

Ronald E Viola

List of Publications by Year in descending order

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110
papers

2,778
citations

186265

28
h-index

223800

46
g-index

112
all docs

112
docs citations

112
times ranked

2421
citing authors

#	ARTICLE	IF	CITATIONS
1	Detergent selection for enhanced extraction of membrane proteins. <i>Protein Expression and Purification</i> , 2012, 86, 12-20.	1.3	140
2	Immunohistochemical localization of aspartoacylase in the rat central nervous system. <i>Journal of Comparative Neurology</i> , 2004, 472, 318-329.	1.6	135
3	Stereoselective preparation of deuterated reduced nicotinamide adenine nucleotides and substrates by enzymatic synthesis. <i>Analytical Biochemistry</i> , 1979, 96, 334-340.	2.4	133
4	The Central Enzymes of the Aspartate Family of Amino Acid Biosynthesis. <i>Accounts of Chemical Research</i> , 2001, 34, 339-349.	15.6	126
5	Evaluation of Methods for the Quantitation of Cysteines in Proteins. <i>Analytical Biochemistry</i> , 1998, 265, 8-14.	2.4	104
6	The Structure of L-Aspartate Ammonia-Lyase from <i>Escherichia coli</i> . <i>Biochemistry</i> , 1997, 36, 9136-9144.	2.5	85
7	Phosphorus-31 NMR and kinetic studies of the formation of ortho-, pyro-, and triphosphato complexes of cis-dichlorodiammineplatinum(II). <i>Journal of the American Chemical Society</i> , 1984, 106, 3336-3343.	13.7	65
8	L-Aspartase from <i>Escherichia coli</i> : substrate specificity and role of divalent metal ions. <i>Biochemistry</i> , 1988, 27, 9089-9093.	2.5	61
9	Active Site Analysis of the Potential Antimicrobial Target Aspartate Semialdehyde Dehydrogenase. <i>Biochemistry</i> , 2001, 40, 14475-14483.	2.5	51
10	Oxyanion Specificity of Aspartate- $\hat{\text{C}}^2$ -semialdehyde Dehydrogenase. <i>Inorganic Chemistry</i> , 1999, 38, 818-820.	4.0	49
11	Chemical and kinetic mechanisms of aspartate- $\hat{\text{C}}^2$ -semialdehyde dehydrogenase from <i>Escherichia coli</i> . <i>BBA - Proteins and Proteomics</i> , 1991, 1077, 209-219.	2.1	47
12	A structural basis for the mechanism of aspartate- $\hat{\text{C}}^2$ -semialdehyde dehydrogenase from <i>Vibrio cholerae</i> . <i>Protein Science</i> , 2003, 12, 27-33.	7.6	46
13	The use of ^{13}C spin lattice relaxation times to study the interaction of $\hat{\text{C}}^2$ -methyl-d-glucopyranoside with concanavalin A. <i>Archives of Biochemistry and Biophysics</i> , 1974, 160, 465-468.	3.0	44
14	Purification of aspartase and aspartokinase-homoserine dehydrogenase I from <i>Escherichia coli</i> by dye-ligand chromatography. <i>Analytical Biochemistry</i> , 1985, 147, 336-341.	2.4	44
15	Multinuclear NMR studies and the kinetics of formation of platinum(II)-adenine nucleotide complexes. <i>Journal of the American Chemical Society</i> , 1986, 108, 4403-4408.	13.7	42
16	The effect of deuteration on protein structure: a high-resolution comparison of hydrogenous and perdeuterated haloalkane dehalogenase. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2007, 63, 1000-1008.	2.5	42
17	Capture of an intermediate in the catalytic cycle of L-aspartate- $\hat{\text{C}}^2$ -semialdehyde dehydrogenase. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003, 100, 12613-12617.	7.1	41
18	Evaluation of Functionally Important Amino Acids in L-Aspartate Ammonia-Lyase from <i>Escherichia coli</i> . <i>Biochemistry</i> , 1997, 36, 9145-9150.	2.5	39

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19	Characterization of Human Aspartoacylase: The Brain Enzyme Responsible for Canavan Disease. <i>Biochemistry</i> , 2006, 45, 5878-5884.	2.5	39
20	Examination of Key Intermediates in the Catalytic Cycle of Aspartate- β -semialdehyde Dehydrogenase from a Gram-positive Infectious Bacteria. <i>Journal of Biological Chemistry</i> , 2006, 281, 31031-31040.	3.4	38
21	A New Branch in the Family: Structure of Aspartate- β -semialdehyde Dehydrogenase from <i>Methanococcus jannaschii</i> . <i>Journal of Molecular Biology</i> , 2005, 353, 1055-1068.	4.2	35
22	Examination of the Mechanism of Human Brain Aspartoacylase through the Binding of an Intermediate Analogue. <i>Biochemistry</i> , 2008, 47, 3484-3492.	2.5	35
23	Kinetic studies of L-aspartase from <i>Escherichia coli</i> : pH-dependent activity changes. <i>Archives of Biochemistry and Biophysics</i> , 1991, 287, 60-67.	3.0	33
24	Use of structural comparisons to select mutagenic targets in aspartate- β -semialdehyde dehydrogenase. <i>Biochemistry</i> , 1995, 34, 6394-6399.	2.5	33
25	Identification of an essential cysteine in the reaction catalyzed by aspartate- β -semialdehyde dehydrogenase from <i>Escherichia coli</i> . <i>BBA - Proteins and Proteomics</i> , 1992, 1121, 234-238.	2.1	32
26	Purification and preliminary characterization of brain aspartoacylase. <i>Archives of Biochemistry and Biophysics</i> , 2003, 413, 1-8.	3.0	32
27	[19] Initial velocity analysis for terreactant mechanisms. <i>Methods in Enzymology</i> , 1982, 87, 353-366.	1.0	31
28	Discovery of Novel Inhibitors of a Critical Brain Enzyme Using a Homology Model and a Deep Convolutional Neural Network. <i>Journal of Medicinal Chemistry</i> , 2020, 63, 8867-8875.	6.4	31
29	Fully automated protein purification. <i>Analytical Biochemistry</i> , 2009, 393, 176-181.	2.4	29
30	Spectroscopic studies on the copper(II) complexes of carnosine. <i>Journal of Inorganic Biochemistry</i> , 1979, 10, 281-292.	3.5	28
31	Expression and Purification of Aspartate β -Semialdehyde Dehydrogenase from Infectious Microorganisms. <i>Protein Expression and Purification</i> , 2002, 25, 189-194.	1.3	28
32	The Structural Basis for Allosteric Inhibition of a Threonine-sensitive Aspartokinase. <i>Journal of Biological Chemistry</i> , 2008, 283, 16216-16225.	3.4	28
33	Kinetics and mechanisms of platinum(II)-promoted hydrolysis of inorganic polyphosphates. <i>Inorganic Chemistry</i> , 1985, 24, 3989-3996.	4.0	27
34	The use of fluoro- and deoxy-substrate analogs to examine binding specificity and catalysis in the enzymes of the sorbitol pathway. <i>Carbohydrate Research</i> , 1998, 313, 247-253.	2.3	27
35	Substrate Specificity and Identification of Functional Groups of Homoserine Kinase from <i>Escherichia coli</i> . <i>Biochemistry</i> , 1996, 35, 16180-16185.	2.5	26
36	Attenuated enzootic (pestoides) isolates of <i>Yersinia pestis</i> express active aspartase. <i>Microbiology (United Kingdom)</i> , 2009, 155, 198-209.	1.8	26

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37	Kinetic studies of the reactions catalyzed by glucose-6-phosphate dehydrogenase from <i>Leuconostoc mesenteroides</i> : pH variation of kinetic parameters. <i>Archives of Biochemistry and Biophysics</i> , 1984, 228, 415-424.	3.0	25
38	Structural Analyses of a Malate Dehydrogenase with a Variable Active Site. <i>Journal of Biological Chemistry</i> , 2001, 276, 31156-31162.	3.4	25
39	Structural asymmetry and intersubunit communication in muscle creatine kinase. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2007, 63, 381-389.	2.5	25
40	The Catalytic Machinery of a Key Enzyme in Amino Acid Biosynthesis. <i>Journal of Amino Acids</i> , 2011, 2011, 1-11.	5.8	25
41	The initial step in the archaeal aspartate biosynthetic pathway catalyzed by a monofunctional aspartokinase. <i>Acta Crystallographica Section F: Structural Biology Communications</i> , 2006, 62, 962-966.	0.7	24
42	Identification of Selective Enzyme Inhibitors by Fragment Library Screening. <i>Journal of Biomolecular Screening</i> , 2010, 15, 1042-1050.	2.6	24
43	L-Aspartase: New Tricks from an Old Enzyme. <i>Advances in Enzymology and Related Areas of Molecular Biology</i> , 2006, 74, 295-341.	1.3	23
44	Structural Characterization of Inhibitors with Selectivity against Members of a Homologous Enzyme Family. <i>Chemical Biology and Drug Design</i> , 2012, 79, 128-136.	3.2	23
45	Aspartokinase-homoserine dehydrogenase I from <i>Escherichia coli</i> : pH and chemical modification studies of the kinase activity. <i>Biochemistry</i> , 1989, 28, 8771-8777.	2.5	22
46	The kinetic mechanisms of the bifunctional enzyme aspartokinase-homoserine dehydrogenase I from <i>Escherichia coli</i> . <i>Archives of Biochemistry and Biophysics</i> , 1990, 283, 96-101.	3.0	22
47	Relationship between enzyme properties and disease progression in Canavan disease. <i>Journal of Inherited Metabolic Disease</i> , 2013, 36, 1-6.	3.6	22
48	Aspartoacylase Catalytic Deficiency as the Cause of Canavan Disease: A Structural Perspective. <i>Biochemistry</i> , 2014, 53, 4970-4978.	2.5	22
49	Functional Group Characterization of Homoserine Kinase from <i>Escherichia coli</i> . <i>Archives of Biochemistry and Biophysics</i> , 1996, 330, 373-379.	3.0	21
50	Expansion of the aspartate β -semialdehyde dehydrogenase family: the first structure of a fungal ortholog. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2010, 66, 205-212.	2.5	21
51	Modification of aspartoacylase for potential use in enzyme replacement therapy for the treatment of Canavan disease. <i>Molecular Genetics and Metabolism</i> , 2011, 102, 176-180.	1.1	21
52	Effects of Extracellular Polymeric Substance Composition on Bacteria Disinfection by Monochloramine: Application of MALDI-TOF/TOF-MS and Multivariate Analysis. <i>Environmental Science & Technology</i> , 2016, 50, 9197-9205.	10.0	21
53	Introduction of Histidine Analogs Leads to Enhanced Proton Transfer in Carbonic Anhydrase V. <i>Archives of Biochemistry and Biophysics</i> , 1999, 361, 264-270.	3.0	20
54	Natural Products: A Rich Source of Antiviral Drug Lead Candidates for the Management of COVID-19. <i>Current Pharmaceutical Design</i> , 2021, 27, 3526-3550.	1.9	20

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55	The structure of a redundant enzyme: a second isoform of aspartate β^2 -semialdehyde dehydrogenase in <i>Vibrio cholerae</i> . <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2008, 64, 321-330.	2.5	19
56	Alternative substrates selective for S-adenosylmethionine synthetases from pathogenic bacteria. <i>Archives of Biochemistry and Biophysics</i> , 2013, 536, 64-71.	3.0	19
57	The role of substrate-binding groups in the mechanism of aspartate- β^2 -semialdehyde dehydrogenase. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2004, 60, 1388-1395.	2.5	18
58	Activation of carbonic anhydrase II by active-site incorporation of histidine analogs. <i>Archives of Biochemistry and Biophysics</i> , 2004, 421, 283-289.	3.0	18
59	Copper(II) complexes of carnosine, glycylglycine, and glycylglycine-imidazole mixtures. <i>Journal of Inorganic Biochemistry</i> , 1979, 10, 293-307.	3.5	17
60	Alteration of the Specificity of Malate Dehydrogenase by Chemical Modulation of an Active Site Arginine. <i>Journal of Biological Chemistry</i> , 2001, 276, 31151-31155.	3.4	17
61	Critical catalytic functional groups in the mechanism of aspartate- β^2 -semialdehyde dehydrogenase. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2004, 60, 1808-1815.	2.5	17
62	A rapid method for the purification of methanol dehydrogenase from <i>Methylobacterium extorquens</i> . <i>Protein Expression and Purification</i> , 2006, 46, 316-320.	1.3	17
63	Specificity of Aspartokinase III from <i>Escherichia coli</i> and an Examination of Important Catalytic Residues. <i>Archives of Biochemistry and Biophysics</i> , 1996, 335, 73-81.	3.0	16
64	A Spectrophotometric Assay of Arginase. <i>Analytical Biochemistry</i> , 2001, 295, 117-119.	2.4	16
65	A missense mutation causes aspartase deficiency in <i>Yersinia pestis</i> . <i>Microbiology (United Kingdom)</i> , 2008, 154, 1271-1280.	1.8	16
66	Probing the role of the hyper-reactive histidine residue of arginase. <i>Archives of Biochemistry and Biophysics</i> , 2005, 444, 15-26.	3.0	15
67	Molecular docking and enzymatic evaluation to identify selective inhibitors of aspartate semialdehyde dehydrogenase. <i>Bioorganic and Medicinal Chemistry</i> , 2012, 20, 2950-2956.	3.0	14
68	Synthesis and Evaluation of Alternative Substrates for Arginase. <i>Bioorganic Chemistry</i> , 2002, 30, 81-94.	4.1	13
69	Structural basis for discrimination between oxyanion substrates or inhibitors in aspartate- β^2 -semialdehyde dehydrogenase. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2004, 60, 2320-2324.	2.5	13
70	Structural characterization of tartrate dehydrogenase: a versatile enzyme catalyzing multiple reactions. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2010, 66, 673-684.	2.5	13
71	Elaboration of a fragment library hit produces potent and selective aspartate semialdehyde dehydrogenase inhibitors. <i>Bioorganic and Medicinal Chemistry</i> , 2015, 23, 6622-6631.	3.0	13
72	A multinuclear nmr relaxation study of the interaction of divalent metal ions with l-aspartic acid. <i>Journal of Inorganic Biochemistry</i> , 1984, 22, 33-42.	3.5	12

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73	Platinum(II)-catalyzed hydrolysis of pyrophosphate and triphosphate: phosphorus-31 NMR characterization of kinetic intermediates. <i>Inorganic Chemistry</i> , 1984, 23, 1181-1182.	4.0	12
74	Characterization of platinum(II)-phosphato complexes of uridine nucleotides. <i>Inorganic Chemistry</i> , 1993, 32, 1795-1802.	4.0	12
75	Enhancement of Catalytic Activity by Gene Truncation: Activation of L-Aspartase from <i>Escherichia coli</i> . <i>Biochemical and Biophysical Research Communications</i> , 1997, 238, 411-414.	2.1	12
76	Design and optimization of aspartate N -acetyltransferase inhibitors for the potential treatment of Canavan disease. <i>Bioorganic and Medicinal Chemistry</i> , 2017, 25, 870-885.	3.0	12
77	Crystallization and Preliminary X-ray Studies of L-Aspartase from <i>Escherichia coli</i> . <i>Journal of Molecular Biology</i> , 1993, 234, 1248-1249.	4.2	11
78	Early Stage Efficacy and Toxicology Screening for Antibiotics and Enzyme Inhibitors. <i>Journal of Biomolecular Screening</i> , 2012, 17, 673-682.	2.6	11
79	Structure of homoserine O-acetyltransferase from <i>Staphylococcus aureus</i> : the first Gram-positive ortholog structure. <i>Acta Crystallographica Section F, Structural Biology Communications</i> , 2014, 70, 1340-1345.	0.8	11
80	Structure of a fungal form of aspartate semialdehyde dehydrogenase from <i>Cryptococcus neoformans</i> . <i>Acta Crystallographica Section F, Structural Biology Communications</i> , 2015, 71, 1365-1371.	0.8	11
81	Reversal of enzyme regioselectivity with alternative substrates for aspartokinase I from <i>Escherichia coli</i> . <i>Biochemistry</i> , 1992, 31, 799-805.	2.5	9
82	From Malate Dehydrogenase to Phenyllactate Dehydrogenase. <i>Journal of Biological Chemistry</i> , 2000, 275, 31689-31694.	3.4	9
83	Structural Insights into the Tetrameric State of Aspartate- β -semialdehyde Dehydrogenases from Fungal Species. <i>Scientific Reports</i> , 2016, 6, 21067.	3.3	9
84	Structure of a fungal form of aspartate-semialdehyde dehydrogenase from <i>Aspergillus fumigatus</i> . <i>Acta Crystallographica Section F, Structural Biology Communications</i> , 2017, 73, 36-44.	0.8	9
85	Structural insights into inhibitor binding to a fungal ortholog of aspartate semialdehyde dehydrogenase. <i>Biochemical and Biophysical Research Communications</i> , 2018, 503, 2848-2854.	2.1	9
86	A cautionary tale of structure-guided inhibitor development against an essential enzyme in the aspartate-biosynthetic pathway. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2014, 70, 3244-3252.	2.5	8
87	A surprising range of modified-methionyl S-adenosylmethionine analogues support bacterial growth. <i>Microbiology (United Kingdom)</i> , 2015, 161, 674-682.	1.8	8
88	Purification and characterization of aspartate N-acetyltransferase: A critical enzyme in brain metabolism. <i>Protein Expression and Purification</i> , 2016, 119, 11-18.	1.3	8
89	A Comprehensive Biological and Synthetic Perspective on 2-Deoxy-D-Glucose (2-DG), A Sweet Molecule with Therapeutic and Diagnostic Potentials. <i>Journal of Medicinal Chemistry</i> , 2022, 65, 3706-3728.	6.4	8
90	Conversion of cysteinyl residues to unnatural amino acid analogs. Examination in a model system. <i>The Protein Journal</i> , 1996, 15, 737-742.	1.1	7

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91	Complementation of a metK-deficient E. coli strain with heterologous AdoMet synthetase genes. Microbiology (United Kingdom), 2017, 163, 1812-1821.	1.8	7
92	A Fragment Library Screening Approach to Identify Selective Inhibitors against an Essential Fungal Enzyme. SLAS Discovery, 2018, 23, 520-531.	2.7	7
93	Assessing the roles of essential functional groups in the mechanism of homoserine succinyltransferase. Archives of Biochemistry and Biophysics, 2007, 461, 211-218.	3.0	6
94	Structure of an unusual S-adenosylmethionine synthetase from Campylobacter jejuni. Acta Crystallographica Section D: Biological Crystallography, 2014, 70, 442-450.	2.5	6
95	Aspartate semialdehyde dehydrogenase inhibition suppresses the growth of the pathogenic fungus Candida albicans. Drug Development Research, 2020, 81, 736-744.	2.9	6
96	Mapping the Mechanism-Based Modification Sites in L-Aspartase from Escherichia coli. Archives of Biochemistry and Biophysics, 1997, 341, 329-336.	3.0	5
97	The ammonia-lyases: enzymes that use a wide range of approaches to catalyze the same type of reaction. Critical Reviews in Biochemistry and Molecular Biology, 2019, 54, 467-483.	5.2	5
98	Purification, crystallization and preliminary X-ray analysis of aspartokinase III from Escherichia coli. Acta Crystallographica Section D: Biological Crystallography, 2002, 58, 352-354.	2.5	4
99	Enhanced brain distribution of modified aspartoacylase. Molecular Genetics and Metabolism, 2014, 113, 219-224.	1.1	4
100	Reexamination of aspartoacylase: Is this human enzyme really a glycoprotein?. Archives of Biochemistry and Biophysics, 2014, 548, 66-73.	3.0	3
101	Development of bisubstrate analog inhibitors of aspartate N-acetyltransferase, a critical brain enzyme. Chemical Biology and Drug Design, 2020, 95, 48-57.	3.2	3
102	The impact of structural biology on neurobiology. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 399-400.	7.1	1
103	Engineering of a critical membrane-anchored enzyme for high solubility and catalytic activity. Archives of Biochemistry and Biophysics, 2021, 703, 108870.	3.0	1
104	Design and testing of selective inactivators against an antifungal enzyme target. Drug Development Research, 2022, 83, 447-460.	2.9	1
105	Inactivation of Yeast Alcohol Dehydrogenase by Nitrilopropionamides. Journal of Enzyme Inhibition and Medicinal Chemistry, 1994, 8, 133-146.	0.5	0
106	Structure of a critical metabolic enzyme: S-adenosylmethionine synthetase from Cryptosporidium parvum. Acta Crystallographica Section F, Structural Biology Communications, 2019, 75, 290-298.	0.8	0
107	Characterization of Homoserine O-succinyltransferase: A Key Branch Point Enzyme in an Essential Metabolic Pathway. FASEB Journal, 2007, 21, A274.	0.5	0
108	Structural Insights into the Mechanism of Tartrate Dehydrogenase: A versatile enzyme catalyzing multiple reactions. FASEB Journal, 2009, 23, 504.10.	0.5	0

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109	Structure of the First Fungal Enzyme Form of Aspartate α -Semialdehyde Dehydrogenase. FASEB Journal, 2010, 24, 469.1.	0.5	0
110	Inhibitor Development Against Aspartate α -Semialdehyde Dehydrogenase—A Novel Target for Drug Development. FASEB Journal, 2015, 29, 721.5.	0.5	0