Giovanni Gadda

List of Publications by Year
in descending order

120 papers	3,294 citations	126858 33 h-index	189801 50 g-index
125 all docs	125 docs citations	125 times ranked	2609 citing authors

#	Article	IF	Citations
1	Same Substrate, Many Reactions: Oxygen Activation in Flavoenzymes. Chemical Reviews, 2018, 118, 1742-1769.	23.0	306
2	On the Catalytic Mechanism of Choline Oxidase. Journal of the American Chemical Society, 2005, 127, 2067-2074.	6.6	115
3	Oxygen Activation in Flavoprotein Oxidases: The Importance of Being Positive. Biochemistry, 2012, 51, 2662-2669.	1.2	103
4	Design and application of a class of sensors to monitor Ca ²⁺ dynamics in high Ca ²⁺ concentration cellular compartments. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 16265-16270.	3.3	96
5	On the Catalytic Role of the Conserved Active Site Residue His466of Choline Oxidaseâ€. Biochemistry, 2005, 44, 893-904.	1.2	83
6	Role of Glu312 in Binding and Positioning of the Substrate for the Hydride Transfer Reaction in Choline Oxidase[,]. Biochemistry, 2008, 47, 243-256.	1.2	82
7	Hydride Transfer Made Easy in the Reaction of Alcohol Oxidation Catalyzed by Flavin-dependent Oxidases. Biochemistry, 2008, 47, 13745-13753.	1.2	77
8	Nitronate monooxygenase, a model for anionic flavin semiquinone intermediates in oxidative catalysis. Archives of Biochemistry and Biophysics, 2010, 493, 53-61.	1.4	70
9	Characterization of Cholesterol Oxidase from Streptomyces hygroscopicus and Brevibacterium sterolicum. FEBS Journal, 1997, 250, 369-376.	0.2	68
10	Cloning, sequence analysis, and purification of choline oxidase from Arthrobacter globiformis: a bacterial enzyme involved in osmotic stress tolerance. Archives of Biochemistry and Biophysics, 2004, 421, 149-158.	1.4	67
11	The biochemistry of the metabolic poison propionate 3â€nitronate and its conjugate acid, 3â€nitropropionate. IUBMB Life, 2013, 65, 759-768.	1.5	61
12	Identification of the Naturally Occurring Flavin of Nitroalkane Oxidase from Fusarium oxysporum as a 5-Nitrobutyl-FAD and Conversion of the Enzyme to the Active FAD-containing Form. Journal of Biological Chemistry, 1997, 272, 5563-5570.	1.6	56
13	Crystallographic, Spectroscopic, and Computational Analysis of a Flavin C4aâ^'Oxygen Adduct in Choline Oxidase[,]. Biochemistry, 2009, 48, 720-728.	1.2	55
14	Spectroscopic and Kinetic Properties of Recombinant Choline Oxidase fromArthrobacter globiformisâ€. Biochemistry, 2003, 42, 15179-15188.	1.2	54
15	The COMBREX Project: Design, Methodology, and Initial Results. PLoS Biology, 2013, 11, e1001638.	2.6	54
16	Oxygen- and Temperature-Dependent Kinetic Isotope Effects in Choline Oxidase:â€‰ Correlating Reversible Hydride Transfer with Environmentally Enhanced Tunneling. Journal of the American Chemical Society, 2005, 127, 17954-17961.	6.6	50
17	Kinetic Solvent Viscosity Effects as Probes for Studying the Mechanisms of Enzyme Action. Biochemistry, 2018, 57, 3445-3453.	1.2	50
18	Biochemical and Physical Characterization of the Active FAD-Containing Form of Nitroalkane Oxidase fromFusarium oxysporumâ€,â€¡. Biochemistry, 1998, 37, 6154-6164.	1.2	49

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19	Effects of Reversing the Protein Positive Charge in the Proximity of the Flavin N(1) Locus of Choline Oxidase. Biochemistry, 2006, 45, 3437-3447.	1.2	49
20	Cloning, Expression, and Purification of Choline Dehydrogenase from the Moderate Halophile Halomonas elongata. Applied and Environmental Microbiology, 2003, 69, 2126-2132.	1.4	48
21	Developing Sensors for Real-Time Measurement of High Ca2+ Concentrations. Biochemistry, 2007, 46, 12275-12288.	1.2	45
22	Mechanistic Studies of Choline Oxidase with Betaine Aldehyde and Its Isosteric Analogue 3,3-Dimethylbutyraldehydeâ€. Biochemistry, 2006, 45, 1979-1986.	1.2	44
23	Kinetic mechanism of choline oxidase from Arthrobacter globiformis. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2003, 1646, 112-118.	1.1	42
24	Involvement of a Flavosemiquinone in the Enzymatic Oxidation of Nitroalkanes Catalyzed by 2-Nitropropane Dioxygenase. Journal of Biological Chemistry, 2005, 280, 5195-5204.	1.6	42
25	The trimethylammonium headgroup of choline is a major determinant for substrate binding and specificity in choline oxidase. Archives of Biochemistry and Biophysics, 2004, 430, 264-273.	1.4	39
26	Human choline dehydrogenase: Medical promises and biochemical challenges. Archives of Biochemistry and Biophysics, 2013, 537, 243-252.	1.4	39
27	Substrate Specificity of a Nitroalkane-Oxidizing Enzyme. Archives of Biochemistry and Biophysics, 1999, 363, 309-313.	1.4	38
28	pH and deuterium kinetic isotope effects studies on the oxidation of choline to betaine-aldehyde catalyzed by choline oxidase. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2003, 1650, 4-9.	1.1	38
29	Alcohol oxidation by flavoenzymes. Biomolecular Concepts, 2014, 5, 299-318.	1.0	37
30	Cloning of nitroalkane oxidase from Fusarium oxysporum identifies a new member of the acyl-CoA dehydrogenase superfamily. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 2702-2707.	3.3	36
31	On the Role of Histidine 351 in the Reaction of Alcohol Oxidation Catalyzed by Choline Oxidase. Biochemistry, 2008, 47, 6762-6769.	1.2	35
32	Role of Valine 464 in the Flavin Oxidation Reaction Catalyzed by Choline Oxidase[,]. Biochemistry, 2010, 49, 2952-2961.	1.2	35
33	An Internal Equilibrium Preorganizes the Enzymeâ^'Substrate Complex for Hydride Tunneling in Choline Oxidase. Biochemistry, 2007, 46, 6402-6408.	1.2	34
34	Pathway of Glycine Betaine Biosynthesis in Aspergillus fumigatus. Eukaryotic Cell, 2013, 12, 853-863.	3.4	33
35	The Combined Structural and Kinetic Characterization of a Bacterial Nitronate Monooxygenase from Pseudomonas aeruginosa PAO1 Establishes NMO Class I and II. Journal of Biological Chemistry, 2014, 289, 23764-23775.	1.6	32
36	Structure of choline oxidase in complex with the reaction product glycine betaine. Acta Crystallographica Section D: Biological Crystallography, 2014, 70, 405-413.	2.5	32

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37	Use of pH and Kinetic Isotope Effects to Dissect the Effects of Substrate Size on Binding and Catalysis by Nitroalkane Oxidase. Archives of Biochemistry and Biophysics, 2000, 382, 138-144.	1.4	31
38	The Chemistry of Escapin: Identification and Quantification of the Components in the Complex Mixture Generated by an <scp>L</scp>â€Amino Acid Oxidase in the Defensive Secretion of the Sea Snail Aplysia californica. Chemistry - A European Journal, 2009, 15, 1597-1603.	1.7	30
39	The Cluster of Hydrophobic Residues Controls the Entrance to the Active Site of Choline Oxidase. Biochemistry, 2009, 48, 9599-9605.	1.2	29
40	Designing Protease Sensors for Real-Time Imaging of Trypsin Activation in Pancreatic Cancer Cells. Biochemistry, 2009, 48, 3519-3526.	1.2	28
41	Mechanism of Nitroalkane Oxidase:Â 2. pH and Kinetic Isotope Effectsâ€. Biochemistry, 2000, 39, 1406-1410.	1.2	27
42	On the contribution of the positively charged headgroup of choline to substrate binding and catalysis in the reaction catalyzed by choline oxidase. Archives of Biochemistry and Biophysics, 2006, 451, 182-187.	1.4	27
43	Stabilization of an Intermediate in the Oxidative Half-Reaction of Human Liver Glycolate Oxidase. Biochemistry, 2011, 50, 1-3.	1.2	27
44	In vitro heme biotransformation by the HupZ enzyme from Group A streptococcus. BioMetals, 2016, 29, 593-609.	1.8	27
45	Conformational Changes and Substrate Recognition in Pseudomonas aeruginosa <scp>d</scp>-Arginine Dehydrogenase[,]. Biochemistry, 2010, 49, 8535-8545.	1.2	26
46	Evidence for a Transient Peroxynitro Acid in the Reaction Catalyzed by Nitronate Monooxygenase with Propionate 3-Nitronate. Biochemistry, 2013, 52, 2694-2704.	1.2	26
47	Contribution of Flavin Covalent Linkage with Histidine 99 to the Reaction Catalyzed by Choline Oxidase. Journal of Biological Chemistry, 2009, 284, 16990-16997.	1.6	24
48	Structural and kinetic studies on the Ser101Ala variant of choline oxidase: Catalysis by compromise. Archives of Biochemistry and Biophysics, 2010, 501, 207-213.	1.4	24
49	Role of Asparagine 510 in the Relative Timing of Substrate Bond Cleavages in the Reaction Catalyzed by Choline Oxidase. Biochemistry, 2010, 49, 2483-2490.	1.2	23
50	Steady-State Kinetic Mechanism and Reductive Half-Reaction of <scp>d</scp>-Arginine Dehydrogenase from Pseudomonas aeruginosa. Biochemistry, 2010, 49, 9542-9550.	1.2	23
51	Enzyme-Mediated Conversion of Flavin Adenine Dinucleotide (FAD) to 8-Formyl FAD in Formate Oxidase Results in a Modified Cofactor with Enhanced Catalytic Properties. Biochemistry, 2017, 56, 3800-3807.	1.2	23
52	Iso-Mechanism of Nitroalkane Oxidase:Â 1. Inhibition Studies and Activation by Imidazoleâ€. Biochemistry, 2000, 39, 1400-1405.	1.2	22
53	Relative Timing of Hydrogen and Proton Transfers in the Reaction of Flavin Oxidation Catalyzed by Choline Oxidase. Biochemistry, 2013, 52, 1221-1226.	1.2	22
54	Insights on the Mechanism of Amine Oxidation Catalyzed by <scp>d</scp>-Arginine Dehydrogenase Through pH and Kinetic Isotope Effects. Journal of the American Chemical Society, 2011, 133, 18957-18965.	6.6	20

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55	Probing the Chemical Steps of Nitroalkane Oxidation Catalyzed by 2-Nitropropane Dioxygenase with Solvent Viscosity, pH, and Substrate Kinetic Isotope Effectsâ€. Biochemistry, 2006, 45, 13889-13898.	1.2	19
56	Mala s 12 is a major allergen in patients with atopic eczema and has sequence similarities to the GMC oxidoreductase family. Allergy: European Journal of Allergy and Clinical Immunology, 2007, 62, 695-703.	2.7	19
57	Effect of a conservative mutation of an active site residue involved in substrate binding on the hydride tunneling reaction catalyzed by choline oxidase. Archives of Biochemistry and Biophysics, 2009, 489, 10-14.	1.4	19
58	Kinetics of heme transfer by the Shr NEAT domains of Group A Streptococcus. Archives of Biochemistry and Biophysics, 2013, 538, 71-79.	1.4	19
59	Fluorescence Properties of Flavin Semiquinone Radicals in Nitronate Monooxygenase. ChemBioChem, 2019, 20, 1646-1652.	1.3	19
60	Rapid subcellular calcium responses and dynamics by calcium sensor G-CatchER+. IScience, 2021, 24, 102129.	1.9	19
61	Oxidation of alkyl nitronates catalyzed by 2-nitropropane dioxygenase from Hansenula mrakii. Archives of Biochemistry and Biophysics, 2008, 473, 61-68.	1.4	18
62	A novel activity for fungal nitronate monooxygenase: Detoxification of the metabolic inhibitor propionate-3-nitronate. Archives of Biochemistry and Biophysics, 2012, 521, 84-89.	1.4	18
63	Identification of the Catalytic Base for Alcohol Activation in Choline Oxidase. Biochemistry, 2015, 54, 413-421.	1.2	18
64	Functional Annotation of a Presumed Nitronate Monoxygenase Reveals a New Class of NADH:Quinone Reductases. Journal of Biological Chemistry, 2016, 291, 21160-21170.	1.6	18
65	Importance of Loop L1 Dynamics for Substrate Capture and Catalysis in Pseudomonas aeruginosa <scp>d</scp>-Arginine Dehydrogenase. Biochemistry, 2017, 56, 2477-2487.	1.2	18
66	Substitution of an Active Site Valine Uncovers a Kinetically Slow Equilibrium between Competent and Incompetent Forms of Choline Oxidase. Biochemistry, 2008, 47, 13850-13861.	1.2	16
67	Involvement of Ionizable Groups in Catalysis of Human Liver Glycolate Oxidase. Journal of Biological Chemistry, 2009, 284, 31214-31222.	1.6	16
68	Solvent isotope and viscosity effects on the steadyâ€state kinetics of the flavoprotein nitroalkane oxidase. FEBS Letters, 2013, 587, 2785-2789.	1.3	16
69	Photoirradiation Generates an Ultrastable 8-Formyl FAD Semiquinone Radical with Unusual Properties in Formate Oxidase. Biochemistry, 2018, 57, 5818-5826.	1.2	16
70	Identification of Lys116 as the target of N-ethylmaleimide inactivation of ferredoxin:NADP+ oxidoreductase. FEBS Journal, 1991, 198, 21-24.	0.2	15
71	Identification of Native Flavin Adducts fromFusarium oxysporumUsing Accurate Mass Matrix-Assisted Laser Desorption/Ionization Time-of-Flight Mass Spectrometry. Analytical Chemistry, 1997, 69, 2862-2865.	3.2	15
72	Importance of a Serine Proximal to the C(4a) and N(5) Flavin Atoms for Hydride Transfer in Choline Oxidase. Biochemistry, 2011, 50, 770-779.	1.2	15

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73	Identification of an Essential Tyrosine Residue in Nitroalkane Oxidase by Modification with Tetranitromethaneâ€. Biochemistry, 2000, 39, 1162-1168.	1.2	14
74	The Nonoxidative Conversion of Nitroethane to Ethylnitronate in Neurospora crassa 2-Nitropropane Dioxygenase Is Catalyzed by Histidine 196. Biochemistry, 2008, 47, 9136-9144.	1.2	14
75	Mechanistic and Computational Studies of the Reductive Half-Reaction of Tyrosine to Phenylalanine Active Site Variants of <scp>d</scp>-Arginine Dehydrogenase. Biochemistry, 2014, 53, 6574-6583.	1.2	13
76	Mechanistic studies of formate oxidase from Aspergillus oryzae : A novel member of the glucose-Methanol-choline oxidoreductase enzyme superfamily that oxidizes carbon acids. Archives of Biochemistry and Biophysics, 2018, 643, 24-31.	1.4	13
77	Identification of a Cysteine Residue in the Active Site of Nitroalkane Oxidase by Modification withN-Ethylmaleimide. Journal of Biological Chemistry, 2000, 275, 31891-31895.	1.6	12
78	Solvent-Slaved Motions in the Hydride Tunneling Reaction Catalyzed by Human Glycolate Oxidase. ACS Catalysis, 2016, 6, 2113-2120.	5.5	12
79	Choline oxidases. The Enzymes, 2020, 47, 137-166.	0.7	12
80	Inflated Kinetic Isotope Effects in the Branched Mechanism of Neurospora crassa 2-Nitropropane Dioxygenase. Biochemistry, 2009, 48, 2403-2410.	1.2	10
81	Atomic-Resolution Structure of an N(5) Flavin Adduct in <scp>d</scp>-Arginine Dehydrogenase. Biochemistry, 2011, 50, 6292-6294.	1.2	10
82	Role of F357 as an Oxygen Gate in the Oxidative Half-Reaction of Choline Oxidase. Biochemistry, 2016, 55, 1473-1484.	1.2	10
83	Preclinical Development of a Nontoxic Oral Formulation of Monoethanolamine, a Lipid Precursor, for Prostate Cancer Treatment. Clinical Cancer Research, 2017, 23, 3781-3793.	3.2	10
84	Amine oxidation by d-arginine dehydrogenase in Pseudomonas aeruginosa. Archives of Biochemistry and Biophysics, 2017, 632, 192-201.	1.4	10
85	Stepwise Hydrogen Atom and Proton Transfers in Dioxygen Reduction by Aryl-Alcohol Oxidase. Biochemistry, 2018, 57, 1790-1797.	1.2	10
86	Tuning Protein Dynamics to Sense Rapid Endoplasmicâ€Reticulum Calcium Dynamics. Angewandte Chemie - International Edition, 2021, 60, 23289-23298.	7.2	10
87	Characterization of 2-Oxo-3-pentynoate as an Active-Site-Directed Inactivator of Flavoprotein Oxidases:Â Identification of Active-Site Peptides in Tryptophan 2-Monooxygenaseâ€. Biochemistry, 1999, 38, 5822-5828.	1.2	9
88	Trapping choline oxidase in a nonfunctional conformation by freezing at low pH. Proteins: Structure, Function and Bioinformatics, 2006, 66, 611-620.	1.5	9
89	Rescuing of the hydride transfer reaction in the Glu312Asp variant of choline oxidase by a substrate analogue. Archives of Biochemistry and Biophysics, 2010, 499, 1-5.	1.4	9
90	Pseudomonas aeruginosa LysR PA4203 Regulator NmoR Acts as a Repressor of the PA4202 nmoA Gene, Encoding a Nitronate Monooxygenase. Journal of Bacteriology, 2015, 197, 1026-1039.	1.0	9

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91	A pH switch affects the steady-state kinetic mechanism of pyranose 2-oxidase from Trametes ochracea. Archives of Biochemistry and Biophysics, 2009, 483, 10-15.	1.4	8
92	Crystal structure of yeast nitronate monooxygenase from Cyberlindnera saturnus. Proteins: Structure, Function and Bioinformatics, 2018, 86, 599-605.	1.5	8
93	Ionic Atmosphere Effect on the Absorption Spectrum of a Flavoprotein: A Reminder to Consider Solution Ions. Journal of Physical Chemistry Letters, 2021, 12, 8384-8396.	2.1	8
94	Kinetic evidence for an anion binding pocket in the active site of nitronate monooxygenase. Bioorganic Chemistry, 2009, 37, 167-172.	2.0	7
95	A Reversible, Charge-Induced Intramolecular C4a-S-Cysteinyl-Flavin in Choline Oxidase Variant S101C. Biochemistry, 2017, 56, 6677-6690.	1.2	7
96	Kinetic Characterization of PA1225 from Pseudomonas aeruginosa PAO1 Reveals a New NADPH:Quinone Reductase. Biochemistry, 2018, 57, 3050-3058.	1.2	7
97	A Single-Point Mutation in <scp>d</scp>-Arginine Dehydrogenase Unlocks a Transient Conformational State Resulting in Altered Cofactor Reactivity. Biochemistry, 2021, 60, 711-724.	1.2	7
98	Importance of glutamate 87 and the substrate Î±-amine for the reaction catalyzed by d-arginine dehydrogenase. Archives of Biochemistry and Biophysics, 2015, 568, 56-63.	1.4	6
99	Structural determinants for substrate specificity of flavoenzymes oxidizing d-amino acids. Archives of Biochemistry and Biophysics, 2018, 660, 87-96.	1.4	6
100	Steric hindrance controls pyridine nucleotide specificity of a flavinâ€dependent NADH:quinone oxidoreductase. Protein Science, 2019, 28, 167-175.	3.1	6
101	Effect of Salt and pH on the Reductive Half-Reaction of Mycobacterium tuberculosis FprA with NADPH. Biochemistry, 2008, 47, 3418-3425.	1.2	5
102	Substitutions of S101 decrease proton and hydride transfers in the oxidation of betaine aldehyde by choline oxidase. Archives of Biochemistry and Biophysics, 2017, 634, 76-82.	1.4	5
103	Characterization of conserved active site residues in class I nitronate monooxygenase. Archives of Biochemistry and Biophysics, 2019, 672, 108058.	1.4	5
104	Kinetic and Bioinformatic Characterization of <scp>d</scp>-2-Hydroxyglutarate Dehydrogenase from Pseudomonas aeruginosa PAO1. Biochemistry, 2020, 59, 4833-4844.	1.2	5
105	A Metastable Photoinduced Proteinâ€“Flavin Adduct in Choline Oxidase, an Enzyme Not Involved in Light-Dependent Processes. Journal of Physical Chemistry B, 2020, 124, 3936-3943.	1.2	5
106	Conserved Hydration Sites in Pin1 Reveal a Distinctive Water Recognition Motif in Proteins. Journal of Chemical Information and Modeling, 2016, 56, 139-147.	2.5	4
107	Evidence for proton tunneling and a transient covalent flavin-substrate adduct in choline oxidase S101A. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2017, 1865, 1470-1478.	1.1	4
108	Introduction to flavoproteins: Beyond the classical paradigms. Archives of Biochemistry and Biophysics, 2017, 632, 1-3.	1.4	4

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109	Kinetic solvent viscosity effects reveal a protein isomerization in the reductive half-reaction of Neurospora crassa class II nitronate monooxygenase. Archives of Biochemistry and Biophysics, 2020, 695, 108625.	1.4	4
110	Kinetic solvent viscosity effects uncover an internal isomerization of the enzyme-substrate complex in Pseudomonas aeruginosa PAO1 NADH:Quinone oxidoreductase. Archives of Biochemistry and Biophysics, 2022, 727, 109342.	1.4	4
111	Reactivity of histidyl residues ind-amino acid oxidase fromRhodotorula gracilis. FEBS Letters, 1995, 363, 307-310.	1.3	3
112	Evidence for an Essential Arginine in the Flavoprotein Nitroalkane Oxidase. Journal of Enzyme Inhibition and Medicinal Chemistry, 2001, 16, 157-163.	0.5	3
113	Guest Editorâ€™s Introduction. Archives of Biochemistry and Biophysics, 2010, 493, 1-2.	1.4	2
114	Kinetic Investigation of a Presumed Nitronate Monooxygenase from Pseudomonas aeruginosa PAO1 Establishes a New Class of NAD(P)H:Quinone Reductases. Biochemistry, 2019, 58, 2594-2607.	1.2	2
115	Tuning Protein Dynamics to Sense Rapid Endoplasmicâ€Reticulum Calcium Dynamics. Angewandte Chemie, 2021, 133, 23477.	1.6	2
116	On the use of noncompetitive kinetic isotope effects to investigate flavoenzyme mechanism. Methods in Enzymology, 2019, 620, 115-143.	0.4	1
117	Discovery of a new flavin N5-adduct in a tyrosine to phenylalanine variant of d-Arginine dehydrogenase. Archives of Biochemistry and Biophysics, 2022, 715, 109100.	1.4	1
118	Design and Application of a Class of Sensors to Monitor Ca2+ Dynamics in High Ca2+ Concentration Cellular Compartments. Biophysical Journal, 2012, 102, 312a.	0.2	0
119	Design and Application of Fluorescent Calcium Binding Proteins with Fast Kinetics. Biophysical Journal, 2013, 104, 530a.	0.2	0
120	Cofactor assisted enzymatic catalysis. Archives of Biochemistry and Biophysics, 2014, 544, 1.	1.4	0