

Yilin Hu

List of Publications by Year in descending order

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123
papers

5,968
citations

66234

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132
all docs

132
docs citations

132
times ranked

2592
citing authors

#	ARTICLE	IF	CITATIONS
1	X-ray Emission Spectroscopy Evidences a Central Carbon in the Nitrogenase Iron-Molybdenum Cofactor. <i>Science</i> , 2011, 334, 974-977.	6.0	774
2	Vanadium Nitrogenase Reduces CO. <i>Science</i> , 2010, 329, 642-642.	6.0	259
3	Radical SAM-Dependent Carbon Insertion into the Nitrogenase M-Cluster. <i>Science</i> , 2012, 337, 1672-1675.	6.0	244
4	Extending the Carbon Chain: Hydrocarbon Formation Catalyzed by Vanadium/Molybdenum Nitrogenases. <i>Science</i> , 2011, 333, 753-755.	6.0	232
5	Reactivity, Mechanism, and Assembly of the Alternative Nitrogenases. <i>Chemical Reviews</i> , 2020, 120, 5107-5157.	23.0	128
6	Biosynthesis of Nitrogenase Metalloclusters. <i>Chemical Reviews</i> , 2014, 114, 4063-4080.	23.0	122
7	Structural evidence for a dynamic metallocofactor during N ₂ reduction by Mo-nitrogenase. <i>Science</i> , 2020, 368, 1381-1385.	6.0	120
8	Identification of a nitrogenase FeMo cofactor precursor on NifEN complex. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005, 102, 3236-3241.	3.3	119
9	Structure of Precursor-Bound NifEN: A Nitrogenase FeMo Cofactor Maturase/Insertase. <i>Science</i> , 2011, 331, 91-94.	6.0	115
10	Vanadium nitrogenase: A two-hit wonder?. <i>Dalton Transactions</i> , 2012, 41, 1118-1127.	1.6	110
11	Unique features of the nitrogenase VFe protein from <i>Azotobacter vinelandii</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 9209-9214.	3.3	108
12	Structural insights into a protein-bound iron-molybdenum cofactor precursor. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006, 103, 1238-1243.	3.3	104
13	FeMo cofactor maturation on NifEN. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006, 103, 17119-17124.	3.3	104
14	Biosynthesis of the Metalloclusters of Nitrogenases. <i>Annual Review of Biochemistry</i> , 2016, 85, 455-483.	5.0	104
15	X-ray Spectroscopic Observation of an Interstitial Carbide in NifEN-Bound FeMoco Precursor. <i>Journal of the American Chemical Society</i> , 2013, 135, 610-612.	6.6	98
16	Nitrogenase and homologs. <i>Journal of Biological Inorganic Chemistry</i> , 2015, 20, 435-445.	1.1	98
17	Assembly of Nitrogenase MoFe Protein. <i>Biochemistry</i> , 2008, 47, 3973-3981.	1.2	95
18	Characterization of Isolated Nitrogenase FeVco. <i>Journal of the American Chemical Society</i> , 2010, 132, 12612-12618.	6.6	92

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19	Nitrogenase Fe protein: A molybdate/homocitrate insertase. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 17125-17130.	3.3	82
20	P-cluster maturation on nitrogenase MoFe protein. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 10424-10429.	3.3	81
21	NifEN-B complex of <i>Azotobacter vinelandii</i> 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.	3.3	73
22	The FeMoco-deficient MoFe Protein Produced by a nifH Deletion Strain of <i>Azotobacter vinelandii</i> Shows Unusual P-cluster Features. Journal of Biological Chemistry, 2002, 277, 23469-23476.	1.6	71
23	Differential Reduction of CO ₂ by Molybdenum and Vanadium Nitrogenases. Angewandte Chemie - International Edition, 2014, 53, 11543-11546.	7.2	71
24	Second and Outer Coordination Sphere Effects in Nitrogenase, Hydrogenase, Formate Dehydrogenase, and CO Dehydrogenase. Chemical Reviews, 2022, 122, 11900-11973.	23.0	70
25	Biosynthesis of nitrogenase FeMoco. Coordination Chemistry Reviews, 2011, 255, 1218-1224.	9.5	68
26	Refining the pathway of carbide insertion into the nitrogenase M-cluster. Nature Communications, 2015, 6, 8034.	5.8	66
27	Nitrogenase assembly. Biochimica Et Biophysica Acta - Bioenergetics, 2013, 1827, 1112-1122.	0.5	65
28	ATP-Independent Formation of Hydrocarbons Catalyzed by Isolated Nitrogenase Cofactors. Angewandte Chemie - International Edition, 2012, 51, 1947-1949.	7.2	64
29	Comparison of Iron-Molybdenum Cofactor-deficient Nitrogenase MoFe Proteins by X-ray Absorption Spectroscopy. Journal of Biological Chemistry, 2004, 279, 28276-28282.	1.6	60
30	Identification and characterization of functional homologs of nitrogenase cofactor biosynthesis protein NifB from methanogens. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 14829-14833.	3.3	58
31	Spectroscopic Characterization of the Isolated Iron-Molybdenum Cofactor (FeMoco) Precursor from the Protein NifEN. Angewandte Chemie - International Edition, 2011, 50, 7787-7790.	7.2	57
32	Catalytic Reduction of CN [•] , CO, and CO ₂ by Nitrogenase Cofactors in Lanthanide-Driven Reactions. Angewandte Chemie - International Edition, 2015, 54, 1219-1222.	7.2	55
33	Nitrogenases—A Tale of Carbon Atom(s). Angewandte Chemie - International Edition, 2016, 55, 8216-8226.	7.2	54
34	Tracing the ninth sulfur of the nitrogenase cofactor via a semi-synthetic approach. Nature Chemistry, 2018, 10, 568-572.	6.6	54
35	Characterization of <i>Azotobacter vinelandii</i> nifZ Deletion Strains. Journal of Biological Chemistry, 2004, 279, 54963-54971.	1.6	53
36	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.	3.3	53

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37	Optimization of FeMoco Maturation on NifEN. <i>Journal of the American Chemical Society</i> , 2009, 131, 9321-9325.	6.6	53
38	Biosynthesis of the Iron-Molybdenum Cofactor of Nitrogenase. <i>Journal of Biological Chemistry</i> , 2013, 288, 13173-13177.	1.6	53
39	Nitrogenase reactivity with P-cluster variants. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005, 102, 13825-13830.	3.3	52
40	Tracing the Hydrogen Source of Hydrocarbons Formed by Vanadium Nitrogenase. <i>Angewandte Chemie - International Edition</i> , 2011, 50, 5545-5547.	7.2	52
41	Activation and reduction of carbon dioxide by nitrogenase iron proteins. <i>Nature Chemical Biology</i> , 2017, 13, 147-149.	3.9	52
42	Ambient conversion of CO ₂ to hydrocarbons by biogenic and synthetic [Fe ₄ S ₄] clusters. <i>Nature Catalysis</i> , 2018, 1, 444-451.	16.1	51
43	Biosynthesis of the Metalloclusters of Molybdenum Nitrogenase. <i>Microbiology and Molecular Biology Reviews</i> , 2011, 75, 664-677.	2.9	49
44	Structure and Reactivity of an Asymmetric Synthetic Mimic of Nitrogenase Cofactor. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 15633-15636.	7.2	44
45	Decoding the Nitrogenase Mechanism: The Homologue Approach. <i>Accounts of Chemical Research</i> , 2010, 43, 475-484.	7.6	41
46	Uncoupling binding of substrate CO from turnover by vanadium nitrogenase. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 13845-13849.	3.3	40
47	Probing the coordination and function of Fe ₄ S ₄ modules in nitrogenase assembly protein NifB. <i>Nature Communications</i> , 2018, 9, 2824.	5.8	40
48	Synthetic Analogues of Nitrogenase Metallocofactors: Challenges and Developments. <i>Chemistry - A European Journal</i> , 2017, 23, 12425-12432.	1.7	36
49	Variable-Temperature, Variable-Field Magnetic Circular Dichroism Spectroscopic Study of the Metal Clusters in the $\hat{\Gamma}''$ nifB and $\hat{\Gamma}''$ nifH MoFe Proteins of Nitrogenase from <i>Azotobacter vinelandii</i> . <i>Biochemistry</i> , 2006, 45, 15039-15048.	1.2	35
50	Combining a Nitrogenase Scaffold and a Synthetic Compound into an Artificial Enzyme. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 14022-14025.	7.2	35
51	Structural Models of the [Fe ₄ S ₄] Clusters of Homologous Nitrogenase Fe Proteins. <i>Inorganic Chemistry</i> , 2011, 50, 7123-7128.	1.9	33
52	The in vivo hydrocarbon formation by vanadium nitrogenase follows a secondary metabolic pathway. <i>Nature Communications</i> , 2016, 7, 13641.	5.8	33
53	Reduction of C ₁ Substrates to Hydrocarbons by the Homometallic Precursor and Synthetic Mimic of the Nitrogenase Cofactor. <i>Journal of the American Chemical Society</i> , 2017, 139, 603-606.	6.6	33
54	Molecular Insights into Nitrogenase FeMoco Insertion. <i>Journal of Biological Chemistry</i> , 2006, 281, 30534-30541.	1.6	32

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55	Maturation of nitrogenase cofactor – the role of a class E radical SAM methyltransferase NifB. <i>Current Opinion in Chemical Biology</i> , 2016, 31, 188-194.	2.8	32
56	Nitrogenase Cofactor Assembly: An Elemental Inventory. <i>Accounts of Chemical Research</i> , 2017, 50, 2834-2841.	7.6	31
57	Evidence of substrate binding and product release via belt-sulfur mobilization of the nitrogenase cofactor. <i>Nature Catalysis</i> , 2022, 5, 443-454.	16.1	31
58	Catalytic activities of NifEN: Implications for nitrogenase evolution and mechanism. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 16962-16966.	3.3	28
59	VTVH-MCD Study of the NifB^{H} NifZ^{H} MoFe Protein from <i>Azotobacter vinelandii</i> . <i>Journal of the American Chemical Society</i> , 2009, 131, 4558-4559.	6.6	27
60	Formation of a homocitrate-free iron-molybdenum cluster on NifEN: Implications for the role of homocitrate in nitrogenase assembly. <i>Dalton Transactions</i> , 2010, 39, 3124.	1.6	27
61	A journey into the active center of nitrogenase. <i>Journal of Biological Inorganic Chemistry</i> , 2014, 19, 731-736.	1.1	27
62	A Comparative Analysis of the CO-Reducing Activities of MoFe Proteins Containing Mo- and V-Nitrogenase Cofactors. <i>ChemBioChem</i> , 2018, 19, 649-653.	1.3	27
63	Assembly scaffold NifEN: A structural and functional homolog of the nitrogenase catalytic component. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 9504-9508.	3.3	26
64	The Fe Protein: An Unsung Hero of Nitrogenase. <i>Inorganics</i> , 2018, 6, 25.	1.2	26
65	Molecular insights into nitrogenase FeMo cofactor insertion: the role of His ³⁶² of the MoFe protein NifH subunit in FeMo cofactor incorporation. <i>Journal of Biological Inorganic Chemistry</i> , 2007, 12, 449-460.	1.1	25
66	Widening the Product Profile of Carbon Dioxide Reduction by Vanadium Nitrogenase. <i>ChemBioChem</i> , 2015, 16, 1993-1996.	1.3	25
67	P^{H} State of Nitrogenase P-Cluster Exhibits Electronic Structure of a $[\text{Fe}_4\text{S}_4]^{\text{H}}$ Cluster. <i>Journal of the American Chemical Society</i> , 2012, 134, 13749-13754.	6.6	24
68	Activation of CO_2 by Vanadium Nitrogenase. <i>Chemistry - an Asian Journal</i> , 2017, 12, 1985-1996.	1.7	24
69	Evaluation of the Catalytic Relevance of the CO-Bound States of V-Nitrogenase. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 3411-3414.	7.2	24
70	Characterization of an M-Cluster-Substituted Nitrogenase VFe Protein. <i>MBio</i> , 2018, 9, .	1.8	24
71	Spectroscopic Characterization of an Eight-Iron Nitrogenase Cofactor Precursor that Lacks the S^{H} Sulfur. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 14703-14707.	7.2	24
72	Tuning Electron Flux through Nitrogenase with Methanogen Iron Protein Homologues. <i>Chemistry - A European Journal</i> , 2017, 23, 16152-16156.	1.7	24

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73	Conformational Differences between Azotobacter vinelandii Nitrogenase MoFe Proteins As Studied by Small-Angle X-ray Scattering. <i>Biochemistry</i> , 2007, 46, 8066-8074.	1.2	23
74	X-ray Crystallographic Analysis of NifB with a Full Complement of Clusters: Structural Insights into the Radical SAM-Dependent Carbide Insertion During Nitrogenase Cofactor Assembly. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 2364-2370.	7.2	23
75	Historic Overview of Nitrogenase Research. <i>Methods in Molecular Biology</i> , 2011, 766, 3-7.	0.4	22
76	Cluster assembly in nitrogenase. <i>Essays in Biochemistry</i> , 2017, 61, 271-279.	2.1	22
77	Cofactor specificity motifs and the induced fit mechanism in class I ketol-acid reductoisomerases. <i>Biochemical Journal</i> , 2015, 468, 475-484.	1.7	21
78	Insights into Hydrocarbon Formation by Nitrogenase Cofactor Homologs. <i>MBio</i> , 2015, 6, .	1.8	20
79	Nitrogenases. <i>Methods in Molecular Biology</i> , 2019, 1876, 3-24.	0.4	19
80	Response to Comment on "Structural evidence for a dynamic metallocofactor during N ₂ reduction by Mo-nitrogenase" <i>Science</i> , 2021, 371, .	6.0	19
81	Protocols for Cofactor Isolation of Nitrogenase. <i>Methods in Molecular Biology</i> , 2011, 766, 239-248.	0.4	18
82	[4Fe4S] ²⁺ Clusters Exhibit Ground-State Paramagnetism. <i>Journal of the American Chemical Society</i> , 2011, 133, 6871-6873.	6.6	16
83	Nonenzymatic Synthesis of the P-Cluster in the Nitrogenase MoFe Protein: Evidence of the Involvement of All-Ferrous [Fe ₄ S ₄] ⁰ Intermediates. <i>Biochemistry</i> , 2014, 53, 1108-1116.	1.2	16
84	Identity and function of an essential nitrogen ligand of the nitrogenase cofactor biosynthesis protein NifB. <i>Nature Communications</i> , 2020, 11, 1757.	5.8	16
85	Reduction and Condensation of Aldehydes by the Isolated Cofactor of Nitrogenase. <i>ACS Central Science</i> , 2018, 4, 1430-1435.	5.3	15
86	Reactivity of [Fe ₄ S ₄] Clusters toward C1 Substrates: Mechanism, Implications, and Potential Applications. <i>Accounts of Chemical Research</i> , 2019, 52, 1168-1176.	7.6	15
87	A Nitrogenase Variant Containing a Citrate-Substituted Cofactor. <i>ChemBioChem</i> , 2020, 21, 1742-1748.	1.3	14
88	Structure and Reactivity of an Asymmetric Synthetic Mimic of Nitrogenase Cofactor. <i>Angewandte Chemie</i> , 2016, 128, 15862-15865.	1.6	13
89	A VTVH MCD and EPR Spectroscopic Study of the Maturation of the "Second" Nitrogenase P-Cluster. <i>Inorganic Chemistry</i> , 2018, 57, 4719-4725.	1.9	12
90	Tracing the incorporation of the "ninth sulfur" into the nitrogenase cofactor precursor with selenite and tellurite. <i>Nature Chemistry</i> , 2021, 13, 1228-1234.	6.6	12

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91	Nitrogenase – eine Geschichte von Kohlenstoffatomen. <i>Angewandte Chemie</i> , 2016, 128, 8356-8367.	1.6	11
92	Strategies Towards Capturing Nitrogenase Substrates and Intermediates via Controlled Alteration of Electron Fluxes. <i>Chemistry - A European Journal</i> , 2019, 25, 2389-2395.	1.7	11
93	Dual functions of NifEN: insights into the evolution and mechanism of nitrogenase. <i>Dalton Transactions</i> , 2010, 39, 2964.	1.6	10
94	Evaluation of the Catalytic Relevance of the CO-Bound States of V-Nitrogenase. <i>Angewandte Chemie</i> , 2018, 130, 3469-3472.	1.6	10
95	Structural Analysis of a Nitrogenase Iron Protein from <i>Methanosarcina acetivorans</i> : Implications for CO ₂ Capture by a Surface-Exposed [Fe ₄ S ₄] Cluster. <i>MBio</i> , 2019, 10, .	1.8	10
96	Heterologous Expression and Engineering of the Nitrogenase Cofactor Biosynthesis Scaffold NifEN. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 6887-6893.	7.2	10
97	YedY: A Mononuclear Molybdenum Enzyme with a Redox-Active Ligand?. <i>ChemBioChem</i> , 2016, 17, 453-455.	1.3	9
98	Nitrogenase Assembly: Strategies and Procedures. <i>Methods in Enzymology</i> , 2017, 595, 261-302.	0.4	9
99	Electrochemical Characterization of Isolated Nitrogenase Cofactors from <i>Azotobacter vinelandii</i> . <i>ChemBioChem</i> , 2020, 21, 1773-1778.	1.3	9
100	Structural and Mechanistic Insights into CO ₂ Activation by Nitrogenase Iron Protein. <i>Chemistry - A European Journal</i> , 2019, 25, 13078-13082.	1.7	8
101	Characterization of a Mo-Nitrogenase Variant Containing a Citrate-Substituted Cofactor. <i>ChemBioChem</i> , 2021, 22, 151-155.	1.3	8
102	Probing the All-Ferrous States of Methanogen Nitrogenase Iron Proteins. <i>Jacs Au</i> , 2021, 1, 119-123.	3.6	8
103	Hydrogenases. <i>Methods in Molecular Biology</i> , 2019, 1876, 65-88.	0.4	7
104	Spectroscopic Characterization of an Eight-Iron Nitrogenase Cofactor Precursor that Lacks the 9 th Sulfur. <i>Angewandte Chemie</i> , 2019, 131, 14845-14849.	1.6	6
105	Purification of Nitrogenase Proteins. <i>Methods in Molecular Biology</i> , 2019, 1876, 111-124.	0.4	6
106	Electron Paramagnetic Resonance Spectroscopy of Metalloproteins. <i>Methods in Molecular Biology</i> , 2019, 1876, 197-211.	0.4	5
107	Computational Methods for Modeling Metalloproteins. <i>Methods in Molecular Biology</i> , 2019, 1876, 245-266.	0.4	5
108	Insertion of heterometals into the NifEN-associated iron-molybdenum cofactor precursor. <i>Journal of Biological Inorganic Chemistry</i> , 2010, 15, 421-428.	1.1	4

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109	Special Issue on Nitrogenases and Homologous Systems. ChemBioChem, 2020, 21, 1668-1670.	1.3	4
110	Characterization of a Nitrogenase Iron Protein Substituted with a Synthetic [Fe ₄ Se ₄] Cluster. Angewandte Chemie - International Edition, 2022, , .	7.2	4
111	Mackinawite-supported Reduction of C ₁ Substrates into Prebiotically Relevant Precursors. ChemSystemsChem, 2022, 4, .	1.1	4
112	Radical S-Adenosyl-L-Methionine (SAM) Enzyme Involved in the Maturation of the Nitrogenase Cluster. Methods in Enzymology, 2018, 606, 341-361.	0.4	3
113	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.	1.3	3
114	Radical SAM-dependent formation of a nitrogenase cofactor core on NifB. Journal of Inorganic Biochemistry, 2022, 233, 111837.	1.5	3
115	Current Understanding of the Biosynthesis of the Unique Nitrogenase Cofactor Core. Structure and Bonding, 2018, , 15-31.	1.0	2
116	X-ray Crystallographic Analysis of NifB with a Full Complement of Clusters: Structural Insights into the Radical SAM-dependent Carbide Insertion During Nitrogenase Cofactor Assembly. Angewandte Chemie, 2021, 133, 2394-2400.	1.6	2
117	An EPR and VTVH MCD spectroscopic investigation of the nitrogenase assembly protein NifB. Journal of Biological Inorganic Chemistry, 2021, 26, 403-410.	1.1	1
118	Assembly and Function of Nitrogenase. , 2021, , 155-184.		1
119	Frontispiece: Tuning Electron Flux through Nitrogenase with Methanogen Iron Protein Homologues. Chemistry - A European Journal, 2017, 23, .	1.7	0
120	Heterologous Expression and Engineering of the Nitrogenase Cofactor Biosynthesis Scaffold NifEN. Angewandte Chemie, 2020, 132, 6954-6960.	1.6	0
121	Nitrogenase: Structure, Function and Mechanism. , 2021, , 634-658.		0
122	Current Understanding of the Biosynthetic and Catalytic Mechanisms of Mo-Nitrogenase. , 2020, , 332-348.		0
123	Characterization of a Nitrogenase Iron Protein Substituted with a Synthetic [Fe ₄ Se ₄] Cluster. Angewandte Chemie, 0, , .	1.6	0