Ronald E Viola

List of Publications by Year
in descending order

110 papers	2,778 citations	186209 28 h-index	223716 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. Protein Expression and Purification, 2012, 86, 12-20.	0.6	140
2	Immunohistochemical localization of aspartoacylase in the rat central nervous system. Journal of Comparative Neurology, 2004, 472, 318-329.	0.9	135
3	Stereoselective preparation of deuterated reduced nicotinamide adenine nucleotides and substrates by enzymatic synthesis. Analytical Biochemistry, 1979, 96, 334-340.	1.1	133
4	The Central Enzymes of the Aspartate Family of Amino Acid Biosynthesis. Accounts of Chemical Research, 2001, 34, 339-349.	7.6	126
5	Evaluation of Methods for the Quantitation of Cysteines in Proteins. Analytical Biochemistry, 1998, 265, 8-14.	1.1	104
6	The Structure of l-Aspartate Ammonia-Lyase from Escherichia coli,. Biochemistry, 1997, 36, 9136-9144.	1.2	85
7	Phosphorus-31 NMR and kinetic studies of the formation of ortho-, pyro-, and triphosphato complexes of cis-dichlorodiammineplatinum(II). Journal of the American Chemical Society, 1984, 106, 3336-3343.	6.6	65
8	L-Aspartase from Escherichia coli: substrate specificity and role of divalent metal ions. Biochemistry, 1988, 27, 9089-9093.	1.2	61
9	Active Site Analysis of the Potential Antimicrobial Target Aspartate Semialdehyde Dehydrogenase. Biochemistry, 2001, 40, 14475-14483.	1.2	51
10	Oxyanion Specificity of Aspartate-Î²-semialdehyde Dehydrogenase. Inorganic Chemistry, 1999, 38, 818-820.	1.9	49
11	Chemical and kinetic mechanisms of aspartate-Î²-semialdehyde dehydrogenase from Escherichia coli. BBA - Proteins and Proteomics, 1991, 1077, 209-219.	2.1	47
12	A structural basis for the mechanism of aspartate-Â-semialdehyde dehydrogenase from Vibrio cholerae. Protein Science, 2003, 12, 27-33.	3.1	46
13	The use of 13C spin lattice relaxation times to study the interaction of Î±-methyl-d-glucopyranoside with concanavalin A. Archives of Biochemistry and Biophysics, 1974, 160, 465-468.	1.4	44
14	Purification of aspartase and aspartokinase-homoserine dehydrogenase I from Escherichia coli by dye-ligand chromatography. Analytical Biochemistry, 1985, 147, 336-341.	1.1	44
15	Multinuclear NMR studies and the kinetics of formation of platinum(II)-adenine nucleotide complexes. Journal of the American Chemical Society, 1986, 108, 4403-4408.	6.6	42
16	The effect of deuteration on protein structure: a high-resolution comparison of hydrogenous and perdeuterated haloalkane dehalogenase. Acta Crystallographica Section D: Biological Crystallography, 2007, 63, 1000-1008.	2.5	42
17	Capture of an intermediate in the catalytic cycle of L-aspartate-Â-semialdehyde dehydrogenase. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 12613-12617.	3.3	41
18	Evaluation of Functionally Important Amino Acids in l-Aspartate Ammonia-Lyase from Escherichia coli. Biochemistry, 1997, 36, 9145-9150.	1.2	39

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19	Characterization of Human Aspartoacylase:â€‰ The Brain Enzyme Responsible for Canavan Disease. Biochemistry, 2006, 45, 5878-5884.	1.2	39
20	Examination of Key Intermediates in the Catalytic Cycle of Aspartate-Î²-semialdehyde Dehydrogenase from a Gram-positive Infectious Bacteria. Journal of Biological Chemistry, 2006, 281, 31031-31040.	1.6	38
21	A New Branch in the Family: Structure of Aspartate-Î²-semialdehyde Dehydrogenase from Methanococcus jannaschii. Journal of Molecular Biology, 2005, 353, 1055-1068.	2.0	35
22	Examination of the Mechanism of Human Brain Aspartoacylase through the Binding of an Intermediate Analogue[,]. Biochemistry, 2008, 47, 3484-3492.	1.2	35
23	Kinetic studies of l-aspartase from Escherichia coli: pH-dependent activity changes. Archives of Biochemistry and Biophysics, 1991, 287, 60-67.	1.4	33
24	Use of structural comparisons to select mutagenic targets in aspartate-.beta.-semialdehyde dehydrogenase. Biochemistry, 1995, 34, 6394-6399.	1.2	33
25	Identification of an essential cysteine in the reaction catalyzed by aspartate-Î²-semialdehyde dehydrogenase from Escherichia coli. BBA - Proteins and Proteomics, 1992, 1121, 234-238.	2.1	32
26	Purification and preliminary characterization of brain aspartoacylase. Archives of Biochemistry and Biophysics, 2003, 413, 1-8.	1.4	32
27	[19] Initial velocity analysis for terreactant mechanisms. Methods in Enzymology, 1982, 87, 353-366.	0.4	31
28	Discovery of Novel Inhibitors of a Critical Brain Enzyme Using a Homology Model and a Deep Convolutional Neural Network. Journal of Medicinal Chemistry, 2020, 63, 8867-8875.	2.9	31
29	Fully automated protein purification. Analytical Biochemistry, 2009, 393, 176-181.	1.1	29
30	Spectroscopic studies on the copper(II) complexes of carnosine. Journal of Inorganic Biochemistry, 1979, 10, 281-292.	1.5	28
31	Expression and Purification of Aspartate Î²-Semialdehyde Dehydrogenase from Infectious Microorganisms. Protein Expression and Purification, 2002, 25, 189-194.	0.6	28
32	The Structural Basis for Allosteric Inhibition of a Threonine-sensitive Aspartokinase. Journal of Biological Chemistry, 2008, 283, 16216-16225.	1.6	28
33	Kinetics and mechanisms of platinum(II)-promoted hydrolysis of inorganic polyphosphates. Inorganic Chemistry, 1985, 24, 3989-3996.	1.9	27
34	The use of fluoro- and deoxy-substrate analogs to examine binding specificity and catalysis in the enzymes of the sorbitol pathway. Carbohydrate Research, 1998, 313, 247-253.	1.1	27
35	Substrate Specificity and Identification of Functional Groups of Homoserine Kinase fromEscherichia coliâ€. Biochemistry, 1996, 35, 16180-16185.	1.2	26
36	Attenuated enzootic (pestoides) isolates of Yersinia pestis express active aspartase. Microbiology (United Kingdom), 2009, 155, 198-209.	0.7	26

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37	Kinetic studies of the reactions catalyzed by glucose-6-phosphate dehydrogenase from Leuconostoc mesenteroides: pH variation of kinetic parameters. Archives of Biochemistry and Biophysics, 1984, 228, 415-424.	1.4	25
38	Structural Analyses of a Malate Dehydrogenase with a Variable Active Site. Journal of Biological Chemistry, 2001, 276, 31156-31162.	1.6	25
39	Structural asymmetry and intersubunit communication in muscle creatine kinase. Acta Crystallographica Section D: Biological Crystallography, 2007, 63, 381-389.	2.5	25
40	The Catalytic Machinery of a Key Enzyme in Amino Acid Biosynthesis. Journal of Amino Acids, 2011, 2011, 1-11.	5.8	25
41	The initial step in the archaeal aspartate biosynthetic pathway catalyzed by a monofunctional aspartokinase. Acta Crystallographica Section F: Structural Biology Communications, 2006, 62, 962-966.	0.7	24
42	Identification of Selective Enzyme Inhibitors by Fragment Library Screening. Journal of Biomolecular Screening, 2010, 15, 1042-1050.	2.6	24
43	L-Aspartase: New Tricks from an Old Enzyme. Advances in Enzymology and Related Areas of Molecular Biology, 2006, 74, 295-341.	1.3	23
44	Structural Characterization of Inhibitors with Selectivity against Members of a Homologous Enzyme Family. Chemical Biology and Drug Design, 2012, 79, 128-136.	1.5	23
45	Aspartokinase-homoserine dehydrogenase I from Escherichia coli: pH and chemical modification studies of the kinase activity. Biochemistry, 1989, 28, 8771-8777.	1.2	22
46	The kinetic mechanisms of the bifunctional enzyme aspartokinase-homoserine dehydrogenase I from Escherichia coli. Archives of Biochemistry and Biophysics, 1990, 283, 96-101.	1.4	22
47	Relationship between enzyme properties and disease progression in Canavan disease. Journal of Inherited Metabolic Disease, 2013, 36, 1-6.	1.7	22
48	Aspartoacylase Catalytic Deficiency as the Cause of Canavan Disease: A Structural Perspective. Biochemistry, 2014, 53, 4970-4978.	1.2	22
49	Functional Group Characterization of Homoserine Kinase fromEscherichia coli. Archives of Biochemistry and Biophysics, 1996, 330, 373-379.	1.4	21
50	Expansion of the aspartate Î²-semialdehyde dehydrogenase family: the first structure of a fungal ortholog. Acta Crystallographica Section D: Biological Crystallography, 2010, 66, 205-212.	2.5	21
51	Modification of aspartoacylase for potential use in enzyme replacement therapy for the treatment of Canavan disease. Molecular Genetics and Metabolism, 2011, 102, 176-180.	0.5	21
52	Effects of Extracellular Polymeric Substance Composition on Bacteria Disinfection by Monochloramine: Application of MALDI-TOF/TOFâ€"MS and Multivariate Analysis. Environmental Science & Technology, 2016, 50, 9197-9205.	4.6	21
53	Introduction of Histidine Analogs Leads to Enhanced Proton Transfer in Carbonic Anhydrase V. Archives of Biochemistry and Biophysics, 1999, 361, 264-270.	1.4	20
54	Natural Products: A Rich Source of Antiviral Drug Lead Candidates for the Management of COVID-19. Current Pharmaceutical Design, 2021, 27, 3526-3550.	0.9	20

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55	The structure of a redundant enzyme: a second isoform of aspartate Î2-semialdehyde dehydrogenase in<i>Vibrio cholerae</i>. Acta Crystallographica Section D: Biological Crystallography, 2008, 64, 321-330.	2.5	19
56	Alternative substrates selective for S-adenosylmethionine synthetases from pathogenic bacteria. Archives of Biochemistry and Biophysics, 2013, 536, 64-71.	1.4	19
57	The role of substrate-binding groups in the mechanism of aspartate-Î2-semialdehyde dehydrogenase. Acta Crystallographica Section D: Biological Crystallography, 2004, 60, 1388-1395.	2.5	18
58	Activation of carbonic anhydrase II by active-site incorporation of histidine analogs. Archives of Biochemistry and Biophysics, 2004, 421, 283-289.	1.4	18
59	Copper(II) complexes of carnosine, glycylglycine, and glycylglycine-imidazole mixtures. Journal of Inorganic Biochemistry, 1979, 10, 293-307.	1.5	17
60	Alteration of the Specificity of Malate Dehydrogenase by Chemical Modulation of an Active Site Arginine. Journal of Biological Chemistry, 2001, 276, 31151-31155.	1.6	17
61	Critical catalytic functional groups in the mechanism of aspartate-Î2-semialdehyde dehydrogenase. Acta Crystallographica Section D: Biological Crystallography, 2004, 60, 1808-1815.	2.5	17
62	A rapid method for the purification of methanol dehydrogenase from Methylobacterium extorquens. Protein Expression and Purification, 2006, 46, 316-320.	0.6	17
63	Specificity of Aspartokinase III fromEscherichia coliand an Examination of Important Catalytic Residues. Archives of Biochemistry and Biophysics, 1996, 335, 73-81.	1.4	16
64	A Spectrophotometric Assay of Arginase. Analytical Biochemistry, 2001, 295, 117-119.	1.1	16
65	A missense mutation causes aspartase deficiency in Yersinia pestis. Microbiology (United Kingdom), 2008, 154, 1271-1280.	0.7	16
66	Probing the role of the hyper-reactive histidine residue of arginase. Archives of Biochemistry and Biophysics, 2005, 444, 15-26.	1.4	15
67	Molecular docking and enzymatic evaluation to identify selective inhibitors of aspartate semialdehyde dehydrogenase. Bioorganic and Medicinal Chemistry, 2012, 20, 2950-2956.	1.4	14
68	Synthesis and Evaluation of Alternative Substrates for Arginasease. Bioorganic Chemistry, 2002, 30, 81-94.	2.0	13
69	Structural basis for discrimination between oxyanion substrates or inhibitors in aspartate-Î2-semialdehyde dehydrogenase. Acta Crystallographica Section D: Biological Crystallography, 2004, 60, 2320-2324.	2.5	13
70	Structural characterization of tartrate dehydrogenase: a versatile enzyme catalyzing multiple reactions. Acta Crystallographica Section D: Biological Crystallography, 2010, 66, 673-684.	2.5	13
71	Elaboration of a fragment library hit produces potent and selective aspartate semialdehyde dehydrogenase inhibitors. Bioorganic and Medicinal Chemistry, 2015, 23, 6622-6631.	1.4	13
72	A multinuclear nmr relaxation study of the interaction of divalent metal ions with l-aspartic acid. Journal of Inorganic Biochemistry, 1984, 22, 33-42.	1.5	12

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73	Platinum(II)-catalyzed hydrolysis of pyrophosphate and triphosphate: phosphorus-31 NMR characterization of kinetic intermediates. Inorganic Chemistry, 1984, 23, 1181-1182.	1.9	12
74	Characterization of platinum(II)-phosphato complexes of uridine nucleotides. Inorganic Chemistry, 1993, 32, 1795-1802.	1.9	12
75	Enhancement of Catalytic Activity by Gene Truncation: Activation of L-Aspartase fromEscherichia coli. Biochemical and Biophysical Research Communications, 1997, 238, 411-414.	1.0	12
76	Design and optimization of aspartate N -acetyltransferase inhibitors for the potential treatment of Canavan disease. Bioorganic and Medicinal Chemistry, 2017, 25, 870-885.	1.4	12
77	Crystallization and Preliminary X-ray Studies of l-Aspartase from Escherichia coli. Journal of Molecular Biology, 1993, 234, 1248-1249.	2.0	11
78	Early Stage Efficacy and Toxicology Screening for Antibiotics and Enzyme Inhibitors. Journal of Biomolecular Screening, 2012, 17, 673-682.	2.6	11
79	Structure of homoserineO-acetyltransferase fromStaphylococcus aureus: the first Gram-positive ortholog structure. Acta Crystallographica Section F, Structural Biology Communications, 2014, 70, 1340-1345.	0.4	11
80	Structure of a fungal form of aspartate semialdehyde dehydrogenase from<i>Cryptococcus neoformans</i>. Acta Crystallographica Section F, Structural Biology Communications, 2015, 71, 1365-1371.	0.4	11
81	Reversal of enzyme regiospecificity with alternative substrates for aspartokinase I from Escherichia coli. Biochemistry, 1992, 31, 799-805.	1.2	9
82	From Malate Dehydrogenase to Phenyllactate Dehydrogenase. Journal of Biological Chemistry, 2000, 275, 31689-31694.	1.6	9
83	Structural Insights into the Tetrameric State of Aspartate-Î²-semialdehyde Dehydrogenases from Fungal Species. Scientific Reports, 2016, 6, 21067.	1.6	9
84	Structure of a fungal form of aspartate-semialdehyde dehydrogenase from<i>Aspergillus fumigatus</i>. Acta Crystallographica Section F, Structural Biology Communications, 2017, 73, 36-44.	0.4	9
85	Structural insights into inhibitor binding to a fungal ortholog of aspartate semialdehyde dehydrogenase. Biochemical and Biophysical Research Communications, 2018, 503, 2848-2854.	1.0	9
86	A cautionary tale of structure-guided inhibitor development against an essential enzyme in the aspartate-biosynthetic pathway. Acta Crystallographica Section D: Biological Crystallography, 2014, 70, 3244-3252.	2.5	8
87	A surprising range of modified-methionyl S-adenosylmethionine analogues support bacterial growth. Microbiology (United Kingdom), 2015, 161, 674-682.	0.7	8
88	Purification and characterization of aspartate N-acetyltransferase: A critical enzyme in brain metabolism. Protein Expression and Purification, 2016, 119, 11-18.	0.6	8
89	A Comprehensive Biological and Synthetic Perspective on 2-Deoxy-<scp>d</scp>-Glucose (2-DG), A Sweet Molecule with Therapeutic and Diagnostic Potentials. Journal of Medicinal Chemistry, 2022, 65, 3706-3728.	2.9	8
90	Conversion of cysteinyl residues to unnatural amino acid analogs. Examination in a model system. The Protein Journal, 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.	0.7	7
92	A Fragment Library Screening Approach to Identify Selective Inhibitors against an Essential Fungal Enzyme. SLAS Discovery, 2018, 23, 520-531.	1.4	7
93	Assessing the roles of essential functional groups in the mechanism of homoserine succinyltransferase. Archives of Biochemistry and Biophysics, 2007, 461, 211-218.	1.4	6
94	Structure of an unusual<i>S</i>-adenosylmethionine synthetase from<i>Campylobacter jejuni</i>. 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 <scp><i>Candida albicans</i></scp>. Drug Development Research, 2020, 81, 736-744.	1.4	6
96	Mapping the Mechanism-Based Modification Sites in l-Aspartase fromEscherichia coli. Archives of Biochemistry and Biophysics, 1997, 341, 329-336.	1.4	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.	2.3	5
98	Purification, crystallization and preliminary X-ray analysis of aspartokinase III fromEscherichia 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.	0.5	4
100	Reexamination of aspartoacylase: Is this human enzyme really a glycoprotein?. Archives of Biochemistry and Biophysics, 2014, 548, 66-73.	1.4	3
101	Development of bisubstrate analog inhibitors of aspartate N â€acetyltransferase, a critical brain enzyme. Chemical Biology and Drug Design, 2020, 95, 48-57.	1.5	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.	3.3	1
103	Engineering of a critical membrane-anchored enzyme for high solubility and catalytic activity. Archives of Biochemistry and Biophysics, 2021, 703, 108870.	1.4	1
104	Design and testing of selective inactivators against an antifungal enzyme target. Drug Development Research, 2022, 83, 447-460.	1.4	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:<i>S</i>-adenosylmethionine synthetase from<i>Cryptosporidium parvum</i>. Acta Crystallographica Section F, Structural Biology Communications, 2019, 75, 290-298.	0.4	0
107	Characterization of Homoserine Oâ€Succinyltransferase: A Key Branch Point Enzyme in an Essential Metabolic Pathway. FASEB Journal, 2007, 21, A274.	0.2	0
108	Structural Insights into the Mechanism of Tartrate Dehydrogenase: A versatile enzyme catalyzing multiple reactions. FASEB Journal, 2009, 23, 504.10.	0.2	0

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109	Structure of the First Fungal Enzyme Form of Aspartate Î²â€Semialdehyde Dehydrogenase. FASEB Journal, 2010, 24, 469.1.	0.2	0
110	Inhibitor Development Against Aspartateâ€Î²â€Semialdehyde Dehydrogenaseâ€•A Novel Target for Drug Development. FASEB Journal, 2015, 29, 721.5.	0.2	0