Squire Booker

List of Publications by Year
in descending order

92 papers	4,203 citations	87723 38 h-index	118652 62 g-index
109 all docs	109 docs citations	109 times ranked	2606 citing authors

#	Article	IF	Citations
1	A Radically Different Mechanism for <i>S</i> -Adenosylmethionineâ€"Dependent Methyltransferases. Science, 2011, 332, 604-607.	6.0	230
2	Mechanistic Diversity of Radical S-Adenosylmethionine (SAM)-dependent Methylation. Journal of Biological Chemistry, 2015, 290, 3995-4002.	1.6	199
3	Radical <i>S</i>-Adenosylmethionine Enzymes in Human Health and Disease. Annual Review of Biochemistry, 2016, 85, 485-514.	5.0	186
4	Lipoyl Synthase Requires Two Equivalents ofS-Adenosyl-l-methionine To Synthesize One Equivalent of Lipoic Acidâ€. Biochemistry, 2004, 43, 6378-6386.	1.2	175
5	Structural Basis for Methyl Transfer by a Radical SAM Enzyme. Science, 2011, 332, 1089-1092.	6.0	172
6	Escherichia coliLipoyl Synthase Binds Two Distinct [4Feâˆ'4S] Clusters per Polypeptideâ€. Biochemistry, 2004, 43, 11770-11781.	1.2	133
7	Mechanistic Investigations of Lipoic Acid Biosynthesis inEscherichia coli:Â Both Sulfur Atoms in Lipoic Acid are Contributed by the Same Lipoyl Synthase Polypeptide. Journal of the American Chemical Society, 2005, 127, 2860-2861.	6.6	129
8	Self-sacrifice in radical S-adenosylmethionine proteins. Current Opinion in Chemical Biology, 2007, 11, 543-552.	2.8	109
9	Insight into the Polar Reactivity of the Onium Chalcogen Analogues ofS-Adenosyl-l-methionineâ€. Biochemistry, 2004, 43, 13496-13509.	1.2	106
10	Anaerobic functionalization of unactivated Câ€"H bonds. Current Opinion in Chemical Biology, 2009, 13, 58-73.	2.8	106
11	MÃ¶ssbauer spectroscopy of Fe/S proteins. Biochimica Et Biophysica Acta - Molecular Cell Research, 2015, 1853, 1395-1405.	1.9	102
12	Direct FeS Cluster Involvement in Generation of a Radical in Lysine 2,3-Aminomutaseâ€. Biochemistry, 2000, 39, 15668-15673.	1.2	99
13	Atlas of the Radical SAM Superfamily: Divergent Evolution of Function Using a â€œPlug and Playâ€• Domain. Methods in Enzymology, 2018, 606, 1-71.	0.4	99
14	RlmN and AtsB as Models for the Overproduction and Characterization of Radical SAM Proteins. Methods in Enzymology, 2012, 516, 125-152.	0.4	98
15	Destruction and reformation of an iron-sulfur cluster during catalysis by lipoyl synthase. Science, 2017, 358, 373-377.	6.0	95
16	Radical mechanisms of S-adenosylmethionine-dependent enzymes. Advances in Protein Chemistry, 2001, 58, 1-45.	4.4	93
17	Auxiliary ironâ€"sulfur cofactors in radical SAM enzymes. Biochimica Et Biophysica Acta - Molecular Cell Research, 2015, 1853, 1316-1334.	1.9	93
18	Crystallographic snapshots of sulfur insertion by lipoyl synthase. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 9446-9450.	3.3	89

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19	Consecutive radical <i>S</i> -adenosylmethionine methylations form the ethyl side chain in thienamycin biosynthesis. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 10354-10358.	3.3	77
20	Spectroscopic and Electrochemical Characterization of the Ironâ€“Sulfur and Cobalamin Cofactors of TsrM, an Unusual Radical <i>S</i>-Adenosylmethionine Methylase. Journal of the American Chemical Society, 2016, 138, 3416-3426.	6.6	77
21	Characterization of RimO, a New Member of the Methylthiotransferase Subclass of the Radical SAM Superfamily. Biochemistry, 2009, 48, 10162-10174.	1.2	76
22	A Consensus Mechanism for Radical SAM-Dependent Dehydrogenation? BtrN Contains Two [4Fe-4S] Clusters. Biochemistry, 2010, 49, 3783-3785.	1.2	76
23	Substrate-Triggered Addition of Dioxygen to the Diferrous Cofactor of Aldehyde-Deformylating Oxygenase to Form a Diferric-Peroxide Intermediate. Journal of the American Chemical Society, 2013, 135, 15801-15812.	6.6	68
24	Identification and function of auxiliary ironâ€“sulfur clusters in radical SAM enzymes. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2012, 1824, 1196-1212.	1.1	66
25	Mechanistic and functional versatility of radical SAM enzymes. F1000 Biology Reports, 2010, 2, 52.	4.0	65
26	Crystallographic capture of a radical <i>S</i> -adenosylmethionine enzyme in the act of modifying tRNA. Science, 2016, 352, 309-312.	6.0	63
27	Rapid Reduction of the Diferric-Peroxyhemiacetal Intermediate in Aldehyde-Deformylating Oxygenase by a Cyanobacterial Ferredoxin: Evidence for a Free-Radical Mechanism. Journal of the American Chemical Society, 2015, 137, 11695-11709.	6.6	61
28	Cfr and RlmN Contain a Single [4Fe-4S] Cluster, which Directs Two Distinct Reactivities for <i>S</i>-Adenosylmethionine: Methyl Transfer by S_N2 Displacement and Radical Generation. Journal of the American Chemical Society, 2011, 133, 19586-19589.	6.6	60
29	Enhanced Solubilization of Class B Radical <i>S</i>-Adenosylmethionine Methylases by Improved Cobalamin Uptake in <i>Escherichia coli</i>. Biochemistry, 2018, 57, 1475-1490.	1.2	60
30	Isotope and Elemental Effects Indicate a Rate-Limiting Methyl Transfer as the Initial Step in the Reaction Catalyzed byEscherichiacoliCyclopropane Fatty Acid Synthaseâ€. Biochemistry, 2004, 43, 13510-13524.	1.2	59
31	Escherichia coliQuinolinate Synthetase Does Indeed Harbor a [4Fe-4S] Cluster. Journal of the American Chemical Society, 2005, 127, 7310-7311.	6.6	58
32	Identification of an Intermediate Methyl Carrier in the Radical <i>S</i>-Adenosylmethionine Methylthiotransferases RimO and MiaB. Journal of the American Chemical Society, 2013, 135, 15404-15416.	6.6	55
33	NosN, a Radical <i>S</i>-Adenosylmethionine Methylase, Catalyzes Both C1 Transfer and Formation of the Ester Linkage of the Side-Ring System during the Biosynthesis of Nosiheptide. Journal of the American Chemical Society, 2017, 139, 17438-17445.	6.6	50
34	Evidence for a Catalytically and Kinetically Competent Enzymeâ€“Substrate Cross-Linked Intermediate in Catalysis by Lipoyl Synthase. Biochemistry, 2014, 53, 4557-4572.	1.2	47
35	A substrate radical intermediate in catalysis by the antibiotic resistance protein Cfr. Nature Chemical Biology, 2013, 9, 422-427.	3.9	45
36	Electrochemical Resolution of the [4Fe-4S] Centers of the AdoMet Radical Enzyme BtrN: Evidence of Proton Coupling and an Unusual, Low-Potential Auxiliary Cluster. Journal of the American Chemical Society, 2015, 137, 8664-8667.	6.6	43

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37	Unraveling the Pathway of Lipoic Acid Biosynthesis. Chemistry and Biology, 2004, 11, 10-12.	6.2	42
38	Characterization of a Cross-Linked Proteinâ€"Nucleic Acid Substrate Radical in the Reaction Catalyzed by RlmN. Journal of the American Chemical Society, 2014, 136, 8221-8228.	6.6	42
39	Structural basis for non-radical catalysis by TsrM, a radical SAM methylase. Nature Chemical Biology, 2021, 17, 485-491.	3.9	41
40	Structure of a B12-dependent radical SAM enzyme in carbapenem biosynthesis. Nature, 2022, 602, 343-348.	13.7	36
41	Expression, purification, and physical characterization of Escherichia coli lipoyl(octanoyl)transferase. Protein Expression and Purification, 2005, 39, 269-282.	0.6	35
42	Efficient Delivery of Long-Chain Fatty Aldehydes from the <i>Nostoc punctiforme</i> Acylâ€"Acyl Carrier Protein Reductase to Its Cognate Aldehyde-Deformylating Oxygenase. Biochemistry, 2015, 54, 1006-1015.	1.2	35
43	Methanogenesis marker protein 10 (Mmp10) from Methanosarcina acetivorans is a radical S-adenosylmethionine methylase that unexpectedly requires cobalamin. Journal of Biological Chemistry, 2019, 294, 11712-11725.	1.6	35
44	Efficient methylation of C2 in l-tryptophan by the cobalamin-dependent radical S-adenosylmethionine methylase TsrM requires an unmodified N1 amine. Journal of Biological Chemistry, 2017, 292, 15456-15467.	1.6	33
45	Rerouting the Pathway for the Biosynthesis of the Side Ring System of Nosiheptide: The Roles of NosI, NosJ, and NosK. Journal of the American Chemical Society, 2017, 139, 5896-5905.	6.6	32
46	Stereochemical and Mechanistic Investigation of the Reaction Catalyzed by Fom3 from <i>Streptomyces fradiae</i>, a Cobalamin-Dependent Radical <i>S</i>-Adenosylmethionine Methylase. Biochemistry, 2018, 57, 4972-4984.	1.2	29
47	Characterization of Quinolinate Synthases from <i>Escherichia coli</i>, <i>Mycobacterium tuberculosis</i>, and <i>Pyrococcus horikoshii</i> Indicates That [4Fe-4S] Clusters Are Common Cofactors throughout This Class of Enzymes. Biochemistry, 2008, 47, 10999-11012.	1.2	27
48	Trifluoroselenomethionine: A New Unnatural Amino Acid. ChemBioChem, 2016, 17, 1738-1751.	1.3	27
49	Structural basis for tRNA methylthiolation by the radical SAM enzyme MiaB. Nature, 2021, 597, 566-570.	13.7	25
50	TsrM as a Model for Purifying and Characterizing Cobalamin-Dependent Radical S -Adenosylmethionine Methylases. Methods in Enzymology, 2017, 595, 303-329.	0.4	23
51	Capturing Intermediates in the Reaction Catalyzed by NosN, a Class C Radical <i>S</i>-Adenosylmethionine Methylase Involved in the Biosynthesis of the Nosiheptide Side-Ring System. Journal of the American Chemical Society, 2019, 141, 5788-5797.	6.6	23
52	First Step in Catalysis of the Radical <i>S</i>-Adenosylmethionine Methylthiotransferase MiaB Yields an Intermediate with a [3Fe-4S]⁰-Like Auxiliary Cluster. Journal of the American Chemical Society, 2020, 142, 1911-1924.	6.6	21
53	Radical SAM enzymes and radical enzymology. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2012, 1824, 1151-1153.	1.1	20
54	Ferredoxins as interchangeable redox components in support of MiaB, a radical Sâ€adenosylmethionine methylthiotransferase. Protein Science, 2019, 28, 267-282.	3.1	20

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55	The A-type domain in Escherichia coli NfuA is required for regenerating the auxiliary [4Feâ€“4S] cluster in Escherichia coli lipoyl synthase. Journal of Biological Chemistry, 2019, 294, 1609-1617.	1.6	19
56	Characterization of a Radical Intermediate in Lipoyl Cofactor Biosynthesis. Journal of the American Chemical Society, 2015, 137, 13216-13219.	6.6	17
57	Transformations of the FeS Clusters of the Methylthiotransferases MiaB and RimO, Detected by Direct Electrochemistry. Biochemistry, 2016, 55, 5531-5536.	1.2	16
58	Characterization of Lipoyl Synthase from <i>Mycobacterium tuberculosis</i>. Biochemistry, 2016, 55, 1372-1383.	1.2	16
59	Radical intermediates in the reaction of lysine 2,3-aminomutase. Advances in Free Radical Chemistry, 1999, , 1-43.	0.4	16
60	Structure of Quinolinate Synthase from <i>Pyrococcus horikoshii</i> in the Presence of Its Product, Quinolinic Acid. Journal of the American Chemical Society, 2016, 138, 7224-7227.	6.6	15
61	Biochemical Approaches for Understanding Ironâ€“Sulfur Cluster Regeneration in Escherichia coli Lipoyl Synthase During Catalysis. Methods in Enzymology, 2018, 606, 217-239.	0.4	15
62	Stereochemical Course of the Reaction Catalyzed by RimO, a Radical SAM Methylthiotransferase. Journal of the American Chemical Society, 2016, 138, 2889-2892.	6.6	14
63	Understanding the role of electron donors in the reaction catalyzed by Tsrm, a cobalamin-dependent radical S-adenosylmethionine methylase. Journal of Biological Inorganic Chemistry, 2019, 24, 831-839.	1.1	14
64	Parsing redox potentials of five ferredoxins found within <i>Thermotoga maritima</i>. Protein Science, 2019, 28, 257-266.	3.1	14
65	[FeFe]â€Hydrogenase: Defined Lysateâ€Free Maturation Reveals a Key Role for Lipoylâ€Hâ€Protein in DTMA Ligand Biosynthesis. Angewandte Chemie - International Edition, 2022, 61, .	7.2	13
66	Stuffed Methyltransferase Catalyzes the Penultimate Step of Pyochelin Biosynthesis. Biochemistry, 2019, 58, 665-678.	1.2	10
67	Lipoic Acid Biosynthesis and Enzymology. , 2010, , 181-212.		9
68	Using Peptide Mimics to Study the Biosynthesis of the Side-Ring System of Nosiheptide. Methods in Enzymology, 2018, 606, 241-268.	0.4	9
69	In Vitro Demonstration of Human Lipoyl Synthase Catalytic Activity in the Presence of NFU1. ACS Bio & Med Chem Au, 2022, 2, 456-468.	1.7	9
70	An Unexpected Species Determined by X-ray Crystallography that May Represent an Intermediate in the Reaction Catalyzed by Quinolinate Synthase. Journal of the American Chemical Society, 2019, 141, 14142-14151.	6.6	6
71	Investigation of Solvent Hydron Exchange in the Reaction Catalyzed by the Antibiotic Resistance Protein Cfr. Biochemistry, 2018, 57, 4431-4439.	1.2	5
72	[FeFe]â€Hydrogenase: Defined Lysateâ€Free Maturation Reveals a Key Role for Lipoylâ€Hâ€Protein in DTMA Ligand Biosynthesis. Angewandte Chemie, 2022, 134, .	1.6	5

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73	The Expanding Role of Methyl-Coenzyme M Reductase in the Anaerobic Functionalization of Alkanes. Biochemistry, 2019, 58, 4269-4271.	1.2	4
74	9. The role of iron-sulfur clusters in the biosynthesis of the lipoyl cofactor. , 2014, , 211-238.		3
75	Analysis of RNA Methylation by Phylogenetically Diverse Cfr Radical <i>S</i>-Adenosylmethionine Enzymes Reveals an Iron-Binding Accessory Domain in a Clostridial Enzyme. Biochemistry, 2019, 58, 3169-3184.	1.2	3
76	Characterization of LipS1 and LipS2 from <i>Thermococcus kodakarensis</i>: Proteins Annotated as Biotin Synthases, which Together Catalyze Formation of the Lipoyl Cofactor. ACS Bio & Med Chem Au, 2022, 2, 509-520.	1.7	3
77	A (Re)Discovery of the Fom3 Substrate. Biochemistry, 2018, 57, 891-892.	1.2	1
78	Biochemical Approaches to Probe the Role of the Auxiliary Iron-Sulfur Cluster of Lipoyl Synthase from Mycobacterium Tuberculosis. Methods in Molecular Biology, 2021, 2353, 307-332.	0.4	1
79	Radical S-Adenosylmethionine Methylases. , 2020, , 24-69.		1
80	Welcome to ACS Bio & Med Chem Au. ACS Bio & Med Chem Au, 0, , .	1.7	0
81	Electrochemical investigation of a radical s adenosylmethionine enzyme: BtrN from Bacillus circulans. FASEB Journal, 2013, 27, .	0.2	0
82	Investigation of the Radical SAM Methylthiotransferase MiaB Reaction Mechanism. FASEB Journal, 2015, 29, 572.28.	0.2	0
83	Identification of an Intermediate Methyl Carrier and the Stereochemical Outcomes of Hâ€atom Abstraction and Methylthiolation by the Radical SAM Enzyme RimO. FASEB Journal, 2015, 29, 573.20.	0.2	0
84	Evidence for the Sacrificial Role of the Auxiliary [4Feâ€4S] Cluster of Lipoyl Synthase. FASEB Journal, 2015, 29, 572.4.	0.2	0
85	Bridging a gap in iron-sulfur cluster assembly. ELife, 2015, 4, .	2.8	0
86	Characterization of A Novel Sâ€adenosylmethionineâ€dependent Methylase by Electron Paramagnetic Resonance and MÃ¶ssbauer Spectroscopies. FASEB Journal, 2018, 32, .	0.2	0
87	Unraveling the Biosynthesis of the Essential Lipoyl Cofactor in Staphylococcus aureus. FASEB Journal, 2019, 33, 781.4.	0.2	0
88	The Biosynthesis of Lipoic Acid. , 2020, , 3-23.		0
89	Structural characterization of cobalamin-dependent radical S-adenosylmethionine methylases. Methods in Enzymology, 2022, , .	0.4	0
90	Using peptide substrate analogs to characterize a radical intermediate in NosN catalysis. Methods in Enzymology, 2022, 666, 469-487.	0.4	0

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91	Happy Birthday <i>ACS Bio & Med Chem Au</i>!. ACS Bio & Med Chem Au, 2022, 2, 1-3.	1.7	0
92	Titelbild: [FeFe]â€Hydrogenase: Defined Lysateâ€Free Maturation Reveals a Key Role for Lipoylâ€Hâ€Protein in DTMA Ligand Biosynthesis (Angew. Chem. 22/2022). Angewandte Chemie, 2022, 134, .	1.6	0