Maria Flytzani-Stephanopoulos

List of Publications by Year
in descending order

87 papers	17,308 citations	19657 61 h-index	49909 87 g-index
91 all docs	91 docs citations	91 times ranked	12606 citing authors

#	Article	IF	Citations
1	Active Nonmetallic Au and Pt Species on Ceria-Based Water-Gas Shift Catalysts. Science, 2003, 301, 935-938.	12.6	2,716
2	Low-temperature water-gas shift reaction over Cu- and Ni-loaded cerium oxide catalysts. Applied Catalysis B: Environmental, 2000, 27, 179-191.	20.2	741
3	Shape and Crystalâ€Plane Effects of Nanoscale Ceria on the Activity of Auâ€CeO₂ Catalysts for the Waterâ€“Gas Shift Reaction. Angewandte Chemie - International Edition, 2008, 47, 2884-2887.	13.8	687
4	Alkali-Stabilized Pt-OH <i> _x </i> Species Catalyze Low-Temperature Water-Gas Shift Reactions. Science, 2010, 329, 1633-1636.	12.6	639
5	Single-Atom Alloy Catalysis. Chemical Reviews, 2020, 120, 12044-12088.	47.7	553
6	Mild oxidation of methane to methanol or acetic acid on supported isolated rhodium catalysts. Nature, 2017, 551, 605-608.	27.8	550
7	Catalytically active Au-O(OH) <i> _x </i> - species stabilized by alkali ions on zeolites and mesoporous oxides. Science, 2014, 346, 1498-1501.	12.6	544
8	Nanostructured Auâ€“CeO2 Catalysts for Low-Temperature Waterâ€“Gas Shift. Catalysis Letters, 2001, 77, 87-95.	2.6	529
9	Atomically Dispersed Supported Metal Catalysts. Annual Review of Chemical and Biomolecular Engineering, 2012, 3, 545-574.	6.8	486
10	Selective hydrogenation of 1,3-butadiene on platinumâ€“copper alloys at the single-atom limit. Nature Communications, 2015, 6, 8550.	12.8	484
11	Pt/Cu single-atom alloys as coke-resistant catalysts for efficient Câ€“H activation. Nature Chemistry, 2018, 10, 325-332.	13.6	472
12	Activity and stability of low-content goldâ€“cerium oxide catalysts for the waterâ€“gas shift reaction. Applied Catalysis B: Environmental, 2005, 56, 57-68.	20.2	389
13	Tackling CO Poisoning with Single-Atom Alloy Catalysts. Journal of the American Chemical Society, 2016, 138, 6396-6399.	13.7	374
14	Raman Analysis of Mode Softening in Nanoparticle CeO_{2âˆ'Î´} and Au-CeO_{2âˆ'Î´} during CO Oxidation. Journal of the American Chemical Society, 2011, 133, 12952-12955.	13.7	357
15	Atomically Dispersed Auâ€“(OH)_{<i>x</i>} Species Bound on Titania Catalyze the Low-Temperature Water-Gas Shift Reaction. Journal of the American Chemical Society, 2013, 135, 3768-3771.	13.7	348
16	A Common Single-Site Pt(II)â€“O(OH)_{<i>x</i>}â€“ Species Stabilized by Sodium on â€œActiveâ€•and â€œInertâ€•Supports Catalyzes the Water-Gas Shift Reaction. Journal of the American Chemical Society, 2015, 137, 3470-3473.	13.7	347
17	Gold Atoms Stabilized on Various Supports Catalyze the Waterâ€“Gas Shift Reaction. Accounts of Chemical Research, 2014, 47, 783-792.	15.6	319
18	Single-Atom Alloys as a Reductionist Approach to the Rational Design of Heterogeneous Catalysts. Accounts of Chemical Research, 2019, 52, 237-247.	15.6	291

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19	A stable low-temperature H2-production catalyst by crowding Pt on Î±-MoC. Nature, 2021, 589, 396-401.	27.8	290
20	Goldâ€“ceria catalysts for low-temperature water-gas shift reaction. Chemical Engineering Journal, 2003, 93, 41-53.	12.7	283
21	Regenerative Adsorption and Removal of H2S from Hot Fuel Gas Streams by Rare Earth Oxides. Science, 2006, 312, 1508-1510.	12.6	232
22	Stable iridium dinuclear heterogeneous catalysts supported on metal-oxide substrate for solar water oxidation. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 2902-2907.	7.1	229
23	Surpassing the single-atom catalytic activity limit through paired Pt-O-Pt ensemble built from isolated Pt1 atoms. Nature Communications, 2019, 10, 3808.	12.8	225
24	Low-content gold-ceria catalysts for the waterâ€“gas shift and preferential CO oxidation reactions. Applied Catalysis A: General, 2005, 291, 126-135.	4.3	223
25	Atomically dispersed supported metal catalysts: perspectives and suggestions for future research. Catalysis Science and Technology, 2017, 7, 4259-4275.	4.1	221
26	First-principles design of a single-atomâ€“alloy propane dehydrogenation catalyst. Science, 2021, 372, 1444-1447.	12.6	185
27	Structure sensitivity of the low-temperature water-gas shift reaction on Cuâ€“CeO2 catalysts. Catalysis Today, 2012, 180, 68-80.	4.4	183
28	On the Issue of the Deactivation of Auâ€“Ceria and Ptâ€“Ceria Waterâ€“Gas Shift Catalysts in Practical Fuel-Cell Applications. Angewandte Chemie - International Edition, 2006, 45, 2285-2289.	13.8	172
29	Comparison of the activity of Au/CeO2 and Au/Fe2O3 catalysts for the CO oxidation and the water-gas shift reactions. Topics in Catalysis, 2007, 44, 199-208.	2.8	165
30	Activity and Stability of Cuâˆ'CeO2 Catalysts in High-Temperature Waterâˆ'Gas Shift for Fuel-Cell Applications. Industrial & Engineering Chemistry Research, 2004, 43, 3055-3062.	3.7	144
31	Selective Formic Acid Dehydrogenation on Pt-Cu Single-Atom Alloys. ACS Catalysis, 2017, 7, 413-420.	11.2	143
32	NiCu single atom alloys catalyze the C H bond activation in the selective non- oxidative ethanol dehydrogenation reaction. Applied Catalysis B: Environmental, 2018, 226, 534-543.	20.2	140
33	Active gold species on cerium oxide nanoshapes for methanol steam reforming and the water gas shift reactions. Energy and Environmental Science, 2010, 3, 831.	30.8	138
34	Reaction-Relevant Gold Structures in the Low Temperature Water-Gas Shift Reaction on Au-CeO₂. Journal of Physical Chemistry C, 2008, 112, 12834-12840.	3.1	135
35	Selective non-oxidative dehydrogenation of ethanol to acetaldehyde and hydrogen on highly dilute NiCu alloys. Applied Catalysis B: Environmental, 2017, 205, 541-550.	20.2	124
36	Probing the Low-Temperature Waterâ€“Gas Shift Activity of Alkali-Promoted Platinum Catalysts Stabilized on Carbon Supports. Journal of the American Chemical Society, 2014, 136, 3238-3245.	13.7	120

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37	Steam reforming of methanol over ceria and gold-ceria nanoshapes. Applied Catalysis B: Environmental, 2010, 95, 87-92.	20.2	117
38	Cuâ˘'Crâ˘'O and Cuâ˘'Ceâ˘'O Regenerable Oxide Sorbents for Hot Gas Desulfurization. Industrial & Engineering Chemistry Research, 1997, 36, 187-196.	3.7	112
39	â€˜Shape effectsâ€™ in metal oxide supported nanoscale gold catalysts. Physical Chemistry Chemical Physics, 2011, 13, 2517.	2.8	112
40	Atomically dispersed Pt (II) on WO3 for highly selective sensing and catalytic oxidation of triethylamine. Applied Catalysis B: Environmental, 2019, 256, 117809.	20.2	103
41	Sulfidation of zinc titanate and zinc oxide solids. Industrial & Engineering Chemistry Research, 1992, 31, 1890-1899.	3.7	101
42	The Importance of Strongly Bound Ptâ€"CeO x Species for the Water-gas Shift Reaction: Catalyst Activity and Stability Evaluation. Topics in Catalysis, 2007, 46, 363-373.	2.8	101
43	Palladiumâ€"gold single atom alloy catalysts for liquid phase selective hydrogenation of 1-hexyne. Catalysis Science and Technology, 2017, 7, 4276-4284.	4.1	100
44	Redox chemistry over CeO2-based catalysts: SO2 reduction by CO or CH4. Catalysis Today, 1999, 50, 381-397.	4.4	97
45	The Role of the Interface in CO Oxidation on Au/CeO₂ Multilayer Nanotowers. Advanced Functional Materials, 2008, 18, 2801-2807.	14.9	91
46	Low-Temperature Dehydrogenation of Ethanol on Atomically Dispersed Gold Supported on ZnZrO_{<i>x</i>}. ACS Catalysis, 2016, 6, 210-218.	11.2	89
47	Hydrogen Production by Dehydrogenation of Formic Acid on Atomically Dispersed Gold on Ceria. ChemSusChem, 2013, 6, 816-819.	6.8	85
48	Reduction and Sulfidation Kinetics of Cerium Oxide and Cu-Modified Cerium Oxide. Industrial & Engineering Chemistry Research, 2002, 41, 3115-3123.	3.7	83
49	Single-atom gold oxo-clusters prepared in alkaline solutions catalyse the heterogeneous methanol self-coupling reactions. Nature Chemistry, 2019, 11, 1098-1105.	13.6	82
50	Directing reaction pathways via in situ control of active site geometries in PdAu single-atom alloy catalysts. Nature Communications, 2021, 12, 1549.	12.8	82
51	High-loading single Pt atom sites [Pt-O(OH) <i> _x </i>] catalyze the CO PROX reaction with high activity and selectivity at mild conditions. Science Advances, 2020, 6, eaba3809.	10.3	78
52	Scanning Tunneling Microscopy and Theoretical Study of Water Adsorption on Fe₃O₄: Implications for Catalysis. Journal of the American Chemical Society, 2012, 134, 18979-18985.	13.7	76
53	Charging and Chemical Reactivity of Gold Nanoparticles and Adatoms on the (111) Surface of Single-Crystal Magnetite: A Scanning Tunneling Microscopy/Spectroscopy Study. Journal of Physical Chemistry C, 2009, 113, 10198-10205.	3.1	75
54	Water co-catalyzed selective dehydrogenation of methanol to formaldehyde and hydrogen. Surface Science, 2016, 650, 121-129.	1.9	75

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55	NiAu Single Atom Alloys for the Non-oxidative Dehydrogenation of Ethanol to Acetaldehyde and Hydrogen. Topics in Catalysis, 2018, 61, 475-486.	2.8	75
56	Evolution of gold structure during thermal treatment of Au/FeOx catalysts revealed by aberration-corrected electron microscopy. Journal of Electron Microscopy, 2009, 58, 199-212.	0.9	70
57	End-On Bound Iridium Dinuclear Heterogeneous Catalysts on WO₃ for Solar Water Oxidation. ACS Central Science, 2018, 4, 1166-1172.	11.3	69
58	Novel Au/La2O3 and Au/La2O2SO4 catalysts for the waterâ€“gas shift reaction prepared via an anion adsorption method. Chemical Communications, 2012, 48, 4857.	4.1	63
59	Integrated Catalysis-Surface Science-Theory Approach to Understand Selectivity in the Hydrogenation of 1-Hexyne to 1-Hexene on PdAu Single-Atom Alloy Catalysts. ACS Catalysis, 2019, 9, 8757-8765.	11.2	63
60	Single gold atoms stabilized on nanoscale metal oxide supports are catalytic active centers for various reactions. AIChE Journal, 2016, 62, 429-439.	3.6	62
61	Activation of carbon-supported platinum catalysts by sodium for the low-temperature water-gas shift reaction. Applied Catalysis B: Environmental, 2014, 144, 243-251.	20.2	56
62	Cerium Oxide-Based Sorbents for Regenerative Hot Reformate Gas Desulfurization. Energy & Fuels, 2005, 19, 2089-2097.	5.1	53
63	Design of single-atom metal catalysts on various supports for the low-temperature water-gas shift reaction. Catalysis Today, 2017, 298, 216-225.	4.4	53
64	ZnO-modified zirconia as gold catalyst support for the low-temperature methanol steam reforming reaction. Applied Catalysis B: Environmental, 2014, 154-155, 142-152.	20.2	51
65	Dilute Pd/Au Alloy Nanoparticles Embedded in Colloid-Templated Porous SiO₂: Stable Au-Based Oxidation Catalysts. Chemistry of Materials, 2019, 31, 5759-5768.	6.7	50
66	Hydrogen Production from Methanol over Gold Supported on ZnO and CeO₂ Nanoshapes. Journal of Physical Chemistry C, 2011, 115, 1261-1268.	3.1	47
67	Supported metal catalysts at the single-atom limit â€“ A viewpoint. Chinese Journal of Catalysis, 2017, 38, 1432-1442.	14.0	47
68	Nanostructured Cerium Oxide â€œEcocatalystsâ€. MRS Bulletin, 2001, 26, 885-889.	3.5	46
69	Silica-encapsulated platinum catalysts for the low-temperature water-gas shift reaction. Applied Catalysis B: Environmental, 2012, 127, 342-350.	20.2	38
70	Low-Coordinated Pd Catalysts Supported on Zn1Zr1Ox Composite Oxides for Selective Methanol Steam Reforming. Applied Catalysis A: General, 2019, 580, 81-92.	4.3	31
71	Decoration with ceria nanoparticles activates inert gold island/film surfaces for the CO oxidation reaction. Journal of Catalysis, 2011, 280, 255-263.	6.2	30
72	Atomically Dispersed Pd Supported on Zinc Oxide for Selective Nonoxidative Ethanol Dehydrogenation. Industrial & Engineering Chemistry Research, 2020, 59, 2648-2656.	3.7	29

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73	Mechanistic and Electronic Insights into a Working NiAu Single-Atom Alloy Ethanol Dehydrogenation Catalyst. Journal of the American Chemical Society, 2021, 143, 21567-21579.	13.7	28
74	Behavior of Au Species in Au/Fe₂O₃ Catalysts Characterized by Novel <i>In Situ</i> Heating Techniques and Aberration-Corrected STEM Imaging. Microscopy and Microanalysis, 2010, 16, 375-385.	0.4	20
75	Developing single-site Pt catalysts for the preferential oxidation of CO: A surface science and first principles-guided approach. Applied Catalysis B: Environmental, 2021, 284, 119716.	20.2	19
76	Sulfur-tolerant lanthanide oxysulfide catalysts for the high-temperature waterâ€“gas shift reaction. Applied Catalysis B: Environmental, 2011, 106, 255-255.	20.2	18
77	Stability of lanthanum oxide-based H2S sorbents in realistic fuel processor/fuel cell operation. Journal of Power Sources, 2010, 195, 2815-2822.	7.8	17
78	PdCu Single Atom Alloys for the Selective Oxidation of Methanol to Methyl Formate at Low Temperatures. Topics in Catalysis, 2020, 63, 618-627.	2.8	16
79	CO Oxidation on Unsupported Dendrimer-Encapsulated Gold Nanoparticles. Journal of Physical Chemistry C, 2010, 114, 16401-16407.	3.1	14
80	Reactions of Deuterated Methanol (CD₃OD) on Fe₃O₄(111). Journal of Physical Chemistry C, 2015, 119, 1113-1120.	3.1	12
81	Decomposition of NO over Metal-Modified Cu-ZSM-5 Catalysts. ACS Symposium Series, 1995, , 133-146.	0.5	6
82	Gold/Ceria. , 2015, , 133-158.		2
83	Catalytic Recovery of Elemental Sulfur from Sulfur Dioxide-Laden Gas Streams. ACS Symposium Series, 2000, , 174-191.	0.5	1
84	Sample Preparation and Analysis of Aggregated â€˜Single Atom Alloyâ€™ Nanoparticles by Atom Probe Tomography. Microscopy and Microanalysis, 2017, 23, 1906-1907.	0.4	1
85	Transition Metal-Promoted Oxygen Ion Conductors as Oxidation Catalyst. Materials Research Society Symposia Proceedings, 1994, 344, 145.	0.1	0
86	Atomically Dispersed Precious Metal Species on Various Oxide Supports for Catalytic Hydrogen Upgrading and Emission Control. Microscopy and Microanalysis, 2016, 22, 858-859.	0.4	0
87	Chemical-Phase Equilibrium of COâ€“CO₂â€“H₂â€“CH₃OHâ€“DMEâ€“H₂O Mixtures in Câ€“Hâ€“O Atom-Mol Fraction Space Using Gibbs Free Energy Minimization. Industrial & Engineering Chemistry Research, 2022, 61, 6551-6561.	3.7	0