Michael Haumann

List of Publications by Year in Descending Order

85 papers	3,598 citations	34 h-index	58 g-index
92 ext. papers	4,057 ext. citations	6.6 avg, IF	5.36 L-index

#	Paper	IF	Citations
85	Tryptophan regulates zinc stores.. *Proceedings of the National Academy of Sciences of the United States of America*, **2022**, 119, e2117807119	11.5	0
84	Bimetallic Mn, Fe, Co, and Ni Sites in a Four-Helix Bundle Protein: Metal Binding, Structure, and Peroxide Activation. *Inorganic Chemistry*, **2021**, 60, 17498-17508	5.1	1
83	A Pseudotetrahedral Terminal Oxoiron(IV) Complex: Mechanistic Promiscuity in C-H Bond Oxidation Reactions. *Angewandte Chemie - International Edition*, **2021**, 60, 6752-6756	16.4	7
82	A bioinspired oxoiron(IV) motif supported on a NS macrocyclic ligand. *Chemical Communications*, **2021**, 57, 2947-2950	5.8	3
81	A Pseudotetrahedral Terminal Oxoiron(IV) Complex: Mechanistic Promiscuity in C□H Bond Oxidation Reactions. *Angewandte Chemie*, **2021**, 133, 6826-6830	3.6	2
80	Operando tracking of oxidation-state changes by coupling electrochemistry with time-resolved X-ray absorption spectroscopy demonstrated for water oxidation by a cobalt-based catalyst film. *Analytical and Bioanalytical Chemistry*, **2021**, 413, 5395-5408	4.4	5
79	Temperature Dependence of Structural Dynamics at the Catalytic Cofactor of [FeFe]-hydrogenase. *Inorganic Chemistry*, **2020**, 59, 16474-16488	5.1	10
78	Stoichiometric Formation of an Oxoiron(IV) Complex by a Soluble Methane Monooxygenase Type Activation of O at an Iron(II)-Cyclam Center. *Journal of the American Chemical Society*, **2020**, 142, 5924-5928	16.4	19
77	Anion Binding and Oxidative Modification at the Molybdenum Cofactor of Formate Dehydrogenase from Studied by X-ray Absorption Spectroscopy. *Inorganic Chemistry*, **2020**, 59, 214-225	5.1	6
76	[FeFe]-hydrogenase maturation: H-cluster assembly intermediates tracked by electron paramagnetic resonance, infrared, and X-ray absorption spectroscopy. *Journal of Biological Inorganic Chemistry*, **2020**, 25, 777-788	3.7	3
75	Light-driven formation of manganese oxide by today's photosystem II supports evolutionarily ancient manganese-oxidizing photosynthesis. *Nature Communications*, **2020**, 11, 6110	17.4	13
74	Geometry of the Catalytic Active Site in [FeFe]-Hydrogenase Is Determined by Hydrogen Bonding and Proton Transfer. *ACS Catalysis*, **2019**, 9, 9140-9149	13.1	21
73	Identification of YdhV as the First Molybdoenzyme Binding a Bis-Mo-MPT Cofactor in Escherichia coli. *Biochemistry*, **2019**, 58, 2228-2242	3.2	6
72	Fate of oxygen species from O activation at dimetal cofactors in an oxidase enzyme revealed by Fe nuclear resonance X-ray scattering and quantum chemistry. *Biochimica Et Biophysica Acta - Bioenergetics*, **2019**, 1860, 148060	4.6	1
71	Differential Protonation at the Catalytic Six-Iron Cofactor of [FeFe]-Hydrogenases Revealed by Fe Nuclear Resonance X-ray Scattering and Quantum Mechanics/Molecular Mechanics Analyses. *Inorganic Chemistry*, **2019**, 58, 4000-4013	5.1	14
70	Light-driven hydrogen evolution catalyzed by a cobaloxime catalyst incorporated in a MIL-101(Cr) metal-organic framework. *Sustainable Energy and Fuels*, **2018**, 2, 1148-1152	5.8	23
69	Protonation/reduction dynamics at the [4Fe-4S] cluster of the hydrogen-forming cofactor in [FeFe]-hydrogenases. *Physical Chemistry Chemical Physics*, **2018**, 20, 3128-3140	3.6	54

68	Hydrogen and oxygen trapping at the H-cluster of [FeFe]-hydrogenase revealed by site-selective spectroscopy and QM/MM calculations. *Biochimica Et Biophysica Acta - Bioenergetics*, **2018**, 1859, 28-41	4.6	27
67	K X-ray Emission Spectroscopy on the Photosynthetic Oxygen-Evolving Complex Supports Manganese Oxidation and Water Binding in the S State. *Inorganic Chemistry*, **2018**, 57, 10424-10430	5.1	24
66	Spectroscopical Investigations on the Redox Chemistry of [FeFe]-Hydrogenases in the Presence of Carbon Monoxide. *Molecules*, **2018**, 23,	4.8	7
65	The Molecular Proceedings of Biological Hydrogen Turnover. *Accounts of Chemical Research*, **2018**, 51, 1755-1763	24.3	44
64	O-Tolerant H Activation by an Isolated Large Subunit of a [NiFe] Hydrogenase. *Biochemistry*, **2018**, 57, 5339-5349	3.2	11
63	Behavior of Ru-bda Water-Oxidation Catalysts in Low Oxidation States. *Chemistry - A European Journal*, **2018**, 24, 12838-12847	4.8	22
62	From an FeP complex to FeP nanoparticles as efficient electrocatalysts for water-splitting. *Chemical Science*, **2018**, 9, 8590-8597	9.4	73
61	Protonation and Sulfido versus Oxo Ligation Changes at the Molybdenum Cofactor in Xanthine Dehydrogenase (XDH) Variants Studied by X-ray Absorption Spectroscopy. *Inorganic Chemistry*, **2017**, 56, 2165-2176	5.1	7
60	Spontaneous Si-C bond cleavage in (Triphos)-nickel complexes. *Dalton Transactions*, **2017**, 46, 907-917	4.3	14
59	Proton-Coupled Reduction of the Catalytic [4Fe-4S] Cluster in [FeFe]-Hydrogenases. *Angewandte Chemie - International Edition*, **2017**, 56, 16503-16506	16.4	41
58	Ligand binding at the A-cluster in full-length or truncated acetyl-CoA synthase studied by X-ray absorption spectroscopy. *PLoS ONE*, **2017**, 12, e0171039	3.7	1
57	Bridging Hydride at Reduced H-Cluster Species in [FeFe]-Hydrogenases Revealed by Infrared Spectroscopy, Isotope Editing, and Quantum Chemistry. *Journal of the American Chemical Society*, **2017**, 139, 12157-12160	16.4	39
56	Electronic and molecular structure relations in diiron compounds mimicking the [FeFe]-hydrogenase active site studied by X-ray spectroscopy and quantum chemistry. *Dalton Transactions*, **2017**, 46, 12544-12557	4.3	5
55	Effective intermediate-spin iron in O-transporting heme proteins. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 8556-8561	11.5	32
54	Protonengekoppelte Reduktion des katalytischen [4Fe-4S]-Zentrums in [FeFe]-Hydrogenasen. *Angewandte Chemie*, **2017**, 129, 16728-16732	3.6	4
53	The Escherichia coli Periplasmic Aldehyde Oxidoreductase Is an Exceptional Member of the Xanthine Oxidase Family of Molybdoenzymes. *ACS Chemical Biology*, **2016**, 11, 2923-2935	4.9	17
52	Stepwise isotope editing of [FeFe]-hydrogenases exposes cofactor dynamics. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 8454-9	11.5	42
51	Axial Ligation and Redox Changes at the Cobalt Ion in Cobalamin Bound to Corrinoid Iron-Sulfur Protein (CoFeSP) or in Solution Characterized by XAS and DFT. *PLoS ONE*, **2016**, 11, e0158681	3.7	17

50	Sequential and Coupled Proton and Electron Transfer Events in the S -pS Transition of Photosynthetic Water Oxidation Revealed by Time-Resolved X-ray Absorption Spectroscopy. *Biochemistry*, **2016**, 55, 6996-7004	3.2	40
49	The Molybdenum Active Site of Formate Dehydrogenase Is Capable of Catalyzing C-H Bond Cleavage and Oxygen Atom Transfer Reactions. *Biochemistry*, **2016**, 55, 2381-9	3.2	32
48	Protonation State of MnFe and FeFe Cofactors in a Ligand-Binding Oxidase Revealed by X-ray Absorption, Emission, and Vibrational Spectroscopy and QM/MM Calculations. *Inorganic Chemistry*, **2016**, 55, 9869-9885	5.1	14
47	Room-Temperature Energy-Sampling K X-ray Emission Spectroscopy of the Mn4Ca Complex of Photosynthesis Reveals Three Manganese-Centered Oxidation Steps and Suggests a Coordination Change Prior to O2 Formation. *Biochemistry*, **2016**, 55, 4197-211	3.2	55
46	Behavior of the Ru-bda Water Oxidation Catalyst Covalently Anchored on Glassy Carbon Electrodes. *ACS Catalysis*, **2015**, 5, 3422-3429	13.1	68
45	Sulfido and cysteine ligation changes at the molybdenum cofactor during substrate conversion by formate dehydrogenase (FDH) from Rhodobacter capsulatus. *Inorganic Chemistry*, **2015**, 54, 3260-71	5.1	37
44	Abrupt versus Gradual Spin-Crossover in Fe(II)(phen)2(NCS)2 and Fe(III)(dedtc)3 Compared by X-ray Absorption and Emission Spectroscopy and Quantum-Chemical Calculations. *Inorganic Chemistry*, **2015**, 54, 11606-24	5.1	22
43	Seven steps of alternating electron and proton transfer in photosystem II water oxidation traced by time-resolved photothermal beam deflection at improved sensitivity. *Journal of Physical Chemistry B*, **2015**, 119, 2677-89	3.4	64
42	Structural differences of oxidized iron-sulfur and nickel-iron cofactors in O2-tolerant and O2-sensitive hydrogenases studied by X-ray absorption spectroscopy. *Biochimica Et Biophysica Acta - Bioenergetics*, **2015**, 1847, 162-170	4.6	13
41	Lyophilization protects [FeFe]-hydrogenases against O2-induced H-cluster degradation. *Scientific Reports*, **2015**, 5, 13978	4.9	23
40	Biomimetic [2Fe-2S] clusters with extensively delocalized mixed-valence iron centers. *Angewandte Chemie - International Edition*, **2015**, 54, 12506-10	16.4	25
39	Hydride binding to the active site of [FeFe]-hydrogenase. *Inorganic Chemistry*, **2014**, 53, 12164-77	5.1	53
38	Electronic and molecular structures of the active-site H-cluster in [FeFe]-hydrogenase determined by site-selective X-ray spectroscopy and quantum chemical calculations. *Chemical Science*, **2014**, 5, 1187-1203	9.4	50
37	Effect of exchange of the cysteine molybdenum ligand with selenocysteine on the structure and function of the active site in human sulfite oxidase. *Biochemistry*, **2013**, 52, 8295-303	3.2	18
36	Bridging-hydride influence on the electronic structure of an [FeFe] hydrogenase active-site model complex revealed by XAES-DFT. *Dalton Transactions*, **2013**, 42, 7539-54	4.3	26
35	Rapid X-ray photoreduction of dimetal-oxygen cofactors in ribonucleotide reductase. *Journal of Biological Chemistry*, **2013**, 288, 9648-9661	5.4	29
34	Identification of a bis-molybdopterin intermediate in molybdenum cofactor biosynthesis in Escherichia coli. *Journal of Biological Chemistry*, **2013**, 288, 29736-45	5.4	39
33	Site-selective X-ray spectroscopy on an asymmetric model complex of the [FeFe] hydrogenase active site. *Inorganic Chemistry*, **2012**, 51, 4546-59	5.1	27

32	Electronic structure of an [FeFe] hydrogenase model complex in solution revealed by X-ray absorption spectroscopy using narrow-band emission detection. *Journal of the American Chemical Society*, **2012**, 134, 14142-57	16.4	34
31	Alternating electron and proton transfer steps in photosynthetic water oxidation. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 16035-40	11.5	147
30	Experimental and quantum chemical characterization of the water oxidation cycle catalysed by [RuII(damp)(bpy)(H2O)]2+. *Chemical Science*, **2012**, 3, 2576	9.4	88
29	Recent developments in research on water oxidation by photosystem II. *Current Opinion in Chemical Biology*, **2012**, 16, 3-10	9.7	167
28	Synthetic manganese–calcium oxides mimic the water-oxidizing complex of photosynthesis functionally and structurally. *Energy and Environmental Science*, **2011**, 4, 2400	35.4	238
27	A Crystallographic and Mo K-Edge XAS Study of Molybdenum Oxo Bis-, Mono-, and Non-Dithiolene Complexes – First-Sphere Coordination Geometry and Noninnocence of Ligands. *European Journal of Inorganic Chemistry*, **2011**, 2011, 4387-4399	2.3	19
26	Structure of the molybdenum site in YedY, a sulfite oxidase homologue from Escherichia coli. *Inorganic Chemistry*, **2011**, 50, 741-8	5.1	38
25	O2 reactions at the six-iron active site (H-cluster) in [FeFe]-hydrogenase. *Journal of Biological Chemistry*, **2011**, 286, 40614-23	5.4	74
24	Carboxylate shifts steer interquinone electron transfer in photosynthesis. *Journal of Biological Chemistry*, **2011**, 286, 5368-74	5.4	27
23	Protein-protein complex formation affects the Ni-Fe and Fe-S centers in the H2-sensing regulatory hydrogenase from Ralstonia eutropha H16. *ChemPhysChem*, **2010**, 11, 1297-306	3.2	10
22	The structure of the active site H-cluster of [FeFe] hydrogenase from the green alga Chlamydomonas reinhardtii studied by X-ray absorption spectroscopy. *Biochemistry*, **2009**, 48, 5042-9	3.2	64
21	How oxygen attacks [FeFe] hydrogenases from photosynthetic organisms. *Proceedings of the National Academy of Sciences of the United States of America*, **2009**, 106, 17331-6	11.5	260
20	Photosynthetic water oxidation at elevated dioxygen partial pressure monitored by time-resolved X-ray absorption measurements. *Proceedings of the National Academy of Sciences of the United States of America*, **2008**, 105, 17384-9	11.5	46
19	Facilitated hydride binding in an Fe-Fe hydrogenase active-site biomimic revealed by X-ray absorption spectroscopy and DFT calculations. *Inorganic Chemistry*, **2007**, 46, 11094-105	5.1	41
18	Eight steps preceding O-O bond formation in oxygenic photosynthesis--a basic reaction cycle of the Photosystem II manganese complex. *Biochimica Et Biophysica Acta - Bioenergetics*, **2007**, 1767, 472-83	4.6	147
17	Time-resolved X-ray spectroscopy leads to an extension of the classical S-state cycle model of photosynthetic oxygen evolution. *Photosynthesis Research*, **2007**, 92, 327-43	3.7	52
16	Intermediates in assembly by photoactivation after thermally accelerated disassembly of the manganese complex of photosynthetic water oxidation. *Biochemistry*, **2006**, 45, 14523-32	3.2	40
15	The structure of the Ni-Fe site in the isolated HoxC subunit of the hydrogen-sensing hydrogenase from Ralstonia eutropha. *FEBS Letters*, **2005**, 579, 4287-91	3.8	25

14	The Manganese Complex of Oxygenic Photosynthesis Conversion of FiveCoordinated MnIII to SixCoordinated MnIV in the S2S3 Transition is Implied by XANES Simulations. *Physica Scripta*, **2005**, 844	2.6	40
13	Simulation of XANES Spectra for ProteinBound Metal Centers Analysis of Linear Dichroism Data. *Physica Scripta*, **2005**, 859	2.6	5
12	Specific loss of the extrinsic 18 KDa protein from photosystem II upon heating to 47 degrees C causes inactivation of oxygen evolution likely due to Ca release from the Mn-complex. *Photosynthesis Research*, **2005**, 84, 231-7	3.7	34
11	A novel BioXAS technique with sub-millisecond time resolution to track oxidation state and structural changes at biological metal centers. *Journal of Synchrotron Radiation*, **2005**, 12, 35-44	2.4	22
10	Reduction of unusual iron-sulfur clusters in the H2-sensing regulatory Ni-Fe hydrogenase from Ralstonia eutropha H16. *Journal of Biological Chemistry*, **2005**, 280, 19488-95	5.4	40
9	X-ray absorption spectroscopy to analyze nuclear geometry and electronic structure of biological metal centers--potential and questions examined with special focus on the tetra-nuclear manganese complex of oxygenic photosynthesis. *Analytical and Bioanalytical Chemistry*, **2003**, 376, 562-83	4.4	241
8	Electrostatics and proton transfer in photosynthetic water oxidation. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2002**, 357, 1407-17; discussion 1417-20	5.8	112
7	Tyrosine-Z in oxygen-evolving photosystem II: a hydrogen-bonded tyrosinate. *Biochemistry*, **1999**, 38, 1258-67	3.2	74
6	Cofactor X of photosynthetic water oxidation: electron transfer, proton release, and electrogenic behaviour in chloride-depleted Photosystem II. *Biochimica Et Biophysica Acta - Bioenergetics*, **1997**, 1321, 47-60	4.6	8
5	Photosynthetic oxygen evolution: H/D isotope effects and the coupling between electron and proton transfer during the redox reactions at the oxidizing side of Photosystem II. *Photosynthesis Research*, **1997**, 51, 193-208	3.7	93
4	Extent and rate of proton release by photosynthetic water oxidation in thylakoids: electrostatic relaxation versus chemical production. *Biochemistry*, **1994**, 33, 864-72	3.2	134
3	Photosynthetic water oxidation under flashing light. Oxygen release, proton release and absorption transients in the near ultraviolet A comparison between thylakoids and a reaction-centre core preparation. *Biochimica Et Biophysica Acta - Bioenergetics*, **1993**, 1183, 210-214	4.6	22
2	5 Metal centers in hydrogenase enzymes studied by X-ray spectroscopy		4
1	Light-driven formation of high-valent manganese oxide by photosystem II supports evolutionary role in early bioenergetics		1