Wenbin Guo

List of Publications by Year
in descending order

109 papers	2,259 citations	201674 27 h-index	289244 40 g-index
109 all docs	109 docs citations	109 times ranked	2802 citing authors

#	Article	IF	Citations
1	Strategies of modifying spiro-OMeTAD materials for perovskite solar cells: a review. Journal of Materials Chemistry A, 2021, 9, 4589-4625.	10.3	149
2	Recent Progress of Inverted Perovskite Solar Cells with a Modified PEDOT:PSS Hole Transport Layer. ACS Applied Materials & Interfaces, 2020, 12, 49297-49322.	8.0	88
3	Highly Efficient Semitransparent Polymer Solar Cells with Color Rendering Index Approaching 100 Using One-Dimensional Photonic Crystal. ACS Applied Materials & Interfaces, 2015, 7, 9920-9928.	8.0	81
4	High-Efficiency and High-Color-Rendering-Index Semitransparent Polymer Solar Cells Induced by Photonic Crystals and Surface Plasmon Resonance. ACS Applied Materials & Interfaces, 2018, 10, 6513-6520.	8.0	68
5	Performance improvement of TiO2âˆ•P3HT solar cells using CuPc as a sensitizer. Applied Physics Letters, 2008, 92, 073307.	3.3	67
6	Color and transparency-switchable semitransparent polymer solar cells towards smart windows. Science Bulletin, 2020, 65, 217-224.	9.0	60
7	Novel Electron Transport Layer Material for Perovskite Solar Cells with Over 22% Efficiency and Longâ€Term Stability. Advanced Functional Materials, 2020, 30, 2004933.	14.9	55
8	Highly Efficient Low-Bandgap Polymer Solar Cells with Solution-Processed and Annealing-Free Phosphomolybdic Acid as Hole-Transport Layers. ACS Applied Materials & Interfaces, 2015, 7, 5367-5372.	8.0	52
9	Surface Passivation of Perovskite Solar Cells Toward Improved Efficiency and Stability. Nano-Micro Letters, 2019, 11, 50.	27.0	49
10	Performance Improvement of Polymer Solar Cells by Surface-Energy-Induced Dual Plasmon Resonance. ACS Applied Materials & Interfaces, 2016, 8, 6183-6189.	8.0	46
11	Highly efficient and high transmittance semitransparent polymer solar cells with one-dimensional photonic crystals as distributed Bragg reflectors. Organic Electronics, 2014, 15, 470-477.	2.6	45
12	Surface Plasmon Resonance Enhanced Polymer Solar Cells by Thermally Evaporating Au into Buffer Layer. ACS Applied Materials & Interfaces, 2015, 7, 18866-18871.	8.0	45
13	Improving charge transport property and energy transfer with carbon quantum dots in inverted polymer solar cells. Applied Physics Letters, 2014, 105, .	3.3	42
14	Semitransparent inverted polymer solar cells using MoO3/Ag/V2O5 as transparent anodes. Solar Energy Materials and Solar Cells, 2012, 97, 59-63.	6.2	40
15	Domain Controlling by Compound Additive toward Highly Efficient Quasiâ€2D Perovskite Lightâ€Emitting Diodes. Advanced Functional Materials, 2021, 31, 2103890.	14.9	40
16	Semitransparent polymer solar cells with one-dimensional (WO3/LiF)N photonic crystals. Applied Physics Letters, 2012, 101, .	3.3	37
17	Surface Chlorination of ZnO for Perovskite Solar Cells with Enhanced Efficiency and Stability. Solar Rrl, 2019, 3, 1900154.	5.8	37
18	An easily prepared carbon quantum dots and employment for inverted organic photovoltaic devices. Chemical Engineering Journal, 2017, 315, 621-629.	12.7	33

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19	High-efficiency polymer solar cells with low temperature solution-processed SnO₂/PFN as a dual-function electron transporting layer. Journal of Materials Chemistry A, 2018, 6, 17401-17408.	10.3	33
20	Efficient perovskite solar cells enabled by ion-modulated grain boundary passivation with a fill factor exceeding 84%. Journal of Materials Chemistry A, 2019, 7, 22359-22365.	10.3	33
21	Open-circuit voltage enhancement of inverted polymer bulk heterojunction solar cells by doping NaYF4 nanoparticles/PVP composites. Journal of Materials Chemistry, 2012, 22, 22382.	6.7	32
22	Unique Gold Nanorods Embedded Active Layer Enabling Strong Plasmonic Effect To Improve the Performance of Polymer Photovoltaic Devices. Journal of Physical Chemistry C, 2016, 120, 6198-6205.	3.1	32
23	Annealing-Free ZnO:PEI Composite Cathode Interfacial Layer for Efficient Organic Solar Cells. ACS Photonics, 2017, 4, 2952-2958.	6.6	32
24	Improving the performance of perovskite solar cells by surface passivation. Journal of Energy Chemistry, 2020, 46, 202-207.	12.9	31
25	Efficiency enhancement of inverted polymer solar cells by doping NaYF4:Yb3+, Er3+ nanocomposites in PCDTBT:PCBM active layer. Solar Energy Materials and Solar Cells, 2014, 124, 126-132.	6.2	29
26	Enhanced Electron Extraction Capability of Polymer Solar Cells via Employing Electrostatically Self-Assembled Molecule on Cathode Interfacial Layer. ACS Applied Materials & Interfaces, 2016, 8, 8224-8231.	8.0	29
27	Efficient 4,4â€²,4â€³â€tris(3â€methylphenylphenylamino)triphenylamine (mâ€MTDATA) Hole Transport Layer in Perovskite Solar Cells Enabled by Using the Nonstoichiometric Precursors. Advanced Functional Materials, 2018, 28, 1803126.	14.9	29
28	Decreased Charge Transport Barrier and Recombination of Organic Solar Cells by Constructing Interfacial Nanojunction with Annealing-Free ZnO and Al Layers. ACS Applied Materials & Interfaces, 2017, 9, 22068-22075.	8.0	28
29	Trappedâ€Electronâ€Induced Hole Injection in Perovskite Photodetector with Controllable Gain. Advanced Optical Materials, 2018, 6, 1701189.	7.3	27
30	Colored semitransparent polymer solar cells with a power conversion efficiency of 9.36% achieved by controlling the optical Tamm state. Journal of Materials Chemistry A, 2019, 7, 4102-4109.	10.3	27
31	The role of Ag nanoparticles in inverted polymer solar cells: Surface plasmon resonance and backscattering centers. Applied Physics Letters, 2013, 102, .	3.3	26
32	Effective stability enhancement in ZnO-based perovskite solar cells by MACl modification. Journal of Materials Chemistry A, 2021, 9, 12161-12168.	10.3	26
33	The Performance Enhancement of Polymer Solar Cells by Introducing Cadmium-Free Quantum Dots. Journal of Physical Chemistry C, 2015, 119, 26747-26752.	3.1	25
34	Boosted Electron Transport and Enlarged Built-In Potential by Eliminating the Interface Barrier in Organic Solar Cells. ACS Applied Materials & Interfaces, 2017, 9, 8830-8837.	8.0	25
35	Impedance investigation of the highly efficient polymer solar cells with composite CuBr₂/MoO₃hole transport layer. Physical Chemistry Chemical Physics, 2017, 19, 20839-20846.	2.8	25
36	Using easily prepared carbon nanodots to improve hole transport capacity of perovskite solar cells. Materials Today Energy, 2019, 12, 161-167.	4.7	25

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37	Light harvesting enhancement toward low IPCE region of semitransparent polymer solar cells via one-dimensional photonic crystal reflectors. Solar Energy Materials and Solar Cells, 2014, 127, 27-32.	6.2	24
38	Performance improvement of inverted polymer solar cells by doping Au nanoparticles into TiO2 cathode buffer layer. Applied Physics Letters, 2013, 103, .	3.3	23
39	Highly efficient ITO-free polymer solar cells based on metal resonant microcavity using WO3/Au/WO3 as transparent electrodes. Organic Electronics, 2014, 15, 1545-1551.	2.6	23
40	Incorporating self-assembled silane-crosslinked carbon dots into perovskite solar cells to improve efficiency and stability. Journal of Materials Chemistry A, 2020, 8, 5629-5637.	10.3	23
41	Improving the charge carrier transport of organic solar cells by incorporating a deep energy level molecule. Physical Chemistry Chemical Physics, 2017, 19, 245-250.	2.8	22
42	Performance improvement of planar perovskite solar cells with cobalt-doped interface layer. Applied Surface Science, 2020, 507, 145081.	6.1	22
43	Recent advances of semitransparent organic solar cells. Solar Energy, 2021, 225, 97-107.	6.1	22
44	Developing 1D Sbâ€Embedded Carbon Nanorods to Improve Efficiency and Stability of Inverted Planar Perovskite Solar Cells. Small, 2019, 15, e1804692.	10.0	21
45	Improving the efficiency of inverted polymer solar cells by introducing inorganic dopants. Physical Chemistry Chemical Physics, 2015, 17, 7960-7965.	2.8	20
46	Improved Power Conversion Efficiency of Inverted Organic Solar Cells by Incorporating Au Nanorods into Active Layer. ACS Applied Materials & Interfaces, 2015, 7, 15848-15854.	8.0	20
47	Small molecules based on tetrazine unit for efficient performance solution-processed organic solar cells. Solar Energy Materials and Solar Cells, 2016, 155, 30-37.	6.2	18
48	Versatile dual organic interface layer for performance enhancement of polymer solar cells. Journal of Power Sources, 2016, 333, 99-106.	7.8	17
49	Efficiency Improvement of Organic Solar Cells via Introducing Combined Anode Buffer Layer To Facilitate Hole Extraction. Journal of Physical Chemistry C, 2016, 120, 13954-13962.	3.1	16
50	Employing Easily Prepared Carbon Nanoparticles To Improve Performance of Inverted Organic Solar Cells. ACS Sustainable Chemistry and Engineering, 2016, 4, 2359-2365.	6.7	16
51	Cations Functionalized Carbon Nanoâ€Dots Enabling Interfacial Passivation and Crystallization Control for Inverted Perovskite Solar Cells. Solar Rrl, 2020, 4, 1900369.	5.8	16
52	Incorporating a Polar Molecule to Passivate Defects for Perovskite Solar Cells. Solar Rrl, 2020, 4, 1900489.	5.8	16
53	Efficiency enhancement of inverted organic solar cells by introducing PFDTBT quantum dots into PCDTBT:PC71BM active layer. Organic Electronics, 2014, 15, 2632-2638.	2.6	15
54	Performance improvement of inverted polymer solar cells thermally evaporating CuI as an anode buffer layer. Synthetic Metals, 2014, 198, 1-5.	3.9	15

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55	Semi-transparent polymer solar cells with optical adjusting layers. Journal of Materials Chemistry C, 2018, 6, 9494-9500.	5.5	15
56	Improved color rendering index of low band gap semi-transparent polymer solar cells using one-dimensional photonic crystals. RSC Advances, 2015, 5, 54638-54644.	3.6	14
57	Preparation and employment of carbon nanodots to improve electron extraction capacity of polyethylenimine interfacial layer for polymer solar cells. Organic Electronics, 2016, 33, 62-70.	2.6	13
58	The role of Au nanorods in highly efficient inverted low bandgap polymer solar cells. Applied Physics Letters, 2014, 105, 223305.	3.3	12
59	Toward Efficient Carbon-Dots-Based Electron-Extraction Layer Through Surface Charge Engineering. ACS Applied Materials & Interfaces, 2018, 10, 40255-40264.	8.0	12
60	Reducing charge recombination of polymer solar cells by introducing composite anode buffer layer. Solar Energy, 2018, 171, 8-15.	6.1	12
61	Recent advances in Pbâ€“Sn mixed perovskite solar cells. Journal of Energy Chemistry, 2022, 73, 615-638.	12.9	12
62	Alkali metal salts doped ZnO interfacial layers facilitate charge transport for organic solar cells. Organic Electronics, 2019, 74, 258-264.	2.6	11
63	Low-cost and easily prepared interface layer towards efficient and negligible hysteresis perovskite solar cells. Journal of Colloid and Interface Science, 2022, 617, 745-751.	9.4	11
64	Performance enhancement of organic photovoltaic devices enabled by Au nanoarrows inducing surface plasmonic resonance effect. Physical Chemistry Chemical Physics, 2016, 18, 24285-24289.	2.8	10
65	An easily prepared Ag 8 GeS 6 nanocrystal and its role on the performance enhancement of polymer solar cells. Organic Electronics, 2017, 45, 247-255.	2.6	10
66	Enhanced Photovoltaic Performance of Tetrazine-Based Small Molecules with Conjugated Side Chains. ACS Sustainable Chemistry and Engineering, 2017, 5, 8684-8692.	6.7	10
67	Improving light harvesting and charge extraction of polymer solar cells upon buffer layer doping. Solar Energy, 2020, 202, 80-85.	6.1	10
68	The role of phosphor nanoparticles in high efficiency organic solar cells. Synthetic Metals, 2015, 204, 65-69.	3.9	9
69	Enhanced electron extraction capability of polymer solar cells via modifying the cathode buffer layer with inorganic quantum dots. Physical Chemistry Chemical Physics, 2016, 18, 11435-11442.	2.8	9
70	Highly efficient polymer solar cells based on low-temperature processed ZnO: application of a bifunctional Au@CNTs nanocomposite. Journal of Materials Chemistry C, 2019, 7, 2676-2685.	5.5	9
71	Overcoming intrinsic defects of the hole transport layer with optimized carbon nanorods for perovskite solar cells. Nanoscale, 2019, 11, 8776-8784.	5.6	9
72	Flexible Color Tunability and High Transmittance Semitransparent Organic Solar Cells. Solar Rrl, 2022, 6, .	5.8	9

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73	Performance Improvement of Low-Band-Gap Polymer Solar Cells by Optical Microcavity Effect. IEEE Electron Device Letters, 2013, 34, 87-89.	3.9	8
74	Optimization of PDTS-DTffBT-Based Solar Cell Performance through Control of Polymer Molecular Weight. Journal of Physical Chemistry C, 2016, 120, 19513-19520.	3.1	8
75	Improved Optical Field Distribution and Charge Extraction through an Interlayer of Carbon Nanospheres in Polymer Solar Cells. Chemistry of Materials, 2017, 29, 2961-2968.	6.7	8
76	Boosting Electron Extraction in Polymer Solar Cells by Introducing a N-Type Organic Semiconductor Interface Layer. Journal of Physical Chemistry C, 2018, 122, 207-215.	3.1	8
77	Incorporating deep electron traps into perovskite devices: towards high efficiency solar cells and fast photodetectors. Journal of Materials Chemistry A, 2018, 6, 21039-21046.	10.3	8
78	Alkali metal ions passivation to decrease interface defects of perovskite solar cells. Solar Energy, 2019, 193, 220-226.	6.1	8
79	Preparation and NO₂ Sensing Properties of the Ni-Doped In₂O₃ Nanofibers. Integrated Ferroelectrics, 2012, 138, 71-76.	0.7	7
80	The light trapping enhancement of inverted polymer solar cells by introducing NaYF4 nanoparticles. Synthetic Metals, 2014, 195, 117-121.	3.9	7
81	Facilitating electron extraction of inverted polymer solar cells by using organic/inorganic/organic composite buffer layer. Organic Electronics, 2019, 68, 187-192.	2.6	7
82	Unraveling the effect of polymer dots doping in inverted low bandgap organic solar cells. Physical Chemistry Chemical Physics, 2015, 17, 16086-16091.	2.8	6
83	Orienting the Microstructure Evolution of Copper Phthalocyanine as an Anode Interlayer in Inverted Polymer Solar Cells for High Performance. ACS Applied Materials & Interfaces, 2017, 9, 32044-32053.	8.0	6
84	A solution-processed binary cathode interfacial layer facilitates electron extraction for inverted polymer solar cells. Journal of Colloid and Interface Science, 2018, 514, 328-337.	9.4	6
85	Employing Pentacene To Balance the Charge Transport in Inverted Organic Solar Cells. Journal of Physical Chemistry C, 2018, 122, 17110-17117.	3.1	6
86	Overcoming Defect-Induced Charge Recombination Loss in Organic Solar Cells by FÃ¶rster Resonance Energy Transfer. ACS Sustainable Chemistry and Engineering, 2018, 6, 9699-9706.	6.7	6
87	Recent process of plasma effect in organic solar cells. Journal of Energy Chemistry, 2021, 52, 181-190.	12.9	6
88	The action mechanism of TiO2:NaYF4:Yb3+,Tm3+ cathode buffer layer in highly efficient inverted organic solar cells. Applied Physics Letters, 2014, 105, 053301.	3.3	5
89	An organosilane self-assembled monolayer incorporated into polymer solar cells enabling interfacial coherence to improve charge transport. Physical Chemistry Chemical Physics, 2016, 18, 16005-16012.	2.8	5
90	An easily prepared self-assembled interface layer upon active layer doping facilitates charge transfer in polymer solar cells. Electrochimica Acta, 2018, 285, 365-372.	5.2	5

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91	Realizing efficiency improvement of polymer solar cells by using multi-functional cascade electron transport layers. Organic Electronics, 2020, 76, 105482.	2.6	5
92	Efficiency enhancement in an inverted organic light-emitting device with a TiO₂ electron injection layer through interfacial engineering. Journal of Materials Chemistry C, 2020, 8, 8206-8212.	5.5	5
93	The operation mechanism of poly(9,9-dioctylfluorenyl-2,7-diyl) dots in high efficiency polymer solar cells. Applied Physics Letters, 2015, 106, .	3.3	4
94	Employing inorganic/organic hybrid interface layer to improve electron transfer for inverted polymer solar cells. Electrochimica Acta, 2016, 210, 874-879.	5.2	4
95	Dual Roles of the Fullerene Interlayer on Light Harvesting and Electron Transfer for Highly Efficient Polymer Solar Cells. Journal of Physical Chemistry C, 2017, 121, 8722-8730.	3.1	4
96	Passivation effect of composite organic interlayer on polymer solar cells. Organic Electronics, 2018, 63, 129-136.	2.6	4
97	Using 4â€Chlorobenzoic Acid Layer Toward Stable and Lowâ€Cost CsPbI 2 Br Perovskite Solar Cells. Solar Rrl, 2021, 5, 2100347.	5.8	4
98	Using a facile processing method to facilitate charge extraction for polymer solar cells. Journal of Materials Chemistry C, 2018, 6, 11045-11051.	5.5	3
99	Eliminating light soaking effect of inverted polymer solar cells functionalized with a conjugated macroelectrolyte electron-collecting interlayer. Electrochimica Acta, 2018, 281, 218-226.	5.2	3
100	Fullerene derivative layer induced phase separation and charge transport improvement for inverted polymer solar cells. Thin Solid Films, 2019, 690, 137559.	1.8	3
101	Efficiency Improvement of Inverted Organic Solar Cells via Introducing a Series of Polyfluorene Dots in Electron Transport Layer. Journal of Physical Chemistry C, 2015, 119, 16462-16467.	3.1	2
102	Using a Simple Optical Management Layer to Solve the Contradiction between Efficiency and Transmittance for Semitransparent Organic Solar Cells. ACS Sustainable Chemistry and Engineering, 2022, 10, 2241-2247.	6.7	2
103	The Study of Transmission Characteristics of a 17×17 All Fluorinated Polyimide Arrayed Waveguide Grating Multiplexer. , 2011, , .		1
104	Improved performance of inverted polymer solar cells using Cd 2 SSe/ZnS quantum dots. Materials Letters, 2017, 188, 244-247.	2.6	1
105	Analysis and extraction of contact resistance in pentacene thin film transistors. , 2008, , .		0
106	Modelling of Charge Carrier Mobility Effect on Organic Bulk Heterojunction Solar Cells. Integrated Ferroelectrics, 2012, 138, 38-43.	0.7	0
107	Analysis of plasma waves resonant detection for terahertz radiation in high mobility field effect transistor. Optik, 2013, 124, 6408-6410.	2.9	0
108	The role of NaYF4nanoparticles in inverted polymer solar cells. , 2014, , .		0

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109	Easily Prepared Transparent Electrodes for Low-Cost Semitransparent Inverted Polymer Solar Cells. Energies, 2021, 14, 5837.	3.1	0