James A Birrell

List of Publications by Year
in descending order

44	1,544	304743	315739
papers	citations	22 h-index	38 g-index

50	50	50	1395
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A Combined Spectroscopic and Computational Study on the Mechanism of Iron-Catalyzed Aminofunctionalization of Olefins Using Hydroxylamine Derived Nâ€“O Reagent as the â€œAminoâ€•Source and â€œOxidantâ€• Journal of the American Chemical Society, 2022, 144, 2637-2656.	13.7	29
2	Stability of the H-cluster under whole-cell conditionsâ€”formation of an Htrans-like state and its reactivity towards oxygen. Journal of Biological Inorganic Chemistry, 2022, 27, 345-355.	2.6	4
3	A Beginnerâ€™s Guide to Thermodynamic Modelling of [FeFe] Hydrogenase. Catalysts, 2021, 11, 238.	3.5	2
4	The Asp1 pyrophosphatase from S. pombe hosts a [2Fe-2S]2+ cluster in vivo. Journal of Biological Inorganic Chemistry, 2021, 26, 93-108.	2.6	4
5	Reversible H2 oxidation and evolution by hydrogenase embedded in a redox polymer film. Nature Catalysis, 2021, 4, 251-258.	34.4	54
6	Vibrational Perturbation of the [FeFe] Hydrogenase H-Cluster Revealed by ¹³C²H-ADT Labeling. Journal of the American Chemical Society, 2021, 143, 8237-8243.	13.7	4
7	The catalytic cycle of [FeFe] hydrogenase: A tale of two sites. Coordination Chemistry Reviews, 2021, 449, 214191.	18.8	49
8	The Nonphysiological Reductant Sodium Dithionite and [FeFe] Hydrogenase: Influence on the Enzyme Mechanism. Journal of the American Chemical Society, 2021, 143, 18159-18171.	13.7	18
9	Spectroscopic and biochemical insight into an electron-bifurcating [FeFe] hydrogenase. Journal of Biological Inorganic Chemistry, 2020, 25, 135-149.	2.6	28
10	Spectroscopic and Computational Evidence that [FeFe] Hydrogenases Operate Exclusively with CO-Bridged Intermediates. Journal of the American Chemical Society, 2020, 142, 222-232.	13.7	63
11	Bioelectrocatalysis based on direct electron transfer of fungal pyrroloquinoline quinone-dependent dehydrogenase lacking the cytochrome domain. Electrochimica Acta, 2020, 359, 136982.	5.2	10
12	In Vivo Biogenesis of a De Novo Designed Ironâ€“Sulfur Protein. ACS Synthetic Biology, 2020, 9, 3400-3407.	3.8	10
13	Reactivation of sulfide-protected [FeFe] hydrogenase in a redox-active hydrogel. Chemical Communications, 2020, 56, 9958-9961.	4.1	12
14	Insight into the Redox Behavior of the [4Feâ€“4S] Subcluster in [FeFe] Hydrogenases. ACS Catalysis, 2020, 10, 13084-13095.	11.2	20
15	The Laser-Induced Potential Jump: A Method for Rapid Electron Injection into Oxidoreductase Enzymes. Journal of Physical Chemistry B, 2020, 124, 8750-8760.	2.6	8
16	Spin Polarization Reveals the Coordination Geometry of the [FeFe] Hydrogenase Active Site in Its CO-Inhibited State. Journal of Physical Chemistry Letters, 2020, 11, 4597-4602.	4.6	7
17	Redoxâ€Polymerâ€Based Highâ€Currentâ€Density Gasâ€Diffusion H₂â€Oxidation Bioanode Using [FeFe] Hydrogenase from Desulfovibrio desulfuricans in a Membraneâ€free Biofuel Cell. Angewandte Chemie - International Edition, 2020, 59, 16506-16510.	13.8	21
18	Caught in the H inact : Crystal Structure and Spectroscopy Reveal a Sulfur Bound to the Active Site of an O 2 â€stable State of [FeFe] Hydrogenase. Angewandte Chemie - International Edition, 2020, 59, 16786-16794.	13.8	40

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19	Kristallstruktur und Spektroskopie offenbaren einen Schwefelâ€Liganden am aktiven Zentrum einer O 2 â€stabilen [FeFe]â€Hydrogenase. Angewandte Chemie, 2020, 132, 16930.	2.0	6
20	The Spectroscopy of Nitrogenases. Chemical Reviews, 2020, 120, 5005-5081.	47.7	132
21	Eine Redoxpolymerâ€basierte Gasdiffusionsâ€H 2 â€Oxidationsbioanode mit hoher Stromdichte unter Verwendung von [FeFe]â€Hydrogenase aus Desulfovibrio desulfuricans integriert in einer membranfreien Biobrennstoffzelle. Angewandte Chemie, 2020, 132, 16649.	2.0	2
22	Investigating the Kinetic Competency of CrHydA1 [FeFe] Hydrogenase Intermediate States via Time-Resolved Infrared Spectroscopy. Journal of the American Chemical Society, 2019, 141, 16064-16070.	13.7	38
23	Asymmetry in the Ligand Coordination Sphere of the [FeFe] Hydrogenase Active Site Is Reflected in the Magnetic Spin Interactions of the Aza-propanedithiolate Ligand. Journal of Physical Chemistry Letters, 2019, 10, 6794-6799.	4.6	22
24	Structural adaptations of photosynthetic complex I enable ferredoxin-dependent electron transfer. Science, 2019, 363, 257-260.	12.6	162
25	His-Ligation to the [4Feâ€“4S] Subcluster Tunes the Catalytic Bias of [FeFe] Hydrogenase. Journal of the American Chemical Society, 2019, 141, 472-481.	13.7	32
26	Unique Spectroscopic Properties of the H-Cluster in a Putative Sensory [FeFe] Hydrogenase. Journal of the American Chemical Society, 2018, 140, 1057-1068.	13.7	53
27	Viologen-modified electrodes for protection of hydrogenases from high potential inactivation while performing H₂oxidation at low overpotential. Dalton Transactions, 2018, 47, 10685-10691.	3.3	9
28	Sulfide Protects [FeFe] Hydrogenases From O₂. Journal of the American Chemical Society, 2018, 140, 9346-9350.	13.7	47
29	Proton Coupled Electronic Rearrangement within the H-Cluster as an Essential Step in the Catalytic Cycle of [FeFe] Hydrogenases. Journal of the American Chemical Society, 2017, 139, 1440-1443.	13.7	142
30	Reaction Coordinate Leading to H₂ Production in [FeFe]-Hydrogenase Identified by Nuclear Resonance Vibrational Spectroscopy and Density Functional Theory. Journal of the American Chemical Society, 2017, 139, 16894-16902.	13.7	78
31	Semisynthetic Hydrogenases Propel Biological Energy Research into a New Era. Joule, 2017, 1, 61-76.	24.0	40
32	Intercluster Redox Coupling Influences Protonation at the H-cluster in [FeFe] Hydrogenases. Journal of the American Chemical Society, 2017, 139, 15122-15134.	13.7	56
33	Spectroscopic Evidence of Reversible Disassembly of the [FeFe] Hydrogenase Active Site. Journal of Physical Chemistry Letters, 2017, 8, 3834-3839.	4.6	15
34	Electrochemical Investigations on the Inactivation of the [FeFe] Hydrogenase from Desulfovibrio desulfuricans by O₂ or Light under Hydrogenâ€Producing Conditions. ChemPlusChem, 2017, 82, 540-545.	2.8	20
35	Artificial Maturation of the Highly Active Heterodimeric [FeFe] Hydrogenase from Desulfovibrio desulfuricans ATCC 7757. Israel Journal of Chemistry, 2016, 56, 852-863.	2.3	39
36	Divergent assembly mechanisms of the manganese/iron cofactors in R2lox and R2c proteins. Journal of Inorganic Biochemistry, 2016, 162, 164-177.	3.5	24

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37	Importance of Hydrogen Bonding in Fine Tuning the [2Fe-2S] Cluster Redox Potential of HydC from Thermotoga maritima. Biochemistry, 2016, 55, 4344-4355.	2.5	23
38	Mechanism of Protection of Catalysts Supported in Redox Hydrogel Films. Journal of the American Chemical Society, 2015, 137, 5494-5505.	13.7	81
39	Investigating the function of [2Feâ€“2S] cluster N1a, the off-pathway cluster in complex I, by manipulating its reduction potential. Biochemical Journal, 2013, 456, 139-146.	3.7	44
40	The mitochondrial-encoded subunits of respiratory complex I (NADH:ubiquinone oxidoreductase): identifying residues important in mechanism and disease. Biochemical Society Transactions, 2011, 39, 799-806.	3.4	27
41	A ternary mechanism for NADH oxidation by positively charged electron acceptors, catalyzed at the flavin site in respiratory complex I. FEBS Letters, 2011, 585, 2318-2322.	2.8	26
42	Truncation of subunit ND2 disrupts the threefold symmetry of the antiporterâ€like subunits in complex I from higher metazoans. FEBS Letters, 2010, 584, 4247-4252.	2.8	36
43	Enhancing the catalytic current response of H 2 oxidation gas diffusion bioelectrodes using an optimized viologenâ€based redox polymer and [NiFe] hydrogenase. Electrochemical Science Advances, 0, , e2100100.	2.8	1
44	Time-Resolved Infrared Spectroscopy Reveals the pH-Independence of the First Electron Transfer Step in the [FeFe] Hydrogenase Catalytic Cycle. Journal of Physical Chemistry Letters, 0, , 5986-5990.	4.6	2