

Maria Flytzani-Stephanopoulos

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

89
papers

13,670
citations

54
h-index

91
g-index

91
ext. papers

15,356
ext. citations

13.3
avg, IF

6.93
L-index

#	Paper	IF	Citations
89	Active nonmetallic Au and Pt species on ceria-based water-gas shift catalysts. <i>Science</i> , 2003 , 301, 935-8	33.3	2416
88	Low-temperature water-gas shift reaction over Cu- and Ni-loaded cerium oxide catalysts. <i>Applied Catalysis B: Environmental</i> , 2000 , 27, 179-191	21.8	645
87	Shape and crystal-plane effects of nanoscale ceria on the activity of Au-CeO ₂ catalysts for the water-gas shift reaction. <i>Angewandte Chemie - International Edition</i> , 2008 , 47, 2884-7	16.4	615
86	Alkali-stabilized Pt-OH _x species catalyze low-temperature water-gas shift reactions. <i>Science</i> , 2010 , 329, 1633-6	33.3	535
85	Nanostructured Au/CeO ₂ Catalysts for Low-Temperature Water-Gas Shift. <i>Catalysis Letters</i> , 2001 , 77, 87-95	2.8	461
84	Catalytically active Au-O(OH) _x -species stabilized by alkali ions on zeolites and mesoporous oxides. <i>Science</i> , 2014 , 346, 1498-501	33.3	437
83	Atomically dispersed supported metal catalysts. <i>Annual Review of Chemical and Biomolecular Engineering</i> , 2012 , 3, 545-74	8.9	431
82	Selective hydrogenation of 1,3-butadiene on platinum-copper alloys at the single-atom limit. <i>Nature Communications</i> , 2015 , 6, 8550	17.4	369
81	Mild oxidation of methane to methanol or acetic acid on supported isolated rhodium catalysts. <i>Nature</i> , 2017 , 551, 605-608	50.4	363
80	Activity and stability of low-content gold/cerium oxide catalysts for the water-gas shift reaction. <i>Applied Catalysis B: Environmental</i> , 2005 , 56, 57-68	21.8	352
79	Pt/Cu single-atom alloys as coke-resistant catalysts for efficient C-H activation. <i>Nature Chemistry</i> , 2018 , 10, 325-332	17.6	308
78	Raman analysis of mode softening in nanoparticle CeO(2- δ) and Au-CeO(2- δ) during CO oxidation. <i>Journal of the American Chemical Society</i> , 2011 , 133, 12952-5	16.4	294
77	Atomically dispersed Au-(OH) _x species bound on titania catalyze the low-temperature water-gas shift reaction. <i>Journal of the American Chemical Society</i> , 2013 , 135, 3768-71	16.4	293
76	A common single-site Pt(II)-O(OH) _x - species stabilized by sodium on "active" and "inert" supports catalyzes the water-gas shift reaction. <i>Journal of the American Chemical Society</i> , 2015 , 137, 3470-3	16.4	280
75	Tackling CO Poisoning with Single-Atom Alloy Catalysts. <i>Journal of the American Chemical Society</i> , 2016 , 138, 6396-9	16.4	272
74	Gold atoms stabilized on various supports catalyze the water-gas shift reaction. <i>Accounts of Chemical Research</i> , 2014 , 47, 783-92	24.3	268
73	Gold/ceria catalysts for low-temperature water-gas shift reaction. <i>Chemical Engineering Journal</i> , 2003 , 93, 41-53	14.7	253

72	Single-Atom Alloy Catalysis. <i>Chemical Reviews</i> , 2020 , 120, 12044-12088	68.1	227
71	Regenerative adsorption and removal of H ₂ S from hot fuel gas streams by rare earth oxides. <i>Science</i> , 2006 , 312, 1508-10	33.3	209
70	Low-content gold-ceria catalysts for the water-gas shift and preferential CO oxidation reactions. <i>Applied Catalysis A: General</i> , 2005 , 291, 126-135	5.1	197
69	Single-Atom Alloys as a Reductionist Approach to the Rational Design of Heterogeneous Catalysts. <i>Accounts of Chemical Research</i> , 2019 , 52, 237-247	24.3	192
68	Atomically dispersed supported metal catalysts: perspectives and suggestions for future research. <i>Catalysis Science and Technology</i> , 2017 , 7, 4259-4275	5.5	175
67	On the issue of the deactivation of Au-ceria and Pt-ceria water-gas shift catalysts in practical fuel-cell applications. <i>Angewandte Chemie - International Edition</i> , 2006 , 45, 2285-9	16.4	163
66	Shape and Crystal-Plane Effects of Nanoscale Ceria on the Activity of Au-CeO ₂ Catalysts for the Water-Gas Shift Reaction. <i>Angewandte Chemie</i> , 2008 , 120, 2926-2929	3.6	161
65	Stable iridium dinuclear heterogeneous catalysts supported on metal-oxide substrate for solar water oxidation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 2902-2907	11.5	156
64	Structure sensitivity of the low-temperature water-gas shift reaction on Cu-CeO ₂ catalysts. <i>Catalysis Today</i> , 2012 , 180, 68-80	5.3	154
63	Comparison of the activity of Au/CeO ₂ and Au/Fe ₂ O ₃ catalysts for the CO oxidation and the water-gas shift reactions. <i>Topics in Catalysis</i> , 2007 , 44, 199-208	2.3	150
62	Activity and Stability of Cu-CeO ₂ Catalysts in High-Temperature Water-Gas Shift for Fuel-Cell Applications. <i>Industrial & Engineering Chemistry Research</i> , 2004 , 43, 3055-3062	3.9	132
61	Active gold species on cerium oxide nanoshapes for methanol steam reforming and the water gas shift reactions. <i>Energy and Environmental Science</i> , 2010 , 3, 831	35.4	129
60	Reaction-Relevant Gold Structures in the Low Temperature Water-Gas Shift Reaction on Au-CeO ₂ . <i>Journal of Physical Chemistry C</i> , 2008 , 112, 12834-12840	3.8	122
59	Surpassing the single-atom catalytic activity limit through paired Pt-O-Pt ensemble built from isolated Pt atoms. <i>Nature Communications</i> , 2019 , 10, 3808	17.4	120
58	Steam reforming of methanol over ceria and gold-ceria nanoshapes. <i>Applied Catalysis B: Environmental</i> , 2010 , 95, 87-92	21.8	110
57	A stable low-temperature H ₂ -production catalyst by crowding Pt on PtMoC. <i>Nature</i> , 2021 , 589, 396-401	50.4	109
56	Selective Formic Acid Dehydrogenation on Pt-Cu Single-Atom Alloys. <i>ACS Catalysis</i> , 2017 , 7, 413-420	13.1	108
55	'Shape effects' in metal oxide supported nanoscale gold catalysts. <i>Physical Chemistry Chemical Physics</i> , 2011 , 13, 2517-27	3.6	106

54	Cu ₂ O and CuO Regenerable Oxide Sorbents for Hot Gas Desulfurization. <i>Industrial & Engineering Chemistry Research</i> , 1997 , 36, 187-196	3.9	104
53	Probing the low-temperature water-gas shift activity of alkali-promoted platinum catalysts stabilized on carbon supports. <i>Journal of the American Chemical Society</i> , 2014 , 136, 3238-45	16.4	95
52	Selective non-oxidative dehydrogenation of ethanol to acetaldehyde and hydrogen on highly dilute NiCu alloys. <i>Applied Catalysis B: Environmental</i> , 2017 , 205, 541-550	21.8	91
51	Sulfidation of zinc titanate and zinc oxide solids. <i>Industrial & Engineering Chemistry Research</i> , 1992 , 31, 1890-1899	3.9	90
50	The Importance of Strongly Bound PtO _x Species for the Water-gas Shift Reaction: Catalyst Activity and Stability Evaluation. <i>Topics in Catalysis</i> , 2007 , 46, 363-373	2.3	88
49	Redox chemistry over CeO ₂ -based catalysts: SO ₂ reduction by CO or CH ₄ . <i>Catalysis Today</i> , 1999 , 50, 381-397	3.9	85
48	NiCu single atom alloys catalyze the C-H bond activation in the selective non-oxidative ethanol dehydrogenation reaction. <i>Applied Catalysis B: Environmental</i> , 2018 , 226, 534-543	21.8	83
47	The Role of the Interface in CO Oxidation on Au/CeO ₂ Multilayer Nanotowers. <i>Advanced Functional Materials</i> , 2008 , 18, 2801-2807	15.6	83
46	Palladium-gold single atom alloy catalysts for liquid phase selective hydrogenation of 1-hexyne. <i>Catalysis Science and Technology</i> , 2017 , 7, 4276-4284	5.5	77
45	Reduction and Sulfidation Kinetics of Cerium Oxide and Cu-Modified Cerium Oxide. <i>Industrial & Engineering Chemistry Research</i> , 2002 , 41, 3115-3123	3.9	77
44	Hydrogen production by dehydrogenation of formic acid on atomically dispersed gold on ceria. <i>ChemSusChem</i> , 2013 , 6, 816-9	8.3	73
43	Charging and Chemical Reactivity of Gold Nanoparticles and Adatoms on the (111) Surface of Single-Crystal Magnetite: A Scanning Tunneling Microscopy/Spectroscopy Study. <i>Journal of Physical Chemistry C</i> , 2009 , 113, 10198-10205	3.8	72
42	Low-Temperature Dehydrogenation of Ethanol on Atomically Dispersed Gold Supported on ZnZrO _x . <i>ACS Catalysis</i> , 2016 , 6, 210-218	13.1	68
41	Scanning tunneling microscopy and theoretical study of water adsorption on Fe ₃ O ₄ : implications for catalysis. <i>Journal of the American Chemical Society</i> , 2012 , 134, 18979-85	16.4	66
40	Evolution of gold structure during thermal treatment of Au/FeO _x catalysts revealed by aberration-corrected electron microscopy. <i>Journal of Electron Microscopy</i> , 2009 , 58, 199-212		62
39	First-principles design of a single-atom alloy propane dehydrogenation catalyst. <i>Science</i> , 2021 , 372, 1444-1447	3.5	62
38	Water co-catalyzed selective dehydrogenation of methanol to formaldehyde and hydrogen. <i>Surface Science</i> , 2016 , 650, 121-129	1.8	60
37	Novel Au/La ₂ O ₃ and Au/La ₂ O ₂ SO ₄ catalysts for the water-gas shift reaction prepared via an anion adsorption method. <i>Chemical Communications</i> , 2012 , 48, 4857-9	5.8	59

36	Single gold atoms stabilized on nanoscale metal oxide supports are catalytic active centers for various reactions. <i>AIChE Journal</i> , 2016 , 62, 429-439	3.6	58
35	End-On Bound Iridium Dinuclear Heterogeneous Catalysts on WO for Solar Water Oxidation. <i>ACS Central Science</i> , 2018 , 4, 1166-1172	16.8	54
34	NiAu Single Atom Alloys for the Non-oxidative Dehydrogenation of Ethanol to Acetaldehyde and Hydrogen. <i>Topics in Catalysis</i> , 2018 , 61, 475-486	2.3	50
33	Activation of carbon-supported platinum catalysts by sodium for the low-temperature water-gas shift reaction. <i>Applied Catalysis B: Environmental</i> , 2014 , 144, 243-251	21.8	50
32	Cerium Oxide-Based Sorbents for Regenerative Hot Reformate Gas Desulfurization. <i>Energy & Fuels</i> , 2005 , 19, 2089-2097	4.1	50
31	Atomically dispersed Pt (II) on WO ₃ for highly selective sensing and catalytic oxidation of triethylamine. <i>Applied Catalysis B: Environmental</i> , 2019 , 256, 117809	21.8	49
30	Design of single-atom metal catalysts on various supports for the low-temperature water-gas shift reaction. <i>Catalysis Today</i> , 2017 , 298, 216-225	5.3	44
29	Single-atom gold oxo-clusters prepared in alkaline solutions catalyse the heterogeneous methanol self-coupling reactions. <i>Nature Chemistry</i> , 2019 , 11, 1098-1105	17.6	44
28	ZnO-modified zirconia as gold catalyst support for the low-temperature methanol steam reforming reaction. <i>Applied Catalysis B: Environmental</i> , 2014 , 154-155, 142-152	21.8	42
27	Hydrogen Production from Methanol over Gold Supported on ZnO and CeO ₂ Nanoshapes. <i>Journal of Physical Chemistry C</i> , 2011 , 115, 1261-1268	3.8	42
26	On the Issue of the Deactivation of Au ₁ and Pt ₁ Water-Gas Shift Catalysts in Practical Fuel-Cell Applications. <i>Angewandte Chemie</i> , 2006 , 118, 2343-2347	3.6	41
25	Nanostructured Cerium Oxide Heterocatalysts. <i>MRS Bulletin</i> , 2001 , 26, 885-889	3.2	41
24	Silica-encapsulated platinum catalysts for the low-temperature water-gas shift reaction. <i>Applied Catalysis B: Environmental</i> , 2012 , 127, 342-350	21.8	37
23	High-loading single Pt atom sites [Pt-O(OH)] catalyze the CO PROX reaction with high activity and selectivity at mild conditions. <i>Science Advances</i> , 2020 , 6, eaba3809	14.3	35
22	Integrated Catalysis-Surface Science-Theory Approach to Understand Selectivity in the Hydrogenation of 1-Hexyne to 1-Hexene on PdAu Single-Atom Alloy Catalysts. <i>ACS Catalysis</i> , 2019 , 9, 8757-8765	13.1	34
21	Dilute Pd/Au Alloy Nanoparticles Embedded in Colloid-Templated Porous SiO ₂ : Stable Au-Based Oxidation Catalysts. <i>Chemistry of Materials</i> , 2019 , 31, 5759-5768	9.6	34
20	Alkali-Metal-Promoted Pt/TiO ₂ Opens a More Efficient Pathway to Formaldehyde Oxidation at Ambient Temperatures. <i>Angewandte Chemie</i> , 2012 , 124, 9766-9770	3.6	34
19	Supported metal catalysts at the single-atom limit – A viewpoint. <i>Chinese Journal of Catalysis</i> , 2017 , 38, 1432-1442	11.3	32

18	Directing reaction pathways via in situ control of active site geometries in PdAu single-atom alloy catalysts. <i>Nature Communications</i> , 2021 , 12, 1549	17.4	32
17	Decoration with ceria nanoparticles activates inert gold island/film surfaces for the CO oxidation reaction. <i>Journal of Catalysis</i> , 2011 , 280, 255-263	7.3	29
16	Atomically Dispersed Pd Supported on Zinc Oxide for Selective Nonoxidative Ethanol Dehydrogenation. <i>Industrial & Engineering Chemistry Research</i> , 2020 , 59, 2648-2656	3.9	19
15	Low-Coordinated Pd Catalysts Supported on Zn ₁ Zr ₁ O _x Composite Oxides for Selective Methanol Steam Reforming. <i>Applied Catalysis A: General</i> , 2019 , 580, 81-92	5.1	17
14	Behavior of Au species in Au/Fe ₂ O ₃ catalysts characterized by novel in situ heating techniques and aberration-corrected STEM imaging. <i>Microscopy and Microanalysis</i> , 2010 , 16, 375-85	0.5	17
13	Stability of lanthanum oxide-based H ₂ S sorbents in realistic fuel processor/fuel cell operation. <i>Journal of Power Sources</i> , 2010 , 195, 2815-2822	8.9	15
12	Sulfur-tolerant lanthanide oxysulfide catalysts for the high-temperature water-gas shift reaction. <i>Applied Catalysis B: Environmental</i> , 2011 , 106, 255-255	21.8	14
11	CO Oxidation on Unsupported Dendrimer-Encapsulated Gold Nanoparticles. <i>Journal of Physical Chemistry C</i> , 2010 , 114, 16401-16407	3.8	13
10	Reactions of Deuterated Methanol (CD ₃ OD) on Fe ₃ O ₄ (111). <i>Journal of Physical Chemistry C</i> , 2015 , 119, 1113-1120	3.8	11
9	Decomposition of NO over Metal-Modified Cu-ZSM-5 Catalysts. <i>ACS Symposium Series</i> , 1995 , 133-146	0.4	6
8	Developing single-site Pt catalysts for the preferential oxidation of CO: A surface science and first principles-guided approach. <i>Applied Catalysis B: Environmental</i> , 2021 , 284, 119716	21.8	6
7	Mechanistic and Electronic Insights into a Working NiAu Single-Atom Alloy Ethanol Dehydrogenation Catalyst. <i>Journal of the American Chemical Society</i> , 2021 , 143, 21567-21579	16.4	5
6	PdCu Single Atom Alloys for the Selective Oxidation of Methanol to Methyl Formate at Low Temperatures. <i>Topics in Catalysis</i> , 2020 , 63, 618-627	2.3	3
5	Gold/Ceria: The Making of a Robust Catalyst for Fuel Processing and Hydrogen Production 2015 , 133-158		2
4	Sample Preparation and Analysis of Aggregated Single Atom Alloy Nanoparticles by Atom Probe Tomography. <i>Microscopy and Microanalysis</i> , 2017 , 23, 1906-1907	0.5	1
3	Catalytic Recovery of Elemental Sulfur from Sulfur Dioxide-Laden Gas Streams. <i>ACS Symposium Series</i> , 2000 , 174-191	0.4	1
2	Transition Metal-Promoted Oxygen Ion Conductors as Oxidation Catalyst. <i>Materials Research Society Symposia Proceedings</i> , 1994 , 344, 145		
1	Atomically Dispersed Precious Metal Species on Various Oxide Supports for Catalytic Hydrogen Upgrading and Emission Control. <i>Microscopy and Microanalysis</i> , 2016 , 22, 858-859	0.5	

