Peter C Stair

List of Publications by Year
in descending order

108 papers	9,609 citations	38742 50 h-index	37204 96 g-index
114 all docs	114 docs citations	114 times ranked	11581 citing authors

#	Article	IF	Citations
1	Orientation of 1,1â€²-Bi-2-naphthol Grafted onto TiO₂. Journal of Physical Chemistry C, 2022, 126, 7980-7990.	3.1	0
2	Coking Can Enhance Product Yields in the Dry Reforming of Methane. ACS Catalysis, 2022, 12, 8352-8362.	11.2	34
3	Tandem In ₂ O ₃ -Pt/Al ₂ O ₃ catalyst for coupling of propane dehydrogenation to selective H ₂ combustion. Science, 2021, 371, 1257-1260.	12.6	148
4	Catalyst Deactivation by Carbon Deposition: The Remarkable Case of Nickel Confined by Atomic Layer Deposition. ChemCatChem, 2021, 13, 2988-3000.	3.7	8
5	Identifying Boron Active Sites for the Oxidative Dehydrogenation of Propane. ACS Catalysis, 2021, 11, 9370-9376.	11.2	27
6	Submonolayer Is Enough: Switching Reaction Channels on Pt/SiO2 by Atomic Layer Deposition. Journal of Physical Chemistry C, 2021, 125, 18725-18733.	3.1	2
7	Atomic Layer Deposition Overcoating Improves Catalyst Selectivity and Longevity in Propane Dehydrogenation. ACS Catalysis, 2020, 10, 13957-13967.	11.2	30
8	Understanding Pore Formation in ALD Alumina Overcoats. ACS Applied Materials & Interfaces, 2020, 12, 20331-20343.	8.0	20
9	Mechanistic Studies of the Oxidation of Cyclohexene to 2-Cyclohexen-1-one over ALD Prepared Titania Supported Vanadia. Journal of Physical Chemistry C, 2020, 124, 11844-11862.	3.1	3
10	Kinetic Isoconversion Loop Catalysis: A Reactor Operation Mode To Investigate Slow Catalyst Deactivation Processes, with Ni/Al2O3for the Dry Reforming of Methane. Industrial & Engineering Chemistry Research, 2019, 58, 2481-2491.	3.7	7
11	Analysis of TiO₂ Atomic Layer Deposition Surface Chemistry and Evidence of Propene Oligomerization Using Surface-Enhanced Raman Spectroscopy. Journal of the American Chemical Society, 2019, 141, 414-422.	13.7	31
12	Catalytic Applications of Vanadium: A Mechanistic Perspective. Chemical Reviews, 2019, 119, 2128-2191.	47.7	323
13	Interactions of VOx Species with Amorphous TiO2 Domains on ALD-Derived Alumina-Supported Materials. Journal of Physical Chemistry C, 2019, 123, 7988-7999.	3.1	11
14	Chemoselective Hydrogenation with Supported Organoplatinum(IV) Catalyst on Zn(II)-Modified Silica. Journal of the American Chemical Society, 2018, 140, 3940-3951.	13.7	56
15	Morphology and CO Oxidation Activity of Pd Nanoparticles on SrTiO₃ Nanopolyhedra. ACS Catalysis, 2018, 8, 4751-4760.	11.2	38
16	Structure Sensitivity of Acrolein Hydrogenation by Platinum Nanoparticles on Ba x Sr 1â^' x TiO 3 Nanocuboids. ChemCatChem, 2018, 10, 632-641.	3.7	8
17	Atomically Precise Strategy to a PtZn Alloy Nanocluster Catalyst for the Deep Dehydrogenation of <i>n</i>-Butane to 1,3-Butadiene. ACS Catalysis, 2018, 8, 10058-10063.	11.2	67
18	Evidence for Copper Dimers in Low-Loaded CuO_{<i>x</i>}/SiO₂ Catalysts for Cyclohexane Oxidative Dehydrogenation. ACS Catalysis, 2018, 8, 9775-9789.	11.2	11

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19	Replication of SMSI via ALD: TiO2 Overcoats Increase Pt-Catalyzed Acrolein Hydrogenation Selectivity. Catalysis Letters, 2018, 148, 2223-2232.	2.6	17
20	Surface Carbon as a Reactive Intermediate in Dry Reforming of Methane to Syngas on a 5% Ni/MnO Catalyst. ACS Catalysis, 2018, 8, 8739-8750.	11.2	60
21	Identification of Dimeric Methylalumina Surface Species during Atomic Layer Deposition Using <i>Operando</i> Surface-Enhanced Raman Spectroscopy. Journal of the American Chemical Society, 2017, 139, 2456-2463.	13.7	34
22	Stabilizing Single-Atom and Small-Domain Platinum via Combining Organometallic Chemisorption and Atomic Layer Deposition. Organometallics, 2017, 36, 818-828.	2.3	34
23	Efficient carbon-supported heterogeneous molybdenum-dioxo catalyst for chemoselective reductive carbonyl coupling. Catalysis Science and Technology, 2017, 7, 2165-2169.	4.1	15
24	Expanding applications of SERS through versatile nanomaterials engineering. Chemical Society Reviews, 2017, 46, 3886-3903.	38.1	316
25	Efficient catalytic greenhouse gas-free hydrogen and aldehyde formation from aqueous alcohol solutions. Energy and Environmental Science, 2017, 10, 1558-1562.	30.8	23
26	Supported Aluminum Catalysts for Olefin Hydrogenation. ACS Catalysis, 2017, 7, 689-694.	11.2	25
27	Methanol Oxidation to Formate on ALD-Prepared VO_{<i>x</i>}/Î¸-Al₂O₃ Catalysts: A Mechanistic Study. Journal of Physical Chemistry C, 2017, 121, 26794-26805.	3.1	17
28	Multiwavelength Raman Spectroscopic Characterization of Alumina-Supported Molybdenum Oxide Prepared by Vapor Deposition. Topics in Catalysis, 2017, 60, 1618-1630.	2.8	13
29	Chemoselective Hydrogenation of Crotonaldehyde Catalyzed by an Au@ZIFâ€8 Composite. ChemCatChem, 2016, 8, 855-860.	3.7	34
30	Atomic layer depositionâ€"Sequential self-limiting surface reactions for advanced catalyst â€œbottom-upâ€• synthesis. Surface Science Reports, 2016, 71, 410-472.	7.2	252
31	Alkaline-earth metal-oxide overlayers on TiO₂: application toward CO₂ photoreduction. Catalysis Science and Technology, 2016, 6, 7885-7895.	4.1	29
32	Reactivity of a Carbon-Supported Single-Site Molybdenum Dioxo Catalyst for Biodiesel Synthesis. ACS Catalysis, 2016, 6, 6762-6769.	11.2	53
33	Highly Efficient Activation, Regeneration, and Active Site Identification of Oxide-Based Olefin Metathesis Catalysts. ACS Catalysis, 2016, 6, 5740-5746.	11.2	71
34	Direct Synthesis of Low-Coordinate Pd Catalysts Supported on SiO₂ via Surface Organometallic Chemistry. ACS Catalysis, 2016, 6, 8380-8388.	11.2	21
35	High-Resolution Distance Dependence Study of Surface-Enhanced Raman Scattering Enabled by Atomic Layer Deposition. Nano Letters, 2016, 16, 4251-4259.	9.1	136
36	Probing the Chemistry of Alumina Atomic Layer Deposition Using <i>Operando</i> Surface-Enhanced Raman Spectroscopy. Journal of Physical Chemistry C, 2016, 120, 3822-3833.	3.1	28

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37	Catalyst synthesis and evaluation using an integrated atomic layer deposition synthesisâ€“catalysis testing tool. Review of Scientific Instruments, 2015, 86, 084103.	1.3	20
38	Highly Dispersed SiO_{<i>x</i>}/Al₂O₃ Catalysts Illuminate the Reactivity of Isolated Silanol Sites. Angewandte Chemie - International Edition, 2015, 54, 13346-13351.	13.8	66
39	Catalyst Design with Atomic Layer Deposition. ACS Catalysis, 2015, 5, 1804-1825.	11.2	608
40	A kinetic study of vapor-phase cyclohexene epoxidation by H2O2 over mesoporous TS-1. Journal of Catalysis, 2015, 326, 107-115.	6.2	51
41	Role of Cr³⁺/Cr⁶⁺ redox in chromium-substituted Li₂MnO₃Â·LiNi_{1/2}Mn_{1/2}O₂ layered composite cathodes: electrochemistry and voltage fade. Journal of Materials Chemistry A, 2015, 3, 9915-9924.	10.3	35
42	Constructing Hierarchical Porous Zeolites via Kinetic Regulation. Journal of the American Chemical Society, 2015, 137, 11238-11241.	13.7	85
43	Identification of active sites in CO oxidation and water-gas shift over supported Pt catalysts. Science, 2015, 350, 189-192.	12.6	948
44	Alternative Low-Pressure Surface Chemistry of Titanium Tetraisopropoxide on Oxidized Molybdenum. Journal of Physical Chemistry C, 2014, 118, 29361-29369.	3.1	10
45	Toward atomically-precise synthesis of supported bimetallic nanoparticles using atomic layer deposition. Nature Communications, 2014, 5, 3264.	12.8	181
46	Chiral Co(II) Metalâ€“Organic Framework in the Heterogeneous Catalytic Oxidation of Alkenes under Aerobic and Anaerobic Conditions. ACS Catalysis, 2014, 4, 1032-1039.	11.2	53
47	Atomic Layer Deposition Overcoating: Tuning Catalyst Selectivity for Biomass Conversion. Angewandte Chemie - International Edition, 2014, 53, 12132-12136.	13.8	78
48	First-Principles Predictions and <i>in Situ</i> Experimental Validation of Alumina Atomic Layer Deposition on Metal Surfaces. Chemistry of Materials, 2014, 26, 6752-6761.	6.7	68
49	Vanadium-Node-Functionalized UiO-66: A Thermally Stable MOF-Supported Catalyst for the Gas-Phase Oxidative Dehydrogenation of Cyclohexene. ACS Catalysis, 2014, 4, 2496-2500.	11.2	206
50	Influence of the Metal Oxide Substrate Structure on Vanadium Oxide Monomer Formation. Topics in Catalysis, 2014, 57, 177-187.	2.8	10
51	Epitaxial Stabilization of Face Selective Catalysts. Topics in Catalysis, 2013, 56, 1829-1834.	2.8	20
52	Synthesis and Stabilization of Supported Metal Catalysts by Atomic Layer Deposition. Accounts of Chemical Research, 2013, 46, 1806-1815.	15.6	271
53	Stabilization of Copper Catalysts for Liquidâ€Phase Reactions by Atomic Layer Deposition. Angewandte Chemie - International Edition, 2013, 52, 13808-13812.	13.8	162
54	Synthesis-Dependent Atomic Surface Structures of Oxide Nanoparticles. Physical Review Letters, 2013, 111, 156101.	7.8	58

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55	RÃ¼cktitelbild: Stabilization of Copper Catalysts for Liquid-Phase Reactions by Atomic Layer Deposition (Angew. Chem. 51/2013). Angewandte Chemie, 2013, 125, 14068-14068.	2.0	1
56	Design Strategies for the Molecular Level Synthesis of Supported Catalysts. Accounts of Chemical Research, 2012, 45, 206-214.	15.6	229
57	Porous Alumina Protective Coatings on Palladium Nanoparticles by Self-Poisoned Atomic Layer Deposition. Chemistry of Materials, 2012, 24, 2047-2055.	6.7	110
58	Synthesis Strategy for Protected Metal Nanoparticles. Journal of Physical Chemistry C, 2012, 116, 7748-7756.	3.1	44
59	Shape-selective sieving layers on an oxide catalyst surface. Nature Chemistry, 2012, 4, 1030-1036.	13.6	110
60	Effect of Reactor Materials on the Properties of Titanium Oxide Nanotubes. ACS Catalysis, 2012, 2, 45-49.	11.2	62
61	Coking- and Sintering-Resistant Palladium Catalysts Achieved Through Atomic Layer Deposition. Science, 2012, 335, 1205-1208.	12.6	707
62	Synthesis of Supported Catalysts by Atomic Layer Deposition. Topics in Catalysis, 2012, 55, 93-98.	2.8	34
63	Propane Oxidation over Pt/SrTiO₃ Nanocuboids. ACS Catalysis, 2011, 1, 629-635.	11.2	153
64	Subnanometer Palladium Particles Synthesized by Atomic Layer Deposition. ACS Catalysis, 2011, 1, 665-673.	11.2	93
65	FTIR Study of CO₂ Adsorption on Amine-Grafted SBA-15: Elucidation of Adsorbed Species. Journal of Physical Chemistry C, 2011, 115, 11540-11549.	3.1	285
66	Acidâ€Catalyzed Furfuryl Alcohol Polymerization: Characterizations of Molecular Structure and Thermodynamic Properties. ChemCatChem, 2011, 3, 1451-1458.	3.7	105
67	Alumina Over-coating on Pd Nanoparticle Catalysts by Atomic Layer Deposition: Enhanced Stability and Reactivity. Catalysis Letters, 2011, 141, 512-517.	2.6	159
68	Mechanistic and Adsorption Studies of Relevance to Photocatalysts on Titanium Grafted Mesoporous Silicalites. Catalysis Letters, 2011, 141, 1057-1066.	2.6	9
69	Vibrational properties of levulinic acid and furan derivatives: Raman spectroscopy and theoretical calculations. Journal of Raman Spectroscopy, 2011, 42, 2069-2076.	2.5	71
70	Genesis and Evolution of Surface Species during Pt Atomic Layer Deposition on Oxide Supports Characterized by in Situ XAFS Analysis and Waterâ˜Gas Shift Reaction. Journal of Physical Chemistry C, 2010, 114, 9758-9771.	3.1	124
71	Nano/Subnanometer Pd Nanoparticles on Oxide Supports Synthesized by AB-type and Low-Temperature ABC-type Atomic Layer Deposition: Growth and Morphology. Langmuir, 2010, 26, 16486-16495.	3.5	73
72	Palladium Catalysts Synthesized by Atomic Layer Deposition for Methanol Decomposition. Chemistry of Materials, 2010, 22, 3133-3142.	6.7	135

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73	Supported Ruâˆ’Pt Bimetallic Nanoparticle Catalysts Prepared by Atomic Layer Deposition. Nano Letters, 2010, 10, 3047-3051.	9.1	205
74	Synthesis-Dependent Surface Acidity and Structure of SrTiO₃Nanoparticles. Journal of Physical Chemistry C, 2010, 114, 11056-11067.	3.1	38
75	Resonance Raman and surface- and tip-enhanced Raman spectroscopy methods to study solid catalysts and heterogeneous catalytic reactions. Chemical Society Reviews, 2010, 39, 4820.	38.1	261
76	Controlled Growth of Platinum Nanoparticles on Strontium Titanate Nanocubes by Atomic Layer Deposition. Small, 2009, 5, 750-757.	10.0	158
77	Surface Acidity and Properties of TiO₂/SiO₂ Catalysts Prepared by Atomic Layer Deposition: UVâˆ’visible Diffuse Reflectance, DRIFTS, and Visible Raman Spectroscopy Studies. Journal of Physical Chemistry C, 2009, 113, 12412-12418.	3.1	82
78	Synthesis-Dependent First-Order Raman Scattering in SrTiO₃Nanocubes at Room Temperature. Chemistry of Materials, 2008, 20, 5628-5635.	6.7	159
79	Advanced synthesis for advancing heterogeneous catalysis. Journal of Chemical Physics, 2008, 128, 182507.	3.0	35
80	Toward a Thermally Robust Operando Surface-Enhanced Raman Spectroscopy Substrate. Journal of Physical Chemistry C, 2007, 111, 16827-16832.	3.1	94
81	Polymorphism in Li2Mo4O13 Revisited. Crystal Growth and Design, 2007, 7, 521-525.	3.0	7
82	Raman Spectroscopic Study of V/Î¸-Al2O3Catalysts:â€‰ Quantification of Surface Vanadia Species and Their Structure Reduced by Hydrogen. Journal of Physical Chemistry C, 2007, 111, 16460-16469.	3.1	53
83	In Situ Measurements of Lubricant Temperature and Pressure at a Sliding Contact. Journal of Physical Chemistry C, 2007, 111, 11314-11319.	3.1	5
84	Influence of absorption on quantitative analysis in Raman spectroscopy. Catalysis Today, 2006, 113, 40-47.	4.4	36
85	UV Raman spectroscopic studies of V/Î¸-Al2O3 catalysts in butane dehydrogenation. Journal of Catalysis, 2006, 237, 220-229.	6.2	60
86	The interface between heterogeneous and homogeneous catalysis. Topics in Catalysis, 2005, 34, 1-4.	2.8	6
87	On the Structure of Vanadium Oxide Supported on Aluminas:Â UV and Visible Raman Spectroscopy, UVâˆ’Visible Diffuse Reflectance Spectroscopy, and Temperature-Programmed Reduction Studies. Journal of Physical Chemistry B, 2005, 109, 2793-2800.	2.6	167
88	Bacterially Produced Manganese Oxide and Todorokite:Â UV Raman Spectroscopic Comparison. Journal of Physical Chemistry B, 2004, 108, 17019-17026.	2.6	45
89	An ultraviolet Raman spectroscopic study of coke formation in methanol to hydrocarbons conversion over zeolite H-MFI. Journal of Catalysis, 2003, 213, 39-46.	6.2	147
90	A Comparison of Ultraviolet and Visible Raman Spectra of Supported Metal Oxide Catalysts. Journal of Physical Chemistry B, 2001, 105, 8600-8606.	2.6	111

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91	Surface Chemistry of Methyl Radicals on O/Mo(100) Surfacesâ€. Journal of Physical Chemistry B, 2000, 104, 3035-3043.	2.6	21
92	Photochemistry in CH3I Adlayers on TiO2(110) Studied with Postirradiation Thermal Desorption. Langmuir, 1998, 14, 4156-4161.	3.5	20
93	UV-induced desorption of CH3X (X=I and Br)/TiO2(110). Journal of Chemical Physics, 1998, 108, 5080-5088.	3.0	23
94	Photoreactions of methyl iodide multilayers on the TiO2(110) surface. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1996, 14, 1557-1561.	2.1	14
95	Ultraviolet Raman spectroscopy characterization of sulfated zirconia catalysts: fresh, deactivated and regenerated. Catalysis Letters, 1996, 36, 119-123.	2.6	97
96	The adsorption and photochemistry of CD3I on TiO2(110). Journal of Chemical Physics, 1994, 100, 4615-4625.	3.0	35
97	Wavelength dependence of the photodissociation and photodesorption of CD3I adsorbed on the TiO2(110) surface. Journal of Chemical Physics, 1994, 100, 4626-4636.	3.0	31
98	Decomposition pathway for model fluorinated ethers on the clean iron surface. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1992, 10, 2704-2708.	2.1	10
99	A methyl free radical source for use in surface studies. Review of Scientific Instruments, 1992, 63, 3930-3935.	1.3	76
100	Perfluoroalkylether reactions on iron and oxygen covered iron surfaces studied using xâ€ray photoelectron spectroscopy and secondary ion mass spectrometry. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1991, 9, 649-652.	2.1	20
101	Pulsed laserâ€induced electron and positiveâ€ion emission from Cu(100) under ultrahighâ€vacuum conditions near the threshold for surface damage. Journal of Applied Physics, 1991, 69, 3472-3479.	2.5	20
102	A photofragment spectrometer for studying photodissociation of molecules adsorbed on surfaces: The 257â€nm photolysis of CD3I on MgO(100). Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1991, 9, 1820-1822.	2.1	24
103	A simple cryogenic ultrahigh vacuum manipulator providing azimuthal rotation. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1991, 9, 2410-2411.	2.1	11
104	Acid Sites on Chemically Modified Molybdenum Surfaces. ACS Symposium Series, 1990, , 239-250.	0.5	0
105	The surface chemistry of zinc dialkyldithiophosphate, an antiwear additive, on oxidized iron and steel foils. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1988, 6, 971-974.	2.1	18
106	Thermal decomposition of lubricant oil adsorbed on gold and oxidized iron foils. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1987, 5, 1036-1039.	2.1	6
107	Resonance Raman Spectroscopy -Î³-Al2O3-Supported Vanadium Oxide Catalysts as an Illustrative Example. , 0, , 177-194.		2
108	Alkane Dehydrogenation over Vanadium and Chromium Oxides. , 0, , 595-612.		2