# Michael D Toney

List of Publications by Year
in descending order



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|---|---|---|---|
| 59 papers | 3,172 citations | 126907 33 h-index | 149698 56 g-index |
| 60 all docs | 60 docs citations | 60 times ranked | 2587 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Reaction specificity in pyridoxal phosphate enzymes. Archives of Biochemistry and Biophysics, 2005, 433, 279-287. | 3.0 | 246 |
| 2 | Serine Racemase Modulates Intracellular D-Serine Levels through an Î±,Î²-Elimination Activity. Journal of Biological Chemistry, 2005, 280, 1754-1763. | 3.4 | 193 |
| 3 | Evidence for a Two-Base Mechanism Involving Tyrosine-265 from Arginine-219 Mutants of Alanine Racemaseâ€. Biochemistry, 1999, 38, 4058-4065. | 2.5 | 126 |
| 4 | Structural and Mechanistic Analysis of Two Refined Crystal Structures of the Pyridoxal Phosphate-dependent Enzyme Dialkylglycine Decarboxylase. Journal of Molecular Biology, 1995, 245, 151-179. | 4.2 | 116 |
| 5 | A Novel 4-Methylideneimidazole-5-one-Containing Tyrosine Aminomutase in Enediyne Antitumor Antibiotic C-1027 Biosynthesis. Journal of the American Chemical Society, 2003, 125, 6062-6063. | 13.7 | 111 |
| 6 | 2.8-.ANG.-resolution crystal structure of an active-site mutant of aspartate aminotransferase from Escherichia coli. Biochemistry, 1989, 28, 8161-8167. | 2.5 | 109 |
| 7 | NMR Studies of Solvent-Assisted Proton Transfer in a Biologically Relevant Schiff Base:Â Toward a Distinction of Geometric and Equilibrium H-Bond Isotope Effects. Journal of the American Chemical Society, 2006, 128, 3375-3387. | 13.7 | 108 |
| 8 | Lysine 258 in aspartate aminotransferase: Enforcer of the Circe effect for amino acid substrates and the general-base catalyst for the 1,3-prototropic shift. Biochemistry, 1993, 32, 1471-1479. | 2.5 | 100 |
| 9 | Coupling of Functional Hydrogen Bonds in Pyridoxal-5â€˜-phosphateâˆ’Enzyme Model Systems Observed by Solid-State NMR Spectroscopy. Journal of the American Chemical Society, 2007, 129, 4440-4455. | 13.7 | 100 |
| 10 | Aspartate aminotransferase: An old dog teaches new tricks. Archives of Biochemistry and Biophysics, 2014, 544, 119-127. | 3.0 | 99 |
| 11 | Crystal structure of true enzymic reaction intermediates: Aspartate and glutamate ketimines in aspartate aminotransferase. Biochemistry, 1993, 32, 13451-13462. | 2.5 | 91 |
| 12 | Conservation of Mechanism in Three Chorismate-Utilizing Enzymes. Journal of the American Chemical Society, 2004, 126, 2378-2385. | 13.7 | 86 |
| 13 | NMR Studies of Coupled Low- and High-Barrier Hydrogen Bonds in Pyridoxal-5â€˜-phosphate Model Systems in Polar Solution. Journal of the American Chemical Society, 2007, 129, 6313-6327. | 13.7 | 82 |
| 14 | Aminophosphonate Inhibitors of Dialkylglycine Decarboxylase:Â Structural Basis for Slow Binding Inhibitionâ€,â€¡. Biochemistry, 2002, 41, 12320-12328. | 2.5 | 79 |
| 15 | Metal Ion Inhibition of Nonenzymatic Pyridoxal Phosphate Catalyzed Decarboxylation and Transamination. Journal of the American Chemical Society, 2001, 123, 193-198. | 13.7 | 77 |
| 16 | Kinetic Analysis of the 4-Methylideneimidazole-5-one-Containing Tyrosine Aminomutase in Enediyne Antitumor Antibiotic C-1027 Biosynthesisâ€. Biochemistry, 2003, 42, 12708-12718. | 2.5 | 75 |
| 17 | NMR Studies of Protonation and Hydrogen Bond States of Internal Aldimines of Pyridoxal 5â€²-Phosphate Acidâ€“Base in Alanine Racemase, Aspartate Aminotransferase, and Poly-<scp>l</scp>-lysine. Journal of the American Chemical Society, 2013, 135, 18160-18175. | 13.7 | 67 |
| 18 | NMR Localization of Protons in Critical Enzyme Hydrogen Bonds. Journal of the American Chemical Society, 2007, 129, 9558-9559. | 13.7 | 66 |

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|---|---|---|---|
| 19 | Crystal Structures of Unbound and Aminooxyacetate-BoundEscherichia coliÎ³-Aminobutyrate Aminotransferaseâ€. Biochemistry, 2004, 43, 10896-10905. | 2.5 | 65 |
| 20 | Role of the Pyridine Nitrogen in Pyridoxal 5â€²-Phosphate Catalysis: Activity of Three Classes of PLP Enzymes Reconstituted with Deazapyridoxal 5â€²-Phosphate. Journal of the American Chemical Society, 2011, 133, 14823-14830. | 13.7 | 63 |
| 21 | Multiple Hydrogen Kinetic Isotope Effects for Enzymes Catalyzing Exchange with Solvent:Â Application to Alanine Racemase. Biochemistry, 2003, 42, 5099-5107. | 2.5 | 61 |
| 22 | Critical hydrogen bonds and protonation states of pyridoxal 5â€²-phosphate revealed by NMR. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2011, 1814, 1426-1437. | 2.3 | 57 |
| 23 | Alanine Racemase Free Energy Profiles from Global Analyses of Progress Curves. Journal of the American Chemical Society, 2004, 126, 7464-7475. | 13.7 | 56 |
| 24 | pH Studies on the Mechanism of the Pyridoxal Phosphate-Dependent Dialkylglycine Decarboxylaseâ€. Biochemistry, 1999, 38, 311-320. | 2.5 | 55 |
| 25 | 15N Nuclear Magnetic Resonance Studies of Acidâˆ’Base Properties of Pyridoxal-5â€˜-Phosphate Aldimines in Aqueous Solution. Journal of Physical Chemistry B, 2007, 111, 3869-3876. | 2.6 | 55 |
| 26 | Crystal structures of dialkylglycine decarboxylase inhibitor complexes 1 1Edited by R. Huber. Journal of Molecular Biology, 1999, 294, 193-200. | 4.2 | 50 |
| 27 | Kinetic and Crystallographic Analysis of Active Site Mutants ofEscherichia coliÎ³-Aminobutyrate Aminotransferaseâ€. Biochemistry, 2005, 44, 2982-2992. | 2.5 | 45 |
| 28 | 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. | 3.6 | 43 |
| 29 | NMR Studies of the Stability, Protonation States, and Tautomerism of13C- and15N-Labeled Aldimines of the Coenzyme Pyridoxal 5â€²-Phosphate in Water. Biochemistry, 2010, 49, 10818-10830. | 2.5 | 39 |
| 30 | Computational Studies on Nonenzymatic and Enzymatic Pyridoxal Phosphate Catalyzed Decarboxylations of 2-Aminoisobutyrateâ€. Biochemistry, 2001, 40, 1378-1384. | 2.5 | 36 |
| 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, 480-487. | 1.8 | 35 |
| 32 | Slow-Binding Human Serine Racemase Inhibitors from High-Throughput Screening of Combinatorial Libraries. Journal of Medicinal Chemistry, 2006, 49, 2388-2397. | 6.4 | 34 |
| 33 | Rapid Photodynamics of Vitamin B<sub>6</sub>Coenzyme Pyridoxal 5â€˜-Phosphate and Its Schiff Bases in Solution. Journal of Physical Chemistry B, 2008, 112, 5867-5873. | 2.6 | 34 |
| 34 | Reactions of Alternate Substrates Demonstrate Stereoelectronic Control of Reactivity in Dialkylglycine Decarboxylase. Biochemistry, 1998, 37, 3865-3875. | 2.5 | 33 |
| 35 | Role of Q52 in Catalysis of Decarboxylation and Transamination in Dialkylglycine Decarboxylaseâ€. Biochemistry, 2005, 44, 16392-16404. | 2.5 | 33 |
| 36 | Kinetics and equilibria for the reactions of coenzymes with wild type and the Y70F mutant of Escherichia coli aspartate aminotransferase. Biochemistry, 1991, 30, 7461-7466. | 2.5 | 32 |

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| 37 | Active site model for Î³â€aminobutyrate aminotransferase explains substrate specificity and inhibitor reactivities. Protein Science, 1995, 4, 2366-2374. | 7.6 | 29 |
| 38 | Rapid Kinetic and Isotopic Studies on Dialkylglycine Decarboxylaseâ€. Biochemistry, 2001, 40, 1367-1377. | 2.5 | 29 |
| 39 | Nucleophile Specificity in Anthranilate Synthase, Aminodeoxychorismate Synthase, Isochorismate Synthase, and Salicylate Synthase. Biochemistry, 2010, 49, 2851-2859. | 2.5 | 28 |
| 40 | NMR studies of the protonation states of pyridoxal-5â€²-phosphate in water. Journal of Molecular Structure, 2010, 976, 282-289. | 3.6 | 26 |
| 41 | Targeting Multiple Chorismate-Utilizing Enzymes with a Single Inhibitor: Validation of a Three-Stage Design. Journal of Medicinal Chemistry, 2010, 53, 3718-3729. | 6.4 | 25 |
| 42 | 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, 10678-10685. | 13.7 | 24 |
| 43 | Direct Detection and Kinetic Analysis of Covalent Intermediate Formation in the 4-Amino-4-deoxychorismate Synthase Catalyzed Reaction. Biochemistry, 2006, 45, 5019-5028. | 2.5 | 23 |
| 44 | 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, 240-246. | 2.3 | 22 |
| 45 | Coexisting Kinetically Distinguishable Forms of Dialkylglycine Decarboxylase Engendered by Alkali Metal Ions. Biochemistry, 1998, 37, 5761-5769. | 2.5 | 21 |
| 46 | Aminodeoxychorismate Synthase Inhibitors from One-Bead One-Compound Combinatorial Libraries:Â â€œStagedâ€• Inhibitor Design. Journal of Medicinal Chemistry, 2006, 49, 7413-7426. | 6.4 | 21 |
| 47 | Janus: Prediction and Ranking of Mutations Required for Functional Interconversion of Enzymes. Journal of Molecular Biology, 2013, 425, 1378-1389. | 4.2 | 21 |
| 48 | Pre-Steady-State Kinetic Analysis of the Reactions of Alternate Substrates with Dialkylglycine Decarboxylase. Biochemistry, 1998, 37, 3876-3885. | 2.5 | 18 |
| 49 | Light-Enhanced Catalysis by Pyridoxal Phosphate-Dependent Aspartate Aminotransferase. Journal of the American Chemical Society, 2010, 132, 16953-16961. | 13.7 | 16 |
| 50 | Ground-State Electronic Destabilization via Hyperconjugation in Aspartate Aminotransferase. Journal of the American Chemical Society, 2012, 134, 8436-8438. | 13.7 | 16 |
| 51 | Crystal Structures of Aspartate Aminotransferase Reconstituted with 1-Deazapyridoxal 5â€²-Phosphate: Internal Aldimine and Stablel-Aspartate External Aldimine. Biochemistry, 2011, 50, 5918-5924. | 2.5 | 14 |
| 52 | Conversion of Aminodeoxychorismate Synthase into Anthranilate Synthase with Janus Mutations: Mechanism of Pyruvate Elimination Catalyzed by Chorismate Enzymes. Biochemistry, 2015, 54, 2372-2384. | 2.5 | 14 |
| 53 | Directed evolution of the substrate specificity of dialkylglycine decarboxylase. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2015, 1854, 146-155. | 2.3 | 14 |
| 54 | Ionization state of pyridoxal 5â€²-phosphate 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, 230-238. | 2.3 | 11 |

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|---|---|---|---|
| 55 | Mutational Analysis of Substrate Interactions with the Active Site of Dialkylglycine Decarboxylase. Biochemistry, 2010, 49, 6485-6493. | 2.5 | 11 |
| 56 | Chemoenzymatic synthesis of 1-deaza-pyridoxal 5â€²-phosphate. Bioorganic and Medicinal Chemistry Letters, 2010, 20, 1352-1354. | 2.2 | 9 |
| 57 | Carbon Acidity in Enzyme Active Sites. Frontiers in Bioengineering and Biotechnology, 2019, 7, 25. | 4.1 | 9 |
| 58 | Kinetic and Thermodynamic Analysis of the Interaction of Cations with Dialkylglycine Decarboxylase. Biochemistry, 2004, 43, 4998-5010. | 2.5 | 7 |
| 59 | Crystallization and preliminary X-ray diffraction studies of dialkylglycine decarboxylase, a decarboxylating transaminase. Journal of Molecular Biology, 1991, 222, 873-875. | 4.2 | 6 |