Jianyu Yuan

List of Publications by Year
in descending order

112 papers	6,206 citations	53751 45 h-index	74108 75 g-index
112 all docs	112 docs citations	112 times ranked	5684 citing authors

#	Article	IF	Citations
1	Band-Aligned Polymeric Hole Transport Materials for Extremely Low Energy Loss Î±-CsPbI3 Perovskite Nanocrystal Solar Cells. Joule, 2018, 2, 2450-2463.	11.7	275
2	14.1% CsPbI₃ Perovskite Quantum Dot Solar Cells via Cesium Cation Passivation. Advanced Energy Materials, 2019, 9, 1900721.	10.2	254
3	Metal Halide Perovskites in Quantum Dot Solar Cells: Progress and Prospects. Joule, 2020, 4, 1160-1185.	11.7	211
4	Improved performance of inverted planar perovskite solar cells with F4-TCNQ doped PEDOT:PSS hole transport layers. Journal of Materials Chemistry A, 2017, 5, 5701-5708.	5.2	207
5	Efficient Polymer Solar Cells with a High Open Circuit Voltage of 1 Volt. Advanced Functional Materials, 2013, 23, 885-892.	7.8	180
6	Flexible and efficient perovskite quantum dot solar cells via hybrid interfacial architecture. Nature Communications, 2021, 12, 466.	5.8	176
7	Thermally Stable Allâ€Polymer Solar Cells with High Tolerance on Blend Ratios. Advanced Energy Materials, 2018, 8, 1800029.	10.2	163
8	Perovskite Quantum Dot Solar Cells with 15.6% Efficiency and Improved Stability Enabled by an Î±-CsPbI₃/FAPbI₃ Bilayer Structure. ACS Energy Letters, 2019, 4, 2571-2578.	8.8	160
9	Highâ€Efficiency Hybrid Solar Cells Based on Polymer/PbS_xSe_{1â€x} Nanocrystals Benefiting from Vertical Phase Segregation. Advanced Materials, 2013, 25, 5772-5778.	11.1	154
10	Surface Ligand Management Aided by a Secondary Amine Enables Increased Synthesis Yield of CsPbI₃ Perovskite Quantum Dots and High Photovoltaic Performance. Advanced Materials, 2020, 32, e2000449.	11.1	137
11	A Universal Strategy to Utilize Polymeric Semiconductors for Perovskite Solar Cells with Enhanced Efficiency and Longevity. Advanced Functional Materials, 2018, 28, 1706377.	7.8	134
12	Simultaneously Improved Efficiency and Stability in All-Polymer Solar Cells by a Pâ€“iâ€“N Architecture. ACS Energy Letters, 2019, 4, 2277-2286.	8.8	127
13	Guanidiniumâ€Assisted Surface Matrix Engineering for Highly Efficient Perovskite Quantum Dot Photovoltaics. Advanced Materials, 2020, 32, e2001906.	11.1	125
14	Efficient and stable CsPbI₃ perovskite quantum dots enabled by <i>in situ</i> ytterbium doping for photovoltaic applications. Journal of Materials Chemistry A, 2019, 7, 20936-20944.	5.2	121
15	Room-Temperature Processed Nb₂O₅ as the Electron-Transporting Layer for Efficient Planar Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2017, 9, 23181-23188.	4.0	120
16	In Situ Ligand Bonding Management of CsPbI₃ Perovskite Quantum Dots Enables Highâ€Performance Photovoltaics and Red Lightâ€Emitting Diodes. Angewandte Chemie - International Edition, 2020, 59, 22230-22237.	7.2	117
17	Ambient Processable and Stable Allâ€Polymer Organic Solar Cells. Advanced Functional Materials, 2019, 29, 1806747.	7.8	111
18	Improved Allâ€Polymer Solar Cell Performance by Using Matched Polymer Acceptor. Advanced Functional Materials, 2016, 26, 5669-5678.	7.8	107

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19	Efficient PbS quantum dot solar cells employing a conventional structure. Journal of Materials Chemistry A, 2017, 5, 23960-23966.	5.2	104
20	Inverted Planar Heterojunction Perovskite Solar Cells Employing Polymer as the Electron Conductor. ACS Applied Materials & Interfaces, 2015, 7, 3994-3999.	4.0	100
21	Tuning the Surface-Passivating Ligand Anchoring Position Enables Phase Robustness in CsPbI₃ Perovskite Quantum Dot Solar Cells. ACS Energy Letters, 2020, 5, 3322-3329.	8.8	89
22	Comparing the device physics, dynamics and morphology of polymer solar cells employing conventional PCBM and non-fullerene polymer acceptor N2200. Nano Energy, 2017, 35, 251-262.	8.2	83
23	High-efficiency perovskite quantum dot solar cells benefiting from a conjugated polymer-quantum dot bulk heterojunction connecting layer. Journal of Materials Chemistry A, 2020, 8, 8104-8112.	5.2	82
24	High efficiency all-polymer solar cells realized by the synergistic effect between the polymer side-chain structure and solvent additive. Journal of Materials Chemistry A, 2015, 3, 7077-7085.	5.2	79
25	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
26	Quantum Dots for Photovoltaics: A Tale of Two Materials. Advanced Energy Materials, 2021, 11, 2100354.	10.2	77
27	Stable PbS quantum dot ink for efficient solar cells by solution-phase ligand engineering. Journal of Materials Chemistry A, 2019, 7, 15951-15959.	5.2	72
28	A new dialkylthio-substituted naphtho[2,3-<i>c</i>]thiophene-4,9-dione based polymer donor for high-performance polymer solar cells. Energy and Environmental Science, 2019, 12, 675-683.	15.6	71
29	Toward Thermal Stable and High Photovoltaic Efficiency Ternary Conjugated Copolymers: Influence of Backbone Fluorination and Regioselectivity. Chemistry of Materials, 2017, 29, 1758-1768.	3.2	66
30	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
31	Engineering the morphology <i>via</i> processing additives in multiple all-polymer solar cells for improved performance. Journal of Materials Chemistry A, 2018, 6, 10421-10432.	5.2	65
32	Synthesis of cesium-doped ZnO nanoparticles as an electron extraction layer for efficient PbS colloidal quantum dot solar cells. Journal of Materials Chemistry A, 2018, 6, 17688-17697.	5.2	65
33	Design of benzodithiophene-diketopyrrolopyrrole based donorâ€“acceptor copolymers for efficient organic field effect transistors and polymer solar cells. Journal of Materials Chemistry, 2012, 22, 22734.	6.7	64
34	High Polymer/Fullerene Ratio Realized in Efficient Polymer Solar Cells by Tailoring of the Polymer Sideâ€Chains. Advanced Materials, 2014, 26, 3624-3630.	11.1	62
35	Î±-CsPbBr₃ Perovskite Quantum Dots for Application in Semitransparent Photovoltaics. ACS Applied Materials & Interfaces, 2020, 12, 27307-27315.	4.0	62
36	Enormously improved CH3NH3PbI3 film surface for environmentally stable planar perovskite solar cells with PCE exceeding 19.9%. Nano Energy, 2018, 48, 10-19.	8.2	61

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37	Toward Scalable PbS Quantum Dot Solar Cells Using a Tailored Polymeric Hole Conductor. ACS Energy Letters, 2019, 4, 2850-2858.	8.8	61
38	Naphthalene Diimide-Based n-Type Polymers: Efficient Rear Interlayers for High-Performance Siliconâ€“Organic Heterojunction Solar Cells. ACS Nano, 2017, 11, 7215-7222.	7.3	60
39	Indigo: A Natural Molecular Passivator for Efficient Perovskite Solar Cells. Advanced Energy Materials, 2022, 12, .	10.2	60
40	High-efficiency polymerâ€“PbS hybrid solar cells via molecular engineering. Journal of Materials Chemistry A, 2015, 3, 2572-2579.	5.2	59
41	High-performance all-polymer nonfullerene solar cells by employing an efficient polymer-small molecule acceptor alloy strategy. Nano Energy, 2017, 36, 356-365.	8.2	58
42	High efficiency all-polymer tandem solar cells. Scientific Reports, 2016, 6, 26459.	1.6	57
43	Improved Tandem Allâ€Polymer Solar Cells Performance by Using Spectrally Matched Subcells. Advanced Energy Materials, 2018, 8, 1703291.	10.2	54
44	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
45	Narrowâ€Bandgap Singleâ€Component Polymer Solar Cells with Approaching 9% Efficiency. Advanced Materials, 2021, 33, e2101295.	11.1	53
46	Homojunction Perovskite Quantum Dot Solar Cells with over 1ÂÂµmâ€Thick Photoactive Layer. Advanced Materials, 2022, 34, e2105977.	11.1	47
47	Widely Applicable n-Type Molecular Doping for Enhanced Photovoltaic Performance of All-Polymer Solar Cells. ACS Applied Materials & Interfaces, 2018, 10, 2776-2784.	4.0	46
48	Realizing solution-processed monolithic PbS QDs/perovskite tandem solar cells with high UV stability. Journal of Materials Chemistry A, 2018, 6, 24693-24701.	5.2	45
49	High performance planar-heterojunction perovskite solar cells using amino-based fulleropyrrolidine as the electron transporting material. Journal of Materials Chemistry A, 2016, 4, 10130-10134.	5.2	44
50	Hybrid Perovskite Quantum Dot/Nonâ€Fullerene Molecule Solar Cells with Efficiency Over 15%. Advanced Functional Materials, 2021, 31, 2101272.	7.8	44
51	Ternary D1â€“D2â€“Aâ€“D2 Structured Conjugated Polymer: Efficient â€œGreenâ€•Solvent-Processed Polymer/Neat-C₇₀ Solar Cells. Chemistry of Materials, 2016, 28, 7479-7486.	3.2	43
52	Toward Efficient All-Polymer Solar Cells via Halogenation on Polymer Acceptors. ACS Applied Materials & Interfaces, 2020, 12, 33028-33038.	4.0	42
53	Polymerizing small molecular acceptors for efficient allâ€polymer solar cells. InformaÄnÃ-MateriÃ¡ly, 2022, 4, .	8.5	42
54	Combinative Effect of Additive and Thermal Annealing Processes Delivers High Efficiency All-Polymer Solar Cells. Journal of Physical Chemistry C, 2015, 119, 25298-25306.	1.5	41

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55	Optimizing Surface Chemistry of PbS Colloidal Quantum Dot for Highly Efficient and Stable Solar Cells via Chemical Binding. Advanced Science, 2021, 8, 2003138.	5.6	40
56	Photovoltaic Devices Based on Colloidal PbX Quantum Dots: Progress and Prospects. Solar Rrl, 2017, 1, 1600021.	3.1	39
57	Advances in Metal Halide Perovskite Film Preparation: The Role of Antiâ€Solvent Treatment. Small Methods, 2021, 5, e2100046.	4.6	39
58	Colloidal Quantum Dot Solar Cells: Progressive Deposition Techniques and Future Prospects on Largeâ€Area Fabrication. Advanced Materials, 2022, 34, e2107888.	11.1	39
59	Dual Interfacial Engineering Enables Efficient and Reproducible CsPbI₂Br All-Inorganic Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2020, 12, 31659-31666.	4.0	38
60	Electroluminescent Solar Cells Based on CsPbI₃ Perovskite Quantum Dots. Advanced Functional Materials, 2022, 32, 2108615.	7.8	38
61	Efficient Hole Transfer via Delocalized Excited State in Small Molecular Acceptor: A Comparative Study on Photodynamics of PM6:Y6 and PM6:ITIC Organic Photovoltaic Blends. Advanced Functional Materials, 2021, 31, 2102764.	7.8	37
62	Solution-Processed MoO_{<i>x</i>} Hole-Transport Layer with F4-TCNQ Modification for Efficient and Stable Inverted Perovskite Solar Cells. ACS Applied Energy Materials, 2019, 2, 5862-5870.	2.5	35
63	Quantum Dot Passivation of Halide Perovskite Films with Reduced Defects, Suppressed Phase Segregation, and Enhanced Stability. Advanced Science, 2022, 9, e2102258.	5.6	35
64	Linking Phase Segregation and Photovoltaic Performance of Mixed-Halide Perovskite Films through Grain Size Engineering. ACS Energy Letters, 0, , 1649-1658.	8.8	33
65	Polymer selection toward efficient polymer/PbSe planar heterojunction hybrid solar cells. Organic Electronics, 2015, 24, 263-271.	1.4	30
66	Aromatic amine-assisted pseudo-solution-phase ligand exchange in CsPbI₃ perovskite quantum dot solar cells. Chemical Communications, 2021, 57, 7906-7909.	2.2	29
67	Structure, band gap and energy level modulations for obtaining efficient materials in inverted polymer solar cells. Organic Electronics, 2013, 14, 635-643.	1.4	28
68	Understanding the Interplay of Transportâ€Morphologyâ€Performance in PBDBâ€Tâ€Based Polymer Solar Cells. Solar Rrl, 2020, 4, 1900524.	3.1	28
69	In Situ Ligand Bonding Management of CsPbI₃ Perovskite Quantum Dots Enables Highâ€Performance Photovoltaics and Red Lightâ€Emitting Diodes. Angewandte Chemie, 2020, 132, 22414-22421.	1.6	28
70	Improved Charge Generation via Ultrafast Effective Holeâ€Transfer in Allâ€Polymer Photovoltaic Blends with Large Highest Occupied Molecular Orbital (HOMO) Energy Offset and Proper Crystal Orientation. Advanced Functional Materials, 2018, 28, 1801611.	7.8	27
71	Block copolymer compatibilizer for efficient and stable nonfullerene organic solar cells. Chemical Engineering Journal, 2022, 438, 135543.	6.6	26
72	Correlation between structure and photovoltaic performance of a series of furan bridged donorâ€“acceptor conjugated polymers. Journal of Materials Chemistry A, 2013, 1, 12128.	5.2	25

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73	A penetrated 2D/3D hybrid heterojunction for high-performance perovskite solar cells. Journal of Materials Chemistry A, 2021, 9, 23019-23027.	5.2	23
74	A new polymer donor for efficient polymer solar cells: simultaneously realizing high short-circuit current density and transparency. Journal of Materials Chemistry A, 2018, 6, 14700-14708.	5.2	22
75	Effect of Backbone Fluorine and Chlorine Substitution on Chargeâ€Transport Properties of Naphthalenediimideâ€Based Polymer Semiconductors. Advanced Electronic Materials, 2020, 6, 1901241.	2.6	21
76	Thermal Annealing Effect on Ultrafast Charge Transfer in All-Polymer Solar Cells with a Non-Fullerene Acceptor N2200. Journal of Physical Chemistry C, 2017, 121, 8804-8811.	1.5	20
77	Metallophthalocyanine-Based Molecular Dipole Layer as a Universal and Versatile Approach to Realize Efficient and Stable Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2018, 10, 42397-42405.	4.0	20
78	Towards improved efficiency of polymer solar cells <i>via</i> chlorination of a benzo[1,2-<i>b</i>:4,5-<i>b</i>â€²]dithiophene based polymer donor. Journal of Materials Chemistry A, 2019, 7, 2261-2267.	5.2	20
79	Perspective on the perovskite quantum dots for flexible photovoltaics. Journal of Energy Chemistry, 2021, 62, 505-507.	7.1	20
80	Fine-tuned crystallinity of polymerized non-fullerene acceptor via molecular engineering towards efficient all-polymer solar cell. Chemical Engineering Journal, 2022, 428, 131232.	6.6	20
81	Towards scalable synthesis of high-quality PbS colloidal quantum dots for photovoltaic applications. Journal of Materials Chemistry C, 2019, 7, 1575-1583.	2.7	19
82	Quantum-Dot Tandem Solar Cells Based on a Solution-Processed Nanoparticle Intermediate Layer. ACS Applied Materials & Interfaces, 2020, 12, 2313-2318.	4.0	19
83	The Rise of Colloidal Lead Halide Perovskite Quantum Dot Solar Cells. Accounts of Materials Research, 2022, 3, 866-878.	5.9	19
84	Narrow bandgap conjugated polymers based on a high-mobility polymer template for visibly transparent photovoltaic devices. Journal of Materials Chemistry A, 2016, 4, 17333-17343.	5.2	17
85	Ultrafast Electron Transfer in Lowâ€Band Gap Polymer/PbS Nanocrystalline Blend Films. Advanced Functional Materials, 2016, 26, 713-721.	7.8	17
86	CsPbI₃ perovskite quantum dot solar cells: opportunities, progress and challenges. Materials Advances, 2022, 3, 1931-1952.	2.6	17
87	<i>In Situ</i> Growth of Strained Matrix on CsPbI₃ Perovskite Quantum Dots for Balanced Conductivity and Stability. ACS Nano, 2022, 16, 10534-10544.	7.3	16
88	Solutionâ€Processed CsPbBr₃ Quantum Dots/Organic Semiconductor Planar Heterojunctions for Highâ€Performance Photodetectors. Advanced Science, 2022, 9, e2105856.	5.6	15
89	Alkenyl Carboxylic Acid: Engineering the Nanomorphology in Polymerâ€"Polymer Solar Cells as Solvent Additive. ACS Applied Materials & Interfaces, 2017, 9, 13396-13405.	4.0	14
90	Understanding the impact of side-chains on photovoltaic performance in efficient all-polymer solar cells. Journal of Materials Chemistry C, 2019, 7, 12641-12649.	2.7	14

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91	Structural variations to a donor polymer with low energy losses. Journal of Materials Chemistry A, 2017, 5, 18618-18626.	5.2	12
92	Magnetron Sputtered SnO₂ Constituting Double Electron Transport Layers for Efficient PbS Quantum Dot Solar Cells. Solar Rrl, 2020, 4, 2000218.	3.1	12
93	Tailoring Phase Alignment and Interfaces via Polyelectrolyte Anchoring Enables Largeâ€Area 2D Perovskite Solar Cells. Angewandte Chemie - International Edition, 2022, 61, .	7.2	12
94	Improved Hole Transfer and Charge Generation in All-Polymer Photovoltaic Blends with a Pâ€“iâ€“N Structure. Journal of Physical Chemistry C, 2020, 124, 25262-25269.	1.5	11
95	From PCBM-Polymer to Low-Cost and Thermally Stable C60/C70-Polymer Solar Cells: The Role of Molecular Structure, Crystallinity, and Morphology Control. ACS Applied Materials & Interfaces, 2018, 10, 24037-24045.	4.0	10
96	Efficient wide bandgap all-polymer solar cells benefiting from a random n-type copolymers strategy. Chemical Engineering Journal, 2021, 417, 128000.	6.6	10
97	Film morphology of solution-processed regioregular ternary conjugated polymer solar cells under processing additive stress. Journal of Materials Chemistry A, 2017, 5, 8903-8908.	5.2	9
98	Regioselectivity control of block copolymers for high-performance single-material organic solar cells. Journal of Materials Chemistry A, 2022, 10, 12997-13004.	5.2	9
99	Acceptor Percolation Determines How Electron-Accepting Additives Modify Transport of Ambipolar Polymer Organic Field-Effect Transistors. ACS Nano, 2018, 12, 7134-7140.	7.3	8
100	Perovskite Quantum Dot Solar Cells Fabricated from Recycled Lead-Acid Battery Waste. , 2022, 4, 120-127.		7
101	Highly efficient A-site cation exchange in perovskite quantum dot for solar cells. Journal of Chemical Physics, 2022, 157, .	1.2	6
102	Efficient all polymer solar cells employing donor polymer based on benzo[1,2-b:4,5-bâ€™]dithiophene unit. AIP Advances, 2015, 5, 117126.	0.6	5
103	Enhanced Charge Transfer, Transport and Photovoltaic Efficiency in Allâ€Polymer Organic Solar Cells by Polymer Backbone Fluorination. Chinese Journal of Chemistry, 2018, 36, 280-286.	2.6	5
104	An Analytical Approach to CH 3 NH 3 PbI 3 Perovskite Solar Cells Based on Different Hole Transport Materials. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900087.	0.8	5
105	Contrasting Electron and Hole Transfer Dynamics from CH(NH2)2PbI3 Perovskite Quantum Dots to Charge Transport Layers. Applied Sciences (Switzerland), 2020, 10, 5553.	1.3	5
106	Solvent Vapor-Assisted Magnetic Manipulation of Molecular Orientation and Carrier Transport of Semiconducting Polymers. ACS Applied Materials & Interfaces, 2020, 12, 29487-29496.	4.0	5
107	Unveiling the Influence of the Spectral Irradiance of Indoor Lightâ€Emitting Diodes on the Photovoltaics of a Methylammonium Lead Iodideâ€Based Device. Advanced Energy and Sustainability Research, 2022, 3, 2100143.	2.8	5
108	Poly(2,2â€™-(2,5-difluoro-1,4-phenylene)dithiophene-alt-naphthalene diimide) synthesized by direct (hetero)arylation reaction for all-polymer solar cells. Organic Electronics, 2021, 89, 106051.	1.4	4

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109	Ultrafast Spectroscopic Identification of Hole Transfer in All-Polymer Blend Films of Poly(1-{4,8-bis[5-(2-ethylhexyl)thiophen-2-yl]-benzo[1,2-<i>b</i>:4,5-<i>b</i>â€²]dithiophen-2-yl}-3-methyl-5-(4-octylphenyl)-4<i>H</i>- and Poly[1,8-bis(dicarboximide)-2,6-diyl]-<i>alt</i>-5,5â€²-(2,2â€²-bithiophene)]. Journal of Physical Chemistry C, 2017, 121, 20126-20133.	1.5	2
110	Mechanochemical synthesis of nonfullerene small molecular acceptors. Journal of Materials Chemistry C, 0, , .	2.7	1
111	Understanding the effect of chlorine substitution in all-polymer solar cells. Sustainable Energy and Fuels, 2022, 6, 2962-2969.	2.5	1
112	Understanding the Impact of Fluorine Substitution on the Photovoltaic Performance of Block Copolymers. Transactions of Tianjin University, 0, , .	3.3	1