

Zhipeng Kan

List of Publications by Year in descending order

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79
papers

3,354
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132226

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times ranked

3264
citing authors

#	ARTICLE	IF	CITATIONS
1	18.9% Efficiency Binary Organic Solar Cells Enabled by Regulating the Intrinsic Properties of PEDOT:PSS. <i>Advanced Functional Materials</i> , 2024, 34, .	16.5	5
2	Rational molecular and device design enables organic solar cells approaching 20% efficiency. <i>Nature Communications</i> , 2024, 15, .	13.2	36
3	Hole-selective-molecule doping improves the layer thickness tolerance of PEDOT:PSS for efficient organic solar cells. <i>EScience</i> , 2024, , 100305.	42.6	0
4	Perovskite-Based Photovoltaics for Artificial Indoor Light Harvesting: A Critical Review. <i>Solar Rrl</i> , 2023, 7, .	6.0	9
5	Regulating the Donor-Acceptor Interfaces to Reduce Trap Density for Efficient Indoor Organic Solar Cells. <i>Solar Rrl</i> , 2023, 7, .	6.0	9
6	Isomeric acceptors incorporation enables 18.1% efficiency ternary organic solar cells with reduced trap-assisted charge recombination. <i>Chemical Engineering Journal</i> , 2023, 465, 142822.	13.0	12
7	Charge Carrier Dynamics in Planar Heterojunction Organic Solar Cells. <i>Solar Rrl</i> , 2023, 7, .	6.0	10
8	Suppressing Bimolecular Charge Recombination and Energetic Disorder with Planar Heterojunction Active Layer Enables 18.1% Efficiency Binary Organic Solar Cells. , 2023, 5, 1718-1726.		18
9	Suppressing nongeminate recombination with two well-compatible polymer donors enables 16.6% efficiency all-polymer solar cells. <i>Chemical Engineering Journal</i> , 2023, 470, 144186.	13.0	10
10	Double-Dipole Induced by Incorporating Nitrogen-Bromine Hybrid Cathode Interlayers Leads to Suppressed Current Leakage and Enhanced Charge Extraction in Non-Fullerene Organic Solar Cells. <i>Advanced Science</i> , 2023, 10, .	12.4	12
11	Vertical Phase Regulation with 1,3,5-Tribromobenzene Leads to 18.5% Efficiency Binary Organic Solar Cells. <i>Advanced Science</i> , 2023, 10, .	12.4	18
12	Probing fluorescence resonance energy transfer and hole transfer in organic solar cells using a tandem structure. <i>Journal of Materials Chemistry C</i> , 2023, 11, 11167-11174.	5.6	2
13	Impact of Intermolecular Interactions between Halogenated Volatile Solid Additives and the Nonfullerene Acceptor in Organic Solar Cells. <i>Advanced Functional Materials</i> , 2023, 33, .	16.5	18
14	Triggering the Donor-Acceptor Phase Segregation with Solid Additives Enables 16.5% Efficiency in All-Polymer Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2023, 15, 44012-44021.	8.3	8
15	Hybrid Cathode Interlayer Enables 17.4% Efficiency Binary Organic Solar Cells. <i>Advanced Science</i> , 2022, 9, e2105575.	12.4	46
16	A new simple volatile solid additive triggers morphological optimization and performance stabilization in polymer solar cells. <i>Sustainable Energy and Fuels</i> , 2022, 6, 2191-2197.	4.8	13
17	18.42% efficiency polymer solar cells enabled by terpolymer donors with optimal miscibility and energy levels. <i>Journal of Materials Chemistry A</i> , 2022, 10, 7878-7887.	10.5	45
18	Effects of fluorination position on all-polymer organic solar cells. <i>Dyes and Pigments</i> , 2022, 200, 110180.	3.9	12

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19	Self-assembly enables simple structure organic photovoltaics via green-solvent and open-air-printing: Closing the lab-to-fab gap. <i>Materials Today</i> , 2022, 55, 46-55.	18.1	26
20	Balancing the performance and stability of organic photodiodes with all-polymer active layers. <i>Journal of Materials Chemistry C</i> , 2022, 10, 17502-17511.	5.6	9
21	Molecular ordering and phase segregation induced by a volatile solid additive for highly efficient all-small-molecule organic solar cells. <i>Journal of Materials Chemistry A</i> , 2021, 9, 2857-2863.	10.5	38
22	Additive-induced miscibility regulation and hierarchical morphology enable 17.5% binary organic solar cells. <i>Energy and Environmental Science</i> , 2021, 14, 3044-3052.	32.2	191
23	Block copolymers as efficient cathode interlayer materials for organic solar cells. <i>Frontiers of Chemical Science and Engineering</i> , 2021, 15, 571-578.	4.5	8
24	15.8% efficiency binary all-small-molecule organic solar cells enabled by a selenophene substituted smectic liquid crystalline donor. <i>Energy and Environmental Science</i> , 2021, 14, 5366-5376.	32.2	109
25	Synergistic Interplay between Asymmetric Backbone Conformation, Molecular Aggregation, and Charge-Carrier Dynamics in Fused-Ring Electron Acceptor-Based Bulk Heterojunction Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 2961-2970.	8.3	13
26	15.3% Efficiency All-small-Molecule Organic Solar Cells Achieved by a Locally Asymmetric F, Cl Disubstitution Strategy. <i>Advanced Science</i> , 2021, 8, 2004262.	12.4	82
27	Crystallinity dictates the selection of fullerene or non-fullerene acceptors in a small molecule organic solar cell. <i>Dyes and Pigments</i> , 2021, 187, 109085.	3.9	10
28	Eutectic phase behavior induced by a simple additive contributes to efficient organic solar cells. <i>Nano Energy</i> , 2021, 84, 105862.	16.5	85
29	High performance organic solar cells enabled by an iodinated additive. <i>Organic Electronics</i> , 2021, 93, 106161.	2.8	9
30	Engineering of P3CT-Na through diprophylline treatment to realize efficient and stable inverted perovskite solar cells. <i>Chemical Engineering Journal</i> , 2021, 419, 129581.	13.0	12
31	Annealing-free alcohol-processable MoO anode interlayer enables efficient light utilization in organic photovoltaics. <i>Journal of Energy Chemistry</i> , 2021, 61, 141-146.	13.4	10
32	Improving Molecular Planarity by Changing Alky Chain Position Enables 12.3% Efficiency All-small-Molecule Organic Solar Cells with Enhanced Carrier Lifetime and Reduced Recombination. <i>Solar Rrl</i> , 2020, 4, 1900326.	6.0	56
33	Branched <i>versus</i> linear: side-chain effect on fluorinated wide bandgap donors and their applications in organic solar cells. <i>New Journal of Chemistry</i> , 2020, 44, 753-760.	2.7	3
34	Difluorinated Oligothiophenes for High-Efficiency All-small-Molecule Organic Solar Cells: Positional Isomeric Effect of Fluorine Substitution on Performance Variations. <i>Solar Rrl</i> , 2020, 4, 1900472.	6.0	11
35	Energetic Disorder and Activation Energy in Efficient Ternary Organic Solar Cells with Nonfullerene Acceptor E-IDTBR as the Third Component. <i>Solar Rrl</i> , 2020, 4, 1900403.	6.0	47
36	Deciphering the Role of Fluorination: Morphological Manipulation Prompts Charge Separation and Reduces Carrier Recombination in All-small-Molecule Photovoltaics. <i>Solar Rrl</i> , 2020, 4, 1900528.	6.0	28

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37	Thiazole-Functionalized Terpolymer Donors Obtained via Random Ternary Copolymerization for High-Performance Polymer Solar Cells. <i>Macromolecules</i> , 2020, 53, 9034-9042.	5.1	24
38	Cyano-functionalized small-molecule acceptors for high-efficiency wide-bandgap organic solar cells. <i>Journal of Materials Chemistry C</i> , 2020, 8, 9195-9200.	5.6	7
39	Effects of Fluorination on Fused Ring Electron Acceptor for Active Layer Morphology, Exciton Dissociation, and Charge Recombination in Organic Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 56231-56239.	8.3	15
40	A multifunctional additive of scandium trifluoromethanesulfonate to achieve efficient inverted perovskite solar cells with a high fill factor of 83.80%. <i>Journal of Materials Chemistry A</i> , 2020, 8, 19555-19560.	10.5	30
41	Benzodithiophene-Based Small-Molecule Donors for Next-Generation All-Small-Molecule Organic Photovoltaics. <i>Matter</i> , 2020, 3, 1403-1432.	10.2	82
42	Revealing the structural effects of non-fullerene acceptors on the performances of ternary organic photovoltaics under indoor light conditions. <i>Nano Energy</i> , 2020, 75, 104934.	16.5	32
43	15.34% efficiency all-small-molecule organic solar cells with an improved fill factor enabled by a fullerene additive. <i>Energy and Environmental Science</i> , 2020, 13, 2134-2141.	32.2	231
44	Delicate Morphology Control Triggers 14.7% Efficiency All-Small-Molecule Organic Solar Cells. <i>Advanced Energy Materials</i> , 2020, 10, 2001076.	22.2	105
45	Synergy of Liquid-Crystalline Small-Molecule and Polymeric Donors Delivers Uncommon Morphology Evolution and 16.6% Efficiency Organic Photovoltaics. <i>Advanced Science</i> , 2020, 7, 2000149.	12.4	72
46	Molecular Lock Induced by Chloroplatinic Acid Doping of PEDOT:PSS for High-Performance Organic Photovoltaics. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 30954-30961.	8.3	33
47	A π -Hole-Containing Volatile Solid Additive Enabling 16.5% Efficiency Organic Solar Cells. <i>IScience</i> , 2020, 23, 100965.	4.1	67
48	Small molecule donor based on alkoxyated benzothiadiazole unit: Synthesis and photovoltaics properties. <i>Materials Chemistry and Physics</i> , 2020, 247, 122874.	4.1	2
49	Buildup of Triplet-State Population in Operating TQ1:PC ₇₁ BM Devices Does Not Limit Their Performance. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 2838-2845.	4.9	31
50	Fluorinated oligothiophene donors for high-performance nonfullerene small-molecule organic solar cells. <i>Sustainable Energy and Fuels</i> , 2020, 4, 2680-2685.	4.8	13
51	Quantification of Photophysical Processes in All-Polymer Bulk Heterojunction Solar Cells. <i>Solar Rrl</i> , 2020, 4, 2000181.	6.0	9
52	Simple organic donors based on halogenated oligothiophenes for all small molecule solar cells with efficiency over 11%. <i>Journal of Materials Chemistry A</i> , 2020, 8, 5843-5847.	10.5	45
53	An asymmetric end-capping strategy enables a new non-fullerene acceptor for organic solar cells with efficiency over 10%. <i>Chemical Communications</i> , 2020, 56, 6531-6534.	4.2	6
54	All-Small-Molecule Organic Solar Cells with an Ordered Liquid Crystalline Donor. <i>Joule</i> , 2019, 3, 3034-3047.	24.7	281

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55	Donor Derivative Incorporation: An Effective Strategy toward High Performance All-Small-Molecule Ternary Organic Solar Cells. <i>Advanced Science</i> , 2019, 6, 1901613.	12.4	99
56	Terminal group engineering for small-molecule donors boosts the performance of nonfullerene organic solar cells. <i>Journal of Materials Chemistry A</i> , 2019, 7, 2541-2546.	10.5	46
57	Key Parameters Requirements for Non-Fullerene-Based Organic Solar Cells with Power Conversion Efficiency >20%. <i>Advanced Science</i> , 2019, 6, 1802028.	12.4	156
58	Higher Mobility and Carrier Lifetimes in Solution-Processable Small-Molecule Ternary Solar Cells with 11% Efficiency. <i>Advanced Energy Materials</i> , 2019, 9, 1802836.	22.2	65
59	Simple near-Infrared Nonfullerene Acceptors Enable Organic Solar Cells with >9% Efficiency. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 6717-6723.	8.3	29
60	Triphenylamine-Based Push-Pull C ₆₀ Dyad As Photoactive Molecular Material for Single-Component Organic Solar Cells: Synthesis, Characterizations, and Photophysical Properties. <i>Chemistry of Materials</i> , 2018, 30, 3474-3485.	7.1	58
61	Carrier Transport and Recombination in Efficient All-Small-Molecule Solar Cells with the Nonfullerene Acceptor IDTBR. <i>Advanced Energy Materials</i> , 2018, 8, 1800264.	22.2	66
62	Mixed Domains Enhance Charge Generation and Extraction in Bulk-Heterojunction Solar Cells with Small-Molecule Donors. <i>Advanced Energy Materials</i> , 2018, 8, 1702941.	22.2	45
63	Organic solar cells based on anthracene-containing PPE-PPVs and non-fullerene acceptors. <i>Chemical Papers</i> , 2018, 72, 1769-1778.	2.2	7
64	Charge Photogeneration and Recombination in Mesostructured CuSCN Nanowire/PC ₇₀ BM Solar Cells. <i>Solar Rrl</i> , 2018, 2, 1800095.	6.0	10
65	Thermal annealing reduces geminate recombination in TQ1:N2200 all-polymer solar cells. <i>Journal of Materials Chemistry A</i> , 2018, 6, 7428-7438.	10.5	45
66	From Recombination Dynamics to Device Performance: Quantifying the Efficiency of Exciton Dissociation, Charge Separation, and Extraction in Bulk Heterojunction Solar Cells with Fluorine-Substituted Polymer Donors. <i>Advanced Energy Materials</i> , 2018, 8, 1701678.	22.2	33
67	Isoindigo-3,4-Difluorothiophene Polymer Acceptors Yield All-Polymer-Bulk-Heterojunction Solar Cells with over 7% Efficiency. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 531-535.	14.8	69
68	Isoindigo-3,4-Difluorothiophene Polymer Acceptors Yield All-Polymer-Bulk-Heterojunction Solar Cells with over 7% Efficiency. <i>Angewandte Chemie</i> , 2018, 130, 540-544.	2.1	13
69	Efficiency improvement of planar perovskite solar cells using a phenol additive. <i>Journal of Materials Chemistry C</i> , 2018, 6, 11519-11524.	5.6	22
70	Impact of Structural Polymorphs on Charge Collection and Nongeminate Recombination in Organic Photovoltaic Devices. <i>Journal of Physical Chemistry C</i> , 2018, 122, 29141-29149.	3.3	6
71	Wide-Bandgap Small Molecular Acceptors Based on a Weak Electron-Withdrawing Moiety for Efficient Polymer Solar Cells. <i>Solar Rrl</i> , 2018, 2, 1800120.	6.0	31
72	Atomic-layer-deposited AZO outperforms ITO in high-efficiency polymer solar cells. <i>Journal of Materials Chemistry A</i> , 2018, 6, 10176-10183.	10.5	38

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73	Thieno[3,4- <i>c</i>]pyrrole-4,6-dione-Based Polymer Acceptors for High Open-Circuit Voltage All-Polymer Solar Cells. <i>Advanced Energy Materials</i> , 2017, 7, 1602574.	22.2	79
74	High Efficiency Inverted Organic Solar Cells with a Neutral Fullero-pyrrolidine Electron-Collecting Interlayer. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 14293-14300.	8.3	40
75	Understanding the Light Soaking Effects in Inverted Organic Solar Cells Functionalized with Conjugated Macroelectrolyte Electron-Collecting Interlayers. <i>Advanced Science</i> , 2016, 3, 1500245.	12.4	36
76	Thieno[3,4- <i>c</i>]pyrrole-4,6-dione-3,4-difluorothiophene Polymer Acceptors for Efficient All-Polymer Bulk Heterojunction Solar Cells. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 12996-13000.	14.8	133
77	Thieno[3,4- <i>c</i>]pyrrole-4,6-dione-3,4-difluorothiophene Polymer Acceptors for Efficient All-Polymer Bulk Heterojunction Solar Cells. <i>Angewandte Chemie</i> , 2016, 128, 13190-13194.	2.1	27
78	Impact of Fluorine Substituents on π -Conjugated Polymer Main-Chain Conformations, Packing, and Electronic Couplings. <i>Advanced Materials</i> , 2016, 28, 8197-8205.	24.3	80
79	Room-temperature-modulated polymorphism of nonfullerene acceptors enables efficient bilayer organic solar cells. <i>Energy and Environmental Science</i> , 0, , .	32.2	0