Detre Teschner

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/10378/publications.pdf

Version: 2024-02-01

63
papers

10,220
citations

61945
43
h-index

102432
66
g-index

67
all docs

67
docs citations

67
times ranked

10852
citing authors

#	Article	IF	Citations
1	Electrocatalytic Oxygen Evolution Reaction in Acidic Environments â€“ Reaction Mechanisms and Catalysts. Advanced Energy Materials, 2017, 7, 1601275.	10.2	847
2	The Roles of Subsurface Carbon and Hydrogen in Palladium-Catalyzed Alkyne Hydrogenation. Science, 2008, 320, 86-89.	6.0	800
3	Reversible amorphization and the catalytically active state of crystalline Co3O4 during oxygen evolution. Nature Communications, 2015, 6, 8625.	5.8	694
4	In-situ structure and catalytic mechanism of NiFe and CoFe layered double hydroxides during oxygen evolution. Nature Communications, 2020, 11, 2522.	5.8	594
5	Molecular Insight in Structure and Activity of Highly Efficient, Low-Ir Irâ€“Ni Oxide Catalysts for Electrochemical Water Splitting (OER). Journal of the American Chemical Society, 2015, 137, 13031-13040.	6.6	565
6	Electrochemical Catalystâ€“Support Effects and Their Stabilizing Role for IrO_{<i>x</i>} Nanoparticle Catalysts during the Oxygen Evolution Reaction. Journal of the American Chemical Society, 2016, 138, 12552-12563.	6.6	451
7	Pdâˆ’Ga Intermetallic Compounds as Highly Selective Semihydrogenation Catalysts. Journal of the American Chemical Society, 2010, 132, 14745-14747.	6.6	430
8	A unique oxygen ligand environment facilitates water oxidation in hole-doped IrNiOx coreâ€“shell electrocatalysts. Nature Catalysis, 2018, 1, 841-851.	16.1	424
9	Key role of chemistry versus bias in electrocatalytic oxygen evolution. Nature, 2020, 587, 408-413.	13.7	405
10	Oxideâ€Supported IrNiO_{<i>x</i>} Coreâ€“Shell Particles as Efficient, Costâ€Effective, and Stable Catalysts for Electrochemical Water Splitting. Angewandte Chemie - International Edition, 2015, 54, 2975-2979.	7.2	384
11	Ni Single Atom Catalysts for CO₂ Activation. Journal of the American Chemical Society, 2019, 141, 2451-2461.	6.6	291
12	The electronic structure of iridium and its oxides. Surface and Interface Analysis, 2016, 48, 261-273.	0.8	288
13	IrOx core-shell nanocatalysts for cost- and energy-efficient electrochemical water splitting. Chemical Science, 2014, 5, 2955-2963.	3.7	278
14	Alkyne hydrogenation over Pd catalysts: A new paradigm. Journal of Catalysis, 2006, 242, 26-37.	3.1	268
15	How to Control the Selectivity of Palladiumâ€based Catalysts in Hydrogenation Reactions: The Role of Subsurface Chemistry. ChemCatChem, 2012, 4, 1048-1063.	1.8	223
16	Methanol Oxidation on a Copper Catalyst Investigated Using in Situ X-ray Photoelectron Spectroscopyâ€. Journal of Physical Chemistry B, 2004, 108, 14340-14347.	1.2	221
17	Alloys in catalysis: phase separation and surface segregation phenomena in response to the reactive environment. Catalysis Science and Technology, 2012, 2, 1787.	2.1	203
18	Understanding Palladium Hydrogenation Catalysts: When the Nature of the Reactive Molecule Controls the Nature of the Catalyst Active Phase. Angewandte Chemie - International Edition, 2008, 47, 9274-9278.	7.2	185

#	ARTICLE	IF	CITATIONS
19	State of Transition Metal Catalysts During Carbon Nanotube Growth. Journal of Physical Chemistry C, 2009, 113, 1648-1656.	1.5	166
20	Operando Insights into CO Oxidation on Cobalt Oxide Catalysts by NAP-XPS, FTIR, and XRD. ACS Catalysis, 2018, 8, 8630-8641.	5.5	153
21	Experimental Activity Descriptors for Iridium-Based Catalysts for the Electrochemical Oxygen Evolution Reaction (OER). ACS Catalysis, 2019, 9, 6653-6663.	5.5	136
22	Nanosizing Intermetallic Compounds Onto Carbon Nanotubes: Active and Selective Hydrogenation Catalysts. Angewandte Chemie - International Edition, 2011, 50, 10231-10235.	7.2	128
23	Operando Evidence for a Universal Oxygen Evolution Mechanism on Thermal and Electrochemical Iridium Oxides. Journal of Physical Chemistry Letters, 2018, 9, 3154-3160.	2.1	121
24	Reactivity descriptors for ceria in catalysis. Applied Catalysis B: Environmental, 2016, 197, 299-312.	10.8	112
25	An integrated approach to Deacon chemistry on RuO2-based catalysts. Journal of Catalysis, 2012, 285, 273-284.	3.1	111
26	Influence of bulk composition of the intermetallic compound ZnPd on surface composition and methanol steam reforming properties. Journal of Catalysis, 2012, 285, 41-47.	3.1	99
27	Gold Supported on Graphene Oxide: An Active and Selective Catalyst for Phenylacetylene Hydrogenations at Low Temperatures. ACS Catalysis, 2014, 4, 2369-2373.	5.5	99
28	Dynamics of the MoVTeNb Oxide M1 Phase in Propane Oxidation. Journal of Physical Chemistry C, 2010, 114, 1912-1921.	1.5	92
29	Promoted Ceria: A Structural, Catalytic, and Computational Study. ACS Catalysis, 2013, 3, 2256-2268.	5.5	92
30	In situ surface coverage analysis of RuO2-catalysed HCl oxidation reveals the entropic origin of compensation in heterogeneous catalysis. Nature Chemistry, 2012, 4, 739-745.	6.6	85
31	Dynamics of Palladium on Nanocarbon in the Direct Synthesis of H₂O₂. ChemSusChem, 2014, 7, 179-194.	3.6	78
32	Role of Hydrogen Species in Palladium-Catalyzed Alkyne Hydrogenation. Journal of Physical Chemistry C, 2010, 114, 2293-2299.	1.5	71
33	Addressing electronic effects in the semi-hydrogenation of ethyne by InPd2 and intermetallic Gaâ€“Pd compounds. Journal of Catalysis, 2016, 338, 265-272.	3.1	67
34	Surface dynamics of the intermetallic catalyst Pd2Ga, Part II â€“ Reactivity and stability in liquid-phase hydrogenation of phenylacetylene. Journal of Catalysis, 2014, 309, 221-230.	3.1	62
35	Unravelling Degradation Pathways of Oxideâ€Supported Pt Fuel Cell Nanocatalysts under In Situ Operating Conditions. Advanced Energy Materials, 2018, 8, 1701663.	10.2	62
36	Correlation Between Reactivity and Oxidation State of Cobalt Oxide Catalysts for CO Preferential Oxidation. ACS Catalysis, 2019, 9, 8325-8336.	5.5	58

#	ARTICLE	IF	CITATIONS
37	Strong metal-support interaction and alloying in Pd/ZnO catalysts for CO oxidation. Catalysis Today, 2016, 260, 21-31.	2.2	56
38	HCl Oxidation on IrO₂-Based Catalysts: From Fundamentals to Scale-Up. ACS Catalysis, 2013, 3, 2813-2822.	5.5	52
39	Improved Selectivity by Stabilizing and Exposing Active Phases on Supported Pd Nanoparticles in Acetyleneâ€Selective Hydrogenation. Chemistry - A European Journal, 2012, 18, 14962-14966.	1.7	50
40	Stereoâ€•and Chemoselective Character of Supported CeO₂ Catalysts for Continuousâ€Flow Threeâ€Phase Alkyne Hydrogenation. ChemCatChem, 2014, 6, 1928-1934.	1.8	50
41	Order-Induced Selectivity Increase of Cu60Pd40 in the Semi-Hydrogenation of Acetylene. Materials, 2013, 6, 2958-2977.	1.3	49
42	Oxideâ€Supported IrNiO_{<i>x</i>} Coreâ€"Shell Particles as Efficient, Costâ€Effective, and Stable Catalysts for Electrochemical Water Splitting. Angewandte Chemie, 2015, 127, 3018-3022.	1.6	44
43	Structureâ€"Activity Studies on Highly Active Palladium Hydrogenation Catalysts by X-ray Absorption Spectroscopy. Journal of Physical Chemistry C, 2012, 116, 22375-22385.	1.5	43
44	CO oxidation as a test reaction for strong metalâ€"support interaction in nanostructured Pd/FeO powder catalysts. Applied Catalysis A: General, 2015, 502, 8-17.	2.2	43
45	Do observations on surface coverage-reactivity correlations always describe the true catalytic process? A case study on ceria. Journal of Catalysis, 2013, 297, 119-127.	3.1	42
46	<i>Operando</i> Structureâ€"Activityâ€"Stability Relationship of Iridium Oxides during the Oxygen Evolution Reaction. ACS Catalysis, 2022, 12, 5174-5184.	5.5	40
47	Surface dynamics of the intermetallic catalyst Pd2Ga, Part I â€" Structural stability in UHV and different gas atmospheres. Journal of Catalysis, 2014, 309, 209-220.	3.1	39
48	Atomicâ€Scale Observation of the Metalâ€"Promoter Interaction in Rhâ€Based Syngasâ€Upgrading Catalysts. Angewandte Chemie - International Edition, 2019, 58, 8709-8713.	7.2	35
49	Structure and reactivity of ceriaâ€"zirconia catalysts for bromine and chlorine production via the oxidation of hydrogen halides. Journal of Catalysis, 2015, 331, 128-137.	3.1	34
50	In Situ Determination of Hydrogen Inside a Catalytic Reactor Using Prompt Î³ Activation Analysis. Analytical Chemistry, 2008, 80, 6066-6071.	3.2	32
51	In Situ Formed â€œSn_{1â€"}<i>_X</i>In<i>_X</i>@In_{1â€"}<i>_Y</i>Sn<i>_Y Core@Shell Nanoparticles as Electrocatalysts for CO₂ Reduction to Formate. Advanced Functional Materials, 2021, 31, 2103601.	7.8	32
52	How to control selectivity in alkane oxidation?. Chemical Science, 2019, 10, 2429-2443.	3.7	28
53	Towards Experimental Handbooks in Catalysis. Topics in Catalysis, 2020, 63, 1683-1699.	1.3	28
54	Modular Design of Highly Active Unitized Reversible Fuel Cell Electrocatalysts. ACS Energy Letters, 2021, 6, 177-183.	8.8	22

#	ARTICLE	IF	CITATIONS
55	Interplay between surface chemistry and performance of rutile-type catalysts for halogen production. Chemical Science, 2016, 7, 2996-3005.	3.7	21
56	Influence of Surface State on the Electrochemical Performance of Nickel-Based Cermet Electrodes during Steam Electrolysis. ACS Applied Energy Materials, 2019, 2, 7045-7055.	2.5	20
57	Surface state during activation and reaction of high-performing multi-metallic alkyne hydrogenation catalysts. Chemical Science, 2011, 2, 1379.	3.7	18
58	The Role of Surface Hydroxylation, Lattice Vacancies and Bond Covalency in the Electrochemical Oxidation of Water (OER) on Ni-Depleted Iridium Oxide Catalysts. Zeitschrift Fur Physikalische Chemie, 2020, 234, 787-812.	1.4	12
59	Compositional Decoupling of Bulk and Surface in Open-Structured Complex Mixed Oxides. Journal of Physical Chemistry C, 2020, 124, 23069-23077.	1.5	7
60	Merging operando and computational X-ray spectroscopies to study the oxygen evolution reaction. Current Opinion in Electrochemistry, 2022, 35, 101039.	2.5	3
61	The ladder towards understanding the oxygen evolution reaction. Current Opinion in Electrochemistry, 2021, 30, 100842.	2.5	2
62	Atomicâ€•Scale Observation of the Metalâ€“Promoter Interaction in Rhâ€•Based Syngasâ€•Upgrading Catalysts. Angewandte Chemie, 2019, 131, 8801-8805.	1.6	1
63	Innentitelbild: Atomicâ€•Scale Observation of the Metalâ€“Promoter Interaction in Rhâ€•Based Syngasâ€•Upgrading Catalysts (Angew. Chem. 26/2019). Angewandte Chemie, 2019, 131, 8688-8688.	1.6	0