Thomas F Jaramillo

List of Publications by Year
in descending order

366	88,731	2137 100	296 292
papers	citations	h-index	g-index

389	389	389	59169
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Combining theory and experiment in electrocatalysis: Insights into materials design. Science, 2017, 355, .	20.9	8,484
2	Benchmarking Heterogeneous Electrocatalysts for the Oxygen Evolution Reaction. Journal of the American Chemical Society, 2013, 135, 16977-16987.	14.6	5,600
3	Identification of Active Edge Sites for Electrochemical H ₂ Evolution from MoS ₂ Nanocatalysts. Science, 2007, 317, 100-102.	20.9	5,317
4	Computational high-throughput screening of electrocatalytic materials for hydrogen evolution. Nature Materials, 2006, 5, 909-913.	26.6	3,462
5	Universality in Oxygen Evolution Electrocatalysis on Oxide Surfaces. ChemCatChem, 2011, 3, 1159-1165.	3.8	3,429
6	Benchmarking Hydrogen Evolving Reaction and Oxygen Evolving Reaction Electrocatalysts for Solar Water Splitting Devices. Journal of the American Chemical Society, 2015, 137, 4347-4357.	14.6	3,315
7	Progress and Perspectives of Electrochemical CO₂ Reduction on Copper in Aqueous Electrolyte. Chemical Reviews, 2019, 119, 7610-7672.	51.4	3,119
8	Engineering the surface structure of MoS2 toÂpreferentially expose active edge sites forÂelectrocatalysis. Nature Materials, 2012, 11, 963-969.	26.6	2,943
9	Alloys of platinum and early transition metals as oxygen reduction electrocatalysts. Nature Chemistry, 2009, 1, 552-556.	14.3	2,798
10	New insights into the electrochemical reduction of carbon dioxide on metallic copper surfaces. Energy and Environmental Science, 2012, 5, 7050.	32.2	2,515
11	What would it take for renewably powered electrosynthesis to displace petrochemical processes?. Science, 2019, 364, .	20.9	1,759
12	A Bifunctional Nonprecious Metal Catalyst for Oxygen Reduction and Water Oxidation. Journal of the American Chemical Society, 2010, 132, 13612-13614.	14.6	1,451
13	Catalyzing the Hydrogen Evolution Reaction (HER) with Molybdenum Sulfide Nanomaterials. ACS Catalysis, 2014, 4, 3957-3971.	11.7	1,407
14	Electrocatalytic Conversion of Carbon Dioxide to Methane and Methanol on Transition Metal Surfaces. Journal of the American Chemical Society, 2014, 136, 14107-14113.	14.6	1,323
15	High-efficiency oxygen reduction to hydrogen peroxide catalysed by oxidized carbon materials. Nature Catalysis, 2018, 1, 156-162.	28.3	1,247
16	Materials for solar fuels and chemicals. Nature Materials, 2017, 16, 70-81.	26.6	1,225
17	Two-Dimensional Molybdenum Carbide (MXene) as an Efficient Electrocatalyst for Hydrogen Evolution. ACS Energy Letters, 2016, 1, 589-594.	18.4	1,168
18	Technical and economic feasibility of centralized facilities for solar hydrogen production via photocatalysis and photoelectrochemistry. Energy and Environmental Science, 2013, 6, 1983.	32.2	1,164

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19	Coreâ€“shell MoO₃â€“MoS₂ Nanowires for Hydrogen Evolution: A Functional Design for Electrocatalytic Materials. Nano Letters, 2011, 11, 4168-4175.	9.5	1,117
20	A rigorous electrochemical ammonia synthesis protocol with quantitative isotope measurements. Nature, 2019, 570, 504-508.	36.2	1,103
21	Accelerating materials development for photoelectrochemical hydrogen production: Standards for methods, definitions, and reporting protocols. Journal of Materials Research, 2010, 25, 3-16.	2.6	1,060
22	Amorphous Molybdenum Sulfide Catalysts for Electrochemical Hydrogen Production: Insights into the Origin of their Catalytic Activity. ACS Catalysis, 2012, 2, 1916-1923.	11.7	1,030
23	Molybdenum Phosphosulfide: An Active, Acidâ€Stable, Earthâ€Abundant Catalyst for the Hydrogen Evolution Reaction. Angewandte Chemie - International Edition, 2014, 53, 14433-14437.	14.8	938
24	Designing an improved transition metal phosphide catalyst for hydrogen evolution using experimental and theoretical trends. Energy and Environmental Science, 2015, 8, 3022-3029.	32.2	878
25	Branched TiO₂ Nanorods for Photoelectrochemical Hydrogen Production. Nano Letters, 2011, 11, 4978-4984.	9.5	861
26	Building an appropriate active-site motif into a hydrogen-evolution catalyst with thiomolybdate [Mo3S13]2â^' clusters. Nature Chemistry, 2014, 6, 248-253.	14.3	758
27	Hydrogen evolution on nano-particulate transition metal sulfides. Faraday Discussions, 2008, 140, 219-231.	3.7	746
28	Electrochemical Ammonia Synthesisâ€”The Selectivity Challenge. ACS Catalysis, 2017, 7, 706-709.	11.7	745
29	Promoter Effects of Alkali Metal Cations on the Electrochemical Reduction of Carbon Dioxide. Journal of the American Chemical Society, 2017, 139, 11277-11287.	14.6	723
30	Understanding Selectivity for the Electrochemical Reduction of Carbon Dioxide to Formic Acid and Carbon Monoxide on Metal Electrodes. ACS Catalysis, 2017, 7, 4822-4827.	11.7	707
31	Solar water splitting by photovoltaic-electrolysis with a solar-to-hydrogen efficiency over 30%. Nature Communications, 2016, 7, 13237.	13.2	656
32	Addressing the terawatt challenge: scalability in the supply of chemical elements for renewable energy. RSC Advances, 2012, 2, 7933.	3.7	650
33	Improved CO2 reduction activity towards C2+ alcohols on a tandem gold on copper electrocatalyst. Nature Catalysis, 2018, 1, 764-771.	28.3	553
34	Electrochemical CO₂ Reduction over Compressively Strained CuAg Surface Alloys with Enhanced Multi-Carbon Oxygenate Selectivity. Journal of the American Chemical Society, 2017, 139, 15848-15857.	14.6	508
35	Benchmarking nanoparticulate metal oxide electrocatalysts for the alkaline water oxidation reaction. Journal of Materials Chemistry A, 2016, 4, 3068-3076.	10.5	497
36	In Situ X-ray Absorption Spectroscopy Investigation of a Bifunctional Manganese Oxide Catalyst with High Activity for Electrochemical Water Oxidation and Oxygen Reduction. Journal of the American Chemical Society, 2013, 135, 8525-8534.	14.6	489

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37	Markedly enhanced absorption and direct radiative forcing of black carbon under polluted urban environments. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 4266-4271.	7.6	484
38	Insights into the electrocatalytic reduction of CO₂on metallic silver surfaces. Physical Chemistry Chemical Physics, 2014, 16, 13814-13819.	2.9	477
39	Gold-supported cerium-doped NiOx catalysts for water oxidation. Nature Energy, 2016, 1, .	29.7	475
40	Plasmon Enhanced Solar-to-Fuel Energy Conversion. Nano Letters, 2011, 11, 3440-3446.	9.5	463
41	Gas-Diffusion Electrodes for Carbon Dioxide Reduction: A New Paradigm. ACS Energy Letters, 2019, 4, 317-324.	18.4	445
42	Fiscal Policy in Good Times and Bad. Quarterly Journal of Economics, 1999, 114, 1399-1436.	8.8	423
43	pH effects on the electrochemical reduction of CO(2) towards C2 products on stepped copper. Nature Communications, 2019, 10, 32.	13.2	419
44	A Cu2O/TiO2 heterojunction thin film cathode for photoelectrocatalysis. Solar Energy Materials and Solar Cells, 2003, 77, 229-237.	6.3	416
45	Catalytic Activity of Supported Au Nanoparticles Deposited from Block Copolymer Micelles. Journal of the American Chemical Society, 2003, 125, 7148-7149.	14.6	402
46	Understanding activity trends in electrochemical water oxidation to form hydrogen peroxide. Nature Communications, 2017, 8, 701.	13.2	370
47	Ammonia synthesis from N₂and H₂O using a lithium cycling electrification strategy at atmospheric pressure. Energy and Environmental Science, 2017, 10, 1621-1630.	32.2	363
48	Designing Boron Nitride Islands in Carbon Materials for Efficient Electrochemical Synthesis of Hydrogen Peroxide. Journal of the American Chemical Society, 2018, 140, 7851-7859.	14.6	342
49	Identifying active surface phases for metal oxide electrocatalysts: a study of manganese oxide bi-functional catalysts for oxygen reduction and water oxidation catalysis. Physical Chemistry Chemical Physics, 2012, 14, 14010.	2.9	340
50	Electrochemical Carbon Monoxide Reduction on Polycrystalline Copper: Effects of Potential, Pressure, and pH on Selectivity toward Multicarbon and Oxygenated Products. ACS Catalysis, 2018, 8, 7445-7454.	11.7	333
51	Engineering Cu surfaces for the electrocatalytic conversion of CO ₂ : Controlling selectivity toward oxygenates and hydrocarbons. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 5918-5923.	7.6	324
52	Machine-Learning Methods Enable Exhaustive Searches for Active Bimetallic Facets and Reveal Active Site Motifs for CO₂ Reduction. ACS Catalysis, 2017, 7, 6600-6608.	11.7	321
53	Gas diffusion electrodes, reactor designs and key metrics of low-temperature CO2 electrolysers. Nature Energy, 2022, 7, 130-143.	29.7	316
54	Active MnO_x Electrocatalysts Prepared by Atomic Layer Deposition for Oxygen Evolution and Oxygen Reduction Reactions. Advanced Energy Materials, 2012, 2, 1269-1277.	22.2	303

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55	Standards and Protocols for Data Acquisition and Reporting for Studies of the Electrochemical Reduction of Carbon Dioxide. ACS Catalysis, 2018, 8, 6560-6570.	11.7	271
56	Defective Carbon-Based Materials for the Electrochemical Synthesis of Hydrogen Peroxide. ACS Sustainable Chemistry and Engineering, 2018, 6, 311-317.	6.9	263
57	Thin Films of Sodium Birnessite-Type MnO₂: Optical Properties, Electronic Band Structure, and Solar Photoelectrochemistry. Journal of Physical Chemistry C, 2011, 115, 11830-11838.	3.3	259
58	Electrolyte Engineering for Efficient Electrochemical Nitrate Reduction to Ammonia on a Titanium Electrode. ACS Sustainable Chemistry and Engineering, 2020, 8, 2672-2681.	6.9	255
59	A non-precious metal hydrogen catalyst in a commercial polymer electrolyte membrane electrolyser. Nature Nanotechnology, 2019, 14, 1071-1074.	30.5	244
60	Substrate Selection for Fundamental Studies of Electrocatalysts and Photoelectrodes: Inert Potential Windows in Acidic, Neutral, and Basic Electrolyte. PLoS ONE, 2014, 9, e107942.	2.5	229
61	Hydrogen Evolution on Supported Incomplete Cubane-type [Mo₃S₄]⁴⁺ Electrocatalysts. Journal of Physical Chemistry C, 2008, 112, 17492-17498.	3.3	221
62	Steady state oxygenreduction and cyclic voltammetry. Faraday Discussions, 2008, 140, 337-346.	3.7	220
63	New cubic perovskites for one- and two-photon water splitting using the computational materials repository. Energy and Environmental Science, 2012, 5, 9034.	32.2	219
64	Double layer charging driven carbon dioxide adsorption limits the rate of electrochemical carbon dioxide reduction on Gold. Nature Communications, 2020, 11, 33.	13.2	217
65	Understanding Interactions between Manganese Oxide and Gold That Lead to Enhanced Activity for Electrocatalytic Water Oxidation. Journal of the American Chemical Society, 2014, 136, 4920-4926.	14.6	210
66	Synthesis and Characterization of Ptâ^'WO3as Methanol Oxidation Catalysts for Fuel Cells. Journal of Physical Chemistry B, 2005, 109, 22958-22966.	2.7	202
67	Oxidation State and Surface Reconstruction of Cu under CO₂ Reduction Conditions from In Situ X-ray Characterization. Journal of the American Chemical Society, 2021, 143, 588-592.	14.6	202
68	Modeling Practical Performance Limits of Photoelectrochemical Water Splitting Based on the Current State of Materials Research. ChemSusChem, 2014, 7, 1372-1385.	7.5	200
69	Meso-Structured Platinum Thin Films: Active and Stable Electrocatalysts for the Oxygen Reduction Reaction. Journal of the American Chemical Society, 2012, 134, 7758-7765.	14.6	199
70	Cyclic Voltammograms for H on Pt(111) and Pt(100) from First Principles. Physical Review Letters, 2007, 99, 126101.	8.0	198
71	Size- and Support-Dependent Electronic and Catalytic Properties of Au0/Au3+Nanoparticles Synthesized from Block Copolymer Micelles. Journal of the American Chemical Society, 2003, 125, 12928-12934.	14.6	197
72	Mn₃O₄ Supported on Glassy Carbon: An Active Non-Precious Metal Catalyst for the Oxygen Reduction Reaction. ACS Catalysis, 2012, 2, 2687-2694.	11.7	196

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73	Revealing the Synergy between Oxide and Alloy Phases on the Performance of Bimetallic Inâ€“Pd Catalysts for CO₂ Hydrogenation to Methanol. ACS Catalysis, 2019, 9, 3399-3412.	11.7	196
74	Electrochemically converting carbon monoxide to liquid fuels by directing selectivity with electrode surface area. Nature Catalysis, 2019, 2, 702-708.	28.3	192
75	Development of a reactor with carbon catalysts for modular-scale, low-cost electrochemical generation of H₂O₂. Reaction Chemistry and Engineering, 2017, 2, 239-245.	3.5	170
76	Aqueous Electrochemical Reduction of Carbon Dioxide and Carbon Monoxide into Methanol with Cobalt Phthalocyanine. Angewandte Chemie - International Edition, 2019, 58, 16172-16176.	14.8	165
77	Understanding the Origin of Highly Selective CO₂ Electroreduction to CO on Ni,Nâ€doped Carbon Catalysts. Angewandte Chemie - International Edition, 2020, 59, 4043-4050.	14.8	165
78	Designing Active and Stable Silicon Photocathodes for Solar Hydrogen Production Using Molybdenum Sulfide Nanomaterials. Advanced Energy Materials, 2014, 4, 1400739.	22.2	162
79	Systematic Structureâ€“Property Relationship Studies in Palladium-Catalyzed Methane Complete Combustion. ACS Catalysis, 2017, 7, 7810-7821.	11.7	160
80	Automated Electrochemical Synthesis and Photoelectrochemical Characterization of Zn1-xCoxO Thin Films for Solar Hydrogen Production. ACS Combinatorial Science, 2005, 7, 264-271.	3.4	151
81	Coreâ€“Shell Au@Metal-Oxide Nanoparticle Electrocatalysts for Enhanced Oxygen Evolution. Nano Letters, 2017, 17, 6040-6046.	9.5	144
82	A carbon-free, precious-metal-free, high-performance O2 electrode for regenerative fuel cells and metalâ€“air batteries. Energy and Environmental Science, 2014, 7, 2017.	32.2	142
83	Engineering Cobalt Phosphide (CoP) Thin Film Catalysts for Enhanced Hydrogen Evolution Activity on Silicon Photocathodes. Advanced Energy Materials, 2016, 6, 1501758.	22.2	138
84	Acidic Oxygen Evolution Reaction Activityâ€“Stability Relationships in Ru-Based Pyrochlores. ACS Catalysis, 2020, 10, 12182-12196.	11.7	137
85	Diverged evolution of recent equine-2 influenza (H3N8) viruses in the Western Hemisphere. Archives of Virology, 2001, 146, 1063-1074.	1.9	130
86	Uniform Pt/Pd Bimetallic Nanocrystals Demonstrate Platinum Effect on Palladium Methane Combustion Activity and Stability. ACS Catalysis, 2017, 7, 4372-4380.	11.7	130
87	Electrochemical CO₂ reduction on Au surfaces: mechanistic aspects regarding the formation of major and minor products. Physical Chemistry Chemical Physics, 2017, 19, 15856-15863.	2.9	129
88	Effects of Gold Substrates on the Intrinsic and Extrinsic Activity of High-Loading Nickel-Based Oxyhydroxide Oxygen Evolution Catalysts. ACS Catalysis, 2017, 7, 5399-5409.	11.7	129
89	Influence of Atomic Surface Structure on the Activity of Ag for the Electrochemical Reduction of CO₂ to CO. ACS Catalysis, 2019, 9, 4006-4014.	11.7	128
90	Mercury chemistry on brominated activated carbon. Fuel, 2012, 99, 188-196.	6.6	126

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91	Tuning the electronic structure of Ag-Pd alloys to enhance performance for alkaline oxygen reduction. Nature Communications, 2021, 12, 620.	13.2	123
92	Synthesis of thin film AuPd alloys and their investigation for electrocatalytic CO₂reduction. Journal of Materials Chemistry A, 2015, 3, 20185-20194.	10.5	120
93	Effect of Film Morphology and Thickness on Charge Transport in Ta₃N₅/Ta Photoanodes for Solar Water Splitting. Journal of Physical Chemistry C, 2012, 116, 15918-15924.	3.3	119
94	Trends in the Catalytic Activity of Hydrogen Evolution during CO₂ Electroreduction on Transition Metals. ACS Catalysis, 2018, 8, 3035-3040.	11.7	118
95	Structure, Composition, and Morphology of Photoelectrochemically Active TiO2-xNxThin Films Deposited by Reactive DC Magnetron Sputtering. Journal of Physical Chemistry B, 2004, 108, 20193-20198.	2.7	114
96	Combinatorial Electrochemical Synthesis and Characterization of Tungsten-Based Mixed-Metal Oxides. ACS Combinatorial Science, 2002, 4, 563-568.	3.4	113
97	Chemical and Phase Evolution of Amorphous Molybdenum Sulfide Catalysts for Electrochemical Hydrogen Production. ACS Nano, 2016, 10, 624-632.	15.3	111
98	Absence of Oxidized Phases in Cu under CO Reduction Conditions. ACS Energy Letters, 2019, 4, 803-804.	18.4	108
99	Nickelâ€“silver alloy electrocatalysts for hydrogen evolution and oxidation in an alkaline electrolyte. Physical Chemistry Chemical Physics, 2014, 16, 19250.	2.9	106
100	A Versatile Method for Ammonia Detection in a Range of Relevant Electrolytes via Direct Nuclear Magnetic Resonance Techniques. ACS Catalysis, 2019, 9, 5797-5802.	11.7	104
101	Molybdenum Phosphosulfide: An Active, Acidâ€Stable, Earthâ€Abundant Catalyst for the Hydrogen Evolution Reaction. Angewandte Chemie, 2014, 126, 14661-14665.	2.1	101
102	Tandem Coreâ€“Shell Siâ€“Ta₃N₅ Photoanodes for Photoelectrochemical Water Splitting. Nano Letters, 2016, 16, 7565-7572.	9.5	101
103	Combinatorial Electrochemical Synthesis and Screening of Mesoporous ZnO for Photocatalysis. Macromolecular Rapid Communications, 2004, 25, 297-301.	4.4	100
104	Selective reduction of CO to acetaldehyde with CuAg electrocatalysts. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 12572-12575.	7.6	98
105	Robust and biocompatible catalysts for efficient hydrogen-driven microbial electrosynthesis. Communications Chemistry, 2019, 2, .	4.9	92
106	Bridging the Gap Between Bulk and Nanostructured Photoelectrodes: The Impact of Surface States on the Electrocatalytic and Photoelectrochemical Properties of MoS₂. Journal of Physical Chemistry C, 2013, 117, 9713-9722.	3.3	90
107	Operando Characterization of an Amorphous Molybdenum Sulfide Nanoparticle Catalyst during the Hydrogen Evolution Reaction. Journal of Physical Chemistry C, 2014, 118, 29252-29259.	3.3	90
108	Precious Metal-Free Nickel Nitride Catalyst for the Oxygen Reduction Reaction. ACS Applied Materials & Interfaces, 2019, 11, 26863-26871.	8.3	90

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109	Enhancement Effect of Noble Metals on Manganese Oxide for the Oxygen Evolution Reaction. Journal of Physical Chemistry Letters, 2015, 6, 4178-4183.	4.9	89
110	Immuno-pillar chip: a new platform for rapid and easy-to-use immunoassay. Lab on A Chip, 2010, 10, 3335.	6.1	88
111	Growth of Pt Nanowires by Atomic Layer Deposition on Highly Ordered Pyrolytic Graphite. Nano Letters, 2013, 13, 457-463.	9.5	87
112	Impedance-based study of capacitive porous carbon electrodes with hierarchical and bimodal porosity. Journal of Power Sources, 2013, 241, 266-273.	8.0	85
113	Design and Fabrication of a Precious Metalâ€Free Tandem Coreâ€“Shell p⁺n Si/Wâ€Doped BiVO₄ Photoanode for Unassisted Water Splitting. Advanced Energy Materials, 2017, 7, 1701515.	22.2	85
114	A Preciousâ€Metalâ€Free Regenerative Fuel Cell for Storing Renewable Electricity. Advanced Energy Materials, 2013, 3, 1545-1550.	22.2	82
115	Guiding Electrochemical Carbon Dioxide Reduction toward Carbonyls Using Copper Silver Thin Films with Interphase Miscibility. ACS Energy Letters, 2018, 3, 2947-2955.	18.4	81
116	Investigating Catalystâ€“Support Interactions To Improve the Hydrogen Evolution Reaction Activity of Thiomolybdate [Mo₃S₁₃]^{2â€“} Nanoclusters. ACS Catalysis, 2017, 7, 7126-7130.	11.7	80
117	Rapid flame doping of Co to WS₂ for efficient hydrogen evolution. Energy and Environmental Science, 2018, 11, 2270-2277.	32.2	79
118	Nearly Total Solar Absorption in Ultrathin Nanostructured Iron Oxide for Efficient Photoelectrochemical Water Splitting. ACS Photonics, 2014, 1, 235-240.	6.9	76
119	Molybdenum Disulfide as a Protection Layer and Catalyst for Gallium Indium Phosphide Solar Water Splitting Photocathodes. Journal of Physical Chemistry Letters, 2016, 7, 2044-2049.	4.9	76
120	Highly Stable Molybdenum Disulfide Protected Silicon Photocathodes for Photoelectrochemical Water Splitting. ACS Applied Materials & Interfaces, 2017, 9, 36792-36798.	8.3	76
121	Ni5Ga3 catalysts for CO2 reduction to methanol: Exploring the role of Ga surface oxidation/reduction on catalytic activity. Applied Catalysis B: Environmental, 2020, 267, 118369.	20.7	76
122	High-performance oxygen reduction and evolution carbon catalysis: From mechanistic studies to device integration. Nano Research, 2017, 10, 1163-1177.	10.6	75
123	Active and Stable Ir@Pt Coreâ€“Shell Catalysts for Electrochemical Oxygen Reduction. ACS Energy Letters, 2017, 2, 244-249.	18.4	75
124	A Highly Active Molybdenum Phosphide Catalyst for Methanol Synthesis from CO and CO₂. Angewandte Chemie - International Edition, 2018, 57, 15045-15050.	14.8	74
125	A Combined Theoryâ€Experiment Analysis of the Surface Species in Lithiumâ€Mediated NH₃ Electrosynthesis. ChemElectroChem, 2020, 7, 1542-1549.	3.5	73
126	Electrocatalytic Activity of Goldâ^'Platinum Clusters for Low Temperature Fuel Cell Applications. Journal of Physical Chemistry C, 2009, 113, 5014-5024.	3.3	72

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127	Simulating Linear Sweep Voltammetry from First-Principles: Application to Electrochemical Oxidation of Water on Pt(111) and Pt₃Ni(111). Journal of Physical Chemistry C, 2012, 116, 4698-4704.	3.3	72
128	The Predominance of Hydrogen Evolution on Transition Metal Sulfides and Phosphides under CO₂ Reduction Conditions: An Experimental and Theoretical Study. ACS Energy Letters, 2018, 3, 1450-1457.	18.4	70
129	Using pH Dependence to Understand Mechanisms in Electrochemical CO Reduction. ACS Catalysis, 2022, 12, 4344-4357.	11.7	70
130	Building upon the Koutecky-Levich Equation for Evaluation of Next-Generation Oxygen Reduction Reaction Catalysts. Electrochimica Acta, 2017, 255, 99-108.	5.4	69
131	Controlling the Structural and Optical Properties of Ta₃N₅ Films through Nitridation Temperature and the Nature of the Ta Metal. Chemistry of Materials, 2014, 26, 1576-1582.	7.1	68
132	Crystalline Strontium Iridate Particle Catalysts for Enhanced Oxygen Evolution in Acid. ACS Applied Energy Materials, 2019, 2, 5490-5498.	5.3	68
133	Gas-Phase Catalysis by Micelle Derived Au Nanoparticles on Oxide Supports. Catalysis Letters, 2004, 95, 107-111.	2.7	67
134	Optoelectronic properties of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">Ta</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">N</mml:mi><mml:mn>5</mml:mn></mml:msub></mml:math>: A joint theoretical and experimental study. Physical Review B, 2014, 90, .	3.3	66
135	Extending the limits of Pt/C catalysts with passivation-gas-incorporated atomic layer deposition. Nature Catalysis, 2018, 1, 624-630.	28.3	66
136	Evaluating the Case for Reduced Precious Metal Catalysts in Proton Exchange Membrane Electrolyzers. ACS Energy Letters, 2022, 7, 17-23.	18.4	66
137	High-Throughput Screening System for Catalytic Hydrogen-Producing Materials. ACS Combinatorial Science, 2002, 4, 17-22.	3.4	65
138	Deep-learning continuous gravitational waves. Physical Review D, 2019, 100, .	4.8	63
139	Nitride or Oxynitride? Elucidating the Compositionâ€“Activity Relationships in Molybdenum Nitride Electrocatalysts for the Oxygen Reduction Reaction. Chemistry of Materials, 2020, 32, 2946-2960.	7.1	62
140	Advanced manufacturing for electrosynthesis of fuels and chemicals from CO₂. Energy and Environmental Science, 2021, 14, 3064-3074.	32.2	62
141	Acid anion electrolyte effects on platinum for oxygen and hydrogen electrocatalysis. Communications Chemistry, 2022, 5, .	4.9	62
142	Enhancing the connection between computation and experiments in electrocatalysis. Nature Catalysis, 2022, 5, 374-381.	28.3	62
143	Electro-Oxidation of Methane on Platinum under Ambient Conditions. ACS Catalysis, 2019, 9, 7578-7587.	11.7	60
144	Systematic Investigation of Iridium-Based Bimetallic Thin Film Catalysts for the Oxygen Evolution Reaction in Acidic Media. ACS Applied Materials & Interfaces, 2019, 11, 34059-34066.	8.3	59

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145	What do Programmers Discuss about Deep Learning Frameworks. Empirical Software Engineering, 2020, 25, 2694-2747.	4.1	57
146	Polymer Electrolyte Membrane Electrolyzers Utilizing Nonâ€precious Moâ€based Hydrogen Evolution Catalysts. ChemSusChem, 2015, 8, 3512-3519.	7.5	55
147	An X-ray Photoelectron Spectroscopy Study of Surface Changes on Brominated and Sulfur-Treated Activated Carbon Sorbents during Mercury Capture: Performance of Pellet versus Fiber Sorbents. Environmental Science & Technology, 2013, 47, 13695-13701.	10.5	53
148	Understanding the Influence of [EMIM]Cl on the Suppression of the Hydrogen Evolution Reaction on Transition Metal Electrodes. Langmuir, 2017, 33, 9464-9471.	3.7	53
149	Addressing the Stability Gap in Photoelectrochemistry: Molybdenum Disulfide Protective Catalysts for Tandem IIIâ€“V Unassisted Solar Water Splitting. ACS Energy Letters, 2020, 5, 2631-2640.	18.4	53
150	Direct Characterization of Atomically Dispersed Catalysts: Nitrogenâ€Coordinated Ni Sites in Carbonâ€Based Materials for CO₂ Electroreduction. Advanced Energy Materials, 2020, 10, 2001836.	22.2	51
151	Bimetallic effects on Zn-Cu electrocatalysts enhance activity and selectivity for the conversion of CO2 to CO. Chem Catalysis, 2021, 1, 663-680.	6.4	51
152	Climbing the Activity Volcano: Coreâ€“Shell Ru@Pt Electrocatalysts for Oxygen Reduction. ChemElectroChem, 2014, 1, 67-71.	3.5	49
153	Carbon Dioxide Electroreduction using a Silverâ€“Zinc Alloy. Energy Technology, 2017, 5, 955-961.	3.8	49
154	3D NiO nanowires@NiO nanosheets core-shell structures grown on nickel foam for high performance supercapacitor electrode. Journal of Electroanalytical Chemistry, 2020, 857, 113710.	3.9	49
155	Designing a Znâ€“Ag Catalyst Matrix and Electrolyzer System for CO₂ Conversion to CO and Beyond. Advanced Materials, 2022, 34, e2103963.	24.3	49
156	Simultaneous detection of electronic structure changes from two elements of a bifunctional catalyst using wavelength-dispersive X-ray emission spectroscopy and in situ electrochemistry. Physical Chemistry Chemical Physics, 2015, 17, 8901-8912.	2.9	48
157	Understanding the Origin of Highly Selective CO₂ Electroreduction to CO on Ni,Nâ€doped Carbon Catalysts. Angewandte Chemie, 2020, 132, 4072-4079.	2.1	48
158	Two-Dimensional Conductive Ni-HAB as a Catalyst for the Electrochemical Oxygen Reduction Reaction. ACS Applied Materials & Interfaces, 2020, 12, 39074-39081.	8.3	48
159	Applications of ALD MnO to electrochemical water splitting. Physical Chemistry Chemical Physics, 2015, 17, 14003-14011.	2.9	46
160	Chemical Modifications of Ag Catalyst Surfaces with Imidazolium Ionomers Modulate H₂ Evolution Rates during Electrochemical CO₂ Reduction. Journal of the American Chemical Society, 2021, 143, 14712-14725.	14.6	46
161	A Universal Platform for Fabricating Organic Electrochemical Devices. Advanced Electronic Materials, 2018, 4, 1800090.	5.4	45
162	Copper Silver Thin Films with Metastable Miscibility for Oxygen Reduction Electrocatalysis in Alkaline Electrolytes. ACS Applied Energy Materials, 2018, 1, 1990-1999.	5.3	45

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163	Mechanisms of metastasis. Clinical and Experimental Dermatology, 2000, 25, 482-489.	1.3	44
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331	Electrocatalytic Nitrate Reduction to Ammonia at Atomically Dispersed Titanium Sites on Carbon Nanoflowers. ECS Meeting Abstracts, 2023, MA2023-01, 2299-2299.	0.0	0
332	(Invited) Catalysts and Interfaces for Low-Temperature Water Electrolysis. ECS Meeting Abstracts, 2023, MA2023-01, 2021-2021.	0.0	0
333	Determining the Composition and Structure of a High-Performing SEI Layer for Lithium-Mediated Nitrogen Reduction to Ammonia. ECS Meeting Abstracts, 2023, MA2023-02, 2902-2902.	0.0	0
334	Investigating Solid Electrolyte Interphase Layer Dynamics in the Electrochemical Li-Mediated Ammonia Synthesis. ECS Meeting Abstracts, 2023, MA2023-02, 2712-2712.	0.0	0
335	(Invited) Developing Catalysts and Interfaces for Hydrogen Production By Water Electrolysis and Solar Photoelectrochemistry. ECS Meeting Abstracts, 2023, MA2023-02, 2422-2422.	0.0	0
336	Mechanisms of Stabilization and Degradation of Transition Metal Oxygen Electroreduction Catalysts with in-Situ Electrochemical Flow Cell ICP-MS. ECS Meeting Abstracts, 2023, MA2023-02, 2682-2682.	0.0	0
337	Hydrogen Production with Seawater-Resilient Bipolar-Membrane Electrolyzers. ECS Meeting Abstracts, 2023, MA2023-02, 1908-1908.	0.0	0
338	(Invited) Enhanced Material Durability of Transition Metal-Antimony X-Ide Nanoparticles in Oxygen Reduction Electrocatalysis. ECS Meeting Abstracts, 2023, MA2023-02, 2427-2427.	0.0	0
339	Interpretable Machine Learning Models for Practical Antimonate Electrocatalyst Performance. ChemPhysChem, 2024, 25, .	2.3	0
340	Biogenic Manganese Oxide Synthesized by a Marine Bacterial Multicopper Oxidase MnxG Reveals Oxygen Evolution Activity. ACS Catalysis, 2024, 14, 7232-7242.	11.7	0
341	Tuning Two-Dimensional Phthalocyanine Dual Site Metalâ€“Organic Framework Catalysts for the Oxygen Reduction Reaction. Journal of the American Chemical Society, 2024, 146, 13377-13390.	14.6	0
342	Understanding the Effects of Anode Catalyst Conductivity and Loading on Catalyst Layer Utilization and Performance for Anion Exchange Membrane Water Electrolysis. ACS Catalysis, 2024, 14, 10806-10819.	11.7	0

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343	Advancing Insights into Electrochemical Preâ€Treatments of Supported Nanoparticle Electrocatalysts by Combining a Design of Experiments Strategy with In Situ Characterization. Advanced Energy Materials, 0, , .	22.2	0
344	CO₂ Conversion to Butene via a Tandem Photovoltaicâ€“Electrochemical/Photothermocatalytic Process: A Co-design Approach to Coupled Microenvironments. ACS Energy Letters, 0, , 4369-4377.	18.4	0
345	Operando X-Ray Absorption Spectroscopy Characterization of Ir Catalyst Dynamics in a Realistic Proton Exchange Membrane Water Electrolyzer. ECS Meeting Abstracts, 2024, MA2024-01, 2599-2599.	0.0	0
346	Understanding Interfaces Using Neutron Reflectometry in Calcium-Mediated Nitrogen Reduction for Electrochemical Ammonia Synthesis. ECS Meeting Abstracts, 2024, MA2024-01, 2452-2452.	0.0	0
347	On-Site Electrochemical Oxygen Reduction to Hydroxide and Hydrogen Peroxide for Sulfuryl Fluoride Solution Hydrolysis. ECS Meeting Abstracts, 2024, MA2024-01, 3122-3122.	0.0	0
348	(Invited) Solar Fuels Systems: Interfacing Catalysts and Semiconductors for H₂ Production, CO₂ Reduction, and Related Chemistries. ECS Meeting Abstracts, 2024, MA2024-01, 1928-1928.	0.0	0
349	A Tandem Photovoltaic-Electrochemical Photothermal Process for CO₂ Conversion to Butene. ECS Meeting Abstracts, 2024, MA2024-01, 2866-2866.	0.0	0
350	Developing Methods to Interrogate Nanomaterials in Action for Electrochemical Energy Conversion Reactions. ECS Meeting Abstracts, 2024, MA2024-01, 1173-1173.	0.0	0
351	Insights into the Activity and Stability of Dual-Site Single Atom Catalysts for Oxygen Reduction Reaction Using a 2D Phthalocyanine-MOF. ECS Meeting Abstracts, 2024, MA2024-01, 1125-1125.	0.0	0
352	Modeling Bicarbonate Kinetics on Silver Catalysts for CO₂ Electrolysis. ECS Meeting Abstracts, 2024, MA2024-01, 2173-2173.	0.0	0
353	Efficient Exploration of Electrochemical Pre-Treatment on the Performance of Nanocrystal Electrocatalysts By Design of Experiments. ECS Meeting Abstracts, 2024, MA2024-01, 2635-2635.	0.0	0
354	Modeling Diurnal and Annual Ethylene Generation from Solar-Driven Electrochemical CO₂ Reduction Devices. ECS Meeting Abstracts, 2024, MA2024-01, 2005-2005.	0.0	0
355	Material Dynamics of Nickel (oxy)Hydroxide As an Alcohol Oxidation Electrocatalyst. ECS Meeting Abstracts, 2024, MA2024-01, 2973-2973.	0.0	0
356	Effect of Temperature on Faradaic Efficiency and SEI Formation in Lithium Mediated Nitrogen Reduction. ECS Meeting Abstracts, 2024, MA2024-01, 2860-2860.	0.0	0
357	Investigating the pH-Dependent Activity, Selectivity, and Dynamics of Metal Nitride Electrocatalysts for Fuel Cells and Electrolyzers. ECS Meeting Abstracts, 2024, MA2024-01, 2025-2025.	0.0	0
358	Integrated Experiment-Theory Framework for Studying Mass Transport Effects in Electrochemical CO₂ Reduction on Copper. ECS Meeting Abstracts, 2024, MA2024-01, 2150-2150.	0.0	0
359	Fabrication of Bipolar Membrane Electrolyzers for Seawater Electrolysis: Proof-of-Concept, Operando Design, and Fundamental Studies. ECS Meeting Abstracts, 2024, MA2024-01, 2843-2843.	0.0	0
360	Developing Online ICP-MS Methodology for Examining Catalyst Degradation Dynamics during Electrochemical CO₂ Reduction. ECS Meeting Abstracts, 2024, MA2024-01, 1216-1216.	0.0	0

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361	Composition-Dependent Dynamics of Nickel-Iron-Cobalt Metal Catalysts for Oxygen Evolution Reaction. ECS Meeting Abstracts, 2024, MA2024-01, 2031-2031.	0.0	0
362	Temperature Dependence of SEI Formation and Faradaic Efficiency in Electrochemical Lithium Mediated Nitrogen Reduction to Ammonia. ECS Meeting Abstracts, 2024, MA2024-01, 772-772.	0.0	0
363	Material Changes of Bimetallic Agâ€“Cr, Fe, Co, Ni, Cu, Sn Electrocatalysts during Alkaline Oxygen Reduction in Fundamental Versus Alkaline Membrane Exchange Fuel Cell Conditions. ECS Meeting Abstracts, 2024, MA2024-01, 3081-3081.	0.0	0
364	Investigating Cobalt Degradation in Acidic Environments for Oxygen and Hydrogen Electrocatalysis with Time-Resolved Mass Spectrometry Techniques. ECS Meeting Abstracts, 2024, MA2024-01, 1245-1245.	0.0	0
365	Homogeneously Mixed Cuâ€“Co Bimetallic Catalyst Derived from Hydroxy Double Salt for Industrial-Level High-Rate Nitrate-to-Ammonia Electrosynthesis. Journal of the American Chemical Society, 0, , .	14.6	0
366	In Situ ORR Dynamics of Non-Precious Transition Metal Electrocatalysts: the Case of Manganese Antimony X-ides. ACS Catalysis, 0, , 15683-15698.	11.7	0