Vincent Fourmond

List of Publications by Citations

77 papers	3,142 citations	29 h-index	55 g-index
84 ext. papers	3,639 ext. citations	11.8 avg, IF	5.24 L-index

#	Paper	IF	Citations
77	A Janus cobalt-based catalytic material for electro-splitting of water. *Nature Materials*, **2012**, 11, 802-7	27	691
76	H2 evolution and molecular electrocatalysts: determination of overpotentials and effect of homoconjugation. *Inorganic Chemistry*, **2010**, 49, 10338-47	5.1	306
75	Relating diffusion along the substrate tunnel and oxygen sensitivity in hydrogenase. *Nature Chemical Biology*, **2010**, 6, 63-70	11.7	162
74	Membrane-bound hydrogenase I from the hyperthermophilic bacterium Aquifex aeolicus: enzyme activation, redox intermediates and oxygen tolerance. *Journal of the American Chemical Society*, **2010**, 132, 6991-7004	16.4	135
73	SOAS: a free program to analyze electrochemical data and other one-dimensional signals. *Bioelectrochemistry*, **2009**, 76, 141-7	5.6	95
72	Mechanism of O diffusion and reduction in FeFe hydrogenases. *Nature Chemistry*, **2017**, 9, 88-95	17.6	86
71	Mechanism of protection of catalysts supported in redox hydrogel films. *Journal of the American Chemical Society*, **2015**, 137, 5494-505	16.4	78
70	A nickel–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	35.4	78
69	The oxidative inactivation of FeFe hydrogenase reveals the flexibility of the H-cluster. *Nature Chemistry*, **2014**, 6, 336-42	17.6	75
68	The quest for a functional substrate access tunnel in FeFe hydrogenase. *Faraday Discussions*, **2011**, 148, 385-407; discussion 421-41	3.6	67
67	"Two-step" chronoamperometric method for studying the anaerobic inactivation of an oxygen tolerant NiFe hydrogenase. *Journal of the American Chemical Society*, **2010**, 132, 4848-57	16.4	57
66	Modelling the voltammetry of adsorbed enzymes and molecular catalysts. *Current Opinion in Electrochemistry*, **2017**, 1, 110-120	7.2	55
65	QSoas: A Versatile Software for Data Analysis. *Analytical Chemistry*, **2016**, 88, 5050-2	7.8	55
64	Catalytic hydrogen production by a Ni-Ru mimic of NiFe hydrogenases involves a proton-coupled electron transfer step. *Chemical Communications*, **2013**, 49, 5004-6	5.8	51
63	Steady-state catalytic wave-shapes for 2-electron reversible electrocatalysts and enzymes. *Journal of the American Chemical Society*, **2013**, 135, 3926-38	16.4	51
62	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, 19916-21	11.5	50
61	Correcting for electrocatalyst desorption and inactivation in chronoamperometry experiments. *Analytical Chemistry*, **2009**, 81, 2962-8	7.8	47

60	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, 12580-7	16.4	46
59	Rates of intra- and intermolecular electron transfers in hydrogenase deduced from steady-state activity measurements. *Journal of the American Chemical Society*, **2011**, 133, 10211-21	16.4	46
58	Shewanella oneidensis: a new and efficient system for expression and maturation of heterologous [Fe-Fe] hydrogenase from Chlamydomonas reinhardtii. *BMC Biotechnology*, **2008**, 8, 73	3.5	46
57	Major Mo(V) EPR signature of Rhodobacter sphaeroides 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, 15478-86	3.4	41
56	The mechanism of inhibition by H2 of H2-evolution by hydrogenases. *Chemical Communications*, **2013**, 49, 6840-2	5.8	40
55	Electrochemical Investigations of Hydrogenases and Other Enzymes That Produce and Use Solar Fuels. *Accounts of Chemical Research*, **2018**, 51, 769-777	24.3	38
54	Engineering an [FeFe]-Hydrogenase: Do Accessory Clusters Influence O Resistance and Catalytic Bias?. *Journal of the American Chemical Society*, **2018**, 140, 5516-5526	16.4	34
53	Combining experimental and theoretical methods to learn about the reactivity of gas-processing metalloenzymes. *Energy and Environmental Science*, **2014**, 7, 3543-3573	35.4	33
52	Understanding and Design of Bidirectional and Reversible Catalysts of Multielectron, Multistep Reactions. *Journal of the American Chemical Society*, **2019**, 141, 11269-11285	16.4	32
51	The Carbon Monoxide Dehydrogenase from Desulfovibrio vulgaris. *Biochimica Et Biophysica Acta - Bioenergetics*, **2015**, 1847, 1574-83	4.6	32
50	Complete Protection of O-Sensitive Catalysts in Thin Films. *Journal of the American Chemical Society* , **2019**, 141, 16734-16742	16.4	31
49	New perspectives in hydrogenase direct electrochemistry. *Current Opinion in Electrochemistry*, **2017** , 5, 135-145	7.2	31
48	CODH-IV: A High-Efficiency CO-Scavenging CO Dehydrogenase with Resistance to O. *Angewandte Chemie - International Edition*, **2017**, 56, 15466-15469	16.4	29
47	FeFe hydrogenase reductive inactivation and implication for catalysis. *Energy and Environmental Science*, **2014**, 7, 715-719	35.4	29
46	Reassessing the strategies for trapping catalytic intermediates during nitrate reductase turnover. *Journal of Physical Chemistry B*, **2010**, 114, 3341-7	3.4	28
45	Redox-dependent rearrangements of the NiFeS cluster of carbon monoxide dehydrogenase. *ELife*, **2018**, 7,	8.9	28
44	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, 2424-32	3.2	24
43	Oxidative inactivation of NiFeSe hydrogenase. *Chemical Communications*, **2015**, 51, 14223-6	5.8	23

42	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, 277-86	4.6	23
41	Reactivity of the Excited States of the H-Cluster of FeFe Hydrogenases. *Journal of the American Chemical Society*, **2016**, 138, 13612-13618	16.4	21
40	Dinitrogen Reduction: Interfacing the Enzyme Nitrogenase with Electrodes. *Angewandte Chemie - International Edition*, **2017**, 56, 4388-4390	16.4	20
39	Roles of the F-domain in [FeFe] hydrogenase. *Biochimica Et Biophysica Acta - Bioenergetics*, **2018**, 1859, 69-77	4.6	20
38	Maturation of the [Ni-4Fe-4S] active site of carbon monoxide dehydrogenases. *Journal of Biological Inorganic Chemistry*, **2018**, 23, 613-620	3.7	18
37	O2 Inhibition of Ni-Containing CO Dehydrogenase Is Partly Reversible. *Chemistry - A European Journal*, **2015**, 21, 18934-8	4.8	18
36	Reversible H Oxidation and Evolution by Hydrogenase Embedded in a Redox Polymer Film. *Nature Catalysis*, **2021**, 4, 251-258	36.5	18
35	Reductive activation of E. coli respiratory nitrate reductase. *Biochimica Et Biophysica Acta - Bioenergetics*, **2015**, 1847, 1055-63	4.6	16
34	A safety cap protects hydrogenase from oxygen attack. *Nature Communications*, **2021**, 12, 756	17.4	16
33	Kinetics of substrate inhibition of periplasmic nitrate reductase. *Biochimica Et Biophysica Acta - Bioenergetics*, **2014**, 1837, 1801-9	4.6	15
32	Interaction of the H-Cluster of FeFe Hydrogenase with Halides. *Journal of the American Chemical Society*, **2018**, 140, 5485-5492	16.4	14
31	Transient Catalytic Voltammetry of Sulfite Oxidase Reveals Rate Limiting Conformational Changes. *Journal of the American Chemical Society*, **2017**, 139, 11559-11567	16.4	14
30	Electrochemical study of a reconstituted photosynthetic electron-transfer chain. *Journal of the American Chemical Society*, **2007**, 129, 9201-9	16.4	14
29	Photoinhibition of FeFe Hydrogenase. *ACS Catalysis*, **2017**, 7, 7378-7387	13.1	13
28	Redox Behavior of the S-Adenosylmethionine (SAM)-Binding Fe-S Cluster in Methylthiotransferase RimO, toward Understanding Dual SAM Activity. *Biochemistry*, **2016**, 55, 5798-5808	3.2	13
27	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	6.7	11
26	Does the environment around the H-cluster allow coordination of the pendant amine to the catalytic iron center in [FeFe]hydrogenases? Answers from theory. *Journal of Biological Inorganic Chemistry*, **2013**, 18, 693-700	3.7	11
25	A cyclic peptide-based redox-active model of rubredoxin. *Chemical Communications*, **2013**, 49, 2915-7	5.8	11

24	A Hydrophilic Channel Is Involved in Oxidative Inactivation of a [NiFeSe] Hydrogenase. *ACS Catalysis* , **2019**, 9, 8509-8519	13.1	10
23	Structural insight into metallocofactor maturation in carbon monoxide dehydrogenase. *Journal of Biological Chemistry*, **2019**, 294, 13017-13026	5.4	10
22	The two CO-dehydrogenases of Thermococcus sp. AM4. *Biochimica Et Biophysica Acta - Bioenergetics*, **2020**, 1861, 148188	4.6	9
21	Formate Dehydrogenases Reduce CO Rather than HCO : An Electrochemical Demonstration. *Angewandte Chemie - International Edition*, **2021**, 60, 9964-9967	16.4	9
20	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	4.6	8
19	The Solvent-Exposed Fe-S D-Cluster Contributes to Oxygen-Resistance in Ni-Fe Carbon Monoxide Dehydrogenase. *ACS Catalysis*, **2020**, 10, 7328-7335	13.1	7
18	Redox (In)activations of Metalloenzymes: A Protein Film Voltammetry Approach. *ChemElectroChem* , **2019**, 6, 4949-4962	4.3	7
17	Reversible catalysis. *Nature Reviews Chemistry*, **2021**, 5, 348-360	34.6	7
16	A new electrochemical cell with a uniformly accessible electrode to study fast catalytic reactions. *Physical Chemistry Chemical Physics*, **2019**, 21, 12360-12371	3.6	5
15	Impact of alignment defects of rotating disk electrode on transport properties. *Electrochimica Acta*, **2018**, 269, 534-543	6.7	5
14	Reversible or Irreversible Catalysis of H/H Conversion by FeFe Hydrogenases. *Journal of the American Chemical Society*, **2021**, 143, 20320-20325	16.4	4
13	An introduction to electrochemical methods for the functional analysis of metalloproteins **2020**, 325-373		4
12	Valine-to-Cysteine Mutation Further Increases the Oxygen Tolerance of Escherichia coli NiFe Hydrogenase Hyd-1. *ACS Catalysis*, **2019**, 9, 4084-4088	13.1	3
11	N2-Reduktion: Verschaltung von Nitrogenase mit Elektroden. *Angewandte Chemie*, **2017**, 129, 4454-4456	3.6	2
10	Electrochemical Characterization of a Complex FeFe Hydrogenase, the Electron-Bifurcating Hnd From. *Frontiers in Chemistry*, **2020**, 8, 573305	5	2
9	Artificial maturation of [FeFe] hydrogenase in a redox polymer film. *Chemical Communications*, **2021**, 57, 1750-1753	5.8	2
8	Photochemistry and photoinhibition of the H-cluster of FeFe hydrogenases. *Sustainable Energy and Fuels*, **2021**, 5, 4248-4260	5.8	2
7	Mechanism of Hydrogen Sulfide-Dependent Inhibition of FeFe Hydrogenase. *ACS Catalysis*, **2021**, 11, 15162-15176	13.1	1

6	Ultrasonic Cavitation in Freon at Room Temperature **2002**, 307-313		1
5	Numerical computations of Marcus–Hush–Chidsey electron transfer rate constants. *Journal of Electroanalytical Chemistry*, **2020**, 879, 114762	4.1	1
4	Theoretical Understanding of the Penetration of O2 in Enzymatic Redox Polymer Films: The Case of Unidirectional Catalysis and Irreversible Inactivation in a Film of Arbitrary Thickness. *ChemElectroChem*, **2021**, 8, 2607-2615	4.3	1
3	CODH-IV: eine hocheffiziente CO-Dehydrogenase mit Resistenz gegen O2. *Angewandte Chemie*, **2017**, 129, 15670-15674	3.6	0
2	Formate Dehydrogenases Reduce CO2 Rather than HCO3−: An Electrochemical Demonstration. *Angewandte Chemie*, **2021**, 133, 10052-10055	3.6	0
1	Optimizing the mass transport of wall-tube electrodes for protein film electrochemistry. *Electrochimica Acta*, **2021**, 139521	6.7	