Tadhg P Begley

List of Publications by Year
in descending order

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78 papers	2,677 citations	134610 34 h-index	232693 48 g-index
81 all docs	81 docs citations	81 times ranked	2864 citing authors

#	Article	IF	Citations
1	Trapping and structural characterisation of a covalent intermediate in vitamin B₆ biosynthesis catalysed by the Pdx1 PLP synthase. RSC Chemical Biology, 2022, 3, 227-230.	2.0	0
2	Cysteine Dealkylation in Bacillus subtilis by a Novel Flavin-Dependent Monooxygenase. Biochemistry, 2022, 61, 952-955.	1.2	3
3	Mechanistic Studies on the Single-Turnover Yeast Thiamin Pyrimidine Synthase: Characterization of the Inactive Enzyme. Journal of the American Chemical Society, 2022, 144, 10711-10717.	6.6	1
4	Menaquinone Biosynthesis: New Strategies to Trap Radical Intermediates in the MqnE-Catalyzed Reaction. Biochemistry, 2021, 60, 1642-1646.	1.2	5
5	Menaquinone Biosynthesis: The Mechanism of 5,8-Dihydroxy-2-naphthoate Synthase (MqnD). Biochemistry, 2021, 60, 1947-1951.	1.2	1
6	Radiosynthesis of 5-[18F]Fluoro-1,2,3-triazoles through Aqueous Iodineâ€"[18F]Fluorine Exchange Reaction. Molecules, 2021, 26, 5522.	1.7	3
7	Structural basis for antibiotic action of the B1 antivitamin 2â€²-methoxy-thiamine. Nature Chemical Biology, 2020, 16, 1237-1245.	3.9	13
8	Mechanistic Studies on CysS â€" A Vitamin B₁₂-Dependent Radical SAM Methyltransferase Involved in the Biosynthesis of the tert-Butyl Group of Cystobactamid. Journal of the American Chemical Society, 2020, 142, 9944-9954.	6.6	27
9	Radical SAM Enzyme HydE Generates Adenosylated Fe(I) Intermediates En Route to the [FeFe]-Hydrogenase Catalytic H-Cluster. Journal of the American Chemical Society, 2020, 142, 10841-10848.	6.6	42
10	New Catalytic Motifs in Flavoenzymology. , 2020, , 3-20.		1
11	Trapping and Electron Paramagnetic Resonance Characterization of the 5â€²dAdo^{â€¢} Radical in a Radical S-Adenosyl Methionine Enzyme Reaction with a Non-Native Substrate. ACS Central Science, 2019, 5, 1777-1785.	5.3	49
12	Hexachlorobenzene Catabolism Involves a Nucleophilic Aromatic Substitution and Flavin-N5-Oxide Formation. Biochemistry, 2019, 58, 1181-1183.	1.2	20
13	Flavin-N5-oxide intermediates in dibenzothiophene, uracil, and hexachlorobenzene catabolism. Methods in Enzymology, 2019, 620, 455-468.	0.4	5
14	Menaquinone Biosynthesis: Biochemical and Structural Studies of Chorismate Dehydratase. Biochemistry, 2019, 58, 1837-1840.	1.2	10
15	Antibacterial Strategy against H. pylori: Inhibition of the Radical SAM Enzyme MqnE in Menaquinone Biosynthesis. ACS Medicinal Chemistry Letters, 2019, 10, 363-366.	1.3	16
16	Mechanistic Studies on Tryptophan Lyase (NosL): Identification of Cyanide as a Reaction Product. Journal of the American Chemical Society, 2018, 140, 542-545.	6.6	28
17	Novel enzymology in futalosine-dependent menaquinone biosynthesis. Current Opinion in Chemical Biology, 2018, 47, 134-141.	2.8	31
18	An Aminoimidazole Radical Intermediate in the Anaerobic Biosynthesis of the 5,6-Dimethylbenzimidazole Ligand to Vitamin B12. Journal of the American Chemical Society, 2018, 140, 12798-12807.	6.6	9

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19	Iterative Methylations Resulting in the Biosynthesis of the t -Butyl Group Catalyzed by a B 12 -Dependent Radical SAM Enzyme in Cystobactamid Biosynthesis. Methods in Enzymology, 2018, 606, 199-216.	0.4	9
20	Aminofutalosine Synthase (MqnE): A New Catalytic Motif in Radical SAM Enzymology. Methods in Enzymology, 2018, 606, 179-198.	0.4	9
21	Mechanistic Studies on the Radical SAM Enzyme Tryptophan Lyase (NosL). Methods in Enzymology, 2018, 606, 155-178.	0.4	15
22	Lysine relay mechanism coordinates intermediate transfer in vitamin B6 biosynthesis. Nature Chemical Biology, 2017, 13, 290-294.	3.9	16
23	Origin of a key player in methane biosynthesis. Nature, 2017, 543, 49-50.	13.7	4
24	Biosynthesis of Branched Alkoxy Groups: Iterative Methyl Group Alkylation by a Cobalamin-Dependent Radical SAM Enzyme. Journal of the American Chemical Society, 2017, 139, 1742-1745.	6.6	54
25	Globally Important Haptophyte Algae Use Exogenous Pyrimidine Compounds More Efficiently than Thiamin. MBio, 2017, 8, .	1.8	35
26	Flavin-N5-oxide: A new, catalytic motif in flavoenzymology. Archives of Biochemistry and Biophysics, 2017, 632, 4-10.	1.4	20
27	Biochemical Characterization and Structural Basis of Reactivity and Regioselectivity Differences between Burkholderia thailandensis and Burkholderia glumae 1,6-Didesmethyltoxoflavin N-Methyltransferase. Biochemistry, 2017, 56, 3934-3944.	1.2	4
28	RutA-Catalyzed Oxidative Cleavage of the Uracil Amide Involves Formation of a Flavin-N5-oxide. Biochemistry, 2017, 56, 3708-3709.	1.2	33
29	Aminofutalosine Synthase: Evidence for Captodative and Aryl Radical Intermediates Using Î²-Scission and S_{RN}1 Trapping Reactions. Journal of the American Chemical Society, 2017, 139, 10952-10955.	6.6	35
30	Burkholderia glumae ToxA Is a Dual-Specificity Methyltransferase That Catalyzes the Last Two Steps of Toxoflavin Biosynthesis. Biochemistry, 2016, 55, 2748-2759.	1.2	13
31	Dibenzothiophene Catabolism Proceeds via a Flavin-N5-oxide Intermediate. Journal of the American Chemical Society, 2016, 138, 6424-6426.	6.6	58
32	Identification of the First Riboflavin Catabolic Gene Cluster Isolated from Microbacterium maritypicum G10. Journal of Biological Chemistry, 2016, 291, 23506-23515.	1.6	10
33	Tryptophan Lyase (NosL): A Cornucopia of 5â€²-Deoxyadenosyl Radical Mediated Transformations. Journal of the American Chemical Society, 2016, 138, 16184-16187.	6.6	39
34	A Remarkable Oxidative Cascade That Replaces the Riboflavin C8 Methyl with an Amino Group during Roseoflavin Biosynthesis. Journal of the American Chemical Society, 2016, 138, 8324-8327.	6.6	16
35	Competence of Thiamin Diphosphate-Dependent Enzymes with 2â€²-Methoxythiamin Diphosphate Derived from Bacimethrin, a Naturally Occurring Thiamin Anti-vitamin. Biochemistry, 2016, 55, 1135-1148.	1.2	17
36	Structural Basis for Iron-Mediated Sulfur Transfer in Archael and Yeast Thiazole Synthases. Biochemistry, 2016, 55, 1826-1838.	1.2	24

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37	From Suicide Enzyme to Catalyst: The Iron-Dependent Sulfide Transfer in Methanococcus jannaschii Thiamin Thiazole Biosynthesis. Journal of the American Chemical Society, 2016, 138, 3639-3642.	6.6	39
38	Investigations into the Biosynthesis, Regulation, and Selfâ€Resistance of Toxoflavin in Pseudomonas protegens Pfâ€5. ChemBioChem, 2015, 16, 1782-1790.	1.3	44
39	Radical S-Adenosylmethionine (SAM) Enzymes in Cofactor Biosynthesis: A Treasure Trove of Complex Organic Radical Rearrangement Reactions. Journal of Biological Chemistry, 2015, 290, 3980-3986.	1.6	64
40	Molybdopterin biosynthesisâ€"Mechanistic studies on a novel MoaA catalyzed insertion of a purine carbon into the ribose of GTP. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2015, 1854, 1073-1077.	1.1	5
41	Anaerobic 5-Hydroxybenzimidazole Formation from Aminoimidazole Ribotide: An Unanticipated Intersection of Thiamin and Vitamin B₁₂ Biosynthesis. Journal of the American Chemical Society, 2015, 137, 10444-10447.	6.6	27
42	Tryptophan Lyase (NosL): Mechanistic Insights from Substrate Analogues and Mutagenesis. Biochemistry, 2015, 54, 4767-4769.	1.2	46
43	Biosynthetic Versatility and Coordinated Action of 5â€²-Deoxyadenosyl Radicals in Deazaflavin Biosynthesis. Journal of the American Chemical Society, 2015, 137, 5406-5413.	6.6	40
44	Anaerobic biosynthesis of the lower ligand of vitamin B ₁₂. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 10792-10797.	3.3	91
45	Non-canonical active site architecture of the radical SAM thiamin pyrimidine synthase. Nature Communications, 2015, 6, 6480.	5.8	26
46	Alternatives to vitamin B1 uptake revealed with discovery of riboswitches in multiple marine eukaryotic lineages. ISME Journal, 2014, 8, 2517-2529.	4.4	69
47	Molybdopterin Biosynthesis: Trapping of Intermediates for the MoaA-Catalyzed Reaction Using 2â€²-DeoxyGTP and 2â€²-ChloroGTP as Substrate Analogues.. Journal of the American Chemical Society, 2014, 136, 10609-10614.	6.6	17
48	Discovery of a SAR11 growth requirement for thiaminâ€™s pyrimidine precursor and its distribution in the Sargasso Sea. ISME Journal, 2014, 8, 1727-1738.	4.4	128
49	Menaquinone Biosynthesis: Formation of Aminofutalosine Requires a Unique Radical SAM Enzyme. Journal of the American Chemical Society, 2013, 135, 15318-15321.	6.6	94
50	Catalysis of a New Ribose Carbon-Insertion Reaction by the Molybdenum Cofactor Biosynthetic Enzyme MoaA. Biochemistry, 2013, 52, 1134-1136.	1.2	43
51	In Vitro Reconstitution of the Radical S-Adenosylmethionine Enzyme MqnC Involved in the Biosynthesis of Futalosine-Derived Menaquinone. Biochemistry, 2013, 52, 4592-4594.	1.2	37
52	Thiamin biosynthesis: still yielding fascinating biological chemistry. Biochemical Society Transactions, 2012, 40, 555-560.	1.6	38
53	Pyridoxal phosphate: Biosynthesis and catabolism. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2011, 1814, 1585-1596.	1.1	78
54	Cofactor Catabolism. , 2010, , 649-674.		2

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55	A â€œRadical Danceâ€•in Thiamin Biosynthesis: Mechanistic Analysis of the Bacterial Hydroxymethylpyrimidine Phosphate Synthase. Angewandte Chemie - International Edition, 2010, 49, 8653-8656.	7.2	43
56	Catalysis of a Flavoenzyme-Mediated Amide Hydrolysis. Journal of the American Chemical Society, 2010, 132, 5550-5551.	6.6	42
57	Cofactor biosynthesisâ€”still yielding fascinating new biological chemistry. Current Opinion in Chemical Biology, 2008, 12, 118-125.	2.8	38
58	Cofactor biosynthesis: an organic chemist's treasure trove. Natural Product Reports, 2006, 23, 15.	5.2	61
59	Chemical biology: an educational challenge for chemistry departments. Nature Chemical Biology, 2005, 1, 236-238.	3.9	7
60	Enzymatic reactions involving novel mechanisms of carbanion stabilization. Current Opinion in Chemical Biology, 2004, 8, 508-515.	2.8	50
61	Biosynthesis of the thiamin pyrimidine: the reconstitution of a remarkable rearrangement reaction. Organic and Biomolecular Chemistry, 2004, 2, 2538.	1.5	66
62	Synthesis of32P-labeled intermediates on the purine biosynthetic pathway. Journal of Labelled Compounds and Radiopharmaceuticals, 2002, 45, 1097-1102.	0.5	9
63	Structural Characterization of the Enzymeâ”Substrate, Enzymeâ”Intermediate, and Enzymeâ”Product Complexes of Thiamin Phosphate Synthaseâ€,â€¡. Biochemistry, 2001, 40, 10103-10114.	1.2	47
64	Mechanistic Studies on Phosphopantothenoylcysteine Decarboxylase. Journal of the American Chemical Society, 2001, 123, 6449-6450.	6.6	38
65	Solution structure of ThiS and implications for the evolutionary roots of ubiquitin. Nature Structural Biology, 2001, 8, 47-51.	9.7	90
66	Identification of the Escherichia coliNicotinic Acid Mononucleotide Adenylyltransferase Gene. Journal of Bacteriology, 2000, 182, 4372-4374.	1.0	43
67	Crystal Structure of 4-Methyl-5-Î²-hydroxyethylthiazole Kinase fromBacillus subtilisat 1.5 Ã… Resolutionâ€,â€¡. Biochemistry, 2000, 39, 7868-7877.	1.2	68
68	Î²-Scission of the Nâ”O Bond in Alkyl Hydroxamate Radicals:â€‰ A Fast Radical Trap. Organic Letters, 2000, 2, 1345-1348.	2.4	11
69	Mechanistic Studies on the Repair of a Novel DNA Photolesion:Â The Spore Photoproduct. Organic Letters, 1999, 1, 1065-1066.	2.4	54
70	Crystal Structure of Thiamin Phosphate Synthase from Bacillus subtilis at 1.25 Ã… Resolution,. Biochemistry, 1999, 38, 6460-6470.	1.2	44
71	Efficient sequence analysis of the six gene products (7â€74 kDA) from the escherichia coli thiamin biosynthetic operon by tandem highâ€resolution mass spectrometry. Protein Science, 1998, 7, 1796-1801.	3.1	101
72	Overexpression of recombinant proteins with a Câ€terminal thiocarboxylate: Implications for protein semisynthesis and thiamin biosynthesis. Protein Science, 1998, 7, 1839-1842.	3.1	49

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73	Crystal Structure of Thiaminase-I fromBacillusthiaminolyticusat 2.0 Ã... Resolutionâ€,â€¡. Biochemistry, 1998, 37, 15981-15989.	1.2	39
74	Spore Photoproduct Lyase from Bacillus subtilis Spores Is a Novel Iron-Sulfur DNA Repair Enzyme Which Shares Features with Proteins such as Class III Anaerobic Ribonucleotide Reductases and Pyruvate-Formate Lyases. Journal of Bacteriology, 1998, 180, 4879-4885.	1.0	99
75	Selective Deprotection Oftert-Butyldimethylsilyl Ether With Lithium Bromide And 18-Crown-6. Synthetic Communications, 1997, 27, 2953-2959.	1.1	23
76	Protochlorophyllide Reductase III: Synthesis of a Protochlorophyllide-Dihydroflavin Complex. Photochemistry and Photobiology, 1996, 63, 100-105.	1.3	9
77	Thiaminase I (42 kDa) heterogeneity, sequence refinement, and active site location from high-resolution tandem mass spectrometry. Journal of the American Society for Mass Spectrometry, 1995, 6, 981-984.	1.2	53
78	A New Synthesis of 1-Deoxy-D-threo-2-pentulose, a Biosynthetic Precursor to the Thiazole Moiety of Thiamin. Journal of Carbohydrate Chemistry, 1995, 14, 171-175.	0.4	19