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2153	Die facettenreiche Reaktivitt heterogener Einzelatom-Katalysatoren. 2018 , 130, 15538-15552	29
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2150	Single Nickel Atoms Anchored on Nitrogen-Doped Graphene as a Highly Active Cocatalyst for Photocatalytic H2 Evolution. 2018 , 8, 11863-11874	124
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2147	A cocoon silk chemistry strategy to ultrathin N-doped carbon nanosheet with metal single-site catalysts. 2018 , 9, 3861	132
2146	Graphdiyne-Supported Single-Atom-Sized Fe Catalysts for the Oxygen Reduction Reaction: DFT Predictions and Experimental Validations. 2018 , 8, 10364-10374	138
2145	Enhanced Oxygen Evolution Reaction for Single Atomic Co Catalyst via Support Modification: A Density Functional Theory Design Predication. 2018 , 57, 13020-13026	16
2144	Defects on carbons for electrocatalytic oxygen reduction. 2018 , 47, 7628-7658	282
2143	Surface organometallic chemistry in heterogeneous catalysis. 2018 , 47, 8403-8437	84
2142	Tailoring the Electronic Structure and Chemical Activity of Iron via Confining into Two-Dimensional Materials. 2018 , 122, 24037-24045	3
2141	Breaking the scaling relationship via thermally stable Pt/Cu single atom alloys for catalytic dehydrogenation. 2018 , 9, 4454	250
2140	The Multifaceted Reactivity of Single-Atom Heterogeneous Catalysts. 2018 , 57, 15316-15329	179
2139	Well-Defined Rhodium-Gallium Catalytic Sites in a Metal-Organic Framework: Promoter-Controlled Selectivity in Alkyne Semihydrogenation to E-Alkenes. 2018 , 140, 15309-15318	56
2138	Single Atom Catalysts on Carbon-Based Materials. 2018 , 10, 5058-5091	99
2137	Single Pt Atom with Highly Vacant d-Orbital for Accelerating Photocatalytic H2 Evolution. 2018 , 1, 6082-608	8 56

(2019-2018)

2136	Cooperative Spin Transition of Monodispersed FeN Sites within Graphene Induced by CO Adsorption. 2018 , 140, 15149-15152	67
2135	Single atom alloy catalyst for SO decomposition: enhancement of platinum catalyst's performance by Ag atom embedding. 2018 , 10, 20599-20610	14
2134	Structure-, dimension-, and particle size-engineering toward highly efficient supported nanoparticulate metal catalysts. 2018 , 6, 18561-18570	9
2133	Supported rhodium liquid metal catalysts for the hydroformylation of olefins. 2018, 32, e4555	5
2132	Catalysis at the limit. 2018 , 10, 995-996	5
2131	One-Pot Pyrolysis Method to Fabricate Carbon Nanotube Supported Ni Single-Atom Catalysts with Ultrahigh Loading. 2018 ,	14
2130	Edge-Site Engineering of Atomically Dispersed Fe-N by Selective C-N Bond Cleavage for Enhanced Oxygen Reduction Reaction Activities. 2018 , 140, 11594-11598	411
2129	Spectroscopy and formation of lanthanum-hydrocarbon radicals formed by C-H and C-C bond activation of 1-pentene and 2-pentene. 2018 , 149, 034303	1
2128	Single-atom catalyst: a rising star for green synthesis of fine chemicals. 2018 , 5, 653-672	134
2127	Single-Atom Catalysts: Synthetic Strategies and Electrochemical Applications. 2018 , 2, 1242-1264	1046
2127	Single-Atom Catalysts: Synthetic Strategies and Electrochemical Applications. 2018, 2, 1242-1264 Tris(2-benzimidazolylmethyl)amine-Directed Synthesis of Single-Atom Nickel Catalysts for Electrochemical CO Production from CO. 2018, 24, 18444-18454	1046
•	Tris(2-benzimidazolylmethyl)amine-Directed Synthesis of Single-Atom Nickel Catalysts for	<u> </u>
2126	Tris(2-benzimidazolylmethyl)amine-Directed Synthesis of Single-Atom Nickel Catalysts for Electrochemical CO Production from CO. 2018 , 24, 18444-18454 Strain Engineering of a Defect-Free, Single-Layer MoS Substrate for Highly Efficient Single-Atom Catalysis of CO Oxidation. 2019 , 11, 32887-32894 Synergistic Effects of pam Levels of Palladium on Natural Clinochlore for Reduction of Nitrograpes	40
2126	Tris(2-benzimidazolylmethyl)amine-Directed Synthesis of Single-Atom Nickel Catalysts for Electrochemical CO Production from CO. 2018 , 24, 18444-18454 Strain Engineering of a Defect-Free, Single-Layer MoS Substrate for Highly Efficient Single-Atom Catalysis of CO Oxidation. 2019 , 11, 32887-32894 Synergistic Effects of ppm Levels of Palladium on Natural Clinochlore for Reduction of Nitroarenes.	40
2126 2125 2124	Tris(2-benzimidazolylmethyl)amine-Directed Synthesis of Single-Atom Nickel Catalysts for Electrochemical CO Production from CO. 2018 , 24, 18444-18454 Strain Engineering of a Defect-Free, Single-Layer MoS Substrate for Highly Efficient Single-Atom Catalysis of CO Oxidation. 2019 , 11, 32887-32894 Synergistic Effects of ppm Levels of Palladium on Natural Clinochlore for Reduction of Nitroarenes. 2019 , 12, 4240-4248	40 24 11
2126 2125 2124 2123	Tris(2-benzimidazolylmethyl)amine-Directed Synthesis of Single-Atom Nickel Catalysts for Electrochemical CO Production from CO. 2018, 24, 18444-18454 Strain Engineering of a Defect-Free, Single-Layer MoS Substrate for Highly Efficient Single-Atom Catalysis of CO Oxidation. 2019, 11, 32887-32894 Synergistic Effects of ppm Levels of Palladium on Natural Clinochlore for Reduction of Nitroarenes. 2019, 12, 4240-4248 A Cu-Pd single-atom alloy catalyst for highly efficient NO reduction. 2019, 10, 8292-8298 Adsorption behavior of Pt embedded on N-doped graphene sheets toward NO and NH3 molecules.	40 24 11 53
2126 2125 2124 2123	Tris(2-benzimidazolylmethyl)amine-Directed Synthesis of Single-Atom Nickel Catalysts for Electrochemical CO Production from CO. 2018, 24, 18444-18454 Strain Engineering of a Defect-Free, Single-Layer MoS Substrate for Highly Efficient Single-Atom Catalysis of CO Oxidation. 2019, 11, 32887-32894 Synergistic Effects of ppm Levels of Palladium on Natural Clinochlore for Reduction of Nitroarenes. 2019, 12, 4240-4248 A Cu-Pd single-atom alloy catalyst for highly efficient NO reduction. 2019, 10, 8292-8298 Adsorption behavior of Pt embedded on N-doped graphene sheets toward NO and NH3 molecules. 2019, 33, e5079	40 24 11 53 5

2118	Coordination-Engineered CuNx Single-Site Catalyst for Enhancing Oxygen Reduction Reaction. 2019 , 2, 6497-6504	36
2117	Measuring Charge State at the Single-Atomic-Column-Base with Four-Dimensional Scanning Transmission Electron Microscopy. 2019 , 25, 16-17	
2116	Local Structure and Electronic State of Atomically Dispersed Pt Supported on Nanosized CeO2. 2019 , 9, 8738-8748	40
2115	The Key Role of Support Surface Hydrogenation in the CH4 to CH3OH Selective Oxidation by a ZrO2-Supported Single-Atom Catalyst. 2019 , 9, 8903-8909	33
2114	A versatile route to fabricate single atom catalysts with high chemoselectivity and regioselectivity in hydrogenation. 2019 , 10, 3663	152
2113	The stability and oxidation of supported atomic-size Cu catalysts in reactive environments. 2019 , 151, 054702	7
2112	Atomic Pd on Graphdiyne/Graphene Heterostructure as Efficient Catalyst for Aromatic Nitroreduction. 2019 , 29, 1905423	66
2111	Copper-Halide Polymer Nanowires as Versatile Supports for Single-Atom Catalysts. 2019 , 15, e1903197	8
2110	Rational Design of Novel Catalysts with Atomic Layer Deposition for the Reduction of Carbon Dioxide. 2019 , 9, 1900889	33
2109	Tailoring of the Proximity of Platinum Single Atoms on CeO2 Using Phosphorus Boosts the Hydrogenation Activity. 2019 , 9, 8404-8412	46
2108	Anchoring ultrafine PtNi nanoparticles on N-doped graphene for highly efficient hydrogen evolution reaction. 2019 , 9, 4961-4969	12
2107	Catalytic CO Oxidation by Gas-Phase Metal Oxide Clusters. 2019 , 123, 9257-9267	28
2106	Understanding Heterolytic H2 Cleavage and Water-Assisted Hydrogen Spillover on Fe3O4(001)-Supported Single Palladium Atoms. 2019 , 9, 7876-7887	39
2105	Towards dense single-atom catalysts for future automotive applications. 2019 , 2, 590-602	145
2104	sp2/sp3 Framework from Diamond Nanocrystals: A Key Bridge of Carbonaceous Structure to Carbocatalysis. 2019 , 9, 7494-7519	50
2103	Reordering d Orbital Energies of Single-Site Catalysts for CO2 Electroreduction. 2019 , 131, 12841-12846	30
2102	Reordering d Orbital Energies of Single-Site Catalysts for CO Electroreduction. 2019 , 58, 12711-12716	100
2101	Photoluminescence of surface chromium centers in the Cr/Al2O3 system that is active in isobutane dehydrogenation. 2019 , 234, 403-410	9

2100 Platinum single-atom catalysts: a comparative review towards effective characterization. **2019**, 9, 4821-4834 68 Atomically dispersed metal catalysts for the oxygen reduction reaction: synthesis, characterization, 2099 208 reaction mechanisms and electrochemical energy applications. 2019, 12, 2890-2923 Fabrication of solid strong bases at decreased temperature by doping low-valence Cr3+ into 2098 3 supports. 2019, 584, 117153 Unprecedented peroxidase-mimicking activity of single-atom nanozyme with atomically dispersed 90 Fe-N moieties hosted by MOF derived porous carbon. 2019, 142, 111495 Transition Metal Chalcogenide Single Layers as an Active Platform for Single-Atom Catalysis. 2019, 2096 25 4. 1947-1953 2005 Engineering atomically dispersed metal sites for electrocatalytic energy conversion. 2019, 64, 103917 41 Catalytic consequences of ultrafine Pt clusters supported on SrTiO3 for photocatalytic overall 2094 37 water splitting. 2019, 376, 180-190 Redox-switchable Hilmine palladium catalysts for control of polyethylene topology. 2019, 179, 121619 Local Structure and Coordination Define Adsorption in a Model Ir /Fe O Single-Atom Catalyst. 2019, 2092 55 58, 13961-13968 2091 Introduction to Single-Atom Catalysis. 2019, 1-20 4 Local Structure and Coordination Define Adsorption in a Model Ir1/Fe3O4 Single-Atom Catalyst. 2090 28 2019, 131, 14099-14106 Thermolysis of Noble Metal Nanoparticles into Electron-Rich Phosphorus-Coordinated Noble Metal 2089 20 Single Atoms at Low Temperature. **2019**, 131, 14322-14326 Thermolysis of Noble Metal Nanoparticles into Electron-Rich Phosphorus-Coordinated Noble Metal 2088 70 Single Atoms at Low Temperature. 2019, 58, 14184-14188 Metal-organic framework-derived materials for electrochemical energy applications. 2019, 1, 100001 333 2086 Isolated single atom cobalt in BiOBr atomic layers to trigger efficient CO photoreduction. 2019, 10, 2840 177 Atomically Dispersed Semimetallic Selenium on Porous Carbon Membrane as an Electrode for 2085 55 Hydrazine Fuel Cells. 2019, 58, 13466-13471 Non-PGM electrocatalysts for PEM fuel cells: effect of fluorination on the activity and stability of a 2084 42 highly active NC_Ar + NH3 catalyst. 2019, 12, 3015-3037 Atomically Dispersed Semimetallic Selenium on Porous Carbon Membrane as an Electrode for 2083 21 Hydrazine Fuel Cells. **2019**, 131, 13600-13605

2082	Supported Noble-Metal Single Atoms for Heterogeneous Catalysis. 2019 , 31, e1902031	115
2081	Determination of the Evolution of Heterogeneous Single Metal Atoms and Nanoclusters under Reaction Conditions: Which Are the Working Catalytic Sites?. 2019 , 9, 10626-10639	100
2080	Dynamic oxygen adsorption on single-atomic Ruthenium catalyst with high performance for acidic oxygen evolution reaction. 2019 , 10, 4849	194
2079	Heteroatom-Mediated Interactions between Ruthenium Single Atoms and an MXene Support for Efficient Hydrogen Evolution. 2019 , 31, e1903841	197
2078	Unveiling the Activity Origin of Electrocatalytic Oxygen Evolution over Isolated Ni Atoms Supported on a N-Doped Carbon Matrix. 2019 , 31, e1904548	151
2077	Atomically Dispersed Binary Co-Ni Sites in Nitrogen-Doped Hollow Carbon Nanocubes for Reversible Oxygen Reduction and Evolution. 2019 , 31, e1905622	340
2076	Atomic-Local Environments of Single-Atom Catalysts: Synthesis, Electronic Structure, and Activity. 2019 , 9, 1900722	78
2075	Single-atom electrocatalysis: a new approach to in vivo electrochemical biosensing. 2019 , 62, 1720-1724	32
2074	A universal ligand mediated method for large scale synthesis of transition metal single atom catalysts. 2019 , 10, 4585	219
2073	Two-Dimensional Fe-Hexaaminobenzene Metal©rganic Frameworks as Promising CO2 Catalysts with High Activity and Selectivity. 2019 , 123, 26460-26466	11
2072	Atomic Ru Immobilized on Porous h-BN through Simple Vacuum Filtration for Highly Active and Selective CO2 Methanation. 2019 , 9, 10077-10086	43
2071	Reduction of NO by H Catalyzed by Keggin-Type Phosphotungstic Acid Supported Single-Atom Catalysts: An Insight from Density Functional Theory Calculations. 2019 , 53, 12893-12903	11
2070	Tuning the Electrocatalytic Activity of CoO through Discrete Elemental Doping. 2019 , 11, 39706-39714	11
2069	Construction of Active Site in a Sintered Copper-Ceria Nanorod Catalyst. 2019 , 141, 17548-17557	47
2068	MetalBrganic framework derived Pd/ZrO2@CN as a stable catalyst for the catalytic hydrogenation of 2,3,5-trimethylbenzoquinone. 2019 , 33, e5233	6
2067	Predicting MetalBupport Interactions in Oxide-Supported Single-Atom Catalysts. 2019 , 58, 20236-20246	12
2066	Atomic layer deposited Pt-Ru dual-metal dimers and identifying their active sites for hydrogen evolution reaction. 2019 , 10, 4936	186
2065	Single-Atom Ru Doping Induced Phase Transition of MoS2 and S Vacancy for Hydrogen Evolution Reaction. 2019 , 3, 1900653	111

2064	Pure Siliceous Zeolite-Supported Ru Single-Atom Active Sites for Ammonia Synthesis. 2019 , 31, 9413-9421	41
2063	High-Throughput Correlative Electrochemistry-Microscopy at a Transmission Electron Microscopy Grid Electrode. 2019 , 91, 14854-14859	25
2062	Pocketlike Active Site of Rh/MoS Single-Atom Catalyst for Selective Crotonaldehyde Hydrogenation. 2019 , 141, 19289-19295	77
2061	Deciphering the Effect of Microbead Size Distribution on the Kinetics of Heterogeneous Biocatalysts through Single-Particle Analysis Based on Fluorescence Microscopy. 2019 , 9, 896	4
2060	Superior activity of Rh1/ZnO single-atom catalyst for CO oxidation. 2019 , 40, 1847-1853	26
2059	Rational Design of Flexible Two-Dimensional MXenes with Multiple Functionalities. 2019 , 119, 11980-12031	137
2058	Ultrahigh Photocatalytic Rate at a Single-Metal-Atom-Oxide. 2019 , 31, e1903491	29
2057	Standing Carbon-Supported Trace Levels of Metal Derived from Covalent Organic Framework for Electrocatalysis. 2019 , 15, e1905363	20
2056	Catalyst: Single-Atom Catalysis: Directing the Way toward the Nature of Catalysis. 2019 , 5, 2733-2735	34
2055	Reaction: Industrial Perspective on Single-Atom Catalysis. 2019 , 5, 2736-2737	11
2054	Molecular Trapping Strategy To Stabilize Subnanometric Pt Clusters for Highly Active Electrocatalysis. 2019 , 9, 11603-11613	19
2053	Insight into the Activity and Stability of Transition-Metal Atoms Embedded in MnO for Triiodide Reduction Reaction. 2019 , 7, 19303-19310	2
2052	Zeolite-Encaged Single-Atom Rhodium Catalysts: Highly-Efficient Hydrogen Generation and Shape-Selective Tandem Hydrogenation of Nitroarenes. 2019 , 131, 18743-18749	15
2051	Zeolite-Encaged Single-Atom Rhodium Catalysts: Highly-Efficient Hydrogen Generation and Shape-Selective Tandem Hydrogenation of Nitroarenes. 2019 , 58, 18570-18576	152
2050	Cu,N-Codoped Carbon Nanodisks with Biomimic Stomata-Like Interconnected Hierarchical Porous Topology as Efficient Electrocatalyst for Oxygen Reduction Reaction. 2019 , 15, e1902410	43
		43
2049	Topology as Efficient Electrocatalyst for Oxygen Reduction Reaction. 2019 , 15, e1902410	

2046	Versatile Applications of Metal Single-Atom @ 2D Material Nanoplatforms. 2019 , 6, 1901787	80
2045	Transition metal atom (Ti, V, Mn, Fe, and Co) anchored silicene for hydrogen evolution reaction 2019 , 9, 26321-26326	11
2044	Remarkable active-site dependent HO promoting effect in CO oxidation. 2019 , 10, 3824	53
2043	Selective carbon-chain increasing of renewable furfural utilizing oxidative condensation reaction catalyzed by mono-dispersed palladium oxide. 2019 , 477, 110545	7
2042	Highly selective oxygen reduction to hydrogen peroxide on transition metal single atom coordination. 2019 , 10, 3997	264
2041	MetalBrganic frameworks: A tunable platform to access single-site heterogeneous catalysts. 2019 , 586, 117214	68
2040	Sub-nanocatalysis for Efficient Aqueous Nitrate Reduction: Effect of Strong Metal-Support Interaction. 2019 , 11, 33859-33867	11
2039	Highly Active and Stable Metal Single-Atom Catalysts Achieved by Strong Electronic Metal-Support Interactions. 2019 , 141, 14515-14519	242
2038	Controlling Selectivity in Unsaturated Aldehyde Hydrogenation Using Single-Site Alloy Catalysts. 2019 , 9, 9150-9157	29
2037	Single-Atom Catalysts: Are All Sites Created Equal?. 2019 , 4, 2249-2250	24
2036	Pt/ZrO Prepared by Atomic Trapping: An Efficient Catalyst for the Conversion of Glycerol to Lactic Acid with Concomitant Transfer Hydrogenation of Cyclohexene. 2019 , 9, 9953-9963	24
		·
2035	Regulating the coordination structure of single-atom Fe-NC catalytic sites for benzene oxidation. 2019 , 10, 4290	173
2035	Regulating the coordination structure of single-atom Fe-NC catalytic sites for henzene oxidation	·
	Regulating the coordination structure of single-atom Fe-NC catalytic sites for benzene oxidation. 2019 , 10, 4290	173
2034	Regulating the coordination structure of single-atom Fe-NC catalytic sites for benzene oxidation. 2019 , 10, 4290 Nanozyme-Based Bandage with Single-Atom Catalysis for Brain Trauma. 2019 , 13, 11552-11560 Single-Atom X/g-C3N4(X = Au1, Pd1, and Ru1) Catalysts for Acetylene Hydrochlorination: A Density	173
2034	Regulating the coordination structure of single-atom Fe-NC catalytic sites for benzene oxidation. 2019 , 10, 4290 Nanozyme-Based Bandage with Single-Atom Catalysis for Brain Trauma. 2019 , 13, 11552-11560 Single-Atom X/g-C3N4(X = Au1, Pd1, and Ru1) Catalysts for Acetylene Hydrochlorination: A Density Functional Theory Study. 2019 , 9, 808 Unraveling the coordination structure-performance relationship in Pt/FeO single-atom catalyst.	173 85 7
2034 2033 2032	Regulating the coordination structure of single-atom Fe-NC catalytic sites for benzene oxidation. 2019, 10, 4290 Nanozyme-Based Bandage with Single-Atom Catalysis for Brain Trauma. 2019, 13, 11552-11560 Single-Atom X/g-C3N4(X = Au1, Pd1, and Ru1) Catalysts for Acetylene Hydrochlorination: A Density Functional Theory Study. 2019, 9, 808 Unraveling the coordination structure-performance relationship in Pt/FeO single-atom catalyst. 2019, 10, 4500 Single Mn atom as a promising electrocatalyst for CO reduction to C2H5OH and C3H6: A	173 85 7

2028	Single Metal Atom Photocatalysis. 2019 , 3, 1800447	74
2027	Analogy between Enzyme and Nanoparticle Catalysis: A Single-Molecule Perspective. 2019 , 9, 1985-1992	19
2026	Directly catalytic reduction of NO without NH3 by single atom iron catalyst: A DFT calculation. 2019 , 243, 262-270	54
2025	MXene (TiC) Vacancy-Confined Single-Atom Catalyst for Efficient Functionalization of CO. 2019 , 141, 4086-4093	277
2024	Hybrid Organic-Inorganic Perovskites as Promising Substrates for Pt Single-Atom Catalysts. 2019 , 122, 046101	16
2023	Ultrafine silver nanoparticles deposited on sodium-doped graphitic carbon nitride towards enhanced photocatalytic degradation of dyes and antibiotics under visible light irradiation. 2019 , 476, 741-748	17
2022	Iridium Single-Atom Catalyst Performing a Quasi-homogeneous Hydrogenation Transformation of CO2 to Formate. 2019 , 5, 693-705	110
2021	Condensed-matter chemistry: from materials to living organisms. 2019 , 6, 191-194	10
2020	Tunability and Scalability of Single-Atom Catalysts Based on Carbon Nitride. 2019 , 7, 5223-5230	17
2019	Atomic (single, double, and triple atoms) catalysis: frontiers, opportunities, and challenges. 2019 , 7, 3492-3515	5160
2018	Metal-Organic-Framework-Based Single-Atom Catalysts for Energy Applications. 2019 , 5, 786-804	361
2017		
	Highlights of Major Progress on Single-Atom Catalysis in 2017. 2019 , 9, 135	18
2016	Highlights of Major Progress on Single-Atom Catalysis in 2017. 2019 , 9, 135 Controlling the speciation and reactivity of carbon-supported gold nanostructures for catalysed acetylene hydrochlorination. 2019 , 10, 359-369	18
2016	Controlling the speciation and reactivity of carbon-supported gold nanostructures for catalysed	
	Controlling the speciation and reactivity of carbon-supported gold nanostructures for catalysed acetylene hydrochlorination. 2019 , 10, 359-369 Achieving an exceptionally high loading of isolated cobalt single atoms on a porous carbon matrix	48
2015	Controlling the speciation and reactivity of carbon-supported gold nanostructures for catalysed acetylene hydrochlorination. 2019 , 10, 359-369 Achieving an exceptionally high loading of isolated cobalt single atoms on a porous carbon matrix for efficient visible-light-driven photocatalytic hydrogen production. 2019 , 10, 2585-2591 A single-atom Fe-N catalytic site mimicking bifunctional antioxidative enzymes for oxidative stress	48
2015	Controlling the speciation and reactivity of carbon-supported gold nanostructures for catalysed acetylene hydrochlorination. 2019, 10, 359-369 Achieving an exceptionally high loading of isolated cobalt single atoms on a porous carbon matrix for efficient visible-light-driven photocatalytic hydrogen production. 2019, 10, 2585-2591 A single-atom Fe-N catalytic site mimicking bifunctional antioxidative enzymes for oxidative stress cytoprotection. 2018, 55, 159-162 A General Strategy for Fabricating Isolated Single Metal Atomic Site Catalysts in Y Zeolite. 2019, 141, 9305-9311	48 31 120

2010	Catalytic sites are finally in sight. 2019 , 18, 663-664	5
2009	Charting stability space. 2019 , 18, 664-665	3
2008	Coordination mode engineering in stacked-nanosheet metal-organic frameworks to enhance catalytic reactivity and structural robustness. 2019 , 10, 2779	52
2007	Non-metal Single-Iodine-Atom Electrocatalysts for the Hydrogen Evolution Reaction. 2019 , 131, 12380-12385	19
2006	Non-metal Single-Iodine-Atom Electrocatalysts for the Hydrogen Evolution Reaction. 2019 , 58, 12252-12257	127
2005	Identification of High-Performance Single-Atom MXenes Catalysts for Low-Temperature CO Oxidation. 2019 , 2, 1900006	15
2004	Involving Single-Atom Silver(0) in Selective Dehalogenation by AgF under Visible-Light Irradiation. 2019 , 9, 6335-6341	26
2003	Computational mechanistic insights into CO oxidation reaction over Fe decorated C24N24 fullerene. 2019 , 106, 190-196	16
2002	A soluble porous organic polymer for highly efficient organic-aqueous biphasic catalysis and convenient reuse of catalysts. 2019 , 7, 15048-15053	18
2001	Building Up a Picture of the Electrocatalytic Nitrogen Reduction Activity of Transition Metal Single-Atom Catalysts. 2019 , 141, 9664-9672	390
	Single-Atom Catalysts. 2019 , 141, 9664-9672	390 51
	Single-Atom Catalysts. 2019 , 141, 9664-9672	
	Acetylene-Selective Hydrogenation Catalyzed by Cationic Nickel Confined in Zeolite. 2019, 141, 9920-9927 Tuning Adsorption and Catalytic Properties of Er2O3 and ZnO in Propane Dehydrogenation by Creating Oxygen Vacancy and Doping Single Pt Atom: A Comparative First-Principles Study. 2019, 58, 10199-10209 Tailoring Electronic Structure of Atomically Dispersed Metal N3S1 Active Sites for Highly Efficient	51
2000 1999	Acetylene-Selective Hydrogenation Catalyzed by Cationic Nickel Confined in Zeolite. 2019, 141, 9920-9927 Tuning Adsorption and Catalytic Properties of £Cr2O3 and ZnO in Propane Dehydrogenation by Creating Oxygen Vacancy and Doping Single Pt Atom: A Comparative First-Principles Study. 2019, 58, 10199-10209 Tailoring Electronic Structure of Atomically Dispersed Metal®3S1 Active Sites for Highly Efficient Oxygen Reduction Catalysis. 2019, 1, 139-146 Atomic-Scale Insights into the Low-Temperature Oxidation of Methanol over a Single-Atom	51
2000 1999 1998	Acetylene-Selective Hydrogenation Catalyzed by Cationic Nickel Confined in Zeolite. 2019, 141, 9920-9927 Tuning Adsorption and Catalytic Properties of ECr2O3 and ZnO in Propane Dehydrogenation by Creating Oxygen Vacancy and Doping Single Pt Atom: A Comparative First-Principles Study. 2019, 58, 10199-10209 Tailoring Electronic Structure of Atomically Dispersed Metal N3S1 Active Sites for Highly Efficient Oxygen Reduction Catalysis. 2019, 1, 139-146 Atomic-Scale Insights into the Low-Temperature Oxidation of Methanol over a Single-Atom Pt1-Co3O4 Catalyst. 2019, 29, 1902041 Atomically dispersed Pt (II) on WO3 for highly selective sensing and catalytic oxidation of	51 28 19
2000 1999 1998 1997	Acetylene-Selective Hydrogenation Catalyzed by Cationic Nickel Confined in Zeolite. 2019, 141, 9920-9927 Tuning Adsorption and Catalytic Properties of ECr2O3 and ZnO in Propane Dehydrogenation by Creating Oxygen Vacancy and Doping Single Pt Atom: A Comparative First-Principles Study. 2019, 58, 10199-10209 Tailoring Electronic Structure of Atomically Dispersed Metal®3S1 Active Sites for Highly Efficient Oxygen Reduction Catalysis. 2019, 1, 139-146 Atomic-Scale Insights into the Low-Temperature Oxidation of Methanol over a Single-Atom Pt1-Co3O4 Catalyst. 2019, 29, 1902041 Atomically dispersed Pt (II) on WO3 for highly selective sensing and catalytic oxidation of triethylamine. 2019, 256, 117809	51 28 19
2000 1999 1998 1997 1996	Acetylene-Selective Hydrogenation Catalyzed by Cationic Nickel Confined in Zeolite. 2019, 141, 9920-9927 Tuning Adsorption and Catalytic Properties of ECr2O3 and ZnO in Propane Dehydrogenation by Creating Oxygen Vacancy and Doping Single Pt Atom: A Comparative First-Principles Study. 2019, 58, 10199-10209 Tailoring Electronic Structure of Atomically Dispersed Metal®3S1 Active Sites for Highly Efficient Oxygen Reduction Catalysis. 2019, 1, 139-146 Atomic-Scale Insights into the Low-Temperature Oxidation of Methanol over a Single-Atom Pt1-Co3O4 Catalyst. 2019, 29, 1902041 Atomically dispersed Pt (II) on WO3 for highly selective sensing and catalytic oxidation of triethylamine. 2019, 256, 117809 Direct Oxidation of Methane to Methanol Enabled by Electronic Atomic Monolayer®1etal Support Interaction. 2019, 9, 6073-6079	51 28 19 62 49

1992 Atomically dispersed Fe sites catalyze efficient CO electroreduction to CO. 2019 , 364, 1091-1094	685
1991 A Single-Atom Iridium Heterogeneous Catalyst in Oxygen Reduction Reaction. 2019 , 58, 9640-9645	186
1990 Metal-Organic Frameworks for Chemiresistive Sensors. 2019 , 5, 1938-1963	216
Understanding the high activity of mildly reduced graphene oxide electrocatalysts in oxygen reduction to hydrogen peroxide. 2019 , 6, 1409-1415	30
Hydrogen Production from Formic Acid over Au Catalysts Supported on Carbon: Comparison with Au Catalysts Supported on SiO2 and Al2O3. 2019 , 9, 376	12
Carbon-Rich Nonprecious Metal Single Atom Electrocatalysts for CO2 Reduction and Hydrogen Evolution. 2019 , 3, 1900210	105
1986 Design of atomically dispersed catalytic sites for photocatalytic CO reduction. 2019 , 11, 11064-11070	44
Visible light driven efficient metal free single atom catalyst supported on nanoporous carbon nitride for nitrogen fixation. 2019 , 21, 12346-12352	40
Design strategies for developing non-precious metal based bi-functional catalysts for alkaline electrolyte based zinc@ir batteries. 2019 , 6, 1812-1827	52
Dynamics of Single Pt Atoms on Alumina during CO Oxidation Monitored by Operando X-ray and Infrared Spectroscopies. 2019 , 9, 5752-5759	57
1982 Densely Populated Isolated Single Co?N Site for Efficient Oxygen Electrocatalysis. 2019 , 9, 1900149	179
Review of two-dimensional materials for electrochemical CO2 reduction from a theoretical perspective. 2019 , 9, e1416	33
Recent progress in theoretical and computational investigations of structural stability and activity of single-atom electrocatalysts. 2019 , 29, 256-264	22
1979 Reversible and cooperative photoactivation of single-atom Cu/TiO photocatalysts. 2019 , 18, 620-626	275
Atom-by-Atom Resolution of Structure Hunction Relations over Low-Nuclearity Metal Catalysts. 2019 , 131, 8816-8821	11
1977 CeO(111) electronic reducibility tuned by ultra-small supported bimetallic Pt-Cu clusters. 2019 , 21, 152	 286-1529 6 3
1976 Tailoring Nitrogen-Doped Carbons as Hosts for Single-Atom Catalysts. 2019 , 11, 2812-2820	26
1975 Interaction of Gold with Oxide Nanoparticles: Size or Electronic Effect?. 2019 , 123, 12376-12381	6

1974	Regulating the Catalytic Performance of Single-Atomic-Site Ir Catalyst for Biomass Conversion by MetalBupport Interactions. 2019 , 9, 5223-5230	52
1973	Single Atoms and Clusters Based Nanomaterials for Hydrogen Evolution, Oxygen Evolution Reactions, and Full Water Splitting. 2019 , 9, 1900624	294
1972	Atom-by-Atom Resolution of Structure-Function Relations over Low-Nuclearity Metal Catalysts. 2019 , 58, 8724-8729	64
1971	Maximizing the utility of single atom electrocatalysts on a 3D graphene nanomesh. 2019 , 7, 15575-15579	24
1970	Defective Graphene on the Transition-Metal Surface: Formation of Efficient Bifunctional Catalysts for Oxygen Evolution/Reduction Reactions in Alkaline Media. 2019 , 11, 17410-17415	17
1969	Immobilizing copper-supported graphene with surface hydrogenation or hydroxylation: A first-principle study. 2019 , 523, 183-190	2
1968	Atomically Dispersed Pt-Polyoxometalate Catalysts: How Does Metal-Support Interaction Affect Stability and Hydrogenation Activity?. 2019 , 141, 8185-8197	90
1967	Artificial photosynthesis: opportunities and challenges of molecular catalysts. 2019 , 48, 2216-2264	363
1966	In situ spectroscopy-guided engineering of rhodium single-atom catalysts for CO oxidation. 2019 , 10, 1330	111
1965	Framework-Porphyrin-Derived Single-Atom Bifunctional Oxygen Electrocatalysts and their Applications in Zn-Air Batteries. 2019 , 31, e1900592	179
1964	Single Mo1(Cr1) Atom on Nitrogen-Doped Graphene Enables Highly Selective Electroreduction of Nitrogen into Ammonia. 2019 , 9, 3419-3425	170
1963	Atmosphere-dependent stability and mobility of catalytic Pt single atoms and clusters on EAlO. 2019 , 11, 6897-6904	39
1962	Modulating the Electronic Structure of Single-Atom Catalysts on 2D Nanomaterials for Enhanced Electrocatalytic Performance. 2019 , 3, 1800438	60
1961	Atomically Dispersed Supported Metal Catalysts: Seeing Is Believing. 2019 , 1, 99-110	38
1960	Nature of Atomically Dispersed Ru on Anatase TiO2: Revisiting Old Data Based on DFT Calculations. 2019 , 123, 7271-7282	6
1959	Ni-based photocatalytic H2-production cocatalysts2. 2019 , 40, 240-288	173
1958	Understanding the Impact of Defects on Catalytic CO Oxidation of LaFeO-Supported Rh, Pd, and Pt Single-Atom Catalysts. 2019 , 123, 7290-7298	25
1957	Theoretical Approach To Predict the Stability of Supported Single-Atom Catalysts. 2019 , 9, 3289-3297	59

1956	Importance of Electrocatalyst Morphology for the Oxygen Reduction Reaction. 2019 , 6, 2600-2614	28
1955	Confinement Effects in Zeolite-Confined Noble Metals. 2019 , 131, 12468-12482	32
1954	Multiscale simulation on thermal stability of supported metal nanocatalysts. 2019, 9, e1405	1
1953	Coordination-controlled single-atom tungsten as a non-3d-metal oxygen reduction reaction electrocatalyst with ultrahigh mass activity. 2019 , 60, 394-403	80
1952	Silver nanoparticle-loaded filter paper: Innovative assembly method by nonthermal plasma and facile application for the reduction of methylene blue. 2019 , 366, 7-14	3
1951	Nanocarbon-Edge-Anchored High-Density Pt Atoms for 3-nitrostyrene Hydrogenation: Strong Metal-Carbon Interaction. 2019 , 13, 190-198	15
1950	Single-atomic-site cobalt stabilized on nitrogen and phosphorus co-doped carbon for selective oxidation of primary alcohols. 2019 , 4, 902-906	16
1949	Taming the stability of Pd active phases through a compartmentalizing strategy toward nanostructured catalyst supports. 2019 , 10, 1611	112
1948	Ptta Model SCALMS on Modified HOPG: Growth and Adsorption Properties. 2019, 62, 849-858	8
1947	Reactive Oxygen Species (ROS)-Based Nanomedicine. 2019 , 119, 4881-4985	776
1947 1946	Reduction of NO by CO via Mars-van Krevelen [corrected] Mechanism over Phosphotungstic Acid	776 9
1946	Reduction of NO by CO via Mars-van Krevelen [corrected] Mechanism over Phosphotungstic Acid	
1946	Reduction of NO by CO via Mars-van Krevelen [corrected] Mechanism over Phosphotungstic Acid Supported Single-Atom Catalysts: A Density Functional Theory Study. 2019 , 58, 5221-5229 Silicon Nanocages for Selective Carbon Dioxide Conversion under Visible Light. 2019 , 123, 9973-9980 Unravelling platinum nanoclusters as active sites to lower the catalyst loading for formaldehyde	
1946 1945	Reduction of NO by CO via Mars-van Krevelen [corrected] Mechanism over Phosphotungstic Acid Supported Single-Atom Catalysts: A Density Functional Theory Study. 2019 , 58, 5221-5229 Silicon Nanocages for Selective Carbon Dioxide Conversion under Visible Light. 2019 , 123, 9973-9980 Unravelling platinum nanoclusters as active sites to lower the catalyst loading for formaldehyde	9
1946 1945 1944	Reduction of NO by CO via Mars-van Krevelen [corrected] Mechanism over Phosphotungstic Acid Supported Single-Atom Catalysts: A Density Functional Theory Study. 2019, 58, 5221-5229 Silicon Nanocages for Selective Carbon Dioxide Conversion under Visible Light. 2019, 123, 9973-9980 Unravelling platinum nanoclusters as active sites to lower the catalyst loading for formaldehyde oxidation. 2019, 2, Achieving highly efficient CO2 to CO electroreduction exceeding 300 mA cm2 with single-atom	9 15 25
1946 1945 1944 1943	Reduction of NO by CO via Mars-van Krevelen [corrected] Mechanism over Phosphotungstic Acid Supported Single-Atom Catalysts: A Density Functional Theory Study. 2019, 58, 5221-5229 Silicon Nanocages for Selective Carbon Dioxide Conversion under Visible Light. 2019, 123, 9973-9980 Unravelling platinum nanoclusters as active sites to lower the catalyst loading for formaldehyde oxidation. 2019, 2, Achieving highly efficient CO2 to CO electroreduction exceeding 300 mA cm2 with single-atom nickel electrocatalysts. 2019, 7, 10651-10661 Highly dispersed PdS preferably anchored on In2S3 of MnS/In2S3 composite for effective and	9 15 25 97
1946 1945 1944 1943	Reduction of NO by CO via Mars-van Krevelen [corrected] Mechanism over Phosphotungstic Acid Supported Single-Atom Catalysts: A Density Functional Theory Study. 2019, 58, 5221-5229 Silicon Nanocages for Selective Carbon Dioxide Conversion under Visible Light. 2019, 123, 9973-9980 Unravelling platinum nanoclusters as active sites to lower the catalyst loading for formaldehyde oxidation. 2019, 2, Achieving highly efficient CO2 to CO electroreduction exceeding 300 mA cm2 with single-atom nickel electrocatalysts. 2019, 7, 10651-10661 Highly dispersed PdS preferably anchored on In2S3 of MnS/In2S3 composite for effective and stable hydrogen production from H2S. 2019, 373, 48-57 Catalytic CO oxidation by Fe doped penta-graphene: A density functional study. 2019, 470, 48-55 Heterogeneous Single-Cluster Catalysts for Selective Semihydrogenation of Acetylene with	9 15 25 97 28

1938	Design of high performance nanozymes: a single-atom strategy. 2019 , 62, 710-712	37
1937	In-situ synthesis of single-atom Ir by utilizing metal-organic frameworks: An acid-resistant catalyst for hydrogenation of levulinic acid to Evalerolactone. 2019 , 373, 161-172	57
1936	Nanocatalysis by noble metal nanoparticles: controlled synthesis for the optimization and understanding of activities. 2019 , 7, 5857-5874	142
1935	In Situ/Operando Techniques for Characterization of Single-Atom Catalysts. 2019 , 9, 2521-2531	173
1934	Insights into Single-Atom MetalBupport Interactions in Electrocatalytic Water Splitting. 2019, 3, 1800481	57
1933	Nanocatalytic Tumor Therapy by Single-Atom Catalysts. 2019 , 13, 2643-2653	166
1932	Fabrication of Superior Single-Atom Catalysts toward Diverse Electrochemical Reactions. 2019 , 3, 1800497	68
1931	A heterogeneous single Cu catalyst of Cu atoms confined in the spinel lattice of MgAl2O4 with good catalytic activity and stability for NO reduction by CO. 2019 , 7, 7202-7212	17
1930	Confinement Effects in Zeolite-Confined Noble Metals. 2019 , 58, 12340-12354	82
1929	Recent Advances for MOF-Derived Carbon-Supported Single-Atom Catalysts. 2019 , 3, 1800471	169
	Recent Advances for MOF-Derived Carbon-Supported Single-Atom Catalysts. 2019 , 3, 1800471 Genesis of electron deficient Pt1(0) in PDMS-PEG aggregates. 2019 , 10, 996	169
		Í
1928	Genesis of electron deficient Pt1(0) in PDMS-PEG aggregates. 2019 , 10, 996 Pickering Emulsion-Derived Liquid-Solid Hybrid Catalyst for Bridging Homogeneous and	10
1928 1927	Genesis of electron deficient Pt1(0) in PDMS-PEG aggregates. 2019 , 10, 996 Pickering Emulsion-Derived Liquid-Solid Hybrid Catalyst for Bridging Homogeneous and Heterogeneous Catalysis. 2019 , 141, 5220-5230 Tuning the Hematite (110) Surface Properties To Enhance Its Efficiency in Photoelectrochemistry.	10 52
1928 1927 1926	Genesis of electron deficient Pt1(0) in PDMS-PEG aggregates. 2019, 10, 996 Pickering Emulsion-Derived Liquid-Solid Hybrid Catalyst for Bridging Homogeneous and Heterogeneous Catalysis. 2019, 141, 5220-5230 Tuning the Hematite (110) Surface Properties To Enhance Its Efficiency in Photoelectrochemistry. 2019, 123, 5401-5410 Cobalt Single Atom Heterogeneous Catalyst: Method of Preparation, Characterization, Catalysis,	10 52 7
1928 1927 1926 1925	Genesis of electron deficient Pt1(0) in PDMS-PEG aggregates. 2019, 10, 996 Pickering Emulsion-Derived Liquid-Solid Hybrid Catalyst for Bridging Homogeneous and Heterogeneous Catalysis. 2019, 141, 5220-5230 Tuning the Hematite (110) Surface Properties To Enhance Its Efficiency in Photoelectrochemistry. 2019, 123, 5401-5410 Cobalt Single Atom Heterogeneous Catalyst: Method of Preparation, Characterization, Catalysis, and Mechanism. 2019,	10 52 7 2
1928 1927 1926 1925	Genesis of electron deficient Pt1(0) in PDMS-PEG aggregates. 2019, 10, 996 Pickering Emulsion-Derived Liquid-Solid Hybrid Catalyst for Bridging Homogeneous and Heterogeneous Catalysis. 2019, 141, 5220-5230 Tuning the Hematite (110) Surface Properties To Enhance Its Efficiency in Photoelectrochemistry. 2019, 123, 5401-5410 Cobalt Single Atom Heterogeneous Catalyst: Method of Preparation, Characterization, Catalysis, and Mechanism. 2019, 2020 Roadmap on gas-involved photo- and electro- catalysis. 2019, 30, 2089-2109	10 52 7 2 59

1920	2019 , 55, 14534-14537	32
1919	Single atom electrocatalysts supported on graphene or graphene-like carbons. 2019 , 48, 5207-5241	238
1918	Itinerant ferromagnetic half metallic cobaltiron couples: promising bifunctional electrocatalysts for ORR and OER. 2019 , 7, 27175-27185	63
1917	Freestanding ultrathin bismuth-based materials for diversified photocatalytic applications. 2019 , 7, 25203-252	236
1916	Single-atom catalysts templated by metalBrganic frameworks for electrochemical nitrogen reduction. 2019 , 7, 26371-26377	76
1915	Fuels and energy carriers from single-site catalysts prepared via surface organometallic chemistry. 2019 , 4, 1018-1024	21
1914	Single-atom nickel confined nanotube superstructure as support for catalytic wet air oxidation of acetic acid. 2019 , 2,	7
1913	Biomass-Derived Nickel Phosphide Nanoparticles as a Robust Catalyst for Hydrogen Production by Catalytic Decomposition of C2H2 or Dry Reforming of CH4. 2019 , 2, 8649-8658	3
1912	Revealing the Intrinsic Peroxidase-Like Catalytic Mechanism of Heterogeneous Single-Atom Co-MoS. 2019 , 11, 102	59
1911	Strategies to Break the Scaling Relation toward Enhanced Oxygen Electrocatalysis. 2019 , 1, 1494-1518	151
1910	Theory-guided design of catalytic materials using scaling relationships and reactivity descriptors. 2019 , 4, 792-804	164
1909	Large Scale Synthesis of Transition Metal Single Atom Catalysts by a Universal Ligand Mediated Method. 2019 , 35, 951-952	О
1908	Rh single atoms on TiO dynamically respond to reaction conditions by adapting their site. 2019 , 10, 4488	99
1907	Surface strategies for catalytic CO reduction: from two-dimensional materials to nanoclusters to single atoms. 2019 , 48, 5310-5349	365
1906	Expedient synthesis of -hydrazone esters and 1-indazole scaffolds through heterogeneous single-atom platinum catalysis. 2019 , 5, eaay1537	17
1905	Insights into interface engineering in steam reforming reactions for hydrogen production. 2019 , 12, 3473-349	547
1904	Metallic ruthenium-based nanomaterials for electrocatalytic and photocatalytic hydrogen evolution. 2019 , 7, 24691-24714	44
1903	Neutral Au-Doped Cluster Catalysts AuTiO for CO Oxidation by O. 2019 , 141, 2027-2034	22

1902	Constructing Mononuclear Palladium Catalysts by Precoordination/Solvothermal Polymerization: Recyclable Catalyst for Regioselective Oxidative Heck Reactions. 2019 , 58, 2448-2453	44
1901	Constructing Mononuclear Palladium Catalysts by Precoordination/Solvothermal Polymerization: Recyclable Catalyst for Regioselective Oxidative Heck Reactions. 2019 , 131, 2470-2475	6
1900	Defect-Based Single-Atom Electrocatalysts. 2019 , 3, 1800406	94
1899	Co-CoO-Co3O4/N-doped carbon derived from metal-organic framework: The addition of carbon black for boosting oxygen electrocatalysis and Zn-Air battery. 2019 , 295, 966-977	51
1898	Static Regulation and Dynamic Evolution of Single-Atom Catalysts in Thermal Catalytic Reactions. 2019 , 6, 1801471	30
1897	Defect-Induced Pt-Co-Se Coordinated Sites with Highly Asymmetrical Electronic Distribution for Boosting Oxygen-Involving Electrocatalysis. 2019 , 31, e1805581	118
1896	Surface Atomic Regulation of Core-Shell Noble Metal Catalysts. 2019 , 25, 5113-5127	14
1895	Recent advances in transition metalBased catalysts with heterointerfaces for energy conversion and storage. 2019 , 11, 16-28	53
1894	N-hydroxyphthalimide-TiO2 complex visible light photocatalysis. 2019 , 246, 149-155	50
1893	Two-dimensional-related catalytic materials for solar-driven conversion of CO into valuable chemical feedstocks. 2019 , 48, 1972-2010	233
1892	A Perspective on Counting Catalytic Active Sites and Rates of Reaction Using X-Ray Spectroscopy. 2019 , 62, 1218-1227	16
1891	Synthesis and Active Site Identification of FeNC Single-Atom Catalysts for the Oxygen Reduction Reaction. 2019 , 6, 304-315	42
1890	Atomically Dispersed Molybdenum Catalysts for Efficient Ambient Nitrogen Fixation. 2019 , 58, 2321-2325	380
1889	Termination Effects of Pt/v-Ti C T MXene Surfaces for Oxygen Reduction Reaction Catalysis. 2019 , 11, 1638-1644	53
1888	Atomically Dispersed Molybdenum Catalysts for Efficient Ambient Nitrogen Fixation. 2019 , 131, 2343-2347	63
1887	Computational Screening of Efficient Single-Atom Catalysts Based on Graphitic Carbon Nitride (g-C3N4) for Nitrogen Electroreduction. 2019 , 3, 1800368	214
1886	Single-Atom Catalysis toward Efficient CO Conversion to CO and Formate Products. 2019 , 52, 656-664	217
1885	In-situ fabrication of nitrogen-doped carbon nanosheets containing highly dispersed single iron atoms for oxygen reduction reaction. 2019 , 412, 125-133	73

(2020-2019)

1884	Toward Understanding of the Support Effect on Pd1 Single-Atom-Catalyzed Hydrogenation Reactions. 2019 , 123, 7922-7930	36
1883	Probe active sites of heterogeneous electrocatalysts by X-ray absorption spectroscopy: From single atom to complex multi-element composites. 2019 , 14, 7-15	15
1882	State of the Art and Prospects in Metal-Organic Framework (MOF)-Based and MOF-Derived Nanocatalysis. 2020 , 120, 1438-1511	727
1881	When Nanozymes Meet Single-Atom Catalysis. 2020 , 59, 2565-2576	201
1880	When Nanozymes Meet Single-Atom Catalysis. 2020 , 132, 2585-2596	55
1879	Selective Hydrogenation over Supported Metal Catalysts: From Nanoparticles to Single Atoms. 2020 , 120, 683-733	419
1878	In silico high throughput screening of bimetallic and single atom alloys using machine learning and ab initio microkinetic modelling. 2020 , 8, 107-123	24
1877	The Comparison between Single Atom Catalysis and Surface Organometallic Catalysis. 2020 , 120, 734-813	120
1876	Recent Advanced Materials for Electrochemical and Photoelectrochemical Synthesis of Ammonia from Dinitrogen: One Step Closer to a Sustainable Energy Future. 2020 , 10, 1902020	57
1875	Engineering the Atomic Interface with Single Platinum Atoms for Enhanced Photocatalytic Hydrogen Production. 2020 , 132, 1311-1317	21
1874	Engineering the Atomic Interface with Single Platinum Atoms for Enhanced Photocatalytic Hydrogen Production. 2020 , 59, 1295-1301	197
1873	Phase change materials (PCMs) for improving solar still productivity: a review. 2020 , 139, 1585-1617	38
1872	Charge Transfer Modulated Activity of Carbon-Based Electrocatalysts. 2020 , 10, 1901227	93
1871	A Universal Seeding Strategy to Synthesize Single Atom Catalysts on 2D Materials for Electrocatalytic Applications. 2020 , 30, 1906157	60
1870	Rutile TiO2 supported single atom Au catalyst: A facile approach to enhance methanol dehydrogenation. 2020 , 482, 110670	3
1869	Controlled Synthesis of a Vacancy-Defect Single-Atom Catalyst for Boosting CO2 Electroreduction. 2020 , 132, 1977-1981	33
1868	Controlled Synthesis of a Vacancy-Defect Single-Atom Catalyst for Boosting CO Electroreduction. 2020 , 59, 1961-1965	140
1867	Elucidating the Electrocatalytic CO Reduction Reaction over a Model Single-Atom Nickel Catalyst. 2020 , 59, 798-803	187

1866	Heterogeneous Manganese-Catalyzed Oxidase CH/CD Cyclization to Access Pharmaceutically Active Compounds. 2020 , 12, 449-454	17
1865	Elucidating the Electrocatalytic CO2 Reduction Reaction over a Model Single-Atom Nickel Catalyst. 2020 , 132, 808-813	22
1864	Self-assembly of Atomically Dispersed Ag Catalysts on Polyhedral Co3O4 at Elevated Temperatures: A Top-Down Nanofabrication of High-Loading Atomically Dispersed Catalysts. 2020 , 12, 561-568	9
1863	Surface/interface engineering of noble-metals and transition metal-based compounds for electrocatalytic applications. 2020 , 38, 221-236	12
1862	Carbon-Based Single-Atom Catalysts for Advanced Applications. 2020 , 10, 2231-2259	202
1861	Temperature-responsive dissolution/recrystallization of Zn MOF enables the maximum efficiency and recyclability of catalysts. 2020 , 56, 1960-1963	3
1860	Designing Atomic Active Centers for Hydrogen Evolution Electrocatalysts. 2020 , 59, 20794-20812	136
1859	Titania supported synergistic palladium single atoms and nanoparticles for room temperature ketone and aldehydes hydrogenation. 2020 , 11, 48	101
1858	Atomically dispersed platinum on low index and stepped ceria surfaces: phase diagrams and stability analysis. 2019 , 22, 28-38	16
1857	Site-averaged kinetics for catalysts on amorphous supports: an importance learning algorithm. 2020 , 5, 77-86	14
1856	Graphitic carbon nitride based single-atom photocatalysts. 2020 , 15, 1	43
1855	Structural Regulation with Atomic-Level Precision: From Single-Atomic Site to Diatomic and Atomic Interface Catalysis. 2020 , 2, 78-110	107
1854	Predicting aggregation energy for single atom bimetallic catalysts on clean and O* adsorbed surfaces through machine learning models. 2020 , 10, 86-98	12
1853	Engineering polyoxometalate-intercalated layered double hydroxides for catalytic applications. 2020 , 49, 3934-3941	17
1852	Metal single-atom coordinated graphitic carbon nitride as an efficient catalyst for CO oxidation. 2020 , 12, 364-371	33
1851	On the mechanism of H2 activation over single-atom catalyst: An understanding of Pt1/WO in the hydrogenolysis reaction. 2020 , 41, 524-532	28
1850	Single Atomically Anchored Cobalt on Carbon Quantum Dots as Efficient Photocatalysts for Visible Light-Promoted Oxidation Reactions. 2020 , 32, 734-743	39
1849	Origin of the High CO Oxidation Activity on CeO2 Supported Pt Nanoparticles: Weaker Binding of CO or Facile Oxygen Transfer from the Support?. 2020 , 12, 1726-1733	26

1848	Theoretical Calculation Guided Design of Single-Atom Catalysts toward Fast Kinetic and Long-Life Li-S Batteries. 2020 , 20, 1252-1261	194
1847	Synthesis of Ag nanoparticles by a chitosan-poly(3-hydroxybutyrate) polymer conjugate and their superb catalytic activity. 2020 , 232, 115806	13
1846	Synthesis and characterization of size controlled alloy nanoparticles. 2020 , 5,	O
1845	Adsorption-Catalysis Design in the Lithium-Sulfur Battery. 2020 , 10, 1903008	154
1844	Hydrogen peroxide electrochemical synthesis on hybrid double-atom (Pdttu) doped N vacancy g-C3N4: a novel design strategy for electrocatalyst screening. 2020 , 8, 2672-2683	21
1843	Site dependent reactivity of Pt single atoms on anatase TiO(101) in an aqueous environment. 2020 , 22, 10455-10461	4
1842	Insight into the active site and reaction mechanism for selective oxidation of methane to methanol using H2O2 on a Rh1/ZrO2 catalyst. 2020 , 44, 1632-1639	10
1841	Copper-catalyzed [4 + 2] annulation reaction of Lenaminones and aryl diazonium salts without external oxidant: synthesis of highly functionalized 3H-1,2,4-triazines via homogeneous or heterogeneous strategy. 2020 , 7, 457-463	9
1840	A sacrificial Zn strategy enables anchoring of metal single atoms on the exposed surface of holey 2D molybdenum carbide nanosheets for efficient electrocatalysis. 2020 , 8, 3071-3082	38
1839	A tailored oxide interface creates dense Pt single-atom catalysts with high catalytic activity. 2020 , 13, 1231-1239	77
1838	Generation of molybdenum hydride species via addition of molecular hydrogen across metal-oxygen bond at monolayer oxide/metal composite interface. 2020 , 45, 2975-2988	5
1837	One-Pot Cooperation of Single-Atom Rh and Ru Solid Catalysts for a Selective Tandem Olefin Isomerization-Hydrosilylation Process. 2020 , 59, 5806-5815	41
1836	Asymmetric Oxygen Vacancies: the Intrinsic Redox Active Sites in Metal Oxide Catalysts. 2020 , 7, 1901970	51
1835	Mechanochemical Kilogram-Scale Synthesis of Noble Metal Single-Atom Catalysts. 2020 , 1, 100004	80
1834	Single-atom platinum confined by the interlayer nanospace of carbon nitride for efficient photocatalytic hydrogen evolution. 2020 , 69, 104409	97
1833	Impact of the Coordination Environment on Atomically Dispersed Pt Catalysts for Oxygen Reduction Reaction. 2020 , 10, 907-913	68
1832	Single-atom Sn-Zn pairs in CuO catalyst promote dimethyldichlorosilane synthesis. 2020 , 7, 600-608	16
1831	High-throughput screening of transition metal single atom catalysts anchored on molybdenum disulfide for nitrogen fixation. 2020 , 68, 104304	75

1830	Recent research progress in the study of catalytic CO oxidation by gas phase atomic clusters. 2020 , 63, 892-902	13
1829	A review on the catalytic hydrodeoxygenation of lignin-derived phenolic compounds and the conversion of raw lignin to hydrocarbon liquid fuels. 2020 , 132, 105432	62
1828	Relationship between Atomic Scale Structure and Reactivity of Pt Catalysts: Hydrodeoxygenation of m-Cresol over Isolated Pt Cations and Clusters. 2020 , 10, 595-603	37
1827	Catalysis of a Single Transition Metal Site for Water Oxidation: From Mononuclear Molecules to Single Atoms. 2020 , 32, e1904037	46
1826	Toward Efficient Carbon and Water Cycles: Emerging Opportunities with Single-Site Catalysts Made of 3d Transition Metals. 2020 , 32, e1905548	14
1825	The role of H2 on the stability of the single-metal-site Ir1/AC catalyst for heterogeneous methanol carbonylation. 2020 , 381, 193-203	12
1824	A milestone in single-atom catalysis for direct formic acid fuel cell. 2020 , 7, 1762	1
1823	Insights into Practical-Scale Electrochemical H2O2 Synthesis. 2020 , 2, 942-953	34
1822	Atomically dispersed MNIC catalysts for the oxygen reduction reaction. 2020 , 8, 23187-23201	30
1821	Noble-metal-free electrospun nanomaterials as electrocatalysts for oxygen reduction reaction. 2020 , 15, 100280	45
1820	Metal@Zeolite Hybrid Materials for Catalysis. 2020 , 6, 1685-1697	55
1819	Stability of heterogeneous single-atom catalysts: a scaling law mapping thermodynamics to kinetics. 2020 , 6,	17
1818	Single-Atom Catalysts across the Periodic Table. 2020 , 120, 11703-11809	237
1817	Poison or Promoter? Investigating the Dual-Role of Carbon Monoxide in Pincer-Iridium-Based Alkane Dehydrogenation Systems via Operando Diffuse Reflectance Infrared Fourier Transform Spectroscopy. 2020 , 10, 12425-12436	3
1816	Catalysis-in-a-Box: Robotic Screening of Catalytic Materials in the Time of COVID-19 and Beyond. 2020 , 3, 805-823	10
1815	Visualization of Shallow-Groove Expansion of Au(111) Facet under Methane Pyrolysis. 2020 , 7, 2001245	1
1814	Regulating the coordination structure of metal single atoms for efficient electrocatalytic CO2 reduction. 2020 , 13, 4609-4624	82
1813	Nanomaterials to relieve tumor hypoxia for enhanced photodynamic therapy. 2020 , 35, 100960	48

1812	Pathways. 2020 , 14, 13279-13293	47
1811	Hydrazine decomposition on nickel-embedded graphene. 2020 , 45, 33407-33418	6
1810	Enhanced catalytic activity for CO oxidation by Fe-Adsorbing on BN under mild condition: A promising single-atom catalyst. 2020 , 495, 111165	3
1809	Operando X-ray Absorption Spectroscopy Investigation of Photocatalytic Hydrogen Evolution over Ultradispersed Pt/TiO2 Catalysts. 2020 , 10, 12696-12705	16
1808	Anchoring Positively Charged Pd Single Atoms in Ordered Porous Ceria to Boost Catalytic Activity and Stability in Suzuki Coupling Reactions. 2020 , 16, e2001782	23
1807	Engineering the Low Coordinated Pt Single Atom to Achieve the Superior Electrocatalytic Performance toward Oxygen Reduction. 2020 , 16, e2003096	36
1806	High-power lithium-selenium batteries enabled by atomic cobalt electrocatalyst in hollow carbon cathode. 2020 , 11, 5025	84
1805	Graphdiyne-based Pd single-atom catalyst for semihydrogenation of alkynes to alkenes with high selectivity and conversion under mild conditions. 2020 , 8, 20925-20930	22
1804	Stabilization of atomically dispersed rhodium sites on ceria-based supports under reaction conditions probed by in situ infrared spectroscopy. 2020 , 277, 128354	3
1803	Recent Developments on the Single Atom Supported at 2D Materials Beyond Graphene as Catalysts. 2020 , 10, 9634-9648	49
1802	General Synthesis of Single-Atom Catalysts for Hydrogen Evolution Reactions and Room-Temperature Na-S Batteries. 2020 , 59, 22171-22178	38
1801	Identifying the Active Sites of a Single Atom Catalyst with pH-Universal Oxygen Reduction Reaction Activity. 2020 , 1, 100115	12
1800	Discovery of main group single SbN4 active sites for CO2 electroreduction to formate with high efficiency. 2020 , 13, 2856-2863	113
1799	Identification of Active Sites on High-Performance Pt/Al2O3 Catalyst for Cryogenic CO Oxidation. 2020 , 10, 8815-8824	16
1798	High-loading intrinsic active sites for ammonia synthesis using efficient single-atom catalyst: 2D tungsten-porphyrin sheet. 2020 , 529, 147183	10
1797	Atomic-level active sites steering in ultrathin photocatalysts to trigger high efficiency nitrogen fixation. 2020 , 402, 126208	16
1796	Supported Metal Pair-Site Catalysts. 2020 , 10, 9065-9085	37
1795	PtN-Embedded graphene as an efficient catalyst for electrochemical reduction of nitrobenzene to aniline: a theoretical study. 2020 , 22, 17639-17645	9

1794	Size-Dependent Nickel-Based Electrocatalysts for Selective CO Reduction. 2020, 59, 18572-18577	37
1793	Size-Dependent Nickel-Based Electrocatalysts for Selective CO2 Reduction. 2020 , 132, 18731-18736	13
1792	Structural Regulation and Support Coupling Effect of Single-Atom Catalysts for Heterogeneous Catalysis. 2020 , 10, 2001482	71
1791	Molten Salt Synthesis of Atomic Heterogeneous Catalysts: Old Chemistry for Advanced Materials. 2020 , 2020, 2942-2949	9
1790	Direct Synthesis of Atomically Dispersed Palladium Atoms Supported on Graphitic Carbon Nitride for Efficient Selective Hydrogenation Reactions. 2020 ,	14
1789	Multilayer stabilization for fabricating high-loading single-atom catalysts. 2020 , 11, 5892	94
1788	Identification of the Electronic and Structural Dynamics of Catalytic Centers in Single-Fe-Atom Material. 2020 , 6, 3440-3454	79
1787	Ligand Stabilized Ni Catalyst for Efficient CO Oxidation. 2020 , 21, 2417-2425	2
1786	Recent Progresses on Structural Reconstruction of Nanosized Metal Catalysts via Controlled-Atmosphere Transmission Electron Microscopy: A Review. 2020 , 10, 14419-14450	30
1785	Nanostructured Cobalt-Based Electrocatalysts for CO Reduction: Recent Progress, Challenges, and Perspectives. 2020 , 16, e2004158	13
1784	Ink-Assisted Synthetic Strategy for Stable and Advanced Composite Electrocatalysts with Single Fe Sites. 2020 , 16, e2006113	1
1783	Few-Atomic-Layers Iron for Hydrogen Evolution from Water by Photoelectrocatalysis. 2020 , 23, 101613	2
1782	Single-Atom Catalysts for Thermal Heterogeneous Catalysis in Liquid: Recent Progress and Future Perspective. 2020 , 2, 1653-1661	7
1781	A facile synthesis of hierarchically porous carbon derived from serum albumin by a generated-templating method for efficient oxygen reduction reaction 2020 , 10, 39589-39595	
1780	Application of Single-Site Catalysts in the Hydrogen Economy. 2020 , 2, 1114-1125	2
1779	Interaction of CO and O2 with supported Pt single-atoms on TiO2(110). 2020 , 33, 349-356	1
1778	Atomically Dispersed Pt-group Catalysts: Reactivity, Uniformity, Structural Evolution, and Paths to Increased Functionality. 2020 , 11, 10114-10123	12
1777	Enhancing Reactivity of SiC-Supported Graphene by Engineering Intercalated Metal Atoms at the Interface. 2020 , 124, 18126-18131	2

1776	interfacial descriptor led mechanistic study. 2020 , 45, 24604-24614	4
1775	Recent advances in co-reaction accelerators for sensitive electrochemiluminescence analysis. 2020 , 56, 10989-10999	31
1774	Loading Copper Atoms on Graphdiyne for Highly Efficient Hydrogen Production. 2020, 21, 2145-2149	25
1773	Transition metal atoms encapsulated within microporous Silicalite-1 zeolite: A systematic computational study. 2020 , 308, 110462	5
1772	Rational Design of Two-Dimensional Transition Metal Carbide/Nitride (MXene) Hybrids and Nanocomposites for Catalytic Energy Storage and Conversion. 2020 , 14, 10834-10864	152
1771	Atomic engineering of single-atom nanozymes for enzyme-like catalysis. 2020 , 11, 9741-9756	52
1770	Interfacial engineering of core-shell structured mesoporous architectures from single-micelle building blocks. 2020 , 35, 100940	8
1769	Construction of highly accessible single Co site catalyst for glucose detection. 2020 , 65, 2100-2106	18
1768	Single-Atom Electrocatalysts from Multivariate Metal-Organic Frameworks for Highly Selective Reduction of CO at Low Pressures. 2020 , 59, 20589-20595	111
1767	Single-Atom Electrocatalysts from Multivariate Metal©rganic Frameworks for Highly Selective Reduction of CO2 at Low Pressures. 2020 , 132, 20770-20776	30
1766	The coordination of Al on pyridinic-N doped graphene as electrons reservoir for efficiently catalyzing CO oxidization. 2020 , 531, 147310	5
1765	MOF-based atomically dispersed metal catalysts: Recent progress towards novel atomic configurations and electrocatalytic applications. 2020 , 422, 213483	55
1764	Porous Ligand Creates New Reaction Route: Bifunctional Single-Atom Palladium Catalyst for Selective Distannylation of Terminal Alkynes. 2020 , 6, 2300-2313	62
1763	Metal-Catalyzed Hydrogenation of Biomass-Derived Furfural: Particle Size Effects and Regulation Strategies. 2020 , 13, 5185-5198	19
1762	Highly Efficient Deoxydehydration and Hydrodeoxygenation on MoS2-Supported Transition-Metal Atoms through a Cℍ Activation Mechanism. 2020 , 10, 11346-11355	3
1761	Stabilizing Atomically Dispersed Catalytic Sites on Tellurium Nanosheets with Strong Metal-Support Interaction Boosts Photocatalysis. 2020 , 16, e2002356	22
1760	Atomic alkali metal anchoring on graphdiyne as single-atom catalysts for capture and conversion of CO2 to HCOOH. 2020 , 494, 111142	12
1759	A sustainable natural nanofibrous confinement strategy to obtain ultrafine CoO nanocatalysts embedded in N-enriched carbon fibers for efficient biomass-derivative hydrogenation. 2020 , 12, 17373-17384	5

1758	Photochemically activated atomic ruthenium supported on boron-doped carbon as a robust electrocatalyst for hydrogen evolution. 2020 , 8, 16669-16675	6
1757	Controlling the Oxidation State of Pt Single Atoms for Maximizing Catalytic Activity. 2020 , 132, 20872-20877	10
1756	Dioxygen Binding to all 3d, 4d, and 5d Transition Metals from Coupled-Cluster Theory. 2020 , 21, 2173-2186	1
1755	Vicinal Na+ as structure guardians of atomically dispersed Ru catalysts in hydrogenation reactions. 2020 , 63, 1584-1585	1
1754	Single atom is not alone: Metal upport interactions in single-atom catalysis. 2020 , 40, 173-192	74
1753	Entropy-stabilized single-atom Pd catalysts via high-entropy fluorite oxide supports. 2020 , 11, 3908	64
1752	A facile route for constructing Cu-N-C peroxidase mimics. 2020 , 8, 8599-8606	9
1751	General Synthesis of Single-Atom Catalysts for Hydrogen Evolution Reactions and Room-Temperature Na-S Batteries. 2020 , 132, 22355-22362	11
1750	Synergetic role of charge transfer and strain engineering in improving the catalysis of Pd single-atom-thick motifs stabilized on a defect-free MoS2/Ag(Au)(111) heterostructure. 2020 , 8, 17238-17247	9
1749	Controlling the Oxidation State of Pt Single Atoms for Maximizing Catalytic Activity. 2020 , 59, 20691-20696	38
1748	Selective hydrogenation of acetylene on graphene-supported non-noble metal single-atom catalysts. 2020 , 63, 1741-1749	12
1747	High-Density and Thermally Stable Palladium Single-Atom Catalysts for Chemoselective Hydrogenations. 2020 , 59, 21613-21619	44
1746	Metal-Specific Reactivity in Single-Atom Catalysts: CO Oxidation on 4d and 5d Transition Metals Atomically Dispersed on MgO. 2020 , 142, 14890-14902	40
1745	Highly active and thermally stable single-atom catalysts for high-temperature electrochemical devices. 2020 , 13, 4903-4920	15
1744	Recent Advances in MOF-Derived Single Atom Catalysts for Electrochemical Applications. 2020 , 10, 2001561	122
1743	High-Density and Thermally Stable Palladium Single-Atom Catalysts for Chemoselective Hydrogenations. 2020 , 132, 21797-21803	10
1742	Atomic-level understanding on the evolution behavior of subnanometric Pt and Sn species during high-temperature treatments for generation of dense PtSn clusters in zeolites. 2020 , 391, 11-24	15
1741	Surface Coordination Chemistry of Atomically Dispersed Metal Catalysts. 2020 , 120, 11810-11899	134

1740	Descriptors for Hydrogen Evolution on Single Atom Catalysts in Nitrogen-Doped Graphene. 2020 , 124, 19571-19578	20
1739	Atomistic Insights into the Stability of Pt Single-Atom Electrocatalysts. 2020 , 142, 15496-15504	37
1738	Metallic single-atoms confined in carbon nanomaterials for the electrocatalysis of oxygen reduction, oxygen evolution, and hydrogen evolution reactions. 2020 , 10, 6420-6448	15
1737	Rational design of transition metal single-atom electrocatalysts: a simulation-based, machine learning-accelerated study. 2020 , 8, 19290-19299	17
1736	Hollow mesoporous CeO2 microspheres for efficient loading of Au single-atoms to catalyze the water-gas shift reaction. 2020 , 308, 110507	16
1735	Double Atom Catalysts: Heteronuclear Transition Metal Dimer Anchored on Nitrogen-Doped Graphene as Superior Electrocatalyst for Nitrogen Reduction Reaction. 2020 , 3, 2000190	6
1734	Advanced Electrocatalysts with Single-Metal-Atom Active Sites. 2020 , 120, 12217-12314	235
1733	Single atom-doped arsenene as electrocatalyst for reducing nitrogen to ammonia: a DFT study. 2020 , 22, 26223-26230	9
1732	Heterogeneous Atomic Catalysts Overcoming the Limitations of Single-Atom Catalysts. 2020 , 14, 14355-1437	7432
1731	Inducing a Curl with a Stretch. 2020 , 13,	
1730	Insights into the electronic origin of enhancing the catalytic activity of Co3O4 for oxygen evolution by single atom ruthenium. 2020 , 34, 100955	12
		
1729	Atomically Dispersed Metals on Well-Defined Supports including Zeolites and Metal-Organic Frameworks: Structure, Bonding, Reactivity, and Catalysis. 2020 , 120, 11956-11985	50
1728		50
	Frameworks: Structure, Bonding, Reactivity, and Catalysis. 2020 , 120, 11956-11985 Theoretical investigations of electrochemical CO2 reduction by transition metals anchored on	
1728	Frameworks: Structure, Bonding, Reactivity, and Catalysis. 2020 , 120, 11956-11985 Theoretical investigations of electrochemical CO2 reduction by transition metals anchored on CNTs. 2020 , 4, 6156-6164 Realizing a Not-Strong-Not-Weak Polarization Electric Field in Single-Atom Catalysts Sandwiched by Boron Nitride and Graphene Sheets for Efficient Nitrogen Fixation. 2020 , 142, 19308-19315	3
1728 1727	Frameworks: Structure, Bonding, Reactivity, and Catalysis. 2020 , 120, 11956-11985 Theoretical investigations of electrochemical CO2 reduction by transition metals anchored on CNTs. 2020 , 4, 6156-6164 Realizing a Not-Strong-Not-Weak Polarization Electric Field in Single-Atom Catalysts Sandwiched by Boron Nitride and Graphene Sheets for Efficient Nitrogen Fixation. 2020 , 142, 19308-19315	3 54
1728 1727 1726	Frameworks: Structure, Bonding, Reactivity, and Catalysis. 2020, 120, 11956-11985 Theoretical investigations of electrochemical CO2 reduction by transition metals anchored on CNTs. 2020, 4, 6156-6164 Realizing a Not-Strong-Not-Weak Polarization Electric Field in Single-Atom Catalysts Sandwiched by Boron Nitride and Graphene Sheets for Efficient Nitrogen Fixation. 2020, 142, 19308-19315 Single-Atom Catalysts Based on the Metal-Oxide Interaction. 2020, 120, 11986-12043 Theoretical Understandings of Graphene-based Metal Single-Atom Catalysts: Stability and Catalytic	3 54 154

1722	Review of recent research work on CeO2-based electrocatalysts in liquid-phase electrolytes. 2020 , 480, 229091	20
1721	Ab Initio Molecular Dynamics Reveals New Metal-Binding Sites in Atomically Dispersed Pt1/TiO2 Catalysts. 2020 , 124, 24187-24195	4
1720	The Structure of Molecular and Surface Platinum Sites Determined by DNP-SENS and Fast MAS Pt Solid-State NMR Spectroscopy. 2020 , 142, 18936-18945	11
1719	Direct Characterization of Atomically Dispersed Catalysts: Nitrogen-Coordinated Ni Sites in Carbon-Based Materials for CO2 Electroreduction. 2020 , 10, 2001836	20
1718	Pore-Edge Tailoring of Single-Atom IronNitrogen Sites on Graphene for Enhanced CO2 Reduction. 2020 , 10, 10803-10811	62
1717	Supported Metal Clusters: Fabrication and Application in Heterogeneous Catalysis. 2020 , 10, 11011-11045	85
1716	Theoretical insights into single-atom catalysts. 2020 , 49, 8156-8178	89
1715	Copper Isolated Sites on N-Doped Carbon Nanoframes for Efficient Oxygen Reduction. 2020 , 8, 14030-14038	15
1714	Atomically-precise dopant-controlled single cluster catalysis for electrochemical nitrogen reduction. 2020 , 11, 4389	52
1713	Iridium Single Atoms Coupling with Oxygen Vacancies Boosts Oxygen Evolution Reaction in Acid Media. 2020 , 142, 18378-18386	128
1712	Non-Metal Single-Phosphorus-Atom Catalysis of Hydrogen Evolution. 2020 , 132, 23999-24007	12
1711	Single Copper Atoms Supported on ZnS as an Efficient Catalyst for Electrochemical Reduction of CO to CH3OH. 2020 , 6, 1806-1811	5
1710	Direct probing of atomically dispersed Ru species over multi-edged TiO for highly efficient photocatalytic hydrogen evolution. 2020 , 6,	62
1709	Microenvironment modulation of single-atom catalysts and their roles in electrochemical energy conversion. 2020 , 6,	86
1708	Density Functional Theory Study of Single Metal Atoms Embedded into MBene for Electrocatalytic Conversion of N2 to NH3. 2020 , 3, 9870-9879	16
1707	N-Heterocyclic Carbene Coordination to Surface Copper Sites in Selective Semihydrogenation Catalysts from Solid-State NMR Spectroscopy. 2020 , 132, 20174-20182	Ο
1706	Controlling Hydrocarbon (De)Hydrogenation Pathways with Bifunctional PtCu Single-Atom Alloys. 2020 , 11, 8751-8757	12
1705	A perspective on oxide-supported single-atom catalysts. 2020 , 2, 3624-3631	4

1704	Recent advances in single-atom catalysts for CO oxidation. 2020 , 1-42	15
1703	Bismuth-rich bismuth oxyhalides: a new opportunity to trigger high-efficiency photocatalysis. 2020 , 8, 21434-21454	32
1702	Highly Catalytically Active High-spin Single-atom Iron Catalyst Supported by Catechol-containing Microporous 2D Polymer. 2020 , 49, 1240-1244	O
1701	Screening the activity of single-atom catalysts for the catalytic oxidation of sulfur dioxide with a kinetic activity model. 2020 , 56, 11657-11660	5
1700	Recent advances and strategies in the stabilization of single-atom catalysts for electrochemical applications. 2020 , 2, 488-520	16
1699	Computational screening of efficient graphene-supported transition metal single atom catalysts toward the oxygen reduction reaction. 2020 , 8, 19319-19327	18
1698	Recent Advances in Earth-Abundant Core/Noble-Metal Shell Nanoparticles for Electrocatalysis. 2020 , 10, 10886-10904	13
1697	Ultra-Fine CeO Particles Triggered Strong Interaction with LaFeO Framework for Total and Preferential CO Oxidation. 2020 , 12, 42274-42284	11
1696	Activation of Copper Species on Carbon Nitride for Enhanced Activity in the Arylation of Amines. 2020 , 10, 11069-11080	12
1695	Recent Progress of Single-atom Catalysts in the Electrocatalytic Reduction of Oxygen to Hydrogen Peroxide. 2020 , 32, 2591-2602	10
1694	Insights into the Mechanism of -Hexane Reforming over a Single-Site Platinum Catalyst. 2020 , 142, 16533-165	3 7
1693	Scaling Relationships and Volcano Plots in Homogeneous Catalysis. 2020 , 11, 8518-8526	11
1692	Isolated Single Atoms Anchored on N-Doped Carbon Materials as a Highly Efficient Catalyst for Electrochemical and Organic Reactions. 2020 , 8, 14630-14656	47
1691	Non-Metal Single-Phosphorus-Atom Catalysis of Hydrogen Evolution. 2020 , 59, 23791-23799	28
1690	Novel approaches for highly selective, room-temperature gas sensors based on atomically dispersed non-precious metals. 2020 , 8, 23784-23794	4
1689	Unveiling the Potential of an Fe Bis(terpyridine) Complex for Precise Development of an Fe-N-C Electrocatalyst to Promote the Oxygen Reduction Reaction. 2020 , 59, 13453-13464	6
1688	Single-Atom Co-N Electrocatalyst Enabling Four-Electron Oxygen Reduction with Enhanced Hydrogen Peroxide Tolerance for Selective Sensing. 2020 , 142, 16861-16867	77
1687	Atomic Filtration by Graphene Oxide Membranes to Access Atomically Dispersed Single Atom Catalysts. 2020 , 10, 10468-10475	19

1686	2D-organic framework confined metal single atoms with the loading reaching the theoretical limit. 2020 , 7, 2726-2733	9
1685	A Universal Graphene Quantum Dot Tethering Design Strategy to Synthesize Single-Atom Catalysts. 2020 , 59, 21885-21889	43
1684	Elucidation of the Active Sites in Single-Atom Pd1/CeO2 Catalysts for Low-Temperature CO Oxidation. 2020 , 10, 11356-11364	34
1683	A Universal Graphene Quantum Dot Tethering Design Strategy to Synthesize Single-Atom Catalysts. 2020 , 132, 22069-22073	5
1682	Spatial Confinement as an Effective Strategy for Improving the Catalytic Selectivity in Acetylene Hydrogenation. 2020 , 12, 39352-39361	3
1681	Chromium Single-Atom Catalyst with Graphyne Support: A Theoretical Study of NO Oxidation and Reduction. 2020 , 10, 11951-11961	21
1680	Origin of the Unusual Stability of Zeolite-Encapsulated Sub-Nanometer Platinum. 2020 , 10, 11057-11068	7
1679	Single-Atom Pt Stabilized on One-Dimensional Nanostructure Support Carbon Nitride/SnO Heterojunction Trapping. 2020 , 14, 11394-11405	35
1678	Carbon-Based Materials for the Development of Highly Dispersed Metal Catalysts: Towards Highly Performant Catalysts for Fine Chemical Synthesis. 2020 , 10, 1407	11
1677	X-ray Absorption Spectroscopy: An Indispensable Tool to Study Single-Atom Catalysts. 2020 , 33, 18-26	2
1676	Designing the future atomic electrocatalyst for efficient energy systems. 2020 , 2, e12327	2
1675	Intrinsic Activity of Metal Centers in Metal-Nitrogen-Carbon Single-Atom Catalysts for Hydrogen Peroxide Synthesis. 2020 , 142, 21861-21871	48
1674	Selective Hydrogenation on a Highly Active Single-Atom Catalyst of Palladium Dispersed on Ceria Nanorods by Defect Engineering. 2020 , 12, 57569-57577	11
1673	Single-Atom Catalysis: An Analogy between Heterogeneous and Homogeneous Catalysts. 2020 , 1-15	1
1672	Stabilizing the OOH* intermediate via pre-adsorbed surface oxygen of a single Ru atom-bimetallic alloy for ultralow overpotential oxygen generation. 2020 , 13, 5152-5164	42
1671	Atomically Dispersed Cobalt Trifunctional Electrocatalysts with Tailored Coordination Environment for Flexible Rechargeable ZnAir Battery and Self-Driven Water Splitting. 2020 , 10, 2002896	95
1670	Electron-withdrawing functional ligand promotes CO2 reduction catalysis in single atom catalyst. 2020 , 63, 1727-1733	20
1669	Theoretical investigation on graphene-supported single-atom catalysts for electrochemical CO2 reduction. 2020 , 10, 8465-8472	11

1	1668	hydrogen evolution reaction at all pH values. 2020 , 8, 24710-24717	42
1	1667	Adsorption, diffusion and aggregation of Ir atoms on graphdiyne: a first-principles investigation. 2020 , 22, 25841-25847	3
1	1666	Recent Advances in the Development of Single-Atom Catalysts for Oxygen Electrocatalysis and ZincAir Batteries. 2020 , 10, 2003018	72
1	1665	Rare-Earth Single-Atom La-N Charge-Transfer Bridge on Carbon Nitride for Highly Efficient and Selective Photocatalytic CO Reduction. 2020 , 14, 15841-15852	123
1	1664	Tetrapyrroles at near-ambient pressure: porphyrins and phthalocyanines beyond the pressure gap. 2020 , 3, 022002	7
1	1663	Improving the Catalytic Activity of Carbon-Supported Single Atom Catalysts by Polynary Metal or Heteroatom Doping. 2020 , 16, e1906782	46
1	1662	Electrocatalytically Active Fe-(O-C) Single-Atom Sites for Efficient Reduction of Nitrogen to Ammonia. 2020 , 59, 13423-13429	71
1	1661	Transportable Mononuclear Metal Atoms as Building Blocks for Bottom-up Material Fabrication: Pt1(0) and Au1(0) Atoms in Stock Solutions. 2020 , 6, 1191-1199	1
1	1660	Identification of Active Area as Active Center for CO Oxidation over Single Au Atom Catalyst. 2020 , 10, 6094-6101	50
1	1659	Polyvinylpyrrolidone-Coordinated Single-Site Platinum Catalyst Exhibits High Activity for Hydrogen Evolution Reaction. 2020 , 59, 15902-15907	38
1	1658	Recent Advancement of p- and d-Block Elements, Single Atoms, and Graphene-Based Photoelectrochemical Electrodes for Water Splitting. 2020 , 10, 2000280	40
1	1657	Room-Temperature Synthesis of Single Iron Site by Electrofiltration for Photoreduction of CO into Tunable Syngas. 2020 , 14, 6164-6172	36
1	1656	The mechanism and ligand effects of single atom rhodium supported on ZSM-5 for the selective oxidation of methane to methanol. 2020 , 22, 11686-11694	15
1	1655	Theoretical Studies on the Stability and Reactivity of the Metal-Doped CeO(100) Surface: Toward H Dissociation and Oxygen Vacancy Formation. 2020 , 36, 5891-5901	15
1	1654	Recent Advances in Electrochemical Oxygen Reduction to H2O2: Catalyst and Cell Design. 2020 , 5, 1881-1892	74
1	1653	Intermetallic compounds in catalysis - a versatile class of materials meets interesting challenges. 2020 , 21, 303-322	28
1	1652	Activation strategies of water-splitting electrocatalysts. 2020 , 8, 10096-10129	35
1	1651	Non-noble metal single-atom catalysts with phosphotungstic acid (PTA) support: A theoretical study of ethylene epoxidation. 2020 , 63, 1003-1014	21

1650	Dynamic active-site generation of atomic iridium stabilized on nanoporous metal phosphides for water oxidation. 2020 , 11, 2701	105
1649	Fundamental understanding of the acidic oxygen evolution reaction: mechanism study and state-of-the-art catalysts. 2020 , 12, 13249-13275	69
1648	High-performance Ru-based electrocatalyst composed of Ru nanoparticles and Ru single atoms for hydrogen evolution reaction in alkaline solution. 2020 , 45, 18840-18849	23
1647	Exploring the Reaction Mechanism of HS Decomposition with MS (M = Mo, W) Clusters. 2020 , 5, 13324-13332	4
1646	MetalØrganic Frameworks as a Good Platform for the Fabrication of Single-Atom Catalysts. 2020 , 10, 6579-6586	104
1645	Atomically dispersed metal active centers as a chemically tunable platform for energy storage devices. 2020 , 8, 15358-15372	9
1644	Hydrogen generation from methanol reforming for fuel cell applications: A review. 2020 , 27, 1074-1103	15
1643	A Single-Atomic Noble Metal Enclosed Defective MOF via Cryogenic UV Photoreduction for CO Oxidation with Ultrahigh Efficiency and Stability. 2020 , 12, 26068-26075	12
1642	Selective electroreduction of CO to acetone by single copper atoms anchored on N-doped porous carbon. 2020 , 11, 2455	121
1641	Rational screening of single-atom-doped ZnO catalysts for propane dehydrogenation from microkinetic analysis. 2020 , 10, 4938-4951	10
1640	Electrocatalytically Active Fe-(O-C2)4 Single-Atom Sites for Efficient Reduction of Nitrogen to Ammonia. 2020 , 132, 13525-13531	14
1639	Densely Isolated FeN4 Sites for Peroxidase Mimicking. 2020 , 10, 6422-6429	87
1638	Polyvinylpyrrolidone-Coordinated Single-Site Platinum Catalyst Exhibits High Activity for Hydrogen Evolution Reaction. 2020 , 132, 16036-16041	7
1637	Rational Catalyst Design for N2 Reduction under Ambient Conditions: Strategies toward Enhanced Conversion Efficiency. 2020 , 10, 6870-6899	126
1636	Carbon black-supported FMNII (FM = Fe, Co, and Ni) single-atom catalysts synthesized by the self-catalysis of oxygen-coordinated ferrous metal atoms. 2020 , 8, 13166-13172	12
1635	Ammonia, 4. Green Ammonia Production. 2020 , 1-20	5
1634	PtCo@NCs with Short Heteroatom Active Site Distance for Enhanced Catalytic Properties. 2020 , 30, 2002281	28
1633	Single-atom nanozymes: A rising star for biosensing and biomedicine. 2020 , 418, 213376	58

1632	screened out from 3d and 4d transition metal single atoms. 2020 , 45, 17480-17492	9
1631	Tuning Single-Atom Catalysts of Nitrogen-Coordinated Transition Metals for Optimizing Oxygen Evolution and Reduction Reactions. 2020 , 124, 13168-13176	14
1630	Covalent Organic Frameworks for Heterogeneous Catalysis: Principle, Current Status, and Challenges. 2020 , 6, 869-879	95
1629	Controllable synthesis of ultrasmall Pd nanocatalysts templated by supramolecular coordination cages for highly efficient reductive dehalogenation. 2020 , 8, 12097-12105	7
1628	Electrocatalysis of Single-Atom Sites: Impacts of Atomic Coordination. 2020, 10, 7584-7618	131
1627	Sulfate-Modified NiAl Mixed Oxides as Effective CH Bond-Breaking Agents for the Sole Production of Ethylene from Ethane. 2020 , 10, 7619-7629	12
1626	Sustainable Catalytic Processes Driven by Graphene-Based Materials. 2020 , 8, 672	6
1625	Recent progresses in the research of single-atom catalysts. 2020 , 63, 889-891	32
1624	Synergistic Effect of Surface-Terminated Oxygen Vacancy and Single-Atom Catalysts on Defective MXenes for Efficient Nitrogen Fixation. 2020 , 11, 5051-5058	44
1623	Single atomic site catalysts: synthesis, characterization, and applications. 2020 , 56, 7687-7697	26
1622	Engineering unsymmetrically coordinated Cu-SN single atom sites with enhanced oxygen reduction activity. 2020 , 11, 3049	210
1621	Dual Single-Atomic Ni-N and Fe-N Sites Constructing Janus Hollow Graphene for Selective Oxygen Electrocatalysis. 2020 , 32, e2003134	197
1620	Metal-Nitrogen-Doped Carbon Materials as Highly Efficient Catalysts: Progress and Rational Design. 2020 , 7, 2001069	91
1619	Recent Progress in Single-Atom Catalysts for Photocatalytic Water Splitting. 2020 , 4, 2000283	24
1618	Single-atom Ni-N provides a robust cellular NO sensor. 2020 , 11, 3188	59
1617	Dopamine polymer derived isolated single-atom site metals/N-doped porous carbon for benzene oxidation. 2020 , 56, 8916-8919	8
1616	A Single-Atom Manipulation Approach for Synthesis of Atomically Mixed Nanoalloys as Efficient Catalysts. 2020 , 59, 13568-13574	10
1615	Recent Developments for AluminumAir Batteries. 2020 , 3, 344-369	34

1614	Accurate prediction of binding energies for two-dimensional catalytic materials using machine learning. 2020 , 12, 5109-5120	7
1613	Design Principles of Single Atoms on Carbons for LithiumBulfur Batteries. 2020 , 4, 2000315	44
1612	Nitrogen reduction reaction on small iron clusters supported by N-doped graphene: A theoretical study of the atomically precise active-site mechanism. 2020 , 13, 2280-2288	22
1611	CO2 electrochemical reduction using single-atom catalysts. Preparation, characterization and anchoring strategies: a review. 2020 , 18, 1593-1623	13
1610	Atomically dispersed catalysts for hydrogen/oxygen evolution reactions and overall water splitting. 2020 , 471, 228446	39
1609	Catalysis to discriminate single atoms from subnanometric ruthenium particles in ultra-high loading catalysts. 2020 , 10, 4673-4683	6
1608	First-principles insight into CO hindered agglomeration of Rh and Pt single atoms on m-ZrO2. 2020 , 10, 5847-5855	3
1607	A Single-Atom Manipulation Approach for Synthesis of Atomically Mixed Nanoalloys as Efficient Catalysts. 2020 , 132, 13670-13676	6
1606	Single-Atom Catalysts for Electrocatalytic Applications. 2020 , 30, 2000768	173
1605	Porous Carbon Membrane-Supported Atomically Dispersed Pyrrole-Type Fe?N as Active Sites for Electrochemical Hydrazine Oxidation Reaction. 2020 , 16, e2002203	19
1604	Gas Sensors Based on Chemi-Resistive Hybrid Functional Nanomaterials. 2020 , 12, 71	131
1603	Ultrasmall Ag Clusters Modified W18O49 Ultrathin Nanowires for Sensitive Surface Enhanced Raman Spectroscopy Detection. 2020 , 5, 3105-3112	1
1602	Perspectives on the Active Sites and Catalyst Design for the Hydrogenation of Dimethyl Oxalate. 2020 , 10, 4465-4490	20
1601	Reductive amination using cobalt-based nanoparticles for synthesis of amines. 2020 , 15, 1313-1337	24
1600	Highly dispersed ultrafine shell-like nano-Pt with efficient hydrogen evolution via metal boron organic polymers. 2020 , 8, 7171-7176	31
1599	Heterogeneous Single-Atom Photocatalysts: Fundamentals and Applications. 2020 , 120, 12175-12216	269
1598	Unconventional Oxygen Reduction Reaction Mechanism and Scaling Relation on Single-Atom Catalysts. 2020 , 10, 4313-4318	52
1597	Coordination Tunes Selectivity: Two-Electron Oxygen Reduction on High-Loading Molybdenum Single-Atom Catalysts. 2020 , 59, 9171-9176	206

1596	Recent Advances in Synthesis and Utilization of Ultra-low Loading of Precious Metal-based Catalysts for Fuel Cells. 2020 , 12, 3434-3446	15
1595	Single-Atom Iron Catalysts on Overhang-Eave Carbon Cages for High-Performance Oxygen Reduction Reaction. 2020 , 132, 7454-7459	45
1594	High-loading and thermally stable Pt1/MgAl1.2Fe0.8O4 single-atom catalysts for high-temperature applications. 2020 , 63, 949-958	21
1593	Atom-Coordinated Structure Triggers Selective H2O2 Production. 2020 , 6, 548-550	23
1592	Single-Atom Iron Catalysts on Overhang-Eave Carbon Cages for High-Performance Oxygen Reduction Reaction. 2020 , 59, 7384-7389	134
1591	Fabricating Pd isolated single atom sites on C3N4/rGO for heterogenization of homogeneous catalysis. 2020 , 13, 947-951	41
1590	Reversible photoactivation in coordination polymer-derived CdS/CoN species composites for enhanced photocatalytic hydrogen evolution. 2020 , 4, 2559-2568	2
1589	Single-Atom Catalytic Materials for Advanced Battery Systems. 2020 , 32, e1906548	96
1588	Stability and electronic properties of Au atom doped hexagonal boron nitride sheet on Ni(111) support: Role of vacancy defects and supports towards single atom catalysis. 2020 , 515, 145978	5
1587	Dehydrogenation versus hydrogenolysis in the reaction of light alkanes over Ni-based catalysts. 2020 , 86, 1-12	14
1586	The Consortium for Operando and Advanced Catalyst Characterization via Electronic Spectroscopy and Structure (Co-ACCESS) at Stanford Synchrotron Radiation Lightsource (SSRL). 2020 , 33, 15-19	
1585	Strong metal-support interaction promoted scalable production of thermally stable single-atom catalysts. 2020 , 11, 1263	107
1584	Coordination Tunes Selectivity: Two-Electron Oxygen Reduction on High-Loading Molybdenum Single-Atom Catalysts. 2020 , 132, 9256-9261	59
1583	Evolution of Isolated Atoms and Clusters in Catalysis. 2020 , 2, 383-400	60
1582	Integration of Metal Single Atoms on Hierarchical Porous Nitrogen-Doped Carbon for Highly Efficient Hydrogenation of Large-Sized Molecules in the Pharmaceutical Industry. 2020 , 12, 17651-17658	17
1581	A highly active Rh/CeO single-atom catalyst for low-temperature CO oxidation. 2020 , 56, 4870-4873	28
1580	Formic acid oxidation boosted by Rh single atoms. 2020 , 15, 346-347	7
1579	Role of the Support in Gold-Containing Nanoparticles as Heterogeneous Catalysts. 2020 , 120, 3890-3938	131

1578	Chemical Synthesis of Single Atomic Site Catalysts. 2020 , 120, 11900-11955	368
1577	Carbon-Microcuboid-Supported Phosphorus-Coordinated Single Atomic Copper with Ultrahigh Content and Its Abnormal Modification to Na Storage Behaviors. 2020 , 10, 2000400	24
1576	Catalytic mechanism and bonding analyses of Au-Pd single atom alloy (SAA): CO oxidation reaction. 2020 , 63, 993-1002	14
1575	Ultrahigh-Loading of Ir Single Atoms on NiO Matrix to Dramatically Enhance Oxygen Evolution Reaction. 2020 , 142, 7425-7433	186
1574	Atomic site electrocatalysts for water splitting, oxygen reduction and selective oxidation. 2020 , 49, 2215-226	4309
1573	Single-atom Pd dispersed on nanoscale anatase TiO2 for the selective hydrogenation of phenylacetylene. 2020 , 63, 982-992	42
1572	Nanostructuring unlocks high performance of platinum single-atom catalysts for stable vinyl chloride production. 2020 , 3, 376-385	71
1571	Recent Developments of Advanced Ti3+-Self-Doped TiO2 for Efficient Visible-Light-Driven Photocatalysis. 2020 , 10, 679	11
1570	Regioselective Generation of Single-Site Iridium Atoms and Their Evolution into Stabilized Subnanometric Iridium Clusters in MWW Zeolite. 2020 , 132, 15825-15832	3
1569	Immobilized trimeric metal clusters: A family of the smallest catalysts for selective CO2 reduction toward multi-carbon products. 2020 , 76, 105049	23
1568	Highly Efficient Hydrogenation of Nitroarenes by N-Doped Carbon-Supported Cobalt Single-Atom Catalyst in Ethanol/Water Mixed Solvent. 2020 , 12, 34021-34031	23
1567	High-loaded single Cu atoms decorated on N-doped graphene for boosting Fenton-like catalysis under neutral pH. 2020 , 8, 13685-13693	32
1566	Janus interphase catalysts for interfacial organic reactions. 2020 , 315, 113735	5
1565	Universal Approach to Fabricating Graphene-Supported Single-Atom Catalysts from Doped ZnO Solid Solutions. 2020 , 6, 1431-1440	42
1564	Emerging Multifunctional Single-Atom Catalysts/Nanozymes. 2020 , 6, 1288-1301	76
1563	Single-atom-sized NiN4 sites anchored in three-dimensional hierarchical carbon nanostructures for the oxygen reduction reaction. 2020 , 8, 15012-15022	37
1562	N-Heterocyclic Carbene Coordination to Surface Copper Sites in Selective Semihydrogenation Catalysts from Solid-State NMR Spectroscopy. 2020 , 59, 19999-20007	9
1561	Heterogeneous Single-Atom Catalysts for Electrochemical CO Reduction Reaction. 2020 , 32, e2001848	148

1560	A Promoted Charge Separation/Transfer System from Cu Single Atoms and C N Layers for Efficient Photocatalysis. 2020 , 32, e2003082	144
1559	Unravelling the Enigma of Nonoxidative Conversion of Methane on Iron Single-Atom Catalysts. 2020 , 132, 18745-18749	6
1558	Unravelling the Enigma of Nonoxidative Conversion of Methane on Iron Single-Atom Catalysts. 2020 , 59, 18586-18590	20
1557	Peroxidase-like activity of Fe-N-C single-atom nanozyme based colorimetric detection of galactose. 2020 , 1128, 72-79	22
1556	Defect and Interface Engineering on Two-Dimensional Nanosheets for the Photocatalytic Nitrogen Reduction Reaction. 2020 , 4, 5322-5336	6
1555	Metal-support interaction for heterogeneous catalysis: from nanoparticles to single atoms. 2020 , 12, 100093	29
1554	Regioselective Generation of Single-Site Iridium Atoms and Their Evolution into Stabilized Subnanometric Iridium Clusters in MWW Zeolite. 2020 , 59, 15695-15702	25
1553	Progress of Electrochemical Hydrogen Peroxide Synthesis over Single Atom Catalysts. 2020 , 2, 1008-1024	46
1552	Pt single-atoms supported on nitrogen-doped carbon dots for highly efficient photocatalytic hydrogen generation. 2020 , 8, 14690-14696	25
1551	Single-Atom Catalysts Supported by Crystalline Porous Materials: Views from the Inside. 2020 , 32, e2002910	22
1550	Stabilizing platinum atoms on CeO2 oxygen vacancies by metal-support interaction induced interface distortion: Mechanism and application. 2020 , 278, 119304	42
1549	Single transition metal atoms anchored on a CN monolayer as efficient catalysts for hydrazine electrooxidation. 2020 , 22, 16691-16700	3
1548	Electrocatalyst design for promoting two-electron oxygen reduction reaction: Isolation of active site atoms. 2020 , 21, 109-116	18
1547	A cascade surface immobilization strategy to access high-density and closely distanced atomic Pt sites for enhancing alkaline hydrogen evolution reaction. 2020 , 8, 5255-5262	14
1546	Engineering of the Heterointerface of Porous Carbon NanofiberBupported Nickel and Manganese Oxide Nanoparticle for Highly Efficient Bifunctional Oxygen Catalysis. 2020 , 30, 1910568	60
1545	Molecular Design of Single-Atom Catalysts for Oxygen Reduction Reaction. 2020 , 10, 1903815	139
1544	Fe3O4 nanoparticles encapsulated in single-atom FeIMII towards efficient oxygen reduction reaction: Effect of the micro and macro pores. 2020 , 162, 245-255	42
1543	Uncovering near-free platinum single-atom dynamics during electrochemical hydrogen evolution reaction. 2020 , 11, 1029	184

1542	Kinetic Study of the Hydrogenation of Unsaturated Aldehydes Promoted by CuPtx/SBA-15 Single-Atom Alloy (SAA) Catalysts. 2020 , 10, 3431-3443	27
1541	Synergism of Iron and Platinum Species for Low-Temperature CO Oxidation: From Two-Dimensional Surface to Nanoparticle and Single-Atom Catalysts. 2020 , 11, 2219-2229	16
1540	Nanospace engineering by the growth of nano metal-organic framework on dendritic fibrous nanosilica (DFNS) and DFNS/gold hybrids. 2020 , 13, 775-784	3
1539	Unveiling the Active Structure of Single Nickel Atom Catalysis: Critical Roles of Charge Capacity and Hydrogen Bonding. 2020 , 142, 5773-5777	112
1538	Single atom catalysts: a surface heterocompound perspective. 2020 , 5, 757-764	23
1537	A general method to construct single-atom catalysts supported on N-doped graphene for energy applications. 2020 , 8, 6190-6195	24
1536	Highly durable metal ensemble catalysts with full dispersion for automotive applications beyond single-atom catalysts. 2020 , 3, 368-375	87
1535	State of the art and perspectives in heterogeneous catalysis of CO hydrogenation to methanol. 2020 , 49, 1385-1413	274
1534	One-Pot Cooperation of Single-Atom Rh and Ru Solid Catalysts for a Selective Tandem Olefin Isomerization-Hydrosilylation Process. 2020 , 132, 5855-5864	10
1533	High-Entropy Alloys as Catalysts for the CO2 and CO Reduction Reactions: Experimental Realization. 2020 , 10, 3658-3663	95
1532	Stable single platinum atoms trapped in sub-nanometer cavities in 12CaOI/AlO for chemoselective hydrogenation of nitroarenes. 2020 , 11, 1020	47
1531	MXenes: Applications in electrocatalytic, photocatalytic hydrogen evolution reaction and CO2 reduction. 2020 , 486, 110850	57
1530	Dynamic vs static behaviour of a supported nanoparticle with reaction-induced catalytic sites in a lattice model. 2020 , 10, 2882	0
1529	On the Controlled Loading of Single Platinum Atoms as a Co-Catalyst on TiO Anatase for Optimized Photocatalytic H Generation. 2020 , 32, e1908505	100
1528	On the Real Nature of Rh Single-Atom Catalysts Dispersed on the ZrO2 Surface. 2020 , 12, 2595-2604	9
1527	Beyond Dimensionally Stable Anodes: Single-Atom Catalysts with Superior Chlorine Selectivity. 2020 , 7, 1528-1530	6
1526	Single-Site Au/Carbon Catalysts with Single-Atom and Au Nanoparticles for Acetylene Hydrochlorination. 2020 , 3, 3004-3010	11
1525	Dual-atom Ag2/graphene catalyst for efficient electroreduction of CO2 to CO. 2020 , 268, 118747	61

(2020-2020)

1524	2020, 10, 1903949	41
1523	A Photoactivated CulleO2 Catalyst with Cu-[O]-Ce Active Species Designed through MOF Crystal Engineering. 2020 , 132, 8280-8286	1
1522	Pd single site-anchored perovskite cathode for CO2 electrolysis in solid oxide electrolysis cells. 2020 , 71, 104598	20
1521	Pt © a Model SCALMS on Modified HOPG: Thermal Behavior and Stability in UHV and under Near-Ambient Conditions. 2020 , 124, 2562-2573	9
1520	Single-Atom Aul 13 Site for Acetylene Hydrochlorination Reaction. 2020, 10, 1865-1870	41
1519	Atomic-level tuning of Co-N-C catalyst for high-performance electrochemical HO production. 2020 , 19, 436-442	315
1518	In situ observations of the structural dynamics of platinum-cobalt-hydroxide nanocatalysts under CO oxidation. 2020 , 12, 3273-3283	8
1517	Enabling Direct H2O2 Production in Acidic Media through Rational Design of Transition Metal Single Atom Catalyst. 2020 , 6, 658-674	176
1516	Atomically dispersed Pt-N sites as efficient and selective electrocatalysts for the chlorine evolution reaction. 2020 , 11, 412	59
1515	Carbon science perspective in 2020: Current research and future challenges. 2020 , 161, 373-391	35
1514	Colloidal Co single-atom catalyst: a facile synthesis strategy and high catalytic activity for hydrogen generation. 2020 , 22, 1269-1274	9
1513	Heterogeneous Single Atom Electrocatalysis, Where Bingles Are Married 2020, 10, 1903181	64
1512	Single-atom catalysis for a sustainable and greener future. 2020 , 22, 54-64	16
1511	Constructing High-Loading Single-Atom/Cluster Catalysts via an Electrochemical Potential Window Strategy. 2020 , 142, 3375-3383	78
1510	Pt-O bond as an active site superior to Pt in hydrogen evolution reaction. 2020 , 11, 490	95
1509	A General Method for Transition Metal Single Atoms Anchored on Honeycomb-Like Nitrogen-Doped Carbon Nanosheets. 2020 , 32, e1906905	97
1508	Self-assembled single-atom nanozyme for enhanced photodynamic therapy treatment of tumor. 2020 , 11, 357	158
1507	Periodic F-defects on the MgO surface as potential single-defect catalysts with non-linear optical properties. 2020 , 532, 110680	13

1506	Preparation and regeneration of supported single-Ir-site catalysts by nanoparticle dispersion via CO and nascent I radicals. 2020 , 382, 347-357	5
1505	Selective Hydrogenation of Acetylene Catalysed by a B12N12 Cluster Doped with a Single Nickel Atom: A DFT Study. 2020 , 10, 115	3
1504	Single-Atom Catalysts for Electrochemical Hydrogen Evolution Reaction: Recent Advances and Future Perspectives. 2020 , 12, 21	83
1503	Iron-Catalyzed Reductive Coupling of Alkyl Iodides with Alkynes To Yield -Olefins: Mechanistic Insights from Computation. 2020 , 5, 1586-1594	8
1502	Introduction: Nanoparticles in Catalysis. 2020 , 120, 461-463	160
1501	Design aktiver atomarer Zentren fil HER-Elektrokatalysatoren. 2020 , 132, 20978-20998	9
1500	Rare Earth Single-Atom Catalysts for Nitrogen and Carbon Dioxide Reduction. 2020 , 14, 1093-1101	109
1499	A Disquisition on the Active Sites of Heterogeneous Catalysts for Electrochemical Reduction of CO2 to Value-Added Chemicals and Fuel. 2020 , 10, 1902106	57
1498	A Photoactivated Cu-CeO Catalyst with Cu-[O]-Ce Active Species Designed through MOF Crystal Engineering. 2020 , 59, 8203-8209	13
1497	Single vs double atom catalyst for N2 activation in nitrogen reduction reaction: A DFT perspective. 2020 , 2, e12014	43
1496	Superior Catalytic Performance of Atomically Dispersed Palladium on Graphene in CO Oxidation. 2020 , 10, 3084-3093	24
1495	Selectivity Regulation in Au-Catalyzed Nitroaromatic Hydrogenation by Anchoring Single-Site Metal Oxide Promoters. 2020 , 10, 2837-2844	20
1494	Current technology development for CO2 utilization into solar fuels and chemicals: A review. 2020 , 49, 96-123	86
1493	Designing Synergistic Nanocatalysts for Multiple Substrate Activation: Interlattice AgHe3O4 Hybrid Materials for CO2-Inserted Lactones. 2020 , 10, 3349-3359	4
1492	Lattice oxygen activation in transition metal doped ceria. 2020 , 41, 977-984	14
1491	Mainstream avenues for boosting graphitic carbon nitride efficiency: towards enhanced solar light-driven photocatalytic hydrogen production and environmental remediation. 2020 , 8, 10571-10603	38
1490	Highly dispersed Pt studded on CoOx nanoclusters for CO preferential oxidation in H2. 2020 , 8, 10180-10187	7
1489	Carbon-based single-atom catalysts for CO2 electroreduction: progress and optimization strategies. 2020 , 8, 10695-10708	48

(2020-2020)

1488	Single-atom catalysis enables long-life, high-energy lithium-sulfur batteries. 2020 , 13, 1856-1866	161
	Multi sites vs single site for catalytic combustion of methane over Co3O4(110): A first-principles kinetic Monte Carlo study. 2020 , 41, 1369-1377	10
1486	Metal-Organic Framework-Based Catalysts with Single Metal Sites. 2020 , 120, 12089-12174	291
	Cooperative Nitrogen Activation and Ammonia Synthesis on Densely Monodispersed Mo-N-C Sites. 2020 , 11, 3962-3968	13
	Efficient degradation and mineralization of antibiotics via heterogeneous activation of peroxymonosulfate by using graphene supported single-atom Cu catalyst. 2020 , 394, 124904	46
	A Novel Single-Atom Electrocatalyst Ti /rGO for Efficient Cathodic Reduction in Hybrid Photovoltaics. 2020 , 32, e2000478	20
	Sequential Synthesis and Active-Site Coordination Principle of Precious Metal Single-Atom Catalysts for Oxygen Reduction Reaction and PEM Fuel Cells. 2020 , 10, 2000689	55
T 1×T	Enhancing Oxygen Reduction Activity of Pt-based Electrocatalysts: From Theoretical Mechanisms to Practical Methods. 2020 , 132, 18490-18504	5
	Enhancing Oxygen Reduction Activity of Pt-based Electrocatalysts: From Theoretical Mechanisms to Practical Methods. 2020 , 59, 18334-18348	73
	Controlled One-pot Synthesis of Nickel Single Atoms Embedded in Carbon Nanotube and Graphene Supports with High Loading. 2020 , 6, 1063-1074	6
1478	Graphene-supported metal single-atom catalysts: a concise review. 2020 , 63, 903-920	38
	Ultrasmall NiFe layered double hydroxide strongly coupled on atomically dispersed FeCo-NC nanoflowers as efficient bifunctional catalyst for rechargeable Zn-air battery. 2020 , 63, 1182-1195	22
1476	Recent progress on functional mesoporous materials as catalysts in organic synthesis. 2020 , 3, 247-266	11
1475	Porous metal-porphyrin triazine-based frameworks for efficient CO2 electroreduction. 2020 , 270, 118908	34
	Atomically dispersed Ni species on N-doped carbon nanotubes for electroreduction of CO2 with nearly 100% CO selectivity. 2020 , 271, 118929	78
1473	Interfacial Polarization Triggered by Single Atoms Boosts N2 Electroreduction. 2020 , 6, 808-810	4
1472	Selective activation of methane CH bond in the presence of methanol. 2020 , 386, 12-18	1
1471	Subnano Ruthenium Species Anchored on Tin Dioxide Surface for Efficient Alkaline Hydrogen Evolution Reaction. 2020 , 1, 100026	10

1470	From metal Brganic frameworks to single/dual-atom and cluster metal catalysts for energy applications. 2020 , 13, 1658-1693	156
1469	Graphdiyne coordinated transition metals as single-atom catalysts for nitrogen fixation. 2020 , 22, 9216-9224	33
1468	Atomic-scale engineering of metal®xide interfaces for advanced catalysis using atomic layer deposition. 2020 , 10, 2695-2710	20
1467	Isopropanol as a hydrogen source for single atom cobalt-catalyzed Wacker-type oxidation. 2020 , 10, 2769-2773	7
1466	Atomically dispersed palladium catalyses SuzukiMiyaura reactions under phosphine-free conditions. 2020 , 3,	16
1465	Unraveling the single-atom electrocatalytic activity of transition metal-doped phosphorene. 2020 , 2, 2410-2421	5
1464	High-Efficiency Oxygen Reduction to Hydrogen Peroxide Catalyzed by Nickel Single-Atom Catalysts with Tetradentate N2O2 Coordination in a Three-Phase Flow Cell. 2020 , 132, 13157-13162	8
1463	Temperature-Induced Structure Reconstruction to Prepare a Thermally Stable Single-Atom Platinum Catalyst. 2020 , 132, 13664-13669	2
1462	High-Efficiency Oxygen Reduction to Hydrogen Peroxide Catalyzed by Nickel Single-Atom Catalysts with Tetradentate N O Coordination in a Three-Phase Flow Cell. 2020 , 59, 13057-13062	98
1461	Temperature-Induced Structure Reconstruction to Prepare a Thermally Stable Single-Atom Platinum Catalyst. 2020 , 59, 13562-13567	26
1460	Identifying the role of excess electrons and holes for initiating the photocatalytic dissociation of methanol on a TiO(110) surface. 2020 , 22, 11086-11094	
1459	Strong MetalBupport Interactions between Pt Single Atoms and TiO2. 2020 , 132, 11922-11927	25
1458	Regulating Charge Transfer of Lattice Oxygen in Single-Atom-Doped Titania for Hydrogen Evolution. 2020 , 59, 15855-15859	26
1457	Dual-function catalysis in propane dehydrogenation over Pt1©a2O3 catalyst: Insights from a microkinetic analysis. 2020 , 66, e16232	12
1456	Dual Metal Active Sites in an Ir1/FeOx Single-Atom Catalyst: A Redox Mechanism for the Water-Gas Shift Reaction. 2020 , 132, 12968-12975	13
1455	Atomically Dispersed Nickel(I) on an Alloy-Encapsulated Nitrogen-Doped Carbon Nanotube Array for High-Performance Electrochemical CO2 Reduction Reaction. 2020 , 132, 12153-12159	19
1454	Regulating Charge Transfer of Lattice Oxygen in Single-Atom-Doped Titania for Hydrogen Evolution. 2020 , 132, 15989-15993	4
1453	Atomically Dispersed Nickel(I) on an Alloy-Encapsulated Nitrogen-Doped Carbon Nanotube Array for High-Performance Electrochemical CO Reduction Reaction. 2020 , 59, 12055-12061	56

1452	Strong Metal-Support Interactions between Pt Single Atoms and TiO. 2020 , 59, 11824-11829	119
1451	Nanostructures for Electrocatalytic CO Reduction. 2020 , 26, 14024-14035	10
1450	Imprinting isolated single iron atoms onto mesoporous silica by templating with metallosurfactants. 2020 , 573, 193-203	15
1449	High efficient catalytic oxidation of 5-hydroxymethylfurfural into 2,5-furandicarboxylic acid under benign conditions with nitrogen-doped graphene encapsulated Cu nanoparticles. 2020 , 50, 96-105	11
1448	Excited-State Chemistry: Photocatalytic Methanol Oxidation by Uranyl@Zeolite through Oxygen-Centered Radicals. 2020 , 59, 6287-6300	4
1447	In Situ Phosphatizing of Triphenylphosphine Encapsulated within Metal-Organic Frameworks to Design Atomic Co-PN Interfacial Structure for Promoting Catalytic Performance. 2020 , 142, 8431-8439	123
1446	Deformable Metal-Organic Framework Nanosheets for Heterogeneous Catalytic Reactions. 2020 , 142, 9408-9414	22
1445	Unusual KIE and dynamics effects in the Fe-catalyzed hetero-Diels-Alder reaction of unactivated aldehydes and dienes. 2020 , 11, 1850	13
1444	Dynamic co-catalysis of Au single atoms and nanoporous Au for methane pyrolysis. 2020 , 11, 1919	27
1443	Tuning the electronic structure of transition metals embedded in nitrogen-doped graphene for electrocatalytic nitrogen reduction: a first-principles study. 2020 , 12, 9696-9707	26
1442	Dual Metal Active Sites in an Ir /FeO Single-Atom Catalyst: A Redox Mechanism for the Water-Gas Shift Reaction. 2020 , 59, 12868-12875	49
1441	Ultrafast Laser Manufacture of Stable, Efficient Ultrafine Noble Metal Catalysts Mediated with MOF Derived High Density Defective Metal Oxides. 2020 , 16, e2000749	13
1440	Hierarchical peony-like FeCo-NC with conductive network and highly active sites as efficient electrocatalyst for rechargeable Zn-air battery. 2020 , 13, 1090-1099	42
1439	Intrinsic Electrocatalytic Activity Regulation of M-N-C Single-Atom Catalysts for the Oxygen Reduction Reaction. 2021 , 60, 4448-4463	145
1438	Intrinsische elektrokatalytische AktivitEssteuerung von M-N-C-Einzelatom-Katalysatoren fildie Sauerstoffreduktionsreaktion. 2021 , 133, 4496-4512	26
1437	Restructuring effects of the chemical environment in metal nanocatalysis and single-atom catalysis. 2021 , 373, 80-97	17
1436	Single Cu atom supported on modified h-BN monolayer as n-p codoped catalyst for CO oxidation: A computational study. 2021 , 368, 148-160	7
1435	Surface/interface engineering of high-efficiency noble metal-free electrocatalysts for energy-related electrochemical reactions. 2021 , 54, 89-104	33

1434	Electrocatalytic and photocatalytic performance of noble metal doped monolayer MoS2 in the hydrogen evolution reaction: A first principles study. 2021 , 3, 89-94	4
1433	Heterogeneous single-cluster catalysts (Mn3, Fe3, Co3, and Mo3) supported on nitrogen-doped graphene for robust electrochemical nitrogen reduction. 2021 , 54, 612-619	19
1432	Recent progress on single atom/sub-nano electrocatalysts for energy applications. 2021, 115, 100711	15
1431	Single-atom catalysts for metal-sulfur batteries: Current progress and future perspectives. 2021 , 54, 452-466	28
1430	Tailoring catalytic properties of V2O3 to propane dehydrogenation through single-atom doping: A DFT study. 2021 , 368, 46-57	13
1429	Theoretical insights into heterogeneous single-atom Fe1 catalysts supported by graphene-based substrates for water splitting. 2021 , 540, 148245	4
1428	Coinage metal clusters: From superatom chemistry to genetic materials. 2021 , 429, 213643	24
1427	CO2 reduction by single copper atom supported on g-C3N4 with asymmetrical active sites. 2021 , 540, 148293	15
1426	Ammonia Production Technologies. 2021 , 41-83	11
1425	Propane Dehydrogenation on Single-Site [PtZn4] Intermetallic Catalysts. 2021 , 7, 387-405	40
1424	Calibration of computational MBsbauer spectroscopy to unravel active sites in FeNC catalysts for the oxygen reduction reaction. 2021 , 121, e26394	7
1423	Advanced Electrocatalysis for Energy and Environmental Sustainability via Water and Nitrogen Reactions. 2021 , 33, e2000381	108
1422	Orbital symmetry matching: Achieving superior nitrogen reduction reaction over single-atom catalysts anchored on Mxene substrates. 2021 , 42, 288-296	23
1421	A highly efficient Fenton-like catalyst based on isolated diatomic Fe-Co anchored on N-doped porous carbon. 2021 , 404, 126376	52
1420	Environmental Materials beyond and below the Nanoscale: Single-Atom Catalysts. 2021 , 1, 157-172	27
1419	Single-Atom Materials: Small Structures Determine Macroproperties. 2021 , 2, 2000051	147
1418	Mesoscience in supported nano-metal catalysts based on molecular thermodynamic modeling: A mini review and perspective. 2021 , 229, 116164	3
1417	Photoexcited single metal atom catalysts for heterogeneous photocatalytic H2O2 production: Pragmatic guidelines for predicting charge separation. 2021 , 282, 119589	22

1416	Atomic Nanoarchitectonics for Catalysis. 2021 , 8, 2001395	8
1415	Highly Selective Two-Electron Electrocatalytic CO2 Reduction on Single-Atom Cu Catalysts. 2021 , 2, 2000058	44
1414	The growth pattern and electronic structures of Cun(n៤៧៧4) clusters on rutile TiO2(1 1 0) surface. 2021 , 536, 147793	6
1413	Single-atom Pt promoted Mo2C for electrochemical hydrogen evolution reaction. 2021 , 57, 371-377	21
1412	Confining isolated atoms and clusters in crystalline porous materials for catalysis. 2021 , 6, 244-263	75
1411	Hydrogen evolution/spillover effect of single cobalt atom on anatase TiO2 from first-principles calculations. 2021 , 536, 147831	2
1410	More is Different: Synergistic Effect and Structural Engineering in Double-Atom Catalysts. 2021 , 31, 2007423	74
1409	Interplay between invasive single atom Pt and native oxygen vacancy in anatase TiO2(11011) surface: A theoretical study. 2021 , 540, 148357	7
1408	1D metal-dithiolene wires as a new class of bi-functional oxygen reduction and evolution single-atom electrocatalysts. 2021 , 393, 140-148	7
1407	Control of the single atom/nanoparticle ratio in Pd/C catalysts to optimize the cooperative hydrogenation of alkenes. 2021 , 11, 984-999	10
1406	CO2 hydrogenation over heterogeneous catalysts at atmospheric pressure: from electronic properties to product selectivity. 2021 , 23, 249-267	22
1405	Adsorption and sensing performance of CO, NO and O2 gas on Janus structure WSTe monolayer. 2021 , 1195, 113089	2
1404	MIL-53 (Al) derived single-atom Rh catalyst for the selective hydrogenation of m-chloronitrobenzene into m-chloroaniline. 2021 , 42, 824-834	3
1403	Synthesis strategies and emerging mechanisms of metal-organic frameworks for sulfate radical-based advanced oxidation process: A review. 2021 , 421, 127863	41
1402	Design of Local Atomic Environments in Single-Atom Electrocatalysts for Renewable Energy Conversions. 2021 , 33, e2003075	73
1401	The assembling principle and strategies of high-density atomically dispersed catalysts. 2021 , 417, 127917	4
1400	Activated charcoal supported copper nanoparticles: A readily available and inexpensive heterogeneous catalyst for the N-arylation of primary amides and lactams with aryl iodides. 2021 , 79, 131858	5
1399	Metal-organic framework-derived porous carbon templates for catalysis. 2021 , 73-121	

1398	Observing Single-Atom Catalytic Sites During Reactions with Electrospray Ionization Mass Spectrometry. 2021 , 133, 4814-4823	6
1397	Recent Advances of Ceria-Based Materials in the Oxidation of Carbon Monoxide. 2021 , 2, 2000081	10
1396	Mn-corrolazine-based 2D-nanocatalytic material with single Mn atoms for catalytic oxidation of alkane to alcohol. 2021 , 42, 1030-1039	5
1395	Cobalt Single Atoms on Tetrapyridomacrocyclic Support for Efficient Peroxymonosulfate Activation. 2021 , 55, 1242-1250	47
1394	Ultra-Low Loading Pt/CeO2 Catalysts: Ceria Facet Effect Affords Improved Pairwise Selectivity for Parahydrogen Enhanced NMR Spectroscopy. 2021 , 133, 4084-4088	2
1393	Observing Single-Atom Catalytic Sites During Reactions with Electrospray Ionization Mass Spectrometry. 2021 , 60, 4764-4773	17
1392	Stabilization of Metal Single Atoms on Carbon and TiO2 Supports for CO2 Hydrogenation: The Importance of Regulating Charge Transfer. 2021 , 8, 2001777	6
1391	Recent Advances in Strategies for Improving the Performance of CO2 Reduction Reaction on Single Atom Catalysts. 2021 , 1, 2000028	28
1390	Coordination Number Regulation of Molybdenum Single-Atom Nanozyme Peroxidase-like Specificity. 2021 , 7, 436-449	62
1389	Ultra-Low Loading Pt/CeO Catalysts: Ceria Facet Effect Affords Improved Pairwise Selectivity for Parahydrogen Enhanced NMR Spectroscopy. 2021 , 60, 4038-4042	7
1388	Phosphorene Supported Single-Atom Catalysts for CO Oxidation: A Computational Study. 2021 , 22, 378-385	2
1387	How to select effective electrocatalysts: Nano or single atom?. 2021 , 2, 492-511	42
1386	Nanoarchitectonics Revolution and Evolution: From Small Science to Big Technology. 2021 , 1, 2000032	31
1385	Two-dimensional matrices confining metal single atoms with enhanced electrochemical reaction kinetics for energy storage applications. 2021 , 14, 1794-1834	17
1384	Mo2B2 MBene-supported single-atom catalysts as bifunctional HER/OER and OER/ORR electrocatalysts. 2021 , 9, 433-441	51
1383	Reactivity Screening of Single Atoms on Modified Graphene Surface: From Formation and Scaling Relations to Catalytic Activity. 2021 , 8, 2001814	4
1382	Atomically Dispersed Reactive Centers for Electrocatalytic CO Reduction and Water Splitting. 2021 , 60, 13177-13196	60
1381	Interface engineering in low-dimensional bismuth-based materials for photoreduction reactions. 2021 , 9, 2662-2677	18

1380	Electrocatalytic Oxygen Reduction to Hydrogen Peroxide: From Homogeneous to Heterogeneous Electrocatalysis. 2021 , 11, 2003323	45
1379	Interplay between CO Disproportionation and Oxidation: On the Origin of the CO Reaction Onset on Atomic Layer Deposition-Grown Pt/ZrO Model Catalysts. 2021 , 11, 208-214	15
1378	FeS2-anchored transition metal single atoms for highly efficient overall water splitting: a DFT computational screening study. 2021 , 9, 2438-2447	23
1377	Understanding the Activity of Carbon-Based Single-Atom Electrocatalysts from Ab Initio Simulations. 2021 , 3, 110-120	10
1376	Which is Better for Nanomedicines: Nanocatalysts or Single-Atom Catalysts?. 2021 , 10, e2001897	4
1375	Atomically Dispersed Reactive Centers for Electrocatalytic CO2 Reduction and Water Splitting. 2021 , 133, 13285-13304	10
1374	Bioinspired Atomic Manganese Site Accelerates Oxo-Dehydrogenation of N-Heterocycles over a Conjugated Tri-s-Triazine Framework. 2021 , 11, 313-322	13
1373	Atomically dispersed Rh-doped NiFe layered double hydroxides: precise location of Rh and promoting hydrazine electrooxidation properties. 2021 , 13, 1869-1874	4
1372	Collaboration between a Pt-dimer and neighboring Co-Pd atoms triggers efficient pathways for oxygen reduction reaction. 2021 , 23, 1822-1834	6
1371	Ultrahigh Oxygen Evolution Reaction Activity Achieved Using Ir Single Atoms on Amorphous CoOx Nanosheets. 2021 , 11, 123-130	62
1370	Coordination tunes the activity and selectivity of the nitrogen reduction reaction on single-atom iron catalysts: a computational study. 2021 , 9, 1240-1251	38
1369	Polyolefin thermoplastic elastomers from polymerization catalysis: Advantages, pitfalls and future challenges. 2021 , 113, 101342	26
1368	Sacrificial Synthesis of Supported Ru Single Atoms and Clusters on N-doped Carbon Derived from Covalent Triazine Frameworks: A Charge Modulation Approach. 2021 , 8, 2001493	14
1367	Fe atoms anchored on defective nitrogen doped hollow carbon spheres as efficient electrocatalysts for oxygen reduction reaction. 2021 , 14, 1069-1077	31
1366	Synthesis of High Metal Loading Single Atom Catalysts and Exploration of the Active Center Structure. 2021 , 13, 28-58	8
1365	Theoretical investigation of CO2 electroreduction on N (B)-doped graphdiyne mononlayer supported single copper atom. 2021 , 538, 148145	10
1364	Atomic-Level Modulation of Electronic Density at Cobalt Single-Atom Sites Derived from Metal-Organic Frameworks: Enhanced Oxygen Reduction Performance. 2021 , 60, 3212-3221	180
1363	Recent Advances in Graphitic Carbon Nitride Supported Single-Atom Catalysts for Energy Conversion. 2021 , 13, 1250-1270	17

1362	Atomic-Level Modulation of Electronic Density at Cobalt Single-Atom Sites Derived from Metal D rganic Frameworks: Enhanced Oxygen Reduction Performance. 2021 , 133, 3249-3258	22
1361	Nanozyme's catching up: activity, specificity, reaction conditions and reaction types. 2021 , 8, 336-350	30
1360	Flame spray pyrolysis made Pt/TiO2 photocatalysts with ultralow platinum loading and high hydrogen production activity. 2021 , 38, 6503-6511	8
1359	Dirhodium Complexes as Panchromatic Sensitizers, Electrocatalysts, and Photocatalysts. 2021 , 27, 5379-5387	3
1358	Relationships between the activities and Ce3+ concentrations of CeO2(111) for CO oxidation: A first-principle investigation. 2021 , 32, 1127-1130	0
1357	Coupling hydrothermal and photothermal single-atom catalysis toward excellent water splitting to hydrogen. 2021 , 283, 119660	38
1356	Single copper sites dispersed on hierarchically porous carbon for improving oxygen reduction reaction towards zinc-air battery. 2021 , 14, 998-1003	21
1355	An experimental and theoretical exploration of the role of tri-element metal-nonmetal nanohybrids in photovoltaics. 2021 , 413, 127491	5
1354	Cost-effective mechanochemical synthesis of highly dispersed supported transition metal catalysts for hydrogen storage. 2021 , 80, 105535	36
1353	Graphdiyne-based metal atomic catalysts for synthesizing ammonia. 2021 , 8, nwaa213	42
1352	Tutorial: structural characterization of isolated metal atoms and subnanometric metal clusters in zeolites. 2021 , 16, 1871-1906	9
1351	Precise fabrication of single-atom alloy co-catalyst with optimal charge state for enhanced photocatalysis. 2021 , 8, nwaa224	55
1350	Hydrodechlorination and deep hydrogenation on single-palladium-atom-based heterogeneous catalysts. 2021 , 282, 119518	13
1349	Sandwich structure stabilized atomic Fe catalyst for highly efficient Fenton-like reaction at all pH values. 2021 , 282, 119551	36
1348	Non-noble metal single-atom catalyst of Co1/MXene (Mo2CS2) for CO oxidation. 2021 , 64, 651-663	19
1347	Computational Design of Single Mo Atom Anchored Defective Boron Phosphide Monolayer as a High-performance Electrocatalyst for the Nitrogen Reduction Reaction. 2021 , 4, 255-262	18
1346	Cocatalyst-integrated photocatalysts for solar-driven hydrogen and oxygen production. 2021 , 217-247	
1345	Highly efficient ammonia synthesis at low temperature over a Ru-Co catalyst with dual atomically dispersed active centers. 2021 , 12, 7125-7137	12

1344	N coupling with S-coordinated Ru nanoclusters for highly efficient hydrogen evolution in alkaline media.	10
1343	Recent advances in electrocatalytic chloride oxidation for chlorine gas production. 2021 , 9, 18974-18993	13
1342	Pt1D4 as active sites boosting CO oxidation via a non-classical MarsDan Krevelen mechanism. 2021 , 11, 3578-3588	2
1341	Nitrogen and boron coordinated single-atom catalysts for low-temperature CO/NO oxidations. 2021 , 9, 15329-15345	5
1340	Conversion of Syngas with Carbon Dioxide to Fuels. 2021 , 1-36	
1339	Insights on forming N,O-coordinated Cu single-atom catalysts for electrochemical reduction CO to methane. 2021 , 12, 586	69
1338	Research Progress of Electrocatalyst for Hydrogen Evolution Reaction. 2021 , 11, 155-165	
1337	Quasi-double-star nickel and iron active sites for high-efficiency carbon dioxide electroreduction. 2021 , 14, 4847-4857	6
1336	Synthesis Strategies, Catalytic Applications, and Performance Regulation of Single-Atom Catalysts. 2021 , 31, 2008318	39
1335	Homogeneous and heterogeneous catalysts for hydrogenation of CO to methanol under mild conditions. 2021 , 50, 4259-4298	46
1334	Levulinic acid hydrogenation to Evalerolactone over single Ru atoms on a TiO2@nitrogen doped carbon support. 2021 , 23, 1621-1627	14
1333	Recent developments of nanocatalyzed liquid-phase hydrogen generation. 2021 , 50, 3437-3484	62
1332	Biomedicine Meets Fenton Chemistry. 2021 , 121, 1981-2019	123
1331	Single-atom catalysis in advanced oxidation processes for environmental remediation. 2021 , 50, 5281-5322	164
1330	Challenges with atomically dispersed supported metal catalysts: Controlling performance, improving stability, and enhancing metal loading. 2021 ,	О
1329	Modified metal-organic frameworks as photocatalysts. 2021 , 231-270	1
1328	Design of Single Atom Catalysts. 2021 , 6, 1905545	0
1327	High efficiency nitrogen doping and single atom cobalt anchoring via supermolecules for oxygen reduction electrocatalysis. 2021 , 9, 3398-3408	3

1326	Metallic Nanoparticles in Heterogeneous Catalysis. 2021 , 151, 2153	12
1325	Highly Active and Stable Palladium Single-Atom Catalyst Achieved by a Thermal Atomization Strategy on an SBA-15 Molecular Sieve for Semi-Hydrogenation Reactions. 2021 , 13, 2530-2537	12
1324	Molecular engineered palladium single atom catalysts with an M-C1N3 subunit for Suzuki coupling. 2021 , 9, 11427-11432	5
1323	Highly dispersed Pt atoms and clusters on hydroxylated indium tin oxide: a view from first-principles calculations. 2021 , 9, 15724-15733	3
1322	Framework coordination of single-ion Cu2+ sites in hydrated 17O-ZSM-5 zeolite.	1
1321	Designing the electronic and geometric structures of single-atom and nanocluster catalysts. 2021 , 9, 18773-18784	2
1320	Spiers Memorial Lecture: Understanding reaction mechanisms in heterogeneously catalysed reactions. 2021 , 229, 9-34	3
1319	Pb Single Atoms Enable Unprecedented Catalytic Behavior for the Combustion of Energetic Materials. 2021 , 8, 2002889	6
1318	A strategy for enhancing the photoactivity of g-CN-based single-atom catalysts via sulphur doping: a theoretical study. 2021 , 23, 6632-6640	6
1317	The janus in monodispersed catalysts: synergetic interactions. 2021 , 9, 5276-5295	3
1316	Edge-effect enhanced catalytic CO oxidation by atomically dispersed Pt on nitride-graphene. 2021 , 9, 2093-2098	2
1315	Categorization of Quantum Dots, Clusters, Nanoclusters, and Nanodots. 2021 , 98, 703-709	5
1314	Cooperativity in supported metal single atom catalysis. 2021 , 13, 5985-6004	8
1313	Single-atom catalysts based on TiN for the electrocatalytic hydrogen evolution reaction: a theoretical study. 2021 , 23, 15685-15692	2
1312	Designing Ru-doped ZnVO bifunctional OER and HER catalysts through a unified computational and experimental approach. 2021 , 13, 17457-17464	0
1311	A review of the synergistic effect of multi-coordination crystal fields on electrocatalysts. 2021 , 5, 6718-6734	O
1310	Design of non-transition-metal-doped nanoribbon catalysis to achieve efficient nitrogen fixation.	0
1309	Atom by Atom Condensation of Sn Single Clusters within Gold-Phosphorus Metal-Inorganic Porous Networks. 2021 , 12, 745-751	3

Oxidation of methane to methanol over Pd@Pt nanoparticles under mild conditions in water. 2021 , 11, 3493-3500	7
1307 Ultradispersed Mo/TiO2 catalysts for CO2 hydrogenation to methanol. 2021 , 23, 7259-7268	4
Single atom catalysts for boosting electrocatalytic and photoelectrocatalytic performances. 2021 , 9, 10731-10738	6
Highly efficient catalytic properties of Sc and Fe single atoms stabilized on a honeycomb borophene/Al(111) heterostructure via a dual charge transfer effect. 2021 , 13, 5875-5882	2
Single copper sites dispersed on defective TiO as a synergistic oxygen reduction reaction catalyst. 2021 , 154, 034705	1
Interaction of First Row Transition Metals with M2C (M = Ti, Zr, Hf, V, Nb, Ta, Cr, Mo, and W) MXenes: A Quest for Single-Atom Catalysts. 2021 , 125, 2477-2484	19
A small change in the local atomic environment for a big improvement in single-atom catalysis. 2021 , 9, 4184-4192	14
1301 On-surface porphyrin transmetalation with Pb/Cu redox exchange. 2021 , 13, 13241-13248	1
Oxygen defect-stabilized heterogeneous single atom catalysts: preparation, properties and catalytic application. 2021 , 9, 3855-3879	17
Sustainable Synthesis of Bimetallic Single Atom Gold-Based Catalysts with Enhanced Durability in Acetylene Hydrochlorination. 2021 , 17, e2004599	10
Catalytically active sites of MOF-derived electrocatalysts: synthesis, characterization, theoretical calculations, and functional mechanisms. 2021 , 9, 20320-20344	3
A defect-driven atomically dispersed FeNC electrocatalyst for bifunctional oxygen electrocatalytic activity in ZnBir batteries. 2021 , 9, 5556-5565	15
Catalytically potent and selective clusterzymes for modulation of neuroinflammation through single-atom substitutions. 2021 , 12, 114	34
1295 Unraveling CO adsorption on model single-atom catalysts. 2021 , 371, 375-379	72
First-principles investigation of two-dimensional covalent@rganic framework electrocatalysts for oxygen evolution/reduction and hydrogen evolution reactions.	1
Porphyrin-based frameworks for oxygen electrocatalysis and catalytic reduction of carbon dioxide. 2021 , 50, 2540-2581	85
1292 MOF-Derived Materials for Energy Conversion. 2021 , 165-209	
Surface Reduction State Determines Stabilization and Incorporation of Rh on \pm e2O3(11D2). 2021 , 8, 2001908	5

1290	Theoretical insights into the thermal reduction of N to NH over a single metal atom incorporated nitrogen-doped graphene. 2021 , 154, 054703	1
1289	Origin of the Activity of CoNC Catalysts for Chemoselective Hydrogenation of Nitroarenes. 2021 , 11, 3026-3039	32
1288	Transition-Metal (Fe, Co, and Ni)-Based Nanofiber Electrocatalysts for Water Splitting. 2021 , 3, 210-228	24
1287	Boosted Catalytic Hydrogenation Performance Using Isolated Co Sites Anchored on Nitrogen-Incorporated Hollow Porous Carbon. 2021 , 125, 5088-5098	3
1286	Rational Fabrication of Low-Coordinate Single-Atom Ni Electrocatalysts by MOFs for Highly Selective CO Reduction. 2021 , 60, 7607-7611	113
1285	Single-Atom-Layer Catalysis in a MoS Monolayer Activated by Long-Range Ferromagnetism for the Hydrogen Evolution Reaction: Beyond Single-Atom Catalysis. 2021 , 60, 7251-7258	28
1284	Facets Engineering on Catalysts. 2021 , 21-37	1
1283	Directly Probing the Local Coordination, Charge State, and Stability of Single Atom Catalysts by Advanced Electron Microscopy: A Review. 2021 , 17, e2006482	15
1282	Carbon-Based Materials for Electrochemical Reduction of CO2 to C2+ Oxygenates: Recent Progress and Remaining Challenges. 2021 , 11, 2076-2097	31
1281	Identifying the Activity Origin of a Cobalt Single-Atom Catalyst for Hydrogen Evolution Using Supervised Learning. 2021 , 31, 2100547	33
1280	Atomistic Insights into the Hydrogen Oxidation Reaction of Palladium-Ceria Bifunctional Catalysts for Anion-Exchange Membrane Fuel Cells. 2021 , 11, 2561-2571	9
1279	Sub-nanometer ceria-promoted Ni 13X zeolite catalyst for CO2 methanation. 2021 , 612, 118012	7
1278	Pulsed Laser Confinement of Single Atomic Catalysts on Carbon Nanotube Matrix for Enhanced Oxygen Evolution Reaction. 2021 , 15, 4416-4428	14
1277	Single Nb or W Atom-Embedded BP Monolayers as Highly Selective and Stable Electrocatalysts for Nitrogen Fixation with Low-Onset Potentials. 2021 , 13, 10026-10036	16
1276	Rational Fabrication of Low-Coordinate Single-Atom Ni Electrocatalysts by MOFs for Highly Selective CO2 Reduction. 2021 , 133, 7685-7689	14
1275	Co and Pt Dual-Single-Atoms with Oxygen-Coordinated Co-O-Pt Dimer Sites for Ultrahigh Photocatalytic Hydrogen Evolution Efficiency. 2021 , 33, e2003327	42
1274	Atomically Dispersed Indium Sites for Selective CO Electroreduction to Formic Acid. 2021, 15, 5671-5678	38
1273	Ambient sunlight-driven photothermal methanol dehydrogenation for syngas production with 32.9 % solar-to-hydrogen conversion efficiency. 2021 , 24, 102056	5

1272	Construction of Dual-Active-Site Copper Catalyst Containing both Cu?N and Cu?N Sites. 2021 , 17, e2006834	14
1271	Atomically dispersed Ir/EMoC catalyst with high metal loading and thermal stability for water-promoted hydrogenation reaction 2022 , 9, nwab026	18
1270	Catalytic Nanomaterials toward Atomic Levels for Biomedical Applications: From Metal Clusters to Single-Atom Catalysts. 2021 , 15, 2005-2037	37
1269	2D Materials Bridging Experiments and Computations for Electro/Photocatalysis. 2003841	35
1268	Single-Atom-Layer Catalysis in a MoS2 Monolayer Activated by Long-Range Ferromagnetism for the Hydrogen Evolution Reaction: Beyond Single-Atom Catalysis. 2021 , 133, 7327-7334	4
1267	Comparative Study of NO and CO Oxidation Reactions on Single-Atom Catalysts Anchored Graphene-like Monolayer. 2021 , 22, 606-618	4
1266	Site-Selective Loading of Single-Atom Pt on TiO2 for Photocatalytic Oxidation and Reductive Hydrodefluorination. 2021 , 1, 512-522	10
1265	Design Strategies of Non-Noble Metal-Based Electrocatalysts for Two-Electron Oxygen Reduction to Hydrogen Peroxide. 2021 , 14, 1616-1633	10
1264	Single-Atom Catalysts: A Sustainable Pathway for the Advanced Catalytic Applications. 2021 , 17, e2006473	47
1263	In situ X-ray Absorption Spectroscopy of Platinum Electrocatalysts. 2021 , 1, 162-172	2
1262	Emergence and Future of Exsolved Materials. 2021 , 17, e2006479	24
1261	Structural Evolution and Underlying Mechanism of Single-Atom Centers on MoC(100) Support during Oxygen Reduction Reaction. 2021 , 13, 17075-17084	O
1260	Onset of High Methane Combustion Rates over Supported Palladium Catalysts: From Isolated Pd Cations to PdO Nanoparticles. 2021 , 1, 396-408	7
1259	N8 stabilized single-atom Pd for highly selective hydrogenation of acetylene. 2021 , 395, 46-53	6
1258	Designing Atomically Dispersed Au on Tensile-Strained Pd for Efficient CO Electroreduction to Formate. 2021 , 143, 5386-5395	23
1257	Recent Progress of Thermocatalytic and Photo/Thermocatalytic Oxidation for VOCs Purification over Manganese-based Oxide Catalysts. 2021 , 55, 4268-4286	33
1256	Activating two-dimensional Ti3C2Tx-MXene with single-atom cobalt for efficient CO2 photoreduction. 2021 , 2, 100371	29
1255	Demystifying the catalysis in lithiumBulfur batteries: Characterization methods and techniques. 2021 , 1, 51-65	28

1254	Effectively Regulating the Microenvironment of Atomically Dispersed Rh through Co and Pi to Promote the Selectivity in Olefin Hydroformylation. 2021 , 13, 15113-15121	6
1253	Direct synthesis of quinazolinones via the carbon-supported acid-catalyzed cascade reaction of isatoic anhydrides with amides and aldehydes. 2021 , 66, 152835	4
1252	Electrodeposition of Ni on MWNTs as a promising catalyst for CO2RR. 2021 , 9, 1042	1
1251	Isolation Strategy towards Earth-Abundant Single-Site Co-Catalysts for Photocatalytic Hydrogen Evolution Reaction. 2021 , 11, 417	6
1250	Ozone Sensing by InO Films Modified with Rh: Dimension Effect. 2021 , 21,	2
1249	Atomic Engineering of Clusterzyme for Relieving Acute Neuroinflammation through Lattice Expansion. 2021 , 21, 2562-2571	12
1248	Formation and Location of Pt Single Sites Induced by Pentacoordinated Al Species on Amorphous Silica-Alumina. 2021 , 12, 2536-2546	3
1247	Structure evolution of single-site Pt in a metal-organic framework. 2021 , 154, 094710	1
1246	Operando Surface Spectroscopy and Microscopy during Catalytic Reactions: From Clusters via Nanoparticles to Meso-Scale Aggregates. 2021 , 17, e2004289	10
1245	Self-Activated Catalytic Sites on Nanoporous Dilute Alloy for High-Efficiency Electrochemical Hydrogen Evolution. 2021 , 15, 5333-5340	21
1244	Reactivity of Single Transition Metal Atoms on a Hydroxylated Amorphous Silica Surface: A Periodic Conceptual DFT Investigation. 2021 , 27, 6050-6063	4
1243	Homogeneously dispersed cobalt/iron electrocatalysts with oxygen vacancies and favorable hydrophilicity for efficient oxygen evolution reaction. 2021 , 46, 11652-11663	5
1242	Single Atomic Cerium Sites with a High Coordination Number for Efficient Oxygen Reduction in Proton-Exchange Membrane Fuel Cells. 2021 , 11, 3923-3929	45
1241	Antibacterial mechanisms and applications of metal-organic frameworks and their derived nanomaterials. 2021 , 109, 413-434	26
1240	In situ identification of the metallic state of Ag nanoclusters in oxidative dispersion. 2021 , 12, 1406	13
1239	Single Co-Atoms as Electrocatalysts for Efficient Hydrazine Oxidation Reaction. 2021 , 17, e2006477	16
1238	Electronic Spin Moment As a Catalytic Descriptor for Fe Single-Atom Catalysts Supported on CN. 2021 , 143, 4405-4413	40
1237	Atomic Design and Fine-Tuning of Subnanometric Pt Catalysts to Tame Hydrogen Generation. 2021 , 11, 4146-4156	12

1236	Recent Advancements of Porphyrin-Like Single-Atom Catalysts: Synthesis and Applications. 2021 , 2, 2100007	34
1235	Modulating electronic structure of metal-organic frameworks by introducing atomically dispersed Ru for efficient hydrogen evolution. 2021 , 12, 1369	104
1234	Selectively Probing Neurochemicals in Living Animals with Electrochemical Systems. 2021 , 7, 489-501	О
1233	Synergistic Effect of Boron Nitride and Carbon Domains in Boron Carbide Nitride Nanotube Supported Single-Atom Catalysts for Efficient Nitrogen Fixation. 2021 , 27, 6945-6953	4
1232	Theoretical Study on P-coordinated Metal Atoms Embedded in Arsenene for the Conversion of Nitrogen to Ammonia. 2021 , 6, 8662-8671	5
1231	Probing Activity Enhancement of Photothermal Catalyst under Near-Infrared Irradiation. 2021 , 12, 3443-3448	7
1230	Carbon Nitride-Based Ruthenium Single Atom Photocatalyst for CO Reduction to Methanol. 2021 , 17, e2006478	43
1229	Atomic Cu dispersed ZIF-8 derived N-doped carbon for high-performance oxygen electrocatalysis in Zn-air battery. 2021 , 4, 024006	3
1228	Toward Rational Design of Single-Atom Catalysts. 2021 , 12, 2837-2847	15
1227	Unique Coordination Structure of Cobalt Single-Atom Catalyst Supported on Dopant-Free Carbon. 2021 , 125, 6735-6742	1
1226	Interfacial Engineering Promoting Electrosynthesis of Ammonia over Mo/Phosphotungstic Acid with High Performance. 2021 , 31, 2009151	9
1225	Theoretical modeling for interfacial catalysis. e1531	
1224	Rational Design of Synergistic Active Sites for Catalytic Ethene/2-Butene Cross-Metathesis in a Rhenium-Doped Y Zeolite Catalyst. 2021 , 11, 3530-3540	3
1223	Electrocatalytic Reduction of N Using Metal-Doped Borophene. 2021 , 13, 14091-14101	22
1222	Theoretical Exploration of Electrochemical Nitrate Reduction Reaction Activities on Transition-Metal-Doped -BP. 2021 , 12, 3968-3975	12
1221	Steric Hindrance- and Work Function-Promoted High Performance for Electrochemical CO Methanation on Antisite Defects of MoS and WS. 2021 , 14, 2255-2261	1
1220	Transitional Metal-Based Noncatalytic Medicine for Tumor Therapy. 2021 , 10, e2001819	11
1219	Conflicting Roles of Coordination Number on Catalytic Performance of Single-Atom Pt Catalysts. 2021 , 11, 5586-5592	5

1218	CO hydrogenation over functional nanoporous polymers and metal-organic frameworks. 2021 , 290, 102349	13
1217	Nanozyme-involved biomimetic cascade catalysis for biomedical applications. 2021 , 44, 211-228	35
1216	Spatially Confined Formation of Single Atoms in Highly Porous Carbon Nitride Nanoreactors. 2021 , 15, 7790-7798	9
1215	Water Splitting with a Single-Atom Cu/TiO Photocatalyst: Atomistic Origin of High Efficiency and Proposed Enhancement by Spin Selection. 2021 , 1, 550-559	22
1214	2021 Roadmap: electrocatalysts for green catalytic processes. 2021 , 4, 022004	24
1213	Folic acid self-assembly synthesis of ultrathin N-doped carbon nanosheets with single-atom metal catalysts. 2021 , 36, 409-416	7
1212	Role of support in tuning the properties of single atom catalysts: Cu, Ag, Au, Ni, Pd, and Pt adsorption on SiO/Ru, SiO/Pt, and SiO/Si ultrathin films. 2021 , 154, 134706	2
1211	Anchoring single Pt atoms and black phosphorene dual co-catalysts on CdS nanospheres to boost visible-light photocatalytic H2 evolution. 2021 , 37, 101080	52
1210	H-Based Membrane Catalyst-Film Reactor (H-MCfR) Loaded with Palladium for Removing Oxidized Contaminants in Water. 2021 , 55, 7082-7093	3
1209	High-Efficiency Water Gas Shift Reaction Catalysis on ⊞MoC Promoted by Single-Atom Ir Species. 2021 , 11, 5942-5950	16
1208	Single Cr atom supported on boron nitride nanotubes for the reaction of N2O reduction by CO: A density functional theory study. 2021 , 544, 148776	4
1207	Highly active and stable Ir nanoclusters derived from Ir/MgAlO single-atom catalysts. 2021 , 154, 131105	О
1206	A review of synthesis strategies for MOF-derived single atom catalysts. 2021 , 38, 1104-1116	6
1205	Reviewfurrent Progress of Non-Precious Metal for ORR Based Electrocatalysts Used for Fuel Cells. 2021 , 168, 044521	3
1204	Single transition metal atom catalysts on Ti2CN2 for efficient CO2 reduction reaction. 2021 , 46, 12886-12896	12
1203	Controllable Microporous Framework Isomerism within Continuous Mesoporous Channels: Hierarchically Porous Structure for Capture of Bulky Molecules. 2021 , 60, 6633-6640	2
1202	Density Functional Theory Study of Water Activation at Au-Ceria Interfaces. 2021 , 31, 232-236	
1201	Durability of Colloidally Stabilized Supported Nickel and Nickel Platinum Nanoparticles during Redox-Cycling. 2021 , 125, 8224-8235	1

1200	Recent progresses and challenges. 2021 , 32, 3307-3307	8
1199	MXenes as Superexcellent Support for Confining Single Atom: Properties, Synthesis, and Electrocatalytic Applications. 2021 , 17, e2007113	13
1198	Zeolite Fixed Metal Nanoparticles: New Perspective in Catalysis. 2021 , 54, 2579-2590	28
1197	Advanced Photocatalysts: Pinning Single Atom Co-Catalysts on Titania Nanotubes. 2021 , 31, 2102843	16
1196	Tuning Charge Distribution of FeN4 via External N for Enhanced Oxygen Reduction Reaction. 2021 , 11, 6304-6315	35
1195	Atomically dispersed antimony on carbon nitride for the artificial photosynthesis of hydrogen peroxide. 2021 , 4, 374-384	96
1194	High Loading of Transition Metal Single Atoms on Chalcogenide Catalysts. 2021 , 143, 7979-7990	26
1193	Effects of functional supports on efficiency and stability of atomically dispersed noble-metal electrocatalysts. 2021 , 3, 100054	8
1192	Discovery of Single-Atom Catalyst: Customized Heteroelement Dopants on Graphene. 2021 , 2, 394-406	3
1191	Programmable Logic in Metal-Organic Frameworks for Catalysis. 2021 , 33, e2007442	22
1190	Understanding the Effect of Solid Electrocatalysts on Achieving Highly Energy-Efficient Lithium Dxygen Batteries. 2021 , 2, 2100045	О
1189	Two-Dimensional Single-Atom Catalyst TM(HAB) Monolayers for Electrocatalytic Dinitrogen Reduction Using Hierarchical High-Throughput Screening. 2021 , 13, 26109-26122	12
1188	Tuning Interfacial Electronic Properties of Palladium Oxide on Vacancy-Abundant Carbon Nitride for Low-Temperature Dehydrogenation. 2021 , 11, 6193-6199	9
1187	Single-atom site catalysts supported on two-dimensional materials for energy applications. 2021 , 32, 3771-3771	5
1186	Dispersion and support dictated properties and activities of Pt/metal oxide catalysts in heterogeneous CO oxidation. 2021 , 14, 4841	9
1185	Theoretical studies on the catalytic hydrogenation of carbon dioxide by 3d transition metals single-atom catalyst supported on covalent triazine frameworks. 2021 , 508, 111581	4
1184	Screening silica-confined single-atom catalysts for nonoxidative conversion of methane. 2021 , 154, 174706	2
1183	Turning metal-organic frameworks into efficient single-atom catalysts via pyrolysis with a focus on oxygen reduction reaction catalysts. 2021 , 3, 100056	10

1182	Matching the kinetics of natural enzymes with a single-atom iron nanozyme. 2021 , 4, 407-417	134
1181	One-dimensional nanomaterial supported metal single-atom electrocatalysts: Synthesis, characterization, and applications. 2021 , 2, 2072	1
1180	Triazine COF-supported single-atom catalyst (Pd1/trzn-COF) for CO oxidation. 2021, 64, 1939-1951	6
1179	Cooperative Single-Atom Active Centers for Attenuating the Linear Scaling Effect in the Nitrogen Reduction Reaction. 2021 , 12, 5233-5240	10
1178	Skeleton-Sn anchoring isolated Pt site to confine subnanometric clusters within *BEA topology. 2021 , 397, 44-57	5
1177	Ligand-Metal Charge Transfer Induced Adjustment of Textural Properties Controls the Performance of Single-Atom Catalysts during Photocatalytic Degradation. 2021 , 13, 25858-25867	11
1176	Electrochemical ammonia synthesis via nitrate reduction on Fe single atom catalyst. 2021 , 12, 2870	136
1175	Metal®rganic Frameworks for Photo/Electrocatalysis. 2021 , 2, 2100033	47
1174	Direct oxidation of methane to oxygenates on supported single Cu atom catalyst. 2021 , 285, 119827	22
1173	An Earth-Abundant Ni-Based Single-Atom Catalyst for Selective Photodegradation of Pollutants. 2021 , 5, 2100176	12
1172	Adsorption of transition metal clusters on Boron-graphdiyne. 2021 , 548, 149270	О
1171	Preparation of Cu single atoms on N-doped carbon materials with supercritical CO2 deposition. 2021 , 171, 105202	4
1170	Recent Progress on Photocatalytic CO2 Reduction with Earth-abundant Single-atom Reactive Sites. 2021 , 7, 873-880	3
1169	Electronic metal-support interaction modulates single-atom platinum catalysis for hydrogen evolution reaction. 2021 , 12, 3021	102
1168	Single-Atom Sites on MXenes for Energy Conversion and Storage. 2021 , 1, 2100017	25
1167	Nucleation and growth in solution synthesis of nanostructures IFrom fundamentals to advanced applications. 2021 , 123, 100821	8
1166	Tuning the coordination environment of single-atom catalyst M-N-C towards selective hydrogenation of functionalized nitroarenes. 1	15
1165	A heterogeneous iridium single-atom-site catalyst for highly regioselective carbenoid O田 bond insertion. 2021 , 4, 523-531	28

1164	Spatial intimacy of binary active-sites for selective sequential hydrogenation-condensation of nitriles into secondary imines. 2021 , 12, 3382	3
1163	Toward a mechanistic understanding of electrocatalytic nanocarbon. 2021 , 12, 3288	11
1162	Biocatalysts at atom level: From coordination structure to medical applications. 2021 , 23, 101029	6
1161	Formation and stabilization of nanosized Pd particles in catalytic systems: Ionic nitrogen compounds as catalytic promoters and stabilizers of nanoparticles. 2021 , 437, 213860	13
1160	Machine-Learning-Accelerated Catalytic Activity Predictions of Transition Metal Phthalocyanine Dual-Metal-Site Catalysts for CO Reduction. 2021 , 12, 6111-6118	18
1159	Interplay between invasive single atom Pt and native oxygen vacancy in rutile TiO2(110) surface: A theoretical study. 1	1
1158	A compendium on metal organic framework materials and their derivatives as electrocatalyst for methanol oxidation reaction. 2021 , 510, 111710	2
1157	Conformational Control of Chemical Reactivity for Surface-Confined Ru-Porphyrins. 2021 , 133, 16697-16703	О
1156	Recent advances in single-atom catalysts for advanced oxidation processes in water purification. 2021 , 412, 125253	38
1155	Identification of the active sites in supported subnanometric metal catalysts. 2021 , 4, 453-456	22
1154	Unveiling the In Situ Generation of a Monovalent Fe(I) Site in the Single-Fe-Atom Catalyst for Electrochemical CO2 Reduction. 2021 , 11, 7292-7301	14
1153	Recent advances of single-atom electrocatalysts for hydrogen evolution reaction. 2021 , 4, 042002	3
1152	Single-Atom Catalysts: A Perspective toward Application in Electrochemical Energy Conversion. 2021 , 1, 1086-1100	12
1151	Strong MetalBupport Interaction in Pd/Ca2AlMnO5+ElCatalytic NO Reduction over Mn-Doped CaO Shell. 2021 , 11, 7996-8003	2
1150	Tuning Ligand-Coordinated Single Metal Atoms on TiO and their Dynamic Response during Hydrogenation Catalysis. 2021 , 14, 3825-3837	3
1149	On-board methanol catalytic reforming for hydrogen Production-A review. 2021 , 46, 22303-22327	14
1148	Construction of Cr-embedded graphyne electrocatalyst for highly selective reduction of CO2 to CH4: A DFT study. 2021 , 414, 128857	79
1147	Molecular Design of Dispersed Nickel Phthalocyanine@Nanocarbon Hybrid Catalyst for Active and Stable Electroreduction of CO2. 2021 , 125, 13836-13849	3

1146	Recent Progresses in Electrochemical Carbon Dioxide Reduction on Copper-Based Catalysts toward Multicarbon Products. 2021 , 31, 2102151	28
1145	Emerging artificial nitrogen cycle processes through novel electrochemical and photochemical synthesis. 2021 , 46, 212-233	28
1144	Recent progress on single-atom catalysts for CO2 electroreduction. 2021 , 48, 95-95	20
1143	Structure-tunable pompon-like RuCo catalysts: Insight into the roles of atomically dispersed Ru-Co sites and crystallographic structures for guaiacol hydrodeoxygenation. 2021 , 398, 76-88	8
1142	Direct Observation of Metal Oxide Nanoparticles Being Transformed into Metal Single Atoms with Oxygen-Coordinated Structure and High-Loadings. 2021 , 60, 15248-15253	9
1141	Direct Observation of Metal Oxide Nanoparticles Being Transformed into Metal Single Atoms with Oxygen-Coordinated Structure and High-Loadings. 2021 , 133, 15376-15381	O
1140	Low-Temperature Synthesis of Single Palladium Atoms Supported on Defective Hexagonal Boron Nitride Nanosheet for Chemoselective Hydrogenation of Cinnamaldehyde. 2021 , 15, 10175-10184	22
1139	Cu-doped phosphorene as highly efficient single atom catalyst for CO oxidation: A DFT study. 2021 , 509, 111630	2
1138	Dynamic Interconversion of Metal Active Site Ensembles in Zeolite Catalysis. 2021 , 12, 115-136	5
1137	Tailoring Unsymmetrical-Coordinated Atomic Site in Oxide-Supported Pt Catalysts for Enhanced Surface Activity and Stability. 2021 , 17, e2101008	4
1136	Ethene Conversion at a Zeolite-Supported Ir(I) Complex. A Computational Perspective on a Single-Site Catalyst System. 2021 , 13, 3421-3433	
1135	Constructing Well-Defined and Robust Th-MOF-Supported Single-Site Copper for Production and Storage of Ammonia from Electroreduction of Nitrate. 2021 , 7, 1066-1072	11
1134	Conformational Control of Chemical Reactivity for Surface-Confined Ru-Porphyrins. 2021, 60, 16561-16567	1
1133	Novel engineering of ruthenium-based electrocatalysts for acidic water oxidation: A mini review. 2021 , 3, e12437	2
1132	Single-Site vs. Cluster Catalysis in High Temperature Oxidations. 2021 , 133, 16090-16098	0
1131	Exsolution of Iron Oxide on LaFeO Perovskite: A Robust Heterostructured Support for Constructing Self-Adjustable Pt-Based Room-Temperature CO Oxidation Catalysts. 2021 , 13, 27029-27040	4
1130	Carbon-Based Catalysts for Selective Electrochemical Nitrogen-to-Ammonia Conversion. 2021 , 9, 7687-7703	8
1129	Rational Design of Single-Atom Catalysts for Enhanced Electrocatalytic Nitrogen Reduction Reaction. 2021 , 125, 12585-12593	6

1128	Platinized titanium dioxide (Pt/TiO2) as a multi-functional catalyst for thermocatalysis, photocatalysis, and photothermal catalysis for removing air pollutants. 2021 , 23, 100993	11
1127	Electronic structure regulations of single-atom site catalysts and their effects on the electrocatalytic performances. 2021 , 8, 021321	9
1126	Engineering the Coordination Sphere of Isolated Active Sites to Explore the Intrinsic Activity in Single-Atom Catalysts. 2021 , 13, 136	28
1125	A DFT Study on Heterogeneous Pt/CeO2(110) Single Atom Catalysts for CO Oxidation. 2021 , 13, 3857-3863	5
1124	Single-Atom Catalysts Designed and Prepared by the Atomic Layer Deposition Technique. 2021 , 11, 7018-705	9 ₂₇
1123	Single-Site vs. Cluster Catalysis in High Temperature Oxidations. 2021 , 60, 15954-15962	7
1122	Activating Basal Surface of Palladium by Electronic Modulation via Atomically Dispersed Nitrogen Doping for High-Efficiency Hydrogen Evolution Reaction. 2021 , 12, 7373-7378	2
1121	Fabricating polyoxometalates-stabilized single-atom site catalysts in confined space with enhanced activity for alkynes diboration. 2021 , 12, 4205	21
1120	ZnO monolayer supported single atom catalysts for efficient nitrogen electroreduction to ammonia. 2021 , 555, 149682	4
1119	Influence of Magnetic Moment on Single Atom Catalytic Activation Energy Barriers. 1	O
1118	Co Single Atoms in ZrO2 with Inherent Oxygen Vacancies for Selective Hydrogenation of CO2 to CO. 2021 , 11, 9450-9461	22
1117	Effects of Oxygen Vacancy and Pt Doping on the Catalytic Performance of CeO2 in Propane Dehydrogenation: A First-Principles Study. 2021 , 39, 2391-2402	3
1116	Highly Efficient and Stable Atomically Dispersed Cu Catalyst for Azide-Alkyne Cycloaddition Reaction. 2021 , 13, 3960-3966	3
1115	Zero-Valent Palladium Single-Atoms Catalysts Confined in Black Phosphorus for Efficient Semi-Hydrogenation. 2021 , 33, e2008471	15
1114	Modulating Coordination Environment of Single-Atom Catalysts and Their Proximity to Photosensitive Units for Boosting MOF Photocatalysis. 2021 , 143, 12220-12229	58
1113	Orbital coupling of hetero-diatomic nickel-iron site for bifunctional electrocatalysis of CO reduction and oxygen evolution. 2021 , 12, 4088	51
1112	High-Performance Single-Atom Catalysts for CO Oxidation: the Importance of Hydrogen Bonds and Adsorption Strength of the Reactant. 2021 , 125, 15987-15993	1
1111	Synergizing metal-support interactions and spatial confinement boosts dynamics of atomic nickel for hydrogenations. 2021 , 16, 1141-1149	40

1110	Unraveling the Intermediate Reaction Complexes and Critical Role of Support-Derived Oxygen Atoms in CO Oxidation on Single-Atom Pt/CeO2. 2021 , 11, 8701-8715	13
1109	Enhanced photocatalytic CO reduction with defective TiO nanotubes modified by single-atom binary metal components. 2021 , 198, 111176	4
1108	Understanding the inter-site distance effect in single-atom catalysts for oxygen electroreduction.	66
1107	Atomically Dispersed Copper Sites in a Metal-Organic Framework for Reduction of Nitrogen Dioxide. 2021 , 143, 10977-10985	15
1106	Machine Learning Derived Blueprint for Rational Design of the Effective Single-Atom Cathode Catalyst of the Lithium-Sulfur Battery. 2021 , 12, 7053-7059	4
1105	Single-Atom Electrocatalysts for Multi-Electron Reduction of CO. 2021 , 17, e2101443	16
1104	Structure-sensitivity of direct oxidation methane to methanol over Rhn/ZrO2-x (1 0 1) (n⊫⅓, 4, 10) surfaces: A DFT study. 2021 , 555, 149690	3
1103	Emerging Dual-Atomic-Site Catalysts for Efficient Energy Catalysis. 2021 , 33, e2102576	51
1102	Theoretical Inspection of M1/PMA Single-Atom Electrocatalyst: Ultra-High Performance for Water Splitting (HER/OER) and Oxygen Reduction Reactions (OER). 2021 , 11, 8929-8941	28
1101	Iron Single Atom Catalyzed Quinoline Synthesis. 2021 , 33, e2101382	11
1100	Quasi-Paired Pt Atomic Sites on Mo C Promoting Selective Four-Electron Oxygen Reduction. 2021 , 8, e2101344	10
1099	Strategic Defect Engineering of Metal Drganic Frameworks for Optimizing the Fabrication of Single-Atom Catalysts. 2021 , 31, 2103597	19
1098	Anchoring Single Copper Atoms to Microporous Carbon Spheres as High-Performance Electrocatalyst for Oxygen Reduction Reaction. 2021 , 31, 2104864	19
1097	Electrocatalytic Decomposition of Formic Acid Catalyzed by M-Embedded Graphene (M = Ni and Cu): A DFT Study. 1	1
1096	Atomically dispersed Fe atoms anchored on S and N-codoped carbon for efficient electrochemical denitrification. 2021 , 118,	12
1095	Recent Advances in Electrode Design for Rechargeable ZincAir Batteries. 2021 , 1, 2100044	17
1094	Titanium-doped Boron Nitride Fullerenes as Novel Single-atom Catalysts for CO Oxidation. 1	О
1093	Oxygen Reduction Reaction at Single-Site Catalysts: A Combined Electrochemical Scanning Tunnelling Microscopy and DFT Investigation on Iron Octaethylporphyrin Chloride on HOPG**. 2021 8 2825-2835	4

Role of Catalytic Materials on Conversion of Sulfur Species for Room Temperature SodiumBulfur Battery.	2
Decarboxylation-Induced Defects in MOF-Derived Single Cobalt Atom@Carbon Electrocatalysts for Efficient Oxygen Reduction. 2021 , 133, 21853-21858	4
Advanced Atomically Dispersed Metal Mitrogen Carbon Catalysts Toward Cathodic Oxygen Reduction in PEM Fuel Cells. 2021 , 11, 2101222	33
A Dual-Functional Fibrous Skeleton Implanted with Single-Atomic Co-N Dispersions for Longevous Li-S Full Batteries. 2021 , 15, 14105-14115	10
Construction of Single-Atom Platinum Catalysts Enabled by CsPbBr Nanocrystals. 2021,	13
Neighboring Pd single atoms surpass isolated single atoms for selective hydrodehalogenation catalysis. 2021 , 12, 5179	14
Designing efficient single-atomic catalysts for bifunctional oxygen electrocatalysis via a general two-step strategy. 2021 , 556, 149779	4
Single-Atom Catalysts as Promising Cathode Materials for LithiumBulfur Batteries. 2021 , 125, 18108-18118	8
Construction of a Single-Atom Nanozyme for Enhanced Chemodynamic Therapy and Chemotherapy. 2021 , 27, 13418-13425	Ο
Single Iridium Atom Doped NiP Catalyst for Optimal Oxygen Evolution. 2021 , 143, 13605-13615	32
CeO2 supported Pd dimers boosting CO2 hydrogenation to ethanol. 2021 , 291, 120122	21
Engineering Single Atom Catalysts to Tune Properties for Electrochemical Reduction and Evolution Reactions. 2021 , 11, 2101670	9
Binary Atomically Dispersed Metal-Site Catalysts with CoreBhell Nanostructures for O2 and CO2 Reduction Reactions. 2100046	16
Dynamic Behavior of Single-Atom Catalysts in Electrocatalysis: Identification of Cu-N as an Active Site for the Oxygen Reduction Reaction. 2021 , 143, 14530-14539	49
Design of Aligned Porous Carbon Films with Single-Atom Co-N-C Sites for High-Current-Density Hydrogen Generation. 2021 , 33, e2103533	21
Stabilization of single atom catalysts. 2021 , 66, 2337-2337	Ο
As a single atom Pd outperforms Pt as the most active co-catalyst for photocatalytic H evolution. 2021 , 24, 102938	8
Single-atom catalysts with anionic metal centers: Promising electrocatalysts for the oxygen reduction reaction and beyond. 2021 , 63, 285-285	2
	Battery. Decarboxylation-Induced Defects in MOF-Derived Single Cobalt Atom@Carbon Electrocatalysts for Efficient Oxygen Reduction. 2021, 133, 21853-21858 Advanced Atomically Dispersed MetalBitrogen@arbon Catalysts Toward Cathodic Oxygen Reduction in PEM Fuel Cells. 2021, 11, 2101222 A Dual-Functional Fibrous Skeleton Implanted with Single-Atomic Co-N Dispersions for Longevous Li-S Full Batteries. 2021, 15, 14105-14115 Construction of Single-Atom Platinum Catalysts Enabled by CsPbBr Nanocrystals. 2021, Neighboring Pd single atoms surpass isolated single atoms for selective hydrodehalogenation catalysis. 2021, 12, 5179 Designing efficient single-atomic catalysts for bifunctional oxygen electrocatalysis via a general two-step strategy. 2021, 556, 149779 Single-Atom Catalysts as Promising Cathode Materials for LithiumBulfur Batteries. 2021, 125, 18108-18118 Construction of a Single-Atom Nanozyme for Enhanced Chemodynamic Therapy and Chemotherapy. 2021, 27, 13418-13425 Single Iridium Atom Doped NiP Catalyst for Optimal Oxygen Evolution. 2021, 143, 13605-13615 CeO2 supported Pd dimers boosting CO2 hydrogenation to ethanol. 2021, 291, 120122 Engineering Single Atom Catalysts to Tune Properties for Electrochemical Reduction and Evolution Reactions. 2021, 11, 2101670 Binary Atomically Dispersed Metal-Site Catalysts with CoreBhell Nanostructures for O2 and CO2 Reduction Reactions. 2100046 Dynamic Behavior of Single-Atom Catalysts in Electrocatalysis: Identification of Cu-N as an Active Site for the Oxygen Reduction Reaction. 2021, 13, e2103533 Stabilization of single atom catalysts. 2021, 66, 2337-2337 As a single atom Pd outperforms Pt as the most active co-catalyst for photocatalytic H evolution. 2021, 24, 102938 Single-atom catalysts with anionic metal centers: Promising electrocatalysts for the oxygen

1074	Modulation effect in adjacent dual metal single atom catalysts for electrochemical nitrogen reduction reaction. 2021 ,	3
1073	Decarboxylation-Induced Defects in MOF-Derived Single Cobalt Atom@Carbon Electrocatalysts for Efficient Oxygen Reduction. 2021 , 60, 21685-21690	14
1072	Co-Heteroatom-Based MOFs for Bifunctional Electrocatalysts for Oxygen and Hydrogen Evolution Reactions. 2021 , 60, 13434-13439	1
1071	Atomically dispersed S-Fe-N4 for fast kinetics sodium-sulfur batteries via a dual function mechanism. 2021 , 2, 100531	9
1070	On the Roles of Electron Transfer in Catalysis by Nanoclusters and Nanoparticles. 2021 , 27, 16291-16308	2
1069	Confinement Strategies for Precise Synthesis of Efficient Electrocatalysts from the Macroscopic to the Atomic Level.	9
1068	Synthesis of TiO2-Fe2O3 nanocomposite for the photocatalytic degradation of Direct Blue 199 and Basic Yellow 28 dyes under visible light irradiation. 1-9	O
1067	Blurring the boundary between homogenous and heterogeneous catalysis using palladium nanoclusters with dynamic surfaces. 2021 , 12, 4965	3
1066	Reversible Ligand Exchange in Atomically Dispersed Catalysts for Modulating the Activity and Selectivity of the Oxygen Reduction Reaction. 2021 , 60, 20528-20534	4
1065	A density-functional-theory-based and machine-learning-accelerated hybrid method for intricate system catalysis. 2021 , 1, 100046	4
1064	A New Strategy to Regulate the Selectivity of Photo-Mediated Catalytic Reaction. 2021, 9, 673857	
1063	Recent Advances of Catalysis in the Hydrogenation and Dehydrogenation of N-Heterocycles for Hydrogen Storage. 2021 , 125, 18553-18566	4
1062	Reversible Ligand Exchange in Atomically Dispersed Catalysts for Modulating the Activity and Selectivity of the Oxygen Reduction Reaction. 2021 , 133, 20691-20697	0
1061	Molecular Design of 3D Porous Carbon Framework via One-Step Organic Synthesis. 2021 , 14, 3806-3809	
1060	Flexible carbon nanofiber film with diatomic Fe-Co sites for efficient oxygen reduction and evolution reactions in wearable zinc-air batteries. 2021 , 87, 106147	26
1059	Iso-valent doping of reducible oxides: a comparison of rutile (110) and anatase (101) TiOsurfaces. 2021 , 33,	2
1058	Recent advances in carbon-based materials for electrochemical CO2 reduction reaction. 2021,	4
1057	Atomically dispersed metal site in subnanometric clusters catalyze dynamically. 2021, 1, 768-770	1

Limiting the Uncoordinated N Species in M-N Single-Atom Catalysts to Reduction in Broad Voltage Range. 2021 , e2104090	ward Electrocatalytic CO
1055 Single-Atom Catalysis: From Simple Reactions to the Synthesis of Com	plex Molecules. 2021 , e2103882 12
Two-Dimensional Graphdiyne-Confined Platinum Catalyst for Hydroge Reduction Reactions. 2021 , 13, 47541-47548	n Evolution and Oxygen 2
Coronene-Based 2D Metal©rganic Frameworks: A New Family of Prom for Nitrogen Reduction Reaction. 2021 , 125, 20870-20876	ising Single-Atom Catalysts
Single-atom Bi-anchored Au hydrogels with specifically boosted perox catalysis and sensing. 2021 , 343, 130108	idase-like activity for cascade 7
1051 Atomically precise control in the design of low-nuclearity supported m	etal catalysts. 17
Enhanced Fenton-like degradation of sulfadiazine by single atom iron nitrogen-doped porous carbon. 2021 , 597, 56-65	materials fixed on 19
Accelerated Anti-Markovnikov Alkene Hydrosilylation with Humic-Acid Electron-Deficient Platinum Single Atoms. 2021 , 133, 24422	-Supported O
1048 Conversion of dinitrogen to ammonia by rhenium doped graphyne. 20 2	21 , 46, 33409-33419 ₂
1047 Reaction on a Rink: Kondo-Enhanced Heterogeneous Single-Atom Cata	ducie
"	nysis.
Controllable drilling by corrosive Cu1Ox to access highly accessible sin bacterial disinfection. 2021 , 293, 120228	
	gle-site catalysts for 5
bacterial disinfection. 2021 , 293, 120228 Isolated metal atoms and clusters for alkane activation: Translating kn	gle-site catalysts for 5 owledge from enzymatic and 7
bacterial disinfection. 2021 , 293, 120228 Isolated metal atoms and clusters for alkane activation: Translating kn homogeneous to heterogeneous systems. 2021 , 7, 2347-2384 Fe-based single-atom catalysis for oxidizing contaminants of emerging	gle-site catalysts for 5 owledge from enzymatic and 7 concern by activating 9
bacterial disinfection. 2021 , 293, 120228 Isolated metal atoms and clusters for alkane activation: Translating kn homogeneous to heterogeneous systems. 2021 , 7, 2347-2384 Fe-based single-atom catalysis for oxidizing contaminants of emerging peroxides. 2021 , 418, 126294 Self-Supported Nickel Single Atoms Overwhelming the Concomitant N	gle-site catalysts for 5 owledge from enzymatic and 7 concern by activating 9 ickel Nanoparticles Enable 1
bacterial disinfection. 2021, 293, 120228 Isolated metal atoms and clusters for alkane activation: Translating kn homogeneous to heterogeneous systems. 2021, 7, 2347-2384 Fe-based single-atom catalysis for oxidizing contaminants of emerging peroxides. 2021, 418, 126294 Self-Supported Nickel Single Atoms Overwhelming the Concomitant N Efficient and Selective CO2 Electroreduction. 2101542 A surface regulation strategy to fabricate Cu-Nx sites of high homogeneous to heterogeneous systems. 2021, 7, 2347-2384	gle-site catalysts for 5 owledge from enzymatic and 7 concern by activating 9 ickel Nanoparticles Enable 1 neity with countable activity 4
lsolated metal atoms and clusters for alkane activation: Translating kn homogeneous to heterogeneous systems. 2021, 7, 2347-2384 Fe-based single-atom catalysis for oxidizing contaminants of emerging peroxides. 2021, 418, 126294 Self-Supported Nickel Single Atoms Overwhelming the Concomitant N Efficient and Selective CO2 Electroreduction. 2101542 A surface regulation strategy to fabricate Cu-Nx sites of high homogeneous towards oxygen reduction. 2021, 560, 150054 Multifunctional Electrocatalysis on Single-Site Metal Catalysts: A Company of the Concomitant N Single-Site Metal Catalysts: A Company	gle-site catalysts for 5 owledge from enzymatic and 7 concern by activating 9 ickel Nanoparticles Enable 1 neity with countable activity 4 outational Perspective. 2021, 2

1038	Role of Chemical Structure of Support in Enhancing the Catalytic Activity of a Single Atom Catalyst Toward NRR: A Computational Study. 2021 , 9, 733422	О
1037	Recent advances of MXenes as electrocatalysts for hydrogen evolution reaction. 2021 , 5,	20
1036	Effect of single atom Platinum (Pt) doping and facet dependent on the electronic structure and light absorption of Lanthanum Titanium Oxide (La2Ti2O7): A Density Functional Theory study. 2021 , 715, 121949	О
1035	Single-Molecule Kinetics of Styrene Hydrogenation on Silica-Supported Vanadium: The Role of Disorder for Single-Atom Catalysts. 2021 , 125, 20286-20300	3
1034	Engineering dual metal single-atom sites with the nitrogen-coordinated nonprecious catalyst for oxygen reduction reaction (ORR) in acidic electrolyte. 2021 , 151367	7
1033	Single-atom Zn for boosting supercapacitor performance. 1	2
1032	Low-Valence Zn (0. 2021 , 60, 22826-22832	16
1031	Low-Valence Zn⊞ (0. 2021 , 133, 23008	4
1030	Dual-Sites Tandem Catalysts for CN Bond Formation via Electrocatalytic Coupling of CO2 and Nitrogenous Small Molecules. 1468-1476	9
1029	Toward efficient single-atom catalysts for renewable fuels and chemicals production from biomass and CO2. 2021 , 292, 120162	35
1028	Heterogeneous Two-Atom Single-Cluster Catalysts for the Nitrogen Electroreduction Reaction. 2021 , 125, 19821-19830	5
1027	Anchoring single platinum atoms onto nickel nanoparticles affords highly selective catalysts for lignin conversion. 2021 , 2, 100567	2
1026	Integration of Morphology and Electronic Structure Modulation on Atomic Iron-Nitrogen-Carbon Catalysts for Highly Efficient Oxygen Reduction. 2108345	10
1025	2D Graphdiyne: A Rising Star on the Horizon of Energy Conversion. 2021 , 16, 3259-3271	2
1024	Visible-light driven room-temperature coupling of methane to ethane by atomically dispersed Au on WO3. 2021 , 61, 195-202	15
1023	Tailoring the redox capabilities of organic ligands for metal-ligand coordination with vanadium single-sites. 2021 , 712, 121888	1
1022	Engaging Ag(0) single atoms in silver(I) salts-mediated C-B and C-S coupling under visible light irradiation. 2021 , 402, 255-263	1
1021	Single sites in heterogeneous catalysts: separating myth from reality. 2021 , 3, 850-862	2

1020	Very high loading oxidized copper supported on ceria to catalyze the water-gas shift reaction. 2021 , 402, 83-93	3
1019	Single-atomic Pt sites anchored on defective TiO2 nanosheets as a superior photocatalyst for hydrogen evolution. 2021 , 62, 1-10	23
1018	A meta-analysis of photocatalytic performance and efficiency of bismuth oxide (BiO2_x). 2021 , 322, 129070	2
1017	Single noble metal atoms doped 2D materials for catalysis. 2021 , 297, 120389	17
1016	The modulating effect of N coordination on single-atom catalysts researched by Pt-N -C model through both experimental study and DFT simulation. 2021 , 91, 160-167	11
1015	C2H2 semi-hydrogenation on the metal M (MIEICu, Ag, Au) alloyed single-atom Pd catalysts: Effects of Pd coordination number and environment on the catalytic performance. 2021 , 243, 116786	2
1014	Constructed palladium-anchored hollow-rod-like graphitic carbon nitride created rapid visible-light-driven debromination of hexabromocyclododecane. 2021 , 297, 120409	3
1013	Molecular approaches to heterogeneous catalysis. 2021 , 448, 214179	3
1012	Cu-Ni bimetallic single atoms supported on TiO2@NG core-shell material for the removal of dibenzothiophene under visible light. 2021 , 279, 119646	Ο
1011	Preparation and application of 0D-2D nanomaterial hybrid heterostructures for energy applications. 2021 , 12, 100169	5
1010	Trimetallic single-cluster catalysts for electrochemical nitrogen reduction reaction: Activity prediction, mechanism, and electronic descriptor. 2021 , 426, 130745	8
1009	Single Al atom anchored on defective MoS2: An efficient catalytic site for reduction of greenhouse N2O gas by CO or C2H4 molecules. 2021 , 569, 151001	4
1008	Single, double, and triple transition metal atoms embedded in defective V3C2O2 for nitrogen reduction reaction: A DFT study. 2021 , 569, 151020	3
1007	Electrocatalytic H2O2 generation for disinfection. 2021 , 42, 2149-2163	7
1006	Heterogeneous catalysis for organic synthesis: Historical background and fundamentals. 2022 , 1-21	0
1005	Photoinduction of palladium single atoms supported on defect-containing FAlOOH nanoleaf for efficient trans-stilbene epoxidation. 2022 , 429, 132149	6
1004	Heterogeneous Catalysis. 2022 ,	0
1003	Directly anchoring non-noble metal single atoms on 1T-TMDs with tip structure for efficient hydrogen evolution. 2022 , 428, 131210	4

1002	Activity, selectivity, and stability of earth-abundant CuO/Cu2O/Cu0-based photocatalysts toward CO2 reduction. 2022 , 429, 131579	13
1001	1 T-MoSe monolayer supported single Pd atom as a highly-efficient bifunctional catalyst for ORR/OER. 2022 , 605, 155-162	7
1000	Single-atom catalysts for biomass-derived drop-in chemicals. 2022 , 63-100	1
999	Modulating the stability, electronic and reactivity properties of single-atom catalyst anchored graphene by coordination environments. 2022 , 135, 114975	2
998	Monitoring dynamics of defects and single Fe atoms in N-functionalized few-layer graphene by in situ temperature programmed scanning transmission electron microscopy. 2022 , 64, 520-530	2
997	A New Eye Re-looking at Single-Site Catalysts. 2021 , 7, 5-7	О
996	Nuclearity and Host Effects of Carbon-Supported Platinum Catalysts for Dibromomethane Hydrodebromination. 2021 , 17, e2005234	5
995	Micro- and mesoporous metal-organic coordination polymers for separation of hydrocarbons. 2021 , 90,	3
994	Pd nanoparticles assembled on Ni- and N-doped carbon nanotubes towards superior electrochemical activity. 2021 , 46, 2065-2074	12
993	Electronic interaction between transition metal single-atoms and anatase TiO2 boosts CO2 photoreduction with H2O.	14
992	NO direct decomposition: progress, challenges and opportunities. 2021 , 11, 374-391	4
991	Embedding Single Platinum Atoms Into Nickel Nanoparticles Affords Highly Selective Catalysts for Lignin Conversion.	
990	Single-atom catalysts for high-energy rechargeable batteries. 2021 , 12, 7656-7676	18
989	The formation and evolution of carbonate species in CO oxidation over mono-dispersed Fe on graphene. 2021 , 23, 10509-10517	3
988	Metal Containing Nanoclusters in Zeolites. 2021,	
987	Understanding electrochemical interfaces using in situ coreBhell nanoparticle-enhanced Raman spectroscopy. 2021 , 18, 295-342	
986	Single-Atom Photocatalysts for Energy and Environmental Sustainability. 2021, 1-37	
985	Tuning metal single atoms embedded in NxCy moieties toward high-performance electrocatalysis. 2021 , 14, 3455-3468	47

984	COF-confined catalysts: from nanoparticles and nanoclusters to single atoms.	7
983	Atomic regulation of metalBrganic framework derived carbon-based single-atom catalysts for the electrochemical CO2 reduction reaction.	9
982	Nanomaterials for the electrochemical nitrogen reduction reaction under ambient conditions. 2021 , 3, 5525-5541	7
981	Hollow mesoporous carbon nanocages with Fe isolated single atomic site derived from a MOF/polymer for highly efficient electrocatalytic oxygen reduction.	6
980	Porphyrin and single atom featured reticular materials: recent advances and future perspective of solar-driven CO2 reduction.	8
979	Rational catalyst design for oxygen evolution under acidic conditions: strategies toward enhanced electrocatalytic performance. 2021 , 9, 5890-5914	17
978	Porous Silica-Based Organic-Inorganic Hybrid Catalysts: A Review. 2021 , 11, 79	12
977	Non-carbon-supported single-atom site catalysts for electrocatalysis. 2021 , 14, 2809-2858	66
976	A MOF-derived carbon host associated with Fe and Co single atoms for LiBe batteries. 2021 , 9, 16196-16207	1
975	Graphdiyne based catalysts for energy applications.	5
975 974	Graphdiyne based catalysts for energy applications. Recent Research Progresses on Single Atom Catalyst. 2021, 11, 48-54	1
974	Recent Research Progresses on Single Atom Catalyst. 2021 , 11, 48-54 Gram-scale synthesis of single-atom metal-N-CNT catalysts for highly efficient CO electroreduction.	1
974	Recent Research Progresses on Single Atom Catalyst. 2021 , 11, 48-54 Gram-scale synthesis of single-atom metal-N-CNT catalysts for highly efficient CO electroreduction. 2021 , 57, 1514-1517	1
974 973 972	Recent Research Progresses on Single Atom Catalyst. 2021, 11, 48-54 Gram-scale synthesis of single-atom metal-N-CNT catalysts for highly efficient CO electroreduction. 2021, 57, 1514-1517 Nanometal Thermocatalysts: Transformations, Deactivation, and Mitigation. 2021, 17, e2005771 Surface oxygen vacancies promoted Pt redispersion to single-atoms for enhanced photocatalytic	1 4
974 973 972 971	Recent Research Progresses on Single Atom Catalyst. 2021, 11, 48-54 Gram-scale synthesis of single-atom metal-N-CNT catalysts for highly efficient CO electroreduction. 2021, 57, 1514-1517 Nanometal Thermocatalysts: Transformations, Deactivation, and Mitigation. 2021, 17, e2005771 Surface oxygen vacancies promoted Pt redispersion to single-atoms for enhanced photocatalytic hydrogen evolution. 2021, 9, 13890-13897 Catalytic role of graphitic nitrogen atoms in the CO oxidation reaction over N-containing graphene:	1 4 1 9
974 973 972 971 970	Recent Research Progresses on Single Atom Catalyst. 2021, 11, 48-54 Gram-scale synthesis of single-atom metal-N-CNT catalysts for highly efficient CO electroreduction. 2021, 57, 1514-1517 Nanometal Thermocatalysts: Transformations, Deactivation, and Mitigation. 2021, 17, e2005771 Surface oxygen vacancies promoted Pt redispersion to single-atoms for enhanced photocatalytic hydrogen evolution. 2021, 9, 13890-13897 Catalytic role of graphitic nitrogen atoms in the CO oxidation reaction over N-containing graphene: a first-principles mechanistic evaluation. 2021, 45, 13822-13832 Fabrication, functionalization and advanced applications of magnetic hollow materials in confined	1 4 1 9 0

966	Atomic-level engineering of two-dimensional electrocatalysts for CO reduction. 2021, 13, 7081-7095	7
965	Tandem catalyzing the hydrodeoxygenation of 5-hydroxymethylfurfural over a NiFe intermetallic supported Pt single-atom site catalyst. 2021 , 12, 4139-4146	11
964	Controlling the CoB coordination environment in Co-doped WS2 nanosheets for electrochemical oxygen reduction. 2021 , 9, 19865-19873	О
963	Catalysts for CO2 reforming of CH4: a review.	23
962	Propane dehydrogenation: catalyst development, new chemistry, and emerging technologies. 2021 , 50, 3315-3354	95
961	Progress in batch preparation of single-atom catalysts and application in sustainable synthesis of fine chemicals.	7
960	Heterogeneous catalysts for CO2 hydrogenation to formic acid/formate: from nanoscale to single atom. 2021 , 14, 1247-1285	48
959	Ru1Con Single-Atom Alloy for Enhancing Fischer Tropsch Synthesis. 2021 , 11, 1886-1896	16
958	An insight into the reaction mechanism of CO photoreduction catalyzed by atomically dispersed Fe atoms supported on graphitic carbon nitride. 2021 , 23, 4690-4699	5
957	Noble-metal single-atoms in thermocatalysis, electrocatalysis, and photocatalysis. 2021 , 14, 2954-3009	64
956	Single-Atom Catalysts for Nanocatalytic Tumor Therapy. 2021 , 17, e2004467	22
955	Development of Electrocatalysts for Efficient Nitrogen Reduction Reaction under Ambient Condition. 2021 , 31, 2008983	34
954	Black phosphorus-hosted single-atom catalyst for electrocatalytic nitrogen reduction. 2021 , 64, 1173-1181	8
953	Single-atom catalysis: A practically viable technology?. 2020 , 25, 100358	3
952	Catalytic Effects in the Cathode of Li-S Batteries: Accelerating polysulfides redox conversion. 2020 , 2, 100036	16
951	Constructing fibril-in-tube structures in ultrathin CeO2-based nanofibers as the ideal support for stabilizing Pt nanoparticles. 2020 , 17, 100333	2
950	A facile sulfur-assisted method to synthesize porous alveolate Fe/g-C3N4 catalysts with ultra-small cluster and atomically dispersed Fe sites. 2020 , 41, 1198-1207	18
949	Perspectives for Single-Atom Nanozymes: Advanced Synthesis, Functional Mechanisms, and Biomedical Applications. 2021 , 93, 1221-1231	25

948	Photosynthesis of a Photocatalyst: Single Atom Platinum Captured and Stabilized by an Iron(III) Engineered Defect. 2021 , 125, 88-98	2
947	Stable Adsorption of Single Gold Atoms on the SrTiO3(111)-(9 图) Reconstructed Surface. 2019 , 123, 4866-4870	1
946	Size-Dependent Pt-TiO Strong Metal-Support Interaction. 2020 , 11, 4603-4607	22
945	Facile Fabrication of the Cu-N-C Catalyst with Atomically Dispersed Unsaturated Cu-N2 Active Sites for Highly Efficient and Selective Glaser-Hay Coupling. 2020 , 12, 27210-27218	22
944	Ammonia Synthesis Using Single-Atom Catalysts Based on Two-Dimensional Organometallic Metal Phthalocyanine Monolayers under Ambient Conditions. 2021 , 13, 608-621	34
943	Isolated Palladium Atoms Dispersed on Silicoaluminophosphate-31 (SAPO-31) for the Semihydrogenation of Alkynes. 2021 , 4, 861-868	5
942	Nature of Active Sites on CulteO2 Catalysts Activated by High-Temperature Thermal Aging. 2020 , 10, 12385-12392	22
941	Steric and Orbital Effects Induced by Isovalent Dopants on the Surface Chemistry of ZrO2. 2021 , 11, 554-567	9
940	Mechanism of Methanol Decomposition over Single-Site Pt/CeO Catalyst: A DRIFTS Study. 2021 , 143, 60-64	14
939	Chapter 8:Nanocatalysts for CO2 Conversion. 2019 , 207-235	2
938	Highly modulated supported triazolium-based ionic liquids: direct control of the electronic environment on Cu nanoparticles. 2020 , 2, 1325-1332	2
937	Quantification of surface composition and segregation on AuAg bimetallic nanoparticles by MALDI MS. 2020 , 12, 22639-22644	2
936	Importance learning estimator for the site-averaged turnover frequency of a disordered solid catalyst. 2020 , 153, 244120	2
935	ReviewNon-Noble Metal-Based Single-Atom Catalysts for Efficient Electrochemical CO2 Reduction Reaction. 2020 , 167, 164503	8
934	Iridium Single-Atom Catalyst Laboring a Quasi-Homogeneous Hydrogenation Transformation of CO2 to Formate.	1
933	Enhanced Catalysis of Pt3 Clusters Supported on Graphene for N⊞ Bond Dissociation. 2019 , 1, 215-225	17
932	One-Step High-Temperature-Synthesized Single-Atom Platinum Catalyst for Efficient Selective Hydrogenation. 2020 , 2020, 9140841	13
931	Intercalation engineering of MXenes towards highly efficient photo(electrocatalytic) hydrogen evolution reactions.	9

930	A Pt3 cluster anchored on a C2N monolayer as an efficient catalyst for electrochemical reduction of nitrobenzene to aniline: a computational study.	1
929	Molecular design of heterogeneous electrocatalysts using tannic acid-derived metal-phenolic networks. 2021 ,	1
928	Deciphering the alternating synergy between interlayer Pt single-atom and NiFe layered double hydroxide for overall water splitting.	23
927	Decreasing the coordinated N atoms in a single-atom Cu catalyst to achieve selective transfer hydrogenation of alkynes. 2021 , 12, 14599-14605	4
926	Electrochemical reduction of carbon dioxide with nearly 100% carbon monoxide faradaic efficiency from vacancy-stabilized single-atom active sites.	6
925	Thiol-functionalized UiO-66 anchored atomically dispersed metal ions for the photocatalytic selective oxidation of benzyl alcohol. 2021 , 57, 12151-12154	5
924	Single-atom Ru catalyst for selective synthesis of 3-pentanone via ethylene hydroformylation. 2021 , 23, 9038-9047	2
923	Enhancing the inherent catalytic activity and stability of TiO2 supported Pt single-atoms at CeOxIIiO2 interfaces.	4
922	Hybrid Metal-Boron Diatomic Site Embedded in C N Monolayer Promotes C-C Coupling in CO Electroreduction. 2021 , 17, e2104445	5
921	Effect of Coordination Environment Surrounding a Single Pt Site on the Liquid-Phase Aerobic Oxidation of 5-Hydroxymethylfurfural. 2021 , 13, 48582-48594	4
920	Enhanced Chlorinated Pollutant Degradation by the Synergistic Effect between Dechlorination and Hydroxyl Radical Oxidation on a Bimetallic Single-Atom Catalyst. 2021 , 55, 14194-14203	8
919	Single-Atom (Iron-Based) Catalysts: Synthesis and Applications. 2021 , 121, 13620-13697	23
918	Atomic-level insights into surface engineering of semiconductors for photocatalytic CO2 reduction. 2021 ,	6
917	Recent Progress of Metal Organic Frameworks-Based Electrocatalysts for Hydrogen Evolution, Oxygen Evolution, and Oxygen Reduction Reaction.	1
916	Highly Poison-Resistant Single-Atom Co-N Active Sites with Superior Operational Stability over 460[h for H S Catalytic Oxidation. 2021 , 17, e2104939	2
915	Rational confinement engineering of MOF-derived carbon-based electrocatalysts toward CO2 reduction and O2 reduction reactions.	7
914	Descriptors for the Evaluation of Electrocatalytic Reactions: d-Band Theory and Beyond. 2107651	14
913	Room-Temperature On-Spin-Switching and Tuning in a Porphyrin-Based Multifunctional Interface. 2021 , 17, e2104779	1

912	Coordination tailoring of Cu single sites on CN realizes selective CO hydrogenation at low temperature. 2021 , 12, 6022	21
911	Temperature and Reaction Environment Influence the Nature of Platinum Species Supported on Ceria. 13041-13049	3
910	Controlling Heterogeneous Catalysis with Organic Monolayers on Metal Oxides. 2021 , 54, 4080-4090	3
909	Resolving the Dilemma of Fe-N-C Catalysts by the Selective Synthesis of Tetrapyrrolic Active Sites via an Imprinting Strategy. 2021 , 143, 18010-18019	13
908	Toward Multicomponent Single-Atom Catalysis for Efficient Electrochemical Energy Conversion.	4
907	A review of the application of polyvinyl alcohol membranes for fuel cells. 1	1
906	MOFs fertilized transition-metallic single-atom electrocatalysts for highly-efficient oxygen reduction: Spreading the synthesis strategies and advanced identification. 2021 , 67, 391-391	5
905	Gas-phase CO2 activation with single electrons, metal atoms, clusters, and molecules. 2021,	O
904	Molecular Engineering for Bottom-Up Construction of High-Performance Non-Precious-Metal Electrocatalysts with Well-Defined Active Sites. 2021 , 125, 22397-22420	2
903	Structure R eactivity Relationship for Nano-Catalysts in the Hydrogenation/Dehydrogenation Controlled Reaction Systems. 2021 , 133, 26546	O
902	Structure-Reactivity Relationship for Nano-Catalysts in the Hydrogenation/Dehydrogenation Controlled Reaction Systems. 2021 , 60, 26342-26345	1
901	Advances in Catalytic Applications of Zeolite-Supported Metal Catalysts. 2021 , e2104442	19
900	Single-atom dispersed Cu or Co on 2H-MoS2 monolayer for improving electrocatalytic activity of overall water splitting. 2021 , 27, 101538	4
899	Structure sensitivity of nitrogenfloped carbonflupported metal catalysts in dihalomethane hydrodehalogenation. 2021 , 404, 291-305	2
898	Atomic-Scale Insights into the Low-Temperature Oxidation of Methanol Over a Single-Atom Pt1-Co3o4 Catalyst.	
897	Revealing Hydrogen Evolution Performance of Single-Atom Platinum Electrocatalyst with Polyoxometalate Molecular Models. 4055-4062	3
896	Recent advances in electrocatalytic oxygen reduction for on-site hydrogen peroxide synthesis in acidic media. 2021 ,	9
895	Tuning metal catalysts via nitrogen-doped nanocarbons for energy chemistry: From metal nanoparticles to single metal sites. 2021 , 3, 100066	3

894	Metal-Triazolate-Framework-Derived FeN4Cl1 Single-Atom Catalysts with Hierarchical Porosity for the Oxygen Reduction Reaction.	O
893	Photochemical Energy Conversion with Single Atoms. 2022 , 773-785	
892	Electrochemical Energy Conversion with Single Atoms. 2022, 719-772	
891	Recent Advances in Complex Hollow Electrocatalysts for Water Splitting. 2108681	20
890	Dynamic evolution of nitrogen and oxygen dual-coordinated single atomic copper catalyst during partial oxidation of benzene to phenol. 1	3
889	Ultradispersed (Co)Mo catalysts with high hydrodesulfurization activity. 2021 , 302, 120831	2
888	Electrochemical Reduction of CO to CO over Transition Metal/N-Doped Carbon Catalysts: The Active Sites and Reaction Mechanism. 2021 , e2102886	18
887	Metal-Triazolate-Framework-Derived FeN Cl Single-Atom Catalysts with Hierarchical Porosity for the Oxygen Reduction Reaction. 2021 ,	20
886	Ammonia electrosynthesis on single-atom catalysts: Mechanistic understanding and recent progress. 2021 , 2, 041305	6
885	Prediction of bimetal embedded in two-dimensional materials for CO reduction electrocatalysis with a new integrated descriptor. 2021 , 23, 26241-26249	1
884	Single-atom catalysts: stimulating electrochemical CO2 reduction reaction in the industrial era.	Ο
883	From Li clusters to nanocatalysis: A brief tour of 40 years of cluster chemistry. 2022 , 530, 120680	
882	CO2 electroreduction performance of transition metals supported on g-C(CN)3 monolayer with specific TMN3 active sites. 2022 , 573, 151544	1
881	Rare earth La single atoms supported MoO3-x for efficient photocatalytic nitrogen fixation. 2022 , 301, 120766	14
880	Recent progress in single-atom alloys: Synthesis, properties, and applications in environmental catalysis. 2022 , 424, 127427	9
879	Mass production of a single-atom cobalt photocatalyst for high-performance visible-light photocatalytic CO2 reduction.	3
878	Synthesis of Single-Atom Catalysts Through Top-Down Atomization Approaches. 2021 , 1,	2
877	On the evaluation of hydrogen evolution reaction performance of metal-nitrogen-doped carbon electrocatalysts using machine learning technique. 2021 , 11, 21911	1

876	Singly Dispersed Bimetallic Sites as Stable and Efficient Single-Cluster Catalysts for Activating N2 and CO2.	1
875	Thermal Atomization of Platinum Nanoparticles into Single Atoms: An Effective Strategy for Engineering High-Performance Nanozymes. 2021 , 143, 18643-18651	26
874	Sol-gel pore-sealing strategy imparts tailored electronic structure to the atomically dispersed Ru sites for efficient oxygen reduction reaction. 2021 , 44, 469-469	2
873	Atom probe specimen preparation methods for nanoparticles. 2021 , 233, 113420	
872	Ethanol Decomposition and Dehydrogenation for Hydrogen Production: A Review of Heterogeneous Catalysts.	2
871	Synergy between Confined Cobalt Centers and Oxygen Defects on Fe2O3 Platelets for Efficient Photocatalytic CO2 Reduction. 2022 , 6, 2100833	1
870	Boosting Activity and Stability of Metal Single-Atom Catalysts via Regulation of Coordination Number and Local Composition. 2021 , 143, 18854-18858	23
869	Mechanistic understanding and design of non-noble metal-based single-atom catalysts supported on two-dimensional materials for CO2 electroreduction.	2
868	A high-throughput, solvent free method for dispersing metal atoms directly onto supports.	
867	Rational construction of thermally stable single atom catalysts: From atomic structure to practical applications. 2022 , 43, 71-91	3
866	Highly-dispersed and high-metal-density electrocatalysts on carbon supports for the oxygen reduction reaction: from nanoparticles to atomic-level architectures.	3
865	Fe,N-modulated carbon fibers aerogel as freestanding cathode catalyst for rechargeable ZnAir battery. 2022 , 187, 196-206	7
864	Unveiling the underlying mechanism of nitrogen fixation by a new class of electrocatalysts two-dimensional TM@g-C4N3 monosheets. 2022 , 576, 151839	8
863	Functional role of single-atom catalysts in electrocatalytic hydrogen evolution: Current developments and future challenges. 2022 , 452, 214289	5
862	Single-Atom Catalysis: Far beyond the Matter of Metal Dispersion. 2021 , 21, 9835-9837	8
861	Application of density functional theory and machine learning in heterogenous-based catalytic reactions for hydrogen production. 2021 , 47, 2245-2245	1
860	Local Structure of Pd1 Single Sites on the Surface of PdIn Intermetallic Nanoparticles: A Combined DFT and CO-DRIFTS Study. 2021 , 11, 1376	1
859	Facet-Regulating Local Coordination of Dual-Atom Cocatalyzed TiO2 for Photocatalytic Water Splitting. 2021 , 11, 14669-14676	4

858	Scalable two-step annealing method for preparing ultra-high-density single-atom catalyst libraries. 2021 ,	40
857	An overview on advances in design and development of materials for electrochemical generation of hydrogen and oxygen. 2021 , 23, 100902	4
856	Photocatalytic Oxidation of Methane to Methanol by Tungsten Trioxide-supported Atomic Gold at Room Temperature. 2021 , 120919	2
855	Advanced Support Materials and Interactions for Atomically Dispersed Noble-Metal Catalysts: From Support Effects to Design Strategies. 2022 , 12, 2102556	8
854	Graphdiyne-Based Materials in Catalytic Applications. 2022 , 165-219	
853	Two-dimensional PdOx rafts as superior catalysts for methane combustion. 1	
852	Vapor-phase self-assembly for generating thermally stable single atom catalysts. 2021,	5
851	Screening of catalytic oxygen reduction reaction activity of 2, 9-dihalo-1, 10-phenanthroline metal complexes: The role of transition metals and halogen substitution. 2021 , 609, 130-138	2
850	Single-Atom Engineering to Ignite 2D Transition Metal Dichalcogenide Based Catalysis: Fundamentals, Progress, and Beyond. 2021 ,	20
849	Transition Metal-Modified Co Clusters Supported on Graphdiyne as an Effective Nitrogen Reduction Reaction Electrocatalyst. 2021 , 60, 18251-18259	3
848	Atomic-level insights into the steric hindrance effect of single-atom Pd catalyst to boost the synthesis of dimethyl carbonate. 2021 , 120922	2
847	Microenvironment Engineering of Ru Single-Atom Catalysts by Regulating the Cation Vacancies in NiFe-Layered Double Hydroxides. 2109218	6
846	Cluster Nanozymes with Optimized Reactivity and Utilization of Active Sites for Effective Peroxidase (and Oxidase) Mimicking. 2021 , e2104844	8
845	Non-Bonding Interaction of Neighboring Fe and Ni Single-Atom Pairs on MOF-Derived N-Doped Carbon for Enhanced CO Electroreduction. 2021 , 143, 19417-19424	55
844	Transient Autto Complexes Promote the Activity of an Inverse Ceria/Gold Catalyst: An Insight from Ab Initio Molecular Dynamics.	1
843	Rational Design of Graphene-Supported Single-Atom Catalysts for Electroreduction of Nitrogen. 2021 , 60, 18314-18324	2
842	Single-Atomic Ruthenium Active Sites on Ti3C2 MXene with Oxygen-Terminated Surface Synchronize Enhanced Activity and Selectivity for Electrocatalytic Nitrogen Reduction to Ammonia. 2021 , 15, e202102352	2
841	Hexagonal MBene (HfBO): A Promising Platform for the Electrocatalysis of Hydrogen Evolution Reaction. 2021 , 13, 56131-56139	O

840	Sustainable Oxidation Catalysis Supported by Light: Fe-Poly (heptazine imide) as a Heterogeneous Single-Atom Photocatalyst. 2021 , 120965	5
839	Carbon-Supported Bimetallic Ruthenium-Iridium Catalysts for Selective and Stable Hydrodebromination of Dibromomethane.	1
838	Photocatalytic HER Performance of TiO2-supported Single Atom Catalyst Based on Electronic Regulation: A DFT Study. 1	0
837	Atomically dispersed iridium on MgO(111) nanosheets catalyses benzene B thylene coupling towards styrene. 2021 , 4, 968-975	5
836	Metal-Organic-Framework-Based Single-Atomic Catalysts for Energy Conversion and Storage: Principles, Advances, and Theoretical Understandings. 2100281	2
835	Role of Dihydride and Dihydrogen Complexes in Hydrogen Evolution Reaction on Single-Atom Catalysts. 2021 , 143, 20431-20441	9
834	Electronic Interaction between In Situ Formed RuO Clusters and a Nanoporous ZnVO Support and Its Use in the Oxygen Evolution Reaction. 2021 , 13, 54951-54958	1
833	A general strategy for preparing pyrrolic-N type single-atom catalysts via pre-located isolated atoms. 2021 , 12, 6806	18
832	Revealing the impact of small pores on oxygen reduction on carbon electrocatalysts: A journey through recent findings. 2021 , 188, 289-289	1
831	Theory-oriented screening and discovery of advanced energy transformation materials in electrocatalysis. 2021 , 100013-100013	75
830	Sacrificial Template-Assisted Synthesis of Inorganic Nanosheets with High-Loading Single-Atom Catalysts: A General Approach. 2110485	2
829	Self-assembled monolayers enhance the efficiency of Pt single atom co-catalysts in photocatalytic H2 generation. 2021 , 133, 107166	2
828	Single-atom catalysis for Zinc-air/O2 Batteries, Water Electrolyzers and Fuel Cells applications. 2021 ,	11
827	Pd on Nanodiamond/Graphene in Hydrogenation of Propyne with Parahydrogen.	1
826	Blickpunkt Anorganik: Was ein Einzelnes vermag Single Atom Catalysts. 2021 , 69, 58-61	
825	A Rhenium Single-Atom Catalyst for the Electrocatalytic Oxygen Reduction Reaction 2021 , 86, 1635-1639	1
824	Spatially resolved and quantitatively revealed charge transfer between single atoms and catalyst supports.	1
823	Construction of single-atom copper sites with low coordination number for efficient CO2 electroreduction to CH4.	3

822	Tuning partially charged Pt⊞ of atomically dispersed Pt catalysts toward superior propane dehydrogenation performance. 2021 , 11, 7840-7843	1
821	Palladium clusters, free and supported on surfaces, and their applications in hydrogen storage 2022 ,	1
820	Valorisation of glycerol through catalytic hydrogenolysis routes for sustainable production of value-added C3 chemicals: current and future trends.	1
819	Fast identification of the stability of atomically dispersed bi-atom catalysts using a structure descriptor-based model.	1
818	Synchrotron-radiation spectroscopic identification towards diverse local environments of single-atom catalysts.	4
817	Ambient Electrochemical Nitrogen Fixation over a Bifunctional Mo【D【12)4 Site Catalyst.	1
816	Dual enzyme-mimic nanozyme based on single-atom construction strategy for photothermal-augmented nanocatalytic therapy in the second near-infrared biowindow 2021 , 281, 121325	9
815	Analysis of Dry Reforming as direct route for gas phase CO2 conversion. The past, the present and future of catalytic DRM technologies. 2022 , 89, 100970	10
814	Electrochemical CO2 reduction (CO2RR) to multi-carbon products over copper-based catalysts. 2022 , 454, 214340	19
813	Rationalization on high-loading iron and cobalt dual metal single atoms and mechanistic insight into the oxygen reduction reaction. 2022 , 93, 106793	14
812	Surface activation of calcium tungstate by europium doping for improving photocatalytic performance: Towards lanthanide site photocatalysis. 2022 , 432, 134339	1
811	A simulated-TPD study of H2 desorption on metal surfaces. 2022 , 718, 122015	2
810	Catalytic filters for metal oxide gas sensors. 2022 , 356, 131346	0
809	Restricted diffusion preparation of fully-exposed Fe single-atom catalyst on carbon nanospheres for efficient oxygen reduction reaction. 2022 , 305, 121058	5
808	Atomically dispersed catalysts for small molecule electrooxidation in direct liquid fuel cells. 2022 , 68, 439-453	0
807	High-valent iron-oxo species mediated cyclic oxidation through single-atom Fe-N6 sites with high peroxymonosulfate utilization rate. 2022 , 305, 121049	2
806	Mo 2CS 2-Mxene Supported Single-Atom Catalysts for Efficient and Selective CO 2 Electrochemical Reduction.	
805	Vibrational Properties of CO Adsorbed on Au Single Atom Catalysts on TiO2(101), ZrO2(101), CeO2(111), and LaFeO3(001) Surfaces: A DFT Study. 1	1

804	Ambient hydrogenation of carbon dioxide into liquid fuel by a heterogeneous synergetic dual single-atom catalyst. 2022 , 3, 100705	8
803	Nanoreactors for particle synthesis.	5
802	Unraveling the Function of MetalAmorphous Support Interactions in Single-Atom Electrocatalytic Hydrogen Evolution.	
801	A polyoxometalate cluster-based single-atom catalyst for NH3 synthesis via an enzymatic mechanism.	4
800	The Fabrication of Pd Single Atoms/Clusters on COF Layers as Co-catalysts for Photocatalytic H Evolution 2022 ,	3
799	Nitrogen reduction reaction on single cluster catalysts of defective PC-trimeric or tetrameric transition metal 2022 ,	1
798	Electronic Metal-Support Interaction Modulation of Single-Atom Electrocatalysts for Rechargeable Zinc-Air Batteries 2022 , e2100947	3
797	Two-dimensional metalBrganic framework Mo3(C2O)12 as a promising single-atom catalyst for selective nitrogen-to-ammonia conversion.	2
796	A theoretical study on molybdenum and sulfur co-doped graphene for electrocatalytic nitrogen reduction. 2022 , 517, 112048	O
795	Atomic Co decorated free-standing graphene electrode assembly for efficient hydrogen peroxide production in acid.	2
794	Manipulating Copper Dispersion on Ceria for Enhanced Catalysis: A Nanocrystal-Based Atom-Trapping Strategy 2022 , e2104749	3
793	Atomic Chromium Coordinated Graphitic Carbon Nitride for Bioinspired Antibiofouling in Seawater 2022 , e2105346	5
792	Synthesis and application of single-atom catalysts in sulfur cathode for high-performance lithiumBulfur batteries. 2022 ,	2
791	Superiority of Dual-Atom Catalysts in Electrocatalysis: One Step Further Than Single-Atom Catalysts. 2103564	21
790	Single-Atom Pt Boosting Electrochemical Nonenzymatic Glucose Sensing on Ni(OH)/N-Doped Graphene 2022 ,	8
789	Unraveling the Function of Metal-Amorphous Support Interactions in Single-Atom Electrocatalytic Hydrogen Evolution 2021 ,	6
788	Screening of transition metal single atom catalysts supported on B36 cluster for nitrogen fixation. 2022 , 47, 5281-5291	О
787	Theoretical investigation on hydrogenation of dinitrogen triggered by singly dispersed bimetallic sites.	O

786	Inducing atomically dispersed ClEeN4 sites for ORRs in the SiO2-mediated synthesis of highly mesoporous N-enriched C-networks.	2
785	Synergistically enhanced single-atomic site catalysts for clean energy conversion.	Ο
784	Noble-metal based single-atom catalysts for the water-gas shift reaction. 2021,	1
783	Modeling the roles of rigidity and dopants in single-atom methane-to-methanol catalysts.	2
782	Design of Biomimetic Photocatalysts for the Solar Hydrogen Generation: An Overview. 2022 , 91-115	
781	Single-atom catalysts for photocatalytic energy conversion. 2022 , 6, 92-133	14
780	Electrochemical Hydrogen Evolution Reaction. 2022 , 87-122	
779	State of the art developments and prospects of metal-organic frameworks for energy applications 2021 ,	4
778	Regulating electron transfer over asymmetric low-spin Co(II) for highly selective electrocatalysis. 2022 ,	8
777	Controlled synthesis of Bi- and tri-nuclear Cu-oxo nanoclusters on metal-organic frameworks and the structure-reactivity correlations 2021 , 13, 50-58	O
776	Insight for Designing Mass-Efficient Metal-Oxide-Supported Heterogeneous Catalyst from the Identification of the Catalytically Active Edge Sites Using Isotopically Labeled 13CO and 18O2. 2022 , 12, 1977-1985	3
775	Stability of single-atom catalysts for electrocatalysis.	7
774	Recent strategies for synthesis of metallosilicate zeolites. 2022,	2
773	N-Doped Graphene Supported Cu Single Atoms: Highly Efficient Recyclable Catalyst for Enhanced CN Coupling Reactions. 2022 , 16, 1142-1149	8
77²	Altering Ligand Fields in Single-Atom Sites through Second-Shell Anion Modulation Boosts the Oxygen Reduction Reaction 2022 ,	24
771	Machine Learning Assisted High-Throughput Screening of Transition Metal Single Atoms Based Superb Hydrogen Evolution Electrocatalysts.	4
770	Dynamics in Heterogeneous and Single-Site Catalysis. 2022 ,	
769	Tumor Microenvironment Responsive Single-Atom Nanozymes for Enhanced Antitumor Therapy 2021 ,	2

768	Single-pot tandem oxidative/C-H modification amidation process using ultrasmall Pd-encapsulated porous organosilica nanotubes 2022 , 12, 4276-4287	O
767	CO oxidation on MgAl2O4 supported Irn: activation of lattice oxygen in the subnanometer regime and emergence of nuclearity-activity volcano.	O
766	Nurturing the marriages of single atoms with atomic clusters and nanoparticles for better heterogeneous electrocatalysis. 2022 , 1, 51-87	12
765	Single-atom catalysts for thermal- and electro-catalytic hydrogenation reactions.	2
764	Recent developments of iron-based nanosystems as enzyme-mimicking surrogates of interest in tumor microenvironment treatment. 2022 , 237-265	
763	Catalytic activity of Ru-N 4 doped vacancy fullerenes (Ru-N 4 -C 54 and Ru-N 4 -C 64) for oxygen reduction and CO oxidation: A density functional theory investigation.	1
762	Coordination modulation of iridium single-atom catalyst maximizing water oxidation activity 2022 , 13, 24	20
761	Support-based modulation strategies in single-atom catalysts for electrochemical CO2 reduction: graphene and conjugated macrocyclic complexes.	1
760	MetalBupport Interactions in Metal/Oxide Catalysts and OxideMetal Interactions in Oxide/Metal Inverse Catalysts. 2022 , 12, 1268-1287	22
759	Solar-powered chemistry: Engineering low-dimensional carbon nitride-based nanostructures for selective CO 2 conversion to C 1 ?C 2 products. 2022 , 4,	4
758	Photocatalytic degradation of methylene blue (MB) with Cu1InO single atom catalysts on graphene-coated flexible substrates.	5
757	Boosting Electrochemical Carbon Dioxide Reduction on Atomically Dispersed Nickel Catalyst 2021 , 9, 837580	1
756	Postsynthetic Modification of Metal@rganic Frameworks for Photocatalytic Applications. 2100176	10
755	Tuning precise numbers of supported nickel clusters on graphdiyne for efficient CO2 electroreduction toward various multi-carbon products. 2022 ,	5
754	Theoretical Understanding of the Effect of Coordination Environment on the Activity of Metal Macrocyclic Complexes as Electrocatalysts for Oxygen Reduction Reactions.	
753	A Few Pt Single Atoms Are Responsible for the Overall Co-Catalytic Activity in Pt/TiO 2 Photocatalytic H 2 Generation. 2101026	5
752	Few-Atom Pt Ensembles Enable Efficient Catalytic Cyclohexane Dehydrogenation for Hydrogen Production 2022 ,	10
751	Highly Stable Co Single Atom Confined in Hierarchical Carbon Molecular Sieve as Efficient Electrocatalysts in MetalAir Batteries. 2103097	3

750	Photoassisted highly efficient activation of persulfate over a single-atom Cu catalyst for tetracycline degradation: Process and mechanism 2022 , 429, 128398	4
749	A Universal Single Atom Coating Strategy Based on Tannic Acid Chemistry for Multifunctional Heterogeneous Catalysis.	
748	A Universal Single Atom Coating Strategy Based on Tannic Acid Chemistry for Multifunctional Heterogeneous Catalysis 2022 ,	5
747	Single-atom catalysts for lithium sulfur batteries via atomic layer deposition process. 2022 , 135, 107215	2
746	Recent progress on two-dimensional materials confining single atoms for CO2 photoreduction. 2022 ,	O
745	Electron Energy Loss Spectroscopy for Single Atom Catalysis. 1	1
744	Cobalt single atom sites in carbon aerogels for ultrasensitive enzyme-free electrochemical detection of glucose. 2022 , 906, 116024	3
743	Synthetic strategies of single-atoms catalysts and applications in electrocatalysis. 2022 , 409, 139835	1
742	Nanocatalyzed upcycling of the plastic wastes for a circular economy. 2022 , 458, 214422	2
741	Single palladium site in ordered porous heteroatom-doped carbon for high-performance alkaline hydrogen oxidation. 2022 , 306, 121029	16
740	Rational design of a bi-functional mononuclear Cobalt-dependent composite with improved catalytic activity and excellent durability for the oxygen reduction reaction. 2022 , 61, 6919-6935	
739	Covalent triazine-based frameworks confining cobalt single atoms for photocatalytic CO2 reduction and hydrogen production. 2022 , 116, 41-49	2
738	Size-dependent selectivity and activity of highly dispersed sub-nanometer Pt clusters integrated with P25 for CO2 photoreduction into methane fuel. 2022 , 584, 152532	1
737	A fully-conjugated covalent organic framework-derived carbon supporting ultra-close single atom sites for ORR. 2022 , 307, 121147	4
736	Adsorption of CoPc molecules on silicene surface. 2022 , 71, 040501	
735	Metal coordination in CN-like materials towards dual atom catalysts for oxygen reduction 2022 , 10, 6023-6030	1
734	Tuning Two-Electron Oxygen-Reduction Pathways for H O Electrosynthesis via Engineering Atomically Dispersed Single Metal Site Catalysts 2022 , e2107954	10

732	Emerging Electrochemical Techniques for Probing Site Behavior in Single-Atom Electrocatalysts 2022 ,	8
731	Stabilization of Cu2O through Site-Selective Formation of a Co1Cu Hybrid Single-Atom Catalyst.	1
730	Exploring Highly Efficient Dual-Metal-Site Electrocatalysts for Oxygen Reduction Reaction by First Principles Screening.	1
729	Distinct Crystal-Facet-Dependent Behaviors for Single-Atom Palladium-on-Ceria Catalysts: Enhanced Stabilization and Catalytic Properties 2022 , e2107721	4
728	Large-Area Printing of Ferroelectric Surface and Super-Domain for Solar Water Splitting. 2111180	3
727	Pt-O4 Moiety Induced Electron Localization toward In2O-Triggered Acetylene Semi-Hydrogenation. 2022 ,	2
726	Uniform Single Atomic Cu1-C4 Sites Anchored in Graphdiyne for Hydroxylation of Benzene to Phenol.	3
725	Regulating the tip effect on single-atom and cluster catalysts: forming reversible oxygen species with high efficiency in chlorine evolution reaction 2022 ,	9
724	Abrading bulk metal into single atoms 2022,	12
723	Regulating the tip effect on single-atom and cluster catalysts: forming reversible oxygen species with high efficiency in chlorine evolution reaction.	2
722	Ceria-supported Pd catalysts with different size regimes ranging from single atoms to nanoparticles for the oxidation of CO. 2022 , 407, 104-114	5
721	Atomically Dispersed Cu Anchored on Nitrogen and Boron Codoped Carbon Nanosheets for Enhancing Catalytic Performance 2021 , 13, 61047-61054	2
720	Synthesis and Structure-Activity Characterization of a Single-Site MoO Catalytic Center Anchored on Reduced Graphene Oxide 2021 , 143, 21532-21540	2
719	Nanocatalyzed Upcycling of the Plastic Wastes for a Circular Economy.	
718	A minireview on the synthesis of single atom catalysts 2022 , 12, 9373-9394	1
717	Intrinsic Activity and Selectivity Enhancement of Single-Atom Rh in Syngas-to-C2 Oxygenates by Engineering the Local Coordination Atom.	
716	Computational screening of single-atom catalysts supported by VS monolayers for electrocatalytic oxygen reduction/evolution reactions 2022 ,	0
715	A IIrojan horsellstrategy towards robust CoN4 active sites accommodated in micropore defect-rich carbon nanosheets for boosting selective hydrogenation of nitroarenes.	0

714	Theoretical insight into mercury species adsorption on graphene-based Pt single-atom catalysts 2022 , 12, 5797-5806	2
713	Detecting residual chemical disinfectant using an atomic $CoNx\Omega$ anchored neuronal-like carbon catalyst modified amperometric sensor.	1
712	2D graphdiyne: an emerging carbon material 2022 ,	19
711	Functionalized Graphitic Carbon Nitrides for Photocatalytic H ₂ O ₂ Production: Desired Properties Leading to Rational Catalyst Design. 2022 ,	
710	Single-atom catalysts for the upgrading of biomass-derived molecules: an overview of their preparation, properties and applications. 2022 , 24, 2722-2751	1
709	Effect of oxygen termination on the interaction of first row transition metals with M2C MXenes and the feasibility of single-atom catalysts.	2
708	Dual-metal atom incorporated N-doped graphenes as oxygen evolution reaction electrocatalysts: high activities achieved by site synergies.	3
707	A durable half-metallic diatomic catalyst for efficient oxygen reduction.	9
706	Recent progress and perspectives on single-atom catalysis. 2022 , 10, 5670-5672	3
705	Single-atom catalysts for high-efficiency photocatalytic and photoelectrochemical water splitting: distinctive roles, unique fabrication methods and specific design strategies. 2022 , 10, 6835-6871	6
704	Computational Screening of Single Transition Metal Atom Embedded in Nitrogen Doped Graphene for Ch4 Detection.	
703	Tuning Single Metal Atoms Anchored on Graphidyne for Highly Efficient and Selective Nitrate Electroreduction to Ammonia: A Computational Study.	
702	Triggering Electronic Coupling between Neighbouring Hetero-Diatomic Metal Sites Promotes Hydrogen Evolution Reaction Kinetics.	
701	Nickel Single Atoms Anchored on Ultrathin Carbon Nitride for Selective Hydrogen Peroxide Generation with Enhanced Photocatalytic Activity.	
700	Carbide coating on nickel to enhance the stability of supported metal nanoclusters 2022,	1
699	The Effect of Grain Boundary in Hexagonal Boron Nitride on Catalytic Activity of Nitrogen Reduction Reaction.	
698	Synthesis of CuO-Loaded Ceria Hollow Spheres for Catalytic CO Oxidation. 2022 , 7,	0
697	Single-atom catalysts supported on ordered porous materials: Synthetic strategies and applications.	3

696	Elucidating the Formation and Structural Evolution of Platinum Single-Site Catalysts for the Hydrogen Evolution Reaction 2022 , 12, 3173-3180	2
695	Interspersing CeO Clusters to the Pt-TiO Interfaces for Catalytic Promotion of TiO-Supported Pt Nanoparticles 2022 , 1719-1725	1
694	Azide-Alkyne Click Chemistry over a Heterogeneous Copper-Based Single-Atom Catalyst. 2022 , 12, 2947-2958	8
693	Carbon based electrocatalysts for selective hydrogen peroxide conversion. 2022 , 37, 223-236	2
692	Anchoring Copper Single Atoms on Porous Boron Nitride Nanofiber to Boost Selective Reduction of Nitroaromatics 2022 ,	5
691	Bridging Oxidase Catalysis and Oxygen Reduction Electrocatalysis by Model Single-Atom Catalysts.	1
690	Supported Metal Single-Atom Photocatalysis. 2022 , 583-611	
689	Single-Atom Catalysts for the Electro-Reduction of CO2 to Syngas with a Tunable CO/H2 Ratio: A Review. 2022 , 12, 275	Ο
688	Tailoring Single-Atom Platinum for Selective and Stable Catalysts in Propane Dehydrogenation 2022 , e202100560	2
687	Reaction product-driven restructuring and assisted stabilization of a highly dispersed Rh-on-ceria catalyst. 2022 , 5, 119-127	3
686	Constructing Synergistic Zn-N 4 and Fe-N 4 O Dual-Sites from the COF@MOF Derived Hollow Carbon for Oxygen Reduction Reaction. 2022 , 3, 2100225	10
685	Recent Progress in Two-Dimensional Materials for Electrocatalytic CO2 Reduction. 2022 , 12, 228	Ο
684	Atomic Lego Catalysts Synthesized by Atomic Layer Deposition. 2022, 3, 358-368	3
683	Creating hybrid coordination environment in Fe-based single atom catalyst for efficient oxygen reduction 2022 ,	О
682	Automated Image Analysis for Single-Atom Detection in Catalytic Materials by Transmission Electron Microscopy 2022 ,	4
681	Advances in the Development of Single-Atom Catalysts for High-Energy-Density Lithium-Sulfur Batteries 2022 , e2200102	13
680	Circumventing the OCl versus OOH scaling relation in the chlorine evolution reaction: Beyond dimensionally stable anodes. 2022 , 100979	4
679	Termination-Accelerated Electrochemical Nitrogen Fixation on Single-Atom Catalysts Supported by MXenes 2022 , 2800-2807	1

678	Single-Atom Fe Catalysts for Fenton-Like Reactions: Roles of Different N Species 2022 , e2110653	18
677	Towards single-atom photocatalysts for future carbon-neutral application.	3
676	Heterogeneous Photocatalytic Activation of Persulfate for the Removal of Organic Contaminants in Water: A Critical Review. 2022 , 2, 527-546	5
675	Electrochemical disproportionation strategy to in-situ fill cation vacancies with Ru single atoms. 1	1
674	SiC monolayers as promising substrates for the development of highly stable single atom catalysts (Pd1/SiC): A density functional theory study 2022 ,	
673	Toward Rational Design of Dual-Metal-Site Catalysts: Catalytic Descriptor Exploration. 2022 , 12, 3420-3429	5
672	Iron single-atom catalysts confined in covalent organic frameworks for efficient oxygen evolution reaction. 2022 , 3, 100804	4
671	Constructing atomic Co1N4 sites in 2D polymeric carbon nitride for boosting photocatalytic hydrogen harvesting under visible light. 2022, 47, 12592-12604	1
670	Designing Sites in Heterogeneous Catalysis: Are We Reaching Selectivities Competitive With Those of Homogeneous Catalysts?. 2022 ,	13
669	Top-down synthetic strategies toward single atoms on the rise. 2022 , 5, 788-807	2
668	Reversible dehydrogenation and rehydrogenation of cyclohexane and methylcyclohexane by single-site platinum catalyst 2022 , 13, 1092	4
667	Synthesis of a Spatially Confined, Highly Durable, and Fully Exposed Pd Cluster Catalyst via Sequential Site-Selective Atomic Layer Deposition 2022 ,	1
666	Highly Durable Heterogeneous Atomic Catalysts 2022,	3
665	Highly Active Oxygen Coordinated Configuration of Fe Single-Atom Catalyst toward Electrochemical Reduction of CO 2 into Multi-Carbon Products. 2109310	2
664	Revealing the Origin of Nitrogen Electroreduction Activity of Molybdenum Disulfide Supported Iron Atoms. 2022 , 126, 5180-5188	1
663	Dilute Alloys Based on Au, Ag, or Cu for Efficient Catalysis: From Synthesis to Active Sites 2022 ,	7
662	Breaking the activity limitation of iridium single-atom catalyst in hydrogenation of quinoline with synergistic nanoparticles catalysis. 1	4
661	New insight into the design of highly dispersed Pt supported CeO2-TiO2 catalysts with superior activity for VOCs low-temperature removal. 2022 ,	2

660	Mo2CS2MXene Supported Single-Atom Catalysts for Efficient and Selective CO2 Electrochemical Reduction. 2022 , 153339	2
659	Highly Active and Renewable Catalytic Electrodes for Two-Electron Oxygen Reduction Reaction 2022 ,	1
658	3D-Printed Structured Reactor with Integrated Single-Atom Catalyst Film for Hydrogenation.	1
657	Sn-Beta Catalyzed Transformations of SugarsAdvances in Catalyst and Applications. 2022, 12, 405	О
656	Engineering the Morphology and Microenvironment of a Graphene-Supported Co-N-C Single-Atom Electrocatalyst for Enhanced Hydrogen Evolution 2022 , e2201139	2
655	Photoactive nanomaterials enabled integrated photo-rechargeable batteries. 2022,	1
654	Design strategies and structure-performance relationships of heterogeneous catalysts for selective hydrogenation of 1,3-butadiene. 2022 , 43, 1017-1041	2
653	Pseudo-adsorption and long-range redox coupling during oxygen reduction reaction on single atom electrocatalyst 2022 , 13, 1734	7
652	Near-infrared light photocatalysis enabled by a ruthenium complex-integrated metal-organic framework via two-photon absorption 2022 , 25, 104064	0
651	Highly Loaded Independent Pt Atoms on Graphdiyne for pH-General Methanol Oxidation Reaction 2022 , e2104991	2
650	A sulfur-tolerant MOF-based single-atom Fe Catalyst for Efficient Oxidation of NO and Hg 2022, e2110123	О
649	Sulfur-Doped g-C3N4-Supported Ni Species with a Wide Temperature Window for Acetylene Semihydrogenation.	Ο
648	A facile darkEdeposition approach for Pt single-atom trapping on facetted anatase TiO2 nanoflakes and use in photocatalytic H2 generation. 2022 , 412, 140129	4
647	Synthesis of single-atom dispersed Co-NC catalytic materials in supercritical CO2 environment with inorganic salt precursor. 2022 , 59, 101948	Ο
646	Recent progress in improving the performance of in vivo electrochemical microsensor based on materials. 2022 , 33, 100957	2
645	Integrated carbon capture and utilization: Synergistic catalysis between highly dispersed Ni clusters and ceria oxygen vacancies. 2022 , 437, 135394	2
644	Manganese single-atom catalysts for catalytic-photothermal synergistic anti-infected therapy. 2022 , 438, 135636	2
643	Computational screening of single transition metal atom embedded in nitrogen doped graphene for CH4 detection. 2022 , 31, 103383	

642	The effect of coordination environment on the activity and selectivity of single-atom catalysts. 2022 , 461, 214493	11
641	Self-assembled PtfloFe layered double hydroxides for efficient alkaline water/seawater splitting by spontaneous redox synthesis. 2022 , 532, 231353	1
640	Highly accessible single Mn-N3 sites-enriched porous graphene structure via a confined thermal-erosion strategy for catalysis of oxygen reduction. 2022 , 440, 135850	3
639	Structural design for electrocatalytic water splitting to realize industrial-scale deployment: Strategies, advances, and perspectives. 2022 , 70, 129-153	3
638	Tuning single metal atoms anchored on graphdiyne for highly efficient and selective nitrate electroreduction to ammonia under aqueous environments: A computational study. 2022 , 592, 153213	3
637	Encapsulating atomic molybdenum into hierarchical nitrogen-doped carbon nanoboxes for efficient oxygen reduction 2022 , 620, 67-76	2
636	Electrocatalytic nitrate reduction to ammonia on defective Au1Cu (111) single-atom alloys. 2022 , 310, 121346	9
635	Non-Noble-Metal Catalyst of Cu/g-C3N4 for Efficient Photocatalytic Hydrogen Evolution. 2021 , 4, 13796-13	38021
634	Wet-milling synthesis of immobilized Pt/Ir nanoclusters as promising heterogeneous catalysts. 2022 , 15, 3065-3072	1
633	Synthesis of atomic platinum with high loading on metal-organic sulfide. 2022 , 65, 1294-1302	2
632	In Situ Synthesis of CuN /Mesoporous N-Doped Carbon for Selective Oxidative Crosscoupling of Terminal Alkynes under Mild Conditions 2021 , e2105178	2
631	Theoretical Predictions, Experimental Modulation Strategies, and Applications of MXene-Supported Atomically Dispersed Metal Sites 2021 , e2105883	7
630	Direct Conversion of Methane to C Hydrocarbons in Solid-State Membrane Reactors at High Temperatures 2021 ,	1
629	A General Strategy to Immobilize Single-Atom Catalysts to Metal-Organic Frameworks for Enhanced Photocatalysis. 2021 , e2109203	8
628	Theoretical studies of MXene-supported single-atom catalysts: Os1/Ti2CS2 for low-temperature CO oxidation. 2022 , 65, 1303-1312	O
627	Hydrogen-Catalyzed Acid Transformation for the Hydration of Alkenes and Epoxy Alkanes over Co-N Frustrated Lewis Pair Surfaces. 2021 ,	5
626	Charge Separation in Photocatalysts: Mechanisms, Physical Parameters, and Design Principles. 2022 , 7, 432-452	1
625	Race on engineering noble metal single-atom electrocatalysts for water splitting. 2022 , 47, 14257-14279	14

624	Engineering single-atom catalysts toward biomedical applications 2022,	6
623	Modulation of the coordination environment enhances the electrocatalytic efficiency of Mo single atoms toward water splitting. 2022 , 10, 8784-8797	O
622	Atomic Dispersion of Rh on Interconnected Mo 2 C Nanosheet Network Intimately Embedded in 3D Ni x MoO y Nanorod Arrays for pH-Universal Hydrogen Evolution.	О
621	Triggering electronic coupling between neighbouring hetero-diatomic metal sites promotes hydrogen evolution reaction kinetics. 2022 , 107296	3
620	Ultrafast synthetic strategies under extreme heating conditions toward single-atom catalysts.	1
619	CO oxidation on MXene (Mo2CS2) supported single-atom catalyst: a termolecular Eley-Rideal mechanism. 2022 ,	1
618	Single-atom catalysts for photocatalytic hydrogen evolution: A review. 2022,	1
617	Synergetic Charge Transfer and Spin Selection in CO Oxidation at Neighboring Magnetic Single-Atom Catalyst Sites 2022 ,	2
616	Electroreduction of nitrogen to ammonia by single-atom catalysis with synergistic boron-carbon nitrogen nanotubes. 2022 , 107752	
615	Theoretical Study of Two-Dimensional ZrO 2 /g-C 3 N 4 Sandwich Structure Loaded Noble-Metal Rh Single-Atom Catalysts. 2022 , 7,	
614	Cooperative catalysis by a single-atom enzyme-metal complex 2022 , 13, 2189	2
613	Copper single-atom catalyst as a high-performance electrocatalyst for nitrate-ammonium conversion 2022 , 434, 128892	1
612	Conducting polymers-derived fascinating electrocatalysts for advanced hydrogen and oxygen electrocatalysis. 2022 , 464, 214555	1
611	Obstructed surface states as the descriptor for predicting catalytic active sites in inorganic crystalline materials 2022 , e2201328	O
610	Synthesis and Characterization of Core-Shell Cu-Ru, Cu-Rh, and Cu-Ir Nanoparticles 2022,	2
609	Surface engineering of MXenes for energy and environmental applications.	3
608	Interfacing single-atom catalysis with continuous-flow organic electrosynthesis 2022,	5
607	Potential link between structure of iron catalyst and Fenton-like performance: from fundamental understanding to engineering design.	0

606	MgH2/Single-Atom Heterojunctions: Effective Hydrogen Storage Materials with Facile Dehydrogenation.	0
605	Single Atom Supported on Mos2 as Efficient Electrocatalysts for the Co2 Reduction Reaction: A Dft Study.	
604	A critical review on emerging photocatalysts for syngas generation via CO2 reduction under aqueous medium: a sustainable paradigm.	0
603	Doping engineering toward metal oxides for water splitting. 2022 , 217-238	
602	N-Coordinated Ir single atoms anchored on carbon octahedrons for catalytic oxidation of formaldehyde under ambient conditions.	O
601	Engineering Low-Coordination Single-Atom Cobalt on Graphitic Carbon Nitride Catalyst for Hydrogen Evolution. 2022 , 12, 5517-5526	3
600	One-pot synthesis of hierarchical, micro-macroporous zeolites with encapsulated metal particles as sinter-resistant, bifunctional catalysts.	1
599	Understanding the CH Conversion over Metal Dimers from First Principles 2022 , 12,	
598	Carbon-Supported Noble-Metal Nanoparticles for Catalytic Applications Review. 2022, 12, 584	5
597	Calcined Co(II)-Chelated Polyazomethine as Cathode Catalyst of Anion Exchange Membrane Fuel Cells 2022 , 14,	2
596	Reversely trapping atoms from a perovskite surface for high-performance and durable fuel cell cathodes. 2022 , 5, 300-310	14
595	Metal-metal interactions in correlated single-atom catalysts 2022 , 8, eabo0762	18
594	Constructing a Pt/YMnO Interface to Form Multiple Active Centers to Improve the Hydrothermal Stability of NO Oxidation 2022 ,	1
593	Hydrogen Activation and Spillover on Anatase TiO2-Supported Ag Single-Atom Catalysts. 2022 , 126, 7482-7491	2
592	Interfacial engineering of carbon-based materials for efficient electrocatalysis: Recent advances and future. 2022 , 100074	3
591	Atomically Dispersed CoBN Active Sites Anchored on Hierarchically Porous Carbon for Efficient Catalytic Hydrogenation of Nitro Compounds. 5786-5794	4
590	Recent advances in the rational design of single-atom catalysts for electrochemical CO2 reduction. 1	1
589	Exploring Stability of Transition-Metal Single Atoms on Cu2O Surfaces. 2022 , 126, 8065-8078	O

588	Metalloid-cluster ligands enabling stable and active FeN -Te motifs for oxygen reduction reaction 2022 , e2202714	3
587	NiFe single atom catalysts anchored on carbon for oxygen evolution reaction. 2022,	1
586	Sulfur coordination engineering of molybdenum single-atom for dual-functional oxygen reduction/evolution catalysis. 2022 ,	5
585	Protonic ceramic materials for clean and sustainable energy: advantages and challenges. 1-29	2
584	Kinetic and Thermodynamic Factors Influencing Palladium Nanoparticle Redispersion into Mononuclear Pd(II) Cations in Zeolite Supports.	3
583	Effect of ceria surface facet on stability and reactivity of isolated platinum atoms.	1
582	Reduction-Controlled Atomic Migration for Single Atom Alloy Library 2022,	3
581	Direct Visualization of the Evolution of a Single-Atomic Cobalt Catalyst from Melting Nanoparticles with Carbon Dissolution 2022 , e2200592	1
580	Dehydrogenase-Functionalized Interfaced Materials in Electroenzymatic and Photoelectroenzymatic CO2 Reduction.	1
579	Universal Principles for the Rational Design of Single Atom Electrocatalysts? Handle with Care. 5846-5856	9
579 578	Universal Principles for the Rational Design of Single Atom Electrocatalysts? Handle with Care. 5846-5856 How to Make Personal Protective Equipment Spontaneously and Continuously Antimicrobial (Incorporating Oxidase-like Catalysts) 2022,	9
	How to Make Personal Protective Equipment Spontaneously and Continuously Antimicrobial	
57 ⁸	How to Make Personal Protective Equipment Spontaneously and Continuously Antimicrobial (Incorporating Oxidase-like Catalysts) 2022, Single-Atom Catalysts Supported by Graphene and Hexagonal Boron Nitride: Structural Stability in	
578 577	How to Make Personal Protective Equipment Spontaneously and Continuously Antimicrobial (Incorporating Oxidase-like Catalysts) 2022, Single-Atom Catalysts Supported by Graphene and Hexagonal Boron Nitride: Structural Stability in the Oxygen Environment. Catalytic Membrane with Copper Single-Atom Catalysts for Effective Hydrogen Peroxide Activation	3
578 577 576	How to Make Personal Protective Equipment Spontaneously and Continuously Antimicrobial (Incorporating Oxidase-like Catalysts) 2022, Single-Atom Catalysts Supported by Graphene and Hexagonal Boron Nitride: Structural Stability in the Oxygen Environment. Catalytic Membrane with Copper Single-Atom Catalysts for Effective Hydrogen Peroxide Activation and Pollutant Destruction 2022, Construction of Porphyrin Porous Organic Cage as a Support for Single Cobalt Atoms for	3
578 577 576 575	How to Make Personal Protective Equipment Spontaneously and Continuously Antimicrobial (Incorporating Oxidase-like Catalysts) 2022, Single-Atom Catalysts Supported by Graphene and Hexagonal Boron Nitride: Structural Stability in the Oxygen Environment. Catalytic Membrane with Copper Single-Atom Catalysts for Effective Hydrogen Peroxide Activation and Pollutant Destruction 2022, Construction of Porphyrin Porous Organic Cage as a Support for Single Cobalt Atoms for Photocatalytic Oxidation in Visible Light. 5827-5833	3 0 4
578 577 576 575	How to Make Personal Protective Equipment Spontaneously and Continuously Antimicrobial (Incorporating Oxidase-like Catalysts) 2022, Single-Atom Catalysts Supported by Graphene and Hexagonal Boron Nitride: Structural Stability in the Oxygen Environment. Catalytic Membrane with Copper Single-Atom Catalysts for Effective Hydrogen Peroxide Activation and Pollutant Destruction 2022, Construction of Porphyrin Porous Organic Cage as a Support for Single Cobalt Atoms for Photocatalytic Oxidation in Visible Light. 5827-5833 Carbon Catalysts for Electrochemical CO 2 Reduction toward Multicarbon Products. 2200586 Revisiting the mechanism of highly efficient CO oxidation by single iron atom catalysis on Pt(100).	3 0

570	Electronic and catalytic properties of Ti single atoms@SnO2 and its implications on sensing mechanism for CO. 2022 , 594, 153500	1
569	Lignin-based carbon dots as high-performance support of Pt single atoms for photocatalytic H2 evolution. 2022 , 446, 136873	3
568	Rational screening of transition metal single-atom-doped ZSM-5 zeolite catalyst for naphtha cracking from microkinetic analysis. 2022 , 445, 136670	1
567	Establishing bilateral modulation of radiation induced redox damage via biocatalytic single atom engineering at Au clusters. 2022 , 445, 136793	O
566	Atomic-level modulation of local coordination environment at Fe single-atom sites for enhanced oxygen reduction. 2022 , 313, 121429	O
565	Trace amount of single-atom palladium-catalyzed selective hydrosilylation of allenes. 1	O
564	Revealing the Structure of Single Cobalt Sites in Carbon Nitride for Photocatalytic CO2 Reduction.	3
563	Design principles of hydrogen-evolution-suppressing single-atom catalysts for aqueous electrosynthesis. 2022 ,	3
562	Efficient electrocatalytic reduction of NO to ammonia on BC nanosheets 2022, 113479	O
561	Isolating Single and Few Atoms for Enhanced Catalysis 2022 , e2201796	12
561 560	Isolating Single and Few Atoms for Enhanced Catalysis 2022 , e2201796 Flexible Modulations on Selectivity of Syngas Formation via CO2 Reduction on Atomic Catalysts. 2022 , 107382	12 O
	Flexible Modulations on Selectivity of Syngas Formation via CO2 Reduction on Atomic Catalysts.	
560	Flexible Modulations on Selectivity of Syngas Formation via CO2 Reduction on Atomic Catalysts. 2022 , 107382	0
560 559	Flexible Modulations on Selectivity of Syngas Formation via CO2 Reduction on Atomic Catalysts. 2022, 107382 Pd Speciation on Black Phosphorene in CO and C2H4 Atmosphere: A First-principles Investigation. Enhanced Acetylene Semi-hydrogenation on Subsurface Carbon Tailored Ni-Ga Intermetallic	0
560 559 558	Flexible Modulations on Selectivity of Syngas Formation via CO2 Reduction on Atomic Catalysts. 2022, 107382 Pd Speciation on Black Phosphorene in CO and C2H4 Atmosphere: A First-principles Investigation. Enhanced Acetylene Semi-hydrogenation on Subsurface Carbon Tailored Ni-Ga Intermetallic Catalyst. Atomically Miniaturized Bi-Phase IrOx/Ir Catalysts Dotted on N-doped Carbon Nanotubes for	0 0 2
560 559 558 557	Flexible Modulations on Selectivity of Syngas Formation via CO2 Reduction on Atomic Catalysts. 2022, 107382 Pd Speciation on Black Phosphorene in CO and C2H4 Atmosphere: A First-principles Investigation. Enhanced Acetylene Semi-hydrogenation on Subsurface Carbon Tailored Ni-Ga Intermetallic Catalyst. Atomically Miniaturized Bi-Phase IrOx/Ir Catalysts Dotted on N-doped Carbon Nanotubes for High-Performance Li-CO2 Batteries.	0 0 2
560 559 558 557 556	Flexible Modulations on Selectivity of Syngas Formation via CO2 Reduction on Atomic Catalysts. 2022, 107382 Pd Speciation on Black Phosphorene in CO and C2H4 Atmosphere: A First-principles Investigation. Enhanced Acetylene Semi-hydrogenation on Subsurface Carbon Tailored Ni-Ga Intermetallic Catalyst. Atomically Miniaturized Bi-Phase IrOx/Ir Catalysts Dotted on N-doped Carbon Nanotubes for High-Performance Li-CO2 Batteries. Research progress in metal sulfides for photocatalysis: From activity to stability. 2022, 135085	o o 2 1

Non-noble metal single-atom catalyst with MXene support: Fe1/Ti2CO2 for CO oxidation. 2022, 43, 1830-1841 o 552 Tuning strategies and structure effects of electrocatalysts for carbon dioxide reduction reaction. 551 2022, 43, 1618-1633 Theoretical study of single transition metal atom catalysts supported on two-dimensional Nb2NO2 1 550 for efficient electrochemical CO2 reduction to CH4. 2022, 62, 102069 Prospects of non-noble metal single atoms embedded in two-dimensional (2D) carbon and 549 non-carbon-based structures in electrocatalytic applications. 2022, 467, 214613 Intrinsic activity and selectivity enhancement of single-atom Rh in syngas-to-C2 oxygenates by 548 O engineering the local coordination atom. 2022, 597, 153755 Conversion of Syngas with Carbon Dioxide to Fuels. 2022, 1653-1688 547 Tuning the acid and metallic site proximity of a Pt/FAl2O3-Cl bifunctional catalyst through its 546 O nanoarchitecture. First-principles Design of Hetero CoM (M = 3d, 4d, 5d Block Metals) Double Atom Catalysts for 545 Oxygen Evolution Reaction in alkaline condition. Atomic[Dispersed[Ru[Supported[bn[Microporous[CoO[Ultrathin[Nanosheets[Synthesized[by[Melamine]Induction[For[Highl 544 Highly efficient CeO2-supported noble-metal catalysts: From single atoms to nanoclusters. 2022, 543 Single Atom Catalysts for Selective Methane Oxidation to Oxygenates. 542 7 Recent advances in non-noble electrocatalysts for oxidative valorization of biomass derivatives. 541 The Inner Shell Spectroscopy beamline at NSLS-II: a facility for in situ and operando X-ray 540 1 absorption spectroscopy for materials research. 2022, 29, Metal Porphyrins as Single Site Catalyst Models Explored by Electrochemical Scanning Tunneling 539 Microscopy: A New Perspective in Electrocatalysis. 2200111 Metal-organic framework-derived Co nanoparticles and single atoms as efficient electrocatalyst for 538 1 pH universal hydrogen evolution reaction. Computational Study of Low-Energy Pt-Ion Implantation into Graphene for Single-Atom Catalysis. 537 Catalytically Active Atomically Thin Cuprate with Periodic Cu Single Sites. 536 The Key Role of Competition between Orbital and Electrostatic Interactions in the Adsorption on 535 Transition Metal Single-Atom Catalysts Anchored by N-doped Graphene.

534	Boosting CO2 hydrogenation to methanol via Cu-Zn synergy over highly dispersed Cu,Zn-codoped ZrO2 catalysts. 2022 ,	1
533	Mass Production of Pt Single-Atom-Decorated Bismuth Sulfide for n-Type Environmentally Friendly Thermoelectrics.	O
532	Atomically dispersed dual-metal-site PGM-free electrocatalysts for oxygen reduction reaction: Opportunities and challenges.	4
531	Nickel Single Atoms Anchored on Ultrathin Carbon Nitride for Selective Hydrogen Peroxide Generation with Enhanced Photocatalytic Activity. 2022 , 137379	1
530	Rational design of copper-based single-atom alloy catalysts for electrochemical CO2 reduction.	2
529	Silver based single atom catalyst with heteroatom coordination environment as high performance oxygen reduction reaction catalyst.	1
528	Kinetic Evidence of Most Abundant Surface Intermediates Variation over Ptn and Ptp: Few-Atom Pt Ensembles Enable Efficient Catalytic Cyclohexane Dehydrogenation for Hydrogen Production-II. 7248-7261	1
527	Boosting the performance of single-atom catalysts via external electric field polarization. 2022 , 13,	5
526	Single-Atom Catalysts for Hydrogen Generation: Rational Design, Recent Advances, and Perspectives. 2200875	5
525	Coadsorption Interfered CO Oxidation over Atomically Dispersed Au on h-BN. 2022 , 27, 3627	О
524	Simultaneously Enhancing Catalytic Performance and Increasing Density of Bifunctional CuN3 Active Sites in Dopant-Free 2D C3N3Cu for Oxygen Reduction/Evolution Reactions.	1
523	Hydrogen production upon the hydrolysis of dimethylamineborane over Pt/Ni(OH)2 nanocomposite. 2022 , 324, 124695	2
522	Catalytic Activity Enhancement by P and S Co-Doping of a Single-Atom Fe Catalyst for Peroxymonosulfate-Based Oxidation.	
521	Ni Single Atoms on Carbon Nitride for Visible-Light-Promoted Full Heterogeneous Dual Catalysis.	2
520	Boosting the singlet oxygen production from H2O2 activation with highly dispersed CoN-graphene for pollutant removal. 2022 , 12, 17864-17872	1
519	Synergistic Effect of Diatomic Boron-doped Layered Two-Dimensional MSi2N4 Monolayer for Efficient Electrochemical Nitrogen Reduction.	O
518	The dep orbital hybridization: a strategy for activity improvement of transition metal catalysts.	5
517	Single Atom Sites Catalysts based on High Specific Surface Area Supports.	O

516	Machine Learning for Design Principles for Single Atom Catalysts towards Electrochemical reactions.	О
515	Distortion-driven spin switching in electron-doped metal porphyrins.	
514	Boosting the catalytic performance of single-atom catalysts by tuning surface lattice expanding confinement.	O
513	A Site Distance Effect Induced by Reactant Molecule Matchup in Single-Atom Catalysts for Fenton-like Reactions.	1
512	A Site Distance Effect Induced by Reactant Molecule Matchup in Single-Atom Catalysts for Fenton-like Reactions.	9
511	Axial coordination regulation of MOF-based single-atom Ni catalysts by halogen atoms for enhanced CO2 electroreduction.	5
510	Computational Insight into Metallated Graphynes as Single Atom Electrocatalysts for Nitrogen Fixation. 2022 , 14, 27861-27872	О
509	Using Coordination Chemistry Concepts to Unravel Electronic Properties of SACs in Bidimensional Materials. 2022 , 126, 9615-9622	
508	Effects of Subsurface Oxide on Cu1/CeO2 Single-Atom Catalysts for CO Oxidation: A Theoretical Investigation.	O
507	Introduction to Hydroxyapatite-based Materials in Heterogeneous Catalysis. 2022, 1-18	
506	Single Particle Hopping as an Indicator for Evaluating Electrocatalysts.	1
505	Reaction-Mediated Transformation of Working Catalysts. 8007-8018	2
504	Role of N in Transition-Metal-Nitrides for Anchoring Platinum-Group Metal Atoms toward Single-Atom Catalysis. 2200295	1
503	Promoting Dinuclear-Type Catalysis in Cu 1 -C 3 N 4 Single Atom Catalyst. 2204638	5
502	Solid-State Reaction Synthesis of Nanoscale Materials: Strategies and Applications.	O
501	Introducing CoD Moiety to CoDC Single-Atom Catalyst for Ethylbenzene Dehydrogenation. 7760-7772	1
500	Rationally designed nitrogen-doped carbon macroporous fibers with loading of single cobalt sites for efficient aqueous Zn-CO2 batteries. 2022 , 2, 1480-1493	5
499	Low-temperature liquid platinum catalyst.	7

498	Mechanistic Insight into Collectively Exhaustive CoPi-NPC Nanosheets for Oxygen Reduction Reaction and Zn-Air Battery. 2022 , 121656	0
497	Elucidation of Metal Local Environments in Single-Atom Catalysts Based on Carbon Nitrides. 2202080	2
496	Beyond single-atom catalysts: Exploration of Cu dimer and trimer for CO2 reduction to methane. 2022 , 642, 118708	0
495	Theoretical study of the effect of coordination environment on the activity of metal macrocyclic complexes as electrocatalysts for oxygen reduction. 2022 , 25, 104557	1
494	Single-step insertion of M-Nx moieties in commercial carbon for sustainable bifunctional electrocatalysis: Mapping insertion capacity, mass loss, and carbon reconstruction. 2022 , 196, 1001-1011	1
493	Carbon dots supported single Fe atom nanozyme for drug-resistant glioblastoma therapy by activating autophagy-lysosome pathway. 2022 , 45, 101530	5
492	High-throughput identification of highly active and selective single-atom catalysts for electrochemical ammonia synthesis through nitrate reduction. 2022 , 100, 107517	2
491	Engineering functional mesoporous materials from plant polyphenol based coordination polymers. 2022 , 468, 214649	2
490	Fundamentals and application of single-atom photocatalyst in sustainable energy and environmental applications. 2022 , 167, 112693	0
489	Singly dispersed Ir1Ti3 bimetallic site for partial oxidation of methane at high temperature. 2022 , 599, 153863	O
488	Water acting as a catalytic promoter for electron-proton transfer in the Pt single atom catalyzed environmental reduction reactions. 2022 , 316, 121641	1
487	Titanium Dioxide-Supported Iron Species with Efficiently Photocatalytic Performance.	
486	Single atoms meet metalorganic frameworks: collaborative efforts for efficient photocatalysis.	7
485	Theoretical Advances in Understanding and Designing the Active Sites for Hydrogen Evolution Reaction. 2022 , 12, 8404-8433	10
484	Antimony-Doped Tin Oxide Catalysts for Green and Sustainable Chemistry.	1
483	Nucleation growth quenching for superior cluster catalysts.	Ο
482	BIGDMLITowards accurate quantum machine learning force fields for materials. 2022, 13,	4
481	Rare-Earth Single-Atom Catalysts: A New Frontier in Photo/Electrocatalysis. 2200413	8

480	Carbon dioxide electroreduction into formic acid and ethylene: a review.	2
479	Fully-exposed Pt clusters stabilized on Sn-decorated nanodiamond/graphene hybrid support for efficient ethylbenzene direct dehydrogenation.	1
478	Computational Study of Zn Single-Atom Catalysts on In2O3 Nanomaterials for Direct Synthesis of Acetic Acid from CH4 and CO2.	1
477	High-density atomically dispersed CoNx catalysts supported on nitrogen-doped mesoporous carbon materials for efficient hydrogenation of nitro compounds. 2022 ,	
476	Single-atom gold species within zeolite for efficient hydroformylation. 2022,	О
475	Maximizing noble metal utilization in solid catalysts by control of nanoparticle location. 2022 , 377, 204-208	3
474	Homogeneity of Supported Single-Atom Active Sites Boosting the Selective Catalytic Transformations. 2201520	3
473	Ir single atoms modified Ni(OH)2 nanosheets on hierarchical porous nickel foam for efficient oxygen evolution.	2
472	Tuning the Site-to-Site Interaction in RuM (MIEICo, Fe, Ni) Diatomic Electrocatalysts to Climb up the Volcano Plot of Oxygen Electroreduction.	2
471	Altering Local Chemistry of Single-Atom Coordination Boosts Bidirectional Polysulfide Conversion of LiB Batteries. 2203902	1
470	Coordination Symmetry Breaking of Single Atom Catalysts for Robust and Efficient Nitrate Electroreduction to Ammonia. 2205767	8
469	Single-atom catalysis for carbon neutrality.	8
468	Rational Design of Synergistic Structure Between Single-Atoms and Nanoparticles for CO2 Hydrogenation to Formate Under Ambient Conditions. 10,	
467	Single atom catalysts: what matters most, the active site or the surrounding?.	1
466	Ultrahigh Loading Copper Single Atom Catalyst for Palladium-free Wacker Oxidation.	1
465	Cobalt-Based Cathode Catalysts for Oxygen-Reduction Reaction in an Anion Exchange Membrane Fuel Cell. 2022 , 12, 699	2
464	Synergetic Catalysis of Magnetic Single-Atom Catalysts Confined in Graphitic-C3N4/CeO2(111) Heterojunction for CO Oxidization. 2022 , 13, 6367-6375	2
463	Vacancy-Rich MXene-Immobilized Ni Single Atom as High-Performance Electrocatalyst for Hydrazine Oxidation Reaction. 2204388	2

462	Exposing Single-Ni Atoms in Hollow S/N-doped Carbon Macroporous Fibers for Highly Efficient Electrochemical Oxygen Evolution. 2203442	4
461	Investigation of recent progress in metal-based materials as catalysts toward electrochemical water splitting. 2022 , 10, 108207	2
460	Recent advances of micro-nanofiber materials for rechargeable zinc-air batteries. 2022, 51, 181-211	2
459	Synthetic strategy for metallophthalocyanine covalent organic frameworks for electrochemical water oxidation. 2022 , 26, 101032	1
458	Molecular and Electronic Structure of Isolated Platinum Sites Enabled by the Expedient Measurement of 195Pt Chemical Shift Anisotropy.	1
457	On the Bonding Nature in the Crystalline Tri-Thorium Cluster: Core-Shell Syngenetic FAromaticity.	
456	Single atom supported on MoS2 as efficient electrocatalysts for the CO2 reduction reaction: A DFT study. 2022 , 154211	2
455	Alloy Electrocatalysts. 2022, 100083	O
454	Density Functional Theory Studies on Boron-Modified Graphene Edges for Electroreduction of Nitrogen.	1
453	Rational coordination regulation in carbon-based single-metal-atom catalysts for electrocatalytic oxygen reduction reaction. 2022 , 9,	2
452	Engineering at Subatomic Scale: Achieving Selective Catalytic Pathways via Tuning of the Oxidation States in Functionalized Single-Atom Quantum Catalysts. 2202522	0
45 ¹	Electrosynthesis of nanocomposites of Ag, Au, Pd nanoparticles with aluminum(III), zinc(II), and titanium(IV) oxide-hydroxides.	
450	Facet-controlled Single Atom Catalysts for Efficient CO Oxidation. 2022, 28, 190-191	
449	A comprehensive study on heterogeneous single atom catalysis: Current progress, and challenges?. 2022 , 470, 214710	3
448	Mo Vacancy-Mediated Activation of Peroxymonosulfate for Ultrafast Micropollutant Removal Using an Electrified MXene Filter Functionalized with Fe Single Atoms. 2022 , 56, 11750-11759	1
447	Advances in Intelligent Regeneration of Cathode Materials for Sustainable Lithium-Ion Batteries. 2201526	O
446	Superoxide-like Cu/GO single-atom catalysts nanozyme with high specificity and activity for removing superoxide free radicals.	1
445	Transition Metal (Co, Ni, Fe, Cu) Single-Atom Catalysts Anchored on 3D Nitrogen-Doped Porous Carbon Nanosheets as Efficient Oxygen Reduction Electrocatalysts for ZnAir Battery. 2022 , 18, 2202476	6

444	Tracking single adatoms in liquid in a Transmission Electron Microscope.	1
443	Utilizing High Coordination Diversity in Carbon Nanocone Supported Catalytic Single-Atom Sites for Screening of Optimal Activity. 2022 , 13, 7043-7050	
442	Designing single-atom catalysts toward improved alkaline hydrogen evolution reaction. 2022, 100144	3
441	Recent advances on carbon-based nanomaterials supported single-atom photo-catalysts for waste water remediation.	О
440	Size Sensitivity of Supported Palladium Species on Layered Double Hydroxides for the Electro-oxidation Dehydrogenation of Hydrazine: From Nanoparticles to Nanoclusters and Single Atoms. 10711-10717	1
439	Inhibition of H 2 and O 2 Recombination: The Key to a Most Efficient Single-Atom Co-Catalyst for Photocatalytic H 2 Evolution from Plain Water. 2207849	2
438	Synergetic Pt Atoms and Nanoparticles Anchored in Standing Carbon-Derived from Covalent Organic Frameworks for Catalyzing ORR. 2201263	
437	Dehydrogenation of Ammonia Borane by PlatinumNickel Dimers: Regulation of the Heteroatom Interspace Boosts Bifunctional Synergetic Catalysis.	2
436	Asymmetric Coordination of Single-Atom Co Sites Achieves Efficient Dehydrogenation Catalysis. 2207408	8
435	Catalytic applications of single-atom metal-anchored hydroxides: Recent advances and perspective. 2022 , 100146	1
434	Single-Atom Nanozymes: Fabrication, Characterization, Surface Modification and Applications of ROS Scavenging and Antibacterial. 2022 , 27, 5426	0
433	Rational highly dispersed ruthenium for reductive catalytic fractionation of lignocellulose. 2022 , 13,	3
432	Advances and challenges in developing cocatalysts for photocatalytic conversion of carbon dioxide to fuels.	1
431	Asymmetric Coupled Dual-Atom Sites for Selective Photoreduction of Carbon Dioxide to Acetic Acid. 2206817	6
430	Ionic Liquid Sheath Stabilizes Atomically Dispersed Reduced Graphene Aerogel-Supported Iridium Complexes during Ethylene Hydrogenation Catalysis.	1
429	A Few Questions about Single-Atom Catalysts: When Modeling Helps.	1
428	On the Bonding Nature in the Crystalline Tri-Thorium Cluster: Core-Shell Syngenetic EAromaticity.	2
427	Dehydrogenation of Ammonia Borane by PlatinumNickel Dimers: Regulation of the Heteroatom Interspace Boosts Bifunctional Synergetic Catalysis.	

426	Carrier Dynamics and Surface Reaction Boosted by Polymer-based Single-atom Photocatalysts.	1
425	In-situ doping nickel single atoms in two-dimensional MXenes analogue support for room temperature NO2 sensing.	1
424	A general synthesis of single atom catalysts with controllable atomic and mesoporous structures. 2022 , 1, 658-667	2
423	Carbon-Shielded Single-Atom Alloy Material Family for Multi-Functional Electrocatalysis. 2205654	1
422	Simulations for Electrochemical Reactions. 2022 , 195-237	
421	ML-guided design and screening of chalcogenide catalysts for hydrogen evolution reaction. 2022 ,	О
420	Computational study of transition metal single-atom catalysts supported on nitrogenated carbon nanotubes for electrocatalytic nitrogen reduction.	O
419	Recent Progress in Fabrication and Application of BN Nanostructures and BN-Based Nanohybrids. 2022 , 12, 2810	3
418	Data-driven models for ground and excited states for Single Atoms on Ceria. 2022, 8,	
417	Single-atom catalysts for thermochemical gas-phase reactions. 2022 , 529, 112535	
417 416	Single-atom catalysts for thermochemical gas-phase reactions. 2022 , 529, 112535 Hydrogen Activation by C 2 H 2 Acting as a Substrate Molecule on Atomically Dispersed Catalysts for the Semi-hydrogenation of C 2 H 2. 2022 , 7,	
	Hydrogen Activation by C 2 H 2 Acting as a Substrate Molecule on Atomically Dispersed Catalysts	O
416	Hydrogen Activation by C 2 H 2 Acting as a Substrate Molecule on Atomically Dispersed Catalysts for the Semi-hydrogenation of C 2 H 2. 2022 , 7,	0
416 415	Hydrogen Activation by C 2 H 2 Acting as a Substrate Molecule on Atomically Dispersed Catalysts for the Semi-hydrogenation of C 2 H 2. 2022 , 7, Single-Atom-Based Catalysts for Photocatalytic Water Splitting on TiO2 Nanostructures. 2022 , 12, 905 Microenvironment Modulation in Carbon-Supported Single-Atom Catalysts for Efficient	
416 415 414	Hydrogen Activation by C 2 H 2 Acting as a Substrate Molecule on Atomically Dispersed Catalysts for the Semi-hydrogenation of C 2 H 2. 2022, 7, Single-Atom-Based Catalysts for Photocatalytic Water Splitting on TiO2 Nanostructures. 2022, 12, 905 Microenvironment Modulation in Carbon-Supported Single-Atom Catalysts for Efficient Electrocatalytic CO2 Reduction. StructureActivity Relationship for the Catalytic Hydrogenation of Nitrobenzene by Single Platinum	1
416 415 414 413	Hydrogen Activation by C 2 H 2 Acting as a Substrate Molecule on Atomically Dispersed Catalysts for the Semi-hydrogenation of C 2 H 2. 2022, 7, Single-Atom-Based Catalysts for Photocatalytic Water Splitting on TiO2 Nanostructures. 2022, 12, 905 Microenvironment Modulation in Carbon-Supported Single-Atom Catalysts for Efficient Electrocatalytic CO2 Reduction. Structure Activity Relationship for the Catalytic Hydrogenation of Nitrobenzene by Single Platinum Atoms Supported on Nitrogen-Doped Carbon. Role of bimetallic Ault subnanometer clusters mediating O2 adsorption and dissociation on	1
416 415 414 413 412	Hydrogen Activation by C 2 H 2 Acting as a Substrate Molecule on Atomically Dispersed Catalysts for the Semi-hydrogenation of C 2 H 2. 2022, 7, Single-Atom-Based Catalysts for Photocatalytic Water Splitting on TiO2 Nanostructures. 2022, 12, 905 Microenvironment Modulation in Carbon-Supported Single-Atom Catalysts for Efficient Electrocatalytic CO2 Reduction. StructureActivity Relationship for the Catalytic Hydrogenation of Nitrobenzene by Single Platinum Atoms Supported on Nitrogen-Doped Carbon. Role of bimetallic Auli subnanometer clusters mediating O2 adsorption and dissociation on anatase TiO2 (101). 2022, 157, 084309 Recent Research Advances in Ruthenium-Based Electrocatalysts for Water Electrolysis Across the	1 O

408	Rational Design of Atomic Site Catalysts for Electrocatalytic Nitrogen Reduction Reaction: One Step Closer to Optimum Activity and Selectivity. 2022 , 5,	0
407	Single-atom nanozymes catalytically surpassing naturally occurring enzymes as sustained stitching for brain trauma. 2022 , 13,	7
406	Coupling Metal and Support Redox Terms in Single-Atom Catalysts. 2022 , 126, 13698-13704	0
405	Improving the Energetic Stability and Electrocatalytic Performance of Au/WSSe Single-Atom Catalyst with Tensile Strain. 2022 , 12, 2793	2
404	Co-Nx-enriched porous carbon nanofibers as efficient oxygen electrocatalyst for flexible Zn-air batteries. 2022 , 544, 231865	2
403	Single-atom site catalysts for environmental remediation: Recent advances. 2022 , 440, 129772	O
402	Coordinating single-atom catalysts on two-dimensional nanomaterials: A paradigm towards bolstered photocatalytic energy conversion. 2022 , 471, 214743	3
401	Catalytic elimination of chlorinated organic pollutants by emerging single-atom catalysts. 2022 , 450, 138467	O
400	Incorporation of single-atom copper into nitrogen-doped graphene for acetaminophen electrocatalytic degradation. 2022 , 604, 154561	0
399	Modeling Hydrogen and Oxygen Evolution Reactions on Single Atom Catalysts with Density Functional Theory: Role of the Functional. 2200513	O
398	Outlook on Single Atom Catalysts for Persulfate-Based Advanced Oxidation.	2
397	Synergistic active sites observed in a solid catalyst. 2022 , 609, 253-254	O
396	Electrochemical oxidation of ethylene glycol on TiO2-supported platinum single-atom catalyst into valuable chemicals in alkaline media. 2022 , 646, 118861	0
395	Fe@B-borophene as a promising catalyst for CO oxidation reaction: A first-principles study. 10,	Ο
394	Engineering the Electronic Structure of Active Centers in Metalloporphyrins to Boost Oxygen Reduction Reaction Activity.	0
393	Use of Carbon Nitrides as Photoactive Supports in Single-Atom Heterogeneous Catalysis for Synthetic Purposes.	1
392	Prediction of the catalytic site of single-atom Ni catalyst using the hydrogen evolution reaction as a model platform. 2022 , 431, 141138	0
391	Rational design and structural engineering of heterogeneous single-atom nanozyme for biosensing. 2022 , 216, 114662	2

390	Recent trends in MXenes hybrids as efficient 2D materials for photo- and electrocatalysis hydrogen production. 2022 , 26, 101108	0
389	Ru single atom catalyst with dual reaction sites for efficient fenton-like degradation of organic contaminants. 2023 , 320, 121952	O
388	Atomically dispersed iron enables high-efficiency electrocatalytic conversion of nitrate to dinitrogen on a N-coordinated mesoporous carbon architecture. 2023 , 320, 121983	0
387	Recent Process in the in situ Generated Metal Nanocluster Catalysis. 2022 , 42, 2331	1
386	Valence states of single Au atoms dictate the catalytic activity of Au1/CeO2(100).	0
385	A coordination environment effect of single-atom catalysts on their nitrogen reduction reaction performance. 2022 , 24, 18854-18859	O
384	Understanding the facet effects of heterogeneous Rh2P catalysts for styrene hydroformylation.	0
383	Regulating Spin Order of Transition Metal Embedded-MXenes for Boosting Electrocatalytic Nitrogen Reduction to Ammonia.	O
382	Heterogeneous N-coordinated single-atom photocatalysts and electrocatalysts. 2022 , 43, 2453-2483	2
381	Rational Design of 2D Ferroelectric Heterogeneous Catalysts for Controllable Hydrogen Evolution Reaction.	1
380	Atomically distributed asymmetrical five-coordinated CoN5 moieties on N-rich doped C enabling enhanced redox kinetics for advanced LiB batteries.	0
379	Axial Coordination Modification of M-N4 Single-Atom Catalysts to Regulate the Electrocatalytic CO2 Reduction Reaction.	0
378	Electrochemical quantification of sulfamethoxazole antibiotic in environmental water using zeolitic imidazolate framework (ZIF)-derived single-atom cobalt catalyst in nitrogen-doped carbon nanostructures. 2022 , 1, 1052-1062	О
377	Single Atom Cobalt Catalyst Derived from Co-Pyrolysis of Vitamin B12 and Graphitic Carbon Nitride for Pms Activation to Degrade Emerging Pollutants.	O
376	Self-assembled mononuclear complexes: open metal sites and inverse dimension-dependent catalytic activity for Knoevenagel condensation and CO2 cycloaddition.	1
375	Emerging single atom catalysts in gas sensors. 2022 , 51, 7260-7280	3
374	A Stabilization Synthesis Strategy for Atomically Dispersed Metal-N4 Electrocatalysts Via Aerogel Confinement and Ammonia Pyrolyzing.	О
373	In silico design of single transition metal atom anchored defective boron carbide monolayers as high-performance electrocatalysts for the nitrogen reduction reaction. 2022 , 14, 12823-12829	O

372	Metal@rganic Frameworks (MOFs) for Heterogeneous Catalysis. 2022, 141-153	O
371	Bismuth single atom supported CeO2 nanosheets for oxidation resistant photothermal reverse water gas shift reaction. 2022 , 12, 5559-5564	Ο
370	In situ precise anchoring of Pt single atoms in spinel Mn3O4 for a highly efficient hydrogen evolution reaction.	6
369	The role of adsorbed hydroxide reduction in hydrogen evolution and nitrogen reduction reactions in aqueous solution. 2022 , 10, 18609-18615	Ο
368	Metal oxide composites in organic transformations. 2022 , 601-632	О
367	Transition metal DualAtom Ni2/TiO2 catalysts for photoelectrocatalytic hydrogen Evolution: A density functional theory study. 2023 , 608, 155132	1
366	MOF-derived single-atom catalysts: The next frontier in advanced oxidation for water treatment. 2023 , 452, 139446	0
365	Cadmium(II)-Organic Frameworks Containing the 1,3-Bis(2-methylimidazolyl)propane Ligand. 2022 , 48, 504-509	Ο
364	Electrochemical Reduction of Carbon Dioxide to Methanol on Defective Graphene Supported Cu Based Single-Atom Catalysts: A First Principles Approach.	0
363	Counting Point Defects at Nanoparticle Surfaces by Electron Holography. 2022 , 22, 6936-6941	Ο
362	Editorial for the special issue Bingle-Atom Catalysis 2022, 2, 100147	0
361	Synergistic Hybrid Electrocatalysts of Platinum Alloy and Single-Atom Platinum for an Efficient and Durable Oxygen Reduction Reaction. 2022 , 16, 14121-14133	2
360	Single-Atom Catalysts on Covalent Triazine Frameworks: at the Crossroad between Homogenous and Heterogeneous Catalysis.	0
359	Axial Coordination Tuning Fe Single-atom Catalysts for Boosting H2O2 Activation. 2022 , 122012	1
358	Tuning Single-Atom Dopants on Manganese Oxide for Selective Electrocatalytic Cyclooctene Epoxidation. 2022 , 144, 17416-17422	2
357	Rational Design of Nanozymes Enables Advanced Biochemical Sensing. 2022 , 10, 386	1
356	STRUCTURAL FEATURES OF THE [(PtW6O24)2H5]11[PROTON-BOUND DIMER. 2022 , 63, 1484-1490	O
355	Metal Sites in Zeolites: Synthesis, Characterization, and Catalysis.	9

354	Engineering Support and Distribution of Palladium and Tin on MXene with the Modulation d-Band Center for CO-resilient Methanol Oxidation.	1
353	Single Atom Ru Monolithic Electrode for Efficient Chlorine Evolution and Nitrate Reduction. 2022 , 61,	3
352	The Progress and Outlook of Metal Single-Atom-Site Catalysis.	3
351	Surface Organometallic Chemistry for Single-site Catalysis and Single-atom Catalysis.	O
350	Grain boundary boosting the thermal stability of Pt/CeO2 thin films.	О
349	Nitrogen reduction on crystalline carbon nitride supported by homonuclear bimetallic atoms. 2022 , 157, 114704	O
348	Advanced Strategies for Stabilizing Single-Atom Catalysts for Energy Storage and Conversion. 2022 , 5,	5
347	Single-Atom Iridium-Catalyst-Embedded Zeolitic Imidazolate Frameworks for CO2 and Glycerol Transformations. 2022 , 34, 8153-8162	О
346	Surface-Exposed Single-Ni Atoms with Potential-Driven Dynamic Behaviors for Highly Efficient Electrocatalytic Oxygen Evolution.	5
345	Development of Crystalline Covalent Triazine Frameworks to Enable In Situ Preparation of Single-Atom NiN3© for Efficient Electrochemical CO2 Reduction. 2143-2150	2
344	Reversible Atomization and Nano-Clustering of Pt as a Strategy for Designing Ultra-Low-Metal-Loading Catalysts. 2022 , 126, 16194-16203	1
343	Adsorption Energy in Oxygen Electrocatalysis.	3
342	Critical Role of Explicit Inclusion of Solvent and Electrode Potential in the Electrochemical Description of Nitrogen Reduction. 2022 , 12, 11530-11540	1
341	Work function of hosts as a new descriptor for modulating electronic properties of single metal atoms. 2022 , 2, 2130-2131	О
340	Conservation of Nickel Ion Single-Active Site Character in a Bottom-Up Constructed EConjugated Molecular Network.	0
339	Surface-Exposed Single-Ni Atoms with Potential-Driven Dynamic Behaviors for Highly Efficient Electrocatalytic Oxygen Evolution.	О
338	Applications of Single Atom Catalysts for Environmental Management. 2022, 19, 11155	0
337	Surface-Modified Ultrathin Metal®rganic Framework Nanosheets as a Single-Site Iron Electrocatalyst for Oxygen Evolution Reaction.	1

336	Single-Atom Catalysts on Covalent Triazine Frameworks: at the Crossroad between Homogenous and Heterogeneous Catalysis.	0
335	Switchable Tuning CO 2 Hydrogenation Selectivity by Encapsulation of the Rh Nanoparticles While Exposing Single Atoms. 2204490	2
334	Single-Site Heterogeneous Organometallic Ir Catalysts Embedded on Graphdiyne: Structural Manipulation Beyond the Carbon Support. 2203442	Ο
333	Mesoporous N-rich Carbon with Single-Ni Atoms as a Multifunctional Sulfur Host for Li-S Batteries.	Ο
332	Mesoporous N-rich Carbon with Single-Ni Atoms as a Multifunctional Sulfur Host for Li-S Batteries.	4
331	Single Atom Ru Monolithic Electrode for Efficient Chlorine Evolution and Nitrate Reduction. 2022 , 134,	Ο
330	Environment Molecules Boost the Chemoselective Hydrogenation of Nitroarenes on Cobalt Single-Atom Catalysts. 2022 , 12, 11960-11973	0
329	Single Atom Catalysts for Hydrogen Production from Chemical Hydrogen Storage Materials. 2022 , 75-100	Ο
328	Electron modulation by atomic Ir site decoration in porous Co/N co-doped carbon for electrocatalytic hydrogen evolution.	0
327	Steering Catalytic Selectivity with Atomically Dispersed Metal Electrocatalysts for Renewable Energy Conversion and Commodity Chemical Production. 2022 , 55, 2672-2684	Ο
326	Engineering Support and Distribution of Palladium and Tin on MXene with the Modulation d-Band Center for CO-resilient Methanol Oxidation.	Ο
325	Covalent Organic Frameworks Based Single-site Electrocatalysts for Oxygen Reduction Reaction.	Ο
324	Achieving rhodium-like activity for olefin hydroformylation by electronic metal-support interaction of single atomic cobalt catalyst. 2022 , 3, 101016	1
323	Single-Atom Catalysis: Insights from Model Systems. 2022 , 122, 14911-14939	2
322	Conservation of Nickel Ion Single-Active Site Character in a Bottom-Up Constructed Econjugated Molecular Network.	0
321	Improved Electrocatalytic Selectivity and Activity for Ammonia Synthesis on Diporphyrin Catalysts. 2022 , 126, 16636-16642	Ο
320	Building up libraries and production line for single atom catalysts with precursor-atomization strategy. 2022 , 13,	2
319	MetalBupport Interactions in Molecular Single-Site Cluster Catalysts.	1

318	Synthesis of core/shell nanocrystals with ordered intermetallic single-atom alloy layers for nitrate electroreduction to ammonia.	O
317	Orbital Orientation-based Theoretical Design of Single-Atom Catalysts for the Hydrogen Evolution Reaction. 2022 , 126, 16656-16662	O
316	Termolecular Eley ${f R}$ ideal pathway for efficient CO oxidation on phosphorene-supported single-atom cobalt catalyst.	0
315	Mechanism driven design of trimer Ni1Sb2 site delivering superior hydrogenation selectivity to ethylene. 2022 , 13,	4
314	Combining experiment and theory for precise structure identification of single-atom catalysts. 2022 , 2, 2114-2117	0
313	Single-atom catalysts on metal-based supports for solar photoreduction catalysis. 2022 , 43, 2301-2315	O
312	Oxidase-like ZnCoFe Three-Atom Nanozyme as a Colorimetric Platform for Ascorbic Acid Sensing.	4
311	A Stabilization Synthesis Strategy for Atomically Dispersed Metal-N4 Electrocatalysts via Aerogel Confinement and Ammonia Pyrolyzing. 2022 , 107869	1
310	N-Heterocyclic Carbenes: Molecular Porters of Surface Mounted Ru-Porphyrins.	0
309	N-Heterocyclic Carbenes: Molecular Porters of Surface Mounted Ru-Porphyrins.	O
308	Nitrogen atom coordination tuned transition metal catalysts for NO oxidation and reduction. 2022, 136735	0
307	Insights into atomically dispersed reactive centers on g-C3N4 photocatalysts for water splitting. 2022 , 100094	1
306	Heterogeneous M-N-C Catalysts for Aerobic Oxidation Reactions: Lessons from Oxygen Reduction Electrocatalysts.	2
305	Ultrathin Cage-based Covalent Organic Framework Nanosheets as Precursor for Pyrolysis-Free Oxygen Evolution Reaction Electrocatalyst.	1
304	Ti-doped CeO 2 Stabilized Single-Atom Rhodium Catalyst for Selective and Stable CO 2 Hydrogenation to Ethanol.	2
303	Hydrogen release mechanisms of MgH2 over NiN4-embedded graphene nanosheet: First-principles calculations. 2022 ,	O
302	High Selective Direct Synthesis of H 2 O 2 over Pd 1 @EAl 2 O 3 Single-Atom Catalyst.	0
301	Engineering the Coordination Interface of Isolated Co Atomic Sites Anchored on N-Doped Carbon for Effective Hydrogen Evolution Reaction.	O

300	Emerging carbon-supported single-atom catalysts for biomedical applications. 2022, 5, 3341-3374	2
299	Fully Exposed Metal Clusters: Fabrication and Application in Alkane Dehydrogenation. 12720-12743	2
298	Ti-doped CeO 2 Stabilized Single-Atom Rhodium Catalyst for Selective and Stable CO 2 Hydrogenation to Ethanol.	0
297	Direct dehydrogenation of propane over Pd nanoparticles encapsulated within IPC zeolites with tunable pore sizes. 2022 , 29, 101644	O
296	High-throughput screening to predict highly active dual-atom catalysts for electrocatalytic reduction of nitrate to ammonia. 2022 , 103, 107866	O
295	Crystalline Support. 2022 , 197-218	O
294	The active structure of p-block SnNC single-atom electrocatalysts for the oxygen reduction reaction.	1
293	2D copper-imidazolate framework without thermal treatment as an efficient ORR electrocatalyst for ZnBir batteries.	1
292	Photosynthesis of hydrogen peroxide in water: a promising on-site strategy for water remediation.	0
291	Photocatalytic hydrogen evolution over PtPd dual atom sites anchored on TiO2 nanosheets.	1
29 0	Manipulating the Microenvironment of Surfactant-Encapsulated Pt Nanoparticles to Promote Activity and Selectivity. 13930-13940	0
289	Communication between active sites regulates heterogeneous catalysis. 2022,	O
288	Attenuating metal-substrate conjugation in atomically dispersed nickel catalysts for electroreduction of CO2 to CO. 2022 , 13,	4
287	A Tale of Two Sites: Neighboring Atomically Dispersed Pt Sites Cooperatively Remove Trace H 2 in CO-Rich Stream. 2204611	O
286	Single-molecule fluorescence imaging for probing nanocatalytic process. 2022,	0
285	Functional CeOx nanoglues for robust atomically dispersed catalysts.	5
284	Hydrogen Peroxide Assisted Electrooxidation of Benzene to Phenol over Bifunctional Ni [D [] 2) 4 Sites. 2204043	0
283	Gold single-atoms confined at the CeOx-TiO2 interfaces with enhanced low-temperature activity toward CO oxidation.	O

282	Tuning Structure and Properties of Pt Catalysts Confined in Single-Walled Carbon Nanotubes (SWNTs) for Electrocatalysis.	Ο
281	The Dynamic Formation from Metal-Organic Frameworks of High-Density Platinum Single-Atom Catalysts with Metal-Metal Interactions.	1
280	Post-synthetic electrostatic adsorption-assisted fabrication of efficient single-atom Fe-N-C oxygen reduction catalysts for Zn-air batteries.	0
279	Frustrations of supported catalytic clusters under operando conditions predicted by a simple lattice model. 2022 , 12,	Ο
278	Emerging Metal Single-Atom Materials: From Fundamentals to Energy Applications.	1
277	NiD4 as Active Sites for Efficient Oxygen Evolution Reaction with Electronic MetalBupport Interactions. 2022 , 14, 47542-47548	Ο
276	Rhodium single-atom catalyst design through oxide support modulation for a selective gas-phase ethylene hydroformylation.	1
275	Theoretical and Comparative Analysis of Graphdiyne and Confined Flexible Nitrogen-Doped Graphdiyne-Supported Single-Atom Catalysts for Electrochemical Nitrogen Reduction. 2022 , 126, 18282-1829	91 ^O
274	Single-Atom Co-Catalysts Employed in Titanium Dioxide Photocatalysis. 2022 , 12, 1223	1
273	Bridging the Gap between the X-ray Absorption Spectroscopy and the Computational Catalysis Communities in Heterogeneous Catalysis: A Perspective on the Current and Future Research Directions. 13813-13830	4
272	Molecular Catalyst Synthesis Strategies to Prepare Atomically Dispersed Fe-N-C Heterogeneous Catalysts. 2022 , 144, 18797-18802	O
271	Metal single atom doped 2D materials for photocatalysis: Current status and future perspectives.	O
270	Rhodium single-atom catalyst design through oxide support modulation for a selective gas-phase ethylene hydroformylation.	Ο
269	Renewable Power for Electrocatalytic Generation of Syngas: Tuning the Syngas Ratio by Manipulating the Active Sites and System Design.	Ο
268	Precise Construction of High Metallicity and High Stability TM1/Cu2O(111) Single-Atom Catalysts by First-Principles.	О
267	Unveiling the mechanism of controllable CO2 hydrogenation by group VIB metal single atom anchored on N-doped graphite: A density functional theory study. 2022 ,	O
266	The Dynamic Formation from Metal-Organic Frameworks of High-Density Platinum Single-Atom Catalysts with Metal-Metal Interactions.	0
265	Heteroatom Doped Asymmetric Metal-Nx-C Single Atom Catalysts for Electrochemical CO2[Reduction Reaction.	O

264	Significant boosting effect of single atom Pt towards the ultrasonic generation of H2O2: A two-way catalytic mechanism. 2022 , 122143	0
263	Graphene-Based Metal©rganic Framework Hybrids for Applications in Catalysis, Environmental, and Energy Technologies.	5
262	Facet-dependent electronic state of Pt single atoms anchoring on CeO2 nanocrystal for CO (preferential) oxidation. 2022 , 415, 174-185	2
261	Single-atom Co-N5 catalytic sites on carbon nanotubes as peroxymonosulfate activator for sulfamerazine degradation via enhanced electron transfer pathway. 2023 , 304, 122398	O
260	Anchoring the late first row transition metals with B12P12 nanocage to act as single atom catalysts toward oxygen evolution reaction (OER). 2023 , 153, 107164	2
259	Nitrogen-doped carbon-based single-atom Fe catalysts: Synthesis, properties, and applications in advanced oxidation processes. 2023 , 475, 214874	1
258	Surface electrochemical processes, thermodynamics, and electrocatalysis f rom extended surfaces to single atom catalysts. 2023 ,	O
257	Single-atom dispersed Zn-N3 active sites bridging the interlayer of g-C3N4 to tune NO oxidation pathway for the inhibition of toxic by-product generation. 2023 , 454, 140084	O
256	Iodine-doped single-atom cobalt catalysts with boosted antioxidant enzyme-like activity for colitis therapy. 2023 , 453, 139870	O
255	Catalytic activity enhancement by P and S co-doping of a single-atom Fe catalyst for peroxymonosulfate-based oxidation. 2023 , 453, 139890	O
254	Single atom cobalt catalyst derived from co-pyrolysis of vitamin B12 and graphitic carbon nitride for PMS activation to degrade emerging pollutants. 2023 , 321, 122051	O
253	Ultralow Fe doping induced high photocatalytic activity toward ciprofloxacin degradation and CO2 reduction. 2023 , 1273, 134344	1
252	Single-Atom Photocatalysts for Energy and Environmental Sustainability. 2022, 2751-2787	O
251	Atomically dispersed Pt inside MOFs for highly efficient photocatalytic hydrogen evolution.	O
250	Cu-N-bridged Fe-3d electron state regulations for boosted oxygen reduction in flexible battery and PEMFC. 2023 , 54, 533-542	O
249	The double-edged effect of single atom metals on photocatalysis. 2023 , 453, 139833	1
248	Solid Single-Atom Catalysts in Tandem Catalysis: Lookout, Opportunities and Challenges.	0
247	Tailoring of Active Sites from Single to Dual Atom Sites for Highly Efficient Electrocatalysis.	O

246	Pinpointing the axial ligand effect on platinum single-atom-catalyst towards efficient alkaline hydrogen evolution reaction. 2022 , 13,	5
245	Selective Hydrodeoxygenation of Aromatics to Cyclohexanols over Ru Single Atoms Supported on CeO2. 2022 , 144, 20834-20846	0
244	S and O Co-Coordinated Mo Single Sites in Hierarchically Porous Tubes from Sulfur E namine Copolymerization for Oxygen Reduction and Evolution. 2022 , 144, 20571-20581	2
243	Continuous Modulation of Electrocatalytic Oxygen Reduction Activities of Single-atom Catalysts through pB Junction Rectification.	5
242	Advances on Dual-Functional Hosts for Polysulfides Conversion and Lithium Plating/Stripping towards LithiumBulfur Full Cells.	0
241	Hydrogen Production Technology Promotes the Analysis and Prospect of the Hydrogen Fuel Cell Vehicles Development under the Background of Carbon Peak and Carbon Neutrality in China. 2022 , 7, 40625-40637	0
240	Insight into key parameters for fabricating stable single-atom Pt-Nix alloy by reduction environment-induced anti-Ostwald effects.	0
239	C2H2 Selective Hydrogenation over the Single-atom Pt1/Cu Catalysts: Unraveling the Role of Pt Active Site Type and Its Coordination Environment in Regulating Catalytic Performance. 2022 , 155720	O
238	Isolated Electron-Rich Ruthenium Atoms in Intermetallic Compounds for Boosting Electrochemical Nitric Oxide Reduction to Ammonia.	O
237	Single atom catalysts in Van der Waals gaps. 2022 , 13,	2
237	Single atom catalysts in Van der Waals gaps. 2022, 13, Atomically dispersed bimetallic Fe© electrocatalysts for green production of ammonia.	2
236	Atomically dispersed bimetallic Fe© electrocatalysts for green production of ammonia. Single-Atom Catalysts with Ultrahigh Catalase-Like Activity Through Electron Filling and Orbital	1
236	Atomically dispersed bimetallic Fetto electrocatalysts for green production of ammonia. Single-Atom Catalysts with Ultrahigh Catalase-Like Activity Through Electron Filling and Orbital Energy Regulation. 2209560 Recent advances in metalorganic frameworksderived carbon-based materials in sulfate	2
236 235 234	Atomically dispersed bimetallic Fetto electrocatalysts for green production of ammonia. Single-Atom Catalysts with Ultrahigh Catalase-Like Activity Through Electron Filling and Orbital Energy Regulation. 2209560 Recent advances in metalorganic frameworks derived carbon-based materials in sulfate radical-based advanced oxidation processes for organic pollutant removal. 2022, 140244 Continuous Modulation of Electrocatalytic Oxygen Reduction Activities of Single-atom Catalysts	1 2 0
236 235 234 233	Atomically dispersed bimetallic Fetto electrocatalysts for green production of ammonia. Single-Atom Catalysts with Ultrahigh Catalase-Like Activity Through Electron Filling and Orbital Energy Regulation. 2209560 Recent advances in metalliganic frameworkstlerived carbon-based materials in sulfate radical-based advanced oxidation processes for organic pollutant removal. 2022, 140244 Continuous Modulation of Electrocatalytic Oxygen Reduction Activities of Single-atom Catalysts through pti Junction Rectification. Real-Space Charge Density Profiling of Electrodetilectrolyte Interfaces with Angstrom Depth	1 2 0
236 235 234 233	Atomically dispersed bimetallic Fetto electrocatalysts for green production of ammonia. Single-Atom Catalysts with Ultrahigh Catalase-Like Activity Through Electron Filling and Orbital Energy Regulation. 2209560 Recent advances in metalBrganic frameworkstlerived carbon-based materials in sulfate radical-based advanced oxidation processes for organic pollutant removal. 2022, 140244 Continuous Modulation of Electrocatalytic Oxygen Reduction Activities of Single-atom Catalysts through ptl Junction Rectification. Real-Space Charge Density Profiling of Electrodetelectrolyte Interfaces with Angstrom Depth Resolution.	1 2 O

228	Axial Nitrogen-Coordination Engineering over Fe-Nx Active Species for Enhancing Fenton-Like Reaction Performance. 2022 , 140382	O
227	Isolated Electron-Rich Ruthenium Atoms in Intermetallic Compounds for Boosting Electrochemical Nitric Oxide Reduction to Ammonia.	O
226	Size-Dependent Atomic and Electronic Structures of Small-Sized Nin ($n = 200$) Clusters Supported on the Anatase TiO2(101) Surface: A Density Functional Theory Study.	O
225	Physicochemical Confinement Effect Enables High-Performing Zinclbdine Batteries.	O
224	High-Loading Co Single Atoms and Clusters Active Sites toward Enhanced Electrocatalysis of Oxygen Reduction Reaction for High-Performance ZnAir Battery. 2209726	2
223	Understanding the Reactivity of Supported Late Transition Metals on a Bare Anatase (101) Surface: A Periodic Conceptual DFT Investigation.	O
222	Electrochemical CO2 reduction: from catalysts to reactive thermodynamics and kinetics. 2022, 100081	O
221	Heterogenization of Salen Metal Molecular Catalysts in Covalent Organic Frameworks for Photocatalytic Hydrogen Evolution.	4
220	Tuning Mass Transport in Electrocatalysis Down to Sub-5nm Through Nanoscale Grade Separation.	4
219	Liquid Fluxional Ga Single Atom Catalysts for Efficient Electrochemical CO2 Reduction.	4
218	Tuning Mass Transport in Electrocatalysis Down to Sub-5nm Through Nanoscale Grade Separation.	O
217	Liquid Fluxional Ga Single Atom Catalysts for Efficient Electrochemical CO2 Reduction.	O
216	Heterogenization of Salen Metal Molecular Catalysts in Covalent Organic Frameworks for Photocatalytic Hydrogen Evolution.	O
215	Metal-organic frameworks-derived advanced oxygen electrocatalysts as air-cathodes for Zn-air batteries: Recent trends and future perspectives.	O
214	Does the Oxygen Evolution Reaction follow the classical OH*, O*, OOH* path on single atom catalysts?. 2023 , 417, 351-359	O
213	Catalytic active centers beyond transition metals: atomically dispersed alkaline-earth metals for electroreduction of nitrate to ammonia.	9
212	Exploring the underlying oxygen reduction reaction electrocatalytic activities of pyridinic-N and pyrrolic-N doped graphene quantum dots. 2023 , 535, 112880	1
211	Enzyme-metal-single-atom hybrid catalysts for one-pot chemoenzymatic reactions. 2023 , 44, 139-145	Ο

210	Theoretical exploration of the nitrogen fixation mechanism of two-dimensional dual-metal TM1TM2@C9N4 electrocatalysts.	1
209	Hydroperoxyl-mediated C-H bond activation on Cr single atom catalyst: An alternative to the Fenton mechanism. 2023 , 417, 323-333	O
208	Modelling single atom catalysts for water splitting and fuel cells: A tutorial review. 2023 , 556, 232492	2
207	Screening of single transition metal substitution in two-dimensional Mo2CT MXene electrocatalyst with ultrahigh activity for oxygen reduction reaction. 2023 , 36, 102585	1
206	Reprint of: Recent strategies for synthesis of metallosilicate zeolites. 2023, 410, 2-12	О
205	Boosting hydrogenation properties of Pt single-atom catalysts via tailoring the electronic structures by coordination number regulation. 2023 , 455, 140808	1
204	A mini review of nanomaterials on photodynamic therapy. 2023 , 54, 100568	О
203	Recent advances in heterogeneous single-atom nanomaterials: From engineered metal-support interaction to applications in sensors. 2023 , 478, 214976	0
202	Atomic catalyst supported on oxygen defective MXenes for synergetic electrocatalytic nitrate reduction to ammonia: A first principles study. 2023 , 614, 156077	0
201	Highly selective production of singlet oxygen by manipulating the spin state of single-atom Co N moieties and electron localization. 2023 , 324, 122248	Ο
200	Single-atom Co-N-C catalysts for high-efficiency reverse water-gas shift reaction. 2023 , 324, 122298	0
199	Tuning low-temperature CO oxidation activities via N-doping on graphene-supported three-coordinated nickle single-atom catalysts. 2022 , 24, 29586-29593	O
198	Tuning reactivity in trimetallic dual-atom alloys: molecular-like electronic states and ensemble effects. 2022 , 13, 14070-14079	О
197	Atomic Magnetic Heating Effect Enhanced Hydrogen Evolution Reaction of Gd@MoS 2 Single-Atom Catalysts. 2206155	0
196	Single Metal Atoms on Oxide Surfaces: Assessing the Chemical Bond through 17O Electron Paramagnetic Resonance. 2022 , 55, 3706-3715	O
195	Coupling Fe and Mo single atoms on hierarchical N-doped carbon nanotubes enhances electrochemical nitrogen reduction reaction performance.	O
194	Synergistic Effects of Keggin-Type Phosphotungstic Acid-Supported Single-Atom Catalysts in a Fast NH3-SCR Reaction. 2022 , 61, 19156-19171	О
193	Atomic-Level Interface Engineering for Boosting Oxygen Electrocatalysis Performance of Single-Atom Catalysts: From Metal Active Center to the First Coordination Sphere. 2205031	1

192	Advances in Materials and Interface Understanding in Protonic Ceramic Fuel Cells. 2201075	O
191	Recent progress on single-atom catalysts in advanced oxidation processes for water treatment. 2022 ,	O
190	A novel bimetallic RuFe nanocluster to enable highly efficient oxygen reduction in zinc-air batteries. 2022 ,	О
189	Au Atoms Anchored on Amorphous C3N4 for Single-Site Raman Enhancement. 2022 , 144, 21908-21915	1
188	Design of Single-Atom Catalysts and Tracking Their Fate Using Operando and Advanced X-ray Spectroscopic Tools.	0
187	Strategies toward High-Loading LithiumBulfur Batteries. 116-150	2
186	Exploring the Ni 3 d Orbital Unpaired Electrons Induced Polarization Loss Based on Ni Single-Atoms Model Absorber. 2212604	2
185	Alternating Magnetic Field Induced Magnetic Heating in Ferromagnetic Cobalt Single-Atom Catalysts for Efficient Oxygen Evolution Reaction. 2022 , 22, 9411-9417	1
184	Using Density Functional Theory To Unravel the Size-Dependent Effect of Au Nanoparticles and Au Single Atoms Adsorbed on Carbon Nitride for the Hydrogenation of Nitrobenzene. 2022 , 5, 18753-18760	0
183	Single-atom nanozymes towards central nervous system diseases.	O
182	Reactivity and Recyclability of Ligand-Protected Metal Cluster Catalysts for CO2 Transformation.	0
181	Peripheral-nitrogen effects on the Ru1 centre for highly efficient propane dehydrogenation. 2022 , 5, 1145-1156	1
180	Low-Coordinated Pd Site within Amorphous Palladium Selenide for Active, Selective, and Stable H 2 O 2 Electrosynthesis. 2208101	2
179	Kinetics of Heterogeneous Single-Site Catalysis.	О
178	Implanting of Single Zinc Sites into 2D Metal@rganic Framework Nanozymes for Boosted Antibiofilm Therapy. 2212798	О
177	Bioinspired Hydrophobic Single-Atom Catalyst with Flexible Sulfur Motif for Aqueous-Phase Hydrogenative Transformation. 530-539	O
176	A theoretical investigation of NO oxidation using single metal atom catalysts with boron nitride. 2022 , 113997	0
175	Engineering Single Atom Catalysts for Flow Production: From Catalyst Design to Reactor Understandings.	O

174	Selective Hydrogenation of CO2 to CH3OH on a Dynamically Magic Single-Cluster Catalyst: Cu3/MoS2/Ag(111). 714-724	Ο
173	Reactivity and Recyclability of Ligand-Protected Metal Cluster Catalysts for CO2 Transformation.	O
172	Synergistic Effect between Zinc Particles and Graphene on the Anti-Corrosion Performance of Epoxy Coatings. ArticleID:221238	0
171	Janus heterostructure of cobalt and iron oxide as dual-functional electrocatalysts for overall water splitting.	1
170	Preparation and characterization of M1-Nx-Cy based single atom catalysts for environmental applications. 2022 , 108050	0
169	Modulating the Site Density of Mo Single Atoms to Catch Adventitious O Atoms for Efficient H 2 O 2 Oxidation with Light. 2208704	O
168	Creating Atomic Ordering in Electrocatalysis. 2212827	0
167	Atomic Replacement of PtNi Nanoalloys within Zn-ZIF-8 for the Fabrication of a Multisite CO2 Reduction Electrocatalyst. 2022 , 144, 23223-23229	2
166	Determining the contribution of Mo single atoms components in MoO2 nanocatalyst in transfer hydrogenation.	0
165	Single Atom Catalysts Supported on Metallic C5N Monolayers for Oxygen Reduction/Evolution Reactions with More Active Sites than Loaded Metal Atoms. 2022 , 156048	O
164	Creating Highly Active Iron Sites in Electrochemical N 2 Reduction by Fabricating Strongly-Coupled Interfaces. 2205313	0
163	Adsorption of cadmium vapor by calcium-based adsorbents in simulated flue gas: Experimental and density functional theory studies. 2022 , 156061	1
162	Strong synergy between single atoms and single-atom alloys enables active and selective H2O2 synthesis. 2022 , 2, 3607-3620	0
161	Water activation and splitting by single anionic iridium atoms. 2022 , 157, 234304	O
160	Hydrogen Vortex Flow Impact on the Catalytic Wall. 2023, 16, 104	0
159	Atomic Aerogel Materials (or single atom aerogels): an Interesting New Paradigm in Materials Science and Catalysis Science. 2211221	O
158	Single-Metal Atom Sandwiched by Graphdiyne and BN-Doped Graphdiyne Sheets as an Electrocatalyst for Nitrogen Reduction: A First-Principles Study.	0
157	Cobalt-Doped MoS2-Integrated Hollow Structured Covalent Organic Framework Nanospheres for the Effective Photoreduction of CO2 under Visible Light.	1

156	Tuning the CO 2 Hydrogenation Selectivity of Rhodium Single-Atom Catalysts on Zirconium Dioxide with Alkali Ions.	0
155	Electrocatalysis Mechanism and StructureActivity Relationship of Atomically Dispersed Metal-Nitrogen-Carbon Catalysts for Electrocatalytic Reactions. 2201524	O
154	Synthesis of metal cation doped nanoparticles for single atom alloy catalysts using spontaneous cation exchange.	0
153	On the Road from Single-Atom Materials to Highly Sensitive Electrochemical Sensing and Biosensing. 2023 , 95, 433-443	1
152	Second Sphere Effects Promote Formic Acid Dehydrogenation by a Single-Atom Gold Catalyst Supported on Amino-Substituted Graphdiyne.	0
151	Research trends on minimizing the size of noble metal catalysts for Li-CO2 batteries: From nanoparticle to single atom.	O
150	N2-to-NH3 conversion by excess electrons trapped in point vacancies on 5f-element dioxide surfaces. 10,	0
149	Synergistically Boosting the Anchoring Effect and Catalytic Activity of MXenes as Bifunctional Electrocatalysts for Sodium-Sulfur Batteries by Single-Atom Catalysts Engineering.	O
148	Revealing the intrinsic electronic-level principle driving metal-support interaction trends of single-atom Ru with oxides through cooperative orbital coupling.	0
147	Computational Study on the Catalytic Performance of Single-Atom Catalysts Anchored on g-CN for Electrochemical Oxidation of Formic Acid. 2023 , 13, 187	O
146	Tuning the CO 2 Hydrogenation Selectivity of Rhodium Single-Atom Catalysts on Zirconium Dioxide with Alkali Ions.	2
145	Solvent-free oxidation of toluene to benzaldehyde using electron-rich Au clusters confined in Silicalite-1. 2023 , 141446	O
144	High Durability of Fe-N-C Single Atom Catalysts with Carbon Vacancies Towards Oxygen Reduction Reaction in Alkaline Media. 2210714	2
143	Second Sphere Effects Promote Formic Acid Dehydrogenation by a Single-Atom Gold Catalyst Supported on Amino-Substituted Graphdiyne.	O
142	Hydrogenation of Carboxylic Acids, Esters, and Related Compounds over Heterogeneous Catalysts: A Step toward Sustainable and Carbon-Neutral Processes.	1
141	Atomically Dispersed d10 s-block Au Boosts Photocatalytic 1e- Water Oxidation for Self-Cleaning, Sanitation and Safe Drinkable Water⊞	O
140	Facile fabrication of atomically dispersed Ru-P-Ru ensembles for efficient hydrogenations beyond isolated single atoms. 2023 , 45, 107-119	0
139	Advances in antioxidative nanozymes for treating ischemic stroke. 2023 , 4, 95-102	O

138	Review of photo- and electro-catalytic multi-metallic layered double hydroxides. 2023, 480, 215008	1
137	Size effect of CoS2 cocatalyst on photocatalytic hydrogen evolution performance of g-C3N4. 2023 , 635, 305-315	1
136	Adsorption-catalysis design with cerium oxide nanorods supported nickel-cobalt-oxide with multifunctional reaction interfaces for anchoring polysulfides and accelerating redox reactions in lithium sulfur battery. 2023 , 635, 466-480	O
135	Heterogeneous selective oxidation over supported metal catalysts: From nanoparticles to single atoms. 2023 , 325, 122384	1
134	Nickel metaphosphate supported ruthenium for all pH hydrogen evolution: From single atom, cluster to nanoparticle. 2023 , 325, 122331	0
133	Geometric and Electronic Effects in Hydrogenation Reactions. 2023, 13, 974-1019	Ο
132	Mo2TiC2 MXene-Supported Ru Clusters for Efficient Photothermal Reverse Water∆as Shift.	0
131	Double-Dependence Correlations in Graphdiyne-Supported Atomic Catalysts to Promote CO 2 RR toward the Generation of C 2 Products. 2203858	O
130	Surface and Interface Coordination Chemistry Learned from Model Heterogeneous Metal Nanocatalysts: From Atomically Dispersed Catalysts to Atomically Precise Clusters.	1
129	Recent advancements on single-atom catalysts. 2022 ,	O
128	Recent progress in metalorganic frameworks (MOFs) for electrocatalysis.	0
127	Tailoring interfacial microbiome and charge dynamics via rationally designed atomic-nanoparticle bridge for bio-electrochemical CO2-fixation.	O
126	Engineering Pt Coordination Environment with Atomically Dispersed Transition Metal Sites Toward Superior Hydrogen Evolution. 2204213	0
125	Single-Atom Catalysis Enabled by High-Energy Metastable Structures.	O
124	Local chemical environment effect in single-atom catalysis. 2023 , 100492	0
123	Interface effects in metal oxide heterostructures. 2023 , 43-75	0
122	Tracking and Understanding Dynamics of Atoms and Clusters of Late Transition Metals with In-Situ DRIFT and XAS Spectroscopy Assisted by DFT.	О
121	Atomic Cu-N-P-C Active Complex with Integrated Oxidation and Chlorination for Improved Ethylene Oxychlorination. 2205635	O

120	Carbon Dioxide Conversion on Supported Metal Nanoparticles: A Brief Review. 2023, 13, 305	1
119	Cooperative Characterization of In Situ TEM and Cantilever-TGA to Optimize Calcination Conditions of MnO2 Nanowire Precursors.	O
118	Studying, Promoting, Exploiting, and Predicting Catalyst Dynamics: the Next Frontier in Heterogeneous Catalysis. 2023 , 127, 2127-2146	0
117	Insight into the Mechanism for Catalytic Activity of the Oxygen/Hydrogen Evolution Reaction on a Dual-Site Catalyst. 2023 , 14, 2201-2207	Ο
116	Achieving highly efficient electrochemical sensing over single-atom-site catalysts. 2023, 3, 100528	0
115	Recent progress of theoretical studies on electro- and photo-chemical conversion of CO2 with single-atom catalysts. 2023 , 13, 5833-5850	Ο
114	Single atom Pd1/ZIF-8 catalyst via partial ligand exchange.	O
113	Stretchable Oxygen-Tolerant Sensor Based on a Single-Atom FeN4 Electrocatalyst for Observing the Role of Oxidative Stress in Hypertension. 2023 , 95, 5159-5167	O
112	Synthesis of core/shell nanocrystals with ordered intermetallic single-atom alloy layers for nitrate electroreduction to ammonia.	0
111	Deducing subnanometer cluster size and shape distributions of heterogeneous supported catalysts. 2023 , 14,	O
110	Electrocatalyst Microenvironment Engineering for Enhanced Product Selectivity in Carbon Dioxide and Nitrogen Reduction Reactions. 5375-5396	0
109	Engineering high-coordinated cerium single-atom sites on carbon nitride nanosheets for efficient photocatalytic amine oxidation and water splitting into hydrogen. 2023 , 462, 142084	Ο
108	Single-atom catalysts for proton exchange membrane fuel cell: Anode anti-poisoning & membrane fuel cell: Anode	0
107	Advanced in-situ electrochemical scanning probe microscopies in electrocatalysis. 2023 , 47, 93-120	O
106	Syntheses and applications of single-atom catalysts for electrochemical energy conversion reactions. 2023 , 47, 32-66	0
105	Oxidative-Atmosphere-Induced Strong MetalBupport Interaction and Its Catalytic Application.	O
104	Electronic Modulation of Metal-Organic Frameworks Caused by Atomically Dispersed Ru for Efficient Hydrogen Evolution.	0
103	A study of Pt, Rh, Ni and Ir dispersion on anatase TiO2(101) and the role of water. 2023 , 449, 142190	O

102	Metal-organic frameworks based single-atom catalysts for advanced fuel cells and rechargeable batteries. 2023 , 80, 501-534	Ο
101	Recent progress of metal single-atom catalysts for energy applications. 2023 , 111, 108404	Ο
100	N, O trans-coordinating silver single-atom catalyst for robust and efficient ammonia electrosynthesis from nitrate. 2023 , 331, 122687	0
99	Hierarchically ordered porous superstructure embedded with readily accessible atomic pair sites for enhanced CO2 electroreduction. 2023 , 330, 122638	O
98	Single-atom photocatalysts for various applications in energy conversion and environmental remediation: A review. 2023 , 553, 121517	0
97	Electrocatalytic CO2 conversion on metal-organic frameworks derivative electrocatalysts. 2023 , 69, 102412	O
96	Rational design of heterogenized molecular phthalocyanine hybrid single-atom electrocatalyst towards two-electron oxygen reduction. 2023 , 14,	0
95	Synergistic double-atom catalysts of metal-boron anchored on g-C2N for electrochemical nitrogen reduction: Mechanistic insight and catalyst screening. 2023 , 80, 350-360	O
94	Single-Atom Iridium-Based Catalysts: Synthesis Strategies and Electro(Photo)-Catalytic Applications for Renewable Energy Conversion and Storage. 2023 , 486, 215143	0
93	Recent advances in thermocatalytic hydrogenation of unsaturated organic compounds with Metal-Organic Frameworks-based materials: Construction strategies and related mechanisms. 2023 , 487, 215159	O
92	Monodispersed aluminum in carbon nitride creates highly efficient nitrogen active sites for ultra-high hydrogen peroxide photoproduction. 2023 , 108, 108225	0
91	Tunable single-atom nanozyme catalytic system for biological applications of therapy and diagnosis. 2023 , 17, 100342	O
90	Screening of single-atom catalysts of transition metal supported on MoSe2 for high-efficiency nitrogen reduction reaction. 2023 , 537, 112967	1
89	Evaluating the stability of Ir single atom and Ru atomic cluster oxygen evolution reaction electrocatalysts. 2023 , 444, 141982	O
88	Atomically precise electrocatalysts for oxygen reduction reaction. 2023 , 9, 280-342	1
87	Carbon-Conjugated Co Complexes as Model Electrocatalysts for Oxygen Reduction Reaction. 2023 , 13, 330	O
86	Regulating the N Coordination Environment of Co Single-Atom Nanozymes for Highly Efficient Oxidase Mimics. 2023 , 23, 1505-1513	0
85	Transition Metal-N2P2 Embedded Graphene (TM-NPC) as Single Atoms Catalyst for Oxygen Reduction Reaction: A Computational Study.	0

84	Versatile Assembly of Metal P henolic Network Foams Enabled by Tannin © ellulose Nanofibers. 2023 , 35, 2209685	O
83	Coordination-Driven Self-Assembly Strategy-Activated Cu Single-Atom Nanozymes for Catalytic Tumor-Specific Therapy.	O
82	Modulation of Electronic Structure of Single-Atom Catalysts for Sustainable Production of Full-Spectrum Amines from Renewable Biomass.	0
81	CN Coupling through Hydroaminoalkylation on a Single-Atom Rh Heterogeneous Catalyst. 2023 , 62,	1
80	CN Coupling through Hydroaminoalkylation on a Single-Atom Rh Heterogeneous Catalyst. 2023 , 135,	O
79	Highly Efficient Hydroxyl Radicals Production Boosted by the Atomically Dispersed Fe and Co Sites for Heterogeneous Electro-Fenton Oxidation. 2023 , 57, 2907-2917	O
78	Theoretical Understanding of Potential-Dependent Electrocatalytic CO2RR and Competition with HER upon Cobalt Single Atom Supported by Phthalocyanine Monolayer. 2023 , 127, 2963-2973	О
77	Atomic Scaled Depth Correlation to the Oxygen Reduction Reaction Performance of Single Atom Ni Alloy to the NiO 2 Supported Pd Nanocrystal. 2023 , 10,	O
76	Hydroformylation over polyoxometalates supported single-atom Rh catalysts. 2023 , 2, 20220064	0
75	Atomically Dispersed Co-N/C Catalyst for Divergent Synthesis of Nitrogen-Containing Compounds from Alkenes.	O
74	Recent Progress in Surface-Defect Engineering Strategies for Electrocatalysts toward Electrochemical CO2 Reduction: A Review. 2023 , 13, 393	0
73	Approaching Molecular Definition on Oxide-Supported Single-Atom Catalysts. 2023 , 56, 561-572	O
72	Ambient Electrosynthesis toward Single-Atom Sites for Electrocatalytic Green Hydrogen Cycling. 2023 , 35,	O
71	Emerging antibacterial nanozymes for wound healing.	O
70	High-efficient fire-safe epoxy enabled by bio-based atomic-level catalytic engineering. 2023, 461, 141967	О
69	Single-atom catalysts for hydroformylation of olefins. 2023 , 26, 106183	O
68	Confinement Effects in Well-Defined Metal©rganic Frameworks (MOFs) for Selective CO2 Hydrogenation: A Review. 2023 , 24, 4228	О
67	Atomic coordination structural dynamic evolution of single-atom Mo catalyst for promoting H2 activation in slurry phase hydrocracking. 2023 , 68, 503-515	O

66	Pt-single atom decorated TiO2: Tuning anodic TiO2 nanotube structure and geometry toward a high-performance photocatalytic H2 production. 2023 , 446, 142081	O
65	Modulating the electronic structure of atomically dispersed Fe B t dual-site catalysts for efficient oxygen reduction reactions. 2023 , 14, 3277-3285	O
64	Understanding the direct methane conversion to oxygenates on graphene-supported single 3d metal atom catalysts.	0
63	Recent progress in the synthesis, characterization and photocatalytic application of energy conversion over single metal atoms decorated graphitic carbon nitride. 2023 ,	О
62	Nonclassical Strong MetalBupport Interactions for Enhanced Catalysis. 2023, 14, 2364-2377	О
61	High-Entropy Perovskites for Energy Conversion and Storage: Design, Synthesis, and Potential Applications. 2023 , 7,	О
60	Clarifying the local microenvironment of metalBrganic frameworks and their derivatives for electrochemical CO2reduction: advances and perspectives.	О
59	Recent advances in carbon-supported non-precious metal single-atom catalysts for energy conversion electrocatalysis. 2023 , 2, 20220059	О
58	Atomically dispersed metals as potential coke-resistant catalysts for dry reforming of methane. 2023 , 4, 101310	О
57	Electrocatalytic reduction of N2 on FeRu dual-atom catalyst anchored in N-doped phosphorene. 2023 , 539, 113032	О
56	Recent advances in the regulation of the coordination structures and environment of single-atom catalysts for carbon dioxide reduction reaction. 2023 , 11, 7949-7986	О
55	Carbazolic Conjugated Microporous Polymers for Photocatalytic Organic Transformations. 2023 , 44,	О
54	Atomic-Level Regulation of Cobalt Single-Atom Nanozymes: Engineering High-Efficiency Catalase Mimics.	O
53	Recent Advances in the Efficient Synthesis of Useful Amines from Biomass-Based Furan Compounds and Their Derivatives over Heterogeneous Catalysts. 2023 , 13, 528	O
52	Atomic-Level Regulation of Cobalt Single-Atom Nanozymes: Engineering High-Efficiency Catalase Mimics.	О
51	Potential-Dependent Oxygen Reduction on FeN4 under Explicit Solvation Environment. 2023 , 127, 4934-4941	0
50	Single-atom materials for food safety. 2023 ,	О
49	A Priori Design of Dual-Atom Alloy Sites and Experimental Demonstration of Ethanol Dehydrogenation and Dehydration on PtCrAg.	O

48	High-Throughput Screening of Electrocatalysts for Nitrogen Reduction Reactions Accelerated by Interpretable Intrinsic Descriptor.	O
47	High-Throughput Screening of Electrocatalysts for Nitrogen Reduction Reactions Accelerated by Interpretable Intrinsic Descriptor.	O
46	Graphene-Supported Tin Single-Atom Catalysts for CO2 Hydrogenation to HCOOH: A Theoretical Investigation of Performance under Different N Coordination Numbers. 2023 , 6, 4489-4498	О
45	Single transition metal atom centered clusters activating semiconductor surface lattice atoms for efficient solar fuel production. 2023 , 11, 7746-7755	Ο
44	Atomic dispersion of bulk/nano metals to atomic-sites catalysts and their application in thermal catalysis.	О
43	Boosting activity of Fe-N4 sites in single-Fe-atom catalysts via S in the second coordination sphere for direct methanol fuel cells. 2023 , 4, 101330	O
42	Structural evolution of single-atom catalysts. 2023 , 3, 100560	О
41	Functional nanomaterials for energy and catalysis, what I next?. 2023, 100001	Ο
40	Ab initio quantum dynamics of plasmonic charge carriers. 2023,	О
39	Water Splitting on a Pt1/C3N4 Single Atom Catalyst: A Modeling Approach.	O
38	Genesis of Active Pt/CeO 2 Catalyst for Dry Reforming of Methane by Reduction and Aggregation of Isolated Platinum Atoms into Clusters. 2207272	O
37	Design Strategies of Stable Catalysts for Propane Dehydrogenation to Propylene. 2023 , 13, 4719-4741	O
36	One-dimensional metal-organic frameworks: Synthesis, structure and application in electrocatalysis. 2023 , 1, 100010	О
35	Regulated adsorption sites using atomically single cluster over biochar for efficient elemental mercury uptake. 2023 , 5,	O
34	Atomically Dispersed NiNx Site with High Oxygen Electrocatalysis Performance Facilely Produced via a Surface Immobilization Strategy. 2023 , 15, 16809-16817	0
33	Strong Metal-Support Interactions through Sulfur-Anchoring of Metal Catalysts on Carbon Supports.	O
32	Single copper sites dispersed on metal-organic frameworks boost the degradation of nerve agent simulants.	О
31	Single-Atom Nano-Islands (SANIs): A Robust AtomicNano System for Versatile Heterogeneous Catalysis Applications.	O

30	Atomically Dispersed Pd Sites on ZrO2 Hybridized N-Doped Carbon for Efficient Suzuki M iyaura Reaction. 2023 , 13, 651	Ο
29	Atomic design of carbon-based dual-metal site catalysts for energy applications.	1
28	Strong Metal-Support Interactions through Sulfur-Anchoring of Metal Catalysts on Carbon Supports.	0
27	Epitaxially grown silicon-based single-atom catalyst for visible-light-driven syngas production. 2023 , 14,	O
26	Controllable Conversion of Platinum Nanoparticles to Single Atoms in Pt/CeO2 by Laser Ablation for Efficient CO Oxidation.	O
25	Ammonia free catalytic reduction of nitric oxide on Ni-embedded graphene nanostructure: A density functional theory investigation. 2023 , 541, 113119	O
24	Atomic-level regulation strategies of single-atom catalysts: Nonmetal heteroatom doping and polymetallic active site construction. 2023 , 100586	0
23	Large-scale and solvent-free synthesis of magnetic bamboo-like nitrogen-doped carbon nanotubes with nickel active sites for photothermally driven CO2 fixation.	O
22	Recent advances in regulating the local environment of M-N4 structure for tailored chemical reactions.	0
21	Self-Limited Embedding Alternating 585-Ringed Divacancies and Metal Atoms into Graphene Nanoribbons.	O
20	Culto Dual-Atom Catalysts Supported on Hierarchical USY Zeolites for an Efficient Cross-Dehydrogenative C(sp2) Coupling Reaction.	0
19	Hierarchical Porous Pt/ZrO2 Nanoframework for Efficient Oxygen Reduction Reaction. 2023 , 13, 5397-5405	O
18	Recent Advances in Graphitic Carbon Nitride Based Electro-Catalysts for CO2 Reduction Reactions. 2023 , 28, 3292	0
17	Recent advances in the application of scanning probe microscopy in interfacial electroanalytical chemistry. 2023 , 938, 117443	O
16	Asymmetrically Coordinated Cu \mathbb{N} 1 C 2 Single-Atom Catalyst Immobilized on Ti 3 C 2 T x MXene as Separator Coating for Lithium Bulfur Batteries.	O
15	Design of material regulatory mechanism for electrocatalytic converting NO/NO 3 Ito NH 3 progress.	O
14	Atom-Precise Low-Nuclearity Cluster Catalysis: Opportunities and Challenges. 2023, 13, 5609-5634	0
13	Functionalized Graphitic Carbon Nitride Based Catalysts in Solar-to-Chemical Conversion for Hydrogen Peroxide Production. 2023 , 142931	О

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9	Recent Progress on Non-Carbon-Supported Single-Atom Catalysts for Electrochemical Conversion of Green Energy.	O
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4	Superior performance of formaldehyde complete oxidation at ambient temperature over Co single-atom catalysts. 2023 , 122774	О
3	High-Density Single-Atomic Mn់ ្ត្រាំប្តី Site in Hierarchical Porous Biochar for Superoxide Radical-Dominated Ozonation.	O
2	Construction of Ru single-atom catalyst with abundant Ru-N active domains for highly efficient acetylene hydrochlorination. 2023 , 543, 113158	O
1	Two-Dimensional Covalent Framework Derived Nonprecious Transition Metal Single-Atomic-Site Electrocatalyst toward High-Efficiency Oxygen Reduction. 2023 , 23, 3803-3809	O