Chengxiang X Xiang

List of Publications by Year
in descending order

43 papers	4,240 citations	136950 32 h-index	243625 44 g-index
45 all docs	45 docs citations	45 times ranked	4287 citing authors

#	Article	IF	Citations
1	Probing the Catalytically Active Region in a Nanoporous Gold Gas Diffusion Electrode for Highly Selective Carbon Dioxide Reduction. ACS Energy Letters, 2022, 7, 871-879.	17.4	20
2	Electrochemical carbon dioxide capture to close the carbon cycle. Energy and Environmental Science, 2021, 14, 781-814.	30.8	207
3	Modeling the electrochemical behavior and interfacial junction profiles of bipolar membranes at solar flux relevant operating current densities. Sustainable Energy and Fuels, 2021, 5, 2149-2158.	4.9	9
4	3D Printed Nickelâ€“Molybdenum-Based Electrocatalysts for Hydrogen Evolution at Low Overpotentials in a Flow-Through Configuration. ACS Applied Materials & Interfaces, 2021, 13, 20260-20268.	8.0	22
5	Hydrogen from Sunlight and Water: A Side-by-Side Comparison between Photoelectrochemical and Solar Thermochemical Water-Splitting. ACS Energy Letters, 2021, 6, 3096-3113.	17.4	45
6	<i>Operando</i> Local pH Measurement within Gas Diffusion Electrodes Performing Electrochemical Carbon Dioxide Reduction. Journal of Physical Chemistry C, 2021, 125, 20896-20904.	3.1	25
7	Coupling electrochemical CO2 conversion with CO2 capture. Nature Catalysis, 2021, 4, 952-958.	34.4	272
8	CO₂ Reduction to CO with 19% Efficiency in a Solar-Driven Gas Diffusion Electrode Flow Cell under Outdoor Solar Illumination. ACS Energy Letters, 2020, 5, 470-476.	17.4	117
9	Practical challenges in the development of photoelectrochemical solar fuels production. Sustainable Energy and Fuels, 2020, 4, 985-995.	4.9	58
10	A direct coupled electrochemical system for capture and conversion of CO2 from oceanwater. Nature Communications, 2020, 11, 4412.	12.8	91
11	Understanding Multi-Ion Transport Mechanisms in Bipolar Membranes. ACS Applied Materials & Interfaces, 2020, 12, 52509-52526.	8.0	54
12	Modeling the Performance of A Flow-Through Gas Diffusion Electrode for Electrochemical Reduction of CO or CO₂. Journal of the Electrochemical Society, 2020, 167, 114503.	2.9	28
13	Correlating Oxidation State and Surface Area to Activity from <i>Operando</i> Studies of Copper CO Electroreduction Catalysts in a Gas-Fed Device. ACS Catalysis, 2020, 10, 8000-8011.	11.2	37
14	An Experimental- and Simulation-Based Evaluation of the CO₂ Utilization Efficiency of Aqueous-Based Electrochemical CO₂ Reduction Reactors with Ion-Selective Membranes. ACS Applied Energy Materials, 2019, 2, 5843-5850.	5.1	51
15	A Hybrid Catalyst-Bonded Membrane Device for Electrochemical Carbon Monoxide Reduction at Different Relative Humidities. ACS Sustainable Chemistry and Engineering, 2019, 7, 16964-16970.	6.7	14
16	Decoupling H₂(g) and O₂(g) Production in Water Splitting by a Solar-Driven V^{3+/2+}(aq,H₂SO₄)|KOH(aq) Cell. ACS Energy Letters, 2019, 4, 968-976.	17.4	33
17	Gas-Diffusion Electrodes for Carbon Dioxide Reduction: A New Paradigm. ACS Energy Letters, 2019, 4, 317-324.	17.4	416
18	Effects of Electrolyte Buffer Capacity on Surface Reactant Species and the Reaction Rate of CO₂ in Electrochemical CO₂ Reduction. Journal of Physical Chemistry C, 2018, 122, 3719-3726.	3.1	92

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19	High-Rate Electrochemical Reduction of Carbon Monoxide to Ethylene Using Cu-Nanoparticle-Based Gas Diffusion Electrodes. ACS Energy Letters, 2018, 3, 855-860.	17.4	77
20	Comparative Analysis of Solar-to-Fuel Conversion Efficiency: A Direct, One-Step Electrochemical CO₂ Reduction Reactor versus a Two-Step, Cascade Electrochemical CO₂ Reduction Reactor. ACS Energy Letters, 2018, 3, 1892-1897.	17.4	18
21	Evaluation of flow schemes for near-neutral pH electrolytes in solar-fuel generators. Sustainable Energy and Fuels, 2017, 1, 458-466.	4.9	36
22	Nanoelectrical and Nanoelectrochemical Imaging of Pt/pâ€Si and Pt/p⁺â€Si Electrodes. ChemSusChem, 2017, 10, 4657-4663.	6.8	13
23	Modellierung, Simulation und Implementierung von Zellen fÃ¼r die solargetriebene Wasserspaltung. Angewandte Chemie, 2016, 128, 13168-13183.	2.0	10
24	Solar-Driven Reduction of 1 atm of CO₂ to Formate at 10% Energy-Conversion Efficiency by Use of a TiO₂-Protected IIIâ€"V Tandem Photoanode in Conjunction with a Bipolar Membrane and a Pd/C Cathode. ACS Energy Letters, 2016, 1, 764-770.	17.4	173
25	Modeling, Simulation, and Implementation of Solarâ€Driven Waterâ€Splitting Devices. Angewandte Chemie - International Edition, 2016, 55, 12974-12988.	13.8	119
26	Modeling and Simulation of the Spatial and Light-Intensity Dependence of Product Distributions in an Integrated Photoelectrochemical CO₂ Reduction System. ACS Energy Letters, 2016, 1, 273-280.	17.4	24
27	A Stabilized, Intrinsically Safe, 10% Efficient, Solarâ€Driven Waterâ€Splitting Cell Incorporating Earthâ€Abundant Electrocatalysts with Steadyâ€State pH Gradients and Product Separation Enabled by a Bipolar Membrane. Advanced Energy Materials, 2016, 6, 1600379.	19.5	114
28	Principles and implementations of electrolysis systems for water splitting. Materials Horizons, 2016, 3, 169-173.	12.2	202
29	Modeling, Simulation, and Fabrication of a Fully Integrated, Acidâ€stable, Scalable Solarâ€Driven Waterâ€Splitting System. ChemSusChem, 2015, 8, 544-551.	6.8	89
30	An electrochemical engineering assessment of the operational conditions and constraints for solar-driven water-splitting systems at near-neutral pH. Energy and Environmental Science, 2015, 8, 2760-2767.	30.8	82
31	A quantitative analysis of the efficiency of solar-driven water-splitting device designs based on tandem photoabsorbers patterned with islands of metallic electrocatalysts. Energy and Environmental Science, 2015, 8, 1736-1747.	30.8	66
32	Operational constraints and strategies for systems to effect the sustainable, solar-driven reduction of atmospheric CO₂. Energy and Environmental Science, 2015, 8, 3663-3674.	30.8	52
33	A monolithically integrated, intrinsically safe, 10% efficient, solar-driven water-splitting system based on active, stable earth-abundant electrocatalysts in conjunction with tandem IIIâ€"V light absorbers protected by amorphous TiO₂ films. Energy and Environmental Science, 2015, 8, 3166-3172.	30.8	263
34	A sensitivity analysis to assess the relative importance of improvements in electrocatalysts, light absorbers, and system geometry on the efficiency of solar-fuels generators. Energy and Environmental Science, 2015, 8, 876-886.	30.8	32
35	An experimental and modeling/simulation-based evaluation of the efficiency and operational performance characteristics of an integrated, membrane-free, neutral pH solar-driven water-splitting system. Energy and Environmental Science, 2014, 7, 3371-3380.	30.8	152
36	Modeling the Performance of an Integrated Photoelectrolysis System with 10 Ã— Solar Concentrators. Journal of the Electrochemical Society, 2014, 161, F1101-F1110.	2.9	36

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37	An analysis of the optimal band gaps of light absorbers in integrated tandem photoelectrochemical water-splitting systems. Energy and Environmental Science, 2013, 6, 2984.	30.8	497
38	Simulations of the irradiation and temperature dependence of the efficiency of tandem photoelectrochemical water-splitting systems. Energy and Environmental Science, 2013, 6, 3605.	30.8	148
39	Modeling an integrated photoelectrolysis system sustained by water vapor. Energy and Environmental Science, 2013, 6, 3713.	30.8	52
40	Combined Catalysis and Optical Screening for High Throughput Discovery of Solar Fuels Catalysts. Journal of the Electrochemical Society, 2013, 160, F337-F342.	2.9	50
41	Modeling, simulation, and design criteria for photoelectrochemical water-splitting systems. Energy and Environmental Science, 2012, 5, 9922.	30.8	264
42	Evaluation and optimization of mass transport of redox species in silicon microwire-array photoelectrodes. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 15622-15627.	7.1	43
43	Comparative Technoeconomic Analysis of Renewable Generation of Methane Using Sunlight, Water, and Carbon Dioxide. ACS Energy Letters, 0, , 1540-1549.	17.4	28