Junjie Zhong

List of Publications by Year
in descending order

146 papers	20,199 citations	15504 65 h-index	10734 138 g-index
150 all docs	150 docs citations	150 times ranked	13721 citing authors

#	Article	IF	Citations
1	Microplastics shift impacts of climate change on a plant-microbe mutualism: Temperature, CO2, and tire wear particles. Environmental Research, 2022, 203, 111727.	7.5	18
2	Concentrated Ethanol Electrosynthesis from CO₂ via a Porous Hydrophobic Adlayer. ACS Applied Materials & Interfaces, 2022, 14, 4155-4162.	8.0	15
3	Efficient electrosynthesis of n-propanol from carbon monoxide using a Agâ€“Ruâ€“Cu catalyst. Nature Energy, 2022, 7, 170-176.	39.5	96
4	Redox-mediated electrosynthesis of ethylene oxide from CO2 and water. Nature Catalysis, 2022, 5, 185-192.	34.4	40
5	Nanoplastic State and Fate in Aquatic Environments: Multiscale Modeling. Environmental Science & Technology, 2022, 56, 4017-4028.	10.0	24
6	Past, Present, and Future of Microfluidic Fluid Analysis in the Energy Industry. Energy & Fuels, 2022, 36, 8578-8590.	5.1	10
7	Carbon-efficient carbon dioxide electrolysers. Nature Sustainability, 2022, 5, 563-573.	23.7	95
8	Eliminating the need for anodic gas separation in CO2 electroreduction systems via liquid-to-liquid anodic upgrading. Nature Communications, 2022, 13, .	12.8	37
9	Toxicity of nanoplastics to zooplankton is influenced by temperature, salinity, and natural particulate matter. Environmental Science: Nano, 2022, 9, 2678-2690.	4.3	10
10	CO₂ Electroreduction to Formate at a Partial Current Density of 930 mA cm^{â€“2} with InP Colloidal Quantum Dot Derived Catalysts. ACS Energy Letters, 2021, 6, 79-84.	17.4	100
11	FertDish: microfluidic sperm selection-in-a-dish for intracytoplasmic sperm injection. Lab on A Chip, 2021, 21, 775-783.	6.0	29
12	Selection of high-quality sperm with thousands of parallel channels. Lab on A Chip, 2021, 21, 2464-2475.	6.0	15
13	Suppressing the liquid product crossover in electrochemical CO₂ reduction. SmartMat, 2021, 2, 12-16.	10.7	90
14	Self-Cleaning CO₂ Reduction Systems: Unsteady Electrochemical Forcing Enables Stability. ACS Energy Letters, 2021, 6, 809-815.	17.4	159
15	A glucose meter interface for point-of-care gene circuit-based diagnostics. Nature Communications, 2021, 12, 724.	12.8	54
16	Designing anion exchange membranes for CO2 electrolysers. Nature Energy, 2021, 6, 339-348.	39.5	209
17	Inside Front Cover: Volume 2 Issue 1. SmartMat, 2021, 2, iii.	10.7	1
18	Screening High-Temperature Foams with Microfluidics for Thermal Recovery Processes. Energy & Fuels, 2021, 35, 7866-7873.	5.1	21

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19	Silica-copper catalyst interfaces enable carbon-carbon coupling towards ethylene electrosynthesis. Nature Communications, 2021, 12, 2808.	12.8	91
20	Low coordination number copper catalysts for electrochemical CO2 methanation in a membrane electrode assembly. Nature Communications, 2021, 12, 2932.	12.8	97
21	Evaluation of a Microencapsulated Phase Change Slurry for Subsurface Energy Recovery. Energy & Fuels, 2021, 35, 10293-10302.	5.1	10
22	Machine learning for sperm selection. Nature Reviews Urology, 2021, 18, 387-403.	3.8	39
23	Gold-in-copper at low *CO coverage enables efficient electromethanation of CO2. Nature Communications, 2021, 12, 3387.	12.8	70
24	CO ₂ electrolysis to multicarbon products in strong acid. Science, 2021, 372, 1074-1078.	12.6	541
25	Effects of Hydrogen Peroxide on Cyanobacterium <i>Microcystis aeruginosa</i> in the Presence of Nanoplastics. ACS ES&T Water, 2021, 1, 1596-1607.	4.6	22
26	Single Pass CO₂ Conversion Exceeding 85% in the Electrosynthesis of Multicarbon Products via Local CO₂ Regeneration. ACS Energy Letters, 2021, 6, 2952-2959.	17.4	155
27	Gold Adparticles on Silver Combine Low Overpotential and High Selectivity in Electrochemical CO₂ Conversion. ACS Applied Energy Materials, 2021, 4, 7504-7512.	5.1	18
28	In Situ Formation of Nano Niâ€“Co Oxyhydroxide Enables Water Oxidation Electrocatalysts Durable at High Current Densities. Advanced Materials, 2021, 33, e2103812.	21.0	78
29	Glycerol Oxidation Pairs with Carbon Monoxide Reduction for Low-Voltage Generation of C₂ and C₃ Product Streams. ACS Energy Letters, 2021, 6, 3538-3544.	17.4	36
30	Stable, active CO2 reduction to formate via redox-modulated stabilization of active sites. Nature Communications, 2021, 12, 5223.	12.8	145
31	AbCellera's success is unprecedented: what have we learned?. Lab on A Chip, 2021, 21, 2330-2332.	6.0	2
32	How to select ICSI-viable sperm from the most challenging samples. Nature Reviews Urology, 2021, , .	3.8	3
33	Downstream of the CO₂ Electrolyzer: Assessing the Energy Intensity of Product Separation. ACS Energy Letters, 2021, 6, 4405-4412.	17.4	53
34	Exploring Anomalous Fluid Behavior at the Nanoscale: Direct Visualization and Quantification via Nanofluidic Devices. Accounts of Chemical Research, 2020, 53, 347-357.	15.6	43
35	Increased Temperature and Turbulence Alter the Effects of Leachates from Tire Particles on Fathead Minnow (<i>Pimephales promelas</i>). Environmental Science & Technology, 2020, 54, 1750-1759.	10.0	52
36	Oxygen-tolerant electroproduction of C₂ products from simulated flue gas. Energy and Environmental Science, 2020, 13, 554-561.	30.8	113

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37	When robotics met fluidics. Lab on A Chip, 2020, 20, 709-716.	6.0	27
38	Catalyst synthesis under CO2 electroreduction favours faceting and promotes renewable fuels electrosynthesis. Nature Catalysis, 2020, 3, 98-106.	34.4	325
39	Tuning OH binding energy enables selective electrochemical oxidation of ethylene to ethylene glycol. Nature Catalysis, 2020, 3, 14-22.	34.4	120
40	Promoting CO2 methanation via ligand-stabilized metal oxide clusters as hydrogen-donating motifs. Nature Communications, 2020, 11, 6190.	12.8	93
41	Enhanced multi-carbon alcohol electroproduction from CO via modulated hydrogen adsorption. Nature Communications, 2020, 11, 3685.	12.8	72
42	High-Rate and Efficient Ethylene Electrosynthesis Using a Catalyst/Promoter/Transport Layer. ACS Energy Letters, 2020, 5, 2811-2818.	17.4	106
43	Accelerating Fluid Development on a Chip for Renewable Energy. Energy & Fuels, 2020, 34, 11219-11226.	5.1	10
44	CO₂ Electroreduction to Methane at Production Rates Exceeding 100 mA/cm². ACS Sustainable Chemistry and Engineering, 2020, 8, 14668-14673.	6.7	41
45	Efficient electrically powered CO2-to-ethanol via suppression of deoxygenation. Nature Energy, 2020, 5, 478-486.	39.5	363
46	Chloride-mediated selective electrosynthesis of ethylene and propylene oxides at high current density. Science, 2020, 368, 1228-1233.	12.6	196
47	CO ₂ electrolysis to multicarbon products at activities greater than 1 A cm ^{âˆ2}. Science, 2020, 367, 661-666.	12.6	860
48	Enhanced Nitrate-to-Ammonia Activity on Copperâ€“Nickel Alloys via Tuning of Intermediate Adsorption. Journal of the American Chemical Society, 2020, 142, 5702-5708.	13.7	638
49	Molecular tuning of CO2-to-ethylene conversion. Nature, 2020, 577, 509-513.	27.8	682
50	Biological Responses to Climate Change and Nanoplastics Are Altered in Concert: Full-Factor Screening Reveals Effects of Multiple Stressors on Primary Producers. Environmental Science & Technology, 2020, 54, 2401-2410.	10.0	48
51	Efficient Methane Electrosynthesis Enabled by Tuning Local CO₂ Availability. Journal of the American Chemical Society, 2020, 142, 3525-3531.	13.7	154
52	Cooperative CO2-to-ethanol conversion via enriched intermediates at moleculeâ€“metal catalyst interfaces. Nature Catalysis, 2020, 3, 75-82.	34.4	390
53	Deep learning-based selection of human sperm with high DNA integrity. Communications Biology, 2019, 2, 250.	4.4	64
54	Dopant-tuned stabilization of intermediates promotes electrosynthesis of valuable C3 products. Nature Communications, 2019, 10, 4807.	12.8	26

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55	Magnetic Extraction of Microplastics from Environmental Samples. Environmental Science and Technology Letters, 2019, 6, 68-72.	8.7	242
56	Natural gas vaporization in a nanoscale throat connected model of shale: multi-scale, multi-component and multi-phase. Lab on A Chip, 2019, 19, 272-280.	6.0	30
57	Fluorescent Dyes for Visualizing Microplastic Particles and Fibers in Laboratory-Based Studies. Environmental Science and Technology Letters, 2019, 6, 334-340.	8.7	115
58	Deep learning for the classification of human sperm. Computers in Biology and Medicine, 2019, 111, 103342.	7.0	73
59	Prediction of DNA Integrity from Morphological Parameters Using a Singleâ€Sperm DNA Fragmentation Index Assay. Advanced Science, 2019, 6, 1900712.	11.2	23
60	Binding Site Diversity Promotes CO₂ Electroreduction to Ethanol. Journal of the American Chemical Society, 2019, 141, 8584-8591.	13.7	338
61	Electrochemical CO₂ Reduction into Chemical Feedstocks: From Mechanistic Electrocatalysis Models to System Design. Advanced Materials, 2019, 31, e1807166.	21.0	769
62	Accessory-free quantitative smartphone imaging of colorimetric paper-based assays. Lab on A Chip, 2019, 19, 1991-1999.	6.0	52
63	Efficient electrocatalytic conversion of carbon monoxide to propanol using fragmented copper. Nature Catalysis, 2019, 2, 251-258.	34.4	188
64	Hydroxide promotes carbon dioxide electroreduction to ethanol on copper via tuning of adsorbed hydrogen. Nature Communications, 2019, 10, 5814.	12.8	201
65	Efficient upgrading of CO to C3 fuel using asymmetric C-C coupling active sites. Nature Communications, 2019, 10, 5186.	12.8	127
66	Constraining CO coverage on copper promotes high-efficiency ethylene electroproduction. Nature Catalysis, 2019, 2, 1124-1131.	34.4	214
67	Multi-site electrocatalysts for hydrogen evolution in neutral media by destabilization of water molecules. Nature Energy, 2019, 4, 107-114.	39.5	470
68	Deep Learning with Microfluidics for Biotechnology. Trends in Biotechnology, 2019, 37, 310-324.	9.3	160
69	Direct Visualization of Evaporation in a Two-Dimensional Nanoporous Model for Unconventional Natural Gas. ACS Applied Nano Materials, 2018, 1, 1332-1338.	5.0	40
70	Hydronium-Induced Switching between CO₂ Electroreduction Pathways. Journal of the American Chemical Society, 2018, 140, 3833-3837.	13.7	144
71	Visualization of fracturing fluid dynamics in a nanofluidic chip. Journal of Petroleum Science and Engineering, 2018, 165, 181-186.	4.2	33
72	Pore-scale analysis of steam-solvent coinjection: azeotropic temperature, dilution and asphaltene deposition. Fuel, 2018, 220, 151-158.	6.4	34

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73	Fluorescence in sub-10 nm channels with an optical enhancement layer. Lab on A Chip, 2018, 18, 568-573.	6.0	13
74	Full Characterization of CO₂â€“Oil Properties On-Chip: Solubility, Diffusivity, Extraction Pressure, Miscibility, and Contact Angle. Analytical Chemistry, 2018, 90, 2461-2467.	6.5	78
75	Asphaltene Deposition during Bitumen Extraction with Natural Gas Condensate and Naphtha. Energy & Fuels, 2018, 32, 1433-1439.	5.1	41
76	Digestible Fluorescent Coatings for Cumulative Quantification of Microplastic Ingestion. Environmental Science and Technology Letters, 2018, 5, 62-67.	8.7	19
77	Capillary Condensation in 8 nm Deep Channels. Journal of Physical Chemistry Letters, 2018, 9, 497-503.	4.6	65
78	Low pressure supercritical CO2 extraction of astaxanthin from Haematococcus pluvialis demonstrated on a microfluidic chip. Bioresource Technology, 2018, 250, 481-485.	9.6	42
79	Disposable silicon-glass microfluidic devices: precise, robust and cheap. Lab on A Chip, 2018, 18, 3872-3880.	6.0	47
80	Nanomodel visualization of fluid injections in tight formations. Nanoscale, 2018, 10, 21994-22002.	5.6	56
81	A Surface Reconstruction Route to High Productivity and Selectivity in CO₂ Electroreduction toward C₂₊ Hydrocarbons. Advanced Materials, 2018, 30, e1804867.	21.0	200
82	Bubble Point Pressures of Hydrocarbon Mixtures in Multiscale Volumes from Density Functional Theory. Langmuir, 2018, 34, 14058-14068.	3.5	22
83	Copper adparticle enabled selective electrosynthesis of n-propanol. Nature Communications, 2018, 9, 4614.	12.8	153
84	High Rate, Selective, and Stable Electroreduction of CO₂ to CO in Basic and Neutral Media. ACS Energy Letters, 2018, 3, 2835-2840.	17.4	230
85	Copper nanocavities confine intermediates for efficient electrosynthesis of C3 alcohol fuels from carbon monoxide. Nature Catalysis, 2018, 1, 946-951.	34.4	354
86	Copper-on-nitride enhances the stable electrosynthesis of multi-carbon products from CO2. Nature Communications, 2018, 9, 3828.	12.8	279
87	CO ₂ electroreduction to ethylene via hydroxide-mediated copper catalysis at an abrupt interface. Science, 2018, 360, 783-787.	12.6	1,638
88	Nanoscale Phase Measurement for the Shale Challenge: Multicomponent Fluids in Multiscale Volumes. Langmuir, 2018, 34, 9927-9935.	3.5	45
89	Dopant-induced electron localization drives CO2 reduction to C2 hydrocarbons. Nature Chemistry, 2018, 10, 974-980.	13.6	781
90	Metalâ€“Organic Frameworks Mediate Cu Coordination for Selective CO₂ Electroreduction. Journal of the American Chemical Society, 2018, 140, 11378-11386.	13.7	326

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91	2D Metal Oxyhalideâ€Derived Catalysts for Efficient CO₂ Electroreduction. Advanced Materials, 2018, 30, e1802858.	21.0	200
92	Steering post-Câ€“C coupling selectivity enables high efficiency electroreduction of carbon dioxide to multi-carbon alcohols. Nature Catalysis, 2018, 1, 421-428.	34.4	537
93	Combined high alkalinity and pressurization enable efficient CO₂ electroreduction to CO. Energy and Environmental Science, 2018, 11, 2531-2539.	30.8	214
94	Band-aligned C₃N_{4âˆ’x}S_{3x/2} stabilizes CdS/CuInGaS₂ photocathodes for efficient water reduction. Journal of Materials Chemistry A, 2017, 5, 3167-3171.	10.3	9
95	Bubble nucleation and growth in nanochannels. Physical Chemistry Chemical Physics, 2017, 19, 8223-8229.	2.8	48
96	Light dilution via wavelength management for efficient highâ€density photobioreactors. Biotechnology and Bioengineering, 2017, 114, 1160-1169.	3.3	30
97	Microfluidic pore-scale comparison of alcohol- and alkaline-based SAGD processes. Journal of Petroleum Science and Engineering, 2017, 154, 139-149.	4.2	46
98	Periodic harvesting of microalgae from calcium alginate hydrogels for sustained highâ€density production. Biotechnology and Bioengineering, 2017, 114, 2023-2031.	3.3	9
99	Enhanced Solarâ€toâ€Hydrogen Generation with Broadband Epsilonâ€Nearâ€Zero Nanostructured Photocatalysts. Advanced Materials, 2017, 29, 1701165.	21.0	39
100	Hydrothermal disruption of algae cells for astaxanthin extraction. Green Chemistry, 2017, 19, 106-111.	9.0	25
101	Turning the Page: Advancing Paper-Based Microfluidics for Broad Diagnostic Application. Chemical Reviews, 2017, 117, 8447-8480.	47.7	439
102	Direct visualization of fluid dynamics in sub-10 nm nanochannels. Nanoscale, 2017, 9, 9556-9561.	5.6	22
103	Field-emission from quantum-dot-in-perovskite solids. Nature Communications, 2017, 8, 14757.	12.8	83
104	Condensation in One-Dimensional Dead-End Nanochannels. ACS Nano, 2017, 11, 304-313.	14.6	52
105	Microfluidics for sperm analysis and selection. Nature Reviews Urology, 2017, 14, 707-730.	3.8	144
106	Frontispiece: The Full Pressureâ€“Temperature Phase Envelope of a Mixture in 1000 Microfluidic Chambers. Angewandte Chemie - International Edition, 2017, 56, .	13.8	0
107	The Full Pressureâ€“Temperature Phase Envelope of a Mixture in 1000 Microfluidic Chambers. Angewandte Chemie - International Edition, 2017, 56, 13962-13967.	13.8	12
108	Microfluidic and nanofluidic phase behaviour characterization for industrial CO₂, oil and gas. Lab on A Chip, 2017, 17, 2740-2759.	6.0	83

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109	Joint tuning of nanostructured Cu-oxide morphology and local electrolyte programs high-rate CO₂ reduction to C₂H₄. Green Chemistry, 2017, 19, 4023-4030.	9.0	58
110	Self-adaptive Bioinspired Hummingbird-wing Stimulated Triboelectric Nanogenerators. Scientific Reports, 2017, 7, 17143.	3.3	32
111	The Full Pressureâ€“Temperature Phase Envelope of a Mixture in 1000 Microfluidic Chambers. Angewandte Chemie, 2017, 129, 14150-14155.	2.0	6
112	Frontispiz: The Full Pressureâ€“Temperature Phase Envelope of a Mixture in 1000 Microfluidic Chambers. Angewandte Chemie, 2017, 129, .	2.0	1
113	Predominance of sperm motion in corners. Scientific Reports, 2016, 6, 26669.	3.3	41
114	A combined method for pore-scale optical and thermal characterization of SAGD. Journal of Petroleum Science and Engineering, 2016, 146, 866-873.	4.2	21
115	Enhanced electrocatalytic CO2 reduction via field-induced reagent concentration. Nature, 2016, 537, 382-386.	27.8	1,429
116	Paper-based sperm DNA integrity analysis. Analytical Methods, 2016, 8, 6260-6264.	2.7	21
117	High-Density Nanosharp Microstructures Enable Efficient CO₂ Electroreduction. Nano Letters, 2016, 16, 7224-7228.	9.1	158
118	Microfluidic Manufacturing of Polymeric Nanoparticles: Comparing Flow Control of Multiscale Structure in Single-Phase Staggered Herringbone and Two-Phase Reactors. Langmuir, 2016, 32, 12781-12789.	3.5	48
119	Photon management for augmented photosynthesis. Nature Communications, 2016, 7, 12699.	12.8	200
120	Breathable waveguides for combined light and CO2 delivery to microalgae. Bioresource Technology, 2016, 209, 391-396.	9.6	13
121	Direct Measurement of the Fluid Phase Diagram. Analytical Chemistry, 2016, 88, 6986-6989.	6.5	25
122	Paper-Based Quantification of Male Fertility Potential. Clinical Chemistry, 2016, 62, 458-465.	3.2	60
123	Biomass-to-biocrude on a chip via hydrothermal liquefaction of algae. Lab on A Chip, 2016, 16, 256-260.	6.0	27
124	Self-assembled nanoparticle-stabilized photocatalytic reactors. Nanoscale, 2016, 8, 2107-2115.	5.6	22
125	Microfluidic Synthesis of Photoresponsive Spool-Like Block Copolymer Nanoparticles: Flow-Directed Formation and Light-Triggered Dissociation. Chemistry of Materials, 2015, 27, 8094-8104.	6.7	29
126	Fast Fluorescence-Based Microfluidic Method for Measuring Minimum Miscibility Pressure of CO₂ in Crude Oils. Analytical Chemistry, 2015, 87, 3160-3164.	6.5	68

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127	Disposable Plasmonics: Rapid and Inexpensive Large Area Patterning of Plasmonic Structures with CO₂ Laser Annealing. Langmuir, 2015, 31, 5252-5258.	3.5	16
128	Microfluidic assessment of swimming media for motility-based sperm selection. Biomicrofluidics, 2015, 9, 044113.	2.4	37
129	Direct DNA Analysis with Paper-Based Ion Concentration Polarization. Journal of the American Chemical Society, 2015, 137, 13913-13919.	13.7	121
130	Two-dimensional slither swimming of sperm within a micrometre of a surface. Nature Communications, 2015, 6, 8703.	12.8	135
131	A photosynthetic-plasmonic-voltaic cell: Excitation of photosynthetic bacteria and current collection through a plasmonic substrate. Applied Physics Letters, 2014, 104, 043704.	3.3	22
132	Fiber refractometer to detect and distinguish carbon dioxide and methane leakage in the deep ocean. International Journal of Greenhouse Gas Control, 2014, 31, 41-47.	4.6	9
133	Pore-Scale Assessment of Nanoparticle-Stabilized CO₂ Foam for Enhanced Oil Recovery. Energy & Fuels, 2014, 28, 6221-6227.	5.1	150
134	Determination of Dew Point Conditions for CO₂ with Impurities Using Microfluidics. Environmental Science & Technology, 2014, 48, 3567-3574.	10.0	44
135	Energy: the microfluidic frontier. Lab on A Chip, 2014, 14, 3127-3134.	6.0	144
136	Steam-on-a-chip for oil recovery: the role of alkaline additives in steam assisted gravity drainage. Lab on A Chip, 2013, 13, 3832.	6.0	81
137	Field tested milliliter-scale blood filtration device for point-of-care applications. Biomicrofluidics, 2013, 7, 44111.	2.4	28
138	Bitumenâ€“Toluene Mutual Diffusion Coefficients Using Microfluidics. Energy & Fuels, 2013, 27, 2042-2048.	5.1	64
139	Culturing photosynthetic bacteria through surface plasmon resonance. Applied Physics Letters, 2012, 101, .	3.3	24
140	Optofluidic Concentration: Plasmonic Nanostructure as Concentrator and Sensor. Nano Letters, 2012, 12, 1592-1596.	9.1	121
141	Rapid Microfluidics-Based Measurement of CO₂ Diffusivity in Bitumen. Energy & Fuels, 2011, 25, 4829-4835.	5.1	82
142	Optofluidics for energy applications. Nature Photonics, 2011, 5, 583-590.	31.4	266
143	Visualization and numerical modelling of microfluidic on-chip injection processes. Journal of Colloid and Interface Science, 2003, 260, 431-439.	9.4	38
144	A dynamic loading method for controlling on-chip microfluidic sample injection. Journal of Colloid and Interface Science, 2003, 266, 448-456.	9.4	38

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145	Effects of liquid conductivity differences on multi-component sample injection, pumping and stacking in microfluidic chips. Lab on A Chip, 2003, 3, 173.	6.0	18
146	Direct and Indirect Electroosmotic Flow Velocity Measurements in Microchannels. Journal of Colloid and Interface Science, 2002, 254, 184-189.	9.4	51