Robert J Linhardt

List of Publications by Year
in descending order

662 papers	33,776 citations	3325 91 h-index	7931 149 g-index
677 all docs	677 docs citations	677 times ranked	25883 citing authors

#	Article	IF	Citations
1	Heparin-Protein Interactions. Angewandte Chemie - International Edition, 2002, 41, 390-412.	7.2	1,670
2	Crystal Structure of a Ternary FGF-FGFR-Heparin Complex Reveals a Dual Role for Heparin in FGFR Binding and Dimerization. Molecular Cell, 2000, 6, 743-750.	4.5	1,024
3	Dengue virus infectivity depends on envelope protein binding to target cell heparan sulfate. Nature Medicine, 1997, 3, 866-871.	15.2	914
4	Heparin Structure and Interactions with Basic Fibroblast Growth Factor. Science, 1996, 271, 1116-1120.	6.0	794
5	Oversulfated chondroitin sulfate is a contaminant in heparin associated with adverse clinical events. Nature Biotechnology, 2008, 26, 669-675.	9.4	559
6	Glycosaminoglycan-protein interactions: definition of consensus sites in glycosaminoglycan binding proteins. BioEssays, 1998, 20, 156-167.	1.2	502
7	2003 Claude S. Hudson Award Address in Carbohydrate Chemistry. Heparin:â€‰ Structure and Activity. Journal of Medicinal Chemistry, 2003, 46, 2551-2564.	2.9	460
8	Chemoenzymatic Synthesis of Homogeneous Ultralow Molecular Weight Heparins. Science, 2011, 334, 498-501.	6.0	353
9	Lessons learned from the contamination of heparin. Natural Product Reports, 2009, 26, 313.	5.2	345
10	Green Solvents in Carbohydrate Chemistry: From Raw Materials to Fine Chemicals. Chemical Reviews, 2015, 115, 6811-6853.	23.0	296
11	Ionic liquid solvent properties as predictors of lignocellulose pretreatment efficacy. Green Chemistry, 2010, 12, 1967.	4.6	282
12	Examination of the substrate specificity of heparin and heparan sulfate lyases. Biochemistry, 1990, 29, 2611-2617.	1.2	279
13	Role of Glycosaminoglycans in Cellular Communication. Accounts of Chemical Research, 2004, 37, 431-438.	7.6	271
14	Polysaccharide lyases. Applied Biochemistry and Biotechnology, 1987, 12, 135-176.	1.4	257
15	Sulfated polysaccharides effectively inhibit SARS-CoV-2 in vitro. Cell Discovery, 2020, 6, 50.	3.1	246
16	Preparation of Biopolymer Fibers by Electrospinning from Room Temperature Ionic Liquids. Biomacromolecules, 2006, 7, 415-418.	2.6	245
17	Characterization of heparin and severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2) spike glycoprotein binding interactions. Antiviral Research, 2020, 181, 104873.	1.9	233
18	Differences in the Interaction of Heparin with Arginine and Lysine and the Importance of these Basic Amino Acids in the Binding of Heparin to Acidic Fibroblast Growth Factor. Archives of Biochemistry and Biophysics, 1995, 323, 279-287.	1.4	225

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19	Preparation and structural characterization of large heparin-derived oligosaccharides. Glycobiology, 1995, 5, 83-95.	1.3	201
20	Designer DNA architecture offers precise and multivalent spatial pattern-recognition for viral sensing and inhibition. Nature Chemistry, 2020, 12, 26-35.	6.6	193
21	Masquerading microbial pathogens: capsular polysaccharides mimic host-tissue molecules. FEMS Microbiology Reviews, 2014, 38, 660-697.	3.9	191
22	Polysaccharide-based nanocomposites and their applications. Carbohydrate Research, 2015, 405, 23-32.	1.1	188
23	Heparin: Past, Present, and Future. Pharmaceuticals, 2016, 9, 38.	1.7	181
24	The proteoglycan bikunin has a defined sequence. Nature Chemical Biology, 2011, 7, 827-833.	3.9	176
25	Effective Inhibition of SARS-CoV-2 Entry by Heparin and Enoxaparin Derivatives. Journal of Virology, 2021, 95, .	1.5	176
26	Homogeneous low-molecular-weight heparins with reversible anticoagulant activity. Nature Chemical Biology, 2014, 10, 248-250.	3.9	173
27	Chemoenzymatic synthesis of heparan sulfate and heparin. Natural Product Reports, 2014, 31, 1676-1685.	5.2	169
28	Specificity studies on the heparin lyases from Flavobacterium heparinum. Biochemistry, 1993, 32, 8140-8145.	1.2	167
29	Kinetic Model for FGF, FGFR, and Proteoglycan Signal Transduction Complex Assemblyâ€. Biochemistry, 2004, 43, 4724-4730.	1.2	163
30	Lysostaphin-functionalized cellulose fibers with antistaphylococcal activity for wound healing applications. Biomaterials, 2011, 32, 9557-9567.	5.7	163
31	Structural differences and the presence of unsubstituted amino groups in heparan sulphates from different tissues and species. Biochemical Journal, 1997, 322, 499-506.	1.7	162
32	Chemically modified polysaccharides: Synthesis, characterization, structure activity relationships of action. International Journal of Biological Macromolecules, 2019, 132, 970-977.	3.6	162
33	Electron detachment dissociation of glycosaminoglycan tetrasaccharides. Journal of the American Society for Mass Spectrometry, 2007, 18, 234-244.	1.2	159
34	Regulating malonyl-CoA metabolism via synthetic antisense RNAs for enhanced biosynthesis of natural products. Metabolic Engineering, 2015, 29, 217-226.	3.6	159
35	Syntheses and applications of sucrose-based esters. Journal of Surfactants and Detergents, 2001, 4, 415-421.	1.0	157
36	Complete Biosynthesis of Anthocyanins Using <i>E. coli</i> Polycultures. MBio, 2017, 8, .	1.8	157

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37	Heparin and anticoagulation. Frontiers in Bioscience - Landmark, 2016, 21, 1372-1392.	3.0	156
38	Glycosaminoglycans in infectious disease. Biological Reviews, 2013, 88, 928-943.	4.7	152
39	Molecular mechanisms of bioactive polysaccharides from Ganoderma lucidum (Lingzhi), a review. International Journal of Biological Macromolecules, 2020, 150, 765-774.	3.6	152
40	Purification and characterization of heparin lyases from Flavobacterium heparinum. Journal of Biological Chemistry, 1992, 267, 24347-55.	1.6	151
41	Gradient Polyacrylamide Gel Electrophoresis for Determination of Molecular Weights of Heparin Preparations and Low-Molecular-Weight Heparin Derivatives. Journal of Pharmaceutical Sciences, 1992, 81, 823-827.	1.6	150
42	Solution Structures of Chemoenzymatically Synthesized Heparin and Its Precursors. Journal of the American Chemical Society, 2008, 130, 12998-13007.	6.6	149
43	Mapping and quantification of the major oligosaccharide components of heparin. Biochemical Journal, 1988, 254, 781-787.	1.7	147
44	Conformational changes and anticoagulant activity of chondroitin sulfate following its O-sulfonation. Carbohydrate Research, 1998, 306, 35-43.	1.1	146
45	CRISPathBrick: Modular Combinatorial Assembly of Type II-A CRISPR Arrays for dCas9-Mediated Multiplex Transcriptional Repression in <i>E. coli</i>. ACS Synthetic Biology, 2015, 4, 987-1000.	1.9	144
46	Substrate Specificity of the Heparin Lyases from Flavobacterium heparinum. Archives of Biochemistry and Biophysics, 1993, 306, 461-468.	1.4	142
47	Encapsulation of Bioactive Compound in Electrospun Fibers and Its Potential Application. Journal of Agricultural and Food Chemistry, 2017, 65, 9161-9179.	2.4	142
48	Liquid Chromatography/Mass Spectrometry Sequencing Approach for Highly Sulfated Heparin-derived Oligosaccharides. Journal of Biological Chemistry, 2004, 279, 2608-2615.	1.6	139
49	Chemoenzymatic Design of Heparan Sulfate Oligosaccharides*. Journal of Biological Chemistry, 2010, 285, 34240-34249.	1.6	138
50	Structural Basis for Interaction of FGF-1, FGF-2, and FGF-7 with Different Heparan Sulfate Motifsâ€‚â€¡. Biochemistry, 2001, 40, 14429-14439.	1.2	136
51	Nanostructured glycan architecture is important in the inhibition of influenza A virus infection. Nature Nanotechnology, 2017, 12, 48-54.	15.6	131
52	Stabilizing Leaf and Branch Compost Cutinase (LCC) with Glycosylation: Mechanism and Effect on PET Hydrolysis. Biochemistry, 2018, 57, 1190-1200.	1.2	131
53	An enzymatic system for removing heparin in extracorporeal therapy. Science, 1982, 217, 261-263.	6.0	129
54	Determination of the p<i>K</i>a of glucuronic acid and the carboxy groups of heparin by 13C-nuclear-magnetic-resonance spectroscopy. Biochemical Journal, 1991, 278, 689-695.	1.7	128

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55	Action pattern of polysaccharide lyases on glycosaminoglycans. Glycobiology, 1994, 4, 289-296.	1.3	128
56	Chemoenzymatic synthesis of glycosaminoglycans: Re-creating, re-modeling and re-designing nature's longest or most complex carbohydrate chains. Glycobiology, 2013, 23, 764-777.	1.3	126
57	ePathOptimize: A Combinatorial Approach for Transcriptional Balancing of Metabolic Pathways. Scientific Reports, 2015, 5, 11301.	1.6	126
58	Negative Electron Transfer Dissociation of Glycosaminoglycans. Analytical Chemistry, 2010, 82, 3460-3466.	3.2	125
59	CRISPRi-mediated metabolic engineering of E. coli for O-methylated anthocyanin production. Microbial Cell Factories, 2017, 16, 10.	1.9	121
60	Intravenous fluid resuscitation is associated with septic endothelial glycocalyx degradation. Critical Care, 2019, 23, 259.	2.5	121
61	Production of chondroitin in metabolically engineered E. coli. Metabolic Engineering, 2015, 27, 92-100.	3.6	117
62	Analysis of glycosaminoglycan-derived, precolumn, 2-aminoacridoneâ€“labeled disaccharides with LC-fluorescence and LC-MS detection. Nature Protocols, 2014, 9, 541-558.	5.5	116
63	Extraction and characterization of RG-I enriched pectic polysaccharides from mandarin citrus peel. Food Hydrocolloids, 2018, 79, 579-586.	5.6	115
64	Depolymerized RG-I-enriched pectin from citrus segment membranes modulates gut microbiota, increases SCFA production, and promotes the growth of<i>Bifidobacterium</i>spp.,<i>Lactobacillus</i>spp. and<i>Faecalibaculum</i>spp.. Food and Function, 2019, 10, 7828-7843.	2.1	115
65	Recent Chemical and Enzymatic Approaches to the Synthesis of Glycosaminoglycan Oligosaccharides. Current Medicinal Chemistry, 2003, 10, 1993-2031.	1.2	114
66	Study of structurally defined oligosaccharide substrates of heparin and heparan monosulfate lyases. Carbohydrate Research, 1989, 190, 219-233.	1.1	113
67	Isolation and characterization of heparan sulfate from crude porcine intestinal mucosal peptidoglycan heparin. Carbohydrate Research, 1995, 276, 183-197.	1.1	113
68	Reconsidering conventional and innovative methods for pectin extraction from fruit and vegetable waste: Targeting rhamnogalacturonan I. Trends in Food Science and Technology, 2019, 94, 65-78.	7.8	113
69	Structure, bioactivities and applications of the polysaccharides from Tremella fuciformis mushroom: A review. International Journal of Biological Macromolecules, 2019, 121, 1005-1010.	3.6	110
70	Enzymatic Redesigning of Biologically Active Heparan Sulfate. Journal of Biological Chemistry, 2005, 280, 42817-42825.	1.6	109
71	Electrospinning from room temperature ionic liquids for biopolymer fiber formation. Green Chemistry, 2010, 12, 1883.	4.6	109
72	Microbially produced rhamnolipid as a source of rhamnose. Biotechnology and Bioengineering, 1989, 33, 365-368.	1.7	106

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73	<i>E. coli</i> K5 fermentation and the preparation of heparosan, a bioengineered heparin precursor. Biotechnology and Bioengineering, 2010, 107, 964-973.	1.7	106
74	Engineering of routes to heparin and related polysaccharides. Applied Microbiology and Biotechnology, 2012, 93, 1-16.	1.7	106
75	Chemoenzymatic Synthesis of Glycosaminoglycans. Accounts of Chemical Research, 2020, 53, 335-346.	7.6	106
76	Oligosaccharide mapping of low-molecular-weight heparins: structure and activity differences. Journal of Medicinal Chemistry, 1990, 33, 1639-1645.	2.9	105
77	Anti-metastatic effect of a non-anticoagulant low-molecular-weight heparin versus the standard low-molecular-weight heparin, enoxaparin. Thrombosis and Haemostasis, 2006, 96, 816-821.	1.8	105
78	Recent progress and applications in glycosaminoglycan and heparin research. Current Opinion in Chemical Biology, 2009, 13, 633-640.	2.8	103
79	Top-Down Approach for the Direct Characterization of Low Molecular Weight Heparins Using LC-FT-MS. Analytical Chemistry, 2012, 84, 8822-8829.	3.2	103
80	Interaction of Zika Virus Envelope Protein with Glycosaminoglycans. Biochemistry, 2017, 56, 1151-1162.	1.2	102
81	Tip-Enhanced Raman Imaging of Single-Stranded DNA with Single Base Resolution. Journal of the American Chemical Society, 2019, 141, 753-757.	6.6	102
82	Structural Characterization of Pharmaceutical Heparins Prepared from Different Animal Tissues. Journal of Pharmaceutical Sciences, 2013, 102, 1447-1457.	1.6	99
83	Isolation of a lectin binding rhamnogalacturonan-I containing pectic polysaccharide from pumpkin. Carbohydrate Polymers, 2017, 163, 330-336.	5.1	99
84	Interaction of the N-Terminal Domain of Apolipoprotein E4 with Heparinâ€. Biochemistry, 2001, 40, 2826-2834.	1.2	98
85	Bioengineered heparins and heparan sulfates. Advanced Drug Delivery Reviews, 2016, 97, 237-249.	6.6	98
86	Proteoglycan sequence. Molecular BioSystems, 2012, 8, 1613.	2.9	95
87	Disaccharide analysis of glycosaminoglycan mixtures by ultra-high-performance liquid chromatographyâ€"mass spectrometry. Journal of Chromatography A, 2012, 1225, 91-98.	1.8	95
88	Heparinase production by Flavobacterium heparinum. Applied and Environmental Microbiology, 1981, 41, 360-365.	1.4	95
89	The US regulatory and pharmacopeia response to the global heparin contamination crisis. Nature Biotechnology, 2016, 34, 625-630.	9.4	93
90	Production and chemical processing of low molecular weight heparins. Seminars in Thrombosis and Hemostasis, 1999, 25 Suppl 3, 5-16.	1.5	93

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91	Orthogonal analytical approaches to detect potential contaminants in heparin. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 16956-16961.	3.3	90
92	Structure and bioactivity of a polysaccharide containing uronic acid from Polyporus umbellatus sclerotia. Carbohydrate Polymers, 2016, 152, 222-230.	5.1	90
93	Co-culture cell-derived extracellular matrix loaded electrospun microfibrous scaffolds for bone tissue engineering. Materials Science and Engineering C, 2019, 99, 479-490.	3.8	89
94	Diastereocontrolled Synthesis of Carbon Glycosides of N-Acetylneuraminic Acid via Glycosyl Samarium(III) Intermediates. Journal of the American Chemical Society, 1997, 119, 1480-1481.	6.6	88
95	Capillary electrophoresis of complex natural polysaccharides. Electrophoresis, 2008, 29, 3095-3106.	1.3	87
96	Kartogenin-loaded coaxial PGS/PCL aligned nanofibers for cartilage tissue engineering. Materials Science and Engineering C, 2020, 107, 110291.	3.8	86
97	Capillary electrophoresis for the analysis of glycosaminoglycans and glycosaminoglycan-derived oligosaccharides. Biomedical Chromatography, 2002, 16, 77-94.	0.8	85
98	Sensitive cells: enabling tools for static and dynamic control of microbial metabolic pathways. Current Opinion in Biotechnology, 2015, 36, 205-214.	3.3	85
99	Quantification of Heparan Sulfate Disaccharides Using Ion-Pairing Reversed-Phase Microflow High-Performance Liquid Chromatography with Electrospray Ionization Trap Mass Spectrometry. Analytical Chemistry, 2009, 81, 4349-4355.	3.2	84
100	Heparin Mapping Using Heparin Lyases and the Generation of a Novel Low Molecular Weight Heparin. Journal of Medicinal Chemistry, 2011, 54, 603-610.	2.9	84
101	Proteoglycomics: Recent Progress and Future Challenges. OMICS A Journal of Integrative Biology, 2010, 14, 389-399.	1.0	83
102	Naringeninâ€responsive riboswitchâ€based fluorescent biosensor module for <i>Escherichia coli</i> coâ€cultures. Biotechnology and Bioengineering, 2017, 114, 2235-2244.	1.7	83
103	Chemoenzymatic synthesis of heparan sulfate and heparin oligosaccharides and NMR analysis: paving the way to a diverse library for glycobiologists. Chemical Science, 2017, 8, 7932-7940.	3.7	83
104	Electron detachment dissociation of dermatan sulfate oligosaccharides. Journal of the American Society for Mass Spectrometry, 2008, 19, 294-304.	1.2	82
105	Fast preparation of RG-I enriched ultra-low molecular weight pectin by an ultrasound accelerated Fenton process. Scientific Reports, 2017, 7, 541.	1.6	82
106	Synthetic oligosaccharides can replace animal-sourced lowâ€“molecular weight heparins. Science Translational Medicine, 2017, 9, .	5.8	82
107	Improved Viability and Thermal Stability of the Probiotics Encapsulated in a Novel Electrospun Fiber Mat. Journal of Agricultural and Food Chemistry, 2018, 66, 10890-10897.	2.4	82
108	Structural Analysis of Bikunin Glycosaminoglycan. Journal of the American Chemical Society, 2008, 130, 2617-2625.	6.6	81

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109	A novel route for double-layered encapsulation of probiotics with improved viability under adverse conditions. Food Chemistry, 2020, 310, 125977.	4.2	81
110	Prominent members of the human gut microbiota express endo-acting O-glycanases to initiate mucin breakdown. Nature Communications, 2020, 11, 4017.	5.8	81
111	Conductive Cable Fibers with Insulating Surface Prepared by Coaxial Electrospinning of Multiwalled Nanotubes and Cellulose. Biomacromolecules, 2010, 11, 2440-2445.	2.6	79
112	Circulating heparan sulfate fragments mediate septic cognitive dysfunction. Journal of Clinical Investigation, 2019, 129, 1779-1784.	3.9	79
113	Thermodynamic Analysis of the Heparin Interaction with a Basic Cyclic Peptide Using Isothermal Titration Calorimetry. Biochemistry, 1998, 37, 15231-15237.	1.2	77
114	Structural Analysis of the Sulfotransferase (3-O-Sulfotransferase Isoform 3) Involved in the Biosynthesis of an Entry Receptor for Herpes Simplex Virus 1. Journal of Biological Chemistry, 2004, 279, 45185-45193.	1.6	77
115	Macromolecular properties and hypolipidemic effects of four sulfated polysaccharides from sea cucumbers. Carbohydrate Polymers, 2017, 173, 330-337.	5.1	77
116	Separation of negatively charged carbohydrates by capillary electrophoresis. Journal of Chromatography A, 1996, 720, 323-335.	1.8	76
117	<i>EXTL3</i> mutations cause skeletal dysplasia, immune deficiency, and developmental delay. Journal of Experimental Medicine, 2017, 214, 623-637.	4.2	76
118	Synthetic heparin. Current Opinion in Pharmacology, 2012, 12, 217-219.	1.7	74
119	Rapid and accurate determination of the lignin content of lignocellulosic biomass by solid-state NMR. Fuel, 2015, 141, 39-45.	3.4	74
120	Rapid generation of CRISPR/dCas9-regulated, orthogonally repressible hybrid T7-lac promoters for modular, tuneable control of metabolic pathway fluxes in<i>Escherichia coli</i>. Nucleic Acids Research, 2016, 44, 4472-4485.	6.5	74
121	Analysis of Total Human Urinary Glycosaminoglycan Disaccharides by Liquid Chromatographyâ€“Tandem Mass Spectrometry. Analytical Chemistry, 2015, 87, 6220-6227.	3.2	73
122	Isolation and characterization of heparan sulfate from various murine tissues. Glycoconjugate Journal, 2006, 23, 555-563.	1.4	72
123	Heparin Dodecasaccharide Binding to Platelet Factor-4 and Growth-related Protein-Î±. Journal of Biological Chemistry, 1999, 274, 25317-25329.	1.6	71
124	A mutant-cell library for systematic analysis of heparan sulfate structureâ€“function relationships. Nature Methods, 2018, 15, 889-899.	9.0	71
125	3â€‹<i>O</i>â€Sulfation of Heparan Sulfate Enhances Tau Interaction and Cellular Uptake. Angewandte Chemie - International Edition, 2020, 59, 1818-1827.	7.2	71
126	Analysis of pharmaceutical heparins and potential contaminants using 1H-NMR and PAGE. Journal of Pharmaceutical Sciences, 2009, 98, 4017-4026.	1.6	70

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127	Bottom-Up Low Molecular Weight Heparin Analysis Using Liquid Chromatography-Fourier Transform Mass Spectrometry for Extensive Characterization. Analytical Chemistry, 2014, 86, 6626-6632.	3.2	70
128	Thin-layer chromatography for the analysis of glycosaminoglycan oligosaccharides. Analytical Biochemistry, 2007, 371, 118-120.	1.1	69
129	Oversulfated chondroitin sulfate interaction with heparin-binding proteins: New insights into adverse reactions from contaminated heparins. Biochemical Pharmacology, 2009, 78, 292-300.	2.0	69
130	Dermatan sulfate as a potential therapeutic agent. General Pharmacology, 1995, 26, 443-451.	0.7	68
131	Glycan Determinants of Heparin-Tau Interaction. Biophysical Journal, 2017, 112, 921-932.	0.2	68
132	Analysis of glycosaminoglycan-derived oligosaccharides using reversed-phase ion-pairing and ion-exchange chromatography with suppressed conductivity detection. Analytical Biochemistry, 1989, 181, 288-296.	1.1	67
133	Mosquito Heparan Sulfate and Its Potential Role in Malaria Infection and Transmission. Journal of Biological Chemistry, 2007, 282, 25376-25384.	1.6	67
134	Compositional Analysis of Heparin/Heparan Sulfate Interacting with Fibroblast Growth FactorÂ·Fibroblast Growth Factor Receptor Complexes. Biochemistry, 2009, 48, 8379-8386.	1.2	67
135	A fucoidan from sea cucumber <i>Pearsonothuria graeffei</i> with well-repeated structure alleviates gut microbiota dysbiosis and metabolic syndromes in HFD-fed mice. Food and Function, 2018, 9, 5371-5380.	2.1	67
136	Rethinking the impact of RG-I mainly from fruits and vegetables on dietary health. Critical Reviews in Food Science and Nutrition, 2020, 60, 2938-2960.	5.4	67
137	Extraction, structure and bioactivities of the polysaccharides from Pleurotus eryngii: A review. International Journal of Biological Macromolecules, 2020, 150, 1342-1347.	3.6	67
138	Ultra-performance ion-pairing liquid chromatography with on-line electrospray ion trap mass spectrometry for heparin disaccharide analysis. Analytical Biochemistry, 2011, 415, 59-66.	1.1	66
139	Fast preparation of rhamnogalacturonan I enriched low molecular weight pectic polysaccharide by ultrasonically accelerated metal-free Fenton reaction. Food Hydrocolloids, 2019, 95, 551-561.	5.6	66
140	Toward an Artificial Golgi: Redesigning the Biological Activities of Heparan Sulfate on a Digital Microfluidic Chip. Journal of the American Chemical Society, 2009, 131, 11041-11048.	6.6	65
141	Click-coated, heparinized, decellularized vascular grafts. Acta Biomaterialia, 2015, 13, 177-187.	4.1	65
142	Preparation and structure of heparin lyase-derived heparan sulfate oligosaccharides. Glycobiology, 1997, 7, 231-239.	1.3	63
143	Bacteriophage T7 transcription system: an enabling tool in synthetic biology. Biotechnology Advances, 2018, 36, 2129-2137.	6.0	63
144	Polymorphic factor H-binding activity of CspA protects Lyme borreliae from the host complement in feeding ticks to facilitate tick-to-host transmission. PLoS Pathogens, 2018, 14, e1007106.	2.1	63

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145	Homogeneous, structurally defined heparin-oligosaccharides with low anticoagulant activity inhibit the generation of the amplification pathway C3 convertase in vitro.. Journal of Biological Chemistry, 1988, 263, 13090-13096.	1.6	63
146	A new sulfated Î²-galactan from clams with anti-HIV activity. Carbohydrate Research, 1999, 321, 121-127.	1.1	62
147	Oversulfated Chondroitin Sulfate: Impact of a Heparin Impurity, Associated with Adverse Clinical Events, on Low-Molecular-Weight Heparin Preparation. Journal of Medicinal Chemistry, 2008, 51, 5498-5501.	2.9	62
148	Structural characterization of heparins from different commercial sources. Analytical and Bioanalytical Chemistry, 2011, 401, 2793-2803.	1.9	62
149	Control of Promatrilysin (MMP7) Activation and Substrate-specific Activity by Sulfated Glycosaminoglycans. Journal of Biological Chemistry, 2009, 284, 27924-27932.	1.6	61
150	Chemoenzymatic Synthesis of Uridine Diphosphate-GlcNAc and Uridine Diphosphate-GalNAc Analogs for the Preparation of Unnatural Glycosaminoglycans. Journal of Organic Chemistry, 2012, 77, 1449-1456.	1.7	61
151	Detection of glycosaminoglycans as a copper (II) complex in capillary electrophoresis. Electrophoresis, 1996, 17, 341-346.	1.3	60
152	Functional role of glycosaminoglycans in decellularized lung extracellular matrix. Acta Biomaterialia, 2020, 102, 231-246.	4.1	60
153	Design of anti-inflammatory heparan sulfate to protect against acetaminophen-induced acute liver failure. Science Translational Medicine, 2020, 12, .	5.8	60
154	Combinatorial one-pot chemoenzymatic synthesis of heparin. Carbohydrate Polymers, 2015, 122, 399-407.	5.1	59
155	Structural Snapshots of Heparin Depolymerization by Heparin Lyase I. Journal of Biological Chemistry, 2009, 284, 34019-34027.	1.6	58
156	Hyphenated techniques for the analysis of heparin and heparan sulfate. Analytical and Bioanalytical Chemistry, 2011, 399, 541-557.	1.9	58
157	Glycosaminoglycanomics of Cultured Cells Using a Rapid and Sensitive LC-MS/MS Approach. ACS Chemical Biology, 2015, 10, 1303-1310.	1.6	58
158	A novel structural fucosylated chondroitin sulfate from Holothuria Mexicana and its effects on growth factors binding and anticoagulation. Carbohydrate Polymers, 2018, 181, 1160-1168.	5.1	58
159	Polyaniline-polycaprolactone blended nanofibers for neural cell culture. European Polymer Journal, 2019, 117, 28-37.	2.6	58
160	Human Follicular Fluid Heparan Sulfate Contains Abundant 3-O-Sulfated Chains with Anticoagulant Activity. Journal of Biological Chemistry, 2008, 283, 28115-28124.	1.6	57
161	Three dimensional cellular microarray platform for human neural stem cell differentiation and toxicology. Stem Cell Research, 2014, 13, 36-47.	0.3	57
162	Cocaine Exposure Modulates Perineuronal Nets and Synaptic Excitability of Fast-Spiking Interneurons in the Medial Prefrontal Cortex. ENeuro, 2018, 5, ENEURO.0221-18.2018.	0.9	57

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163	Comparison of the Interactions of Different Growth Factors and Glycosaminoglycans. Molecules, 2019, 24, 3360.	1.7	56
164	Search for the heparin antithrombin III-binding site precursor.. Journal of Biological Chemistry, 1992, 267, 2380-2387.	1.6	55
165	Fluorous-Assisted Chemoenzymatic Synthesis of Heparan Sulfate Oligosaccharides. Organic Letters, 2014, 16, 2240-2243.	2.4	54
166	Heparin and related polysaccharides: synthesis using recombinant enzymes and metabolic engineering. Applied Microbiology and Biotechnology, 2015, 99, 7465-7479.	1.7	54
167	High Structural Resolution Hydroxyl Radical Protein Footprinting Reveals an Extended Robo1-Heparin Binding Interface. Journal of Biological Chemistry, 2015, 290, 10729-10740.	1.6	54
168	Structural characterization and anti-proliferative activities of partially degraded polysaccharides from peach gum. Carbohydrate Polymers, 2019, 203, 193-202.	5.1	54
169	High-Conductivity and High-Capacitance Electrospun Fibers for Supercapacitor Applications. ACS Applied Materials & Interfaces, 2020, 12, 19369-19376.	4.0	54
170	Extraction temperature is a decisive factor for the properties of pectin. Food Hydrocolloids, 2021, 112, 106160.	5.6	54
171	Isolation and recovery of acidic oligosaccharides from polyacrylamide gels by semi-dry electrotransfer. Electrophoresis, 1990, 11, 23-28.	1.3	53
172	Colon-targeted delivery systems for nutraceuticals: A review of current vehicles, evaluation methods and future prospects. Trends in Food Science and Technology, 2020, 102, 203-222.	7.8	53
173	Novel Celluloseâ€"Halloysite Hemostatic Nanocomposite Fibers with a Dramatic Reduction in Human Plasma Coagulation Time. ACS Applied Materials & Interfaces, 2019, 11, 15447-15456.	4.0	52
174	Extracellular matrix decorated polycaprolactone scaffolds for improved mesenchymal stem/stromal cell osteogenesis towards a patientâ€tailored bone tissue engineering approach. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2020, 108, 2153-2166.	1.6	52
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