Stephen G Withers

List of Publications by Year
in descending order

434 papers	24,726 citations	5782 84 h-index	15253 130 g-index
460 all docs	460 docs citations	460 times ranked	14827 citing authors

#	Article	IF	Citations
1	Catalysis by hen egg-white lysozyme proceeds via a covalent intermediate. Nature, 2001, 412, 835-838.	13.7	588
2	Glycosynthases:â€‰ Mutant Glycosidases for Oligosaccharide Synthesis. Journal of the American Chemical Society, 1998, 120, 5583-5584.	6.6	513
3	Glycosidase mechanisms. Current Opinion in Chemical Biology, 2000, 4, 573-580.	2.8	447
4	X-ray structures along the reaction pathway of cyclodextrin glycosyltransferase elucidate catalysis in the alpha-amylase family. Nature Structural Biology, 1999, 6, 432-436.	9.7	348
5	The structure of human pancreatic<i>Î±</i>-amylase at 1.8 Ã… resolution and comparisons with related enzymes. Protein Science, 1995, 4, 1730-1742.	3.1	333
6	Crystal structure of the retaining galactosyltransferase LgtC from Neisseria meningitidis in complex with donor and acceptor sugar analogs. Nature Structural Biology, 2001, 8, 166-175.	9.7	313
7	Mechanism of Agrobacterium .beta.-glucosidase: kinetic studies. Biochemistry, 1992, 31, 9961-9969.	1.2	304
8	Mutagenesis of Glycosidases. Annual Review of Biochemistry, 1999, 68, 487-522.	5.0	280
9	The pKaof the General Acid/Base Carboxyl Group of a Glycosidase Cycles during Catalysis:Â A13C-NMR Study ofBacillus circulansXylanaseâ€. Biochemistry, 1996, 35, 9958-9966.	1.2	269
10	Engineering of glycosidases and glycosyltransferases. Current Opinion in Chemical Biology, 2006, 10, 509-519.	2.8	267
11	Snapshots along an Enzymatic Reaction Coordinate:Â Analysis of a Retaining Î²-Glycoside Hydrolaseâ€,â€¡. Biochemistry, 1998, 37, 11707-11713.	1.2	255
12	NAG-thiazoline, An N-Acetyl-Î²-hexosaminidase Inhibitor That Implicates Acetamido Participation. Journal of the American Chemical Society, 1996, 118, 6804-6805.	6.6	248
13	Crystallographic Evidence for Substrate-assisted Catalysis in a Bacterial Î²-Hexosaminidase. Journal of Biological Chemistry, 2001, 276, 10330-10337.	1.6	239
14	Unequivocal demonstration of the involvement of a glutamate residue as a nucleophile in the mechanism of a retaining glycosidase. Journal of the American Chemical Society, 1990, 112, 5887-5889.	6.6	236
15	Subsite Mapping of the Human Pancreatic Î±-Amylase Active Site through Structural, Kinetic, and Mutagenesis Techniquesâ€,â€¡. Biochemistry, 2000, 39, 4778-4791.	1.2	231
16	Hydrogen bonding and catalysis: a novel explanation for how a single amino acid substitution can change the ph optimum of a glycosidase 1 1Edited by M. F. Summers. Journal of Molecular Biology, 2000, 299, 255-279.	2.0	214
17	High-throughput screening methodology for the directed evolution of glycosyltransferases. Nature Methods, 2006, 3, 609-614.	9.0	211
18	Hydrogen bonding and specificity. Fluorodeoxy sugars as probes of hydrogen bonding in the glycogen phosphorylase-glucose complex. Biochemistry, 1986, 25, 6021-6027.	1.2	207

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19	Glycosyl fluorides in enzymatic reactions. Carbohydrate Research, 2000, 327, 27-46.	1.1	207
20	A Structural View of the Action ofEscherichia coli(lacZ) Î²-Galactosidaseâ€‚â€¡. Biochemistry, 2001, 40, 14781-14794.	1.2	207
21	Structural Insights into the Catalytic Mechanism of Trypanosoma cruzi trans-Sialidase. Structure, 2004, 12, 775-784.	1.6	197
22	Structural analysis of the sialyltransferase CstII from Campylobacter jejuni in complex with a substrate analog. Nature Structural and Molecular Biology, 2004, 11, 163-170.	3.6	196
23	Trypanosoma cruziTrans-sialidase Operates through a Covalent Sialylâˆ'Enzyme Intermediate:Â Tyrosine Is the Catalytic Nucleophile. Journal of the American Chemical Society, 2003, 125, 7532-7533.	6.6	188
24	Pharmacological Enhancement of Î²-Hexosaminidase Activity in Fibroblasts from Adult Tay-Sachs and Sandhoff Patients. Journal of Biological Chemistry, 2004, 279, 13478-13487.	1.6	186
25	Mechanism of Agrobacterium .beta.-glucosidase: kinetic analysis of the role of noncovalent enzyme/substrate interactions. Biochemistry, 1995, 34, 16194-16202.	1.2	182
26	Sugar Ring Distortion in the Glycosyl-Enzyme Intermediate of a Family G/11 Xylanaseâ€‚â€¡. Biochemistry, 1999, 38, 5346-5354.	1.2	182
27	The Role of Sugar Substituents in Glycoside Hydrolysis. Journal of the American Chemical Society, 2000, 122, 1270-1277.	6.6	175
28	Mechanism-Based Covalent Neuraminidase Inhibitors with Broad-Spectrum Influenza Antiviral Activity. Science, 2013, 340, 71-75.	6.0	175
29	Crystallographic Structure of Human Î²-Hexosaminidase A: Interpretation of Tay-Sachs Mutations and Loss of GM2 Ganglioside Hydrolysis. Journal of Molecular Biology, 2006, 359, 913-929.	2.0	169
30	Covalent inhibitors of glycosidases and their applications in biochemistry and biology. Glycobiology, 2008, 18, 570-586.	1.3	167
31	Crystal structure of the catalytic domain of the .beta.-1,4-glycanase Cex from Cellulomonas fimi. Biochemistry, 1994, 33, 12546-12552.	1.2	166
32	The Mechanism of Cellulose Hydrolysis by a Two-Step, Retaining Cellobiohydrolase Elucidated by Structural and Transition Path Sampling Studies. Journal of the American Chemical Society, 2014, 136, 321-329.	6.6	164
33	The Search for Novel Human Pancreatic Î±â€Amylase Inhibitors: Highâ€Throughput Screening of Terrestrial and Marine Natural Product Extracts. ChemBioChem, 2008, 9, 433-438.	1.3	163
34	2-Deoxy-2-fluoroglucosides: a novel class of mechanism-based glucosidase inhibitors. Journal of the American Chemical Society, 1987, 109, 7530-7531.	6.6	161
35	Mechanistic and Structural Analysis of a Family 31 Î±-Glycosidase and Its Glycosyl-enzyme Intermediate. Journal of Biological Chemistry, 2005, 280, 2105-2115.	1.6	156
36	Crystallographic observation of a covalent catalytic intermediate in a Î²-glycosidase. Nature Structural Biology, 1996, 3, 149-154.	9.7	153

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37	The Acid/Base Catalyst in the Exoglucanase/Xylanase from Cellulomonas fimi Is Glutamic Acid 127: Evidence from Detailed Kinetic Studies of Mutants. Biochemistry, 1994, 33, 6371-6376.	1.2	152
38	Ultrahighâ€Throughput FACSâ€Based Screening for Directed Enzyme Evolution. ChemBioChem, 2009, 10, 2704-2715.	1.3	151
39	Inactivation of a .beta.-glucosidase through the accumulation of a stable 2-deoxy-2-fluoro-.alpha.-D-glucopyranosyl-enzyme intermediate: a detailed investigation. Biochemistry, 1992, 31, 9970-9978.	1.2	150
40	Approaches to labeling and identification of active site residues in glycosidases. Protein Science, 1995, 4, 361-372.	3.1	148
41	Dissection of nucleophilic and acidâ€“base catalysis in glycosidases. Current Opinion in Chemical Biology, 2001, 5, 643-649.	2.8	146
42	Thioglycoligases: Mutant Glycosidases for Thioglycoside Synthesis. Angewandte Chemie - International Edition, 2003, 42, 352-354.	7.2	143
43	Crystal Structure of Thermotoga maritima Î±-l-Fucosidase. Journal of Biological Chemistry, 2004, 279, 13119-13128.	1.6	141
44	Advances in Enzymatic Glycoside Synthesis. ACS Chemical Biology, 2016, 11, 1784-1794.	1.6	140
45	Carbohydrate-active enzymes (CAZymes) in the gut microbiome. Nature Reviews Microbiology, 2022, 20, 542-556.	13.6	139
46	Identification of a covalent .alpha.-D-glucopyranosyl enzyme intermediate formed on a .beta.-glucosidase. Journal of the American Chemical Society, 1988, 110, 8551-8553.	6.6	135
47	Emerging methods for the production of homogeneous human glycoproteins. Nature Chemical Biology, 2009, 5, 206-215.	3.9	133
48	Observing cellulose biosynthesis and membrane translocation in crystallo. Nature, 2016, 531, 329-334.	13.7	133
49	Identification of Glutamic Acid 78 as the Active Site Nucleophile in Bacillus subtilis Xylanase Using Electrospray Tandem Mass Spectrometry. Biochemistry, 1994, 33, 7027-7032.	1.2	130
50	Dissecting the Electrostatic Interactions and pH-Dependent Activity of a Family 11 Glycosidaseâ€,â€¡. Biochemistry, 2001, 40, 10115-10139.	1.2	128
51	Substrate Distortion by a -Mannanase: Snapshots of the Michaelis and Covalent-Intermediate Complexes Suggest a B2,5 Conformation for the Transition State. Angewandte Chemie - International Edition, 2002, 41, 2824-2827.	7.2	127
52	Mechanisms of Cellulases and Xylanases: A Detailed Kinetic Study of the Exo-.beta.-1,4-glycanase from Cellulomonas Fimi. Biochemistry, 1994, 33, 6363-6370.	1.2	126
53	Pre-Steady State Kinetic Analysis of an Enzymatic Reaction Monitored by Time-Resolved Electrospray Ionization Mass Spectrometryâ€. Biochemistry, 1998, 37, 7664-7669.	1.2	126
54	Aspartate 313 in the Streptomyces plicatusHexosaminidase Plays a Critical Role in Substrate-assisted Catalysis by Orienting the 2-Acetamido Group and Stabilizing the Transition State. Journal of Biological Chemistry, 2002, 277, 40055-40065.	1.6	126

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55	Unequivocal Identification of Asp-214 as the Catalytic Nucleophile of Saccharomyces cerevisiae Î±-Glucosidase Using 5-Fluoro Glycosyl Fluorides. Journal of Biological Chemistry, 1996, 271, 6889-6894.	1.6	124
56	An Unusual Mechanism of Glycoside Hydrolysis Involving Redox and Elimination Steps by a Family 4 Î²-Glycosidase fromThermotoga maritima. Journal of the American Chemical Society, 2004, 126, 8354-8355.	6.6	119
57	Mechanistic Analyses of Catalysis in Human Pancreatic Î±-Amylase:â€‰ Detailed Kinetic and Structural Studies of Mutants of Three Conserved Carboxylic Acids. Biochemistry, 2002, 41, 4492-4502.	1.2	116
58	Directed Evolution of a Glycosynthase from Agrobacterium sp. Increases Its Catalytic Activity Dramatically and Expands Its Substrate Repertoire. Journal of Biological Chemistry, 2004, 279, 42787-42793.	1.6	116
59	Cloning, Expression, Characterization, and Nucleophile Identification of Family 3, Aspergillus nigerÎ²-Glucosidase. Journal of Biological Chemistry, 2000, 275, 4973-4980.	1.6	115
60	5-Fluoro Glycosides:Â A New Class of Mechanism-Based Inhibitors of Both Î±- and Î²-Glucosidases. Journal of the American Chemical Society, 1996, 118, 241-242.	6.6	113
61	The E358S mutant of Agrobacterium sp. Î²-glucosidase is a greatly improved glycosynthase. FEBS Letters, 2000, 466, 40-44.	1.3	113
62	The amylase inhibitor montbretin A reveals a new glycosidase inhibition motif. Nature Chemical Biology, 2015, 11, 691-696.	3.9	113
63	Alternative Catalytic Anions Differentially Modulate Human Î±-Amylase Activity and Specificity[,]. Biochemistry, 2008, 47, 3332-3344.	1.2	111
64	Mechanism of Action and Identification of Asp242 as the Catalytic Nucleophile of Vibrio furnisii N-Acetyl-Î²-d-glucosaminidase Using 2-Acetamido-2-deoxy-5-fluoro-Î±-l-idopyranosyl Fluoride. Biochemistry, 2000, 39, 117-126.	1.2	106
65	Structural insight into mammalian sialyltransferases. Nature Structural and Molecular Biology, 2009, 16, 1186-1188.	3.6	105
66	The Donor Subsite of Trehalose-6-phosphate Synthase. Journal of Biological Chemistry, 2004, 279, 1950-1955.	1.6	104
67	Teaching old enzymes new tricks: engineering and evolution of glycosidases and glycosyl transferases for improved glycoside synthesisThis paper is one of a selection of papers published in this Special Issue, entitled CSBMCB â€" Systems and Chemical Biology, and has undergone the Journal's usual peer review process.. Biochemistry and Cell Biology, 2008, 86, 169-177.	0.9	104
68	The Structure of Clostridium perfringens NanI Sialidase and Its Catalytic Intermediates. Journal of Biological Chemistry, 2008, 283, 9080-9088.	1.6	102
69	Î²-Mannosynthase: Synthesis ofÎ²-Mannosides with a MutantÎ²-Mannosidase. Angewandte Chemie - International Edition, 2001, 40, 417-420.	7.2	101
70	High-Throughput Screening for Human Lysosomal Î²-N-Acetyl Hexosaminidase Inhibitors Acting as Pharmacological Chaperones. Chemistry and Biology, 2007, 14, 153-164.	6.2	99
71	Detailed Comparative Analysis of the Catalytic Mechanisms of Î²-N-Acetylglucosaminidases from Families 3 and 20 of Glycoside Hydrolases. Biochemistry, 2005, 44, 12809-12818.	1.2	98
72	Insights into transition state stabilization of the Î²-1,4-glycosidase Cex by covalent intermediate accumulation in active site mutants. Nature Structural Biology, 1998, 5, 812-818.	9.7	97

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73	Mechanistic consequences of mutation of the active site nucleophile Glu 358 in Agrobacterium .beta.-glucosidase. Biochemistry, 1992, 31, 9979-9985.	1.2	96
74	Mechanistic analogies amongst carbohydrate modifying enzymes. Chemical Communications, 2004, , 2243.	2.2	95
75	Order and Disorder: Differential Structural Impacts of Myricetin and Ethyl Caffeate on Human Amylase, an Antidiabetic Target. Journal of Medicinal Chemistry, 2012, 55, 10177-10186.	2.9	95
76	Mechanism-based Inhibition of Yeast Î±-Glucosidase and Human Pancreatic Î±-Amylase by a New Class of Inhibitors. Journal of Biological Chemistry, 1995, 270, 26778-26781.	1.6	94
77	Exploring the Cellulose/Xylan Specificity of the Î²-1,4-Glycanase Cex from Cellulomonas fimi through Crystallography and Mutation,. Biochemistry, 1998, 37, 4751-4758.	1.2	94
78	Breakdown of oligosaccharides by the process of elimination. Current Opinion in Chemical Biology, 2006, 10, 147-155.	2.8	92
79	The synthesis and hydrolysis of a series of deoxyfluoro-d-glucopyranosyl phosphates. Carbohydrate Research, 1986, 154, 127-144.	1.1	91
80	Insights into the Mechanism of Drosophila melanogaster Golgi Î±-Mannosidase II through the Structural Analysis of Covalent Reaction Intermediates. Journal of Biological Chemistry, 2003, 278, 48074-48083.	1.6	91
81	Structural Analysis of the Î±-2,3-Sialyltransferase Cst-I from Campylobacter jejuni in Apo and Substrate-Analogue Bound Forms,. Biochemistry, 2007, 46, 7196-7204.	1.2	90
82	Intermediate Trapping on a Mutant Retaining Î±-Galactosyltransferase Identifies an Unexpected Aspartate Residue. Journal of Biological Chemistry, 2004, 279, 28339-28344.	1.6	89
83	Mechanistic Consequences of Mutation of Active Site Carboxylates in a Retaining Î²-1,4-Glycanase fromCellulomonas fimiâ€. Biochemistry, 1996, 35, 13165-13172.	1.2	88
84	Novel Catalytic Mechanism of Glycoside Hydrolysis Based on the Structure of an NAD+/Mn2+-Dependent Phospho-Î±-Glucosidase from Bacillus subtilis. Structure, 2004, 12, 1619-1629.	1.6	88
85	Directed evolution of new glycosynthases from Agrobacterium Î²-glucosidase: a general screen to detect enzymes for oligosaccharide synthesis. Chemistry and Biology, 2001, 8, 437-443.	6.2	87
86	Direct 1H N.M.R. determination of the stereochemical course of hydrolyses catalysed by glucanase components of the cellulase complex. Biochemical and Biophysical Research Communications, 1986, 139, 487-494.	1.0	84
87	Direct Observation of the Protonation State of an Imino Sugar Glycosidase Inhibitor upon Binding. Journal of the American Chemical Society, 2003, 125, 7496-7497.	6.6	84
88	Configurationally selective transition state analogue inhibitors of glycosidases. A study with nojiritetrazoles, a new class of glycosidase inhibitors. Carbohydrate Research, 1993, 250, 113-128.	1.1	83
89	Site-Directed Mutation of the Putative Catalytic Residues of Endoglucanase CenA from Cellulomonas fimi. Biochemistry, 1995, 34, 2220-2224.	1.2	83
90	Selfâ€Immobilizing Fluorogenic Imaging Agents of Enzyme Activity. Angewandte Chemie - International Edition, 2011, 50, 300-303.	7.2	81

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91	Solid-Phase Oligosaccharide and Glycopeptide Synthesis Using Glycosynthases. Journal of Organic Chemistry, 2002, 67, 4143-4149.	1.7	79
92	Glycosynthase-Mediated Synthesis of Glycosphingolipids. Journal of the American Chemical Society, 2006, 128, 6300-6301.	6.6	79
93	Crystal structure of the family 7 endoglucanase I (Cel7B) from Humicola insolens at 2.2ÂÅ... resolution and identification of the catalytic nucleophile by trapping of the covalent glycosyl-enzyme intermediate. Biochemical Journal, 1998, 335, 409-416.	1.7	77
94	A New Generation of Specific <i>Trypanosoma cruzi trans</i>â€Sialidase Inhibitors. Angewandte Chemie - International Edition, 2008, 47, 2700-2703.	7.2	77
95	Designer enzymes for glycosphingolipid synthesis by directed evolution. Nature Chemical Biology, 2009, 5, 508-514.	3.9	76
96	Trapping and Characterization of the Reaction Intermediate in Cyclodextrin Glycosyltransferase by Use of Activated Substrates and a Mutant Enzymeâ€. Biochemistry, 1997, 36, 9927-9934.	1.2	75
97	Structural and Kinetic Analysis of Two Covalent Sialosyl-Enzyme Intermediates on Trypanosoma rangeli Sialidase. Journal of Biological Chemistry, 2006, 281, 4149-4155.	1.6	75
98	Identification of the Active Site Nucleophile in Jack Bean Î±-Mannosidase Using 5-Fluoro-Î²-l-Gulosyl Fluoride. Journal of Biological Chemistry, 1998, 273, 2067-2072.	1.6	74
99	Acarbose Rearrangement Mechanism Implied by the Kinetic and Structural Analysis of Human Pancreatic Î±-Amylase in Complex with Analogues and Their Elongated Counterpartsâ€,â€¡. Biochemistry, 2005, 44, 3347-3357.	1.2	74
100	Rapid Assembly of a Library of Lipophilic Iminosugars via the Thiolâ€"Ene Reaction Yields Promising Pharmacological Chaperones for the Treatment of Gaucher Disease. Journal of Medicinal Chemistry, 2012, 55, 2737-2745.	2.9	74
101	Positioning the Acid/Base Catalyst in a Glycosidase:Â Studies withBacillus circulansXylanaseâ€. Biochemistry, 1997, 36, 2257-2265.	1.2	73
102	Active-site Peptide â€œFingerprintingâ€•of Glycosidases in Complex Mixtures by Mass Spectrometry. Journal of Biological Chemistry, 2005, 280, 35126-35135.	1.6	73
103	Expanding the Thioglycoligase Strategy to the Synthesis of Î±-Linked Thioglycosides Allows Structural Investigation of the Parent Enzyme/Substrate Complex. Journal of the American Chemical Society, 2006, 128, 2202-2203.	6.6	72
104	Identification of the Catalytic Nucleophile of the Family 29 Î±-L-Fucosidase from Thermotoga maritima through Trapping of a Covalent Glycosyl-Enzyme Intermediate and Mutagenesis. Journal of Biological Chemistry, 2003, 278, 47394-47399.	1.6	70
105	Subsite structure of the endo-type chitin deacetylase from a Deuteromycete, Colletotrichum lindemuthianum: an investigation using steady-state kinetic analysis and MS. Biochemical Journal, 2003, 374, 369-380.	1.7	70
106	N-Acetylglucosaminidases from CAZy Family GH3 Are Really Glycoside Phosphorylases, Thereby Explaining Their Use of Histidine as an Acid/Base Catalyst in Place of Glutamic Acid. Journal of Biological Chemistry, 2015, 290, 4887-4895.	1.6	70
107	Crystal Structure of Î²-d-Xylosidase from Thermoanaerobacterium saccharolyticum, a Family 39 Glycoside Hydrolase. Journal of Molecular Biology, 2004, 335, 155-165.	2.0	69
108	Detailed Structural Analysis of Glycosidase/Inhibitor Interactions:Â Complexes of Cex fromCellulomonas fimiwith Xylobiose-Derived Aza-Sugarsâ€,â€¡. Biochemistry, 2000, 39, 11553-11563.	1.2	68

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109	Elucidation of the Mechanism of Polysaccharide Cleavage by Chondroitin AC Lyase fromFlavobacteriumheparinum. Journal of the American Chemical Society, 2002, 124, 9756-9767.	6.6	68
110	Using substrate engineering to harness enzymatic promiscuity and expand biological catalysis. , 2006, 2, 724-728.		68
111	Anatomy of Glycosynthesis. Chemistry and Biology, 2003, 10, 619-628.	6.2	67
112	Unusual Enzymatic Glycoside Cleavage Mechanisms. Accounts of Chemical Research, 2014, 47, 226-235.	7.6	67
113	Expansion of the glycosynthase repertoire to produce defined manno-oligosaccharides. Chemical Communications, 2003, , 1327-1329.	2.2	66
114	The purification and characterization of a Î²-glucosidase from Alcaligenes faecalis. Biochemistry and Cell Biology, 1986, 64, 914-922.	0.9	65
115	Enzymatic Synthesis of Carbonâ^'Fluorine Bonds. Journal of the American Chemical Society, 2001, 123, 4350-4351.	6.6	64
116	Engineering of a thioglycoligase: randomized mutagenesis of the acid-base residue leads to the identification of improved catalysts. Protein Engineering, Design and Selection, 2005, 18, 33-40.	1.0	62
117	Structure of human ST8SiaIII sialyltransferase provides insight into cell-surface polysialylation. Nature Structural and Molecular Biology, 2015, 22, 627-635.	3.6	62
118	The synthesis and hydrolysis of a series of deoxy- and deoxyfluoro-Î±-d- â€œglucopyranosylâ€•phosphates. Carbohydrate Research, 1989, 187, 43-66.	1.1	61
119	Effects of both Shortening and Lengthening the Active Site Nucleophile ofBacillus circulansXylanase on Catalytic Activityâ€. Biochemistry, 1996, 35, 10110-10118.	1.2	61
120	Nanomolar versus Millimolar Inhibition by Xylobiose-Derived Azasugars:â€‰ Significant Differences between Two Structurally Distinct Xylanases. Journal of the American Chemical Society, 2000, 122, 2223-2235.	6.6	61
121	Mechanistic Studies of a Retaining Î±-Galactosyltransferase fromNeisseria meningitidisâ€. Biochemistry, 2002, 41, 5075-5085.	1.2	60
122	Characterization of a beta-N-acetylhexosaminidase and a beta-N-acetylglucosaminidase/beta-glucosidase from Cellulomonas fimi. FEBS Journal, 2006, 273, 2929-2941.	2.2	60
123	Assignment of Sweet Almond Î²-Glucosidase as a Family 1 Glycosidase and Identification of Its Active Site Nucleophile. Journal of Biological Chemistry, 1997, 272, 24864-24867.	1.6	59
124	Detailed Dissection of a New Mechanism for Glycoside Cleavage:Â Î±-1,4-Glucan Lyaseâ€. Biochemistry, 2003, 42, 13081-13090.	1.2	59
125	Reassessment of the catalytic mechanism of glycogen debranching enzyme. Biochemistry, 1991, 30, 1419-1424.	1.2	58
126	Identification of Asp-130 as the Catalytic Nucleophile in the Main Î±-Galactosidase from Phanerochaete chrysosporium, a Family 27 Glycosyl Hydrolase. Biochemistry, 2000, 39, 9826-9836.	1.2	58

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127	Glycosynthase-based synthesis of xylo-oligosaccharides using an engineered retaining xylanase from Cellulomonas fimi. Organic and Biomolecular Chemistry, 2006, 4, 2025.	1.5	58
128	Fluorescence Activated Cell Sorting as a General Ultra-High-Throughput Screening Method for Directed Evolution of Glycosyltransferases. Journal of the American Chemical Society, 2010, 132, 10570-10577.	6.6	58
129	Directed evolution of an Î±1,3-fucosyltransferase using a single-cell ultrahigh-throughput screening method. Science Advances, 2019, 5, eaaw8451.	4.7	58
130	The Crystal Structure of a 2-Fluorocellotriosyl Complex of theStreptomyceslividansEndoglucanase CelB2 at 1.2 Ã… Resolutionâ€,â€¡. Biochemistry, 1999, 38, 4826-4833.	1.2	56
131	Thioglycosynthases: double mutant glycosidases that serve as scaffolds for thioglycoside synthesis. Chemical Communications, 2004, , 274-275.	2.2	56
132	An enzymatic pathway in the human gut microbiome that converts A to universal O type blood. Nature Microbiology, 2019, 4, 1475-1485.	5.9	56
133	Mechanism, Mutagenesis, and Chemical Rescue of a Î²-Mannosidase fromCellulomonas fimiâ€. Biochemistry, 2003, 42, 7195-7204.	1.2	55
134	Kinetic and Mechanistic Analysis of Trypanosoma cruzi Trans-Sialidase Reveals a Classical Ping-Pong Mechanism with Acid/Base Catalysis. Biochemistry, 2008, 47, 3507-3512.	1.2	55
135	A New, Simple, High-Affinity Glycosidase Inhibitor:â€‰ Analysis of Binding through X-ray Crystallography, Mutagenesis, and Kinetic Analysis. Journal of the American Chemical Society, 2000, 122, 4229-4230.	6.6	54
136	Trapping Covalent Intermediates on Î²-Glycosidases. Methods in Enzymology, 2002, 354, 84-105.	0.4	54
137	Syntheses of 2-deoxy-2-fluoro mono- and oligo-saccharide glycosides from glycals and evaluation as glycosidase inhibitors. Carbohydrate Research, 1993, 249, 77-90.	1.1	53
138	Identification of Glu-330 as the Catalytic Nucleophile of Candida albicans Exo-Î²-(1,3)-glucanase. Journal of Biological Chemistry, 1997, 272, 3161-3167.	1.6	53
139	Cloning, mutagenesis, and structural analysis of human pancreatic Î±â€amylase expressed in pichia pastoris. Protein Science, 1999, 8, 635-643.	3.1	53
140	Toward Efficient Enzymes for the Generation of Universal Blood through Structure-Guided Directed Evolution. Journal of the American Chemical Society, 2015, 137, 5695-5705.	6.6	53
141	A general and efficient strategy for generating the stable enzymes. Scientific Reports, 2016, 6, 33797.	1.6	53
142	NAD+ and Metal-ion Dependent Hydrolysis by Family 4 Glycosidases: Structural Insight into Specificity for Phospho-Î²-d-glucosides. Journal of Molecular Biology, 2005, 346, 423-435.	2.0	52
143	New approaches to enzymatic glycoside synthesis through directed evolution. Carbohydrate Research, 2010, 345, 1272-1279.	1.1	52
144	D-Gluconhydroximo-1,5-lactam and RelatedN-Arylcarbamates Theoretical Calculations, Structure, Synthesis, and Inhibitory Effect on ?-Glucosidases. Helvetica Chimica Acta, 1993, 76, 2666-2686.	1.0	51

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145	Structural and mechanistic studies of chloride induced activation of human pancreatic Â-amylase. Protein Science, 2005, 14, 743-755.	3.1	51
146	Development of New and Selective <i>Trypanosoma cruzi</i> transâ€Sialidase Inhibitors from Sulfonamide Chalcones and Their Derivatives. ChemBioChem, 2009, 10, 2475-2479.	1.3	51
147	Enhancement of biological reactions on cell surfaces via macromolecular crowding. Nature Communications, 2014, 5, 4683.	5.8	51
148	Substrate specificity of endoglucanase A from Cellulomonas fimi: fundamental differences between endoglucanases and exoglucanases from family 6. Biochemical Journal, 1996, 315, 467-472.	1.7	50
149	Enzymatic synthesis of disaccharides using Agrobacterium sp. Î²-glucosidase. Carbohydrate Research, 1997, 305, 371-381.	1.1	50
150	The synthesis, testing and use of 5-fluoro-Î±-d-galactosyl fluoride to trap an intermediate on green coffee bean Î±-galactosidase and identify the catalytic nucleophile. Carbohydrate Research, 2000, 329, 539-547.	1.1	50
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