Properties. *Advanced Energy Materials*, **2020**, 10, 1904234	21.8	252
114	Noncovalently fused-ring electron acceptors with near-infrared absorption for high-performance organic solar cells. *Nature Communications*, **2019**, 10, 3038	17.4	166
113	Quantification of Quantum Efficiency and Energy Losses in Low Bandgap Polymer:Fullerene Solar Cells with High Open-Circuit Voltage. *Advanced Functional Materials*, **2012**, 22, 3480-3490	15.6	164
112	Ethanedithiol Treatment of Solution-Processed ZnO Thin Films: Controlling the Intragap States of Electron Transporting Interlayers for Efficient and Stable Inverted Organic Photovoltaics. *Advanced Energy Materials*, **2015**, 5, 1401606	21.8	121
111	Light trapping in thin film organic solar cells. *Materials Today*, **2014**, 17, 389-396	21.8	111
110	Polymer:Fullerene Bimolecular Crystals for Near-Infrared Spectroscopic Photodetectors. *Advanced Materials*, **2017**, 29, 1702184	24	105
109	Influences of Surface Roughness of ZnO Electron Transport Layer on the Photovoltaic Performance of Organic Inverted Solar Cells. *Journal of Physical Chemistry C*, **2012**, 116, 24462-24468	3.8	103
108	Enhancing the Performance of a Fused-Ring Electron Acceptor by Unidirectional Extension. *Journal of the American Chemical Society*, **2019**, 141, 19023-19031	16.4	102
107	Structure□property relationships of oligothiophene□isoindigo polymers for efficient bulk-heterojunction solar cells. *Energy and Environmental Science*, **2014**, 7, 361-369	35.4	100
106	Semi-Transparent Tandem Organic Solar Cells with 90% Internal Quantum Efficiency. *Advanced Energy Materials*, **2012**, 2, 1467-1476	21.8	93
105	Interlayer for modified cathode in highly efficient inverted ITO-free organic solar cells. *Advanced Materials*, **2012**, 24, 554-8	24	88
104	A Fully Non-fused Ring Acceptor with Planar Backbone and Near-IR Absorption for High Performance Polymer Solar Cells. *Angewandte Chemie - International Edition*, **2020**, 59, 22714-22720	16.4	87
103	Thermal-Driven Phase Separation of Double-Cable Polymers Enables Efficient Single-Component Organic Solar Cells. *Joule*, **2019**, 3, 1765-1781	27.8	79
102	A new fullerene-free bulk-heterojunction system for efficient high-voltage and high-fill factor solution-processed organic photovoltaics. *Advanced Materials*, **2015**, 27, 1900-7	24	77
101	Origin of Reduced Bimolecular Recombination in Blends of Conjugated Polymers and Fullerenes. *Advanced Functional Materials*, **2013**, 23, 4262-4268	15.6	72
100	Effect of Alkyl Side Chains of Conjugated Polymer Donors on the Device Performance of Non-Fullerene Solar Cells. *Macromolecules*, **2016**, 49, 6445-6454	5.5	70

99	Hot Hydrocarbon-Solvent Slot-Die Coating Enables High-Efficiency Organic Solar Cells with Temperature-Dependent Aggregation Behavior. *Advanced Materials*, **2020**, 32, e2002302	24	65
98	A novel wide-bandgap small molecule donor for high efficiency all-small-molecule organic solar cells with small non-radiative energy losses. *Energy and Environmental Science*, **2020**, 13, 1309-1317	35.4	64
97	High-Efficiency As-Cast Organic Solar Cells Based on Acceptors with Steric Hindrance Induced Planar Terminal Group. *Advanced Energy Materials*, **2019**, 9, 1901280	21.8	64
96	A Facile Method to Enhance Photovoltaic Performance of Benzodithiophene-Isoindigo Polymers by Inserting Bithiophene Spacer. *Advanced Energy Materials*, **2014**, 4, 1301455	21.8	58
95	Relating open-circuit voltage losses to the active layer morphology and contact selectivity in organic solar cells. *Journal of Materials Chemistry A*, **2018**, 6, 12574-12581	13	53
94	High-efficiency organic solar cells with low voltage loss induced by solvent additive strategy. *Matter*, **2021**, 4, 2542-2552	12.7	52
93	Inverted all-polymer solar cells based on a quinoxaline□thiophene/naphthalene-diimide polymer blend improved by annealing. *Journal of Materials Chemistry A*, **2016**, 4, 3835-3843	13	51
92	Recent progress in organic solar cells (Part I material science). *Science China Chemistry*, **2022**, 65, 224-268	7.9	48
91	A facile strategy for third-component selection in non-fullerene acceptor-based ternary organic solar cells. *Energy and Environmental Science*, **2021**, 14, 5009-5016	35.4	46
90	Butterfly Effects Arising from Starting Materials in Fused-Ring Electron Acceptors. *Journal of the American Chemical Society*, **2020**, 142, 20124-20133	16.4	45
89	Miscibility-Controlled Phase Separation in Double-Cable Conjugated Polymers for Single-Component Organic Solar Cells with Efficiencies over 8 . *Angewandte Chemie - International Edition*, **2020**, 59, 21683-21692	16.4	45
88	Sub-glass transition annealing enhances polymer solar cell performance. *Journal of Materials Chemistry A*, **2014**, 2, 6146-6152	13	43
87	Achieving Balanced Crystallization Kinetics of Donor and Acceptor by Sequential-Blade Coated Double Bulk Heterojunction Organic Solar Cells. *Advanced Energy Materials*, **2020**, 10, 2000826	21.8	39
86	Asymmetrically noncovalently fused-ring acceptor for high-efficiency organic solar cells with reduced voltage loss and excellent thermal stability. *Nano Energy*, **2020**, 74, 104861	17.1	39
85	Balancing the pre-aggregation and crystallization kinetics enables high efficiency slot-die coated organic solar cells with reduced non-radiative recombination losses. *Energy and Environmental Science*, **2020**, 13, 2467-2479	35.4	36
84	Asymmetric photocurrent extraction in semitransparent laminated flexible organic solar cells. *Npj Flexible Electronics*, **2018**, 2,	10.7	36
83	Crystalline Cooperativity of Donor and Acceptor Segments in Double-Cable Conjugated Polymers toward Efficient Single-Component Organic Solar Cells. *Angewandte Chemie - International Edition*, **2019**, 58, 15532-15540	16.4	31
82	Improving Cathodes with a Polymer Interlayer in Reversed Organic Solar Cells. *Advanced Energy Materials*, **2014**, 4, 1400643	21.8	31

81	Charge carrier generation and transport in different stoichiometry APFO3:PC61BM solar cells. *Journal of the American Chemical Society*, **2014**, 136, 11331-8	16.4	29
80	High-Efficiency Perovskite Quantum Dot Hybrid Nonfullerene Organic Solar Cells with Near-Zero Driving Force. *Advanced Materials*, **2020**, 32, e2002066	24	28
79	Light Trapping with Dielectric Scatterers in Single- and Tandem-Junction Organic Solar Cells. *Advanced Energy Materials*, **2013**, 3, 1606-1613	21.8	28
78	Performance limitations in thieno[3,4-c]pyrrole-4,6-dione-based polymer:ITIC solar cells. *Physical Chemistry Chemical Physics*, **2017**, 19, 23990-23998	3.6	27
77	Synergistically minimized nonradiative energy loss and optimized morphology achieved via the incorporation of small molecule donor in 17.7% efficiency ternary polymer solar cells. *Nano Energy*, **2021**, 85, 105963	17.1	27
76	Self-doped conjugated polyelectrolyte with tuneable work function for effective hole transport in polymer solar cells. *Journal of Materials Chemistry A*, **2016**, 4, 15670-15675	13	26
75	Molecular orbital energy level modulation through incorporation of selenium and fluorine into conjugated polymers for organic photovoltaic cells. *Journal of Materials Chemistry A*, **2013**, 1, 13422	13	26
74	Inverted indium-tin-oxide-free cone-shaped polymer solar cells for light trapping. *Applied Physics Letters*, **2012**, 100, 213901	3.4	25
73	Unified Study of Recombination in Polymer:Fullerene Solar Cells Using Transient Absorption and Charge-Extraction Measurements. *Journal of Physical Chemistry Letters*, **2013**, 4, 2069-72	6.4	24
72	High-efficiency ternary nonfullerene polymer solar cells with increased phase purity and reduced nonradiative energy loss. *Journal of Materials Chemistry A*, **2020**, 8, 2123-2130	13	24
71	Flexible, light trapping substrates for organic photovoltaics. *Applied Physics Letters*, **2016**, 109, 093301	3.4	24
70	Diketopyrrolopyrrole Polymers with Thienyl and Thiazolyl Linkers for Application in Field-Effect Transistors and Polymer Solar Cells. *ACS Applied Materials & Interfaces*, **2016**, 8, 30328-30335	9.5	23
69	Simple Nonfused Ring Electron Acceptors with 3D Network Packing Structure Boosting the Efficiency of Organic Solar Cells to 15.44%. *Advanced Energy Materials*,2102591	21.8	23
68	Vertically optimized phase separation with improved exciton diffusion enables efficient organic solar cells with thick active layers.. *Nature Communications*, **2022**, 13, 2369	17.4	23
67	Fused octacyclic electron acceptor isomers for organic solar cells. *Journal of Materials Chemistry A*, **2019**, 7, 21432-21437	13	21
66	Organic Cavity Photodetectors Based on Nanometer-Thick Active Layers for Tunable Monochromatic Spectral Response. *ACS Photonics*, **2019**, 6, 1393-1399	6.3	21
65	Enhancing the Performance of Organic Solar Cells by Prolonging the Lifetime of Photogenerated Excitons. *Advanced Materials*, **2020**, 32, e2003164	24	21
64	Fully-solution-processed organic solar cells with a highly efficient paper-based light trapping element. *Journal of Materials Chemistry A*, **2015**, 3, 24289-24296	13	19

63	Polymerized Small Molecular Acceptor with Branched Side Chains for All Polymer Solar Cells with Efficiency over 16.7.. *Advanced Materials*, **2022**, e2110155	24	19
62	Light trapping with total internal reflection and transparent electrodes in organic photovoltaic devices. *Applied Physics Letters*, **2012**, 101, 163902	3.4	18
61	Ternary Strategy Enabling High-Efficiency Rigid and Flexible Organic Solar Cells with Reduced Non-radiative Voltage Loss. *Energy and Environmental Science*,	35.4	17
60	Carboxylate substituted pyrazine: A simple and low-cost building block for novel wide bandgap polymer donor enables 15.3% efficiency in organic solar cells. *Nano Energy*, **2021**, 82, 105679	17.1	17
59	Patterned Blade Coating Strategy Enables the Enhanced Device Reproducibility and Optimized Morphology of Organic Solar Cells. *Advanced Energy Materials*, **2021**, 11, 2100098	21.8	16
58	Improving quantum efficiency in organic solar cells with a small energetic driving force. *Journal of Materials Chemistry A*, **2021**, 9, 19770-19777	13	16
57	DNA Based Hybrid Material for Interface Engineering in Polymer Solar Cells. *ACS Applied Materials & Interfaces*, **2018**, 10, 9579-9586	9.5	15
56	High-efficiency ternary nonfullerene organic solar cells with record long-term thermal stability. *Journal of Materials Chemistry A*, **2020**, 8, 22907-22917	13	15
55	Small Band gap Boron Dipyrromethene-Based Conjugated Polymers for All-Polymer Solar Cells: The Effect of Methyl Units. *Macromolecules*, **2019**, 52, 8367-8373	5.5	14
54	Chlorination Enabling a Low-Cost Benzodithiophene-Based Wide-Bandgap Donor Polymer with an Efficiency of over 17. *Advanced Materials*, **2021**, e2105483	24	13
53	Kinetics Manipulation Enables High-performance Thick Ternary Organic Solar Cells via R2R Compatible Slot-die Coating. *Advanced Materials*, **2021**, e2105114	24	13
52	Simple Nonfused-Ring Electron Acceptors with Noncovalently Conformational Locks for Low-Cost and High-Performance Organic Solar Cells Enabled by End-Group Engineering. *Advanced Functional Materials*,2108861	15.6	13
51	High-Efficiency Organic Solar Cells Based on Asymmetric Acceptors Bearing One 3D Shape-Persistent Terminal Group. *Advanced Functional Materials*, **2021**, 31, 2103445	15.6	13
50	High-Performance Simple Nonfused Ring Electron Acceptors with Diphenylamino Flanking Groups. *ACS Applied Materials & Interfaces*, **2021**, 13, 39652-39659	9.5	13
49	Stacked Dual-Wavelength Near-Infrared Organic Photodetectors. *Advanced Optical Materials*, **2021**, 9, 2001784	8.1	13
48	Electrothermal Feedback and Absorption-Induced Open-Circuit-Voltage Turnover in Solar Cells. *Physical Review Applied*, **2018**, 9,	4.3	12
47	Polarization Imaging of Emissive Charge Transfer States in Polymer/Fullerene Blends. *Chemistry of Materials*, **2014**, 26, 6695-6704	9.6	12
46	Efficient Ternary Organic Solar Cells with a New Electron Acceptor Based on 3,4-(2,2-Dihexylpropylenedioxy)thiophene. *ACS Applied Materials & Interfaces*, **2020**, 12, 40590-40598	9.5	12

45	A Fully Non-fused Ring Acceptor with Planar Backbone and Near-IR Absorption for High Performance Polymer Solar Cells. *Angewandte Chemie*, **2020**, 132, 22903-22909	3.6	12
44	Recent progress in organic solar cells (Part II device engineering). *Science China Chemistry*,	7.9	12
43	Non-fullerene organic solar cells based on a BODIPY-polymer as electron donor with high photocurrent. *Journal of Materials Chemistry C*, **2020**, 8, 2232-2237	7.1	11
42	Miscibility-Controlled Phase Separation in Double-Cable Conjugated Polymers for Single-Component Organic Solar Cells with Efficiencies over 8 %. *Angewandte Chemie*, **2020**, 132, 21867-21876	3.6	11
41	Identifying the Electrostatic and Entropy-Related Mechanisms for Charge-Transfer Exciton Dissociation at Doped Organic Heterojunctions. *Advanced Functional Materials*, **2021**, 31, 2101892	15.6	10
40	High-Efficiency Organic Solar Cells with Reduced Nonradiative Voltage Loss Enabled by a Highly Emissive Narrow Bandgap Fused Ring Acceptor. *Advanced Functional Materials*,2107756	15.6	9
39	Efficient all-polymer solar cells based on a narrow-bandgap polymer acceptor. *Journal of Materials Chemistry C*, **2020**, 8, 16180-16187	7.1	9
38	Enhancing Photovoltaic Performances of Naphthalene-Based Unfused-Ring Electron Acceptors upon Regioisomerization. *Solar Rrl*, **2021**, 5, 2100094	7.1	9
37	Ultrathin MoO3 Layers in Composite Metal Electrodes: Improved Optics Allow Highly Efficient Organic Light-Emitting Diodes. *Advanced Optical Materials*, **2019**, 7, 1801262	8.1	9
36	Crystalline Cooperativity of Donor and Acceptor Segments in Double-Cable Conjugated Polymers toward Efficient Single-Component Organic Solar Cells. *Angewandte Chemie*, **2019**, 131, 15678-15686	3.6	8
35	Fullerene as an additive for increasing the efficiency of organic solar cells to more than 17. *Journal of Colloid and Interface Science*, **2021**, 601, 70-77	9.3	8
34	Effects of linking units on fused-ring electron acceptor dimers. *Journal of Materials Chemistry A*, **2020**, 8, 13735-13741	13	7
33	New method for lateral mapping of bimolecular recombination in thin-film organic solar cells. *Progress in Photovoltaics: Research and Applications*, **2016**, 24, 1096-1108	6.8	7
32	Increasing donor-acceptor spacing for reduced voltage loss in organic solar cells. *Nature Communications*, **2021**, 12, 6679	17.4	7
31	Achieving small non-radiative energy loss through synergically non-fullerene electron acceptor selection and side chain engineering in benzo[1,2-b:4,5-b?]difuran polymer-based organic solar cells. *Journal of Materials Chemistry A*,	13	7
30	Revealing the Side-Chain-Dependent Ordering Transition of Highly Crystalline Double-Cable Conjugated Polymers. *Angewandte Chemie - International Edition*, **2021**, 60, 25499-25507	16.4	6
29	Enhancing the Performance of Small-Molecule Organic Solar Cells via Fused-Ring Design.. *ACS Applied Materials & Interfaces*, **2022**, 14, 7093-7101	9.5	5
28	Cavity-Enhanced Near-Infrared Organic Photodetectors Based on a Conjugated Polymer Containing [1,2,5]Selenadiazolo[3,4-c]Pyridine. *Chemistry of Materials*, **2021**, 33, 5147-5155	9.6	5

27	Observing long-range non-fullerene backbone ordering in real-space to improve the charge transport properties of organic solar cells. *Journal of Materials Chemistry A*, **2021**, 9, 16733-16742	13	5
26	Improving the performance of organic solar cells by side chain engineering of fused ring electron acceptors. *Journal of Materials Chemistry C*,	7.1	5
25	Tuning Acceptor Composition in Ternary Organic Photovoltaics□Impact of Domain Purity on Non-Radiative Voltage Losses. *Advanced Energy Materials*,2103735	21.8	4
24	P3HT-Based Organic Solar Cells with a Photoresponse to 1000 nm Enabled by Narrow Band Gap Nonfullerene Acceptors with High HOMO Levels.. *ACS Applied Materials & Interfaces*, **2021**, 13, 61487-61495	9.5	4
23	New roles of fused-ring electron acceptors in organic solar cells. *Journal of Materials Chemistry A*, **2019**, 7, 4766-4770	13	3
22	High-performance nonfused ring electron acceptor with a steric hindrance induced planar molecular backbone. *Science China Chemistry*, **2022**, 65, 594	7.9	3
21	Molecular Doping Increases the Semitransparent Photovoltaic Performance of Dilute Bulk Heterojunction Film with Discontinuous Polymer Donor Networks.. *Small Methods*, **2022**, e2101570	12.8	3
20	Bulk Heterojunction Morphology Control and Characterization **2014**, 335-384		3
19	Isomeric Effect in Unidirectionally Extended Fused-Ring Electron Acceptors. *Chemistry of Materials*, **2021**, 33, 441-451	9.6	3
18	Formation of persistent free radicals in sludge biochar by hydrothermal carbonization. *Environmental Chemistry Letters*, **2021**, 19, 2705-2712	13.3	3
17	Different Morphology Dependence for Efficient Indoor Organic Photovoltaics: The Role of the Leakage Current and Recombination Losses. *ACS Applied Materials & Interfaces*, **2021**, 13, 44604-44614	9.5	3
16	An underestimated photoactive area in organic solar cells based on a ZnO interlayer. *Journal of Materials Chemistry C*, **2021**, 9, 11753-11760	7.1	3
15	High efficiency ternary organic solar cells via morphology regulation with asymmetric nonfused ring electron acceptor. *Chemical Engineering Journal*, **2022**, 438, 135384	14.7	3
14	Low-cost polymer acceptors with noncovalently fused-ring backbones for efficient all-polymer solar cells. *Science China Chemistry*, **2022**, 65, 926	7.9	3
13	Non-Fullerene Acceptors: Efficient Organic Solar Cell with 16.88% Efficiency Enabled by Refined Acceptor Crystallization and Morphology with Improved Charge Transfer and Transport Properties (Adv. Energy Mater. 18/2020). *Advanced Energy Materials*, **2020**, 10, 2070083	21.8	2
12	Enhancing organic photovoltaic performance with 3D-transport dual nonfullerene acceptors. *Journal of Materials Chemistry A*, **2022**, 10, 1948-1955	13	2
11	Diphenylamine Substituted High-performance Fully Nonfused Ring Electron Acceptors: The Effect of Isomerism. *Chemical Engineering Journal*, **2022**, 435, 134987	14.7	2
10	A simple high-performance fully nonfused ring electron acceptor with a planar molecular backbone. *Chemical Engineering Journal*, **2022**, 444, 136472	14.7	2

9	High-Performance Non-fullerene Organic Solar Cells Enabled by Noncovalent Conformational Locks and Side-Chain Engineering. *Chemical Engineering Journal*, **2022**, 137206	14.7	2
8	Correlating Electronic Structure and Device Physics with Mixing Region Morphology in High-Efficiency Organic Solar Cells.. *Advanced Science*, **2022**, e2104613	13.6	1
7	Effect of Molecular Symmetry on Fused-Ring Electron Acceptors. *Solar Rrl*,2100797	7.1	1
6	Effective Strategy to Improve Contact Selectivity in Organic Solar Cells. *ACS Applied Energy Materials*,	6.1	1
5	Achieving a Higher Energy Charge-Transfer State and Reduced Voltage Loss for Organic Solar Cells using Nonfullerene Acceptors with Norbornenyl-Functionalized Terminal Groups. *ACS Applied Materials & Interfaces*, **2021**, 13, 24765-24773	9.5	1
4	Interfacial energetic disorder induced by the molecular packing structure at conjugated polymer-based donor/acceptor heterojunctions. *Journal of Materials Chemistry C*,	7.1	1
3	Revealing the Sole Impact of Acceptor's Molecular Conformation to Energy Loss and Device Performance of Organic Solar Cells through Positional Isomers.. *Advanced Science*, **2022**, e2103428	13.6	1
2	Incorporating semiflexible linkers into double-cable conjugated polymers via a click reaction. *Polymer Chemistry*, **2021**, 12, 6865-6872	4.9	0
1	Voltage Losses and Charge Transfer States in Donor-Acceptor Organic Solar Cells **2022**, 591-612		0