Michael D Toney

List of Publications by Citations

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	Reaction specificity in pyridoxal phosphate enzymes. *Archives of Biochemistry and Biophysics*, **2005**, 433, 279-87	4.1	222
59	Serine racemase modulates intracellular D-serine levels through an alpha,beta-elimination activity. *Journal of Biological Chemistry*, **2005**, 280, 1754-63	5.4	166
58	Evidence for a two-base mechanism involving tyrosine-265 from arginine-219 mutants of alanine racemase. *Biochemistry*, **1999**, 38, 4058-65	3.2	117
57	Structural and mechanistic analysis of two refined crystal structures of the pyridoxal phosphate-dependent enzyme dialkylglycine decarboxylase. *Journal of Molecular Biology*, **1995**, 245, 151-79	6.5	108
56	A novel 4-methylideneimidazole-5-one-containing tyrosine aminomutase in enediyne antitumor antibiotic C-1027 biosynthesis. *Journal of the American Chemical Society*, **2003**, 125, 6062-3	16.4	104
55	NMR studies of solvent-assisted proton transfer in a biologically relevant Schiff base: toward a distinction of geometric and equilibrium H-bond isotope effects. *Journal of the American Chemical Society*, **2006**, 128, 3375-87	16.4	100
54	2.8-A-resolution crystal structure of an active-site mutant of aspartate aminotransferase from Escherichia coli. *Biochemistry*, **1989**, 28, 8161-7	3.2	96
53	Lysine 258 in aspartate aminotransferase: enforcer of the Circe effect for amino acid substrates and general-base catalyst for the 1,3-prototropic shift. *Biochemistry*, **1993**, 32, 1471-9	3.2	95
52	Coupling of functional hydrogen bonds in pyridoxal-5Sphosphate-enzyme model systems observed by solid-state NMR spectroscopy. *Journal of the American Chemical Society*, **2007**, 129, 4440-55	16.4	94
51	Crystal structures of true enzymatic reaction intermediates: aspartate and glutamate ketimines in aspartate aminotransferase. *Biochemistry*, **1993**, 32, 13451-62	3.2	87
50	Conservation of mechanism in three chorismate-utilizing enzymes. *Journal of the American Chemical Society*, **2004**, 126, 2378-85	16.4	78
49	NMR studies of coupled low- and high-barrier hydrogen bonds in pyridoxal-5Sphosphate model systems in polar solution. *Journal of the American Chemical Society*, **2007**, 129, 6313-27	16.4	77
48	Aminophosphonate inhibitors of dialkylglycine decarboxylase: structural basis for slow binding inhibition. *Biochemistry*, **2002**, 41, 12320-8	3.2	74
47	Kinetic analysis of the 4-methylideneimidazole-5-one-containing tyrosine aminomutase in enediyne antitumor antibiotic C-1027 biosynthesis. *Biochemistry*, **2003**, 42, 12708-18	3.2	71
46	Aspartate aminotransferase: an old dog teaches new tricks. *Archives of Biochemistry and Biophysics*, **2014**, 544, 119-27	4.1	69
45	Metal ion inhibition of nonenzymatic pyridoxal phosphate catalyzed decarboxylation and transamination. *Journal of the American Chemical Society*, **2001**, 123, 193-8	16.4	66
44	NMR localization of protons in critical enzyme hydrogen bonds. *Journal of the American Chemical Society*, **2007**, 129, 9558-9	16.4	63

43	Multiple hydrogen kinetic isotope effects for enzymes catalyzing exchange with solvent: application to alanine racemase. *Biochemistry*, **2003**, 42, 5099-107	3.2	61
42	Crystal structures of unbound and aminooxyacetate-bound Escherichia coli gamma-aminobutyrate aminotransferase. *Biochemistry*, **2004**, 43, 10896-905	3.2	57
41	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. *Journal of the American Chemical Society*, **2013**, 135, 18160-75	16.4	54
40	Role of the pyridine nitrogen in pyridoxal 5Sphosphate catalysis: activity of three classes of PLP enzymes reconstituted with deazapyridoxal 5Sphosphate. *Journal of the American Chemical Society*, **2011**, 133, 14823-30	16.4	54
39	Alanine racemase free energy profiles from global analyses of progress curves. *Journal of the American Chemical Society*, **2004**, 126, 7464-75	16.4	53
38	pH studies on the mechanism of the pyridoxal phosphate-dependent dialkylglycine decarboxylase. *Biochemistry*, **1999**, 38, 311-20	3.2	53
37	15N nuclear magnetic resonance studies of acid-base properties of pyridoxal-5Sphosphate aldimines in aqueous solution. *Journal of Physical Chemistry B*, **2007**, 111, 3869-76	3.4	52
36	Crystal structures of dialkylglycine decarboxylase inhibitor complexes. *Journal of Molecular Biology*, **1999**, 294, 193-200	6.5	47
35	Critical hydrogen bonds and protonation states of pyridoxal 5Sphosphate revealed by NMR. *Biochimica Et Biophysica Acta - Proteins and Proteomics*, **2011**, 1814, 1426-37	4	46
34	Kinetic and crystallographic analysis of active site mutants of Escherichia coli gamma-aminobutyrate aminotransferase. *Biochemistry*, **2005**, 44, 2982-92	3.2	40
33	Observation by NMR of the tautomerism of an intramolecular OHOHN-charge relay chain in a model Schiff base. *Journal of Molecular Structure*, **2007**, 844-845, 319-327	3.4	39
32	NMR studies of the stability, protonation States, and tautomerism of (13)C- AND (15)N-labeled aldimines of the coenzyme pyridoxal 5Sphosphate in water. *Biochemistry*, **2010**, 49, 10818-30	3.2	38
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. *Acta Crystallographica Section B: Structural Science*, **2006**, 62, 480-7		35
30	Computational studies on nonenzymatic and enzymatic pyridoxal phosphate catalyzed decarboxylations of 2-aminoisobutyrate. *Biochemistry*, **2001**, 40, 1378-84	3.2	35
29	Role of Q52 in catalysis of decarboxylation and transamination in dialkylglycine decarboxylase. *Biochemistry*, **2005**, 44, 16392-404	3.2	31
28	Slow-binding human serine racemase inhibitors from high-throughput screening of combinatorial libraries. *Journal of Medicinal Chemistry*, **2006**, 49, 2388-97	8.3	31
27	Reactions of alternate substrates demonstrate stereoelectronic control of reactivity in dialkylglycine decarboxylase. *Biochemistry*, **1998**, 37, 3865-75	3.2	31
26	Rapid photodynamics of vitamin B6 coenzyme pyridoxal 5Sphosphate and its Schiff bases in solution. *Journal of Physical Chemistry B*, **2008**, 112, 5867-73	3.4	30

25	Kinetics and equilibria for the reactions of coenzymes with wild type and the Y70F mutant of Escherichia coli aspartate aminotransferase. *Biochemistry*, **1991**, 30, 7461-6	3.2	29
24	Rapid kinetic and isotopic studies on dialkylglycine decarboxylase. *Biochemistry*, **2001**, 40, 1367-77	3.2	27
23	Nucleophile specificity in anthranilate synthase, aminodeoxychorismate synthase, isochorismate synthase, and salicylate synthase. *Biochemistry*, **2010**, 49, 2851-9	3.2	26
22	Targeting multiple chorismate-utilizing enzymes with a single inhibitor: validation of a three-stage design. *Journal of Medicinal Chemistry*, **2010**, 53, 3718-29	8.3	23
21	Intrinsic primary and secondary hydrogen kinetic isotope effects for alanine racemase from global analysis of progress curves. *Journal of the American Chemical Society*, **2007**, 129, 10678-85	16.4	23
20	Active site model for gamma-aminobutyrate aminotransferase explains substrate specificity and inhibitor reactivities. *Protein Science*, **1995**, 4, 2366-74	6.3	23
19	NMR studies of the protonation states of pyridoxal-5?-phosphate in water. *Journal of Molecular Structure*, **2010**, 976, 282-289	3.4	22
18	Coexisting kinetically distinguishable forms of dialkylglycine decarboxylase engendered by alkali metal ions. *Biochemistry*, **1998**, 37, 5761-9	3.2	21
17	Aminodeoxychorismate synthase inhibitors from one-bead one-compound combinatorial libraries: "staged" inhibitor design. *Journal of Medicinal Chemistry*, **2006**, 49, 7413-26	8.3	20
16	Direct detection and kinetic analysis of covalent intermediate formation in the 4-amino-4-deoxychorismate synthase catalyzed reaction. *Biochemistry*, **2006**, 45, 5019-28	3.2	18
15	Janus: prediction and ranking of mutations required for functional interconversion of enzymes. *Journal of Molecular Biology*, **2013**, 425, 1378-89	6.5	17
14	Ground-state electronic destabilization via hyperconjugation in aspartate aminotransferase. *Journal of the American Chemical Society*, **2012**, 134, 8436-8	16.4	16
13	Pre-steady-state kinetic analysis of the reactions of alternate substrates with dialkylglycine decarboxylase. *Biochemistry*, **1998**, 37, 3876-85	3.2	16
12	Expression and characterization of PhzE from P. aeruginosa PAO1: aminodeoxyisochorismate synthase involved in pyocyanin and phenazine-1-carboxylate production. *Biochimica Et Biophysica Acta - Proteins and Proteomics*, **2013**, 1834, 240-6	4	15
11	Conversion of aminodeoxychorismate synthase into anthranilate synthase with Janus mutations: mechanism of pyruvate elimination catalyzed by chorismate enzymes. *Biochemistry*, **2015**, 54, 2372-84	3.2	13
10	Crystal structures of aspartate aminotransferase reconstituted with 1-deazapyridoxal 5Sphosphate: internal aldimine and stable L-aspartate external aldimine. *Biochemistry*, **2011**, 50, 5918-24	3.2	13
9	Directed evolution of the substrate specificity of dialkylglycine decarboxylase. *Biochimica Et Biophysica Acta - Proteins and Proteomics*, **2015**, 1854, 146-55	4	11
8	Light-enhanced catalysis by pyridoxal phosphate-dependent aspartate aminotransferase. *Journal of the American Chemical Society*, **2010**, 132, 16953-61	16.4	11

7	Mutational analysis of substrate interactions with the active site of dialkylglycine decarboxylase. *Biochemistry*, **2010**, 49, 6485-93	3.2	10
6	Ionization state of pyridoxal 5Sphosphate in D-serine dehydratase, dialkylglycine decarboxylase and tyrosine phenol-lyase and the influence of monovalent cations as inferred by 31P NMR spectroscopy. *Biochimica Et Biophysica Acta - Proteins and Proteomics*, **2006**, 1764, 230-8	4	9
5	Chemoenzymatic synthesis of 1-deaza-pyridoxal 5Sphosphate. *Bioorganic and Medicinal Chemistry Letters*, **2010**, 20, 1352-4	2.9	8
4	Carbon Acidity in Enzyme Active Sites. *Frontiers in Bioengineering and Biotechnology*, **2019**, 7, 25	5.8	7
3	Kinetic and thermodynamic analysis of the interaction of cations with dialkylglycine decarboxylase. *Biochemistry*, **2004**, 43, 4998-5010	3.2	7
2	Crystallization and preliminary X-ray diffraction studies of dialkylglycine decarboxylase, a decarboxylating transaminase. *Journal of Molecular Biology*, **1991**, 222, 873-5	6.5	6
1	PLP-Dependent Enzymes, Chemistry of1		1