Charlie Tsai

List of Publications by Year in Descending Order

31 papers	7,571 citations	28 h-index	34 g-index
34 ext. papers	8,991 ext. citations	12.9 avg, IF	6.23 L-index

#	Paper	IF	Citations
31	Enhancing Electrocatalytic Water Splitting by Strain Engineering. *Advanced Materials*, **2019**, 31, e1807001	14	240
30	Computational Design of Active Site Structures with Improved Transition-State Scaling for Ammonia Synthesis. *ACS Catalysis*, **2018**, 8, 4017-4024	13.1	52
29	A Highly Active Molybdenum Phosphide Catalyst for Methanol Synthesis from CO and CO2. *Angewandte Chemie*, **2018**, 130, 15265-15270	3.6	12
28	A Highly Active Molybdenum Phosphide Catalyst for Methanol Synthesis from CO and CO. *Angewandte Chemie - International Edition*, **2018**, 57, 15045-15050	16.4	46
27	Rapid flame doping of Co to WS2 for efficient hydrogen evolution. *Energy and Environmental Science*, **2018**, 11, 2270-2277	35.4	45
26	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	20.1	48
25	Mechanistic insights into heterogeneous methane activation. *Physical Chemistry Chemical Physics*, **2017**, 19, 3575-3581	3.6	72
24	Scaling Relations for Adsorption Energies on Doped Molybdenum Phosphide Surfaces. *ACS Catalysis*, **2017**, 7, 2528-2534	13.1	30
23	Electrochemical generation of sulfur vacancies in the basal plane of MoS for hydrogen evolution. *Nature Communications*, **2017**, 8, 15113	17.4	396
22	Investigating Catalyst–Support Interactions To Improve the Hydrogen Evolution Reaction Activity of Thiomolybdate [Mo3S13]2− Nanoclusters. *ACS Catalysis*, **2017**, 7, 7126-7130	13.1	55
21	Promoter Effects of Alkali Metal Cations on the Electrochemical Reduction of Carbon Dioxide. *Journal of the American Chemical Society*, **2017**, 139, 11277-11287	16.4	381
20	Understanding trends in C-H bond activation in heterogeneous catalysis. *Nature Materials*, **2017**, 16, 225–229	27	276
19	Two-Dimensional Materials as Catalysts for Energy Conversion. *Catalysis Letters*, **2016**, 146, 1917-1921	2.8	39
18	Automated Discovery and Construction of Surface Phase Diagrams Using Machine Learning. *Journal of Physical Chemistry Letters*, **2016**, 7, 3931-3935	6.4	56
17	Direct and continuous strain control of catalysts with tunable battery electrode materials. *Science*, **2016**, 354, 1031-1036	33.3	369
16	How Doped MoS2 Breaks Transition-Metal Scaling Relations for CO2 Electrochemical Reduction. *ACS Catalysis*, **2016**, 6, 4428-4437	13.1	193
15	Chemical and Phase Evolution of Amorphous Molybdenum Sulfide Catalysts for Electrochemical Hydrogen Production. *ACS Nano*, **2016**, 10, 624-32	16.7	86

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14	Direct Water Decomposition on Transition Metal Surfaces: Structural Dependence and Catalytic Screening. *Catalysis Letters*, **2016**, 146, 718-724	2.8	11
13	Scaling Relationships for Binding Energies of Transition Metal Complexes. *Catalysis Letters*, **2016**, 146, 304-308	2.8	18
12	Activating and optimizing MoS2 basal planes for hydrogen evolution through the formation of strained sulphur vacancies. *Nature Materials*, **2016**, 15, 48-53	27	1563
11	Predicting Promoter-Induced Bond Activation on Solid Catalysts Using Elementary Bond Orders. *Journal of Physical Chemistry Letters*, **2015**, 6, 3670-4	6.4	12
10	Designing an improved transition metal phosphide catalyst for hydrogen evolution using experimental and theoretical trends. *Energy and Environmental Science*, **2015**, 8, 3022-3029	35.4	671
9	Rational design of MoS2 catalysts: tuning the structure and activity via transition metal doping. *Catalysis Science and Technology*, **2015**, 5, 246-253	5.5	128
8	The Challenge of Electrochemical Ammonia Synthesis: A New Perspective on the Role of Nitrogen Scaling Relations. *ChemSusChem*, **2015**, 8, 2180-6	8.3	666
7	Theoretical insights into the hydrogen evolution activity of layered transition metal dichalcogenides. *Surface Science*, **2015**, 640, 133-140	1.8	256
6	Transition-metal doped edge sites in vertically aligned MoS2 catalysts for enhanced hydrogen evolution. *Nano Research*, **2015**, 8, 566-575	10	478
5	Tuning the MoS$_2$ edge-site activity for hydrogen evolution via support interactions. *Nano Letters*, **2014**, 14, 1381-7	11.5	533
4	Understanding the Reactivity of Layered Transition-Metal Sulfides: A Single Electronic Descriptor for Structure and Adsorption. *Journal of Physical Chemistry Letters*, **2014**, 5, 3884-9	6.4	57
3	Active edge sites in MoSe2 and WSe2 catalysts for the hydrogen evolution reaction: a density functional study. *Physical Chemistry Chemical Physics*, **2014**, 16, 13156-64	3.6	364
2	Molybdenum Sulfides and Selenides as Possible Electrocatalysts for CO2 Reduction. *ChemCatChem*, **2014**, 6, 1899-1905	5.2	194
1	Operando Characterization of an Amorphous Molybdenum Sulfide Nanoparticle Catalyst during the Hydrogen Evolution Reaction. *Journal of Physical Chemistry C*, **2014**, 118, 29252-29259	3.8	66