Tina L Amyes

List of Publications by Year
in descending order

57 papers	2,423 citations	185998 28 h-index	205818 48 g-index
57 all docs	57 docs citations	57 times ranked	1655 citing authors

#	Article	IF	Citations
1	Formation and Stability of N-Heterocyclic Carbenes in Water:Â The Carbon Acid pKaof Imidazolium Cations in Aqueous Solution. Journal of the American Chemical Society, 2004, 126, 4366-4374.	6.6	476
2	A role for flexible loops in enzyme catalysis. Current Opinion in Structural Biology, 2010, 20, 702-710.	2.6	149
3	Enzymatic Catalysis of Proton Transfer at Carbon:â€‰ Activation of Triosephosphate Isomerase by Phosphite Dianion. Biochemistry, 2007, 46, 5841-5854.	1.2	96
4	Specificity in Transition State Binding: The Pauling Model Revisited. Biochemistry, 2013, 52, 2021-2035.	1.2	96
5	Activation of Orotidine 5â€˜-Monophosphate Decarboxylase by Phosphite Dianion:Â The Whole Substrate is the Sum of Two Parts. Journal of the American Chemical Society, 2005, 127, 15708-15709.	6.6	92
6	Enzyme architecture: on the importance of being in a protein cage. Current Opinion in Chemical Biology, 2014, 21, 1-10.	2.8	91
7	Formation and Stability of a Vinyl Carbanion at the Active Site of Orotidine 5â€˜-Monophosphate Decarboxylase:â€‰ pK_a of the C-6 Proton of Enzyme-Bound UMP. Journal of the American Chemical Society, 2008, 130, 1574-1575.	6.6	79
8	Contribution of Phosphate Intrinsic Binding Energy to the Enzymatic Rate Acceleration for Triosephosphate Isomerase. Journal of the American Chemical Society, 2001, 123, 11325-11326.	6.6	73
9	A Substrate in Pieces: Allosteric Activation of Glycerol 3-Phosphate Dehydrogenase (NAD⁺) by Phosphite Dianion. Biochemistry, 2008, 47, 4575-4582.	1.2	65
10	What Is the Stabilizing Interaction with Nucleophilic Solvents in the Transition State for Solvolysis of Tertiary Derivatives:â€‰ Nucleophilic Solvent Participation or Nucleophilic Solvation?. Organic Letters, 2001, 3, 2225-2228.	2.4	56
11	Hydron Transfer Catalyzed by Triosephosphate Isomerase. Products of the Direct and Phosphite-Activated Isomerization of [1-¹³C]-Glycolaldehyde in D₂O. Biochemistry, 2009, 48, 5769-5778.	1.2	54
12	Structureâ^'Reactivity Relationships for Î²-Galactosidase (Escherichia coli,lac Z). 4. Mechanism for Reaction of Nucleophiles with the Galactosyl-Enzyme Intermediates of E461G and E461Q Î²-Galactosidasesâ€. Biochemistry, 1996, 35, 12387-12401.	1.2	53
13	Structureâ^'Reactivity Relationships for Î²-Galactosidase (Escherichia coli,lac Z). 3. Evidence that Glu-461 Participates in BrÃ,nsted Acidâ^'Base Catalysis of Î²-d-Galactopyranosyl Group Transferâ€. Biochemistry, 1996, 35, 12377-12386.	1.2	49
14	The Activating Oxydianion Binding Domain for Enzyme-Catalyzed Proton Transfer, Hydride Transfer, and Decarboxylation: Specificity and Enzyme Architecture. Journal of the American Chemical Society, 2015, 137, 1372-1382.	6.6	45
15	Activation of R235A Mutant Orotidine 5â€²-Monophosphate Decarboxylase by the Guanidinium Cation: Effective Molarity of the Cationic Side Chain of Arg-235. Biochemistry, 2010, 49, 824-826.	1.2	41
16	OMP Decarboxylase: Phosphodianion Binding Energy Is Used To Stabilize a Vinyl Carbanion Intermediate. Journal of the American Chemical Society, 2011, 133, 6545-6548.	6.6	41
17	Magnitude and Origin of the Enhanced Basicity of the Catalytic Glutamate of Triosephosphate Isomerase. Journal of the American Chemical Society, 2013, 135, 5978-5981.	6.6	41
18	Intrinsic Barriers for the Reactions of an Oxocarbenium Ion in Water. Journal of the American Chemical Society, 1999, 121, 8403-8404.	6.6	40

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19	Mechanism for Activation of Triosephosphate Isomerase by Phosphite Dianion: The Role of a Ligand-Driven Conformational Change. Journal of the American Chemical Society, 2011, 133, 16428-16431.	6.6	39
20	Orotidine 5â€²-Monophosphate Decarboxylase: Transition State Stabilization from Remote Proteinâ€“Phosphodianion Interactions. Biochemistry, 2012, 51, 4630-4632.	1.2	39
21	Role of Loop-Clamping Side Chains in Catalysis by Triosephosphate Isomerase. Journal of the American Chemical Society, 2015, 137, 15185-15197.	6.6	38
22	Enzyme Architecture: Modeling the Operation of a Hydrophobic Clamp in Catalysis by Triosephosphate Isomerase. Journal of the American Chemical Society, 2017, 139, 10514-10525.	6.6	38
23	Proton Transfer from C-6 of Uridine 5â€²-Monophosphate Catalyzed by Orotidine 5â€²-Monophosphate Decarboxylase: Formation and Stability of a Vinyl Carbanion Intermediate and the Effect of a 5-Fluoro Substituent. Journal of the American Chemical Society, 2012, 134, 14580-14594.	6.6	37
24	Rescue of K12G Triosephosphate Isomerase by Ammonium Cations: The Reaction of an Enzyme in Pieces. Journal of the American Chemical Society, 2010, 132, 13525-13532.	6.6	36
25	Mechanism for Activation of Triosephosphate Isomerase by Phosphite Dianion: The Role of a Hydrophobic Clamp. Journal of the American Chemical Society, 2012, 134, 10286-10298.	6.6	35
26	Enzyme Architecture: Remarkably Similar Transition States for Triosephosphate Isomerase-Catalyzed Reactions of the Whole Substrate and the Substrate in Pieces. Journal of the American Chemical Society, 2014, 136, 4145-4148.	6.6	33
27	Enzyme Architecture: Deconstruction of the Enzyme-Activating Phosphodianion Interactions of Orotidine 5â€²-Monophosphate Decarboxylase. Journal of the American Chemical Society, 2014, 136, 10156-10165.	6.6	31
28	Orotidine 5â€²-Monophosphate Decarboxylase: Probing the Limits of the Possible for Enzyme Catalysis. Accounts of Chemical Research, 2018, 51, 960-969.	7.6	31
29	Structural Mutations That Probe the Interactions between the Catalytic and Dianion Activation Sites of Triosephosphate Isomerase. Biochemistry, 2013, 52, 5928-5940.	1.2	29
30	Enzyme Architecture: Optimization of Transition State Stabilization from a Cationâ€“Phosphodianion Pair. Journal of the American Chemical Society, 2015, 137, 5312-5315.	6.6	29
31	Role of Ligand-Driven Conformational Changes in Enzyme Catalysis: Modeling the Reactivity of the Catalytic Cage of Triosephosphate Isomerase. Journal of the American Chemical Society, 2018, 140, 3854-3857.	6.6	27
32	Wildtype and Engineered Monomeric Triosephosphate Isomerase fromTrypanosoma brucei: Partitioning of Reaction Intermediates in D2O and Activation by Phosphite Dianion. Biochemistry, 2011, 50, 5767-5779.	1.2	25
33	Enzyme Architecture: Amino Acid Side-Chains That Function To Optimize the Basicity of the Active Site Glutamate of Triosephosphate Isomerase. Journal of the American Chemical Society, 2018, 140, 8277-8286.	6.6	25
34	Catalysis by Orotidine 5â€²-Monophosphate Decarboxylase: Effect of 5-Fluoro and 4â€²-Substituents on the Decarboxylation of Two-Part Substrates. Biochemistry, 2013, 52, 537-546.	1.2	24
35	Enzyme Architecture: The Effect of Replacement and Deletion Mutations of Loop 6 on Catalysis by Triosephosphate Isomerase. Biochemistry, 2014, 53, 3486-3501.	1.2	23
36	Role of a Guanidinium Cationâ€“Phosphodianion Pair in Stabilizing the Vinyl Carbanion Intermediate of Orotidine 5â€²-Phosphate Decarboxylase-Catalyzed Reactions. Biochemistry, 2013, 52, 7500-7511.	1.2	22

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37	Structureâ€“Function Studies of Hydrophobic Residues That Clamp a Basic Glutamate Side Chain during Catalysis by Triosephosphate Isomerase. Biochemistry, 2016, 55, 3036-3047.	1.2	21
38	Enzyme Architecture: The Role of a Flexible Loop in Activation of Glycerol-3-phosphate Dehydrogenase for Catalysis of Hydride Transfer. Biochemistry, 2018, 57, 3227-3236.	1.2	21
39	Enzyme Architecture: Self-Assembly of Enzyme and Substrate Pieces of Glycerol-3-Phosphate Dehydrogenase into a Robust Catalyst of Hydride Transfer. Journal of the American Chemical Society, 2016, 138, 15251-15259.	6.6	19
40	Rate and Equilibrium Constants for an Enzyme Conformational Change during Catalysis by Orotidine 5â€²-Monophosphate Decarboxylase. Biochemistry, 2015, 54, 4555-4564.	1.2	18
41	Uncovering the Role of Key Active-Site Side Chains in Catalysis: An Extended BrÃ¸nsted Relationship for Substrate Deprotonation Catalyzed by Wild-Type and Variants of Triosephosphate Isomerase. Journal of the American Chemical Society, 2019, 141, 16139-16150.	6.6	15
42	Enzyme Architecture: Erection of Active Orotidine 5â€²-Monophosphate Decarboxylase by Substrate-Induced Conformational Changes. Journal of the American Chemical Society, 2017, 139, 16048-16051.	6.6	14
43	Conformational Changes in Orotidine 5â€²-Monophosphate Decarboxylase: A Structure-Based Explanation for How the 5â€²-Phosphate Group Activates the Enzyme. Biochemistry, 2012, 51, 8665-8678.	1.2	13
44	Enzyme Architecture: A Startling Role for Asn270 in Glycerol 3-Phosphate Dehydrogenase-Catalyzed Hydride Transfer. Biochemistry, 2016, 55, 1429-1432.	1.2	12
45	Phosphodianion Activation of Enzymes for Catalysis of Central Metabolic Reactions. Journal of the American Chemical Society, 2021, 143, 2694-2698.	6.6	12
46	Enzyme Architecture: Breaking Down the Catalytic Cage that Activates Orotidine 5â€²-Monophosphate Decarboxylase for Catalysis. Journal of the American Chemical Society, 2018, 140, 17580-17590.	6.6	11
47	Primary Deuterium Kinetic Isotope Effects: A Probe for the Origin of the Rate Acceleration for Hydride Transfer Catalyzed by Glycerol-3-Phosphate Dehydrogenase. Biochemistry, 2018, 57, 4338-4348.	1.2	11
48	Rational Design of Transition-State Analogues as Potent Enzyme Inhibitors with Therapeutic Applications. ACS Chemical Biology, 2007, 2, 711-714.	1.6	10
49	Mechanistic imperatives for deprotonation of carbon catalyzed by triosephosphate isomerase: enzyme activation by phosphite dianion,. Journal of Physical Organic Chemistry, 2014, 27, 269-276.	0.9	10
50	Structureâ€“Reactivity Effects on Intrinsic Primary Kinetic Isotope Effects for Hydride Transfer Catalyzed by Glycerol-3-phosphate Dehydrogenase. Journal of the American Chemical Society, 2016, 138, 14526-14529.	6.6	10
51	Role of the Carboxylate in Enzyme-Catalyzed Decarboxylation of Orotidine 5â€²-Monophosphate: Transition State Stabilization Dominates Over Ground State Destabilization. Journal of the American Chemical Society, 2019, 141, 13468-13478.	6.6	9
52	Substituent Effects on Carbon Acidity in Aqueous Solution and at Enzyme Active Sites. Synlett, 2017, 28, 1407-1421.	1.0	6
53	Linear Free Energy Relationships for Enzymatic Reactions: Fresh Insight from a Venerable Probe. Accounts of Chemical Research, 2021, 54, 2532-2542.	7.6	6
54	A reevaluation of the origin of the rate acceleration for enzyme-catalyzed hydride transfer. Organic and Biomolecular Chemistry, 2017, 15, 8856-8866.	1.5	4

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55	Crossing the Borderline between SN1 and SN2 Nucleophilic Substitution at Aliphatic Carbon. , 2005, , 41-68.		3
56	Proton Transfer to and from Carbon in Model Reactions. , 0, , 949-973.		0
57	The use of reaction timecourses to determine the level of minor contaminants in enzyme preparations. Analytical Biochemistry, 2014, 450, 20-26.	1.1	0