Charlie Tsai

List of Publications by Year
in descending order

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Version: 2024-02-01

31 papers	10,329 citations	185998 28 h-index	395343 33 g-index
34 all docs	34 docs citations	34 times ranked	13186 citing authors

#	Article	IF	Citations
1	Activating and optimizing MoS2 basal planes for hydrogen evolution through the formation of strained sulphur vacancies. Nature Materials, 2016, 15, 48-53.	13.3	2,021
2	The Challenge of Electrochemical Ammonia Synthesis: A New Perspective on the Role of Nitrogen Scaling Relations. ChemSusChem, 2015, 8, 2180-2186.	3.6	1,018
3	Designing an improved transition metal phosphide catalyst for hydrogen evolution using experimental and theoretical trends. Energy and Environmental Science, 2015, 8, 3022-3029.	15.6	851
4	Tuning the MoS₂ Edge-Site Activity for Hydrogen Evolution via Support Interactions. Nano Letters, 2014, 14, 1381-1387.	4.5	660
5	Promoter Effects of Alkali Metal Cations on the Electrochemical Reduction of Carbon Dioxide. Journal of the American Chemical Society, 2017, 139, 11277-11287.	6.6	653
6	Transition-metal doped edge sites in vertically aligned MoS2 catalysts for enhanced hydrogen evolution. Nano Research, 2015, 8, 566-575.	5.8	594
7	Electrochemical generation of sulfur vacancies in the basal plane of MoS2 for hydrogen evolution. Nature Communications, 2017, 8, 15113.	5.8	555
8	Direct and continuous strain control of catalysts with tunable battery electrode materials. Science, 2016, 354, 1031-1036.	6.0	512
9	Enhancing Electrocatalytic Water Splitting by Strain Engineering. Advanced Materials, 2019, 31, e1807001.	11.1	470
10	Active edge sites in MoSe₂ and WSe₂ catalysts for the hydrogen evolution reaction: a density functional study. Physical Chemistry Chemical Physics, 2014, 16, 13156-13164.	1.3	426
11	Understanding trends in Câ€“H bond activation in heterogeneous catalysis. Nature Materials, 2017, 16, 225-229.	13.3	387
12	Theoretical insights into the hydrogen evolution activity of layered transition metal dichalcogenides. Surface Science, 2015, 640, 133-140.	0.8	315
13	Molybdenum Sulfides and Selenides as Possible Electrocatalysts for CO₂ Reduction. ChemCatChem, 2014, 6, 1899-1905.	1.8	255
14	How Doped MoS₂ Breaks Transition-Metal Scaling Relations for CO₂ Electrochemical Reduction. ACS Catalysis, 2016, 6, 4428-4437.	5.5	254
15	Rational design of MoS₂ catalysts: tuning the structure and activity via transition metal doping. Catalysis Science and Technology, 2015, 5, 246-253.	2.1	152
16	Chemical and Phase Evolution of Amorphous Molybdenum Sulfide Catalysts for Electrochemical Hydrogen Production. ACS Nano, 2016, 10, 624-632.	7.3	109
17	Mechanistic insights into heterogeneous methane activation. Physical Chemistry Chemical Physics, 2017, 19, 3575-3581.	1.3	89
18	Operando Characterization of an Amorphous Molybdenum Sulfide Nanoparticle Catalyst during the Hydrogen Evolution Reaction. Journal of Physical Chemistry C, 2014, 118, 29252-29259.	1.5	87

#	Article	IF	Citations
19	Computational Design of Active Site Structures with Improved Transition-State Scaling for Ammonia Synthesis. ACS Catalysis, 2018, 8, 4017-4024.	5.5	80
20	Investigating Catalystâ€“Support Interactions To Improve the Hydrogen Evolution Reaction Activity of Thiomolybdate [Mo₃S₁₃]^{2â€“} Nanoclusters. ACS Catalysis, 2017, 7, 7126-7130.	5.5	76
21	Automated Discovery and Construction of Surface Phase Diagrams Using Machine Learning. Journal of Physical Chemistry Letters, 2016, 7, 3931-3935.	2.1	74
22	Rapid flame doping of Co to WS₂ for efficient hydrogen evolution. Energy and Environmental Science, 2018, 11, 2270-2277.	15.6	74
23	Understanding the Reactivity of Layered Transition-Metal Sulfides: A Single Electronic Descriptor for Structure and Adsorption. Journal of Physical Chemistry Letters, 2014, 5, 3884-3889.	2.1	70
24	A Highly Active Molybdenum Phosphide Catalyst for Methanol Synthesis from CO and CO₂. Angewandte Chemie - International Edition, 2018, 57, 15045-15050.	7.2	69
25	The Predominance of Hydrogen Evolution on Transition Metal Sulfides and Phosphides under CO₂ Reduction Conditions: An Experimental and Theoretical Study. ACS Energy Letters, 2018, 3, 1450-1457.	8.8	66
26	Two-Dimensional Materials as Catalysts for Energy Conversion. Catalysis Letters, 2016, 146, 1917-1921.	1.4	58
27	Scaling Relations for Adsorption Energies on Doped Molybdenum Phosphide Surfaces. ACS Catalysis, 2017, 7, 2528-2534.	5.5	39
28	Scaling Relationships for Binding Energies of Transition Metal Complexes. Catalysis Letters, 2016, 146, 304-308.	1.4	25
29	Direct Water Decomposition on Transition Metal Surfaces: Structural Dependence and Catalytic Screening. Catalysis Letters, 2016, 146, 718-724.	1.4	18
30	A Highly Active Molybdenum Phosphide Catalyst for Methanol Synthesis from CO and CO₂. Angewandte Chemie, 2018, 130, 15265-15270.	1.6	15
31	Predicting Promoter-Induced Bond Activation on Solid Catalysts Using Elementary Bond Orders. Journal of Physical Chemistry Letters, 2015, 6, 3670-3674.	2.1	13