

Botao Qiao

List of Publications by Year in descending order

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109
papers

19,494
citations

36303

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115
all docs

115
docs citations

115
times ranked

13251
citing authors

#	ARTICLE	IF	CITATIONS
1	Single-atom catalysis of CO oxidation using Pt ₁ /FeO _x . <i>Nature Chemistry</i> , 2011, 3, 634-641.	13.6	5,149
2	Single-Atom Catalysts: A New Frontier in Heterogeneous Catalysis. <i>Accounts of Chemical Research</i> , 2013, 46, 1740-1748.	15.6	3,405
3	FeO _x -supported platinum single-atom and pseudo-single-atom catalysts for chemoselective hydrogenation of functionalized nitroarenes. <i>Nature Communications</i> , 2014, 5, 5634.	12.8	890
4	Remarkable Performance of Ir ₁ /FeO _x Single-Atom Catalyst in Water Gas Shift Reaction. <i>Journal of the American Chemical Society</i> , 2013, 135, 15314-15317.	13.7	811
5	Single-Atom Catalysts Based on the Metal–Oxide Interaction. <i>Chemical Reviews</i> , 2020, 120, 11986-12043.	47.7	486
6	Non defect-stabilized thermally stable single-atom catalyst. <i>Nature Communications</i> , 2019, 10, 234.	12.8	452
7	Ultrastable single-atom gold catalysts with strong covalent metal-support interaction (CMSI). <i>Nano Research</i> , 2015, 8, 2913-2924.	10.4	422
8	Atomically dispersed nickel as coke-resistant active sites for methane dry reforming. <i>Nature Communications</i> , 2019, 10, 5181.	12.8	398
9	Highly Efficient Catalysis of Preferential Oxidation of CO in H ₂ -Rich Stream by Gold Single-Atom Catalysts. <i>ACS Catalysis</i> , 2015, 5, 6249-6254.	11.2	380
10	Hydroformylation of Olefins by a Rhodium Single-Atom Catalyst with Activity Comparable to RhCl(PPh ₃) ₃ . <i>Angewandte Chemie - International Edition</i> , 2016, 55, 16054-16058.	13.8	376
11	Classical strong metal–support interactions between gold nanoparticles and titanium dioxide. <i>Science Advances</i> , 2017, 3, e1700231.	10.3	361
12	Strong Metal–Support Interactions between Gold Nanoparticles and Nonoxides. <i>Journal of the American Chemical Society</i> , 2016, 138, 56-59.	13.7	357
13	Strong Metal–Support Interactions between Pt Single Atoms and TiO ₂ . <i>Angewandte Chemie - International Edition</i> , 2020, 59, 11824-11829.	13.8	309
14	Alternatives to Phosgene and Carbon Monoxide: Synthesis of Symmetric Urea Derivatives with Carbon Dioxide in Ionic Liquids. <i>Angewandte Chemie - International Edition</i> , 2003, 42, 3257-3260.	13.8	241
15	Supported Single Pt ₁ /Au ₁ Atoms for Methanol Steam Reforming. <i>ACS Catalysis</i> , 2014, 4, 3886-3890.	11.2	204
16	Single-atom catalysis: Bridging the homo- and heterogeneous catalysis. <i>Chinese Journal of Catalysis</i> , 2018, 39, 893-898.	14.0	199
17	Strong metal-support interaction promoted scalable production of thermally stable single-atom catalysts. <i>Nature Communications</i> , 2020, 11, 1263.	12.8	198
18	Ultrastable Hydroxyapatite/Titanium Dioxide-Supported Gold Nanocatalyst with Strong Metal–Support Interaction for Carbon Monoxide Oxidation. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 10606-10611.	13.8	192

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19	Design of a Highly Active Ir/Fe(OH) _x Catalyst: Versatile Application of Pt-Group Metals for the Preferential Oxidation of Carbon Monoxide. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 2920-2924.	13.8	183
20	Origin of the high activity of Au/FeO _x for low-temperature CO oxidation: Direct evidence for a redox mechanism. <i>Journal of Catalysis</i> , 2013, 299, 90-100.	6.2	170
21	Maximizing the Number of Interfacial Sites in Single-Atom Catalysts for the Highly Selective, Solvent-Free Oxidation of Primary Alcohols. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 7795-7799.	13.8	151
22	Size-dependent strong metal-support interaction in TiO ₂ supported Au nanocatalysts. <i>Nature Communications</i> , 2020, 11, 5811.	12.8	147
23	Theoretical and Experimental Investigations on Single-Atom Catalysis: Ir ₁ /FeO _x for CO Oxidation. <i>Journal of Physical Chemistry C</i> , 2014, 118, 21945-21951.	3.1	145
24	Identifying Size Effects of Pt as Single Atoms and Nanoparticles Supported on FeO _x for the Water-Gas Shift Reaction. <i>ACS Catalysis</i> , 2018, 8, 859-868.	11.2	140
25	Solubilities of the Gaseous and Liquid Solutes and Their Thermodynamics of Solubilization in the Novel Room-Temperature Ionic Liquids at Infinite Dilution by Gas Chromatography. <i>Journal of Chemical & Engineering Data</i> , 2007, 52, 2277-2283.	1.9	133
26	Electrostatic Stabilization of Single-Atom Catalysts by Ionic Liquids. <i>CheM</i> , 2019, 5, 3207-3219.	11.7	131
27	Catalytically Active Rh Sub-Nanoclusters on TiO ₂ for CO Oxidation at Cryogenic Temperatures. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 2820-2824.	13.8	127
28	High Activity of Au/Fe ₂ O ₃ for CO Oxidation: Effect of Support Crystal Phase in Catalyst Design. <i>ACS Catalysis</i> , 2015, 5, 3528-3539.	11.2	119
29	Controlling CO ₂ Hydrogenation Selectivity by Metal-Supported Electron Transfer. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 19983-19989.	13.8	114
30	Little do more: a highly effective Pt ₁ /FeO _x single-atom catalyst for the reduction of NO by H ₂ . <i>Chemical Communications</i> , 2015, 51, 7911-7914.	4.1	107
31	Preparation of highly effective ferric hydroxide supported noble metal catalysts for CO oxidations: From gold to palladium. <i>Journal of Catalysis</i> , 2009, 261, 241-244.	6.2	105
32	A highly active and sintering-resistant Au/FeO _x "hydroxyapatite catalyst for CO oxidation. <i>Chemical Communications</i> , 2011, 47, 1779-1781.	4.1	102
33	Boosting the catalysis of gold by O ₂ activation at Au-SiO ₂ interface. <i>Nature Communications</i> , 2020, 11, 558.	12.8	98
34	Ferric Oxide-Supported Pt Subnano Clusters for Preferential Oxidation of CO in H ₂ -Rich Gas at Room Temperature. <i>ACS Catalysis</i> , 2014, 4, 2113-2117.	11.2	96
35	Remarkable active-site dependent H ₂ O promoting effect in CO oxidation. <i>Nature Communications</i> , 2019, 10, 3824.	12.8	96
36	Highly active Au ₁ /Co ₃ O ₄ single-atom catalyst for CO oxidation at room temperature. <i>Chinese Journal of Catalysis</i> , 2015, 36, 1505-1511.	14.0	93

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37	Oxidative strong metalâ€‘support interactions (OMSI) of supported platinum-group metal catalysts. <i>Chemical Science</i> , 2018, 9, 6679-6684.	7.4	89
38	Effect of ZSM-5 on the aromatization performance in cracking catalyst. <i>Journal of Molecular Catalysis A</i> , 2004, 215, 195-199.	4.8	86
39	Single atom gold catalysts for low-temperature CO oxidation. <i>Chinese Journal of Catalysis</i> , 2016, 37, 1580-1586.	14.0	85
40	Novel chemoselective hydrogenation of aromatic nitro compounds over ferric hydroxide supported nanocluster gold in the presence of CO and H ₂ O. <i>Chemical Communications</i> , 2009, , 653-655.	4.1	84
41	Photochemical Deposition of Highly Dispersed Pt Nanoparticles on Porous CeO ₂ Nanofibers for the Waterâ€‘Gas Shift Reaction. <i>Advanced Functional Materials</i> , 2015, 25, 4153-4162.	14.9	75
42	Enhanced performance of Rh ₁ /TiO ₂ catalyst without methanation in waterâ€‘gas shift reaction. <i>AIChE Journal</i> , 2017, 63, 2081-2088.	3.6	74
43	Styrene Hydroformylation with In Situ Hydrogen: Regioselectivity Control by Coupling with the Lowâ€‘temperature Waterâ€‘Gas Shift Reaction. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 7430-7434.	13.8	74
44	Remarkable effects of hydroxyl species on low-temperature CO (preferential) oxidation over Ir/Fe(OH) _x catalyst. <i>Journal of Catalysis</i> , 2014, 319, 142-149.	6.2	71
45	Catalytic cascade conversion of furfural to 1,4-pentanediol in a single reactor. <i>Green Chemistry</i> , 2018, 20, 1770-1776.	9.0	71
46	Hydroformylation of Olefins by a Rhodium Singleâ€‘Atom Catalyst with Activity Comparable to RhCl(PPh ₃) ₃ . <i>Angewandte Chemie</i> , 2016, 128, 16288-16292.	2.0	67
47	High-Efficiency Water Gas Shift Reaction Catalysis on Î±-MoC Promoted by Single-Atom Ir Species. <i>ACS Catalysis</i> , 2021, 11, 5942-5950.	11.2	65
48	A Hydrothermally Stable Irreducible Oxideâ€‘Modified Pd/MgAl ₂ O ₄ Catalyst for Methane Combustion. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 18522-18526.	13.8	64
49	A highly active Rh ₁ /CeO ₂ single-atom catalyst for low-temperature CO oxidation. <i>Chemical Communications</i> , 2020, 56, 4870-4873.	4.1	62
50	Photo-thermo semi-hydrogenation of acetylene on Pd ₁ /TiO ₂ single-atom catalyst. <i>Nature Communications</i> , 2022, 13, 2648.	12.8	61
51	Identification of Active Sites on High-Performance Pt/Al ₂ O ₃ Catalyst for Cryogenic CO Oxidation. <i>ACS Catalysis</i> , 2020, 10, 8815-8824.	11.2	54
52	Highly effective ferric hydroxide supported gold catalyst for selective oxidation of CO in the presence of H ₂ . This work was financially supported by The National Natural Science Foundation of China (No. 20173068).. <i>Chemical Communications</i> , 2003, , 2192.	4.1	53
53	Title is missing!. <i>Angewandte Chemie</i> , 2003, 115, 3379-3382.	2.0	50
54	Highlights of the major progress in single-atom catalysis in 2015 and 2016. <i>Chinese Journal of Catalysis</i> , 2017, 38, 1498-1507.	14.0	49

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55	Ferric hydroxide supported gold subnano clusters or quantum dots: enhanced catalytic performance in chemoselective hydrogenation. Dalton Transactions, 2008, , 2542.	3.3	48
56	Superior activity of Rh1/ZnO single-atom catalyst for CO oxidation. Chinese Journal of Catalysis, 2019, 40, 1847-1853.	14.0	47
57	Catalytic co-oxidation of CO and H ₂ over FeO _x -supported Pd catalyst at low temperatures. Journal of Catalysis, 2012, 294, 29-36.	6.2	46
58	Strong Metal-Support Interactions between Pt Single Atoms and TiO ₂ . Angewandte Chemie, 2020, 132, 11922-11927.	2.0	46
59	Greatly enhanced fluorescence of dicyanamide anion based ionic liquids confined into mesoporous silica gel. Chemical Physics Letters, 2008, 461, 229-234.	2.6	44
60	Highly Active and Carbon-Resistant Nickel Single-Atom Catalysts for Methane Dry Reforming. Catalysts, 2020, 10, 630.	3.5	42
61	More active Ir subnanometer clusters than single-atoms for catalytic oxidation of CO at low temperature. AIChE Journal, 2017, 63, 4003-4012.	3.6	41
62	Atomic-Scale Pd on 2D Titania Sheets for Selective Oxidation of Methane to Methanol. ACS Catalysis, 2021, 11, 14038-14046.	11.2	41
63	Low-temperature prepared highly effective ferric hydroxide supported gold catalysts for carbon monoxide selective oxidation in the presence of hydrogen. Applied Catalysis A: General, 2008, 340, 220-228.	4.3	40
64	Highly effective CuO/Fe(OH) _x catalysts for selective oxidation of CO in H ₂ -rich stream. Applied Catalysis B: Environmental, 2011, 105, 103-110.	20.2	40
65	Hetero-epitaxially anchoring Au nanoparticles onto ZnO nanowires for CO oxidation. Chemical Communications, 2015, 51, 15332-15335.	4.1	34
66	Effective Au-Au ⁺ -Cl _x /Fe(OH) _y catalysts containing Cl ⁻ for selective CO oxidations at lower temperatures. Applied Catalysis B: Environmental, 2006, 66, 241-248.	20.2	32
67	Catalytically Active Rh Sub-Nanoclusters on TiO ₂ for CO Oxidation at Cryogenic Temperatures. Angewandte Chemie, 2016, 128, 2870-2874.	2.0	31
68	High-loading and thermally stable Pt ₁ /MgAl _{1.2} Fe _{0.8} O ₄ single-atom catalysts for high-temperature applications. Science China Materials, 2020, 63, 949-958.	6.3	31
69	A Novel Single-Atom Electrocatalyst Ti ₁ /rGO for Efficient Cathodic Reduction in Hybrid Photovoltaics. Advanced Materials, 2020, 32, e2000478.	21.0	31
70	Ultrastable Hydroxyapatite/Titanium Dioxide-Supported Gold Nanocatalyst with Strong Metal-Support Interaction for Carbon Monoxide Oxidation. Angewandte Chemie, 2016, 128, 10764-10769.	2.0	29
71	Pd single-atom catalysts derived from strong metal-support interaction for selective hydrogenation of acetylene. Nano Research, 2022, 15, 10037-10043.	10.4	28
72	The roles of hydroxyapatite and FeO _x in a Au/FeO _x hydroxyapatite catalyst for CO oxidation. Chinese Journal of Catalysis, 2013, 34, 1386-1394.	14.0	27

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73	Catalytic production of 1,4-pentanediol from furfural in a fixed-bed system under mild conditions. <i>Green Chemistry</i> , 2020, 22, 3532-3538.	9.0	27
74	La-doped Al ₂ O ₃ supported Au nanoparticles: highly active and selective catalysts for PROX under PEMFC operation conditions. <i>Chemical Communications</i> , 2014, 50, 2721-2724.	4.1	26
75	Experimental investigation and theoretical exploration of single-atom electrocatalysis in hybrid photovoltaics: The powerful role of Pt atoms in triiodide reduction. <i>Nano Energy</i> , 2017, 39, 1-8.	16.0	25
76	Reactivity of Methanol Steam Reforming on ZnPd Intermetallic Catalyst: Understanding from Microcalorimetric and FT-IR Studies. <i>Journal of Physical Chemistry C</i> , 2018, 122, 12395-12403.	3.1	25
77	Enhanced stability of Pt/Al ₂ O ₃ modified by Zn promoter for catalytic dehydrogenation of ethane. <i>Journal of Energy Chemistry</i> , 2020, 51, 14-20.	12.9	25
78	Highly active and sintering-resistant heteroepitaxy of Au nanoparticles on ZnO nanowires for CO oxidation. <i>Journal of Energy Chemistry</i> , 2016, 25, 361-370.	12.9	24
79	Pd ₁ /CeO ₂ single-atom catalyst for alkoxycarbonylation of aryl iodides. <i>Science China Materials</i> , 2020, 63, 959-964.	6.3	24
80	Highly Active Small Palladium Clusters Supported on Ferric Hydroxide for Carbon Monoxide-tolerant Hydrogen Oxidation. <i>ChemCatChem</i> , 2014, 6, 547-554.	3.7	23
81	Highlights of Major Progress on Single-Atom Catalysis in 2017. <i>Catalysts</i> , 2019, 9, 135.	3.5	23
82	Hydrogenated TiO ₂ supported Ru for selective methanation of CO in practical conditions. <i>Applied Catalysis B: Environmental</i> , 2021, 298, 120597.	20.2	19
83	Maximizing the Number of Interfacial Sites in Single-Atom Catalysts for the Highly Selective, Solvent-free Oxidation of Primary Alcohols. <i>Angewandte Chemie</i> , 2018, 130, 7921-7925.	2.0	18
84	Blocking the non-selective sites through surface plasmon-induced deposition of metal oxide on Au/TiO ₂ for CO-PROX reaction. <i>Chem Catalysis</i> , 2021, 1, 456-466.	6.1	17
85	Exerting the structural advantages of Ir-in-CeO ₂ and Ir-on-CeO ₂ to widen the operating temperature window for preferential CO oxidation. <i>Chemical Engineering Journal</i> , 2011, 168, 822-826.	12.7	16
86	Size-dependency of Gold Nanoparticles on TiO ₂ for CO Oxidation. <i>Small Methods</i> , 2018, 2, 1800273.	8.6	16
87	Oxidative Strong Metal-Support Interactions. <i>Catalysts</i> , 2021, 11, 896.	3.5	16
88	Nanodisperse gold catalysts in oxidation of benzyl alcohol: comparison of various supports under different conditions. <i>Reaction Kinetics, Mechanisms and Catalysis</i> , 2019, 128, 71-95.	1.7	15
89	A novel Au&Pd/Fe(OH) _x catalyst for CO+H ₂ co-oxidations at low temperatures. <i>Journal of Catalysis</i> , 2011, 279, 361-365.	6.2	14
90	A Hydrothermally Stable Irreducible Oxide-Modified Pd/MgAl ₂ O ₄ Catalyst for Methane Combustion. <i>Angewandte Chemie</i> , 2020, 132, 18680-18684.	2.0	14

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91	High Performance of Single-Atom Catalyst Pd ₁ /MgO for Semi-Hydrogenation of Acetylene to Ethylene in Excess Ethylene. <i>ChemNanoMat</i> , 2021, 7, 526-529.	2.8	14
92	Synergic effect between gold and vanadate substituted hydroxyapatite support for synthesis of methyl methacrylate by one-step oxidative esterification. <i>Chemical Engineering Journal</i> , 2022, 431, 133207.	12.7	13
93	Enhancement effect of strong metal-support interaction (SMSI) on the catalytic activity of substituted-hydroxyapatite supported Au clusters. <i>Journal of Catalysis</i> , 2022, 410, 194-205.	6.2	13
94	Catalysis by Supported Single Metal Atoms. <i>Microscopy and Microanalysis</i> , 2016, 22, 860-861.	0.4	12
95	Controlling CO ₂ Hydrogenation Selectivity by Metal-Supported Electron Transfer. <i>Angewandte Chemie</i> , 2020, 132, 20158-20164.	2.0	8
96	Styrene Hydroformylation with In Situ Hydrogen: Regioselectivity Control by Coupling with the Low-Temperature Water-Gas Shift Reaction. <i>Angewandte Chemie</i> , 2020, 132, 7500-7504.	2.0	7
97	Highly active and stable Ir nanoclusters derived from Ir ₁ /MgAl ₂ O ₄ single-atom catalysts. <i>Journal of Chemical Physics</i> , 2021, 154, 131105.	3.0	5
98	Methane oxidation to methanol over copper-containing zeolite. <i>Chem</i> , 2021, 7, 2270-2272.	11.7	4
99	Highly coke-resistant Ni-La ₂ O ₂ CO ₃ catalyst with low Ni loading for dry reforming of methane with carbon dioxide. <i>Catalysis Today</i> , 2022, 402, 189-201.	4.4	4
100	Synthesis of Anchored Bimetallic Catalysts via Epitaxy. <i>Catalysts</i> , 2016, 6, 88.	3.5	3
101	Aberration-corrected STEM Study of Atomically Dispersed Pt/FeO _x Catalyst with High Loading of Pt. <i>Microscopy and Microanalysis</i> , 2015, 21, 1733-1734.	0.4	2
102	Atom-by-atom fabrication of metal clusters for efficient selective hydrogenation. <i>Science China Chemistry</i> , 2022, 65, 202-203.	8.2	2
103	Selective Hydrogenation of Nitroarenes by Single-Atom Pt Catalyst Through Hydrogen Transfer Reaction. <i>Topics in Catalysis</i> , 2022, 65, 1604-1608.	2.8	2
104	Hydroformylation of Olefins by a Rhodium Single-Atom Catalyst with Activity Comparable to RhCl(PPH ₃) ₃ (Angew. Chem. 52/2016). <i>Angewandte Chemie</i> , 2016, 128, 16412-16412.	2.0	1
105	The catalytic activity of alkali metal alkoxides and titanium alkoxides in the hydrosilylation of unfunctionalized olefins. <i>Phosphorus, Sulfur and Silicon and the Related Elements</i> , 2019, 194, 83-86.	1.6	1
106	Titanium-catalyzed hydrosilylation of olefins: A comparison study on Cp ₂ TiCl ₂ /Sm and Cp ₂ TiCl ₂ /LiAlH ₄ catalyst system. <i>Phosphorus, Sulfur and Silicon and the Related Elements</i> , 2019, 194, 64-68.	1.6	1
107	Alternatives to Phosgene and Carbon Monoxide: Synthesis of Symmetric Urea Derivatives with Carbon Dioxide in Ionic Liquids. <i>ChemInform</i> , 2003, 34, no.	0.0	0
108	Catalytically Active Rh Nanoclusters on TiO ₂ for CO Oxidation at Cryogenic Temperatures (Angew. Chem. 8/2016). <i>Angewandte Chemie</i> , 2016, 128, 2998-2998.	2.0	0

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109	H-D exchange and cis-to-trans isomerization over atomically dispersed Pd1/Cu2O and Pd1/Cu3N. Chem Catalysis, 2021, 1, 1362-1365.	6.1	0