

# O<sub>2</sub> Activation by Metal Surfaces: Implications for Heterogeneous Catalysts

Chemical Reviews

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Citation Report

#	ARTICLE	IF	CITATIONS
1	A full monolayer of superoxide: oxygen activation on the unmodified $\text{Ca}_{3}\text{Ru}_{2}\text{O}_{7}$ (001) surface. <i>Journal of Materials Chemistry A</i> , 2018, 6, 5703-5713.	5.2	17
2	Oxygen reduction at platinum electrodes: The interplay between surface and surroundings properties. <i>Current Opinion in Electrochemistry</i> , 2018, 9, 166-172.	2.5	28
3	Liquid-phase catalysis by single-size palladium nanoclusters supported on strontium titanate: size-specific catalysts for Suzuki–Miyaura coupling. <i>Catalysis Science and Technology</i> , 2018, 8, 5827-5834.	2.1	6
4	Carbon Catalyzed Hydroxylation of Benzene with Dioxygen to Phenol over Surface Carbonyl Groups. <i>ChemCatChem</i> , 2019, 11, 1076-1085.	1.8	7
5	Quantum mechanical studies of full-shell noble metal nanoclusters in water. <i>International Journal of Quantum Chemistry</i> , 2018, 118, e25709.	1.0	0
6	The Metal Type Governs Photocatalytic Reactive Oxygen Species Formation by Semiconductor–Metal Hybrid Nanoparticles. <i>ChemCatChem</i> , 2018, 10, 5119-5123.	1.8	15
7	Highly Efficient Acidic Oxygen Evolution Electrocatalysis Enabled by Porous Ir–Cu Nanocrystals with Three-Dimensional Electrocatalytic Surfaces. <i>Chemistry of Materials</i> , 2018, 30, 8571-8578.	3.2	75
8	Evaluating the Stability of Single-Atom Catalysts with High Chemical Activity. <i>Journal of Physical Chemistry C</i> , 2018, 122, 21919-21926.	1.5	20
9	Chemical Activity of the Peroxide/Oxide Redox Couple: Case Study of $\text{Ba}_{5}\text{Ru}_{2}\text{O}_{11}$ in Aqueous and Organic Solvents. <i>Chemistry of Materials</i> , 2018, 30, 3882-3893.	3.2	8
10	Activation of Surface Oxygen Sites in a Cobalt-Based Perovskite Model Catalyst for CO Oxidation. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 4146-4154.	2.1	67
11	Oxygen-Atom Vacancy Formation at Polyoxovanadate Clusters: Homogeneous Models for Reducible Metal Oxides. <i>Journal of the American Chemical Society</i> , 2018, 140, 8424-8428.	6.6	59
12	Hollow nanoparticles as emerging electrocatalysts for renewable energy conversion reactions. <i>Chemical Society Reviews</i> , 2018, 47, 8173-8202.	18.7	222
13	Promotion Effect of Methane Activation on Cu(111) by the Surface-Active Oxygen Species: A Combination of DFT and ReaxFF Study. <i>Journal of Physical Chemistry C</i> , 2018, 122, 17338-17346.	1.5	23
14	Theoretical Study of Propylene Epoxidation over $\text{Cu}_{2}\text{O}$ (111) Surface: Activity of $\text{O}^{2-}$ , $\text{O}^{\bullet}$ , and $\text{O}_{2}^{\bullet}$ Species. <i>Journal of Physical Chemistry C</i> , 2018, 122, 21500-21513.	1.5	34
15	The progress of metal-free catalysts for the oxygen reduction reaction based on theoretical simulations. <i>Journal of Materials Chemistry A</i> , 2018, 6, 13489-13508.	5.2	82
16	Dynamic Behavior of Pd/P4VP Catalyst during the Aerobic Oxidation of 2-Propanol: A Simultaneous SAXS/XAS/MS Operando Study. <i>ACS Catalysis</i> , 2018, 8, 6870-6881.	5.5	13
17	Breaking the scaling relations for oxygen reduction reaction on nitrogen-doped graphene by tensile strain. <i>Carbon</i> , 2018, 139, 129-136.	5.4	23
18	Oxygen reduction reaction on gold in alkaline solutions – The inner or outer sphere mechanisms in the light of recent achievements. <i>Current Opinion in Electrochemistry</i> , 2019, 14, 180-185.	2.5	23

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19	Selective oxidation of CO in the presence of propylene over Ag/MCM-41 catalyst. <i>Catalysis Today</i> , 2019, 333, 245-250.	2.2	18
20	Reaction mechanisms at the homogeneousâ€“heterogeneous frontier: insights from first-principles studies on ligand-decorated metal nanoparticles. <i>Catalysis Science and Technology</i> , 2019, 9, 5173-5185.	2.1	33
21	Identification of active sites in CO oxidation over a Pd/Al <sub>2</sub> O <sub>3</sub> catalyst. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 18128-18137.	1.3	30
22	Realâ€“Time Imaging of Nanoscale Redox Reactions over Bimetallic Nanoparticles. <i>Advanced Functional Materials</i> , 2019, 29, 1903242.	7.8	36
23	Structural and electronic feature evolution of Au-Pd bimetallic catalysts supported on graphene and SiO <sub>2</sub> in H <sub>2</sub> and O <sub>2</sub> . <i>Journal of Catalysis</i> , 2019, 376, 44-56.	3.1	6
24	Molecular-Scale Mechanistic Investigation of Oxygen Dissociation and Adsorption on Metal Surface-Supported Cobalt Phthalocyanine. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 3966-3971.	2.1	7
25	Chemisorption of aligned O <sub>2</sub> on Ag(110). <i>Journal of Chemical Physics</i> , 2019, 151, 084702.	1.2	2
26	Adhesion Energies of Solvent Films to Pt(111) and Ni(111) Surfaces by Adsorption Calorimetry. <i>ACS Catalysis</i> , 2019, 9, 11819-11825.	5.5	14
27	Synergetic Photocatalytic Pure Water Splitting and Self-Supplied Oxygen Activation by 2-D WO <sub>3</sub> /TiO <sub>2</sub> Heterostructures. <i>ACS Sustainable Chemistry and Engineering</i> , 2019, 7, 19902-19909.	3.2	18
28	Engineering Surface Groups of Commercially Activated Carbon for Benzene Hydroxylation to Phenol with Dioxigen. <i>Industrial &amp; Engineering Chemistry Research</i> , 2019, 58, 20226-20235.	1.8	11
29	Overview of Selective Oxidation of Ethylene to Ethylene Oxide by Ag Catalysts. <i>ACS Catalysis</i> , 2019, 9, 10727-10750.	5.5	104
31	Adsorption and Decomposition of Glycerol on Pristine and Oxygen Modified Au(111) Surfaces. <i>Topics in Catalysis</i> , 2019, 62, 1053-1066.	1.3	0
32	Polyoxometalate-Supported Aminocatalyst for the Photocatalytic Direct Synthesis of Imines from Alkenes and Amines. <i>Inorganic Chemistry</i> , 2019, 58, 12529-12533.	1.9	28
33	Improving the Oxygen Reduction Reaction Activity of FeN <sub>4</sub> -Graphene via Tuning Electronic Characteristics. <i>ACS Applied Energy Materials</i> , 2019, 2, 6634-6641.	2.5	37
34	Atomic-Scale View of the Oxidation and Reduction of Supported Ultrathin FeO Islands. <i>ACS Nano</i> , 2019, 13, 11632-11641.	7.3	21
35	Lattice-Refined Transition-Metal Oxides via Ball Milling for Boosted Catalytic Oxidation Performance. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 36666-36675.	4.0	42
36	Catalytic activity of palladium-doped silver dilute nanoalloys for formate oxidation from a theoretical perspective. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 22598-22610.	1.3	44
37	What is the effect of Sn and Mo oxides on gold catalysts for selective oxidation of benzyl alcohol?. <i>New Journal of Chemistry</i> , 2019, 43, 2591-2599.	1.4	5

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38	Nanoscale hetero-interfaces between metals and metal compounds for electrocatalytic applications. <i>Journal of Materials Chemistry A</i> , 2019, 7, 5090-5110.	5.2	128
39	Theoretical Insights into Propene Epoxidation on Au <sub>7</sub> /Anatase TiO <sub>2</sub> (001) Catalysts: Effect of the Interface and Reaction Atmosphere. <i>Journal of Physical Chemistry C</i> , 2019, 123, 3568-3578.	1.5	5
40	Simulations of interfacial processes: recent advances in force field development. <i>Current Opinion in Chemical Engineering</i> , 2019, 23, 138-145.	3.8	13
41	A Bimetallic Pure Inorganic Framework for Highly Efficient and Selective Photocatalytic Oxidation of Cyclohexene to 2-Cyclohexen-1-ol. <i>Catalysis Letters</i> , 2019, 149, 3048-3057.	1.4	3
42	Steps on Pt stereodynamically filter sticking of O <sub>2</sub> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 13862-13866.	3.3	21
43	Dynamics of dissociative chemisorption of O <sub>2</sub> on Cu(100) surface: A theoretical study. <i>Surface Science</i> , 2019, 688, 45-50.	0.8	7
44	Surface and morphology structure evolution of metal phosphide for designing overall water splitting electrocatalyst. <i>Journal of Catalysis</i> , 2019, 374, 51-59.	3.1	31
45	Plasma-catalytic destruction of xylene over Ag-Mn mixed oxides in a pulsed sliding discharge reactor. <i>Journal of Hazardous Materials</i> , 2019, 369, 611-620.	6.5	121
46	Reactive Oxygen Species (ROS)-Based Nanomedicine. <i>Chemical Reviews</i> , 2019, 119, 4881-4985.	23.0	1,519
47	K Atom Promotion of O <sub>2</sub> Chemisorption on Au(111) Surface. <i>Journal of the American Chemical Society</i> , 2019, 141, 4438-4444.	6.6	31
49	Mechanism of oxide-catalyzed selective oxidation: A computational perspective. <i>Annual Reports in Computational Chemistry</i> , 2019, 15, 287-333.	0.9	5
50	Re- and Cs-Copromoted Silver Catalysts for Ethylene Epoxidation: A Theoretical Study. <i>Journal of Structural Chemistry</i> , 2019, 60, 1713-1724.	0.3	6
51	Solid-to-liquid phase transitions of sub-nanometer clusters enhance chemical transformation. <i>Nature Communications</i> , 2019, 10, 5400.	5.8	25
52	Co <sub>3</sub> O <sub>4</sub> CuCoO <sub>2</sub> Nanomesh: An Interface-Enhanced Substrate that Simultaneously Promotes CO Adsorption and O <sub>2</sub> Activation in H <sub>2</sub> Purification. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 6042-6053.	4.0	55
53	The nature of electrophilic oxygen: Insights from periodic density functional theory investigations. <i>Surface Science</i> , 2019, 679, 188-195.	0.8	11
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55	NiAu single atom alloys for the selective oxidation of methacrolein with methanol to methyl methacrylate. <i>Catalysis Today</i> , 2020, 355, 804-814.	2.2	31
56	Sustainable and Practical Access to Epoxides: Metal-Free Aerobic Epoxidation of Olefins Mediated by Peroxy Radical Generated In Situ. <i>ACS Sustainable Chemistry and Engineering</i> , 2020, 8, 1178-1184.	3.2	12

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57	Au-Ru/TiO <sub>2</sub> prepared by deposition-precipitation with urea: Relevant synthesis parameters to obtain bimetallic particles. <i>Applied Catalysis B: Environmental</i> , 2020, 264, 118503.	10.8	17
58	Switching a Plasmon-Driven Reaction Mechanism from Charge Transfer to Adsorbate Electronic Excitation Using Surface Ligands. <i>Journal of Physical Chemistry C</i> , 2020, 124, 22711-22720.	1.5	14
59	Probing the surface chemistry for reverse water gas shift reaction on Pt(1 1 1) using ambient pressure X-ray photoelectron spectroscopy. <i>Journal of Catalysis</i> , 2020, 391, 123-131.	3.1	11
60	Effect of Ag on toluene oxidation over Ag supported wire-like MnO <sub>2</sub> catalysts. <i>Surfaces and Interfaces</i> , 2020, 21, 100657.	1.5	8
61	Oxygen-atom vacancy formation and reactivity in polyoxovanadate clusters. <i>Chemical Communications</i> , 2020, 56, 13477-13490.	2.2	22
62	Solvation-Enhanced Oxygen Activation at Gold/Titania Nanocatalysts. <i>ACS Catalysis</i> , 2020, 10, 8530-8534.	5.5	9
63	Spin Polarization-Induced Facile Dioxygen Activation in Boron-Doped Graphitic Carbon Nitride. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 52741-52748.	4.0	15
64	O <sub>2</sub> activation by core-shell Ru <sub>13</sub> @Pt <sub>42</sub> particles in comparison with Pt <sub>55</sub> particles: a DFT study. <i>RSC Advances</i> , 2020, 10, 36090-36100.	1.7	3
65	Electrochemical oxygen reduction for H <sub>2</sub> O <sub>2</sub> production: catalysts, pH effects and mechanisms. <i>Journal of Materials Chemistry A</i> , 2020, 8, 24996-25016.	5.2	94
66	Combining Benzyl Alcohol Oxidation Saturation Kinetics and Hammett Studies as Mechanistic Tools for Examining Supported Metal Catalysts. <i>ACS Catalysis</i> , 2020, 10, 10207-10215.	5.5	25
67	DFT Calculations of the Adsorption States of O <sub>2</sub> on OH/H <sub>2</sub> O-Covered Pt(111). <i>Electrocatalysis</i> , 2020, 11, 612-617.	1.5	11
68	Tuning the activities of cuprous oxide nanostructures via the oxide-metal interaction. <i>Nature Communications</i> , 2020, 11, 2312.	5.8	31
69	Synthesis of Pd <sup>+</sup> Rh Bimetallic Nanoparticles with Different Morphologies in Reverse Micelles and Characterization of Their Catalytic Properties. <i>Protection of Metals and Physical Chemistry of Surfaces</i> , 2020, 56, 63-74.	0.3	3
70	Ultrafast Photoemission Electron Microscopy: Imaging Plasmons in Space and Time. <i>Chemical Reviews</i> , 2020, 120, 6247-6287.	23.0	71
71	Production of H <sub>2</sub> O <sub>2</sub> during Au/C catalyzed aerobic oxidation of 1,2-propanediol. <i>Applied Catalysis A: General</i> , 2020, 599, 117616.	2.2	2
72	Atypical Oxygen-Bearing Copper Boosts Ethylene Selectivity toward Electrocatalytic CO <sub>2</sub> Reduction. <i>Journal of the American Chemical Society</i> , 2020, 142, 11417-11427.	6.6	250
73	A Review on Challenges and Successes in Atomic-Scale Design of Catalysts for Electrochemical Synthesis of Hydrogen Peroxide. <i>ACS Catalysis</i> , 2020, 10, 7495-7511.	5.5	254
74	Surface Modification for Promoting Durable, Efficient, and Selective Electrocatalysts. <i>ChemElectroChem</i> , 2020, 7, 2345-2363.	1.7	26

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75	Single-Molecule Study of a Plasmon-Induced Reaction for a Strongly Chemisorbed Molecule. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 7960-7966.	7.2	37
76	Metal-free activation of molecular oxygen by covalent triazine frameworks for selective aerobic oxidation. <i>Science Advances</i> , 2020, 6, eaaz2310.	4.7	58
77	Progress of Electrochemical Hydrogen Peroxide Synthesis over Single Atom Catalysts. , 2020, 2, 1008-1024.		129
78	Enabling Direct H <sub>2</sub> O <sub>2</sub> Production in Acidic Media through Rational Design of Transition Metal Single Atom Catalyst. <i>CheM</i> , 2020, 6, 658-674.	5.8	418
79	Regulating the Catalytic Dynamics Through a Crystal Structure Modulation of Bimetallic Catalyst. <i>Advanced Energy Materials</i> , 2020, 10, 1903225.	10.2	21
80	Single-Molecule Study of a Plasmon-Induced Reaction for a Strongly Chemisorbed Molecule. <i>Angewandte Chemie</i> , 2020, 132, 8034-8040.	1.6	2
81	Developing Scaling Relationships for Molecular Electrocatalysis through Studies of Fe-Porphyrin-Catalyzed O <sub>2</sub> Reduction. <i>Accounts of Chemical Research</i> , 2020, 53, 1056-1065.	7.6	65
82	Density Functional Theory Investigation of Oxidation Intermediates on Gold and Gold-Silver Surfaces. <i>Journal of Physical Chemistry C</i> , 2020, 124, 8843-8853.	1.5	9
83	Dynamics Studies of O <sub>2</sub> Collision on Pt(111) Using a Global Potential Energy Surface. <i>Journal of Physical Chemistry C</i> , 2020, 124, 10573-10583.	1.5	7
84	Formation of active oxygen species on single-atom Pt catalyst and promoted catalytic oxidation of toluene. <i>Nano Research</i> , 2020, 13, 1544-1551.	5.8	89
85	The role of oxygenated species in the catalytic self-coupling of MeOH on O pre-covered Au(111). <i>Faraday Discussions</i> , 2021, 229, 251-266.	1.6	7
86	Photoexcited single metal atom catalysts for heterogeneous photocatalytic H <sub>2</sub> O <sub>2</sub> production: Pragmatic guidelines for predicting charge separation. <i>Applied Catalysis B: Environmental</i> , 2021, 282, 119589.	10.8	74
87	Four-Electron Reduction of Dioxygen on a Metal Surface: Models of Dissociative and Associative Mechanisms in a Homogeneous System. <i>Inorganic Chemistry</i> , 2021, 60, 1550-1560.	1.9	1
88	Intrinsic property and catalytic performance of single and double metal atoms incorporated g-C <sub>3</sub> N <sub>4</sub> for O <sub>2</sub> activation: A DFT insight. <i>Applied Surface Science</i> , 2021, 541, 148671.	3.1	21
89	Hot-Electron-Induced Photothermal Catalysis for Energy-Dependent Molecular Oxygen Activation. <i>Angewandte Chemie</i> , 2021, 133, 4922-4928.	1.6	9
90	Hot-Electron-Induced Photothermal Catalysis for Energy-Dependent Molecular Oxygen Activation. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 4872-4878.	7.2	42
91	High-Pressure Scanning Tunneling Microscopy. <i>Chemical Reviews</i> , 2021, 121, 962-1006.	23.0	21
92	Multilayer adsorption of methanol on platinum at low temperatures. <i>Applied Surface Science</i> , 2021, 535, 147717.	3.1	4

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93	Toward Active-Site Tailoring in Heterogeneous Catalysis by Atomically Precise Metal Nanoclusters with Crystallographic Structures. <i>Chemical Reviews</i> , 2021, 121, 567-648.	23.0	361
94	Stabilization and activation of molecular oxygen at biomimetic tetrapyrroles on surfaces: from UHV to near-ambient pressure. <i>Nanoscale Advances</i> , 2021, 3, 1319-1330.	2.2	5
95	Insights into oxygen activation on metal clusters for catalyst design. <i>Journal of Materials Chemistry A</i> , 2021, 9, 11726-11733.	5.2	4
96	Reductive silylation of polyoxovanadate surfaces using Mashima's reagent. <i>Inorganic Chemistry Frontiers</i> , 2021, 8, 4507-4516.	3.0	3
97	Organically Capped Iridium Nanoparticles as High-Performance Bifunctional Electrocatalysts for Full Water Splitting in Both Acidic and Alkaline Media: Impacts of Metal-Ligand Interfacial Interactions. <i>ACS Catalysis</i> , 2021, 11, 1179-1188.	5.5	65
98	Factors controlling oxophilicity and carbophilicity of transition metals and main group metals. <i>Journal of Materials Chemistry A</i> , 2021, 9, 22325-22333.	5.2	16
99	From nanoparticle to single-atom catalyst; electrocatalytic reduction of carbon dioxide. , 2021, , 111-153.		1
100	Computational approaches to dissociative chemisorption on metals: towards chemical accuracy. <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 8962-9048.	1.3	47
101	Water enables mild oxidation of methane to methanol on gold single-atom catalysts. <i>Nature Communications</i> , 2021, 12, 1218.	5.8	138
102	Interface atom mobility and charge transfer effects on CuO and Cu <sub>2</sub> O formation on Cu <sub>3</sub> Pd(111) and Cu <sub>3</sub> Pt(111). <i>Scientific Reports</i> , 2021, 11, 3906.	1.6	4
103	Specific adsorption of phosphate species on Ag (111) and Ag (100) electrodes and their effect at low overpotentials of the hydrogen evolution reaction. <i>Applied Surface Science Advances</i> , 2021, 3, 100041.	2.9	0
104	Gas-Phase Anionic Metal Clusters are Model Systems for Surface Oxidation: Kinetics of the Reactions of $M_n^{+}$ with $O_2$ ( $M = V, Cr, Co, Ni; n = 1-15$ ). <i>Journal of Physical Chemistry A</i> , 2021, 125, 2069-2076.	1.1	4
105	Elucidating the Influence of the d-Band Center on the Synthesis of Isobutanol. <i>Catalysts</i> , 2021, 11, 406.	1.6	1
106	Formaldehyde Oxidation over Co@N-Doped Carbon at Room Temperature: Tunable Co Size and Intensified Surface Electron Density. <i>ACS ES&amp;T Engineering</i> , 2021, 1, 917-927.	3.7	14
107	Unveiling the Nature of Room-Temperature $O_2$ Activation and $O_2^{+}$ Enrichment on MgO-Loaded Porous Carbons with Efficient $H_2S$ Oxidation. <i>ACS Catalysis</i> , 2021, 11, 5974-5983.	5.5	53
108	ION-EXCHANGE MODELING OF DIVALENT CATION ADSORPTION ON SWy-3 MONTMORILLONITE. <i>Clays and Clay Minerals</i> , 2021, 69, 167-187.	0.6	1
109	Synthesis of Ag-Ni-Fe-P Multielemental Nanoparticles as Bifunctional Oxygen Reduction/Evolution Reaction Electrocatalysts. <i>ACS Nano</i> , 2021, 15, 7131-7138.	7.3	45
110	Atomically dispersed antimony on carbon nitride for the artificial photosynthesis of hydrogen peroxide. <i>Nature Catalysis</i> , 2021, 4, 374-384.	16.1	474



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111	Metal Oxo-Fluoride Molecules $\text{OnMF}_2$ ( $M = \text{Mn}$ and $\text{Fe}$ ; $n = 1-4$ ) and $\text{O}_2\text{MnF}$ : Matrix Infrared Spectra and Quantum Chemistry. <i>Inorganic Chemistry</i> , 2021, 60, 7687-7696.	1.9	3
112	Electron donation of non-oxide supports boosts $\text{O}_2$ activation on nano-platinum catalysts. <i>Nature Communications</i> , 2021, 12, 2741.	5.8	72
113	Atomically precise noble metal clusters ( $\text{Ag}_{10}$ , $\text{Au}_{10}$ , $\text{Pd}_{10}$ and $\text{Pt}_{10}$ ) on alumina support: A comprehensive DFT study for oxidative catalysis. <i>Applied Surface Science</i> , 2021, 547, 149160.	3.1	7
114	Experimental and theoretical studies of reaction pathways of direct propylene epoxidation on model catalyst surfaces. <i>Surface Science Reports</i> , 2021, 76, 100524.	3.8	14
115	Spectroscopically clean Au nanoparticles for catalytic decomposition of hydrogen peroxide. <i>Scientific Reports</i> , 2021, 11, 9709.	1.6	6
116	Catalysis of core-shell nanoparticle $\text{M@Pt}$ ( $M = \text{Co}$ and $\text{Ni}$ ) for oxygen reduction reaction and its electronic structure in comparison to Pt nanoparticle. <i>Journal of Catalysis</i> , 2021, 397, 13-26.	3.1	13
117	Binding of Oxygen on Single-Atom Sites on $\text{Au/Pd}(100)$ Alloys with High Gold Coverages. <i>Journal of Physical Chemistry C</i> , 2021, 125, 9715-9729.	1.5	3
119	Selective hydrogen combustion over $\text{Rh-Sn/Al}_2\text{O}_3$ catalysts during propane dehydrogenation. <i>Korean Journal of Chemical Engineering</i> , 2021, 38, 1197-1204.	1.2	2
120	Surface oxygen Vacancies on Reduced $\text{Co}_3\text{O}_4(100)$ : Superoxide Formation and Ultra-Low-Temperature CO Oxidation. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 16514-16520.	7.2	43
121	Surface oxygen Vacancies on Reduced $\text{Co}_3\text{O}_4(100)$ : Superoxide Formation and Ultra-Low-Temperature CO Oxidation. <i>Angewandte Chemie</i> , 2021, 133, 16650-16656.	1.6	12
122	Glucose-oxidase like catalytic mechanism of noble metal nanozymes. <i>Nature Communications</i> , 2021, 12, 3375.	5.8	163
123	Trends in Sustainable Synthesis of Organics by Gold Nanoparticles Embedded in Polymer Matrices. <i>Catalysts</i> , 2021, 11, 714.	1.6	19
124	Inhibitory effect of $\text{Zn}^{2+}$ on the chain-initiation process of cumene oxidation. <i>International Journal of Quantum Chemistry</i> , 2021, 121, e26780.	1.0	11
125	Effects of bromide adsorption on the direct synthesis of $\text{H}_2\text{O}_2$ on Pd nanoparticles: Formation rates, selectivities, and apparent barriers at steady-state. <i>Journal of Catalysis</i> , 2021, 399, 24-40.	3.1	20
126	Regeneration of Active Surface Alloys during Cyclic Oxidation and Reduction: Oxidation of $\text{H}_2$ on $\text{Pd/Ag}(111)$ . <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 6752-6759.	2.1	5
127	Gold Nanoclusters as Electrocatalysts: Atomic Level Understanding from Fundamentals to Applications. <i>Chemistry of Materials</i> , 2021, 33, 7595-7612.	3.2	36
128	Catalytic Functionalization of Hexagonal Boron Nitride for Oxidation and Epoxidation Reactions by Molecular Oxygen. <i>Journal of Physical Chemistry C</i> , 2021, 125, 19219-19228.	1.5	2
129	Simultaneous oxidation of toluene and ethyl acetate by dielectric barrier discharge combined with Fe, Mn and Mo catalysts. <i>Science of the Total Environment</i> , 2021, 782, 146931.	3.9	13



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131	Towards the understanding of promoting effects of Re, Cs and Cl promoters for silver catalysts of ethylene epoxidation: A computational study. Catalysis Today, 2021, 375, 585-590.	2.2	11
132	The reactivity of O <sub>2</sub> with copper cluster anions Cu <sup>n-</sup> (n=7-20): Leveling effect of spin accommodation. Chinese Chemical Letters, 2022, 33, 995-1000.	4.8	7
133	Small-sized biomass-derived hydrothermal carbon with enriched oxygen groups quickens benzene hydroxylation to phenol with dioxygen. Applied Catalysis A: General, 2021, 626, 118356.	2.2	4
134	High-performance single-atom Ni catalyst loaded graphyne for H <sub>2</sub> O <sub>2</sub> green synthesis in aqueous media. Journal of Colloid and Interface Science, 2021, 599, 58-67.	5.0	12
135	Pt atomic clusters catalysts with local charge transfer towards selective oxidation of furfural. Applied Catalysis B: Environmental, 2021, 295, 120290.	10.8	52
136	First-principles study of interfacial effects toward oxygen reduction reaction of palladium/La <sub>1-x</sub> Sr <sub>x</sub> Co <sub>1-y</sub> Fe <sub>y</sub> O <sub>3-δ</sub> cathodes in solid oxide fuel cells. Applied Surface Science, 2021, 562, 150218.	3.1	6
137	Ultrafast dynamics of recombinative desorption of molecular oxygen from the single crystal Pd(1 1 0) surface. Chemical Physics, 2021, 551, 111332.	0.9	1
138	Oxidation kinetics of transition metals exposed to molecular and atomic oxygen. Materialia, 2021, 20, 101203.	1.3	7
139	Distinct photocatalytic charges separation pathway on CuO <sub>x</sub> modified rutile and anatase TiO <sub>2</sub> under visible light. Applied Catalysis B: Environmental, 2022, 300, 120735.	10.8	14
140	Density Functional Theory Study of Oxygen Reduction on Graphene and Platinum Surfaces of Pt@Graphene Hybrids. ACS Applied Nano Materials, 2021, 4, 1067-1075.	2.4	11
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#	ARTICLE	IF	CITATIONS
311	Review and perspectives on carbon-based electrocatalysts for the production of H <sub>2</sub> O <sub>2</sub> via two-electron oxygen reduction. <i>Green Chemistry</i> , 2023, 25, 9501-9542.	4.6	3
354	Application of 1D/2D carbon material supported metal nanoclusters for electrochemical conversion. <i>Catalysis Science and Technology</i> , 2024, 14, 1462-1479.	2.1	0