

Shanshan Chen

List of Publications by Year in descending order

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papers

8,691
citations

87888

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times ranked

4794
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#	ARTICLE	IF	CITATIONS
1	11.4% Efficiency non-fullerene polymer solar cells with trialkylsilyl substituted 2D-conjugated polymer as donor. <i>Nature Communications</i> , 2016, 7, 13651.	12.8	917
2	Side-Chain Isomerization on an n-type Organic Semiconductor ITIC Acceptor Makes 11.77% High Efficiency Polymer Solar Cells. <i>Journal of the American Chemical Society</i> , 2016, 138, 15011-15018.	13.7	826
3	Non-Fullerene Polymer Solar Cells Based on Alkylthio and Fluorine Substituted 2D-Conjugated Polymers Reach 9.5% Efficiency. <i>Journal of the American Chemical Society</i> , 2016, 138, 4657-4664.	13.7	743
4	Constructing a Strongly Absorbing Low-Bandgap Polymer Acceptor for High-Performance All-Polymer Solar Cells. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 13503-13507.	13.8	468
5	Cathode engineering with perylene-diimide interlayer enabling over 17% efficiency single-junction organic solar cells. <i>Nature Communications</i> , 2020, 11, 2726.	12.8	467
6	High Efficiency Polymer Solar Cells with Efficient Hole Transfer at Zero Highest Occupied Molecular Orbital Offset between Methylated Polymer Donor and Brominated Acceptor. <i>Journal of the American Chemical Society</i> , 2020, 142, 1465-1474.	13.7	344
7	Tuning the electron-deficient core of a non-fullerene acceptor to achieve over 17% efficiency in a single-junction organic solar cell. <i>Energy and Environmental Science</i> , 2020, 13, 2459-2466.	30.8	324
8	Ternary solar cells with a mixed face-on and edge-on orientation enable an unprecedented efficiency of 12.1%. <i>Energy and Environmental Science</i> , 2017, 10, 258-265.	30.8	318
9	Subtle Molecular Tailoring Induces Significant Morphology Optimization Enabling over 16% Efficiency Organic Solar Cells with Efficient Charge Generation. <i>Advanced Materials</i> , 2020, 32, e1906324.	21.0	312
10	9.73% Efficiency Nonfullerene All Organic Small Molecule Solar Cells with Absorption-Complementary Donor and Acceptor. <i>Journal of the American Chemical Society</i> , 2017, 139, 5085-5094.	13.7	303
11	All-Small-Molecule Organic Solar Cells with an Ordered Liquid Crystalline Donor. <i>Joule</i> , 2019, 3, 3034-3047.	24.0	257
12	A guest-assisted molecular-organization approach for >17% efficiency organic solar cells using environmentally friendly solvents. <i>Nature Energy</i> , 2021, 6, 1045-1053.	39.5	230
13	Simultaneous Interfacial Modification and Crystallization Control by Biguanide Hydrochloride for Stable Perovskite Solar Cells with PCE of 24.4%. <i>Advanced Materials</i> , 2022, 34, e2106118.	21.0	211
14	Highly Flexible and Efficient All-Polymer Solar Cells with High-Viscosity Processing Polymer Additive toward Potential of Stretchable Devices. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 13277-13282.	13.8	166
15	Achieving Fast Charge Separation and Low Nonradiative Recombination Loss by Rational Fluorination for High-Efficiency Polymer Solar Cells. <i>Advanced Materials</i> , 2019, 31, e1905480.	21.0	162
16	Balancing hydrogen adsorption/desorption by orbital modulation for efficient hydrogen evolution catalysis. <i>Nature Communications</i> , 2019, 10, 4060.	12.8	131
17	Recent Progress in Flexible and Stretchable Organic Solar Cells. <i>Advanced Functional Materials</i> , 2020, 30, 2002529.	14.9	123
18	Side-Chain Impact on Molecular Orientation of Organic Semiconductor Acceptors: High Performance Nonfullerene Polymer Solar Cells with Thick Active Layer over 400 nm. <i>Advanced Energy Materials</i> , 2018, 8, 1800856.	19.5	118

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19	Highly Flexible and Efficient All-Polymer Solar Cells with High-Viscosity Processing Polymer Additive toward Potential of Stretchable Devices. <i>Angewandte Chemie</i> , 2018, 130, 13461-13466.	2.0	108
20	Organic Photovoltaics with Multiple Donor-Acceptor Pairs. <i>Advanced Materials</i> , 2019, 31, e1804762.	21.0	106
21	A Non-Conjugated Polymer Acceptor for Efficient and Thermally Stable All-Polymer Solar Cells. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 19835-19840.	13.8	105
22	Modulating the Molecular Packing and Nanophase Blending via a Random Terpolymerization Strategy toward 11% Efficiency Nonfullerene Polymer Solar Cells. <i>Advanced Energy Materials</i> , 2017, 7, 1701125.	19.5	98
23	A Facile Synthesized Polymer Featuring N Covalent Bond and Small Singlet-Triplet Gap for High-Performance Organic Solar Cells. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 8813-8817.	13.8	97
24	Multifunctional Polymer Framework Modified SnO ₂ Enabling a Photostable FAPbI ₃ Perovskite Solar Cell with Efficiency Exceeding 23%. <i>ACS Energy Letters</i> , 2021, 6, 3824-3830.	17.4	93
25	A Synergetic Effect of Molecular Weight and Fluorine in All-Polymer Solar Cells with Enhanced Performance. <i>Advanced Functional Materials</i> , 2017, 27, 1603564.	14.9	92
26	Ultrafast Channel II process induced by a 3-D texture with enhanced acceptor order ranges for high-performance non-fullerene polymer solar cells. <i>Energy and Environmental Science</i> , 2018, 11, 2569-2580.	30.8	72
27	Volatile Solid Additive-Assisted Sequential Deposition Enables 18.42% Efficiency in Organic Solar Cells. <i>Advanced Science</i> , 2022, 9, e2105347.	11.2	72
28	Eutectic phase behavior induced by a simple additive contributes to efficient organic solar cells. <i>Nano Energy</i> , 2021, 84, 105862.	16.0	70
29	Over 16% efficiency from thick-film organic solar cells. <i>Science Bulletin</i> , 2020, 65, 1979-1982.	9.0	62
30	Feasible D1-A-D2-A Random Copolymers for Simultaneous High-Performance Fullerene and Nonfullerene Solar Cells. <i>Advanced Energy Materials</i> , 2018, 8, 1702166.	19.5	61
31	A f-Hole-Containing Volatile Solid Additive Enabling 16.5% Efficiency Organic Solar Cells. <i>IScience</i> , 2020, 23, 100965.	4.1	61
32	The Role of Mineral Acid Doping of PEDOT:PSS and Its Application in Organic Photovoltaics. <i>Advanced Electronic Materials</i> , 2020, 6, 1900648.	5.1	56
33	Performance-Enhancing Approaches for PEDOT:PSS-Si Hybrid Solar Cells. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 5036-5055.	13.8	54
34	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.	5.8	53
35	Constructing a Strongly Absorbing Low-Bandgap Polymer Acceptor for High-Performance All-Polymer Solar Cells. <i>Angewandte Chemie</i> , 2017, 129, 13688-13692.	2.0	51
36	A Simple Approach to Prepare Chlorinated Polymer Donors with Low-Lying HOMO Level for High Performance Polymer Solar Cells. <i>Chemistry of Materials</i> , 2019, 31, 6558-6567.	6.7	50

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37	Regulating the Surface Passivation and Residual Strain in Pure Tin Perovskite Films. ACS Energy Letters, 2021, 6, 3555-3562.	17.4	45
38	Dâ€A Copolymer Donor Based on Bithienyl Benzodithiophene D-Unit and Monoalkoxy Bifluoroquinoxaline A-Unit for High-Performance Polymer Solar Cells. Chemistry of Materials, 2020, 32, 3254-3261.	6.7	43
39	Role of Ions in Hydrogels with an Ionic Seebeck Coefficient of 52.9 mV K ⁻¹ . Journal of Physical Chemistry Letters, 2022, 13, 4621-4627.	4.6	41
40	Backbone Fluorination of Polythiophenes Improves Device Performance of Non-Fullerene Polymer Solar Cells. ACS Applied Energy Materials, 2019, 2, 7572-7583.	5.1	38
41	Understanding the Effect of the Third Component PC ₇₁ BM on Nanoscale Morphology and Photovoltaic Properties of Ternary Organic Solar Cells. Solar Rrl, 2020, 4, 1900540.	5.8	37
42	Cathode interfacial layer-free all small-molecule solar cells with efficiency over 12%. Journal of Materials Chemistry A, 2019, 7, 15944-15950.	10.3	36
43	Molecular ordering and phase segregation induced by a volatile solid additive for highly efficient all-small-molecule organic solar cells. Journal of Materials Chemistry A, 2021, 9, 2857-2863.	10.3	36
44	Fluid Mechanics Inspired Sequential Bladeâ€Coating for Highâ€Performance Largeâ€Area Organic Solar Modules. Advanced Functional Materials, 2022, 32, .	14.9	36
45	One-pot synthesis of electron-acceptor composite enables efficient fullerene-free ternary organic solar cells. Journal of Materials Chemistry A, 2018, 6, 22519-22525.	10.3	35
46	Spatial Distribution Recast for Organic Bulk Heterojunctions for Highâ€Performance Allâ€Inorganic Perovskite/Organic Integrated Solar Cells. Advanced Energy Materials, 2020, 10, 2000851.	19.5	34
47	Molecular Lock Induced by Chloroplatinic Acid Doping of PEDOT:PSS for High-Performance Organic Photovoltaics. ACS Applied Materials & Interfaces, 2020, 12, 30954-30961.	8.0	33
48	Effects of incorporating different chalcogenophene comonomers into random acceptor terpolymers on the morphology and performance of all-polymer solar cells. Polymer Chemistry, 2018, 9, 593-602.	3.9	30
49	Highâ€Performance Polymer Solar Cells Achieved by Introducing Sideâ€Chain Heteroatom on Smallâ€Molecule Electron Acceptor. Macromolecular Rapid Communications, 2019, 40, e1800393.	3.9	30
50	Ring-perfluorinated non-volatile additives with a high dielectric constant lead to highly efficient and stable organic solar cells. Journal of Materials Chemistry C, 2019, 7, 4716-4724.	5.5	29
51	Highâ€Efficiency Nonâ€Fullerene Acceptors Developed by Machine Learning and Quantum Chemistry. Advanced Science, 2022, 9, e2104742.	11.2	28
52	A Designed Ladderâ€Type Heteroarene Benzodi(Thienopyran) for Highâ€Performance Fullereneâ€Free Organic Solar Cells. Solar Rrl, 2017, 1, 1700165.	5.8	25
53	High-efficiency organic solar cells based on a small-molecule donor and a low-bandgap polymer acceptor with strong absorption. Journal of Materials Chemistry A, 2018, 6, 9613-9622.	10.3	25
54	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.	2.0	25

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55	Enhanced performance of ternary organic solar cells with a wide bandgap acceptor as the third component. <i>Journal of Materials Chemistry A</i> , 2019, 7, 27423-27431.	10.3	23
56	Solvent effect on the Seebeck coefficient of Fe ²⁺ /Fe ³⁺ hydrogel thermogalvanic cells. <i>Journal of Materials Chemistry A</i> , 2022, 10, 19690-19698.	10.3	22
57	Recombination Pathways in Perovskite Solar Cells. <i>Advanced Materials Interfaces</i> , 2022, 9, .	3.7	20
58	Effects of Alkoxy and Fluorine Atom Substitution of Donor Molecules on the Morphology and Photovoltaic Performance of All Small Molecule Organic Solar Cells. <i>Frontiers in Chemistry</i> , 2018, 6, 413.	3.6	19
59	Improvement in the Efficiency of Alkylsilyl Functionalized Copolymer for Polymer Solar Cells: Face-On Orientation Enhanced by Random Copolymerization. <i>Solar Rrl</i> , 2019, 3, 1900122.	5.8	17
60	Understanding the Morphology of High-Performance Solar Cells Based on a Low-Cost Polymer Donor. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 9537-9544.	8.0	17
61	Thick-Film High-Performance Solar Cells with a C ₆₀ -Containing Polystyrene Additive. <i>Solar Rrl</i> , 2019, 3, 1900033.	5.8	16
62	A Non-Conjugated Polymer Acceptor for Efficient and Thermally Stable All-Polymer Solar Cells. <i>Angewandte Chemie</i> , 2020, 132, 20007-20012.	2.0	16
63	Double-Acceptor-Type Random Conjugated Terpolymer Donors for Additive-Free Non-Fullerene Organic Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 20741-20749.	8.0	15
64	Artificial Intelligence Designer for Highly-Efficient Organic Photovoltaic Materials. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 8847-8854.	4.6	15
65	A thieno[3,4- <i>b</i>]thiophene linker enables a low-bandgap fluorene-cored molecular acceptor for efficient non-fullerene solar cells. <i>Materials Chemistry Frontiers</i> , 2018, 2, 760-767.	5.9	12
66	Subnaphthalocyanine triimides: potential three-dimensional solution processable acceptors for organic solar cells. <i>Journal of Materials Chemistry C</i> , 2020, 8, 2186-2195.	5.5	12
67	Conjugation-Curtailing of Benzodithionopyran-Cored Molecular Acceptor Enables Efficient Air-Processed Small Molecule Solar Cells. <i>Small</i> , 2019, 15, e1902656.	10.0	11
68	Morphological optimization by rational matching of the donor and acceptor boosts the efficiency of alkylsilyl fused ring-based polymer solar cells. <i>Journal of Materials Chemistry A</i> , 2019, 7, 4847-4854.	10.3	10
69	A low boiling-point and low-cost fluorinated additive improves the efficiency and stability of organic solar cells. <i>Journal of Materials Chemistry C</i> , 2020, 8, 15296-15302.	5.5	10
70	Phase Transition Modulation and Defect Suppression in Perovskite Solar Cells Enabled by a Self-Sacrificed Template. <i>Solar Rrl</i> , 2021, 5, 2100448.	5.8	10
71	Highly Skin-Compliant Polymeric Electrodes with Synergistically Boosted Conductivity toward Wearable Health Monitoring. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 20113-20121.	8.0	10
72	Modulating Structure Ordering via Side-Chain Engineering of Thieno[3,4- <i>b</i>]thiophene-Based Electron Acceptors for Efficient Organic Solar Cells with Reduced Energy Losses. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 35193-35200.	8.0	7

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73	High voltage all polymer solar cells with a polymer acceptor based on NDI and benzotriazole. Journal of Materials Chemistry C, 2019, 7, 9031-9037.	5.5	7
74	Efficiency Improvement of All-Small-Molecule Organic Solar Cells Through Fused-Aromatic-Ring Side-Chained Donors. Solar Rrl, 2021, 5, .	5.8	7
75	Hole Transfer Promoted by a Viscosity Additive in an All-Polymer Photovoltaic Blend. Journal of Physical Chemistry Letters, 2020, 11, 1384-1389.	4.6	6
76	Strategien zur Steigerung der Leistung von PEDOT:PSS/Si-Hybrid-Solarzellen. Angewandte Chemie, 2021, 133, 5092-5112.	2.0	5
77	Block copolymers as efficient cathode interlayer materials for organic solar cells. Frontiers of Chemical Science and Engineering, 2021, 15, 571-578.	4.4	5
78	Significantly enhanced thermal stability from a new kind of n-type organic semiconductor DFA4: a fully fused F8IC. Journal of Materials Chemistry C, 2021, 9, 13625-13629.	5.5	4
79	Oxygen heterocycle-fused indacenodithiophenebithiophene enables an efficient non-fullerene molecular acceptor. Journal of Materials Chemistry C, 2019, 7, 15344-15349.	5.5	3
80	Simultaneous Interfacial Modification and Crystallization Control by Biguanide Hydrochloride for Stable Perovskite Solar Cells with PCE of 24.4% (Adv. Mater. 8/2022). Advanced Materials, 2022, 34, .	21.0	3
81	A dithienodisilacyclohexadiene (DTDS)-based conjugated model semiconductor: understanding unique features and monitoring structural transition. RSC Advances, 2016, 6, 11933-11936.	3.6	2