Holger Dobbek

List of Publications by Year
in descending order

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111	7,913	81889	51602
papers	citations	39 h-index	86 g-index

126	126	126	8215
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Determining the oxidation state of elements by X-ray crystallography. Acta Crystallographica Section D: Structural Biology, 2022, 78, 238-247.	2.3	4
2	A Morphing [4Feâ€3Sâ€nO]â€Cluster within a Carbon Monoxide Dehydrogenase Scaffold. Angewandte Chemie - International Edition, 2022, 61, .	13.8	10
3	Reply to Wang et al.: Clear evidence of binding of Ox to the oxygen-evolving complex of photosystem II is best observed in the omit map. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, e2102342118.	7.1	7
4	ATP Binding and a Second Reduction Enables a Conformationally Gated Uphill Electron Transfer. ACS Catalysis, 2021, 11, 8565-8575.	11.2	2
5	Structural dynamics in the water and proton channels of photosystem II during the S2 to S3 transition. Nature Communications, 2021, 12, 6531.	12.8	73
6	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
7	Doubleâ€Cubane [8Fe9S] Clusters: A Novel Nitrogenaseâ€Related Cofactor in Biology. ChemBioChem, 2020, 21, 1710-1716.	2.6	14
8	The two CO-dehydrogenases of Thermococcus sp. AM4. Biochimica Et Biophysica Acta - Bioenergetics, 2020, 1861, 148188.	1.0	19
9	11. Nickel, Iron, Sulfur Sites. , 2020, 20, 381-414.		0
10	pHâ€Dependent Protonation of Surface Carboxylate Groups in PsbO Enables Local Buffering and Triggers Structural Changes. ChemBioChem, 2020, 21, 1597-1604.	2.6	16
11	Untangling the sequence of events during the S ₂ â†' S ₃ transition in photosystem II and implications for the water oxidation mechanism. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 12624-12635.	7.1	149
12	Xâ€ray Crystallography and Vibrational Spectroscopy Reveal the Key Determinants of Biocatalytic Dihydrogen Cycling by [NiFe] Hydrogenases. Angewandte Chemie - International Edition, 2019, 58, 18710-18714.	13.8	32
13	Xâ€ray Crystallography and Vibrational Spectroscopy Reveal the Key Determinants of Biocatalytic Dihydrogen Cycling by [NiFe] Hydrogenases. Angewandte Chemie, 2019, 131, 18883-18887.	2.0	6
14	Investigating the Structure and Dynamics of Apoâ€Photosystem II. ChemCatChem, 2019, 11, 4072-4080.	3.7	5
15	RÃ¼cktitelbild: OrtsaufgelÃ¶ste Beobachtung von Schwingungsenergietransfer durch ein genetisch codiertes ultraschnelles Heizelement (Angew. Chem. 9/2019). Angewandte Chemie, 2019, 131, 2932-2932.	2.0	0
16	Dynamic water bridging and proton transfer at a surface carboxylate cluster of photosystem II. Physical Chemistry Chemical Physics, 2019, 21, 25449-25466.	2.8	13
17	OrtsaufgelÃ¶ste Beobachtung von Schwingungsenergietransfer durch ein genetisch codiertes ultraschnelles Heizelement. Angewandte Chemie, 2019, 131, 2925-2930.	2.0	10
18	Siteâ€Resolved Observation of Vibrational Energy Transfer Using a Genetically Encoded Ultrafast Heater. Angewandte Chemie - International Edition, 2019, 58, 2899-2903.	13.8	57

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19	X-Ray Crystallography of Carbon Monoxide Dehydrogenases. Methods in Molecular Biology, 2019, 1876, 167-178.	0.9	2
20	Carbon Monoxide Dehydrogenases. Methods in Molecular Biology, 2019, 1876, 37-54.	0.9	13
21	ATP-dependent substrate reduction at an [Fe ₈ S ₉] double-cubane cluster. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 2994-2999.	7.1	30
22	Selective Utilization of Benzimidazolyl-Norcobamides as Cofactors by the Tetrachloroethene Reductive Dehalogenase of Sulfurospirillum multivorans. Journal of Bacteriology, 2018, 200, .	2.2	18
23	Optimizing Crystal Size of Photosystem II by Macroseeding: Toward Neutron Protein Crystallography. Crystal Growth and Design, 2018, 18, 85-94.	3.0	9
24	Structures of the intermediates of Kokâ€™s photosynthetic water oxidation clock. Nature, 2018, 563, 421-425.	27.8	386
25	Mechanism of Ni,Fe-Containing Carbon Monoxide Dehydrogenases. Structure and Bonding, 2018, , 153-166.	1.0	5
26	Function and crystal structure of the dimeric P-loop ATPase CFD1 coordinating an exposed [4Fe-4S] cluster for transfer to apoproteins. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E9085-E9094.	7.1	26
27	Structural basis for prolidase deficiency disease mechanisms. FEBS Journal, 2018, 285, 3422-3441.	4.7	17
28	Improving the accuracy and resolution of neutron crystallographic data by three-dimensional profile fitting of Bragg peaks in reciprocal space. Acta Crystallographica Section D: Structural Biology, 2018, 74, 1085-1095.	2.3	27
29	A fuel-producing microbe. Nature Chemical Biology, 2017, 13, 134-135.	8.0	4
30	Carbon Monoxide Dehydrogenase Reduces Cyanate to Cyanide. Angewandte Chemie - International Edition, 2017, 56, 7398-7401.	13.8	10
31	Die Kohlenmonoxidâ€Dehydrogenase reduziert Cyanat zu Cyanid. Angewandte Chemie, 2017, 129, 7504-7507.	2.0	0
32	Inducer exclusion in Firmicutes: insights into the regulation of a carbohydrate ATP binding cassette transporter from Lactobacillus casei BL23 by the signal transducing protein Pâ€Ser46â€HPr. Molecular Microbiology, 2017, 105, 25-45.	2.5	20
33	Switchable Redox Chemistry of the Hexameric Tyrosine-Coordinated Heme Protein. Journal of Physical Chemistry B, 2017, 121, 3955-3964.	2.6	8
34	CODHâ€IV: A Highâ€Efficiency COâ€Scavenging CO Dehydrogenase with Resistance to O₂. Angewandte Chemie - International Edition, 2017, 56, 15466-15469.	13.8	54
35	Protein Dynamics in the Reductive Activation of a B12-Containing Enzyme. Biochemistry, 2017, 56, 5496-5502.	2.5	7
36	CODHâ€IV: eine hocheffiziente COâ€Dehydrogenase mit Resistenz gegen O₂. Angewandte Chemie, 2017, 129, 15670-15674.	2.0	7

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37	Substrate specificity and reaction mechanism of human prolidase. FEBS Journal, 2017, 284, 2870-2885.	4.7	26
38	Playing marble run to make methane. Science, 2017, 357, 642-643.	12.6	1
39	Redox-dependent substrate-cofactor interactions in the Michaelis-complex of a flavin-dependent oxidoreductase. Nature Communications, 2017, 8, .	12.8	18
40	Cobamide-mediated enzymatic reductive dehalogenation via long-range electron transfer. Nature Communications, 2017, 8, 15858.	12.8	68
41	Photoactivatable Musselâ€Based Underwater Adhesive Proteins by an Expanded Genetic Code. ChemBioChem, 2017, 18, 1819-1823.	2.6	67
42	Protein crystallization and initial neutron diffraction studies of the photosystem II subunit PsbO. Acta Crystallographica Section F, Structural Biology Communications, 2017, 73, 525-531.	0.8	6
43	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
44	Structural insights into the light-driven auto-assembly process of the water-oxidizing Mn4CaO5-cluster in photosystem II. ELife, 2017, 6, .	6.0	62
45	Molecularly Imprinted Electropolymer for a Hexameric Heme Protein with Direct Electron Transfer and Peroxide Electrocatalysis. Sensors, 2016, 16, 272.	3.8	37
46	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
47	AcsF Catalyzes the ATP-dependent Insertion of Nickel into the Ni,Ni-[4Fe4S] Cluster of Acetyl-CoA Synthase. Journal of Biological Chemistry, 2016, 291, 18129-18138.	3.4	17
48	Quercetinâ€2,4â€Dioxygenase aktiviert Sauerstoff in einem â€œsideâ€onâ€•gebundenen O₂â€Niâ€Komplex. Angewandte Chemie, 2016, 128, 3339-3343.	2.0	6
49	Insights into Reductive Dehalogenase Function Obtained from Crystal Structures. , 2016, , 485-495.		1
50	Crystallographic and Computational Analysis of the Barrel Part of the PsbO Protein of Photosystem II: Carboxylateâ€“Water Clusters as Putative Proton Transfer Relays and Structural Switches. Biochemistry, 2016, 55, 4626-4635.	2.5	18
51	Structure of photosystem II and substrate binding at room temperature. Nature, 2016, 540, 453-457.	27.8	323
52	When the inhibitor tells more than the substrate: the cyanide-bound state of a carbon monoxide dehydrogenase. Chemical Science, 2016, 7, 3162-3171.	7.4	22
53	Quercetin 2,4â€Dioxygenase Activates Dioxygen in a Sideâ€On O₂â€“Ni Complex. Angewandte Chemie - International Edition, 2016, 55, 3281-3284.	13.8	64
54	Structure of an Actinobacterial-Type [NiFe]-Hydrogenase Reveals Insight into O 2 -Tolerant H 2 Oxidation. Structure, 2016, 24, 285-292.	3.3	43

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55	O₂ Inhibition of Niâ€Containing CO Dehydrogenase Is Partly Reversible. Chemistry - A European Journal, 2015, 21, 18934-18938.	3.3	38
56	How the [NiFe₄S₄] Cluster of CO Dehydrogenase Activates CO₂ and NCO^{â^'}. Angewandte Chemie - International Edition, 2015, 54, 8560-8564.	13.8	118
57	Direct Electron Transfer and Bioelectrocatalysis by a Hexameric, Heme Protein at Nanostructured Electrodes. Electroanalysis, 2015, 27, 2262-2267.	2.9	1
58	Surfaceâ€Tuned Electron Transfer and Electrocatalysis of Hexameric Tyrosineâ€Coordinated Heme Protein. Chemistry - A European Journal, 2015, 21, 7596-7602.	3.3	14
59	ATP-induced electron transfer by redox-selective partner recognition. Nature Communications, 2014, 5, 4626.	12.8	20
60	Carbon Monoxide. Toxic Gas and Fuel for Anaerobes and Aerobes: Carbon Monoxide Dehydrogenases. Metal Ions in Life Sciences, 2014, 14, 37-69.	2.8	51
61	The extended reductive acetyl-CoA pathway: ATPases in metal cluster maturation and reductive activation. Biological Chemistry, 2014, 395, 545-558.	2.5	17
62	Native-like Photosystem II Superstructure at 2.44ÂÃ... Resolution through Detergent Extraction from the Protein Crystal. Structure, 2014, 22, 1607-1615.	3.3	67
63	Structural basis for organohalide respiration. Science, 2014, 346, 455-458.	12.6	220
64	Zero-field splittings in metHb and metMb with aquo and fluoro ligands: a FD-FT THz-EPR study. Molecular Physics, 2013, 111, 2696-2707.	1.7	36
65	Frontiers, Opportunities, and Challenges in Biochemical and Chemical Catalysis of CO₂ Fixation. Chemical Reviews, 2013, 113, 6621-6658.	47.7	1,786
66	Visualizing the substrate-, superoxo-, alkylperoxo-, and product-bound states at the nonheme Fe(II) site of homogentisate dioxygenase. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 12625-12630.	7.1	53
67	Determinants of substrate specificity and biochemical properties of the snâ€glycerolâ€3â€phosphate <scp>ATP</scp> binding cassette transporter (<scp><scp>UgpB</scp></scp>â€“<scp><scp>AEC₂</scp></scp>) of <scp>E</scp>scherichia coli. Molecular Microbiology, 2012, 86, 908-920.	2.5	30
68	Suppression of Electron Transfer to Dioxygen by Charge Transfer and Electron Transfer Complexes in the FAD-dependent Reductase Component of Toluene Dioxygenase. Journal of Biological Chemistry, 2012, 287, 38338-38346.	3.4	17
69	Complex Formation with the Activator RACo Affects the Corrinoid Structure of CoFeSP. Biochemistry, 2012, 51, 7040-7042.	2.5	14
70	Enzyme catalyzed radical dehydrations of hydroxy acids. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2012, 1824, 1278-1290.	2.3	25
71	On the ATP-Dependent Activation of the Radical Enzyme (R)-2-Hydroxyisocaproyl-CoA Dehydratase. Biochemistry, 2012, 51, 6609-6622.	2.5	20
72	Redox-dependent complex formation by an ATP-dependent activator of the corrinoid/iron-sulfur protein. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 5235-5240.	7.1	40

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73	The Fe(II)/Î±â€ketoglutarateâ€dependent taurine dioxygenases from Pseudomonasâ€ƒputida and Escherichiaâ€ƒcoli are tetramers. FEBS Journal, 2012, 279, 816-831.	4.7	27
74	Structural and energetic basis of infection by the filamentous bacteriophage IKe. Molecular Microbiology, 2012, 84, 1124-1138.	2.5	9
75	n-Butyl isocyanide oxidation at the [NiFe4S4OH x] cluster of CO dehydrogenase. Journal of Biological Inorganic Chemistry, 2012, 17, 167-173.	2.6	36
76	Structural Basis for Reductive Radical Formation and Electron Recycling in (R)-2-Hydroxyisocaproyl-CoA Dehydratase. Journal of the American Chemical Society, 2011, 133, 4342-4347.	13.7	51
77	The Filamentous Phages fd and IF1 Use Different Mechanisms to Infect Escherichia coli. Journal of Molecular Biology, 2011, 405, 989-1003.	4.2	23
78	Structural Basis for Electron and Methyl-Group Transfer in a Methyltransferase System Operating in the Reductive Acetyl-CoA Pathway. Journal of Molecular Biology, 2011, 411, 96-109.	4.2	33
79	Structural aspects of mononuclear Mo/W-enzymes. Coordination Chemistry Reviews, 2011, 255, 1104-1116.	18.8	61
80	Crystal Structure of the ATP-Dependent Maturation Factor of Ni,Fe-Containing Carbon Monoxide Dehydrogenases. Journal of Molecular Biology, 2010, 396, 1165-1179.	4.2	37
81	Cysteine as a Modulator Residue in the Active Site of Xenobiotic Reductase A: A Structural, Thermodynamic and Kinetic Study. Journal of Molecular Biology, 2010, 398, 66-82.	4.2	23
82	Elimination of a cis-Proline-Containing Loop and Turn Optimization Stabilizes a Protein and Accelerates Its Folding. Journal of Molecular Biology, 2010, 399, 331-346.	4.2	7
83	Determinants of Substrate Binding and Protonation in the Flavoenzyme Xenobiotic Reductase A. Journal of Molecular Biology, 2010, 403, 286-298.	4.2	10
84	Kinetic Characterization of Xenobiotic Reductase A from Pseudomonas putida 86. Biochemistry, 2009, 48, 11412-11420.	2.5	16
85	The Mo-Se active site of nicotinate dehydrogenase. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 11055-11060.	7.1	54
86	Structural Basis of Cyanide Inhibition of Ni, Fe-Containing Carbon Monoxide Dehydrogenase. Journal of the American Chemical Society, 2009, 131, 9922-9923.	13.7	59
87	CooC1 from Carboxydothermus hydrogenoformans Is a Nickel-Binding ATPase. Biochemistry, 2009, 48, 11505-11513.	2.5	46
88	Changing the Determinants of Protein Stability from Covalent to Non-Covalent Interactions by In Vitro Evolution: A Structural and Energetic Analysis. Journal of Molecular Biology, 2008, 381, 1040-1054.	4.2	9
89	Increased Folding Stability of TEM-1 Î²-Lactamase by In Vitro Selection. Journal of Molecular Biology, 2008, 383, 238-251.	4.2	76
90	Release Factors 2 from Escherichia coli and Thermus thermophilus: structural, spectroscopic and microcalorimetric studies. Nucleic Acids Research, 2007, 35, 1343-1353.	14.5	43

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91	HTHP: A Novel Class of Hexameric, Tyrosine-coordinated Heme Proteins. Journal of Molecular Biology, 2007, 368, 1122-1131.	4.2	27
92	Carbon Dioxide Activation at the Ni,Fe-Cluster of Anaerobic Carbon Monoxide Dehydrogenase. Science, 2007, 318, 1461-1464.	12.6	494
93	Assignment of Individual Metal Redox States in a Metalloprotein by Crystallographic Refinement at Multiple X-ray Wavelengths. Journal of the American Chemical Society, 2007, 129, 2210-2211.	13.7	47
94	Xenobiotic Reductase A in the Degradation of Quinoline by Pseudomonas putida 86: Physiological Function, Structure and Mechanism of 8-Hydroxycoumarin Reduction. Journal of Molecular Biology, 2006, 361, 140-152.	4.2	55
95	Structural insights into methyltransfer reactions of a corrinoid iron-sulfur protein involved in acetyl-CoA synthesis. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 14331-14336.	7.1	107
96	2-Oxoquinoline 8-Monooxygenase Oxygenase Component: Active Site Modulation by Rieske-[2Fe-2S] Center Oxidation/Reduction. Structure, 2005, 13, 817-824.	3.3	87
97	Structural and functional reconstruction inÂsitu of the [CuSMoO2] active site of carbon monoxide dehydrogenase from the carbon monoxide oxidizing eubacterium Oligotropha carboxidovorans. Journal of Biological Inorganic Chemistry, 2005, 10, 518-528.	2.6	41
98	Crystal structure of 4-hydroxybutyryl-CoA dehydratase: Radical catalysis involving a [4Fe-4S] cluster and flavin. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 15645-15649.	7.1	80
99	A functional Ni-Ni-[4Fe-4S] cluster in the monomeric acetyl-CoA synthase from Carboxydothermus hydrogenoformans. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 446-451.	7.1	253
100	Active Site Geometry and Substrate Recognition of the Molybdenum Hydroxylase Quinoline 2-Oxidoreductase. Structure, 2004, 12, 1425-1435.	3.3	79
101	Carbon Monoxide Induced Decomposition of the Active Site [Niâ^'4Feâ^'5S] Cluster of CO Dehydrogenase. Journal of the American Chemical Society, 2004, 126, 5382-5387.	13.7	101
102	Catalysis at a dinuclear [CuSMo(O)OH] cluster in a CO dehydrogenase resolved at 1.1-â„« resolution. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 15971-15976.	7.1	366
103	The molybdenum and tungsten cofactors: a crystallographic view. Metal Ions in Biological Systems, 2002, 39, 227-63.	0.4	10
104	Crystal Structure of a Carbon Monoxide Dehydrogenase Reveals a [Ni-4Fe-5S] Cluster. Science, 2001, 293, 1281-1285.	12.6	525
105	A novel free-mounting system for protein crystals: transformation and improvement of diffraction power by accurately controlled humidity changes. Journal of Applied Crystallography, 2000, 33, 1223-1230.	4.5	114
106	Binding of Flavin Adenine Dinucleotide to Molybdenum-containing Carbon Monoxide Dehydrogenase from Oligotropha carboxidovorans. Journal of Biological Chemistry, 2000, 275, 1864-1872.	3.4	48
107	The effect of intracellular molybdenum in Hydrogenophaga pseudoflava on the crystallographic structure of the seleno-molybdo-iron-sulfur flavoenzyme carbon monoxide dehydrogenase. Journal of Molecular Biology, 2000, 301, 1221-1235.	4.2	82
108	The Role of Se, Mo and Fe in the Structure and Function of Carbon Monoxide Dehydrogenase. Biological Chemistry, 2000, 381, 865-76.	2.5	66

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109	Crystal structure and mechanism of CO dehydrogenase, a molybdo iron-sulfur flavoprotein containing S-selanylcysteine. Proceedings of the National Academy of Sciences of the United States of America, 1999, 96, 8884-8889.	7.1	246
110	Isolation, Cloning, Sequence Analysis and X-Ray Structure of Dimethyl Sulfoxide/Trimethylamine N-Oxide Reductase from Rhodobactercapsulatus. Biological Chemistry, 1997, 378, 293-302.	2.5	5
111	A Morphing [4Feâ€3Sâ€nO]â€Cluster within a Carbon Monoxide Dehydrogenase Scaffold. Angewandte Chemie, 0, , .	2.0	0