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List of Publications by Year
in descending order

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124 papers	10,325 citations	31902 53 h-index	33814 99 g-index
133 all docs	133 docs citations	133 times ranked	9056 citing authors

#	Article	IF	Citations
1	Dynamic multinuclear sites formed by mobilized copper ions in NO _x selective catalytic reduction. Science, 2017, 357, 898-903.	6.0	667
2	Catalysis in a Cage: Condition-Dependent Speciation and Dynamics of Exchanged Cu Cations in SSZ-13 Zeolites. Journal of the American Chemical Society, 2016, 138, 6028-6048.	6.6	588
3	Low-temperature carbon monoxide oxidation catalysed by regenerable atomically dispersed palladium on alumina. Nature Communications, 2014, 5, 4885.	5.8	498
4	Structure and Reactivity of PdOx/ZrO2Catalysts for Methane Oxidation at Low Temperatures. Journal of Catalysis, 1998, 179, 431-442.	3.1	455
5	Size and Support Effects for the Waterâ€“Gas Shift Catalysis over Gold Nanoparticles Supported on Model Al₂O₃ and TiO₂. Journal of the American Chemical Society, 2012, 134, 4700-4708.	6.6	380
6	Surface Science Approach to Modeling Supported Catalysts. Catalysis Reviews - Science and Engineering, 1997, 39, 77-168.	5.7	374
7	Isolation of the Copper Redox Steps in the Standard Selective Catalytic Reduction on Cuâ€SSZâ€13. Angewandte Chemie - International Edition, 2014, 53, 11828-11833.	7.2	305
8	Identification of the active Cu site in standard selective catalytic reduction with ammonia on Cu-SSZ-13. Journal of Catalysis, 2014, 312, 87-97.	3.1	286
9	Density Functional Theory Comparison of Water Dissociation Steps on Cu, Au, Ni, Pd, and Pt. Journal of Physical Chemistry C, 2009, 113, 7269-7276.	1.5	257
10	Reactive metalâ€“support interactions at moderate temperature in two-dimensional niobium-carbide-supported platinum catalysts. Nature Catalysis, 2018, 1, 349-355.	16.1	244
11	Titration and quantification of open and closed Lewis acid sites in Sn-Beta zeolites that catalyze glucose isomerization. Journal of Catalysis, 2016, 335, 141-154.	3.1	223
12	Sustainable fuel for the transportation sector. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 4828-4833.	3.3	200
13	Metallic Corner Atoms in Gold Clusters Supported on Rutile Are the Dominant Active Site during Waterâ˜Gas Shift Catalysis. Journal of the American Chemical Society, 2010, 132, 14018-14020.	6.6	170
14	Zinc Promotion of Platinum for Catalytic Light Alkane Dehydrogenation: Insights into Geometric and Electronic Effects. ACS Catalysis, 2017, 7, 4173-4181.	5.5	168
15	Reactions of neopentane, methylcyclohexane, and 3,3-dimethylpentane on tungsten carbides: The effect of surface oxygen on reaction pathways. Journal of Catalysis, 1991, 130, 86-105.	3.1	163
16	NO oxidation: A probe reaction on Cu-SSZ-13. Journal of Catalysis, 2014, 312, 179-190.	3.1	155
17	Bifunctional reactions of alkanes on tungsten carbides modified by chemisorbed oxygen. Journal of Catalysis, 1991, 131, 523-544.	3.1	149
18	In situ XPS study of Pd(111) oxidation at elevated pressure, Part 2: Palladium oxidation in the 10â˜1mbar range. Surface Science, 2006, 600, 2980-2989.	0.8	146

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19	Synthesis, characterization, and catalytic properties of clean and oxygen-modified tungsten carbides. Catalysis Today, 1992, 15, 307-337.	2.2	130
20	NO2 inhibits the catalytic reaction of NO and O2 over Pt. Catalysis Letters, 2005, 100, 267-270.	1.4	126
21	Reproducibility of Turnover Rates in Heterogeneous Metal Catalysis: Compilation of Data and Guidelines for Data Analysis. Catalysis Reviews - Science and Engineering, 1997, 39, 49-76.	5.7	125
22	Genesis and Evolution of Surface Species during Pt Atomic Layer Deposition on Oxide Supports Characterized by in Situ XAFS Analysis and Waterâ^'Gas Shift Reaction. Journal of Physical Chemistry C, 2010, 114, 9758-9771.	1.5	124
23	Changes in Catalytic and Adsorptive Properties of 2 nm Pt₃Mn Nanoparticles by Subsurface Atoms. Journal of the American Chemical Society, 2018, 140, 14870-14877.	6.6	121
24	Pdâ€"In intermetallic alloy nanoparticles: highly selective ethane dehydrogenation catalysts. Catalysis Science and Technology, 2016, 6, 6965-6976.	2.1	119
25	Structure and reactivity of Ptâ€"In intermetallic alloy nanoparticles: Highly selective catalysts for ethane dehydrogenation. Catalysis Today, 2018, 299, 146-153.	2.2	119
26	Low absorption vitreous carbon reactors for operandoXAS: a case study on Cu/Zeolites for selective catalytic reduction of NO_xby NH₃. Physical Chemistry Chemical Physics, 2012, 14, 2229-2238.	1.3	116
27	Reproducible preparation of Au/TS-1 with high reaction rate for gas phase epoxidation of propylene. Journal of Catalysis, 2012, 287, 178-189.	3.1	116
28	DFT comparison of intrinsic WGS kinetics over Pd and Pt. Journal of Catalysis, 2014, 320, 106-117.	3.1	106
29	Methods for NH3 titration of BrÃ¸nsted acid sites in Cu-zeolites that catalyze the selective catalytic reduction of NOx with NH3. Journal of Catalysis, 2014, 312, 26-36.	3.1	103
30	Metallic Pt as active sites for the waterâ€"gas shift reaction on alkali-promoted supported catalysts. Journal of Catalysis, 2012, 286, 279-286.	3.1	97
31	Determination of the Au active site and surface active species via operando transmission FTIR and isotopic transient experiments on 2.3wt.% Au/TiO2 for the WGS reaction. Journal of Catalysis, 2012, 289, 171-178.	3.1	97
32	High-pressure fast-pyrolysis, fast-hydropyrolysis and catalytic hydrodeoxygenation of cellulose: production of liquid fuel from biomass. Green Chemistry, 2014, 16, 792.	4.6	96
33	The Turnover Rate for the Catalytic Combustion of Methane over Palladium Is Not Sensitive to the Structure of the Catalyst. Journal of the American Chemical Society, 2004, 126, 9896-9897.	6.6	94
34	Effect of Zn addition on the waterâ€"gas shift reaction over supported palladium catalysts. Journal of Catalysis, 2008, 257, 43-54.	3.1	92
35	Enhanced reaction rate for gas-phase epoxidation of propylene using H2 and O2 by Cs promotion of Au/TS-1. Journal of Catalysis, 2013, 308, 98-113.	3.1	92
36	The Dynamic Nature of BrÃ¸nsted Acid Sites in Cuâ€"Zeolites During NOx Selective Catalytic Reduction: Quantification by Gas-Phase Ammonia Titration. Topics in Catalysis, 2015, 58, 424-434.	1.3	91

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37	Probing the gold active sites in Au/TS-1 for gas-phase epoxidation of propylene in the presence of hydrogen and oxygen. Journal of Catalysis, 2012, 296, 31-42.	3.1	88
38	Oxygen removal from intact biomass to produce liquid fuel range hydrocarbons via fast-hydropyrolysis and vapor-phase catalytic hydrodeoxygenation. Green Chemistry, 2015, 17, 178-183.	4.6	83
39	Consequences of exchange-site heterogeneity and dynamics on the UV-visible spectrum of Cu-exchanged SSZ-13. Chemical Science, 2019, 10, 2373-2384.	3.7	80
40	Temperature Dependence of the Kinetics for the Complete Oxidation of Methane on Palladium and Palladium Oxideâ€. Journal of Physical Chemistry B, 2005, 109, 2331-2337.	1.2	78
41	Estimation of Liquid Fuel Yields from Biomass. Environmental Science & Technology, 2010, 44, 5298-5305.	4.6	77
42	Determination of CO, H2O and H2 coverage by XANES and EXAFS on Pt and Au during water gas shift reaction. Physical Chemistry Chemical Physics, 2010, 12, 5678.	1.3	75
43	Gas-phase epoxidation of propylene in the presence of H2 and O2 over small gold ensembles in uncalcined TS-1. Journal of Catalysis, 2014, 313, 104-112.	3.1	74
44	Bimetallic RhRe/C catalysts for the production of biomass-derived chemicals. Journal of Catalysis, 2013, 308, 226-236.	3.1	69
45	Waterâ€“gas shift catalysis over transition metals supported on molybdenum carbide. Journal of Catalysis, 2015, 331, 162-171.	3.1	68
46	The Effect of Potassium and Tin on the Hydrogenation of Ethylene and Dehydrogenation of Cyclohexane over Pt(111). Journal of Catalysis, 1998, 178, 66-75.	3.1	64
47	Interaction of O2 with Pd single crystals in the range 1â€“150Torr: Oxygen dissolution and reaction. Surface Science, 2006, 600, 2752-2761.	0.8	64
48	Turnover Rate, Reaction Order, and Elementary Steps for the Hydrodechlorination of Chlorofluorocarbon Compounds on Palladium Catalystsâ€. Journal of Physical Chemistry B, 2000, 104, 3067-3077.	1.2	63
49	Synthesis of Na-Stabilized Nonporous t-ZrO₂ Supports and Pt/t-ZrO₂ Catalysts and Application to Water-Gas-Shift Reaction. ACS Catalysis, 2013, 3, 61-73.	5.5	63
50	Aqueous Phase Glycerol Reforming by PtMo Bimetallic Nano-Particle Catalyst: Product Selectivity and Structural Characterization. Topics in Catalysis, 2012, 55, 53-69.	1.3	62
51	Propylene oxide inhibits propylene epoxidation over Au/TS-1. Journal of Catalysis, 2018, 365, 105-114.	3.1	62
52	High-pressure vapor-phase hydrodeoxygenation of lignin-derived oxygenates to hydrocarbons by a PtMo bimetallic catalyst: Product selectivity, reaction pathway, and structural characterization. Journal of Catalysis, 2016, 344, 535-552.	3.1	58
53	Synthesis of supported bimetallic nanoparticles with controlled size and composition distributions for active site elucidation. Journal of Catalysis, 2015, 328, 75-90.	3.1	57
54	The Nature of the Isolated Gallium Active Center for Propane Dehydrogenation on Ga/SiO2. Catalysis Letters, 2017, 147, 1252-1262.	1.4	54

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55	Structural and kinetic changes to small-pore Cu-zeolites after hydrothermal aging treatments and selective catalytic reduction of NO_x with ammonia. Reaction Chemistry and Engineering, 2017, 2, 168-179.	1.9	54
56	Differences in Catalytic Sites for CO Oxidation and Propylene Epoxidation on Au Nanoparticles. ACS Catalysis, 2011, 1, 1327-1330.	5.5	52
57	Spectroscopic and kinetic responses of Cu-SSZ-13 to SO2 exposure and implications for NOx selective catalytic reduction. Applied Catalysis A: General, 2019, 574, 122-131.	2.2	48
58	Interaction of O2 with Pd single crystals in the range 1â€“150Torr: Surface morphology transformations. Surface Science, 2006, 600, 2730-2744.	0.8	46
59	Valorization of Shale Gas Condensate to Liquid Hydrocarbons through Catalytic Dehydrogenation and Oligomerization. Processes, 2018, 6, 139.	1.3	46
60	Kinetic studies of the stability of Pt for NO oxidation: Effect of sulfur and long-term aging. Journal of Catalysis, 2011, 282, 13-24.	3.1	45
61	Effects of dioxygen pressure on rates of NOx selective catalytic reduction with NH3 on Cu-CHA zeolites. Journal of Catalysis, 2020, 389, 140-149.	3.1	44
62	Oxidation of NO with O₂ on Pt(111) and Pt(321) Large Single Crystals. Langmuir, 2010, 26, 16578-16588.	1.6	43
63	Palladium Nanoparticle Formation on TiO₂(110) by Thermal Decomposition of Palladium(II) Hexafluoroacetylacetonate. ACS Applied Materials & Interfaces, 2014, 6, 14702-14711.	4.0	42
64	On-Line Mass Spectrometric Methods for the Determination of the Primary Products of Fast Pyrolysis of Carbohydrates and for Their Gas-Phase Manipulation. Analytical Chemistry, 2013, 85, 10927-10934.	3.2	41
65	Fundamental principles of laboratory fixed bed reactor design. Current Opinion in Chemical Engineering, 2016, 13, 1-9.	3.8	41
66	Counting Au catalytic sites for the waterâ€“gas shift reaction. Journal of Catalysis, 2012, 293, 94-102.	3.1	40
67	Trimethylaluminum and Oxygen Atomic Layer Deposition on Hydroxyl-Free Cu(111). ACS Applied Materials & Interfaces, 2015, 7, 16428-16439.	4.0	39
68	Structural and catalytic differences in the effect of Co and Mo as promoters for Pt-based aqueous phase reforming catalysts. Applied Catalysis B: Environmental, 2014, 156-157, 236-248.	10.8	38
69	Effect of Co Loading on the Activity and Selectivity of PtCo Aqueous Phase Reforming Catalysts. ACS Catalysis, 2014, 4, 480-491.	5.5	38
70	Fast Pyrolysis of ¹³C-Labeled Cellobioses: Gaining Insights into the Mechanisms of Fast Pyrolysis of Carbohydrates. Journal of Organic Chemistry, 2015, 80, 1909-1914.	1.7	37
71	PtMo Bimetallic Catalysts Synthesized by Controlled Surface Reactions for Water Gas Shift. ACS Catalysis, 2016, 6, 1334-1344.	5.5	37
72	Predictive morphology, stoichiometry and structure of surface species in supported Ru nanoparticles under H₂ and CO atmospheres from combined experimental and DFT studies. Physical Chemistry Chemical Physics, 2016, 18, 1969-1979.	1.3	36

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73	Kinetics of Palladium Oxidation in the mbar Pressure Range: Ambient Pressure XPS Study. Topics in Catalysis, 2013, 56, 885-895.	1.3	35
74	Catalytic combustion of methane on palladium single crystals. Catalysis Today, 2006, 117, 506-513.	2.2	34
75	Tailorable Au Nanoparticles Embedded in Epitaxial TiO₂ Thin Films for Tunable Optical Properties. ACS Applied Materials & Interfaces, 2018, 10, 32895-32902.	4.0	34
76	Tungsten carbides modified by chemisorbed oxygen. A new class of bifunctional catalysts. Catalysis Today, 1992, 15, 455-458.	2.2	33
77	Aqueous Phase Glycerol Reforming with Pt and PtMo Bimetallic Nanoparticle Catalysts: The Role of the Mo Promoter. Topics in Catalysis, 2013, 56, 1814-1828.	1.3	32
78	Investigation of Reaction Steps for the Hydrodechlorination of Chlorine-Containing Organic Compounds on Pd Catalysts. Journal of Catalysis, 2002, 211, 192-197.	3.1	30
79	â€˜Fastâ€™ NOx storage on Pt/BaO/Î³-Al2O3 Lean NOx Traps with NO2+O2 and NO+O2: Effects of Pt, Ba loading. Catalysis Today, 2010, 151, 291-303.	2.2	29
80	Understanding the Chemistry of H₂ Production for 1-Propanol Reforming: Pathway and Support Modification Effects. ACS Catalysis, 2012, 2, 2316-2326.	5.5	29
81	Kinetic and Theoretical Study of the Hydrodechlorination of CH_{4â^'x}Cl_x (x = 1â^'4) Compounds on Palladium. Langmuir, 2010, 26, 16615-16624.	1.6	28
82	Strong metal-support interaction (SMSI) of Pt/CeO2 and its effect on propane dehydrogenation. Catalysis Today, 2021, 371, 4-10.	2.2	28
83	A Discovery of Strong Metalâ€“Support Bonding in Nanoengineered Auâ€“Fe₃O₄ Dumbbell-like Nanoparticles by in Situ Transmission Electron Microscopy. Nano Letters, 2017, 17, 4576-4582.	4.5	27
84	Coverage of palladium by silicon oxide during reduction in H2 and complete oxidation of methane. Journal of Catalysis, 2004, 225, 170-178.	3.1	26
85	Effect of molybdenum addition on supported platinum catalysts for the waterâ€“gas shift reaction. Applied Catalysis B: Environmental, 2012, 125, 206-214.	10.8	26
86	Simultaneous Measurement of X-ray Absorption Spectra and Kinetics: A Fixed-bed, Plug-flow Operando Reactor. Catalysis Letters, 2009, 131, 1-6.	1.4	25
87	Operando Xâ€ray Absorption Spectroscopy Studies of Sintering for Supported Copper Catalysts during Liquidâ€phase Reaction. ChemCatChem, 2014, 6, 2493-2496.	1.8	24
88	Isotopic transient studies of sodium promotion of Pt/Al2O3 for the waterâ€“gas shift reaction. Journal of Catalysis, 2016, 339, 163-172.	3.1	24
89	Combining Kinetics and Operando Spectroscopy to Interrogate the Mechanism and Active Site Requirements of NO_x Selective Catalytic Reduction with NH₃ on Cu-Zeolites. Journal of Physical Chemistry Letters, 2020, 11, 5029-5036.	2.1	24
90	Modeling of NO oxidation and NOx storage on Pt/BaO/Al2O3 NOx traps. Catalysis Today, 2008, 136, 93-103.	2.2	23

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91	Probing the active sites for waterâ€“gas shift over Pt/molybdenum carbide using multi-walled carbon nanotubes. Journal of Catalysis, 2015, 330, 442-451.	3.1	22
92	A transmission infrared cell design for temperature-controlled adsorption and reactivity studies on heterogeneous catalysts. Review of Scientific Instruments, 2016, 87, 103101.	0.6	20
93	Water activation and carbon monoxide coverage effects on maximum rates for low temperature water-gas shift catalysis. Journal of Catalysis, 2017, 347, 197-204.	3.1	19
94	Participation of interfacial hydroxyl groups in the water-gas shift reaction over Au/MgO catalysts. Catalysis Science and Technology, 2017, 7, 5257-5266.	2.1	19
95	High Thermal Stability of La₂O₃- and CeO₂-Stabilized Tetragonal ZrO₂. Inorganic Chemistry, 2016, 55, 2413-2420.	1.9	18
96	Ensemble size reduction by rhenium-sulfur as a method to lower the rate of deactivation of hydrocarbon reactions over Pt catalysts. Catalysis Letters, 1994, 27, 1-10.	1.4	15
97	Synergy in the hybrid thermochemicalâ€“biological processes for liquid fuel production. Computers and Chemical Engineering, 2009, 33, 2012-2017.	2.0	15
98	Increased methanation activity through passivation of the silica support. Journal of Catalysis, 2015, 324, 9-13.	3.1	15
99	Consequences of product inhibition in the quantification of kinetic parameters. Journal of Catalysis, 2020, 389, 468-475.	3.1	15
100	Surface Chemistry of Trimethylaluminum on Pd(111) and Pt(111). Journal of Physical Chemistry C, 2015, 119, 19059-19072.	1.5	14
101	Kinetics of gas phase formic acid decomposition on platinum single crystal and polycrystalline surfaces. Surface Science, 2016, 648, 220-226.	0.8	14
102	Effects of Support on Sulfur Tolerance and Regeneration of Pt Catalysts Measured by Ethylene Hydrogenation and EXAFS. Catalysis Letters, 2013, 143, 1098-1107.	1.4	12
103	Initial Products and Reaction Mechanisms for Fast Pyrolysis of Synthetic Gâ€Lignin Oligomers with Î²â€Oâ€4 Linkages via Onâ€Line Mass Spectrometry and Quantum Chemical Calculations. ChemistrySelect, 2017, 2, 7185-7193.	0.7	12
104	Exploring the Reaction Mechanisms of Fast Pyrolysis of Xylan Model Compounds via Tandem Mass Spectrometry and Quantum Chemical Calculations. Journal of Physical Chemistry A, 2019, 123, 9149-9157.	1.1	12
105	Turnover Rate Enhancement of Reforming Reactions on Polycrystalline Ptâ€“Ir Foils. Journal of Catalysis, 1996, 160, 269-278.	3.1	11
106	Monitoring of molybdenum H-ZSM5 catalyst preparation by in situ ultraviolet Raman spectroscopy. Catalysis Letters, 2001, 73, 187-191.	1.4	10
107	Formation and removal of Ba-carbonates or carboxylates on Pt/BaO/Î³-Al2O3 lean NOx traps. Applied Catalysis B: Environmental, 2011, 107, 26-33.	10.8	10
108	Mass Spectrometric Studies of Fast Pyrolysis of Cellulose. European Journal of Mass Spectrometry, 2015, 21, 321-326.	0.5	10

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109	Characterization and theory of Re films on Pt(111) grown by UHV-CVD. Surface Science, 2015, 640, 2-9.	0.8	8
110	Toward Improved Safety Culture in Academic and Industrial Chemical Laboratories: An Assessment and Recommendation of Best Practices. Journal of Chemical Health and Safety, 2022, 29, 202-213.	1.1	8
111	Using a Hands-On Hydrogen Peroxide Decomposition Activity To Teach Catalysis Concepts to Kâ€“12 Students. Journal of Chemical Education, 2016, 93, 1406-1410.	1.1	7
112	Effects of Ethene Pressure on the Deactivation of Niâ€Zeolites During Ethene Oligomerization at Subâ€ambient Temperatures. ChemCatChem, 2022, 14, .	1.8	6
113	Water-gas shift reaction over supported Au nanoparticles. Journal of Catalysis, 2022, 405, 475-488.	3.1	6
114	Promoting a Safe Laboratory Environment Using the Reactive Hazard Evaluation and Analysis Compilation Tool. Journal of Chemical Health and Safety, 2021, 28, 134-143.	1.1	5
115	Hydrodesulfurization of tetrahydrothiophene over evaporated Mo, Co and Moâ€“Co model catalysts. Catalysis Letters, 1999, 63, 21-26.	1.4	4
116	Demonstrating Concepts in Catalysis, Renewable Energy, and Chemical Safety with the Catalytic Oxidation of Hydrogen. Journal of Chemical Education, 2021, 98, 2036-2041.	1.1	4
117	Fast Determination of the Lignin Monomer Compositions of Genetic Variants of Poplar via Fast Pyrolysis/Atmospheric Pressure Chemical Ionization Mass Spectrometry. Journal of the American Society for Mass Spectrometry, 2021, 32, 2546-2551.	1.2	4
118	Effect of cobalt addition on platinum supported on multi-walled carbon nanotubes for water-gas shift. Journal of Catalysis, 2020, 391, 25-34.	3.1	3
119	Theoretical Study of the Stability of Carbene Intermediates Formed During the Hydrodechlorination Reaction of the CF x Cl4â^'x Family on the Pd(110) Surface. Catalysis Letters, 2009, 133, 243-255.	1.4	2
120	Plasma Cleaning Applications for Surface Science and Model Catalyst Samples. Microscopy and Microanalysis, 2009, 15, 816-817.	0.2	2
121	RÃ¼cktitelbild: Stabilization of Copper Catalysts for Liquid-Phase Reactions by Atomic Layer Deposition (Angew. Chem. 51/2013). Angewandte Chemie, 2013, 125, 14068-14068.	1.6	1
122	Gas mixing system for imaging of nanomaterials under dynamic environments by environmental transmission electron microscopy. Review of Scientific Instruments, 2014, 85, 033704.	0.6	1
123	Operando X-ray Absorption Spectroscopy Studies of Sintering for Supported Copper Catalysts during Liquid-phase Reaction. ChemCatChem, 2014, 6, 2437-2437.	1.8	0
124	Dynamic Investigation of Metal-support Interactions in Heterodimer Nanoparticles by in situ Transmission Electron Microscopy. Microscopy and Microanalysis, 2017, 23, 1858-1859.	0.2	0