Vincent Fourmond

List of Publications by Year
in descending order

79 papers	4,047 citations	109264 35 h-index	118793 62 g-index
84 all docs	84 docs citations	84 times ranked	4198 citing authors

#	Article	IF	Citations
1	A Janus cobalt-based catalytic material for electro-splitting of water. Nature Materials, 2012, 11, 802-807.	13.3	784
2	H₂ Evolution and Molecular Electrocatalysts: Determination of Overpotentials and Effect of Homoconjugation. Inorganic Chemistry, 2010, 49, 10338-10347.	1.9	380
3	Relating diffusion along the substrate tunnel and oxygen sensitivity in hydrogenase. Nature Chemical Biology, 2010, 6, 63-70.	3.9	188
4	Membrane-Bound Hydrogenase I from the Hyperthermophilic Bacterium <i>Aquifex aeolicus</i>: Enzyme Activation, Redox Intermediates and Oxygen Tolerance. Journal of the American Chemical Society, 2010, 132, 6991-7004.	6.6	145
5	SOAS: A free program to analyze electrochemical data and other one-dimensional signals. Bioelectrochemistry, 2009, 76, 141-147.	2.4	110
6	Mechanism of O2 diffusion and reduction in FeFe hydrogenases. Nature Chemistry, 2017, 9, 88-95.	6.6	105
7	A nickelâ€“manganese catalyst as a biomimic of the active site of NiFe hydrogenases: a combined electrocatalytical and DFT mechanistic study. Energy and Environmental Science, 2011, 4, 2417.	15.6	85
8	The oxidative inactivation of FeFe hydrogenase reveals the flexibility of the H-cluster. Nature Chemistry, 2014, 6, 336-342.	6.6	83
9	Mechanism of Protection of Catalysts Supported in Redox Hydrogel Films. Journal of the American Chemical Society, 2015, 137, 5494-5505.	6.6	81
10	QSoas: A Versatile Software for Data Analysis. Analytical Chemistry, 2016, 88, 5050-5052.	3.2	80
11	The quest for a functional substrate access tunnel in FeFe hydrogenase. Faraday Discussions, 2011, 148, 385-407.	1.6	70
12	Second and Outer Coordination Sphere Effects in Nitrogenase, Hydrogenase, Formate Dehydrogenase, and CO Dehydrogenase. Chemical Reviews, 2022, 122, 11900-11973.	23.0	70
13	Modelling the voltammetry of adsorbed enzymes and molecular catalysts. Current Opinion in Electrochemistry, 2017, 1, 110-120.	2.5	68
14	â€œTwo-Stepâ€•Chronoamperometric Method for Studying the Anaerobic Inactivation of an Oxygen Tolerant NiFe Hydrogenase. Journal of the American Chemical Society, 2010, 132, 4848-4857.	6.6	63
15	Steady-State Catalytic Wave-Shapes for 2-Electron Reversible Electrocatalysts and Enzymes. Journal of the American Chemical Society, 2013, 135, 3926-3938.	6.6	57
16	Shewanella oneidensis: a new and efficient System for Expression and Maturation of heterologous [Fe-Fe] Hydrogenase from Chlamydomonas reinhardtii. BMC Biotechnology, 2008, 8, 73.	1.7	55
17	Electrochemical Investigations of Hydrogenases and Other Enzymes That Produce and Use Solar Fuels. Accounts of Chemical Research, 2018, 51, 769-777.	7.6	55
18	Relation between anaerobic inactivation and oxygen tolerance in a large series of NiFe hydrogenase mutants. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 19916-19921.	3.3	54

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19	Catalytic hydrogen production by a Niâ€“Ru mimic of NiFe hydrogenases involves a proton-coupled electron transfer step. Chemical Communications, 2013, 49, 5004.	2.2	54
20	CODHâ€IV: A Highâ€Efficiency COâ€Scavenging CO Dehydrogenase with Resistance to O₂. Angewandte Chemie - International Edition, 2017, 56, 15466-15469.	7.2	54
21	Reversible H2 oxidation and evolution by hydrogenase embedded in a redox polymer film. Nature Catalysis, 2021, 4, 251-258.	16.1	54
22	Correcting for Electrocatalyst Desorption and Inactivation in Chronoamperometry Experiments. Analytical Chemistry, 2009, 81, 2962-2968.	3.2	51
23	Electrochemical Measurements of the Kinetics of Inhibition of Two FeFe Hydrogenases by O₂ Demonstrate That the Reaction Is Partly Reversible. Journal of the American Chemical Society, 2015, 137, 12580-12587.	6.6	51
24	Understanding and Design of Bidirectional and Reversible Catalysts of Multielectron, Multistep Reactions. Journal of the American Chemical Society, 2019, 141, 11269-11285.	6.6	51
25	New perspectives in hydrogenase direct electrochemistry. Current Opinion in Electrochemistry, 2017, 5, 135-145.	2.5	49
26	Major Mo(V) EPR Signature of <i>Rhodobacter sphaeroides</i> Periplasmic Nitrate Reductase Arising from a Dead-End Species That Activates upon Reduction. Relation to Other Molybdoenzymes from the DMSO Reductase Family. Journal of Physical Chemistry B, 2008, 112, 15478-15486.	1.2	48
27	Rates of Intra- and Intermolecular Electron Transfers in Hydrogenase Deduced from Steady-State Activity Measurements. Journal of the American Chemical Society, 2011, 133, 10211-10221.	6.6	48
28	The mechanism of inhibition by H2 of H2-evolution by hydrogenases. Chemical Communications, 2013, 49, 6840.	2.2	48
29	The Carbon Monoxide Dehydrogenase from Desulfovibrio vulgaris. Biochimica Et Biophysica Acta - Bioenergetics, 2015, 1847, 1574-1583.	0.5	48
30	Engineering an [FeFe]-Hydrogenase: Do Accessory Clusters Influence O₂ Resistance and Catalytic Bias?. Journal of the American Chemical Society, 2018, 140, 5516-5526.	6.6	48
31	Complete Protection of O₂-Sensitive Catalysts in Thin Films. Journal of the American Chemical Society, 2019, 141, 16734-16742.	6.6	45
32	Redox-dependent rearrangements of the NiFeS cluster of carbon monoxide dehydrogenase. ELife, 2018, 7, .	2.8	43
33	A safety cap protects hydrogenase from oxygen attack. Nature Communications, 2021, 12, 756.	5.8	42
34	Formate Dehydrogenases Reduce CO₂ Rather than HCO₃^{â^'}: Anâ€‰Electrochemical Demonstration. Angewandte Chemie - International Edition, 2021, 60, 9964-9967.	7.2	39
35	O₂ Inhibition of Niâ€Containing CO Dehydrogenase Is Partly Reversible. Chemistry - A European Journal, 2015, 21, 18934-18938.	1.7	38
36	Reversible catalysis. Nature Reviews Chemistry, 2021, 5, 348-360.	13.8	38

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37	Combining experimental and theoretical methods to learn about the reactivity of gas-processing metalloenzymes. Energy and Environmental Science, 2014, 7, 3543-3573.	15.6	36
38	FeFe hydrogenase reductive inactivation and implication for catalysis. Energy and Environmental Science, 2014, 7, 715-719.	15.6	35
39	Roles of the F-domain in [FeFe] hydrogenase. Biochimica Et Biophysica Acta - Bioenergetics, 2018, 1859, 69-77.	0.5	32
40	Dinitrogen Reduction: Interfacing the Enzyme Nitrogenase with Electrodes. Angewandte Chemie - International Edition, 2017, 56, 4388-4390.	7.2	30
41	Reassessing the Strategies for Trapping Catalytic Intermediates during Nitrate Reductase Turnover. Journal of Physical Chemistry B, 2010, 114, 3341-3347.	1.2	29
42	Maturation of the [Niâ€“4Feâ€“4S] active site of carbon monoxide dehydrogenases. Journal of Biological Inorganic Chemistry, 2018, 23, 613-620.	1.1	29
43	Reductive activation in periplasmic nitrate reductase involves chemical modifications of the Mo-cofactor beyond the first coordination sphere of the metal ion. Biochimica Et Biophysica Acta - Bioenergetics, 2014, 1837, 277-286.	0.5	28
44	Reactivity of the Excited States of the H-Cluster of FeFe Hydrogenases. Journal of the American Chemical Society, 2016, 138, 13612-13618.	6.6	25
45	Interaction of the H-Cluster of FeFe Hydrogenase with Halides. Journal of the American Chemical Society, 2018, 140, 5485-5492.	6.6	25
46	Dependence of Catalytic Activity on Driving Force in Solution Assays and Protein Film Voltammetry: Insights from the Comparison of Nitrate Reductase Mutants. Biochemistry, 2010, 49, 2424-2432.	1.2	24
47	Oxidative inactivation of NiFeSe hydrogenase. Chemical Communications, 2015, 51, 14223-14226.	2.2	24
48	Reversible or Irreversible Catalysis of H⁺/H₂ Conversion by FeFe Hydrogenases. Journal of the American Chemical Society, 2021, 143, 20320-20325.	6.6	22
49	Reductive activation of E. coli respiratory nitrate reductase. Biochimica Et Biophysica Acta - Bioenergetics, 2015, 1847, 1055-1063.	0.5	20
50	Reliable estimation of the kinetic parameters of redox enzymes by taking into account mass transport towards rotating electrodes in protein film voltammetry experiments. Electrochimica Acta, 2017, 245, 1059-1064.	2.6	19
51	The two CO-dehydrogenases of Thermococcus sp. AM4. Biochimica Et Biophysica Acta - Bioenergetics, 2020, 1861, 148188.	0.5	19
52	The Solvent-Exposed Feâ€“S D-Cluster Contributes to Oxygen-Resistance in <i>Desulfovibrio vulgaris</i> Niâ€“Fe Carbon Monoxide Dehydrogenase. ACS Catalysis, 2020, 10, 7328-7335.	5.5	18
53	Kinetics of substrate inhibition of periplasmic nitrate reductase. Biochimica Et Biophysica Acta - Bioenergetics, 2014, 1837, 1801-1809.	0.5	17
54	Photoinhibition of FeFe Hydrogenase. ACS Catalysis, 2017, 7, 7378-7387.	5.5	17

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55	Electrochemical Study of a Reconstituted Photosynthetic Electron-Transfer Chain. Journal of the American Chemical Society, 2007, 129, 9201-9209.	6.6	16
56	Transient Catalytic Voltammetry of Sulfite Oxidase Reveals Rate Limiting Conformational Changes. Journal of the American Chemical Society, 2017, 139, 11559-11567.	6.6	16
57	A Hydrophilic Channel Is Involved in Oxidative Inactivation of a [NiFeSe] Hydrogenase. ACS Catalysis, 2019, 9, 8509-8519.	5.5	15
58	Structural insight into metallocofactor maturation in carbon monoxide dehydrogenase. Journal of Biological Chemistry, 2019, 294, 13017-13026.	1.6	15
59	Redox (In)activations of Metalloenzymes: A Protein Film Voltammetry Approach. ChemElectroChem, 2019, 6, 4949-4962.	1.7	15
60	Electrochemical Studies of CO₂â€Reducing Metalloenzymes. Chemistry - A European Journal, 2021, 27, 17542-17553.	1.7	14
61	A cyclic peptide-based redox-active model of rubredoxin. Chemical Communications, 2013, 49, 2915.	2.2	13
62	Redox Behavior of the <i>S</i>-Adenosylmethionine (SAM)-Binding Feâ€"S Cluster in Methylthiotransferase RimO, toward Understanding Dual SAM Activity. Biochemistry, 2016, 55, 5798-5808.	1.2	13
63	Mechanism of Hydrogen Sulfide-Dependent Inhibition of FeFe Hydrogenase. ACS Catalysis, 2021, 11, 15162-15176.	5.5	13
64	Does the environment around the H-cluster allow coordination of the pendant amine to the catalytic iron center in [FeFe]Âhydrogenases? Answers from theory. Journal of Biological Inorganic Chemistry, 2013, 18, 693-700.	1.1	11
65	Tuning the redox properties of a [4Fe-4S] center to modulate the activity of Mo-bisPGD periplasmic nitrate reductase. Biochimica Et Biophysica Acta - Bioenergetics, 2019, 1860, 402-413.	0.5	10
66	Valine-to-Cysteine Mutation Further Increases the Oxygen Tolerance of Escherichia coli NiFe Hydrogenase Hyd-1. ACS Catalysis, 2019, 9, 4084-4088.	5.5	9
67	A new electrochemical cell with a uniformly accessible electrode to study fast catalytic reactions. Physical Chemistry Chemical Physics, 2019, 21, 12360-12371.	1.3	8
68	CODHâ€IV: eine hocheffiziente COâ€Dehydrogenase mit Resistenz gegen O₂. Angewandte Chemie, 2017, 129, 15670-15674.	1.6	7
69	Photochemistry and photoinhibition of the H-cluster of FeFe hydrogenases. Sustainable Energy and Fuels, 2021, 5, 4248-4260.	2.5	7
70	Impact of alignment defects of rotating disk electrode on transport properties. Electrochimica Acta, 2018, 269, 534-543.	2.6	6
71	An introduction to electrochemical methods for the functional analysis of metalloproteins. , 2020, , 325-373.		6
72	Electrochemical Characterization of a Complex FeFe Hydrogenase, the Electron-Bifurcating Hnd From Desulfovibrio fructosovorans. Frontiers in Chemistry, 2020, 8, 573305.	1.8	6

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73	Formate Dehydrogenases Reduce CO 2 Rather than HCO 3 âˆ’ : Anâ€‰Electrochemical Demonstration. Angewandte Chemie, 2021, 133, 10052-10055.	1.6	3
74	Theoretical Understanding of the Penetration of O 2 in Enzymatic Redox Polymer Films: The Case of Unidirectional Catalysis and Irreversible Inactivation in a Film of Arbitrary Thickness. ChemElectroChem, 2021, 8, 2607-2615.	1.7	3
75	N₂â€Reduktion: Verschaltung von Nitrogenase mit Elektroden. Angewandte Chemie, 2017, 129, 4454-4456.	1.6	2
76	Numerical computations of Marcusâ€“Hushâ€“Chidsey electron transfer rate constants. Journal of Electroanalytical Chemistry, 2020, 879, 114762.	1.9	2
77	Artificial maturation of [FeFe] hydrogenase in a redox polymer film. Chemical Communications, 2021, 57, 1750-1753.	2.2	2
78	Ultrasonic Cavitation in Freon at Room Temperature. , 2002, , 307-313.		1
79	Optimizing the mass transport of wall-tube electrodes for protein film electrochemistry. Electrochimica Acta, 2022, 403, 139521.	2.6	1