Markus W Ribbe

List of Publications by Year
in descending order

104 papers	6,347 citations	71102 41 h-index	71685 76 g-index
114 all docs	114 docs citations	114 times ranked	3450 citing authors

#	Article	IF	Citations
1	Characterization of a Nitrogenase Iron Protein Substituted with a Synthetic [Fe ₄ Se ₄] Cluster. Angewandte Chemie - International Edition, 2022, , .	13.8	4
2	Radical SAM-dependent formation of a nitrogenase cofactor core on NifB. Journal of Inorganic Biochemistry, 2022, 233, 111837.	3.5	3
3	Evidence of substrate binding and product release via belt-sulfur mobilization of the nitrogenase cofactor. Nature Catalysis, 2022, 5, 443-454.	34.4	31
4	Mackinawiteâ€Supported Reduction of C₁ Substrates into Prebiotically Relevant Precursors. ChemSystemsChem, 2022, 4, .	2.6	4
5	Second and Outer Coordination Sphere Effects in Nitrogenase, Hydrogenase, Formate Dehydrogenase, and CO Dehydrogenase. Chemical Reviews, 2022, 122, 11900-11973.	47.7	70
6	Xâ€Ray Crystallographic Analysis of NifB with a Full Complement of Clusters: Structural Insights into the Radical SAMâ€Dependent Carbide Insertion During Nitrogenase Cofactor Assembly. Angewandte Chemie - International Edition, 2021, 60, 2364-2370.	13.8	23
7	Characterization of a Moâ€Nitrogenase Variant Containing a Citrateâ€Substituted Cofactor. ChemBioChem, 2021, 22, 151-155.	2.6	8
8	Xâ€Ray Crystallographic Analysis of NifB with a Full Complement of Clusters: Structural Insights into the Radical SAMâ€Dependent Carbide Insertion During Nitrogenase Cofactor Assembly. Angewandte Chemie, 2021, 133, 2394-2400.	2.0	2
9	Nitrogenase: Structure, Function and Mechanism. , 2021, , 634-658.		0
10	Response to Comment on â€œStructural evidence for a dynamic metallocofactor during N ₂ reduction by Mo-nitrogenaseâ€• Science, 2021, 371, .	12.6	19
11	An EPR and VTVH MCD spectroscopic investigation of the nitrogenase assembly protein NifB. Journal of Biological Inorganic Chemistry, 2021, 26, 403-410.	2.6	1
12	Tracing the incorporation of the â€œninth sulfurâ€•into the nitrogenase cofactor precursor with selenite and tellurite. Nature Chemistry, 2021, 13, 1228-1234.	13.6	12
13	Probing the All-Ferrous States of Methanogen Nitrogenase Iron Proteins. Jacs Au, 2021, 1, 119-123.	7.9	8
14	Electrochemical Characterization of Isolated Nitrogenase Cofactors from Azotobacter vinelandii. ChemBioChem, 2020, 21, 1773-1778.	2.6	9
15	Electron Paramagnetic Resonance and Magnetic Circular Dichroism Spectra of the Nitrogenase M Cluster Precursor Suggest Sulfur Migration upon Oxidation: A Proposal for Substrate and Inhibitor Binding. ChemBioChem, 2020, 21, 1767-1772.	2.6	3
16	A Vâ€Nitrogenase Variant Containing a Citrateâ€Substituted Cofactor. ChemBioChem, 2020, 21, 1742-1748.	2.6	14
17	Special Issue on Nitrogenases and Homologous Systems. ChemBioChem, 2020, 21, 1668-1670.	2.6	4
18	Structural evidence for a dynamic metallocofactor during N ₂ reduction by Mo-nitrogenase. Science, 2020, 368, 1381-1385.	12.6	120

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19	Reactivity, Mechanism, and Assembly of the Alternative Nitrogenases. Chemical Reviews, 2020, 120, 5107-5157.	47.7	128
20	Heterologous Expression and Engineering of the Nitrogenase Cofactor Biosynthesis Scaffold NifEN. Angewandte Chemie, 2020, 132, 6954-6960.	2.0	0
21	Heterologous Expression and Engineering of the Nitrogenase Cofactor Biosynthesis Scaffold NifEN. Angewandte Chemie - International Edition, 2020, 59, 6887-6893.	13.8	10
22	Identity and function of an essential nitrogen ligand of the nitrogenase cofactor biosynthesis protein NifB. Nature Communications, 2020, 11, 1757.	12.8	16
23	Current Understanding of the Biosynthetic and Catalytic Mechanisms of Mo-Nitrogenase. , 2020, , 332-348.		0
24	Spectroscopic Characterization of an Eightâ€Iron Nitrogenase Cofactor Precursor that Lacks the â€œ9th Sulfurâ€• Angewandte Chemie - International Edition, 2019, 58, 14703-14707.	13.8	24
25	Structural and Mechanistic Insights into CO 2 Activation by Nitrogenase Iron Protein. Chemistry - A European Journal, 2019, 25, 13078-13082.	3.3	8
26	Structural Analysis of a Nitrogenase Iron Protein from Methanosarcina acetivorans: Implications for CO ₂ Capture by a Surface-Exposed [Fe ₄ S ₄] Cluster. MBio, 2019, 10, .	4.1	10
27	Spectroscopic Characterization of an Eightâ€Iron Nitrogenase Cofactor Precursor that Lacks the â€œ9 th Sulfurâ€• Angewandte Chemie, 2019, 131, 14845-14849.	2.0	6
28	Frontispiece: Structural and Mechanistic Insights into CO₂ Activation by Nitrogenase Iron Protein. Chemistry - A European Journal, 2019, 25, .	3.3	0
29	Purification of Nitrogenase Proteins. Methods in Molecular Biology, 2019, 1876, 111-124.	0.9	6
30	Nitrogenases. Methods in Molecular Biology, 2019, 1876, 3-24.	0.9	19
31	Electron Paramagnetic Resonance Spectroscopy of Metalloproteins. Methods in Molecular Biology, 2019, 1876, 197-211.	0.9	5
32	Tracing the â€˜ninth sulfurâ€™ of the nitrogenase cofactor via a semi-synthetic approach. Nature Chemistry, 2018, 10, 568-572.	13.6	54
33	A VTVH MCD and EPR Spectroscopic Study of the Maturation of the â€œSecondâ€•Nitrogenase P-Cluster. Inorganic Chemistry, 2018, 57, 4719-4725.	4.0	12
34	A Comparative Analysis of the COâ€Reducing Activities of MoFe Proteins Containing Moâ€•and Vâ€Nitrogenase Cofactors. ChemBioChem, 2018, 19, 649-653.	2.6	27
35	Characterization of an M-Cluster-Substituted Nitrogenase VFe Protein. MBio, 2018, 9, .	4.1	24
36	Reduction and Condensation of Aldehydes by the Isolated Cofactor of Nitrogenase. ACS Central Science, 2018, 4, 1430-1435.	11.3	15

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37	The Fe Protein: An Unsung Hero of Nitrogenase. Inorganics, 2018, 6, 25.	2.7	26
38	Activation of CO₂ by Vanadium Nitrogenase. Chemistry - an Asian Journal, 2017, 12, 1985-1996.	3.3	24
39	Reduction of C₁ Substrates to Hydrocarbons by the Homometallic Precursor and Synthetic Mimic of the Nitrogenase Cofactor. Journal of the American Chemical Society, 2017, 139, 603-606.	13.7	33
40	Nitrogenase Assembly: Strategies and Procedures. Methods in Enzymology, 2017, 595, 261-302.	1.0	9
41	Nitrogenase Cofactor Assembly: An Elemental Inventory. Accounts of Chemical Research, 2017, 50, 2834-2841.	15.6	31
42	Synthetic Analogues of Nitrogenase Metallocofactors: Challenges and Developments. Chemistry - A European Journal, 2017, 23, 12425-12432.	3.3	36
43	Cluster assembly in nitrogenase. Essays in Biochemistry, 2017, 61, 271-279.	4.7	22
44	Nitrogenase â€“ eine Geschichte von Kohlenstoffatomen. Angewandte Chemie, 2016, 128, 8356-8367.	2.0	11
45	Nitrogenasesâ€”A Tale of Carbon Atom(s). Angewandte Chemie - International Edition, 2016, 55, 8216-8226.	13.8	54
46	Structure and Reactivity of an Asymmetric Synthetic Mimic of Nitrogenase Cofactor. Angewandte Chemie, 2016, 128, 15862-15865.	2.0	13
47	The in vivo hydrocarbon formation by vanadium nitrogenase follows a secondary metabolic pathway. Nature Communications, 2016, 7, 13641.	12.8	33
48	Assembly scaffold NifEN: A structural and functional homolog of the nitrogenase catalytic component. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 9504-9508.	7.1	26
49	Structure and Reactivity of an Asymmetric Synthetic Mimic of Nitrogenase Cofactor. Angewandte Chemie - International Edition, 2016, 55, 15633-15636.	13.8	44
50	YedY: A Mononuclear Molybdenum Enzyme with a Redoxâ€Active Ligand?. ChemBioChem, 2016, 17, 453-455.	2.6	9
51	Maturation of nitrogenase cofactor â€” the role of a class E radical SAM methyltransferase NifB. Current Opinion in Chemical Biology, 2016, 31, 188-194.	6.1	32
52	Biosynthesis of the Metalloclusters of Nitrogenases. Annual Review of Biochemistry, 2016, 85, 455-483.	11.1	104
53	Cofactor specificity motifs and the induced fit mechanism in class I ketol-acid reductoisomerases. Biochemical Journal, 2015, 468, 475-484.	3.7	21
54	Catalytic Reduction of CN^{â^’}, CO, and CO₂ by Nitrogenase Cofactors in Lanthanideâ€Driven Reactions. Angewandte Chemie - International Edition, 2015, 54, 1219-1222.	13.8	55

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55	Widening the Product Profile of Carbon Dioxide Reduction by Vanadium Nitrogenase. ChemBioChem, 2015, 16, 1993-1996.	2.6	25
56	Insights into the Mechanism of Carbon Monoxide Dehydrogenase at Atomic Resolution. Angewandte Chemie - International Edition, 2015, 54, 8337-8339.	13.8	14
57	Combining a Nitrogenase Scaffold and a Synthetic Compound into an Artificial Enzyme. Angewandte Chemie - International Edition, 2015, 54, 14022-14025.	13.8	35
58	Insights into Hydrocarbon Formation by Nitrogenase Cofactor Homologs. MBio, 2015, 6, .	4.1	20
59	Nitrogenase and homologs. Journal of Biological Inorganic Chemistry, 2015, 20, 435-445.	2.6	98
60	Uncoupling binding of substrate CO from turnover by vanadium nitrogenase. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 13845-13849.	7.1	40
61	Refining the pathway of carbide insertion into the nitrogenase M-cluster. Nature Communications, 2015, 6, 8034.	12.8	66
62	Differential Reduction of CO₂ by Molybdenum and Vanadium Nitrogenases. Angewandte Chemie - International Edition, 2014, 53, 11543-11546.	13.8	71
63	Nonenzymatic Synthesis of the P-Cluster in the Nitrogenase MoFe Protein: Evidence of the Involvement of All-Ferrous [Fe₄S₄]⁰ Intermediates. Biochemistry, 2014, 53, 1108-1116.	2.5	16
64	Biosynthesis of Nitrogenase Metalloclusters. Chemical Reviews, 2014, 114, 4063-4080.	47.7	122
65	X-ray Spectroscopic Observation of an Interstitial Carbide in NifEN-Bound FeMoco Precursor. Journal of the American Chemical Society, 2013, 135, 610-612.	13.7	98
66	Tracing the Interstitial Carbide of the Nitrogenase Cofactor during Substrate Turnover. Journal of the American Chemical Society, 2013, 135, 4982-4983.	13.7	60
67	Biosynthesis of the Iron-Molybdenum Cofactor of Nitrogenase. Journal of Biological Chemistry, 2013, 288, 13173-13177.	3.4	53
68	Radical SAM-Dependent Carbon Insertion into the Nitrogenase M-Cluster. Science, 2012, 337, 1672-1675.	12.6	244
69	Vanadium nitrogenase: A two-hit wonder?. Dalton Transactions, 2012, 41, 1118-1127.	3.3	110
70	P⁺ State of Nitrogenase P-Cluster Exhibits Electronic Structure of a [Fe₄S₄]⁺ Cluster. Journal of the American Chemical Society, 2012, 134, 13749-13754.	13.7	24
71	ATPâ€independent Formation of Hydrocarbons Catalyzed by Isolated Nitrogenase Cofactors. Angewandte Chemie - International Edition, 2012, 51, 1947-1949.	13.8	64
72	[4Fe4S]²⁺ Clusters Exhibit Ground-State Paramagnetism. Journal of the American Chemical Society, 2011, 133, 6871-6873.	13.7	16

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73	Structural Models of the [Fe₄S₄] Clusters of Homologous Nitrogenase Fe Proteins. Inorganic Chemistry, 2011, 50, 7123-7128.	4.0	33
74	Protocols for Cofactor Isolation of Nitrogenase. Methods in Molecular Biology, 2011, 766, 239-248.	0.9	18
75	Structure of Precursor-Bound NifEN: A Nitrogenase FeMo Cofactor Maturase/Insertase. Science, 2011, 331, 91-94.	12.6	115
76	X-ray Emission Spectroscopy Evidences a Central Carbon in the Nitrogenase Iron-Molybdenum Cofactor. Science, 2011, 334, 974-977.	12.6	774
77	Variable-temperature, variable-field magnetic circular dichroism spectroscopic study of NifEN-bound precursor and â€œFeMocoâ€• Journal of Biological Inorganic Chemistry, 2011, 16, 325-332.	2.6	5
78	Tracing the Hydrogen Source of Hydrocarbons Formed by Vanadium Nitrogenase. Angewandte Chemie - International Edition, 2011, 50, 5545-5547.	13.8	52
79	Spectroscopic Characterization of the Isolated Ironâ€“Molybdenum Cofactor (FeMoco) Precursor from the Protein NifEN. Angewandte Chemie - International Edition, 2011, 50, 7787-7790.	13.8	57
80	Extending the Carbon Chain: Hydrocarbon Formation Catalyzed by Vanadium/Molybdenum Nitrogenases. Science, 2011, 333, 753-755.	12.6	232
81	NifEN-B complex of Azotobacter vinelandii is fully functional in nitrogenase FeMo cofactor assembly. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 8623-8627.	7.1	73
82	Vanadium Nitrogenase Reduces CO. Science, 2010, 329, 642-642.	12.6	259
83	Characterization of Isolated Nitrogenase FeVco. Journal of the American Chemical Society, 2010, 132, 12612-12618.	13.7	92
84	Stepwise formation of P-cluster in nitrogenase MoFe protein. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 18474-18478.	7.1	53
85	Molybdenum cofactors, enzymes and pathways. Nature, 2009, 460, 839-847.	27.8	702
86	VTVH-MCD Study of the Î”nifBÎ”nifZ MoFe Protein from Azotobacter vinelandii. Journal of the American Chemical Society, 2009, 131, 4558-4559.	13.7	27
87	Unique features of the nitrogenase VFe protein from Azotobacter vinelandii. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 9209-9214.	7.1	108
88	Optimization of FeMoco Maturation on NifEN. Journal of the American Chemical Society, 2009, 131, 9321-9325.	13.7	53
89	Assembly of Nitrogenase MoFe Protein. Biochemistry, 2008, 47, 3973-3981.	2.5	95
90	P-cluster maturation on nitrogenase MoFe protein. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 10424-10429.	7.1	81

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91	Conformational Differences between Azotobacter vinelandii Nitrogenase MoFe Proteins As Studied by Small-Angle X-ray Scattering. Biochemistry, 2007, 46, 8066-8074.	2.5	23
92	Variable-Temperature, Variable-Field Magnetic Circular Dichroism Spectroscopic Study of the Metal Clusters in the Î”nifB and Î”nifH MoFe Proteins of Nitrogenase from Azotobacter vinelandii. Biochemistry, 2006, 45, 15039-15048.	2.5	35
93	Structural insights into a protein-bound iron-molybdenum cofactor precursor. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 1238-1243.	7.1	104
94	FeMo cofactor maturation on NifEN. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 17119-17124.	7.1	104
95	Molecular Insights into Nitrogenase FeMoco Insertion. Journal of Biological Chemistry, 2006, 281, 30534-30541.	3.4	32
96	Nitrogenase Fe protein: A molybdate/homocitrate insertase. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 17125-17130.	7.1	82
97	Nitrogenase reactivity with P-cluster variants. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 13825-13830.	7.1	52
98	Identification of a nitrogenase FeMo cofactor precursor on NifEN complex. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 3236-3241.	7.1	119
99	Comparison of Iron-Molybdenum Cofactor-deficient Nitrogenase MoFe Proteins by X-ray Absorption Spectroscopy. Journal of Biological Chemistry, 2004, 279, 28276-28282.	3.4	60
100	Characterization of Azotobacter vinelandii nifZ Deletion Strains. Journal of Biological Chemistry, 2004, 279, 54963-54971.	3.4	53
101	Structure of a Cofactor-Deficient Nitrogenase MoFe Protein. Science, 2002, 296, 352-356.	12.6	176
102	The FeMoco-deficient MoFe Protein Produced by a nifHDeletion Strain of Azotobacter vinelandii Shows Unusual P-cluster Features. Journal of Biological Chemistry, 2002, 277, 23469-23476.	3.4	71
103	Direct Assessment of the Reduction Potential of the [4Feâ˜4S]1+/0Couple of the Fe Protein fromAzotobacter vinelandii. Journal of the American Chemical Society, 2002, 124, 12100-12101.	13.7	73
104	Characterization of a Nitrogenase Iron Protein Substituted with a Synthetic [Fe ₄ Se ₄] Cluster. Angewandte Chemie, 0, , .	2.0	0