

Jin Zhai

List of Publications by Year in descending order

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111
papers

5,149
citations

81839

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all docs

119
docs citations

119
times ranked

5691
citing authors

#	ARTICLE	IF	CITATIONS
1	Action-potential-inspired osmotic power generation nanochannels. <i>Journal of Membrane Science</i> , 2022, 642, 119999.	4.1	16
2	Solvent-induced lengthened conjugated chains in electrochromic PEDOT for enhanced optical modulation. <i>Solar Energy Materials and Solar Cells</i> , 2022, 238, 111621.	3.0	5
3	Large-Area Covalent Organic Polymers Membrane via Sol-Gel Approach for Harvesting the Salinity Gradient Energy. <i>Small</i> , 2022, 18, e2107600.	5.2	13
4	Double-Network Ion Channels for High-Performance Osmotic Power Generation. <i>Advanced Materials Interfaces</i> , 2022, 9, .	1.9	6
5	Enhancement of the Efficiency of $g\text{-C}_{3\text{N}_4}$ for Hydrogen Evolution by Bifunctionality of RuSe_2 . <i>ACS Applied Energy Materials</i> , 2022, 5, 6080-6090.	2.5	7
6	Improved Interfacial Ion Transport through Nanofluidic Hybrid Membranes Based on Covalent Organic Frameworks for Osmotic Energy Generation. <i>ACS Applied Energy Materials</i> , 2022, 5, 7176-7184.	2.5	7
7	Large-Area Covalent Organic Polymers Membrane via Sol-Gel Approach for Harvesting the Salinity Gradient Energy (<i>Small</i> 20/2022). <i>Small</i> , 2022, 18, .	5.2	1
8	Functional separators towards the suppression of lithium dendrites for rechargeable high-energy batteries. <i>Materials Horizons</i> , 2021, 8, 12-32.	6.4	99
9	Interfacial-Potential-Gradient Induced a Significant Enhancement of Photoelectric Conversion: Thiophene Polyelectrolyte (PTE-BS) and Bipyridine Ruthenium (N3) Cooperative Regulated Biomimetic Nanochannels. <i>Advanced Energy Materials</i> , 2021, 11, 2003340.	10.2	9
10	Construction of Metal-Organic Frameworks (MOFs)-Based Membranes and Their Ion Transport Applications. <i>Small Science</i> , 2021, 1, 2000035.	5.8	31
11	Kinetic Process of an Alkaline Earth Metal Ion Transmembrane through ZIF-8. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 5587-5592.	2.1	6
12	Sandwich -ion Pool-Structured Power Gating for Salinity Gradient Generation Devices. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 35197-35206.	4.0	12
13	Gap Confinement Effect of a Tandem Nanochannel System and Its Application in Salinity Gradient Power Generation. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 41159-41168.	4.0	5
14	-ion Pool-Structural Ion Storage Device: A New Strategy to Collect Ions by Nanoconfinement Effects. <i>Small</i> , 2021, 17, e2102880.	5.2	8
15	A rechargeable electrochromic energy storage device enabling effective energy recovery. <i>Journal of Materials Chemistry A</i> , 2021, 9, 6451-6459.	5.2	43
16	Self-Driven Infrared Electrochromic Device with Tunable Optical and Thermal Management. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 50319-50328.	4.0	33
17	Geometric Tailoring of Macroscale $\text{Ti}_3\text{C}_2\text{T}_x$ MXene Lamellar Membrane for Logic Gate Circuits. <i>ACS Nano</i> , 2021, 15, 19266-19274.	7.3	8
18	Electrochromic Nanochannels for Visual Nanofluidic Manipulation in Integrated Ionic Circuits. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 57314-57321.	4.0	5

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19	Nanochannels regulating ionic transport for boosting electrochemical energy storage and conversion: a review. <i>Nanoscale</i> , 2020, 12, 15923-15943.	2.8	42
20	Photoassisted salt-concentration-biased electricity generation using cation-selective porphyrin-based nanochannels membrane. <i>Nano Energy</i> , 2020, 76, 105086.	8.2	27
21	A high rectification ratio nanofluidic diode induced by an H^+ ion pool. <i>RSC Advances</i> , 2020, 10, 7377-7383.	1.7	15
22	Interfacial effect of dual ultra-thin SiO_2 core-triple shell $\text{Au@SiO}_2@\text{Ag@SiO}_2$ for ultra-sensitive trinitrotoluene (TNT) detection. <i>RSC Advances</i> , 2020, 10, 3826-3831.	1.7	2
23	PtAuCo Trimetallic Nanoalloys as Highly Efficient Catalysts toward Dehydrogenation of Ammonia Borane. <i>ACS Sustainable Chemistry and Engineering</i> , 2020, 8, 3734-3742.	3.2	35
24	Plasmonic ternary hybrid photocatalyst based on polymeric g-C ₃ N ₄ towards visible light hydrogen generation. <i>Scientific Reports</i> , 2020, 10, 721.	1.6	53
25	Tunable rectifications in nanofluidic diodes by ion selectivity of charged polystyrene opals for osmotic energy conversion. <i>Journal of Materials Chemistry A</i> , 2020, 8, 11275-11281.	5.2	31
26	Rod-Cell-Mimetic Photochromic Layered Ion Channels with Multiple Switchable States for Controllable Ion Transport. <i>Chemistry - A European Journal</i> , 2019, 25, 12795-12800.	1.7	8
27	Using Smart Nanochannels as a Power Switch in Salinity Gradient Batteries. <i>ChemNanoMat</i> , 2019, 5, 1182-1187.	1.5	17
28	Cell Junction Proteins-Mimetic Artificial Nanochannel System: Basic Logic Gates Implemented by Nanofluidic Diodes. <i>Langmuir</i> , 2019, 35, 3171-3175.	1.6	13
29	Ion Transport Behaviors of Nanofluidic Diode Bichannel Systems in the Independent and Synergistic Cascade Mode. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 26467-26473.	4.0	7
30	Asymmetric heterostructured $\text{SiO}_2/\text{Al}_2\text{O}_3$ nanofluidic diodes modulating ionic transport for highly efficient light-gating device. <i>Electrochimica Acta</i> , 2019, 316, 266-272.	2.6	15
31	Biomimetic stimuli-responsive nanochannels and their applications. <i>Electrophoresis</i> , 2019, 40, 2058-2074.	1.3	20
32	The Confinement Effect of Angstrom-Sized Pores in Asymmetrical Membrane Constructed by Zeolitic Imidazolate Frameworks: Partially Dehydrated Ion Transport Performance. <i>Small</i> , 2019, 15, e1904866.	5.2	22
33	pH-Resistant Nanofluidic Diode Membrane for High-Performance Conversion of Salinity Gradient into Electric Energy. <i>Energy Technology</i> , 2019, 7, 1800952.	1.8	38
34	Artificial NO and Light Cooperative Nanofluidic Diode Inspired by Stomatal Closure of Guard Cells. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 3241-3247.	4.0	20
35	Highly Efficient Gating of Electrically Actuated Nanochannels for Pulsatile Drug Delivery Stemming from a Reversible Wettability Switch. <i>Advanced Materials</i> , 2018, 30, 1703323.	11.1	69
36	Bio-inspired Z-scheme g-C ₃ N ₄ /Ag ₂ CrO ₄ for efficient visible-light photocatalytic hydrogen generation. <i>Scientific Reports</i> , 2018, 8, 16504.	1.6	60

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37	An Effective Dark-Vis-LIV Ternary Biomimetic Switching Based on N3/Spiropyran-Modified Nanochannels. <i>Advanced Materials</i> , 2018, 30, e1804862.	11.1	39
38	Effect of Trivalent Calcium-like-Cations on Ionic Transport Behaviors of Artificial Calcium-Responsive Nanochannels. <i>Journal of Physical Chemistry C</i> , 2018, 122, 24863-24870.	1.5	18
39	Self-Assembled Porphyrin Nanofiber Membrane-Decorated Alumina Channels for Enhanced Photoelectric Response. <i>ACS Nano</i> , 2018, 12, 11169-11177.	7.3	48
40	Multispectral Plasmon of Anisotropic Core-shell Gold Nanorods@SiO ₂ : Dual-band Absorption Enhancement with Coupling Dye Molecules. <i>Chemical Research in Chinese Universities</i> , 2018, 34, 772-780.	1.3	3
41	Hybrid nanochannel membrane based on polymer/MOF for high-performance salinity gradient power generation. <i>Nano Energy</i> , 2018, 53, 643-649.	8.2	144
42	Robust Sandwich-Structured Nanofluidic Diodes Modulating Ionic Transport for an Enhanced Electrochromic Performance. <i>Advanced Science</i> , 2018, 5, 1800163.	5.6	28
43	Stable and Recyclable SERS Substrates Based on Au-Loaded PET Nanocomposite Superhydrophobic Surfaces. <i>Nano</i> , 2018, 13, 1850053.	0.5	5
44	Synthesis, Functionalization and Application of Stimuli-Responsive Polymer Porous Membranes. <i>Current Organic Chemistry</i> , 2018, 22, 737-749.	0.9	6
45	High-Performance Respiration-Based Biocell Using Artificial Nanochannel Regulation. <i>Advanced Materials</i> , 2017, 29, 1606871.	11.1	13
46	Insight into the Role of Surface Wettability in Electrocatalytic Hydrogen Evolution Reactions Using Light-Sensitive Nanotubular TiO ₂ Supported Pt Electrodes. <i>Scientific Reports</i> , 2017, 7, 41825.	1.6	53
47	N3/Al ₂ O ₃ composite nanochannels: photoelectric and photoelectric-and-pH cooperatively controlled ion gating. <i>Journal of Materials Chemistry A</i> , 2017, 5, 19220-19226.	5.2	20
48	Smart Bioinspired Nanochannels and their Applications in Energy-Conversion Systems. <i>Advanced Materials</i> , 2017, 29, 1702983.	11.1	56
49	Redox switch of ionic transport in conductive polypyrrole-engineered unipolar nanofluidic diodes. <i>Nano Research</i> , 2017, 10, 3715-3725.	5.8	39
50	Temperature and Voltage Dual-Responsive Ion Transport in Bilayer-Intercalated Layered Membranes with 2D Nanofluidic Channels. <i>Journal of Physical Chemistry C</i> , 2017, 121, 18954-18961.	1.5	23
51	Optimizing CdS intermediate layer of CdS/CdSe quantum dot-sensitized solar cells to increase light harvesting ability and improve charge separation efficiency. <i>RSC Advances</i> , 2016, 6, 99564-99569.	1.7	7
52	Biomimic Redox Driven Ion Transportation in Smart Nanochannels. <i>Journal of Physical Chemistry C</i> , 2016, 120, 17342-17347.	1.5	12
53	Alternating current output from a photosynthesis-inspired photoelectrochemical cell. <i>Nano Energy</i> , 2016, 28, 188-194.	8.2	21
54	An ion-gating multinanochannel system based on a copper-responsive self-cleaving DNAzyme. <i>Chemical Communications</i> , 2016, 52, 10020-10023.	2.2	27

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55	Smooth Muscle Cell-Mimetic CO ₂ -Regulated Ion Nanochannels. <i>Advanced Materials</i> , 2016, 28, 10780-10785.	11.1	35
56	pH- and light-regulated ion transport in hourglass shaped Al ₂ O ₃ nanochannels patterned with N719 and APTES. <i>RSC Advances</i> , 2016, 6, 63652-63659.	1.7	15
57	The Ag shell thickness effect of Au@Ag@SiO ₂ core-shell nanoparticles on the optoelectronic performance of dye sensitized solar cells. <i>Chemical Communications</i> , 2016, 52, 2390-2393.	2.2	19
58	Olfactory Sensory Neuron-Mimetic CO ₂ Activated Nanofluidic Diode with Fast Response Rate. <i>Advanced Materials</i> , 2015, 27, 1851-1855.	11.1	60
59	Interfacial Effect of Novel Core-Triple Shell Structured Au@SiO ₂ @Ag@SiO ₂ with Ultrathin SiO ₂ Passivation Layer between the Metal Interfaces on Efficient Dye-Sensitized Solar Cells. <i>Advanced Materials Interfaces</i> , 2015, 2, 1500383.	1.9	15
60	Mimicking how plants control CO ₂ influx: CO ₂ activation of ion current rectification in nanochannels. <i>NPG Asia Materials</i> , 2015, 7, e215-e215.	3.8	11
61	Organic/Inorganic Hybrid Nanochannels Based on Polypyrrole-Embedded Alumina Nanopore Arrays: pH- and Light-Modulated Ion Transport. <i>Advanced Functional Materials</i> , 2015, 25, 2091-2098.	7.8	80
62	Photocurrent generation in a light-harvesting system with multifunctional artificial nanochannels. <i>Chemical Communications</i> , 2015, 51, 12286-12289.	2.2	17
63	Cooperative Effect of pH-Dependent Ion Transport within Two Symmetric-Structured Nanochannels. <i>ACS Applied Materials & Interfaces</i> , 2015, 7, 7709-7716.	4.0	24
64	Layered MoS ₂ nanoparticles on TiO ₂ nanotubes by a photocatalytic strategy for use as high-performance electrocatalysts in hydrogen evolution reactions. <i>Green Chemistry</i> , 2015, 17, 2764-2768.	4.6	64
65	Plasmonic cooperation effect of metal nanomaterials at Au-TiO ₂ -Ag interface to enhance photovoltaic performance for dye-sensitized solar cells. <i>RSC Advances</i> , 2015, 5, 210-214.	1.7	25
66	Underwater superoleophobic porous membrane based on hierarchical TiO ₂ nanotubes: multifunctional integration of oil-water separation, flow-through photocatalysis and self-cleaning. <i>Journal of Materials Chemistry A</i> , 2015, 3, 1279-1286.	5.2	204
67	Alumina Membrane with Hour-Glass Shaped Nanochannels: Tunable Ionic Current Rectification Device Modulated by Ions Gradient. <i>Journal of Nanomaterials</i> , 2014, 2014, 1-10.	1.5	12
68	Artificial Ion Channels Regulating Light-Induced Ionic Currents in Photoelectrical Conversion Systems. <i>Advanced Materials</i> , 2014, 26, 2329-2334.	11.1	46
69	A new porphyrin sensitizer with phenolic binding group for high efficiency dye-sensitized solar cells. <i>Materials Science-Poland</i> , 2014, 32, 610-616.	0.4	1
70	Light-Gating Titania/Alumina Heterogeneous Nanochannels with Regulatable Ion Rectification Characteristic. <i>Advanced Functional Materials</i> , 2014, 24, 424-431.	7.8	60
71	Phototunable Underwater Oil Adhesion of Micro/Nanoscale Hierarchical-Structured ZnO Mesh Films with Switchable Contact Mode. <i>Advanced Functional Materials</i> , 2014, 24, 536-542.	7.8	67
72	Theoretical simulation of the ion current rectification (ICR) in nano-pores based on the Poisson-Nernst-Planck (PNP) model. <i>Physical Chemistry Chemical Physics</i> , 2014, 16, 23-32.	1.3	42

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73	Patterned liquid permeation through the TiO ₂ nanotube array coated Ti mesh by photoelectric cooperation for liquid printing. <i>Journal of Materials Chemistry A</i> , 2014, 2, 2498.	5.2	8
74	Calcein-Modified Multinanochannels on PET Films for Calcium-Responsive Nanogating. <i>ACS Applied Materials & Interfaces</i> , 2014, 6, 3794-3798.	4.0	26
75	Regulating Water Adhesion on Superhydrophobic TiO ₂ Nanotube Arrays. <i>Advanced Functional Materials</i> , 2014, 24, 6381-6388.	7.8	70
76	Ion current behaviors of mesoporous zeolite-polymer composite nanochannels prepared by water-assisted self-assembly. <i>Chemical Communications</i> , 2014, 50, 3552.	2.2	11
77	Nanofluidic Diode Based on Branched Alumina Nanochannels with Tunable Ionic Rectification. <i>ACS Applied Materials & Interfaces</i> , 2013, 5, 7931-7936.	4.0	52
78	TiO ₂ nanotubular arrays loaded with Ni(OH) ₂ : naked-eye visible photoswitchable color change induced by oxidative energy storage. <i>RSC Advances</i> , 2013, 3, 22853.	1.7	7
79	A biomimetic mercury(ii)-gated single nanochannel. <i>Chemical Communications</i> , 2013, 49, 10679.	2.2	86
80	Photocatalysis-Triggered Ion Rectification in Artificial Nanochannels Based on Chemically Modified Asymmetric TiO ₂ Nanotubes. <i>Langmuir</i> , 2013, 29, 4806-4812.	1.6	34
81	CdS quantum dot-decorated titania/graphene nanosheets stacking structures for enhanced photoelectrochemical solar cells. <i>RSC Advances</i> , 2013, 3, 23755.	1.7	23
82	Heterogeneous 3-D nanotubular arrays of CdS-TiO ₂ : efficient collections of reflection light for enhanced photoelectric output. <i>Journal of Materials Chemistry</i> , 2012, 22, 22120.	6.7	12
83	Construction of biomimetic smart nanochannels with polymer membranes and application in energy conversion systems. <i>Physical Chemistry Chemical Physics</i> , 2012, 14, 4027.	1.3	53
84	Photo-induced water-oil separation based on switchable superhydrophobicity-superhydrophilicity and underwater superoleophobicity of the aligned ZnO nanorod array-coated mesh films. <i>Journal of Materials Chemistry</i> , 2012, 22, 19652.	6.7	347
85	Light-regulated ion transport through artificial ion channels based on TiO ₂ nanotubular arrays. <i>Chemical Communications</i> , 2012, 48, 5901.	2.2	45
86	Light and pH Cooperative Nanofluidic Diode Using a Spiropyran-Functionalized Single Nanochannel. <i>Advanced Materials</i> , 2012, 24, 2424-2428.	11.1	158
87	Optoelectrowettability conversion on superhydrophobic CdS QDs sensitized TiO ₂ nanotubes. <i>Journal of Colloid and Interface Science</i> , 2012, 366, 1-7.	5.0	17
88	3-D vertical arrays of TiO ₂ nanotubes on Ti meshes: Efficient photoanodes for water photoelectrolysis. <i>Journal of Materials Chemistry</i> , 2011, 21, 10354.	6.7	46
89	Photoelectric Cooperative Induced Wetting on Aligned Nanopore Arrays for Liquid Reprography. <i>Advanced Functional Materials</i> , 2011, 21, 4519-4526.	7.8	35
90	High-Temperature Wetting Transition on Micro- and Nanostructured Surfaces (<i>Angew.</i>)	1.6	10

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91	Back Cover: High-Temperature Wetting Transition on Micro- and Nanostructured Surfaces (Angew.) Tj ETQq1 1 0.784314 rgBT /Overl	7.2	113
92	Bioinspired Photoelectric Conversion Based on Smart Gating Nanochannels. Advanced Functional Materials, 2010, 20, 2636-2642.	7.8	113
93	Bioinspired Smart Gating of Nanochannels Toward Photoelectric Conversion Systems. Advanced Materials, 2010, 22, 1021-1024.	11.1	104
94	Photoelectric conversion behavior based on direct interfacial charge-transfer from porphyrin derivative to silicon nanowires. Applied Physics Letters, 2010, 97, 253111.	1.5	11
95	Enhanced photoelectrochemical performance of ZnO photoanode with scattering hollow cavities. Applied Physics A: Materials Science and Processing, 2009, 96, 473-479.	1.1	12
96	In situ investigation on dynamic suspending of microdroplet on lotus leaf and gradient of wettability micro- and nanostructure from water condensation. Applied Physics Letters, 2008, 92, .	1.5	96
97	Photonic crystal concentrator for efficient output of dye-sensitized solar cells. Journal of Materials Chemistry, 2008, 18, 2650.	6.7	41
98	Bioinspired construction of Mg-Li alloys surfaces with stable superhydrophobicity and improved corrosion resistance. Applied Physics Letters, 2008, 92, .	1.5	158
99	Enhanced photoelectrical performance of TiO ₂ electrodes integrated with microtube-network structures. Journal of Materials Chemistry, 2007, 17, 5084.	6.7	44
100	QUASI-SOLID-STATE DYE-SENSITIZED SOLAR CELLS BASED ON ZnO PHOTOANODE. Chemical Engineering Communications, 2007, 195, 375-385.	1.5	3
101	Chemical Dual-Responsive Wettability of Superhydrophobic PANI-PAN Coaxial Nanofibers. Macromolecular Rapid Communications, 2007, 28, 1135-1141.	2.0	85
102	Wetting and anti-wetting on aligned carbon nanotube films. Soft Matter, 2006, 2, 811.	1.2	193
103	Super-Hydrophobic PDMS Surface with Ultra-Low Adhesive Force. Macromolecular Rapid Communications, 2005, 26, 1805-1809.	2.0	336
104	Water-Assisted Fabrication of Polyaniline Honeycomb Structure Film. Journal of Physical Chemistry B, 2004, 108, 4586-4589.	1.2	46
105	Influence of Small Molecules in Conducting Polyaniline on the Photovoltaic Properties of Solid-State Dye-Sensitized Solar Cells. Journal of Physical Chemistry B, 2004, 108, 18693-18697.	1.2	103
106	Creation of a Superhydrophobic Surface from an Amphiphilic Polymer. Angewandte Chemie, 2003, 115, 824-826.	1.6	89
107	Self-assembled hyperbranched poly(para-Phenylene vinylene) monolayers: fabrication and characterization. Polymers for Advanced Technologies, 2003, 14, 341-348.	1.6	5
108	Electrochemical Deposition of Conductive Superhydrophobic Zinc Oxide Thin Films. Journal of Physical Chemistry B, 2003, 107, 9954-9957.	1.2	281

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109	Fabrication of Organic/Inorganic Hybrid Nanocomposite of 1,8-Naphthalimide and CdS in Self-Assembly Film. <i>Crystal Growth and Design</i> , 2003, 3, 623-626.	1.4	11
110	High photostability and quantum yield of nanoporous TiO ₂ thin film electrodes co-sensitized with capped sulfides. <i>Journal of Materials Chemistry</i> , 2002, 12, 1459-1464.	6.7	154
111	The photoelectrochemical study of a series of ionically combined bischromophore transition metal complexes in LB films. <i>Journal of Materials Chemistry</i> , 2000, 10, 625-630.	6.7	18