# Jin Zhai

List of Publications by Year
in descending order



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|---|---|---|---|
| 111 papers | 5,149 citations | 81900 39 h-index | 91884 69 g-index |
| 119 all docs | 119 docs citations | 119 times ranked | 5691 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Action-potential-inspired osmotic power generation nanochannels. Journal of Membrane Science, 2022, 642, 119999. | 8.2 | 16 |
| 2 | Solvent-induced lengthened conjugated chains in electrochromic PEDOT for enhanced optical modulation. Solar Energy Materials and Solar Cells, 2022, 238, 111621. | 6.2 | 5 |
| 3 | Largeâ€Area Covalent Organic Polymers Membrane via Solâ€“Gel Approach for Harvesting the Salinity Gradient Energy. Small, 2022, 18, e2107600. | 10.0 | 13 |
| 4 | Doubleâ€Network Ion Channels for Highâ€Performance Osmotic Power Generation. Advanced Materials Interfaces, 2022, 9, . | 3.7 | 6 |
| 5 | Enhancement of the Efficiency of g-C<sub>3</sub>N<sub>4</sub> for Hydrogen Evolution by Bifunctionality of RuSe<sub>2</sub>. ACS Applied Energy Materials, 2022, 5, 6080-6090. | 5.1 | 7 |
| 6 | Improved Interfacial Ion Transport through Nanofluidic Hybrid Membranes Based on Covalent Organic Frameworks for Osmotic Energy Generation. ACS Applied Energy Materials, 2022, 5, 7176-7184. | 5.1 | 7 |
| 7 | Largeâ€Area Covalent Organic Polymers Membrane via Solâ€“Gel Approach for Harvesting the Salinity Gradient Energy (Small 20/2022). Small, 2022, 18, . | 10.0 | 1 |
| 8 | Functional separators towards the suppression of lithium dendrites for rechargeable high-energy batteries. Materials Horizons, 2021, 8, 12-32. | 12.2 | 99 |
| 9 | Interfacialâ€Potentialâ€Gradient Induced a Significant Enhancement of Photoelectric Conversion: Thiophene Polyelectrolyte (PTEâ€BS) and Bipyridine Ruthenium (N3) Cooperative Regulated Biomimetic Nanochannels. Advanced Energy Materials, 2021, 11, 2003340. | 19.5 | 9 |
| 10 | Construction of Metalâ€Organic Frameworks (MOFs)â€“Based Membranes and Their Ion Transport Applications. Small Science, 2021, 1, 2000035. | 9.9 | 31 |
| 11 | Kinetic Process of an Alkaline Earth Metal Ion Transmembrane through ZIF-8. Journal of Physical Chemistry Letters, 2021, 12, 5587-5592. | 4.6 | 6 |
| 12 | Sandwich â€œIon Poolâ€•Structured Power Gating for Salinity Gradient Generation Devices. ACS Applied Materials & Interfaces, 2021, 13, 35197-35206. | 8.0 | 12 |
| 13 | Gap Confinement Effect of a Tandem Nanochannel System and Its Application in Salinity Gradient Power Generation. ACS Applied Materials & Interfaces, 2021, 13, 41159-41168. | 8.0 | 5 |
| 14 | â€œIon Poolâ€•Structural Ion Storage Device: A New Strategy to Collect Ions by Nanoconfinement Effects. Small, 2021, 17, e2102880. | 10.0 | 8 |
| 15 | A rechargeable electrochromic energy storage device enabling effective energy recovery. Journal of Materials Chemistry A, 2021, 9, 6451-6459. | 10.3 | 43 |
| 16 | Self-Driven Infrared Electrochromic Device with Tunable Optical and Thermal Management. ACS Applied Materials & Interfaces, 2021, 13, 50319-50328. | 8.0 | 33 |
| 17 | Geometric Tailoring of Macroscale Ti<sub>3</sub>C<sub>2</sub>T<sub>x</sub> MXene Lamellar Membrane for Logic Gate Circuits. ACS Nano, 2021, 15, 19266-19274. | 14.6 | 8 |
| 18 | Electrochromic Nanochannels for Visual Nanofluidic Manipulation in Integrated Ionic Circuits. ACS Applied Materials & Interfaces, 2020, 12, 57314-57321. | 8.0 | 5 |

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|---|---|---|---|
| 19 | Nanochannels regulating ionic transport for boosting electrochemical energy storage and conversion: a review. Nanoscale, 2020, 12, 15923-15943. | 5.6 | 42 |
| 20 | Photoassisted salt-concentration-biased electricity generation using cation-selective porphyrin-based nanochannels membrane. Nano Energy, 2020, 76, 105086. | 16.0 | 27 |
| 21 | A high rectification ratio nanofluidic diode induced by an â€œion poolâ€. RSC Advances, 2020, 10, 7377-7383. | 3.6 | 15 |
| 22 | Interfacial effect of dual ultra-thin SiO<sub>2</sub> coreâ€“triple shell Au@SiO<sub>2</sub>@Ag@SiO<sub>2</sub> for ultra-sensitive trinitrotoluene (TNT) detection. RSC Advances, 2020, 10, 3826-3831. | 3.6 | 2 |
| 23 | PtAuCo Trimetallic Nanoalloys as Highly Efficient Catalysts toward Dehydrogenation of Ammonia Borane. ACS Sustainable Chemistry and Engineering, 2020, 8, 3734-3742. | 6.7 | 35 |
| 24 | Plasmonic ternary hybrid photocatalyst based on polymeric g-C3N4 towards visible light hydrogen generation. Scientific Reports, 2020, 10, 721. | 3.3 | 53 |
| 25 | Tunable rectifications in nanofluidic diodes by ion selectivity of charged polystyrene opals for osmotic energy conversion. Journal of Materials Chemistry A, 2020, 8, 11275-11281. | 10.3 | 31 |
| 26 | Rodâ€Cellâ€Mimetic Photochromic Layered Ion Channels with Multiple Switchable States for Controllable Ion Transport. Chemistry - A European Journal, 2019, 25, 12795-12800. | 3.3 | 8 |
| 27 | Using Smart Nanochannels as a Power Switch in Salinity Gradient Batteries. ChemNanoMat, 2019, 5, 1182-1187. | 2.8 | 17 |
| 28 | Cell Junction Proteins-Mimetic Artificial Nanochannel System: Basic Logic Gates Implemented by Nanofluidic Diodes. Langmuir, 2019, 35, 3171-3175. | 3.5 | 13 |
| 29 | Ion Transport Behaviors of Nanofluidic Diode Bichannel Systems in the Independent and Synergistic Cascade Mode. ACS Applied Materials & Interfaces, 2019, 11, 26467-26473. | 8.0 | 7 |
| 30 | Asymmetric heterostructured SiO2/Al2O3 nanofluidic diodes modulating ionic transport for highly efficient light-gating device. Electrochimica Acta, 2019, 316, 266-272. | 5.2 | 15 |
| 31 | Biomimetic stimuliâ€responsive nanochannels and their applications. Electrophoresis, 2019, 40, 2058-2074. | 2.4 | 20 |
| 32 | The Confinement Effect of Angstromâ€Sized Pores in Asymmetrical Membrane Constructed by Zeolitic Imidazolate Frameworks: Partially Dehydrated Ion Transport Performance. Small, 2019, 15, e1904866. | 10.0 | 22 |
| 33 | pHâ€Resistant Nanofluidic Diode Membrane for Highâ€Performance Conversion of Salinity Gradient into Electric Energy. Energy Technology, 2019, 7, 1800952. | 3.8 | 38 |
| 34 | Artificial NO and Light Cooperative Nanofluidic Diode Inspired by Stomatal Closure of Guard Cells. ACS Applied Materials & Interfaces, 2018, 10, 3241-3247. | 8.0 | 20 |
| 35 | Highly Efficient Gating of Electrically Actuated Nanochannels for Pulsatile Drug Delivery Stemming from a Reversible Wettability Switch. Advanced Materials, 2018, 30, 1703323. | 21.0 | 69 |
| 36 | Bio-inspired Z-scheme g-C3N4/Ag2CrO4 for efficient visible-light photocatalytic hydrogen generation. Scientific Reports, 2018, 8, 16504. | 3.3 | 60 |

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| 37 | An Effective Darkâ€“Visâ€“UV Ternary Biomimetic Switching Based on N3/Spiropyranâ€Modified Nanochannels. Advanced Materials, 2018, 30, e1804862. | 21.0 | 39 |
| 38 | Effect of Trivalent â€œCalcium-likeâ€•Cations on Ionic Transport Behaviors of Artificial Calcium-Responsive Nanochannels. Journal of Physical Chemistry C, 2018, 122, 24863-24870. | 3.1 | 18 |
| 39 | Self-Assembled Porphyrin Nanofiber Membrane-Decorated Alumina Channels for Enhanced Photoelectric Response. ACS Nano, 2018, 12, 11169-11177. | 14.6 | 48 |
| 40 | Multispectral Plasmon of Anisotropic Core-shell Gold Nanorods@SiO2: Dual-band Absorption Enhancement with Coupling Dye Molecules. Chemical Research in Chinese Universities, 2018, 34, 772-780. | 2.6 | 3 |
| 41 | Hybrid nanochannel membrane based on polymer/MOF for high-performance salinity gradient power generation. Nano Energy, 2018, 53, 643-649. | 16.0 | 144 |
| 42 | Robust Sandwichâ€Structured Nanofluidic Diodes Modulating Ionic Transport for an Enhanced Electrochromic Performance. Advanced Science, 2018, 5, 1800163. | 11.2 | 28 |
| 43 | Stable and Recyclable SERS Substrates Based on Au-Loaded PET Nanocomposite Superhydrophobic Surfaces. Nano, 2018, 13, 1850053. | 1.0 | 5 |
| 44 | Synthesis, Functionalization and Application of Stimuli-Responsive Polymer Porous Membranes. Current Organic Chemistry, 2018, 22, 737-749. | 1.6 | 6 |
| 45 | Highâ€Performance Respirationâ€Based Biocell Using Artificial Nanochannel Regulation. Advanced Materials, 2017, 29, 1606871. | 21.0 | 13 |
| 46 | Insight into the Role of Surface Wettability in Electrocatalytic Hydrogen Evolution Reactions Using Light-Sensitive Nanotubular TiO2 Supported Pt Electrodes. Scientific Reports, 2017, 7, 41825. | 3.3 | 53 |
| 47 | N3/Al2O3 composite nanochannels: photoelectric and photoelectric-and-pH cooperatively controlled ion gating. Journal of Materials Chemistry A, 2017, 5, 19220-19226. | 10.3 | 20 |
| 48 | Smart Bioinspired Nanochannels and their Applications in Energyâ€Conversion Systems. Advanced Materials, 2017, 29, 1702983. | 21.0 | 56 |
| 49 | Redox switch of ionic transport in conductive polypyrrole-engineered unipolar nanofluidic diodes. Nano Research, 2017, 10, 3715-3725. | 10.4 | 39 |
| 50 | Temperature and Voltage Dual-Responsive Ion Transport in Bilayer-Intercalated Layered Membranes with 2D Nanofluidic Channels. Journal of Physical Chemistry C, 2017, 121, 18954-18961. | 3.1 | 23 |
| 51 | Optimizing CdS intermediate layer of CdS/CdSe quantum dot-sensitized solar cells to increase light harvesting ability and improve charge separation efficiency. RSC Advances, 2016, 6, 99564-99569. | 3.6 | 7 |
| 52 | Biomimic Redox Driven Ion Transportation in Smart Nanochannels. Journal of Physical Chemistry C, 2016, 120, 17342-17347. | 3.1 | 12 |
| 53 | Alternating current output from a photosynthesis-inspired photoelectrochemical cell. Nano Energy, 2016, 28, 188-194. | 16.0 | 21 |
| 54 | An ion-gating multinanochannel system based on a copper-responsive self-cleaving DNAzyme. Chemical Communications, 2016, 52, 10020-10023. | 4.1 | 27 |

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| 55 | Smooth Muscle Cellâ€Mimetic COâ€Regulated Ion Nanochannels. Advanced Materials, 2016, 28, 10780-10785. | 21.0 | 35 |
| 56 | pH- and light-regulated ion transport in hourglass shaped Al<sub>2</sub>O<sub>3</sub> nanochannels patterned with N719 and APTES. RSC Advances, 2016, 6, 63652-63659. | 3.6 | 15 |
| 57 | The Ag shell thickness effect of Au@Ag@SiO<sub>2</sub> coreâ€“shell nanoparticles on the optoelectronic performance of dye sensitized solar cells. Chemical Communications, 2016, 52, 2390-2393. | 4.1 | 19 |
| 58 | Olfactory Sensory Neuronâ€Mimetic CO<sub>2</sub> Activated Nanofluidic Diode with Fast Response Rate. Advanced Materials, 2015, 27, 1851-1855. | 21.0 | 60 |
| 59 | Interfacial Effect of Novel Coreâ€“Triple Shell Structured Au@SiO<sub>2</sub>@Ag@SiO<sub>2</sub> with Ultrathin SiO<sub>2</sub> Passivation Layer between the Metal Interfaces on Efficient Dyeâ€Sensitized Solar Cells. Advanced Materials Interfaces, 2015, 2, 1500383. | 3.7 | 15 |
| 60 | Mimicking how plants control CO2 influx: CO2 activation of ion current rectification in nanochannels. NPG Asia Materials, 2015, 7, e215-e215. | 7.9 | 11 |
| 61 | Organic/Inorganic Hybrid Nanochannels Based on Polypyrroleâ€Embedded Alumina Nanopore Arrays: pHâ€• and Lightâ€Modulated Ion Transport. Advanced Functional Materials, 2015, 25, 2091-2098. | 14.9 | 80 |
| 62 | Photocurrent generation in a light-harvesting system with multifunctional artificial nanochannels. Chemical Communications, 2015, 51, 12286-12289. | 4.1 | 17 |
| 63 | Cooperative Effect of pH-Dependent Ion Transport within Two Symmetric-Structured Nanochannels. ACS Applied Materials & Interfaces, 2015, 7, 7709-7716. | 8.0 | 24 |
| 64 | Layered MoS2 nanoparticles on TiO2 nanotubes by a photocatalytic strategy for use as high-performance electrocatalysts in hydrogen evolution reactions. Green Chemistry, 2015, 17, 2764-2768. | 9.0 | 64 |
| 65 | Plasmonic cooperation effect of metal nanomaterials at Auâ€“TiO<sub>2</sub>â€“Ag interface to enhance photovoltaic performance for dye-sensitized solar cells. RSC Advances, 2015, 5, 210-214. | 3.6 | 25 |
| 66 | Underwater superoleophobic porous membrane based on hierarchical TiO<sub>2</sub> nanotubes: multifunctional integration of oilâ€“water separation, flow-through photocatalysis and self-cleaning. Journal of Materials Chemistry A, 2015, 3, 1279-1286. | 10.3 | 204 |
| 67 | Alumina Membrane with Hour-Glass Shaped Nanochannels: Tunable Ionic Current Rectification Device Modulated by Ions Gradient. Journal of Nanomaterials, 2014, 2014, 1-10. | 2.7 | 12 |
| 68 | Artificial Ion Channels Regulating Lightâ€Induced Ionic Currents in Photoelectrical Conversion Systems. Advanced Materials, 2014, 26, 2329-2334. | 21.0 | 46 |
| 69 | A new porphyrin sensitizer with phenolic binding group for high efficiency dye-sensitized solar cells. Materials Science-Poland, 2014, 32, 610-616. | 1.0 | 1 |
| 70 | Lightâ€Gating Titania/Alumina Heterogeneous Nanochannels with Regulatable Ion Rectification Characteristic. Advanced Functional Materials, 2014, 24, 424-431. | 14.9 | 60 |
| 71 | Phototunable Underwater Oil Adhesion of Micro/Nanoscale Hierarchicalâ€Structured ZnO Mesh Films with Switchable Contact Mode. Advanced Functional Materials, 2014, 24, 536-542. | 14.9 | 67 |
| 72 | Theoretical simulation of the ion current rectification (ICR) in nano-pores based on the Poissonâ€“Nernstâ€“Planck (PNP) model. Physical Chemistry Chemical Physics, 2014, 16, 23-32. | 2.8 | 42 |

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| 73 | Patterned liquid permeation through the TiO2 nanotube array coated Ti mesh by photoelectric cooperation for liquid printing. Journal of Materials Chemistry A, 2014, 2, 2498. | 10.3 | 8 |
| 74 | Calcein-Modified Multinanochannels on PET Films for Calcium-Responsive Nanogating. ACS Applied Materials & Interfaces, 2014, 6, 3794-3798. | 8.0 | 26 |
| 75 | Regulating Water Adhesion on Superhydrophobic TiO<sub>2</sub> Nanotube Arrays. Advanced Functional Materials, 2014, 24, 6381-6388. | 14.9 | 70 |
| 76 | Ion current behaviors of mesoporous zeoliteâ€“polymer composite nanochannels prepared by water-assisted self-assembly. Chemical Communications, 2014, 50, 3552. | 4.1 | 11 |
| 77 | Nanofluidic Diode Based on Branched Alumina Nanochannels with Tunable Ionic Rectification. ACS Applied Materials & Interfaces, 2013, 5, 7931-7936. | 8.0 | 52 |
| 78 | TiO2 nanotubular arrays loaded with Ni(OH)2: naked-eye visible photoswitchable color change induced by oxidative energy storage. RSC Advances, 2013, 3, 22853. | 3.6 | 7 |
| 79 | A biomimetic mercury(ii)-gated single nanochannel. Chemical Communications, 2013, 49, 10679. | 4.1 | 86 |
| 80 | Photocatalysis-Triggered Ion Rectification in Artificial Nanochannels Based on Chemically Modified Asymmetric TiO2 Nanotubes. Langmuir, 2013, 29, 4806-4812. | 3.5 | 34 |
| 81 | CdS quantum dot-decorated titania/graphene nanosheets stacking structures for enhanced photoelectrochemical solar cells. RSC Advances, 2013, 3, 23755. | 3.6 | 23 |
| 82 | Heterogeneous 3-D nanotubular arrays of CdS-TiO2: efficient collections of reflection light for enhanced photoelectric output. Journal of Materials Chemistry, 2012, 22, 22120. | 6.7 | 12 |
| 83 | Construction of biomimetic smart nanochannels with polymer membranes and application in energy conversion systems. Physical Chemistry Chemical Physics, 2012, 14, 4027. | 2.8 | 53 |
| 84 | Photo-induced waterâ€“oil separation based on switchable superhydrophobicityâ€“superhydrophilicity and underwater superoleophobicity of the aligned ZnO nanorod array-coated mesh films. Journal of Materials Chemistry, 2012, 22, 19652. | 6.7 | 347 |
| 85 | Light-regulated ion transport through artificial ion channels based on TiO2 nanotubular arrays. Chemical Communications, 2012, 48, 5901. | 4.1 | 45 |
| 86 | Light and pH Cooperative Nanofluidic Diode Using a Spiropyranâ€Functionalized Single Nanochannel. Advanced Materials, 2012, 24, 2424-2428. | 21.0 | 158 |
| 87 | Optoelectrowettability conversion on superhydrophobic CdS QDs sensitized TiO2 nanotubes. Journal of Colloid and Interface Science, 2012, 366, 1-7. | 9.4 | 17 |
| 88 | 3-D vertical arrays of TiO2 nanotubes on Ti meshes: Efficient photoanodes for water photoelectrolysis. Journal of Materials Chemistry, 2011, 21, 10354. | 6.7 | 46 |
| 89 | Photoelectric Cooperative Induced Wetting on Alignedâ€Nanopore Arrays for Liquid Reprography. Advanced Functional Materials, 2011, 21, 4519-4526. | 14.9 | 35 |
| 90 | RÃ¼cktitelbild: High-Temperature Wetting Transition on Micro- and Nanostructured Surfaces (Angew.) Tj ETQq0 0 0 rgBT /Overlock 10 | 2.0 | 1 |

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| 91 | Back Cover: High-Temperature Wetting Transition on Micro- and Nanostructured Surfaces (Angew.) Tj ETQq1 1 0.784314 rgBT /Overl | 13.8 | 0 |
| 92 | Bioâ€inspired Photoelectric Conversion Based on Smartâ€Gating Nanochannels. Advanced Functional Materials, 2010, 20, 2636-2642. | 14.9 | 113 |
| 93 | Bioinspired Smart Gating of Nanochannels Toward Photoelectricâ€Conversion Systems. Advanced Materials, 2010, 22, 1021-1024. | 21.0 | 104 |
| 94 | Photoelectric conversion behavior based on direct interfacial charge-transfer from porphyrin derivative to silicon nanowires. Applied Physics Letters, 2010, 97, 253111. | 3.3 | 11 |
| 95 | Enhanced photoelectrochemical performance of ZnO photoanode with scattering hollow cavities. Applied Physics A: Materials Science and Processing, 2009, 96, 473-479. | 2.3 | 12 |
| 96 | In situ investigation on dynamic suspending of microdroplet on lotus leaf and gradient of wettable micro- and nanostructure from water condensation. Applied Physics Letters, 2008, 92, . | 3.3 | 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 Mgâ€“Li alloys surfaces with stable superhydrophobicity and improved corrosion resistance. Applied Physics Letters, 2008, 92, . | 3.3 | 158 |
| 99 | Enhanced photoelectrical performance of TiO2 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. | 2.6 | 3 |
| 101 | Chemical Dual-Responsive Wettability of Superhydrophobic PANI-PAN Coaxial Nanofibers. Macromolecular Rapid Communications, 2007, 28, 1135-1141. | 3.9 | 85 |
| 102 | Wetting and anti-wetting on aligned carbon nanotube films. Soft Matter, 2006, 2, 811. | 2.7 | 193 |
| 103 | Super-Hydrophobic PDMS Surface with Ultra-Low Adhesive Force. Macromolecular Rapid Communications, 2005, 26, 1805-1809. | 3.9 | 336 |
| 104 | Water-Assisted Fabrication of Polyaniline Honeycomb Structure Film. Journal of Physical Chemistry B, 2004, 108, 4586-4589. | 2.6 | 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. | 2.6 | 103 |
| 106 | Creation of a Superhydrophobic Surface from an Amphiphilic Polymer. Angewandte Chemie, 2003, 115, 824-826. | 2.0 | 89 |
| 107 | Self-assembled hyperbranched poly(para-Phenylene vinylene) monolayers: fabrication and characterization. Polymers for Advanced Technologies, 2003, 14, 341-348. | 3.2 | 5 |
| 108 | Electrochemical Deposition of Conductive Superhydrophobic Zinc Oxide Thin Films. Journal of Physical Chemistry B, 2003, 107, 9954-9957. | 2.6 | 281 |

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| 109 | Fabrication of Organic/Inorganic Hybrid Nanocomposite of 1,8-Naphthalimide and CdS in Self-Assembly Film. Crystal Growth and Design, 2003, 3, 623-626. | 3.0 | 11 |
| 110 | High photostability and quantum yield of nanoporous TiO2 thin film electrodes co-sensitized with capped sulfides. Journal of Materials Chemistry, 2002, 12, 1459-1464. | 6.7 | 154 |
| 111 | The photoelectrochemical study of a series of ionically combined bischromophore transition metal complexes in LB films. Journal of Materials Chemistry, 2000, 10, 625-630. | 6.7 | 18 |