Andrew J Bennet

List of Publications by Year
in descending order

81 papers	1,726 citations	257450 24 h-index	315739 38 g-index
82 all docs	82 docs citations	82 times ranked	1552 citing authors

#	Article	IF	Citations
1	Complete kinetic isotope effect description of transition states for acid-catalyzed hydrolyses of methyl .alpha.- and .beta.-glucopyranosides. Journal of the American Chemical Society, 1986, 108, 7287-7294.	13.7	151
2	Guanine-Rich RNAs and DNAs That Bind Heme Robustly Catalyze Oxygen Transfer Reactions. Journal of the American Chemical Society, 2011, 133, 1877-1884.	13.7	120
3	Mutagenesis of the Conserved Active-Site Tyrosine Changes a Retaining Sialidase into an Inverting Sialidaseâ€. Biochemistry, 2003, 42, 12682-12690.	2.5	68
4	Transition States for Glucopyranose Interconversion. Journal of the American Chemical Society, 2006, 128, 5049-5058.	13.7	66
5	A direct NMR method for the measurement of competitive kinetic isotope effects. Nature Chemical Biology, 2010, 6, 405-407.	8.0	60
6	Glucosidase-Catalyzed Hydrolysis of Î±-d-Glucopyranosyl Pyridinium Salts:â€‰ Kinetic Evidence for Nucleophilic Involvement at the Glucosidation Transition State. Journal of the American Chemical Society, 1997, 119, 11147-11154.	13.7	57
7	DNA and RNA enzymes with peroxidase activity Â— An investigation into the mechanism of action. Canadian Journal of Chemistry, 2006, 84, 613-619.	1.1	56
8	Structure and role of sialic acids on the surface of Aspergillus fumigatus conidiospores. Glycobiology, 2007, 17, 401-410.	2.5	55
9	A Stepwise Solvent-Promoted SNi Reaction of Î±-d-Glucopyranosyl Fluoride: Mechanistic Implications for Retaining Glycosyltransferases. Journal of the American Chemical Society, 2012, 134, 1212-1220.	13.7	53
10	Hydrolysis of (2-Deoxy-.beta.-D-glucopyranosyl)pyridinium Salts. Journal of the American Chemical Society, 1995, 117, 10614-10621.	13.7	49
11	Hydrolysis of (2-Deoxy-Î±-d-Glucopyranosyl)pyridinium Salts:Â The 2-Deoxyglucosyl Oxocarbenium Is Not Solvent-Equilibrated in Water. Journal of the American Chemical Society, 1998, 120, 3887-3893.	13.7	41
12	A New Structural Motif for the Design of Potent Glucosidase Inhibitors. Journal of the American Chemical Society, 2001, 123, 998-999.	13.7	37
13	Transition-State Structure for the Quintessential S_N2 Reaction of a Carbohydrate: Reaction of Î±-Glucopyranosyl Fluoride with Azide Ion in Water. Journal of the American Chemical Society, 2014, 136, 12225-12228.	13.7	37
14	An Epoxide Intermediate in Glycosidase Catalysis. ACS Central Science, 2020, 6, 760-770.	11.3	34
15	Stereochemistry of the Electrophilic Homoallylic Chlorination Reaction of Sterically Congested Alkenes with Benzenesulfenyl Chloride: The Structure of the Phenylthiiranium Ion Intermediate. Journal of Organic Chemistry, 1994, 59, 7108-7116.	3.2	32
16	18O and secondary2H kinetic isotope effects confirm the existence of two pathways for acid-catalysed hydrolyses of Î±-arabinofuranosides. Journal of the Chemical Society Perkin Transactions II, 1985, , 1233-1236.	0.9	31
17	The rhizoferrin biosynthetic gene in the fungal pathogen Rhizopus delemar is a novel member of the NIS gene family. International Journal of Biochemistry and Cell Biology, 2017, 89, 136-146.	2.8	31
18	Structural Snapshots for Mechanismâ€Based Inactivation of a Glycoside Hydrolase by Cyclopropyl Carbasugars. Angewandte Chemie - International Edition, 2016, 55, 14978-14982.	13.8	30

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19	Mechanisms of glycopyranosyl and 5-thioglycopyranosyl transfer reactions in solution. Perkin Transactions II RSC, 2002, , 1207-1222.	1.1	29
20	Structure and Mechanism of Action of an Inverting Mutant Sialidase. Biochemistry, 2005, 44, 9117-9122.	2.5	28
21	Revealing the mechanism for covalent inhibition of glycoside hydrolases by carbasugars at an atomic level. Nature Communications, 2018, 9, 3243.	12.8	28
22	The Aspergillus fumigatus Sialidase Is a 3-Deoxy-d-glycero-d-galacto-2-nonulosonic Acid Hydrolase (KDNase). Journal of Biological Chemistry, 2011, 286, 10783-10792.	3.4	25
23	A mechanism-based inactivator of glycoside hydrolases involving formation of a transient non-classical carbocation. Nature Communications, 2014, 5, 5590.	12.8	25
24	C2-Oxyanion Neighboring Group Participation: Transition State Structure for the Hydroxide-Promoted Hydrolysis of 4-Nitrophenyl Î±-<scp>d</scp>-Mannopyranoside. Journal of the American Chemical Society, 2016, 138, 14012-14019.	13.7	25
25	Synthesis and evaluation of influenza A viral neuraminidase candidate inhibitors based on a bicyclo[3.1.0]hexane scaffold. Organic and Biomolecular Chemistry, 2016, 14, 6539-6553.	2.8	25
26	New Class of Glycoside Hydrolase Mechanism-Based Covalent Inhibitors: Glycosylation Transition State Conformations. Journal of the American Chemical Society, 2017, 139, 10625-10628.	13.7	25
27	Contribution of the active site aspartic acid to catalysis in the bacterial neuraminidase fromMicromonospora viridifaciens. FEBS Letters, 2004, 577, 265-269.	2.8	24
28	Chemical Insight into the Emergence of Influenza Virus Strains That Are Resistant to Relenza. Journal of the American Chemical Society, 2013, 135, 13254-13257.	13.7	23
29	Cloning and characterization of a sialidase from the filamentous fungus, Aspergillus fumigatus. Glycoconjugate Journal, 2010, 27, 533-548.	2.7	21
30	Turnover Is Rate-Limited by Deglycosylation for Micromonospora viridifaciens Sialidase-Catalyzed Hydrolyses: Conformational Implications for the Michaelis Complex. Journal of the American Chemical Society, 2011, 133, 2989-2997.	13.7	21
31	Two Nucleophilic Mutants of the Micromonospora viridifaciens Sialidase Operate with Retention of Configuration by Two Different Mechanisms. ChemBioChem, 2005, 6, 1999-2004.	2.6	20
32	Solvolyses of 2-Deoxy-Î±- and Î²-d-Glucopyranosyl 4â€˜-Bromoisoquinolinium Tetrafluoroborates. Journal of Organic Chemistry, 2000, 65, 4423-4430.	3.2	19
33	A potent bicyclic inhibitor of a family 27 Î±-galactosidase. Organic and Biomolecular Chemistry, 2007, 5, 1731-1738.	2.8	19
34	Effect of Neutral Pyridine Leaving Groups on the Mechanisms of Influenza Type A Viral Sialidase-Catalyzed and Spontaneous Hydrolysis Reactions of Î±-d-N-Acetylneuraminides. Journal of the American Chemical Society, 2000, 122, 8357-8364.	13.7	17
35	Cyclodextrin catalysis of the pH-independent hydrolyses of acetalsâ€Šâ€. Perkin Transactions II RSC, 2001, , 83-89.	1.1	17
36	Mechanistic Requirements for the Efficient Enzyme-Catalyzed Hydrolysis of Thiosialosides. Biochemistry, 2006, 45, 9319-9326.	2.5	16

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37	Mechanistic Evaluation of <i>MelA</i> Î±-Galactosidase from <i>Citrobacter freundii</i>: A Family 4 Glycosyl Hydrolase in Which Oxidation Is Rate-Limiting. Biochemistry, 2011, 50, 4298-4308.	2.5	16
38	Transition State Analysis ofVibrio choleraeSialidase-Catalyzed Hydrolyses of Natural Substrate Analogues. Journal of the American Chemical Society, 2012, 134, 3748-3757.	13.7	16
39	Unexpected Stability of Aryl Î²-N-Acetylneuraminides in Neutral Solution:Â Biological Implications for Sialyl Transfer Reactions. Journal of the American Chemical Society, 2005, 127, 7458-7465.	13.7	15
40	Bacterial and Viral Sialidases: Contribution of the Conserved Active Site Glutamate to Catalysis. Biochemistry, 2012, 51, 433-441.	2.5	14
41	Observation of a Tricyclic[4.1.0.0^{2,4}]heptane During a Michael Addition-Ring Closure Reaction and a Computational Study on Its Mechanism of Formation. Journal of Organic Chemistry, 2017, 82, 12511-12519.	3.2	14
42	Bromonium Ion Addition to Triruthenium and Triosmium Dodecacarbonyl:Â The Markedly Different Structures of the [M3(CO)12(Br)]+(M = Ru, Os) Ions. Journal of the American Chemical Society, 1996, 118, 1207-1208.	13.7	13
43	A hemeâ€¢DNAzyme activated by hydrogen peroxide catalytically oxidizes thioethers by direct oxygen atom transfer rather than by a Compound I-like intermediate. Nucleic Acids Research, 2021, 49, 1803-1815.	14.5	13
44	A temperature-dependent change in the mechanism of acid catalysis of the hydrolysis of p-nitrophenyl Î²-D-glucopyranoside indicated by oxygen-18 and solvent deuterium kinetic isotope effects. Journal of the Chemical Society Perkin Transactions II, 1987, , 581-584.	0.9	12
45	Natural sialoside analogues for the determination of enzymatic rate constants. Organic and Biomolecular Chemistry, 2006, 4, 4453.	2.8	12
46	Glycoside hydrolase stabilization of transition state charge: new directions for inhibitor design. Chemical Science, 2020, 11, 10488-10495.	7.4	12
47	Aqueous Ethanolysis of Unstrained Sterically Congested Homoallylic Halides. Journal of the American Chemical Society, 1998, 120, 1405-1409.	13.7	11
48	The Aspergillus fumigatus Sialidase (Kdnase) Contributes to Cell Wall Integrity and Virulence in Amphotericin B-Treated Mice. Frontiers in Microbiology, 2017, 8, 2706.	3.5	11
49	The physical organic chemistry of glycopyranosyl transfer reactions in solution and enzyme-catalyzed. Current Opinion in Chemical Biology, 2019, 53, 145-157.	6.1	10
50	Aqueous methanolysis of anÎ±-D-N-acetylneuraminyl pyridinium zwitterion: solvolysis occurs with no intramolecular participation of the anomeric carboxylate group. Journal of Physical Organic Chemistry, 2004, 17, 478-482.	1.9	9
51	The Hydrolase and Transferase Activity of an Inverting Mutant Sialidase Using Non-natural Î²-Sialoside Substratesâ€. Biochemistry, 2006, 45, 13264-13275.	2.5	9
52	Conformationally Controlled Reactivity of Carbasugars Uncovers the Choreography of Glycoside Hydrolase Catalysis. Journal of Organic Chemistry, 2020, 85, 3336-3348.	3.2	9
53	A mechanistic study of sialic acid mutarotation: Implications for mutarotase enzymes. Organic and Biomolecular Chemistry, 2011, 9, 4818.	2.8	8
54	Structural Snapshots for Mechanismâ€Based Inactivation of a Glycoside Hydrolase by Cyclopropyl Carbasugars. Angewandte Chemie, 2016, 128, 15202-15206.	2.0	7

#	ARTICLE	IF	CITATIONS
55	Both Chemical and Non-Chemical Steps Limit the Catalytic Efficiency of Family 4 Glycoside Hydrolases. Biochemistry, 2018, 57, 3378-3386.	2.5	7
56	Protonation studies on epimeric homoallylic adamantylideneadamantyl alcohols, 4-methyleneadamantylideneadamantane, adamantylideneadamantane (Adî€Ad) and sesquihomoadamantene, and reaction of Adî€Ad and sesquihomoadamantene with NO2+BF4â€" and PhI(OH)OTs: a stable-ion NMR and theoretical (GIAO-NMR) studyElectronic supplementary information (ESI) available: representative 1D-NMR spectra and tables of cartesian coordinates. See http://www.rsc.org/suppdata/p2/b2/b201660e/. Perkin Transactions II RSC, 2002, , 1105-1111.	1.1	6
57	Kinetic isotope effects for studying post-translational modifying enzymes. Current Opinion in Chemical Biology, 2012, 16, 472-478.	6.1	6
58	Kinetic and Structural Evaluation of Selected Active Site Mutants of the <i>Aspergillus fumigatus</i> KDNase (Sialidase). Biochemistry, 2013, 52, 9177-9186.	2.5	6
59	Transition-state structure for the hydronium-ion-promoted hydrolysis of Î±-<scp>d</scp>-glucopyranosyl fluoride. Canadian Journal of Chemistry, 2015, 93, 463-467.	1.1	6
60	Design and synthesis of constrained bicyclic molecules as candidate inhibitors of influenza A neuraminidase. PLoS ONE, 2018, 13, e0193623.	2.5	6
61	Rearrangement of a Homoallylic Alcohol via an Acid-Catalyzed 1,4-Hydride Shift Yields a Saturated Ketone. Journal of Organic Chemistry, 1998, 63, 575-581.	3.2	5
62	Use of conformationally restricted pyridinium Î±-D-N-acetylneuraminides to probe specificity in bacterial and viral sialidases. Biochemistry and Cell Biology, 2005, 83, 115-122.	2.0	5
63	Inhibitory efficiencies for mechanism-based inactivators of sialidases. Canadian Journal of Chemistry, 2015, 93, 1207-1213.	1.1	5
64	Probing Transition State Analogy in Glycoside Hydrolase Catalysis. Advances in Physical Organic Chemistry, 2017, , 99-127.	0.5	5
65	Intrinsic Nucleophilicity of Inverting and Retaining Glycoside Hydrolases Revealed Using Carbasugar Glyco-Tools. ACS Catalysis, 2021, 11, 9377-9389.	11.2	5
66	Observation of an unusually large rate acceleration caused by a homoallylic double bond in the solvolyses of an unstrained secondary adamantyl tosylate. Journal of the Chemical Society Perkin Transactions II, 1994, , 1279.	0.9	4
67	Synthesis and biological evaluation of a bicyclo[4.1.0]heptyl analogue of glucose-1-phosphate. Canadian Journal of Chemistry, 2004, 82, 1361-1364.	1.1	4
68	Measurement of Kinetic Isotope Effects by Continuously Monitoring Isotopologue Ratios Using NMR Spectroscopy. Methods in Enzymology, 2017, 596, 547-571.	1.0	4
69	BrÃ¸nsted Analysis of an Enzyme-Catalyzed Pseudo-Deglycosylation Reaction: Mechanism of Desialylation in Sialidases. Biochemistry, 2010, 49, 6473-6484.	2.5	3
70	Synthesis of Sterically Congested 2,2â€²-Bi(Adamantyl)-Based Alcohol and Amines. Journal of Organic Chemistry, 2019, 84, 15276-15282.	3.2	3
71	Directed evolution of a remarkably efficient Kdnase from a bacterial neuraminidase. Glycobiology, 2020, 30, 325-333.	2.5	3
72	Fundamental Insight into Glycoside Hydrolase-Catalyzed Hydrolysis of the Universal Koshland Substratesâ€"Glycopyranosyl Fluorides. ACS Catalysis, 2021, 11, 10383-10393.	11.2	3

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73	Synthesis of 4-deoxy-4-nitrosialic acid. Organic and Biomolecular Chemistry, 2006, 4, 2986.	2.8	2
74	An unexpected elimination product leads to 4-alkyl-4-deoxy-4-epi-sialic acid derivatives. Canadian Journal of Chemistry, 2008, 86, 238-247.	1.1	2
75	A mechanistic study on the Î±-N-acetylgalactosaminidase from E. meningosepticum: a family 109 glycoside hydrolase. MedChemComm, 2014, 5, 1188-1192.	3.4	2
76	Rearrangement and nucleophilic trapping of bicyclo[4.1.0]hept-2-yl derived nonclassical bicyclobutenium ions. Canadian Journal of Chemistry, 2018, 96, 235-240.	1.1	2
77	Versatile synthetic route to carbocyclic N-Acetylneuraminic acid and its derivatives. Tetrahedron, 2018, 74, 5213-5221.	1.9	2
78	Enzymology of Influenza Virus Sialidase. , 2012, , 47-66.		1
79	Structurally homologous sialidases exhibit a commonality in reactivity: Glycoside hydrolase-catalyzed hydrolysis of Kdn-thioglycosides. Bioorganic Chemistry, 2021, 106, 104484.	4.1	1
80	Kinetic and Structural Characterization of Sialidases (Kdnases) from Ascomycete Fungal Pathogens. ACS Chemical Biology, 2021, 16, 2632-2640.	3.4	1
81	A Mechanistic Study on the Nonâ€enzymatic Hydrolysis of Kdn Glycosides. European Journal of Organic Chemistry, 2022, 2022, .	2.4	0