Yuan Zhang

List of Publications by Year
in descending order

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99 papers	7,008 citations	76294 40 h-index	60583 81 g-index
101 all docs	101 docs citations	101 times ranked	6663 citing authors

#	Article	IF	Citations
1	Non-fullerene acceptors with branched side chains and improved molecular packing to exceed 18% efficiency in organic solar cells. Nature Energy, 2021, 6, 605-613.	19.8	1,307
2	Highâ€Efficiency Polymer Solar Cells Enhanced by Solvent Treatment. Advanced Materials, 2013, 25, 1646-1652.	11.1	455
3	A Highly Efficient Nonâ€Fullerene Organic Solar Cell with a Fill Factor over 0.80 Enabled by a Fineâ€Tuned Holeâ€Transporting Layer. Advanced Materials, 2018, 30, e1801801.	11.1	360
4	Ternary Organic Solar Cells with Efficiency >16.5% Based on Two Compatible Nonfullerene Acceptors. Advanced Materials, 2019, 31, e1905645.	11.1	240
5	Surface Passivation Using 2D Perovskites toward Efficient and Stable Perovskite Solar Cells. Advanced Materials, 2022, 34, e2105635.	11.1	221
6	A Biopolymer Heparin Sodium Interlayer Anchoring TiO₂ and MAPbI₃ Enhances Trap Passivation and Device Stability in Perovskite Solar Cells. Advanced Materials, 2018, 30, e1706924.	11.1	199
7	Fine Multiâ€Phase Alignments in 2D Perovskite Solar Cells with Efficiency over 17% via Slow Postâ€Annealing. Advanced Materials, 2019, 31, e1903889.	11.1	178
8	Molecular Doping Enhances Photoconductivity in Polymer Bulk Heterojunction Solar Cells. Advanced Materials, 2013, 25, 7038-7044.	11.1	173
9	Effects of Heteroatom Substitutions on the Crystal Structure, Film Formation, and Optoelectronic Properties of Diketopyrrolopyrroleâ€Based Materials. Advanced Functional Materials, 2013, 23, 47-56.	7.8	171
10	Design of a New Fusedâ€Ring Electron Acceptor with Excellent Compatibility to Wideâ€Bandgap Polymer Donors for Highâ€Performance Organic Photovoltaics. Advanced Materials, 2018, 30, e1800403.	11.1	169
11	Effect of Charge Recombination on the Fill Factor of Small Molecule Bulk Heterojunction Solar Cells. Advanced Energy Materials, 2011, 1, 610-617.	10.2	146
12	Controllable Molecular Doping and Charge Transport in Solutionâ€Processed Polymer Semiconducting Layers. Advanced Functional Materials, 2009, 19, 1901-1905.	7.8	136
13	Molecular Engineering for Two-Dimensional Perovskites with Photovoltaic Efficiency Exceeding 18%. Matter, 2021, 4, 582-599.	5.0	123
14	High fill factor organic solar cells with increased dielectric constant and molecular packing density. Joule, 2022, 6, 444-457.	11.7	117
15	Trap-free electron transport in poly(<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML") Tj ETQq1 1 0.784314 rgBT /Over with<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>n</mml:mi></mml:math>-type doping. Physical Review B, 2010, 81, .	1.1	115
16	Interfacial Modification in Organic and Perovskite Solar Cells. Advanced Materials, 2019, 31, e1805708.	11.1	106
17	Solutionâ€Processed Ambipolar Fieldâ€Effect Transistor Based on Diketopyrrolopyrrole Functionalized with Benzothiadiazole. Advanced Functional Materials, 2012, 22, 97-105.	7.8	102
18	Triplet exciton formation for non-radiative voltage loss in high-efficiency nonfullerene organic solar cells. Joule, 2021, 5, 1832-1844.	11.7	98

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19	An Integrated Janus Mesh: Underwater Bubble Antibuoyancy Unidirectional Penetration. ACS Nano, 2018, 12, 5489-5494.	7.3	88
20	Electron and hole transport in poly(fluorene-benzothiadiazole). Applied Physics Letters, 2011, 98, 143504.	1.5	86
21	Regulating Bulkâ€Heterojunction Molecular Orientations through Surface Free Energy Control of Holeâ€Transporting Layers for Highâ€Performance Organic Solar Cells. Advanced Materials, 2019, 31, e1806921.	11.1	86
22	Synthesis and Properties of Two Cationic Narrow Band Gap Conjugated Polyelectrolytes. Journal of the American Chemical Society, 2013, 135, 4163-4166.	6.6	83
23	Effects of Nonradiative Losses at Charge Transfer States and Energetic Disorder on the Openâ€Circuit Voltage in Nonfullerene Organic Solar Cells. Advanced Functional Materials, 2018, 28, 1705659.	7.8	77
24	Solution-Processed pH-Neutral Conjugated Polyelectrolyte Improves Interfacial Contact in Organic Solar Cells. ACS Nano, 2015, 9, 371-377.	7.3	73
25	Increased Mobility Induced by Addition of a Lewis Acid to a Lewis Basic Conjugated Polymer. Advanced Materials, 2014, 26, 724-727.	11.1	69
26	Photoresponse of Donor/Acceptor Blends in Organic Transistors: A Tool for Understanding Field-Assisted Charge Separation in Small Molecule Bulk Heterojunction Solar Cells. ACS Applied Materials & Interfaces, 2013, 5, 2347-2353.	4.0	68
27	Understanding charge transport and recombination losses in high performance polymer solar cells with non-fullerene acceptors. Journal of Materials Chemistry A, 2017, 5, 17230-17239.	5.2	66
28	DNA Interlayers Enhance Charge Injection in Organic Fieldâ€Effect Transistors. Advanced Materials, 2012, 24, 4255-4260.	11.1	63
29	Role of interface properties in organic solar cells: from substrate engineering to bulk-heterojunction interfacial morphology. Materials Chemistry Frontiers, 2020, 4, 2863-2880.	3.2	61
30	Fluorination with an enlarged dielectric constant prompts charge separation and reduces bimolecular recombination in non-fullerene organic solar cells with a high fill factor and efficiency >â€¯13%. Nano Energy, 2019, 56, 494-501.	8.2	59
31	Exquisite modulation of ZnO nanoparticle electron transporting layer for high-performance fullerene-free organic solar cell with inverted structure. Journal of Materials Chemistry A, 2019, 7, 3570-3576.	5.2	58
32	Hybrid Quantum Dot/Organic Heterojunction: A Route to Improve Open-Circuit Voltage in PbS Colloidal Quantum Dot Solar Cells. ACS Energy Letters, 2020, 5, 2335-2342.	8.8	54
33	Narrowâ€Bandgap Singleâ€Component Polymer Solar Cells with Approaching 9% Efficiency. Advanced Materials, 2021, 33, e2101295.	11.1	53
34	Management of the crystallization in two-dimensional perovskite solar cells with enhanced efficiency within a wide temperature range and high stability. Nano Energy, 2019, 58, 706-714.	8.2	52
35	Waterâ€Assisted Crystal Growth in Quasiâ€2D Perovskites with Enhanced Charge Transport and Photovoltaic Performance. Advanced Energy Materials, 2020, 10, 2001832.	10.2	52
36	Ciliaâ€Inspired Flexible Arrays for Intelligent Transport of Viscoelastic Microspheres. Advanced Functional Materials, 2018, 28, 1706666.	7.8	51

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37	Polyamino acid interlayer facilitates electron extraction in narrow band gap fullerene-free organic solar cells with an outstanding short-circuit current. Nano Energy, 2018, 50, 169-175.	8.2	50
38	On the Understandings of Dielectric Constant and Its Impacts on the Photovoltaic Efficiency in Organic Solar Cells. Chinese Journal of Chemistry, 2021, 39, 381-390.	2.6	48
39	Nanoscale heterogeneous distribution of surface energy at interlayers in organic bulk-heterojunction solar cells. Joule, 2021, 5, 3154-3168.	11.7	45
40	Enhancement of the hole injection into regioregular poly(3-hexylthiophene) by molecular doping. Applied Physics Letters, 2010, 97, 083303.	1.5	44
41	Temperature-dependent charge transport in solution-processed perovskite solar cells with tunable trap concentration and charge recombination. Journal of Materials Chemistry C, 2017, 5, 9376-9382.	2.7	44
42	Facile development of CoAl-LDHs/RGO nanocomposites as photocatalysts for efficient hydrogen generation from water splitting under visible-light irradiation. Inorganic Chemistry Frontiers, 2019, 6, 1753-1760.	3.0	44
43	Understanding the Impact of Bismuth Heterovalent Doping on the Structural and Photophysical Properties of CH₃NH₃PbBr₃ Halide Perovskite Crystals with Nearâ€IR Photoluminescence. Chemistry - A European Journal, 2019, 25, 5480-5488.	1.7	42
44	Halogen bonding reduces intrinsic traps and enhances charge mobilities in halide perovskite solar cells. Journal of Materials Chemistry A, 2019, 7, 6840-6848.	5.2	41
45	Nonâ€Fullerene Organic Solar Cells Based on Benzo[1,2â€b:4,5â€bâ€²]difuranâ€Conjugated Polymer with 14% Efficiency. Advanced Functional Materials, 2020, 30, 1906809.	7.8	41
46	Efficient Charge Transport Enables High Efficiency in Dilute Donor Organic Solar Cells. Journal of Physical Chemistry Letters, 2021, 12, 5039-5044.	2.1	41
47	Polydopamine/ZnO electron transport layers enhance charge extraction in inverted non-fullerene organic solar cells. Journal of Materials Chemistry C, 2019, 7, 10795-10801.	2.7	38
48	A polyaspartic acid sodium interfacial layer enhances surface trap passivation in perovskite solar cells. Journal of Materials Chemistry A, 2019, 7, 23895-23903.	5.2	37
49	Interfacial Chemical Bridge Constructed by Zwitterionic Sulfamic Acid for Efficient and Stable Perovskite Solar Cells. ACS Applied Energy Materials, 2020, 3, 3186-3192.	2.5	37
50	Understanding the Effect of the Third Component PC₇₁BM on Nanoscale Morphology and Photovoltaic Properties of Ternary Organic Solar Cells. Solar Rrl, 2020, 4, 1900540.	3.1	37
51	On the understanding of energy loss and device fill factor trade-offs in non-fullerene organic solar cells with varied energy levels. Nano Energy, 2020, 75, 105032.	8.2	34
52	Molecular dispersion enhances photovoltaic efficiency and thermal stability in quasi-bilayer organic solar cells. Science China Chemistry, 2021, 64, 116-126.	4.2	34
53	Ultra-narrow bandgap non-fullerene organic solar cells with low voltage losses and a large photocurrent. Journal of Materials Chemistry A, 2018, 6, 19934-19940.	5.2	33
54	Understanding Temperatureâ€Dependent Charge Extraction and Trapping in Perovskite Solar Cells. Advanced Functional Materials, 2020, 30, 2000550.	7.8	31

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55	Electrochromic devices and thin film transistors from a new family of ethylenedioxythiophene based conjugated polymers. New Journal of Chemistry, 2011, 35, 1327.	1.4	29
56	Pseudohalide-Assisted Growth of Oriented Large Grains for High-Performance and Stable 2D Perovskite Solar Cells. ACS Energy Letters, 2022, 7, 1842-1849.	8.8	29
57	Incorporating an Inert Polymer into the Interlayer Passivates Surface Defects in Methylammonium Lead Halide Perovskite Solar Cells. Chemistry - A European Journal, 2017, 23, 14650-14657.	1.7	28
58	High efficiency non-fullerene organic solar cells without electron transporting layers enabled by Lewis base anion doping. Nano Energy, 2018, 51, 736-744.	8.2	28
59	A conjugated microporous polymer film fabricated by in situ electro-chemical deposition as a hole transporting layer in organic photovoltaics. Journal of Materials Chemistry C, 2018, 6, 9044-9048.	2.7	27
60	Hydrogen-Rich 2D Halide Perovskite Scintillators for Fast Neutron Radiography. Journal of the American Chemical Society, 2021, 143, 21302-21311.	6.6	27
61	On the understanding of energetic disorder, charge recombination and voltage losses in all-polymer solar cells. Journal of Materials Chemistry C, 2018, 6, 7855-7863.	2.7	26
62	Control of Nanomorphology in Fullerene-Free Organic Solar Cells by Lewis Acid Doping with Enhanced Photovoltaic Efficiency. ACS Applied Materials & Interfaces, 2020, 12, 667-677.	4.0	24
63	Nonâ€Preheating Processed Quasiâ€2D Perovskites for Efficient and Stable Solar Cells. Small, 2020, 16, e1906997.	5.2	24
64	A surface modifier enhances the performance of the all-inorganic CsPbI₂Br perovskite solar cells with efficiencies approaching 15%. Physical Chemistry Chemical Physics, 2020, 22, 17847-17856.	1.3	23
65	High Efficiency Perovskite Solar Cells Employing Quasiâ€2D Ruddlesdenâ€Popper/Dionâ€Jacobson Heterojunctions. Advanced Functional Materials, 2022, 32, .	7.8	23
66	A Comparative Study on Hole Transfer Inversely Correlated with Driving Force in Two Non-Fullerene Organic Solar Cells. Journal of Physical Chemistry Letters, 2019, 10, 4110-4116.	2.1	21
67	PCBM Disperse-Red Ester with Strong Visible-Light Absorption: Implication of Molecular Design and Morphological Control for Organic Solar Cells. Journal of Physical Chemistry C, 2012, 116, 1313-1321.	1.5	19
68	Understanding the Passivation Mechanisms and Opto-Electronic Spectral Response in Methylammonium Lead Halide Perovskite Single Crystals. ACS Applied Materials & Interfaces, 2018, 10, 35580-35588.	4.0	19
69	A biopolymeric buffer layer improves device efficiency and stability in inverted organic solar cells. Journal of Materials Chemistry C, 2020, 8, 15795-15803.	2.7	18
70	Enhancement of the Photoresponse in Organic Fieldâ€Effect Transistors by Incorporating Thin DNA Layers. Angewandte Chemie - International Edition, 2014, 53, 244-249.	7.2	17
71	Improved electron extraction by a ZnO nanoparticle interlayer for solution-processed polymer solar cells. RSC Advances, 2017, 7, 12400-12406.	1.7	17
72	Effects of processing additives in non-fullerene organic bulk heterojunction solar cells with efficiency >11%. Chinese Chemical Letters, 2019, 30, 217-221.	4.8	17

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73	Air-stable formamidinium/methylammonium mixed lead iodide perovskite integral microcrystals with low trap density and high photo-responsivity. Physical Chemistry Chemical Physics, 2019, 21, 3106-3113.	1.3	16
74	Sequential molecular doping of non-fullerene organic solar cells without hole transport layers. Journal of Materials Chemistry C, 2020, 8, 158-164.	2.7	16
75	Built-in voltage enhanced by in situ electrochemical polymerized undoped conjugated hole-transporting modifiers in organic solar cells. Journal of Materials Chemistry C, 2020, 8, 2676-2681.	2.7	16
76	Electron Transport and Nanomorphology in Solutionâ€Processed Polymeric Semiconductor nâ€Doped with an Airâ€Stable Organometallic Dimer. Advanced Electronic Materials, 2017, 3, 1600546.	2.6	15
77	Highâ€Efficiency and Stable Perovskite Solar Cells Enabled by Lowâ€Dimensional Perovskite Surface Modifiers. Solar Rrl, 2022, 6, .	3.1	15
78	Efficient and Stable Quasiâ€2D Perovskite Solar Cells Enabled by Thermalâ€Aged Precursor Solution. Advanced Functional Materials, 2021, 31, 2107675.	7.8	14
79	Light Managements and Transparent Electrodes for Semitransparent Organic and Perovskite Solar Cells. Solar Rrl, 2022, 6, .	3.1	14
80	Understanding the temperature-dependent charge transport, structural variation and photoluminescent properties in methylammonium lead halide perovskite single crystals. Journal of Materials Chemistry C, 2018, 6, 6556-6564.	2.7	13
81	A universal approach for optimizing charge extraction in electron transporting layer-free organic solar cells via Lewis base doping. Journal of Materials Chemistry A, 2019, 7, 25808-25817.	5.2	11
82	High light intensity effects on nanoscale open-circuit voltage for three common donor materials in bulk heterojunction solar cells. Energy and Environmental Science, 2013, 6, 1766.	15.6	10
83	High-efficiency of 15.47% for two-dimensional perovskite solar cells processed by blade coating with non-thermal assistance. Journal of Materials Chemistry C, 2021, 9, 9851-9858.	2.7	10
84	Improved Electron Transport with Reduced Contact Resistance in Nâ€Doped Polymer Fieldâ€Effect Transistors with a Dimeric Dopant. Macromolecular Rapid Communications, 2018, 39, e1700726.	2.0	9
85	Retardation of Trapâ€Assisted Recombination in Lead Halide Perovskite Solar Cells by a Dimethylbiguanide Anchor Layer. Chemistry - A European Journal, 2018, 25, 1076-1082.	1.7	9
86	Tailoring the side chain of imide-functional benzotriazole based polymers to achieve internal quantum efficiency approaching 100%. Journal of Materials Chemistry A, 2020, 8, 23519-23525.	5.2	9
87	Mediated Non-geminate Recombination in Ternary Organic Solar Cells Through a Liquid Crystal Guest Donor. Frontiers in Chemistry, 2020, 8, 21.	1.8	9
88	Fast Field-Insensitive Charge Extraction Enables High Fill Factors in Polymer Solar Cells. ACS Applied Materials & Interfaces, 2020, 12, 38460-38469.	4.0	8
89	Enhanced stability in perovskite solar cells via room-temperature processing. Journal of Materials Chemistry C, 2021, 9, 14749-14756.	2.7	8
90	Strongly Reduced Non-Radiative Voltage Losses in Organic Solar Cells Prepared with Sequential Film Deposition. Journal of Physical Chemistry Letters, 2021, 12, 10663-10670.	2.1	8

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91	Peculiar Steric Hindrance Assists Monoclinic Phase Formation toward High-Quality All-Inorganic Perovskites. Journal of Physical Chemistry Letters, 2021, 12, 11228-11237.	2.1	7
92	Quaternary Organic Solar Cells Enable Suppressed Energy Loss. Solar Rrl, 2022, 6, .	3.1	7
93	Ambipolar charge transport in a bis-diketopyrrolopyrrole small molecule semiconductor with tunable energetic disorder. Physical Chemistry Chemical Physics, 2018, 20, 1787-1793.	1.3	6
94	Rational Design of 2D pâ€“Ï€ Conjugated Polysquaraines for Both Fullerene and Nonfullerene Polymer Solar Cells. Macromolecular Chemistry and Physics, 2020, 221, 1900439.	1.1	6
95	The synergistic effect of fluorine atom and alkyl chain positions in enhancing organic photovoltaic open-circuit voltage and morphology miscibility. Sustainable Energy and Fuels, 2022, 6, 2490-2497.	2.5	2
96	Adenosine Triphosphate Disodium Modified Hole Transport Layer for Efficient Inverted Perovskite Solar Cells. ChemNanoMat, 2022, 8, .	1.5	2
97	Structureâ€“Property Relationships: Effects of Heteroatom Substitutions on the Crystal Structure, Film Formation, and Optoelectronic Properties of Diketopyrrolopyrroleâ€Based Materials (Adv. Funct.) Tj ETQq1 1 0.784314 rgBT /Ov	0.7	1
98	Interfacial Molecular Doping at Donor and Acceptor Interface in Bilayer Organic Solar Cells. Solar Rrl, 0, , .	3.1	1
99	Crystallization: Effects of Stereoisomerism on the Crystallization Behavior and Optoelectrical Properties of Conjugated Molecules (Adv. Mater. 27/2013). Advanced Materials, 2013, 25, 3618-3618.	11.1	0