Qing Zhao

List of Publications by Year
in descending order

94 papers	5,262 citations	109321 35 h-index	85541 71 g-index
95 all docs	95 docs citations	95 times ranked	7638 citing authors

#	Article	IF	Citations
1	A polymer scaffold for self-healing perovskite solar cells. Nature Communications, 2016, 7, 10228.	12.8	532
2	Quantification of light-enhanced ionic transport in lead iodide perovskite thin films and its solar cell applications. Light: Science and Applications, 2017, 6, e16243-e16243.	16.6	342
3	Hysteresis Analysis Based on the Ferroelectric Effect in Hybrid Perovskite Solar Cells. Journal of Physical Chemistry Letters, 2014, 5, 3937-3945.	4.6	329
4	Perovskite seeding growth of formamidinium-lead-iodide-based perovskites for efficient and stable solar cells. Nature Communications, 2018, 9, 1607.	12.8	309
5	Light-Independent Ionic Transport in Inorganic Perovskite and Ultrastable Cs-Based Perovskite Solar Cells. Journal of Physical Chemistry Letters, 2017, 8, 4122-4128.	4.6	231
6	Boron Nitride Nanopores: Highly Sensitive DNA Singleâ€Molecule Detectors. Advanced Materials, 2013, 25, 4549-4554.	21.0	220
7	Nanopore-Based Measurements of Protein Size, Fluctuations, and Conformational Changes. ACS Nano, 2017, 11, 5706-5716.	14.6	219
8	Atomic scale insights into structure instability and decomposition pathway of methylammonium lead iodide perovskite. Nature Communications, 2018, 9, 4807.	12.8	161
9	Correlations between Immobilizing Ions and Suppressing Hysteresis in Perovskite Solar Cells. ACS Energy Letters, 2016, 1, 266-272.	17.4	118
10	Mechanisms and Suppression of Photoinduced Degradation in Perovskite Solar Cells. Advanced Energy Materials, 2021, 11, 2002326.	19.5	118
11	Mobile-Ion-Induced Degradation of Organic Hole-Selective Layers in Perovskite Solar Cells. Journal of Physical Chemistry C, 2017, 121, 14517-14523.	3.1	117
12	Efficient Perovskite Solar Cells Fabricated Through CsClâ€Enhanced PbI₂ Precursor via Sequential Deposition. Advanced Materials, 2018, 30, e1803095.	21.0	109
13	Suppressed hysteresis and improved stability in perovskite solar cells with conductive organic network. Nano Energy, 2016, 26, 139-147.	16.0	97
14	Novel Planar-Structure Electrochemical Devices for Highly Flexible Semitransparent Power Generation/Storage Sources. Nano Letters, 2013, 13, 1271-1277.	9.1	91
15	Pressure-Controlled Motion of Single Polymers through Solid-State Nanopores. Nano Letters, 2013, 13, 3048-3052.	9.1	91
16	Doubleâ€Sideâ€Passivated Perovskite Solar Cells with Ultraâ€Low Potential Loss. Solar Rrl, 2019, 3, 1800296.	5.8	89
17	Transparent, Doubleâ€Sided, ITOâ€Free, Flexible Dyeâ€Sensitized Solar Cells Based on Metal Wire/ZnO Nanowire Arrays. Advanced Functional Materials, 2012, 22, 2775-2782.	14.9	84
18	Differential Enzyme Flexibility Probed Using Solid-State Nanopores. ACS Nano, 2018, 12, 4494-4502.	14.6	83

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19	Selfâ€Induced Typeâ€I Band Alignment at Surface Grain Boundaries for Highly Efficient and Stable Perovskite Solar Cells. Advanced Materials, 2021, 33, e2103231.	21.0	71
20	Effects of ion migration and improvement strategies for the operational stability of perovskite solar cells. Physical Chemistry Chemical Physics, 2021, 23, 94-106.	2.8	68
21	Constructing CsPbBr₃ Cluster Passivatedâ€Triple Cation Perovskite for Highly Efficient and Operationally Stable Solar Cells. Advanced Functional Materials, 2019, 29, 1809180.	14.9	64
22	Photothermally Assisted Thinning of Silicon Nitride Membranes for Ultrathin Asymmetric Nanopores. ACS Nano, 2018, 12, 12472-12481.	14.6	63
23	Intrinsic and membrane-facilitated Î±-synuclein oligomerization revealed by label-free detection through solid-state nanopores. Scientific Reports, 2016, 6, 20776.	3.3	62
24	Crystal engineering and SERS properties of Agâ€“Fe3O4 nanohybrids: from heterodimer to coreâ€“shell nanostructures. Journal of Materials Chemistry, 2011, 21, 17930.	6.7	59
25	Enhanced long-term stability of perovskite solar cells by 3-hydroxypyridine dipping. Chemical Communications, 2017, 53, 1829-1831.	4.1	59
26	Effective driving force applied on DNA inside a solid-state nanopore. Physical Review E, 2012, 86, 011921.	2.1	56
27	Reversible Healing Effect of Water Molecules on Fully Crystallized Metalâ€“Halide Perovskite Film. Journal of Physical Chemistry C, 2016, 120, 4759-4765.	3.1	55
28	An â€œall-in-oneâ€• mesh-typed integrated energy unit for both photoelectric conversion and energy storage in uniform electrochemical system. Nano Energy, 2015, 13, 670-678.	16.0	54
29	N-Terminal Acetylation Preserves Î±-Synuclein from Oligomerization by Blocking Intermolecular Hydrogen Bonds. ACS Chemical Neuroscience, 2017, 8, 2145-2151.	3.5	52
30	Linear strain-gradient effect on the energy bandgap in bent CdS nanowires. Nano Research, 2011, 4, 308-314.	10.4	51
31	Low cost and flexible mesh-based supercapacitors for promising large-area flexible/wearable energy storage. Nano Energy, 2014, 6, 82-91.	16.0	44
32	Fast and controllable fabrication of suspended graphene nanopore devices. Nanotechnology, 2012, 23, 085301.	2.6	42
33	Halogen Engineering for Operationally Stable Perovskite Solar Cells via Sequential Deposition. Advanced Energy Materials, 2019, 9, 1902239.	19.5	41
34	Slowing Down DNA Translocation Through Solidâ€State Nanopores by Pressure. Small, 2013, 9, 4112-4117.	10.0	40
35	Stability Challenges for Perovskite Solar Cells. ChemNanoMat, 2019, 5, 253-265.	2.8	39
36	Surface Modification of Solidâ€State Nanopores for Stickyâ€Free Translocation of Singleâ€Stranded DNA. Small, 2014, 10, 4332-4339.	10.0	38

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37	Label-Free Single-Molecule Thermoscopy Using a Laser-Heated Nanopore. Nano Letters, 2017, 17, 7067-7074.	9.1	37
38	Four Aspects about Solidâ€State Nanopores for Protein Sensing: Fabrication, Sensitivity, Selectivity, and Durability. Advanced Healthcare Materials, 2020, 9, e2000933.	7.6	36
39	Enhanced long-term stability of perovskite solar cells using a double-layer hole transport material. Journal of Materials Chemistry A, 2017, 5, 14881-14886.	10.3	34
40	Temperature dependence of Raman scattering of ZnSe nanoparticle grown through vapor phase. Journal of Crystal Growth, 2005, 274, 530-535.	1.5	33
41	A strategic review on processing routes towards scalable fabrication of perovskite solar cells. Journal of Energy Chemistry, 2022, 64, 538-560.	12.9	33
42	Enhanced field emission from large scale uniform monolayer graphene supported by well-aligned ZnO nanowire arrays. Applied Physics Letters, 2012, 101, .	3.3	32
43	Solid-state nanopore-based DNA single molecule detection and sequencing. Mikrochimica Acta, 2016, 183, 941-953.	5.0	32
44	Constructing Allâ€Inorganic Perovskite/Fluoride Nanocomposites for Efficient and Ultraâ€Stable Perovskite Solar Cells. Advanced Functional Materials, 2021, 31, 2106386.	14.9	32
45	Flexible perovskite solar cells based on the metalâ€“insulatorâ€“semiconductor structure. Chemical Communications, 2016, 52, 10791-10794.	4.1	30
46	Annealing effects on the field emission properties of AlN nanorods. Nanotechnology, 2006, 17, S351-S354.	2.6	29
47	Ultrafast Broadband Charge Collection from Clean Graphene/CH₃NH₃PbI₃ Interface. Journal of the American Chemical Society, 2018, 140, 14952-14957.	13.7	29
48	Reducing Defects in Perovskite Solar Cells with White Light Illumination-Assisted Synthesis. ACS Energy Letters, 2019, 4, 2821-2829.	17.4	29
49	Label-free detection of early oligomerization of Î±-synuclein and its mutants A30P/E46K through solid-state nanopores. Nanoscale, 2019, 11, 6480-6488.	5.6	29
50	A Novel Way for Synthesizing Phosphorus-Doped Zno Nanowires. Nanoscale Research Letters, 2011, 6, 45.	5.7	28
51	In Situ Cesium Modification at Interface Enhances the Stability of Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2018, 10, 33205-33213.	8.0	27
52	Patterned Growth of ZnO Nanorod Arrays on a Large-Area Stainless Steel Grid. Journal of Physical Chemistry B, 2005, 109, 1699-1702.	2.6	26
53	Gel mesh as â€œbrakeâ€• to slow down DNA translocation through solid-state nanopores. Nanoscale, 2015, 7, 13207-13214.	5.6	24
54	Highly-flexible, low-cost, all stainless steel mesh-based dye-sensitized solar cells. Nanoscale, 2014, 6, 13203-13212.	5.6	23

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55	Basis and effects of ion migration on photovoltaic performance of perovskite solar cells. Journal Physics D: Applied Physics, 2021, 54, 063001.	2.8	20
56	First-principles study of the formation mechanisms of nitrogen molecule in annealed ZnO. Physics Letters, Section A: General, Atomic and Solid State Physics, 2010, 374, 3546-3550.	2.1	19
57	Ultrahigh field emission current density from nitrogen-implanted ZnO nanowires. Nanotechnology, 2010, 21, 095701.	2.6	19
58	Non-sticky translocation of bio-molecules through Tween 20-coated solid-state nanopores in a wide pH range. Applied Physics Letters, 2016, 109, .	3.3	19
59	Alkali Metal Chlorideâ€Doped Waterâ€Based TiO₂ for Efficient and Stable Planar Perovskite Photovoltaics Exceeding 23% Efficiency. Small Methods, 2021, 5, e2100856.	8.6	19
60	Controlled deformation of Si₃N₄nanopores using focused electron beam in a transmission electron microscope. Nanotechnology, 2011, 22, 115302.	2.6	18
61	Ultrahigh open-circuit voltage for high performance mixed-cation perovskite solar cells using acetate anions. Journal of Materials Chemistry A, 2018, 6, 14387-14391.	10.3	18
62	Electroâ€Optical Detection of Single Molecules Based on Solidâ€State Nanopores. Small Structures, 2020, 1, 2000003.	12.0	18
63	Tiny protein detection using pressure through solidâ€state nanopores. Electrophoresis, 2017, 38, 1130-1138.	2.4	16
64	Gate tunable photoconductivity of p-channel Se nanowire field effect transistors. Applied Physics Letters, 2009, 95, .	3.3	15
65	Proton Migration in Hybrid Lead Iodide Perovskites: From Classical Hopping to Deep Quantum Tunneling. Journal of Physical Chemistry Letters, 2018, 9, 6536-6543.	4.6	15
66	Enhanced near-band-edge emission and field emission properties from plasma treated ZnO nanowires. Applied Physics A: Materials Science and Processing, 2010, 100, 165-170.	2.3	14
67	Potentials and challenges towards application of perovskite solar cells. Science China Materials, 2016, 59, 769-778.	6.3	14
68	2D planar field emission devices based on individual ZnO nanowires. Solid State Communications, 2011, 151, 1650-1653.	1.9	13
69	Surface plasmon on topological insulator/dielectric interface enhanced ZnO ultraviolet photoluminescence. AIP Advances, 2012, 2, .	1.3	12
70	A unique strategy for improving top contact in Si/ZnO hierarchical nanoheterostructure photodetectors. CrystEngComm, 2012, 14, 3015.	2.6	12
71	Femtosecond photonic viral inactivation probed using solid-state nanopores. Nano Futures, 2018, 2, 045005.	2.2	12
72	Waterâ€Based TiO₂ Nanocrystal as an Electronic Transport Layer for Operationally Stable Perovskite Solar Cells. Solar Rrl, 2019, 3, 1900167.	5.8	12

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73	Facet Orientation and Intermediate Phase Regulation via a Green Antisolvent for Highâ€Performance Perovskite Solar Cells. Solar Rrl, 2022, 6, .	5.8	12
74	Probing the Effect of Ubiquitinated Histone on Mononucleosomes by Translocation Dynamics Study through Solid-State Nanopores. Nano Letters, 2022, 22, 888-895.	9.1	12
75	Growth mechanism study viain situ epitaxial growth of high-oriented ZnO nanowires. CrystEngComm, 2011, 13, 606-610.	2.6	11
76	Novel planar field emission of ultra-thin individual carbon nanotubes. Nanotechnology, 2009, 20, 405208.	2.6	10
77	Facile synthesis and optical properties of ultrathin Cu-doped ZnSe nanorods. CrystEngComm, 2013, 15, 10495.	2.6	10
78	Size evolution and surface characterization of solid-state nanopores in different aqueous solutions. Nanoscale, 2012, 4, 1572.	5.6	9
79	Facile synthesis, optical properties and growth mechanism of elongated Mn-doped ZnSe1â^'xSx nanocrystals. CrystEngComm, 2012, 14, 8440.	2.6	9
80	Modifying optical properties of ZnO nanowires via strain-gradient. Frontiers of Physics, 2013, 8, 509-515.	5.0	9
81	Interaction prolonged DNA translocation through solid-state nanopores. Nanoscale, 2015, 7, 10752-10759.	5.6	9
82	Oligonucleotide Discrimination Enabled by Tannic Acid-Coordinated Film-Coated Solid-State Nanopores. Langmuir, 2022, 38, 6443-6453.	3.5	9
83	Perovskite solar cells: Promise of photovoltaics. Zhongguo Kexue Jishu Kexue/Scientia Sinica Technologica, 2014, 44, 801-821.	0.5	8
84	Probing surface hydrophobicity of individual protein at single-molecule resolution using solid-state nanopores. Science China Materials, 2015, 58, 455-466.	6.3	5
85	Probing conformational change of T7 RNA polymerase and DNA complex by solid-state nanopores. Chinese Physics B, 2018, 27, 118705.	1.4	5
86	In situ growth and density-functional-theory study of polarity-dependent homo-epitaxial ZnO microwires. CrystEngComm, 2012, 14, 355-358.	2.6	4
87	Formation mechanism of homo-epitaxial morphology on ZnO (000 Â± 1) polar surfaces. CrystEngComm, 2013, 15, 4249.	2.6	3
88	Critical slowing down and attractive manifold: A mechanism for dynamic robustness in the yeast cell-cycle process. Physical Review E, 2020, 101, 042405.	2.1	3
89	Recent Progress in Perovskite Solar Cell: Fabrication, Efficiency, and Stability. Challenges and Advances in Computational Chemistry and Physics, 2021, , 1-32.	0.6	3
90	Perovskite Solar Cells: Halogen Engineering for Operationally Stable Perovskite Solar Cells via Sequential Deposition (Adv. Energy Mater. 46/2019). Advanced Energy Materials, 2019, 9, 1970183.	19.5	2

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91	Micro-scale hierarchical photoanode for quantum-dot-sensitized solar cells based on TiO2 nanowires. Frontiers of Optoelectronics, 2016, 9, 53-59.	3.7	1
92	Labelâ€Free Detection and Translocation Dynamics Study of Singleâ€Molecule Herceptin Using Solidâ€State Nanopores. Advanced Materials Technologies, 2022, 7, .	5.8	1
93	Surface coating effect on field emission performance of ZnO nanowires. Applied Physics A: Materials Science and Processing, 2012, 106, 557-562.	2.3	0
94	Interface Colloidal Deposition of Nanoparticle Wire Structures. Particle and Particle Systems Characterization, 2018, 35, 1800098.	2.3	0