John W Peters

List of Publications by Year
in descending order

130 papers	9,700 citations	38742 50 h-index	39675 94 g-index
138 all docs	138 docs citations	138 times ranked	7235 citing authors

#	Article	IF	Citations
1	Genetic Determinants of Ammonium Excretion in <i>nifL</i> Mutants of Azotobacter vinelandii. Applied and Environmental Microbiology, 2022, 88, AEM0187621.	3.1	9
2	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
3	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
4	A catalytic dyad modulates conformational change in the CO2-fixing flavoenzyme 2-ketopropyl coenzyme MÂoxidoreductase/carboxylase. Journal of Biological Chemistry, 2022, 298, 101884.	3.4	1
5	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
6	Phosphorus containing analogues of SAHA as inhibitors of HDACs. Journal of Enzyme Inhibition and Medicinal Chemistry, 2022, 37, 1315-1319.	5.2	3
7	The Kinetics of Electron Transfer from CdS Nanorods to the MoFe Protein of Nitrogenase. Journal of Physical Chemistry C, 2022, 126, 8425-8435.	3.1	7
8	Revealing a role for the G subunit in mediating interactions between the nitrogenase component proteins. Journal of Inorganic Biochemistry, 2021, 214, 111273.	3.5	13
9	Catalytic bias in oxidationâ€“reduction catalysis. Chemical Communications, 2021, 57, 713-720.	4.1	15
10	HydG, the â€œdanglerâ€•iron, and catalytic production of free CO and CN^{â^’}: implications for [FeFe]-hydrogenase maturation. Dalton Transactions, 2021, 50, 10405-10422.	3.3	11
11	Bioenergetics Theory and Components | Flavin-Based Electron Bifurcation. , 2021, , 130-142.		0
12	Comment on â€œStructural evidence for a dynamic metallocofactor during N ₂ reduction by Mo-nitrogenaseâ€• Science, 2021, 371, .	12.6	29
13	Mechanical coupling in the nitrogenase complex. PLoS Computational Biology, 2021, 17, e1008719.	3.2	8
14	The unique Pheâ€“His dyad of 2-ketopropyl coenzyme M oxidoreductase/carboxylase selectively promotes carboxylation and Sâ€“C bond cleavage. Journal of Biological Chemistry, 2021, 297, 100961.	3.4	1
15	Metabolic Model of the Nitrogen-Fixing Obligate Aerobe Azotobacter vinelandii Predicts Its Adaptation to Oxygen Concentration and Metal Availability. MBio, 2021, 12, e0259321.	4.1	16
16	Control of nitrogen fixation in bacteria that associate with cereals. Nature Microbiology, 2020, 5, 314-330.	13.3	135
17	Tuning Catalytic Bias of Hydrogen Gas Producing Hydrogenases. Journal of the American Chemical Society, 2020, 142, 1227-1235.	13.7	55
18	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

#	Article	IF	Citations
19	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
20	A Positive Charge in the Outer Coordination Sphere of an Artificial Enzyme Increases CO₂ Hydrogenation. Organometallics, 2020, 39, 1532-1544.	2.3	19
21	Insights into the unique carboxylation reactions in the metabolism of propylene and acetone. Biochemical Journal, 2020, 477, 2027-2038.	3.7	3
22	Electron bifurcation: progress and grand challenges. Chemical Communications, 2019, 55, 11823-11832.	4.1	25
23	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
24	The reactive form of a Câ€"S bondâ€"cleaving, CO2-fixing flavoenzyme. Journal of Biological Chemistry, 2019, 294, 5137-5145.	3.4	4
25	Geobiological feedbacks, oxygen, and the evolution of nitrogenase. Free Radical Biology and Medicine, 2019, 140, 250-259.	2.9	56
26	Protein Scaffold Activates Catalytic CO₂ Hydrogenation by a Rhodium Bis(diphosphine) Complex. ACS Catalysis, 2019, 9, 620-625.	11.2	30
27	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.	3.4	22
28	Electron Transfer to Nitrogenase in Different Genomic and Metabolic Backgrounds. Journal of Bacteriology, 2018, 200, .	2.2	85
29	Coenzyme M biosynthesis in bacteria involves phosphate elimination by a functionally distinct member of the aspartase/fumarase superfamily. Journal of Biological Chemistry, 2018, 293, 5236-5246.	3.4	10
30	Structural characterization of the nitrogenase molybdenum-iron protein with the substrate acetylene trapped near the active site. Journal of Inorganic Biochemistry, 2018, 180, 129-134.	3.5	21
31	Structural characterization of the P1+ intermediate state of the P-cluster of nitrogenase. Journal of Biological Chemistry, 2018, 293, 9629-9635.	3.4	44
32	Exploring the alternatives of biological nitrogen fixation. Metallomics, 2018, 10, 523-538.	2.4	125
33	On the nature of organic and inorganic centers that bifurcate electrons, coupling exergonic and endergonic oxidationâ€"reduction reactions. Chemical Communications, 2018, 54, 4091-4099.	4.1	50
34	H/D exchange mass spectrometry and statistical coupling analysis reveal a role for allostery in a ferredoxin-dependent bifurcating transhydrogenase catalytic cycle. Biochimica Et Biophysica Acta - General Subjects, 2018, 1862, 9-17.	2.4	38
35	Hydrogen Deuterium Exchange Mass Spectrometry of Oxygen Sensitive Proteins. Bio-protocol, 2018, 8, .	0.4	16
36	Control of electron transfer in nitrogenase. Current Opinion in Chemical Biology, 2018, 47, 54-59.	6.1	43

#	Article	IF	Citations
37	A new era for electron bifurcation. Current Opinion in Chemical Biology, 2018, 47, 32-38.	6.1	54
38	Structure of an Ancient Respiratory System. Cell, 2018, 173, 1636-1649.e16.	28.9	92
39	Energy Transduction in Nitrogenase. Accounts of Chemical Research, 2018, 51, 2179-2186.	15.6	101
40	Mechanistic insights into energy conservation by flavin-based electron bifurcation. Nature Chemical Biology, 2017, 13, 655-659.	8.0	121
41	Diazotrophic Growth Allows Azotobacter vinelandii To Overcome the Deleterious Effects of a <i>glnE</i> Deletion. Applied and Environmental Microbiology, 2017, 83, .	3.1	9
42	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
43	Structure-Based Mechanism for Oxidative Decarboxylation Reactions Mediated by Amino Acids and Heme Propionates in Coproheme Decarboxylase (HemQ). Journal of the American Chemical Society, 2017, 139, 1900-1911.	13.7	52
44	Electron Bifurcation Makes the Puzzle Pieces Fall Energetically into Place in Methanogenic Energy Conservation. ChemBioChem, 2017, 18, 2295-2297.	2.6	12
45	Unraveling the interactions of the physiological reductant flavodoxin with the different conformations of the Fe protein in the nitrogenase cycle. Journal of Biological Chemistry, 2017, 292, 15661-15669.	3.4	21
46	Structural Characterization of Poised States in the Oxygen Sensitive Hydrogenases and Nitrogenases. Methods in Enzymology, 2017, 595, 213-259.	1.0	6
47	Electron Bifurcation: Thermodynamics and Kinetics of Two-Electron Brokering in Biological Redox Chemistry. Accounts of Chemical Research, 2017, 50, 2410-2417.	15.6	44
48	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
49	Two functionally distinct NADP+-dependent ferredoxin oxidoreductases maintain the primary redox balance of Pyrococcus furiosus. Journal of Biological Chemistry, 2017, 292, 14603-14616.	3.4	54
50	Structural Basis for the Mechanism of ATP-Dependent Acetone Carboxylation. Scientific Reports, 2017, 7, 7234.	3.3	12
51	Transcriptional Analysis of an Ammonium-Excreting Strain of Azotobacter vinelandii Deregulated for Nitrogen Fixation. Applied and Environmental Microbiology, 2017, 83, .	3.1	27
52	Defining Electron Bifurcation in the Electron-Transferring Flavoprotein Family. Journal of Bacteriology, 2017, 199, .	2.2	78
53	Syntrophomonas wolfei Uses an NADH-Dependent, Ferredoxin-Independent [FeFe]-Hydrogenase To Reoxidize NADH. Applied and Environmental Microbiology, 2017, 83, .	3.1	34
54	Microbial substrate preference dictated by energy demand rather than supply. Nature Geoscience, 2017, 10, 577-581.	12.9	39

#	Article	IF	Citations
55	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.	3.5	30
56	A Redox Active [2Fe-2S] Cluster on the Hydrogenase Maturase HydF. Biochemistry, 2016, 55, 3514-3527.	2.5	18
57	Symbiotic Nitrogen Fixation and the Challenges to Its Extension to Nonlegumes. Applied and Environmental Microbiology, 2016, 82, 3698-3710.	3.1	443
58	Light-driven dinitrogen reduction catalyzed by a CdS:nitrogenase MoFe protein biohybrid. Science, 2016, 352, 448-450.	12.6	676
59	Substitution of a conserved catalytic dyad into 2â€•KPCC causes loss of carboxylation activity. FEBS Letters, 2016, 590, 2991-2996.	2.8	7
60	Unification of [FeFe]-hydrogenases into three structural and functional groups. Biochimica Et Biophysica Acta - General Subjects, 2016, 1860, 1910-1921.	2.4	76
61	Evidence That the P_i Release Event Is the Rate-Limiting Step in the Nitrogenase Catalytic Cycle. Biochemistry, 2016, 55, 3625-3635.	2.5	95
62	Electron bifurcation. Current Opinion in Chemical Biology, 2016, 31, 146-152.	6.1	139
63	The role of geochemistry and energetics in the evolution of modern respiratory complexes from a proton-reducing ancestor. Biochimica Et Biophysica Acta - Bioenergetics, 2016, 1857, 958-970.	1.0	79
64	Biochemical and Structural Characterization of Enolase from Chloroflexus aurantiacus: Evidence for a Thermophilic Origin. Frontiers in Bioengineering and Biotechnology, 2015, 3, 74.	4.1	9
65	Biochemical and Structural Properties of a Thermostable Mercuric Ion Reductase from Metallosphaera sedula. Frontiers in Bioengineering and Biotechnology, 2015, 3, 97.	4.1	14
66	Radical S-Adenosyl-l-methionine Chemistry in the Synthesis of Hydrogenase and Nitrogenase Metal Cofactors. Journal of Biological Chemistry, 2015, 290, 3987-3994.	3.4	22
67	Use of plant colonizing bacteria as chassis for transfer of N2-fixation to cereals. Current Opinion in Biotechnology, 2015, 32, 216-222.	6.6	99
68	[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
69	Fe Protein-Independent Substrate Reduction by Nitrogenase MoFe Protein Variants. Biochemistry, 2015, 54, 2456-2462.	2.5	38
70	Carbon Source Preference in Chemosynthetic Hot Spring Communities. Applied and Environmental Microbiology, 2015, 81, 3834-3847.	3.1	52
71	[FeFe]-Hydrogenase Maturation: Insights into the Role HydE Plays in Dithiomethylamine Biosynthesis. Biochemistry, 2015, 54, 1807-1818.	2.5	57
72	Evolution of Molybdenum Nitrogenase during the Transition from Anaerobic to Aerobic Metabolism. Journal of Bacteriology, 2015, 197, 1690-1699.	2.2	97

#	Article	IF	Citations
73	[FeFe]- and [NiFe]-hydrogenase diversity, mechanism, and maturation. Biochimica Et Biophysica Acta - Molecular Cell Research, 2015, 1853, 1350-1369.	4.1	400
74	Evolutionary and Biotechnological Implications of Robust Hydrogenase Activity in Halophilic Strains of Tetraselmis. PLoS ONE, 2014, 9, e85812.	2.5	21
75	[FeFe]-Hydrogenase Abundance and Diversity along a Vertical Redox Gradient in Great Salt Lake, USA. International Journal of Molecular Sciences, 2014, 15, 21947-21966.	4.1	17
76	Growth of Chlamydomonas reinhardtii in acetate-free medium when co-cultured with alginate-encapsulated, acetate-producing strains of Synechococcus sp. PCC 7002. Biotechnology for Biofuels, 2014, 7, 154.	6.2	28
77	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
78	Goniometer-based femtosecond crystallography with X-ray free electron lasers. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 17122-17127.	7.1	122
79	Reversible H Atom Abstraction Catalyzed by the Radical <i>S</i>-Adenosylmethionine Enzyme HydG. Journal of the American Chemical Society, 2014, 136, 13086-13089.	13.7	38
80	[FeFe]-Hydrogenase Maturation. Biochemistry, 2014, 53, 4090-4104.	2.5	93
81	H-Cluster assembly during maturation of the [FeFe]-hydrogenase. Journal of Biological Inorganic Chemistry, 2014, 19, 747-757.	2.6	36
82	Hydrogen Metabolism and the Evolution of Biological Respiration. Microbe Magazine, 2014, 9, 361-367.	0.4	47
83	Biochemical and Kinetic Characterization of Radical <i>S</i>-Adenosyl-<scp>l</scp>-methionine Enzyme HydG. Biochemistry, 2013, 52, 8696-8707.	2.5	50
84	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
85	Nuclear resonance vibrational spectroscopy (NRVS) of rubredoxin and MoFe protein crystals. Hyperfine Interactions, 2013, 222, 77-90.	0.5	10
86	New insights into the evolutionary history of biological nitrogen fixation. Frontiers in Microbiology, 2013, 4, 201.	3.5	199
87	Radical AdoMet enzymes in complex metal cluster biosynthesis. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2012, 1824, 1254-1263.	2.3	25
88	Transcriptional Profiling of Nitrogen Fixation in Azotobacter vinelandii. Journal of Bacteriology, 2011, 193, 4477-4486.	2.2	99
89	An Alternative Path for the Evolution of Biological Nitrogen Fixation. Frontiers in Microbiology, 2011, 2, 205.	3.5	105
90	Insights into [FeFe]-Hydrogenase Structure, Mechanism, and Maturation. Structure, 2011, 19, 1038-1052.	3.3	220

#	Article	IF	Citations
91	Structural basis for carbon dioxide binding by 2-ketopropyl coenzyme M oxidoreductase/carboxylase. FEBS Letters, 2011, 585, 459-464.	2.8	14
92	Environmental Constraints Underpin the Distribution and Phylogenetic Diversity of nifH in the Yellowstone Geothermal Complex. Microbial Ecology, 2011, 61, 860-870.	2.8	40
93	Cyanide and Carbon Monoxide Ligand Formation in Hydrogenase Biosynthesis. European Journal of Inorganic Chemistry, 2011, 2011, 935-947.	2.0	19
94	Cyanide and Carbon Monoxide Ligand Formation in Hydrogenase Biosynthesis. European Journal of Inorganic Chemistry, 2011, 2011, .	2.0	0
95	Biosynthesis of complex ironâ€“sulfur enzymes. Current Opinion in Chemical Biology, 2011, 15, 319-327.	6.1	65
96	Roles of the Redox-Active Disulfide and Histidine Residues Forming a Catalytic Dyad in Reactions Catalyzed by 2-Ketopropyl Coenzyme M Oxidoreductase/Carboxylase. Journal of Bacteriology, 2011, 193, 4904-4913.	2.2	12
97	Substrate specificity and evolutionary implications of a NifDK enzyme carrying NifBâ€co at its active site. FEBS Letters, 2010, 584, 1487-1492.	2.8	34
98	[FeFe]â€Hydrogenase Cyanide Ligands Derived From <i>S</i>â€Adenosylmethionineâ€Dependent Cleavage of Tyrosine. Angewandte Chemie - International Edition, 2010, 49, 1687-1690.	13.8	144
99	Insights into substrate binding at FeMo-cofactor in nitrogenase from the structure of an Î±-70Ile MoFe protein variant. Journal of Inorganic Biochemistry, 2010, 104, 385-389.	3.5	67
100	Stepwise [FeFe]-hydrogenase H-cluster assembly revealed in the structure of HydAÎ”EFG. Nature, 2010, 465, 248-251.	27.8	295
101	Synthesis of the 2Fe subcluster of the [FeFe]-hydrogenase H cluster on the HydF scaffold. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 10448-10453.	7.1	129
102	[FeFe]-Hydrogenase Maturation: HydG-Catalyzed Synthesis of Carbon Monoxide. Journal of the American Chemical Society, 2010, 132, 9247-9249.	13.7	149
103	High level of hydrogen production activity achieved for hydrogenase encapsulated in solâ€“gel material doped with carbon nanotubes. Journal of Materials Chemistry, 2010, 20, 1065.	6.7	9
104	Activation of HydA^{Î”EFG} Requires a Preformed [4Fe-4S] Cluster. Biochemistry, 2009, 48, 6240-6248.	2.5	119
105	HydF as a scaffold protein in [FeFe] hydrogenase Hâ€cluster biosynthesis. FEBS Letters, 2008, 582, 2183-2187.	2.8	122
106	Dithiomethylether as a Ligand in the Hydrogenase H-Cluster. Journal of the American Chemical Society, 2008, 130, 4533-4540.	13.7	304
107	Getting a Handle on the Role of Coenzyme M in Alkene Metabolism. Microbiology and Molecular Biology Reviews, 2008, 72, 445-456.	6.6	46
108	Biomimetic Synthesis of an Active H2 Catalyst Using the Ferritin Protein Cage Architecture. ACS Symposium Series, 2008, , 263-272.	0.5	1

#	Article	IF	Citations
109	In vitro activation of [FeFe] hydrogenase: new insights into hydrogenase maturation. Journal of Biological Inorganic Chemistry, 2007, 12, 443-447.	2.6	109
110	Mechanistic Implications of the Structure of the Mixed-Disulfide Intermediate of the Disulfide Oxidoreductase, 2-Ketopropyl-Coenzyme M Oxidoreductase/Carboxylaseâ€‚â€¡. Biochemistry, 2006, 45, 113-120.	2.5	9
111	A radical solution for the biosynthesis of the H-cluster of hydrogenase. FEBS Letters, 2006, 580, 363-367.	2.8	72
112	Exploring new frontiers of nitrogenase structure and mechanism. Current Opinion in Chemical Biology, 2006, 10, 101-108.	6.1	116
113	Insights into the role of nucleotide-dependent conformational change in nitrogenase catalysis: Structural characterization of the nitrogenase Fe protein Leu127 deletion variant with bound MgATP. Journal of Inorganic Biochemistry, 2006, 100, 1041-1052.	3.5	23
114	In situanalysis of nitrogen fixation and metabolic switching in unicellular thermophilic cyanobacteria inhabiting hot spring microbial mats. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 2398-2403.	7.1	239
115	Structural and biochemical implications of single amino acid substitutions in the nucleotide-dependent switch regions of the nitrogenase Fe protein from Azotobacter vinelandii. Journal of Biological Inorganic Chemistry, 2004, 9, 1028-1033.	2.6	16
116	A Conformational Mimic of the MgATP-Bound â€œOn Stateâ€•of the Nitrogenase Iron Protein,. Biochemistry, 2004, 43, 1787-1797.	2.5	33
117	Surprising cofactors in metalloenzymes. Current Opinion in Structural Biology, 2003, 13, 220-226.	5.7	70
118	Structural Basis for CO2 Fixation by a Novel Member of the Disulfide Oxidoreductase Family of Enzymes, 2-Ketopropyl-Coenzyme M Oxidoreductase/Carboxylase,. Biochemistry, 2002, 41, 12907-12913.	2.5	24
119	ENZYMOLOGY: A Trio of Transition Metals in Anaerobic CO2 Fixation. Science, 2002, 298, 552-553.	12.6	11
120	MgATP-Bound and Nucleotide-Free Structures of a Nitrogenase Protein Complex between the Leu 127Î”-Fe-Protein and the MoFe-Proteinâ€‚â€¡. Biochemistry, 2001, 40, 641-650.	2.5	85
121	Mechanistic Features and Structure of the Nitrogenase Î±-Gln195MoFe Proteinâ€‚â€¡. Biochemistry, 2001, 40, 1540-1549.	2.5	77
122	Modulating the Midpoint Potential of the [4Fe-4S] Cluster of the Nitrogenase Fe Protein,. Biochemistry, 2000, 39, 641-648.	2.5	37
123	Photochemistry at the Active Site of the Carbon Monoxide Inhibited Form of the Iron-Only Hydrogenase (CpI). Journal of the American Chemical Society, 2000, 122, 3793-3794.	13.7	71
124	Insights into Nucleotide Signal Transduction in Nitrogenase:â€‰ Structure of an Iron Protein with MgADP Bound,. Biochemistry, 2000, 39, 14745-14752.	2.5	105
125	Reversible Carbon Monoxide Binding and Inhibition at the Active Site of the Fe-Only Hydrogenaseâ€. Biochemistry, 2000, 39, 7455-7460.	2.5	142
126	Structure and mechanism of iron-only hydrogenases. Current Opinion in Structural Biology, 1999, 9, 670-676.	5.7	207

#	Article	IF	Citations
127	Binding of Exogenously Added Carbon Monoxide at the Active Site of the Iron-Only Hydrogenase (CpI) fromClostridium pasteurianumâ€,â€¡. Biochemistry, 1999, 38, 12969-12973.	2.5	297
128	Redox-Dependent Structural Changes in the Nitrogenase P-Cluster,. Biochemistry, 1997, 36, 1181-1187.	2.5	498
129	Nitrogenase Structure and Function: A Biochemical-Genetic Perspective. Annual Review of Microbiology, 1995, 49, 335-366.	7.3	181
130	The Unfolded-Protein Response Triggers the Arthropod Immune Deficiency Pathway. MBio, 0, , .	4.1	0