Laurent Piccolo

List of Publications by Year
in descending order

90 papers	3,185 citations	109137 35 h-index	174990 52 g-index
92 all docs	92 docs citations	92 times ranked	3439 citing authors

#	Article	IF	Citations
1	Selective oxidation of CO over model gold-based catalysts in the presence of H. Journal of Catalysis, 2005, 230, 476-483.	3.1	151
2	CO chemisorption on Au(110) investigated under elevated pressures by polarized reflection absorption infrared spectroscopy and scanning tunneling microscopy. Surface Science, 2002, 521, L639-L644.	0.8	107
3	Degradation Mechanisms of Oxygen Evolution Reaction Electrocatalysts: A Combined Identical-Location Transmission Electron Microscopy and X-ray Photoelectron Spectroscopy Study. ACS Catalysis, 2019, 9, 4688-4698.	5.5	100
4	Pdâ€"Au single-crystal surfaces: Segregation properties and catalytic activity in the selective hydrogenation of 1,3-butadiene. Surface Science, 2005, 592, 169-181.	0.8	97
5	The adsorption of CO on Au(111) at elevated pressures studied by STM, RAIRS and DFT calculations. Surface Science, 2004, 566-568, 995-1000.	0.8	96
6	Dynamics of Single Pt Atoms on Alumina during CO Oxidation Monitored by <i>Operando</i> X-ray and Infrared Spectroscopies. ACS Catalysis, 2019, 9, 5752-5759.	5.5	94
7	The CO oxidation kinetics on supported Pd model catalysts: A molecular beam/in situ time-resolved infrared reflection absorption spectroscopy study. Journal of Chemical Physics, 2001, 114, 4669.	1.2	87
8	Remarkable Carbon Dioxide Hydrogenation to Ethanol on a Palladium/Iron Oxide Singleâ€Atom Catalyst. ChemCatChem, 2018, 10, 2365-2369.	1.8	82
9	On the mechanism of hydrogen-promoted gold-catalyzed CO oxidation. Journal of Catalysis, 2009, 268, 384-389.	3.1	81
10	Synergy between hydrogen and ceria in Pt-catalyzed CO oxidation: An investigation on Ptâ€"CeO2 catalysts synthesized by solution combustion. Applied Catalysis B: Environmental, 2016, 197, 2-13.	10.8	81
11	NOâ€"CO reaction kinetics on Pd/MgO model catalysts: morphology and support effects. Journal of Molecular Catalysis A, 2001, 167, 181-190.	4.8	76
12	Tuning the shape of nanoparticles to control their catalytic properties: selective hydrogenation of 1,3-butadiene on Pd/Al2O3. Physical Chemistry Chemical Physics, 2008, 10, 5504.	1.3	74
13	Trends in the CO oxidation and PROX performances of the platinum-group metals supported on ceria. Catalysis Today, 2015, 253, 106-114.	2.2	71
14	Oxygen Evolution Reaction Activity and Stability Benchmarks for Supported and Unsupported IrO_{<i>x</i>} Electrocatalysts. ACS Catalysis, 2021, 11, 4107-4116.	5.5	69
15	Atmosphere-dependent stability and mobility of catalytic Pt single atoms and clusters on Î³-Al₂O₃. Nanoscale, 2019, 11, 6897-6904.	2.8	66
16	Promotional effect of H2 on CO oxidation over Au/TiO2 studied by operando infrared spectroscopy. Applied Catalysis B: Environmental, 2009, 86, 190-195.	10.8	65
17	Insights into activation, deactivation and hydrogen-induced promotion of a Au/TiO2 reference catalyst in CO oxidation. Journal of Catalysis, 2006, 239, 307-312.	3.1	64
18	Titania-supported gold-based nanoparticles efficiently catalyze the hydrodeoxygenation of guaiacol. Journal of Catalysis, 2016, 344, 136-140.	3.1	62

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19	Thiotolerant Ir/SiO2â€“Al2O3 bifunctional catalysts: Effect of metalâ€“acid site balance on tetralin hydroconversion. Journal of Catalysis, 2011, 278, 253-265.	3.1	61
20	Influence of Pt particle size and reaction phase on the photocatalytic performances of ultradispersed Pt/TiO2 catalysts for hydrogen evolution. Journal of Catalysis, 2019, 375, 155-163.	3.1	61
21	Insight into the free-radical chain mechanism of gold-catalyzed hydrocarbon oxidation reactions in the liquid phase. Catalysis Today, 2007, 122, 284-291.	2.2	58
22	Reactivity of metal nanoclusters: nitric oxide adsorption and CO+NO reaction on Pd/MgO model catalysts. Applied Surface Science, 2000, 162-163, 670-678.	3.1	55
23	Restructuring effects of the chemical environment in metal nanocatalysis and single-atom catalysis. Catalysis Today, 2021, 373, 80-97.	2.2	53
24	Understanding and controlling the structure and segregation behaviour of AuRh nanocatalysts. Scientific Reports, 2016, 6, 35226.	1.6	49
25	Nanoalloying Effect in the Preferential Oxidation of CO over Irâ€“Pd Catalysts. ACS Catalysis, 2012, 2, 2161-2168.	5.5	46
26	H2-induced promotion of CO oxidation over unsupported gold. Catalysis Today, 2008, 138, 43-49.	2.2	44
27	Reaction between CO and a pre-adsorbed oxygen layer on supported palladium clusters. Applied Surface Science, 2000, 164, 156-162.	3.1	42
28	Auâ€“Rh and Auâ€“Pd nanocatalysts supported on rutile titania nanorods: structure and chemical stability. Physical Chemistry Chemical Physics, 2015, 17, 28112-28120.	1.3	42
29	Ultrastable iridiumâ€“ceria nanopowders synthesized in one step by solution combustion for catalytic hydrogen production. Journal of Materials Chemistry A, 2014, 2, 19822-19832.	5.2	40
30	Nanoalloying bulk-immiscible iridium and palladium inhibits hydride formation and promotes catalytic performances. Nanoscale, 2014, 6, 9955-9959.	2.8	40
31	Efficient hydrogen production from methane over iridium-doped ceria catalysts synthesized by solution combustion. Applied Catalysis B: Environmental, 2015, 166-167, 580-591.	10.8	39
32	Absorption and oxidation of hydrogen at Pd and Pdâ€“Au (111) surfaces. Surface Science, 2006, 600, 4211-4215.	0.8	38
33	Supported Irâ€“Pd nanoalloys: Sizeâ€“composition correlation and consequences on tetralin hydroconversion properties. Journal of Catalysis, 2012, 292, 173-180.	3.1	38
34	Alkene hydrogenation on metal surfaces: Why and when are Pd overlayers more efficient catalysts than bulk Pd?. Journal of Catalysis, 2009, 263, 315-320.	3.1	37
35	Low-Temperature Hydrogen Interaction with Amorphous Molybdenum Sulfides MoS_{<i>x</i>}. Journal of Physical Chemistry C, 2009, 113, 4139-4146.	1.5	37
36	<i>Operando</i> X-ray Absorption Spectroscopy Investigation of Photocatalytic Hydrogen Evolution over Ultradispersed Pt/TiO₂ Catalysts. ACS Catalysis, 2020, 10, 12696-12705.	5.5	37

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37	Molecular beam study of the adsorption and dissociation of NO on Pd clusters supported on MgO(100). Surface Science, 2000, 452, 198-206.	0.8	34
38	Thiotolerant Ir/SiO2â€“Al2O3 bifunctional catalysts: effect of support acidity on tetralin hydroconversion. Catalysis Science and Technology, 2011, 1, 408.	2.1	34
39	Reactivity of supported metal clusters: the reduction of NO by CO on a Pd/MgO(100) model catalyst. Journal of Physics Condensed Matter, 2002, 14, 4251-4269.	0.7	33
40	Pd8Ni92(110) surface structure from surface X-ray diffraction. Surface evolution under hydrogen and butadiene reactants at elevated pressure. Surface Science, 2005, 587, 229-235.	0.8	32
41	Al13Fe4 selectively catalyzes the hydrogenation of butadiene at room temperature. Chemical Communications, 2013, 49, 9149.	2.2	29
42	Operando study of iridium acetylacetonate decomposition on amorphous silicaâ€“alumina for bifunctional catalyst preparation. Physical Chemistry Chemical Physics, 2010, 12, 7812.	1.3	28
43	Pd(111) versus Pdâ€“Au(111) in carbon monoxide oxidation under elevated pressures. Catalysis Letters, 2007, 114, 110-114.	1.4	27
44	A DFT study of molecular adsorption on Auâ€“Rh nanoalloys. Catalysis Science and Technology, 2016, 6, 6916-6931.	2.1	26
45	Mechanism of Tetralin Ring Opening and Contraction over Bifunctional Ir/SiO₂â€Al₂O₃ Catalysts. ChemSusChem, 2012, 5, 1717-1723.	3.6	25
46	Sensitivity of CO oxidation toward metal oxidation state in ceria-supported catalysts: an operando DRIFTS-MS study. Catalysis Science and Technology, 2016, 6, 818-828.	2.1	25
47	Catalytic properties of Al₁₃TM₄complex intermetallics: influence of the transition metal and the surface orientation on butadiene hydrogenation. Science and Technology of Advanced Materials, 2019, 20, 557-567.	2.8	25
48	Monitoring in situ the colloidal synthesis of AuRh/TiO₂ selective-hydrogenation nanocatalysts. Journal of Materials Chemistry A, 2017, 5, 17360-17367.	5.2	24
49	Tuning Adsorption Energies and Reaction Pathways by Alloying: PdZn versus Pd for CO₂ Hydrogenation to Methanol. Journal of Physical Chemistry Letters, 2020, 11, 7672-7678.	2.1	24
50	Decalin ring opening over NiWS/SiO 2 -Al 2 O 3 catalysts in the presence of H 2 S. Applied Catalysis A: General, 2016, 512, 43-51.	2.2	23
51	Role of hydrogen absorption in supported Pd nanocatalysts during CO-PROX: Insights from operando X-ray absorption spectroscopy. Applied Catalysis B: Environmental, 2018, 237, 1059-1065.	10.8	23
52	Ultradispersed Mo/TiO₂catalysts for CO₂hydrogenation to methanol. Green Chemistry, 2021, 23, 7259-7268.	4.6	22
53	Kinetic modeling of the CO oxidation reaction on supported metal clusters. European Physical Journal D, 1999, 9, 415-419.	0.6	21
54	Surface restructuring under gas pressure from first principles: A mechanism for CO-induced removal of theAu(110)âˆ’(1Ã—2)reconstruction. Physical Review B, 2005, 71, .	1.1	21

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55	The partial hydrogenation of butadiene over Al 13 Fe 4 : A surface-science study of reaction and deactivation mechanisms. Journal of Catalysis, 2015, 332, 112-118.	3.1	20
56	Promoting effect of ceria on the performance of NiPd/CeO2â€“Al2O3catalysts for the selective hydrogenation of 1,3-butadiene in the presence of 1-butene. New Journal of Chemistry, 2018, 42, 11165-11173.	1.4	18
57	Ultradispersed (Co)Mo catalysts with high hydrodesulfurization activity. Applied Catalysis B: Environmental, 2022, 302, 120831.	10.8	18
58	A DFT study of molecular adsorption on titania-supported AuRh nanoalloys. Computational and Theoretical Chemistry, 2017, 1107, 142-151.	1.1	17
59	Discussion on â€œA comprehensive two-dimensional gas chromatography coupled with quadrupole mass spectrometry approach for identification of C10 derivatives from decalinâ€•by C. Flego, N. Gigantiello, W.O. Parker, Jr., V. Calemma [J. Chromatogr. A 1216 (2009) 2891]. Journal of Chromatography A, 2010, 1217, 5872-5873.	1.8	16
60	Surface study of the hydrogen-free or preferential oxidation of CO: Iridium vs. platinum. Catalysis Today, 2012, 189, 42-48.	2.2	16
61	Modelling free and oxide-supported nanoalloy catalysts: comparison of bulk-immiscible Pdâ€“Ir and Auâ€“Rh systems and influence of a TiO2 support. Faraday Discussions, 2018, 208, 53-66.	1.6	15
62	Supported Molybdenum Carbide and Nitride Catalysts for Carbon Dioxide Hydrogenation. Frontiers in Chemistry, 2020, 8, 452.	1.8	15
63	Size-dependent hydrogen trapping in palladium nanoparticles. Journal of Materials Chemistry A, 2021, 9, 10354-10363.	5.2	15
64	A versatile elevated-pressure reactor combined with an ultrahigh vacuum surface setup for efficient testing of model and powder catalysts under clean gas-phase conditions. Review of Scientific Instruments, 2013, 84, 094101.	0.6	13
65	Tracking the restructuring of oxidized silverâ€“indium nanoparticles under a reducing atmosphere by environmental HRTEM. Nanoscale, 2017, 9, 13563-13574.	2.8	13
66	Surface Studies of Catalysis by Metals: Nanosize and Alloying Effects. Engineering Materials, 2012, , 369-404.	0.3	12
67	Improving the catalytic performances of metal nanoparticles by combining shape control and encapsulation. Applied Catalysis A: General, 2015, 504, 504-508.	2.2	12
68	Absorbed hydrogen enhances the catalytic hydrogenation activity of Rh-based nanocatalysts. Catalysis Science and Technology, 2018, 8, 2707-2715.	2.1	12
69	Application of a sensitive catalytic reactor to the study of CO oxidation over SrTiO₃(100) and BaTiO₃/SrTiO₃(100) ferroelectric surfaces. Surface and Interface Analysis, 2014, 46, 721-725.	0.8	11
70	Effect of H2S on the mechanisms of naphthene ring opening and isomerization over Ir/NaY: A comparative study of decalin, perhydroindan and butylcyclohexane hydroconversions. Applied Catalysis A: General, 2018, 550, 274-283.	2.2	11
71	From the Surface Structure to Catalytic Properties of Al₅Co₂(21Ì…0): A Study Combining Experimental and Theoretical Approaches. Journal of Physical Chemistry C, 2020, 124, 4552-4562.	1.5	11
72	IrPd nanoalloys: simulations, from surface segregation to local electronic properties. Journal of Nanoparticle Research, 2015, 17, 1.	0.8	10

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73	Computational study of the adsorption of benzene and hydrogen onÂpalladiumâ€“iridium nanoalloys. Journal of Organometallic Chemistry, 2015, 792, 190-193.	0.8	10
74	Understanding the Mechanisms of Decalin Hydroprocessing Using Comprehensive Two-Dimensional Chromatography. Industrial & Engineering Chemistry Research, 2016, 55, 12516-12523.	1.8	10
75	Selective ring opening of decalin over bifunctional RuS2/zeolite catalysts. Catalysis Today, 2019, 323, 105-111.	2.2	10
76	Catalytic activation of a non-noble intermetallic surface through nanostructuration under hydrogenation conditions revealed by atomistic thermodynamics. Journal of Materials Chemistry A, 2020, 8, 7422-7431.	5.2	10
77	Uncovering the 3â€‰D Structure of Combustionâ€Synthesized Noble Metalâ€Ceria Nanocatalysts. ChemCatChem, 2017, 9, 4607-4613.	1.8	8
78	How the hydrogen sorption properties of palladium are modified through interaction with iridium. Physical Chemistry Chemical Physics, 2017, 19, 32451-32458.	1.3	8
79	Structural Properties of Catalytically Active Bimetallic Goldâ€“Palladium Nanoparticles Synthesized on Rutile Titania Nanorods by Pulsed Laser Deposition. Crystal Growth and Design, 2018, 18, 68-76.	1.4	8
80	Environmental Plasmonic Spectroscopy of Silverâ€“Iron Nanoparticles: Chemical Ordering under Oxidizing and Reducing Conditions. Journal of Physical Chemistry C, 2019, 123, 15693-15706.	1.5	8
81	Chemical order driven morphology of a vicinal surface of Fe3Al(111): an He diffraction and STM study. Surface Science, 2002, 505, 271-284.	0.8	7
82	Structure of the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mi mathvariant="normal">Pd</mml:mi><mml:mn>8</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">Ni</mml:mi><mml:mn>92</mml:mn></mml:msub><mml:mrow><mml:mo>(</mml:mo><mml:mn>110</mml:m surface from first principles. Physical Review B, 2007, 76, .	1.1	7
83	Intermetallic Compounds as Potential Alternatives to Noble Metals in Heterogeneous Catalysis: The Partial Hydrogenation of Butadiene on Î³â€Al₄Cu₉(1â€‰1â€‰0). ChemCatChem, 2017, 9, 2292-2296.	1.8	7
84	Unveiling the Ir single atoms as selective active species for the partial hydrogenation of butadiene by <i>operando</i> XAS. Nanoscale, 2022, 14, 7641-7649.	2.8	5
85	Transition metal sulfides on zeolite catalysts for selective ring opening. Catalysis Today, 2021, 377, 187-195.	2.2	4
86	Au-Rh and Au-Pd Nanoalloys supported on well-defined Rutile Titania Nanorods for Aromatics Hydrogenation Applications. Materials Research Society Symposia Proceedings, 2014, 1641, 1.	0.1	3
87	Investigation of the local structure of nanosized rhodium hydride. Journal of Colloid and Interface Science, 2018, 524, 427-433.	5.0	3
88	Thermodynamics of faceted palladium(â€“gold) nanoparticles supported on rutile titania nanorods studied using transmission electron microscopy. Physical Chemistry Chemical Physics, 2018, 20, 13030-13037.	1.3	3
89	Reactivity and Catalysis by Nanoalloys. , 2020, , 267-345.		2
90	Comparative study of the catalytic hydroconversion of cyclopentane over iridium and platinum single-crystal surfaces. Comptes Rendus Chimie, 2014, 17, 785-789.	0.2	1