Karl J J Mayrhofer

List of Publications by Year
in descending order

232 papers	29,418 citations	5891 81 h-index	4988 167 g-index
247 all docs	247 docs citations	247 times ranked	20431 citing authors

#	Article	IF	Citations
1	Trends in electrocatalysis on extended and nanoscale Pt-bimetallic alloy surfaces. Nature Materials, 2007, 6, 241-247.	13.3	2,902
2	Changing the Activity of Electrocatalysts for Oxygen Reduction by Tuning the Surface Electronic Structure. Angewandte Chemie - International Edition, 2006, 45, 2897-2901.	7.2	1,685
3	Oxygen Electrochemistry as a Cornerstone for Sustainable Energy Conversion. Angewandte Chemie - International Edition, 2014, 53, 102-121.	7.2	1,186
4	Oxygen and hydrogen evolution reactions on Ru, RuO 2 , Ir, and IrO 2 thin film electrodes in acidic and alkaline electrolytes: A comparative study on activity and stability. Catalysis Today, 2016, 262, 170-180.	2.2	999
5	Measurement of oxygen reduction activities via the rotating disc electrode method: From Pt model surfaces to carbon-supported high surface area catalysts. Electrochimica Acta, 2008, 53, 3181-3188.	2.6	888
6	Effect of Surface Composition on Electronic Structure, Stability, and Electrocatalytic Properties of Pt-Transition Metal Alloys:Â Pt-Skin versus Pt-Skeleton Surfaces. Journal of the American Chemical Society, 2006, 128, 8813-8819.	6.6	875
7	Tuning selectivity of electrochemical reactions by atomically dispersed platinum catalyst. Nature Communications, 2016, 7, 10922.	5.8	683
8	The Impact of Geometric and Surface Electronic Properties of Pt-Catalysts on the Particle Size Effect in Electrocatalysis. Journal of Physical Chemistry B, 2005, 109, 14433-14440.	1.2	613
9	Molecular Insight in Structure and Activity of Highly Efficient, Low-Ir Irâ€"Ni Oxide Catalysts for Electrochemical Water Splitting (OER). Journal of the American Chemical Society, 2015, 137, 13031-13040.	6.6	565
10	The stability number as a metric for electrocatalyst stability benchmarking. Nature Catalysis, 2018, 1, 508-515.	16.1	533
11	The Effect of the Particle Size on the Kinetics of CO Electrooxidation on High Surface Area Pt Catalysts. Journal of the American Chemical Society, 2005, 127, 6819-6829.	6.6	514
12	Degradation Mechanisms of Pt/C Fuel Cell Catalysts under Simulated Startâ€"Stop Conditions. ACS Catalysis, 2012, 2, 832-843.	5.5	470
13	The Particle Size Effect on the Oxygen Reduction Reaction Activity of Pt Catalysts: Influence of Electrolyte and Relation to Single Crystal Models. Journal of the American Chemical Society, 2011, 133, 17428-17433.	6.6	461
14	Design criteria for stable Pt/C fuel cell catalysts. Beilstein Journal of Nanotechnology, 2014, 5, 44-67.	1.5	408
15	Accelerated cathodic reaction in microbial corrosion of iron due to direct electron uptake by sulfate-reducing bacteria. Corrosion Science, 2013, 66, 88-96.	3.0	403
16	Dissolution of Noble Metals during Oxygen Evolution in Acidic Media. ChemCatChem, 2014, 6, 2219-2223.	1.8	394
17	Dissolution of Platinum: Limits for the Deployment of Electrochemical Energy Conversion?. Angewandte Chemie - International Edition, 2012, 51, 12613-12615.	7.2	352
18	Towards a comprehensive understanding of platinum dissolution in acidic media. Chemical Science, 2014, 5, 631-638.	3.7	337

#	Article	IF	Citations
19	The Achilles' heel of iron-based catalysts during oxygen reduction in an acidic medium. Energy and Environmental Science, 2018, 11, 3176-3182.	15.6	332
20	The Common Intermediates of Oxygen Evolution and Dissolution Reactions during Water Electrolysis on Iridium. Angewandte Chemie - International Edition, 2018, 57, 2488-2491.	7.2	331
21	The effect of particle proximity on the oxygen reduction rate of size-selected platinum clusters. Nature Materials, 2013, 12, 919-924.	13.3	327
22	Marine sulfateâ€reducing bacteria cause serious corrosion of iron under electroconductive biogenic mineral crust. Environmental Microbiology, 2012, 14, 1772-1787.	1.8	324
23	Stability of Feâ€Nâ€C Catalysts in Acidic Medium Studied by Operando Spectroscopy. Angewandte Chemie - International Edition, 2015, 54, 12753-12757.	7.2	321
24	Fuel cell catalyst degradation on the nanoscale. Electrochemistry Communications, 2008, 10, 1144-1147.	2.3	309
25	Hydrogen peroxide electrochemistry on platinum: towards understanding the oxygen reduction reaction mechanism. Physical Chemistry Chemical Physics, 2012, 14, 7384.	1.3	304
26	Adsorbateâ€Induced Surface Segregation for Coreâ€"Shell Nanocatalysts. Angewandte Chemie - International Edition, 2009, 48, 3529-3531.	7.2	295
27	Durability of platinum-based fuel cell electrocatalysts: Dissolution of bulk and nanoscale platinum. Nano Energy, 2016, 29, 275-298.	8.2	257
28	A Critical Review on Hydrogen Evolution Electrocatalysis: Reâ€exploring the Volcanoâ€relationship. Electroanalysis, 2016, 28, 2256-2269.	1.5	241
29	A Comparative Study on Gold and Platinum Dissolution in Acidic and Alkaline Media. Journal of the Electrochemical Society, 2014, 161, H822-H830.	1.3	239
30	Toward Highly Stable Electrocatalysts via Nanoparticle Pore Confinement. Journal of the American Chemical Society, 2012, 134, 20457-20465.	6.6	235
31	Stability investigations of electrocatalysts on the nanoscale. Energy and Environmental Science, 2012, 5, 9319.	15.6	230
32	Stability of nanostructured iridium oxide electrocatalysts during oxygen evolution reaction in acidic environment. Electrochemistry Communications, 2014, 48, 81-85.	2.3	229
33	Oxygen evolution activity and stability of iridium in acidic media. Part 2. â€" Electrochemically grown hydrous iridium oxide. Journal of Electroanalytical Chemistry, 2016, 774, 102-110.	1.9	209
34	Minimizing Operando Demetallation of Fe-N-C Electrocatalysts in Acidic Medium. ACS Catalysis, 2016, 6, 3136-3146.	5.5	201
35	A Perspective on Low-Temperature Water Electrolysis â€" Challenges in Alkaline and Acidic Technology. International Journal of Electrochemical Science, 2018, 13, 1173-1226.	0.5	197
36	Importance and Challenges of Electrochemical <i>in Situ</i> Liquid Cell Electron Microscopy for Energy Conversion Research. Accounts of Chemical Research, 2016, 49, 2015-2022.	7.6	185

#	Article	IF	Citations
37	Degradation of Carbon-Supported Pt Bimetallic Nanoparticles by Surface Segregation. Journal of the American Chemical Society, 2009, 131, 16348-16349.	6.6	182
38	Degradation of Fe/N/C catalysts upon high polarization in acid medium. Physical Chemistry Chemical Physics, 2014, 16, 18454-18462.	1.3	182
39	Unraveling the Nature of Sites Active toward Hydrogen Peroxide Reduction in Feâ€Nâ€C Catalysts. Angewandte Chemie - International Edition, 2017, 56, 8809-8812.	7.2	176
40	Coupling of a high throughput microelectrochemical cell with online multielemental trace analysis by ICP-MS. Electrochemistry Communications, 2011, 13, 1533-1535.	2.3	170
41	Near-surface ion distribution and buffer effects during electrochemical reactions. Physical Chemistry Chemical Physics, 2011, 13, 16384.	1.3	166
42	The effective surface pH during reactions at the solidâ€"liquid interface. Electrochemistry Communications, 2011, 13, 634-637.	2.3	161
43	Atomic-scale insights into surface species of electrocatalysts in three dimensions. Nature Catalysis, 2018, 1, 300-305.	16.1	161
44	Oxygen evolution activity and stability of iridium in acidic media. Part 1. â€" Metallic iridium. Journal of Electroanalytical Chemistry, 2016, 773, 69-78.	1.9	159
45	Selective microbial electrosynthesis of methane by a pure culture of a marine lithoautotrophic archaeon. Bioelectrochemistry, 2015, 102, 50-55.	2.4	157
46	Carbon-supported Ptâ€"Sn electrocatalysts for the anodic oxidation of H2, CO, and H2/CO mixtures.Part II: The structureâ€"activity relationship. Journal of Catalysis, 2005, 232, 402-410.	3.1	156
47	CO surface electrochemistry on Pt-nanoparticles: A selective review. Electrochimica Acta, 2005, 50, 5144-5154.	2.6	154
48	Dissolution of Platinum in the Operational Range of Fuel Cells. ChemElectroChem, 2015, 2, 1471-1478.	1.7	152
49	Non-destructive transmission electron microscopy study of catalyst degradation under electrochemical treatment. Journal of Power Sources, 2008, 185, 734-739.	4.0	150
50	Degradation of iridium oxides <i>via</i> oxygen evolution from the lattice: correlating atomic scale structure with reaction mechanisms. Energy and Environmental Science, 2019, 12, 3548-3555.	15.6	147
51	Gold dissolution: towards understanding of noble metal corrosion. RSC Advances, 2013, 3, 16516.	1.7	142
52	Activity and Stability of Electrochemically and Thermally Treated Iridium for the Oxygen Evolution Reaction. Journal of the Electrochemical Society, 2016, 163, F3132-F3138.	1.3	140
53	Element-Resolved Corrosion Analysis of Stainless-Type Glass-Forming Steels. Science, 2013, 341, 372-376.	6.0	136
54	Confinedâ€Space Alloying of Nanoparticles for the Synthesis of Efficient PtNi Fuelâ€Cell Catalysts. Angewandte Chemie - International Edition, 2014, 53, 14250-14254.	7.2	136

#	Article	IF	Citations
55	Stability limits of tin-based electrocatalyst supports. Scientific Reports, 2017, 7, 4595.	1.6	127
56	Impact of Glass Corrosion on the Electrocatalysis on Pt Electrodes in Alkaline Electrolyte. Journal of the Electrochemical Society, 2008, 155, P1.	1.3	122
57	Engineering stable electrocatalysts by synergistic stabilization between carbide cores and Pt shells. Nature Materials, 2020, 19, 287-291.	13.3	120
58	Stability and Activity of Nonâ€Nobleâ€Metalâ€Based Catalysts Toward the Hydrogen Evolution Reaction. Angewandte Chemie - International Edition, 2017, 56, 9767-9771.	7.2	118
59	Rational design of the electrode morphology for oxygen evolution â€“ enhancing the performance for catalytic water oxidation. RSC Advances, 2014, 4, 9579.	1.7	117
60	Nickel-molybdenum alloy catalysts for the hydrogen evolution reaction: Activity and stability revised. Electrochimica Acta, 2018, 259, 1154-1161.	2.6	116
61	Effect of ordering of PtCu₃nanoparticle structure on the activity and stability for the oxygen reduction reaction. Physical Chemistry Chemical Physics, 2014, 16, 13610-13615.	1.3	115
62	Electrocatalytic synthesis of hydrogen peroxide on Au-Pd nanoparticles: From fundamentals to continuous production. Chemical Physics Letters, 2017, 683, 436-442.	1.2	112
63	On the Need of Improved Accelerated Degradation Protocols (ADPs): Examination of Platinum Dissolution and Carbon Corrosion in Half-Cell Tests. Journal of the Electrochemical Society, 2016, 163, F1510-F1514.	1.3	112
64	Catalyst Stability Benchmarking for the Oxygen Evolution Reaction: The Importance of Backing Electrode Material and Dissolution in Accelerated Aging Studies. ChemSusChem, 2017, 10, 4140-4143.	3.6	111
65	Stability of Dealloyed Porous Pt/Ni Nanoparticles. ACS Catalysis, 2015, 5, 5000-5007.	5.5	110
66	Nitrogen-Doped Hollow Carbon Spheres as a Support for Platinum-Based Electrocatalysts. ACS Catalysis, 2014, 4, 3856-3868.	5.5	107
67	Electrochemical characterization of direct electron uptake in electrical microbially influenced corrosion of iron by the lithoautotrophic SRB Desulfopila corrodens strain IS4. Electrochimica Acta, 2015, 167, 321-329.	2.6	101
68	Investigation of the Oxygen Reduction Activity on Silver â€“ A Rotating Disc Electrode Study. Fuel Cells, 2010, 10, 575-581.	1.5	99
69	Identical-location TEM investigations of Pt/C electrocatalyst degradation at elevated temperatures. Journal of Electroanalytical Chemistry, 2011, 662, 355-360.	1.9	98
70	IrO2 coated TiO2 core-shell microparticles advance performance of low loading proton exchange membrane water electrolyzers. Applied Catalysis B: Environmental, 2020, 269, 118762.	10.8	98
71	A Scanning Flow Cell System for Fully Automated Screening of Electrocatalyst Materials. Journal of the Electrochemical Society, 2012, 159, F670-F675.	1.3	92
72	Carbonâ€Based Yolkâ€“Shell Materials for Fuel Cell Applications. Advanced Functional Materials, 2014, 24, 220-232.	7.8	92

#	Article	IF	Citations
73	Electrochemical Onâ€line ICPâ€MS in Electrocatalysis Research. Chemical Record, 2019, 19, 2130-2142.	2.9	92
74	Essentials of High Performance Water Electrolyzers â€" From Catalyst Layer Materials to Electrode Engineering. Advanced Energy Materials, 2021, 11, 2101998.	10.2	92
75	Positive Effect of Surface Doping with Au on the Stability of Pt-Based Electrocatalysts. ACS Catalysis, 2016, 6, 1630-1634.	5.5	90
76	Electrifying model catalysts for understanding electrocatalytic reactions in liquid electrolytes. Nature Materials, 2018, 17, 592-598.	13.3	89
77	Towards maximized utilization of iridium for the acidic oxygen evolution reaction. Nano Research, 2019, 12, 2275-2280.	5.8	89
78	General Method for the Synthesis of Hollow Mesoporous Carbon Spheres with Tunable Textural Properties. ACS Applied Materials & Interfaces, 2015, 7, 12914-12922.	4.0	87
79	The impact of spectator species on the interaction of H2O2 with platinum â€" implications for the oxygen reduction reaction pathways. Physical Chemistry Chemical Physics, 2013, 15, 8058.	1.3	85
80	Coupling of a scanning flow cell with online electrochemical mass spectrometry for screening of reaction selectivity. Review of Scientific Instruments, 2014, 85, 104101.	0.6	83
81	On the Origin of the Improved Ruthenium Stability in RuO₂â€"IrO₂Mixed Oxides. Journal of the Electrochemical Society, 2016, 163, F3099-F3104.	1.3	82
82	The Electrochemical Dissolution of Noble Metals in Alkaline Media. Electrocatalysis, 2018, 9, 153-161.	1.5	82
83	Tuning the Electrocatalytic Performance of Ionic Liquid Modified Pt Catalysts for the Oxygen Reduction Reaction via Cationic Chain Engineering. ACS Catalysis, 2018, 8, 8244-8254.	5.5	82
84	Size-selected clusters as heterogeneous model catalysts under applied reaction conditions. Physical Chemistry Chemical Physics, 2010, 12, 10288.	1.3	81
85	Temperature-Dependent Dissolution of Polycrystalline Platinum in Sulfuric Acid Electrolyte. Electrocatalysis, 2014, 5, 235-240.	1.5	81
86	Electrochemical dissolution of gold in acidic medium. Electrochemistry Communications, 2013, 28, 44-46.	2.3	78
87	Goldâ€"Palladium Bimetallic Catalyst Stability: Consequences for Hydrogen Peroxide Selectivity. ACS Catalysis, 2017, 7, 5699-5705.	5.5	76
88	Atomistic Insights into the Stability of Pt Single-Atom Electrocatalysts. Journal of the American Chemical Society, 2020, 142, 15496-15504.	6.6	75
89	Carbon Monoxide as a Promoter of Atomically Dispersed Platinum Catalyst in Electrochemical Hydrogen Evolution Reaction. Journal of the American Chemical Society, 2018, 140, 16198-16205.	6.6	74
90	Towards an efficient liquid organic hydrogen carrier fuel cell concept. Energy and Environmental Science, 2019, 12, 2305-2314.	15.6	73

#	Article	IF	Citations
91	Evaluating Electrocatalysts at Relevant Currents in a Half-Cell: The Impact of Pt Loading on Oxygen Reduction Reaction. Journal of the Electrochemical Society, 2019, 166, F1259-F1268.	1.3	72
92	In situ CO oxidation on well characterized Pt3Sn(hkl) surfaces: A selective review. Surface Science, 2005, 576, 145-157.	0.8	71
93	The pH Dependence of Magnesium Dissolution and Hydrogen Evolution during Anodic Polarization. Journal of the Electrochemical Society, 2015, 162, C333-C339.	1.3	71
94	Investigating the Real Time Dissolution of Mg Using Online Analysis by ICP-MS. Journal of the Electrochemical Society, 2014, 161, C115-C119.	1.3	70
95	Balanced work function as a driver for facile hydrogen evolution reaction â€" comprehension and experimental assessment of interfacial catalytic descriptor. Physical Chemistry Chemical Physics, 2017, 19, 17019-17027.	1.3	69
96	Insight into the Mechanisms of High Activity and Stability of Iridium Supported on Antimony-Doped Tin Oxide Aerogel for Anodes of Proton Exchange Membrane Water Electrolyzers. ACS Catalysis, 2020, 10, 2508-2516.	5.5	67
97	Dissolution of Platinum in Presence of Chloride Traces. Electrochimica Acta, 2015, 179, 24-31.	2.6	66
98	An alkaline water electrolyzer with nickel electrodes enables efficient high current densityÂoperation. International Journal of Hydrogen Energy, 2018, 43, 11932-11938.	3.8	66
99	Analysis of the Impact of Individual Glass Constituents on Electrocatalysis on Pt Electrodes in Alkaline Solution. Journal of the Electrochemical Society, 2008, 155, P78.	1.3	63
100	Platinum Dissolution in Realistic Fuel Cell Catalyst Layers. Angewandte Chemie - International Edition, 2021, 60, 8882-8888.	7.2	63
101	Log on for new catalysts. Nature Chemistry, 2009, 1, 518-519.	6.6	62
102	Unravelling Degradation Pathways of Oxideâ€Supported Pt Fuel Cell Nanocatalysts under In Situ Operating Conditions. Advanced Energy Materials, 2018, 8, 1701663.	10.2	62
103	Effect of Ionic Liquid Modification on the ORR Performance and Degradation Mechanism of Trimetallic PtNiMo/C Catalysts. ACS Catalysis, 2019, 9, 8682-8692.	5.5	60
104	Electrochemically induced nanocluster migration. Electrochimica Acta, 2010, 56, 810-816.	2.6	59
105	The Stability Challenge on the Pathway to Low and Ultraâ€Low Platinum Loading for Oxygen Reduction in Fuel Cells. ChemElectroChem, 2016, 3, 51-54.	1.7	59
106	Oxygen Reduction Reaction in Alkaline Media Causes Iron Leaching from Feâ€"Nâ€"C Electrocatalysts. Journal of the American Chemical Society, 2022, 144, 9753-9763.	6.6	59
107	Isolated Pd Sites as Selective Catalysts for Electrochemical and Direct Hydrogen Peroxide Synthesis. ACS Catalysis, 2020, 10, 5928-5938.	5.5	58
108	Benchmarking Fuel Cell Electrocatalysts Using Gas Diffusion Electrodes: Inter-lab Comparison and Best Practices. ACS Energy Letters, 2022, 7, 816-826.	8.8	58

#	Article	IF	Citations
109	Structureâ€“Activityâ€“Stability Relationships for Space-Confined Pt_{<i>x</i>}Ni_{<i>y</i>} Nanoparticles in the Oxygen Reduction Reaction. ACS Catalysis, 2016, 6, 8058-8068.	5.5	56
110	Platinum recycling going green via induced surface potential alteration enabling fast and efficient dissolution. Nature Communications, 2016, 7, 13164.	5.8	55
111	Paramelaconiteâ€Enriched Copperâ€Based Material as an Efficient and Robust Catalyst for Electrochemical Carbon Dioxide Reduction. Advanced Energy Materials, 2019, 9, 1901228.	10.2	55
112	Ag₂Cu₂O₃ â€“ a catalyst template material for selective electroreduction of CO to C₂₊ products. Energy and Environmental Science, 2020, 13, 2993-3006.	15.6	55
113	The impact of dissolved reactive gases on platinum dissolution in acidic media. Electrochemistry Communications, 2014, 40, 49-53.	2.3	54
114	Time and potential resolved dissolution analysis of rhodium using a microelectrochemical flow cell coupled to an ICP-MS. Journal of Electroanalytical Chemistry, 2012, 677-680, 50-55.	1.9	53
115	Impact of Palladium Loading and Interparticle Distance on the Selectivity for the Oxygen Reduction Reaction toward Hydrogen Peroxide. Journal of Physical Chemistry C, 2018, 122, 15878-15885.	1.5	53
116	<i>In Situ</i> Stability Studies of Platinum Nanoparticles Supported on Rutheniumâˆ'Titanium Mixed Oxide (RTO) for Fuel Cell Cathodes. ACS Catalysis, 2018, 8, 9675-9683.	5.5	51
117	AuPt coreâ€“shell nanocatalysts with bulk Pt activity. Electrochemistry Communications, 2010, 12, 1487-1489.	2.3	50
118	Electrochemical Realâ€Time Mass Spectrometry (ECâ€RTMS): Monitoring Electrochemical Reaction Products in Real Time. Angewandte Chemie - International Edition, 2019, 58, 7273-7277.	7.2	50
119	Fabrication of a Robust PEM Water Electrolyzer Based on Nonâ€Noble Metal Cathode Catalyst: [Mo₃S₁₃]^{2âˆ'} Clusters Anchored to Nâ€Doped Carbon Nanotubes. Small, 2020, 16, e2003161.	5.2	50
120	The Space Confinement Approach Using Hollow Graphitic Spheres to Unveil Activity and Stability of Ptâ€Co Nanocatalysts for PEMFC. Advanced Energy Materials, 2017, 7, 1700835.	10.2	49
121	Shape-Controlled Nanoparticles in Pore-Confined Space. Journal of the American Chemical Society, 2018, 140, 15684-15689.	6.6	48
122	Oxygen Evolution Reaction on Tin Oxides Supported Iridium Catalysts: Do We Need Dopants?. ChemElectroChem, 2020, 7, 2330-2339.	1.7	48
123	Monitoring of anaerobic microbially influenced corrosion via electrochemical frequency modulation. Electrochimica Acta, 2013, 105, 239-247.	2.6	47
124	Screening of material libraries for electrochemical CO2 reduction catalysts â€“ Improving selectivity of Cu by mixing with Co. Journal of Catalysis, 2016, 343, 248-256.	3.1	47
125	Dissolution of BiVO₄ Photoanodes Revealed by Time-Resolved Measurements under Photoelectrochemical Conditions. Journal of Physical Chemistry C, 2019, 123, 23410-23418.	1.5	47
126	Single-Atom Catalysts: A Perspective toward Application in Electrochemical Energy Conversion. Jacs Au, 2021, 1, 1086-1100.	3.6	43

#	Article	IF	Citations
127	Online Monitoring of Transition-Metal Dissolution from a High-Ni-Content Cathode Material. ACS Applied Materials & Interfaces, 2021, 13, 33075-33082.	4.0	43
128	Dissolution of Platinum Single Crystals in Acidic Medium. ChemPhysChem, 2019, 20, 2997-3003.	1.0	42
129	Different Photostability of BiVO₄ in Near-pH-Neutral Electrolytes. ACS Applied Energy Materials, 2020, 3, 9523-9527.	2.5	41
130	Development and integration of a LabVIEW-based modular architecture for automated execution of electrochemical catalyst testing. Review of Scientific Instruments, 2011, 82, 114103.	0.6	40
131	The influence of non-covalent interactions on the hydrogen peroxide electrochemistry on platinum in alkaline electrolytes. Chemical Communications, 2012, 48, 6660.	2.2	40
132	<i>Operando</i> Structureâ€"Activityâ€"Stability Relationship of Iridium Oxides during the Oxygen Evolution Reaction. ACS Catalysis, 2022, 12, 5174-5184.	5.5	40
133	High temperature stability study of carbon supported high surface area catalystsâ€"Expanding the boundaries of ex-situ diagnostics. Electrochimica Acta, 2016, 211, 744-753.	2.6	38
134	Potential-resolved dissolution of Pt-Cu: A thin-film material library study. Electrochimica Acta, 2014, 144, 332-340.	2.6	37
135	Die gemeinsamen Zwischenprodukte von Sauerstoffentwicklung und AuflÃ¶sung wÃhrend der Wasserelektrolyse an Iridium. Angewandte Chemie, 2018, 130, 2514-2517.	1.6	37
136	The Effect of the Voltage Scan Rate on the Determination of the Oxygen Reduction Activity of Pt/C Fuel Cell Catalyst. Electrocatalysis, 2015, 6, 237-241.	1.5	36
137	Accelerated fuel cell tests of anodic Pt/Ru catalyst via identical location TEM: New aspects of degradation behavior. International Journal of Hydrogen Energy, 2017, 42, 25359-25371.	3.8	36
138	Insights into Liquid Product Formation during Carbon Dioxide Reduction on Copper and Oxide-Derived Copper from Quantitative Real-Time Measurements. ACS Catalysis, 2020, 10, 6735-6740.	5.5	36
139	Addressing stability challenges of using bimetallic electrocatalysts: the case of goldâ€"palladium nanoalloys. Catalysis Science and Technology, 2017, 7, 1848-1856.	2.1	35
140	The impact of chloride ions and the catalyst loading on the reduction of H2O2 on high-surface-area platinum catalysts. Electrochimica Acta, 2013, 110, 790-795.	2.6	34
141	Atomically Defined Co₃O₄(111) Thin Films Prepared in Ultrahigh Vacuum: Stability under Electrochemical Conditions. Journal of Physical Chemistry C, 2018, 122, 7236-7248.	1.5	34
142	Time-resolved analysis of dissolution phenomena in photoelectrochemistry â€" A case study of WO3 photocorrosion. Electrochemistry Communications, 2018, 96, 53-56.	2.3	34
143	Electrochemical dissolution of gold in presence of chloride and bromide traces studied by on-line electrochemical inductively coupled plasma mass spectrometry. Electrochimica Acta, 2016, 222, 1056-1063.	2.6	33
144	Dissolution Stability: The Major Challenge in the Regenerative Fuel Cells Bifunctional Catalysis. Journal of the Electrochemical Society, 2018, 165, F1376-F1384.	1.3	33

#	Article	IF	Citations
145	Effect of Temperature on Gold Dissolution in Acidic Media. Journal of the Electrochemical Society, 2014, 161, H501-H507.	1.3	32
146	Alkaline manganese electrochemistry studied by<i>in situ</i>and<i>operando</i>spectroscopic methods â€“ metal dissolution, oxide formation and oxygen evolution. Physical Chemistry Chemical Physics, 2019, 21, 10457-10469.	1.3	32
147	Secondary Alcohols as Rechargeable Electrofuels: Electrooxidation of Isopropyl Alcohol at Pt Electrodes. ACS Catalysis, 2020, 10, 6831-6842.	5.5	32
148	Experimental Methodologies to Understand Degradation of Nanostructured Electrocatalysts for PEM Fuel Cells: Advances and Opportunities. ChemElectroChem, 2016, 3, 1524-1536.	1.7	30
149	Palladium electrodissolution from model surfaces and nanoparticles. Electrochimica Acta, 2017, 229, 467-477.	2.6	29
150	Time Evolution of the Stability and Oxygen Reduction Reaction Activity of PtCu/C Nanoparticles. ChemCatChem, 2013, 5, 2627-2635.	1.8	28
151	Monolayer black phosphorus by sequential wet-chemical surface oxidation. RSC Advances, 2019, 9, 3570-3576.	1.7	28
152	The influence of electrochemical annealing in CO saturated solution on the catalytic activity of Pt nanoparticles. Electrochimica Acta, 2009, 54, 5018-5022.	2.6	27
153	Pt Sub-Monolayer on Au: System Stability and Insights into Platinum Electrochemical Dissolution. Journal of the Electrochemical Society, 2016, 163, H228-H233.	1.3	27
154	Influence of Fuels and pH on the Dissolution Stability of Bifunctional PtRu/C Alloy Electrocatalysts. ACS Catalysis, 2020, 10, 10858-10870.	5.5	27
155	On the effect of anion exchange ionomer binders in bipolar electrode membrane interface water electrolysis. Journal of Materials Chemistry A, 2021, 9, 14285-14295.	5.2	27
156	Effect of hydrogen carbonate and chloride on zinc corrosion investigated by a scanning flow cell system. Electrochimica Acta, 2015, 159, 198-209.	2.6	26
157	The degradation of Pt/IrOx oxygen bifunctional catalysts. Electrochimica Acta, 2019, 308, 400-409.	2.6	26
158	Structural Dynamics of Ultrathin Cobalt Oxide Nanoislands under Potential Control. Advanced Functional Materials, 2021, 31, 2009923.	7.8	26
159	The oxygen reduction reaction on palladium with low metal loadings: The effects of chlorides on the stability and activity towards hydrogen peroxide. Journal of Catalysis, 2020, 389, 400-408.	3.1	25
160	Electrochemical texturing of Al-doped ZnO thin films for photovoltaic applications. Journal of Solid State Electrochemistry, 2012, 16, 283-290.	1.2	22
161	Compositionâ€Dependent Oxygen Reduction Activity and Stability of Ptâ€“Cu Thin Films. ChemElectroChem, 2014, 1, 358-361.	1.7	22
162	Numerical Simulation of an Electrochemical Flow Cell with V-Shape Channel Geometry. Journal of the Electrochemical Society, 2015, 162, H860-H866.	1.3	22

#	Article	IF	Citations
163	Electrochemical stability of hexagonal tungsten carbide in the potential window of fuel cells and water electrolyzers investigated in a half-cell configuration. Electrochimica Acta, 2018, 270, 70-76.	2.6	22
164	Cobalt Oxide-Supported Pt Electrocatalysts: Intimate Correlation between Particle Size, Electronic Metalâ€“Support Interaction and Stability. Journal of Physical Chemistry Letters, 2020, 11, 8365-8371.	2.1	21
165	Electrochemical Oxidation of Isopropanol on Platinumâ€“Ruthenium Nanoparticles Studied with Real-Time Product and Dissolution Analytics. ACS Applied Materials & Interfaces, 2020, 12, 33670-33678.	4.0	21
166	A Crossâ€Linked Interconnecting Layer Enabling Reliable and Reproducible Solutionâ€Processing of Organic Tandem Solar Cells. Advanced Energy Materials, 2020, 10, 1903800.	10.2	21
167	Electrochemical Etching of Zinc Oxide for Silicon Thin Film Solar Cell Applications. Journal of the Electrochemical Society, 2011, 158, D413.	1.3	20
168	Using Instability of a Non-stoichiometric Mixed Oxide Oxygen Evolution Catalyst As a Tool to Improve Its Electrocatalytic Performance. Electrocatalysis, 2018, 9, 139-145.	1.5	20
169	Various CO₂-to-CO Electrolyzer Cell and Operation Mode Designs to avoid CO₂-Crossover from Cathode to Anode. Zeitschrift Fur Physikalische Chemie, 2020, 234, 1115-1131.	1.4	20
170	Accessing In Situ Photocorrosion under Realistic Light Conditions: Photoelectrochemical Scanning Flow Cell Coupled to Online ICP-MS. ACS Measurement Science Au, 2021, 1, 74-81.	1.9	20
171	Electroreductive 5â€Hydroxymethylfurfural Dimerization on Carbon Electrodes. ChemSusChem, 2021, 14, 5245-5253.	3.6	20
172	Multi-element-resolved electrochemical corrosion analysis. Part I. Dissolution behavior and passivity of amorphous Fe50Cr15Mo14C15B6. Corrosion Science, 2014, 89, 59-68.	3.0	19
173	Electrochemical Realâ€Time Mass Spectrometry (ECâ€RTMS): Monitoring Electrochemical Reaction Products in Real Time. Angewandte Chemie, 2019, 131, 7351-7355.	1.6	19
174	Stabilization of an iridium oxygen evolution catalyst by titanium oxides. JPhys Energy, 2021, 3, 034006.	2.3	19
175	The 2â€Propanol Fuel Cell: A Review from the Perspective of a Hydrogen Energy Economy. Energy Technology, 2021, 9, 2100164.	1.8	19
176	Stability and Activity of Nonâ€Nobleâ€Metalâ€Based Catalysts Toward the Hydrogen Evolution Reaction. Angewandte Chemie, 2017, 129, 9899-9903.	1.6	17
177	Ir-Ni Bimetallic OER Catalysts Prepared by Controlled Ni Electrodeposition on Irpoly and Ir(111). Surfaces, 2018, 1, 165-186.	1.0	17
178	On-line monitoring of dissolution processes in nonaqueous electrolytes â€“ A case study with platinum. Electrochemistry Communications, 2020, 114, 106702.	2.3	17
179	Investigation of the Oxygen Reduction Activity of non-Platinum Catalysts - a RDE Methodology. ECS Transactions, 2009, 19, 37-46.	0.3	16
180	Effect of thiol self-assembled monolayers and plasma polymer films on dealloying of Cuâ€“Au alloys. RSC Advances, 2013, 3, 6586.	1.7	16

#	Article	IF	Citations
181	Unraveling the Nature of Sites Active toward Hydrogen Peroxide Reduction in Feâ€Nâ€C Catalysts. Angewandte Chemie, 2017, 129, 8935-8938.	1.6	16
182	Activation of carbon-supported catalysts by ozonized acidic solutions for the direct implementation in (electro-)chemical reactors. Chemical Communications, 2015, 51, 1226-1229.	2.2	14
183	Transition Metalâ€"Carbon Bond Enthalpies as Descriptor for the Electrochemical Stability of Transition Metal Carbides in Electrocatalytic Applications. Journal of the Electrochemical Society, 2020, 167, 021501.	1.3	14
184	Cyclodextrin inhibits zinc corrosion by destabilizing point defect formation in the oxide layer. Beilstein Journal of Nanotechnology, 2018, 9, 936-944.	1.5	13
185	Atomically-defined model catalysts in ultrahigh vacuum and in liquid electrolytes: particle size-dependent CO adsorption on Pt nanoparticles on ordered Co₃O₄(111) films. Physical Chemistry Chemical Physics, 2018, 20, 23702-23716.	1.3	13
186	Platinum Dissolution in Realistic Fuel Cell Catalyst Layers. Angewandte Chemie, 2021, 133, 8964-8970.	1.6	13
187	Electrocatalytic oxidation of 2-propanol on PtxIr100-x bifunctional electrocatalysts â€“ A thin-film materials library study. Journal of Catalysis, 2021, 396, 387-394.	3.1	11
188	Different promoting roles of ruthenium for the oxidation of primary and secondary alcohols on PtRu electrocatalysts. Journal of Catalysis, 2021, 400, 166-172.	3.1	11
189	Reduction of Oxide Layers on Au(111): The Interplay between Reduction Rate, Dissolution, and Restructuring. Journal of Physical Chemistry C, 2021, 125, 22698-22704.	1.5	11
190	CO₂ Electroreduction on Silver Foams Modified by Ionic Liquids with Different Cation Side Chain Length. ACS Applied Materials & Interfaces, 2022, 14, 14193-14201.	4.0	11
191	Thirty-Year Follow-Up of Patient With Gorham Disease (Massive Osteolysis) Treated With Hip Arthroplasty. Journal of Arthroplasty, 2011, 26, 339.e7-339.e10.	1.5	10
192	Engineering gold-platinum core-shell nanoparticles by self-limitation in solution. Communications Chemistry, 2022, 5, .	2.0	10
193	Anisotropy of Pt nanoparticles on carbon- and oxide-support and their structural response to electrochemical oxidation probed by <i>in situ</i> techniques. Physical Chemistry Chemical Physics, 2020, 22, 22260-22270.	1.3	9
194	Chemical Vapor Deposition of Hollow Graphitic Spheres for Improved Electrochemical Durability. ACS Applied Energy Materials, 2021, 4, 5840-5847.	2.5	9
195	Analysing the relationship between the fields of thermo- and electrocatalysis taking hydrogen peroxide as a case study. Nature Communications, 2022, 13, 1973.	5.8	9
196	Growth of Porous Platinum Catalyst Structures on Tungsten Oxide Support Materials: A New Design for Electrodes. Crystal Growth and Design, 2017, 17, 1661-1668.	1.4	8
197	Influence of Hydrodynamic Flow Patterns on the Corrosion Behavior of Carbon Steel in a Neutral LiBr Solution. International Journal of Electrochemical Science, 2018, , 10050-10075.	0.5	8
198	Model electrocatalysts for the oxidation of rechargeable electrofuels - carbon supported Pt nanoparticles prepared in UHV. Electrochimica Acta, 2021, 389, 138716.	2.6	8

#	Article	IF	Citations
199	Dissolution of Pt and Its Temperature Dependence in Anhydrous Acetonitrile- and Methanol-Based Electrolytes. Journal of the Electrochemical Society, 2020, 167, 121507.	1.3	8
200	Formation of lithiated gold and its use for the preparation of reference electrodes â€" an EQCM study. Journal of Solid State Electrochemistry, 2021, 25, 2849-2859.	1.2	8
201	Degradation of polycrystalline rhodium and rhodium nanoparticles. Electrochimica Acta, 2012, 70, 355-359.	2.6	7
202	Impact of catalyst loading, ionomer content, and carbon support on the performance of direct isopropanol fuel cells. Journal of Power Sources Advances, 2021, 10, 100064.	2.6	7
203	Onâ€line Electrode Dissolution Monitoring during Organic Electrosynthesis: Direct Evidence of Electrode Dissolution during Kolbe Electrolysis. ChemSusChem, 2022, 15, e202102228.	3.6	7
204	Electrooxidation of saturated C1-C3 primary alcohols on platinum: Potential-resolved product analysis with electrochemical real-time mass spectrometry (EC-RTMS). Electrochimica Acta, 2019, 315, 67-74.	2.6	6
205	Oxide Reduction Precedes Carbon Dioxide Reduction on Oxide-Derived Copper Electrodes. Journal of Physical Chemistry C, 2021, 125, 1833-1838.	1.5	6
206	The Crucial Role of Water in the Stability and Electrocatalytic Activity of Pt Electrodes. Journal of Physical Chemistry C, 2021, 125, 13254-13263.	1.5	6
207	Extension of the Rotating Disk Electrode Method to Thin Samples of Non-Disk Shape. Journal of the Electrochemical Society, 2019, 166, H791-H794.	1.3	5
208	Implementation of an enclosed ionization interface for the analysis of liquid sample streams with direct analysis in real time mass spectrometry. Rapid Communications in Mass Spectrometry, 2021, 35, e9091.	0.7	5
209	Influence of the Electrolyte on the Particle Size Effect of the Oxygen Reduction Reaction on Pt Nanoparticles. ECS Transactions, 2009, 25, 455-462.	0.3	4
210	Stable and Active Oxygen Reduction Catalysts with Reduced Noble Metal Loadings through Potential Triggered Support Passivation. ChemElectroChem, 2020, 7, 2404-2409.	1.7	4
211	The Impact of Antimony on the Performance of Antimony Doped Tin Oxide Supported Platinum for the Oxygen Reduction Reaction. Journal of the Electrochemical Society, 2021, 168, 024502.	1.3	4
212	Dissolution of Platinum in the Operational Range of Fuel Cells. ChemElectroChem, 2015, 2, 1407-1407.	1.7	3
213	MAXNET Energy â€" Focusing Research in Chemical Energy Conversion on the Electrocatlytic Oxygen Evolution. Green, 2015, 5, .	0.4	3
214	Effect of Polarisation Mimicking Cathodic Electrodeposition Coating on Industrially Relevant Metal Substrates with ZrO₂â€Based Conversion Coatings. ChemElectroChem, 2016, 3, 1415-1421.	1.7	3
215	Tuning the Anodic and Cathodic Dissolution of Gold by Varying the Surface Roughness. ChemElectroChem, 2021, 8, 1524-1530.	1.7	3
216	Electrochemical Etching of Zinc Oxide for Silicon Thin Film Solar Cell Applications. ECS Transactions, 2011, 33, 41-55.	0.3	2

#	Article	IF	Citations
217	Catalyst ageing and degradation in polymer electrolyte membrane fuel cells. , 2012, , 178-194e.		2
218	Pt-Cu Alloys as Catalysts for the Oxygen Reduction Reaction - A Thin-Film Study of Activity and Stability. ECS Transactions, 2013, 58, 587-592.	0.3	2
219	Facile one-pot synthesis of water-soluble fcc FePt3 alloy nanostructures. SN Applied Sciences, 2020, 2, 1.	1.5	2
220	Stability of Pt Alloy High Surface Area Catalysts. ECS Transactions, 2009, 25, 555-563.	0.3	1
221	Size-Selected Platinum Clusters as Electrocatalysts for the Oxygen Reduction Reaction. ECS Transactions, 2013, 50, 1333-1338.	0.3	1
222	Pt-Cu Alloys As Catalysts for the Oxygen Reduction Reaction â€“ A Thin-Film Study of Activity and Stability. ECS Meeting Abstracts, 2013, , .	0.0	0
223	Titelbild: Electrochemical Realâ€Time Mass Spectrometry (ECâ€RTMS): Monitoring Electrochemical Reaction Products in Real Time (Angew. Chem. 22/2019). Angewandte Chemie, 2019, 131, 7219-7219.	1.6	0
224	Primary Vs. Secondary Alcohols Electrooxidation: Mechanistic Insights. ECS Meeting Abstracts, 2021, MA2021-01, 1870-1870.	0.0	0
225	Online Stability Investigations of Platinum Electrodes in Nonaqueous Media. ECS Meeting Abstracts, 2021, MA2021-01, 1874-1874.	0.0	0
226	Electrochemical HMF Valorization to Fuel Precursors. ECS Meeting Abstracts, 2021, MA2021-02, 778-778.	0.0	0
227	Tuning Electrode-Electrolyte Interface for the Electrochemical Reduction of HMF. ECS Meeting Abstracts, 2021, MA2021-02, 781-781.	0.0	0
228	Accessing In Situ Photocorrosion Under Realistic Light Conditions. , 0, , .		0
229	The Interplay of Oxygen Reduction Reaction and Iron Dissolution from Fe-N-C Electrocatalysts. ECS Meeting Abstracts, 2022, MA2022-01, 1486-1486.	0.0	0
230	Accessing in Situ Photocorrosion Under Realistic Light Conditions. ECS Meeting Abstracts, 2022, MA2022-01, 1886-1886.	0.0	0
231	Influence of the Electrode-Electrolyte Interface on the Product Distribution of the HMF Electroreduction. ECS Meeting Abstracts, 2022, MA2022-01, 1546-1546.	0.0	0
232	Accelerated parametrization of catalyst performance in organic electrosynthesis. Current Opinion in Electrochemistry, 2022, 35, 101103.	2.5	0