Paul W King

List of Publications by Year
in descending order

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	Beyond fossil fuelâ€“driven nitrogen transformations. Science, 2018, 360, .	6.0	1,379
2	Light-driven dinitrogen reduction catalyzed by a CdS:nitrogenase MoFe protein biohybrid. Science, 2016, 352, 448-450.	6.0	676
3	[FeFe]- and [NiFe]-hydrogenase diversity, mechanism, and maturation. Biochimica Et Biophysica Acta - Molecular Cell Research, 2015, 1853, 1350-1369.	1.9	400
4	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
5	Characterization of Photochemical Processes for H₂ Production by CdS Nanorodâ€“[FeFe] Hydrogenase Complexes. Journal of the American Chemical Society, 2012, 134, 5627-5636.	6.6	326
6	Maturation of Hydrogenases. Advances in Microbial Physiology, 2006, 51, 1-225.	1.0	307
7	[FeFe]-Hydrogenase-Catalyzed H₂ Production in a Photoelectrochemical Biofuel Cell. Journal of the American Chemical Society, 2008, 130, 2015-2022.	6.6	304
8	Functional Studies of [FeFe] Hydrogenase Maturation in an Escherichia coli Biosynthetic System. Journal of Bacteriology, 2006, 188, 2163-2172.	1.0	300
9	Controlled Assembly of Hydrogenase-CdTe Nanocrystal Hybrids for Solar Hydrogen Production. Journal of the American Chemical Society, 2010, 132, 9672-9680.	6.6	246
10	Expression of two [Fe]-hydrogenases in Chlamydomonas reinhardtii under anaerobic conditions. FEBS Journal, 2003, 270, 2750-2758.	0.2	228
11	Insights into [FeFe]-Hydrogenase Structure, Mechanism, and Maturation. Structure, 2011, 19, 1038-1052.	1.6	220
12	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.	6.6	177
13	Photosynthetic electron partitioning between [FeFe]-hydrogenase and ferredoxin:NADP ⁺ -oxidoreductase (FNR) enzymes in vitro. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 9396-9401.	3.3	173
14	Catalytic Turnover of [FeFe]-Hydrogenase Based on Single-Molecule Imaging. Journal of the American Chemical Society, 2012, 134, 1577-1582.	6.6	172
15	Finding Gas Diffusion Pathways in Proteins: Application to O2 and H2 Transport in CpI [FeFe]-Hydrogenase and the Role of Packing Defects. Structure, 2005, 13, 1321-1329.	1.6	170
16	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
17	Electron bifurcation. Current Opinion in Chemical Biology, 2016, 31, 146-152.	2.8	139
18	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

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19	Mechanistic insights into energy conservation by flavin-based electron bifurcation. Nature Chemical Biology, 2017, 13, 655-659.	3.9	121
20	[FeFe]-Hydrogenase Oxygen Inactivation Is Initiated at the H Cluster 2Fe Subcluster. Journal of the American Chemical Society, 2015, 137, 1809-1816.	6.6	119
21	In vitro activation of [FeFe] hydrogenase: new insights into hydrogenase maturation. Journal of Biological Inorganic Chemistry, 2007, 12, 443-447.	1.1	109
22	Molecular dynamics and experimental investigation of H2 and O2 diffusion in [Fe]-hydrogenase. Biochemical Society Transactions, 2005, 33, 80-82.	1.6	107
23	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.	6.6	107
24	Wiring-Up Hydrogenase with Single-Walled Carbon Nanotubes. Nano Letters, 2007, 7, 3528-3534.	4.5	106
25	Identification of Global Ferredoxin Interaction Networks in Chlamydomonas reinhardtii. Journal of Biological Chemistry, 2013, 288, 35192-35209.	1.6	101
26	Approaches to developing biological H2-photoproducing organisms and processes. Biochemical Society Transactions, 2005, 33, 70-72.	1.6	90
27	Identification of genes required for hydrogenase activity in Chlamydomonas reinhardtii. Biochemical Society Transactions, 2005, 33, 102-104.	1.6	89
28	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.	6.6	82
29	Photocatalytic Regeneration of Nicotinamide Cofactors by Quantum Dotâ€“Enzyme Biohybrid Complexes. ACS Catalysis, 2016, 6, 2201-2204.	5.5	80
30	Unification of [FeFe]-hydrogenases into three structural and functional groups. Biochimica Et Biophysica Acta - General Subjects, 2016, 1860, 1910-1921.	1.1	76
31	Response of <i>hya</i> Expression to External pH in <i>Escherichia coli</i>. Journal of Bacteriology, 1999, 181, 5250-5256.	1.0	62
32	High-Performance Hydrogen Production and Oxidation Electrodes with Hydrogenase Supported on Metallic Single-Wall CarbonNanotube Networks. Journal of the American Chemical Society, 2011, 133, 4299-4306.	6.6	61
33	Designing interfaces of hydrogenaseâ€“nanomaterial hybrids for efficient solar conversion. Biochimica Et Biophysica Acta - Bioenergetics, 2013, 1827, 949-957.	0.5	60
34	Tuning Catalytic Bias of Hydrogen Gas Producing Hydrogenases. Journal of the American Chemical Society, 2020, 142, 1227-1235.	6.6	55
35	Site Saturation Mutagenesis Demonstrates a Central Role for Cysteine 298 as Proton Donor to the Catalytic Site in CaHydA [FeFe]-Hydrogenase. PLoS ONE, 2012, 7, e48400.	1.1	55
36	A new era for electron bifurcation. Current Opinion in Chemical Biology, 2018, 47, 32-38.	2.8	54

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37	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.	1.5	53
38	Direct electrochemistry of an [FeFe]-hydrogenase on a TiO2 Electrode. Chemical Communications, 2011, 47, 10566.	2.2	49
39	Recombinant and in vitro expression systems for hydrogenases: new frontiers in basic and applied studies for biological and synthetic H2 production. Dalton Transactions, 2009, , 9970.	1.6	48
40	Proton Transport in Clostridium pasteurianum [FeFe] Hydrogenase I: A Computational Study. Journal of Physical Chemistry B, 2014, 118, 890-900.	1.2	45
41	Competition between electron transfer, trapping, and recombination in CdS nanorodâ€"hydrogenase complexes. Physical Chemistry Chemical Physics, 2015, 17, 5538-5542.	1.3	45
42	Proton Reduction Using a Hydrogenase-Modified Nanoporous Black Silicon Photoelectrode. ACS Applied Materials & Interfaces, 2016, 8, 14481-14487.	4.0	44
43	Electron Bifurcation: Thermodynamics and Kinetics of Two-Electron Brokering in Biological Redox Chemistry. Accounts of Chemical Research, 2017, 50, 2410-2417.	7.6	44
44	CO-Bridged H-Cluster Intermediates in the Catalytic Mechanism of [FeFe]-Hydrogenase CaI. Journal of the American Chemical Society, 2018, 140, 7623-7628.	6.6	44
45	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
46	Atomic Resolution Modeling of the Ferredoxin:[FeFe] Hydrogenase Complex from Chlamydomonas reinhardtii. Biophysical Journal, 2007, 93, 3034-3045.	0.2	39
47	Application of gene-shuffling for the rapid generation of novel [FeFe]-hydrogenase libraries. Biotechnology Letters, 2007, 29, 421-430.	1.1	38
48	Brownian Dynamics and Molecular Dynamics Study of the Association between Hydrogenase and Ferredoxin from Chlamydomonas reinhardtii. Biophysical Journal, 2008, 95, 3753-3766.	0.2	38
49	Optimized Expression and Purification for High-Activity Preparations of Algal [FeFe]-Hydrogenase. PLoS ONE, 2012, 7, e35886.	1.1	37
50	Diameter Dependent Electron Transfer Kinetics in Semiconductorâ€"Enzyme Complexes. ACS Nano, 2014, 8, 10790-10798.	7.3	32
51	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.	6.6	32
52	The Physiological Functions and Structural Determinants of Catalytic Bias in the [FeFe]-Hydrogenases CpI and CpII of Clostridium pasteurianum Strain W5. Frontiers in Microbiology, 2017, 8, 1305.	1.5	30
53	The catalytic mechanism of electron-bifurcating electron transfer flavoproteins (ETFs) involves an intermediary complex with NAD+. Journal of Biological Chemistry, 2019, 294, 3271-3283.	1.6	30
54	Hydrogenase/Ferredoxin Charge-Transfer Complexes: Effect of Hydrogenase Mutations on the Complex Association. Journal of Physical Chemistry A, 2009, 113, 4060-4067.	1.1	29

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55	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
56	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
57	Coupling biology to synthetic nanomaterials for semi-artificial photosynthesis. Photosynthesis Research, 2020, 143, 193-203.	1.6	26
58	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.	1.5	24
59	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
60	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.	6.6	23
61	Excitation-Rate Determines Product Stoichiometry in Photochemical Ammonia Production by CdS Quantum Dot-Nitrogenase MoFe Protein Complexes. ACS Catalysis, 2020, 10, 11147-11152.	5.5	23
62	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.	1.6	22
63	Distinct properties underlie flavin-based electron bifurcation in a novel electron transfer flavoprotein FixAB from Rhodopseudomonas palustris. Journal of Biological Chemistry, 2018, 293, 4688-4701.	1.6	22
64	The oxygen reduction reaction catalyzed by <i>Synechocystis</i> sp. PCC 6803 flavodiiron proteins. Sustainable Energy and Fuels, 2019, 3, 3191-3200.	2.5	22
65	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.	0.5	19
66	Compositional and structural insights into the nature of the H-cluster precursor on HydF. Dalton Transactions, 2018, 47, 9521-9535.	1.6	16
67	H-cluster assembly intermediates built on HydF by the radical SAM enzymes HydE and HydG. Journal of Biological Inorganic Chemistry, 2019, 24, 783-792.	1.1	15
68	The structure and reactivity of the HoxEFU complex from the cyanobacterium Synechocystis sp. PCC 6803. Journal of Biological Chemistry, 2020, 295, 9445-9454.	1.6	15
69	Photosynthetic Water-Splitting for Hydrogen Production. , 0, , 273-291.		15
70	Raman spectroscopy of charge transfer interactions between single wall carbon nanotubes and [FeFe] hydrogenase. Dalton Transactions, 2008, , 5454.	1.6	13
71	Hydrogen Production by Water Biophotolysis. Advances in Photosynthesis and Respiration, 2014, , 101-135.	1.0	13
72	[FeFe]-hydrogenases and photobiological hydrogen production. , 2006, , .		12

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73	Semi-synthetic strategy. Nature Energy, 2018, 3, 921-922.	19.8	9
74	A site-differentiated [4Feâ€"4S] cluster controls electron transfer reactivity of <i>Clostridium acetobutylicum</i> [FeFe]-hydrogenase I. Chemical Science, 2022, 13, 4581-4588.	3.7	8
75	Dissecting Electronic-Structural Transitions in the Nitrogenase MoFe Protein P-Cluster during Reduction. Journal of the American Chemical Society, 2022, 144, 5708-5712.	6.6	7
76	The Kinetics of Electron Transfer from CdS Nanorods to the MoFe Protein of Nitrogenase. Journal of Physical Chemistry C, 2022, 126, 8425-8435.	1.5	7
77	Structural and functional investigations of biological catalysts for optimization of solar-driven H 2 production systems. , 2006, 6340, 259.		6
78	Structural Characterization of Poised States in the Oxygen Sensitive Hydrogenases and Nitrogenases. Methods in Enzymology, 2017, 595, 213-259.	0.4	6
79	Development of Algal Systems for Hydrogen Photoproduction: Addressing the Hydrogenase Oxygen-sensitivity Problem. , 2006, , 211-227.		5
80	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.	3.3	5
81	Terminal Hydride Species in [FeFe]â€Hydrogenases Are Vibrationally Coupled to the Active Site Environment. Angewandte Chemie, 2018, 130, 10765-10769.	1.6	4
82	Synechocystis sp. PCC 6803 Requires the Bidirectional Hydrogenase to Metabolize Glucose and Arginine Under Oxic Conditions. Frontiers in Microbiology, 2022, 13, .	1.5	3
83	The influence of electron utilization pathways on photosystem I photochemistry in <i>Synechocystis</i> sp. PCC 6803. RSC Advances, 2022, 12, 14655-14664.	1.7	2
84	Merging [FeFe]-hydrogenases with materials and nanomaterials as biohybrid catalysts for solar H 2 production. , 2007, , .		1
85	Double heterozygosity for hemoglobin C and beta-thalassemia dominant: A rare case of thalassemia intermedia. Hematology Reports, 2017, 9, 7447.	0.3	1
86	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
87	Interaction of [FeFe]-hydrogenases with single-walled carbon nanotubes. Proceedings of SPIE, 2007, , .	0.8	0
88	Computational Study of Gas Diffusion Pathways in [FeFe]-Hydrogenase. Biophysical Journal, 2011, 100, 311a.	0.2	0
89	Photobiohybrid Solar Conversion with Metalloenzymes and Photosynthetic Reaction Centers. , 2016, , 473-495.		0
90	Biohybrid catalysts for solar hydrogen production. SPIE Newsroom, 2008, , .	0.1	0

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91	CHAPTER 12. <i>In vitro</i> Light-driven Hydrogen Production. Comprehensive Series in Photochemical and Photobiological Sciences, 2018, , 299-322.	0.3	0