Sungsik Lee

List of Publications by Year
in descending order

107 papers	8,716 citations	71102 41 h-index	43889 91 g-index
109 all docs	109 docs citations	109 times ranked	10874 citing authors

#	Article	IF	Citations
1	Increased Silver Activity for Direct Propylene Epoxidation via Subnanometer Size Effects. Science, 2010, 328, 224-228.	12.6	783
2	Mild oxidation of methane to methanol or acetic acid on supported isolated rhodium catalysts. Nature, 2017, 551, 605-608.	27.8	550
3	Catalytically active Au-O(OH) <i> _x </i> - species stabilized by alkali ions on zeolites and mesoporous oxides. Science, 2014, 346, 1498-1501.	12.6	544
4	Dynamic stability of active sites in hydr(oxy)oxides for the oxygen evolution reaction. Nature Energy, 2020, 5, 222-230.	39.5	540
5	Pt/Cu single-atom alloys as coke-resistant catalysts for efficient Câ€"H activation. Nature Chemistry, 2018, 10, 325-332.	13.6	472
6	Strongly correlated perovskite fuel cells. Nature, 2016, 534, 231-234.	27.8	387
7	Tackling CO Poisoning with Single-Atom Alloy Catalysts. Journal of the American Chemical Society, 2016, 138, 6396-6399.	13.7	374
8	A Common Single-Site Pt(II)â€"O(OH)_{<i>x</i>}â€" Species Stabilized by Sodium on â€œActiveâ€•and â€œInertâ€•Supports Catalyzes the Water-Gas Shift Reaction. Journal of the American Chemical Society, 2015, 137, 3470-3473.	13.7	347
9	CO Oxidation on Aun/TiO2Catalysts Produced by Size-Selected Cluster Deposition. Journal of the American Chemical Society, 2004, 126, 5682-5683.	13.7	338
10	Selective Propene Epoxidation on Immobilized Au_{6â€"10} Clusters: The Effect of Hydrogen and Water on Activity and Selectivity. Angewandte Chemie - International Edition, 2009, 48, 1467-1471.	13.8	246
11	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
12	Naâ€Ion Intercalation and Charge Storage Mechanism in 2D Vanadium Carbide. Advanced Energy Materials, 2017, 7, 1700959.	19.5	168
13	Multi-Component Feâ€"Ni Hydroxide Nanocatalyst for Oxygen Evolution and Methanol Oxidation Reactions under Alkaline Conditions. ACS Catalysis, 2017, 7, 365-379.	11.2	154
14	NiCu single atom alloys catalyze the C H bond activation in the selective non- oxidative ethanol dehydrogenation reaction. Applied Catalysis B: Environmental, 2018, 226, 534-543.	20.2	140
15	Lattice Strained Ni-Co alloy as a High-Performance Catalyst for Catalytic Dry Reforming of Methane. ACS Catalysis, 2019, 9, 2693-2700.	11.2	124
16	Size-dependent selectivity and activity of silver nanoclusters in the partial oxidation of propylene to propylene oxide and acrolein: A joint experimental and theoretical study. Catalysis Today, 2011, 160, 116-130.	4.4	115
17	Oxidative Dehydrogenation of Cyclohexane on Cobalt Oxide (Co₃O₄) Nanoparticles: The Effect of Particle Size on Activity and Selectivity. ACS Catalysis, 2012, 2, 2409-2423.	11.2	113
18	Dynamic evolution and reversibility of single-atom Ni(II) active site in 1T-MoS2 electrocatalysts for hydrogen evolution. Nature Communications, 2020, 11, 4114.	12.8	112

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19	Shape-selective sieving layers on an oxide catalyst surface. Nature Chemistry, 2012, 4, 1030-1036.	13.6	110
20	Agglomeration, support effects, and CO adsorption on Au/TiO2(110) prepared by ion beam deposition. Surface Science, 2005, 578, 5-19.	1.9	92
21	Cluster size effects on CO oxidation activity, adsorbate affinity, and temporal behavior of model Aunâˆ•TiO2 catalysts. Journal of Chemical Physics, 2005, 123, 124710.	3.0	87
22	Reaction Mechanism for Direct Propylene Epoxidation by Alumina-Supported Silver Aggregates: The Role of the Particle/Support Interface. ACS Catalysis, 2014, 4, 32-39.	11.2	82
23	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
24	Structural Distortion Induced by Manganese Activation in a Lithium-Rich Layered Cathode. Journal of the American Chemical Society, 2020, 142, 14966-14973.	13.7	79
25	High-loading single Pt atom sites [Pt-O(OH) <i> _x </i>] catalyze the CO PROX reaction with high activity and selectivity at mild conditions. Science Advances, 2020, 6, eaba3809.	10.3	78
26	Oxidative Decomposition of Methanol on Subnanometer Palladium Clusters: The Effect of Catalyst Size and Support Composition. Journal of Physical Chemistry C, 2010, 114, 10342-10348.	3.1	76
27	Vapor phase hydrogenation of furfural over nickel mixed metal oxide catalysts derived from layered double hydroxides. Applied Catalysis A: General, 2016, 517, 187-195.	4.3	73
28	Growth of Metal Oxide Nanowires from Supercooled Liquid Nanodroplets. Nano Letters, 2009, 9, 4138-4146.	9.1	70
29	Adsorbate-Induced Structural Changes in 1â€“3 nm Platinum Nanoparticles. Journal of the American Chemical Society, 2014, 136, 9320-9326.	13.7	69
30	Real-Time Visualization of Active Species in a Single-Site Metalâ€“Organic Framework Photocatalyst. ACS Energy Letters, 2018, 3, 532-539.	17.4	69
31	Dilute NiO/carbon nanofiber composites derived from metal organic framework fibers as electrode materials for supercapacitors. Chemical Engineering Journal, 2017, 307, 583-592.	12.7	66
32	Deposition dynamics and chemical properties of size-selected Ir clusters on TiO2. Surface Science, 2003, 542, 253-275.	1.9	62
33	Peptide-Directed PdAu Nanoscale Surface Segregation: Toward Controlled Bimetallic Architecture for Catalytic Materials. ACS Nano, 2016, 10, 8645-8659.	14.6	58
34	Mechanistic Probes of Zeolitic Imidazolate Framework for Photocatalytic Application. ACS Catalysis, 2017, 7, 8446-8453.	11.2	56
35	Reduced Cuâ€“Coâ€“Al Mixed Metal Oxides for the Ring-Opening of Furfuryl Alcohol to Produce Renewable Diols. ACS Sustainable Chemistry and Engineering, 2017, 5, 8959-8969.	6.7	55
36	Inherent Size Effects on XANES of Nanometer Metal Clusters: Size-Selected Platinum Clusters on Silica. Journal of Physical Chemistry C, 2017, 121, 361-374.	3.1	52

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37	Simultaneous measurement of X-ray small angle scattering, absorption and reactivity: A continuous flow catalysis reactor. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 649, 200-203.	1.6	51
38	Sintering, oxidation, and chemical properties of size-selected nickel clusters on TiO2(110). Journal of Chemical Physics, 2002, 117, 5001-5011.	3.0	48
39	Single-site Pt/La-Al2O3 stabilized by barium as an active and stable catalyst in purifying CO and C3H6 emissions. Applied Catalysis B: Environmental, 2019, 244, 327-339.	20.2	44
40	Reaction inhomogeneity coupling with metal rearrangement triggers electrochemical degradation in lithium-rich layered cathode. Nature Communications, 2021, 12, 5370.	12.8	44
41	Combining Electronic and Geometric Effects of ZnO-Promoted Pt Nanocatalysts for Aqueous Phase Reforming of 1-Propanol. ACS Catalysis, 2016, 6, 3457-3460.	11.2	43
42	Simultaneous in Situ X-ray Scattering and Infrared Imaging of Polymer Extrusion in Additive Manufacturing. ACS Applied Polymer Materials, 2019, 1, 1559-1567.	4.4	43
43	Combined temperature-programmed reaction and <i>in situ</i> x-ray scattering studies of size-selected silver clusters under realistic reaction conditions in the epoxidation of propene. Journal of Chemical Physics, 2009, 131, 121104.	3.0	41
44	Coaxial Carbon Nanotube Supported TiO₂@MoO₂@Carbon Coreâ€"Shell Anode for Ultrafast and High-Capacity Sodium Ion Storage. ACS Nano, 2019, 13, 671-680.	14.6	41
45	Insight into the Catalytic Mechanism of Bimetallic Platinumâ€"Copper Coreâ€"Shell Nanostructures for Nonaqueous Oxygen Evolution Reactions. Nano Letters, 2016, 16, 781-785.	9.1	39
46	In Situ Time-Resolved X-ray Scattering Study of Isotactic Polypropylene in Additive Manufacturing. ACS Applied Materials & Interfaces, 2019, 11, 37112-37120.	8.0	39
47	Agglomeration, Sputtering, and Carbon Monoxide Adsorption Behavior for Au/Al2O3Prepared by Aun+Deposition on Al2O3/NiAl(110). Journal of Physical Chemistry B, 2005, 109, 11340-11347.	2.6	38
48	Oxidative dehydrogenation of cyclohexene on size selected subnanometer cobalt clusters: improved catalytic performance via evolution of cluster-assembled nanostructures. Physical Chemistry Chemical Physics, 2012, 14, 9336.	2.8	38
49	SrTiO3 Nanocuboids from a Lamellar Microemulsion. Chemistry of Materials, 2013, 25, 378-384.	6.7	38
50	Subnanometer cobalt oxide clusters as selective low temperature oxidative dehydrogenation catalysts. Nature Communications, 2019, 10, 954.	12.8	38
51	Combined TPRx, in situ GISAXS and GIXAS studies of model semiconductor-supported platinum catalysts in the hydrogenation of ethene. Physical Chemistry Chemical Physics, 2010, 12, 5585.	2.8	37
52	Oxidation and reduction of size-selected subnanometer Pd clusters on Al2O3 surface. Journal of Chemical Physics, 2013, 138, 214304.	3.0	37
53	In-situ X-ray scattering study of isotactic polypropylene/graphene nanocomposites under shear during fused deposition modeling 3D printing. Composites Science and Technology, 2020, 196, 108227.	7.8	37
54	Hydrazine Decomposition over Irn/Al2O3Model Catalysts Prepared by Size-Selected Cluster Deposition. Journal of Physical Chemistry B, 2005, 109, 381-388.	2.6	36

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55	Versatile nickelâ€“tungsten bimetallics/carbon nanofiber catalysts for direct conversion of cellulose to ethylene glycol. Green Chemistry, 2016, 18, 3949-3955.	9.0	36
56	Unraveling the Origins of the â€œUnreactive Coreâ€• in Conversion Electrodes to Trigger High Sodium-Ion Electrochemistry. ACS Energy Letters, 2019, 4, 2007-2012.	17.4	33
57	Supportâ€dependent Performance of Sizeâ€selected Subnanometer Cobalt Clusterâ€based Catalysts in the Dehydrogenation of Cyclohexene. ChemCatChem, 2012, 4, 1632-1637.	3.7	32
58	Low-Coordinated Pd Catalysts Supported on Zn1Zr1Ox Composite Oxides for Selective Methanol Steam Reforming. Applied Catalysis A: General, 2019, 580, 81-92.	4.3	31
59	Modifiers versus Channels: Creating Shapeâ€Selective Catalysis of Metal Nanoparticles/Porous Nanomaterials. Angewandte Chemie - International Edition, 2021, 60, 976-982.	13.8	30
60	Structure Sensitivity of Oxidative Dehydrogenation of Cyclohexane over FeO_{<i>x</i>} and Au/Fe₃O₄ Nanocrystals. ACS Catalysis, 2013, 3, 529-539.	11.2	28
61	Identifying the Atomic-Level Effects of Metal Composition on the Structure and Catalytic Activity of Peptide-Templated Materials. ACS Nano, 2015, 9, 11968-11979.	14.6	28
62	Role of Zeolite Structural Properties toward Iodine Capture: A Head-to-head Evaluation of Framework Type and Chemical Composition. ACS Applied Materials & Interfaces, 2022, 14, 18439-18452.	8.0	27
63	Fischerâ€“Tropsch Synthesis at a Low Pressure on Subnanometer Cobalt Oxide Clusters: The Effect of Cluster Size and Support on Activity and Selectivity. Journal of Physical Chemistry C, 2015, 119, 11210-11216.	3.1	26
64	Chemical Structure of Feâ€“Ni Nanoparticles for Efficient Oxygen Evolution Reaction Electrocatalysis. ACS Omega, 2019, 4, 17209-17222.	3.5	26
65	Single-step selective oxidation of methane to methanol in the aqueous phase on iridium-based catalysts. Applied Catalysis B: Environmental, 2021, 292, 120124.	20.2	26
66	Communication: Suppression of sintering of size-selected Pd clusters under realistic reaction conditions for catalysis. Journal of Chemical Physics, 2011, 134, 141101.	3.0	25
67	Coordination Assembly of Discoid Nanoparticles. Angewandte Chemie - International Edition, 2015, 54, 8966-8970.	13.8	25
68	Cleavage of the Câ€“Oâ€“C bond on size-selected subnanometer cobalt catalysts and on ALD-cobalt coated nanoporous membranes. Applied Catalysis A: General, 2011, 393, 29-35.	4.3	24
69	Stable Subnanometer Cobalt Oxide Clusters on Ultrananocrystalline Diamond and Alumina Supports: Oxidation State and the Origin of Sintering Resistance. Journal of Physical Chemistry C, 2012, 116, 24027-24034.	3.1	24
70	Synthesis and characterization of Au-core Ag-shell nanoparticles from unmodified apoferritin. Journal of Materials Chemistry, 2012, 22, 14458.	6.7	22
71	Cu wetting and interfacial stability on clean and nitrided tungsten surfaces. Applied Surface Science, 2001, 171, 275-282.	6.1	19
72	Effects of Metal Composition and Ratio on Peptide-Templated Multimetallic PdPt Nanomaterials. ACS Applied Materials & Interfaces, 2017, 9, 8030-8040.	8.0	19

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73	Size- and Support-Dependent Evolution of the Oxidation State and Structure by Oxidation of Subnanometer Cobalt Clusters. Journal of Physical Chemistry A, 2014, 118, 8477-8484.	2.5	18
74	Controlling the 3-D morphology of Niâ€"Fe-based nanocatalysts for the oxygen evolution reaction. Nanoscale, 2019, 11, 8170-8184.	5.6	18
75	Origins of Irreversibility in Layered NaNi_{<i>x</i>}Fe_{<i>y</i>}Mn_{<i>z</i>}O₂ Cathode Materials for Sodium Ion Batteries. ACS Applied Materials & Interfaces, 2020, 12, 51397-51408.	8.0	18
76	Electrocatalytic Isoxazolineâ€"Nanocarbon Metal Complexes. Journal of the American Chemical Society, 2021, 143, 10441-10453.	13.7	18
77	Controlling the Particle Size of ZrO₂ Nanoparticles in Hydrothermally Stable ZrO₂/MWCNT Composites. Langmuir, 2012, 28, 17159-17167.	3.5	17
78	In Situ Small-Angle X-ray Scattering from Pd Nanoparticles Formed by Thermal Decomposition of Organo-Pd Catalyst Precursors Dissolved in Hydrocarbons. Journal of Physical Chemistry C, 2013, 117, 22627-22635.	3.1	16
79	Site-Selective Probes of Mixed-Node Metal Organic Frameworks for Photocatalytic Hydrogen Generation. Journal of Physical Chemistry C, 2020, 124, 1405-1412.	3.1	16
80	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
81	Structural reversibility of Cu doped NU-1000 MOFs under hydrogenation conditions. Journal of Chemical Physics, 2020, 152, 084703.	3.0	16
82	Anti-P2 structured Na0.5NbO2and its negative strain effect. Energy and Environmental Science, 2015, 8, 2753-2759.	30.8	14
83	Erbium(III) Coordination at the Surface of an Aqueous Electrolyte. Journal of Physical Chemistry B, 2015, 119, 8734-8745.	2.6	14
84	Water Oxidation by Sizeâ€Selected Co₂₇ Clusters Supported on Fe₂O₃. ChemSusChem, 2016, 9, 3005-3011.	6.8	14
85	Vapor Phase Hydrogenolysis of Furanics Utilizing Reduced Cobalt Mixed Metal Oxide Catalysts. ChemCatChem, 2017, 9, 1815-1823.	3.7	14
86	Identification and Quantification of Technetium Species in Hanford Waste Tank AN-102. Analytical Chemistry, 2020, 92, 13961-13970.	6.5	14
87	A study of the electronic structure and reactivity of V/TiO2(110) with metastable impact electron spectroscopy (MIES) and ultraviolet photoelectron spectroscopy (UPS). Topics in Catalysis, 2006, 38, 127-132.	2.8	13
88	Fabrication of ultrafine manganese oxide-decorated carbon nanofibers for high-performance electrochemical capacitors. Electrochimica Acta, 2016, 211, 524-532.	5.2	13
89	Facile fabrication of MnOx and N co-doped hierarchically porous carbon microspheres for high-performance supercapacitors. Electrochimica Acta, 2016, 191, 1018-1025.	5.2	13
90	Dynamic Field Modulation of the Octahedral Framework in Metal Oxide Heterostructures. Advanced Materials, 2018, 30, e1804775.	21.0	13

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91	Effect of Particle Size upon Pt/SiO₂ Catalytic Cracking of <i>n</i>â€Dodecane under Supercritical Conditions: Inâ€...situ SAXS and XANES Studies. ChemCatChem, 2017, 9, 99-102.	3.7	11
92	Gallstone-Formation-Inspired Bimetallic Supra-nanostructures for Computed-Tomography-Image-Guided Radiation Therapy. ACS Applied Nano Materials, 2018, 1, 4602-4611.	5.0	10
93	Spectroscopic Characterization of Aqua [<i>fac</i>-Tc(CO)₃]⁺ Complexes at High Ionic Strength. Inorganic Chemistry, 2018, 57, 6903-6912.	4.0	10
94	Deactivation of Three-Way Catalysts Coated within Gasoline Particulate Filters by Engine-Oil-Derived Chemicals. Industrial & Engineering Chemistry Research, 2019, 58, 10724-10736.	3.7	10
95	Selective growth of Al2O3 on size-selected platinum clusters by atomic layer deposition. Surface Science, 2020, 691, 121485.	1.9	10
96	Silver-Loaded Xerogel Nanostructures for Iodine Capture: A Comparison of Thiolated versus Unthiolated Sorbents. ACS Applied Nano Materials, 2022, 5, 9478-9494.	5.0	10
97	Manganese Catalyzed Partial Oxidation of Light Alkanes. ACS Catalysis, 2022, 12, 5356-5370.	11.2	9
98	Amine-functionalized siloxane oligomer facilitated synthesis of subnanometer colloidal Au particles. Journal of Materials Chemistry A, 2015, 3, 1743-1751.	10.3	8
99	Single-Atom Metal Oxide Sites as Traps for Charge Separation in the Zirconium-Based Metalâ€"Organic Framework NDCâ€"NU-1000. Energy & Fuels, 0, , .	5.1	8
100	Facile Synthesis of Pt Carbide Nanomaterials and Their Catalytic Applications. , 2021, 3, 179-186.		8
101	<i>In situ</i>, <i>operando</i> studies on the size and structure of supported Pt catalysts under supercritical conditions by simultaneous synchrotron-based X-ray techniques. Physical Chemistry Chemical Physics, 2019, 21, 11740-11747.	2.8	7
102	Identification of engine oil-derived ash nanoparticles and ash formation process for a gasoline direct-injection engine. Environmental Pollution, 2021, 272, 116390.	7.5	6
103	Spherosilicates with peripheral malonic acid and vinyl end groups. Chemical Communications, 2013, 49, 3357.	4.1	5
104	Crystalâ€Growthâ€Dominated Fabrication of Metalâ€"Organic Frameworks with Orderly Distributed Hierarchical Porosity. Angewandte Chemie, 2020, 132, 2478-2485.	2.0	5
105	Unraveling the Intermediate Species of Co₃O₄ Hollow Spheres for CO₂ Photoreduction by In Situ X-ray Absorption Spectroscopy. Journal of Physical Chemistry C, 2020, 124, 6215-6220.	3.1	5
106	Covalent heterogenization of discrete bis(8-quinolinolato)dioxomolybdenum(VI) and dioxotungsten(VI) complexes by a metal-template/metal-exchange method: Cyclooctene epoxidation catalysts with enhanced performances. Journal of Molecular Catalysis A, 2014, 392, 134-142.	4.8	3
107	Catalysis by Supported Size-Selected Clusters. , 2010, , 345-365.		2