Paavo A PenttilÃ¤

List of Publications by Year
in descending order

49 papers	1,476 citations	279798 23 h-index	330143 37 g-index
50 all docs	50 docs citations	50 times ranked	1947 citing authors

#	Article	IF	Citations
1	Degradation and Crystallization of Cellulose in Hydrogen Chloride Vapor for Highâ€Yield Isolation of Cellulose Nanocrystals. Angewandte Chemie - International Edition, 2016, 55, 14455-14458.	13.8	123
2	Amorphous Characteristics of an Ultrathin Cellulose Film. Biomacromolecules, 2011, 12, 770-777.	5.4	92
3	Use of amaranth, quinoa and kaÃ±iwa in extruded corn-based snacks. Journal of Cereal Science, 2013, 58, 59-67.	3.7	83
4	Xylan as limiting factor in enzymatic hydrolysis of nanocellulose. Bioresource Technology, 2013, 129, 135-141.	9.6	82
5	Nanofibrillated cellulose/carboxymethyl cellulose composite with improved wet strength. Cellulose, 2013, 20, 1459-1468.	4.9	71
6	Rapid and Direct Preparation of Lignin Nanoparticles from Alkaline Pulping Liquor by Mild Ultrasonication. ACS Sustainable Chemistry and Engineering, 2019, 7, 19925-19934.	6.7	71
7	Significance of xylan on the stability and water interactions of cellulosic nanofibrils. Reactive and Functional Polymers, 2014, 85, 157-166.	4.1	55
8	Changes in Submicrometer Structure of Enzymatically Hydrolyzed Microcrystalline Cellulose. Biomacromolecules, 2010, 11, 1111-1117.	5.4	51
9	X-ray scattering and microtomography study on the structural changes of never-dried silver birch, European aspen and hybrid aspen during drying. Holzforschung, 2011, 65, 865-873.	1.9	48
10	Lignin-fatty acid hybrid nanocapsules for scalable thermal energy storage in phase-change materials. Chemical Engineering Journal, 2020, 393, 124711.	12.7	47
11	Enhancement of ionic liquid-aided fractionation of birchwood. Part 1: autohydrolysis pretreatment. RSC Advances, 2013, 3, 16365.	3.6	45
12	Structural Changes in Microcrystalline Cellulose in Subcritical Water Treatment. Biomacromolecules, 2011, 12, 2544-2551.	5.4	40
13	The effect of drying method on the properties and nanoscale structure of cellulose whiskers. Cellulose, 2012, 19, 901-912.	4.9	40
14	Dissolving-grade birch pulps produced under various prehydrolysis intensities: quality, structure and applications. Cellulose, 2014, 21, 2007-2021.	4.9	37
15	Moisture-related changes in the nanostructure of woods studied with X-ray and neutron scattering. Cellulose, 2020, 27, 71-87.	4.9	37
16	Cellulose degradation in alkaline media upon acidic pretreatment and stabilisation. Carbohydrate Polymers, 2014, 100, 185-194.	10.2	36
17	The swelling and dissolution of cellulose crystallites in subcritical and supercritical water. Cellulose, 2013, 20, 2731-2744.	4.9	35
18	Small-angle scattering model for efficient characterization of wood nanostructure and moisture behaviour. Journal of Applied Crystallography, 2019, 52, 369-377.	4.5	34

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19	Green Fabrication Approaches of Lignin Nanoparticles from Different Technical Lignins: A Comparison Study. ChemSusChem, 2021, 14, 4718-4730.	6.8	32
20	Effects of pressurized hot water extraction on the nanoscale structure of birch sawdust. Cellulose, 2013, 20, 2335-2347.	4.9	31
21	Sustainable High Yield Route to Cellulose Nanocrystals from Bacterial Cellulose. ACS Sustainable Chemistry and Engineering, 2019, 7, 14384-14388.	6.7	28
22	Production of High Solid Nanocellulose by Enzyme-Aided Fibrillation Coupled with Mild Mechanical Treatment. ACS Sustainable Chemistry and Engineering, 2020, 8, 18853-18863.	6.7	26
23	Enzymatic hydrolysis of biomimetic bacterial celluloseâ€“hemicellulose composites. Carbohydrate Polymers, 2018, 190, 95-102.	10.2	25
24	Small-angle scattering study of structural changes in the microfibril network of nanocellulose during enzymatic hydrolysis. Cellulose, 2013, 20, 1031-1040.	4.9	24
25	Multimethod approach to understand the assembly of cellulose fibrils in the biosynthesis of bacterial cellulose. Cellulose, 2018, 25, 2771-2783.	4.9	21
26	Experimental and Simulation Study of the Solvent Effects on the Intrinsic Properties of Spherical Lignin Nanoparticles. Journal of Physical Chemistry B, 2021, 125, 12315-12328.	2.6	21
27	Nanoscale Mechanism of Moisture-Induced Swelling in Wood Microfibril Bundles. Nano Letters, 2022, 22, 5143-5150.	9.1	19
28	Softwood-based sponge gels. Cellulose, 2016, 23, 3221-3238.	4.9	17
29	Bundling of cellulose microfibrils in native and polyethylene glycol-containing wood cell walls revealed by small-angle neutron scattering. Scientific Reports, 2020, 10, 20844.	3.3	17
30	Impact of mechanical and enzymatic pretreatments on softwood pulp fiber wall structure studied with NMR spectroscopy and X-ray scattering. Cellulose, 2015, 22, 1565-1576.	4.9	15
31	Fibrillar assembly of bacterial cellulose in the presence of wood-based hemicelluloses. International Journal of Biological Macromolecules, 2017, 102, 111-118.	7.5	14
32	Effect of heatâ€treatment on the performance of gas barrier layers applied by atomic layer deposition onto polymerâ€coated paperboard. Journal of Applied Polymer Science, 2011, 122, 2221-2227.	2.6	13
33	Small-angle x-ray scattering study on the structure of microcrystalline and nanofibrillated cellulose. Journal of Physics: Conference Series, 2010, 247, 012030.	0.4	12
34	Effects of process variables and addition of polydextrose and whey protein isolate on the properties of barley extrudates. International Journal of Food Science and Technology, 2012, 47, 1165-1175.	2.7	11
35	The structure of Lactobacillus brevis surface layer reassembled on liposomes differs from native structure as revealed by SAXS. Biochimica Et Biophysica Acta - Biomembranes, 2014, 1838, 2099-2104.	2.6	11
36	Combining scattering analysis and atomistic simulation of wood-water interactions. Carbohydrate Polymers, 2021, 251, 117064.	10.2	11

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37	Deswelling of microfibril bundles in drying wood studied by small-angle neutron scattering and molecular dynamics. Cellulose, 2021, 28, 10765-10776.	4.9	11
38	Effects of reaction conditions on cellulose structures synthesized in vitro by bacterial cellulose synthases. Carbohydrate Polymers, 2016, 136, 656-666.	10.2	10
39	Phospholipid-Based Reverse Micelle Structures in Vegetable Oil Modified by Water Content, Free Fatty Acid, and Temperature. Langmuir, 2019, 35, 8373-8382.	3.5	10
40	Water-accessibility of interfibrillar spaces in spruce wood cell walls. Cellulose, 2021, 28, 11231-11245.	4.9	10
41	The yield of cellulose precipitate from sub- and supercritical water treatment of various microcrystalline celluloses. Cellulose, 2015, 22, 1715-1728.	4.9	9
42	Observation of in vitro cellulose synthesis by bacterial cellulose synthase with time-resolved small angle X-ray scattering. International Journal of Biological Macromolecules, 2019, 130, 765-777.	7.5	9
43	X-ray characterization of starch-based solid foams. Journal of Materials Science, 2011, 46, 3470-3479.	3.7	8
44	Directed Assembly of Cellulose Nanocrystals in Their Native Solidâ€State Template of a Processed Fiber Cell Wall. Macromolecular Rapid Communications, 2021, 42, e2100092.	3.9	8
45	Size-dependent filling effect of crystalline celluloses in structural engineering of composite oleogels. LWT - Food Science and Technology, 2022, 160, 113331.	5.2	7
46	Ultrastructural X-ray scattering studies of tropical and temperate hardwoods used as tonewoods. IAWA Journal, 2020, 41, 301-319.	1.0	6
47	Celluloseâ€Nanokristalle in hoher Ausbeute durch Abbau und Kristallisation von Cellulose mittels gasfÃ¶rmigem Chlorwasserstoff. Angewandte Chemie, 2016, 128, 14671-14674.	2.0	5
48	Effect of Moisture on Polymer Deconstruction in HCl Gas Hydrolysis of Wood. ACS Omega, 2022, 7, 7074-7083.	3.5	4
49	Biomimetic composites of deuterated bacterial cellulose and hemicelluloses studied with small-angle neutron scattering. European Polymer Journal, 2018, 104, 177-183.	5.4	3