

Christian P Whitman

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/6334388/publications.pdf>

Version: 2024-02-01

71
papers

1,952
citations

218592

26
h-index

254106

43
g-index

71
all docs

71
docs citations

71
times ranked

855
citing authors

#	ARTICLE	IF	CITATIONS
1	4-Oxalocrotonate Tautomerase: pH Dependence of Catalysis and pKa Values of Active Site Residues. <i>Biochemistry</i> , 1996, 35, 814-823.	1.2	125
2	Chemical and enzymic ketonization of 2-hydroxymuconate, a conjugated enol. <i>Journal of the American Chemical Society</i> , 1991, 113, 3154-3162.	6.6	122
3	The 4-oxalocrotonate tautomerase family of enzymes: how nature makes new enzymes using a structural motif. <i>Archives of Biochemistry and Biophysics</i> , 2002, 402, 1-13.	1.4	110
4	Catalytic Role of the Amino-Terminal Proline in 4-Oxalocrotonate Tautomerase: Affinity Labeling and Heteronuclear NMR Studies. <i>Biochemistry</i> , 1996, 35, 803-813.	1.2	90
5	Crystal Structure of Macrophage Migration Inhibitory Factor Complexed with (E)-2-Fluoro-p-hydroxycinnamate at 1.8 Å... Resolution: Implications for Enzymatic Catalysis and Inhibition. <i>Biochemistry</i> , 1999, 38, 7444-7452.	1.2	83
6	Characterization of the Role of the Amino-Terminal Proline in the Enzymatic Activity Catalyzed by Macrophage Migration Inhibitory Factor. <i>Biochemistry</i> , 1998, 37, 10195-10202.	1.2	76
7	Crystal Structure of 4-Oxalocrotonate Tautomerase Inactivated by 2-Oxo-3-pentynoate at 2.4 Å... Resolution: Analysis and Implications for the Mechanism of Inactivation and Catalysis. <i>Biochemistry</i> , 1998, 37, 14692-14700.	1.2	73
8	The Structural Basis for the Perturbed pKa of the Catalytic Base in 4-Oxalocrotonate Tautomerase: Kinetic and Structural Effects of Mutations of Phe-50. <i>Biochemistry</i> , 2001, 40, 1984-1995.	1.2	73
9	Reactions of trans-3-Chloroacrylic Acid Dehalogenase with Acetylene Substrates: Consequences of and Evidence for a Hydration Reaction. <i>Biochemistry</i> , 2003, 42, 8762-8773.	1.2	65
10	Kinetic, Stereochemical, and Structural Effects of Mutations of the Active Site Arginine Residues in 4-Oxalocrotonate Tautomerase. <i>Biochemistry</i> , 1999, 38, 12343-12357.	1.2	64
11	The 4-Oxalocrotonate Tautomerase- and YwhB-Catalyzed Hydration of 3E-Haloacrylates: Implications for the Evolution of New Enzymatic Activities. <i>Journal of the American Chemical Society</i> , 2003, 125, 14282-14283.	6.6	53
12	Kinetic and Structural Effects of Mutations of the Catalytic Amino-Terminal Proline in 4-Oxalocrotonate Tautomerase. <i>Biochemistry</i> , 1997, 36, 14551-14560.	1.2	48
13	Effects of Mutations of the Active Site Arginine Residues in 4-Oxalocrotonate Tautomerase on the pKa Values of Active Site Residues and on the pH Dependence of Catalysis. <i>Biochemistry</i> , 1999, 38, 12358-12366.	1.2	46
14	Evolution of enzymatic activity in the tautomerase superfamily: mechanistic and structural studies of the 1,3-dichloropropene catabolic enzymes. <i>Bioorganic Chemistry</i> , 2004, 32, 376-392.	2.0	43
15	The X-ray Structure of trans-3-Chloroacrylic Acid Dehalogenase Reveals a Novel Hydration Mechanism in the Tautomerase Superfamily. <i>Journal of Biological Chemistry</i> , 2004, 279, 11546-11552.	1.6	42
16	Cloning, Expression, and Characterization of acis-3-Chloroacrylic Acid Dehalogenase: Insights into the Mechanistic, Structural, and Evolutionary Relationship between Isomer-Specific 3-Chloroacrylic Acid Dehalogenases. <i>Biochemistry</i> , 2004, 43, 759-772.	1.2	42
17	Mechanistic Characterization of a Bacterial Malonate Semialdehyde Decarboxylase. <i>Journal of Biological Chemistry</i> , 2003, 278, 48674-48683.	1.6	40
18	Absolute stereochemical course of the 3-carboxymuconate cycloisomerases from <i>Pseudomonas putida</i> and <i>Acinetobacter calcoaceticus</i> : analysis and implications. <i>Journal of the American Chemical Society</i> , 1987, 109, 5514-5519.	6.6	39

#	ARTICLE	IF	CITATIONS
19	A global view of structure–function relationships in the tautomerase superfamily. <i>Journal of Biological Chemistry</i> , 2018, 293, 2342-2357.	1.6	39
20	Stereospecific ketonization of 2-hydroxymuconate by 4-oxalocrotonate tautomerase and 5-(carboxymethyl)-2-hydroxymuconate isomerase. <i>Journal of the American Chemical Society</i> , 1992, 114, 10104-10110.	6.6	34
21	Inactivation of 4-Oxalocrotonate Tautomerase by 2-Oxo-3-pentynoate. <i>Biochemistry</i> , 1997, 36, 15724-15732.	1.2	34
22	The Roles of Active-Site Residues in the Catalytic Mechanism of trans-3-Chloroacrylic Acid Dehalogenase: A Kinetic, NMR, and Mutational Analysis. <i>Biochemistry</i> , 2004, 43, 4082-4091.	1.2	33
23	Crystal Structures of Native and Inactivated cis-3-Chloroacrylic Acid Dehalogenase. <i>Journal of Biological Chemistry</i> , 2007, 282, 2440-2449.	1.6	33
24	The Crystal Structure of YdcE, a 4-Oxalocrotonate Tautomerase Homologue from <i>Escherichia coli</i> , Confirms the Structural Basis for Oligomer Diversity. <i>Biochemistry</i> , 2002, 41, 12010-12024.	1.2	30
25	The Hydratase Activity of Malonate Semialdehyde Decarboxylase: Mechanistic and Evolutionary Implications. <i>Journal of the American Chemical Society</i> , 2004, 126, 15658-15659.	6.6	29
26	Mechanism of the Phenylpyruvate Tautomerase Activity of Macrophage Migration Inhibitory Factor: Properties of the P1G, P1A, Y95F, and N97A Mutants. <i>Biochemistry</i> , 2000, 39, 9671-9678.	1.2	26
27	Evolution of Enzymatic Activity in the Tautomerase Superfamily: Mechanistic and Structural Consequences of the L8R Mutation in 4-Oxalocrotonate Tautomerase. <i>Biochemistry</i> , 2006, 45, 7700-7708.	1.2	26
28	Kinetic and Structural Characterization of a Heterohexamer 4-Oxalocrotonate Tautomerase from <i>Chloroflexus aurantiacus</i> J-10-fl: Implications for Functional and Structural Diversity in the Tautomerase Superfamily. <i>Biochemistry</i> , 2010, 49, 5016-5027.	1.2	25
29	Crystal Structures of the Wild-Type, P1A Mutant, and Inactivated Malonate Semialdehyde Decarboxylase: A Structural Basis for the Decarboxylase and Hydratase Activities. <i>Biochemistry</i> , 2005, 44, 14818-14827.	1.2	23
30	Kinetic and Stereochemical Analysis of YwhB, a 4-Oxalocrotonate Tautomerase Homologue in <i>Bacillus subtilis</i> : Mechanistic Implications for the YwhB- and 4-Oxalocrotonate Tautomerase-Catalyzed Reactions. <i>Biochemistry</i> , 2007, 46, 11919-11929.	1.2	20
31	Stereochemical and Isotopic Labeling Studies of 4-Oxalocrotonate Decarboxylase and Vinylpyruvate Hydratase: Analysis and Mechanistic Implications. <i>Journal of the American Chemical Society</i> , 1994, 116, 10403-10411.	6.6	19
32	Stereospecific Alkylation of cis-3-Chloroacrylic Acid Dehalogenase by (R)-Oxirane-2-carboxylate: Analysis and Mechanistic Implications. <i>Biochemistry</i> , 2004, 43, 7187-7196.	1.2	19
33	Characterization of Cg10062 from <i>Corynebacterium glutamicum</i> : Implications for the Evolution of cis-3-Chloroacrylic Acid Dehalogenase Activity in the Tautomerase Superfamily. <i>Biochemistry</i> , 2008, 47, 8139-8147.	1.2	19
34	Reaction of cis-3-Chloroacrylic Acid Dehalogenase with an Allene Substrate, 2,3-Butadienoate: Hydration via an Enamine. <i>Journal of the American Chemical Society</i> , 2012, 134, 293-304.	6.6	19
35	4-Oxalocrotonate tautomerase, a 41 kDa homohexamer: Backbone and side chain resonance assignments, solution secondary structure, and location of active site residues by heteronuclear NMR spectroscopy. <i>Protein Science</i> , 1996, 5, 729-741.	3.1	18
36	Phenylpyruvate Tautomerase Activity of trans-3-Chloroacrylic Acid Dehalogenase: Evidence for an Enol Intermediate in the Dehalogenase Reaction?. <i>Biochemistry</i> , 2007, 46, 9596-9604.	1.2	18

#	ARTICLE	IF	CITATIONS
37	Chemical and enzymic ketonization of 5-(carboxymethyl)-2-hydroxymuconate. <i>Journal of the American Chemical Society</i> , 1993, 115, 3533-3542.	6.6	17
38	Inactivation of Malonate Semialdehyde Decarboxylase by 3-Halopropiolates: Evidence for Hydratase Activity. <i>Biochemistry</i> , 2005, 44, 9375-9381.	1.2	17
39	Kinetic, Crystallographic, and Mechanistic Characterization of TomN: Elucidation of a Function for a 4-Oxalocrotonate Tautomerase Homologue in the Tomaymycin Biosynthetic Pathway. <i>Biochemistry</i> , 2011, 50, 7600-7611.	1.2	17
40	Expression and Stereochemical and Isotope Effect Studies of Active 4-Oxalocrotonate Decarboxylase. <i>Biochemistry</i> , 2000, 39, 718-726.	1.2	15
41	A Kinetic and Stereochemical Investigation of the Role of Lysine-32 in the Phenylpyruvate Tautomerase Activity Catalyzed by Macrophage Migration Inhibitory Factor. <i>Biochemistry</i> , 1999, 38, 16024-16033.	1.2	14
42	Laccase removal of 2-chlorophenol and sulfamethoxazole in municipal wastewater. <i>Water Environment Research</i> , 2019, 91, 281-291.	1.3	14
43	Identification and characterization of new family members in the tautomerase superfamily: Analysis and implications. <i>Archives of Biochemistry and Biophysics</i> , 2014, 564, 189-196.	1.4	13
44	Reactions of 4-Oxalocrotonate Tautomerase and YwhB with 3-Halopropiolates: Analysis and Implications. <i>Biochemistry</i> , 2004, 43, 748-758.	1.2	12
45	A Pre-Steady State Kinetic Analysis of the Y60W Mutant of <i>trans</i> -3-Chloroacrylic Acid Dehalogenase: Implications for the Mechanism of the Wild-Type Enzyme. <i>Biochemistry</i> , 2012, 51, 9420-9435.	1.2	12
46	The Contribution of the Substrate's Carboxylate Group to the Mechanism of 4-Oxalocrotonate Tautomerase. <i>Bioorganic Chemistry</i> , 1998, 26, 141-156.	2.0	10
47	Structural Characterization of the Hydratase-Aldolases, NahE and PhdJ: Implications for the Specificity, Catalysis, and <i>N</i> -Acetylneuraminic Lyase Subgroup of the Aldolase Superfamily. <i>Biochemistry</i> , 2018, 57, 3524-3536.	1.2	10
48	Pre-Steady-State Kinetic Analysis of <i>cis</i> -3-Chloroacrylic Acid Dehalogenase: Analysis and Implications. <i>Biochemistry</i> , 2009, 48, 11737-11744.	1.2	9
49	Kinetic and structural characterization of a <i>cis</i> -3-Chloroacrylic acid dehalogenase homologue in <i>Pseudomonas</i> sp. UW4: A potential step between subgroups in the tautomerase superfamily. <i>Archives of Biochemistry and Biophysics</i> , 2017, 636, 50-56.	1.4	9
50	Symmetry of 4-Oxalocrotonate Tautomerase Trimers Influences Unfolding and Fragmentation in the Gas Phase. <i>Journal of the American Chemical Society</i> , 2022, 144, 12299-12309.	6.6	7
51	Crystal structures of native and inactivated <i>cis</i> -3-chloroacrylic acid dehalogenase: Implications for the catalytic and inactivation mechanisms. <i>Bioorganic Chemistry</i> , 2011, 39, 1-9.	2.0	6
52	Kinetic, Mutational, and Structural Analysis of Malonate Semialdehyde Decarboxylase from <i>Corynebacterium</i> Strain FG41: Mechanistic Implications for the Decarboxylase and Hydratase Activities. <i>Biochemistry</i> , 2013, 52, 4830-4841.	1.2	6
53	Reactions of Cg10062, a <i>cis</i> -3-Chloroacrylic Acid Dehalogenase Homologue, with Acetylene and Allene Substrates: Evidence for a Hydration-Dependent Decarboxylation. <i>Biochemistry</i> , 2015, 54, 3009-3023.	1.2	6
54	Crystal Structures of Apo and Liganded 4-Oxalocrotonate Decarboxylase Uncover a Structural Basis for the Metal-Assisted Decarboxylation of a Vinylogous β^2 -Keto Acid. <i>Biochemistry</i> , 2016, 55, 2632-2645.	1.2	6

#	ARTICLE	IF	CITATIONS
55	Structural, Kinetic, and Mechanistic Analysis of an Asymmetric 4-Oxalocrotonate Tautomerase Trimer. <i>Biochemistry</i> , 2019, 58, 2617-2627.	1.2	6
56	Structural Basis for the Asymmetry of a 4-Oxalocrotonate Tautomerase Trimer. <i>Biochemistry</i> , 2020, 59, 1592-1603.	1.2	6
57	The Birth of Genomic Enzymology: Discovery of the Mechanistically Diverse Enolase Superfamily. <i>Biochemistry</i> , 2021, 60, 3515-3528.	1.2	5
58	A mutational analysis of active site residues in <i>trans</i> -3-chloroacrylic acid dehalogenase. <i>FEBS Letters</i> , 2013, 587, 2842-2850.	1.3	4
59	A Mutational Analysis of the Active Site Loop Residues in <i>trans</i> -3-Chloroacrylic Acid Dehalogenase. <i>Biochemistry</i> , 2013, 52, 4204-4216.	1.2	4
60	Structural and kinetic characterization of recombinant 2-hydroxymuconate semialdehyde dehydrogenase from <i>Pseudomonas putida</i> G7. <i>Archives of Biochemistry and Biophysics</i> , 2015, 579, 8-17.	1.4	4
61	Preparation of dihydroxy polycyclic aromatic hydrocarbons and activities of two dioxygenases in the phenanthrene degradative pathway. <i>Archives of Biochemistry and Biophysics</i> , 2019, 673, 108081.	1.4	4
62	The bacterial catabolism of polycyclic aromatic hydrocarbons: Characterization of three hydratase-aldolase-catalyzed reactions. <i>Perspectives in Science</i> , 2016, 9, 33-41.	0.6	3
63	Kinetic and Structural Analysis of Two Linkers in the Tautomerase Superfamily: Analysis and Implications. <i>Biochemistry</i> , 2021, 60, 1776-1786.	1.2	3
64	Structural and mechanistic analysis of <i>trans</i> -3-chloroacrylic acid dehalogenase activity. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2008, 64, 1277-1282.	2.5	2
65	Kinetic and structural characterization of Dmpl from <i>Helicobacter pylori</i> and <i>Archaeoglobus fulgidus</i> , two 4-oxalocrotonate tautomerase family members. <i>Bioorganic Chemistry</i> , 2010, 38, 252-259.	2.0	2
66	Structural and kinetic characterization of two 4-oxalocrotonate tautomerase in <i>Methylobium petroleiphilum</i> strain PM1. <i>Archives of Biochemistry and Biophysics</i> , 2013, 537, 113-124.	1.4	2
67	Stereochemical Consequences of Vinylpyruvate Hydratase-Catalyzed Reactions. <i>Biochemistry</i> , 2016, 55, 4055-4064.	1.2	2
68	Resolution of the uncertainty in the kinetic mechanism for the <i>trans</i> -3-Chloroacrylic acid dehalogenase-catalyzed reaction. <i>Archives of Biochemistry and Biophysics</i> , 2017, 623-624, 9-19.	1.4	2
69	Inactivation of 4-Oxalocrotonate Tautomerase by 5-Halo-2-hydroxy-2,4-pentadienoates. <i>Biochemistry</i> , 2018, 57, 1012-1021.	1.2	2
70	Kinetic, Inhibition, and Structural Characterization of a Malonate Semialdehyde Decarboxylase-like Protein from <i>Calothrix</i> sp. PCC 6303: A Gateway to the non-Pro1 Tautomerase Superfamily Members. <i>Biochemistry</i> , 2022, , .	1.2	2
71	Synthesis and enzymatic ketonization of the 5-(halo)-2-hydroxymuconates and 5-(halo)-2-hydroxy-2,4-pentadienoates. <i>Beilstein Journal of Organic Chemistry</i> , 2017, 13, 1022-1031.	1.3	1