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	A Mechanistic Study on the Nonâ€enzymatic Hydrolysis of Kdn Glycosides. European Journal of Organic Chemistry, 2022, 2022, .	2.4	0
2	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
3	Intrinsic Nucleophilicity of Inverting and Retaining Glycoside Hydrolases Revealed Using Carbasugar Glyco-Tools. ACS Catalysis, 2021, 11, 9377-9389.	11.2	5
4	Fundamental Insight into Glycoside Hydrolase-Catalyzed Hydrolysis of the Universal Koshland Substratesâ€"Glycopyranosyl Fluorides. ACS Catalysis, 2021, 11, 10383-10393.	11.2	3
5	Structurally homologous sialidases exhibit a commonality in reactivity: Glycoside hydrolase-catalyzed hydrolysis of Kdn-thioglycosides. Bioorganic Chemistry, 2021, 106, 104484.	4.1	1
6	Kinetic and Structural Characterization of Sialidases (Kdnases) from Ascomycete Fungal Pathogens. ACS Chemical Biology, 2021, 16, 2632-2640.	3.4	1
7	Directed evolution of a remarkably efficient Kdnase from a bacterial neuraminidase. Glycobiology, 2020, 30, 325-333.	2.5	3
8	Glycoside hydrolase stabilization of transition state charge: new directions for inhibitor design. Chemical Science, 2020, 11, 10488-10495.	7.4	12
9	Conformationally Controlled Reactivity of Carbasugars Uncovers the Choreography of Glycoside Hydrolase Catalysis. Journal of Organic Chemistry, 2020, 85, 3336-3348.	3.2	9
10	An Epoxide Intermediate in Glycosidase Catalysis. ACS Central Science, 2020, 6, 760-770.	11.3	34
11	Synthesis of Sterically Congested 2,2â€²-Bi(Adamantyl)-Based Alcohol and Amines. Journal of Organic Chemistry, 2019, 84, 15276-15282.	3.2	3
12	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
13	Both Chemical and Non-Chemical Steps Limit the Catalytic Efficiency of Family 4 Glycoside Hydrolases. Biochemistry, 2018, 57, 3378-3386.	2.5	7
14	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
15	Versatile synthetic route to carbocyclic N-Acetylneuraminic acid and its derivatives. Tetrahedron, 2018, 74, 5213-5221.	1.9	2
16	Revealing the mechanism for covalent inhibition of glycoside hydrolases by carbasugars at an atomic level. Nature Communications, 2018, 9, 3243.	12.8	28
17	Design and synthesis of constrained bicyclic molecules as candidate inhibitors of influenza A neuraminidase. PLoS ONE, 2018, 13, e0193623.	2.5	6
18	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

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19	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
20	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
21	Probing Transition State Analogy in Glycoside Hydrolase Catalysis. Advances in Physical Organic Chemistry, 2017, , 99-127.	0.5	5
22	Measurement of Kinetic Isotope Effects by Continuously Monitoring Isotopologue Ratios Using NMR Spectroscopy. Methods in Enzymology, 2017, 596, 547-571.	1.0	4
23	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
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	Structural Snapshots for Mechanismâ€Based Inactivation of a Glycoside Hydrolase by Cyclopropyl Carbasugars. Angewandte Chemie, 2016, 128, 15202-15206.	2.0	7
26	Structural Snapshots for Mechanismâ€Based Inactivation of a Glycoside Hydrolase by Cyclopropyl Carbasugars. Angewandte Chemie - International Edition, 2016, 55, 14978-14982.	13.8	30
27	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
28	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
29	Inhibitory efficiencies for mechanism-based inactivators of sialidases. Canadian Journal of Chemistry, 2015, 93, 1207-1213.	1.1	5
30	A mechanism-based inactivator of glycoside hydrolases involving formation of a transient non-classical carbocation. Nature Communications, 2014, 5, 5590.	12.8	25
31	A mechanistic study on the Î±-N-acetylgalactosaminidase from E. meningosepticum: a family 109 glycoside hydrolase. MedChemComm, 2014, 5, 1188-1192.	3.4	2
32	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
33	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
34	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
35	Enzymology of Influenza Virus Sialidase. , 2012, , 47-66.		1
36	Kinetic isotope effects for studying post-translational modifying enzymes. Current Opinion in Chemical Biology, 2012, 16, 472-478.	6.1	6

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37	Bacterial and Viral Sialidases: Contribution of the Conserved Active Site Glutamate to Catalysis. Biochemistry, 2012, 51, 433-441.	2.5	14
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	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
40	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
41	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
42	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
43	A mechanistic study of sialic acid mutarotation: Implications for mutarotase enzymes. Organic and Biomolecular Chemistry, 2011, 9, 4818.	2.8	8
44	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
45	Cloning and characterization of a sialidase from the filamentous fungus, Aspergillus fumigatus. Glycoconjugate Journal, 2010, 27, 533-548.	2.7	21
46	A direct NMR method for the measurement of competitive kinetic isotope effects. Nature Chemical Biology, 2010, 6, 405-407.	8.0	60
47	BrÃ¸nsted Analysis of an Enzyme-Catalyzed Pseudo-Deglycosylation Reaction: Mechanism of Desialylation in Sialidases. Biochemistry, 2010, 49, 6473-6484.	2.5	3
48	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
49	Structure and role of sialic acids on the surface of Aspergillus fumigatus conidiospores. Glycobiology, 2007, 17, 401-410.	2.5	55
50	A potent bicyclic inhibitor of a family 27 Î±-galactosidase. Organic and Biomolecular Chemistry, 2007, 5, 1731-1738.	2.8	19
51	Natural sialoside analogues for the determination of enzymatic rate constants. Organic and Biomolecular Chemistry, 2006, 4, 4453.	2.8	12
52	Synthesis of 4-deoxy-4-nitrosialic acid. Organic and Biomolecular Chemistry, 2006, 4, 2986.	2.8	2
53	Mechanistic Requirements for the Efficient Enzyme-Catalyzed Hydrolysis of Thiosialosides. Biochemistry, 2006, 45, 9319-9326.	2.5	16
54	Transition States for Glucopyranose Interconversion. Journal of the American Chemical Society, 2006, 128, 5049-5058.	13.7	66

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55	The Hydrolase and Transferase Activity of an Inverting Mutant Sialidase Using Non-natural Î²-Sialoside Substratesâ€. Biochemistry, 2006, 45, 13264-13275.	2.5	9
56	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
57	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
58	Structure and Mechanism of Action of an Inverting Mutant Sialidase. Biochemistry, 2005, 44, 9117-9122.	2.5	28
59	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
60	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
61	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
62	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
63	Contribution of the active site aspartic acid to catalysis in the bacterial neuraminidase fromMicromonospora viridifaciens. FEBS Letters, 2004, 577, 265-269.	2.8	24
64	Mutagenesis of the Conserved Active-Site Tyrosine Changes a Retaining Sialidase into an Inverting Sialidaseâ€. Biochemistry, 2003, 42, 12682-12690.	2.5	68
65	Protonation studies on epimeric homoallylic adamantylideneadamantyl alcohols, 4-methyleneadamantylideneadamantane, adamantylideneadamantane (AdîۥAd) and sesquihomoadamantene, and reaction of AdîۥAd 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
66	Mechanisms of glycopyranosyl and 5-thioglycopyranosyl transfer reactions in solution. Perkin Transactions II RSC, 2002, , 1207-1222.	1.1	29
67	A New Structural Motif for the Design of Potent Glucosidase Inhibitors. Journal of the American Chemical Society, 2001, 123, 998-999.	13.7	37
68	Cyclodextrin catalysis of the pH-independent hydrolyses of acetalsâ€Šâ€. Perkin Transactions II RSC, 2001, , 83-89.	1.1	17
69	Solvolyses of 2-Deoxy-Î±- and Î²-d-Glucopyranosyl 4â€˜-Bromoisoquinolinium Tetrafluoroborates. Journal of Organic Chemistry, 2000, 65, 4423-4430.	3.2	19
70	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
71	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
72	Aqueous Ethanolysis of Unstrained Sterically Congested Homoallylic Halides. Journal of the American Chemical Society, 1998, 120, 1405-1409.	13.7	11

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73	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
74	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
75	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
76	Hydrolysis of (2-Deoxy-.beta.-D-glucopyranosyl)pyridinium Salts. Journal of the American Chemical Society, 1995, 117, 10614-10621.	13.7	49
77	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
78	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
79	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
80	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
81	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