

Manos Mavrikakis

List of Publications by Year in descending order

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papers

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305
docs citations

305
times ranked

24182
citing authors

#	ARTICLE	IF	CITATIONS
1	Highly Crystalline Multimetallic Nanoframes with Three-Dimensional Electrocatalytic Surfaces. <i>Science</i> , 2014, 343, 1339-1343.	6.0	2,376
2	Effect of Strain on the Reactivity of Metal Surfaces. <i>Physical Review Letters</i> , 1998, 81, 2819-2822.	2.9	2,001
3	Universality in Heterogeneous Catalysis. <i>Journal of Catalysis</i> , 2002, 209, 275-278.	3.1	1,167
4	Ruâ€“Pt coreâ€“shell nanoparticles for preferential oxidation of carbon monoxide in hydrogen. <i>Nature Materials</i> , 2008, 7, 333-338.	13.3	1,146
5	On the origin of the catalytic activity of gold nanoparticles for low-temperature CO oxidation. <i>Journal of Catalysis</i> , 2004, 223, 232-235.	3.1	1,122
6	Alloy catalysts designed from first principles. <i>Nature Materials</i> , 2004, 3, 810-815.	13.3	1,030
7	Controlling the Catalytic Activity of Platinum-Monolayer Electrocatalysts for Oxygen Reduction with Different Substrates. <i>Angewandte Chemie - International Edition</i> , 2005, 44, 2132-2135.	7.2	1,015
8	Mechanism of Methanol Synthesis on Cu through CO ₂ and CO Hydrogenation. <i>ACS Catalysis</i> , 2011, 1, 365-384.	5.5	990
9	ELECTRONICSTRUCTURE AND CATALYSIS ON METAL SURFACES. <i>Annual Review of Physical Chemistry</i> , 2002, 53, 319-348.	4.8	906
10	Platinum-based nanocages with subnanometer-thick walls and well-defined, controllable facets. <i>Science</i> , 2015, 349, 412-416.	6.0	854
11	On the Mechanism of Low-Temperature Water Gas Shift Reaction on Copper. <i>Journal of the American Chemical Society</i> , 2008, 130, 1402-1414.	6.6	839
12	Platinum Monolayer Fuel Cell Electrocatalysts. <i>Topics in Catalysis</i> , 2007, 46, 249-262.	1.3	820
13	Making gold less noble. <i>Catalysis Letters</i> , 2000, 64, 101-106.	1.4	641
14	Alkali-Stabilized Pt-OH <i>x</i> Species Catalyze Low-Temperature Water-Gas Shift Reactions. <i>Science</i> , 2010, 329, 1633-1636.	6.0	639
15	Adsorption and Dissociation of O ₂ on Pt [~] Co and Pt [~] Fe Alloys. <i>Journal of the American Chemical Society</i> , 2004, 126, 4717-4725.	6.6	615
16	Mixed-Metal Pt Monolayer Electrocatalysts for Enhanced Oxygen Reduction Kinetics. <i>Journal of the American Chemical Society</i> , 2005, 127, 12480-12481.	6.6	556
17	Catalytically active Au-O(OH) <i>x</i> - species stabilized by alkali ions on zeolites and mesoporous oxides. <i>Science</i> , 2014, 346, 1498-1501.	6.0	544
18	CO activation pathways and the mechanism of Fischerâ€“Tropsch synthesis. <i>Journal of Catalysis</i> , 2010, 272, 287-297.	3.1	487

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19	Mechanism of the Water Gas Shift Reaction on Pt: First Principles, Experiments, and Microkinetic Modeling. <i>Journal of Physical Chemistry C</i> , 2008, 112, 4608-4617.	1.5	452
20	Atomic Layer-by-Layer Deposition of Pt on Pd Nanocubes for Catalysts with Enhanced Activity and Durability toward Oxygen Reduction. <i>Nano Letters</i> , 2014, 14, 3570-3576.	4.5	448
21	Palladium-platinum core-shell icosahedra with substantially enhanced activity and durability towards oxygen reduction. <i>Nature Communications</i> , 2015, 6, 7594.	5.8	440
22	Competitive Paths for Methanol Decomposition on Pt(111). <i>Journal of the American Chemical Society</i> , 2004, 126, 3910-3919.	6.6	389
23	Hydrogen adsorption, absorption and diffusion on and in transition metal surfaces: A DFT study. <i>Surface Science</i> , 2012, 606, 679-689.	0.8	380
24	Oxygenate reaction pathways on transition metal surfaces. <i>Journal of Molecular Catalysis A</i> , 1998, 131, 135-147.	4.8	350
25	Surface and Subsurface Hydrogen: Adsorption Properties on Transition Metals and Near-Surface Alloys. <i>Journal of Physical Chemistry B</i> , 2005, 109, 3460-3471.	1.2	343
26	Adsorption and Dissociation of O ₂ on Gold Surfaces: Effect of Steps and Strain. <i>Journal of Physical Chemistry B</i> , 2003, 107, 9298-9307.	1.2	322
27	A First-Principles Study of Methanol Decomposition on Pt(111). <i>Journal of the American Chemical Society</i> , 2002, 124, 7193-7201.	6.6	316
28	DFT studies for cleavage of C-C and C-O bonds in surface species derived from ethanol on Pt(111). <i>Journal of Catalysis</i> , 2003, 218, 178-190.	3.1	289
29	Bismuthene for highly efficient carbon dioxide electroreduction reaction. <i>Nature Communications</i> , 2020, 11, 1088.	5.8	278
30	Modeling Ethanol Decomposition on Transition Metals: A Combined Application of Scaling and Brønsted-Evans-Polanyi Relations. <i>Journal of the American Chemical Society</i> , 2009, 131, 5809-5815.	6.6	275
31	Preferential CO Oxidation in Hydrogen: Reactivity of Core-Shell Nanoparticles. <i>Journal of the American Chemical Society</i> , 2010, 132, 7418-7428.	6.6	258
32	Atomic and molecular adsorption on Pt(111). <i>Surface Science</i> , 2005, 587, 159-174.	0.8	247
33	Water-Mediated Proton Hopping on an Iron Oxide Surface. <i>Science</i> , 2012, 336, 889-893.	6.0	242
34	Why Au and Cu Are More Selective Than Pt for Preferential Oxidation of CO at Low Temperature. <i>Catalysis Letters</i> , 2004, 93, 93-100.	1.4	238
35	A Cu/Pt Near-Surface Alloy for Water-Gas Shift Catalysis. <i>Journal of the American Chemical Society</i> , 2007, 129, 6485-6490.	6.6	233
36	Platinum monolayer electrocatalysts for oxygen reduction. <i>Electrochimica Acta</i> , 2007, 52, 2257-2263.	2.6	230

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37	Molecular-level descriptions of surface chemistry in kinetic models using density functional theory. <i>Chemical Engineering Science</i> , 2004, 59, 4679-4691.	1.9	227
38	Improving Electrocatalysts for O ₂ Reduction by Fine-Tuning the Pt ^{δ+} Support Interaction: Pt Monolayer on the Surfaces of a Pd ₃ Fe(111) Single-Crystal Alloy. <i>Journal of the American Chemical Society</i> , 2009, 131, 12755-12762.	6.6	224
39	Trends in low-temperature water-gas shift reactivity on transition metals. <i>Journal of Catalysis</i> , 2005, 229, 265-275.	3.1	213
40	Atomic Layer-by-Layer Deposition of Platinum on Palladium Octahedra for Enhanced Catalysts toward the Oxygen Reduction Reaction. <i>ACS Nano</i> , 2015, 9, 2635-2647.	7.3	209
41	Atomic and molecular adsorption on Rh(111). <i>Journal of Chemical Physics</i> , 2002, 117, 6737-6744.	1.2	204
42	Improved oxygen reduction reactivity of platinum monolayers on transition metal surfaces. <i>Surface Science</i> , 2008, 602, L89-L94.	0.8	204
43	Structure Sensitivity of Methanol Electrooxidation on Transition Metals. <i>Journal of the American Chemical Society</i> , 2009, 131, 14381-14389.	6.6	203
44	Bimetallic and Ternary Alloys for Improved Oxygen Reduction Catalysis. <i>Topics in Catalysis</i> , 2007, 46, 276-284.	1.3	202
45	Computational Methods in Heterogeneous Catalysis. <i>Chemical Reviews</i> , 2021, 121, 1007-1048.	23.0	198
46	Electrocatalysis in Alkaline Media and Alkaline Membrane-Based Energy Technologies. <i>Chemical Reviews</i> , 2022, 122, 6117-6321.	23.0	195
47	Methanol Decomposition on Cu(111): A DFT Study. <i>Journal of Catalysis</i> , 2002, 208, 291-300.	3.1	190
48	Trends in Formic Acid Decomposition on Model Transition Metal Surfaces: A Density Functional Theory study. <i>ACS Catalysis</i> , 2014, 4, 4434-4445.	5.5	190
49	Partial and complete reduction of O ₂ by hydrogen on transition metal surfaces. <i>Surface Science</i> , 2010, 604, 1565-1575.	0.8	189
50	A first-principles study of surface and subsurface H on and in Ni(111): diffusional properties and coverage-dependent behavior. <i>Surface Science</i> , 2003, 540, 215-229.	0.8	183
51	Direct time-domain observation of attosecond final-state lifetimes in photoemission from solids. <i>Science</i> , 2016, 353, 62-67.	6.0	181
52	Adsorption and dissociation of O ₂ on Cu(): thermochemistry, reaction barrier and the effect of strain. <i>Surface Science</i> , 2001, 494, 131-144.	0.8	175
53	Active sites and mechanisms for H ₂ O ₂ decomposition over Pd catalysts. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, E1973-82.	3.3	171
54	Reactivity descriptors for direct methanol fuel cell anode catalysts. <i>Surface Science</i> , 2008, 602, 3424-3431.	0.8	168

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55	Stabilization of Copper Catalysts for Liquid-Phase Reactions by Atomic Layer Deposition. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 13808-13812.	7.2	162
56	Bifunctional anode catalysts for direct methanol fuel cells. <i>Energy and Environmental Science</i> , 2012, 5, 8335.	15.6	157
57	Structure Sensitivity of CO Dissociation on Rh Surfaces. <i>Catalysis Letters</i> , 2002, 81, 153-156.	1.4	153
58	Effect of Subsurface Oxygen on the Reactivity of the Ag(111) Surface. <i>Journal of the American Chemical Society</i> , 2005, 127, 12823-12827.	6.6	151
59	Synthesis and Characterization of Pt-Ag Alloy Nanocages with Enhanced Activity and Durability toward Oxygen Reduction. <i>Nano Letters</i> , 2016, 16, 6644-6649.	4.5	150
60	Near-surface alloys for hydrogen fuel cell applications. <i>Catalysis Today</i> , 2006, 111, 52-58.	2.2	148
61	Atomic and Molecular Adsorption on Ir(111). <i>Journal of Physical Chemistry B</i> , 2004, 108, 987-994.	1.2	145
62	CO ₂ Hydrogenation to Formic Acid on Ni(111). <i>Journal of Physical Chemistry C</i> , 2012, 116, 3001-3006.	1.5	141
63	Prediction of Experimental Methanol Decomposition Rates on Platinum from First Principles. <i>Topics in Catalysis</i> , 2006, 37, 17-28.	1.3	140
64	Tuning the Catalytic Activity of Ru@Pt Core-Shell Nanoparticles for the Oxygen Reduction Reaction by Varying the Shell Thickness. <i>Journal of Physical Chemistry C</i> , 2013, 117, 1748-1753.	1.5	140
65	Facile Synthesis of Palladium Right Bipyramids and Their Use as Seeds for Overgrowth and as Catalysts for Formic Acid Oxidation. <i>Journal of the American Chemical Society</i> , 2013, 135, 15706-15709.	6.6	139
66	Electrocatalytic Oxidation of Ammonia on Transition-Metal Surfaces: A First-Principles Study. <i>Journal of Physical Chemistry C</i> , 2015, 119, 14692-14701.	1.5	137
67	First Synthesis, Experimental and Theoretical Vibrational Spectra of an Oxametallacycle on a Metal Surface. <i>Journal of the American Chemical Society</i> , 1998, 120, 3196-3204.	6.6	129
68	Eliminating dissolution of platinum-based electrocatalysts at the atomic scale. <i>Nature Materials</i> , 2020, 19, 1207-1214.	13.3	127
69	Atomic and molecular adsorption on Pd(111). <i>Surface Science</i> , 2012, 606, 1670-1679.	0.8	119
70	A Comprehensive Study of Formic Acid Oxidation on Palladium Nanocrystals with Different Types of Facets and Twin Defects. <i>ChemCatChem</i> , 2015, 7, 2077-2084.	1.8	111
71	Kinetically Relevant Steps and H ₂ /D ₂ Isotope Effects in Fischer-Tropsch Synthesis on Fe and Co Catalysts. <i>Journal of Physical Chemistry C</i> , 2010, 114, 19761-19770.	1.5	110
72	Synthesis and Characterization of Ru Cubic Nanocages with a Face-Centered Cubic Structure by Templating with Pd Nanocubes. <i>Nano Letters</i> , 2016, 16, 5310-5317.	4.5	110

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73	A Simple Rule of Thumb for Diffusion on Transition-Metal Surfaces. <i>Angewandte Chemie - International Edition</i> , 2006, 45, 7046-7049.	7.2	109
74	Steam-created grain boundaries for methane C-H activation in palladium catalysts. <i>Science</i> , 2021, 373, 1518-1523.	6.0	105
75	Microkinetic analysis and mechanism of the water gas shift reaction over copper catalysts. <i>Journal of Catalysis</i> , 2011, 281, 1-11.	3.1	100
76	Surface segregation energies in low-index open surfaces of bimetallic transition metal alloys. <i>Surface Science</i> , 2009, 603, 91-96.	0.8	98
77	Lattice strain effects on CO oxidation on Pt(111). <i>Physical Chemistry Chemical Physics</i> , 2006, 8, 3369.	1.3	96
78	Catalytic Activity of Platinum Monolayer on Iridium and Rhenium Alloy Nanoparticles for the Oxygen Reduction Reaction. <i>ACS Catalysis</i> , 2012, 2, 817-824.	5.5	94
79	Density Functional Theory Calculations and Analysis of Reaction Pathways for Reduction of Nitric Oxide by Hydrogen on Pt(111). <i>ACS Catalysis</i> , 2014, 4, 3307-3319.	5.5	93
80	Methane Conversion to Ethylene and Aromatics on PtSn Catalysts. <i>ACS Catalysis</i> , 2017, 7, 2088-2100.	5.5	93
81	Iridium-Based Cubic Nanocages with 1.1-nm-Thick Walls: A Highly Efficient and Durable Electrocatalyst for Water Oxidation in an Acidic Medium. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 7244-7248.	7.2	89
82	Formic acid decomposition on Au catalysts: DFT, microkinetic modeling, and reaction kinetics experiments. <i>AIChE Journal</i> , 2014, 60, 1303-1319.	1.8	87
83	Density Functional Theory Calculations for Simple Oxametallacycles: Trends across the Periodic Table. <i>Journal of Physical Chemistry B</i> , 1998, 102, 394-399.	1.2	84
84	Single-atom gold oxo-clusters prepared in alkaline solutions catalyse the heterogeneous methanol self-coupling reactions. <i>Nature Chemistry</i> , 2019, 11, 1098-1105.	6.6	82
85	Density functional theory studies of the adsorption of ethylene and oxygen on Pt(111) and Pt ₃ Sn(111). <i>Journal of Chemical Physics</i> , 2001, 114, 4663.	1.2	80
86	Low-Temperature CO Oxidation on Ni(111) and on a Au/Ni(111) Surface Alloy. <i>ACS Nano</i> , 2010, 4, 4380-4387.	7.3	80
87	Atomic and molecular adsorption on Au(111). <i>Surface Science</i> , 2014, 627, 57-69.	0.8	78
88	On the Preferred Active Sites of Promoted MoS ₂ for Hydrodesulfurization with Minimal Organonitrogen Inhibition. <i>ACS Catalysis</i> , 2017, 7, 501-509.	5.5	78
89	CO vibrational frequencies on methanol synthesis catalysts: a DFT study. <i>Journal of Catalysis</i> , 2003, 213, 63-72.	3.1	77
90	Mixed-Metal Pt Monolayer Electrocatalysts with Improved CO Tolerance. <i>Journal of the American Chemical Society</i> , 2011, 133, 18574-18576.	6.6	77

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91	Kinetically Controlled Synthesis of Pd@Cu Janus Nanocrystals with Enriched Surface Structures and Enhanced Catalytic Activities toward CO ₂ Reduction. Journal of the American Chemical Society, 2021, 143, 149-162.	6.6	77
92	CO ₂ hydrogenation to formic acid on Ni(110). Surface Science, 2012, 606, 1050-1055.	0.8	76
93	Transition Metal Atoms Embedded in Graphene: How Nitrogen Doping Increases CO Oxidation Activity. ACS Catalysis, 2019, 9, 6864-6868.	5.5	72
94	On the Mechanism of Low-Temperature CO Oxidation on Ni(111) and NiO(111) Surfaces. Journal of Physical Chemistry C, 2010, 114, 21579-21584.	1.5	71
95	Atomic and molecular adsorption on Ru(0001). Surface Science, 2013, 614, 64-74.	0.8	71
96	Density functional theory studies of HCOOH decomposition on Pd(111). Surface Science, 2016, 650, 111-120.	0.8	70
97	Reaction Kinetics of Ethylene Glycol Reforming over Platinum in the Vapor versus Aqueous Phases. Journal of Physical Chemistry C, 2011, 115, 961-971.	1.5	68
98	Adsorption and dissociation of O ₂ on Ir(111). Journal of Chemical Physics, 2002, 116, 10846-10853.	1.2	67
99	Direct Visualization of Catalytically Active Sites at the FeO@Pt(111) Interface. ACS Nano, 2015, 9, 7804-7814.	7.3	67
100	DFT Insights into the Competitive Adsorption of Sulfur- and Nitrogen-Containing Compounds and Hydrocarbons on Co-Promoted Molybdenum Sulfide Catalysts. ACS Catalysis, 2016, 6, 2904-2917.	5.5	66
101	Synthesis of Ru Icosahedral Nanocages with a Face-Centered-Cubic Structure and Evaluation of Their Catalytic Properties. ACS Catalysis, 2018, 8, 6948-6960.	5.5	66
102	Diffusion of N Adatoms on the Fe(100) Surface. Physical Review Letters, 2000, 84, 4898-4901.	2.9	65
103	Water clustering on nanostructured iron oxide films. Nature Communications, 2014, 5, 4193.	5.8	65
104	Strain-Induced Formation of Subsurface Species in Transition Metals. Angewandte Chemie - International Edition, 2004, 43, 4296-4300.	7.2	64
105	Atomic-Scale Evidence for an Enhanced Catalytic Reactivity of Stretched Surfaces. Angewandte Chemie - International Edition, 2003, 42, 2850-2853.	7.2	60
106	Reduction of FeO/Pt(111) thin films by exposure to atomic hydrogen. Surface Science, 2010, 604, 11-20.	0.8	58
107	Correlation Between Reactivity and Oxidation State of Cobalt Oxide Catalysts for CO Preferential Oxidation. ACS Catalysis, 2019, 9, 8325-8336.	5.5	58
108	Ab initio molecular dynamics of solvation effects on reactivity at electrified interfaces. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E4937-45.	3.3	57

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109	Molecular N ₂ chemisorption-specific adsorption on step defect sites on Pt surfaces. <i>Journal of Chemical Physics</i> , 1999, 111, 8651-8658.	1.2	56
110	Tip-Dependent Scanning Tunneling Microscopy Imaging of Ultrathin FeO Films on Pt(111). <i>Journal of Physical Chemistry C</i> , 2011, 115, 2089-2099.	1.5	55
111	Facile Synthesis of Ru-Based Octahedral Nanocages with Ultrathin Walls in a Face-Centered Cubic Structure. <i>Chemistry of Materials</i> , 2017, 29, 9227-9237.	3.2	55
112	Distinguishing attosecond electron-electron scattering and screening in transition metals. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, E5300-E5307.	3.3	55
113	Density-functional theory studies of acetone and propanal hydrogenation on Pt(111). <i>Journal of Chemical Physics</i> , 2002, 116, 8973-8980.	1.2	54
114	HCOOH decomposition on Pt(111): A DFT study. <i>Surface Science</i> , 2016, 648, 201-211.	0.8	54
115	Anionic Single-Atom Catalysts for CO Oxidation: Support-Independent Activity at Low Temperatures. <i>ACS Catalysis</i> , 2019, 9, 1595-1604.	5.5	54
116	A completely precious metal-free alkaline fuel cell with enhanced performance using a carbon-coated nickel anode. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, e2119883119.	3.3	54
117	Correlating STM contrast and atomic-scale structure by chemical modification: Vacancy dislocation loops on FeO/Pt(111). <i>Surface Science</i> , 2009, 603, L15-L18.	0.8	53
118	Understanding the Thermal Stability of Palladium-Platinum Core-Shell Nanocrystals by <i>In Situ</i> Transmission Electron Microscopy and Density Functional Theory. <i>ACS Nano</i> , 2017, 11, 4571-4581.	7.3	53
119	Combining Computational Modeling with Reaction Kinetics Experiments for Elucidating the <i>In Situ</i> Nature of the Active Site in Catalysis. <i>Accounts of Chemical Research</i> , 2020, 53, 1893-1904.	7.6	53
120	Conductance of Conjugated Molecular Wires: Length Dependence, Anchoring Groups, and Band Alignment. <i>Journal of Physical Chemistry C</i> , 2009, 113, 20967-20973.	1.5	52
121	Structure of Stoichiometric and Oxygen-Rich Ultrathin FeO(111) Films Grown on Pd(111). <i>Journal of Physical Chemistry C</i> , 2013, 117, 15155-15163.	1.5	52
122	Ethylene versus ethane: A DFT-based selectivity descriptor for efficient catalyst screening. <i>Journal of Catalysis</i> , 2018, 362, 18-24.	3.1	52
123	A search engine for catalysts. <i>Nature Materials</i> , 2006, 5, 847-848.	13.3	51
124	Synthesis Gas Conversion over Rh-Based Catalysts Promoted by Fe and Mn. <i>ACS Catalysis</i> , 2017, 7, 4550-4563.	5.5	51
125	Reaction Mechanism of Vapor-Phase Formic Acid Decomposition over Platinum Catalysts: DFT, Reaction Kinetics Experiments, and Microkinetic Modeling. <i>ACS Catalysis</i> , 2020, 10, 4112-4126.	5.5	51
126	Atomic and molecular adsorption on Fe(110). <i>Surface Science</i> , 2018, 667, 54-65.	0.8	49

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127	The adsorption and dissociation of O ₂ molecular precursors on Cu: the effect of steps. <i>Surface Science</i> , 2003, 538, 219-232.	0.8	47
128	Quantum Tunneling Enabled Self-Assembly of Hydrogen Atoms on Cu(111). <i>ACS Nano</i> , 2012, 6, 10115-10121.	7.3	45
129	Atomic and Molecular Adsorption on Cu(111). <i>Topics in Catalysis</i> , 2018, 61, 736-750.	1.3	45
130	Facet-controlled Pt-Ir nanocrystals with substantially enhanced activity and durability towards oxygen reduction. <i>Materials Today</i> , 2020, 35, 69-77.	8.3	45
131	Interaction of carbon dioxide with Cu overlayers on Pt(111). <i>Surface Science</i> , 2008, 602, 702-711.	0.8	44
132	Significant Quantum Effects in Hydrogen Activation. <i>ACS Nano</i> , 2014, 8, 4827-4835.	7.3	44
133	The nature of the Fe-graphene interface at the nanometer level. <i>Nanoscale</i> , 2015, 7, 2450-2460.	2.8	44
134	Site-dependent reactivity of MoS ₂ nanoparticles in hydrodesulfurization of thiophene. <i>Nature Communications</i> , 2020, 11, 4369.	5.8	44
135	Thermal Stability of Metal Nanocrystals: An Investigation of the Surface and Bulk Reconstructions of Pd Concave Icosahedra. <i>Nano Letters</i> , 2017, 17, 3655-3661.	4.5	43
136	Liquid Crystals with Interfacial Ordering that Enhances Responsiveness to Chemical Targets. <i>Advanced Materials</i> , 2018, 30, e1706707.	11.1	43
137	Adsorbate-induced segregation in a PdAg membrane model system: Pd ₃ Ag(111). <i>Catalysis Today</i> , 2012, 193, 111-119.	2.2	42
138	Sequential-Optimization-Based Framework for Robust Modeling and Design of Heterogeneous Catalytic Systems. <i>Journal of Physical Chemistry C</i> , 2017, 121, 25847-25863.	1.5	42
139	How Noninnocent Spectator Species Improve the Oxygen Reduction Activity of Single-Atom Catalysts: Microkinetic Models from First-Principles Calculations. <i>ACS Catalysis</i> , 2020, 10, 9129-9135.	5.5	42
140	Solution-Phase Synthesis of PdH _{0.706} Nanocubes with Enhanced Stability and Activity toward Formic Acid Oxidation. <i>Journal of the American Chemical Society</i> , 2022, 144, 2556-2568.	6.6	42
141	Atomic and molecular adsorption on Ni(111). <i>Surface Science</i> , 2019, 679, 240-253.	0.8	41
142	Facile One-Pot Synthesis of Pd@Pt _{1L} Octahedra with Enhanced Activity and Durability toward Oxygen Reduction. <i>Chemistry of Materials</i> , 2019, 31, 1370-1380.	3.2	41
143	On the Role of Subsurface Oxygen and Ethylenedioxy in Ethylene Epoxidation on Silver. <i>Journal of Physical Chemistry C</i> , 2007, 111, 7992-7999.	1.5	40
144	Platinum Monolayer Electrocatalysts for O ₂ Reduction: Pt Monolayer on Carbon-Supported PdIr Nanoparticles. <i>Electrocatalysis</i> , 2010, 1, 213-223.	1.5	40

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145	Adsorption of nitrogen- and sulfur-containing compounds on NiMoS for hydrotreating reactions: A DFT and vdW-corrected study. <i>AIChE Journal</i> , 2015, 61, 4036-4050.	1.8	39
146	Structure Sensitivity of Formic Acid Electrooxidation on Transition Metal Surfaces: A First-Principles Study. <i>Journal of the Electrochemical Society</i> , 2018, 165, J3109-J3121.	1.3	39
147	Redox-Triggered Orientational Responses of Liquid Crystals to Chlorine Gas. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 9665-9669.	7.2	39
148	Atomic and Molecular Adsorption on Ag(111). <i>Journal of Physical Chemistry C</i> , 2019, 123, 7551-7566.	1.5	39
149	On the Structure Sensitivity of Formic Acid Decomposition on Cu Catalysts. <i>Topics in Catalysis</i> , 2016, 59, 1580-1588.	1.3	37
150	Ethylene Dimerization and Oligomerization to 1-Butene and Higher Olefins with Chromium-Promoted Cobalt on Carbon Catalyst. <i>ACS Catalysis</i> , 2018, 8, 2488-2497.	5.5	37
151	Step Effects on the Dissociation of NO on Close-Packed Rhodium Surfaces. <i>Journal of Physical Chemistry C</i> , 2009, 113, 20623-20631.	1.5	36
152	Formic Acid: A Hydrogen-Bonding Cocatalyst for Formate Decomposition. <i>ACS Catalysis</i> , 2020, 10, 10812-10825.	5.5	36
153	The addition of Sb as a surfactant to GaN growth by metal organic vapor phase epitaxy. <i>Journal of Applied Physics</i> , 2002, 92, 2304-2309.	1.1	35
154	Nanocatalysis Beyond the Gold-Rush Era. <i>Angewandte Chemie - International Edition</i> , 2008, 47, 7390-7392.	7.2	34
155	Towards first-principles molecular design of liquid crystal-based chemoresponsive systems. <i>Nature Communications</i> , 2016, 7, 13338.	5.8	34
156	Design of Chemoresponsive Liquid Crystals through Integration of Computational Chemistry and Experimental Studies. <i>Chemistry of Materials</i> , 2017, 29, 3563-3571.	3.2	33
157	Brønsted-Evans-Polanyi relation for CO oxidation on metal oxides following the Mars-van Krevelen mechanism. <i>Journal of Catalysis</i> , 2019, 377, 577-581.	3.1	33
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