Christian P Whitman

List of Publications by Year
in descending order

71	1,952	218592	254106
papers	citations	26 h-index	43 g-index

71	71	71	855
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Kinetic, Inhibition, and Structural Characterization of a Malonate Semialdehyde Decarboxylase-like Protein from Calothrix sp. PCC 6303: A Gateway to the non-Pro1 Tautomerase Superfamily Members. Biochemistry, 2022, , .	1.2	2
2	Symmetry of 4-Oxalocrotonate Tautomerase Trimers Influences Unfolding and Fragmentation in the Gas Phase. Journal of the American Chemical Society, 2022, 144, 12299-12309.	6.6	7
3	Kinetic and Structural Analysis of Two Linkers in the Tautomerase Superfamily: Analysis and Implications. Biochemistry, 2021, 60, 1776-1786.	1.2	3
4	The Birth of Genomic Enzymology: Discovery of the Mechanistically Diverse Enolase Superfamily. Biochemistry, 2021, 60, 3515-3528.	1.2	5
5	Structural Basis for the Asymmetry of a 4-Oxalocrotonate Tautomerase Trimer. Biochemistry, 2020, 59, 1592-1603.	1.2	6
6	Preparation of dihydroxy polycyclic aromatic hydrocarbons and activities of two dioxygenases in the phenanthrene degradative pathway. Archives of Biochemistry and Biophysics, 2019, 673, 108081.	1.4	4
7	Structural, Kinetic, and Mechanistic Analysis of an Asymmetric 4-Oxalocrotonate Tautomerase Trimer. Biochemistry, 2019, 58, 2617-2627.	1.2	6
8	Laccase removal of 2â€chlorophenol and sulfamethoxazole in municipal wastewater. Water Environment Research, 2019, 91, 281-291.	1.3	14
9	A global view of structureâ€“function relationships in the tautomerase superfamily. Journal of Biological Chemistry, 2018, 293, 2342-2357.	1.6	39
10	Inactivation of 4-Oxalocrotonate Tautomerase by 5-Halo-2-hydroxy-2,4-pentadienoates. Biochemistry, 2018, 57, 1012-1021.	1.2	2
11	Structural Characterization of the Hydratase-Aldolases, NahE and PhdJ: Implications for the Specificity, Catalysis, and N-Acetylneuraminate Lyase Subgroup of the Aldolase Superfamily. Biochemistry, 2018, 57, 3524-3536.	1.2	10
12	Resolution of the uncertainty in the kinetic mechanism for the trans -3-Chloroacrylic acid dehalogenase-catalyzed reaction. Archives of Biochemistry and Biophysics, 2017, 623-624, 9-19.	1.4	2
13	Kinetic and structural characterization of a cis -3-Chloroacrylic acid dehalogenase homologue in Pseudomonas sp. UW4: A potential step between subgroups in the tautomerase superfamily. Archives of Biochemistry and Biophysics, 2017, 636, 50-56.	1.4	9
14	Synthesis and enzymatic ketonization of the 5-(halo)-2-hydroxymuconates and 5-(halo)-2-hydroxy-2,4-pentadienoates. Beilstein Journal of Organic Chemistry, 2017, 13, 1022-1031.	1.3	1
15	Stereochemical Consequences of Vinylpyruvate Hydratase-Catalyzed Reactions. Biochemistry, 2016, 55, 4055-4064.	1.2	2
16	Crystal Structures of Apo and Liganded 4-Oxalocrotonate Decarboxylase Uncover a Structural Basis for the Metal-Assisted Decarboxylation of a Vinylogous Î²-Keto Acid. Biochemistry, 2016, 55, 2632-2645.	1.2	6
17	The bacterial catabolism of polycyclic aromatic hydrocarbons: Characterization of three hydratase-aldolase-catalyzed reactions. Perspectives in Science, 2016, 9, 33-41.	0.6	3
18	Structural and kinetic characterization of recombinant 2-hydroxymuconate semialdehyde dehydrogenase from Pseudomonas putida G7. Archives of Biochemistry and Biophysics, 2015, 579, 8-17.	1.4	4

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19	Reactions of Cg10062, a cis-3-Chloroacrylic Acid Dehalogenase Homologue, with Acetylene and Allene Substrates: Evidence for a Hydration-Dependent Decarboxylation. Biochemistry, 2015, 54, 3009-3023.	1.2	6
20	Identification and characterization of new family members in the tautomerase superfamily: Analysis and implications. Archives of Biochemistry and Biophysics, 2014, 564, 189-196.	1.4	13
21	Structural and kinetic characterization of two 4-oxalocrotonate tautomerases in Methylibium petroleiphilum strain PM1. Archives of Biochemistry and Biophysics, 2013, 537, 113-124.	1.4	2
22	A mutational analysis of active site residues in transâ€3â€chloroacrylic acid dehalogenase. FEBS Letters, 2013, 587, 2842-2850.	1.3	4
23	A Mutational Analysis of the Active Site Loop Residues incis-3-Chloroacrylic Acid Dehalogenase. Biochemistry, 2013, 52, 4204-4216.	1.2	4
24	Kinetic, Mutational, and Structural Analysis of Malonate Semialdehyde Decarboxylase fromCoryneformBacterium Strain FG41: Mechanistic Implications for the Decarboxylase and Hydratase Activities. Biochemistry, 2013, 52, 4830-4841.	1.2	6
25	A Pre-Steady State Kinetic Analysis of the Î±Y60W Mutant of trans-3-Chloroacrylic Acid Dehalogenase: Implications for the Mechanism of the Wild-Type Enzyme. Biochemistry, 2012, 51, 9420-9435.	1.2	12
26	Reaction ofcis-3-Chloroacrylic Acid Dehalogenase with an Allene Substrate, 2,3-Butadienoate: Hydration via an Enamine. Journal of the American Chemical Society, 2012, 134, 293-304.	6.6	19
27	Kinetic, Crystallographic, and Mechanistic Characterization of TomN: Elucidation of a Function for a 4-Oxalocrotonate Tautomerase Homologue in the Tomaymycin Biosynthetic Pathway. Biochemistry, 2011, 50, 7600-7611.	1.2	17
28	Crystal structures of native and inactivated cis-3-chloroacrylic acid dehalogenase: Implications for the catalytic and inactivation mechanisms. Bioorganic Chemistry, 2011, 39, 1-9.	2.0	6
29	Kinetic and structural characterization of DmpI from Helicobacter pylori and Archaeoglobus fulgidus, two 4-oxalocrotonate tautomerase family members. Bioorganic Chemistry, 2010, 38, 252-259.	2.0	2
30	Kinetic and Structural Characterization of a Heterohexamer 4-Oxalocrotonate Tautomerase from Chloroflexus aurantiacus J-10-fl: Implications for Functional and Structural Diversity in the Tautomerase Superfamily,. Biochemistry, 2010, 49, 5016-5027.	1.2	25
31	Pre-Steady-State Kinetic Analysis of cis-3-Chloroacrylic Acid Dehalogenase: Analysis and Implications. Biochemistry, 2009, 48, 11737-11744.	1.2	9
32	Structural and mechanistic analysis oftrans-3-chloroacrylic acid dehalogenase activity. Acta Crystallographica Section D: Biological Crystallography, 2008, 64, 1277-1282.	2.5	2
33	Characterization of Cg10062 from Corynebacterium glutamicum: Implications for the Evolution of cis-3-Chloroacrylic Acid Dehalogenase Activity in the Tautomerase Superfamily. Biochemistry, 2008, 47, 8139-8147.	1.2	19
34	Crystal Structures of Native and Inactivated cis-3-Chloroacrylic Acid Dehalogenase. Journal of Biological Chemistry, 2007, 282, 2440-2449.	1.6	33
35	Phenylpyruvate Tautomerase Activity of trans-3-Chloroacrylic Acid Dehalogenase:â€‰ Evidence for an Enol Intermediate in the Dehalogenase Reaction?. Biochemistry, 2007, 46, 9596-9604.	1.2	18
36	Kinetic and Stereochemical Analysis of YwhB, a 4-Oxalocrotonate Tautomerase Homologue in Bacillus subtilis:â€‰ Mechanistic Implications for the YwhB- and 4-Oxalocrotonate Tautomerase-Catalyzed Reactions. Biochemistry, 2007, 46, 11919-11929.	1.2	20

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37	Evolution of Enzymatic Activity in the Tautomerase Superfamily:Â Mechanistic and Structural Consequences of the L8R Mutation in 4-Oxalocrotonate Tautomeraseâ€,â€¡. Biochemistry, 2006, 45, 7700-7708.	1.2	26
38	Inactivation of Malonate Semialdehyde Decarboxylase by 3-Halopropiolates:â€‰ Evidence for Hydratase Activity. Biochemistry, 2005, 44, 9375-9381.	1.2	17
39	Crystal Structures of the Wild-Type, P1A Mutant, and Inactivated Malonate Semialdehyde Decarboxylase:â€‰ A Structural Basis for the Decarboxylase and Hydratase Activities,. Biochemistry, 2005, 44, 14818-14827.	1.2	23
40	The X-ray Structure of trans-3-Chloroacrylic Acid Dehalogenase Reveals a Novel Hydration Mechanism in the Tautomerase Superfamily. Journal of Biological Chemistry, 2004, 279, 11546-11552.	1.6	42
41	Evolution of enzymatic activity in the tautomerase superfamily: mechanistic and structural studies of the 1,3-dichloropropene catabolic enzymes. Bioorganic Chemistry, 2004, 32, 376-392.	2.0	43
42	Reactions of 4-Oxalocrotonate Tautomerase and YwhB with 3-Halopropiolates:Â Analysis and Implicationsâ€. Biochemistry, 2004, 43, 748-758.	1.2	12
43	The Roles of Active-Site Residues in the Catalytic Mechanism of trans-3-Chloroacrylic Acid Dehalogenase:â€‰ A Kinetic, NMR, and Mutational Analysis. Biochemistry, 2004, 43, 4082-4091.	1.2	33
44	Cloning, Expression, and Characterization of acis-3-Chloroacrylic Acid Dehalogenase:Â Insights into the Mechanistic, Structural, and Evolutionary Relationship between Isomer-Specific 3-Chloroacrylic Acid Dehalogenasesâ€. Biochemistry, 2004, 43, 759-772.	1.2	42
45	Stereospecific Alkylation ofcis-3-Chloroacrylic Acid Dehalogenase by (R)-Oxirane-2-carboxylate:Â Analysis and Mechanistic Implicationsâ€. Biochemistry, 2004, 43, 7187-7196.	1.2	19
46	The Hydratase Activity of Malonate Semialdehyde Decarboxylase:Â Mechanistic and Evolutionary Implications. Journal of the American Chemical Society, 2004, 126, 15658-15659.	6.6	29
47	Reactions oftrans-3-Chloroacrylic Acid Dehalogenase with Acetylene Substrates:Â Consequences of and Evidence for a Hydration Reactionâ€. Biochemistry, 2003, 42, 8762-8773.	1.2	65
48	The 4-Oxalocrotonate Tautomerase- and YwhB-Catalyzed Hydration of 3E-Haloacrylates:Â Implications for the Evolution of New Enzymatic Activities. Journal of the American Chemical Society, 2003, 125, 14282-14283.	6.6	53
49	Mechanistic Characterization of a Bacterial Malonate Semialdehyde Decarboxylase. Journal of Biological Chemistry, 2003, 278, 48674-48683.	1.6	40
50	The Crystal Structure of YdcE, a 4-Oxalocrotonate Tautomerase Homologue from Escherichia coli, Confirms the Structural Basis for Oligomer Diversity,. Biochemistry, 2002, 41, 12010-12024.	1.2	30
51	The 4-oxalocrotonate tautomerase family of enzymes: how nature makes new enzymes using a Î²â€“Î±â€“Î² structural motif. Archives of Biochemistry and Biophysics, 2002, 402, 1-13.	1.4	110
52	The Structural Basis for the Perturbed pKa of the Catalytic Base in 4-Oxalocrotonate Tautomerase:â€‰ Kinetic and Structural Effects of Mutations of Phe-50. Biochemistry, 2001, 40, 1984-1995.	1.2	73
53	Expression and Stereochemical and Isotope Effect Studies of Active 4-Oxalocrotonate Decarboxylase. Biochemistry, 2000, 39, 718-726.	1.2	15
54	Mechanism of the Phenylpyruvate Tautomerase Activity of Macrophage Migration Inhibitory Factor:â€‰ Properties of the P1G, P1A, Y95F, and N97A Mutants,. Biochemistry, 2000, 39, 9671-9678.	1.2	26

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55	A Kinetic and Stereochemical Investigation of the Role of Lysine-32 in the Phenylpyruvate Tautomerase Activity Catalyzed by Macrophage Migration Inhibitory Factorâ€. Biochemistry, 1999, 38, 16024-16033.	1.2	14
56	Crystal Structure of Macrophage Migration Inhibitory Factor Complexed with (E)-2-Fluoro-p-hydroxycinnamate at 1.8 Ã… Resolution:â€‰ Implications for Enzymatic Catalysis and Inhibition,. Biochemistry, 1999, 38, 7444-7452.	1.2	83
57	Kinetic, Stereochemical, and Structural Effects of Mutations of the Active Site Arginine Residues in 4-Oxalocrotonate Tautomeraseâ€. Biochemistry, 1999, 38, 12343-12357.	1.2	64
58	Effects of Mutations of the Active Site Arginine Residues in 4-Oxalocrotonate Tautomerase on the pKaValues of Active Site Residues and on the pH Dependence of Catalysisâ€. Biochemistry, 1999, 38, 12358-12366.	1.2	46
59	The Contribution of the Substrate's Carboxylate Group to the Mechanism of 4-Oxalocrotonate Tautomerase. Bioorganic Chemistry, 1998, 26, 141-156.	2.0	10
60	Crystal Structure of 4-Oxalocrotonate Tautomerase Inactivated by 2-Oxo-3-pentynoate at 2.4 Ã… Resolution:Â Analysis and Implications for the Mechanism of Inactivation and Catalysisâ€,â€¡. Biochemistry, 1998, 37, 14692-14700.	1.2	73
61	Characterization of the Role of the Amino-Terminal Proline in the Enzymatic Activity Catalyzed by Macrophage Migration Inhibitory Factor. Biochemistry, 1998, 37, 10195-10202.	1.2	76
62	Kinetic and Structural Effects of Mutations of the Catalytic Amino-Terminal Proline in 4-Oxalocrotonate Tautomeraseâ€. Biochemistry, 1997, 36, 14551-14560.	1.2	48
63	Inactivation of 4-Oxalocrotonate Tautomerase by 2-Oxo-3-pentynoateâ€. Biochemistry, 1997, 36, 15724-15732.	1.2	34
64	4-Oxalocrotonate Tautomerase:Â pH Dependence of Catalysis and pKaValues of Active Site Residuesâ€. Biochemistry, 1996, 35, 814-823.	1.2	125
65	Catalytic Role of the Amino-Terminal Proline in 4-Oxalocrotonate Tautomerase:Â Affinity Labeling and Heteronuclear NMR Studiesâ€. Biochemistry, 1996, 35, 803-813.	1.2	90
66	4â€Oxalocrotonate tautomerase, a 41â€kDa homohexamer: Backbone and sideâ€chain resonance assignments, solution secondary structure, and location of active site residues by heteronuclear NMR spectroscopy. Protein Science, 1996, 5, 729-741.	3.1	18
67	Stereochemical and Isotopic Labeling Studies of 4-Oxalocrotonate Decarboxylase and Vinylpyruvate Hydratase: Analysis and Mechanistic Implications. Journal of the American Chemical Society, 1994, 116, 10403-10411.	6.6	19
68	Chemical and enzymic ketonization of 5-(carboxymethyl)-2-hydroxymuconate. Journal of the American Chemical Society, 1993, 115, 3533-3542.	6.6	17
69	Stereospecific ketonization of 2-hydroxymuconate by 4-oxalocrotonate tautomerase and 5-(carboxymethyl)-2-hydroxymuconate isomerase. Journal of the American Chemical Society, 1992, 114, 10104-10110.	6.6	34
70	Chemical and enzymic ketonization of 2-hydroxymuconate, a conjugated enol. Journal of the American Chemical Society, 1991, 113, 3154-3162.	6.6	122
71	Absolute stereochemical course of the 3-carboxymuconate cycloisomerases from Pseudomonas putida and Acinetobacter calcoaceticus: analysis and implications. Journal of the American Chemical Society, 1987, 109, 5514-5519.	6.6	39