David W Mulder

List of Publications by Year
in descending order

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50 papers	2,896 citations	236925 25 h-index	206112 48 g-index
53 all docs	53 docs citations	53 times ranked	2782 citing authors

#	Article	IF	Citations
1	A site-differentiated [4Feâ€“4S] cluster controls electron transfer reactivity of <i>Clostridium acetobutylicum</i> [FeFe]-hydrogenase I. Chemical Science, 2022, 13, 4581-4588.	7.4	8
2	An uncharacteristically low-potential flavin governs the energy landscape of electron bifurcation. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2117882119.	7.1	5
3	Dissecting Electronic-Structural Transitions in the Nitrogenase MoFe Protein P-Cluster during Reduction. Journal of the American Chemical Society, 2022, 144, 5708-5712.	13.7	7
4	The influence of electron utilization pathways on photosystem I photochemistry in <i>Synechocystis</i> sp. PCC 6803. RSC Advances, 2022, 12, 14655-14664.	3.6	2
5	Catalytic bias in oxidationâ€“reduction catalysis. Chemical Communications, 2021, 57, 713-720.	4.1	15
6	Understanding Degradation at the Lithium-Ion Battery Cathode/Electrolyte Interface: Connecting Transition-Metal Dissolution Mechanisms to Electrolyte Composition. ACS Applied Materials & Interfaces, 2021, 13, 11930-11939.	8.0	31
7	Tuning Catalytic Bias of Hydrogen Gas Producing Hydrogenases. Journal of the American Chemical Society, 2020, 142, 1227-1235.	13.7	55
8	Excitation-Rate Determines Product Stoichiometry in Photochemical Ammonia Production by CdS Quantum Dot-Nitrogenase MoFe Protein Complexes. ACS Catalysis, 2020, 10, 11147-11152.	11.2	23
9	Defining Intermediates of Nitrogenase MoFe Protein during N₂ Reduction under Photochemical Electron Delivery from CdS Quantum Dots. Journal of the American Chemical Society, 2020, 142, 14324-14330.	13.7	32
10	The structure and reactivity of the HoxEFU complex from the cyanobacterium Synechocystis sp. PCC 6803. Journal of Biological Chemistry, 2020, 295, 9445-9454.	3.4	15
11	The catalytic mechanism of electron-bifurcating electron transfer flavoproteins (ETFs) involves an intermediary complex with NAD+. Journal of Biological Chemistry, 2019, 294, 3271-3283.	3.4	30
12	Size-Dependent Asymmetric Auger Interactions in Plasma-Produced n- and p-Type-Doped Silicon Nanocrystals. Journal of Physical Chemistry C, 2019, 123, 5782-5789.	3.1	9
13	The oxygen reduction reaction catalyzed by <i>Synechocystis</i> sp. PCC 6803 flavodiiron proteins. Sustainable Energy and Fuels, 2019, 3, 3191-3200.	4.9	22
14	Quantum Efficiency of Charge Transfer Competing against Nonexponential Processes: The Case of Electron Transfer from CdS Nanorods to Hydrogenase. Journal of Physical Chemistry C, 2019, 123, 886-896.	3.1	24
15	Role of Surface-Capping Ligands in Photoexcited Electron Transfer between CdS Nanorods and [FeFe] Hydrogenase and the Subsequent H₂ Generation. Journal of Physical Chemistry C, 2018, 122, 741-750.	3.1	53
16	CO-Bridged H-Cluster Intermediates in the Catalytic Mechanism of [FeFe]-Hydrogenase CaI. Journal of the American Chemical Society, 2018, 140, 7623-7628.	13.7	44
17	Compositional and structural insights into the nature of the H-cluster precursor on HydF. Dalton Transactions, 2018, 47, 9521-9535.	3.3	16
18	A new era for electron bifurcation. Current Opinion in Chemical Biology, 2018, 47, 32-38.	6.1	54

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19	Terminal Hydride Species in [FeFe]â€Hydrogenases Are Vibrationally Coupled to the Active Site Environment. Angewandte Chemie, 2018, 130, 10765-10769.	2.0	4
20	Terminal Hydride Species in [FeFe]â€Hydrogenases Are Vibrationally Coupled to the Active Site Environment. Angewandte Chemie - International Edition, 2018, 57, 10605-10609.	13.8	29
21	CHAPTER 12. <i>In vitro</i> Light-driven Hydrogen Production. Comprehensive Series in Photochemical and Photobiological Sciences, 2018, , 299-322.	0.3	0
22	Mechanistic insights into energy conservation by flavin-based electron bifurcation. Nature Chemical Biology, 2017, 13, 655-659.	8.0	121
23	Reduction Potentials of [FeFe]-Hydrogenase Accessory Ironâ€"Sulfur Clusters Provide Insights into the Energetics of Proton Reduction Catalysis. Journal of the American Chemical Society, 2017, 139, 9544-9550.	13.7	42
24	Identification of a Catalytic Iron-Hydride at the H-Cluster of [FeFe]-Hydrogenase. Journal of the American Chemical Society, 2017, 139, 83-86.	13.7	124
25	Activation Thermodynamics and H/D Kinetic Isotope Effect of the H_{ox} to H_{red}H⁺ Transition in [FeFe] Hydrogenase. Journal of the American Chemical Society, 2017, 139, 12879-12882.	13.7	23
26	Structural Characterization of Poised States in the Oxygen Sensitive Hydrogenases and Nitrogenases. Methods in Enzymology, 2017, 595, 213-259.	1.0	6
27	Electron Bifurcation: Thermodynamics and Kinetics of Two-Electron Brokering in Biological Redox Chemistry. Accounts of Chemical Research, 2017, 50, 2410-2417.	15.6	44
28	The Electron Bifurcating FixABCX Protein Complex from <i>Azotobacter vinelandii</i>: Generation of Low-Potential Reducing Equivalents for Nitrogenase Catalysis. Biochemistry, 2017, 56, 4177-4190.	2.5	140
29	Crystal structure and biochemical characterization of Chlamydomonas FDX2 reveal two residues that, when mutated, partially confer FDX2 the redox potential and catalytic properties of FDX1. Photosynthesis Research, 2016, 128, 45-57.	2.9	22
30	Proton Reduction Using a Hydrogenase-Modified Nanoporous Black Silicon Photoelectrode. ACS Applied Materials & Interfaces, 2016, 8, 14481-14487.	8.0	44
31	The effect of a C298D mutation in CaHydA [FeFe]-hydrogenase: Insights into the protein-metal cluster interaction by EPR and FTIR spectroscopic investigation. Biochimica Et Biophysica Acta - Bioenergetics, 2016, 1857, 98-106.	1.0	19
32	[FeFe]-Hydrogenase Oxygen Inactivation Is Initiated at the H Cluster 2Fe Subcluster. Journal of the American Chemical Society, 2015, 137, 1809-1816.	13.7	119
33	[FeFe]- and [NiFe]-hydrogenase diversity, mechanism, and maturation. Biochimica Et Biophysica Acta - Molecular Cell Research, 2015, 1853, 1350-1369.	4.1	400
34	Electron Transfer Kinetics in CdS Nanorodâ€"[FeFe]-Hydrogenase Complexes and Implications for Photochemical H₂ Generation. Journal of the American Chemical Society, 2014, 136, 4316-4324.	13.7	177
35	Investigations on the Role of Proton-Coupled Electron Transfer in Hydrogen Activation by [FeFe]-Hydrogenase. Journal of the American Chemical Society, 2014, 136, 15394-15402.	13.7	107
36	Diameter Dependent Electron Transfer Kinetics in Semiconductorâ€"Enzyme Complexes. ACS Nano, 2014, 8, 10790-10798.	14.6	32

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37	Hydrogen Production by Water Biophotolysis. Advances in Photosynthesis and Respiration, 2014, , 101-135.	1.0	13
38	Identification of Global Ferredoxin Interaction Networks in Chlamydomonas reinhardtii. Journal of Biological Chemistry, 2013, 288, 35192-35209.	3.4	101
39	Hydrogenases, Nitrogenases, Anoxia, and H2 Production in Water-Oxidizing Phototrophs. , 2013, , 37-75.		7
40	EPR and FTIR Analysis of the Mechanism of H₂ Activation by [FeFe]-Hydrogenase HydA1 from Chlamydomonas reinhardtii. Journal of the American Chemical Society, 2013, 135, 6921-6929.	13.7	82
41	Small Angle X-Ray Scattering Spectroscopy. Methods in Molecular Biology, 2011, 766, 177-189.	0.9	0
42	Insights into [FeFe]-Hydrogenase Structure, Mechanism, and Maturation. Structure, 2011, 19, 1038-1052.	3.3	220
43	Structural basis for carbon dioxide binding by 2-ketopropyl coenzyme M oxidoreductase/carboxylase. FEBS Letters, 2011, 585, 459-464.	2.8	14
44	FAD Binding by ApbE Protein from <i>Salmonella enterica</i> : a New Class of FAD-Binding Proteins. Journal of Bacteriology, 2011, 193, 887-895.	2.2	36
45	Stepwise [FeFe]-hydrogenase H-cluster assembly revealed in the structure of HydAÎ”EFG. Nature, 2010, 465, 248-251.	27.8	295
46	Activation of HydA^{Î”EFG} Requires a Preformed [4Fe-4S] Cluster. Biochemistry, 2009, 48, 6240-6248.	2.5	119
47	Hydrogenase cluster biosynthesis: organometallic chemistry nature's way. Dalton Transactions, 2009, , 4274.	3.3	66
48	New Frontiers in Hydrogenase Structure and Biosynthesis. Current Chemical Biology, 2008, 2, 178-199.	0.5	6
49	New Frontiers in Hydrogenase Structure and Biosynthesis. Current Chemical Biology, 2008, 2, 178-199.	0.5	24
50	Probing the MgATP-Bound Conformation of the Nitrogenase Fe Protein by Solution Small-Angle X-ray Scattering. Biochemistry, 2007, 46, 14058-14066.	2.5	12