Lance C Seefeldt

List of Publications by Year
in descending order

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197

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18,933

citations

14644

66

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16164

124

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all docs

207

docs citations

207

times ranked

12743

citing authors

#	Article	IF	Citations
1	Frontiers, Opportunities, and Challenges in Biochemical and Chemical Catalysis of CO₂ Fixation. Chemical Reviews, 2013, 113, 6621-6658.	23.0	1,786
2	X-ray Crystal Structure of the Fe-Only Hydrogenase (CpI) from Clostridium pasteurianum to 1.8 Angstrom Resolution. , 1998, 282, 1853-1858.		1,724
3	Mechanism of Nitrogen Fixation by Nitrogenase: The Next Stage. Chemical Reviews, 2014, 114, 4041-4062.	23.0	1,379
4	Beyond fossil fuelâ€“driven nitrogen transformations. Science, 2018, 360, .	6.0	1,379
5	Light-driven dinitrogen reduction catalyzed by a CdS:nitrogenase MoFe protein biohybrid. Science, 2016, 352, 448-450.	6.0	676
6	Mechanism of Mo-Dependent Nitrogenase. Annual Review of Biochemistry, 2009, 78, 701-722.	5.0	561
7	Biodiesel production by simultaneous extraction and conversion of total lipids from microalgae, cyanobacteria, and wild mixed-cultures. Bioresource Technology, 2011, 102, 2724-2730.	4.8	387
8	Climbing Nitrogenase: Toward a Mechanism of Enzymatic Nitrogen Fixation. Accounts of Chemical Research, 2009, 42, 609-619.	7.6	336
9	Nitrogenase: A Draft Mechanism. Accounts of Chemical Research, 2013, 46, 587-595.	7.6	328
10	Nitrogen Fixation: The Mechanism of the Mo-Dependent Nitrogenase. Critical Reviews in Biochemistry and Molecular Biology, 2003, 38, 351-384.	2.3	234
11	Reduction of Substrates by Nitrogenases. Chemical Reviews, 2020, 120, 5082-5106.	23.0	234
12	Substrate Interactions with the Nitrogenase Active Site. Accounts of Chemical Research, 2005, 38, 208-214.	7.6	199
13	Trapping H-Bound to the Nitrogenase FeMo-Cofactor Active Site during H2Evolution:Â Characterization by ENDOR Spectroscopy. Journal of the American Chemical Society, 2005, 127, 6231-6241.	6.6	196
14	Catalytic and Biophysical Properties of a Nitrogenase Apo-MoFe Protein Produced by anifB-Deletion Mutant ofAzotobactervinelandiiâ€. Biochemistry, 1998, 37, 12611-12623.	1.2	192
15	Nitrogenase bioelectrocatalysis: heterogeneous ammonia and hydrogen production by MoFe protein. Energy and Environmental Science, 2016, 9, 2550-2554.	15.6	187
16	Substrate Interactions with Nitrogenase:â€‰ Fe versus Mo. Biochemistry, 2004, 43, 1401-1409.	1.2	183
17	Understanding precision nitrogen stress to optimize the growth and lipid content tradeoff in oleaginous green microalgae. Bioresource Technology, 2013, 131, 188-194.	4.8	178
18	The Electron Bifurcating FixABCX Protein Complex from <i>Azotobacter vinelandii</i>: Generation of Low-Potential Reducing Equivalents for Nitrogenase Catalysis. Biochemistry, 2017, 56, 4177-4190.	1.2	140

#	ARTICLE	IF	CITATIONS
19	Substrate Interaction at an Iron-Sulfur Face of the FeMo-cofactor during Nitrogenase Catalysis. Journal of Biological Chemistry, 2004, 279, 53621-53624.	1.6	137
20	MECHANISTICFEATURES OF THEMO-CONTAININGNITROGENASE. Annual Review of Plant Biology, 2001, 52, 269-295.	14.2	136
21	Breaking the N2 triple bond: insights into the nitrogenase mechanism. Dalton Transactions, 2006, , 2277.	1.6	131
22	Reductive Elimination of H₂ Activates Nitrogenase to Reduce the Nâ‰¡N Triple Bond: Characterization of the E₄(4H) Janus Intermediate in Wild-Type Enzyme. Journal of the American Chemical Society, 2016, 138, 10674-10683.	6.6	131
23	A pathway for biological methane production using bacterial iron-only nitrogenase. Nature Microbiology, 2018, 3, 281-286.	5.9	131
24	Exploring the alternatives of biological nitrogen fixation. Metallomics, 2018, 10, 523-538.	1.0	125
25	Intermediates Trapped during Nitrogenase Reduction of Nâ‹®N, CH3âˆ’NNH, and H2Nâˆ’NH2. Journal of the American Chemical Society, 2005, 127, 14960-14961.	6.6	122
26	Biodiesel from Microalgae, Yeast, and Bacteria: Engine Performance and Exhaust Emissions. Energy & Fuels, 2013, 27, 220-228.	2.5	121
27	Role of Nucleotides in Nitrogenase Catalysis. Accounts of Chemical Research, 1997, 30, 260-266.	7.6	117
28	Electron Transfer within Nitrogenase: Evidence for a Deficit-Spending Mechanism. Biochemistry, 2011, 50, 9255-9263.	1.2	117
29	An Organometallic Intermediate during Alkyne Reduction by Nitrogenase. Journal of the American Chemical Society, 2004, 126, 9563-9569.	6.6	116
30	Electrochemical Dinitrogen Reduction to Ammonia by Mo₂N: Catalysis or Decomposition?. ACS Energy Letters, 2019, 4, 1053-1054.	8.8	114
31	Connecting nitrogenase intermediates with the kinetic scheme for N2 reduction by a relaxation protocol and identification of the N2 binding state. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 1451-1455.	3.3	113
32	The Interstitial Atom of the Nitrogenase FeMo-Cofactor:Â ENDOR and ESEEM Show It Is Not an Exchangeable Nitrogen. Journal of the American Chemical Society, 2003, 125, 5604-5605.	6.6	107
33	Diazene (HNNH) Is a Substrate for Nitrogenase:Â Insights into the Pathway of N2Reductionâ€. Biochemistry, 2007, 46, 6784-6794.	1.2	106
34	Insights into Nucleotide Signal Transduction in Nitrogenase:â€‰ Structure of an Iron Protein with MgADP Bound,. Biochemistry, 2000, 39, 14745-14752.	1.2	105
35	Electron transfer in nitrogenase catalysis. Current Opinion in Chemical Biology, 2012, 16, 19-25.	2.8	105
36	Carbon dioxide reduction to methane and coupling with acetylene to form propylene catalyzed by remodeled nitrogenase. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 19644-19648.	3.3	103

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37	Characterization of a Fatty Acyl-CoA Reductase from <i>Marinobacter aquaeolei</i> VT8: A Bacterial Enzyme Catalyzing the Reduction of Fatty Acyl-CoA to Fatty Alcohol. Biochemistry, 2011, 50, 10550-10558.	1.2	102
38	Energy Transduction in Nitrogenase. Accounts of Chemical Research, 2018, 51, 2179-2186.	7.6	101
39	Critical computational analysis illuminates the reductive-elimination mechanism that activates nitrogenase for N ₂ reduction. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E10521-E10530.	3.3	100
40	Molybdenum Nitrogenase Catalyzes the Reduction and Coupling of CO to Form Hydrocarbons*. Journal of Biological Chemistry, 2011, 286, 19417-19421.	1.6	99
41	Identification of a Key Catalytic Intermediate Demonstrates That Nitrogenase Is Activated by the Reversible Exchange of N₂ for H₂. Journal of the American Chemical Society, 2015, 137, 3610-3615.	6.6	99
42	Mo-, V-, and Fe-Nitrogenases Use a Universal Eight-Electron Reductive-Elimination Mechanism To Achieve N₂ Reduction. Biochemistry, 2019, 58, 3293-3301.	1.2	99
43	On reversible H ₂ loss upon N ₂ binding to FeMo-cofactor of nitrogenase. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 16327-16332.	3.3	98
44	Carbonyl sulfide and carbon dioxide as new substrates, and carbon disulfide as a new inhibitor, of nitrogenase. Biochemistry, 1995, 34, 5382-5389.	1.2	96
45	Trapping a Hydrazine Reduction Intermediate on the Nitrogenase Active Site. Biochemistry, 2005, 44, 8030-8037.	1.2	96
46	Changes in the Midpoint Potentials of the Nitrogenase Metal Centers as a Result of Iron Proteinâˆ’Molybdenum-Iron Protein Complex Formation. Biochemistry, 1997, 36, 12976-12983.	1.2	95
47	Evidence That the P_i Release Event Is the Rate-Limiting Step in the Nitrogenase Catalytic Cycle. Biochemistry, 2016, 55, 3625-3635.	1.2	95
48	Electron transfer precedes ATP hydrolysis during nitrogenase catalysis. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 16414-16419.	3.3	94
49	Localization of a Substrate Binding Site on the FeMo-Cofactor in Nitrogenase:Â Trapping Propargyl Alcohol with an Î±-70-Substituted MoFe Proteinâ€. Biochemistry, 2003, 42, 9102-9109.	1.2	93
50	Nitrogenase reduction of carbon-containing compounds. Biochimica Et Biophysica Acta - Bioenergetics, 2013, 1827, 1102-1111.	0.5	91
51	Testing if the Interstitial Atom, X, of the Nitrogenase Molybdenumâˆ’Iron Cofactor Is N or C:â€‰ ENDOR, ESEEM, and DFT Studies of the <i>S</i> = ³/₂ Resting State in Multiple Environments. Inorganic Chemistry, 2007, 46, 11437-11449.	1.9	89
52	Elucidation of a MgATP Signal Transduction Pathway in the Nitrogenase Iron Protein:Â Formation of a Conformation Resembling the MgATP-Bound State by Protein Engineeringâ€. Biochemistry, 1996, 35, 4766-4775.	1.2	87
53	A Continuous, Spectrophotometric Activity Assay for Nitrogenase Using the Reductant Titanium(III) Citrate. Analytical Biochemistry, 1994, 221, 379-386.	1.1	85
54	MgATP-Bound and Nucleotide-Free Structures of a Nitrogenase Protein Complex between the Leu 127Î”-Fe-Protein and the MoFe-Proteinâ€,â€¡. Biochemistry, 2001, 40, 641-650.	1.2	85

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55	Electron Transfer to Nitrogenase in Different Genomic and Metabolic Backgrounds. Journal of Bacteriology, 2018, 200, .	1.0	85
56	A methyldiazene (HNNCH3)-derived species bound to the nitrogenase active-site FeMo cofactor: Implications for mechanism. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 17113-17118.	3.3	84
57	ENDOR/HYSCORE Studies of the Common Intermediate Trapped during Nitrogenase Reduction of N₂H₂, CH₃N₂H, and N₂H₄Support an Alternating Reaction Pathway for N₂Reduction. Journal of the American Chemical Society, 2011, 133, 11655-11664.	6.6	83
58	Mechanism of N₂ Reduction Catalyzed by Fe-Nitrogenase Involves Reductive Elimination of H₂. Biochemistry, 2018, 57, 701-710.	1.2	80
59	Is Mo Involved in Hydride Binding by the Four-Electron Reduced (E₄) Intermediate of the Nitrogenase MoFe Protein?. Journal of the American Chemical Society, 2010, 132, 2526-2527.	6.6	79
60	Evidence for Electron Transfer from the Nitrogenase Iron Protein to the Molybdenumâˆ’Iron Protein without MgATP Hydrolysis:â€‰ Characterization of a Tight Proteinâˆ’Protein Complex. Biochemistry, 1996, 35, 7188-7196.	1.2	78
61	The Interstitial Atom of the Nitrogenase FeMo-Cofactor:Â ENDOR and ESEEM Evidence That it is Not a Nitrogen. Journal of the American Chemical Society, 2005, 127, 12804-12805.	6.6	78
62	Defining Electron Bifurcation in the Electron-Transferring Flavoprotein Family. Journal of Bacteriology, 2017, 199, .	1.0	78
63	⁵⁷Fe ENDOR Spectroscopy and â€˜Electron Inventoryâ€™ Analysis of the Nitrogenase E₄Intermediate Suggest the Metal-Ion Core of FeMo-Cofactor Cycles Through Only One Redox Couple. Journal of the American Chemical Society, 2011, 133, 17329-17340.	6.6	75
64	Light-driven carbon dioxide reduction to methane by nitrogenase in a photosynthetic bacterium. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 10163-10167.	3.3	74
65	Nucleotide Hydrolysis and Protein Conformational Changes in Azotobacter vinelandii Nitrogenase Iron Protein: Defining the Function of Aspartate 129. Biochemistry, 1995, 34, 10713-10723.	1.2	73
66	Evidence for Coupled Electron and Proton Transfer in the [8Fe-7S] Cluster of Nitrogenaseâ€. Biochemistry, 1998, 37, 11376-11384.	1.2	73
67	Spectroscopic Evidence for Changes in the Redox State of the Nitrogenase P-Cluster during Turnoverâ€. Biochemistry, 1999, 38, 5779-5785.	1.2	71
68	Differences in Substrate Specificities of Five Bacterial Wax Ester Synthases. Applied and Environmental Microbiology, 2012, 78, 5734-5745.	1.4	70
69	Isolation and Characterization of an Acetylene-resistant Nitrogenase. Journal of Biological Chemistry, 2000, 275, 11459-11464.	1.6	69
70	Insights into substrate binding at FeMo-cofactor in nitrogenase from the structure of an Î±-70Ile MoFe protein variant. Journal of Inorganic Biochemistry, 2010, 104, 385-389.	1.5	67
71	Crystal Structure of the L Protein of <i>Rhodobacter sphaeroides</i> Light-Independent Protochlorophyllide Reductase with MgADP Bound: A Homologue of the Nitrogenase Fe Protein. Biochemistry, 2008, 47, 13004-13015.	1.2	66
72	Trapping an Intermediate of Dinitrogen (N₂) Reduction on Nitrogenase. Biochemistry, 2009, 48, 9094-9102.	1.2	66

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73	Uncoupling Nitrogenase: Catalytic Reduction of Hydrazine to Ammonia by a MoFe Protein in the Absence of Fe Protein-ATP. Journal of the American Chemical Society, 2010, 132, 13197-13199.	6.6	65
74	Grand challenges in the nitrogen cycle. Chemical Society Reviews, 2021, 50, 3640-3646.	18.7	64
75	Localization of a Catalytic Intermediate Bound to the FeMo-cofactor of Nitrogenase. Journal of Biological Chemistry, 2004, 279, 34770-34775.	1.6	63
76	Purification to homogeneity of Azotobacter vinelandii hydrogenase: a nickel and iron containing Î±Î² dimer. Biochimie, 1986, 68, 25-34.	1.3	61
77	Conformational Gating of Electron Transfer from the Nitrogenase Fe Protein to MoFe Protein. Journal of the American Chemical Society, 2010, 132, 6894-6895.	6.6	61
78	Reversible Photoinduced Reductive Elimination of H₂ from the Nitrogenase Dihydride State, the E₄(4H) Janus Intermediate. Journal of the American Chemical Society, 2016, 138, 1320-1327.	6.6	60
79	Increasing nitrogenase catalytic efficiency for MgATP by changing serine 16 of its Fe protein to threonine: Use of Mn²⁺ to show interaction of serine 16 with Mg²⁺. Protein Science, 1993, 2, 93-102.	3.1	59
80	Unification of reaction pathway and kinetic scheme for N ₂ reduction catalyzed by nitrogenase. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 5583-5587.	3.3	59
81	Competitive Substrate and Inhibitor Interactions at the Physiologically Relevant Active Site of Nitrogenase. Journal of Biological Chemistry, 2000, 275, 36104-36107.	1.6	58
82	High-Resolution ENDOR Spectroscopy Combined with Quantum Chemical Calculations Reveals the Structure of Nitrogenase Janus Intermediate E₄(4H). Journal of the American Chemical Society, 2019, 141, 11984-11996.	6.6	58
83	Purification, Characterization, and Potential Bacterial Wax Production Role of an NADPH-Dependent Fatty Aldehyde Reductase from <i>Marinobacter aquaeolei</i> VT8. Applied and Environmental Microbiology, 2009, 75, 2758-2764.	1.4	57
84	Synthesis of Biodiesel from Mixed Feedstocks and Longer Chain Alcohols Using an Acid-Catalyzed Method. Energy & Fuels, 2008, 22, 4223-4228.	2.5	56
85	The identification, characterization, sequencing and mutagenesis of the genes (hupSL) encoding the small and large subunits of the H2-uptake hydrogenase of Azotobacter chroococcum. Molecular Microbiology, 1990, 4, 999-1008.	1.2	54
86	A new era for electron bifurcation. Current Opinion in Chemical Biology, 2018, 47, 32-38.	2.8	54
87	Oleaginous yeast platform for producing biofuels via co-solvent hydrothermal liquefaction. Biotechnology for Biofuels, 2015, 8, 167.	6.2	52
88	Mechanism of Nitrogenase H₂ Formation by Metal-Hydride Protonation Probed by Mediated Electrocatalysis and H/D Isotope Effects. Journal of the American Chemical Society, 2017, 139, 13518-13524.	6.6	51
89	Alkyne substrate interaction within the nitrogenase MoFe protein. Journal of Inorganic Biochemistry, 2007, 101, 1642-1648.	1.5	50
90	EXAFS and NRVS Reveal a Conformational Distortion of the FeMo-cofactor in the MoFe Nitrogenase Propargyl Alcohol Complex. Journal of Inorganic Biochemistry, 2012, 112, 85-92.	1.5	50

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91	Mapping the site(s) of MgATP and MgADP interaction with the nitrogenase of Azotobacter vinelandii. Lysine 15 of the iron protein plays a major role in MgATP interaction. Journal of Biological Chemistry, 1992, 267, 6680-8.	1.6	50
92	Immunological relationship among hydrogenases. Journal of Bacteriology, 1989, 171, 430-435.	1.0	47
93	CO₂ Reduction Catalyzed by Nitrogenase: Pathways to Formate, Carbon Monoxide, and Methane. Inorganic Chemistry, 2016, 55, 8321-8330.	1.9	47
94	Interaction of Acetylene and Cyanide with the Resting State of Nitrogenase Î±-96-Substituted MoFe Proteins. Biochemistry, 2001, 40, 13816-13825.	1.2	45
95	Techno-economic feasibility and life cycle assessment of dairy effluent to renewable diesel via hydrothermal liquefaction. Bioresource Technology, 2015, 196, 431-440.	4.8	45
96	Structural characterization of the P1+ intermediate state of the P-cluster of nitrogenase. Journal of Biological Chemistry, 2018, 293, 9629-9635.	1.6	44
97	Kinetic Understanding of N₂ Reduction versus H₂ Evolution at the E₄(4H) Janus State in the Three Nitrogenases. Biochemistry, 2018, 57, 5706-5714.	1.2	44
98	Circular Dichroism and X-ray Spectroscopies of Azotobacter vinelandii Nitrogenase Iron Protein. Journal of Biological Chemistry, 1996, 271, 1551-1557.	1.6	43
99	Control of electron transfer in nitrogenase. Current Opinion in Chemical Biology, 2018, 47, 54-59.	2.8	43
100	Electron Transfer from the Nitrogenase Iron Protein to the [8Fe-(7/8)S] Clusters of the Molybdenumâˆ’Iron Proteinâ€. Biochemistry, 1996, 35, 16770-16776.	1.2	42
101	Negative cooperativity in the nitrogenase Fe protein electron delivery cycle. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E5783-E5791.	3.3	42
102	Photoinduced Reductive Elimination of H₂ from the Nitrogenase Dihydride (Janus) State Involves a FeMo-cofactor-H₂ Intermediate. Inorganic Chemistry, 2017, 56, 2233-2240.	1.9	42
103	Molecular and immunological comparison of membrane-bound, H2-oxidizing hydrogenases of Bradyrhizobium japonicum, Alcaligenes eutrophus, Alcaligenes latus, and Azotobacter vinelandii. Journal of Bacteriology, 1985, 163, 15-20.	1.0	42
104	Elucidating the Mechanism of Nucleotide-Dependent Changes in the Redox Potential of the [4Fe-4S] Cluster in Nitrogenase Iron Protein:Â The Role of Phenylalanine 135â€. Biochemistry, 1996, 35, 9424-9434.	1.2	41
105	Electrocatalytic CO2 reduction catalyzed by nitrogenase MoFe and FeFe proteins. Bioelectrochemistry, 2018, 120, 104-109.	2.4	41
106	Immunological and molecular evidence for a membrane-bound, dimeric hydrogenase in Rhodopseudomonas capsulata. BBA - Proteins and Proteomics, 1987, 914, 299-303.	2.1	40
107	Evidence for Electron Transfer-dependent Formation of a Nitrogenase Iron Protein-Molybdenum-Iron Protein Tight Complex. Journal of Biological Chemistry, 1997, 272, 4157-4165.	1.6	40
108	Nitrogenase Reduction of Carbon Disulfide:Â Freeze-Quench EPR and ENDOR Evidence for Three Sequential Intermediates with Cluster-Bound Carbon Moietiesâ€. Biochemistry, 2000, 39, 1114-1119.	1.2	40

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109	A Confirmation of the Quench-Cryoannealing Relaxation Protocol for Identifying Reduction States of Freeze-Trapped Nitrogenase Intermediates. Inorganic Chemistry, 2014, 53, 3688-3693.	1.9	40
110	Fe Protein-Independent Substrate Reduction by Nitrogenase MoFe Protein Variants. Biochemistry, 2015, 54, 2456-2462.	1.2	38
111	Infrared spectroscopy of the nitrogenase MoFe protein under electrochemical control: potential-triggered CO binding. Chemical Science, 2017, 8, 1500-1505.	3.7	38
112	Spectroscopic Description of the E₁ State of Mo Nitrogenase Based on Mo and Fe X-ray Absorption and MÃ¶ssbauer Studies. Inorganic Chemistry, 2019, 58, 12365-12376.	1.9	38
113	A Voltammetric Study of Nitrogenase Catalysis Using Electron Transfer Mediators. ACS Catalysis, 2019, 9, 1366-1372.	5.5	38
114	Proton NMR investigation of the [4Fe-4S]1+ cluster environment of nitrogenase iron protein from Azotobacter vinelandii: defining nucleotide-induced conformational changes. Biochemistry, 1995, 34, 15646-15653.	1.2	37
115	Reduction of Thiocyanate, Cyanate, and Carbon Disulfide by Nitrogenase:â€‰ Kinetic Characterization and EPR Spectroscopic Analysis. Biochemistry, 1997, 36, 8574-8585.	1.2	37
116	Electron Transfer in Nitrogenase Analyzed by Marcus Theory:Â Evidence for Gating by MgATPâ€. Biochemistry, 1998, 37, 399-407.	1.2	37
117	Modulating the Midpoint Potential of the [4Fe-4S] Cluster of the Nitrogenase Fe Protein,. Biochemistry, 2000, 39, 641-648.	1.2	37
118	Mechanism of Mo-Dependent Nitrogenase. Methods in Molecular Biology, 2011, 766, 9-29.	0.4	37
119	Docking of nitrogenase ironâ€•and molybdenumâ€•iron proteins for electron transfer and MgATP hydrolysis: The role of arginine 140 and lysine 143 of the <i>Azotobacter vinelandii</i> iron protein. Protein Science, 1994, 3, 2073-2081.	3.1	36
120	A substrate channel in the nitrogenase MoFe protein. Journal of Biological Inorganic Chemistry, 2009, 14, 1015-1022.	1.1	36
121	Establishing a Thermodynamic Landscape for the Active Site of Mo-Dependent Nitrogenase. Journal of the American Chemical Society, 2019, 141, 17150-17157.	6.6	36
122	Stereospecificity of Acetylene Reduction Catalyzed by Nitrogenase. Journal of the American Chemical Society, 2001, 123, 1822-1827.	6.6	35
123	Sequential and differential interaction of assembly factors during nitrogenase MoFe protein maturation. Journal of Biological Chemistry, 2018, 293, 9812-9823.	1.6	34
124	A Conformational Mimic of the MgATP-Bound â€œOn Stateâ€•of the Nitrogenase Iron Protein,. Biochemistry, 2004, 43, 1787-1797.	1.2	33
125	Nitrite and Hydroxylamine as Nitrogenase Substrates: Mechanistic Implications for the Pathway of N2 Reduction. Journal of the American Chemical Society, 2014, 136, 12776-12783.	6.6	33
126	Defining Intermediates of Nitrogenase MoFe Protein during N₂ Reduction under Photochemical Electron Delivery from CdS Quantum Dots. Journal of the American Chemical Society, 2020, 142, 14324-14330.	6.6	32

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127	Electron Redistribution within the Nitrogenase Active Site FeMo-Cofactor During Reductive Elimination of H₂ to Achieve Nâ‰¡N Triple-Bond Activation. Journal of the American Chemical Society, 2020, 142, 21679-21690.	6.6	32
128	Evidence for a Central Role of Lysine 15 of Azotobacter vinelandii Nitrogenase Iron Protein in Nucleotide Binding and Protein Conformational Changes. Journal of Biological Chemistry, 1995, 270, 13112-13117.	1.6	31
129	Hydride Conformers of the Nitrogenase FeMo-cofactor Two-Electron Reduced State E₂(2H), Assigned Using Cryogenic Intra Electron Paramagnetic Resonance Cavity Photolysis. Inorganic Chemistry, 2018, 57, 6847-6852.	1.9	29
130	Comment on â€œStructural evidence for a dynamic metallocofactor during N ₂ reduction by Mo-nitrogenaseâ€ Science, 2021, 371, .	6.0	29
131	Substrate Channel in Nitrogenase Revealed by a Molecular Dynamics Approach. Biochemistry, 2014, 53, 2278-2285.	1.2	28
132	Kinetic and spectroscopic analysis of the inactivating effects of nitric oxide on the individual components of Azotobacter vinelandii nitrogenase. Biochemistry, 1992, 31, 2947-2955.	1.2	26
133	The NifZ accessory protein has an equivalent function in maturation of both nitrogenase MoFe protein P-clusters. Journal of Biological Chemistry, 2019, 294, 6204-6213.	1.6	26
134	Steric Control of the Hiâ€CO MoFe Nitrogenase Complex Revealed by Stoppedâ€Flow Infrared Spectroscopy. Angewandte Chemie - International Edition, 2011, 50, 272-275.	7.2	25
135	Phototrophic N2 and CO2 Fixation Using a Rhodopseudomonas palustris-H2 Mediated Electrochemical System With Infrared Photons. Frontiers in Microbiology, 2019, 10, 1817.	1.5	25
136	Use of Stopped-Flow Spectrophotometry to Establish Midpoint Potentials for Redox Proteins. Analytical Biochemistry, 2000, 287, 118-125.	1.1	24
137	Insights into the role of nucleotide-dependent conformational change in nitrogenase catalysis: Structural characterization of the nitrogenase Fe protein Leu127 deletion variant with bound MgATP. Journal of Inorganic Biochemistry, 2006, 100, 1041-1052.	1.5	23
138	Excitation-Rate Determines Product Stoichiometry in Photochemical Ammonia Production by CdS Quantum Dot-Nitrogenase MoFe Protein Complexes. ACS Catalysis, 2020, 10, 11147-11152.	5.5	23
139	Two-step process for production of biodiesel blends from oleaginous yeast and microalgae. Fuel, 2014, 137, 269-276.	3.4	22
140	Entropies of Redox Reactions between Proteins and Mediators: The Temperature Dependence of Reversible Electrode Potentials in Aqueous Buffers. Analytical Biochemistry, 1997, 250, 196-202.	1.1	21
141	Thermodynamics of nucleotide interactions with the Azotobacter vinelandii nitrogenase iron protein. BBA - Proteins and Proteomics, 1999, 1429, 411-421.	2.1	21
142	Hydrolysis of Nucleoside Triphosphates Other than ATP by Nitrogenase. Journal of Biological Chemistry, 2000, 275, 6214-6219.	1.6	21
143	Unraveling the interactions of the physiological reductant flavodoxin with the different conformations of the Fe protein in the nitrogenase cycle. Journal of Biological Chemistry, 2017, 292, 15661-15669.	1.6	21
144	Structural characterization of the nitrogenase molybdenum-iron protein with the substrate acetylene trapped near the active site. Journal of Inorganic Biochemistry, 2018, 180, 129-134.	1.5	21

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145	Oxygen effects on the nickel- and iron-containing hydrogenase from Azotobacter vinelandii. Biochemistry, 1989, 28, 1588-1596.	1.2	20
146	Evidence That MgATP Accelerates Primary Electron Transfer in aClostridium pasteurianum Fe Protein-Azotobacter vinelandii MoFe Protein Nitrogenase Tight Complex. Journal of Biological Chemistry, 1999, 274, 17593-17598.	1.6	20
147	Improving energetics of triacylglyceride extraction from wet oleaginous microbes. Bioresource Technology, 2014, 167, 416-424.	4.8	19
148	A Mediated Thin-Layer Voltammetry Method for the Study of Redox Protein Electrochemistry. Analytical Biochemistry, 1997, 247, 152-157.	1.1	18
149	CO as a substrate and inhibitor of H+ reduction for the Mo-, V-, and Fe-nitrogenase isozymes. Journal of Inorganic Biochemistry, 2020, 213, 111278.	1.5	18
150	Specificity of NifEN and VnfEN for the Assembly of Nitrogenase Active Site Cofactors in Azotobacter vinelandii. MBio, 2021, 12, e0156821.	1.8	18
151	The Nitrogenase Regulatory Enzyme Dinitrogenase Reductase ADP-Ribosyltransferase (DraT) Is Activated by Direct Interaction with the Signal Transduction Protein GlnB. Journal of Bacteriology, 2013, 195, 279-286.	1.0	17
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