Junjie Zhong

List of Publications by Year in Descending Order

140 papers	10,942 citations	50 h-index	103 g-index
150 ext. papers	15,153 ext. citations	15.6 avg, IF	6.73 L-index

#	Paper	IF	Citations
140	Concentrated Ethanol Electrosynthesis from CO via a Porous Hydrophobic Adlayer.. *ACS Applied Materials & Interfaces*, **2022**, 14, 4155-4162	9.5	3
139	Microplastics shift impacts of climate change on a plant-microbe mutualism: Temperature, CO, and tire wear particles. *Environmental Research*, **2022**, 203, 111727	7.9	2
138	Redox-mediated electrosynthesis of ethylene oxide from CO2 and water. *Nature Catalysis*, **2022**, 5, 185-192	38.5	2
137	Screening High-Temperature Foams with Microfluidics for Thermal Recovery Processes. *Energy & Fuels*, **2021**, 35, 7866-7873	4.1	9
136	Silica-copper catalyst interfaces enable carbon-carbon coupling towards ethylene electrosynthesis. *Nature Communications*, **2021**, 12, 2808	17.4	19
135	Low coordination number copper catalysts for electrochemical CO methanation in a membrane electrode assembly. *Nature Communications*, **2021**, 12, 2932	17.4	27
134	Evaluation of a Microencapsulated Phase Change Slurry for Subsurface Energy Recovery. *Energy & Fuels*, **2021**, 35, 10293-10302	4.1	3
133	Machine learning for sperm selection. *Nature Reviews Urology*, **2021**, 18, 387-403	5.5	6
132	Gold-in-copper at low *CO coverage enables efficient electromethanation of CO. *Nature Communications*, **2021**, 12, 3387	17.4	20
131	CO electrolysis to multicarbon products in strong acid. *Science*, **2021**, 372, 1074-1078	33.3	115
130	Effects of Hydrogen Peroxide on Cyanobacterium Microcystis aeruginosa in the Presence of Nanoplastics. *ACS ES&T Water*, **2021**, 1, 1596-1607		3
129	Single Pass CO2 Conversion Exceeding 85% in the Electrosynthesis of Multicarbon Products via Local CO2 Regeneration. *ACS Energy Letters*, **2021**, 6, 2952-2959	20.1	27
128	CO2 Electroreduction to Formate at a Partial Current Density of 930 mA cm⁻² with InP Colloidal Quantum Dot Derived Catalysts. *ACS Energy Letters*, **2021**, 6, 79-84	20.1	39
127	FertDish: microfluidic sperm selection-in-a-dish for intracytoplasmic sperm injection. *Lab on A Chip*, **2021**, 21, 775-783	7.2	7
126	Selection of high-quality sperm with thousands of parallel channels. *Lab on A Chip*, **2021**, 21, 2464-2475	7.2	2
125	Suppressing the liquid product crossover in electrochemical CO2 reduction. *SmartMat*, **2021**, 2, 12-16	22.8	38
124	Self-Cleaning CO2 Reduction Systems: Unsteady Electrochemical Forcing Enables Stability. *ACS Energy Letters*, **2021**, 6, 809-815	20.1	56

123	A glucose meter interface for point-of-care gene circuit-based diagnostics. *Nature Communications*, **2021**, 12, 724	17.4	17
122	Designing anion exchange membranes for CO2 electrolysers. *Nature Energy*, **2021**, 6, 339-348	62.3	56
121	Gold Adparticles on Silver Combine Low Overpotential and High Selectivity in Electrochemical CO2 Conversion. *ACS Applied Energy Materials*, **2021**, 4, 7504-7512	6.1	4
120	In Situ Formation of Nano Ni-Co Oxyhydroxide Enables Water Oxidation Electrocatalysts Durable at High Current Densities. *Advanced Materials*, **2021**, 33, e2103812	24	20
119	Stable, active CO reduction to formate via redox-modulated stabilization of active sites. *Nature Communications*, **2021**, 12, 5223	17.4	25
118	AbCellera's success is unprecedented: what have we learned?. *Lab on A Chip*, **2021**, 21, 2330-2332	7.2	0
117	Efficient electrically powered CO2-to-ethanol via suppression of deoxygenation. *Nature Energy*, **2020**, 5, 478-486	62.3	163
116	Chloride-mediated selective electrosynthesis of ethylene and propylene oxides at high current density. *Science*, **2020**, 368, 1228-1233	33.3	78
115	CO electrolysis to multicarbon products at activities greater than 1 A cm. *Science*, **2020**, 367, 661-666	33.3	403
114	Enhanced Nitrate-to-Ammonia Activity on Copper-Nickel Alloys via Tuning of Intermediate Adsorption. *Journal of the American Chemical Society*, **2020**, 142, 5702-5708	16.4	192
113	Molecular tuning of CO-to-ethylene conversion. *Nature*, **2020**, 577, 509-513	50.4	321
112	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	10.3	25
111	Efficient Methane Electrosynthesis Enabled by Tuning Local CO Availability. *Journal of the American Chemical Society*, **2020**, 142, 3525-3531	16.4	65
110	Cooperative CO2-to-ethanol conversion via enriched intermediates at molecule–metal catalyst interfaces. *Nature Catalysis*, **2020**, 3, 75-82	36.5	164
109	Exploring Anomalous Fluid Behavior at the Nanoscale: Direct Visualization and Quantification via Nanofluidic Devices. *Accounts of Chemical Research*, **2020**, 53, 347-357	24.3	25
108	Increased Temperature and Turbulence Alter the Effects of Leachates from Tire Particles on Fathead Minnow (). *Environmental Science & Technology*, **2020**, 54, 1750-1759	10.3	23
107	Oxygen-tolerant electroproduction of C2 products from simulated flue gas. *Energy and Environmental Science*, **2020**, 13, 554-561	35.4	45
106	When robotics met fluidics. *Lab on A Chip*, **2020**, 20, 709-716	7.2	16

105	Catalyst synthesis under CO2 electroreduction favours faceting and promotes renewable fuels electrosynthesis. *Nature Catalysis*, **2020**, 3, 98-106	36.5	158
104	Tuning OH binding energy enables selective electrochemical oxidation of ethylene to ethylene glycol. *Nature Catalysis*, **2020**, 3, 14-22	36.5	41
103	Promoting CO methanation via ligand-stabilized metal oxide clusters as hydrogen-donating motifs. *Nature Communications*, **2020**, 11, 6190	17.4	30
102	Enhanced multi-carbon alcohol electroproduction from CO via modulated hydrogen adsorption. *Nature Communications*, **2020**, 11, 3685	17.4	28
101	High-Rate and Efficient Ethylene Electrosynthesis Using a Catalyst/Promoter/Transport Layer. *ACS Energy Letters*, **2020**, 5, 2811-2818	20.1	39
100	Accelerating Fluid Development on a Chip for Renewable Energy. *Energy & Fuels*, **2020**, 34, 11219-11226	4.2	7
99	CO2 Electroreduction to Methane at Production Rates Exceeding 100 mA/cm2. *ACS Sustainable Chemistry and Engineering*, **2020**, 8, 14668-14673	8.3	14
98	Magnetic Extraction of Microplastics from Environmental Samples. *Environmental Science and Technology Letters*, **2019**, 6, 68-72	11	100
97	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	7.2	24
96	Fluorescent Dyes for Visualizing Microplastic Particles and Fibers in Laboratory-Based Studies. *Environmental Science and Technology Letters*, **2019**, 6, 334-340	11	55
95	Deep learning for the classification of human sperm. *Computers in Biology and Medicine*, **2019**, 111, 103342	4	35
94	Prediction of DNA Integrity from Morphological Parameters Using a Single-Sperm DNA Fragmentation Index Assay. *Advanced Science*, **2019**, 6, 1900712	13.6	12
93	Binding Site Diversity Promotes CO Electroreduction to Ethanol. *Journal of the American Chemical Society*, **2019**, 141, 8584-8591	16.4	178
92	Electrochemical CO Reduction into Chemical Feedstocks: From Mechanistic Electrocatalysis Models to System Design. *Advanced Materials*, **2019**, 31, e1807166	24	396
91	Accessory-free quantitative smartphone imaging of colorimetric paper-based assays. *Lab on A Chip*, **2019**, 19, 1991-1999	7.2	30
90	Efficient electrocatalytic conversion of carbon monoxide to propanol using fragmented copper. *Nature Catalysis*, **2019**, 2, 251-258	36.5	111
89	Deep learning-based selection of human sperm with high DNA integrity. *Communications Biology*, **2019**, 2, 250	6.7	28
88	Dopant-tuned stabilization of intermediates promotes electrosynthesis of valuable C3 products. *Nature Communications*, **2019**, 10, 4807	17.4	13

87	Hydroxide promotes carbon dioxide electroreduction to ethanol on copper via tuning of adsorbed hydrogen. *Nature Communications*, **2019**, 10, 5814	17.4	95
86	Efficient upgrading of CO to C fuel using asymmetric C-C coupling active sites. *Nature Communications*, **2019**, 10, 5186	17.4	55
85	Constraining CO coverage on copper promotes high-efficiency ethylene electroproduction. *Nature Catalysis*, **2019**, 2, 1124-1131	36.5	89
84	Multi-site electrocatalysts for hydrogen evolution in neutral media by destabilization of water molecules. *Nature Energy*, **2019**, 4, 107-114	62.3	264
83	Deep Learning with Microfluidics for Biotechnology. *Trends in Biotechnology*, **2019**, 37, 310-324	15.1	92
82	Direct Visualization of Evaporation in a Two-Dimensional Nanoporous Model for Unconventional Natural Gas. *ACS Applied Nano Materials*, **2018**, 1, 1332-1338	5.6	25
81	Hydronium-Induced Switching between CO Electroreduction Pathways. *Journal of the American Chemical Society*, **2018**, 140, 3833-3837	16.4	100
80	Visualization of fracturing fluid dynamics in a nanofluidic chip. *Journal of Petroleum Science and Engineering*, **2018**, 165, 181-186	4.4	22
79	Pore-scale analysis of steam-solvent coinjection: azeotropic temperature, dilution and asphaltene deposition. *Fuel*, **2018**, 220, 151-158	7.1	20
78	Fluorescence in sub-10 nm channels with an optical enhancement layer. *Lab on A Chip*, **2018**, 18, 568-573	7.2	12
77	Full Characterization of CO-Oil Properties On-Chip: Solubility, Diffusivity, Extraction Pressure, Miscibility, and Contact Angle. *Analytical Chemistry*, **2018**, 90, 2461-2467	7.8	58
76	Asphaltene Deposition during Bitumen Extraction with Natural Gas Condensate and Naphtha. *Energy & Fuels*, **2018**, 32, 1433-1439	4.1	29
75	Digestible Fluorescent Coatings for Cumulative Quantification of Microplastic Ingestion. *Environmental Science and Technology Letters*, **2018**, 5, 62-67	11	11
74	Capillary Condensation in 8 nm Deep Channels. *Journal of Physical Chemistry Letters*, **2018**, 9, 497-503	6.4	42
73	Nanoscale Phase Measurement for the Shale Challenge: Multicomponent Fluids in Multiscale Volumes. *Langmuir*, **2018**, 34, 9927-9935	4	28
72	Dopant-induced electron localization drives CO reduction to C hydrocarbons. *Nature Chemistry*, **2018**, 10, 974-980	17.6	435
71	Metal-Organic Frameworks Mediate Cu Coordination for Selective CO Electroreduction. *Journal of the American Chemical Society*, **2018**, 140, 11378-11386	16.4	188
70	2D Metal Oxyhalide-Derived Catalysts for Efficient CO Electroreduction. *Advanced Materials*, **2018**, 30, e1802858	24	123

69	Steering post-C□ coupling selectivity enables high efficiency electroreduction of carbon dioxide to multi-carbon alcohols. *Nature Catalysis*, **2018**, 1, 421-428	36.5	348
68	Combined high alkalinity and pressurization enable efficient CO2 electroreduction to CO. *Energy and Environmental Science*, **2018**, 11, 2531-2539	35.4	147
67	Low pressure supercritical CO extraction of astaxanthin from Haematococcus pluvialis demonstrated on a microfluidic chip. *Bioresource Technology*, **2018**, 250, 481-485	11	29
66	Disposable silicon-glass microfluidic devices: precise, robust and cheap. *Lab on A Chip*, **2018**, 18, 3872-3880	7.2	25
65	Nanomodel visualization of fluid injections in tight formations. *Nanoscale*, **2018**, 10, 21994-22002	7.7	32
64	A Surface Reconstruction Route to High Productivity and Selectivity in CO Electroreduction toward C Hydrocarbons. *Advanced Materials*, **2018**, 30, e1804867	24	131
63	Bubble Point Pressures of Hydrocarbon Mixtures in Multiscale Volumes from Density Functional Theory. *Langmuir*, **2018**, 34, 14058-14068	4	17
62	Copper adparticle enabled selective electrosynthesis of n-propanol. *Nature Communications*, **2018**, 9, 4614	17.4	86
61	High Rate, Selective, and Stable Electroreduction of CO2 to CO in Basic and Neutral Media. *ACS Energy Letters*, **2018**, 3, 2835-2840	20.1	136
60	Copper nanocavities confine intermediates for efficient electrosynthesis of C3 alcohol fuels from carbon monoxide. *Nature Catalysis*, **2018**, 1, 946-951	36.5	205
59	Copper-on-nitride enhances the stable electrosynthesis of multi-carbon products from CO. *Nature Communications*, **2018**, 9, 3828	17.4	164
58	CO electroreduction to ethylene via hydroxide-mediated copper catalysis at an abrupt interface. *Science*, **2018**, 360, 783-787	33.3	980
57	Band-aligned C3N4□S3x/2 stabilizes CdS/CuInGaS2 photocathodes for efficient water reduction. *Journal of Materials Chemistry A*, **2017**, 5, 3167-3171	13	8
56	Bubble nucleation and growth in nanochannels. *Physical Chemistry Chemical Physics*, **2017**, 19, 8223-8229	3.6	29
55	Light dilution via wavelength management for efficient high-density photobioreactors. *Biotechnology and Bioengineering*, **2017**, 114, 1160-1169	4.9	22
54	Microfluidic pore-scale comparison of alcohol- and alkaline-based SAGD processes. *Journal of Petroleum Science and Engineering*, **2017**, 154, 139-149	4.4	37
53	Periodic harvesting of microalgae from calcium alginate hydrogels for sustained high-density production. *Biotechnology and Bioengineering*, **2017**, 114, 2023-2031	4.9	7
52	Enhanced Solar-to-Hydrogen Generation with Broadband Epsilon-Near-Zero Nanostructured Photocatalysts. *Advanced Materials*, **2017**, 29, 1701165	24	29

51	Hydrothermal disruption of algae cells for astaxanthin extraction. *Green Chemistry*, **2017**, 19, 106-111	10	19
50	Turning the Page: Advancing Paper-Based Microfluidics for Broad Diagnostic Application. *Chemical Reviews*, **2017**, 117, 8447-8480	68.1	333
49	Direct visualization of fluid dynamics in sub-10 nm nanochannels. *Nanoscale*, **2017**, 9, 9556-9561	7.7	16
48	Field-emission from quantum-dot-in-perovskite solids. *Nature Communications*, **2017**, 8, 14757	17.4	68
47	Condensation in One-Dimensional Dead-End Nanochannels. *ACS Nano*, **2017**, 11, 304-313	16.7	41
46	Microfluidics for sperm analysis and selection. *Nature Reviews Urology*, **2017**, 14, 707-730	5.5	80
45	The Full Pressure-Temperature Phase Envelope of a Mixture in 1000 Microfluidic Chambers. *Angewandte Chemie - International Edition*, **2017**, 56, 13962-13967	16.4	9
44	Microfluidic and nanofluidic phase behaviour characterization for industrial CO, oil and gas. *Lab on A Chip*, **2017**, 17, 2740-2759	7.2	56
43	Joint tuning of nanostructured Cu-oxide morphology and local electrolyte programs high-rate CO2 reduction to C2H4. *Green Chemistry*, **2017**, 19, 4023-4030	10	31
42	Self-adaptive Bioinspired Hummingbird-wing Stimulated Triboelectric Nanogenerators. *Scientific Reports*, **2017**, 7, 17143	4.9	22
41	The Full Pressure□Temperature Phase Envelope of a Mixture in 1000 Microfluidic Chambers. *Angewandte Chemie*, **2017**, 129, 14150-14155	3.6	2
40	Frontispiz: The Full Pressure□Temperature Phase Envelope of a Mixture in 1000 Microfluidic Chambers. *Angewandte Chemie*, **2017**, 129,	3.6	1
39	Paper-based sperm DNA integrity analysis. *Analytical Methods*, **2016**, 8, 6260-6264	3.2	19
38	High-Density Nanosharp Microstructures Enable Efficient CO Electroreduction. *Nano Letters*, **2016**, 16, 7224-7228	11.5	126
37	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	4	37
36	Photon management for augmented photosynthesis. *Nature Communications*, **2016**, 7, 12699	17.4	142
35	Breathable waveguides for combined light and CO2 delivery to microalgae. *Bioresource Technology*, **2016**, 209, 391-6	11	13
34	Direct Measurement of the Fluid Phase Diagram. *Analytical Chemistry*, **2016**, 88, 6986-9	7.8	17

33	Paper-Based Quantification of Male Fertility Potential. *Clinical Chemistry*, **2016**, 62, 458-65	5.5	46
32	Biomass-to-biocrude on a chip via hydrothermal liquefaction of algae. *Lab on A Chip*, **2016**, 16, 256-60	7.2	25
31	Self-assembled nanoparticle-stabilized photocatalytic reactors. *Nanoscale*, **2016**, 8, 2107-15	7.7	18
30	Predominance of sperm motion in corners. *Scientific Reports*, **2016**, 6, 26669	4.9	32
29	A combined method for pore-scale optical and thermal characterization of SAGD. *Journal of Petroleum Science and Engineering*, **2016**, 146, 866-873	4.4	20
28	Enhanced electrocatalytic CO reduction via field-induced reagent concentration. *Nature*, **2016**, 537, 382-386	38.1	997
27	Disposable Plasmonics: Rapid and Inexpensive Large Area Patterning of Plasmonic Structures with CO2 Laser Annealing. *Langmuir*, **2015**, 31, 5252-8	4	11
26	Microfluidic assessment of swimming media for motility-based sperm selection. *Biomicrofluidics*, **2015**, 9, 044113	3.2	23
25	Direct DNA Analysis with Paper-Based Ion Concentration Polarization. *Journal of the American Chemical Society*, **2015**, 137, 13913-9	16.4	100
24	Two-dimensional slither swimming of sperm within a micrometre of a surface. *Nature Communications*, **2015**, 6, 8703	17.4	103
23	Microfluidic Synthesis of Photoresponsive Spool-Like Block Copolymer Nanoparticles: Flow-Directed Formation and Light-Triggered Dissociation. *Chemistry of Materials*, **2015**, 27, 8094-8104	9.6	25
22	Fast fluorescence-based microfluidic method for measuring minimum miscibility pressure of CO2 in crude oils. *Analytical Chemistry*, **2015**, 87, 3160-4	7.8	45
21	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	4.2	7
20	Pore-Scale Assessment of Nanoparticle-Stabilized CO2 Foam for Enhanced Oil Recovery. *Energy & Fuels*, **2014**, 28, 6221-6227	4.1	116
19	Determination of dew point conditions for CO2 with impurities using microfluidics. *Environmental Science & Technology*, **2014**, 48, 3567-74	10.3	36
18	Energy: the microfluidic frontier. *Lab on A Chip*, **2014**, 14, 3127-34	7.2	109
17	A photosynthetic-plasmonic-voltaic cell: Excitation of photosynthetic bacteria and current collection through a plasmonic substrate. *Applied Physics Letters*, **2014**, 104, 043704	3.4	20
16	Steam-on-a-chip for oil recovery: the role of alkaline additives in steam assisted gravity drainage. *Lab on A Chip*, **2013**, 13, 3832-9	7.2	66

15	Field tested milliliter-scale blood filtration device for point-of-care applications. *Biomicrofluidics*, **2013**, 7, 44111	3.2	24
14	Bitumen–Toluene Mutual Diffusion Coefficients Using Microfluidics. *Energy & Fuels*, **2013**, 27, 2042-2048	4.1	57
13	Optofluidic concentration: plasmonic nanostructure as concentrator and sensor. *Nano Letters*, **2012**, 12, 1592-6	11.5	102
12	Culturing photosynthetic bacteria through surface plasmon resonance. *Applied Physics Letters*, **2012**, 101, 253701	3.4	21
11	Rapid Microfluidics-Based Measurement of CO2 Diffusivity in Bitumen. *Energy & Fuels*, **2011**, 25, 4829-4835	4.1	74
10	Optofluidics for energy applications. *Nature Photonics*, **2011**, 5, 583-590	33.9	223
9	Visualization and numerical modelling of microfluidic on-chip injection processes. *Journal of Colloid and Interface Science*, **2003**, 260, 431-9	9.3	37
8	A dynamic loading method for controlling on-chip microfluidic sample injection. *Journal of Colloid and Interface Science*, **2003**, 266, 448-56	9.3	36
7	Effects of liquid conductivity differences on multi-component sample injection, pumping and stacking in microfluidic chips. *Lab on A Chip*, **2003**, 3, 173-9	7.2	18
6	Direct and indirect electroosmotic flow velocity measurements in microchannels. *Journal of Colloid and Interface Science*, **2002**, 254, 184-9	9.3	45
5	Efficient electrosynthesis of n-propanol from carbon monoxide using a Ag–Ru–Cu catalyst. *Nature Energy*,	62.3	9
4	Downstream of the CO2 Electrolyzer: Assessing the Energy Intensity of Product Separation. *ACS Energy Letters*,4405-4412	20.1	7
3	Glycerol Oxidation Pairs with Carbon Monoxide Reduction for Low-Voltage Generation of C2 and C3 Product Streams. *ACS Energy Letters*,3538-3544	20.1	6
2	Past, Present, and Future of Microfluidic Fluid Analysis in the Energy Industry. *Energy & Fuels*,	4.1	0
1	Carbon-efficient carbon dioxide electrolysers. *Nature Sustainability*,	22.1	7