Ingo Zebger

List of Publications by Year
in descending order

97 papers	3,484 citations	117625 34 h-index	161849 54 g-index
102 all docs	102 docs citations	102 times ranked	3080 citing authors

#	Article	IF	Citations
1	From The Cover: Electrocatalytic hydrogen oxidation by an enzyme at high carbon monoxide or oxygen levels. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 16951-16954.	7.1	250
2	A unique iron-sulfur cluster is crucial for oxygen tolerance of a [NiFe]-hydrogenase. Nature Chemical Biology, 2011, 7, 310-318.	8.0	225
3	Tuning Product Selectivity for Aqueous CO₂ Reduction with a Mn(bipyridine)-pyrene Catalyst Immobilized on a Carbon Nanotube Electrode. Journal of the American Chemical Society, 2017, 139, 14425-14435.	13.7	185
4	Spectroscopic Insights into the Oxygen-tolerant Membrane-associated [NiFe] Hydrogenase of Ralstonia eutropha H16. Journal of Biological Chemistry, 2009, 284, 16264-16276.	3.4	102
5	Solar Water Splitting with a Hydrogenase Integrated in Photoelectrochemical Tandem Cells. Angewandte Chemie - International Edition, 2018, 57, 10595-10599.	13.8	93
6	Reversible [4Fe-3S] cluster morphing in an O2-tolerant [NiFe] hydrogenase. Nature Chemical Biology, 2014, 10, 378-385.	8.0	85
7	Understanding the formation of bulk- and surface-active layered (oxy)hydroxides for water oxidation starting from a cobalt selenite precursor. Energy and Environmental Science, 2020, 13, 3607-3619.	30.8	77
8	Singlet Oxygen Microscope:â€‰ From Phase-Separated Polymers to Single Biological Cells. Accounts of Chemical Research, 2004, 37, 894-901.	15.6	75
9	Probing the Active Site of an O₂â€‘Tolerant NAD⁺â€‘Reducing [NiFe]â€‘Hydrogenase from <i>Ralstonia eutropha</i> H16 by Inâ€…Situ EPR and FTIR Spectroscopy. Angewandte Chemie - International Edition, 2010, 49, 8026-8029.	13.8	65
10	Surfaceâ€enhanced vibrational spectroscopy for probing transient interactions of proteins with biomimetic interfaces: electric field effects on structure, dynamics and function of cytochromeâ€ƒ<i>c</i>. FEBS Journal, 2011, 278, 1382-1390.	4.7	64
11	Redox-linked protein dynamics of cytochrome c probed by time-resolved surface enhanced infrared absorption spectroscopy. Physical Chemistry Chemical Physics, 2008, 10, 5276.	2.8	62
12	Spectroelectrochemical Study of the [NiFe] Hydrogenase from Desulfovibrio vulgaris Miyazaki F in Solution and Immobilized on Biocompatible Gold Surfaces. Journal of Physical Chemistry B, 2009, 113, 15344-15351.	2.6	61
13	Direct Optical Detection of Singlet Oxygen from a Single CellÂ¶. Photochemistry and Photobiology, 2004, 79, 319.	2.5	60
14	Resonance Raman Spectroscopy on [NiFe] Hydrogenase Provides Structural Insights into Catalytic Intermediates and Reactions. Journal of the American Chemical Society, 2014, 136, 9870-9873.	13.7	60
15	Vibrational Stark Effect of the Electric-Field Reporter 4-Mercaptobenzonitrile as a Tool for Investigating Electrostatics at Electrode/SAM/Solution Interfaces. International Journal of Molecular Sciences, 2012, 13, 7466-7482.	4.1	59
16	Overexpression, Isolation, and Spectroscopic Characterization of the Bidirectional [NiFe] Hydrogenase from Synechocystis sp. PCC 6803. Journal of Biological Chemistry, 2009, 284, 36462-36472.	3.4	54
17	Carbamoylphosphate serves as the source of CNâˆ’, but not of the intrinsic CO in the active site of the regulatory [NiFe]-hydrogenase fromRalstonia eutropha. FEBS Letters, 2007, 581, 3322-3326.	2.8	53
18	Resonance Raman Spectroscopy as a Tool to Monitor the Active Site of Hydrogenases. Angewandte Chemie - International Edition, 2013, 52, 5162-5165.	13.8	53

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19	A Universal Scaffold for Synthesis of the Fe(CN)2(CO) Moiety of [NiFe] Hydrogenase. Journal of Biological Chemistry, 2012, 287, 38845-38853.	3.4	49
20	SEIRA Spectroscopy of the Electrochemical Activation of an Immobilized [NiFe] Hydrogenase under Turnover and Nonâ€Turnover Conditions. Angewandte Chemie - International Edition, 2011, 50, 2632-2634.	13.8	48
21	The Hydrogenase Subcomplex of the NAD⁺â€Reducing [NiFe] Hydrogenase from <i>Ralstonia eutropha</i> â€“ Insights into Catalysis and Redox Interconversions. European Journal of Inorganic Chemistry, 2011, 2011, 1067-1079.	2.0	47
22	On the explanation of the biphotonic processes in polyesters containing azobenzene moieties in the side chain. Macromolecular Rapid Communications, 1995, 16, 455-461.	3.9	46
23	Monitoring Catalysis of the Membraneâ€Bound Hydrogenase from <i>Ralstonia eutropha</i> H16 by Surfaceâ€Enhanced IR Absorption Spectroscopy. Angewandte Chemie - International Edition, 2009, 48, 611-613.	13.8	46
24	Photoorientation of a Liquid-Crystalline Polyester with Azobenzene Side Groups:Â Effects of Irradiation with Linearly Polarized Red Light after Photochemical Pretreatmentâ€. Macromolecules, 2003, 36, 9373-9382.	4.8	45
25	Concerted Action of Two Novel Auxiliary Proteins in Assembly of the Active Site in a Membrane-bound [NiFe] Hydrogenase. Journal of Biological Chemistry, 2009, 284, 2159-2168.	3.4	44
26	Hostâ€“Guest Chemistry Meets Electrocatalysis: Cucurbit[6]uril on a Au Surface as a Hybrid System in CO₂ Reduction. ACS Catalysis, 2020, 10, 751-761.	11.2	43
27	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
28	Determination of the Local Electric Field at Au/SAM Interfaces Using the Vibrational Stark Effect. Journal of Physical Chemistry C, 2017, 121, 22274-22285.	3.1	41
29	Simple and robust: The claims of protein sensing by molecularly imprinted polymers. Sensors and Actuators B: Chemical, 2021, 330, 129369.	7.8	41
30	Singlet Oxygen Images of Heterogeneous Samples:Â Examining the Effect of Singlet Oxygen Diffusion across the Interfacial Boundary in Phase-Separated Liquids and Polymers. Langmuir, 2003, 19, 8927-8933.	3.5	40
31	Caught in the H inact : Crystal Structure and Spectroscopy Reveal a Sulfur Bound to the Active Site of an O 2 â€stable State of [FeFe] Hydrogenase. Angewandte Chemie - International Edition, 2020, 59, 16786-16794.	13.8	40
32	Role of the HoxZ Subunit in the Electron Transfer Pathway of the Membrane-Bound [NiFe]-Hydrogenase from <i>Ralstonia eutropha</i> Immobilized on Electrodes. Journal of Physical Chemistry B, 2011, 115, 10368-10374.	2.6	39
33	Electrosynthesized MIPs for transferrin: Plastibodies or nano-filters?. Biosensors and Bioelectronics, 2018, 105, 29-35.	10.1	38
34	Shedding Light on Proton and Electron Dynamics in [FeFe] Hydrogenases. Journal of the American Chemical Society, 2020, 142, 5493-5497.	13.7	38
35	SERR-Spectroelectrochemical Study of a <i>cbb</i>₃ Oxygen Reductase in a Biomimetic Construct. Journal of Physical Chemistry B, 2008, 112, 16952-16959.	2.6	35
36	Reversible Active Site Sulfoxygenation Can Explain the Oxygen Tolerance of a NAD⁺-Reducing [NiFe] Hydrogenase and Its Unusual Infrared Spectroscopic Properties. Journal of the American Chemical Society, 2015, 137, 2555-2564.	13.7	35

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37	A Singlet Oxygen Image with 2.5 Î¼m Resolution. Journal of Physical Chemistry A, 2002, 106, 8488-8490.	2.5	34
38	Side-chain Liquid Crystalline Polyesters for Optical Information Storage. Polymers for Advanced Technologies, 1996, 7, 768-776.	3.2	33
39	Oxygen Diffusion in Copolymers of Ethylene and Norbornene. Macromolecules, 2003, 36, 7189-7198.	4.8	33
40	[NiFe] and [FeS] Cofactors in the Membrane-Bound Hydrogenase of <i>Ralstonia eutropha</i> Investigated by X-ray Absorption Spectroscopy: Insights into O₂-Tolerant H₂ Cleavage. Biochemistry, 2011, 50, 5858-5869.	2.5	33
41	Analyzing the catalytic processes of immobilized redox enzymes by vibrational spectroscopies. IUBMB Life, 2012, 64, 455-464.	3.4	33
42	Robust electrografted interfaces on metal oxides for electrocatalysis â€“ an <i>in situ</i> spectroelectrochemical study. Journal of Materials Chemistry A, 2018, 6, 15200-15212.	10.3	33
43	Two ligand-binding sites in CO-reducing V nitrogenase reveal a general mechanistic principle. Science Advances, 2021, 7, .	10.3	33
44	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
45	Spectroscopic Observation of Calciumâ€Induced Reorientation of Cellobiose Dehydrogenase Immobilized on Electrodes and its Effect on Electrocatalytic Activity. ChemPhysChem, 2015, 16, 1960-1968.	2.1	31
46	Probing the Origin of the Metabolic Precursor of the CO Ligand in the Catalytic Center of [NiFe] Hydrogenase. Journal of Biological Chemistry, 2011, 286, 44937-44944.	3.4	30
47	Resonance Raman Spectroscopic Analysis of the [NiFe] Active Site and the Proximal [4Fe-3S] Cluster of an O₂-Tolerant Membrane-Bound Hydrogenase in the Crystalline State. Journal of Physical Chemistry B, 2015, 119, 13785-13796.	2.6	30
48	Electrochemical and Infrared Spectroscopic Studies Provide Insight into Reactions of the NiFe Regulatory Hydrogenase from <i>Ralstonia eutropha</i> with O₂ and CO. Journal of Physical Chemistry B, 2015, 119, 13807-13815.	2.6	30
49	A soft molecular 2Feâ€“2As precursor approach to the synthesis of nanostructured FeAs for efficient electrocatalytic water oxidation. Chemical Science, 2020, 11, 11834-11842.	7.4	30
50	Orientation-Controlled Electrocatalytic Efficiency of an Adsorbed Oxygen-Tolerant Hydrogenase. PLoS ONE, 2015, 10, e0143101.	2.5	29
51	CO synthesized from the central one-carbon pool as source for the iron carbonyl in O2-tolerant [NiFe]-hydrogenase. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 14722-14726.	7.1	28
52	Nuclear resonance vibrational spectroscopy reveals the FeS cluster composition and active site vibrational properties of an O₂-tolerant NAD⁺-reducing [NiFe] hydrogenase. Chemical Science, 2015, 6, 1055-1060.	7.4	27
53	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
54	In Situ Spectroelectrochemical Studies into the Formation and Stability of Robust Diazonium-Derived Interfaces on Gold Electrodes for the Immobilization of an Oxygen-Tolerant Hydrogenase. ACS Applied Materials & Interfaces, 2018, 10, 23380-23391.	8.0	23

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55	Effect of the Protonation Degree of a Self-Assembled Monolayer on the Immobilization Dynamics of a [NiFe] Hydrogenase. Langmuir, 2013, 29, 673-682.	3.5	22
56	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
57	Oxygen Diffusion in Bilayer Polymer Films. Journal of Physical Chemistry B, 2003, 107, 13885-13891.	2.6	21
58	An Sâ€Oxygenated [NiFe] Complex Modelling Sulfenate Intermediates of an O₂â€Tolerant Hydrogenase. Angewandte Chemie - International Edition, 2017, 56, 2208-2211.	13.8	21
59	Revealing the Absolute Configuration of the CO and CN^{â^’} Ligands at the Active Site of a [NiFe] Hydrogenase. ChemPhysChem, 2012, 13, 3852-3856.	2.1	20
60	The large subunit of the regulatory [NiFe]-hydrogenase fromRalstonia eutrophaâ€" a minimal hydrogenase?. Chemical Science, 2020, 11, 5453-5465.	7.4	20
61	Investigation of the NADH/NAD + ratio in Ralstonia eutropha using the fluorescence reporter protein Peredox. Biochimica Et Biophysica Acta - Bioenergetics, 2017, 1858, 86-94.	1.0	19
62	Hydroxy-bridged resting states of a [NiFe]-hydrogenase unraveled by cryogenic vibrational spectroscopy and DFT computations. Chemical Science, 2021, 12, 2189-2197.	7.4	17
63	Insights into the structure of the active site of the O2-tolerant membrane bound [NiFe] hydrogenase of R. eutropha H16 by molecular modelling. Physical Chemistry Chemical Physics, 2011, 13, 16146.	2.8	16
64	Impact of the Ironâ€"Sulfur Cluster Proximal to the Active Site on the Catalytic Function of an O₂-Tolerant NAD⁺-Reducing [NiFe]-Hydrogenase. Biochemistry, 2015, 54, 389-403.	2.5	16
65	O₂-Tolerant H₂ Activation by an Isolated Large Subunit of a [NiFe] Hydrogenase. Biochemistry, 2018, 57, 5339-5349.	2.5	16
66	Unusual structures and unknown roles of FeS clusters in metalloenzymes seen from a resonance Raman spectroscopic perspective. Coordination Chemistry Reviews, 2022, 452, 214287.	18.8	16
67	Exploring Structure and Function of Redox Intermediates in [NiFe]â€Hydrogenases by an Advanced Experimental Approach for Solvated, Lyophilized and Crystallized Metalloenzymes. Angewandte Chemie - International Edition, 2021, 60, 15854-15862.	13.8	15
68	Enzymatic and spectroscopic properties of a thermostable [NiFe]â€'hydrogenase performing H2-driven NAD+-reduction in the presence of O2. Biochimica Et Biophysica Acta - Bioenergetics, 2018, 1859, 8-18.	1.0	14
69	Catalytic Activity and Proton Translocation of Reconstituted Respiratory Complex I Monitored by Surface-Enhanced Infrared Absorption Spectroscopy. Langmuir, 2018, 34, 5703-5711.	3.5	13
70	<i>In Vitro</i> Assembly as a Tool to Investigate Catalytic Intermediates of [NiFe]-Hydrogenase. ACS Catalysis, 2020, 10, 13890-13894.	11.2	13
71	â€œOut of Pocketâ€•Protein Bindingâ€"A Dilemma of Epitope Imprinted Polymers Revealed for Human Hemoglobin. Chemosensors, 2021, 9, 128.	3.6	13
72	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

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73	Insights in electrosynthesis, target binding, and stability of peptide-imprinted polymer nanofilms. Electrochimica Acta, 2021, 381, 138236.	5.2	11
74	Impact of Amino Acid Substitutions near the Catalytic Site on the Spectral Properties of an O₂â€Tolerant Membraneâ€Bound [NiFe] Hydrogenase. ChemPhysChem, 2010, 11, 1215-1224.	2.1	10
75	Rubredoxin-related Maturation Factor Guarantees Metal Cofactor Integrity during Aerobic Biosynthesis of Membrane-bound [NiFe] Hydrogenase. Journal of Biological Chemistry, 2014, 289, 7982-7993.	3.4	10
76	Metal-induced histidine deprotonation in biocatalysis? Experimental and theoretical insights into superoxide reductase. RSC Advances, 2014, 4, 54091-54095.	3.6	10
77	Carbon Monoxide Dehydrogenase Reduces Cyanate to Cyanide. Angewandte Chemie - International Edition, 2017, 56, 7398-7401.	13.8	10
78	Comparison of molybdenum and rhenium oxo bis-pyrazine-dithiolene complexes â€“ in search of an alternative metal centre for molybdenum cofactor models. Dalton Transactions, 2019, 48, 2701-2714.	3.3	10
79	Local Electric Field Changes during the Photoconversion of the Bathy Phytochrome Agp2. Biochemistry, 2021, 60, 2967-2977.	2.5	10
80	An Intermetallic CaFe₆Ge₆ Approach to Unprecedented Caâˆ'Feâˆ'O Electrocatalyst for Efficient Alkaline Oxygen Evolution Reaction. ChemCatChem, 2022, 14, .	3.7	10
81	The influence of substituents on the orientational behaviour of novel azobenzene sideâ€chain polyesters. Macromolecular Symposia, 1995, 94, 159-170.	0.7	9
82	Ultraviolet/visible spectroscopy of molten slags and glasses (up to 1600Â°C). Journal of Non-Crystalline Solids, 2001, 282, 30-40.	3.1	9
83	Characterization of Frex as an NADH sensor for in vivo applications in the presence of NAD+ and at various pH values. Photosynthesis Research, 2017, 133, 305-315.	2.9	9
84	Combining Spectroscopy and Theory to Evaluate Structural Models of Metalloenzymes: A Case Study on the Soluble [NiFe] Hydrogenase from <i>Ralstonia eutropha</i>. ChemPhysChem, 2013, 14, 185-191.	2.1	8
85	Ultraviolet/visible reflection spectroscopy of molten and glassy silicates (MeOnâ€“CaOâ€“SiO2) and phosphates (MeOnâ€“CaOâ€“P2O5), Men+=Fe3+, Mn2+. Journal of Non-Crystalline Solids, 2005, 351, 3443-3457.	3.1	7
86	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
87	Kristallstruktur und Spektroskopie offenbaren einen Schwefelâ€Liganden am aktiven Zentrum einer O 2 â€stabilen [FeFe]â€Hydrogenase. Angewandte Chemie, 2020, 132, 16930.	2.0	6
88	Electrografted Interfaces on Metal Oxide Electrodes for Enzyme Immobilization and Bioelectrocatalysis. ChemElectroChem, 2021, 8, 1329-1336.	3.4	6
89	Domain motions and electron transfer dynamics in 2Fe-superoxide reductase. Physical Chemistry Chemical Physics, 2016, 18, 23053-23066.	2.8	5
90	High-Yield Production of Catalytically Active Regulatory [NiFe]-Hydrogenase From Cupriavidus necator in Escherichia coli. Frontiers in Microbiology, 2022, 13, 894375.	3.5	5

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91	Resonance Raman spectroscopic analysis of the ironâ€“sulfur cluster redox chain of the Ralstonia eutropha membraneâ€bound [NiFe]â€hydrogenase. Journal of Raman Spectroscopy, 0, , .	2.5	4
92	Structure of Liquid Slags and Ultraviolet/Visible Reflection Spectroscopy of Molten and Glassy Silicates (Fe₂O₃â€CaOâ€SiO₂). Steel Research International, 2004, 75, 632-644.	1.8	1
93	Molecular Details on Multiple Cofactor Containing Redox Metalloproteins Revealed by Infrared and Resonance Raman Spectroscopies. Molecules, 2021, 26, 4852.	3.8	1
94	Application of UV/VISâ€Reflection Spectroscopy for Determination of the Oxidation State of Liquid Slags with High Fe³⁺â€Contents. Steel Research International, 2007, 78, 685-692.	1.8	0
95	Ein neuer Aufbau zur Untersuchung der Struktur und Funktion von solvatisierten, lyophilisierten und kristallinen Metalloenzymen â€“ veranschaulicht anhand von [NiFe]â€Hydrogenasen. Angewandte Chemie, 2021, 133, 15988-15996.	2.0	0
96	Frontispiz: Ein neuer Aufbau zur Untersuchung der Struktur und Funktion von solvatisierten, lyophilisierten und kristallinen Metalloenzymen â€“ veranschaulicht anhand von [NiFe]â€Hydrogenasen. Angewandte Chemie, 2021, 133, .	2.0	0
97	Frontispiece: Exploring Structure and Function of Redox Intermediates in [NiFe]â€Hydrogenases by an Advanced Experimental Approach for Solvated, Lyophilized and Crystallized Metalloenzymes. Angewandte Chemie - International Edition, 2021, 60, .	13.8	0