Umesh P Agarwal

List of Publications by Year
in descending order

50 papers	5,085 citations	147801 31 h-index	214800 47 g-index
53 all docs	53 docs citations	53 times ranked	5467 citing authors

#	Article	IF	Citations
1	Beyond Crystallinity: Using Raman Spectroscopic Methods to Further Define Aggregated/Supramolecular Structure of Cellulose. Frontiers in Energy Research, 2022, 10, .	2.3	2
2	Oxidative delignification: The roles of lignin reactivity and accessibility. Journal of Cleaner Production, 2022, 363, 132351.	9.3	9
3	Characterization of the supramolecular structures of cellulose nanocrystals of different origins. Cellulose, 2021, 28, 1369-1385.	4.9	19
4	Contributions of Crystalline and Noncrystalline Cellulose Can Occur in the Same Spectral Regions: Evidence Based on Raman and IR and Its Implication for Crystallinity Measurements. Biomacromolecules, 2021, 22, 1357-1373.	5.4	18
5	Towards sustainable production and utilization of plant-biomass-based nanomaterials: a review and analysis of recent developments. Biotechnology for Biofuels, 2021, 14, 114.	6.2	51
6	Detection and quantitation of cellulose II by Raman spectroscopy. Cellulose, 2021, 28, 9069-9079.	4.9	31
7	Pilot-Scale Production of Cellulosic Nanowhiskers With Similar Morphology to Cellulose Nanocrystals. Frontiers in Bioengineering and Biotechnology, 2020, 8, 565084.	4.1	11
8	Towards the scalable isolation of cellulose nanocrystals from tunicates. Scientific Reports, 2020, 10, 19090.	3.3	39
9	Swelling by Hydrochloric Acid Partially Retains Cellulose-I Type Allomorphic Ultrastructure But Enhances Susceptibility toward Cellulase Hydrolysis Such as Highly Amorphous Cellulose. ACS Symposium Series, 2019, , 69-88.	0.5	1
10	Analysis of Cellulose and Lignocellulose Materials by Raman Spectroscopy: A Review of the Current Status. Molecules, 2019, 24, 1659.	3.8	104
11	Estimation of Syringyl Units in Wood Lignins by FT-Raman Spectroscopy. Journal of Agricultural and Food Chemistry, 2019, 67, 4367-4374.	5.2	17
12	New cellulose crystallinity estimation method that differentiates between organized and crystalline phases. Carbohydrate Polymers, 2018, 190, 262-270.	10.2	70
13	Current characterization methods for cellulose nanomaterials. Chemical Society Reviews, 2018, 47, 2609-2679.	38.1	690
14	Performance of high lignin content cellulose nanocrystals in poly(lactic acid). Polymer, 2018, 135, 305-313.	3.8	59
15	Production of high lignin-containing and lignin-free cellulose nanocrystals from wood. Cellulose, 2018, 25, 5791-5805.	4.9	43
16	Effect of sample moisture content on XRD-estimated cellulose crystallinity index and crystallite size. Cellulose, 2017, 24, 1971-1984.	4.9	107
17	Using a fully recyclable dicarboxylic acid for producing dispersible and thermally stable cellulose nanomaterials from different cellulosic sources. Cellulose, 2017, 24, 2483-2498.	4.9	77
18	Chemical modification of nanocellulose with canola oil fatty acid methyl ester. Carbohydrate Polymers, 2017, 169, 108-116.	10.2	104

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19	The Nanostructures of Native Celluloses, Their Transformations upon Isolation, and Their Implications for Production of Nanocelluloses. ACS Symposium Series, 2017, , 1-18.	0.5	3
20	Raman Spectroscopy in the Analysis of Cellulose Nanomaterials. ACS Symposium Series, 2017, , 75-90.	0.5	16
21	Preparation and Characterization of the Nanocomposites from Chemically Modified Nanocellulose and Poly(lactic acid). Journal of Renewable Materials, 2017, 5, 410-422.	2.2	21
22	Techniques for Characterizing Lignin. , 2016, , 49-66.		63
23	Probing crystallinity of never-dried wood cellulose with Raman spectroscopy. Cellulose, 2016, 23, 125-144.	4.9	120
24	Tailoring the yield and characteristics of wood cellulose nanocrystals (CNC) using concentrated acid hydrolysis. Cellulose, 2015, 22, 1753-1762.	4.9	305
25	Impacts of fiber orientation and milling on observed crystallinity in jack pine. Wood Science and Technology, 2014, 48, 1213-1227.	3.2	13
26	1064 nm FT-Raman spectroscopy for investigations of plant cell walls and other biomass materials. Frontiers in Plant Science, 2014, 5, 490.	3.6	111
27	A comparative study of cellulose nanofibrils disintegrated via multiple processing approaches. Carbohydrate Polymers, 2013, 97, 226-234.	10.2	253
28	Enzymatic hydrolysis of loblolly pine: effects of cellulose crystallinity and delignification. Holzforschung, 2013, 67, 371-377.	1.9	44
29	Estimation of Cellulose Crystallinity of Lignocelluloses Using Near-IR FT-Raman Spectroscopy and Comparison of the Raman and Segal-WAXS Methods. Journal of Agricultural and Food Chemistry, 2013, 61, 103-113.	5.2	100
30	Spatially Resolved Characterization of Cellulose Nanocrystalâ€“Polypropylene Composite by Confocal Raman Microscopy. Applied Spectroscopy, 2012, 66, 750-756.	2.2	48
31	Thermal Conversion of Pine Wood Char to Carbon Nanomaterials in the Presence of Iron Nanoparticles. Forest Products Journal, 2012, 62, 462-466.	0.4	5
32	Restructuring the Crystalline Cellulose Hydrogen Bond Network Enhances Its Depolymerization Rate. Journal of the American Chemical Society, 2011, 133, 11163-11174.	13.7	321
33	Multi-scale visualization and characterization of lignocellulosic plant cell wall deconstruction during thermochemical pretreatment. Energy and Environmental Science, 2011, 4, 973.	30.8	437
34	FTâ€“Raman Investigation of Milled-Wood Lignins: Softwood, Hardwood, and Chemically Modified Black Spruce Lignins. Journal of Wood Chemistry and Technology, 2011, 31, 324-344.	1.7	173
35	Vibrational Spectroscopy. , 2010, , 103-136.		54
36	Cellulose I crystallinity determination using FTâ€“Raman spectroscopy: univariate and multivariate methods. Cellulose, 2010, 17, 721-733.	4.9	226

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37	Nearâ€IR surfaceâ€enhanced Raman spectrum of lignin. Journal of Raman Spectroscopy, 2009, 40, 1527-1534.	2.5	58
38	Determination of ethylenic residues in wood and TMP of spruce by FT-Raman spectroscopy. Holzforschung, 2008, 62, 667-675.	1.9	37
39	Raman imaging to investigate ultrastructure and composition of plant cell walls: distribution of lignin and cellulose in black spruce wood (Picea mariana). Planta, 2006, 224, 1141-1153.	3.2	364
40	â€œSelf-Absorptionâ€•Phenomenon in Near-Infrared Fourier Transform Raman Spectroscopy of Cellulosic and Lignocellulosic Materials. Applied Spectroscopy, 2005, 59, 385-388.	2.2	26
41	Assignment of the Photoyellowing-Related 1675 cm^{âˆ'1}Raman/IR Band to P-Quinones and Its Implications to the Mechanism of Color Reversion in Mechanical Pulps. Journal of Wood Chemistry and Technology, 1998, 18, 381-402.	1.7	47
42	Photoyellowing of Thermomechanical Pulps: Looking Beyond Î±-Carbonyl and Ethylenic Groups as the Initiating Structures. Journal of Wood Chemistry and Technology, 1997, 17, 1-26.	1.7	32
43	FT-Raman Spectroscopy of Wood: Identifying Contributions of Lignin and Carbohydrate Polymers in the Spectrum of Black Spruce (Picea Mariana). Applied Spectroscopy, 1997, 51, 1648-1655.	2.2	316
44	Sequential Treatment of Mechanical and Chemimechanical Pulps with Light and Heat: A Raman Spectroscopic Study. Holzforschung, 1995, 49, 300-312.	1.9	34
45	Raman Spectral Features Associated with Chromophores in High-Yield Pulps. Journal of Wood Chemistry and Technology, 1994, 14, 227-241.	1.7	14
46	Raman Spectroscopic Evidence for Coniferyl Alcohol Structures in Bleached and Sulfonated Mechanical Pulps. ACS Symposium Series, 1993, , 26-44.	0.5	7
47	Formation and Identification of Cis/Trans Ferulic Acid in Photoyellowed White Spruce Mechanical Pulp. Journal of Wood Chemistry and Technology, 1990, 10, 169-190.	1.7	11
48	In-situ Raman microprobe studies of plant cell walls: Macromolecular organization and compositional variability in the secondary wall of Picea mariana (Mill.) B.S.P.. Planta, 1986, 169, 325-332.	3.2	117
49	Raman Microprobe Evidence for Lignin Orientation in the Cell Walls of Native Woody Tissue. Science, 1985, 227, 636-638.	12.6	231
50	Vibration relaxation of hydrogen-bonded species in solution. IV. Temperature and concentration dependence of the Î½a (OHÎ—,N) band of phenol-pyridine. Chemical Physics, 1983, 74, 35-41.	1.9	14