Michael Haumann

List of Publications by Year
in descending order

89 papers	4,366 citations	101543 36 h-index	114465 63 g-index
92 all docs	92 docs citations	92 times ranked	3701 citing authors

#	Article	IF	Citations
1	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, 562-583.	3.7	306
2	How oxygen attacks [FeFe] hydrogenases from photosynthetic organisms. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 17331-17336.	7.1	302
3	Synthetic manganeseâ€"calcium oxides mimic the water-oxidizing complex of photosynthesis functionally and structurally. Energy and Environmental Science, 2011, 4, 2400.	30.8	263
4	Recent developments in research on water oxidation by photosystem II. Current Opinion in Chemical Biology, 2012, 16, 3-10.	6.1	187
5	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, 16035-16040.	7.1	172
6	Eight steps preceding Oâ€"O bond formation in oxygenic photosynthesisâ€"A basic reaction cycle of the Photosystem II manganese complex. Biochimica Et Biophysica Acta - Bioenergetics, 2007, 1767, 472-483.	1.0	166
7	Extent and rate of proton release by photosynthetic water oxidation in thylakoids: Electrostatic relaxation versus chemical production. Biochemistry, 1994, 33, 864-872.	2.5	146
8	Electrostatics and proton transfer in photosynthetic water oxidation. Philosophical Transactions of the Royal Society B: Biological Sciences, 2002, 357, 1407-1418.	4.0	121
9	Title is missing!. Photosynthesis Research, 1997, 51, 193-208.	2.9	103
10	From an Fe₂P₃ complex to FeP nanoparticles as efficient electrocatalysts for water-splitting. Chemical Science, 2018, 9, 8590-8597.	7.4	103
11	Experimental and quantum chemical characterization of the water oxidation cycle catalysed by [RuII(damp)(bpy)(H2O)]2+. Chemical Science, 2012, 3, 2576.	7.4	96
12	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, 2677-2689.	2.6	85
13	O2 Reactions at the Six-iron Active Site (H-cluster) in [FeFe]-Hydrogenase. Journal of Biological Chemistry, 2011, 286, 40614-40623.	3.4	80
14	Behavior of the Ru-bda Water Oxidation Catalyst Covalently Anchored on Glassy Carbon Electrodes. ACS Catalysis, 2015, 5, 3422-3429.	11.2	78
15	Protonation/reduction dynamics at the [4Feâ€"4S] cluster of the hydrogen-forming cofactor in [FeFe]-hydrogenases. Physical Chemistry Chemical Physics, 2018, 20, 3128-3140.	2.8	76
16	Tyrosine-Z in Oxygen-Evolving Photosystem II:â€‰ A Hydrogen-Bonded Tyrosinate. Biochemistry, 1999, 38, 1258-1267.	2.5	75
17	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, 5042-5049.	2.5	68
18	Room-Temperature Energy-Sampling KÎ² 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, 4197-4211.	2.5	66

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19	The Molecular Proceedings of Biological Hydrogen Turnover. Accounts of Chemical Research, 2018, 51, 1755-1763.	15.6	62
20	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.	7.4	60
21	Stepwise isotope editing of [FeFe]-hydrogenases exposes cofactor dynamics. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 8454-8459.	7.1	60
22	Time-resolved X-ray spectroscopy leads to an extension of the classical S-state cycle model of photosynthetic oxygen evolution. Photosynthesis Research, 2007, 92, 327-343.	2.9	58
23	Hydride Binding to the Active Site of [FeFe]-Hydrogenase. Inorganic Chemistry, 2014, 53, 12164-12177.	4.0	58
24	Sulfido and Cysteine Ligation Changes at the Molybdenum Cofactor during Substrate Conversion by Formate Dehydrogenase (FDH) from <i>Rhodobacter capsulatus</i>. Inorganic Chemistry, 2015, 54, 3260-3271.	4.0	57
25	Protonâ€Coupled Reduction of the Catalytic [4Feâ€4S] Cluster in [FeFe]â€Hydrogenases. Angewandte Chemie - International Edition, 2017, 56, 16503-16506.	13.8	56
26	Sequential and Coupled Proton and Electron Transfer Events in the S₂ â†' S₃ Transition of Photosynthetic Water Oxidation Revealed by Time-Resolved X-ray Absorption Spectroscopy. Biochemistry, 2016, 55, 6996-7004.	2.5	54
27	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, 17384-17389.	7.1	53
28	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.	13.7	53
29	The Molybdenum Active Site of Formate Dehydrogenase Is Capable of Catalyzing Câ€“H Bond Cleavage and Oxygen Atom Transfer Reactions. Biochemistry, 2016, 55, 2381-2389.	2.5	51
30	Effective intermediate-spin iron in O ₂ -transporting heme proteins. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 8556-8561.	7.1	45
31	Intermediates in Assembly by Photoactivation after Thermally Accelerated Disassembly of the Manganese Complex of Photosynthetic Water Oxidation. Biochemistry, 2006, 45, 14523-14532.	2.5	44
32	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.	2.5	43
33	Facilitated Hydride Binding in an Feâˆ'Fe Hydrogenase Activeâˆ'Site Biomimic Revealed by X-ray Absorption Spectroscopy and DFT Calculations. Inorganic Chemistry, 2007, 46, 11094-11105.	4.0	43
34	Identification of a Bis-molybdopterin Intermediate in Molybdenum Cofactor Biosynthesis in Escherichia coli. Journal of Biological Chemistry, 2013, 288, 29736-29745.	3.4	43
35	Reduction of Unusual Iron-Sulfur Clusters in the H2-sensing Regulatory Ni-Fe Hydrogenase from Ralstonia eutropha H16. Journal of Biological Chemistry, 2005, 280, 19488-19495.	3.4	42
36	Structure of the Molybdenum Site in YedY, a Sulfite Oxidase Homologue from <i>Escherichia coli</i>. Inorganic Chemistry, 2011, 50, 741-748.	4.0	42

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37	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.	1.0	39
38	Specific loss of the extrinsic 18 KDa protein from Photosystem II upon heating to 47ÂÂ°C causes inactivation of oxygen evolution likely due to Ca release from the Mn-complex. Photosynthesis Research, 2005, 84, 231-237.	2.9	37
39	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, 14142-14157.	13.7	36
40	Light-driven hydrogen evolution catalyzed by a cobaloxime catalyst incorporated in a MIL-101(Cr) metalâ€“organic framework. Sustainable Energy and Fuels, 2018, 2, 1148-1152.	4.9	36
41	Biomimetic [2Feâ€2S] Clusters with Extensively Delocalized Mixedâ€Valence Iron Centers. Angewandte Chemie - International Edition, 2015, 54, 12506-12510.	13.8	35
42	Light-driven formation of manganese oxide by todayâ€™s photosystem II supports evolutionarily ancient manganese-oxidizing photosynthesis. Nature Communications, 2020, 11, 6110.	12.8	34
43	KÎ± X-ray Emission Spectroscopy on the Photosynthetic Oxygen-Evolving Complex Supports Manganese Oxidation and Water Binding in the S₃ State. Inorganic Chemistry, 2018, 57, 10424-10430.	4.0	33
44	Carboxylate Shifts Steer Interquinone Electron Transfer in Photosynthesis. Journal of Biological Chemistry, 2011, 286, 5368-5374.	3.4	32
45	Rapid X-ray Photoreduction of Dimetal-Oxygen Cofactors in Ribonucleotide Reductase. Journal of Biological Chemistry, 2013, 288, 9648-9661.	3.4	30
46	Geometry of the Catalytic Active Site in [FeFe]-Hydrogenase Is Determined by Hydrogen Bonding and Proton Transfer. ACS Catalysis, 2019, 9, 9140-9149.	11.2	30
47	Site-Selective X-ray Spectroscopy on an Asymmetric Model Complex of the [FeFe] Hydrogenase Active Site. Inorganic Chemistry, 2012, 51, 4546-4559.	4.0	28
48	Bridging-hydride influence on the electronic structure of an [FeFe] hydrogenase active-site model complex revealed by XAES-DFT. Dalton Transactions, 2013, 42, 7539.	3.3	28
49	Behavior of Ruâ€“bda Waterâ€Oxidation Catalysts in Low Oxidation States. Chemistry - A European Journal, 2018, 24, 12838-12847.	3.3	27
50	Stoichiometric Formation of an Oxoiron(IV) Complex by a Soluble Methane Monooxygenase Type Activation of O₂ at an Iron(II)-Cyclam Center. Journal of the American Chemical Society, 2020, 142, 5924-5928.	13.7	27
51	The structure of the Ni-Fe site in the isolated HoxC subunit of the hydrogen-sensing hydrogenase fromRalstonia eutropha. FEBS Letters, 2005, 579, 4287-4291.	2.8	26
52	Lyophilization protects [FeFe]-hydrogenases against O2-induced H-cluster degradation. Scientific Reports, 2015, 5, 13978.	3.3	26
53	The <i>Escherichia coli</i> Periplasmic Aldehyde Oxidoreductase Is an Exceptional Member of the Xanthine Oxidase Family of Molybdoenzymes. ACS Chemical Biology, 2016, 11, 2923-2935.	3.4	26
54	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	24

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55	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, 11606-11624.	4.0	24
56	Photosynthetic water oxidation under flashing light. Oxygen release, proton release and absorption transients in the near ultraviolet â€" A comparison between thylakoids and a reaction-centre core preparation. Biochimica Et Biophysica Acta - Bioenergetics, 1993, 1183, 210-214.	1.0	23
57	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, 8295-8303.	2.5	21
58	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.	2.0	20
59	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.	2.5	20
60	Anion Binding and Oxidative Modification at the Molybdenum Cofactor of Formate Dehydrogenase from <i>Rhodobacter capsulatus</i> Studied by X-ray Absorption Spectroscopy. Inorganic Chemistry, 2020, 59, 214-225.	4.0	20
61	Differential Protonation at the Catalytic Six-Iron Cofactor of [FeFe]-Hydrogenases Revealed by ⁵⁷Fe Nuclear Resonance X-ray Scattering and Quantum Mechanics/Molecular Mechanics Analyses. Inorganic Chemistry, 2019, 58, 4000-4013.	4.0	19
62	Tryptophan regulates<i>Drosophila</i>zinc stores. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2117807119.	7.1	19
63	Spontaneous Siâ€"C bond cleavage in (Triphos^{Si})-nickel complexes. Dalton Transactions, 2017, 46, 907-917.	3.3	16
64	O₂-Tolerant H₂ Activation by an Isolated Large Subunit of a [NiFe] Hydrogenase. Biochemistry, 2018, 57, 5339-5349.	2.5	16
65	Temperature Dependence of Structural Dynamics at the Catalytic Cofactor of [FeFe]-hydrogenase. Inorganic Chemistry, 2020, 59, 16474-16488.	4.0	16
66	A Pseudotetrahedral Terminal Oxoiron(IV) Complex: Mechanistic Promiscuity in Câˆ'H Bond Oxidation Reactions. Angewandte Chemie - International Edition, 2021, 60, 6752-6756.	13.8	16
67	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.	3.7	16
68	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.	4.0	15
69	Structural differences of oxidized ironâ€"sulfur and nickelâ€"iron cofactors in O 2 -tolerant and O 2 -sensitive hydrogenases studied by X-ray absorption spectroscopy. Biochimica Et Biophysica Acta - Bioenergetics, 2015, 1847, 162-170.	1.0	14
70	Proteinâ€"Protein Complex Formation Affects the Niâ€"Fe and Feâ€"S Centers in the H₂â€Sensing Regulatory Hydrogenase from <i>Ralstonia eutropha</i> H16. ChemPhysChem, 2010, 11, 1297-1306.	2.1	11
71	A bioinspired oxoiron(<scp>iv</scp>) motif supported on a N₂S₂ macrocyclic ligand. Chemical Communications, 2021, 57, 2947-2950.	4.1	11
72	[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.	2.6	10

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73	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.	1.0	9
74	Spectroscopical Investigations on the Redox Chemistry of [FeFe]-Hydrogenases in the Presence of Carbon Monoxide. Molecules, 2018, 23, 1669.	3.8	9
75	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.	3.3	8
76	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.	4.0	7
77	Protonengekoppelte Reduktion des katalytischen [4Feâ€4S]â€Zentrums in [FeFe]â€Hydrogenasen. Angewandte Chemie, 2017, 129, 16728-16732.	2.0	7
78	Identification of YdhV as the First Molybdoenzyme Binding a Bis-Mo-MPT Cofactor in <i>Escherichia coli</i>. Biochemistry, 2019, 58, 2228-2242.	2.5	7
79	Exploring the Biosynthetic Potential of TsrM, a B₁₂â€dependent Radical SAM Methyltransferase Catalyzing Nonâ€radical Reactions. Chemistry - A European Journal, 2022, 28, .	3.3	7
80	Simulation of XANES Spectra for ProteinBound Metal Centers Analysis of Linear Dichroism Data. Physica Scripta, 2005, , 859.	2.5	5
81	Water Oxidation by Pentapyridyl Base Metal Complexes? A Case Study. Inorganic Chemistry, 2022, 61, 9104-9118.	4.0	5
82	Trapping an Oxidized and Protonated Intermediate of the [FeFe]-Hydrogenase Cofactor under Mildly Reducing Conditions. Inorganic Chemistry, 2022, 61, 10036-10042.	4.0	5
83	5 Metal centers in hydrogenase enzymes studied by X-ray spectroscopy. , 0, , .		4
84	Lewis acid protection turns cyanide containing [FeFe]-hydrogenase mimics into proton reduction catalysts. Dalton Transactions, 2022, 51, 4634-4643.	3.3	4
85	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.	2.5	3
86	A Pseudotetrahedral Terminal Oxoiron(IV) Complex: Mechanistic Promiscuity in Câ^'H Bond Oxidation Reactions. Angewandte Chemie, 2021, 133, 6826-6830.	2.0	3
87	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.	4.0	2
88	Fate of oxygen species from O2 activation at dimetal cofactors in an oxidase enzyme revealed by 57Fe nuclear resonance X-ray scattering and quantum chemistry. Biochimica Et Biophysica Acta - Bioenergetics, 2019, 1860, 148060.	1.0	1
89	Modelling the coordination environment in Î±â€ketoglutarate dependent oxygenases â€" a comparative study on the effect of Nâ€vs. Oâ€ligation. Zeitschrift Fur Anorganische Und Allgemeine Chemie, 0, , .	1.2	0