Chunhui Duan

List of Publications by Year
in descending order

105 papers	7,539 citations	61857 43 h-index	53109 85 g-index
107 all docs	107 docs citations	107 times ranked	6506 citing authors

#	Article	IF	Citations
1	Inverted polymer solar cells with 8.4% efficiency by conjugated polyelectrolyte. Energy and Environmental Science, 2012, 5, 8208.	15.6	616
2	Recent development of pushâ€"pull conjugated polymers for bulk-heterojunction photovoltaics: rational design and fine tailoring of molecular structures. Journal of Materials Chemistry, 2012, 22, 10416.	6.7	462
3	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
4	Materials and Devices toward Fully Solution Processable Organic Light-Emitting Diodes. Chemistry of Materials, 2011, 23, 326-340.	3.2	399
5	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
6	16% efficiency all-polymer organic solar cells enabled by a finely tuned morphology via the design of ternary blend. Joule, 2021, 5, 914-930.	11.7	228
7	Optical and electrical effects of gold nanoparticles in the active layer of polymer solar cells. Journal of Materials Chemistry, 2012, 22, 1206-1211.	6.7	222
8	Morphology Optimization via Side Chain Engineering Enables All-Polymer Solar Cells with Excellent Fill Factor and Stability. Journal of the American Chemical Society, 2018, 140, 8934-8943.	6.6	218
9	Highly efficient fullerene/perovskite planar heterojunction solar cells via cathode modification with an amino-functionalized polymer interlayer. Journal of Materials Chemistry A, 2014, 2, 19598-19603.	5.2	186
10	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
11	Progress of the key materials for organic solar cells. Science China Chemistry, 2020, 63, 758-765.	4.2	158
12	Donor Polymers Containing Benzothiadiazole and Four Thiophene Rings in Their Repeating Units with Improved Photovoltaic Performance. Macromolecules, 2009, 42, 4410-4415.	2.2	150
13	Novel Silafluorene-Based Conjugated Polymers with Pendant Acceptor Groups for High Performance Solar Cells. Macromolecules, 2010, 43, 5262-5268.	2.2	134
14	Synthesis of Quinoxaline-Based Donorâ^'Acceptor Narrow-Band-Gap Polymers and Their Cyclized Derivatives for Bulk-Heterojunction Polymer Solar Cell Applications. Macromolecules, 2011, 44, 894-901.	2.2	127
15	A Series of New Mediumâ€Bandgap Conjugated Polymers Based on Naphtho[1,2â€c:5,6â€c]bis(2â€octylâ€[1,2,3]triazole) for Highâ€Performance Polymer Solar Cells. Advanced Materials, 2013, 25, 3683-3688.	11.1	125
16	Efficient Organic Solar Cells with Extremely High Openâ€Circuit Voltages and Low Voltage Losses by Suppressing Nonradiative Recombination Losses. Advanced Energy Materials, 2018, 8, 1801699.	10.2	117
17	Conjugated zwitterionic polyelectrolyte-based interface modification materials for high performance polymer optoelectronic devices. Chemical Science, 2013, 4, 1298.	3.7	116
18	Polythiophenes for organic solar cells with efficiency surpassing 17%. Joule, 2022, 6, 647-661.	11.7	112

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19	Conjugated Zwitterionic Polyelectrolytes and Their Neutral Precursor as Electron Injection Layer for Highâ€Performance Polymer Lightâ€Emitting Diodes. Advanced Materials, 2011, 23, 1665-1669.	11.1	108
20	Highly Efficient Inverted Polymer Solar Cells Based on an Alcohol Soluble Fullerene Derivative Interfacial Modification Material. Chemistry of Materials, 2012, 24, 1682-1689.	3.2	106
21	The Role of the Axial Substituent in Subphthalocyanine Acceptors for Bulkâ€Heterojunction Solar Cells. Angewandte Chemie - International Edition, 2017, 56, 148-152.	7.2	105
22	Toward Practical Useful Polymers for Highly Efficient Solar Cells via a Random Copolymer Approach. Journal of the American Chemical Society, 2016, 138, 10782-10785.	6.6	101
23	Nonfused Nonfullerene Acceptors with an Aâ€"Dâ€"Aâ€²â€"Dâ€"A Framework and a Benzothiadiazole Core for High-Performance Organic Solar Cells. ACS Applied Materials & Interfaces, 2020, 12, 16531-16540.	4.0	100
24	Wideâ€Bandgap Benzodithiopheneâ€"Benzothiadiazole Copolymers for Highly Efficient Multijunction Polymer Solar Cells. Advanced Materials, 2015, 27, 4461-4468.	11.1	99
25	A Facile Synthesized Polymer Featuring Bâ€N Covalent Bond and Small Singletâ€Triplet Gap for Highâ€Performance Organic Solar Cells. Angewandte Chemie - International Edition, 2021, 60, 8813-8817.	7.2	97
26	Synthesis, Characterization, and Photovoltaic Properties of Carbazole-Based Two-Dimensional Conjugated Polymers with Donor-Ï€-Bridge-Acceptor Side Chains. Chemistry of Materials, 2010, 22, 6444-6452.	3.2	95
27	Surpassing 13% Efficiency for Polythiophene Organic Solar Cells Processed from Nonhalogenated Solvent. Advanced Materials, 2021, 33, e2008158.	11.1	90
28	Alkyl Chain Length Effects of Polymer Donors on the Morphology and Device Performance of Polymer Solar Cells with Different Acceptors. Advanced Energy Materials, 2019, 9, 1901740.	10.2	88
29	Solution processed thick film organic solar cells. Polymer Chemistry, 2015, 6, 8081-8098.	1.9	86
30	15.4% Efficiency all-polymer solar cells. Science China Chemistry, 2021, 64, 408-412.	4.2	83
31	Control of Efficiency, Brightness, and Recombination Zone in Lightâ€Emitting Field Effect Transistors. Advanced Materials, 2012, 24, 1171-1175.	11.1	81
32	Effect of side chain length on the charge transport, morphology, and photovoltaic performance of conjugated polymers in bulk heterojunction solar cells. Journal of Materials Chemistry A, 2016, 4, 1855-1866.	5.2	74
33	Layer-by-layer processed binary all-polymer solar cells with efficiency over 16% enabled by finely optimized morphology. Nano Energy, 2022, 93, 106858.	8.2	71
34	Design and Synthesis of Copolymers of Indacenodithiophene and Naphtho[1,2-<i>c</i>:5,6-<i>c</i>]bis(1,2,5-thiadiazole) for Polymer Solar Cells. Macromolecules, 2013, 46, 3950-3958.	2.2	69
35	A donor polymer based on 3-cyanothiophene with superior batch-to-batch reproducibility for high-efficiency organic solar cells. Energy and Environmental Science, 2021, 14, 5530-5540.	15.6	66
36	The new era for organic solar cells: non-fullerene small molecular acceptors. Science Bulletin, 2020, 65, 1231-1233.	4.3	65

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37	The new era for organic solar cells: polymer donors. Science Bulletin, 2020, 65, 1422-1424.	4.3	57
38	Non-planar perylenediimide acceptors with different geometrical linker units for efficient non-fullerene organic solar cells. Journal of Materials Chemistry A, 2017, 5, 1713-1723.	5.2	54
39	Star-shaped electron acceptors containing a truxene core for non-fullerene solar cells. Organic Electronics, 2018, 52, 42-50.	1.4	52
40	Achieving 16% Efficiency for Polythiophene Organic Solar Cells with a Cyanoâ€Substituted Polythiophene. Advanced Functional Materials, 2022, 32, .	7.8	51
41	The new era for organic solar cells: polymer acceptors. Science Bulletin, 2020, 65, 1508-1510.	4.3	50
42	Thiophene Rings Improve the Device Performance of Conjugated Polymers in Polymer Solar Cells with Thick Active Layers. Advanced Energy Materials, 2017, 7, 1700519.	10.2	49
43	Polythiophene derivatives compatible with both fullerene and non-fullerene acceptors for polymer solar cells. Journal of Materials Chemistry C, 2019, 7, 314-323.	2.7	48
44	3,4â€Dicyanothiopheneâ€"a Versatile Building Block for Efficient Nonfullerene Polymer Solar Cells. Advanced Energy Materials, 2020, 10, 1904247.	10.2	48
45	The Renaissance of Oligothiopheneâ€Based Donorâ€"Acceptor Polymers in Organic Solar Cells. Advanced Energy Materials, 2022, 12, .	10.2	43
46	Indoor organic photovoltaics. Science Bulletin, 2020, 65, 2040-2042.	4.3	41
47	A novel crosslinkable electron injection/transporting material for solution processed polymer light-emitting diodes. Science China Chemistry, 2011, 54, 1745-1749.	4.2	40
48	Conjugated Polymers Based on Difluorobenzoxadiazole toward Practical Application of Polymer Solar Cells. Advanced Energy Materials, 2017, 7, 1702033.	10.2	39
49	Backbone Fluorination of Polythiophenes Improves Device Performance of Non-Fullerene Polymer Solar Cells. ACS Applied Energy Materials, 2019, 2, 7572-7583.	2.5	38
50	Highly Efficient Simple-Structure Sky-Blue Organic Light-Emitting Diode Using a Bicarbazole/Cyanopyridine Bipolar Host. ACS Applied Materials & Interfaces, 2021, 13, 13459-13469.	4.0	36
51	All-polymer solar cells. Journal of Semiconductors, 2021, 42, 080301.	2.0	36
52	Design and synthesis of star-burst triphenyamine-based Ï€-conjugated molecules. Dyes and Pigments, 2015, 113, 1-7.	2.0	35
53	The effect of methanol treatment on the performance of polymer solar cells. Nanotechnology, 2013, 24, 484003.	1.3	34
54	Reduced Energy Loss in Non-Fullerene Organic Solar Cells with Isomeric Donor Polymers Containing Thiazole Ï€-Spacers. ACS Applied Materials & Interfaces, 2020, 12, 753-762.	4.0	34

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55	Two-dimensional like conjugated copolymers for high efficiency bulk-heterojunction solar cell application: Band gap and energy level engineering. Science China Chemistry, 2011, 54, 685-694.	4.2	33
56	High open circuit voltage polymer solar cells enabled by employing thiazoles in semiconducting polymers. Polymer Chemistry, 2016, 7, 5730-5738.	1.9	32
57	The effect of end-capping groups in A-D-A type non-fullerene acceptors on device performance of organic solar cells. Science China Chemistry, 2017, 60, 1458-1467.	4.2	32
58	New acceptor-pended conjugated polymers based on 3,6- and 2,7-carbazole for polymer solar cells. Polymer, 2012, 53, 5675-5683.	1.8	31
59	Conjugated Polymers Based on Thiazole Flanked Naphthalene Diimide for Unipolar n-Type Organic Field-Effect Transistors. Chemistry of Materials, 2018, 30, 8343-8351.	3.2	30
60	Synthesis of two-dimensional Ï€-conjugated polymers pendent with benzothiadiazole and naphtho[1,2-c:5,6-c]bis[1,2,5]thiadiazole moieties for polymer solar cells. Science China Chemistry, 2015, 58, 257-266.	4.2	29
61	Novel donorâ€“acceptor type conjugated polymers based on quinoxalino[6,5-f]quinoxaline for photovoltaic applications. Materials Chemistry Frontiers, 2017, 1, 499-506.	3.2	28
62	The Role of the Axial Substituent in Subphthalocyanine Acceptors for Bulkâ€Heterojunction Solar Cells. Angewandte Chemie, 2017, 129, 154-158.	1.6	26
63	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
64	Subnaphthalocyanines as Electron Acceptors in Polymer Solar Cells: Improving Device Performance by Modifying Peripheral and Axial Substituents. Chemistry - A European Journal, 2018, 24, 6339-6343.	1.7	25
65	A Facile Synthesized Polymer Featuring Bâ€N Covalent Bond and Small Singletâ€Triplet Gap for Highâ€Performance Organic Solar Cells. Angewandte Chemie, 2021, 133, 8895-8899.	1.6	25
66	Noncovalent Interactions Induced by Fluorination of the Central Core Improve the Photovoltaic Performance of A-D-Aâ€²-D-A-Type Nonfused Ring Acceptors. ACS Applied Energy Materials, 2022, 5, 7710-7718.	2.5	25
67	Synthesis of donorâ€“acceptor copolymers based on anthracene derivatives for polymer solar cells. Polymer Chemistry, 2013, 4, 3949.	1.9	23
68	Ternary copolymers containing 3,4-dicyanothiophene for efficient organic solar cells with reduced energy loss. Journal of Materials Chemistry A, 2021, 9, 13522-13530.	5.2	23
69	A study of optical properties enhancement in low-bandgap polymer solar cells with embedded PEDOT:PSS gratings. Solar Energy Materials and Solar Cells, 2012, 99, 327-332.	3.0	22
70	Al3+-induced far-red fluorescence enhancement of conjugated polymer nanoparticles and its application in live cell imaging. Nanoscale, 2013, 5, 9340.	2.8	22
71	Efficient Organic Ternary Solar Cells Employing Narrow Band Gap Diketopyrrolopyrrole Polymers and Nonfullerene Acceptors. Chemistry of Materials, 2020, 32, 7309-7317.	3.2	22
72	Bandgap engineering of indenofluoreneâ€based conjugated copolymers with pendant donorâ€Ï€â€acceptor chromophores for photovoltaic applications. Journal of Polymer Science Part A, 2011, 49, 4406-4415.	2.5	21

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73	Efficient Thick-Film Polymer Solar Cells with Enhanced Fill Factors via Increased Fullerene Loading. ACS Applied Materials & Interfaces, 2019, 11, 10794-10800.	4.0	21
74	Adjusting Aggregation Modes and Photophysical and Photovoltaic Properties of Diketopyrrolopyrroleâ€Based Small Molecules by Introducing Bâ†N Bonds. Chemistry - A European Journal, 2019, 25, 564-572.	1.7	19
75	Ternary All-Polymer Solar Cells With 8.5% Power Conversion Efficiency and Excellent Thermal Stability. Frontiers in Chemistry, 2020, 8, 302.	1.8	19
76	Morphology evolution with polymer chain propagation and its impacts on device performance and stability of non-fullerene solar cells. Journal of Materials Chemistry A, 2021, 9, 556-565.	5.2	19
77	Low-bandgap conjugated polymers based on benzodipyrrolidone with reliable unipolar electron mobility exceeding 1 cm2 Vâˆ’1 sâˆ’1. Science China Chemistry, 2021, 64, 1219-1227.	4.2	19
78	The new era for organic solar cells: small molecular donors. Science Bulletin, 2020, 65, 1597-1599.	4.3	19
79	Nonâ€Fused Polymerized Small Molecular Acceptors for Efficient Allâ€Polymer Solar Cells. Solar Rrl, 2022, 6, .	3.1	18
80	An electron acceptor featuring a Bâ€“N covalent bond and small singletâ€“triplet gap for organic solar cells. Chemical Communications, 2022, 58, 8686-8689.	2.2	18
81	Synthesis and optoelectronic properties of amino-functionalized carbazole-based conjugated polymers. Science China Chemistry, 2013, 56, 1119-1128.	4.2	17
82	Conjugated Polymer Nanoparticles with Ag⁺â€Sensitive Fluorescence Emission: A New Insight into the Cooperative Recognition Mechanism. Particle and Particle Systems Characterization, 2013, 30, 972-980.	1.2	17
83	Improving Performance of Allâ€Polymer Solar Cells Through Backbone Engineering of Both Donors and Acceptors. Solar Rrl, 2018, 2, 1800247.	3.1	17
84	High-Performance All-Polymer Solar Cells and Photodetectors Enabled by a High-Mobility n-Type Polymer and Optimized Bulk-Heterojunction Morphology. Chemistry of Materials, 2021, 33, 3746-3756.	3.2	17
85	Hydrophobic Fluorinated Conjugated Polymer as a Multifunctional Interlayer for High-Performance Perovskite Solar Cells. ACS Photonics, 2021, 8, 3185-3192.	3.2	17
86	Fully visible-light-harvesting conjugated polymers with pendant donor-Ï€-acceptor chromophores for photovoltaic applications. Solar Energy Materials and Solar Cells, 2012, 97, 50-58.	3.0	16
87	The influence of amino group on PCDTBT-based and P3HT-based polymer solar cells: Hole trapping processes. Applied Physics Letters, 2015, 106, .	1.5	16
88	Non-conjugated water/alcohol soluble polymers with different oxidation states of sulfide as cathode interlayers for high-performance polymer solar cells. Journal of Materials Chemistry C, 2016, 4, 4288-4295.	2.7	16
89	Phosphonium conjugated polyelectrolytes as interface materials for efficient polymer solar cells. Organic Electronics, 2018, 57, 151-157.	1.4	16
90	Electron Acceptors With a Truxene Core and Perylene Diimide Branches for Organic Solar Cells: The Effect of Ring-Fusion. Frontiers in Chemistry, 2018, 6, 328.	1.8	16

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91	Multistrategy Toward Highly Efficient and Stable CsPbI₂Br Perovskite Solar Cells Based on Dopantâ€Free Poly(3â€Hexylthiophene). Solar Rrl, 2022, 6, .	3.1	16
92	A Wideâ€Bandgap Conjugated Polymer Based on Quinoxalino[6,5â€<i>f</i>â€‰â€‰]quinoxaline for Fullerene and Nonâ€Fullerene Polymer Solar Cells. Macromolecular Rapid Communications, 2019, 40, e1900120.	2.0	15
93	Highâ€Efficiency P3HTâ€Based Allâ€Polymer Solar Cells with a Thermodynamically Miscible Polymer Acceptor. Solar Rrl, 2022, 6, .	3.1	15
94	4-Methylthio substitution on benzodithiophene-based conjugated polymers for high open-circuit voltage polymer solar cells. Synthetic Metals, 2019, 254, 122-127.	2.1	13
95	Bulk Heterojunction Quasi-Two-Dimensional Perovskite Solar Cell with 1.18 V High Photovoltage. ACS Applied Materials & Interfaces, 2019, 11, 2935-2943.	4.0	13
96	Design, synthesis and photovoltaic properties of a series of new acceptor-pended conjugated polymers. Science China Chemistry, 2016, 59, 1583-1592.	4.2	11
97	High open-circuit voltage organic solar cells enabled by a difluorobenzoxadiazole-based conjugated polymer donor. Science China Chemistry, 2019, 62, 829-836.	4.2	10
98	Sequentially Deposited Active Layer with Bulk-Heterojunction-like Morphology for Efficient Conventional and Inverted All-Polymer Solar Cells. ACS Applied Energy Materials, 2021, 4, 13307-13315.	2.5	10
99	Alkali metal salts doped pluronic block polymers as electron injection/transport layers for high performance polymer light-emitting diodes. Science China Chemistry, 2012, 55, 766-771.	4.2	9
100	Nâ€Type Quinoidal Polymers Based on Dipyrrolopyrazinedione for Application in Allâ€Polymer Solar Cells. Chemistry - A European Journal, 2021, 27, 13527-13533.	1.7	8
101	Energy level modulation of donorâ€“acceptor alternating random conjugated copolymers for achieving high-performance polymer solar cells. Journal of Materials Chemistry C, 2019, 7, 15335-15343.	2.7	7
102	Optimized active layer morphology via side-chain atomic substituents to achieve efficient and stable all-polymer solar cells. Journal of Materials Chemistry C, 2021, 9, 9515-9523.	2.7	4
103	Direct arylation polycondensation towards water/alcohol-soluble conjugated polymers as the electron transporting layers for organic solar cells. Chemical Communications, 2021, 57, 5798-5801.	2.2	2
104	Truxene Functionalized Star-Shaped Non-fullerene Acceptor With Selenium-Annulated Perylene Diimides for Efficient Organic Solar Cells. Frontiers in Chemistry, 2021, 9, 681994.	1.8	2
105	Development of Active Materials and Interface Materials for High Performance Bulk-Heterojunction Polymer Solar Cells. Topics in Applied Physics, 2015, , 191-219.	0.4	1