Wu-Qiang Wu

List of Publications by Citations

80 papers	4,192 citations	35 h-index	64 g-index
81 ext. papers	5,011 ext. citations	13.6 avg, IF	6 L-index

#	Paper	IF	Citations
80	Resolving spatial and energetic distributions of trap states in metal halide perovskite solar cells. *Science*, **2020**, 367, 1352-1358	33.3	322
79	Hydrothermal fabrication of hierarchically anatase TiO2 nanowire arrays on FTO glass for dye-sensitized solar cells. *Scientific Reports*, **2013**, 3, 1352	4.9	272
78	Bilateral alkylamine for suppressing charge recombination and improving stability in blade-coated perovskite solar cells. *Science Advances*, **2019**, 5, eaav8925	14.3	262
77	Molecular doping enabled scalable blading of efficient hole-transport-layer-free perovskite solar cells. *Nature Communications*, **2018**, 9, 1625	17.4	242
76	Multistack integration of three-dimensional hyperbranched anatase titania architectures for high-efficiency dye-sensitized solar cells. *Journal of the American Chemical Society*, **2014**, 136, 6437-45	16.4	210
75	Ultra-long anatase TiO2 nanowire arrays with multi-layered configuration on FTO glass for high-efficiency dye-sensitized solar cells. *Energy and Environmental Science*, **2014**, 7, 644-649	35.4	155
74	Maximizing omnidirectional light harvesting in metal oxide hyperbranched array architectures. *Nature Communications*, **2014**, 5, 3968	17.4	138
73	Reducing Surface Halide Deficiency for Efficient and Stable Iodide-Based Perovskite Solar Cells. *Journal of the American Chemical Society*, **2020**, 142, 3989-3996	16.4	133
72	Recent progress in hybrid perovskite solar cells based on n-type materials. *Journal of Materials Chemistry A*, **2017**, 5, 10092-10109	13	118
71	Hierarchical oriented anatase TiO2 nanostructure arrays on flexible substrate for efficient dye-sensitized solar cells. *Scientific Reports*, **2013**, 3, 1892	4.9	105
70	Dye-sensitized solar cells based on a double layered TiO2 photoanode consisting of hierarchical nanowire arrays and nanoparticles with greatly improved photovoltaic performance. *Journal of Materials Chemistry*, **2012**, 22, 18057		94
69	Thin Films of Dendritic Anatase Titania Nanowires Enable Effective Hole-Blocking and Efficient Light-Harvesting for High-Performance Mesoscopic Perovskite Solar Cells. *Advanced Functional Materials*, **2015**, 25, 3264-3272	15.6	88
68	A double layered TiO2 photoanode consisting of hierarchical flowers and nanoparticles for high-efficiency dye-sensitized solar cells. *Nanoscale*, **2013**, 5, 4362-9	7.7	86
67	CdS/CdSe co-sensitized TiO2 nanowire-coated hollow Spheres exceeding 6% photovoltaic performance. *Nano Energy*, **2015**, 11, 621-630	17.1	85
66	Constructing 3D branched nanowire coated macroporous metal oxide electrodes with homogeneous or heterogeneous compositions for efficient solar cells. *Angewandte Chemie - International Edition*, **2014**, 53, 4816-21	16.4	84
65	Effect of the Microstructure of the Functional Layers on the Efficiency of Perovskite Solar Cells. *Advanced Materials*, **2017**, 29, 1601715	24	80
64	Blading Phase-Pure Formamidinium-Alloyed Perovskites for High-Efficiency Solar Cells with Low Photovoltage Deficit and Improved Stability. *Advanced Materials*, **2020**, 32, e2000995	24	80

63	Multifunctional Phosphorus-Containing Lewis Acid and Base Passivation Enabling Efficient and Moisture-Stable Perovskite Solar Cells. *Advanced Functional Materials*, **2020**, 30, 1910710	15.6	78
62	Understanding of carrier dynamics, heterojunction merits and device physics: towards designing efficient carrier transport layer-free perovskite solar cells. *Chemical Society Reviews*, **2020**, 49, 354-381	58.5	78
61	CdS/CdSe co-sensitized vertically aligned anatase TiO2 nanowire arrays for efficient solar cells. *Nano Energy*, **2014**, 8, 1-8	17.1	77
60	Three-dimensional TiO2/ZnO hybrid array as a heterostructured anode for efficient quantum-dot-sensitized solar cells. *ACS Applied Materials & Interfaces*, **2015**, 7, 5199-205	9.5	75
59	Trilateral Econjugation extensions of phenothiazine-based dyes enhance the photovoltaic performance of the dye-sensitized solar cells. *Dyes and Pigments*, **2016**, 124, 63-71	4.6	71
58	Phenothiazine-based dyes with bilateral extension of Econjugation for efficient dye-sensitized solar cells. *Dyes and Pigments*, **2013**, 96, 722-731	4.6	68
57	Thin Films of Tin Oxide Nanosheets Used as the Electron Transporting Layer for Improved Performance and Ambient Stability of Perovskite Photovoltaics. *Solar Rrl*, **2017**, 1, 1700117	7.1	57
56	Enhanced efficacy of defect passivation and charge extraction for efficient perovskite photovoltaics with a small open circuit voltage loss. *Journal of Materials Chemistry A*, **2019**, 7, 9025-9033	13	49
55	Morphology-controlled cactus-like branched anatase TiO2 arrays with high light-harvesting efficiency for dye-sensitized solar cells. *Journal of Power Sources*, **2014**, 260, 6-11	8.9	49
54	Solvent-Mediated Dimension Tuning of Semiconducting Oxide Nanostructures as Efficient Charge Extraction Thin Films for Perovskite Solar Cells with Efficiency Exceeding 16%. *Advanced Energy Materials*, **2016**, 6, 1502027	21.8	47
53	Three-dimensional hyperbranched TiO2/ZnO heterostructured arrays for efficient quantum dot-sensitized solar cells. *Journal of Materials Chemistry A*, **2015**, 3, 14826-14832	13	44
52	A family of vertically aligned nanowires with smooth, hierarchical and hyperbranched architectures for efficient energy conversion. *Nano Energy*, **2014**, 9, 15-24	17.1	44
51	A Review of Diverse Halide Perovskite Morphologies for Efficient Optoelectronic Applications. *Small Methods*, **2020**, 4, 1900662	12.8	44
50	Trilayered Photoanode of TiO2 Nanoparticles on a 1DED Nanostructured TiO2-Grown Flexible Ti Substrate for High-Efficiency (9.1%) Dye-Sensitized Solar Cells with Unprecedentedly High Photocurrent Density. *Journal of Physical Chemistry C*, **2014**, 118, 16426-16432	3.8	43
49	Recent advances in hierarchical three-dimensional titanium dioxide nanotree arrays for high-performance solar cells. *Journal of Materials Chemistry A*, **2017**, 5, 12699-12717	13	40
48	Hierarchical macroporous Zn(2)SnO(4)-ZnO nanorod composite photoelectrodes for efficient CdS/CdSe quantum dot co-sensitized solar cells. *ACS Applied Materials & Interfaces*, **2013**, 5, 11865-71	9.5	39
47	Maze-Like Halide Perovskite Films for Efficient Electron Transport Layer-Free Perovskite Solar Cells. *Solar Rrl*, **2019**, 3, 1800268	7.1	38
46	Hierarchical TiO2 flowers built from TiO2 nanotubes for efficient Pt-free based flexible dye-sensitized solar cells. *Physical Chemistry Chemical Physics*, **2012**, 14, 13175-9	3.6	37

45	Spontaneous surface/interface ligand-anchored functionalization for extremely high fill factor over 86% in perovskite solar cells. *Nano Energy*, **2020**, 75, 104929	17.1	33
44	Suppressing Interfacial Charge Recombination in Electron-Transport-Layer-Free Perovskite Solar Cells to Give an Efficiency Exceeding 21 . *Angewandte Chemie - International Edition*, **2020**, 59, 20980-20987	16.4	33
43	Impact of hydroxy and octyloxy substituents of phenothiazine based dyes on the photovoltaic performance. *Dyes and Pigments*, **2013**, 99, 299-307	4.6	31
42	Influence of spatial arrangements of Espacer and acceptor of phenothiazine based dyes on the performance of dye-sensitized solar cells. *Organic Electronics*, **2013**, 14, 2662-2672	3.5	31
41	Constructing an n/n+ homojunction in a monolithic perovskite film for boosting charge collection in inverted perovskite photovoltaics. *Energy and Environmental Science*, **2021**, 14, 4048-4058	35.4	29
40	Large-Area Blade-Coated Solar Cells: Advances and Perspectives. *Advanced Energy Materials*, **2021**, 11, 2100378	21.8	28
39	The Rise of Textured Perovskite Morphology: Revolutionizing the Pathway toward High-Performance Optoelectronic Devices. *Advanced Energy Materials*, **2020**, 10, 1902256	21.8	27
38	Solution-processed Zn2SnO4 electron transporting layer for efficient planar perovskite solar cells. *Materials Today Energy*, **2018**, 7, 260-266	7	25
37	Branched titania nanostructures for efficient energy conversion and storage: A review on design strategies, structural merits and multifunctionalities. *Nano Energy*, **2019**, 62, 791-809	17.1	24
36	Optimizing semiconductor thin films with smooth surfaces and well-interconnected networks for high-performance perovskite solar cells. *Journal of Materials Chemistry A*, **2016**, 4, 12463-12470	13	23
35	Fabrication of a double layered photoanode consisting of SnO2 nanofibers and nanoparticles for efficient dye-sensitized solar cells. *RSC Advances*, **2013**, 3, 13804	3.7	23
34	Correlating alkyl chain length with defect passivation efficacy in perovskite solar cells. *Chemical Communications*, **2020**, 56, 5006-5009	5.8	20
33	Hierarchical ZnO nanorod-on-nanosheet arrays electrodes for efficient CdSe quantum dot-sensitized solar cells. *Science China Materials*, **2016**, 59, 807-816	7.1	20
32	Solvent-Mediated Intragranular-Coarsening of CHNHPbI Thin Films toward High-Performance Perovskite Photovoltaics. *ACS Applied Materials & Interfaces*, **2017**, 9, 31959-31967	9.5	20
31	Suppressing Interfacial Charge Recombination in Electron-Transport-Layer-Free Perovskite Solar Cells to Give an Efficiency Exceeding 21 %. *Angewandte Chemie*, **2020**, 132, 21166-21173	3.6	20
30	Recent progress of minimal voltage losses for high-performance perovskite photovoltaics. *Nano Energy*, **2021**, 81, 105634	17.1	20
29	Integrated planar and bulk dual heterojunctions capable of efficient electron and hole extraction for perovskite solar cells with >17% efficiency. *Nano Energy*, **2017**, 32, 187-194	17.1	19
28	Monodisperse anatase titania microspheres with high-thermal stability and large pore size (~80 nm) as efficient photocatalysts. *Journal of Materials Chemistry A*, **2017**, 5, 3645-3654	13	18

27	Blade-coating Perovskite Films with Diverse Compositions for Efficient Photovoltaics. *Energy and Environmental Materials*, **2021**, 4, 277-283	13	15
26	3D Branched Nanowire-Coated Macroporous Titania Thin Films for Efficient Perovskite Solar Cells. *Advanced Functional Materials*, **2018**, 28, 1804356	15.6	15
25	A 3D hybrid nanowire/microcuboid optoelectronic electrode for maximised light harvesting in perovskite solar cells. *Journal of Materials Chemistry A*, **2019**, 7, 932-939	13	14
24	Perovskite crystals redissolution strategy for affordable, reproducible, efficient and stable perovskite photovoltaics. *Materials Today*, **2021**, 50, 199-199	21.8	14
23	Synchronous surface and bulk composition management for red-shifted light absorption and suppressed interfacial recombination in perovskite solar cells. *Journal of Materials Chemistry A*, **2020**, 8, 9743-9752	13	13
22	Interfacial Linkage and Carbon Encapsulation Enable Full Solution-Printed Perovskite Photovoltaics with Prolonged Lifespan. *Angewandte Chemie - International Edition*, **2021**, 60, 23735-23742	16.4	13
21	Sub-100 °C solution processed amorphous titania nanowire thin films for high-performance perovskite solar cells. *Journal of Power Sources*, **2016**, 329, 17-22	8.9	12
20	Three-dimensional titanium oxide nanoarrays for perovskite photovoltaics: surface engineering for cascade charge extraction and beneficial surface passivation. *Sustainable Energy and Fuels*, **2017**, 1, 1960-1967	5.8	12
19	Bifacial Contact Junction Engineering for High-Performance Perovskite Solar Cells with Efficiency Exceeding 21. *Small*, **2019**, 15, e1900606	11	11
18	Fused-ring phenazine building blocks for efficient copolymer donors. *Materials Chemistry Frontiers*, **2020**, 4, 1454-1458	7.8	11
17	Room Temperature Fabrication of SnO 2 Electrodes Enabling Barrier-Free Electron Extraction for Efficient Flexible Perovskite Photovoltaics. *Advanced Functional Materials*,2200817	15.6	11
16	Solution-Processed Anatase Titania Nanowires: From Hyperbranched Design to Optoelectronic Applications. *Accounts of Chemical Research*, **2019**, 52, 633-644	24.3	10
15	Rational surface engineering of anatase titania core-shell nanowire arrays: full-solution processed synthesis and remarkable photovoltaic performance. *ACS Applied Materials & Interfaces*, **2014**, 6, 19100-8	9.5	10
14	Constructing 3D Branched Nanowire Coated Macroporous Metal Oxide Electrodes with Homogeneous or Heterogeneous Compositions for Efficient Solar Cells. *Angewandte Chemie*, **2014**, 126, 4916-4921	3.6	10
13	Low-Temperature Solution-Processed Amorphous Titania Nanowire Thin Films for 1 cm Perovskite Solar Cells. *ACS Applied Materials & Interfaces*, **2020**, 12, 11450-11458	9.5	7
12	Layered-stacking of titania films for solar energy conversion: Toward tailored optical, electronic and photovoltaic performance. *Journal of Energy Chemistry*, **2018**, 27, 690-702	12	7
11	Small amines bring big benefits to perovskite-based solar cells and light-emitting diodes. *CheM*, **2022**, 8, 351-383	16.2	6
10	Custom Molecular Design of Ligands for Perovskite Photovoltaics. *Accounts of Materials Research*,	7.5	4

9	Can the efficiencies of simplified perovskite solar cells go higher?. *Journal of Energy Chemistry*, **2021**, 58, 33-36	12	4
8	A Novel Annealing-Free Amorphous Inorganic Metal Oxyhydroxide Cathode Interlayer for Efficient and Stable Inverted Perovskite Solar Cells. *Solar Rrl*, **2021**, 5, 2000664	7.1	4
7	Interfacial Linkage and Carbon Encapsulation Enable Full Solution-Printed Perovskite Photovoltaics with Prolonged Lifespan. *Angewandte Chemie*, **2021**, 133, 23928	3.6	4
6	Green Fluorine-Free Synthesis of Hollow Rectangular Prism-like TiO2 Mesocrystals with Exposed {001} Facets for High-Performance Dye-Sensitized Solar Cells. *Journal of Physical Chemistry C*, **2021**, 125, 1684-1692	3.8	3
5	Carbon Electrode Endows High-Efficiency Perovskite Photovoltaics Affordable, Fully Printable, and Durable. *Solar Rrl*,2200258	7.1	3
4	Perovskite Solar Cells: Effect of the Microstructure of the Functional Layers on the Efficiency of Perovskite Solar Cells (Adv. Mater. 20/2017). *Advanced Materials*, **2017**, 29,	24	2
3	Intermarriage between amorphous and polycrystalline materials in perovskite solar cells: positive or not?. *Journal of Energy Chemistry*, **2022**, 66, 525-528	12	1
2	Optoelectronic Devices: The Rise of Textured Perovskite Morphology: Revolutionizing the Pathway toward High-Performance Optoelectronic Devices (Adv. Energy Mater. 7/2020). *Advanced Energy Materials*, **2020**, 10, 2070029	21.8	
1	Chapter 7. Controlling the Photoanode Mesostructure for Dye-sensitized and Perovskite-sensitized Solar Cells **2016**, 292-323		