Yan Xiang

List of Publications by Year in descending order

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87 papers	2,753 citations	147726 31 h-index	197736 49 g-index
89 all docs	89 docs citations	89 times ranked	3527 citing authors

#	Article	IF	Citations
1	Layer-by-layer self-assembly in the development of electrochemical energy conversion and storage devices from fuel cells to supercapacitors. Chemical Society Reviews, 2012, 41, 7291.	18.7	234
2	Carbon Anode Materials: A Detailed Comparison between Naâ€ion and Kâ€ion Batteries. Advanced Energy Materials, 2021, 11, 2003640.	10.2	150
3	A copper single-atom catalyst towards efficient and durable oxygen reduction for fuel cells. Journal of Materials Chemistry A, 2019, 7, 16690-16695.	5.2	140
4	New anhydrous proton exchange membranes for high-temperature fuel cells based on PVDFâ€“PVP blended polymers. Journal of Materials Chemistry A, 2015, 3, 148-155.	5.2	109
5	A novel polysulfoneâ€“polyvinylpyrrolidone membrane with superior proton-to-vanadium ion selectivity for vanadium redox flow batteries. Journal of Materials Chemistry A, 2016, 4, 1174-1179.	5.2	85
6	Layer-by-layer self-assembly of Nafionâ€“[CSâ€“PWA] composite membranes with suppressed vanadium ion crossover for vanadium redox flow battery applications. RSC Advances, 2014, 4, 24831-24837.	1.7	70
7	A Gemini Quaternary Ammonium Poly (ether ether ketone) Anionâ€Exchange Membrane for Alkaline Fuel Cell: Design, Synthesis, and Properties. ChemSusChem, 2014, 7, 3389-3395.	3.6	65
8	Titanium nitride as an electrocatalyst for V(II)/V(III) redox couples in all-vanadium redox flow batteries. Electrochimica Acta, 2015, 182, 834-840.	2.6	64
9	Pt-based nanoparticles on non-covalent functionalized carbon nanotubes as effective electrocatalysts for proton exchange membrane fuel cells. RSC Advances, 2014, 4, 46265-46284.	1.7	60
10	Submicro-pore containing poly(ether sulfones)/polyvinylpyrrolidone membranes for high-temperature fuel cell applications. Journal of Materials Chemistry A, 2015, 3, 8847-8854.	5.2	59
11	Unique Ni Crystalline Core/Ni Phosphide Amorphous Shell Heterostructured Electrocatalyst for Hydrazine Oxidation Reaction of Fuel Cells. ACS Applied Materials & Interfaces, 2019, 11, 19048-19055.	4.0	59
12	A Selfâ€Anchored Phosphotungstic Acid Hybrid Proton Exchange Membrane Achieved via Oneâ€Step Synthesis. Advanced Energy Materials, 2014, 4, 1400842.	10.2	56
13	Nonionic surfactant greatly enhances the reductive debromination of polybrominated diphenyl ethers by nanoscale zero-valent iron: Mechanism and kinetics. Journal of Hazardous Materials, 2014, 278, 592-596.	6.5	55
14	Phosphotungstic acid (HPW) molecules anchored in the bulk of Nafion as methanol-blocking membrane for direct methanol fuel cells. Journal of Membrane Science, 2011, 368, 241-245.	4.1	53
15	Intrinsic Effect of Carbon Supports on the Activity and Stability of Precious Metal Based Catalysts for Electrocatalytic Alcohol Oxidation in Fuel Cells: A Review. ChemSusChem, 2020, 13, 2484-2502.	3.6	52
16	A Lightâ€Powered Bioâ€Capacitor with Nanochannel Modulation. Advanced Materials, 2014, 26, 5846-5850.	11.1	50
17	Simultaneous electro-oxidation and in situ electro-peroxone process for the degradation of refractory organics in wastewater. Journal of Hazardous Materials, 2019, 364, 468-474.	6.5	47
18	Ultra-low loading Pt decorated coral-like Pd nanochain networks with enhanced activity and stability towards formic acid electrooxidation. Journal of Materials Chemistry A, 2013, 1, 1548-1552.	5.2	46

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19	Free-Standing Bilayered Nanoparticle Superlattice Nanosheets with Asymmetric Ionic Transport Behaviors. ACS Nano, 2015, 9, 11218-11224.	7.3	45
20	High temperature polymer electrolyte membrane achieved by grafting poly(1-vinylimidazole) on polysulfone for fuel cells application. Journal of Membrane Science, 2019, 592, 117395.	4.1	45
21	High Temperature Polymer Electrolyte Membrane Fuel Cells for Integrated Fuel Cell â€“ Methanol Reformer Power Systems: A Critical Review. Advanced Sustainable Systems, 2018, 2, 1700184.	2.7	44
22	A Sustainable Redox Flow Battery with Alizarin-Based Aqueous Organic Electrolyte. ACS Applied Energy Materials, 2019, 2, 2469-2474.	2.5	43
23	Effect of side chain on the electrochemical performance of poly (ether ether ketone) based anion-exchange membrane: A molecular dynamics study. Journal of Membrane Science, 2020, 605, 118105.	4.1	42
24	An Aqueous Redox Flow Battery with a Tungstenâ€“Cobalt Heteropolyacid as the Electrolyte for both the Anode and Cathode. Advanced Energy Materials, 2017, 7, 1601224.	10.2	40
25	Carbonâ€Nanotubesâ€Supported Pd Nanoparticles for Alcohol Oxidations in Fuel Cells: Effect of Number of Nanotube Walls on Activity. ChemSusChem, 2015, 8, 2956-2966.	3.6	39
26	Mass-producible polyhedral macrotube carbon arrays with multi-hole cross-section profiles: superb 3D tertiary porous electrode materials for supercapacitors and capacitive deionization cells. Journal of Materials Chemistry A, 2020, 8, 16312-16322.	5.2	38
27	In situ construction of interconnected ion transfer channels in anion-exchange membranes for fuel cell application. Journal of Materials Chemistry A, 2017, 5, 4003-4010.	5.2	36
28	Enhanced membrane ion selectivity by incorporating graphene oxide nanosheet for vanadium redox flow battery application. Electrochimica Acta, 2017, 248, 454-461.	2.6	36
29	Design of a Catalytic Layer with Hierarchical Proton Transport Structure: The Role of Nafion Nanofiber. ACS Sustainable Chemistry and Engineering, 2019, 7, 2955-2963.	3.2	35
30	Amino-functionalized mesoporous silica based polyethersulfoneâ€“polyvinylpyrrolidone composite membranes for elevated temperature proton exchange membrane fuel cells. RSC Advances, 2016, 6, 86575-86585.	1.7	34
31	Study of carbon black supported amorphous Niâ€“B nano-catalyst for hydrazine electrooxidation in alkaline media. RSC Advances, 2014, 4, 26940.	1.7	33
32	Template-free Synthesis and Transport Properties of Bi₂Te₃ Ordered Nanowire Arrays via a Physical Vapor Process. Crystal Growth and Design, 2009, 9, 3079-3082.	1.4	31
33	Microscopic phase-segregated quaternary ammonia polysulfone membrane for vanadium redox flow batteries. Journal of Power Sources, 2019, 428, 88-92.	4.0	31
34	Enhanced electro-oxidation/peroxone (in situ) process with a Ti-based nickel-antimony doped tin oxide anode for phenol degradation. Journal of Hazardous Materials, 2020, 384, 121398.	6.5	30
35	Chitosan-based activated carbon as economic and efficient sustainable material for capacitive deionization of low salinity water. RSC Advances, 2019, 9, 26676-26684.	1.7	29
36	Inducing microstructural changes in Nafion by incorporating graphitic carbon nitride to enhance the vanadium-blocking effect. Physical Chemistry Chemical Physics, 2018, 20, 7694-7700.	1.3	27

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37	Pristine graphene dispersion in solvents and its application as a catalyst support: a combined theoretical and experimental study. Journal of Materials Chemistry A, 2015, 3, 6282-6285.	5.2	26
38	Homogeneous graft copolymerization and characterization of novel artificial glycoprotein: Chitosanâ€poly(<scp>L</scp>â€tryptophan) copolymers with secondary structural side chains. Journal of Polymer Science Part A, 2009, 47, 925-934.	2.5	25
39	Bamboolike Carbon Microfibers Derived from Typha Orientalis Fibers for Supercapacitors and Capacitive Deionization. Journal of the Electrochemical Society, 2019, 166, A236-A244.	1.3	25
40	A Bunch-Like Tertiary Amine Grafted Polysulfone Membrane for VRFBs with Simultaneously High Proton Conductivity and Low Vanadium Ion Permeability. Macromolecular Rapid Communications, 2017, 38, 1600710.	2.0	24
41	Heterogeneous bacteriorhodopsin/gold nanoparticle stacks as a photovoltaic system. Nano Energy, 2015, 11, 654-661.	8.2	23
42	Photoelectric Frequency Response in a Bioinspired Bacteriorhodopsin/Alumina Nanochannel Hybrid Nanosystem. Advanced Materials, 2016, 28, 9851-9856.	11.1	23
43	Elucidating the electro-catalytic oxidation of hydrazine over carbon nanotube-based transition metal single atom catalysts. Nano Research, 2021, 14, 4650-4657.	5.8	23
44	A phosphotungstic acid self-anchored hybrid proton exchange membrane for direct methanol fuel cells. RSC Advances, 2016, 6, 43049-43055.	1.7	22
45	Ion-Exchange-Induced Selective Etching for the Synthesis of Amino-Functionalized Hollow Mesoporous Silica for Elevated-High-Temperature Fuel Cells. ACS Applied Materials & Interfaces, 2017, 9, 31922-31930.	4.0	22
46	The Structureâ€“Activity Relationship in Membranes for Vanadium Redox Flow Batteries. Advanced Sustainable Systems, 2019, 3, 1900020.	2.7	22
47	Atomically Dispersed Cuâ€“Nâ€“C as a Promising Support for Low-Pt Loading Cathode Catalysts of Fuel Cells. ACS Applied Energy Materials, 2020, 3, 3807-3814.	2.5	22
48	Effects of bicarbonate and cathode potential on hydrogen production in a biocathode electrolysis cell. Frontiers of Environmental Science and Engineering, 2014, 8, 624-630.	3.3	21
49	Highâ€Performance Oxygen Reduction Electrocatalysis Enabled by 3D PdNi Nanocorals with Hierarchical Porosity. Particle and Particle Systems Characterization, 2018, 35, 1700366.	1.2	21
50	Enhancing Cell Performance and Durability of High Temperature Polymer Electrolyte Membrane Fuel Cells by Inhibiting the Formation of Cracks in Catalyst Layers. Journal of the Electrochemical Society, 2020, 167, 114501.	1.3	21
51	Doping structure and degradation mechanism of polypyrroleâ€“NafionÂ® composite membrane for vanadium redox flow batteries. RSC Advances, 2016, 6, 103332-103336.	1.7	19
52	Structure reorganization-controlled electron transfer of bipyridine derivatives as organic redox couples. Journal of Materials Chemistry A, 2019, 7, 27016-27022.	5.2	19
53	A novel light-driven pH-biosensor based on bacteriorhodopsin. Nano Energy, 2019, 66, 104129.	8.2	17
54	Enhanced capacitive deionization of an integrated membrane electrode by thin layer spray-coating of ion exchange polymers on activated carbon electrode. Desalination, 2020, 491, 114460.	4.0	17

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55	A proteorhodopsin-based biohybrid light-powering pH sensor. Physical Chemistry Chemical Physics, 2013, 15, 15821.	1.3	15
56	The effects of different dimensional carbon additives on performance of PEMFC with low-Pt loading cathode catalytic layers. International Journal of Hydrogen Energy, 2021, 46, 15887-15895.	3.8	15
57	Novel Inorganic Integrated Membrane Electrodes for Membrane Capacitive Deionization. ACS Applied Materials & Interfaces, 2021, 13, 46537-46548.	4.0	15
58	Preparation of p-type CuCr1â˜'x Mg x O2 bulk with improved thermoelectric properties by solâ€“gel method. Journal of Sol-Gel Science and Technology, 2012, 63, 1-7.	1.1	14
59	Theoretical investigation of the weak interaction between graphene and alcohol solvents. Chemical Physics Letters, 2017, 676, 129-133.	1.2	12
60	Antimony-doped tin oxide as an efficient electrocatalyst toward the VO²⁺/VO₂⁺ redox couple of the vanadium redox flow battery. Catalysis Science and Technology, 2020, 10, 2484-2490.	2.1	12
61	Anions-capture materials for electrochemical electrode deionization: Mechanism, performance, and development prospects. Desalination, 2021, 520, 115336.	4.0	12
62	3D Proton Transfer Augments Bioâ€Photocurrent Generation. Advanced Materials, 2015, 27, 2668-2673.	11.1	10
63	An Niâ€“P/C electro-catalyst with improved activity for the carbohydrazide oxidation reaction. RSC Advances, 2016, 6, 91956-91959.	1.7	10
64	A novel cell-scale bio-nanogenerator based on electronâ€“ion interaction for fast light power conversion. Nanoscale, 2018, 10, 526-532.	2.8	10
65	An efficient cluster model to describe the oxygen reduction reaction activity of metal catalysts: a combined theoretical and experimental study. Physical Chemistry Chemical Physics, 2018, 20, 26675-26680.	1.3	10
66	Substantially Enhanced Power Output and Durability of Direct Formic Acid Fuel Cells at Elevated Temperatures. Advanced Sustainable Systems, 2020, 4, 2000065.	2.7	10
67	Novel Pd-decorated amorphous Niâ€“B/C catalysts with enhanced oxygen reduction reaction activities in alkaline media. RSC Advances, 2014, 4, 51126-51132.	1.7	9
68	Platinumâ€Decorated Ultrafine Pd Nanoparticles Monodispersed on Pristine Graphene with Enhanced Electrocatalytic Performance. ChemPlusChem, 2016, 81, 172-175.	1.3	9
69	The electrocatalytic characterization and mechanism of carbon nanotubes with different numbers of walls for the VO₂⁺/VO²⁺ redox couple. Physical Chemistry Chemical Physics, 2018, 20, 7791-7797.	1.3	9
70	Can bicarbonate replace phosphate to improve the sustainability of bioelectrochemical systems for H₂production?. RSC Advances, 2015, 5, 27082-27086.	1.7	8
71	Nickel Promoted Palladium Nanoparticles for Electrocatalysis of Carbohydrazide Oxidation Reaction. Small, 2019, 15, e1900929.	5.2	8
72	Monolayer MoS₂ film supported metal electrocatalysts: a DFT study. RSC Advances, 2016, 6, 107836-107839.	1.7	7

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73	A Direct Liquid Fuel Cell with High Power Density Using Reduced Phosphotungstic Acid as Redox Fuel. Energy and Environmental Materials, 2022, 5, 278-284.	7.3	7
74	Advancements of Polyvinylpyrrolidoneâ€Based Polymer Electrolyte Membranes for Electrochemical Energy Conversion and Storage Devices. ChemSusChem, 2022, 15, .	3.6	7
75	Glycolipid Biotinylation on Purple Membrane with Maintained Bioactivity. Journal of Physical Chemistry B, 2009, 113, 7762-7766.	1.2	6
76	Unidirectional electron injection and accelerated proton transport in bacteriorhodopsin based Bio-p-n junctions. Biosensors and Bioelectronics, 2021, 173, 112811.	5.3	6
77	Kinetics and gene diversity of denitrifying biocathode in biological electrochemical systems. RSC Advances, 2017, 7, 24981-24987.	1.7	5
78	Numerical and Experimental Investigations of Bipolar Membrane Fuel Cells: 3D Model Development and Effect of Gas Channel Width. Journal of the Electrochemical Society, 2018, 165, F994-F1001.	1.3	5
79	Effective Homogeneous Hydrolysis of Phosphodiester and DNA Cleavage by Chitosan-copper Complex. Chinese Journal of Chemistry, 2011, 29, 711-718.	2.6	4
80	A Light-Driven Integrated Bio-Capacitor with Single Nano-Channel Modulation. Nanomaterials, 2022, 12, 592.	1.9	4
81	The Interaction Energy between Solvent Molecules and Graphene as an Effective Descriptor for Graphene Dispersion in Solvents. Journal of Physical Chemistry C, 2021, 125, 5167-5171.	1.5	3
82	A new perspective on metal particles enhanced MoS2 photocatalysis in hydrogen evolution: Excited electric field by surface plasmon resonance. Journal of Applied Physics, 2019, 126, .	1.1	2
83	Ion Transport of Biohybrid Asymmetric Membranes by pH and Lightâ€Cooperative Modulation. Advanced Materials Interfaces, 2020, 7, 2001134.	1.9	2
84	The Effect of Functional Groups on the Electrocatalytic Activity of Carbon Nanotubes with Different Wall Numbers toward Carbohydrazide Oxidation Reaction. Chemistry - an Asian Journal, 2020, 15, 3451-3455.	1.7	2
85	A low-toxic artificial fluorescent glycoprotein can serve as an efficient cytoplasmic labeling in living cell. Carbohydrate Polymers, 2015, 117, 211-214.	5.1	1
86	Electroâ€Catalysis: Nickel Promoted Palladium Nanoparticles for Electrocatalysis of Carbohydrazide Oxidation Reaction (Small 28/2019). Small, 2019, 15, 1970151.	5.2	0
87	A mediated fuel cell using alkaline proof alizarin as an anode mediator. Journal of Power Sources, 2021, 511, 230456.	4.0	0