Yoshiharu Nishiyama

List of Articles by Year
in descending order

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141 peer-reviewed articles	15,479 peer-reviewed citations	51021 47 peer-reviewed h-index	776585 3.07 score
148 documents	17817 doc citations	61181 48 h-index	18581 citing authors

#	Article	IF	Citations
1	Structure factors of random hard disk packing in 2D by explicit modeling. Journal of Applied Crystallography, 2025, 58, 1015-1021.	1.7	5
2	Visualization of Cellulose Structures with Cesium Labeling and Cryo-STEM. Small, 2025, 21, .	7.3	0
3	Nonclassical Crystal Growth of Supramolecular Polymers in Aqueous Medium. Small, 2024, 20, .	7.3	16
4	Multiscale structure of cellulose microfibrils in regenerated cellulose fibers. Carbohydrate Polymers, 2024, 324, 121512.	9.9	34
5	Influence on the structure and the molecular mobility of cellulose–diamine complexes studied by a multiscale experimental approach. Cellulose, 2024, 31, 2713-2727.	3.1	0
6	Structural changes during heterogeneous sulfation and following homogenization of cotton cellulose. Cellulose, 2024, 31, 2729-2742.	3.1	2
7	Poly-eugenol grafting from cellulose surface for robust antioxidation. Food Hydrocolloids, 2024, 156, 110296.	11.0	5
8	Processing strategy for reduced energy demand of nanostructured CNF/clay composites with tailored interfaces. Carbohydrate Polymers, 2023, 312, 120788.	9.9	16
9	Structural Anisotropy Governs the Kink Formation in Cellulose Nanocrystals. Journal of Physical Chemistry Letters, 2023, 14, 3961-3969.	2.9	20
10	The occurrence of seven-fold helical molecular conformation in cellulose-phosphoric acid complex. Cellulose, 2023, 30, 8063-8073.	3.1	3
11	The major role of London dispersion interaction in the assembly of cellulose, chitin, and chitosan. Cellulose, 2023, 30, 8127-8138.	3.1	28
12	Thermodynamics of the swelling work of wood and non-ionic polysaccharides: A revisit. Carbohydrate Polymers, 2023, 320, 121227.	9.9	9
13	Quantitative analysis of the formation of monodisperse cello-oligomers obtained by phosphoric acid hydrolysis. Cellulose, 2023, 30, 8235-8243.	3.1	4
14	Mesostructural changes in cellulose within wood cell wall upon hydrothermal treatment at 200 °C. Cellulose, 2023, 30, 8405-8413.	3.1	7
15	Comparative analysis of molecular weight determination techniques for cellulose oligomers. Cellulose, 2023, 30, 8245-8258.	3.1	6
16	Residual Strain and Nanostructural Effects during Drying of Nanocellulose/Clay Nanosheet Hybrids: Synchrotron X-ray Scattering Results. ACS Nano, 2023, 17, 15810-15820.	11.5	16
17	Vapour-induced phase transformation in ultrathin cellulose films. Cellulose, 2023, 30, 8161-8167.	3.1	0
18	Planar and uniplanar orientation in nanocellulose films: interpretation of 2D diffraction patterns step-by-step. Cellulose, 2023, 30, 8151-8159.	3.1	12

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19	Fivefold Helical Cellulose Trapped in a Sulfuric Acid Framework. Crystal Growth and Design, 2022, 22, 20-25.	2.4	10
20	Recyclable nanocomposites of well-dispersed 2D layered silicates in cellulose nanofibril (CNF) matrix. Carbohydrate Polymers, 2022, 279, 119004.	9.9	33
21	Crystal and molecular structure of V-amylose complexed with butan-1-ol. Polymer, 2022, 243, 124651.	3.4	6
22	Quantifying the Contribution of the Dispersion Interaction and Hydrogen Bonding to the Anisotropic Elastic Properties of Chitin and Chitosan. Biomacromolecules, 2022, 23, 1633-1642.	3.8	23
23	Surface sulfation of crab chitin for anisotropic swelling and nanodispersion. Cellulose, 2022, 29, 7099-7109.	3.1	8
24	Crystallography of polysaccharides: Current state and challenges. Current Opinion in Chemical Biology, 2022, 70, 102183.	4.6	15
25	Edge-On (Cellulose II) and Face-On (Cellulose I) Adsorption of Cellulose Nanocrystals at the Oil–Water Interface: A Combined Entropic and Enthalpic Process. Biomacromolecules, 2022, 23, 3517-3524.	3.8	17
26	Untangling the threads of cellulose mercerization. Nature Communications, 2022, 13, .	10.8	65
27	Helical Inclusion Complexes of Amylose with Aromatic Compounds: Crystallographic Evidence for New V-Type Allomorphs. Crystal Growth and Design, 2022, 22, 7079-7089.	2.4	12
28	Oligocellulose from acid hydrolysis: A revisit. Applied Surface Science, 2021, 537, 147783.	5.1	15
29	Process-dependent nanostructures of regenerated cellulose fibres revealed by small angle neutron scattering. Polymer, 2021, 218, 123510.	3.4	17
30	Small Angle Neutron Scattering Shows Nanoscale PMMA Distribution in Transparent Wood Biocomposites. Nano Letters, 2021, 21, 2883-2890.	6.2	59
31	Time-Dependent Elastic Tensor of Cellulose Nanocrystal Probed by Hydrostatic Pressure and Uniaxial Stretching. Journal of Physical Chemistry Letters, 2021, 12, 3779-3785.	2.9	20
32	Crystal and molecular structure of V-amylose complexed with ibuprofen. Carbohydrate Polymers, 2021, 261, 117885.	9.9	23
33	Solvent-Assisted Fractionation of Oligomeric Cellulose and Reversible Transformation of Cellulose II and IV. ACS Biomaterials Science and Engineering, 2021, 7, 4792-4797.	3.9	7
34	Bottom-up Construction of Xylan Nanocrystals in Dimethyl Sulfoxide. Biomacromolecules, 2021, 22, 898-906.	3.8	35
35	Quantifying the influence of dispersion interactions on the elastic properties of crystalline cellulose. Cellulose, 2021, 28, 10777-10786.	3.1	29
36	Direct Evidence for Aligned Binding of Cellulase Enzymes to Cellulose Surfaces. Journal of Physical Chemistry Letters, 2021, 12, 10684-10688.	2.9	11

#	Article	IF	Citations
37	Retrieving structural information from scattering and attenuation data of transparent wood and (Nano)paper. Journal of Bioresources and Bioproducts, 2021, 6, 187-194.	5.8	25
38	Competing Molecular Packing of Blocks in a Lamella-Forming Carbohydrate-block-poly(3-hexylthiophene) Copolymer. Macromolecules, 2020, 53, 9054-9064.	3.7	13
39	Water cast film formability of sugarcane bagasse xylans favored by side groups. Cellulose, 2020, 27, 7307-7320.	3.1	54
40	Drying-induced bending deformation of cellulose nanocrystals studied by molecular dynamics simulations. Cellulose, 2020, 27, 9779-9786.	3.1	34
41	Supramolecular Assembly and Chirality of Synthetic Carbohydrate Materials. Angewandte Chemie, 2020, 132, 22766-22772.	0.9	15
42	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.	2.0	20
43	Twisted pseudo-tetragonal orthorhombic lamellar crystal in cellulose/ionic liquid spherulite. Cellulose, 2020, 27, 5449-5455.	3.1	10
44	Changes in Crystal Structure of Cellulose in Hardwood Cell Walls by Hydrothermal Treatment at 200 °C under 1.6 Mpa. Mokuzai Gakkai Shi, 2019, 65, 212-217.	0.2	1
45	Nanostructure and Properties of Nacre-Inspired Clay/Cellulose Nanocomposites—Synchrotron X-ray Scattering Analysis. Macromolecules, 2019, 52, 3131-3140.	3.7	49
46	Ultrastructural Characterization of the Core–Shell Structure of a Wide Range of Periodate-Oxidized Cellulose from Different Native Sources by Solid-State 13C CP-MAS NMR. ACS Sustainable Chemistry and Engineering, 2019, 7, 412-420.	5.3	51
47	Hydrogen-bonding network in anhydrous chitosan from neutron crystallography and periodic density functional theory calculations. Carbohydrate Polymers, 2019, 207, 211-217.	9.9	37
48	Cellulose crystals plastify by localized shear. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 7260-7265.	5.2	56
49	Iα to Iβ mechano-conversion and amorphization in native cellulose simulated by crystal bending. Cellulose, 2018, 25, 4345-4355.	3.1	17
50	Periodate Oxidation Followed by NaBH4 Reduction Converts Microfibrillated Cellulose into Sterically Stabilized Neutral Cellulose Nanocrystal Suspensions. Langmuir, 2018, 34, 11066-11075.	3.0	54
51	Water-induced crystallization and nano-scale spinodal decomposition of cellulose in NMMO and ionic liquid dope. Cellulose, 2018, 26, 281-289.	3.1	25
52	Translational Entropy and Dispersion Energy Jointly Drive the Adsorption of Urea to Cellulose. Journal of Physical Chemistry B, 2017, 121, 2244-2251.	2.0	34
53	Rapid Benzylation of Cellulose in Tetra-n-butylphosphonium Hydroxide Aqueous Solution at Room Temperature. ACS Sustainable Chemistry and Engineering, 2017, 5, 4505-4510.	5.3	26
54	Ensemble evaluation of polydisperse nanocellulose dimensions: rheology, electron microscopy, X-ray scattering and turbidimetry. Cellulose, 2017, 24, 3231-3242.	3.1	29

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55	Quantification of a tightly adsorbed monolayer of xylan on cellulose surface. Cellulose, 2017, 24, 3725-3739.	3.1	49
56	Evaluation of hydrogen bond networks in cellulose Iβ and II crystals using density functional theory and Car–Parrinello molecular dynamics. Carbohydrate Research, 2017, 449, 103-113.	2.2	33
57	Linear, non-linear and plastic bending deformation of cellulose nanocrystals. Physical Chemistry Chemical Physics, 2016, 18, 19880-19887.	2.0	43
58	Molecular Interactions in an α-Chitin/Hydrazine Complex: Dynamic Hydrogen Bonds and Improvement of Polymeric Crystallinity. Crystal Growth and Design, 2016, 16, 3345-3352.	2.4	7
59	Fast and Robust Nanocellulose Width Estimation Using Turbidimetry. Macromolecular Rapid Communications, 2016, 37, 1581-1586.	2.8	58
60	Absence of Sum Frequency Generation in Support of Orthorhombic Symmetry of α-Chitin. Macromolecules, 2016, 49, 7025-7031.	3.7	72
61	Hydrothermal Transformation of Wood Cellulose Crystals into Pseudo-Orthorhombic Structure by Cocrystallization. ACS Macro Letters, 2016, 5, 730-734.	3.2	39
62	X-ray crystal structure of anhydrous chitosan at atomic resolution. Biopolymers, 2016, 105, 361-368.	1.5	46
63	Alternative hydrogen bond models of cellulose II and IIII based on molecular force-fields and density functional theory. Cellulose, 2015, 22, 1485-1493.	3.1	38
64	Morphological changes in the cellulose and lignin components of biomass occur at different stages during steam pretreatment. Cellulose, 2014, 21, 873-878.	3.1	38
65	Common processes drive the thermochemical pretreatment of lignocellulosic biomass. Green Chemistry, 2014, 16, 63-68.	7.6	233
66	The initial structure of cellulose during ammonia pretreatment. Cellulose, 2014, 21, 1117-1126.	3.1	15
67	Atomic partial charges and one Lennard-Jones parameter crucial to model cellulose allomorphs. Cellulose, 2014, 21, 2207-2217.	3.1	34
68	Iα → Iβ transition of cellulose under ultrasonic radiation. Cellulose, 2013, 20, 597-603.	3.1	31
69	Synthesis and Stereocomplex Formation of Star-Shaped Stereoblock Polylactides Consisting of Poly(l-lactide) and Poly(d-lactide) Arms. Macromolecules, 2013, 46, 8509-8518.	3.7	108
70	Structure and dynamics of a complex of cellulose with EDA: insights into the action of amines on cellulose. Cellulose, 2013, 20, 1563-1571.	3.1	24
71	X-ray texture analysis indicates downward spinning of chitin microfibrils in tubeworm tube. Journal of Structural Biology, 2013, 184, 212-216.	1.5	13
72	The crystal structure of mono-ethylenediamine β-chitin from synchrotron X-ray fiber diffraction. Carbohydrate Polymers, 2013, 92, 1737-1742.	9.9	19

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73	Role of urea in alkaline dissolution of cellulose. Cellulose, 2013, 20, 97-103.	3.1	95
74	Diversity of potential hydrogen bonds in cellulose I revealed by molecular dynamics simulation. Cellulose, 2013, 21, 897-908.	3.1	32
75	Origin of hydrophilicity of cellulose hydrogel from aqueous LiOH/urea solvent coagulated with alkyl alcohols. Cellulose, 2013, 21, 1043-1050.	3.1	20
76	Structural coarsening of aspen wood by hydrothermal pretreatment monitored by small- and wide-angle scattering of X-rays and neutrons on oriented specimens. Cellulose, 2013, 21, 1015-1024.	3.1	71
77	Solid–solvent molecular interactions observed in crystal structures of β-chitin complexes. Cellulose, 2013, 21, 1007-1014.	3.1	5
78	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.	0.2	26
79	Crystalline and amorphous cellulose in the secondary walls of Arabidopsis. Plant Science, 2012, 193-194, 48-61.	3.0	82
80	Reorientation of Cellulose Nanowhiskers in Agarose Hydrogels under Tensile Loading. Biomacromolecules, 2012, 13, 850-856.	3.8	96
81	Water in Crystalline Fibers of Dihydrate β-Chitin Results in Unexpected Absence of Intramolecular Hydrogen Bonding. PLoS ONE, 2012, 7, e39376.	1.5	62
82	About the structure of cellulose: debating the Lindman hypothesis. Cellulose, 2012, 19, 589-598.	3.1	270
83	Torsional Entropy at the Origin of the Reversible Temperature-Induced Phase Transition of Cellulose. Macromolecules, 2012, 45, 362-368.	3.7	24
84	Diffraction from nonperiodic models of cellulose crystals. Cellulose, 2012, 19, 319-336.	3.1	93
85	X-ray Structure of Anhydrous β-Chitin at 1 Å Resolution. Macromolecules, 2011, 44, 950-957.	3.7	98
86	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.	3.1	43
87	The molecular structure and solution conformation of an acidic heteropolysaccharide from Auricularia auricula-judae. Biopolymers, 2011, 95, 217-227.	1.5	11
88	Reversible swelling of the cell wall of poplar biomass by ionic liquid at room temperature. Bioresource Technology, 2011, 102, 4518-4523.	6.4	56
89	Helical Conformation in Crystalline Inclusion Complexes of V-Amylose: A Historical Perspective. Macromolecular Symposia, 2011, 303, 1-9.	0.7	34
90	Time-resolved X-ray diffraction microprobe studies of the conversion of cellulose I to ethylenediamine-cellulose I. Cellulose, 2010, 17, 735-745.	3.1	34

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91	Looking at hydrogen bonds in cellulose. Acta Crystallographica Section D: Biological Crystallography, 2010, 66, 1172-1177.	3.1	54
92	B→A Allomorphic Transition in Native Starch and Amylose Spherocrystals Monitored by In Situ Synchrotron X-ray Diffraction. Biomacromolecules, 2010, 11, 76-87.	3.8	49
93	Molecular and Crystal Structure of 7-Fold V-Amylose Complexed with 2-Propanol. Macromolecules, 2010, 43, 8628-8636.	3.7	70
94	Supramolecular Structure and Properties of High Strength Regenerated Cellulose Films. Macromolecular Bioscience, 2009, 9, 29-35.	2.7	34
95	Structure and properties of the cellulose microfibril. Journal of Wood Science, 2009, 55, 241-249.	1.7	520
96	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.	3.1	46
97	Gas-Phase Surface Esterification of Cellulose Microfibrils and Whiskers. Biomacromolecules, 2009, 10, 2144-2151.	3.8	192
98	X-ray Crystallographic, Scanning Microprobe X-ray Diffraction, and Cross-Polarized/Magic Angle Spinning 13C NMR Studies of the Structure of Cellulose IIIII. Biomacromolecules, 2009, 10, 302-309.	3.8	75
99	The relationship between lignin and morphological characteristics of the tracheary elements from cacao(Theobroma cacao L.) Hulls. Journal of Plant Biology, 2008, 51, 139-144.	1.6	5
100	Neutron Crystallography, Molecular Dynamics, and Quantum Mechanics Studies of the Nature of Hydrogen Bonding in Cellulose Iβ. Biomacromolecules, 2008, 9, 3133-3140.	3.8	245
101	The Shape and Size Distribution of Crystalline Nanoparticles Prepared by Acid Hydrolysis of Native Cellulose. Biomacromolecules, 2008, 9, 57-65.	3.8	1,132
102	Structure and Thermal Behavior of a Cellulose I–Ethylenediamine Complex. Biomacromolecules, 2008, 9, 2898-2904.	3.8	55
103	Single Crystals of V-Amylose Complexed with α-Naphthol. Biomacromolecules, 2007, 8, 1319-1326.	3.8	67
104	Cellulose Nanofibers Prepared by TEMPO-Mediated Oxidation of Native Cellulose. Biomacromolecules, 2007, 8, 2485-2491.	3.8	2,415
105	Influence of finishing oil on structure and properties of multi-filament fibers from cellulose dope in NaOH/urea aqueous solution. Cellulose, 2007, 15, 81-89.	3.1	32
106	Rheological properties of microfibrillar suspension of TEMPO-oxidized pulp. Cellulose, 2007, 15, 425-433.	3.1	252
107	X-ray Structure of Ammonia–Cellulose I: New Insights into the Conversion of Cellulose I to Cellulose IIII. Macromolecules, 2006, 39, 2947-2952.	3.7	106
108	Homogeneous Suspensions of Individualized Microfibrils from TEMPO-Catalyzed Oxidation of Native Cellulose. Biomacromolecules, 2006, 7, 1687-1691.	3.8	1,722

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109	Surface Acylation of Cellulose Whiskers by Drying Aqueous Emulsion. Biomacromolecules, 2006, 7, 696-700.	3.8	249
110	Surface Esterification of Cellulose by Vapor-Phase Treatment With Trifluoroacetic Anhydride. Cellulose, 2005, 12, 543-549.	3.1	34
111	Synchrotron X-ray structures of cellulose Iβ and regenerated cellulose II at ambient temperature and 100 K. Cellulose, 2005, 12, 551-562.	3.1	114
112	Intermediate States of Aqueous Solution of Agarose on Quasi-Static Cooling. Journal of Fiber Science and Technology, 2005, 61, 191-195.	0.1	2
113	Microfibrillar carbon from native cellulose. Cellulose, 2004, 11, 475-480.	3.1	70
114	Nanofibrillar cellulose aerogels. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2004, 240, 63-67.	4.2	331
115	Guest Selectivity in Complexation of β-Chitin. Macromolecules, 2004, 37, 6839-6842.	3.7	25
116	Cellulose IIII Crystal Structure and Hydrogen Bonding by Synchrotron X-ray and Neutron Fiber Diffraction. Macromolecules, 2004, 37, 8548-8555.	3.7	305
117	Crystal Structure and Hydrogen Bonding System in Cellulose Iαfrom Synchrotron X-ray and Neutron Fiber Diffraction. Journal of the American Chemical Society, 2003, 125, 14300-14306.	11.7	1,488
118	Controlling molecular conformation of regenerated wild silk fibroin by aqueous ethanol treatment. Polymers for Advanced Technologies, 2003, 14, 694-698.	2.6	102
119	Inclusion Complex of β-Chitin and Aliphatic Amines. Biomacromolecules, 2003, 4, 944-949.	3.8	48
120	Periodic Disorder along Ramie Cellulose Microfibrils. Biomacromolecules, 2003, 4, 1013-1017.	3.8	244
121	Alkali-Induced Conversion of β-Chitin to α-Chitin. Biomacromolecules, 2003, 4, 896-899.	3.8	96
122	ORF2 gene involves in the construction of high-order structure of bacterial cellulose. Biochemical and Biophysical Research Communications, 2002, 295, 458-462.	1.5	35
123	Mechanical properties of silk fibroin-microcrystalline cellulose composite films. Journal of Applied Polymer Science, 2002, 86, 3425-3429.	2.0	172
124	Crystal Structure and Hydrogen-Bonding System in Cellulose Iβ from Synchrotron X-ray and Neutron Fiber Diffraction. Journal of the American Chemical Society, 2002, 124, 9074-9082.	11.7	2,645
125	Title is missing!. Cellulose, 2002, 9, 361-367.	3.1	257
126	X-ray Structure of Mercerized Cellulose II at 1 Å Resolution. Biomacromolecules, 2001, 2, 410-416.	3.8	551

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127	Improved Structural Data of Cellulose IIIIPrepared in Supercritical Ammonia. Macromolecules, 2001, 34, 1237-1243.	3.7	86
128	Graphitization of highly crystalline cellulose. Carbon, 2001, 39, 1051-1056.	8.6	85
129	Title is missing!. Cellulose, 2001, 8, 29-33.	3.1	175
130	Thermal Decomposition of Cellulose Crystallites in Wood. Holzforschung, 2001, 55, 521-524.	1.1	116
131	Role of the Putative Membrane-Bound Endo-1,4-β-Glucanase KORRIGAN in Cell Elongation and Cellulose Synthesis in Arabidopsis thaliana. Plant and Cell Physiology, 2001, 42, 251-263.	2.5	187
132	Mechanism of mercerization revealed by X-ray diffraction. Journal of Wood Science, 2000, 46, 452-457.	1.7	90
133	All Disordered Regions of Native Cellulose Show Common Low-Frequency Dynamics. Macromolecules, 2000, 33, 1834-1840.	3.7	67
134	Intracrystalline Deuteration of Native Cellulose. Macromolecules, 1999, 32, 2078-2081.	3.7	71
135	High resolution neutron fibre diffraction data on hydrogenated and deuterated cellulose. International Journal of Biological Macromolecules, 1999, 26, 279-283.	5.6	36
136	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.	11.7	365
137	Morphological changes of ramie fiber during mercerization. Journal of Wood Science, 1998, 44, 310-313.	1.7	28
138	Molecular Imaging ofHalocynthia papillosaCellulose. Journal of Structural Biology, 1998, 124, 42-50.	1.5	111
139	Regulating supramolecular structure to enhance the ductility of regenerated cellulose films from ionic liquid solution. Carbohydrate Polymers, 0, 371, 124506.	9.9	7
140	Right-Handed Chiral Photonic Cellulose Nanocrystal Films. ACS Nano, 0, 19, 42941-42950.	11.5	7
141	Regenerated cellulose film combining high strength and toughness prepared by synergistic plasticization and freeze-thaw structuring. Carbohydrate Polymers, 0, 389, 125620.	9.9	0