

Paul W King

List of Publications by Year in descending order

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91
papers

8,535
citations

71061

41
h-index

56687

83
g-index

96
all docs

96
docs citations

96
times ranked

7312
citing authors

#	ARTICLE	IF	CITATIONS
1	A site-differentiated [4Fe-4S] cluster controls electron transfer reactivity of <i>Clostridium acetobutylicum</i> [FeFe]-hydrogenase I. <i>Chemical Science</i> , 2022, 13, 4581-4588.	3.7	8
2	An uncharacteristically low-potential flavin governs the energy landscape of electron bifurcation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, e2117882119.	3.3	5
3	Dissecting Electronic-Structural Transitions in the Nitrogenase MoFe Protein P-Cluster during Reduction. <i>Journal of the American Chemical Society</i> , 2022, 144, 5708-5712.	6.6	7
4	The Kinetics of Electron Transfer from CdS Nanorods to the MoFe Protein of Nitrogenase. <i>Journal of Physical Chemistry C</i> , 2022, 126, 8425-8435.	1.5	7
5	The influence of electron utilization pathways on photosystem I photochemistry in <i>Synechocystis</i> sp. PCC 6803. <i>RSC Advances</i> , 2022, 12, 14655-14664.	1.7	2
6	<i>Synechocystis</i> sp. PCC 6803 Requires the Bidirectional Hydrogenase to Metabolize Glucose and Arginine Under Oxidic Conditions. <i>Frontiers in Microbiology</i> , 2022, 13, .	1.5	3
7	Coupling biology to synthetic nanomaterials for semi-artificial photosynthesis. <i>Photosynthesis Research</i> , 2020, 143, 193-203.	1.6	26
8	Tuning Catalytic Bias of Hydrogen Gas Producing Hydrogenases. <i>Journal of the American Chemical Society</i> , 2020, 142, 1227-1235.	6.6	55
9	Excitation-Rate Determines Product Stoichiometry in Photochemical Ammonia Production by CdS Quantum Dot-Nitrogenase MoFe Protein Complexes. <i>ACS Catalysis</i> , 2020, 10, 11147-11152.	5.5	23
10	Defining Intermediates of Nitrogenase MoFe Protein during N ₂ Reduction under Photochemical Electron Delivery from CdS Quantum Dots. <i>Journal of the American Chemical Society</i> , 2020, 142, 14324-14330.	6.6	32
11	The structure and reactivity of the HoxEFU complex from the cyanobacterium <i>Synechocystis</i> sp. PCC 6803. <i>Journal of Biological Chemistry</i> , 2020, 295, 9445-9454.	1.6	15
12	H-cluster assembly intermediates built on HydF by the radical SAM enzymes HydE and HydG. <i>Journal of Biological Inorganic Chemistry</i> , 2019, 24, 783-792.	1.1	15
13	The catalytic mechanism of electron-bifurcating electron transfer flavoproteins (ETFs) involves an intermediary complex with NAD ⁺ . <i>Journal of Biological Chemistry</i> , 2019, 294, 3271-3283.	1.6	30
14	The oxygen reduction reaction catalyzed by <i>Synechocystis</i> sp. PCC 6803 flavodiiron proteins. <i>Sustainable Energy and Fuels</i> , 2019, 3, 3191-3200.	2.5	22
15	Quantum Efficiency of Charge Transfer Competing against Nonexponential Processes: The Case of Electron Transfer from CdS Nanorods to Hydrogenase. <i>Journal of Physical Chemistry C</i> , 2019, 123, 886-896.	1.5	24
16	Distinct properties underlie flavin-based electron bifurcation in a novel electron transfer flavoprotein FixAB from <i>Rhodospseudomonas palustris</i> . <i>Journal of Biological Chemistry</i> , 2018, 293, 4688-4701.	1.6	22
17	Role of Surface-Capping Ligands in Photoexcited Electron Transfer between CdS Nanorods and [FeFe] Hydrogenase and the Subsequent H ₂ Generation. <i>Journal of Physical Chemistry C</i> , 2018, 122, 741-750.	1.5	53
18	Semi-synthetic strategy. <i>Nature Energy</i> , 2018, 3, 921-922.	19.8	9

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19	CO-Bridged H-Cluster Intermediates in the Catalytic Mechanism of [FeFe]-Hydrogenase Cal. Journal of the American Chemical Society, 2018, 140, 7623-7628.	6.6	44
20	Beyond fossil fuelâ€“driven nitrogen transformations. Science, 2018, 360, .	6.0	1,379
21	Compositional and structural insights into the nature of the H-cluster precursor on HydF. Dalton Transactions, 2018, 47, 9521-9535.	1.6	16
22	A new era for electron bifurcation. Current Opinion in Chemical Biology, 2018, 47, 32-38.	2.8	54
23	Terminal Hydride Species in [FeFe]â€“Hydrogenases Are Vibrationally Coupled to the Active Site Environment. Angewandte Chemie, 2018, 130, 10765-10769.	1.6	4
24	Terminal Hydride Species in [FeFe]â€“Hydrogenases Are Vibrationally Coupled to the Active Site Environment. Angewandte Chemie - International Edition, 2018, 57, 10605-10609.	7.2	29
25	CHAPTER 2. Structure-function of [FeFe]- and [NiFe]-Hydrogenases: an Overview of Diversity, Mechanism, Maturation, and Bifurcation. Comprehensive Series in Photochemical and Photobiological Sciences, 2018, , 31-66.	0.3	1
26	CHAPTER 12. <i>in vitro</i> Light-driven Hydrogen Production. Comprehensive Series in Photochemical and Photobiological Sciences, 2018, , 299-322.	0.3	0
27	Expression of a clostridial [FeFe]-hydrogenase in Chlamydomonas reinhardtii prolongs photo-production of hydrogen from water splitting. Algal Research, 2017, 22, 116-121.	2.4	28
28	Mechanistic insights into energy conservation by flavin-based electron bifurcation. Nature Chemical Biology, 2017, 13, 655-659.	3.9	121
29	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.	6.6	42
30	Identification of a Catalytic Iron-Hydride at the H-Cluster of [FeFe]-Hydrogenase. Journal of the American Chemical Society, 2017, 139, 83-86.	6.6	124
31	Equilibrium and ultrafast kinetic studies manipulating electron transfer: A short-lived flavin semiquinone is not sufficient for electron bifurcation. Journal of Biological Chemistry, 2017, 292, 14039-14049.	1.6	23
32	Activation Thermodynamics and H/D Kinetic Isotope Effect of the H _{ox} to H _{red} Transition in [FeFe] Hydrogenase. Journal of the American Chemical Society, 2017, 139, 12879-12882.	6.6	23
33	Structural Characterization of Poised States in the Oxygen Sensitive Hydrogenases and Nitrogenases. Methods in Enzymology, 2017, 595, 213-259.	0.4	6
34	Electron Bifurcation: Thermodynamics and Kinetics of Two-Electron Brokering in Biological Redox Chemistry. Accounts of Chemical Research, 2017, 50, 2410-2417.	7.6	44
35	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.	1.2	140
36	The Physiological Functions and Structural Determinants of Catalytic Bias in the [FeFe]-Hydrogenases Cpl and Cpll of Clostridium pasteurianum Strain W5. Frontiers in Microbiology, 2017, 8, 1305.	1.5	30

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37	Double heterozygosity for hemoglobin C and beta-thalassemia dominant: A rare case of thalassemia intermedia. <i>Hematology Reports</i> , 2017, 9, 7447.	0.3	1
38	Photobiohybrid Solar Conversion with Metalloenzymes and Photosynthetic Reaction Centers. , 2016, , 473-495.		0
39	Light-driven dinitrogen reduction catalyzed by a CdS:nitrogenase MoFe protein biohybrid. <i>Science</i> , 2016, 352, 448-450.	6.0	676
40	Unification of [FeFe]-hydrogenases into three structural and functional groups. <i>Biochimica Et Biophysica Acta - General Subjects</i> , 2016, 1860, 1910-1921.	1.1	76
41	Crystal structure and biochemical characterization of <i>Chlamydomonas</i> FDX2 reveal two residues that, when mutated, partially confer FDX2 the redox potential and catalytic properties of FDX1. <i>Photosynthesis Research</i> , 2016, 128, 45-57.	1.6	22
42	Proton Reduction Using a Hydrogenase-Modified Nanoporous Black Silicon Photoelectrode. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 14481-14487.	4.0	44
43	Electron bifurcation. <i>Current Opinion in Chemical Biology</i> , 2016, 31, 146-152.	2.8	139
44	Photocatalytic Regeneration of Nicotinamide Cofactors by Quantum Dot-Enzyme Biohybrid Complexes. <i>ACS Catalysis</i> , 2016, 6, 2201-2204.	5.5	80
45	The effect of a C298D mutation in CaHydA [FeFe]-hydrogenase: Insights into the protein-metal cluster interaction by EPR and FTIR spectroscopic investigation. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2016, 1857, 98-106.	0.5	19
46	[FeFe]-Hydrogenase Oxygen Inactivation Is Initiated at the H Cluster 2Fe Subcluster. <i>Journal of the American Chemical Society</i> , 2015, 137, 1809-1816.	6.6	119
47	Competition between electron transfer, trapping, and recombination in CdS nanorod-enzyme complexes. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 5538-5542.	1.3	45
48	[FeFe]- and [NiFe]-hydrogenase diversity, mechanism, and maturation. <i>Biochimica Et Biophysica Acta - Molecular Cell Research</i> , 2015, 1853, 1350-1369.	1.9	400
49	Electron Transfer Kinetics in CdS Nanorod-Enzyme Complexes and Implications for Photochemical H ₂ Generation. <i>Journal of the American Chemical Society</i> , 2014, 136, 4316-4324.	6.6	177
50	Investigations on the Role of Proton-Coupled Electron Transfer in Hydrogen Activation by [FeFe]-Hydrogenase. <i>Journal of the American Chemical Society</i> , 2014, 136, 15394-15402.	6.6	107
51	Diameter Dependent Electron Transfer Kinetics in Semiconductor-Enzyme Complexes. <i>ACS Nano</i> , 2014, 8, 10790-10798.	7.3	32
52	Proton Transport in <i>Clostridium pasteurianum</i> [FeFe] Hydrogenase I: A Computational Study. <i>Journal of Physical Chemistry B</i> , 2014, 118, 890-900.	1.2	45
53	Hydrogen Production by Water Biophotolysis. <i>Advances in Photosynthesis and Respiration</i> , 2014, , 101-135.	1.0	13
54	Identification of Global Ferredoxin Interaction Networks in <i>Chlamydomonas reinhardtii</i> . <i>Journal of Biological Chemistry</i> , 2013, 288, 35192-35209.	1.6	101

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55	EPR and FTIR Analysis of the Mechanism of H ₂ Activation by [FeFe]-Hydrogenase HydA1 from <i>Chlamydomonas reinhardtii</i> . <i>Journal of the American Chemical Society</i> , 2013, 135, 6921-6929.	6.6	82
56	Designing interfaces of hydrogenase-nanomaterial hybrids for efficient solar conversion. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2013, 1827, 949-957.	0.5	60
57	Catalytic Turnover of [FeFe]-Hydrogenase Based on Single-Molecule Imaging. <i>Journal of the American Chemical Society</i> , 2012, 134, 1577-1582.	6.6	172
58	Optimized Expression and Purification for High-Activity Preparations of Algal [FeFe]-Hydrogenase. <i>PLoS ONE</i> , 2012, 7, e35886.	1.1	37
59	Characterization of Photochemical Processes for H ₂ Production by CdS Nanorod-[FeFe] Hydrogenase Complexes. <i>Journal of the American Chemical Society</i> , 2012, 134, 5627-5636.	6.6	326
60	Site Saturation Mutagenesis Demonstrates a Central Role for Cysteine 298 as Proton Donor to the Catalytic Site in CaHydA [FeFe]-Hydrogenase. <i>PLoS ONE</i> , 2012, 7, e48400.	1.1	55
61	Direct electrochemistry of an [FeFe]-hydrogenase on a TiO ₂ Electrode. <i>Chemical Communications</i> , 2011, 47, 10566.	2.2	49
62	High-Performance Hydrogen Production and Oxidation Electrodes with Hydrogenase Supported on Metallic Single-Wall Carbon Nanotube Networks. <i>Journal of the American Chemical Society</i> , 2011, 133, 4299-4306.	6.6	61
63	Computational Study of Gas Diffusion Pathways in [FeFe]-Hydrogenase. <i>Biophysical Journal</i> , 2011, 100, 311a.	0.2	0
64	Insights into [FeFe]-Hydrogenase Structure, Mechanism, and Maturation. <i>Structure</i> , 2011, 19, 1038-1052.	1.6	220
65	Photosynthetic electron partitioning between [FeFe]-hydrogenase and ferredoxin:NADP ⁺ -oxidoreductase (FNR) enzymes in vitro. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 9396-9401.	3.3	173
66	Controlled Assembly of Hydrogenase-CdTe Nanocrystal Hybrids for Solar Hydrogen Production. <i>Journal of the American Chemical Society</i> , 2010, 132, 9672-9680.	6.6	246
67	Recombinant and in vitro expression systems for hydrogenases: new frontiers in basic and applied studies for biological and synthetic H ₂ production. <i>Dalton Transactions</i> , 2009, , 9970.	1.6	48
68	Hydrogenase/Ferredoxin Charge-Transfer Complexes: Effect of Hydrogenase Mutations on the Complex Association. <i>Journal of Physical Chemistry A</i> , 2009, 113, 4060-4067.	1.1	29
69	[FeFe]-Hydrogenase-Catalyzed H ₂ Production in a Photoelectrochemical Biofuel Cell. <i>Journal of the American Chemical Society</i> , 2008, 130, 2015-2022.	6.6	304
70	Brownian Dynamics and Molecular Dynamics Study of the Association between Hydrogenase and Ferredoxin from <i>Chlamydomonas reinhardtii</i> . <i>Biophysical Journal</i> , 2008, 95, 3753-3766.	0.2	38
71	Raman spectroscopy of charge transfer interactions between single wall carbon nanotubes and [FeFe] hydrogenase. <i>Dalton Transactions</i> , 2008, , 5454.	1.6	13
72	Biohybrid catalysts for solar hydrogen production. <i>SPIE Newsroom</i> , 2008, , .	0.1	0

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73	Merging [FeFe]-hydrogenases with materials and nanomaterials as biohybrid catalysts for solar H ₂ production. , 2007, , .		1
74	Interaction of [FeFe]-hydrogenases with single-walled carbon nanotubes. Proceedings of SPIE, 2007, , .	0.8	0
75	Wiring-Up Hydrogenase with Single-Walled Carbon Nanotubes. Nano Letters, 2007, 7, 3528-3534.	4.5	106
76	Atomic Resolution Modeling of the Ferredoxin:[FeFe] Hydrogenase Complex from <i>Chlamydomonas reinhardtii</i> . Biophysical Journal, 2007, 93, 3034-3045.	0.2	39
77	Application of gene-shuffling for the rapid generation of novel [FeFe]-hydrogenase libraries. Biotechnology Letters, 2007, 29, 421-430.	1.1	38
78	In vitro activation of [FeFe] hydrogenase: new insights into hydrogenase maturation. Journal of Biological Inorganic Chemistry, 2007, 12, 443-447.	1.1	109
79	Maturation of Hydrogenases. Advances in Microbial Physiology, 2006, 51, 1-225.	1.0	307
80	[FeFe]-hydrogenases and photobiological hydrogen production. , 2006, , .		12
81	Structural and functional investigations of biological catalysts for optimization of solar-driven H ₂ production systems. , 2006, 6340, 259.		6
82	Development of Algal Systems for Hydrogen Photoproduction: Addressing the Hydrogenase Oxygen-sensitivity Problem. , 2006, , 211-227.		5
83	Functional Studies of [FeFe] Hydrogenase Maturation in an <i>Escherichia coli</i> Biosynthetic System. Journal of Bacteriology, 2006, 188, 2163-2172.	1.0	300
84	Approaches to developing biological H ₂ -photoproducing organisms and processes. Biochemical Society Transactions, 2005, 33, 70-72.	1.6	90
85	Molecular dynamics and experimental investigation of H ₂ and O ₂ diffusion in [Fe]-hydrogenase. Biochemical Society Transactions, 2005, 33, 80-82.	1.6	107
86	Identification of genes required for hydrogenase activity in <i>Chlamydomonas reinhardtii</i> . Biochemical Society Transactions, 2005, 33, 102-104.	1.6	89
87	Finding Gas Diffusion Pathways in Proteins: Application to O ₂ and H ₂ Transport in Cpl [FeFe]-Hydrogenase and the Role of Packing Defects. Structure, 2005, 13, 1321-1329.	1.6	170
88	Discovery of Two Novel Radical S-Adenosylmethionine Proteins Required for the Assembly of an Active [Fe] Hydrogenase. Journal of Biological Chemistry, 2004, 279, 25711-25720.	1.6	368
89	Expression of two [Fe]-hydrogenases in <i>Chlamydomonas reinhardtii</i> under anaerobic conditions. FEBS Journal, 2003, 270, 2750-2758.	0.2	228
90	Response of <i>hya</i> Expression to External pH in <i>Escherichia coli</i> . Journal of Bacteriology, 1999, 181, 5250-5256.	1.0	62

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91	Photosynthetic Water-Splitting for Hydrogen Production. , 0, , 273-291.		15