Yoshiharu Nishiyama

List of Publications by Year
in descending order

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116 papers	15,802 citations	43973 48 h-index	19690 117 g-index
119 all docs	119 docs citations	119 times ranked	11609 citing authors

#	Article	IF	Citations
1	Crystal Structure and Hydrogen-Bonding System in Cellulose IÎ² from Synchrotron X-ray and Neutron Fiber Diffraction. Journal of the American Chemical Society, 2002, 124, 9074-9082.	6.6	2,231
2	Cellulose Nanofibers Prepared by TEMPO-Mediated Oxidation of Native Cellulose. Biomacromolecules, 2007, 8, 2485-2491.	2.6	2,015
3	Homogeneous Suspensions of Individualized Microfibrils from TEMPO-Catalyzed Oxidation of Native Cellulose. Biomacromolecules, 2006, 7, 1687-1691.	2.6	1,524
4	Crystal Structure and Hydrogen Bonding System in Cellulose IÎ±from Synchrotron X-ray and Neutron Fiber Diffraction. Journal of the American Chemical Society, 2003, 125, 14300-14306.	6.6	1,274
5	The Shape and Size Distribution of Crystalline Nanoparticles Prepared by Acid Hydrolysis of Native Cellulose. Biomacromolecules, 2008, 9, 57-65.	2.6	1,015
6	X-ray Structure of Mercerized Cellulose II at 1 Ã… Resolution. Biomacromolecules, 2001, 2, 410-416.	2.6	457
7	Structure and properties of the cellulose microfibril. Journal of Wood Science, 2009, 55, 241-249.	0.9	428
8	A Revised Structure and Hydrogen-Bonding System in Cellulose II from a Neutron Fiber Diffraction Analysis. Journal of the American Chemical Society, 1999, 121, 9940-9946.	6.6	328
9	Nanofibrillar cellulose aerogels. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2004, 240, 63-67.	2.3	306
10	Cellulose IIII Crystal Structure and Hydrogen Bonding by Synchrotron X-ray and Neutron Fiber Diffraction. Macromolecules, 2004, 37, 8548-8555.	2.2	267
11	Surface acetylation of bacterial cellulose. Cellulose, 2002, 9, 361-367.	2.4	237
12	Surface Acylation of Cellulose Whiskers by Drying Aqueous Emulsion. Biomacromolecules, 2006, 7, 696-700.	2.6	233
13	About the structure of cellulose: debating the Lindman hypothesis. Cellulose, 2012, 19, 589-598.	2.4	232
14	Rheological properties of microfibrillar suspension of TEMPO-oxidized pulp. Cellulose, 2008, 15, 425-433.	2.4	228
15	Periodic Disorder along Ramie Cellulose Microfibrils. Biomacromolecules, 2003, 4, 1013-1017.	2.6	216
16	Neutron Crystallography, Molecular Dynamics, and Quantum Mechanics Studies of the Nature of Hydrogen Bonding in Cellulose I_{Î²}. Biomacromolecules, 2008, 9, 3133-3140.	2.6	215
17	Common processes drive the thermochemical pretreatment of lignocellulosic biomass. Green Chemistry, 2014, 16, 63-68.	4.6	198
18	Role of the Putative Membrane-Bound Endo-1,4-Î²-Glucanase KORRIGAN in Cell Elongation and Cellulose Synthesis in Arabidopsis thaliana. Plant and Cell Physiology, 2001, 42, 251-263.	1.5	185

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19	Cellulose Microcrystal Film of High Uniaxial Orientation. Macromolecules, 1997, 30, 6395-6397.	2.2	180
20	Gas-Phase Surface Esterification of Cellulose Microfibrils and Whiskers. Biomacromolecules, 2009, 10, 2144-2151.	2.6	175
21	High-yield Carbonization of Cellulose by Sulfuric Acid Impregnation. Cellulose, 2001, 8, 29-33.	2.4	158
22	Mechanical properties of silk fibroin-microcrystalline cellulose composite films. Journal of Applied Polymer Science, 2002, 86, 3425-3429.	1.3	157
23	Synthesis and Stereocomplex Formation of Star-Shaped Stereoblock Polylactides Consisting of Poly(<scp>l</scp>-lactide) and Poly(<scp>d</scp>-lactide) Arms. Macromolecules, 2013, 46, 8509-8518.	2.2	103
24	Molecular Imaging ofHalocynthia papillosaCellulose. Journal of Structural Biology, 1998, 124, 42-50.	1.3	102
25	Synchrotron X-ray structures of cellulose IÎ² and regenerated cellulose II at ambient temperature and 100ÂK. Cellulose, 2005, 12, 551-562.	2.4	102
26	Thermal Decomposition of Cellulose Crystallites in Wood. Holzforschung, 2001, 55, 521-524.	0.9	99
27	Controlling molecular conformation of regenerated wild silk fibroin by aqueous ethanol treatment. Polymers for Advanced Technologies, 2003, 14, 694-698.	1.6	95
28	X-ray Structure of Ammoniaâˆ’Cellulose I:Â New Insights into the Conversion of Cellulose I to Cellulose IIII. Macromolecules, 2006, 39, 2947-2952.	2.2	94
29	Reorientation of Cellulose Nanowhiskers in Agarose Hydrogels under Tensile Loading. Biomacromolecules, 2012, 13, 850-856.	2.6	91
30	Alkali-Induced Conversion of Î²-Chitin to Î±-Chitin. Biomacromolecules, 2003, 4, 896-899.	2.6	87
31	Diffraction from nonperiodic models of cellulose crystals. Cellulose, 2012, 19, 319-336.	2.4	86
32	Role of urea in alkaline dissolution of cellulose. Cellulose, 2013, 20, 97-103.	2.4	81
33	Improved Structural Data of Cellulose IIIIPrepared in Supercritical Ammonia. Macromolecules, 2001, 34, 1237-1243.	2.2	80
34	Mechanism of mercerization revealed by X-ray diffraction. Journal of Wood Science, 2000, 46, 452-457.	0.9	77
35	X-ray Structure of Anhydrous Î²-Chitin at 1 Ã… Resolution. Macromolecules, 2011, 44, 950-957.	2.2	76
36	Graphitization of highly crystalline cellulose. Carbon, 2001, 39, 1051-1056.	5.4	75

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37	Intracrystalline Deuteration of Native Cellulose. Macromolecules, 1999, 32, 2078-2081.	2.2	70
38	Microfibrillar carbon from native cellulose. Cellulose, 2004, 11, 475-480.	2.4	65
39	X-ray Crystallographic, Scanning Microprobe X-ray Diffraction, and Cross-Polarized/Magic Angle Spinning 13C NMR Studies of the Structure of Cellulose IIII. Biomacromolecules, 2009, 10, 302-309.	2.6	63
40	Crystalline and amorphous cellulose in the secondary walls of Arabidopsis. Plant Science, 2012, 193-194, 48-61.	1.7	62
41	All Disordered Regions of Native Cellulose Show Common Low-Frequency Dynamics. Macromolecules, 2000, 33, 1834-1840.	2.2	61
42	Single Crystals of V-Amylose Complexed with Î±-Naphthol. Biomacromolecules, 2007, 8, 1319-1326.	2.6	61
43	Molecular and Crystal Structure of 7-Fold V-Amylose Complexed with 2-Propanol. Macromolecules, 2010, 43, 8628-8636.	2.2	59
44	Structural coarsening of aspen wood by hydrothermal pretreatment monitored by small- and wide-angle scattering of X-rays and neutrons on oriented specimens. Cellulose, 2014, 21, 1015-1024.	2.4	56
45	Water in Crystalline Fibers of Dihydrate Î²-Chitin Results in Unexpected Absence of Intramolecular Hydrogen Bonding. PLoS ONE, 2012, 7, e39376.	1.1	55
46	Reversible swelling of the cell wall of poplar biomass by ionic liquid at room temperature. Bioresource Technology, 2011, 102, 4518-4523.	4.8	53
47	Molecular interactions in nanocellulose assembly. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2018, 376, 20170047.	1.6	52
48	Absence of Sum Frequency Generation in Support of Orthorhombic Symmetry of Î±-Chitin. Macromolecules, 2016, 49, 7025-7031.	2.2	49
49	Structure and Thermal Behavior of a Cellulose Iâˆ’Ethylenediamine Complex. Biomacromolecules, 2008, 9, 2898-2904.	2.6	48
50	Looking at hydrogen bonds in cellulose. Acta Crystallographica Section D: Biological Crystallography, 2010, 66, 1172-1177.	2.5	48
51	Bâ†’A Allomorphic Transition in Native Starch and Amylose Spherocrystals Monitored by In Situ Synchrotron X-ray Diffraction. Biomacromolecules, 2010, 11, 76-87.	2.6	45
52	Cellulose crystals plastify by localized shear. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 7260-7265.	3.3	43
53	Inclusion Complex of Î²-Chitin and Aliphatic Amines. Biomacromolecules, 2003, 4, 944-949.	2.6	42
54	The structure of the complex of cellulose I with ethylenediamine by X-ray crystallography and cross-polarization/magic angle spinning 13C nuclear magnetic resonance. Cellulose, 2009, 16, 943-957.	2.4	42

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55	Fast and Robust Nanocellulose Width Estimation Using Turbidimetry. Macromolecular Rapid Communications, 2016, 37, 1581-1586.	2.0	40
56	Neutron crystallographic and molecular dynamics studies of the structure of ammonia-cellulose I: rearrangement of hydrogen bonding during the treatment of cellulose with ammonia. Cellulose, 2011, 18, 191-206.	2.4	39
57	Direct Determination of the Hydrogen Bonding Arrangement in Anhydrous Î²-Chitin by Neutron Fiber Diffraction. Biomacromolecules, 2012, 13, 288-291.	2.6	39
58	Linear, non-linear and plastic bending deformation of cellulose nanocrystals. Physical Chemistry Chemical Physics, 2016, 18, 19880-19887.	1.3	39
59	Quantification of a tightly adsorbed monolayer of xylan on cellulose surface. Cellulose, 2017, 24, 3725-3739.	2.4	38
60	Nanostructure and Properties of Nacre-Inspired Clay/Cellulose Nanocompositesâ€"Synchrotron X-ray Scattering Analysis. Macromolecules, 2019, 52, 3131-3140.	2.2	38
61	Morphological changes in the cellulose and lignin components of biomass occur at different stages during steam pretreatment. Cellulose, 2014, 21, 873-878.	2.4	37
62	Water cast film formability of sugarcane bagasse xylans favored by side groups. Cellulose, 2020, 27, 7307-7320.	2.4	37
63	High resolution neutron fibre diffraction data on hydrogenated and deuterated cellulose. International Journal of Biological Macromolecules, 1999, 26, 279-283.	3.6	35
64	The structure of celluloses. Powder Diffraction, 2008, 23, 92-95.	0.4	33
65	Periodate Oxidation Followed by NaBH₄ Reduction Converts Microfibrillated Cellulose into Sterically Stabilized Neutral Cellulose Nanocrystal Suspensions. Langmuir, 2018, 34, 11066-11075.	1.6	33
66	ORF2 gene involves in the construction of high-order structure of bacterial cellulose. Biochemical and Biophysical Research Communications, 2002, 295, 458-462.	1.0	32
67	Small Angle Neutron Scattering Shows Nanoscale PMMA Distribution in Transparent Wood Biocomposites. Nano Letters, 2021, 21, 2883-2890.	4.5	32
68	Surface Esterification of Cellulose by Vapor-Phase Treatment With Trifluoroacetic Anhydride. Cellulose, 2005, 12, 543-549.	2.4	31
69	Influence of finishing oil on structure and properties of multi-filament fibers from cellulose dope in NaOH/urea aqueous solution. Cellulose, 2008, 15, 81-89.	2.4	31
70	Helical Conformation in Crystalline Inclusion Complexes of Vâ€Amylose: A Historical Perspective. Macromolecular Symposia, 2011, 303, 1-9.	0.4	31
71	Time-resolved X-ray diffraction microprobe studies of the conversion of cellulose I to ethylenediamine-cellulose I. Cellulose, 2010, 17, 735-745.	2.4	30
72	IÎ±Ââ†'ÂIÎ² transition of cellulose under ultrasonic radiation. Cellulose, 2013, 20, 597-603.	2.4	30

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73	Xâ€ray crystal structure of anhydrous chitosan at atomic resolution. Biopolymers, 2016, 105, 361-368.	1.2	30
74	Alternative hydrogen bond models of cellulose II and IIII based on molecular force-fields and density functional theory. Cellulose, 2015, 22, 1485-1493.	2.4	29
75	Hydrothermal Transformation of Wood Cellulose Crystals into Pseudo-Orthorhombic Structure by Cocrystallization. ACS Macro Letters, 2016, 5, 730-734.	2.3	29
76	Supramolecular Structure and Properties of High Strength Regenerated Cellulose Films. Macromolecular Bioscience, 2009, 9, 29-35.	2.1	28
77	Translational Entropy and Dispersion Energy Jointly Drive the Adsorption of Urea to Cellulose. Journal of Physical Chemistry B, 2017, 121, 2244-2251.	1.2	28
78	Morphological changes of ramie fiber during mercerization. Journal of Wood Science, 1998, 44, 310-313.	0.9	26
79	Poly(ethylene glycol) Hydroxystearate-Based Nanosized Emulsions: Effect of Surfactant Concentration on Their Formation and Ability to Solubilize Quercetin. Journal of Biomedical Nanotechnology, 2012, 8, 202-210.	0.5	26
80	Diversity of potential hydrogen bonds in cellulose I revealed by molecular dynamics simulation. Cellulose, 2014, 21, 897-908.	2.4	26
81	Ensemble evaluation of polydisperse nanocellulose dimensions: rheology, electron microscopy, X-ray scattering and turbidimetry. Cellulose, 2017, 24, 3231-3242.	2.4	24
82	Evaluation of hydrogen bond networks in cellulose IÎ² and II crystals using density functional theory and Carâ€"Parrinello molecular dynamics. Carbohydrate Research, 2017, 449, 103-113.	1.1	24
83	Torsional Entropy at the Origin of the Reversible Temperature-Induced Phase Transition of Cellulose. Macromolecules, 2012, 45, 362-368.	2.2	23
84	Guest Selectivity in Complexation of Î²-Chitin. Macromolecules, 2004, 37, 6839-6842.	2.2	22
85	Complexation of Î±-Chitin with Aliphatic Amines. Biomacromolecules, 2005, 6, 2362-2364.	2.6	22
86	Atomic partial charges and one Lennard-Jones parameter crucial to model cellulose allomorphs. Cellulose, 2014, 21, 2207-2217.	2.4	22
87	Rapid Benzylation of Cellulose in Tetra-<i>n</i>-butylphosphonium Hydroxide Aqueous Solution at Room Temperature. ACS Sustainable Chemistry and Engineering, 2017, 5, 4505-4510.	3.2	22
88	Hydrogen-bonding network in anhydrous chitosan from neutron crystallography and periodic density functional theory calculations. Carbohydrate Polymers, 2019, 207, 211-217.	5.1	21
89	Bottom-up Construction of Xylan Nanocrystals in Dimethyl Sulfoxide. Biomacromolecules, 2021, 22, 898-906.	2.6	20
90	Structure and dynamics of a complex of cellulose with EDA: insights into the action of amines on cellulose. Cellulose, 2013, 20, 1563-1571.	2.4	18

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91	The crystal structure of mono-ethylenediamine Î²-chitin from synchrotron X-ray fiber diffraction. Carbohydrate Polymers, 2013, 92, 1737-1742.	5.1	18
92	Water-induced crystallization and nano-scale spinodal decomposition of cellulose in NMMO and ionic liquid dope. Cellulose, 2019, 26, 281-289.	2.4	18
93	Drying-induced bending deformation of cellulose nanocrystals studied by molecular dynamics simulations. Cellulose, 2020, 27, 9779-9786.	2.4	18
94	Recyclable nanocomposites of well-dispersed 2D layered silicates in cellulose nanofibril (CNF) matrix. Carbohydrate Polymers, 2022, 279, 119004.	5.1	17
95	Crystal and molecular structure of V-amylose complexed with ibuprofen. Carbohydrate Polymers, 2021, 261, 117885.	5.1	16
96	The initial structure of cellulose during ammonia pretreatment. Cellulose, 2014, 21, 1117-1126.	2.4	14
97	IÎ± to IÎ² mechano-conversion and amorphization in native cellulose simulated by crystal bending. Cellulose, 2018, 25, 4345-4355.	2.4	14
98	Origin of hydrophilicity of cellulose hydrogel from aqueous LiOH/urea solvent coagulated with alkyl alcohols. Cellulose, 2014, 21, 1043-1050.	2.4	13
99	Distinguishing Mesoscale Polar Order (Unidirectional vs Bidirectional) of Cellulose Microfibrils in Plant Cell Walls Using Sum Frequency Generation Spectroscopy. Journal of Physical Chemistry B, 2020, 124, 8071-8081.	1.2	13
100	Time-Dependent Elastic Tensor of Cellulose Nanocrystal Probed by Hydrostatic Pressure and Uniaxial Stretching. Journal of Physical Chemistry Letters, 2021, 12, 3779-3785.	2.1	12
101	Quantifying the influence of dispersion interactions on the elastic properties of crystalline cellulose. Cellulose, 2021, 28, 10777-10786.	2.4	12
102	Process-dependent nanostructures of regenerated cellulose fibres revealed by small angle neutron scattering. Polymer, 2021, 218, 123510.	1.8	11
103	The molecular structure and solution conformation of an acidic heteropolysaccharide from <i>Auricularia auriculaâ€judae</i>. Biopolymers, 2011, 95, 217-227.	1.2	10
104	X-ray texture analysis indicates downward spinning of chitin microfibrils in tubeworm tube. Journal of Structural Biology, 2013, 184, 212-216.	1.3	10
105	Oligocellulose from acid hydrolysis: A revisit. Applied Surface Science, 2021, 537, 147783.	3.1	9
106	Competing Molecular Packing of Blocks in a Lamella-Forming Carbohydrate-<i>block</i>-poly(3-hexylthiophene) Copolymer. Macromolecules, 2020, 53, 9054-9064.	2.2	8
107	Twisted pseudo-tetragonal orthorhombic lamellar crystal in cellulose/ionic liquid spherulite. Cellulose, 2020, 27, 5449-5455.	2.4	8
108	Quantifying the Contribution of the Dispersion Interaction and Hydrogen Bonding to the Anisotropic Elastic Properties of Chitin and Chitosan. Biomacromolecules, 2022, 23, 1633-1642.	2.6	7

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109	Molecular Interactions in an Î±-Chitin/Hydrazine Complex: Dynamic Hydrogen Bonds and Improvement of Polymeric Crystallinity. Crystal Growth and Design, 2016, 16, 3345-3352.	1.4	6
110	Solidâ€"solvent molecular interactions observed in crystal structures of Î²-chitin complexes. Cellulose, 2014, 21, 1007-1014.	2.4	5
111	Solvent-Assisted Fractionation of Oligomeric Cellulose and Reversible Transformation of Cellulose II and IV. ACS Biomaterials Science and Engineering, 2021, 7, 4792-4797.	2.6	4
112	Fivefold Helical Cellulose Trapped in a Sulfuric Acid Framework. Crystal Growth and Design, 2022, 22, 20-25.	1.4	4
113	Direct Evidence for Aligned Binding of Cellulase Enzymes to Cellulose Surfaces. Journal of Physical Chemistry Letters, 2021, 12, 10684-10688.	2.1	3
114	Intermediate States of Aqueous Solution of Agarose on Quasi-Static Cooling. Journal of Fiber Science and Technology, 2005, 61, 191-195.	0.0	2
115	Surface sulfation of crab chitin for anisotropic swelling and nanodispersion. Cellulose, 2022, 29, 7099-7109.	2.4	2
116	Combining computational and experimental studies for a better understanding of cellulose and its analogs. Advances in Carbohydrate Chemistry and Biochemistry, 2021, 80, 1-14.	0.4	1