Weimin Zhang

List of Publications by Year
in descending order

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79 papers	10,439 citations	66234 42 h-index	71532 76 g-index
81 all docs	81 docs citations	81 times ranked	9372 citing authors

#	Article	IF	Citations
1	Liquid-crystalline semiconducting polymers with high charge-carrier mobility. Nature Materials, 2006, 5, 328-333.	13.3	2,001
2	Thieno[3,2-b]thiopheneâ"Diketopyrrolopyrrole-Containing Polymers for High-Performance Organic Field-Effect Transistors and Organic Photovoltaic Devices. Journal of the American Chemical Society, 2011, 133, 3272-3275.	6.6	854
3	Charge Carrier Formation in Polythiophene/Fullerene Blend Films Studied by Transient Absorption Spectroscopy. Journal of the American Chemical Society, 2008, 130, 3030-3042.	6.6	602
4	Indacenodithiophene Semiconducting Polymers for High-Performance, Air-Stable Transistors. Journal of the American Chemical Society, 2010, 132, 11437-11439.	6.6	529
5	Molecular origin of high field-effect mobility in an indacenodithiopheneâ€"benzothiadiazole copolymer. Nature Communications, 2013, 4, 2238.	5.8	456
6	Semiconducting Thienothiophene Copolymers: Design, Synthesis, Morphology, and Performance in Thinâ€Film Organic Transistors. Advanced Materials, 2009, 21, 1091-1109.	11.1	412
7	Recombination Dynamics as a Key Determinant of Open Circuit Voltage in Organic Bulk Heterojunction Solar Cells: A Comparison of Four Different Donor Polymers. Advanced Materials, 2010, 22, 4987-4992.	11.1	368
8	Enhanced photocatalytic hydrogen evolution from organic semiconductor heterojunction nanoparticles. Nature Materials, 2020, 19, 559-565.	13.3	366
9	Regioregular poly(3-hexyl)selenophene: a low band gap organic hole transporting polymer. Chemical Communications, 2007, , 5061.	2.2	322
10	Intrinsic efficiency limits in low-bandgap non-fullerene acceptor organic solar cells. Nature Materials, 2021, 20, 378-384.	13.3	257
11	Design of Semiconducting Indacenodithiophene Polymers for High Performance Transistors and Solar Cells. Accounts of Chemical Research, 2012, 45, 714-722.	7.6	256
12	Solutionâ€Processed Small Moleculeâ€Polymer Blend Organic Thinâ€Film Transistors with Hole Mobility Greater than 5 cm²/Vs. Advanced Materials, 2012, 24, 2441-2446.	11.1	219
13	Long-range exciton diffusion in molecular non-fullerene acceptors. Nature Communications, 2020, 11, 5220.	5.8	204
14	Systematic Improvement in Charge Carrier Mobility of Air Stable Triarylamine Copolymers. Journal of the American Chemical Society, 2009, 131, 10814-10815.	6.6	186
15	High Mobility Ambipolar Charge Transport in Polyselenophene Conjugated Polymers. Advanced Materials, 2010, 22, 2371-2375.	11.1	178
16	17.1% Efficient Singleâ€Junction Organic Solar Cells Enabled by nâ€Type Doping of the Bulkâ€Heterojunction. Advanced Science, 2020, 7, 1903419.	5.6	173
17	Transient Optoelectronic Analysis of Charge Carrier Losses in a Selenophene/Fullerene Blend Solar Cell. Journal of Physical Chemistry C, 2011, 115, 5947-5957.	1.5	170
18	Small Molecule/Polymer Blend Organic Transistors with Hole Mobility Exceeding 13 cm² V^{â"1} s^{â"1}. Advanced Materials, 2016, 28, 7791-7798.	11.1	166

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19	Indacenodithiophene-co-benzothiadiazole Copolymers for High Performance Solar Cells or Transistors via Alkyl Chain Optimization. Macromolecules, 2011, 44, 6649-6652.	2.2	165
20	Robust nonfullerene solar cells approaching unity external quantum efficiency enabled by suppression of geminate recombination. Nature Communications, 2018, 9, 2059.	5.8	164
21	Silaindacenodithiophene Semiconducting Polymers for Efficient Solar Cells and High-Mobility Ambipolar Transistors. Chemistry of Materials, 2011, 23, 768-770.	3.2	126
22	High Mobility Fieldâ€Effect Transistors with Versatile Processing from a Smallâ€Molecule Organic Semiconductor. Advanced Materials, 2013, 25, 4352-4357.	11.1	126
23	A Novel Alkylated Indacenodithieno[3,2â€b]thiopheneâ€Based Polymer for Highâ€Performance Fieldâ€Effect Transistors. Advanced Materials, 2016, 28, 3922-3927.	11.1	117
24	An electron beam evaporated TiO₂layer for high efficiency planar perovskite solar cells on flexible polyethylene terephthalate substrates. Journal of Materials Chemistry A, 2015, 3, 22824-22829.	5.2	116
25	Polymerisable liquid crystalline organic semiconductors and their fabrication in organic field effect transistors. Journal of Materials Chemistry, 2003, 13, 2436.	6.7	99
26	Understanding the Influence of Morphology on Poly(3-hexylselenothiophene):PCBM Solar Cells. Macromolecules, 2010, 43, 1169-1174.	2.2	92
27	Highly Efficient and Reproducible Nonfullerene Solar Cells from Hydrocarbon Solvents. ACS Energy Letters, 2017, 2, 1494-1500.	8.8	89
28	Influence of Crystallinity and Energetics on Charge Separation in Polymerâ€“Inorganic Nanocomposite Films for Solar Cells. Scientific Reports, 2013, 3, 1531.	1.6	84
29	Dithiopheneindenofluorene (TIF) Semiconducting Polymers with Very High Mobility in Fieldâ€Effect Transistors. Advanced Materials, 2017, 29, 1702523.	11.1	81
30	Alkylidene Fluorene Liquid Crystalline Semiconducting Polymers for Organic Field Effect Transistor Devices. Macromolecules, 2004, 37, 5250-5256.	2.2	80
31	A Highly Crystalline Fusedâ€Ring nâ€Type Small Molecule for Nonâ€Fullerene Acceptor Based Organic Solar Cells and Fieldâ€Effect Transistors. Advanced Functional Materials, 2018, 28, 1802895.	7.8	74
32	Material Crystallinity as a Determinant of Triplet Dynamics and Oxygen Quenching in Donor Polymers for Organic Photovoltaic Devices. Advanced Functional Materials, 2014, 24, 1474-1482.	7.8	71
33	Synthesis of novel thieno[3,2-b]thienobis(silolothiophene) based low bandgap polymers for organic photovoltaics. Chemical Communications, 2012, 48, 7699.	2.2	63
34	Carrier Transport and Recombination in Efficient â€œAllâ€Smallâ€Moleculeâ€•Solar Cells with the Nonfullerene Acceptor IDTBR. Advanced Energy Materials, 2018, 8, 1800264.	10.2	63
35	High-Performance Solution-Processed Low-Voltage Polymer Thin-Film Transistors With Low-<inline-formula> <tex-math notation="LaTeX">k </tex-math></inline-formula>/High-<inline-formula> <tex-math notation="LaTeX">k </tex-math></inline-formula> Bilayer Gate Dielectric. IEEE Electron Device Letters, 2015, 36, 950-952.	2.2	60
36	Suppression of Recombination Losses in Polymer:Nonfullerene Acceptor Organic Solar Cells due to Aggregation Dependence of Acceptor Electron Affinity. Advanced Energy Materials, 2019, 9, 1901254.	10.2	54

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37	Pyrroloindacenodithiophene containing polymers for organic field effect transistors and organic photovoltaics. Journal of Materials Chemistry, 2011, 21, 18744.	6.7	50
38	An alignable fluorene thienothiophene copolymer with deep-blue electroluminescent emission at 410Ânm. Chemical Communications, 2008, , 1079.	2.2	49
39	A Systematic Approach to the Design Optimization of Lightâ€Absorbing Indenofluorene Polymers for Organic Photovoltaics. Advanced Energy Materials, 2012, 2, 260-265.	10.2	48
40	Energetic Disorder and Activation Energy in Efficient Ternary Organic Solar Cells with Nonfullerene Acceptor Ehâ€IDTBR as the Third Component. Solar Rrl, 2020, 4, 1900403.	3.1	47
41	Energy versuselectron transfer in organic solar cells: a comparison of the photophysics of two indenofluorene: fullerene blend films. Chemical Science, 2011, 2, 1111.	3.7	45
42	Impact of Nonfullerene Acceptor Side Chain Variation on Transistor Mobility. Advanced Electronic Materials, 2019, 5, 1900344.	2.6	45
43	The Effect of Ring Expansion in Thienobenzo[b]indacenodithiophene Polymers for Organic Field-Effect Transistors. Journal of the American Chemical Society, 2019, 141, 18806-18813.	6.6	45
44	Synthesis of a Novel Fused Thiopheneâ€thieno[3,2â€b]thiopheneâ€thiophene Donor Monomer and Coâ€polymer for Use in OPV and OFETs. Macromolecular Rapid Communications, 2011, 32, 1664-1668.	2.0	41
45	End Group Tuning in Acceptorâ€“Donorâ€“Acceptor Nonfullerene Small Molecules for High Fill Factor Organic Solar Cells. Advanced Functional Materials, 2019, 29, 1808429.	7.8	41
46	Chemical Design Rules for Nonâ€Fullerene Acceptors in Organic Solar Cells. Advanced Energy Materials, 2021, 11, 2102363.	10.2	38
47	Non-fullerene-based organic photodetectors for infrared communication. Journal of Materials Chemistry C, 2021, 9, 2375-2380.	2.7	37
48	Extremely efficient flexible organic solar cells with a graphene transparent anode: Dependence on number of layers and doping of graphene. Carbon, 2021, 171, 350-358.	5.4	33
49	Oligoethylene Glycol Side Chains Increase Charge Generation in Organic Semiconductor Nanoparticles for Enhanced Photocatalytic Hydrogen Evolution. Advanced Materials, 2022, 34, e2105007.	11.1	33
50	Controlling Long-Lived Triplet Generation from Intramolecular Singlet Fission in the Solid State. Journal of Physical Chemistry Letters, 2017, 8, 6086-6091.	2.1	31
51	Correlating Emissive Nonâ€Geminate Charge Recombination with Photocurrent Generation Efficiency in Polymer/Perylene Diimide Organic Photovoltaic Blend Films. Advanced Functional Materials, 2012, 22, 2318-2326.	7.8	28
52	P3HT Molecular Weight Determines the Performance of P3HT:Oâ€IDTBR Solar Cells. Solar Rrl, 2019, 3, 1900023.	3.1	27
53	Optimisation of diketopyrrolopyrrole:fullerene solar cell performance through control of polymer molecular weight and thermal annealing. Journal of Materials Chemistry A, 2014, 2, 19282-19289.	5.2	25
54	Delayed Luminescence Spectroscopy of Organic Photovoltaic Binary Blend Films: Probing the Emissive Nonâ€geminate Charge Recombination. Advanced Materials, 2010, 22, 5183-5187.	11.1	24

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55	In-situ monitoring of molecular vibrations of two organic semiconductors in photovoltaic blends and their impact on thin film morphology. Applied Physics Letters, 2013, 102, .	1.5	24
56	Charge carrier transport and nanomorphology control for efficient non-fullerene organic solar cells. Materials Today Energy, 2019, 12, 398-407.	2.5	23
57	Impact of Acceptor Quadrupole Moment on Charge Generation and Recombination in Blends of IDTâ€Based Nonâ€Fullerene Acceptors with PCE10 as Donor Polymer. Advanced Energy Materials, 2021, 11, 2100839.	10.2	23
58	An Analysis of the Factors Determining the Efficiency of Photocurrent Generation in Polymer:Nonfullerene Acceptor Solar Cells. Advanced Energy Materials, 2018, 8, 1801537.	10.2	22
59	Electrical Properties of Reactive Liquid Crystal Semiconductors. Japanese Journal of Applied Physics, 2008, 47, 488-491.	0.8	20
60	Top-Gate Dry-Etching Patterned Polymer Thin-Film Transistors With a Protective Layer on Top of the Channel. IEEE Electron Device Letters, 2015, 36, 59-61.	2.2	20
61	Unraveling the Unconventional Order of a High-Mobility Indacenodithiopheneâ€“Benzothiadiazole Copolymer. ACS Macro Letters, 2021, 10, 1306-1314.	2.3	20
62	Low-Defect, High Molecular Weight Indacenodithiophene (IDT) Polymers Via a Câ€“H Activation: Evaluation of a Simpler and Greener Approach to Organic Electronic Materials. , 2021, 3, 1503-1512.		19
63	Alkylated indacenodithieno[3,2-b]thiophene-based all donor ladder-type conjugated polymers for organic thin film transistors. Journal of Materials Chemistry C, 2018, 6, 2004-2009.	2.7	18
64	Effects of Fluorination on Fused Ring Electron Acceptor for Active Layer Morphology, Exciton Dissociation, and Charge Recombination in Organic Solar Cells. ACS Applied Materials & Interfaces, 2020, 12, 56231-56239.	4.0	15
65	High-density polyethyleneâ€”an inert additive with stabilizing effects on organic field-effect transistors. Journal of Materials Chemistry C, 2020, 8, 15406-15415.	2.7	15
66	Photophysical Study of DPPTTâ€T/PC₇₀BM Blends and Solar Devices as a Function of Fullerene Loading: An Insight into EQE Limitations of DPPâ€Based Polymers. Advanced Functional Materials, 2017, 27, 1604426.	7.8	13
67	Heavy-Metal-Free Flexible Hybrid Polymer-Nanocrystal Photodetectors Sensitive to 1.5 Î¼m Wavelength. ACS Applied Materials & Interfaces, 2019, 11, 42571-42579.	4.0	12
68	Designing solution-processable air-stable liquid crystalline crosslinkable semiconductors. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2006, 364, 2779-2787.	1.6	11
69	Crossâ€linked Polymerâ€Blend Gate Dielectrics through Thermal Click Chemistry. Chemistry - A European Journal, 2015, 21, 17762-17768.	1.7	9
70	Printed Memtransistor Utilizing a Hybrid Perovskite/Organic Heterojunction Channel. ACS Applied Materials & Interfaces, 2021, 13, 51592-51601.	4.0	9
71	Compatibility of amorphous triarylamine copolymers with solution-processed hole injecting metal oxide bottom contacts. Journal of Materials Chemistry C, 2015, 3, 4530-4536.	2.7	7
72	Addition of Diquat Enhances the Electron Mobility in Various Nonâ€Fullerene Acceptor Molecules. Advanced Functional Materials, 0, , 2202954.	7.8	6

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73	Fused Pyrazineâ€•and Carbazoleâ€Containing Azaacenes: Synthesis and Properties. ChemPlusChem, 2019, 84, 1257-1262.	1.3	5
74	Afterglow Effects as a Tool to Screen Emissive Nongeminate Charge Recombination Processes in Organic Photovoltaic Composites. ACS Applied Materials & Interfaces, 2020, 12, 2695-2707.	4.0	5
75	Spectroscopic and morphological investigation of conjugated photopolymerisable quinquethiophene liquid crystals. Current Applied Physics, 2012, 12, e59-e66.	1.1	4
76	Bis-lactam-based donor polymers for organic solar cells: Evolution by design. Thin Solid Films, 2014, 560, 82-85.	0.8	3
77	Chemical Design Rules for Nonâ€Fullerene Acceptors in Organic Solar Cells (Adv. Energy Mater.) Tj ETQq1 1 0.784314 rgBT /Overlock	10.2	2
78	Self-assembled liquid crystalline solution processable semiconductors. , 2004, , .		1
79	Electronic structure tuning of new fused thieno[3,2-b]thieno bisthiophene based polymers via alkyl chain and Group IV heteroatom modulation. Proceedings of SPIE, 2012, , .	0.8	0