Aimin Liu

List of Publications by Year
in descending order

104 papers	3,204 citations	136950 32 h-index	189892 50 g-index
110 all docs	110 docs citations	110 times ranked	3193 citing authors

#	Article	IF	Citations
1	What is the tryptophan kynurenine pathway and why is it important to neurotherapeutics?. Expert Review of Neurotherapeutics, 2015, 15, 719-721.	2.8	128
2	MauG, a Novel Diheme Protein Required for Tryptophan Tryptophylquinone Biogenesis. Biochemistry, 2003, 42, 7318-7325.	2.5	123
3	O2- and Î±-Ketoglutarate-Dependent Tyrosyl Radical Formation in TauD, an Î±-Keto Acid-Dependent Non-Heme Iron Dioxygenaseâ€. Biochemistry, 2003, 42, 1854-1862.	2.5	110
4	Alternative Reactivity of an Î±-Ketoglutarate-Dependent Iron(II) Oxygenase:Â Enzyme Self-Hydroxylation. Journal of the American Chemical Society, 2001, 123, 5126-5127.	13.7	94
5	Pirin is an iron-dependent redox regulator of NF-Îº B. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 9722-9727.	7.1	91
6	A catalytic di-heme <i>bis</i> -Fe(IV) intermediate, alternative to an Fe(IV)=O porphyrin radical. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 8597-8600.	7.1	89
7	Decarboxylation mechanisms in biological system. Bioorganic Chemistry, 2012, 43, 2-14.	4.1	88
8	Yeast ribonucleotide reductase has a heterodimeric iron-radical-containing subunit. Proceedings of the National Academy of Sciences of the United States of America, 2000, 97, 2474-2479.	7.1	84
9	Oxygen activation by mononuclear nonheme iron dioxygenases involved in the degradation of aromatics. Journal of Biological Inorganic Chemistry, 2017, 22, 395-405.	2.6	80
10	Control of carotenoid biosynthesis through a heme-based cis-trans isomerase. Nature Chemical Biology, 2015, 11, 598-605.	8.0	72
11	Enzymatic Mechanism of Fe-Only Hydrogenase:Â Density Functional Study on Hâˆ'H Making/Breaking at the Diiron Cluster with Concerted Proton and Electron Transfers. Inorganic Chemistry, 2004, 43, 923-930.	4.0	67
12	Synthesis, Characterisation, and Preliminary In Vitro Studies of Vanadium(IV) Complexes with a Schiff Base and Thiosemicarbazones as Mixed Ligands. European Journal of Inorganic Chemistry, 2012, 2012, 664-677.	2.0	66
13	Mutagenesis of tryptophan199 suggests that hopping is required for MauG-dependent tryptophan tryptophylquinone biosynthesis. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 16956-16961.	7.1	65
14	Tryptophan-mediated charge-resonance stabilization in the <i>bis</i> -Fe(IV) redox state of MauG. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 9639-9644.	7.1	63
15	Carbonâ€"fluorine bond cleavage mediated by metalloenzymes. Chemical Society Reviews, 2020, 49, 4906-4925.	38.1	61
16	The roles of Rhodobacter sphaeroides copper chaperones PCuAC and Sco (PrrC) in the assembly of the copper centers of the aa3-type and the cbb3-type cytochrome c oxidases. Biochimica Et Biophysica Acta - Bioenergetics, 2012, 1817, 955-964.	1.0	57
17	Resonance Raman Studies of the Iron(II)â˘'Î±-Keto Acid Chromophore in Model and Enzyme Complexes. Journal of the American Chemical Society, 2001, 123, 5022-5029.	13.7	55
18	Î±-Amino-Î²-carboxymuconic-Îµ-semialdehyde Decarboxylase (ACMSD) Is a New Member of the Amidohydrolase Superfamily. Biochemistry, 2006, 45, 6628-6634.	2.5	52

#	Article	IF	Citations
19	Diradical intermediate within the context of tryptophan tryptophylquinone biosynthesis. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 4569-4573.	7.1	51
20	The Tyrosyl Free Radical of Recombinant Ribonucleotide Reductase fromMycobacterium tuberculosisIs Located in a Rigid Hydrophobic Pocketâ€,â€¡. Biochemistry, 1998, 37, 16369-16377.	2.5	50
21	The Mechanism of Inactivation of 3-Hydroxyanthranilate-3,4-dioxygenase by 4-Chloro-3-hydroxyanthranilateâ€. Biochemistry, 2005, 44, 7623-7631.	2.5	50
22	Interconversion of two oxidized forms of taurine/Â-ketoglutarate dioxygenase, a non-heme iron hydroxylase: Evidence for bicarbonate binding. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 3790-3795.	7.1	49
23	Transition Metal-Catalyzed Nonoxidative Decarboxylation Reactions. Biochemistry, 2006, 45, 10407-10411.	2.5	48
24	Heme-dependent dioxygenases in tryptophan oxidation. Archives of Biochemistry and Biophysics, 2014, 544, 18-26.	3.0	48
25	Crystal Structure of Î±-Amino-Î²-carboxymuconate-Îµ-semialdehyde Decarboxylase: Insight into the Active Site and Catalytic Mechanism of a Novel Decarboxylation Reaction,. Biochemistry, 2006, 45, 10412-10421.	2.5	47
26	Electron Paramagnetic Resonance Evidence for a Novel Interconversion of [3Fe-4S]+ and [4Fe-4S]+Clusters with Endogenous Iron and Sulfide in Anaerobic Ribonucleotide Reductase Activase in Vitro. Journal of Biological Chemistry, 2000, 275, 12367-12373.	3.4	45
27	Biochemical and Spectroscopic Studies on (S)-2-Hydroxypropylphosphonic Acid Epoxidase:Â A Novel Mononuclear Non-heme Iron Enzymeâ€. Biochemistry, 2003, 42, 11577-11586.	2.5	45
28	The Anaerobic (Class III) Ribonucleotide Reductase fromLactococcus lactis. Journal of Biological Chemistry, 2000, 275, 2463-2471.	3.4	44
29	Enzyme Reactivation by Hydrogen Peroxide in Heme-based Tryptophan Dioxygenase. Journal of Biological Chemistry, 2011, 286, 26541-26554.	3.4	42
30	Kinetic and Spectroscopic Characterization of ACMSD fromPseudomonas fluorescensReveals a Pentacoordinate Mononuclear Metallocofactor. Journal of the American Chemical Society, 2005, 127, 12282-12290.	13.7	37
31	Cleavage of a carbonâ€"fluorine bond by an engineered cysteine dioxygenase. Nature Chemical Biology, 2018, 14, 853-860.	8.0	37
32	A single EFâ€hand isolated from STIM1 forms dimer in the absence and presence of Ca²⁺. FEBS Journal, 2009, 276, 5589-5597.	4.7	33
33	Probing the Cys-Tyr Cofactor Biogenesis in Cysteine Dioxygenase by the Genetic Incorporation of Fluorotyrosine. Biochemistry, 2019, 58, 2218-2227.	2.5	33
34	Mutagenic Analysis of Cox11 of <i>Rhodobacter sphaeroides</i>: Insights into the Assembly of Cu_B of Cytochrome <i>c</i> Oxidase. Biochemistry, 2010, 49, 5651-5661.	2.5	31
35	Heterogeneity of the Local Electrostatic Environment of the Tyrosyl Radical inMycobacterium tuberculosisRibonucleotide Reductase Observed by High-Field Electron Paramagnetic Resonance. Journal of the American Chemical Society, 2000, 122, 1974-1978.	13.7	30
36	Proline 107 Is a Major Determinant in Maintaining the Structure of the Distal Pocket and Reactivity of the High-Spin Heme of MauG. Biochemistry, 2012, 51, 1598-1606.	2.5	30

#	Article	IF	Citations
37	Role of Calcium in Metalloenzymes: Effects of Calcium Removal on the Axial Ligation Geometry and Magnetic Properties of the Catalytic Diheme Center in MauG. Biochemistry, 2012, 51, 1586-1597.	2.5	30
38	Cross-linking of dicyclotyrosine by the cytochrome P450 enzyme CYP121 from Mycobacterium tuberculosis proceeds through a catalytic shunt pathway. Journal of Biological Chemistry, 2017, 292, 13645-13657.	3.4	30
39	Chemical Rescue of the Distal Histidine Mutants of Tryptophan 2,3-Dioxygenase. Journal of the American Chemical Society, 2012, 134, 12209-12218.	13.7	29
40	Sequential Mechanism of Methane Dehydrogenation over Metal (Mo or W) Oxide and Carbide Catalysts. Journal of Physical Chemistry A, 2000, 104, 4505-4513.	2.5	28
41	Determination of the Substrate Binding Mode to the Active Site Iron of (S)-2-Hydroxypropylphosphonic Acid Epoxidase Using 17O-Enriched Substrates and Substrate Analogues. Biochemistry, 2007, 46, 12628-12638.	2.5	28
42	Probing Bisâ€Fe^{IV} MauG: Experimental Evidence for the Longâ€Range Chargeâ€Resonance Model. Angewandte Chemie - International Edition, 2015, 54, 3692-3696.	13.8	28
43	Improved separation and detection of picolinic acid and quinolinic acid by capillary electrophoresis-mass spectrometry: Application to analysis of human cerebrospinal fluid. Journal of Chromatography A, 2013, 1316, 147-153.	3.7	27
44	Cofactor Biogenesis in Cysteamine Dioxygenase: Câˆ’F Bond Cleavage with Genetically Incorporated Unnatural Tyrosine. Angewandte Chemie - International Edition, 2018, 57, 8149-8153.	13.8	26
45	Stepwise O-Atom Transfer in Heme-Based Tryptophan Dioxygenase: Role of Substrate Ammonium in Epoxide Ring Opening. Journal of the American Chemical Society, 2018, 140, 4372-4379.	13.7	24
46	Reassignment of the human aldehyde dehydrogenase ALDH8A1 (ALDH12) to the kynurenine pathway in tryptophan catabolism. Journal of Biological Chemistry, 2018, 293, 9594-9603.	3.4	24
47	An unexpected copper catalyzed â€˜reductionâ€™ of an arylazide to amine through the formation of a nitrene intermediate. Tetrahedron, 2013, 69, 5079-5085.	1.9	23
48	Purification and Characterization of the Epoxidase Catalyzing the Formation of Fosfomycin from <i>Pseudomonas syringae</i>. Biochemistry, 2008, 47, 8726-8735.	2.5	22
49	Evidence for a Dual Role of an Active Site Histidine in Î±-Amino-Î²-carboxymuconate-Îµ-semialdehyde Decarboxylase. Biochemistry, 2012, 51, 5811-5821.	2.5	22
50	Human Î±â€aminoâ€Î²â€carboxymuconateâ€Îµâ€semialdehyde decarboxylase (ACMSD): A structural and mechanistic unveiling. Proteins: Structure, Function and Bioinformatics, 2015, 83, 178-187.	2.6	22
51	An Engineered CuA Amicyanin Capable of Intermolecular Electron Transfer Reactions. Journal of Biological Chemistry, 2003, 278, 47269-47274.	3.4	21
52	Kinetic and Physical Evidence That the Diheme Enzyme MauG Tightly Binds to a Biosynthetic Precursor of Methylamine Dehydrogenase with Incompletely Formed Tryptophan Tryptophylquinone. Biochemistry, 2008, 47, 2908-2912.	2.5	21
53	Heme Iron Nitrosyl Complex of MauG Reveals an Efficient Redox Equilibrium between Hemes with Only One Heme Exclusively Binding Exogenous Ligands. Biochemistry, 2009, 48, 11603-11605.	2.5	21
54	Hypertryptophanemia due to tryptophan 2,3-dioxygenase deficiency. Molecular Genetics and Metabolism, 2017, 120, 317-324.	1.1	21

#	Article	IF	Citations
55	Probing Ligand Exchange in the P450 Enzyme CYP121 from <i>Mycobacterium tuberculosis</i>: Dynamic Equilibrium of the Distal Heme Ligand as a Function of pH and Temperature. Journal of the American Chemical Society, 2017, 139, 17484-17499.	13.7	21
56	Detection of Transient Intermediates in the Metal-Dependent Nonoxidative Decarboxylation Catalyzed by Î±-Amino-Î²-Carboxymuconate-Îµ-Semialdehyde Decarboxylase. Journal of the American Chemical Society, 2007, 129, 9278-9279.	13.7	20
57	EPR and MÃ¶ssbauer Spectroscopy Show Inequivalent Hemes in Tryptophan Dioxygenase. Journal of the American Chemical Society, 2010, 132, 1098-1109.	13.7	20
58	Biocatalytic Carbonâ€"Hydrogen and Carbonâ€"Fluorine Bond Cleavage through Hydroxylation Promoted by a Histidyl-Ligated Heme Enzyme. ACS Catalysis, 2019, 9, 4764-4776.	11.2	20
59	Observing 3-hydroxyanthranilate-3,4-dioxygenase in action through a crystalline lens. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 19720-19730.	7.1	20
60	The Power of Two. Journal of Biological Chemistry, 2013, 288, 30862-30871.	3.4	19
61	Bis-Fe(IV): natureâ€™s sniper for long-range oxidation. Journal of Biological Inorganic Chemistry, 2014, 19, 1057-1067.	2.6	19
62	Characterization of the nonheme iron center of cysteamine dioxygenase and its interaction with substrates. Journal of Biological Chemistry, 2020, 295, 11789-11802.	3.4	19
63	Crystallographic and spectroscopic snapshots reveal a dehydrogenase in action. Nature Communications, 2015, 6, 5935.	12.8	18
64	Defining the Role of the Axial Ligand of the Type 1 Copper Site in Amicyanin by Replacement of Methionine with Leucine. Biochemistry, 2009, 48, 9174-9184.	2.5	17
65	The Tightly Bound Calcium of MauG Is Required for Tryptophan Tryptophylquinone Cofactor Biosynthesis. Biochemistry, 2011, 50, 144-150.	2.5	17
66	An Iron Reservoir to the Catalytic Metal. Journal of Biological Chemistry, 2015, 290, 15621-15634.	3.4	17
67	Substrate-Assisted Hydroxylation and <i>O</i>-Demethylation in the Peroxidase-like Cytochrome P450 Enzyme CYP121. ACS Catalysis, 2020, 10, 1628-1639.	11.2	17
68	Effects of the loss of the axial tyrosine ligand of the lowâ€spin heme of MauG on its physical properties and reactivity. FEBS Letters, 2012, 586, 4339-4343.	2.8	16
69	Backbone Dehydrogenation in Pyrrole-Based Pincer Ligands. Inorganic Chemistry, 2018, 57, 9544-9553.	4.0	16
70	Molecular Rationale for Partitioning between Câ€"H and Câ€"F Bond Activation in Heme-Dependent Tyrosine Hydroxylase. Journal of the American Chemical Society, 2021, 143, 4680-4693.	13.7	16
71	Mutual synergy between catalase and peroxidase activities of the bifunctional enzyme KatG is facilitated by electron hole-hopping within the enzyme. Journal of Biological Chemistry, 2017, 292, 18408-18421.	3.4	15
72	Crystal Structures of L-DOPA Dioxygenase from <i>Streptomyces sclerotialus</i>. Biochemistry, 2019, 58, 5339-5350.	2.5	14

#	Article	IF	Citations
73	Formation of Monofluorinated Radical Cofactor in Galactose Oxidase through Copper-Mediated Câ€"F Bond Scission. Journal of the American Chemical Society, 2020, 142, 18753-18757.	13.7	14
74	New Paramagnetic Species Formed at the Expense of the Transient Tyrosyl Radical in Mutant Protein R2 F208Y ofEscherichia coliRibonucleotide Reductase. Biochemical and Biophysical Research Communications, 1998, 246, 740-745.	2.1	13
75	Reduction of Escherichia coli ribonucleotide reductase subunit R2 with eight water-soluble ferrocene derivatives. Inorganica Chimica Acta, 2002, 337, 83-90.	2.4	13
76	Site-directed mutagenesis and spectroscopic studies of the iron-binding site of (S)-2-hydroxypropylphosphonic acid epoxidase. Archives of Biochemistry and Biophysics, 2005, 442, 82-91.	3.0	13
77	Tryptophan tryptophylquinone biosynthesis: A radical approach to posttranslational modification. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2012, 1824, 1299-1305.	2.3	13
78	Adapting to oxygen: 3-Hydroxyanthrinilate 3,4-dioxygenase employs loop dynamics to accommodate two substrates with disparate polarities. Journal of Biological Chemistry, 2018, 293, 10415-10424.	3.4	13
79	A new regime of heme-dependent aromatic oxygenase superfamily. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	13
80	Substrate radical intermediates in soluble methane monooxygenase. Biochemical and Biophysical Research Communications, 2005, 338, 254-261.	2.1	12
81	Charge Maintenance during Catalysis in Nonheme Iron Oxygenases. ACS Catalysis, 2022, 12, 6191-6208.	11.2	12
82	Kinetic and Spectroscopic Characterization of the Catalytic Ternary Complex of Tryptophan 2,3-Dioxygenase. Biochemistry, 2020, 59, 2813-2822.	2.5	10
83	Capillary electrochromatography-mass spectrometry of kynurenine pathway metabolites. Journal of Chromatography A, 2021, 1651, 462294.	3.7	10
84	Crystal structure of human cysteamine dioxygenase provides a structural rationale for its function as an oxygen sensor. Journal of Biological Chemistry, 2021, 297, 101176.	3.4	10
85	HygY Is a Twitch Radical SAM Epimerase with Latent Dehydrogenase Activity Revealed upon Mutation of a Single Cysteine Residue. Journal of the American Chemical Society, 2021, 143, 15152-15158.	13.7	10
86	Development of a <scp>CZE</scp>â€‹<scp>ESI</scp>â€‹<scp>MS</scp> assay with a sulfonated capillary for profiling picolinic acid and quinolinic acid formation in multienzyme system. Electrophoresis, 2013, 34, 1828-1835.	2.4	9
87	Proline 96 of the Copper Ligand Loop of Amicyanin Regulates Electron Transfer from Methylamine Dehydrogenase by Positioning Other Residues at the Proteinâˆ'Protein Interface. Biochemistry, 2011, 50, 1265-1273.	2.5	7
88	Quaternary structure of Î±-amino-Î²-carboxymuconate-Îµ-semialdehyde decarboxylase (ACMSD) controls its activity. Journal of Biological Chemistry, 2019, 294, 11609-11621.	3.4	7
89	A novel catalytic heme cofactor in SfmD with a single thioether bond and a <i>bis</i>-His ligand set revealed by a <i>de novo</i> crystal structural and spectroscopic study. Chemical Science, 2021, 12, 3984-3998.	7.4	7
90	Heme Binding to HupZ with a C-Terminal Tag from Group A Streptococcus. Molecules, 2021, 26, 549.	3.8	7

#	Article	IF	Citations
91	High-Frequency/High-Field Electron Paramagnetic Resonance and Theoretical Studies of Tryptophan-Based Radicals. Journal of Physical Chemistry A, 2018, 122, 3170-3176.	2.5	6
92	A Pitcher-and-Catcher Mechanism Drives Endogenous Substrate Isomerization by a Dehydrogenase in Kynurenine Metabolism. Journal of Biological Chemistry, 2016, 291, 26252-26261.	3.4	4
93	Heterolytic OO bond cleavage: Functional role of Glu113 during bis-Fe(IV) formation in MauG. Journal of Inorganic Biochemistry, 2017, 167, 60-67.	3.5	4
94	Diflunisal Derivatives as Modulators of ACMS Decarboxylase Targeting the Tryptophanâ€“Kynurenine Pathway. Journal of Medicinal Chemistry, 2021, 64, 797-811.	6.4	4
95	Optimal group symmetric localized molecular orbitals. Theoretica Chimica Acta, 1994, 88, 375-381.	0.8	3
96	Symmetry adaptation of configuration basis in MCSCF method. Theoretica Chimica Acta, 1994, 89, 137-145.	0.8	3
97	EPR evidence of two structurally different diferric sites in Mycobacterium tuberculosis R2-2 ribonucleotide reductase protein. Journal of Inorganic Biochemistry, 2000, 80, 213-218.	3.5	3
98	Chemical reduction of the diferric/radical center in protein R2 from mouse ribonucleotide reductase is independent of the proposed radical transfer pathway. Inorganica Chimica Acta, 2002, 331, 65-72.	2.4	1
99	Cofactor Biogenesis in Cysteamine Dioxygenase: CâF Bond Cleavage with Genetically Incorporated Unnatural Tyrosine. Angewandte Chemie, 2018, 130, 8281-8285.	2.0	1
100	Radical Trapping Study of the Relaxation of bis-Fe(IV) MauG. , 0, , .		1
101	Metalloenzymes involved in carotenoid biosynthesis in plants. Methods in Enzymology, 2022, , 207-222.	1.0	1
102	Extending the Kynurenine Pathway to an Aldehyde Disarming Enzyme: Mechanistic Study of Bacterial AMSDH and Identification of the Correct Human Enzyme. FASEB Journal, 2015, 29, 573.3.	0.5	0
103	Nature's Sniper for Longâ€Range Specific Protein Oxidation. FASEB Journal, 2015, 29, 573.2.	0.5	0
104	Radical Trapping Study of the Relaxation of -Fe(IV) MauG. Reactive Oxygen Species (Apex, N C), 2018, 5, 46-55.	5.4	0