Thomas F Jaramillo

List of Publications by Citations

252 papers	60,701 citations	87 h-index	246 g-index
284 ext. papers	71,578 ext. citations	12.3 avg, IF	8.21 L-index

#	Paper	IF	Citations
252	Combining theory and experiment in electrocatalysis: Insights into materials design. *Science*, **2017**, 355,	33.3	5239
251	Identification of active edge sites for electrochemical H2 evolution from MoS2 nanocatalysts. *Science*, **2007**, 317, 100-2	33.3	4319
250	Benchmarking heterogeneous electrocatalysts for the oxygen evolution reaction. *Journal of the American Chemical Society*, **2013**, 135, 16977-87	16.4	3926
249	Computational high-throughput screening of electrocatalytic materials for hydrogen evolution. *Nature Materials*, **2006**, 5, 909-13	27	2624
248	Engineering the surface structure of MoS2 to preferentially expose active edge sites for electrocatalysis. *Nature Materials*, **2012**, 11, 963-9	27	2503
247	Benchmarking hydrogen evolving reaction and oxygen evolving reaction electrocatalysts for solar water splitting devices. *Journal of the American Chemical Society*, **2015**, 137, 4347-57	16.4	2386
246	Universality in Oxygen Evolution Electrocatalysis on Oxide Surfaces. *ChemCatChem*, **2011**, 3, 1159-1165	5.2	2321
245	Alloys of platinum and early transition metals as oxygen reduction electrocatalysts. *Nature Chemistry*, **2009**, 1, 552-6	17.6	2287
244	New insights into the electrochemical reduction of carbon dioxide on metallic copper surfaces. *Energy and Environmental Science*, **2012**, 5, 7050	35.4	1789
243	A bifunctional nonprecious metal catalyst for oxygen reduction and water oxidation. *Journal of the American Chemical Society*, **2010**, 132, 13612-4	16.4	1271
242	Progress and Perspectives of Electrochemical CO Reduction on Copper in Aqueous Electrolyte. *Chemical Reviews*, **2019**, 119, 7610-7672	68.1	1244
241	A highly active and stable IrOx/SrIrO3 catalyst for the oxygen evolution reaction. *Science*, **2016**, 353, 1011-1014	33.3	1094
240	Catalyzing the Hydrogen Evolution Reaction (HER) with Molybdenum Sulfide Nanomaterials. *ACS Catalysis*, **2014**, 4, 3957-3971	13.1	1086
239	Core-shell MoO3-MoS2 nanowires for hydrogen evolution: a functional design for electrocatalytic materials. *Nano Letters*, **2011**, 11, 4168-75	11.5	969
238	Electrocatalytic conversion of carbon dioxide to methane and methanol on transition metal surfaces. *Journal of the American Chemical Society*, **2014**, 136, 14107-13	16.4	968
237	Accelerating materials development for photoelectrochemical hydrogen production: Standards for methods, definitions, and reporting protocols. *Journal of Materials Research*, **2010**, 25, 3-16	2.5	893
236	Technical and economic feasibility of centralized facilities for solar hydrogen production via photocatalysis and photoelectrochemistry. *Energy and Environmental Science*, **2013**, 6, 1983	35.4	868

235	Amorphous Molybdenum Sulfide Catalysts for Electrochemical Hydrogen Production: Insights into the Origin of their Catalytic Activity. *ACS Catalysis*, **2012**, 2, 1916-1923	13.1	859
234	Materials for solar fuels and chemicals. *Nature Materials*, **2016**, 16, 70-81	27	846
233	Molybdenum phosphosulfide: an active, acid-stable, earth-abundant catalyst for the hydrogen evolution reaction. *Angewandte Chemie - International Edition*, **2014**, 53, 14433-7	16.4	780
232	Branched TiO□nanorods for photoelectrochemical hydrogen production. *Nano Letters*, **2011**, 11, 4978-84	11.5	760
231	Two-Dimensional Molybdenum Carbide (MXene) as an Efficient Electrocatalyst for Hydrogen Evolution. *ACS Energy Letters*, **2016**, 1, 589-594	20.1	752
230	What would it take for renewably powered electrosynthesis to displace petrochemical processes?. *Science*, **2019**, 364,	33.3	749
229	Hydrogen evolution on nano-particulate transition metal sulfides. *Faraday Discussions*, **2008**, 140, 219-31; discussion 297-317	3.6	672
228	Designing an improved transition metal phosphide catalyst for hydrogen evolution using experimental and theoretical trends. *Energy and Environmental Science*, **2015**, 8, 3022-3029	35.4	671
227	High-efficiency oxygen reduction to hydrogen peroxide catalysed by oxidized carbon materials. *Nature Catalysis*, **2018**, 1, 156-162	36.5	632
226	A rigorous electrochemical ammonia synthesis protocol with quantitative isotope measurements. *Nature*, **2019**, 570, 504-508	50.4	617
225	Building an appropriate active-site motif into a hydrogen-evolution catalyst with thiomolybdate [Mo3S13]2- clusters. *Nature Chemistry*, **2014**, 6, 248-53	17.6	602
224	Addressing the terawatt challenge: scalability in the supply of chemical elements for renewable energy. *RSC Advances*, **2012**, 2, 7933	3.7	485
223	Electrochemical Ammonia Synthesis□he Selectivity Challenge. *ACS Catalysis*, **2017**, 7, 706-709	13.1	442
222	Plasmon enhanced solar-to-fuel energy conversion. *Nano Letters*, **2011**, 11, 3440-6	11.5	428
221	Enhancement of Photocatalytic and Electrochromic Properties of Electrochemically Fabricated Mesoporous WO3 Thin Films. *Advanced Materials*, **2003**, 15, 1269-1273	24	425
220	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, 8525-34	16.4	419
219	Solar water splitting by photovoltaic-electrolysis with a solar-to-hydrogen efficiency over 30. *Nature Communications*, **2016**, 7, 13237	17.4	407
218	Understanding Selectivity for the Electrochemical Reduction of Carbon Dioxide to Formic Acid and Carbon Monoxide on Metal Electrodes. *ACS Catalysis*, **2017**, 7, 4822-4827	13.1	402

217	Promoter Effects of Alkali Metal Cations on the Electrochemical Reduction of Carbon Dioxide. *Journal of the American Chemical Society*, **2017**, 139, 11277-11287	16.4	381
216	A Cu2O/TiO2 heterojunction thin film cathode for photoelectrocatalysis. *Solar Energy Materials and Solar Cells*, **2003**, 77, 229-237	6.4	376
215	Insights into the electrocatalytic reduction of CO on metallic silver surfaces. *Physical Chemistry Chemical Physics*, **2014**, 16, 13814-9	3.6	368
214	Gold-supported cerium-doped NiOx catalysts for water oxidation. *Nature Energy*, **2016**, 1,	62.3	366
213	Catalytic activity of supported Au nanoparticles deposited from block copolymer micelles. *Journal of the American Chemical Society*, **2003**, 125, 7148-9	16.4	362
212	Benchmarking nanoparticulate metal oxide electrocatalysts for the alkaline water oxidation reaction. *Journal of Materials Chemistry A*, **2016**, 4, 3068-3076	13	344
211	Electrochemical CO Reduction over Compressively Strained CuAg Surface Alloys with Enhanced Multi-Carbon Oxygenate Selectivity. *Journal of the American Chemical Society*, **2017**, 139, 15848-15857	16.4	331
210	Improved CO2 reduction activity towards C2+ alcohols on a tandem gold on copper electrocatalyst. *Nature Catalysis*, **2018**, 1, 764-771	36.5	291
209	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, 14010-22	3.6	270
208	Active MnOx Electrocatalysts Prepared by Atomic Layer Deposition for Oxygen Evolution and Oxygen Reduction Reactions. *Advanced Energy Materials*, **2012**, 2, 1269-1277	21.8	269
207	Gas-Diffusion Electrodes for Carbon Dioxide Reduction: A New Paradigm. *ACS Energy Letters*, **2019**, 4, 317-324	20.1	238
206	Ammonia synthesis from N2 and H2O using a lithium cycling electrification strategy at atmospheric pressure. *Energy and Environmental Science*, **2017**, 10, 1621-1630	35.4	236
205	Machine-Learning Methods Enable Exhaustive Searches for Active Bimetallic Facets and Reveal Active Site Motifs for CO2 Reduction. *ACS Catalysis*, **2017**, 7, 6600-6608	13.1	224
204	Engineering Cu surfaces for the electrocatalytic conversion of CO: Controlling selectivity toward oxygenates and hydrocarbons. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 5918-5923	11.5	215
203	pH effects on the electrochemical reduction of CO towards C products on stepped copper. *Nature Communications*, **2019**, 10, 32	17.4	207
202	Thin Films of Sodium Birnessite-Type MnO2: Optical Properties, Electronic Band Structure, and Solar Photoelectrochemistry. *Journal of Physical Chemistry C*, **2011**, 115, 11830-11838	3.8	204
201	Steady state oxygen reduction and cyclic voltammetry. *Faraday Discussions*, **2008**, 140, 337-46; discussion 417-37	3.6	203
200	Hydrogen Evolution on Supported Incomplete Cubane-type [Mo3S4]4+ Electrocatalysts. *Journal of Physical Chemistry C*, **2008**, 112, 17492-17498	3.8	200

199	Understanding activity trends in electrochemical water oxidation to form hydrogen peroxide. *Nature Communications*, **2017**, 8, 701	17.4	193
198	Designing Boron Nitride Islands in Carbon Materials for Efficient Electrochemical Synthesis of Hydrogen Peroxide. *Journal of the American Chemical Society*, **2018**, 140, 7851-7859	16.4	184
197	Meso-structured platinum thin films: active and stable electrocatalysts for the oxygen reduction reaction. *Journal of the American Chemical Society*, **2012**, 134, 7758-65	16.4	183
196	Synthesis and characterization of Pt-WO3 as methanol oxidation catalysts for fuel cells. *Journal of Physical Chemistry B*, **2005**, 109, 22958-66	3.4	183
195	Understanding interactions between manganese oxide and gold that lead to enhanced activity for electrocatalytic water oxidation. *Journal of the American Chemical Society*, **2014**, 136, 4920-6	16.4	182
194	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, 12928-34	16.4	180
193	New cubic perovskites for one- and two-photon water splitting using the computational materials repository. *Energy and Environmental Science*, **2012**, 5, 9034	35.4	178
192	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	13.1	175
191	Modeling practical performance limits of photoelectrochemical water splitting based on the current state of materials research. *ChemSusChem*, **2014**, 7, 1372-85	8.3	168
190	Mn3O4 Supported on Glassy Carbon: An Active Non-Precious Metal Catalyst for the Oxygen Reduction Reaction. *ACS Catalysis*, **2012**, 2, 2687-2694	13.1	165
189	Standards and Protocols for Data Acquisition and Reporting for Studies of the Electrochemical Reduction of Carbon Dioxide. *ACS Catalysis*, **2018**, 8, 6560-6570	13.1	160
188	Cyclic voltammograms for H on Pt(111) and Pt(100) from first principles. *Physical Review Letters*, **2007**, 99, 126101	7.4	159
187	Substrate selection for fundamental studies of electrocatalysts and photoelectrodes: inert potential windows in acidic, neutral, and basic electrolyte. *PLoS ONE*, **2014**, 9, e107942	3.7	157
186	Defective Carbon-Based Materials for the Electrochemical Synthesis of Hydrogen Peroxide. *ACS Sustainable Chemistry and Engineering*, **2018**, 6, 311-317	8.3	153
185	Designing Active and Stable Silicon Photocathodes for Solar Hydrogen Production Using Molybdenum Sulfide Nanomaterials. *Advanced Energy Materials*, **2014**, 4, 1400739	21.8	145
184	Controlled Electrodeposition of Nanoparticulate Tungsten Oxide. *Nano Letters*, **2002**, 2, 831-834	11.5	135
183	Automated electrochemical synthesis and photoelectrochemical characterization of Zn1-xCo(x)O thin films for solar hydrogen production. *ACS Combinatorial Science*, **2005**, 7, 264-71		134
182	A carbon-free, precious-metal-free, high-performance O2 electrode for regenerative fuel cells and metal–air batteries. *Energy and Environmental Science*, **2014**, 7, 2017	35.4	121

181	Engineering Cobalt Phosphide (CoP) Thin Film Catalysts for Enhanced Hydrogen Evolution Activity on Silicon Photocathodes. *Advanced Energy Materials*, **2016**, 6, 1501758	21.8	115
180	Systematic Structure–Property Relationship Studies in Palladium-Catalyzed Methane Complete Combustion. *ACS Catalysis*, **2017**, 7, 7810-7821	13.1	110
179	Mercury chemistry on brominated activated carbon. *Fuel*, **2012**, 99, 188-196	7.1	110
178	Structure, Composition, and Morphology of Photoelectrochemically Active TiO2-xNx Thin Films Deposited by Reactive DC Magnetron Sputtering. *Journal of Physical Chemistry B*, **2004**, 108, 20193-20198	3.4	107
177	Double layer charging driven carbon dioxide adsorption limits the rate of electrochemical carbon dioxide reduction on Gold. *Nature Communications*, **2020**, 11, 33	17.4	107
176	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	3.8	106
175	Revealing the Synergy between Oxide and Alloy Phases on the Performance of Bimetallic In–Pd Catalysts for CO2 Hydrogenation to Methanol. *ACS Catalysis*, **2019**, 9, 3399-3412	13.1	105
174	Core-Shell Au@Metal-Oxide Nanoparticle Electrocatalysts for Enhanced Oxygen Evolution. *Nano Letters*, **2017**, 17, 6040-6046	11.5	104
173	Synthesis of thin film AuPd alloys and their investigation for electrocatalytic CO2 reduction. *Journal of Materials Chemistry A*, **2015**, 3, 20185-20194	13	101
172	Development of a reactor with carbon catalysts for modular-scale, low-cost electrochemical generation of H2O2. *Reaction Chemistry and Engineering*, **2017**, 2, 239-245	4.9	100
171	Molybdenum Phosphosulfide: An Active, Acid-Stable, Earth-Abundant Catalyst for the Hydrogen Evolution Reaction. *Angewandte Chemie*, **2014**, 126, 14661-14665	3.6	96
170	Combinatorial electrochemical synthesis and characterization of tungsten-based mixed-metal oxides. *ACS Combinatorial Science*, **2002**, 4, 563-8		96
169	Electrochemical CO reduction on Au surfaces: mechanistic aspects regarding the formation of major and minor products. *Physical Chemistry Chemical Physics*, **2017**, 19, 15856-15863	3.6	89
168	Electrolyte Engineering for Efficient Electrochemical Nitrate Reduction to Ammonia on a Titanium Electrode. *ACS Sustainable Chemistry and Engineering*, **2020**, 8, 2672-2681	8.3	88
167	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	13.1	88
166	Uniform Pt/Pd Bimetallic Nanocrystals Demonstrate Platinum Effect on Palladium Methane Combustion Activity and Stability. *ACS Catalysis*, **2017**, 7, 4372-4380	13.1	87
165	A non-precious metal hydrogen catalyst in a commercial polymer electrolyte membrane electrolyser. *Nature Nanotechnology*, **2019**, 14, 1071-1074	28.7	87
164	Electrochemically converting carbon monoxide to liquid fuels by directing selectivity with electrode surface area. *Nature Catalysis*, **2019**, 2, 702-708	36.5	86

163	Tandem Core-Shell Si-TaN Photoanodes for Photoelectrochemical Water Splitting. *Nano Letters*, **2016**, 16, 7565-7572	11.5	86
162	Chemical and Phase Evolution of Amorphous Molybdenum Sulfide Catalysts for Electrochemical Hydrogen Production. *ACS Nano*, **2016**, 10, 624-32	16.7	86
161	Combinatorial Electrochemical Synthesis and Screening of Mesoporous ZnO for Photocatalysis. *Macromolecular Rapid Communications*, **2004**, 25, 297-301	4.8	86
160	Understanding the Origin of Highly Selective CO Electroreduction to CO on Ni,N-doped Carbon Catalysts. *Angewandte Chemie - International Edition*, **2020**, 59, 4043-4050	16.4	85
159	Aqueous Electrochemical Reduction of Carbon Dioxide and Carbon Monoxide into Methanol with Cobalt Phthalocyanine. *Angewandte Chemie - International Edition*, **2019**, 58, 16172-16176	16.4	81
158	Enhancement Effect of Noble Metals on Manganese Oxide for the Oxygen Evolution Reaction. *Journal of Physical Chemistry Letters*, **2015**, 6, 4178-83	6.4	79
157	Growth of Pt nanowires by atomic layer deposition on highly ordered pyrolytic graphite. *Nano Letters*, **2013**, 13, 457-63	11.5	78
156	Nickel-silver alloy electrocatalysts for hydrogen evolution and oxidation in an alkaline electrolyte. *Physical Chemistry Chemical Physics*, **2014**, 16, 19250-7	3.6	74
155	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	3.8	74
154	Influence of Atomic Surface Structure on the Activity of Ag for the Electrochemical Reduction of CO2 to CO. *ACS Catalysis*, **2019**, 9, 4006-4014	13.1	72
153	Nearly Total Solar Absorption in Ultrathin Nanostructured Iron Oxide for Efficient Photoelectrochemical Water Splitting. *ACS Photonics*, **2014**, 1, 235-240	6.3	71
152	Trends in the Catalytic Activity of Hydrogen Evolution during CO2 Electroreduction on Transition Metals. *ACS Catalysis*, **2018**, 8, 3035-3040	13.1	67
151	Impedance-based study of capacitive porous carbon electrodes with hierarchical and bimodal porosity. *Journal of Power Sources*, **2013**, 241, 266-273	8.9	67
150	Operando Characterization of an Amorphous Molybdenum Sulfide Nanoparticle Catalyst during the Hydrogen Evolution Reaction. *Journal of Physical Chemistry C*, **2014**, 118, 29252-29259	3.8	66
149	Electrocatalytic Activity of Gold/Platinum Clusters for Low Temperature Fuel Cell Applications. *Journal of Physical Chemistry C*, **2009**, 113, 5014-5024	3.8	66
148	A Precious-Metal-Free Regenerative Fuel Cell for Storing Renewable Electricity. *Advanced Energy Materials*, **2013**, 3, 1545-1550	21.8	65
147	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	3.8	64
146	Molybdenum Disulfide as a Protection Layer and Catalyst for Gallium Indium Phosphide Solar Water Splitting Photocathodes. *Journal of Physical Chemistry Letters*, **2016**, 7, 2044-9	6.4	64

145	Absence of Oxidized Phases in Cu under CO Reduction Conditions. *ACS Energy Letters*, **2019**, 4, 803-804	20.1	64
144	Oxidation State and Surface Reconstruction of Cu under CO Reduction Conditions from X-ray Characterization. *Journal of the American Chemical Society*, **2021**, 143, 588-592	16.4	62
143	Highly Stable Molybdenum Disulfide Protected Silicon Photocathodes for Photoelectrochemical Water Splitting. *ACS Applied Materials & Interfaces*, **2017**, 9, 36792-36798	9.5	60
142	Optoelectronic properties of Ta3N5: A joint theoretical and experimental study. *Physical Review B*, **2014**, 90,	3.3	60
141	High-throughput screening system for catalytic hydrogen-producing materials. *ACS Combinatorial Science*, **2002**, 4, 17-22		59
140	Gas-Phase Catalysis by Micelle Derived Au Nanoparticles on Oxide Supports. *Catalysis Letters*, **2004**, 95, 107-111	2.8	58
139	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	9.6	57
138	Investigating Catalyst□Support Interactions To Improve the Hydrogen Evolution Reaction Activity of Thiomolybdate [Mo3S13]2□Nanoclusters. *ACS Catalysis*, **2017**, 7, 7126-7130	13.1	55
137	A Versatile Method for Ammonia Detection in a Range of Relevant Electrolytes via Direct Nuclear Magnetic Resonance Techniques. *ACS Catalysis*, **2019**, 9, 5797-5802	13.1	54
136	Design and Fabrication of a Precious Metal-Free Tandem Core□Shell p+n Si/W-Doped BiVO4 Photoanode for Unassisted Water Splitting. *Advanced Energy Materials*, **2017**, 7, 1701515	21.8	54
135	Active and Stable [email□protected] Core□Shell Catalysts for Electrochemical Oxygen Reduction. *ACS Energy Letters*, **2017**, 2, 244-249	20.1	52
134	High-performance oxygen reduction and evolution carbon catalysis: From mechanistic studies to device integration. *Nano Research*, **2017**, 10, 1163-1177	10	50
133	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	20.1	48
132	Precious Metal-Free Nickel Nitride Catalyst for the Oxygen Reduction Reaction. *ACS Applied Materials & Interfaces*, **2019**, 11, 26863-26871	9.5	47
131	Guiding Electrochemical Carbon Dioxide Reduction toward Carbonyls Using Copper Silver Thin Films with Interphase Miscibility. *ACS Energy Letters*, **2018**, 3, 2947-2955	20.1	47
130	Robust and biocompatible catalysts for efficient hydrogen-driven microbial electrosynthesis. *Communications Chemistry*, **2019**, 2,	6.3	46
129	A Highly Active Molybdenum Phosphide Catalyst for Methanol Synthesis from CO and CO. *Angewandte Chemie - International Edition*, **2018**, 57, 15045-15050	16.4	46
128	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, 13695-701	10.3	46

127	Rapid flame doping of Co to WS2 for efficient hydrogen evolution. *Energy and Environmental Science*, **2018**, 11, 2270-2277	35.4	45
126	Climbing the Activity Volcano: Core–Shell Ru@Pt Electrocatalysts for Oxygen Reduction. *ChemElectroChem*, **2014**, 1, 67-71	4.3	45
125	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	11.5	43
124	Applications of ALD MnO to electrochemical water splitting. *Physical Chemistry Chemical Physics*, **2015**, 17, 14003-11	3.6	40
123	Extending the limits of Pt/C catalysts with passivation-gas-incorporated atomic layer deposition. *Nature Catalysis*, **2018**, 1, 624-630	36.5	40
122	Dynamics of Surface Exchange Reactions Between Au and Pt for HER and HOR. *Journal of the Electrochemical Society*, **2009**, 156, B273	3.9	39
121	Polymer Electrolyte Membrane Electrolyzers Utilizing Non-precious Mo-based Hydrogen Evolution Catalysts. *ChemSusChem*, **2015**, 8, 3512-9	8.3	38
120	Band Edge Engineering of Oxide Photoanodes for Photoelectrochemical Water Splitting: Integration of Subsurface Dipoles with Atomic-Scale Control. *Advanced Energy Materials*, **2016**, 6, 1502154	21.8	37
119	Crystalline Strontium Iridate Particle Catalysts for Enhanced Oxygen Evolution in Acid. *ACS Applied Energy Materials*, **2019**, 2, 5490-5498	6.1	36
118	Understanding the Influence of [EMIM]Cl on the Suppression of the Hydrogen Evolution Reaction on Transition Metal Electrodes. *Langmuir*, **2017**, 33, 9464-9471	4	36
117	Building upon the Koutecky-Levich Equation for Evaluation of Next-Generation Oxygen Reduction Reaction Catalysts. *Electrochimica Acta*, **2017**, 255, 99-108	6.7	35
116	Carbon Dioxide Electroreduction using a Silver–Zinc Alloy. *Energy Technology*, **2017**, 5, 955-961	3.5	34
115	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	9.5	34
114	Automated electrochemical synthesis and characterization of TiO2supported Au nanoparticle electrocatalysts. *Measurement Science and Technology*, **2005**, 16, 54-59	2	34
113	A Combined Theory-Experiment Analysis of the Surface Species in Lithium-Mediated NH3 Electrosynthesis. *ChemElectroChem*, **2020**, 7, 1542-1549	4.3	34
112	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	21.8	33
111	Gas diffusion electrodes, reactor designs and key metrics of low-temperature CO2 electrolysers. *Nature Energy*, **2022**, 7, 130-143	62.3	33
110	Operando investigation of Au-MnOx thin films with improved activity for the oxygen evolution reaction. *Electrochimica Acta*, **2017**, 230, 22-28	6.7	32

109	Electro-Oxidation of Methane on Platinum under Ambient Conditions. *ACS Catalysis*, **2019**, 9, 7578-7587	13.1	32
108	Tuning the electronic structure of Ag-Pd alloys to enhance performance for alkaline oxygen reduction. *Nature Communications*, **2021**, 12, 620	17.4	32
107	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, 8901-12	3.6	31
106	A Universal Platform for Fabricating Organic Electrochemical Devices. *Advanced Electronic Materials* , **2018**, 4, 1800090	6.4	31
105	Mesoporous Ruthenium/Ruthenium Oxide Thin Films: Active Electrocatalysts for the Oxygen Evolution Reaction. *ChemElectroChem*, **2017**, 4, 2480-2485	4.3	30
104	Acidic Oxygen Evolution Reaction Activity–Stability Relationships in Ru-Based Pyrochlores. *ACS Catalysis*, **2020**, 10, 12182-12196	13.1	30
103	Combined spectroscopy and microscopy of supported MoS2 nanoparticles. *Surface Science*, **2009**, 603, 1182-1189	1.8	29
102	Understanding the Origin of Highly Selective CO2 Electroreduction to CO on Ni,N-doped Carbon Catalysts. *Angewandte Chemie*, **2020**, 132, 4072-4079	3.6	29
101	Nitride or Oxynitride? Elucidating the Composition–Activity Relationships in Molybdenum Nitride Electrocatalysts for the Oxygen Reduction Reaction. *Chemistry of Materials*, **2020**, 32, 2946-2960	9.6	28
100	Investigation of Surface Oxidation Processes on Manganese Oxide Electrocatalysts Using Electrochemical Methods and Ex Situ X-ray Photoelectron Spectroscopy. *Journal of the Electrochemical Society*, **2012**, 159, H782-H786	3.9	27
99	Combinatorial electrochemical synthesis and screening of Pt-WO3 catalysts for electro-oxidation of methanol. *Review of Scientific Instruments*, **2005**, 76, 062227	1.7	27
98	Transition Metal-Modified Zirconium Phosphate Electrocatalysts for the Oxygen Evolution Reaction. *Catalysts*, **2017**, 7, 132	4	25
97	Automated synthesis and characterization of diverse libraries of macroporous alumina. *Electrochimica Acta*, **2001**, 47, 553-557	6.7	25
96	Engineering Ru@Pt Core-Shell Catalysts for Enhanced Electrochemical Oxygen Reduction Mass Activity and Stability. *Nanomaterials*, **2018**, 8,	5.4	25
95	Cyclic-Voltammetry-Based Solid-State Gas Sensor for Methane and Other VOC Detection. *Analytical Chemistry*, **2018**, 90, 6102-6108	7.8	23
94	Parallel synthesis and characterization of photoelectrochemically and electrochromically active tungsten-molybdenum oxides. *Chemical Communications*, **2004**, 390-1	5.8	23
93	Addressing the Stability Gap in Photoelectrochemistry: Molybdenum Disulfide Protective Catalysts for Tandem III–V Unassisted Solar Water Splitting. *ACS Energy Letters*, **2020**, 5, 2631-2640	20.1	23
92	Electrochemical flow cell enabling operando probing of electrocatalyst surfaces by X-ray spectroscopy and diffraction. *Physical Chemistry Chemical Physics*, **2019**, 21, 5402-5408	3.6	23

91	Copper Silver Thin Films with Metastable Miscibility for Oxygen Reduction Electrocatalysis in Alkaline Electrolytes. *ACS Applied Energy Materials*, **2018**, 1, 1990-1999	6.1	21
90	Mesoporous platinum nickel thin films with double gyroid morphology for the oxygen reduction reaction. *Nano Energy*, **2016**, 29, 243-248	17.1	21
89	Direct Characterization of Atomically Dispersed Catalysts: Nitrogen-Coordinated Ni Sites in Carbon-Based Materials for CO2 Electroreduction. *Advanced Energy Materials*, **2020**, 10, 2001836	21.8	20
88	Tuning Composition and Activity of Cobalt Titanium Oxide Catalysts for the Oxygen Evolution Reaction. *Electrochimica Acta*, **2016**, 193, 240-245	6.7	18
87	Synthesis of Tungsten Oxide on Copper Surfaces by Electroless Deposition. *Chemistry of Materials*, **2003**, 15, 3411-3413	9.6	18
86	Advanced manufacturing for electrosynthesis of fuels and chemicals from CO2. *Energy and Environmental Science*, **2021**, 14, 3064-3074	35.4	17
85	UV-Vis Spectroscopy. *SpringerBriefs in Energy*, **2013**, 49-62	0.3	16
84	Computational high-throughput screening of electrocatalytic materials for hydrogen evolution **2010**, 280-284		16
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