

# Maria Flytzani-Stephanopoulos

## List of Publications by Year in descending order

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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	Chemical-Phase Equilibrium of CO <sub>2</sub> -H <sub>2</sub> -CH <sub>3</sub> OH-DME-H <sub>2</sub> O Mixtures in Ca-H <sub>2</sub> O Atom-Mol Fraction Space Using Gibbs Free Energy Minimization. Industrial & Engineering Chemistry Research, 2022, 61, 6551-6561.	3.7	0
2	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
3	A stable low-temperature H <sub>2</sub> -production catalyst by crowding Pt on Î±-MoC. Nature, 2021, 589, 396-401.	27.8	290
4	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
5	First-principles design of a single-atom alloy propane dehydrogenation catalyst. Science, 2021, 372, 1444-1447.	12.6	185
6	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
7	Atomically Dispersed Pd Supported on Zinc Oxide for Selective Nonoxidative Ethanol Dehydrogenation. Industrial & Engineering Chemistry Research, 2020, 59, 2648-2656.	3.7	29
8	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
9	High-loading single Pt atom sites [Pt-O(OH) <sub>x</sub> ] catalyze the CO PROX reaction with high activity and selectivity at mild conditions. Science Advances, 2020, 6, eaba3809.	10.3	78
10	Single-Atom Alloy Catalysis. Chemical Reviews, 2020, 120, 12044-12088.	47.7	553
11	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
12	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
13	Dilute Pd/Au Alloy Nanoparticles Embedded in Colloid-Templated Porous SiO <sub>2</sub> : Stable Au-Based Oxidation Catalysts. Chemistry of Materials, 2019, 31, 5759-5768.	6.7	50
14	Atomically dispersed Pt (II) on WO <sub>3</sub> for highly selective sensing and catalytic oxidation of triethylamine. Applied Catalysis B: Environmental, 2019, 256, 117809.	20.2	103
15	Low-Coordinated Pd Catalysts Supported on Zn <sub>1</sub> Zr <sub>1</sub> O <sub>x</sub> Composite Oxides for Selective Methanol Steam Reforming. Applied Catalysis A: General, 2019, 580, 81-92.	4.3	31
16	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
17	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
18	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

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19	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.	20.2	140
20	Pt/Cu single-atom alloys as coke-resistant catalysts for efficient C-H activation. <i>Nature Chemistry</i> , 2018, 10, 325-332.	13.6	472
21	NiAu Single Atom Alloys for the Non-oxidative Dehydrogenation of Ethanol to Acetaldehyde and Hydrogen. <i>Topics in Catalysis</i> , 2018, 61, 475-486.	2.8	75
22	End-On Bound Iridium Dinuclear Heterogeneous Catalysts on WO <sub>3</sub> for Solar Water Oxidation. <i>ACS Central Science</i> , 2018, 4, 1166-1172.	11.3	69
23	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.	20.2	124
24	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.	4.4	53
25	Selective Formic Acid Dehydrogenation on Pt-Cu Single-Atom Alloys. <i>ACS Catalysis</i> , 2017, 7, 413-420.	11.2	143
26	Palladium-gold single atom alloy catalysts for liquid phase selective hydrogenation of 1-hexyne. <i>Catalysis Science and Technology</i> , 2017, 7, 4276-4284.	4.1	100
27	Atomically dispersed supported metal catalysts: perspectives and suggestions for future research. <i>Catalysis Science and Technology</i> , 2017, 7, 4259-4275.	4.1	221
28	Supported metal catalysts at the single-atom limit – A viewpoint. <i>Chinese Journal of Catalysis</i> , 2017, 38, 1432-1442.	14.0	47
29	Mild oxidation of methane to methanol or acetic acid on supported isolated rhodium catalysts. <i>Nature</i> , 2017, 551, 605-608.	27.8	550
30	Sample Preparation and Analysis of Aggregated Single Atom Alloy Nanoparticles by Atom Probe Tomography. <i>Microscopy and Microanalysis</i> , 2017, 23, 1906-1907.	0.4	1
31	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.	0.4	0
32	Tackling CO Poisoning with Single-Atom Alloy Catalysts. <i>Journal of the American Chemical Society</i> , 2016, 138, 6396-6399.	13.7	374
33	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	62
34	Water co-catalyzed selective dehydrogenation of methanol to formaldehyde and hydrogen. <i>Surface Science</i> , 2016, 650, 121-129.	1.9	75
35	Low-Temperature Dehydrogenation of Ethanol on Atomically Dispersed Gold Supported on ZnZrO <sub>3</sub> . <i>ACS Catalysis</i> , 2016, 6, 210-218.	11.2	89
36	Reactions of Deuterated Methanol (CD <sub>3</sub> OD) on Fe <sub>3</sub> O <sub>4</sub> (111). <i>Journal of Physical Chemistry C</i> , 2015, 119, 1113-1120.	3.1	12

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37	Gold/Ceria., 2015, , 133-158.		2
38	A Common Single-Site Pt(II) $\text{O}(\text{OH})_x$ Species Stabilized by Sodium on $\gamma$ -Al <sub>2</sub> O <sub>3</sub> Supports Catalyzes the Water-Gas Shift Reaction. Journal of the American Chemical Society, 2015, 137, 3470-3473.	13.7	347
39	Selective hydrogenation of 1,3-butadiene on platinum-copper alloys at the single-atom limit. Nature Communications, 2015, 6, 8550.	12.8	484
40	Catalytically active Au-O(OH) <sub>x</sub> - species stabilized by alkali ions on zeolites and mesoporous oxides. Science, 2014, 346, 1498-1501.	12.6	544
41	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
42	Gold Atoms Stabilized on Various Supports Catalyze the Water-Gas Shift Reaction. Accounts of Chemical Research, 2014, 47, 783-792.	15.6	319
43	Probing the Low-Temperature Water-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
44	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
45	Atomically Dispersed Au(OH) <sub>x</sub> 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
46	Hydrogen Production by Dehydrogenation of Formic Acid on Atomically Dispersed Gold on Ceria. ChemSusChem, 2013, 6, 816-819.	6.8	85
47	Scanning Tunneling Microscopy and Theoretical Study of Water Adsorption on Fe <sub>3</sub> O <sub>4</sub> : Implications for Catalysis. Journal of the American Chemical Society, 2012, 134, 18979-18985.	13.7	76
48	Silica-encapsulated platinum catalysts for the low-temperature water-gas shift reaction. Applied Catalysis B: Environmental, 2012, 127, 342-350.	20.2	38
49	Novel Au/La <sub>2</sub> O <sub>3</sub> and Au/La <sub>2</sub> O <sub>2</sub> SO <sub>4</sub> catalysts for the water-gas shift reaction prepared via an anion adsorption method. Chemical Communications, 2012, 48, 4857.	4.1	63
50	Atomically Dispersed Supported Metal Catalysts. Annual Review of Chemical and Biomolecular Engineering, 2012, 3, 545-574.	6.8	486
51	Structure sensitivity of the low-temperature water-gas shift reaction on Cu-CeO <sub>2</sub> catalysts. Catalysis Today, 2012, 180, 68-80.	4.4	183
52	Shape effects in metal oxide supported nanoscale gold catalysts. Physical Chemistry Chemical Physics, 2011, 13, 2517.	2.8	112
53	Hydrogen Production from Methanol over Gold Supported on ZnO and CeO <sub>2</sub> Nanoshapes. Journal of Physical Chemistry C, 2011, 115, 1261-1268.	3.1	47
54	Raman Analysis of Mode Softening in Nanoparticle CeO <sub>2</sub> and Au-CeO <sub>2</sub> during CO Oxidation. Journal of the American Chemical Society, 2011, 133, 12952-12955.	13.7	357

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55	Decoration with ceria nanoparticles activates inert gold island/film surfaces for the CO oxidation reaction. <i>Journal of Catalysis</i> , 2011, 280, 255-263.	6.2	30
56	Sulfur-tolerant lanthanide oxysulfide catalysts for the high-temperature water-gas shift reaction. <i>Applied Catalysis B: Environmental</i> , 2011, 106, 255-255.	20.2	18
57	Behavior of Au Species in Au/Fe <sub>2</sub> O <sub>3</sub> Catalysts Characterized by Novel <i>In Situ</i> Heating Techniques and Aberration-Corrected STEM Imaging. <i>Microscopy and Microanalysis</i> , 2010, 16, 375-385.	0.4	20
58	Stability of lanthanum oxide-based H <sub>2</sub> S sorbents in realistic fuel processor/fuel cell operation. <i>Journal of Power Sources</i> , 2010, 195, 2815-2822.	7.8	17
59	Steam reforming of methanol over ceria and gold-ceria nanoshapes. <i>Applied Catalysis B: Environmental</i> , 2010, 95, 87-92.	20.2	117
60	CO Oxidation on Unsupported Dendrimer-Encapsulated Gold Nanoparticles. <i>Journal of Physical Chemistry C</i> , 2010, 114, 16401-16407.	3.1	14
61	Alkali-Stabilized Pt-OH <sub>x</sub> Species Catalyze Low-Temperature Water-Gas Shift Reactions. <i>Science</i> , 2010, 329, 1633-1636.	12.6	639
62	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.	30.8	138
63	Evolution of gold structure during thermal treatment of Au/FeO <sub>x</sub> catalysts revealed by aberration-corrected electron microscopy. <i>Journal of Electron Microscopy</i> , 2009, 58, 199-212.	0.9	70
64	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.	3.1	75
65	Shape and Crystal-Plane Effects of Nanoscale Ceria on the Activity of Au/CeO <sub>2</sub> Catalysts for the Water-gas Shift Reaction. <i>Angewandte Chemie - International Edition</i> , 2008, 47, 2884-2887.	13.8	687
66	The Role of the Interface in CO Oxidation on Au/CeO <sub>2</sub> Multilayer Nanotowers. <i>Advanced Functional Materials</i> , 2008, 18, 2801-2807.	14.9	91
67	Reaction-Relevant Gold Structures in the Low Temperature Water-Gas Shift Reaction on Au-CeO <sub>2</sub> . <i>Journal of Physical Chemistry C</i> , 2008, 112, 12834-12840.	3.1	135
68	Comparison of the activity of Au/CeO <sub>2</sub> and Au/Fe <sub>2</sub> O <sub>3</sub> catalysts for the CO oxidation and the water-gas shift reactions. <i>Topics in Catalysis</i> , 2007, 44, 199-208.	2.8	165
69	The Importance of Strongly Bound Pt-CeO <sub>x</sub> Species for the Water-gas Shift Reaction: Catalyst Activity and Stability Evaluation. <i>Topics in Catalysis</i> , 2007, 46, 363-373.	2.8	101
70	Regenerative Adsorption and Removal of H <sub>2</sub> S from Hot Fuel Gas Streams by Rare Earth Oxides. <i>Science</i> , 2006, 312, 1508-1510.	12.6	232
71	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, 2285-2289.	13.8	172
72	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.	4.3	223

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73	Activity and stability of low-content gold-cerium oxide catalysts for the water-gas shift reaction. Applied Catalysis B: Environmental, 2005, 56, 57-68.	20.2	389
74	Cerium Oxide-Based Sorbents for Regenerative Hot Reformate Gas Desulfurization. Energy & Fuels, 2005, 19, 2089-2097.	5.1	53
75	Activity and Stability of Cu-CeO <sub>2</sub> Catalysts in High-Temperature Water-Gas Shift for Fuel-Cell Applications. Industrial & Engineering Chemistry Research, 2004, 43, 3055-3062.	3.7	144
76	Active Nonmetallic Au and Pt Species on Ceria-Based Water-Gas Shift Catalysts. Science, 2003, 301, 935-938.	12.6	2,716
77	Gold-ceria catalysts for low-temperature water-gas shift reaction. Chemical Engineering Journal, 2003, 93, 41-53.	12.7	283
78	Reduction and Sulfidation Kinetics of Cerium Oxide and Cu-Modified Cerium Oxide. Industrial & Engineering Chemistry Research, 2002, 41, 3115-3123.	3.7	83
79	Nanostructured Au-CeO <sub>2</sub> Catalysts for Low-Temperature Water-Gas Shift. Catalysis Letters, 2001, 77, 87-95.	2.6	529
80	Nanostructured Cerium Oxide Ecocatalysts. MRS Bulletin, 2001, 26, 885-889.	3.5	46
81	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
82	Catalytic Recovery of Elemental Sulfur from Sulfur Dioxide-Laden Gas Streams. ACS Symposium Series, 2000, , 174-191.	0.5	1
83	Redox chemistry over CeO <sub>2</sub> -based catalysts: SO <sub>2</sub> reduction by CO or CH <sub>4</sub> . Catalysis Today, 1999, 50, 381-397.	4.4	97
84	Cu-Cr <sub>2</sub> O <sub>3</sub> and Cu-Ce <sub>2</sub> O <sub>3</sub> Regenerable Oxide Sorbents for Hot Gas Desulfurization. Industrial & Engineering Chemistry Research, 1997, 36, 187-196.	3.7	112
85	Decomposition of NO over Metal-Modified Cu-ZSM-5 Catalysts. ACS Symposium Series, 1995, , 133-146.	0.5	6
86	Transition Metal-Promoted Oxygen Ion Conductors as Oxidation Catalyst. Materials Research Society Symposia Proceedings, 1994, 344, 145.	0.1	0
87	Sulfidation of zinc titanate and zinc oxide solids. Industrial & Engineering Chemistry Research, 1992, 31, 1890-1899.	3.7	101