Iradwikanari Waluyo

List of Publications by Year
in descending order

95 papers	3,767 citations	136950 32 h-index	138484 58 g-index
96 all docs	96 docs citations	96 times ranked	5362 citing authors

#	Article	IF	Citations
1	Dry Reforming of Methane on a Highlyâ€Active Niâ€CeO₂ Catalyst: Effects of Metalâ€Support Interactions on Câ˜'H Bond Breaking. Angewandte Chemie - International Edition, 2016, 55, 7455-7459.	13.8	276
2	Gradient Li-rich oxide cathode particles immunized against oxygen release by a molten salt treatment. Nature Energy, 2019, 4, 1049-1058.	39.5	248
3	X-ray absorption spectroscopy and X-ray Raman scattering of water and ice; an experimental view. Journal of Electron Spectroscopy and Related Phenomena, 2010, 177, 99-129.	1.7	158
4	Hydrogenation of CO₂ to Methanol on CeO_{<i>x</i>}/Cu(111) and ZnO/Cu(111) Catalysts: Role of the Metalâ€"Oxide Interface and Importance of Ce³⁺ Sites. Journal of Physical Chemistry C, 2016, 120, 1778-1784.	3.1	156
5	Additive engineering for robust interphases to stabilize high-Ni layered structures at ultra-high voltage of 4.8â€‰V. Nature Energy, 2022, 7, 484-494.	39.5	138
6	Hydrogenation of CO₂ on ZnO/Cu(100) and ZnO/Cu(111) Catalysts: Role of Copper Structure and Metalâ€"Oxide Interface in Methanol Synthesis. Journal of Physical Chemistry B, 2018, 122, 794-800.	2.6	129
7	Structure, Chemistry, and Charge Transfer Resistance of the Interface between Li₇La₃Zr₂O₁₂ Electrolyte and LiCoO₂ Cathode. Chemistry of Materials, 2018, 30, 6259-6276.	6.7	125
8	Gradient-morph LiCoO₂ single crystals with stabilized energy density above 3400 W h L^{â˜'1}. Energy and Environmental Science, 2020, 13, 1865-1878.	30.8	118
9	The structure of water in the hydration shell of cations from x-ray Raman and small angle x-ray scattering measurements. Journal of Chemical Physics, 2011, 134, 064513.	3.0	111
10	A Surface Seâ€Substituted LiCo[O_{2â˜'}<i>_{Î´}</i>Se<i>_{Î´}</i>] Cathode with Ultrastable Highâ€Voltage Cycling in Pouch Fullâ€Cells. Advanced Materials, 2020, 32, e2005182.	21.0	110
11	Local Modulation of Single-Atomic Mn Sites for Enhanced Ambient Ammonia Electrosynthesis. ACS Catalysis, 2021, 11, 509-516.	11.2	93
12	Bi-directional tuning of thermal transport in SrCoOx with electrochemically induced phase transitions. Nature Materials, 2020, 19, 655-662.	27.5	88
13	Stabilizing electrodeâ€"electrolyte interfaces to realize high-voltage Li||LiCoO₂ batteries by a sulfonamide-based electrolyte. Energy and Environmental Science, 2021, 14, 6030-6040.	30.8	84
14	Ambient pressure XPS and IRRAS investigation of ethanol steam reforming on Niâ€"CeO₂(111) catalysts: an in situ study of Câ€"C and Oâ€"H bond scission. Physical Chemistry Chemical Physics, 2016, 18, 16621-16628.	2.8	83
15	Protonic solid-state electrochemical synapse for physical neural networks. Nature Communications, 2020, 11, 3134.	12.8	82
16	Stabilized Coâ€Free Liâ€Rich Oxide Cathode Particles with An Artificial Surface Prereconstruction. Advanced Energy Materials, 2020, 10, 2001120.	19.5	74
17	A different view of structure-making and structure-breaking in alkali halide aqueous solutions through x-ray absorption spectroscopy. Journal of Chemical Physics, 2014, 140, 244506.	3.0	70
18	Enhanced Stability of Pt-Cu Single-Atom Alloy Catalysts: In Situ Characterization of the Pt/Cu(111) Surface in an Ambient Pressure of CO. Journal of Physical Chemistry C, 2018, 122, 4488-4495.	3.1	68

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19	Interfacial engineering for stabilizing polymer electrolytes with 4V cathodes in lithium metal batteries at elevated temperature. Nano Energy, 2020, 72, 104655.	16.0	68
20	Wet Chemical Growth and Thermocatalytic Activity of Cu-Based Nanoparticles Supported on TiO₂ Nanoparticles/HOPG: In Situ Ambient Pressure XPS Study of the CO₂ Hydrogenation Reaction. ACS Catalysis, 2019, 9, 6783-6802.	11.2	62
21	Improving the Electrochemical Performance and Structural Stability of the LiNi_{0.8}Co_{0.15}Al_{0.05}O₂ Cathode Material at High-Voltage Charging through Ti Substitution. ACS Applied Materials & Interfaces, 2019, 11, 23213-23221.	8.0	57
22	Strongly correlated perovskite lithium ion shuttles. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 9672-9677.	7.1	55
23	Edge-Enhanced Oxygen Evolution Reactivity at Ultrathin, Au-Supported Fe₂O₃ Electrocatalysts. ACS Catalysis, 2019, 9, 5375-5382.	11.2	46
24	Oxidation and Reduction under Cover: Chemistry at the Confined Space between Ultrathin Nanoporous Silicates and Ru(0001). Journal of Physical Chemistry C, 2016, 120, 8240-8245.	3.1	44
25	Ultrafine CoO nanoparticles as an efficient cocatalyst for enhanced photocatalytic hydrogen evolution. Nanoscale, 2019, 11, 15633-15640.	5.6	44
26	Interfaces in heterogeneous catalytic reactions: Ambient pressure XPS as a tool to unravel surface chemistry. Journal of Electron Spectroscopy and Related Phenomena, 2017, 221, 28-43.	1.7	41
27	CO Oxidation Mechanisms on CoO_{<i>x</i>}-Pt Thin Films. Journal of the American Chemical Society, 2020, 142, 8312-8322.	13.7	39
28	Deconvolution of octahedral Pt3Ni nanoparticle growth pathway from in situ characterizations. Nature Communications, 2018, 9, 4485.	12.8	37
29	Designing perovskite catalysts for controlled active-site exsolution in the microwave dry reforming of methane. Applied Catalysis B: Environmental, 2021, 284, 119711.	20.2	37
30	Tuning Point Defects by Elastic Strain Modulates Nanoparticle Exsolution on Perovskite Oxides. Chemistry of Materials, 2021, 33, 5021-5034.	6.7	36
31	Dry Reforming of Methane on a Highlyâ€Active Niâ€CeO₂ Catalyst: Effects of Metalâ€Support Interactions on Câˆ'H Bond Breaking. Angewandte Chemie, 2016, 128, 7581-7585.	2.0	35
32	Synthesis and Characterization of a Molecularly Designed Highâ€Performance Organodisulfide as Cathode Material for Lithium Batteries. Advanced Energy Materials, 2019, 9, 1900705.	19.5	34
33	Accelerated Cu₂O Reduction by Single Pt Atoms at the Metal-Oxide Interface. ACS Catalysis, 2020, 10, 4215-4226.	11.2	34
34	Inverse Catalysts for CO Oxidation: Enhanced Oxideâ€"Metal Interactions in MgO/Au(111), CeO₂/Au(111), and TiO₂/Au(111). ACS Sustainable Chemistry and Engineering, 2017, 5, 10783-10791.	6.7	32
35	Energy Level Shifts at the Silica/Ru(0001) Heterojunction Driven by Surface and Interface Dipoles. Topics in Catalysis, 2017, 60, 481-491.	2.8	32
36	Distinguishing electronic contributions of surface and sub-surface transition metal atoms in Ti-based MXenes. 2D Materials, 2020, 7, 025015.	4.4	31

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37	Microscopic relaxation channels in materials for superconducting qubits. Communications Materials, 2021, 2, .	6.9	31
38	New In-Situ and Operando Facilities for Catalysis Science at NSLS-II: The Deployment of Real-Time, Chemical, and Structure-Sensitive X-ray Probes. Synchrotron Radiation News, 2017, 30, 30-37.	0.8	28
39	<i>In Situ</i> Characterization of Mesoporous Co/CeO₂ Catalysts for the High-Temperature Water-Gas Shift. Journal of Physical Chemistry C, 2018, 122, 8998-9008.	3.1	28
40	Thermally Driven Interfacial Degradation between Li₇La₃Zr₂O₁₂ Electrolyte and LiNi_{0.6}Mn_{0.2}Co_{0.2}O₂ Cathode. Chemistry of Materials, 2020, 32, 9531-9541.	6.7	27
41	Simultaneous Monitoring of Surface and Gas Phase Species during Hydrogenation of Acetylene over Pt(111) by Polarization-Dependent Infrared Spectroscopy. ACS Catalysis, 2015, 5, 4725-4733.	11.2	25
42	Cu supported on mesoporous ceria: water gas shift activity at low Cu loadings through metalâ€“support interactions. Physical Chemistry Chemical Physics, 2017, 19, 17708-17717.	2.8	25
43	Surface Defect Chemistry and Electronic Structure of Pr0.1Ce0.9O2â^'Î´ Revealed in Operando. Chemistry of Materials, 2018, 30, 2600-2606.	6.7	24
44	Enhanced, robust light-driven H₂ generation by gallium-doped titania nanoparticles. Physical Chemistry Chemical Physics, 2018, 20, 2104-2112.	2.8	23
45	Nucleation and Initial Stages of Growth during the Atomic Layer Deposition of Titanium Oxide on Mesoporous Silica. Nano Letters, 2020, 20, 6884-6890.	9.1	23
46	Bulk vs Intrinsic Activity of NiFeO_{<i>x</i>} Electrocatalysts in the Oxygen Evolution Reaction: The Influence of Catalyst Loading, Morphology, and Support Material. ACS Catalysis, 2020, 10, 11768-11778.	11.2	23
47	Understanding three-dimensionally interconnected porous oxide-derived copper electrocatalyst for selective carbon dioxide reduction. Journal of Materials Chemistry A, 2019, 7, 27576-27584.	10.3	21
48	The Role of Electron Localization in Covalency and Electrochemical Properties of Lithiumâ€Ion Battery Cathode Materials. Advanced Functional Materials, 2021, 31, 2001633.	14.9	21
49	Modification of the Coordination Environment of Active Sites on MoC for Highâ€Efficiency CH₄ Production. Advanced Energy Materials, 2021, 11, 2100044.	19.5	21
50	Potassium-Promoted Reduction of Cu₂O/Cu(111) by CO. Journal of Physical Chemistry C, 2019, 123, 8057-8066.	3.1	20
51	Hydration of gadolinium oxide (<mml:math) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 207 Td (xmlns:mml="http://www.w3.org/199 its effect on voltage-induced Co oxidation in a <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Pt</mml:mi><mml:mo>/</mml:mo><mml:mi>Co</mml mathvariant="normal">O</mml:mi><mml:mi>x</mml:mi></mml:msub>. Physical Review Materials, 2019, 3	2.4	20
52	Exsolution Synthesis of Nanocomposite Perovskites with Tunable Electrical and Magnetic Properties. Advanced Functional Materials, 2022, 32, 2108005.	14.9	20
53	Increased fraction of weakened hydrogen bonds of water in aerosol OT reverse micelles. Journal of Chemical Physics, 2009, 131, 031103.	3.0	19
54	Solvation structures of protons and hydroxide ions in water. Journal of Chemical Physics, 2013, 138, 154506.	3.0	19

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55	Threshold catalytic onset of carbon formation on CeO₂during CO₂electrolysis: mechanism and inhibition. Journal of Materials Chemistry A, 2019, 7, 15233-15243.	10.3	19
56	Increased fraction of low-density structures in aqueous solutions of fluoride. Journal of Chemical Physics, 2011, 134, 224507.	3.0	18
57	Investigation of Water Dissociation and Surface Hydroxyl Stability on Pure and Ni-Modified CoOOH by Ambient Pressure Photoelectron Spectroscopy. Journal of Physical Chemistry B, 2018, 122, 810-817.	2.6	18
58	Observation of Tunneling in the Hydrogenation of Atomic Nitrogen on the Ru(001) Surface to Form NH. Journal of Physical Chemistry Letters, 2013, 4, 3779-3786.	4.6	17
59	Subtle and reversible interactions of ambient pressure H2 with Pt/Cu(111) single-atom alloy surfaces. Surface Science, 2019, 679, 207-213.	1.9	17
60	Interface Sensitivity in Electron/Ion Yield X-ray Absorption Spectroscopy: The TiO₂â€“H₂O Interface. Journal of Physical Chemistry Letters, 2021, 12, 10212-10217.	4.6	17
61	Avoiding CO₂ Improves Thermal Stability at the Interface of Li₇La₃Zr₂O₁₂ Electrolyte with Layered Oxide Cathodes. Advanced Energy Materials, 2022, 12, .	19.5	17
62	Enhancement in Oxygen Reduction Reaction Activity of Nitrogenâ€Doped Carbon Nanostructures in Acidic Media through Chlorideâ€Ion Exposure. ChemElectroChem, 2018, 5, 1966-1975.	3.4	16
63	Structure and Chemical State of Cesium on Well-Defined Cu(111) and Cu₂O/Cu(111) Surfaces. Journal of Physical Chemistry C, 2020, 124, 3107-3121.	3.1	16
64	Spectroscopic evidence for the formation of 3-D crystallites during isothermal heating of amorphous ice on Pt(111). Surface Science, 2008, 602, 2004-2008.	1.9	15
65	Long-range ionâ€“water and ionâ€“ion interactions in aqueous solutions. Physical Chemistry Chemical Physics, 2015, 17, 8427-8430.	2.8	15
66	Ultrathin Amorphous Titania on Nanowires: Optimization of Conformal Growth and Elucidation of Atomic-Scale Motifs. Nano Letters, 2019, 19, 3457-3463.	9.1	14
67	Catalytic Oxidation of CO on a Curved Pt(111) Surface: Simultaneous Ignition at All Facets through a Transient COâ€O Complex**. Angewandte Chemie - International Edition, 2020, 59, 20037-20043.	13.8	13
68	In situ ambient pressure XPS study of Pt/Cu(111) single-atom alloy in catalytically relevant reaction conditions. Journal Physics D: Applied Physics, 2021, 54, 194004.	2.8	12
69	Enhanced Catalysis under 2D Silica: A CO Oxidation Study. Angewandte Chemie - International Edition, 2021, 60, 10888-10894.	13.8	12
70	Studying two-dimensional zeolites with the tools of surface science: MFI nanosheets on Au(111). Catalysis Today, 2017, 280, 283-288.	4.4	11
71	Structural and chemical state of doped and impregnated mesoporous Ni/CeO2 catalysts for the water-gas shift. Applied Catalysis A: General, 2018, 567, 1-11.	4.3	10
72	Spectroscopic characterization of C2Hx intermediates in the dissociation of vinyl iodide on Pt(111). Surface Science, 2015, 637-638, 29-34.	1.9	9

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73	Imaging the ordering of a weakly adsorbed two-dimensional condensate: ambient-pressure microscopy and spectroscopy of CO₂ molecules on rutile TiO₂(110). Physical Chemistry Chemical Physics, 2018, 20, 13122-13126.	2.8	9
74	Adsorbate-driven morphological changes on Cu(111) nano-pits. Physical Chemistry Chemical Physics, 2015, 17, 3032-3038.	2.8	8
75	Highly Active and Stable Carbon Nanosheets Supported Iron Oxide for Fischerâ€Tropsch to Olefins Synthesis. ChemCatChem, 2019, 11, 1625-1632.	3.7	8
76	Morphology and chemical behavior of model CsOx/Cu2O/Cu(111) nanocatalysts for methanol synthesis: Reaction with CO2 and H2. Journal of Chemical Physics, 2020, 152, 044701.	3.0	8
77	Reusing Face Covering Masks: Probing the Impact of Heat Treatment. ACS Sustainable Chemistry and Engineering, 2021, 9, 13545-13558.	6.7	8
78	Direct Interaction of Water Ice with Hydrophobic Methyl-Terminated Si(111). Journal of Physical Chemistry C, 2010, 114, 19004-19008.	3.1	7
79	Strain-Dependent Surface Defect Equilibria of Mixed Ionic-Electronic Conducting Perovskites. Chemistry of Materials, 2022, 34, 5138-5150.	6.7	7
80	Ambient Pressure X-ray Photoelectron Spectroscopy at the IOS (23-ID-2) Beamline at the National Synchrotron Light Source II. Synchrotron Radiation News, 0, , 1-8.	0.8	7
81	Thermally Aged Liâ€"Mnâ€"O Cathode with Stabilized Hybrid Cation and Anion Redox. Nano Letters, 2021, 21, 4176-4184.	9.1	6
82	Thermally-driven reactivity of Li_{0.35}La_{0.55}TiO₃solid electrolyte with LiCoO₂cathode. Journal of Materials Chemistry A, 2022, 10, 3485-3494.	10.3	6
83	Aminovinylidene: A Stable Surface Intermediate in the Dehydrogenation of Ethylamine on Pt(1â€‰1â€‰1). ChemCatChem, 2012, 4, 1075-1078.	3.7	5
84	Adsorption and activation of CO2 on Pt/CeOx/TiO2(110): Role of the Pt-CeOx interface. Surface Science, 2021, 710, 121852.	1.9	5
85	Unraveling the role of tungsten as a minor alloying element in the oxidation NiCr alloys. Npj Materials Degradation, 2022, 6, .	5.8	5
86	Spectroscopic Identification of Surface Intermediates in the Dehydrogenation of Ethylamine on Pt(111). Journal of Physical Chemistry C, 2013, 117, 4666-4679.	3.1	3
87	Hydrogenation and dehydrogenation reactions of C2Hx moieties on the Ru(001) surface. Surface Science, 2016, 650, 144-148.	1.9	3
88	Multimodal Synchrotron Approach: Research Needs and Scientific Vision. Synchrotron Radiation News, 2020, 33, 44-47.	0.8	3
89	Spectroscopic Identification of Surface Intermediates in the Decomposition of Methylamine on Ru(001). Journal of Physical Chemistry C, 2017, 121, 9424-9432.	3.1	2
90	Xenon Trapping in Metalâ€Supported Silica Nanocages. Small, 2021, 17, 2103661.	10.0	2

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91	Water Formation Reaction under Interfacial Confinement: Al0.25Si0.75O2 on O-Ru(0001). Nanomaterials, 2022, 12, 183.	4.1	2
92	Enhanced Catalysis under 2D Silica: A CO Oxidation Study. Angewandte Chemie, 2021, 133, 10983-10989.	2.0	1
93	Investigating the Elusive Nature of Atomic O from CO₂ Dissociation on Pd(111): The Role of Surface Hydrogen. Journal of Physical Chemistry C, 2022, 126, 7870-7879.	3.1	1
94	Elucidating CO Oxidation Pathways on Rh Atoms and Clusters on the â€œ29â€•Cu₂O/Cu(111) Surface. Journal of Physical Chemistry C, 2022, 126, 11091-11102.	3.1	1
95	Xenon Trapping in Metalâ€Supported Silica Nanocages (Small 39/2021). Small, 2021, 17, 2170204.	10.0	0