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	X-ray Emission Spectroscopy Evidences a Central Carbon in the Nitrogenase Iron-Molybdenum Cofactor. Science, 2011, 334, 974-977.	12.6	774
2	Molybdenum cofactors, enzymes and pathways. Nature, 2009, 460, 839-847.	27.8	702
3	Vanadium Nitrogenase Reduces CO. Science, 2010, 329, 642-642.	12.6	259
4	Radical SAM-Dependent Carbon Insertion into the Nitrogenase M-Cluster. Science, 2012, 337, 1672-1675.	12.6	244
5	Extending the Carbon Chain: Hydrocarbon Formation Catalyzed by Vanadium/Molybdenum Nitrogenases. Science, 2011, 333, 753-755.	12.6	232
6	Structure of a Cofactor-Deficient Nitrogenase MoFe Protein. Science, 2002, 296, 352-356.	12.6	176
7	Reactivity, Mechanism, and Assembly of the Alternative Nitrogenases. Chemical Reviews, 2020, 120, 5107-5157.	47.7	128
8	Biosynthesis of Nitrogenase Metalloclusters. Chemical Reviews, 2014, 114, 4063-4080.	47.7	122
9	Structural evidence for a dynamic metallocofactor during N ₂ reduction by Mo-nitrogenase. Science, 2020, 368, 1381-1385.	12.6	120
10	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
11	Structure of Precursor-Bound NifEN: A Nitrogenase FeMo Cofactor Maturase/Insertase. Science, 2011, 331, 91-94.	12.6	115
12	Vanadium nitrogenase: A two-hit wonder?. Dalton Transactions, 2012, 41, 1118-1127.	3.3	110
13	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
14	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
15	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
16	Biosynthesis of the Metalloclusters of Nitrogenases. Annual Review of Biochemistry, 2016, 85, 455-483.	11.1	104
17	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
18	Nitrogenase and homologs. Journal of Biological Inorganic Chemistry, 2015, 20, 435-445.	2.6	98

#	Article	IF	Citations
19	Assembly of Nitrogenase MoFe Protein. Biochemistry, 2008, 47, 3973-3981.	2.5	95
20	Characterization of Isolated Nitrogenase FeVco. Journal of the American Chemical Society, 2010, 132, 12612-12618.	13.7	92
21	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
22	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
23	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
24	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
25	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
26	Differential Reduction of CO₂ by Molybdenum and Vanadium Nitrogenases. Angewandte Chemie - International Edition, 2014, 53, 11543-11546.	13.8	71
27	Second and Outer Coordination Sphere Effects in Nitrogenase, Hydrogenase, Formate Dehydrogenase, and CO Dehydrogenase. Chemical Reviews, 2022, 122, 11900-11973.	47.7	70
28	Refining the pathway of carbide insertion into the nitrogenase M-cluster. Nature Communications, 2015, 6, 8034.	12.8	66
29	ATPâ€Ìndependent Formation of Hydrocarbons Catalyzed by Isolated Nitrogenase Cofactors. Angewandte Chemie - International Edition, 2012, 51, 1947-1949.	13.8	64
30	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
31	Tracing the Interstitial Carbide of the Nitrogenase Cofactor during Substrate Turnover. Journal of the American Chemical Society, 2013, 135, 4982-4983.	13.7	60
32	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
33	Catalytic Reduction of CN^{â˜}, CO, and CO₂ by Nitrogenase Cofactors in LanthanideâĐriven Reactions. Angewandte Chemie - International Edition, 2015, 54, 1219-1222.	13.8	55
34	Nitrogenasesâ€”A Tale of Carbon Atom(s). Angewandte Chemie - International Edition, 2016, 55, 8216-8226.	13.8	54
35	Tracing the â€˜ninth sulfurâ€™ of the nitrogenase cofactor via a semi-synthetic approach. Nature Chemistry, 2018, 10, 568-572.	13.6	54
36	Characterization of Azotobacter vinelandii nifZ Deletion Strains. Journal of Biological Chemistry, 2004, 279, 54963-54971.	3.4	53

#	Article	IF	Citations
37	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
38	Optimization of FeMoco Maturation on NifEN. Journal of the American Chemical Society, 2009, 131, 9321-9325.	13.7	53
39	Biosynthesis of the Iron-Molybdenum Cofactor of Nitrogenase. Journal of Biological Chemistry, 2013, 288, 13173-13177.	3.4	53
40	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
41	Tracing the Hydrogen Source of Hydrocarbons Formed by Vanadium Nitrogenase. Angewandte Chemie - International Edition, 2011, 50, 5545-5547.	13.8	52
42	Structure and Reactivity of an Asymmetric Synthetic Mimic of Nitrogenase Cofactor. Angewandte Chemie - International Edition, 2016, 55, 15633-15636.	13.8	44
43	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
44	Synthetic Analogues of Nitrogenase Metallocofactors: Challenges and Developments. Chemistry - A European Journal, 2017, 23, 12425-12432.	3.3	36
45	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
46	Combining a Nitrogenase Scaffold and a Synthetic Compound into an Artificial Enzyme. Angewandte Chemie - International Edition, 2015, 54, 14022-14025.	13.8	35
47	Structural Models of the [Fe₄S₄] Clusters of Homologous Nitrogenase Fe Proteins. Inorganic Chemistry, 2011, 50, 7123-7128.	4.0	33
48	The in vivo hydrocarbon formation by vanadium nitrogenase follows a secondary metabolic pathway. Nature Communications, 2016, 7, 13641.	12.8	33
49	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
50	Molecular Insights into Nitrogenase FeMoco Insertion. Journal of Biological Chemistry, 2006, 281, 30534-30541.	3.4	32
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	Nitrogenase Cofactor Assembly: An Elemental Inventory. Accounts of Chemical Research, 2017, 50, 2834-2841.	15.6	31
53	Evidence of substrate binding and product release via belt-sulfur mobilization of the nitrogenase cofactor. Nature Catalysis, 2022, 5, 443-454.	34.4	31
54	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

#	Article	IF	Citations
55	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
56	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
57	The Fe Protein: An Unsung Hero of Nitrogenase. Inorganics, 2018, 6, 25.	2.7	26
58	Widening the Product Profile of Carbon Dioxide Reduction by Vanadium Nitrogenase. ChemBioChem, 2015, 16, 1993-1996.	2.6	25
59	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
60	Activation of CO₂ by Vanadium Nitrogenase. Chemistry - an Asian Journal, 2017, 12, 1985-1996.	3.3	24
61	Characterization of an M-Cluster-Substituted Nitrogenase VFe Protein. MBio, 2018, 9, .	4.1	24
62	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
63	Conformational Differences between Azotobacter vinelandii Nitrogenase MoFe Proteins As Studied by Small-Angle X-ray Scattering. Biochemistry, 2007, 46, 8066-8074.	2.5	23
64	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
65	Cluster assembly in nitrogenase. Essays in Biochemistry, 2017, 61, 271-279.	4.7	22
66	Cofactor specificity motifs and the induced fit mechanism in class I ketol-acid reductoisomerases. Biochemical Journal, 2015, 468, 475-484.	3.7	21
67	Insights into Hydrocarbon Formation by Nitrogenase Cofactor Homologs. MBio, 2015, 6, .	4.1	20
68	Nitrogenases. Methods in Molecular Biology, 2019, 1876, 3-24.	0.9	19
69	Response to Comment on â€œStructural evidence for a dynamic metallocofactor during N ₂ reduction by Mo-nitrogenaseâ€• Science, 2021, 371, .	12.6	19
70	Protocols for Cofactor Isolation of Nitrogenase. Methods in Molecular Biology, 2011, 766, 239-248.	0.9	18
71	[4Fe4S]²⁺ Clusters Exhibit Ground-State Paramagnetism. Journal of the American Chemical Society, 2011, 133, 6871-6873.	13.7	16
72	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

#	Article	IF	Citations
73	Identity and function of an essential nitrogen ligand of the nitrogenase cofactor biosynthesis protein NifB. Nature Communications, 2020, 11, 1757.	12.8	16
74	Reduction and Condensation of Aldehydes by the Isolated Cofactor of Nitrogenase. ACS Central Science, 2018, 4, 1430-1435.	11.3	15
75	Insights into the Mechanism of Carbon Monoxide Dehydrogenase at Atomic Resolution. Angewandte Chemie - International Edition, 2015, 54, 8337-8339.	13.8	14
76	A Vâ€Nitrogenase Variant Containing a Citrateâ€Substituted Cofactor. ChemBioChem, 2020, 21, 1742-1748.	2.6	14
77	Structure and Reactivity of an Asymmetric Synthetic Mimic of Nitrogenase Cofactor. Angewandte Chemie, 2016, 128, 15862-15865.	2.0	13
78	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
79	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
80	Nitrogenase â€“ eine Geschichte von Kohlenstoffatomen. Angewandte Chemie, 2016, 128, 8356-8367.	2.0	11
81	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
82	Heterologous Expression and Engineering of the Nitrogenase Cofactor Biosynthesis Scaffold NifEN. Angewandte Chemie - International Edition, 2020, 59, 6887-6893.	13.8	10
83	YedY: A Mononuclear Molybdenum Enzyme with a Redoxâ€Active Ligand?. ChemBioChem, 2016, 17, 453-455.	2.6	9
84	Nitrogenase Assembly: Strategies and Procedures. Methods in Enzymology, 2017, 595, 261-302.	1.0	9
85	Electrochemical Characterization of Isolated Nitrogenase Cofactors from Azotobacter vinelandii. ChemBioChem, 2020, 21, 1773-1778.	2.6	9
86	Structural and Mechanistic Insights into CO 2 Activation by Nitrogenase Iron Protein. Chemistry - A European Journal, 2019, 25, 13078-13082.	3.3	8
87	Characterization of a Moâ€Nitrogenase Variant Containing a Citrateâ€Substituted Cofactor. ChemBioChem, 2021, 22, 151-155.	2.6	8
88	Probing the All-Ferrous States of Methanogen Nitrogenase Iron Proteins. Jacs Au, 2021, 1, 119-123.	7.9	8
89	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
90	Purification of Nitrogenase Proteins. Methods in Molecular Biology, 2019, 1876, 111-124.	0.9	6

#	Article	IF	Citations
91	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
92	Electron Paramagnetic Resonance Spectroscopy of Metalloproteins. Methods in Molecular Biology, 2019, 1876, 197-211.	0.9	5
93	Special Issue on Nitrogenases and Homologous Systems. ChemBioChem, 2020, 21, 1668-1670.	2.6	4
94	Characterization of a Nitrogenase Iron Protein Substituted with a Synthetic [Fe ₄ Se ₄] Cluster. Angewandte Chemie - International Edition, 2022, , .	13.8	4
95	Mackinawiteâ€Supported Reduction of C₁ Substrates into Prebiotically Relevant Precursors. ChemSystemsChem, 2022, 4, .	2.6	4
96	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
97	Radical SAM-dependent formation of a nitrogenase cofactor core on NifB. Journal of Inorganic Biochemistry, 2022, 233, 111837.	3.5	3
98	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
99	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
100	Frontispiece: Structural and Mechanistic Insights into CO₂ Activation by Nitrogenase Iron Protein. Chemistry - A European Journal, 2019, 25, .	3.3	0
101	Heterologous Expression and Engineering of the Nitrogenase Cofactor Biosynthesis Scaffold NifEN. Angewandte Chemie, 2020, 132, 6954-6960.	2.0	0
102	Nitrogenase: Structure, Function and Mechanism. , 2021, , 634-658.		0
103	Current Understanding of the Biosynthetic and Catalytic Mechanisms of Mo-Nitrogenase. , 2020, , 332-348.		0
104	Characterization of a Nitrogenase Iron Protein Substituted with a Synthetic [Fe ₄ Se ₄] Cluster. Angewandte Chemie, 0, , .	2.0	0