Yoshiharu Nishiyama

List of Publications by Citations

114 papers	13,084 citations	45 h-index	114 g-index
119 ext. papers	14,422 ext. citations	5.8 avg, IF	6.44 L-index

#	Paper	IF	Citations
114	Crystal structure and hydrogen-bonding system in cellulose Ibeta from synchrotron X-ray and neutron fiber diffraction. *Journal of the American Chemical Society*, **2002**, 124, 9074-82	16.4	1813
113	Cellulose nanofibers prepared by TEMPO-mediated oxidation of native cellulose. *Biomacromolecules*, **2007**, 8, 2485-91	6.9	1637
112	Homogeneous suspensions of individualized microfibrils from TEMPO-catalyzed oxidation of native cellulose. *Biomacromolecules*, **2006**, 7, 1687-91	6.9	1291
111	Crystal structure and hydrogen bonding system in cellulose I(alpha) from synchrotron X-ray and neutron fiber diffraction. *Journal of the American Chemical Society*, **2003**, 125, 14300-6	16.4	1104
110	The shape and size distribution of crystalline nanoparticles prepared by acid hydrolysis of native cellulose. *Biomacromolecules*, **2008**, 9, 57-65	6.9	892
109	X-ray structure of mercerized cellulose II at 1 a resolution. *Biomacromolecules*, **2001**, 2, 410-6	6.9	372
108	Structure and properties of the cellulose microfibril. *Journal of Wood Science*, **2009**, 55, 241-249	2.4	349
107	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	16.4	275
106	Nanofibrillar cellulose aerogels. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **2004**, 240, 63-67	5.1	265
105	Cellulose IIII Crystal Structure and Hydrogen Bonding by Synchrotron X-ray and Neutron Fiber Diffraction. *Macromolecules*, **2004**, 37, 8548-8555	5.5	222
104	Surface acylation of cellulose whiskers by drying aqueous emulsion. *Biomacromolecules*, **2006**, 7, 696-700	6.9	214
103	Surface acetylation of bacterial cellulose. *Cellulose*, **2002**, 9, 361-367	5.5	211
102	About the structure of cellulose: debating the Lindman hypothesis. *Cellulose*, **2012**, 19, 589-598	5.5	198
101	Rheological properties of microfibrillar suspension of TEMPO-oxidized pulp. *Cellulose*, **2008**, 15, 425-433	5.5	194
100	Neutron crystallography, molecular dynamics, and quantum mechanics studies of the nature of hydrogen bonding in cellulose Ibeta. *Biomacromolecules*, **2008**, 9, 3133-40	6.9	186
99	Periodic disorder along ramie cellulose microfibrils. *Biomacromolecules*, **2003**, 4, 1013-7	6.9	183
98	Role of the putative membrane-bound endo-1,4-beta-glucanase KORRIGAN in cell elongation and cellulose synthesis in Arabidopsis thaliana. *Plant and Cell Physiology*, **2001**, 42, 251-63	4.9	178

97	Common processes drive the thermochemical pretreatment of lignocellulosic biomass. *Green Chemistry*, **2014**, 16, 63-68	10	159
96	Cellulose Microcrystal Film of High Uniaxial Orientation. *Macromolecules*, **1997**, 30, 6395-6397	5.5	157
95	Gas-phase surface esterification of cellulose microfibrils and whiskers. *Biomacromolecules*, **2009**, 10, 2144-51	6.9	153
94	Mechanical properties of silk fibroin□icrocrystalline cellulose composite films. *Journal of Applied Polymer Science*, **2002**, 86, 3425-3429	2.9	136
93	High-yield Carbonization of Cellulose by Sulfuric Acid Impregnation. *Cellulose*, **2001**, 8, 29-33	5.5	128
92	Synthesis and Stereocomplex Formation of Star-Shaped Stereoblock Polylactides Consisting of Poly(l-lactide) and Poly(d-lactide) Arms. *Macromolecules*, **2013**, 46, 8509-8518	5.5	90
91	Synchrotron X-ray structures of cellulose I□and regenerated cellulose II at ambient temperature and 100 K. *Cellulose*, **2005**, 12, 551-562	5.5	90
90	Controlling molecular conformation of regenerated wild silk fibroin by aqueous ethanol treatment. *Polymers for Advanced Technologies*, **2003**, 14, 694-698	3.2	87
89	Molecular imaging of halocynthia papillosa cellulose. *Journal of Structural Biology*, **1998**, 124, 42-50	3.4	85
88	X-ray Structure of Ammonia□ellulose I: New Insights into the Conversion of Cellulose I to Cellulose IIII. *Macromolecules*, **2006**, 39, 2947-2952	5.5	82
87	Thermal Decomposition of Cellulose Crystallites in Wood. *Holzforschung*, **2001**, 55, 521-524	2	79
86	Alkali-induced conversion of beta-chitin to alpha-chitin. *Biomacromolecules*, **2003**, 4, 896-9	6.9	78
85	Diffraction from nonperiodic models of cellulose crystals. *Cellulose*, **2012**, 19, 319-336	5.5	77
84	Reorientation of cellulose nanowhiskers in agarose hydrogels under tensile loading. *Biomacromolecules*, **2012**, 13, 850-6	6.9	77
83	Improved Structural Data of Cellulose IIII Prepared in Supercritical Ammonia. *Macromolecules*, **2001**, 34, 1237-1243	5.5	71
82	Graphitization of highly crystalline cellulose. *Carbon*, **2001**, 39, 1051-1056	10.4	64
81	Intracrystalline Deuteration of Native Cellulose. *Macromolecules*, **1999**, 32, 2078-2081	5.5	64
80	X-ray Structure of Anhydrous □Chitin at 1 □Resolution. *Macromolecules*, **2011**, 44, 950-957	5.5	62

79	Role of urea in alkaline dissolution of cellulose. *Cellulose*, **2013**, 20, 97-103	5.5	61
78	Microfibrillar carbon from native cellulose. *Cellulose*, **2004**, 11, 475-480	5.5	60
77	Mechanism of mercerization revealed by X-ray diffraction. *Journal of Wood Science*, **2000**, 46, 452-457	2.4	58
76	All Disordered Regions of Native Cellulose Show Common Low-Frequency Dynamics. *Macromolecules*, **2000**, 33, 1834-1840	5.5	55
75	Single crystals of V-amylose complexed with alpha-naphthol. *Biomacromolecules*, **2007**, 8, 1319-26	6.9	52
74	Molecular and Crystal Structure of 7-Fold V-Amylose Complexed with 2-Propanol. *Macromolecules*, **2010**, 43, 8628-8636	5.5	49
73	Water in crystalline fibers of dihydrate β-chitin results in unexpected absence of intramolecular hydrogen bonding. *PLoS ONE*, **2012**, 7, e39376	3.7	47
72	Reversible swelling of the cell wall of poplar biomass by ionic liquid at room temperature. *Bioresource Technology*, **2011**, 102, 4518-23	11	46
71	Looking at hydrogen bonds in cellulose. *Acta Crystallographica Section D: Biological Crystallography*, **2010**, 66, 1172-7		46
70	X-ray crystallographic, scanning microprobe X-ray diffraction, and cross-polarized/magic angle spinning 13C NMR studies of the structure of cellulose III(II). *Biomacromolecules*, **2009**, 10, 302-9	6.9	45
69	Crystalline and amorphous cellulose in the secondary walls of Arabidopsis. *Plant Science*, **2012**, 193-194, 48-61	5.3	42
68	B-->A Allomorphic transition in native starch and amylose spherocrystals monitored by in situ synchrotron X-ray diffraction. *Biomacromolecules*, **2010**, 11, 76-87	6.9	42
67	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	5.5	41
66	Structure and thermal behavior of a cellulose I-ethylenediamine complex. *Biomacromolecules*, **2008**, 9, 2898-904	6.9	38
65	Inclusion complex of beta-chitin and aliphatic amines. *Biomacromolecules*, **2003**, 4, 944-9	6.9	37
64	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	5.5	35
63	Linear, non-linear and plastic bending deformation of cellulose nanocrystals. *Physical Chemistry Chemical Physics*, **2016**, 18, 19880-7	3.6	34
62	Absence of Sum Frequency Generation in Support of Orthorhombic Symmetry of β-Chitin. *Macromolecules*, **2016**, 49, 7025-7031	5.5	33

61	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	5.5	33
60	Fast and Robust Nanocellulose Width Estimation Using Turbidimetry. *Macromolecular Rapid Communications*, **2016**, 37, 1581-1586	4.8	32
59	Direct determination of the hydrogen bonding arrangement in anhydrous β-chitin by neutron fiber diffraction. *Biomacromolecules*, **2012**, 13, 288-91	6.9	32
58	Molecular interactions in nanocellulose assembly. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2018**, 376,	3	31
57	Morphological changes in the cellulose and lignin components of biomass occur at different stages during steam pretreatment. *Cellulose*, **2014**, 21, 873-878	5.5	31
56	ORF2 gene involves in the construction of high-order structure of bacterial cellulose. *Biochemical and Biophysical Research Communications*, **2002**, 295, 458-62	3.4	31
55	The structure of celluloses. *Powder Diffraction*, **2008**, 23, 92-95	1.8	28
54	Surface Esterification of Cellulose by Vapor-Phase Treatment With Trifluoroacetic Anhydride. *Cellulose*, **2005**, 12, 543-549	5.5	28
53	Translational Entropy and Dispersion Energy Jointly Drive the Adsorption of Urea to Cellulose. *Journal of Physical Chemistry B*, **2017**, 121, 2244-2251	3.4	26
52	Supramolecular structure and properties of high strength regenerated cellulose films. *Macromolecular Bioscience*, **2009**, 9, 29-35	5.5	26
51	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	5.5	26
50	Nanostructure and Properties of Nacre-Inspired Clay/Cellulose Nanocomposites by Synchrotron X-ray Scattering Analysis. *Macromolecules*, **2019**, 52, 3131-3140	5.5	25
49	Cellulose crystals plastify by localized shear. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 7260-7265	11.5	25
48	High resolution neutron fibre diffraction data on hydrogenated and deuterated cellulose. *International Journal of Biological Macromolecules*, **1999**, 26, 279-83	7.9	25
47	Quantification of a tightly adsorbed monolayer of xylan on cellulose surface. *Cellulose*, **2017**, 24, 3725-3739	5.5	23
46	Periodate Oxidation Followed by NaBH Reduction Converts Microfibrillated Cellulose into Sterically Stabilized Neutral Cellulose Nanocrystal Suspensions. *Langmuir*, **2018**, 34, 11066-11075	4	22
45	Diversity of potential hydrogen bonds in cellulose I revealed by molecular dynamics simulation. *Cellulose*, **2014**, 21, 897-908	5.5	22
44	Helical Conformation in Crystalline Inclusion Complexes of V-Amylose: A Historical Perspective. *Macromolecular Symposia*, **2011**, 303, 1-9	0.8	22

43	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, 202-10	4	22
42	Morphological changes of ramie fiber during mercerization. *Journal of Wood Science*, **1998**, 44, 310-313	2.4	22
41	Alternative hydrogen bond models of cellulose II and IIII based on molecular force-fields and density functional theory. *Cellulose*, **2015**, 22, 1485-1493	5.5	21
40	X-ray crystal structure of anhydrous chitosan at atomic resolution. *Biopolymers*, **2016**, 105, 361-8	2.2	21
39	I⊟> I□transition of cellulose under ultrasonic radiation. *Cellulose*, **2013**, 20, 597-603	5.5	21
38	Guest Selectivity in Complexation of ⊟Chitin. *Macromolecules*, **2004**, 37, 6839-6842	5.5	21
37	Evaluation of hydrogen bond networks in cellulose I□and II crystals using density functional theory and Car-Parrinello molecular dynamics. *Carbohydrate Research*, **2017**, 449, 103-113	2.9	20
36	Torsional Entropy at the Origin of the Reversible Temperature-Induced Phase Transition of Cellulose. *Macromolecules*, **2012**, 45, 362-368	5.5	20
35	Hydrothermal Transformation of Wood Cellulose Crystals into Pseudo-Orthorhombic Structure by Cocrystallization. *ACS Macro Letters*, **2016**, 5, 730-734	6.6	19
34	Atomic partial charges and one Lennard-Jones parameter crucial to model cellulose allomorphs. *Cellulose*, **2014**, 21, 2207-2217	5.5	19
33	Time-resolved X-ray diffraction microprobe studies of the conversion of cellulose I to ethylenediamine-cellulose I. *Cellulose*, **2010**, 17, 735-745	5.5	19
32	Complexation of alpha-chitin with aliphatic amines. *Biomacromolecules*, **2005**, 6, 2362-4	6.9	19
31	Ensemble evaluation of polydisperse nanocellulose dimensions: rheology, electron microscopy, X-ray scattering and turbidimetry. *Cellulose*, **2017**, 24, 3231-3242	5.5	16
30	Water cast film formability of sugarcane bagasse xylans favored by side groups. *Cellulose*, **2020**, 27, 7307-7320	5.5	16
29	Rapid Benzylation of Cellulose in Tetra-n-butylphosphonium Hydroxide Aqueous Solution at Room Temperature. *ACS Sustainable Chemistry and Engineering*, **2017**, 5, 4505-4510	8.3	15
28	The crystal structure of mono-ethylenediamine ⊟chitin from synchrotron X-ray fiber diffraction. *Carbohydrate Polymers*, **2013**, 92, 1737-42	10.3	15
27	Structure and dynamics of a complex of cellulose with EDA: insights into the action of amines on cellulose. *Cellulose*, **2013**, 20, 1563-1571	5.5	13
26	Water-induced crystallization and nano-scale spinodal decomposition of cellulose in NMMO and ionic liquid dope. *Cellulose*, **2019**, 26, 281-289	5.5	13

25	The initial structure of cellulose during ammonia pretreatment. *Cellulose*, **2014**, 21, 1117-1126	5.5	11
24	Iβ to Iα mechano-conversion and amorphization in native cellulose simulated by crystal bending. *Cellulose*, **2018**, 25, 4345-4355	5.5	10
23	Hydrogen-bonding network in anhydrous chitosan from neutron crystallography and periodic density functional theory calculations. *Carbohydrate Polymers*, **2019**, 207, 211-217	10.3	10
22	Origin of hydrophilicity of cellulose hydrogel from aqueous LiOH/urea solvent coagulated with alkyl alcohols. *Cellulose*, **2014**, 21, 1043-1050	5.5	9
21	The molecular structure and solution conformation of an acidic heteropolysaccharide from Auricularia auricula-judae. *Biopolymers*, **2011**, 95, 217-27	2.2	9
20	Small Angle Neutron Scattering Shows Nanoscale PMMA Distribution in Transparent Wood Biocomposites. *Nano Letters*, **2021**, 21, 2883-2890	11.5	8
19	Bottom-up Construction of Xylan Nanocrystals in Dimethyl Sulfoxide. *Biomacromolecules*, **2021**, 22, 898-906	6.9	8
18	Competing Molecular Packing of Blocks in a Lamella-Forming Carbohydrate-block-poly(3-hexylthiophene) Copolymer. *Macromolecules*, **2020**, 53, 9054-9064	5.5	6
17	Crystal and molecular structure of V-amylose complexed with ibuprofen. *Carbohydrate Polymers*, **2021**, 261, 117885	10.3	6
16	Twisted pseudo-tetragonal orthorhombic lamellar crystal in cellulose/ionic liquid spherulite. *Cellulose*, **2020**, 27, 5449-5455	5.5	5
15	X-ray texture analysis indicates downward spinning of chitin microfibrils in tubeworm tube. *Journal of Structural Biology*, **2013**, 184, 212-6	3.4	5
14	Drying-induced bending deformation of cellulose nanocrystals studied by molecular dynamics simulations. *Cellulose*, **2020**, 27, 9779-9786	5.5	5
13	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	3.4	5
12	Solid–solvent molecular interactions observed in crystal structures of β-chitin complexes. *Cellulose*, **2014**, 21, 1007-1014	5.5	4
11	Molecular Interactions in an α-Chitin/Hydrazine Complex: Dynamic Hydrogen Bonds and Improvement of Polymeric Crystallinity. *Crystal Growth and Design*, **2016**, 16, 3345-3352	3.5	4
10	Process-dependent nanostructures of regenerated cellulose fibres revealed by small angle neutron scattering. *Polymer*, **2021**, 218, 123510	3.9	4
9	Quantifying the influence of dispersion interactions on the elastic properties of crystalline cellulose. *Cellulose*, **2021**, 28, 10777-10786	5.5	3
8	Intermediate States of Aqueous Solution of Agarose on Quasi-Static Cooling. *Journal of Fiber Science and Technology*, **2005**, 61, 191-195	0	2

7	Time-Dependent Elastic Tensor of Cellulose Nanocrystal Probed by Hydrostatic Pressure and Uniaxial Stretching. *Journal of Physical Chemistry Letters*, **2021**, 12, 3779-3785	6.4	2
6	Oligocellulose from acid hydrolysis: A revisit. *Applied Surface Science*, **2021**, 537, 147783	6.7	2
5	Fivefold Helical Cellulose Trapped in a Sulfuric Acid Framework. *Crystal Growth and Design*,	3.5	0
4	Recyclable nanocomposites of well-dispersed 2D layered silicates in cellulose nanofibril (CNF) matrix.. *Carbohydrate Polymers*, **2022**, 279, 119004	10.3	0
3	Direct Evidence for Aligned Binding of Cellulase Enzymes to Cellulose Surfaces. *Journal of Physical Chemistry Letters*, **2021**, 12, 10684-10688	6.4	0
2	Solvent-Assisted Fractionation of Oligomeric Cellulose and Reversible Transformation of Cellulose II and IV. *ACS Biomaterials Science and Engineering*, **2021**, 7, 4792-4797	5.5	0
1	Combining computational and experimental studies for a better understanding of cellulose and its analogs. *Advances in Carbohydrate Chemistry and Biochemistry*, **2021**, 80, 1-14	3.7	