Aaron M Appel

List of Publications by Year
in descending order

68 papers	6,781 citations	87723 38 h-index	95083 68 g-index
71 all docs	71 docs citations	71 times ranked	7092 citing authors

#	Article	IF	Citations
1	Role of High-Spin Species and Pendant Amines in Electrocatalytic Alcohol Oxidation by a Nickel Phosphine Complex. ACS Catalysis, 2022, 12, 2729-2740.	5.5	6
2	Molecular Catalysts with Diphosphine Ligands Containing Pendant Amines. Chemical Reviews, 2022, 122, 12427-12474.	23.0	48
3	Thermodynamic Trends for Reduction of CO by Molecular Complexes. Organometallics, 2021, 40, 2039-2050.	1.1	5
4	Electrocatalytic Oxidation of Alcohol with Cobalt Triphosphine Complexes. ACS Catalysis, 2021, 11, 6384-6389.	5.5	13
5	Computational Study of Triphosphine-Ligated Cu(I) Catalysts for Hydrogenation of CO₂ to Formate. Journal of Physical Chemistry A, 2021, 125, 6600-6610.	1.1	4
6	Designing Catalytic Systems Using Binary Solvent Mixtures: Impact of Mole Fraction of Water on Hydride Transfer. Inorganic Chemistry, 2021, 60, 17132-17140.	1.9	2
7	Controlling Pâ€“C/Câ€“H Bond Cleavage in Nickel Bis(diphosphine) Complexes: Reactivity Scope, Mechanism, and Computations. Organometallics, 2020, 39, 3306-3314.	1.1	5
8	Oxidation of Ammonia with Molecular Complexes. Journal of the American Chemical Society, 2020, 142, 17845-17858.	6.6	70
9	The Hâ€¢/H^{â€“} Redox Couple and Absolute Hydration Energy of H^{â€“}. Journal of Physical Chemistry A, 2020, 124, 6084-6095.	1.1	10
10	Thermodynamic and kinetic studies of H₂ and N₂ binding to bimetallic nickel-group 13 complexes and neutron structure of a Ni(Î·²-H₂) adduct. Chemical Science, 2019, 10, 7029-7042.	3.7	38
11	Designing electrochemically reversible H2 oxidation and production catalysts. Nature Reviews Chemistry, 2018, 2, 244-252.	13.8	78
12	Surface Immobilization of Molecular Electrocatalysts for Energy Conversion. Chemistry - A European Journal, 2017, 23, 7626-7641.	1.7	159
13	Reversible Heterolytic Cleavage of the Hâ€“H Bond by Molybdenum Complexes: Controlling the Dynamics of Exchange Between Proton and Hydride. Journal of the American Chemical Society, 2017, 139, 7376-7387.	6.6	48
14	Impact of Weak Agostic Interactions in Nickel Electrocatalysts for Hydrogen Oxidation. Organometallics, 2017, 36, 2275-2284.	1.1	16
15	Hydrogenation of CO₂ in Water Using a Bis(diphosphine) Niâ€“H Complex. ACS Catalysis, 2017, 7, 3089-3096.	5.5	66
16	Changing the Mechanism for CO₂ Hydrogenation Using Solventâ€Dependent Thermodynamics. Angewandte Chemie - International Edition, 2017, 56, 15002-15005.	7.2	42
17	A Bimetallic Nickelâ€“Gallium Complex Catalyzes CO₂ Hydrogenation via the Intermediacy of an Anionic d¹⁰ Nickel Hydride. Journal of the American Chemical Society, 2017, 139, 14244-14250.	6.6	128
18	Changing the Mechanism for CO 2 Hydrogenation Using Solventâ€Dependent Thermodynamics. Angewandte Chemie, 2017, 129, 15198-15201.	1.6	3

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19	Hydrogenation of CO₂ at Room Temperature and Low Pressure with a Cobalt Tetraphosphine Catalyst. Inorganic Chemistry, 2017, 56, 8580-8589.	1.9	39
20	Understanding the Relationship Between Kinetics and Thermodynamics in CO₂ Hydrogenation Catalysis. ACS Catalysis, 2017, 7, 6008-6017.	5.5	43
21	Frontispiece: Surface Immobilization of Molecular Electrocatalysts for Energy Conversion. Chemistry - A European Journal, 2017, 23, .	1.7	0
22	Solvent influence on the thermodynamics for hydride transfer from bis(diphosphine) complexes of nickel. Dalton Transactions, 2016, 45, 10017-10023.	1.6	24
23	Controlling Proton Delivery through Catalyst Structural Dynamics. Angewandte Chemie - International Edition, 2016, 55, 13509-13513.	7.2	48
24	Evaluating the Thermodynamics of Electrocatalytic N₂ Reduction in Acetonitrile. ACS Energy Letters, 2016, 1, 698-704.	8.8	115
25	Thermodynamic Hydricity of Transition Metal Hydrides. Chemical Reviews, 2016, 116, 8655-8692.	23.0	365
26	Triphosphine-Ligated Copper Hydrides for CO₂ Hydrogenation: Structure, Reactivity, and Thermodynamic Studies. Journal of the American Chemical Society, 2016, 138, 9968-9977.	6.6	109
27	Controlling Proton Delivery through Catalyst Structural Dynamics. Angewandte Chemie, 2016, 128, 13707-13711.	1.6	12
28	Facile Pâ˜C/Câ˜H Bondâ€Cleavage Reactivity of Nickel Bis(diphosphine) Complexes. Chemistry - A European Journal, 2016, 22, 9493-9497.	1.7	3
29	Experimental and Computational Mechanistic Studies Guiding the Rational Design of Molecular Electrocatalysts for Production and Oxidation of Hydrogen. Inorganic Chemistry, 2016, 55, 445-460.	1.9	67
30	Synthesis and Characterization of a Triphos Ligand Derivative and the Corresponding Pd^{II} Complexes. European Journal of Inorganic Chemistry, 2015, 2015, 5781-5785.	1.0	5
31	Standard Reduction Potentials for Oxygen and Carbon Dioxide Couples in Acetonitrile and <i>N</i>,<i>N</i>-Dimethylformamide. Inorganic Chemistry, 2015, 54, 11883-11888.	1.9	189
32	Predicting the reactivity of hydride donors in water: thermodynamic constants for hydrogen. Dalton Transactions, 2015, 44, 5933-5938.	1.6	64
33	Nickel phosphine catalysts with pendant amines for electrocatalytic oxidation of alcohols. Chemical Communications, 2015, 51, 6172-6174.	2.2	43
34	A Molecular Copper Catalyst for Hydrogenation of CO₂ to Formate. ACS Catalysis, 2015, 5, 5301-5305.	5.5	140
35	Nickel complexes of a binucleating ligand derived from an SCS pincer. Dalton Transactions, 2015, 44, 747-752.	1.6	16
36	Catalysis at the boundaries. Nature, 2014, 508, 460-461.	13.7	11

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37	Production of hydrogen by electrocatalysis: making the Hâ€“H bond by combining protons and hydrides. Chemical Communications, 2014, 50, 3125-3143.	2.2	244
38	Effects of Phosphineâ€“Carbene Substitutions on the Electrochemical and Thermodynamic Properties of Nickel Complexes. Organometallics, 2014, 33, 2287-2294.	1.1	15
39	Determining the Overpotential for a Molecular Electrocatalyst. ACS Catalysis, 2014, 4, 630-633.	5.5	285
40	Mechanistic insights into hydride transfer for catalytic hydrogenation of CO₂ with cobalt complexes. Dalton Transactions, 2014, 43, 11803-11806.	1.6	44
41	A Cobalt Hydride Catalyst for the Hydrogenation of CO₂: Pathways for Catalysis and Deactivation. ACS Catalysis, 2014, 4, 3755-3762.	5.5	102
42	Thermochemical Insight into the Reduction of CO to CH3OH with [Re(CO)]+ and [Mn(CO)]+ Complexes. Journal of the American Chemical Society, 2014, 136, 8661-8668.	6.6	13
43	Catalytic Oxidation of Alcohol via Nickel Phosphine Complexes with Pendant Amines. ACS Catalysis, 2014, 4, 2951-2958.	5.5	60
44	Rapid, Reversible Heterolytic Cleavage of Bound H₂. Journal of the American Chemical Society, 2013, 135, 11736-11739.	6.6	67
45	A Cobalt-Based Catalyst for the Hydrogenation of CO₂ under Ambient Conditions. Journal of the American Chemical Society, 2013, 135, 11533-11536.	6.6	343
46	Thermochemical and Mechanistic Studies of Electrocatalytic Hydrogen Production by Cobalt Complexes Containing Pendant Amines. Inorganic Chemistry, 2013, 52, 14391-14403.	1.9	82
47	pH-Dependent Reduction Potentials and Proton-Coupled Electron Transfer Mechanisms in Hydrogen-Producing Nickel Molecular Electrocatalysts. Inorganic Chemistry, 2013, 52, 3643-3652.	1.9	50
48	Frontiers, Opportunities, and Challenges in Biochemical and Chemical Catalysis of CO₂ Fixation. Chemical Reviews, 2013, 113, 6621-6658.	23.0	1,786
49	Conformational Dynamics and Proton Relay Positioning in Nickel Catalysts for Hydrogen Production and Oxidation. Organometallics, 2013, 32, 7034-7042.	1.1	36
50	Electrocatalytic Oxidation of Formate with Nickel Diphosphine Dipeptide Complexes: Effect of Ligands Modified with Amino Acids. European Journal of Inorganic Chemistry, 2013, 2013, 5366-5371.	1.0	16
51	Incorporation of Hydrogenâ€Bonding Functionalities into the Second Coordination Sphere of Ironâ€Based Waterâ€Oxidation Catalysts. European Journal of Inorganic Chemistry, 2013, 2013, 3846-3857.	1.0	70
52	Investigating the Role of the Outer-Coordination Sphere in [Ni(P^{Ph}₂N^{Ph-R}₂)₂]²⁺ Hydrogenase Mimics. Inorganic Chemistry, 2012, 51, 6592-6602.	1.9	35
53	Proton Delivery and Removal in [Ni(P^R₂N^{R^{â€²}}₂)₂]²⁺ Hydrogen Production and Oxidation Catalysts. Journal of the American Chemical Society, 2012, 134, 19409-19424.	6.6	122
54	Incorporating Amino Acid Esters into Catalysts for Hydrogen Oxidation: Steric and Electronic Effects and the Role of Water as a Base. Organometallics, 2012, 31, 6719-6731.	1.1	33

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55	Formate oxidation via Î²-deprotonation in [Ni(PR2NRâ€²2)2(CH3CN)]2+ complexes. Energy and Environmental Science, 2012, 5, 6480.	15.6	58
56	[Ni(P^{Ph}₂N^{C6H4X}₂)₂]²⁺ Complexes as Electrocatalysts for H₂ Production: Effect of Substituents, Acids, and Water on Catalytic Rates. Journal of the American Chemical Society, 2011, 133, 5861-5872.	6.6	357
57	Comprehensive Thermochemistry of Wâ€"H Bonding in the Metal Hydrides CpW(CO)₂(IMes)H, [CpW(CO)₂(IMes)H]^{â€¢+}, and [CpW(CO)₂(IMes)(H)₂]⁺. Influence of an <i>N</i>-Heterocyclic Carbene Ligand on Metal Hydride Bond Energies. Journal of the American Chemical Society, 2011, 133, 14604-14613.	6.6	37
58	[Ni(P^{Ph}₂N^{Bn}₂)₂(CH₃CN)]²⁺ as an Electrocatalyst for H₂ Production: Dependence on Acid Strength and Isomer Distribution. ACS Catalysis, 2011, 1, 777-785.	5.5	104
59	Electrocatalytic Oxidation of Formate by [Ni(P^R₂N^{Râ€²}₂)₂(CH₃CN)]²⁺ Complexes. Journal of the American Chemical Society, 2011, 133, 12767-12779.	6.6	107
60	Activation of the Sâˆ’H Group in Fe(Î¼₂-SH)Fe Clusters: Sâˆ’H Bond Strengths and Free Radical Reactivity of the Fe(Î¼₂-SH)Fe Cluster. Journal of the American Chemical Society, 2009, 131, 15212-15224.	6.6	12
61	Free Energy Landscapes for Sâˆ’H Bonds in Cp*₂Mo₂S₄ Complexes. Journal of the American Chemical Society, 2009, 131, 5224-5232.	6.6	39
62	Determination of Sâˆ’H Bond Strengths in Dimolybdenum Tetrasulfide Complexes. Organometallics, 2009, 28, 749-754.	1.1	32
63	Formation and Reactivity of a Persistent Radical in a Dinuclear Molybdenum Complex. Journal of the American Chemical Society, 2008, 130, 8940-8951.	6.6	12
64	Thermodynamic Properties of the Niâˆ’H Bond in Complexes of the Type [HNi(P₂^RN₂^R^{â€˜})₂](BF₄) and Evaluation of Factors That Control Catalytic Activity for Hydrogen Oxidation/Production. Organometallics, 2007, 26, 3918-3924.	1.1	141
65	Molybdenumâˆ’Sulfur Dimers as Electrocatalysts for the Production of Hydrogen at Low Overpotentials. Journal of the American Chemical Society, 2005, 127, 12717-12726.	6.6	196
66	Concentration of Carbon Dioxide by Electrochemically Modulated Complexation with a Binuclear Copper Complex. Inorganic Chemistry, 2005, 44, 3046-3056.	1.9	52
67	Studies of Bicarbonate Binding by Dinuclear and Mononuclear Ni(II) Complexes. Inorganic Chemistry, 2005, 44, 365-373.	1.9	20
68	[Cu(i)(bpp)]BF4: the first extended coordination network prepared solvothermally in an ionic liquid solvent. Chemical Communications, 2002, , 2872-2873.	2.2	175