John P Richard

List of Publications by Year in Descending Order

225 papers	8,218 citations	49 h-index	77 g-index
247 ext. papers	8,683 ext. citations	9.5 avg, IF	6.27 L-index

#	Paper	IF	Citations
225	Glycerol-3-Phosphate Dehydrogenase: The K120 and K204 Side Chains Define an Oxyanion Hole at the Enzyme Active Site.. *Biochemistry*, **2022**, 61, 856-867	3.2	1
224	Protein-Ribofuranosyl Interactions Activate Orotidine 5QMonophosphate Decarboxylase for Catalysis. *Biochemistry*, **2021**, 60, 3362-3373	3.2	3
223	The role of remote flavin adenine dinucleotide pieces in the oxidative decarboxylation catalyzed by salicylate hydroxylase.. *Bioorganic Chemistry*, **2021**, 119, 105561	5.1	1
222	Origin of Free Energy Barriers of Decarboxylation and the Reverse Process of CO Capture in Dimethylformamide and in Water. *Journal of the American Chemical Society*, **2021**, 143, 137-141	16.4	10
221	Linear Free Energy Relationships for Enzymatic Reactions: Fresh Insight from a Venerable Probe. *Accounts of Chemical Research*, **2021**, 54, 2532-2542	24.3	3
220	Phosphodianion Activation of Enzymes for Catalysis of Central Metabolic Reactions. *Journal of the American Chemical Society*, **2021**, 143, 2694-2698	16.4	7
219	Adenylate Kinase-Catalyzed Reaction of AMP in Pieces: Enzyme Activation for Phosphoryl Transfer to Phosphite Dianion. *Biochemistry*, **2021**, 60, 2672-2676	3.2	3
218	Hydride Transfer Catalyzed by Glycerol Phosphate Dehydrogenase: Recruitment of an Acidic Amino Acid Side Chain to Rescue a Damaged Enzyme. *Biochemistry*, **2020**, 59, 4856-4863	3.2	5
217	Orotidine 5QMonophosphate Decarboxylase: The Operation of Active Site Chains Within and Across Protein Subunits. *Biochemistry*, **2020**, 59, 2032-2040	3.2	3
216	Modeling the Role of a Flexible Loop and Active Site Side Chains in Hydride Transfer Catalyzed by Glycerol-3-phosphate Dehydrogenase. *ACS Catalysis*, **2020**, 10, 11253-11267	13.1	7
215	The Organization of Active Site Side Chains of Glycerol-3-phosphate Dehydrogenase Promotes Efficient Enzyme Catalysis and Rescue of Variant Enzymes. *Biochemistry*, **2020**, 59, 1582-1591	3.2	8
214	Uncovering the Role of Key Active-Site Side Chains in Catalysis: An Extended Brnsted Relationship for Substrate Deprotonation Catalyzed by Wild-Type and Variants of Triosephosphate Isomerase. *Journal of the American Chemical Society*, **2019**, 141, 16139-16150	16.4	10
213	Protein Flexibility and Stiffness Enable Efficient Enzymatic Catalysis. *Journal of the American Chemical Society*, **2019**, 141, 3320-3331	16.4	55
212	Role of the Carboxylate in Enzyme-Catalyzed Decarboxylation of Orotidine 5QMonophosphate: Transition State Stabilization Dominates Over Ground State Destabilization. *Journal of the American Chemical Society*, **2019**, 141, 13468-13478	16.4	6
211	The role of ligand-gated conformational changes in enzyme catalysis. *Biochemical Society Transactions*, **2019**, 47, 1449-1460	5.1	9
210	Human Glycerol 3-Phosphate Dehydrogenase: X-ray Crystal Structures That Guide the Interpretation of Mutagenesis Studies. *Biochemistry*, **2019**, 58, 1061-1073	3.2	11
209	Role of Ligand-Driven Conformational Changes in Enzyme Catalysis: Modeling the Reactivity of the Catalytic Cage of Triosephosphate Isomerase. *Journal of the American Chemical Society*, **2018**, 140, 3854-3857	16.4	22

208	Enzyme Architecture: The Role of a Flexible Loop in Activation of Glycerol-3-phosphate Dehydrogenase for Catalysis of Hydride Transfer. *Biochemistry*, **2018**, 57, 3227-3236	3.2	17
207	Orotidine 5Q-Monophosphate Decarboxylase: Probing the Limits of the Possible for Enzyme Catalysis. *Accounts of Chemical Research*, **2018**, 51, 960-969	24.3	27
206	Enzyme Architecture: Amino Acid Side-Chains That Function To Optimize the Basicity of the Active Site Glutamate of Triosephosphate Isomerase. *Journal of the American Chemical Society*, **2018**, 140, 8277-8286	16.4	19
205	Enzyme Architecture: Breaking Down the Catalytic Cage that Activates Orotidine 5Q-Monophosphate Decarboxylase for Catalysis. *Journal of the American Chemical Society*, **2018**, 140, 17580-17590	16.4	9
204	Primary Deuterium Kinetic Isotope Effects: A Probe for the Origin of the Rate Acceleration for Hydride Transfer Catalyzed by Glycerol-3-Phosphate Dehydrogenase. *Biochemistry*, **2018**, 57, 4338-4348	3.2	10
203	Substituent Effects on Carbon Acidity in Aqueous Solution and at Enzyme Active Sites. *Synlett*, **2017** , 28, 2407-2421	2.2	4
202	Enzyme Architecture: Erection of Active Orotidine 5Q-Monophosphate Decarboxylase by Substrate-Induced Conformational Changes. *Journal of the American Chemical Society*, **2017**, 139, 16048-16051	16.4	12
201	Primary Deuterium Kinetic Isotope Effects From Product Yields: Rationale, Implementation, and Interpretation. *Methods in Enzymology*, **2017**, 596, 163-177	1.7	2
200	A reevaluation of the origin of the rate acceleration for enzyme-catalyzed hydride transfer. *Organic and Biomolecular Chemistry*, **2017**, 15, 8856-8866	3.9	4
199	Enzyme Architecture: Modeling the Operation of a Hydrophobic Clamp in Catalysis by Triosephosphate Isomerase. *Journal of the American Chemical Society*, **2017**, 139, 10514-10525	16.4	31
198	Enzyme Architecture: Self-Assembly of Enzyme and Substrate Pieces of Glycerol-3-Phosphate Dehydrogenase into a Robust Catalyst of Hydride Transfer. *Journal of the American Chemical Society*, **2016**, 138, 15251-15259	16.4	17
197	Structure-Reactivity Effects on Intrinsic Primary Kinetic Isotope Effects for Hydride Transfer Catalyzed by Glycerol-3-phosphate Dehydrogenase. *Journal of the American Chemical Society*, **2016**, 138, 14526-14529	16.4	9
196	Structure-Function Studies of Hydrophobic Residues That Clamp a Basic Glutamate Side Chain during Catalysis by Triosephosphate Isomerase. *Biochemistry*, **2016**, 55, 3036-47	3.2	15
195	Formation and Mechanism for Reactions of Ring-Substituted Phenonium Ions in Aqueous Solution. *Journal of Physical Organic Chemistry*, **2016**, 29, 557-564	2.1	10
194	Enzyme Architecture: A Startling Role for Asn270 in Glycerol 3-Phosphate Dehydrogenase-Catalyzed Hydride Transfer. *Biochemistry*, **2016**, 55, 1429-32	3.2	12
193	Rate and Equilibrium Constants for an Enzyme Conformational Change during Catalysis by Orotidine 5Q-Monophosphate Decarboxylase. *Biochemistry*, **2015**, 54, 4555-64	3.2	13
192	Enzyme architecture: optimization of transition state stabilization from a cation-phosphodianion pair. *Journal of the American Chemical Society*, **2015**, 137, 5312-5	16.4	25
191	Role of Loop-Clamping Side Chains in Catalysis by Triosephosphate Isomerase. *Journal of the American Chemical Society*, **2015**, 137, 15185-97	16.4	28

190	The activating oxydianion binding domain for enzyme-catalyzed proton transfer, hydride transfer, and decarboxylation: specificity and enzyme architecture. *Journal of the American Chemical Society*, **2015**, 137, 1372-82	16.4	38
189	Swain-Scott Relationships for Nucleophile Addition to Ring-Substituted Phenonium Ions. *Canadian Journal of Chemistry*, **2015**, 93, 428-434	0.9	2
188	Enzyme architecture: on the importance of being in a protein cage. *Current Opinion in Chemical Biology*, **2014**, 21, 1-10	9.7	79
187	Enzyme architecture: the effect of replacement and deletion mutations of loop 6 on catalysis by triosephosphate isomerase. *Biochemistry*, **2014**, 53, 3486-501	3.2	21
186	Enzyme architecture: remarkably similar transition states for triosephosphate isomerase-catalyzed reactions of the whole substrate and the substrate in pieces. *Journal of the American Chemical Society*, **2014**, 136, 4145-8	16.4	28
185	Enzyme architecture: deconstruction of the enzyme-activating phosphodianion interactions of orotidine 5Qmonophosphate decarboxylase. *Journal of the American Chemical Society*, **2014**, 136, 10156-65	16.4	27
184	Reflections on the catalytic power of a TIM-barrel. *Bioorganic Chemistry*, **2014**, 57, 206-212	5.1	30
183	Mechanistic Imperatives for Deprotonation of Carbon Catalyzed by Triosephosphate Isomerase: Enzyme-Activation by Phosphite Dianion. *Journal of Physical Organic Chemistry*, **2014**, 27, 269-276	2.1	8
182	Role of a guanidinium cation-phosphodianion pair in stabilizing the vinyl carbanion intermediate of orotidine 5Qphosphate decarboxylase-catalyzed reactions. *Biochemistry*, **2013**, 52, 7500-11	3.2	22
181	Specificity in transition state binding: the Pauling model revisited. *Biochemistry*, **2013**, 52, 2021-35	3.2	76
180	Enzymatic rate enhancements: a review and perspective. *Biochemistry*, **2013**, 52, 2009-11	3.2	17
179	Magnitude and origin of the enhanced basicity of the catalytic glutamate of triosephosphate isomerase. *Journal of the American Chemical Society*, **2013**, 135, 5978-81	16.4	34
178	Structural mutations that probe the interactions between the catalytic and dianion activation sites of triosephosphate isomerase. *Biochemistry*, **2013**, 52, 5928-40	3.2	24
177	Enzyme architecture: the activating oxydianion binding domain for orotidine 5Qmonophophate decarboxylase. *Journal of the American Chemical Society*, **2013**, 135, 18343-6	16.4	15
176	Catalysis by orotidine 5Qmonophosphate decarboxylase: effect of 5-fluoro and 4Qsubstituents on the decarboxylation of two-part substrates. *Biochemistry*, **2013**, 52, 537-46	3.2	23
175	Substituent Effects on the Formation and Nucleophile Selectivity of Ring-Substituted Phenonium Ions in Aqueous Solution. *Journal of Physical Organic Chemistry*, **2013**, 26, 970-976	2.1	8
174	Conformational changes in orotidine 5Qmonophosphate decarboxylase: a structure-based explanation for how the 5Qphosphate group activates the enzyme. *Biochemistry*, **2012**, 51, 8665-78	3.2	13
173	Isopentenyl diphosphate isomerase catalyzed reactions in D2O: product release limits the rate of this sluggish enzyme-catalyzed reaction. *Journal of the American Chemical Society*, **2012**, 134, 6568-70	16.4	13

172	Mechanism for activation of triosephosphate isomerase by phosphite dianion: the role of a hydrophobic clamp. *Journal of the American Chemical Society*, **2012**, 134, 10286-98	16.4	31
171	Proton transfer from C-6 of uridine 5Qmonophosphate catalyzed by orotidine 5Qmonophosphate decarboxylase: formation and stability of a vinyl carbanion intermediate and the effect of a 5-fluoro substituent. *Journal of the American Chemical Society*, **2012**, 134, 14580-94	16.4	36
170	A paradigm for enzyme-catalyzed proton transfer at carbon: triosephosphate isomerase. *Biochemistry*, **2012**, 51, 2652-61	3.2	62
169	Orotidine 5Qmonophosphate decarboxylase: transition state stabilization from remote protein-phosphodianion interactions. *Biochemistry*, **2012**, 51, 4630-2	3.2	39
168	OMP decarboxylase: phosphodianion binding energy is used to stabilize a vinyl carbanion intermediate. *Journal of the American Chemical Society*, **2011**, 133, 6545-8	16.4	40
167	The Generation and Reactions of Quinone Methides. *Advances in Physical Organic Chemistry*, **2011**, 45, 39-91	0.3	66
166	Mechanism for activation of triosephosphate isomerase by phosphite dianion: the role of a ligand-driven conformational change. *Journal of the American Chemical Society*, **2011**, 133, 16428-31	16.4	35
165	The PLP cofactor: lessons from studies on model reactions. *Biochimica Et Biophysica Acta - Proteins and Proteomics*, **2011**, 1814, 1419-25	4	13
164	William Platt Jencks. 15 August 1927 □3 January 2007. *Biographical Memoirs of Fellows of the Royal Society*, **2011**, 57, 179-188	0.1	
163	Wildtype and engineered monomeric triosephosphate isomerase from Trypanosoma brucei: partitioning of reaction intermediates in D2O and activation by phosphite dianion. *Biochemistry*, **2011**, 50, 5767-79	3.2	21
162	Binding energy and catalysis by D-xylose isomerase: kinetic, product, and X-ray crystallographic analysis of enzyme-catalyzed isomerization of (R)-glyceraldehyde. *Biochemistry*, **2011**, 50, 10170-81	3.2	12
161	Substituent effects on electrophilic catalysis by the carbonyl group: anatomy of the rate acceleration for PLP-catalyzed deprotonation of glycine. *Journal of the American Chemical Society*, **2011**, 133, 3173-83	16.4	28
160	Formation and stability of the 4-methoxyphenonium ion in aqueous solution. *Journal of Organic Chemistry*, **2011**, 76, 9568-71	4.2	8
159	Enzymatic Catalysis of Proton Transfer and Decarboxylation Reactions. *Pure and Applied Chemistry*, **2011**, 83, 1555-1565	2.1	3
158	Role of Lys-12 in catalysis by triosephosphate isomerase: a two-part substrate approach. *Biochemistry*, **2010**, 49, 5377-89	3.2	53
157	Product deuterium isotope effects for orotidine 5Qmonophosphate decarboxylase: effect of changing substrate and enzyme structure on the partitioning of the vinyl carbanion reaction intermediate. *Journal of the American Chemical Society*, **2010**, 132, 7018-24	16.4	23
156	Bovine serum albumin-catalyzed deprotonation of [1-(13)C]glycolaldehyde: protein reactivity toward deprotonation of the alpha-hydroxy alpha-carbonyl carbon. *Biochemistry*, **2010**, 49, 7704-8	3.2	10
155	Rescue of K12G triosephosphate isomerase by ammonium cations: the reaction of an enzyme in pieces. *Journal of the American Chemical Society*, **2010**, 132, 13525-32	16.4	34

154	Activation of R235A mutant orotidine 5Qmonophosphate decarboxylase by the guanidinium cation: effective molarity of the cationic side chain of Arg-235. *Biochemistry*, **2010**, 49, 824-6	3.2	36
153	Conformational changes in orotidine 5Qmonophosphate decarboxylase: "remote" residues that stabilize the active conformation. *Biochemistry*, **2010**, 49, 3514-6	3.2	17
152	A role for flexible loops in enzyme catalysis. *Current Opinion in Structural Biology*, **2010**, 20, 702-10	8.1	126
151	Dynamics for Reactions of Ion Pairs in Aqueous Solution: Reactivity of Tosylate Anion Ion Paired with the Highly Destabilized 1-(4-Methylphenyl)-2,2,2-Trifluoroethyl Carbocation. *Journal of Physical Organic Chemistry*, **2010**, 23, 730-734	2.1	9
150	Hydron transfer catalyzed by triosephosphate isomerase. Products of the direct and phosphite-activated isomerization of [1-(13)C]-glycolaldehyde in D(2)O. *Biochemistry*, **2009**, 48, 5769-78	3.2	48
149	Pyridoxal 5Qphosphate: electrophilic catalyst extraordinaire. *Current Opinion in Chemical Biology*, **2009**, 13, 475-83	9.7	49
148	Punching holes in an enzyme. *Chemistry and Biology*, **2009**, 16, 915-7		
147	Structure-reactivity effects on primary deuterium isotope effects on protonation of ring-substituted alpha-methoxystyrenes. *Journal of the American Chemical Society*, **2009**, 131, 13952-62	16.4	15
146	Mechanism of the orotidine 5Qmonophosphate decarboxylase-catalyzed reaction: effect of solvent viscosity on kinetic constants. *Biochemistry*, **2009**, 48, 5510-7	3.2	33
145	An examination of the relationship between active site loop size and thermodynamic activation parameters for orotidine 5Qmonophosphate decarboxylase from mesophilic and thermophilic organisms. *Biochemistry*, **2009**, 48, 8006-13	3.2	30
144	Theoretical analysis of kinetic isotope effects on proton transfer reactions between substituted alpha-methoxystyrenes and substituted acetic acids. *Journal of the American Chemical Society*, **2009**, 131, 13963-71	16.4	28
143	Mechanism of the orotidine 5Qmonophosphate decarboxylase-catalyzed reaction: evidence for substrate destabilization. *Biochemistry*, **2009**, 48, 5518-31	3.2	56
142	Substituent effects on the thermodynamic stability of imines formed from glycine and aromatic aldehydes: implications for the catalytic activity of pyridoxal-5Qphosphate. *Journal of the American Chemical Society*, **2009**, 131, 15815-24	16.4	48
141	Alanine-dependent reactions of 5Qdeoxypyridoxal in water. *Bioorganic Chemistry*, **2008**, 36, 295-8	5.1	5
140	Slow proton transfer from the hydrogen-labelled carboxylic acid side chain (Glu-165) of triosephosphate isomerase to imidazole buffer in D2O. *Organic and Biomolecular Chemistry*, **2008**, 6, 391-6	3.9	11
139	Phosphate binding energy and catalysis by small and large molecules. *Accounts of Chemical Research*, **2008**, 41, 539-48	24.3	97
138	Formation and stability of a vinyl carbanion at the active site of orotidine 5Qmonophosphate decarboxylase: pKa of the C-6 proton of enzyme-bound UMP. *Journal of the American Chemical Society*, **2008**, 130, 1574-5	16.4	75
137	Altered transition state for the reaction of an RNA model catalyzed by a dinuclear zinc(II) catalyst. *Journal of the American Chemical Society*, **2008**, 130, 17858-66	16.4	59

136	A substrate in pieces: allosteric activation of glycerol 3-phosphate dehydrogenase (NAD+) by phosphite dianion. *Biochemistry*, **2008**, 47, 4575-82	3.2	61
135	Glycine enolates: the effect of formation of iminium ions to simple ketones on alpha-amino carbon acidity and a comparison with pyridoxal iminium ions. *Journal of the American Chemical Society*, **2008**, 130, 2041-50	16.4	37
134	Dissecting the total transition state stabilization provided by amino acid side chains at orotidine 5Q-monophosphate decarboxylase: a two-part substrate approach. *Biochemistry*, **2008**, 47, 7785-7	3.2	37
133	Restoring a metabolic pathway. *ACS Chemical Biology*, **2008**, 3, 605-7	4.9	5
132	Structure-Reactivity Relationships for β-Galactosidase (Escherichia coli, lac Z): A Second Derivative Effect on (huc) for Addition of Alkyl Alcohols to an Oxocarbenium Ion Reaction Intermediate. *Journal of Physical Organic Chemistry*, **2008**, 21, 531-537	2.1	5
131	Rational design of transition-state analogues as potent enzyme inhibitors with therapeutic applications. *ACS Chemical Biology*, **2007**, 2, 711-4	4.9	9
130	A minimalist approach to understanding the efficiency of mononuclear Zn(II) complexes as catalysts of cleavage of an RNA analog. *Dalton Transactions*, **2007**, 3804-11	4.3	34
129	Direct excitation luminescence spectroscopy of Eu(III) complexes of 1,4,7-tris(carbamoylmethyl)-1,4,7,10- tetraazacyclododecane derivatives and kinetic studies of their catalytic cleavage of an RNA analog. *Dalton Transactions*, **2007**, 5171-8	4.3	27
128	Covalent catalysis by pyridoxal: evaluation of the effect of the cofactor on the carbon acidity of glycine. *Journal of the American Chemical Society*, **2007**, 129, 3013-21	16.4	43
127	Enhancement of a Lewis acid-base interaction via solvation: ammonia molecules and the benzene radical cation. *Journal of Physical Chemistry A*, **2007**, 111, 6068-76	2.8	10
126	Product deuterium isotope effect for orotidine 5Q-monophosphate decarboxylase: evidence for the existence of a short-lived carbanion intermediate. *Journal of the American Chemical Society*, **2007**, 129, 12946-7	16.4	44
125	Enzymatic catalysis of proton transfer at carbon: activation of triosephosphate isomerase by phosphite dianion. *Biochemistry*, **2007**, 46, 5841-54	3.2	82
124	A Marcus treatment of rate constants for protonation of ring-substituted alpha-methoxystyrenes: intrinsic reaction barriers and the shape of the reaction coordinate. *Journal of the American Chemical Society*, **2007**, 129, 6952-61	16.4	35
123	A simple method to determine kinetic deuterium isotope effects provides evidence that proton transfer to carbon proceeds over and not through the reaction barrier. *Journal of the American Chemical Society*, **2007**, 129, 10330-1	16.4	13
122	A transition state analog for phosphate diester cleavage catalyzed by a small enzyme-like metal ion complex. *Bioorganic Chemistry*, **2007**, 35, 366-74	5.1	25
121	The ACS division of Biological Chemistry. *IUBMB Life*, **2007**, 59, 224-225	4.7	
120	Formation and stability of mononuclear and dinuclear Eu(III) complexes and their catalytic reactivity toward cleavage of an RNA analog. *Inorganic Chemistry*, **2007**, 46, 7169-77	5.1	44
119	When does an intermediate become a transition state? Degenerate isomerization without competing racemization during solvolysis of (S)-1-(3-nitrophenyl)ethyl tosylate. *Journal of the American Chemical Society*, **2006**, 128, 17139-45	16.4	14

118	Claisen-type addition of glycine to a pyridoxal iminium ion in water. *Journal of Organic Chemistry*, **2006**, 71, 7094-6	4.2	10
117	Substrate specificity of an active dinuclear Zn(II) catalyst for cleavage of RNA analogues and a dinucleoside. *Journal of the American Chemical Society*, **2006**, 128, 1615-21	16.4	74
116	Crossing the Borderline between SN1 and SN2 Nucleophilic Substitution at Aliphatic Carbon **2005**, 41-68		1
115	Ketonization of the remarkably strongly acidic elongated enol generated by flash photolytic decarboxylation of p-benzoylphenylacetic acid in aqueous solution. *Chemical Communications*, **2005** , 4231-3	5.8	5
114	Activation of orotidine 5Qmonophosphate decarboxylase by phosphite dianion: the whole substrate is the sum of two parts. *Journal of the American Chemical Society*, **2005**, 127, 15708-9	16.4	88
113	Formation and stability of organic zwitterions ? The carbon acid pKas of the trimethylsulfonium and tetramethylphosphonium cations in water. *Canadian Journal of Chemistry*, **2005**, 83, 1536-1542	0.9	7
112	Carbon acidity of the alpha-pyridinium carbon of a pyridoxamine analog. *Organic and Biomolecular Chemistry*, **2005**, 3, 2145-9	3.9	14
111	Hydron transfer catalyzed by triosephosphate isomerase. Products of isomerization of dihydroxyacetone phosphate in D2O. *Biochemistry*, **2005**, 44, 2622-31	3.2	42
110	Ground-state, transition-state, and metal-cation effects of the 2-hydroxyl group on beta-D-galactopyranosyl transfer catalyzed by beta-galactosidase (Escherichia coli, lac Z). *Biochemistry*, **2005**, 44, 11872-81	3.2	8
109	Solvent deuterium isotope effects on phosphodiester cleavage catalyzed by an extraordinarily active Zn(II) complex. *Journal of the American Chemical Society*, **2005**, 127, 1064-5	16.4	76
108	Hydron transfer catalyzed by triosephosphate isomerase. Products of isomerization of (R)-glyceraldehyde 3-phosphate in D2O. *Biochemistry*, **2005**, 44, 2610-21	3.2	49
107	Reactions of ion-pair intermediates of solvolysis. *Chemical Record*, **2005**, 5, 94-106	6.6	12
106	A comparison of the electrophilic reactivities of Zn2+ and acetic acid as catalysts of enolization: imperatives for enzymatic catalysis of proton transfer at carbon. *Journal of the American Chemical Society*, **2004**, 126, 5164-73	16.4	14
105	On the importance of being zwitterionic: enzymatic catalysis of decarboxylation and deprotonation of cationic carbon. *Bioorganic Chemistry*, **2004**, 32, 354-66	5.1	72
104	Dynamics for the reactions of ion pair intermediates of solvolysis. *Advances in Physical Organic Chemistry*, **2004**, 39, 1-26	0.3	12
103	Scrambling of oxygen-18 during the "borderline" solvolysis of 1-(3-nitrophenyl)ethyl tosylate. *Organic Letters*, **2004**, 6, 3633-6	6.2	12
102	Claisen-type addition of glycine to pyridoxal in water. *Journal of the American Chemical Society*, **2004**, 126, 10538-9	16.4	18
101	Formation and stability of N-heterocyclic carbenes in water: the carbon acid pKa of imidazolium cations in aqueous solution. *Journal of the American Chemical Society*, **2004**, 126, 4366-74	16.4	442

100	Structure-activity studies on the cleavage of an RNA analogue by a potent dinuclear metal ion catalyst: effect of changing the metal ion. *Inorganic Chemistry*, **2004**, 43, 1743-50	5.1	66
99	Kinetic Studies of RNA Cleavage by Lanthanide(III) Macrocyclic Complexes. *Bulletin of the Korean Chemical Society*, **2004**, 25, 403-406	1.2	1
98	Dynamics of reaction of ion pairs in aqueous solution: racemization of the chiral ion pair intermediate of solvolysis of (S)-1-(4-methylphenyl)ethylpentafluorobenzoate. *Journal of Physical Organic Chemistry*, **2003**, 16, 484-490	2.1	12
97	The mandelamide keto-enol system in aqueous solution. Generation of the enol by hydration of phenylcarbamoylcarbene. *Journal of the American Chemical Society*, **2003**, 125, 187-94	16.4	13
96	Cooperativity between metal ions in the cleavage of phosphate diesters and RNA by dinuclear Zn(II) catalysts. *Inorganic Chemistry*, **2003**, 42, 7737-46	5.1	136
95	Kinetic and thermodynamic barriers to carbon and oxygen alkylation of phenol and phenoxide ion by the 1-(4-methoxyphenyl)ethyl carbocation. *Journal of the American Chemical Society*, **2003**, 125, 15455-65	16.4	17
94	Substituent effects on carbocation stability: the pK(R) for p-quinone methide. *Journal of the American Chemical Society*, **2003**, 125, 8814-9	16.4	47
93	Physical and kinetic analysis of the cooperative role of metal ions in catalysis of phosphodiester cleavage by a dinuclear Zn(II) complex. *Journal of the American Chemical Society*, **2003**, 125, 1988-93	16.4	207
92	Formation and stability of the enolates of N-protonated proline methyl ester and proline zwitterion in aqueous solution: a nonenzymatic model for the first step in the racemization of proline catalyzed by proline racemase. *Biochemistry*, **2003**, 42, 8354-61	3.2	35
91	Substrate specificity for catalysis of phosphodiester cleavage by a dinuclear Zn(II) complex. *Chemical Communications*, **2003**, 2832-3	5.8	41
90	Hydrogen bonding and catalysis of solvolysis of 4-methoxybenzyl fluoride. *Journal of the American Chemical Society*, **2002**, 124, 9798-805	16.4	22
89	Formation and stability of peptide enolates in aqueous solution. *Journal of the American Chemical Society*, **2002**, 124, 8251-9	16.4	46
88	1 Introduction. *Annual Reports on the Progress of Chemistry Section B*, **2002**, 98, 1-2		
87	Formation and stability of enolates of acetamide and acetate anion: an Eigen plot for proton transfer at alpha-carbonyl carbon. *Journal of the American Chemical Society*, **2002**, 124, 2957-68	16.4	95
86	Proton transfer at carbon. *Current Opinion in Chemical Biology*, **2001**, 5, 626-33	9.7	98
85	Effect of an E461G mutation of beta-galactosidase (Escherichia coli, lac Z) on pL rate profiles and solvent deuterium isotope effects. *Bioorganic Chemistry*, **2001**, 29, 146-55	5.1	
84	What is the stabilizing interaction with nucleophilic solvents in the transition state for solvolysis of tertiary derivatives: nucleophilic solvent participation or nucleophilic solvation?. *Organic Letters*, **2001**, 3, 2225-8	6.2	52
83	Mechanistic imperatives for aldose-ketose isomerization in water: specific, general base- and metal ion-catalyzed isomerization of glyceraldehyde with proton and hydride transfer. *Journal of the American Chemical Society*, **2001**, 123, 794-802	16.4	85

82	Formation and stability of carbocations and carbanions in water and intrinsic barriers to their reactions. *Accounts of Chemical Research*, **2001**, 34, 981-8	24.3	128
81	Deprotonation of the (N,N-dimethylcarbamoyl)-methyl-4-methoxybenzyl carbocation by alkanecarboxylate and halide ions. *Perkin Transactions II RSC*, **2001**, 1167-1173		1
80	Dynamics for reaction of an ion pair in aqueous solution: reactivity of carboxylate anions in bimolecular carbocation-nucleophile addition and unimolecular ion pair collapse. *Organic Letters*, **2001**, 3, 1237-40	6.2	13
79	Contribution of phosphate intrinsic binding energy to the enzymatic rate acceleration for triosephosphate isomerase. *Journal of the American Chemical Society*, **2001**, 123, 11325-6	16.4	67
78	Glycine enolates: the large effect of iminium ion formation on alpha-amino carbon acidity. *Journal of the American Chemical Society*, **2001**, 123, 7949-50	16.4	55
77	Keto-enol/enolate equilibria in the N-acetylamino-p-methylacetophenone system. Effect of a beta-nitrogen substituent. *Journal of the American Chemical Society*, **2001**, 123, 8979-84	16.4	13
76	Solvent Deuterium Isotope Effect on the Binding of d-Galactopyranosyl Derivatives to Galactosidase (Escherichia coli, lac Z). *Bioorganic Chemistry*, **2000**, 28, 49-56	5.1	8
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