Ronald Kluger

List of Publications by Year
in descending order

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187 papers	4,177 citations	126708 33 h-index	168136 53 g-index
205 all docs	205 docs citations	205 times ranked	2467 citing authors

#	Article	IF	Citations
1	Rates of competing fluoride elimination and iodination from a thiamin-derived Breslow intermediate. Bioorganic Chemistry, 2022, 120, 105579.	2.0	0
2	Ground-state destabilization by electrostatic repulsion is not a driving force in orotidine-5â€²-monophosphate decarboxylase catalysis. Nature Catalysis, 2022, 5, 332-341.	16.1	12
3	Origin of Free Energy Barriers of Decarboxylation and the Reverse Process of CO₂ Capture in Dimethylformamide and in Water. Journal of the American Chemical Society, 2021, 143, 137-141.	6.6	16
4	Metal-Catalyzed Site-Selective Monoacylation of Diols in Aqueous Media. Synthesis, 2019, 51, 3784-3791.	1.2	1
5	Competing Protonation and Halide Elimination as a Probe of the Character of Thiamin-Derived Reactive Intermediates. Biochemistry, 2019, 58, 3566-3571.	1.2	3
6	Crossâ€linked hemoglobin bisâ€tetramers from bioorthogonal coupling do not induce vasoconstriction in the circulation. Transfusion, 2019, 59, 359-370.	0.8	3
7	Lead-Catalyzed Aqueous Benzoylation of Carbohydrates with an Acyl Phosphate Ester. Journal of Organic Chemistry, 2018, 83, 7360-7365.	1.7	4
8	Charge Dispersion and Its Effects on the Reactivity of Thiamin-Derived Breslow Intermediates. Biochemistry, 2018, 57, 3867-3872.	1.2	7
9	The Need for an Alternative to Radicals as the Cause of Fragmentation of a Thiaminâ€Derived Breslow Intermediate. Angewandte Chemie - International Edition, 2017, 56, 6321-6323.	7.2	6
10	Carbon Kinetic Isotope Effects and the Mechanisms of Acid-Catalyzed Decarboxylation of 2,4-Dimethoxybenzoic Acid and CO₂ Incorporation into 1,3-Dimethoxybenzene. Journal of the American Chemical Society, 2017, 139, 15049-15053.	6.6	5
11	The Need for an Alternative to Radicals as the Cause of Fragmentation of a Thiaminâ€Derived Breslow Intermediate. Angewandte Chemie, 2017, 129, 6418-6420.	1.6	0
12	Determining Carbon Kinetic Isotope Effects Using Headspace Analysis of Evolved CO 2. Methods in Enzymology, 2017, 596, 501-522.	0.4	0
13	Increased efficiency in biomimetic Lewis acidâ€“base pair catalyzed monoacylation of diols by acyl phosphate monoesters. Facets, 2017, 2, 682-689.	1.1	1
14	Enhanced Nitrite Reductase Activity and Its Correlation with Oxygen Affinity in Hemoglobin Bis-Tetramers. Biochemistry, 2016, 55, 4688-4696.	1.2	1
15	The reactivity of lactyl-oxythiamin implies the role of the amino-pyrimidine in thiamin catalyzed decarboxylation. Bioorganic Chemistry, 2016, 69, 153-158.	2.0	2
16	Strain-promoted azideâ€“alkyne cycloaddition for proteinâ€“protein coupling in the formation of a bis-hemoglobin as a copper-free oxygen carrier. Organic and Biomolecular Chemistry, 2016, 14, 10011-10017.	1.5	6
17	How Acid-Catalyzed Decarboxylation of 2,4-Dimethoxybenzoic Acid Avoids Formation of Protonated CO₂. Journal of the American Chemical Society, 2016, 138, 7568-7573.	6.6	12
18	Self-Assembly of a Functional Triple Protein: Hemoglobin-Avidin-Hemoglobin via Biotinâ€“Avidin Interactions. Biochemistry, 2016, 55, 2875-2882.	1.2	5

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19	Catalyzing decarboxylation by taming carbon dioxide. Pure and Applied Chemistry, 2015, 87, 353-360.	0.9	7
20	Decarboxylation, CO₂ and the Reversion Problem. Accounts of Chemical Research, 2015, 48, 2843-2849.	7.6	41
21	Subunit-directed click coupling via doubly cross-linked hemoglobin efficiently produces readily purified functional bis-tetrameric oxygen carriers. Organic and Biomolecular Chemistry, 2015, 13, 11118-11128.	1.5	4
22	Bioorthogonal phase-directed copper-catalyzed azideâ€“alkyne cycloaddition (PDCuAAC) coupling of selectively cross-linked superoxide dismutase dimers produces a fully active bis-dimer. Organic and Biomolecular Chemistry, 2015, 13, 10244-10249.	1.5	1
23	Lithium-stabilized nucleophilic addition of thiamin to a ketone provides an efficient route to mandelylthiamin, a critical pre-decarboxylation intermediate. Bioorganic Chemistry, 2015, 62, 124-129.	2.0	5
24	Solid-phase lanthanum catalysis of monoacylation of diols in water by acyl phosphate monoesters. Canadian Journal of Chemistry, 2015, 93, 445-450.	0.6	2
25	Increasing Efficiency in Proteinâ€“Protein Coupling: Subunit-Directed Acetylation and Phase-Directed CuAAC (â€œClick Couplingâ€) in the Formation of Hemoglobin Bis-Tetramers. Biochemistry, 2014, 53, 6793-6799.	1.2	12
26	Decarboxylation without CO₂: Why Bicarbonate Forms Directly as Trichloroacetate Is Converted to Chloroform. Journal of Organic Chemistry, 2014, 79, 10972-10980.	1.7	9
27	Carbon Kinetic Isotope Effects Reveal Variations in Reactivity of Intermediates in the Formation of Protonated Carbonic Acid. Journal of Organic Chemistry, 2013, 78, 12176-12181.	1.7	7
28	Avoiding CO2 in Catalysis of Decarboxylation. Advances in Physical Organic Chemistry, 2013, 47, 85-128.	0.5	11
29	Sub-Ã¥ngstrÃ¶m-resolution crystallography reveals physical distortions that enhance reactivity of a covalent enzymatic intermediate. Nature Chemistry, 2013, 5, 762-767.	6.6	70
30	Pressureâ€monitored headspace analysis combined with compoundâ€specific isotope analysis to measure isotope fractionation in gasâ€producing reactions. Rapid Communications in Mass Spectrometry, 2013, 27, 1778-1784.	0.7	14
31	HBOCs from Chemical Modification of Hb. , 2013, , 159-183.		7
32	Base-Catalyzed Decarboxylation of Mandelylthiamin: Direct Formation of Bicarbonate as an Alternative to Formation of CO₂. Journal of the American Chemical Society, 2012, 134, 20621-20623.	6.6	17
33	Origins of Steric Effects in General-Base-Catalyzed Enolization: Solvation and Electrostatic Attraction. Journal of the American Chemical Society, 2012, 134, 1066-1070.	6.6	5
34	Protonated Carbonic Acid and Reactive Intermediates in the Acidic Decarboxylation of Indolecarboxylic Acids. Journal of Organic Chemistry, 2012, 77, 6505-6509.	1.7	18
35	Hemodynamic responses to a hemoglobin bisâ€tetramer and its polyethylene glycol conjugate. Transfusion, 2012, 52, 974-982.	0.8	12
36	Biomimetic peptide bond formation in water with aminoacyl phosphate esters. Organic and Biomolecular Chemistry, 2011, 9, 5645.	1.5	8

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37	Investigating the Mechanism of Heteroaromatic Decarboxylation Using Solvent Kinetic Isotope Effects and Eyring Transition-State Theory. Journal of Chemical Education, 2011, 88, 1004-1006.	1.1	10
38	Biomimetic protecting-group-free 2â€², 3â€²-selective aminoacylation of nucleosides and nucleotides. Organic and Biomolecular Chemistry, 2011, 9, 676-678.	1.5	11
39	Reviving Artificial Blood: Meeting the Challenge of Dealing with NO Scavenging by Hemoglobin. ChemBioChem, 2010, 11, 1816-1824.	1.3	11
40	Red cell substitutes from hemoglobinâ€"Do we start all over again?. Current Opinion in Chemical Biology, 2010, 14, 538-543.	2.8	46
41	The role of pre-association in BrÃ¸nsted acid-catalyzed decarboxylation and related processes. Advances in Physical Organic Chemistry, 2010, , 357-375.	0.5	6
42	Hydrolytic Decarboxylation of Carboxylic Acids and the Formation of Protonated Carbonic Acid. Journal of the American Chemical Society, 2010, 132, 2430-2436.	6.6	44
43	Click Chemistry for Biotechnology and Materials Science. Journal of the American Chemical Society, 2010, 132, 6611-6612.	6.6	13
44	Efficient CuAAC click formation of functional hemoglobin bis-tetramers. Chemical Communications, 2010, 46, 7557.	2.2	17
45	Magnesium ion enhances lanthanum-promoted monobenzoylation of a monosaccharide in water. Organic and Biomolecular Chemistry, 2010, 8, 2006.	1.5	32
46	Proteinâ€“protein coupling and its application to functional red cell substitutes. Chemical Communications, 2010, 46, 1194.	2.2	14
47	Enhancing Nitrite Reductase Activity of Modified Hemoglobin: Bis-tetramers and Their PEGylated Derivatives. Biochemistry, 2009, 48, 11912-11919.	1.2	36
48	Internal Return of Carbon Dioxide in Decarboxylation: Catalysis of Separation and ¹²C/¹³C Kinetic Isotope Effects. Journal of the American Chemical Society, 2009, 131, 11638-11639.	6.6	32
49	Decarboxylation via Addition of Water to a Carboxyl Group: Acid Catalysis of Pyrrole-2-Carboxylic Acid. Journal of the American Chemical Society, 2009, 131, 11674-11675.	6.6	52
50	Hemoglobin bis-tetramers via cooperative azideâ€“alkyne coupling. Chemical Communications, 2009, , 7315.	2.2	27
51	Catalyzing separation of carbon dioxide in thiamin diphosphateâ€promoted decarboxylation. FEBS Journal, 2008, 275, 6089-6100.	2.2	13
52	Efficient generation of dendritic arrays of cross-linked hemoglobin: symmetry and redundancy. Organic and Biomolecular Chemistry, 2008, 6, 151-156.	1.5	14
53	Thiamin Diphosphate Catalysis: Enzymic and Nonenzymic Covalent Intermediates. Chemical Reviews, 2008, 108, 1797-1833.	23.0	233
54	Functional Cross-Linked Hemoglobin Bis-tetramers: Geometry and Cooperativity. Biochemistry, 2008, 47, 12551-12561.	1.2	37

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55	pKa-Dependent Formation of Amides in Water from an Acyl Phosphate Monoester and Amines. Journal of Organic Chemistry, 2008, 73, 4753-4754.	1.7	21
56	Biomimetic Aminoacylation of Ribonucleotides and RNA with Aminoacyl Phosphate Esters and Lanthanum Salts. Journal of the American Chemical Society, 2007, 129, 15848-15854.	6.6	27
57	Chelation-controlled regioselectivity in the lanthanum-promoted monobenzoylation of monosaccharides in water. Carbohydrate Research, 2007, 342, 1998-2002.	1.1	17
58	CIC Medal Award Lecture â€" Molecular keystones: Lessons from bioorganic reaction mechanisms. Canadian Journal of Chemistry, 2006, 84, 1093-1105.	0.6	1
59	Lanthanum-catalyzed aqueous acylation of monosaccharides by benzoyl methyl phosphate. Canadian Journal of Chemistry, 2006, 84, 620-624.	0.6	10
60	Accelerating Unimolecular Decarboxylation by Preassociated Acid Catalysis in Thiamin-Derived Intermediates:Â Implicating BrÃ¸nsted Acids as Carbanion Traps in Enzymes. Journal of the American Chemical Society, 2006, 128, 15856-15864.	6.6	28
61	Protein-enhanced decarboxylation of the covalent intermediate in benzoylformate decarboxylaseâ€"Desolvation or acid catalysis?. Bioorganic Chemistry, 2006, 34, 337-344.	2.0	8
62	A Versatile Conformational Switch Regulates Reactivity in Human Branched-Chain Î±-Ketoacid Dehydrogenase. Structure, 2006, 14, 287-298.	1.6	46
63	A Versatile Conformational Switch Regulates Reactivity in Human Branched-Chain Î±-Ketoacid Dehydrogenase. Structure, 2006, 14, 625.	1.6	0
64	Effect of coenzyme modification on the structural and catalytic properties of wild-type transketolase and of the variant E418A from Saccharomycesâ€ƒcerevisiae. FEBS Journal, 2005, 272, 1326-1342.	2.2	16
65	Binding of acellular, native and cross-linked human hemoglobins to haptoglobin: enhanced distribution and clearance in the rat. American Journal of Physiology - Renal Physiology, 2005, 288, G1301-G1309.	1.6	13
66	Deuterium labeling as a test of intramolecular hydride mechanisms in the fragmentation of 2-(1-hydroxybenzyl)-N1â€²-methylthiamin. Canadian Journal of Chemistry, 2005, 83, 1277-1280.	0.6	5
67	Hemoglobinâˆ'Superoxide DismutaseChemical Linkages That Create a Dual-Function Protein. Journal of the American Chemical Society, 2005, 127, 8036-8043.	6.6	37
68	Making Thiamin Work Faster:Â Acid-Promoted Separation of Carbon Dioxide. Journal of the American Chemical Society, 2005, 127, 12242-12243.	6.6	25
69	Conjoined Hemoglobins. Loss of Cooperativity and Proteinâˆ'Protein Interactions. Biochemistry, 2005, 44, 14989-14999.	1.2	15
70	Fast fragmentation and slow protonation: a buffer-dependent isotope effect in reactions ofN-methyl hydroxy(benzylthiamine) analyzed by the Keeffeâ€"Jencks equations. Journal of Physical Organic Chemistry, 2004, 17, 507-510.	0.9	8
71	Chemical cross-linking and proteinâ€"protein interactionsâ€"a review with illustrative protocols. Bioorganic Chemistry, 2004, 32, 451-472.	2.0	92
72	Biomimetic Monoacylation of Diols in Water. Lanthanide-Promoted Reactions of Methyl Benzoyl Phosphate. Journal of the American Chemical Society, 2004, 126, 10721-10726.	6.6	35

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73	Fragmentation of the Conjugate Base of 2-(1-Hydroxybenzyl)thiamin:Â Does Benzoylformate Decarboxylase Prevent Orbital Overlap To Avoid It?. Journal of the American Chemical Society, 2004, 126, 68-69.	6.6	21
74	Rates of release of nitric oxide from HbSNO and internal electron transfer. Bioorganic Chemistry, 2003, 31, 3-10.	2.0	6
75	Cross-Linked Bis-hemoglobins:â€‰ Connections and Oxygen Binding. Journal of the American Chemical Society, 2003, 125, 10885-10892.	6.6	15
76	Hemoglobin Dendrimers:â€‰ Functional Protein Clusters. Journal of the American Chemical Society, 2003, 125, 6070-6071.	6.6	37
77	Reactivity of Intermediates in Benzoylformate Decarboxylase:Â Avoiding the Path to Destruction. Journal of the American Chemical Society, 2002, 124, 14858-14859.	6.6	30
78	Substituent Effects in Carbonâ˜'Nitrogen Cleavage of Thiamin Derivatives. Fragmentation Pathways and Enzymic Avoidance of Cofactor Destruction. Journal of the American Chemical Society, 2002, 124, 1669-1673.	6.6	16
79	Activation of Acyl Phosphate Monoesters by Lanthanide Ions:â€‰ Enhanced Reactivity of Benzoyl Methyl Phosphate. Journal of the American Chemical Society, 2002, 124, 3303-3308.	6.6	37
80	2001 Lemieux Award Lecture Organic chemistry and hemoglobin: Benefits from controlled alteration. Canadian Journal of Chemistry, 2002, 80, 217-221.	0.6	4
81	Release of Nitric Oxide fromS-Nitrosohemoglobin. Electron Transfer as a Response to Deoxygenation. Journal of the American Chemical Society, 2001, 123, 4615-4616.	6.6	36
82	Mechanism of Site-Directed Protein Cross-Linking. Protein-Directed Selectivity in Reactions of Hemoglobin with Aryl Trimesates. Journal of Organic Chemistry, 2000, 65, 214-219.	1.7	17
83	Destruction of Vitamin B1 by Benzaldehyde. Reactivity of Intermediates in the Fragmentation ofN1â€˜-Benzyl-2-(1-hydroxybenzyl)thiamin. Journal of the American Chemical Society, 2000, 122, 6145-6150.	6.6	32
84	S-Nitrosylation of Cross-Linked Hemoglobins at Î²-Cysteine-93:Â Stabilized Hemoglobins as Nitric Oxide Sources. Journal of the American Chemical Society, 2000, 122, 10734-10735.	6.6	6
85	Decomposition of 2-(1-Hydroxybenzyl)thiamin. Ruling Out Stepwise Cationic Fragmentation. Organic Letters, 2000, 2, 2035-2036.	2.4	9
86	An ether-linked tetrafunctional acylating reagent and its cross-linking reactions with hemoglobin. Canadian Journal of Chemistry, 1999, 77, 271-279.	0.6	7
87	Molecular Necklaces. Cross-Linking Hemoglobin with Reagents Containing Covalently Attached Ligands. Bioconjugate Chemistry, 1999, 10, 1058-1067.	1.8	7
88	Connecting Proteins by Design. Cross-Linked Bis-Hemoglobin. Journal of the American Chemical Society, 1999, 121, 6780-6785.	6.6	24
89	Lessons from thiamin-watching. Pure and Applied Chemistry, 1997, 69, 1957-1968.	0.9	30
90	Biomimetically Activated Amino Acids. Catalysis in the Hydrolysis of Alanyl Ethyl Phosphate. Journal of the American Chemical Society, 1997, 119, 12089-12094.	6.6	22

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91	Efficient Chemical Introduction of a Disulfide Cross-Link and Conjugation Site into Human Hemoglobin at Î²-Lysine-82 Utilizing a Bifunctional Aminoacyl Phosphate. Bioconjugate Chemistry, 1997, 8, 921-926.	1.8	8
92	Systematically Cross-Linked Human Hemoglobin:Â Functional Effects of 10 Ã… Spans between Beta Subunits at Lysine-82. Journal of the American Chemical Society, 1996, 118, 8782-8786.	6.6	33
93	A Site-Specific Tetrafunctional Reagent for Protein Modification:Â Cross-Linked Hemoglobin with Two Sites for Further Reaction. Journal of the American Chemical Society, 1996, 118, 10380-10383.	6.6	12
94	Solvent-Accelerated Decarboxylation ofN-Carboxy-2-imidazolidinone. Implications for Stability of Intermediates in Biotin-Dependent Carboxylations. Journal of the American Chemical Society, 1996, 118, 12495-12498.	6.6	13
95	A Doubly Cross-linked Human Hemoglobin. Journal of Biological Chemistry, 1996, 271, 675-680.	1.6	22
96	1996 Bader Award Lecture Aminoacyl ethyl phosphates. Biomimetically activated amino acids. Canadian Journal of Chemistry, 1996, 74, 2395-2400.	0.6	19
97	Allosteric transition intermediates modelled by crosslinked haemoglobins. Nature, 1995, 375, 84-87.	13.7	90
98	Diverting Thiamin from Catalysis to Destruction. Mechanism of Fragmentation of N(1')-Methyl-2-(1-hydroxybenzyl)thiamin. Journal of the American Chemical Society, 1995, 117, 11383-11389.	6.6	34
99	Inactivation of d-3-hydroxybutyrate dehydrogenase by fumaroyl bis(methyl phosphate). Bioorganic and Medicinal Chemistry, 1994, 2, 379-385.	1.4	4
100	Benzylpenicillin methyl phosphate. A penicillin prodrug that inactivates RTEM Î²-lactamase. Bioorganic and Medicinal Chemistry Letters, 1994, 4, 1225-1228.	1.0	5
101	1994 Syntex Award Lecture: Anionic Electrophiles, Protein Modification, and Artificial Blood. Canadian Journal of Chemistry, 1994, 72, 2193-2197.	0.6	14
102	Changing a protein into a generalized acylating reagent. Reaction of nucleophiles with 3,5-dibromosalicyl trimesyl-((Lys-.beta.-82)-(Lys-.beta.-82))-hemoglobin. Journal of Organic Chemistry, 1994, 59, 733-736.	1.7	19
103	Crystal structure of transketolase in complex with thiamine thiazolone diphosphate, an analogue of the reaction intermediate, at 2.3 Ã… resolution. FEBS Letters, 1993, 326, 145-148.	1.3	45
104	Monooxygenase-like activity of methemoglobin with sodium sulfite as an efficient reductant. Journal of the American Chemical Society, 1993, 115, 4365-4366.	6.6	6
105	Hydrolysis of methylacetoin ethyl phosphate. Competing pathways for carbonyl hydrate participation in a model for biotin carboxylation. Journal of the American Chemical Society, 1993, 115, 867-871.	6.6	19
106	Electrostatic stabilization can explain the unexpected acidity of carbon acids in enzyme-catalyzed reactions. Journal of the American Chemical Society, 1993, 115, 11569-11572.	6.6	150
107	Molecular reception catalysis of the decarboxylation of N-carboxyimidazolidinone. A model for activation by distortion of N-carboxybiotin. Journal of the American Chemical Society, 1993, 115, 2089-2090.	6.6	22
108	Modification of human hemoglobin with methyl acyl phosphates derived from dicarboxylic acids. Systematic relationships between cross-linked structure and oxygen-binding properties. Biochemistry, 1993, 32, 215-223.	1.2	34

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109	7 Mechanisms of Enzymic Carbonâ€"Carbon Bond Formation and Cleavage. The Enzymes, 1992, 20, 271-315.	0.7	6
110	Heats of reaction of cyclic and acyclic phosphate and phosphonate esters. Strain discrepancy and steric retardation. Journal of the American Chemical Society, 1992, 114, 3067-3071.	6.6	18
111	Trimesoyltris(3,5-dibromosalicylate): specificity of reactions of a trifunctional acylating agent with hemoglobin. Journal of the American Chemical Society, 1992, 114, 9275-9279.	6.6	37
112	Three-point crosslinking: potential red cell substitutes from the reaction of trimesoyl tris(methyl) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 6	1.2	41
113	Thiamin diphosphate-rhodium(III) and 2-(1-hydroxyethyl)thiamin diphosphate-rhodium(III). Models for metal ion activation of enzyme-bound thiamin diphosphate. Journal of Organic Chemistry, 1992, 57, 6410-6413.	1.7	8
114	Phosphoenol acetylphosphonates: Substrate analogues as inhibitors of phosphoenolpyruvate enzymes. Bioorganic Chemistry, 1992, 20, 135-147.	2.0	14
115	Endocyclic cleavage in the alkaline hydrolysis of the cyclic phosphonate methyl propylphostonate: dianionic intermediates and barriers to pseudorotation. Journal of the American Chemical Society, 1991, 113, 5714-5719.	6.6	19
116	Acyl pyrophosphates: activated analogs of pyrophosphate monoesters permitting new designs for inactivation of targeted enzymes. Journal of the American Chemical Society, 1991, 113, 5124-5125.	6.6	7
117	Mechanisms of carbonyl participation in phosphate ester hydrolysis and their relationship to mechanisms for the carboxylation of biotin. Journal of the American Chemical Society, 1991, 113, 996-1001.	6.6	26
118	Differentiation of diastereomeric salts of hydroxyethyl(thiamin) and analysis of stereochemical requirements in pyruvate decarboxylase. Bioorganic Chemistry, 1990, 18, 136-143.	2.0	4
119	Dicarboxylic acid bis(methyl phosphates): anionic biomimetic crosslinking reagents. Journal of Organic Chemistry, 1990, 55, 2864-2868.	1.7	38
120	Ionic intermediates in enzyme-catalyzed carbon-carbon bond formation: patterns, prototypes, probes, and proposals. Chemical Reviews, 1990, 90, 1151-1169.	23.0	33
121	On the origins of enhanced reactivity of five-membered cyclic phosphate esters. The relative contributions of enthalpic and entropic factors. Journal of the American Chemical Society, 1990, 112, 6669-6671.	6.6	51
122	The mechanistic basis of enzyme catalysis. , 1990, , 8-49.		0
123	Biological Utilization of Carbon Dioxide. Enzymic Catalysis Patterns Involving Biotin, ATP, and Bicarbonate. , 1990, , 259-271.		0
124	Direct selective pyrophosphorylation of the primary hydroxyl group in (hydroxyethyl)thiamin by modified phosphoric acid-cresol solutions and evaluation of extension of the method to nucleosides. Bioorganic Chemistry, 1989, 17, 224-230.	2.0	2
125	Mechanisms for the enzyme-catalyzed ATP-dependent carboxylation of biotin involving phosphorylated tetrahedral intermediates. Bioorganic Chemistry, 1989, 17, 287-293.	2.0	6
126	Carboxylic acid participation in amide hydrolysis. Competition between acid-catalyzed dehydration and anhydride formation. Journal of the American Chemical Society, 1989, 111, 5921-5925.	6.6	17

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127	Circumventive catalysis: contrasting reaction patterns of tertiary and primary amines with cyclic anhydrides and the avoidance of intermediates. Journal of the American Chemical Society, 1989, 111, 3325-3328.	6.6	23
128	Mechanism and Catalysis of Nucleophilic Substitution in Phosphate Esters. Advances in Physical Organic Chemistry, 1989, 25, 99-265.	0.5	161
129	Thiamin diphosphate: a mechanistic update on enzymic and nonenzymic catalysis of decarboxylation [Erratum to document cited in CA107(17):149778V]. Chemical Reviews, 1988, 88, 595-595.	23.0	1
130	Thiamin diphosphate catalysis. Mechanistic divergence as a probe of substrate activation of pyruvate decarboxylase. Journal of the American Chemical Society, 1988, 110, 6230-6234.	6.6	29
131	Synthesis, structure, and hydrolysis of esters of strained and unstrained N-phosphonylureas. Canadian Journal of Chemistry, 1987, 65, 1838-1844.	0.6	5
132	Thiamin diphosphate: a mechanistic update on enzymic and nonenzymic catalysis of decarboxylation. Chemical Reviews, 1987, 87, 863-876.	23.0	250
133	Chiral intermediates in thiamin catalysis. Stereochemical course of the decarboxylation step in the conversion of pyruvate to acetaldehyde. Journal of the American Chemical Society, 1987, 109, 6368-6371.	6.6	14
134	Chirality of intermediates in thiamin catalysis: structure of (+)-2-(1-hydroxyethyl)-3,4-dimethyl-5-(2-hydroxyethyl)thiazolium iodide, the absolute stereochemistry of the enantiomers of 2-(1-hydroxyethyl)thiamin, and enzymic reaction of the diphosphates. Journal of the American Chemical Society, 1987, 109, 618-620.	6.6	12
135	Site-specific modification of hemoglobin by methyl acetyl phosphate. Archives of Biochemistry and Biophysics, 1986, 244, 795-800.	1.4	33
136	Enzymic carboxyl transfer from N-carboxybiotin. A molecular orbital evaluation of conformational effects in promoting reactivity. Journal of the American Chemical Society, 1986, 108, 2699-2704.	6.6	19
137	Exocyclic cleavage in the alkaline hydrolysis of methyl ethylene phosphate: pseudorotation of a pentavalent intermediate or reaction via a hexavalent intermediate?. Journal of Organic Chemistry, 1986, 51, 207-212.	1.7	20
138	Secondary .beta.-deuterium isotope effects in decarboxylation and elimination reactions of .alpha.-lactylthiamin: intrinsic isotope effects of pyruvate decarboxylase. Journal of the American Chemical Society, 1986, 108, 7828-7832.	6.6	5
139	Methyl acetyl phosphate: A novel acetylating agent Its site-specific modification of human hemoglobin A. Journal of Chromatography A, 1986, 359, 193-201.	1.8	18
140	.beta.-Deuterium secondary isotope effects in heterolytic decarboxylation reactions. Manifestations of negative hyperconjugation. Journal of Organic Chemistry, 1986, 51, 3964-3968.	1.7	11
141	Reaction of the anionic acetylation agent methyl acetyl phosphate with <scp>D</scp>-3-hydroxybutyrate dehydrogenase. Biochemistry and Cell Biology, 1986, 64, 434-440.	0.9	19
142	Chiral intermediates in thiamin catalysis: Resolution and pyrophosphorylation of hydroxyethylthiamin. Bioorganic Chemistry, 1985, 13, 227-234.	2.0	10
143	Exocyclic cleavage in the alkaline hydrolysis of methyl ethylene phosphate. Evidence against the significance of stereoelectronic acceleration in reactions of cyclic phosphates. Journal of the American Chemical Society, 1985, 107, 6006-6011.	6.6	29
144	Aminolysis of maleic anhydride. Kinetics and thermodynamics of amide formation. Journal of the American Chemical Society, 1984, 106, 5667-5670.	6.6	15

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145	Phosphoenol pyruvamides. Amide-phosphate interactions in analogs of phosphoenol pyruvate. Journal of the American Chemical Society, 1984, 106, 4017-4020.	6.6	13
146	Variation of steric effects in metal ion-catalyzed proton transfer. A probe of transition-state structure. Journal of the American Chemical Society, 1984, 106, 1113-1117.	6.6	9
147	The mechanistic basis of enzyme catalysis. , 1984, , 8-39.		5
148	Synthesis and crystal structure of an analog of 2-(.alpha.-lactyl)thiamin, racemic methyl 2-hydroxy-2-(2-thiamin)ethylphosphonate chloride trihydrate. A conformation for a least-motion, maximum-overlap mechanism for thiamin catalysis. Journal of the American Chemical Society, 1982, 104, 3089-3095.	6.6	35
149	REACTIVE INTERMEDIATES IN THIAMIN CATALYSIS. Annals of the New York Academy of Sciences, 1982, 378, 63-77.	1.8	8
150	ROUND TABLE DISCUSSION ON CHEMISTRY AND MECHANISM. Annals of the New York Academy of Sciences, 1982, 378, 117-122.	1.8	0
151	GENERAL DISCUSSION OF THIAMIN PYROPHOSPHATE-REQUIRING ENZYMES. Annals of the New York Academy of Sciences, 1982, 378, 312-315.	1.8	0
152	Carboxylic acid participation in amide hydrolysis. Evidence that separation of a nonbonded complex can be rate determining. Journal of the American Chemical Society, 1982, 104, 2891-2897.	6.6	29
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