Swetlana Schauermann

List of Publications by Year
in descending order

84 papers	3,980 citations	109321 35 h-index	123424 61 g-index
96 all docs	96 docs citations	96 times ranked	4055 citing authors

#	Article	IF	Citations
1	Nanoparticles for Heterogeneous Catalysis: New Mechanistic Insights. Accounts of Chemical Research, 2013, 46, 1673-1681.	15.6	347
2	CO Adsorption on Pd Nanoparticles:Â Density Functional and Vibrational Spectroscopy Studies. Journal of Physical Chemistry B, 2003, 107, 255-264.	2.6	262
3	Catalytic Activity and Poisoning of Specific Sites on Supported Metal Nanoparticles. Angewandte Chemie - International Edition, 2002, 41, 2532-2535.	13.8	170
4	Influence of Carbon Deposition on the Hydrogen Distribution in Pd Nanoparticles and Their Reactivity in Olefin Hydrogenation. Angewandte Chemie - International Edition, 2008, 47, 9289-9293.	13.8	165
5	Size Dependence of the Adsorption Energy of CO on Metal Nanoparticles: A DFT Search for the Minimum Value. Nano Letters, 2012, 12, 2134-2139.	9.1	155
6	Size-Dependent Oxidation Mechanism of Supported Pd Nanoparticles. Angewandte Chemie - International Edition, 2006, 45, 3693-3697.	13.8	140
7	Oxygen Storage at the Metal/Oxide Interface of Catalyst Nanoparticles. Angewandte Chemie - International Edition, 2005, 44, 7601-7605.	13.8	115
8	Surface Reactivity of Pd Nanoparticles Supported on Polycrystalline Substrates As Compared to Thin Film Model Catalysts:Â Infrared Study of CO Adsorption. Journal of Physical Chemistry B, 2004, 108, 3603-3613.	2.6	110
9	Isomerization and Hydrogenation of<i>cis</i>-2-Butene on Pd Model Catalyst. Journal of Physical Chemistry C, 2008, 112, 11408-11420.	3.1	94
10	Hydrogen Diffusion into Palladium Nanoparticles: Pivotal Promotion by Carbon. Angewandte Chemie - International Edition, 2010, 49, 4743-4746.	13.8	91
11	Olefin hydrogenation on Pd model supported catalysts: New mechanistic insights. Journal of Catalysis, 2011, 284, 148-156.	6.2	82
12	Particle size dependent adsorption and reaction kinetics on reduced and partially oxidized Pd nanoparticles. Physical Chemistry Chemical Physics, 2007, 9, 1347.	2.8	79
13	Subsurface Hydrogen Diffusion into Pd Nanoparticles: Role of Low-Coordinated Surface Sites and Facilitation by Carbon. Journal of Physical Chemistry C, 2012, 116, 3539-3544.	3.1	79
14	Particle-size dependent heats of adsorption of CO on supported Pd nanoparticles as measured with a single-crystal microcalorimeter. Physical Review B, 2010, 81, .	3.2	77
15	CO oxidation on partially oxidized Pd nanoparticles. Journal of Catalysis, 2006, 242, 58-70.	6.2	73
16	How Absorbed Hydrogen Affects the Catalytic Activity of Transition Metals. Angewandte Chemie - International Edition, 2014, 53, 13371-13375.	13.8	73
17	Oxygen-induced Restructuring of a Pd/Fe3O4 Model Catalyst. Catalysis Letters, 2006, 107, 189-196.	2.6	70
18	Trends in the Binding Strength of Surface Species on Nanoparticles: How Does the Adsorption Energy Scale with the Particle Size?. Angewandte Chemie - International Edition, 2013, 52, 5175-5179.	13.8	66

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19	Spectators Control Selectivity in Surface Chemistry: Acrolein Partial Hydrogenation Over Pd. Journal of the American Chemical Society, 2015, 137, 13496-13502.	13.7	65
20	Water Interaction with Iron Oxides. Angewandte Chemie - International Edition, 2015, 54, 13942-13946.	13.8	62
21	Adsorption, decomposition and oxidation of methanol on alumina supported palladium particles. Physical Chemistry Chemical Physics, 2002, 4, 3909-3918.	2.8	60
22	An improved single crystal adsorption calorimeter for determining gas adsorption and reaction energies on complex model catalysts. Review of Scientific Instruments, 2011, 82, 024102.	1.3	58
23	Formation of interface and surface oxides on supported Pd nanoparticles. Surface Science, 2006, 600, 2528-2542.	1.9	56
24	A fresh look at an old nano-technology: catalysis. Physical Chemistry Chemical Physics, 2014, 16, 8148.	2.8	55
25	Model Studies in Catalysis. Topics in Catalysis, 2011, 54, 4-12.	2.8	50
26	Initial stages of CO₂ adsorption on CaO: a combined experimental and computational study. Physical Chemistry Chemical Physics, 2017, 19, 4231-4242.	2.8	47
27	Role of Lowâ€Coordinated Surface Sites in Olefin Hydrogenation: A Molecular Beam Study on Pd Nanoparticles and Pd(111). ChemPhysChem, 2010, 11, 2319-2322.	2.1	46
28	Adsorption of acrolein, propanal, and allyl alcohol on Pd(111): a combined infrared reflectionâ€“absorption spectroscopy and temperature programmed desorption study. Physical Chemistry Chemical Physics, 2016, 18, 13960-13973.	2.8	45
29	Model Approach in Heterogeneous Catalysis: Kinetics and Thermodynamics of Surface Reactions. Accounts of Chemical Research, 2015, 48, 2775-2782.	15.6	44
30	The Molecular Origins of Selectivity in Methanol Decomposition on Pd Nanoparticles. Catalysis Letters, 2002, 84, 209-217.	2.6	41
31	Surface reactivity of Pd nanoparticles supported on polycrystalline substrates as compared to thin film model catalysts: infrared study of CH3OH adsorption. Journal of Catalysis, 2004, 223, 64-73.	6.2	41
32	Adsorption energetics of CO on supported Pd nanoparticles as a function of particle size by single crystal microcalorimetry. Physical Chemistry Chemical Physics, 2011, 13, 16800.	2.8	41
33	Catalysis beyond frontier molecular orbitals: Selectivity in partial hydrogenation of multi-unsaturated hydrocarbons on metal catalysts. Science Advances, 2017, 3, e1700939.	10.3	41
34	Oxidation, Reduction, and Reactivity of Supported Pd Nanoparticles:â€‰ Mechanism and Microkinetics. Journal of Physical Chemistry C, 2007, 111, 938-949.	3.1	38
35	Conversion of cis- and trans-2-butene with Deuterium on a Pd/Fe3O4 model catalyst. Journal of Catalysis, 2009, 265, 191-198.	6.2	38
36	Nanofacet-resolved CO oxidation kinetics on alumina-supported Pd particles. Chemical Physics Letters, 2002, 354, 403-408.	2.6	33

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37	Toward Low-Temperature Dehydrogenation Catalysis: Isophorone Adsorbed on Pd(111). Journal of Physical Chemistry Letters, 2012, 3, 582-586.	4.6	33
38	Site Occupation and Activity of Catalyst Nanoparticles Monitored by In Situ Vibrational Spectroscopy. Angewandte Chemie - International Edition, 2003, 42, 3035-3038.	13.8	32
39	On the Role of Different Adsorption and Reaction Sites on Supported Nanoparticles during a Catalytic Reaction:Â NO Decomposition on a Pd/Alumina Model Catalystâ€. Journal of Physical Chemistry B, 2004, 108, 14244-14254.	2.6	29
40	Innovative Measurement Techniques in Surface Science. ChemPhysChem, 2011, 12, 79-87.	2.1	28
41	Tuning the Surface Chemistry of Pd by Atomic C and H: A Microscopic Picture. Chemistry - A European Journal, 2013, 19, 1335-1345.	3.3	28
42	Selective Partial Hydrogenation of Acrolein on Pd: A Mechanistic Study. ACS Catalysis, 2017, 7, 5523-5533.	11.2	28
43	Low temperature decomposition of NO on ordered alumina films. Chemical Physics Letters, 2003, 381, 298-305.	2.6	27
44	Model studies on heterogeneous catalysts at the atomic scale: From supported metal particles to two-dimensional zeolites. Journal of Catalysis, 2013, 308, 154-167.	6.2	27
45	Katalytische AktivitÃt und Vergiftung spezifischer aktiver Zentren von Metall-Nanopartikeln auf TrÃgern. Angewandte Chemie, 2002, 114, 2643-2646.	2.0	26
46	CO adsorption and thermal stability of Pd deposited on a thin FeO(111) film. Surface Science, 2005, 586, 174-182.	1.9	25
47	CO₂ Adsorption on Magnetite Fe₃O₄(111). Journal of Physical Chemistry C, 2018, 122, 27433-27441.	3.1	25
48	Adsorbate mobilities on catalyst nanoparticles studied via the angular distribution of desorbing products. Surface Science, 2004, 561, L218-L224.	1.9	24
49	Surfaceâ€Driven Ketoâ€“Enol Tautomerization: Atomistic Insights into Enol Formation and Stabilization Mechanisms. Angewandte Chemie - International Edition, 2018, 57, 16659-16664.	13.8	22
50	A kinetic study on the conversion of cis-2-butene with deuterium on a Pd/Fe3O4model catalyst. Physical Chemistry Chemical Physics, 2011, 13, 966-977.	2.8	21
51	Selective Hydrogenation of Acrolein Over Pd Model Catalysts: Temperature and Particleâ€Size Effects. Chemistry - A European Journal, 2016, 22, 15856-15863.	3.3	20
52	Formation and Stabilization Mechanisms of Enols on Pt through Multiple Hydrogen Bonding. ACS Catalysis, 2019, 9, 6882-6889.	11.2	20
53	Ketoâ€“Enol Tautomerization as a First Step in Hydrogenation of Carbonyl Compounds. Journal of Physical Chemistry C, 2019, 123, 29271-29277.	3.1	20
54	Model Studies in Heterogeneous Catalysis. From Structure to Kinetics. Monatshefte FÃ¼r Chemie, 2005, 136, 59-75.	1.8	19

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55	Adsorption of isophorone and trimethyl-cyclohexanone on Pd(111): A combination of infrared reflection absorption spectroscopy and density functional theory studies. Surface Science, 2016, 650, 149-160.	1.9	19
56	Energetics of elementary reaction steps relevant for CO oxidation: CO and O2 adsorption on model Pd nanoparticles and Pd(111). Faraday Discussions, 2013, 162, 341.	3.2	18
57	Supports and modified nano-particles for designing model catalysts. Faraday Discussions, 2016, 188, 309-321.	3.2	18
58	Partial Hydrogenation of Unsaturated Carbonyl Compounds: Toward Ligand-Directed Heterogeneous Catalysis. Journal of Physical Chemistry Letters, 2018, 9, 5555-5566.	4.6	16
59	Morphological and chemical influences on alumina-supported palladium catalysts active for the gas phase hydrogenation of crotonaldehyde. Journal of Chemical Physics, 2011, 134, 214704.	3.0	15
60	Role of hydrogen in olefin isomerization and hydrogenation: a molecular beam study on Pd model supported catalysts. Dalton Transactions, 2010, 39, 8484.	3.3	14
61	Kinetic Evidence for a Nonâ€Langmuirâ€Hinshelwood Surface Reaction: H/D Exchange over Pd Nanoparticles and Pd(111). ChemPhysChem, 2013, 14, 1686-1695.	2.1	14
62	Interaction of Isophorone with Pd(111): A Combination of Infrared Reflectionâ€“Absorption Spectroscopy, Near-Edge X-ray Absorption Fine Structure, and Density Functional Theory Studies. Journal of Physical Chemistry C, 2014, 118, 27833-27842.	3.1	14
63	Chirally-modified metal surfaces: energetics of interaction with chiral molecules. Physical Chemistry Chemical Physics, 2015, 17, 22726-22735.	2.8	14
64	Molecular beam/infrared reflection-absorption spectroscopy apparatus for probing heterogeneously catalyzed reactions on functionalized and nanostructured model surfaces. Review of Scientific Instruments, 2019, 90, 053903.	1.3	14
65	Coverage-Dependent Adsorption Geometry of Acetophenone on Pt(111). Journal of Physical Chemistry C, 2020, 124, 557-566.	3.1	14
66	Understanding Ligandâ€Directed Heterogeneous Catalysis: When the Dynamically Changing Nature of the Ligand Layer Controls the Hydrogenation Selectivity. Angewandte Chemie - International Edition, 2021, 60, 16349-16354.	13.8	14
67	Interaction of NO with alumina supported palladium model catalysts. Physical Chemistry Chemical Physics, 2003, 5, 5139-5148.	2.8	11
68	Formation and catalytic activity of partially oxidized Pd nanoparticles. Topics in Catalysis, 2007, 42-43, 387-391.	2.8	10
69	Temperature-Dependent Formation of Acetophenone Oligomers Accompanied by Ketoâ€“Enol Tautomerism: Real Space Distribution. Journal of Physical Chemistry C, 2020, 124, 14262-14271.	3.1	9
70	Adsorption geometry and self-assembling of chiral modifier (<i>R</i>)-(+)-1-(1-naphthylethylamine) on Pt(111). Physical Chemistry Chemical Physics, 2020, 22, 15696-15706.	2.8	9
71	Tuning the Strength of Molecular Bonds in Oxygenates via Surface-Assisted Intermolecular Interactions: Atomistic Insights. Journal of Physical Chemistry C, 2020, 124, 28159-28168.	3.1	9
72	Singleâ€Crystal Adsorption Calorimetry on Wellâ€Defined Surfaces: From Single Crystals to Supported Nanoparticles. Chemical Record, 2014, 14, 759-774.	5.8	7

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73	Formation and Real-Space Distribution of Acetophenone Dimers on H-containing Pt(111). Journal of Physical Chemistry C, 2021, 125, 19311-19324.	3.1	7
74	In-situ-Schwingungsspektroskopie zur Untersuchung der AktivitÃt und Adsorbatplatzbesetzung von Katalysator-Nanopartikeln. Angewandte Chemie, 2003, 115, 3143-3147.	2.0	6
75	Model studies in heterogeneous catalysis at the microscopic level: from the structure and composition of surfaces to reaction kinetics. Mikrochimica Acta, 2006, 156, 9-20.	5.0	6
76	Surfaceâ€Driven Ketoâ€"Enol Tautomerization: Atomistic Insights into Enol Formation and Stabilization Mechanisms. Angewandte Chemie, 2018, 130, 16901-16906.	2.0	6
77	Mechanisms Acting in Ligand-Directed Heterogeneous Catalysis: Electronic, Geometric, and Enol-Induced Effects. Journal of Physical Chemistry C, 2022, 126, 4907-4920.	3.1	6
78	Temperature dependence of the 2-butene hydrogenation over supported Pd nanoparticles and Pd(111). Journal of Molecular Catalysis A, 2013, 377, 137-142.	4.8	5
79	Understanding Ligandâ€Directed Heterogeneous Catalysis: When the Dynamically Changing Nature of the Ligand Layer Controls the Hydrogenation Selectivity. Angewandte Chemie, 2021, 133, 16485-16490.	2.0	4
80	Competing Reaction Pathways in Heterogeneously Catalyzed Hydrogenation of Allyl Cyanide: The Chemical Nature of Surface Species. Chemistry - A European Journal, 2021, 27, 17240-17254.	3.3	4
81	Disordered Two-Dimensional Self-Organization of Ethyl Pyruvate Molecules on the Pt(111) Surface. Journal of Physical Chemistry C, 2021, 125, 26167-26179.	3.1	4
82	Water and Carbon Dioxide Adsorption on CaO(001) Studied via Single Crystal Adsorption Calorimetry. Topics in Catalysis, 2021, 64, 1030-1040.	2.8	2
83	Thin Oxide Films as Model Systems for Heterogeneous Catalysts. Springer Handbooks, 2020, , 267-328.	0.6	1
84	3. Model studies on hydrogenation reactions. , 2018, , 43-74.		0