Fraser A Armstrong

List of Publications by Year
in descending order

207 papers	19,260 citations	7096 78 h-index	12597 132 g-index
212 all docs	212 docs citations	212 times ranked	10204 citing authors

#	Article	IF	Citations
1	Enzymes as Working or Inspirational Electrocatalysts for Fuel Cells and Electrolysis. Chemical Reviews, 2008, 108, 2439-2461.	47.7	918
2	Investigating and Exploiting the Electrocatalytic Properties of Hydrogenases. Chemical Reviews, 2007, 107, 4366-4413.	47.7	687
3	Direct electrochemistry of redox proteins. Accounts of Chemical Research, 1988, 21, 407-413.	15.6	674
4	Structure, Function, and Mechanism of the Nickel Metalloenzymes, CO Dehydrogenase, and Acetyl-CoA Synthase. Chemical Reviews, 2014, 114, 4149-4174.	47.7	470
5	Recent developments in faradaic bioelectrochemistry. Electrochimica Acta, 2000, 45, 2623-2645.	5.2	455
6	Visible Light-Driven H₂ Production by Hydrogenases Attached to Dye-Sensitized TiO₂ Nanoparticles. Journal of the American Chemical Society, 2009, 131, 18457-18466.	13.7	407
7	Reaction of complex metalloproteins studied by protein-film voltammetry. Chemical Society Reviews, 1997, 26, 169.	38.1	398
8	Efficient and Clean Photoreduction of CO₂ to CO by Enzyme-Modified TiO₂ Nanoparticles Using Visible Light. Journal of the American Chemical Society, 2010, 132, 2132-2133.	13.7	392
9	Reversibility and efficiency in electrocatalytic energy conversion and lessons from enzymes. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 14049-14054.	7.1	310
10	How oxygen attacks [FeFe] hydrogenases from photosynthetic organisms. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 17331-17336.	7.1	302
11	A stable electrode for high-potential, electrocatalytic O2 reduction based on rational attachment of a blue copper oxidase to a graphite surface. Chemical Communications, 2007, , 1710.	4.1	285
12	Enzyme Electrokinetics:Â Using Protein Film Voltammetry To Investigate Redox Enzymes and Their Mechanismsâ€. Biochemistry, 2003, 42, 8653-8662.	2.5	266
13	Dynamic electrochemical investigations of hydrogen oxidation and production by enzymes and implications for future technology. Chemical Society Reviews, 2009, 38, 36-51.	38.1	265
14	Energy and environment policy case for a global project on artificial photosynthesis. Energy and Environmental Science, 2013, 6, 695.	30.8	264
15	From The Cover: Electrocatalytic hydrogen oxidation by an enzyme at high carbon monoxide or oxygen levels. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 16951-16954.	7.1	250
16	Effect of a Dispersion of Interfacial Electron Transfer Rates on Steady State Catalytic Electron Transport in [NiFe]-hydrogenase and Other Enzymes. Journal of Physical Chemistry B, 2002, 106, 13058-13063.	2.6	248
17	Catalytic Electron Transport in Chromatium vinosum [NiFe]-Hydrogenase:â€‰ Application of Voltammetry in Detecting Redox-Active Centers and Establishing That Hydrogen Oxidation Is Very Fast Even at Potentials Close to the Reversible H+/H2 Value. Biochemistry, 1999, 38, 8992-8999.	2.5	240
18	Direct comparison of the electrocatalytic oxidation of hydrogen by an enzyme and a platinum catalystElectronic supplementary information (ESI) available: Levich plots at 1% and 10% hydrogen, and a comparison of the effect of carbon monoxide on oxidation currents obtained at platinum and enzyme-modified electrodes. See http://www.rsc.org/suppdata/cc/b2/b201337a/. Chemical Communications, 2002, , 866-867.	4.1	226

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19	A unique iron-sulfur cluster is crucial for oxygen tolerance of a [NiFe]-hydrogenase. Nature Chemical Biology, 2011, 7, 310-318.	8.0	225
20	Bacterial formate hydrogenlyase complex. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E3948-56.	7.1	209
21	Electrochemical Definitions of O2 Sensitivity and Oxidative Inactivation in Hydrogenases. Journal of the American Chemical Society, 2005, 127, 18179-18189.	13.7	208
22	How Escherichia coli Is Equipped to Oxidize Hydrogen under Different Redox Conditions. Journal of Biological Chemistry, 2010, 285, 3928-3938.	3.4	204
23	X-ray crystallographic and computational studies of the O ₂ -tolerant [NiFe]-hydrogenase 1 from <i>Escherichia coli</i>. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 5305-5310.	7.1	194
24	Diode-like behaviour of a mitochondrial electron-transport enzyme. Nature, 1992, 356, 361-362.	27.8	190
25	Hydrogenases: active site puzzles and progress. Current Opinion in Chemical Biology, 2004, 8, 133-140.	6.1	184
26	Mechanistic studies of the â€˜blueâ€™ Cu enzyme, bilirubin oxidase, as a highly efficient electrocatalyst for the oxygen reduction reaction. Physical Chemistry Chemical Physics, 2010, 12, 13962.	2.8	184
27	Visible light-driven CO₂reduction by enzyme coupled CdS nanocrystals. Chemical Communications, 2012, 48, 58-60.	4.1	184
28	Recent developments in dynamic electrochemical studies of adsorbed enzymes and their active sites. Current Opinion in Chemical Biology, 2005, 9, 110-117.	6.1	181
29	Rapid and Efficient Electrocatalytic CO₂/CO Interconversions by <i>Carboxydothermus </i><i>hydrogenoformans</i> CO Dehydrogenase I on an Electrode. Journal of the American Chemical Society, 2007, 129, 10328-10329.	13.7	181
30	Fast-Scan Cyclic Voltammetry of Protein Films on Pyrolytic Graphite Edge Electrodes:Â Characteristics of Electron Exchange. Analytical Chemistry, 1998, 70, 5062-5071.	6.5	174
31	The Difference a Se Makes? Oxygen-Tolerant Hydrogen Production by the [NiFeSe]-Hydrogenase from <i>Desulfomicrobium baculatum</i>. Journal of the American Chemical Society, 2008, 130, 13410-13416.	13.7	172
32	Electrochemical Kinetic Investigations of the Reactions of [FeFe]-Hydrogenases with Carbon Monoxide and Oxygen: Comparing the Importance of Gas Tunnels and Active-Site Electronic/Redox Effects. Journal of the American Chemical Society, 2009, 131, 14979-14989.	13.7	167
33	Why did Nature choose manganese to make oxygen?. Philosophical Transactions of the Royal Society B: Biological Sciences, 2008, 363, 1263-1270.	4.0	164
34	Metal ions and complexes as modulators of protein-interfacial electron transport at graphite electrodes. Journal of Electroanalytical Chemistry and Interfacial Electrochemistry, 1987, 217, 331-366.	0.1	161
35	Atomically defined mechanism for proton transfer to a buried redox centre in a protein. Nature, 2000, 405, 814-817.	27.8	161
36	Reversible electrochemistry of fumarate reductase immobilized on an electrode surface. Direct voltammetric observations of redox centers and their participation in rapid catalytic electron transport. Biochemistry, 1993, 32, 5455-5465.	2.5	160

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37	Catalytic electrochemistry of a [NiFeSe]-hydrogenase on TiO2 and demonstration of its suitability for visible-light driven H₂production. Chemical Communications, 2009, , 550-552.	4.1	160
38	Electrocatalytic mechanism of reversible hydrogen cycling by enzymes and distinctions between the major classes of hydrogenases. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 11516-11521.	7.1	158
39	CO2 photoreduction at enzyme-modified metal oxide nanoparticles. Energy and Environmental Science, 2011, 4, 2393.	30.8	155
40	Enzyme Electrokinetics:Â Electrochemical Studies of the Anaerobic Interconversions between Active and Inactive States ofAllochromatium vinosum[NiFe]-hydrogenase. Journal of the American Chemical Society, 2003, 125, 8505-8514.	13.7	151
41	Fast interfacial electron transfer between cytochrome c peroxidase and graphite electrodes promoted by aminoglycosides: novel electroenzymic catalysis of hydrogen peroxide reduction. Journal of the American Chemical Society, 1987, 109, 7211-7212.	13.7	144
42	Interpreting the Catalytic Voltammetry of Electroactive Enzymes Adsorbed on Electrodes. Journal of Physical Chemistry B, 1998, 102, 6889-6902.	2.6	139
43	Reactions of electron-transfer proteins at electrodes. Quarterly Reviews of Biophysics, 1985, 18, 261-322.	5.7	138
44	Electrochemical Potential-Step Investigations of the Aerobic Interconversions of [NiFe]-Hydrogenase fromAllochromatiumvinosum:Â Insights into the Puzzling Difference between Unready and Ready Oxidized Inactive States. Journal of the American Chemical Society, 2004, 126, 14899-14909.	13.7	133
45	Probing metalloproteins by voltammetry. , 1990, , 137-221.		130
46	Insights into Gated Electron-Transfer Kinetics at the Electrodeâ˘Protein Interface:â€‰ A Square Wave Voltammetry Study of the Blue Copper Protein Azurin. Journal of Physical Chemistry B, 2002, 106, 2304-2313.	2.6	130
47	A kinetic and thermodynamic understanding of O ₂ tolerance in [NiFe]-hydrogenases. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 20681-20686.	7.1	130
48	Order-of-magnitude enhancement of an enzymatic hydrogen-air fuel cell based on pyrenyl carbon nanostructures. Chemical Science, 2012, 3, 1015.	7.4	130
49	Importance of the Protein Framework for Catalytic Activity of [FeFe]-Hydrogenases. Journal of Biological Chemistry, 2012, 287, 1489-1499.	3.4	129
50	Enzymes and bio-inspired electrocatalysts in solar fuel devices. Energy and Environmental Science, 2012, 5, 7470.	30.8	127
51	Electricity from low-level H2 in still air ? an ultimate test for an oxygen tolerant hydrogenase. Chemical Communications, 2006, , 5033.	4.1	126
52	Oxygen-Tolerant [NiFe]-Hydrogenases: The Individual and Collective Importance of Supernumerary Cysteines at the Proximal Fe-S Cluster. Journal of the American Chemical Society, 2011, 133, 16881-16892.	13.7	118
53	Enzyme Electrokinetics:Â Hydrogen Evolution and Oxidation byAllochromatium vinosum[NiFe]-Hydrogenaseâ€. Biochemistry, 2002, 41, 15736-15746.	2.5	116
54	Oxygen-tolerant H2 Oxidation by Membrane-bound [NiFe] Hydrogenases of Ralstonia Species. Journal of Biological Chemistry, 2009, 284, 465-477.	3.4	112

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55	Direct Detection and Measurement of Electron Relays in a Multicentered Enzyme:â€‰ Voltammetry of Electrode-Surface Films of <i>E. coli</i> Fumarate Reductase, an Ironâ^'Sulfur Flavoprotein. Journal of the American Chemical Society, 1997, 119, 11628-11638.	13.7	111
56	Redox Properties of Flavocytochromec3fromShewanella frigidimarinaNCIMB400â€. Biochemistry, 1999, 38, 3302-3309.	2.5	106
57	Electrocatalytic Voltammetry of Succinate Dehydrogenase:Â Direct Quantification of the Catalytic Properties of a Complex Electron-Transport Enzyme. Journal of the American Chemical Society, 1996, 118, 5031-5038.	13.7	105
58	Kinetics and Mechanism of Redox-Coupled, Long-Range Proton Transfer in an Ironâ^'Sulfur Protein. Investigation by Fast-Scan Protein-Film Voltammetry. Journal of the American Chemical Society, 1998, 120, 7085-7094.	13.7	104
59	Insights from protein film voltammetry into mechanisms of complex biological electron-transfer reactionsBased on the presentation given at Dalton Discussion No. 4, 10â€"13th January 2002, Kloster Banz, Germany.. Dalton Transactions RSC, 2002, , 661-671.	2.3	102
60	Mechanism of hydrogen activation by [NiFe] hydrogenases. Nature Chemical Biology, 2016, 12, 46-50.	8.0	102
61	Investigation of metal ion uptake reactivities of [3Fe-4S] clusters in proteins: voltammetry of co-adsorbed ferredoxin-aminocyclitol films at graphite electrodes and spectroscopic identification of transformed clusters. Journal of the American Chemical Society, 1991, 113, 6663-6670.	13.7	97
62	Selective Visible-Light-Driven CO₂ Reduction on a p-Type Dye-Sensitized NiO Photocathode. Journal of the American Chemical Society, 2014, 136, 13518-13521.	13.7	97
63	Characteristics of Enzyme-Based Hydrogen Fuel Cells Using an Oxygen-Tolerant Hydrogenase as the Anodic Catalyst. Journal of Physical Chemistry C, 2010, 114, 12003-12009.	3.1	96
64	Hydrogen Production under Aerobic Conditions by Membrane-Bound Hydrogenases from Ralstonia Species. Journal of the American Chemical Society, 2008, 130, 11106-11113.	13.7	94
65	Electrochemical Origin of Hysteresis in the Electron-Transfer Reactions of Adsorbed Proteins:Â Contrasting Behavior of the â€œBlueâ€•Copper Protein, Azurin, Adsorbed on Pyrolytic Graphite and Modified Gold Electrodes. Journal of Physical Chemistry B, 2001, 105, 5271-5282.	2.6	93
66	Crystal Structure of the O 2 -Tolerant Membrane-Bound Hydrogenase 1 from Escherichia coli in Complex with Its Cognate Cytochrome b. Structure, 2013, 21, 184-190.	3.3	93
67	Novel Redox Chemistry of [3Feâ^'4S] Clusters:Â Electrochemical Characterization of the All-Fe(II) Form of the [3Feâ^'4S] Cluster Generated Reversibly in Various Proteins and Its Spectroscopic Investigation inSulfolobus acidocaldariusFerredoxin. Journal of the American Chemical Society, 1996, 118, 8593-8603.	13.7	92
68	Principles of Sustained Enzymatic Hydrogen Oxidation in the Presence of Oxygen â€" The Crucial Influence of High Potential Feâ€"S Clusters in the Electron Relay of [NiFe]-Hydrogenases. Journal of the American Chemical Society, 2013, 135, 2694-2707.	13.7	91
69	A Voltammetric Study of Interdomain Electron Transfer within Sulfite Oxidase. Journal of the American Chemical Society, 2002, 124, 11612-11613.	13.7	90
70	Electrochemical and spectroscopic characterization of the 7Fe form of ferredoxin III from Desulfovibrio africanus. Biochemical Journal, 1989, 264, 265-273.	3.7	89
71	Enzyme Electrokinetics:â€‰ Energetics of Succinate Oxidation by Fumarate Reductase and Succinate Dehydrogenase. Biochemistry, 2001, 40, 11234-11245.	2.5	88
72	Voltammetric Studies of the Catalytic Mechanism of the Respiratory Nitrate Reductase fromEscherichia coli:Â How Nitrate Reduction and Inhibition Depend on the Oxidation State of the Active Siteâ€. Biochemistry, 2004, 43, 799-807.	2.5	88

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73	EPR Spectroscopic Studies of the Feâ€“S Clusters in the O₂-Tolerant [NiFe]-Hydrogenase Hyd-1 from Escherichia coli and Characterization of the Unique [4Feâ€“3S] Cluster by HYSCORE. Journal of the American Chemical Society, 2012, 134, 15581-15594.	13.7	88
74	Fast voltammetric studies of the kinetics and energetics of coupled electron-transfer reactions in proteins. Faraday Discussions, 2000, 116, 191-203.	3.2	87
75	Determination of an Optimal Potential Window for Catalysis by E. coli Dimethyl Sulfoxide Reductase and Hypothesis on the Role of Mo(V) in the Reaction Pathway. Biochemistry, 2001, 40, 3117-3126.	2.5	87
76	The Mechanism of Activation of a [NiFe]-Hydrogenase by Electrons, Hydrogen, and Carbon Monoxide. Journal of the American Chemical Society, 2005, 127, 6595-6604.	13.7	85
77	Direct Measurement of the Reduction Potential of Catalytically Active CytochromecPeroxidase Compound I:Â Voltammetric Detection of a Reversible, Cooperative Two-Electron Transfer Reaction. Journal of the American Chemical Society, 1996, 118, 263-264.	13.7	84
78	Electron Transfer and Catalytic Control by the Ironâˆ'Sulfur Clusters in a Respiratory Enzyme,E.coliFumarate Reductase. Journal of the American Chemical Society, 2005, 127, 6977-6989.	13.7	83
79	Fast and Selective Photoreduction of CO₂ to CO Catalyzed by a Complex of Carbon Monoxide Dehydrogenase, TiO₂, and Ag Nanoclusters. ACS Catalysis, 2018, 8, 2789-2795.	11.2	82
80	Azotobacter vinelandii ferredoxin I. Aspartate 15 facilitates proton transfer to the reduced [3Fe-4S] cluster.. Journal of Biological Chemistry, 1993, 268, 25928-25939.	3.4	82
81	Electrochemical Investigations of the Interconversions between Catalytic and Inhibited States of the [FeFe]-Hydrogenase fromDesulfovibriodesulfuricans. Journal of the American Chemical Society, 2006, 128, 16808-16815.	13.7	78
82	How Light-Harvesting Semiconductors Can Alter the Bias of Reversible Electrocatalysts in Favor of H₂ Production and CO₂ Reduction. Journal of the American Chemical Society, 2013, 135, 15026-15032.	13.7	77
83	How oxygen reacts with oxygen-tolerant respiratory [NiFe]-hydrogenases. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 6606-6611.	7.1	75
84	Guiding Principles of Hydrogenase Catalysis Instigated and Clarified by Protein Film Electrochemistry. Accounts of Chemical Research, 2016, 49, 884-892.	15.6	75
85	Control of Myoglobin Electron-Transfer Rates by the Distal (Nonbound) Histidine Residue. Journal of the American Chemical Society, 1996, 118, 3490-3492.	13.7	74
86	A unified model for surface electrocatalysis based on observations with enzymes. Physical Chemistry Chemical Physics, 2014, 16, 11822.	2.8	74
87	Transfer of photosynthetic NADP⁺/NADPH recycling activity to a porous metal oxide for highly specific, electrochemically-driven organic synthesis. Chemical Science, 2017, 8, 4579-4586.	7.4	74
88	Site-directed mutagenesis of Azotobacter vinelandii ferredoxin I. Changes in [4Fe-4S] cluster reduction potential and reactivity. Journal of Biological Chemistry, 1991, 266, 21563-71.	3.4	69
89	Direct electrochemistry in the characterisation of redox proteins: Novel properties of Azotobacter 7Fe ferredoxin. FEBS Letters, 1988, 234, 107-110.	2.8	65
90	Discovery of Dark pH-Dependent H⁺ Migration in a [NiFe]-Hydrogenase and Its Mechanistic Relevance: Mobilizing the Hydrido Ligand of the Ni-C Intermediate. Journal of the American Chemical Society, 2015, 137, 8484-8489.	13.7	65

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91	Enzymatic catalysis on conducting graphite particles. Nature Chemical Biology, 2007, 3, 761-762.	8.0	63
92	Identification of the Iron-Sulfur Clusters in a Ferredoxin from the Archaeon Sulfolobus acidocaldarius. Evidence for a Reduced [3Fe-4S] Cluster with pH-dependent Electronic Properties. FEBS Journal, 1995, 233, 937-946.	0.2	62
93	The value of enzymes in solar fuels research â€" efficient electrocatalysts through evolution. Chemical Society Reviews, 2019, 48, 2039-2052.	38.1	62
94	Optimizing the power of enzyme-based membrane-less hydrogen fuel cells for hydrogen-rich H2â€"air mixtures. Energy and Environmental Science, 2013, 6, 2166.	30.8	61
95	Transforming an oxygen-tolerant [NiFe] uptake hydrogenase into a proficient, reversible hydrogen producer. Energy and Environmental Science, 2014, 7, 1426-1433.	30.8	61
96	Azotobacter vinelandii ferredoxin I. Aspartate 15 facilitates proton transfer to the reduced [3Fe-4S] cluster. Journal of Biological Chemistry, 1993, 268, 25928-39.	3.4	61
97	A Unified Electrocatalytic Description of the Action of Inhibitors of Nickel Carbon Monoxide Dehydrogenase. Journal of the American Chemical Society, 2013, 135, 2198-2206.	13.7	60
98	Electrocatalytic Volleyball: Rapid Nanoconfined Nicotinamide Cycling for Organic Synthesis in Electrode Pores. Angewandte Chemie - International Edition, 2019, 58, 4948-4952.	13.8	60
99	Binding of thallium(I) to a [3Fe-4S] cluster: evidence for rapid and reversible formation of [Tl3Fe-4S]2+ and [Tl3Fe-4S]1+ centers in a ferredoxin. Journal of the American Chemical Society, 1991, 113, 8948-8950.	13.7	58
100	Enzymatic Oxidation of H₂ in Atmospheric O₂:â€‰ The Electrochemistry of Energy Generation from Trace H₂ by Aerobic Microorganisms. Journal of the American Chemical Society, 2008, 130, 424-425.	13.7	57
101	[NiFe]-hydrogenases: spectroscopic and electrochemical definition of reactions and intermediates. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2005, 363, 937-954.	3.4	56
102	Rapid and Reversible Reactions of [NiFe]-Hydrogenases with Sulfide. Journal of the American Chemical Society, 2006, 128, 7448-7449.	13.7	55
103	The pyrolytic graphite surface as an enzyme substrate: microscopic and spectroscopic studies. Journal of Solid State Electrochemistry, 2006, 10, 826-832.	2.5	55
104	Waterâˆ'Gas Shift Reaction Catalyzed by Redox Enzymes on Conducting Graphite Platelets. Journal of the American Chemical Society, 2009, 131, 14154-14155.	13.7	55
105	Solar-driven proton and carbon dioxide reduction to fuels â€" lessons from metalloenzymes. Current Opinion in Chemical Biology, 2015, 25, 141-151.	6.1	54
106	A Natural Choice for Activating Hydrogen. Science, 2008, 321, 498-499.	12.6	53
107	[3Fe-4S]â†"[4Fe-4S] cluster interconversion in <i>Desulfovibrio africanus</i> ferredoxin III: properties of an Asp14â†'Cys mutant. Biochemical Journal, 1997, 323, 95-102.	3.7	51
108	Fumarate Reductase and Succinate Oxidase Activity of Escherichia coli Complex II Homologs Are Perturbed Differently by Mutation of the Flavin Binding Domain. Journal of Biological Chemistry, 2006, 281, 11357-11365.	3.4	49

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109	Electrocatalytic reduction of hydrogen peroxide at a stationary pyrolytic graphite electrode surface in the presence of cytochrome c peroxidase: a description based on a microelectrode array model for adsorbed enzyme molecules. Analyst, The, 1993, 118, 973-978.	3.5	48
110	Simultaneous Voltammetric Comparisons of Reduction Potentials, Reactivities, and Stabilities of the High-Potential Catalytic States of Wild-Type and Distal-Pocket Mutant (W51F) Yeast CytochromecPeroxidase. Journal of the American Chemical Society, 1998, 120, 6270-6276.	13.7	48
111	The roles of long-range proton-coupled electron transfer in the directionality and efficiency of [FeFe]-hydrogenases. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 20520-20529.	7.1	48
112	A Proton Delivery Pathway in the Soluble Fumarate Reductase from Shewanella frigidimarina. Journal of Biological Chemistry, 2006, 281, 20589-20597.	3.4	47
113	Frequency and potential dependence of reversible electrocatalytic hydrogen interconversion by [FeFe]-hydrogenases. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 3843-3848.	7.1	47
114	Electrochemical Potential and pH Dependences of [3Fe-4S] â†” [M3Fe-4S] Cluster Transformations (M = Fe,) Tj ETQq0 0 0 rgBT /Overloc Journal of the American Chemical Society, 1997, 119, 9729-9737.	13.7	46
115	Investigating Metalloenzyme Reactions Using Electrochemical Sweeps and Steps:Â Fine Control and Measurements with Reactants Ranging from Ions to Gases. Inorganic Chemistry, 2005, 44, 798-809.	4.0	46
116	The structure of hydrogenase-2 from <i>Escherichia coli</i>: implications for H2-driven proton pumping. Biochemical Journal, 2018, 475, 1353-1370.	3.7	46
117	Pushing the limits for enzyme-based membrane-less hydrogen fuel cells â€“ achieving useful power and stability. RSC Advances, 2015, 5, 3649-3656.	3.6	44
118	Nanotechnology for catalysis and solar energy conversion. Nanotechnology, 2021, 32, 042003.	2.6	44
119	Voltammetric studies of bidirectional catalytic electron transport in Escherichia coli succinate dehydrogenase: comparison with the enzyme from beef heart mitochondria. Biochimica Et Biophysica Acta - Bioenergetics, 1999, 1412, 262-272.	1.0	43
120	Voltammetric characterization of rapid and reversible binding of an exogenous thiolate ligand at a [4Fe-4S] cluster in ferredoxin III from Desulfovibrio africanus. Journal of the American Chemical Society, 1993, 115, 1413-1421.	13.7	42
121	Detection and interpretation of redox potential optima in the catalytic activity of enzymes. Biochimica Et Biophysica Acta - Bioenergetics, 2002, 1555, 54-59.	1.0	41
122	Application of Power Spectra Patterns in Fourier Transform Square Wave Voltammetry To Evaluate Electrode Kinetics of Surface-Confined Proteins. Analytical Chemistry, 2006, 78, 2948-2956.	6.5	41
123	Evidence for reversible multiple redox transformations of [3Fe-4S] clusters. FEBS Letters, 1989, 259, 15-18.	2.8	40
124	Discovery of a Novel Ferredoxin from Azotobacter vinelandii Containing Two [4Fe-4S] Clusters with Widely Differing and Very Negative Reduction Potentials. Journal of Biological Chemistry, 1998, 273, 5514-5519.	3.4	40
125	The effect of pH and ligand exchange on the redox properties of blue copper proteins. Faraday Discussions, 2000, 116, 205-220.	3.2	40
126	Interruption and Time-Resolution of Catalysis by a Flavoenzyme Using Fast Scan Protein Film Voltammetry. Journal of the American Chemical Society, 2000, 122, 6494-6495.	13.7	40

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127	Hydrogenase on an electrode: a remarkable heterogeneous catalyst. Dalton Transactions, 2003, , 4152-4157.	3.3	40
128	Global Observation of Hydrogen/Deuterium Isotope Effects on Bidirectional Catalytic Electron Transport in an Enzyme:Â Direct Measurement by Protein-Film Voltammetry. Journal of the American Chemical Society, 1997, 119, 7434-7439.	13.7	39
129	Using the Pulsed Nature of Staircase Cyclic Voltammetry To Determine Interfacial Electron-Transfer Rates of Adsorbed Species. Analytical Chemistry, 1999, 71, 174-182.	6.5	38
130	Electrochemical Investigations of the Mechanism of Assembly of the Active-Site H-Cluster of [FeFe]-Hydrogenases. Journal of the American Chemical Society, 2016, 138, 15227-15233.	13.7	38
131	Investigations of Two Bidirectional Carbon Monoxide Dehydrogenases from <i>Carboxydothermus hydrogenoformans</i> by Protein Film Electrochemistry. ChemBioChem, 2013, 14, 1845-1851.	2.6	37
132	Azotobacter vinelandii ferredoxin I. Alteration of individual surface charges and the [4FE-4S]2+/+ cluster reduction potential. Journal of Biological Chemistry, 1994, 269, 8564-75.	3.4	36
133	Catalysis of plastocyanin electron self-exchange by redox-inert multivalent cations. FEBS Letters, 1985, 190, 242-248.	2.8	35
134	Editorial overview. Current Opinion in Chemical Biology, 2012, 16, 1-2.	6.1	35
135	Voltammetric studies of the reactions of ironâ€"sulphur clusters ([3Fe-4S] or [M3Fe-4S]) formed in Pyrococcus furiosus ferredoxin. Biochemical Journal, 1998, 335, 357-368.	3.7	34
136	Investigations of the Oxidative Disassembly of Feâˆ'S Clusters inClostridium pasteurianum8Fe Ferredoxin Using Pulsed-Protein-Film Voltammetryâ€. Biochemistry, 2000, 39, 10587-10598.	2.5	34
137	How <i>Salmonella</i> oxidises H₂ under aerobic conditions. FEBS Letters, 2012, 586, 536-544.	2.8	34
138	A Multi-Heme Flavoenzyme as a Solar Conversion Catalyst. Journal of the American Chemical Society, 2014, 136, 12876-12879.	13.7	34
139	The power of electrified nanoconfinement for energising, controlling and observing long enzyme cascades. Nature Communications, 2021, 12, 340.	12.8	34
140	Classification of fumarate reductases and succinate dehydrogenases based upon their contrasting behaviour in the reduced benzylviologen/fumarate assay. FEBS Letters, 1993, 326, 92-94.	2.8	33
141	Mechanistic Exploitation of a Self-Repairing, Blocked Proton Transfer Pathway in an O₂-Tolerant [NiFe]-Hydrogenase. Journal of the American Chemical Society, 2018, 140, 10208-10220.	13.7	33
142	Efficient Electrocatalytic CO₂ Fixation by Nanoconfined Enzymes via a C3-to-C4 Reaction That Is Favored over H₂ Production. ACS Catalysis, 2019, 9, 11255-11262.	11.2	32
143	Inhibition of [FeFe]-Hydrogenases by Formaldehyde and Wider Mechanistic Implications for Biohydrogen Activation. Journal of the American Chemical Society, 2012, 134, 7553-7557.	13.7	31
144	Importance of the Active Site â€œCanopyâ€• Residues in an O₂-Tolerant [NiFe]-Hydrogenase. Biochemistry, 2017, 56, 132-142.	2.5	31

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145	Formaldehydeâ€"A Rapid and Reversible Inhibitor of Hydrogen Production by [FeFe]-Hydrogenases. Journal of the American Chemical Society, 2011, 133, 1282-1285.	13.7	30
146	Investigations by Protein Film Electrochemistry of Alternative Reactions of Nickel-Containing Carbon Monoxide Dehydrogenase. Journal of Physical Chemistry B, 2015, 119, 13690-13697.	2.6	30
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