

Michael D Toney

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

60
papers

2,866
citations

31
h-index

53
g-index

60
ext. papers

3,040
ext. citations

6.7
avg, IF

5.15
L-index

#	Paper	IF	Citations
60	Carbon Acidity in Enzyme Active Sites. <i>Frontiers in Bioengineering and Biotechnology</i> , 2019 , 7, 25	5.8	7
59	Conversion of aminodeoxychorismate synthase into anthranilate synthase with Janus mutations: mechanism of pyruvate elimination catalyzed by chorismate enzymes. <i>Biochemistry</i> , 2015 , 54, 2372-84	3.2	13
58	Directed evolution of the substrate specificity of dialkylglycine decarboxylase. <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , 2015 , 1854, 146-55	4	11
57	Aspartate aminotransferase: an old dog teaches new tricks. <i>Archives of Biochemistry and Biophysics</i> , 2014 , 544, 119-27	4.1	69
56	NMR studies of protonation and hydrogen bond states of internal aldimines of pyridoxal 5Sphosphate acid-base in alanine racemase, aspartate aminotransferase, and poly-L-lysine. <i>Journal of the American Chemical Society</i> , 2013 , 135, 18160-75	16.4	54
55	Janus: prediction and ranking of mutations required for functional interconversion of enzymes. <i>Journal of Molecular Biology</i> , 2013 , 425, 1378-89	6.5	17
54	Expression and characterization of PhzE from <i>P. aeruginosa</i> PAO1: aminodeoxyisochorismate synthase involved in pyocyanin and phenazine-1-carboxylate production. <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , 2013 , 1834, 240-6	4	15
53	Ground-state electronic destabilization via hyperconjugation in aspartate aminotransferase. <i>Journal of the American Chemical Society</i> , 2012 , 134, 8436-8	16.4	16
52	Role of the pyridine nitrogen in pyridoxal 5Sphosphate catalysis: activity of three classes of PLP enzymes reconstituted with deazapyridoxal 5Sphosphate. <i>Journal of the American Chemical Society</i> , 2011 , 133, 14823-30	16.4	54
51	Critical hydrogen bonds and protonation states of pyridoxal 5Sphosphate revealed by NMR. <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , 2011 , 1814, 1426-37	4	46
50	Crystal structures of aspartate aminotransferase reconstituted with 1-deazapyridoxal 5Sphosphate: internal aldimine and stable L-aspartate external aldimine. <i>Biochemistry</i> , 2011 , 50, 5918-24	2.2	13
49	NMR studies of the stability, protonation States, and tautomerism of (13)C- AND (15)N-labeled aldimines of the coenzyme pyridoxal 5Sphosphate in water. <i>Biochemistry</i> , 2010 , 49, 10818-30	3.2	38
48	Mutational analysis of substrate interactions with the active site of dialkylglycine decarboxylase. <i>Biochemistry</i> , 2010 , 49, 6485-93	3.2	10
47	Nucleophile specificity in anthranilate synthase, aminodeoxychorismate synthase, isochorismate synthase, and salicylate synthase. <i>Biochemistry</i> , 2010 , 49, 2851-9	3.2	26
46	Targeting multiple chorismate-utilizing enzymes with a single inhibitor: validation of a three-stage design. <i>Journal of Medicinal Chemistry</i> , 2010 , 53, 3718-29	8.3	23
45	Light-enhanced catalysis by pyridoxal phosphate-dependent aspartate aminotransferase. <i>Journal of the American Chemical Society</i> , 2010 , 132, 16953-61	16.4	11
44	NMR studies of the protonation states of pyridoxal-5?-phosphate in water. <i>Journal of Molecular Structure</i> , 2010 , 976, 282-289	3.4	22

43	Chemoenzymatic synthesis of 1-deaza-pyridoxal 5Sphosphate. <i>Bioorganic and Medicinal Chemistry Letters</i> , 2010 , 20, 1352-4	2.9	8
42	Rapid photodynamics of vitamin B6 coenzyme pyridoxal 5Sphosphate and its Schiff bases in solution. <i>Journal of Physical Chemistry B</i> , 2008 , 112, 5867-73	3.4	30
41	Coupling of functional hydrogen bonds in pyridoxal-5Sphosphate-enzyme model systems observed by solid-state NMR spectroscopy. <i>Journal of the American Chemical Society</i> , 2007 , 129, 4440-55	16.4	94
40	NMR studies of coupled low- and high-barrier hydrogen bonds in pyridoxal-5Sphosphate model systems in polar solution. <i>Journal of the American Chemical Society</i> , 2007 , 129, 6313-27	16.4	77
39	¹⁵ N nuclear magnetic resonance studies of acid-base properties of pyridoxal-5Sphosphate aldimines in aqueous solution. <i>Journal of Physical Chemistry B</i> , 2007 , 111, 3869-76	3.4	52
38	Intrinsic primary and secondary hydrogen kinetic isotope effects for alanine racemase from global analysis of progress curves. <i>Journal of the American Chemical Society</i> , 2007 , 129, 10678-85	16.4	23
37	Observation by NMR of the tautomerism of an intramolecular OHOHN-charge relay chain in a model Schiff base. <i>Journal of Molecular Structure</i> , 2007 , 844-845, 319-327	3.4	39
36	NMR localization of protons in critical enzyme hydrogen bonds. <i>Journal of the American Chemical Society</i> , 2007 , 129, 9558-9	16.4	63
35	NMR studies of solvent-assisted proton transfer in a biologically relevant Schiff base: toward a distinction of geometric and equilibrium H-bond isotope effects. <i>Journal of the American Chemical Society</i> , 2006 , 128, 3375-87	16.4	100
34	Aminodeoxychorismate synthase inhibitors from one-bead one-compound combinatorial libraries: "staged" inhibitor design. <i>Journal of Medicinal Chemistry</i> , 2006 , 49, 7413-26	8.3	20
33	Direct detection and kinetic analysis of covalent intermediate formation in the 4-amino-4-deoxychorismate synthase catalyzed reaction. <i>Biochemistry</i> , 2006 , 45, 5019-28	3.2	18
32	Slow-binding human serine racemase inhibitors from high-throughput screening of combinatorial libraries. <i>Journal of Medicinal Chemistry</i> , 2006 , 49, 2388-97	8.3	31
31	X-ray crystallographic structures of enamine and amine Schiff bases of pyridoxal and its 1:1 hydrogen-bonded complexes with benzoic acid derivatives: evidence for coupled inter- and intramolecular proton transfer. <i>Acta Crystallographica Section B: Structural Science</i> , 2006 , 62, 480-7		35
30	Ionization state of pyridoxal 5Sphosphate in D-serine dehydratase, dialkylglycine decarboxylase and tyrosine phenol-lyase and the influence of monovalent cations as inferred by ³¹ P NMR spectroscopy. <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , 2006 , 1764, 230-8	4	9
29	Kinetic and crystallographic analysis of active site mutants of Escherichia coli gamma-aminobutyrate aminotransferase. <i>Biochemistry</i> , 2005 , 44, 2982-92	3.2	40
28	Role of Q52 in catalysis of decarboxylation and transamination in dialkylglycine decarboxylase. <i>Biochemistry</i> , 2005 , 44, 16392-404	3.2	31
27	Reaction specificity in pyridoxal phosphate enzymes. <i>Archives of Biochemistry and Biophysics</i> , 2005 , 433, 279-87	4.1	222
26	Serine racemase modulates intracellular D-serine levels through an alpha,beta-elimination activity. <i>Journal of Biological Chemistry</i> , 2005 , 280, 1754-63	5.4	166

25	Alanine racemase free energy profiles from global analyses of progress curves. <i>Journal of the American Chemical Society</i> , 2004 , 126, 7464-75	16.4	53
24	Kinetic and thermodynamic analysis of the interaction of cations with dialkylglycine decarboxylase. <i>Biochemistry</i> , 2004 , 43, 4998-5010	3.2	7
23	Crystal structures of unbound and aminooxyacetate-bound Escherichia coli gamma-aminobutyrate aminotransferase. <i>Biochemistry</i> , 2004 , 43, 10896-905	3.2	57
22	Conservation of mechanism in three chorismate-utilizing enzymes. <i>Journal of the American Chemical Society</i> , 2004 , 126, 2378-85	16.4	78
21	A novel 4-methylideneimidazole-5-one-containing tyrosine aminomutase in enediyne antitumor antibiotic C-1027 biosynthesis. <i>Journal of the American Chemical Society</i> , 2003 , 125, 6062-3	16.4	104
20	Multiple hydrogen kinetic isotope effects for enzymes catalyzing exchange with solvent: application to alanine racemase. <i>Biochemistry</i> , 2003 , 42, 5099-107	3.2	61
19	Kinetic analysis of the 4-methylideneimidazole-5-one-containing tyrosine aminomutase in enediyne antitumor antibiotic C-1027 biosynthesis. <i>Biochemistry</i> , 2003 , 42, 12708-18	3.2	71
18	Aminophosphonate inhibitors of dialkylglycine decarboxylase: structural basis for slow binding inhibition. <i>Biochemistry</i> , 2002 , 41, 12320-8	3.2	74
17	Computational studies on nonenzymatic and enzymatic pyridoxal phosphate catalyzed decarboxylations of 2-aminoisobutyrate. <i>Biochemistry</i> , 2001 , 40, 1378-84	3.2	35
16	Metal ion inhibition of nonenzymatic pyridoxal phosphate catalyzed decarboxylation and transamination. <i>Journal of the American Chemical Society</i> , 2001 , 123, 193-8	16.4	66
15	Rapid kinetic and isotopic studies on dialkylglycine decarboxylase. <i>Biochemistry</i> , 2001 , 40, 1367-77	3.2	27
14	pH studies on the mechanism of the pyridoxal phosphate-dependent dialkylglycine decarboxylase. <i>Biochemistry</i> , 1999 , 38, 311-20	3.2	53
13	Evidence for a two-base mechanism involving tyrosine-265 from arginine-219 mutants of alanine racemase. <i>Biochemistry</i> , 1999 , 38, 4058-65	3.2	117
12	Crystal structures of dialkylglycine decarboxylase inhibitor complexes. <i>Journal of Molecular Biology</i> , 1999 , 294, 193-200	6.5	47
11	Coexisting kinetically distinguishable forms of dialkylglycine decarboxylase engendered by alkali metal ions. <i>Biochemistry</i> , 1998 , 37, 5761-9	3.2	21
10	Pre-steady-state kinetic analysis of the reactions of alternate substrates with dialkylglycine decarboxylase. <i>Biochemistry</i> , 1998 , 37, 3876-85	3.2	16
9	Reactions of alternate substrates demonstrate stereoelectronic control of reactivity in dialkylglycine decarboxylase. <i>Biochemistry</i> , 1998 , 37, 3865-75	3.2	31
8	Active site model for gamma-aminobutyrate aminotransferase explains substrate specificity and inhibitor reactivities. <i>Protein Science</i> , 1995 , 4, 2366-74	6.3	23

7	Structural and mechanistic analysis of two refined crystal structures of the pyridoxal phosphate-dependent enzyme dialkylglycine decarboxylase. <i>Journal of Molecular Biology</i> , 1995 , 245, 151-79	6.5	108
6	Lysine 258 in aspartate aminotransferase: enforcer of the Circe effect for amino acid substrates and general-base catalyst for the 1,3-prototropic shift. <i>Biochemistry</i> , 1993 , 32, 1471-9	3.2	95
5	Crystal structures of true enzymatic reaction intermediates: aspartate and glutamate ketimines in aspartate aminotransferase. <i>Biochemistry</i> , 1993 , 32, 13451-62	3.2	87
4	Kinetics and equilibria for the reactions of coenzymes with wild type and the Y70F mutant of <i>Escherichia coli</i> aspartate aminotransferase. <i>Biochemistry</i> , 1991 , 30, 7461-6	3.2	29
3	Crystallization and preliminary X-ray diffraction studies of dialkylglycine decarboxylase, a decarboxylating transaminase. <i>Journal of Molecular Biology</i> , 1991 , 222, 873-5	6.5	6
2	2.8-Å-resolution crystal structure of an active-site mutant of aspartate aminotransferase from <i>Escherichia coli</i> . <i>Biochemistry</i> , 1989 , 28, 8161-7	3.2	96
1	PLP-Dependent Enzymes, Chemistry of1		1