Dennis R Dean

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	A conformational role for NifW in the maturation of molybdenum nitrogenase P-cluster. Chemical Science, 2022, 13, 3489-3500.	7.4	7
2	The One-Electron Reduced Active-Site FeFe-Cofactor of Fe-Nitrogenase Contains a Hydride Bound to a Formally Oxidized Metal-Ion Core. Inorganic Chemistry, 2022, 61, 5459-5464.	4.0	12
3	<scp>AnfO</scp> controls fidelity of nitrogenase <scp>FeFe</scp> protein maturation by preventing misincorporation of <scp>FeV</scp> â€cofactor. Molecular Microbiology, 2022, 117, 1080-1088.	2.5	6
4	The electronic structure of FeV-cofactor in vanadium-dependent nitrogenase. Chemical Science, 2021, 12, 6913-6922.	7.4	17
5	Comment on "Structural evidence for a dynamic metallocofactor during N ₂ reduction by Mo-nitrogenase― Science, 2021, 371, .	12.6	29
6	Exploring the Role of the Central Carbide of the Nitrogenase Active-Site FeMo-cofactor through Targeted ¹³ C Labeling and ENDOR Spectroscopy. Journal of the American Chemical Society, 2021, 143, 9183-9190.	13.7	13
7	Specificity of NifEN and VnfEN for the Assembly of Nitrogenase Active Site Cofactors in Azotobacter vinelandii. MBio, 2021, 12, e0156821.	4.1	18
8	CO as a substrate and inhibitor of H+ reduction for the Mo-, V-, and Fe-nitrogenase isozymes. Journal of Inorganic Biochemistry, 2020, 213, 111278.	3.5	18
9	Electron Redistribution within the Nitrogenase Active Site FeMo-Cofactor During Reductive Elimination of H ₂ to Achieve N≡N Triple-Bond Activation. Journal of the American Chemical Society, 2020, 142, 21679-21690.	13.7	32
10	Reduction of Substrates by Nitrogenases. Chemical Reviews, 2020, 120, 5082-5106.	47.7	234
11	Mo-, V-, and Fe-Nitrogenases Use a Universal Eight-Electron Reductive-Elimination Mechanism To Achieve N ₂ Reduction. Biochemistry, 2019, 58, 3293-3301.	2.5	99
12	Time-Resolved EPR Study of H ₂ Reductive Elimination from the Photoexcited Nitrogenase Janus E ₄ (4H) Intermediate. Journal of Physical Chemistry B, 2019, 123, 8823-8828.	2.6	12
13	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.	3.4	26
14	Biosynthesis of the nitrogenase active-site cofactor precursor NifB-co in <i>Saccharomyces cerevisiae</i> . Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 25078-25086.	7.1	36
15	Mechanism of N ₂ Reduction Catalyzed by Fe-Nitrogenase Involves Reductive Elimination of H ₂ . Biochemistry, 2018, 57, 701-710.	2.5	80
16	Hydride Conformers of the Nitrogenase FeMo-cofactor Two-Electron Reduced State E ₂ (2H), Assigned Using Cryogenic Intra Electron Paramagnetic Resonance Cavity Photolysis. Inorganic Chemistry, 2018, 57, 6847-6852.	4.0	29
17	Electrocatalytic CO2 reduction catalyzed by nitrogenase MoFe and FeFe proteins. Bioelectrochemistry, 2018, 120, 104-109.	4.6	41
18	Application of affinity purification methods for analysis of the nitrogenase system from Azotobacter vinelandii. Methods in Enzymology, 2018, 613, 231-255.	1.0	13

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19	Kinetic Understanding of N ₂ Reduction versus H ₂ Evolution at the E ₄ (4H) Janus State in the Three Nitrogenases. Biochemistry, 2018, 57, 5706-5714.	2.5	44
20	Sequential and differential interaction of assembly factors during nitrogenase MoFe protein maturation. Journal of Biological Chemistry, 2018, 293, 9812-9823.	3.4	34
21	Energy Transduction in Nitrogenase. Accounts of Chemical Research, 2018, 51, 2179-2186.	15.6	101
22	Keeping the nitrogen-fixation dream alive. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 3009-3011.	7.1	82
23	Photoinduced Reductive Elimination of H ₂ from the Nitrogenase Dihydride (Janus) State Involves a FeMo-cofactor-H ₂ Intermediate. Inorganic Chemistry, 2017, 56, 2233-2240.	4.0	42
24	Mechanism of Nitrogenase H ₂ Formation by Metal-Hydride Protonation Probed by Mediated Electrocatalysis and H/D Isotope Effects. Journal of the American Chemical Society, 2017, 139, 13518-13524.	13.7	51
25	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.	7.1	42
26	Exploring Electron/Proton Transfer and Conformational Changes in the Nitrogenase MoFe Protein and FeMo ofactor Through Cryoreduction/EPR Measurements. Israel Journal of Chemistry, 2016, 56, 841-851.	2.3	13
27	CO ₂ Reduction Catalyzed by Nitrogenase: Pathways to Formate, Carbon Monoxide, and Methane. Inorganic Chemistry, 2016, 55, 8321-8330.	4.0	47
28	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.	7.1	74
29	Reductive Elimination of H ₂ Activates Nitrogenase to Reduce the N≡N Triple Bond: Characterization of the E ₄ (4H) Janus Intermediate in Wild-Type Enzyme. Journal of the American Chemical Society, 2016, 138, 10674-10683.	13.7	131
30	Nitrogenase bioelectrocatalysis: heterogeneous ammonia and hydrogen production by MoFe protein. Energy and Environmental Science, 2016, 9, 2550-2554.	30.8	187
31	Evidence That the P _i Release Event Is the Rate-Limiting Step in the Nitrogenase Catalytic Cycle. Biochemistry, 2016, 55, 3625-3635.	2.5	95
32	Reversible Photoinduced Reductive Elimination of H ₂ from the Nitrogenase Dihydride State, the E ₄ (4H) Janus Intermediate. Journal of the American Chemical Society, 2016, 138, 1320-1327.	13.7	60
33	Trading Places—Switching Frataxin Function by a Single Amino Acid Substitution within the [Fe-S] Cluster Assembly Scaffold. PLoS Genetics, 2015, 11, e1005192.	3.5	2
34	Identification of a Key Catalytic Intermediate Demonstrates That Nitrogenase Is Activated by the Reversible Exchange of N ₂ for H ₂ . Journal of the American Chemical Society, 2015, 137, 3610-3615.	13.7	99
35	Fe Protein-Independent Substrate Reduction by Nitrogenase MoFe Protein Variants. Biochemistry, 2015, 54, 2456-2462.	2.5	38
36	Mechanism of Nitrogen Fixation by Nitrogenase: The Next Stage. Chemical Reviews, 2014, 114, 4041-4062.	47.7	1,379

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37	Nitrite and Hydroxylamine as Nitrogenase Substrates: Mechanistic Implications for the Pathway of N2 Reduction. Journal of the American Chemical Society, 2014, 136, 12776-12783.	13.7	33
38	A Confirmation of the Quench-Cryoannealing Relaxation Protocol for Identifying Reduction States of Freeze-Trapped Nitrogenase Intermediates. Inorganic Chemistry, 2014, 53, 3688-3693.	4.0	40
39	Nitrogenase: A Draft Mechanism. Accounts of Chemical Research, 2013, 46, 587-595.	15.6	328
40	Nitrogenase reduction of carbon-containing compounds. Biochimica Et Biophysica Acta - Bioenergetics, 2013, 1827, 1102-1111.	1.0	91
41	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.	7.1	98
42	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.	7.1	103
43	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.	7.1	59
44	Temperature Invariance of the Nitrogenase Electron Transfer Mechanism. Biochemistry, 2012, 51, 8391-8398.	2.5	12
45	Electron transfer in nitrogenase catalysis. Current Opinion in Chemical Biology, 2012, 16, 19-25.	6.1	105
46	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.	3.5	50
47	Electron Transfer within Nitrogenase: Evidence for a Deficit-Spending Mechanism. Biochemistry, 2011, 50, 9255-9263.	2.5	117
48	⁵⁷ Fe ENDOR Spectroscopy and â€~Electron Inventory' Analysis of the Nitrogenase E ₄ Intermediate Suggest the Metal-Ion Core of FeMo-Cofactor Cycles Through Only One Redox Couple. Journal of the American Chemical Society, 2011, 133, 17329-17340.	13.7	75
49	Transcriptional Profiling of Nitrogen Fixation in Azotobacter vinelandii. Journal of Bacteriology, 2011, 193, 4477-4486.	2.2	99
50	Coâ€ordination and fineâ€ŧuning of nitrogen fixation in <i>Azotobacter vinelandii</i> . Molecular Microbiology, 2011, 79, 1132-1135.	2.5	21
51	ENDOR/HYSCORE Studies of the Common Intermediate Trapped during Nitrogenase Reduction of N ₂ H ₂ A ₂ H, and N ₂ H ₄ Support an Alternating Reaction Pathway for N ₂ Reduction. Journal of the American Chemical Society. 2011. 133. 11655-11664.	13.7	83
52	Steric Control of the Hi O MoFe Nitrogenase Complex Revealed by Stoppedâ€Flow Infrared Spectroscopy. Angewandte Chemie - International Edition, 2011, 50, 272-275.	13.8	25
53	Molybdenum Nitrogenase Catalyzes the Reduction and Coupling of CO to Form Hydrocarbons*. Journal of Biological Chemistry, 2011, 286, 19417-19421.	3.4	99
54	Is Mo Involved in Hydride Binding by the Four-Electron Reduced (E ₄) Intermediate of the Nitrogenase MoFe Protein?. Journal of the American Chemical Society, 2010, 132, 2526-2527.	13.7	79

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55	Genome Sequence of <i>Azotobacter vinelandii</i> , an Obligate Aerobe Specialized To Support Diverse Anaerobic Metabolic Processes. Journal of Bacteriology, 2009, 191, 4534-4545.	2.2	265
56	A substrate channel in the nitrogenase MoFe protein. Journal of Biological Inorganic Chemistry, 2009, 14, 1015-1022.	2.6	36
57	Trapping an Intermediate of Dinitrogen (N ₂) Reduction on Nitrogenase. Biochemistry, 2009, 48, 9094-9102.	2.5	66
58	Mechanism of Mo-Dependent Nitrogenase. Annual Review of Biochemistry, 2009, 78, 701-722.	11.1	561
59	Climbing Nitrogenase: Toward a Mechanism of Enzymatic Nitrogen Fixation. Accounts of Chemical Research, 2009, 42, 609-619.	15.6	336
60	Controlled Expression of nif and isc Iron-Sulfur Protein Maturation Components Reveals Target Specificity and Limited Functional Replacement between the Two Systems. Journal of Bacteriology, 2007, 189, 2854-2862.	2.2	76
61	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.	7.1	113
62	Diazene (HNNH) Is a Substrate for Nitrogenase: Insights into the Pathway of N2Reductionâ€. Biochemistry, 2007, 46, 6784-6794.	2.5	106
63	In Vitro Activation of Apo-Aconitase Using a [4Fe-4S] Cluster-Loaded Form of the IscU [Feâ^'S] Cluster Scaffolding Proteinâ€. Biochemistry, 2007, 46, 6812-6821.	2.5	101
64	Testing if the Interstitial Atom, X , of the Nitrogenase Molybdenumâ^'Iron Cofactor Is N or C: ENDOR, ESEEM, and DFT Studies of the <i>S</i> = ³ / ₂ Resting State in Multiple Environments. Inorganic Chemistry, 2007, 46, 11437-11449.	4.0	89
65	NifX and NifEN exchange NifB cofactor and the VK-cluster, a newly isolated intermediate of the iron-molybdenum cofactor biosynthetic pathway. Molecular Microbiology, 2007, 63, 177-192.	2.5	63
66	Alkyne substrate interaction within the nitrogenase MoFe protein. Journal of Inorganic Biochemistry, 2007, 101, 1642-1648.	3.5	50
67	Breaking the N2 triple bond: insights into the nitrogenase mechanism. Dalton Transactions, 2006, , 2277.	3.3	131
68	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.	7.1	84
69	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.	13.7	196
70	NifS-Mediated Assembly of [4Feâ^'4S] Clusters in the N- and C-Terminal Domains of the NifU Scaffold Protein. Biochemistry, 2005, 44, 12955-12969.	2.5	131
71	Substrate Interactions with the Nitrogenase Active Site. Accounts of Chemical Research, 2005, 38, 208-214.	15.6	199
72	Intermediates Trapped during Nitrogenase Reduction of Nâ‹®N, CH3â^'NNH, and H2Nâ^'NH2. Journal of the American Chemical Society, 2005, 127, 14960-14961.	13.7	122

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73	Trapping a Hydrazine Reduction Intermediate on the Nitrogenase Active Site. Biochemistry, 2005, 44, 8030-8037.	2.5	96
74	Electron Inventory, Kinetic Assignment (En), Structure, and Bonding of Nitrogenase Turnover Intermediates with C2H2and CO. Journal of the American Chemical Society, 2005, 127, 15880-15890.	13.7	65
75	Substrate Interaction at an Iron-Sulfur Face of the FeMo-cofactor during Nitrogenase Catalysis. Journal of Biological Chemistry, 2004, 279, 53621-53624.	3.4	137
76	Localization of a Catalytic Intermediate Bound to the FeMo-cofactor of Nitrogenase. Journal of Biological Chemistry, 2004, 279, 34770-34775.	3.4	63
77	Iron-Sulfur Cluster Assembly. Journal of Biological Chemistry, 2004, 279, 19705-19711.	3.4	125
78	Substrate Interactions with Nitrogenase:  Fe versus Mo. Biochemistry, 2004, 43, 1401-1409.	2.5	183
79	An Organometallic Intermediate during Alkyne Reduction by Nitrogenase. Journal of the American Chemical Society, 2004, 126, 9563-9569.	13.7	116
80	Formation of iron–sulfur clusters in bacteria: an emerging field in bioinorganic chemistry. Current Opinion in Chemical Biology, 2003, 7, 166-173.	6.1	217
81	Localization of a Substrate Binding Site on the FeMo-Cofactor in Nitrogenase:Â Trapping Propargyl Alcohol with an α-70-Substituted MoFe Proteinâ€. Biochemistry, 2003, 42, 9102-9109.	2.5	93
82	VnfY Is Required for Full Activity of the Vanadium-Containing Dinitrogenase in Azotobacter vinelandii. Journal of Bacteriology, 2003, 185, 2383-2386.	2.2	25
83	Q-Band ENDOR Studies of the Nitrogenase MoFe Protein under Turnover Conditions. ACS Symposium Series, 2003, , 150-178.	0.5	7
84	Reduction of short chain alkynes by a nitrogenase α-70Ala-substituted MoFe proteinBased on the presentation given at Dalton Discussion No. 4, 10–13th January 2002, Kloster Banz, Germany.ÂResearch supported by National Institutes of Health Grant R01-GM59087 Dalton Transactions RSC, 2002, , 802-807	2.3	43
85	IscA, an Alternate Scaffold for Feâ^'S Cluster Biosynthesis. Biochemistry, 2001, 40, 14069-14080.	2.5	233
86	Stereospecificity of Acetylene Reduction Catalyzed by Nitrogenase. Journal of the American Chemical Society, 2001, 123, 1822-1827.	13.7	35
87	Interaction of Acetylene and Cyanide with the Resting State of Nitrogenase α-96-Substituted MoFe Proteins. Biochemistry, 2001, 40, 13816-13825.	2.5	45
88	Sulfur Transfer from IscS to IscU:Â The First Step in Ironâ^'Sulfur Cluster Biosynthesis. Journal of the American Chemical Society, 2001, 123, 11103-11104.	13.7	179
89	Mechanistic Features and Structure of the Nitrogenase α-Gln195MoFe Proteinâ€,‡. Biochemistry, 2001, 40, 1540-1549.	2.5	77
90	Competitive Substrate and Inhibitor Interactions at the Physiologically Relevant Active Site of Nitrogenase. Journal of Biological Chemistry, 2000, 275, 36104-36107.	3.4	58

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91	Isolation and Characterization of an Acetylene-resistant Nitrogenase. Journal of Biological Chemistry, 2000, 275, 11459-11464.	3.4	69
92	Characterization of an Intermediate in the Reduction of Acetylene by the Nitrogenase α-Gln195MoFe Protein by Q-band EPR and13C,1H ENDOR. Journal of the American Chemical Society, 2000, 122, 5582-5587.	13.7	50
93	Construction and Characterization of a Heterodimeric Iron Protein:Â Defining Roles for Adenosine Triphosphate in Nitrogenase Catalysisâ€. Biochemistry, 2000, 39, 7221-7228.	2.5	10
94	IscU as a Scaffold for Ironâ^'Sulfur Cluster Biosynthesis:Â Sequential Assembly of [2Fe-2S] and [4Fe-4S] Clusters in IscUâ€. Biochemistry, 2000, 39, 7856-7862.	2.5	419
95	Role of the IscU Protein in Ironâ^'Sulfur Cluster Biosynthesis:Â IscS-mediated Assembly of a [Fe2S2] Cluster in IscU. Journal of the American Chemical Society, 2000, 122, 2136-2137.	13.7	121
96	Detection of a New Radical and FeMo-Cofactor EPR Signal during Acetylene Reduction by the α-H195Q Mutant of Nitrogenase. Journal of the American Chemical Society, 1999, 121, 9457-9458.	13.7	28
97	The Azotobacter vinelandii NifEN Complex Contains Two Identical [4Fe-4S] Clusters. Biochemistry, 1998, 37, 10420-10428.	2.5	80
98	Evidence for Coupled Electron and Proton Transfer in the [8Fe-7S] Cluster of Nitrogenaseâ€. Biochemistry, 1998, 37, 11376-11384.	2.5	73
99	Catalytic and Biophysical Properties of a Nitrogenase Apo-MoFe Protein Produced by anifB-Deletion Mutant ofAzotobactervinelandiiâ€. Biochemistry, 1998, 37, 12611-12623.	2.5	192
100	Role of Nucleotides in Nitrogenase Catalysis. Accounts of Chemical Research, 1997, 30, 260-266.	15.6	117
101	Evidence for Multiple Substrate-Reduction Sites and Distinct Inhibitor-Binding Sites from an AlteredAzotobacter vinelandiiNitrogenase MoFe Proteinâ€. Biochemistry, 1997, 36, 4884-4894.	2.5	60
102	Nitrogenase iron-molybdenum cofactor binding site: Protein conformational changes associated with cofactor binding. Tetrahedron, 1997, 53, 11971-11984.	1.9	12
103	Involvement of the P Cluster in Intramolecular Electron Transfer within the Nitrogenase MoFe Protein. Journal of Biological Chemistry, 1995, 270, 27007-27013.	3.4	70
104	Characterization of the \hat{I}^3 Protein and Its Involvement in the Metallocluster Assembly and Maturation of Dinitrogenase from Azotobacter vinelandii. Journal of Biological Chemistry, 1995, 270, 24745-24752.	3.4	70
105	Role of the MoFe Protein .alphaSubunit Histidine-195 Residue in FeMo-cofactor Binding and Nitrogenase Catalysis. Biochemistry, 1995, 34, 2798-2808.	2.5	156
106	Mechanism for the Desulfurization of L-Cysteine Catalyzed by the nifS Gene Product. Biochemistry, 1994, 33, 4714-4720.	2.5	382
107	nifU Gene Product from Azotobacter vinelandii Is a Homodimer That Contains Two Identical [2Fe-2S] Clusters. Biochemistry, 1994, 33, 13455-13463.	2.5	147
108	Role of the Iron—Molybdenum Cofactor Polypeptide Environment in Azotobacter vinelandii Molybdenum—Nitrogenase Catalysis. ACS Symposium Series, 1993, , 216-230.	0.5	8

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109	The nifU, nifS and nifV gene products are required for activity of all three nitrogenases of Azotobacter vinelandii. Molecular Genetics and Genomics, 1992, 231, 494-498.	2.4	120
110	Role for the nitrogenase MoFe protein α-subunit in FeMo-cofactor binding and catalysis. Nature, 1990, 343, 188-190.	27.8	130
111	Biogenesis of Molybdenum Cofactors. Critical Reviews in Microbiology, 1990, 17, 169-188.	6.1	56
112	Biochemical and genetic analysis of the nifUSVWZM cluster from Azotobacter vinelandii. Molecular Genetics and Genomics, 1989, 219, 49-57.	2.4	279
113	Nitrogen Fixation byAzotobacter vinelandiiStrains Having Deletions in Structural Genes for Nitrogenase. Science, 1986, 232, 92-94.	12.6	137