Timothy Rials

List of Publications by Year
in descending order

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67 papers	3,550 citations	159358 30 h-index	133063 59 g-index
69 all docs	69 docs citations	69 times ranked	4361 citing authors

#	Article	IF	Citations
1	A Robust Method to Quantify Cell Wall Bound Phenolics in Plant Suspension Culture Cells Using Pyrolysis-Gas Chromatography/Mass Spectrometry. Frontiers in Plant Science, 2020, 11, 574016.	1.7	3
2	Detecting special-cause variation â€˜eventsâ€™ from process data signatures. Journal of Applied Statistics, 2019, 46, 3032-3043.	0.6	1
3	Editorial: Advancements in Biomass Feedstock Preprocessing: Conversion Ready Feedstocks. Frontiers in Energy Research, 2019, 7, .	1.2	6
4	Accurately estimating and minimizing costs for the cellulosic biomass supply chain with statistical process control and the Taguchi Loss Function. BioResources, 2019, 14, 2961-2976.	0.5	2
5	Sustainable Hydrogels Based on Lignin-Methacrylate Copolymers with Enhanced Water Retention and Tunable Material Properties. Biomacromolecules, 2018, 19, 2665-2672.	2.6	34
6	Poplar and shrub willow energy crops in the United States: field trial results from the multiyear regional feedstock partnership and yield potential maps based on the PRISMâ€ELM model. GCB Bioenergy, 2018, 10, 735-751.	2.5	54
7	Blended Feedstocks for Thermochemical Conversion: Biomass Characterization and Bio-Oil Production From Switchgrass-Pine Residues Blends. Frontiers in Energy Research, 2018, 6, .	1.2	35
8	Optimization of Component Yields and Thermal Properties by Organosolv Fractionation of Loblolly Pine (Pinus taeda) Using Response Surface Design. Bioenergy Research, 2018, 11, 652-664.	2.2	1
9	Controlled Assembly of Lignocellulosic Biomass Components and Properties of Reformed Materials. ACS Sustainable Chemistry and Engineering, 2017, 5, 8044-8052.	3.2	22
10	Improving Processing and Performance of Pure Lignin Carbon Fibers through Hardwood and Herbaceous Lignin Blends. International Journal of Molecular Sciences, 2017, 18, 1410.	1.8	67
11	Role of Physicochemical Structure of Organosolv Hardwood and Herbaceous Lignins on Carbon Fiber Performance. ACS Sustainable Chemistry and Engineering, 2016, 4, 5785-5798.	3.2	84
12	Anatomical characteristics, microfibril angle and micromechanical properties of cottonwood (Populus deltoides) and its hybrids. Biomass and Bioenergy, 2016, 93, 72-77.	2.9	10
13	Effects of organosolv fractionation time on thermal and chemical properties of lignins. RSC Advances, 2016, 6, 79228-79235.	1.7	31
14	Synthesis and characterization of lignin carbon fiber and composites. Composites Science and Technology, 2016, 137, 60-68.	3.8	59
15	A study of poplar organosolv lignin after melt rheology treatment as carbon fiber precursors. Green Chemistry, 2016, 18, 5015-5024.	4.6	85
16	Screening of Mixed-Metal Oxide Species for Catalytic Ex Situ Vapor-Phase Deoxygenation of Cellulose by py-GC/MS Coupled with Multivariate Analysis. Energy & Fuels, 2016, 30, 3167-3174.	2.5	16
17	Comparison of Near Infrared Reflectance Spectroscopy with Combustion and Chemical Methods for Soil Carbon Measurements in Agricultural Soils. Communications in Soil Science and Plant Analysis, 2016, 47, 731-742.	0.6	4
18	Chemical and anatomical changes in Liquidambar styraciflua L. xylem after long term exposure to elevated CO2. Environmental Pollution, 2015, 198, 179-185.	3.7	29

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19	Summary Report on the 2012 Sun Grant National Conference: Science for Biomass Feedstock Production and Utilization. Bioenergy Research, 2014, 7, 765-768.	2.2	1
20	Orientation of carbon fiber precursors from 1â€butylâ€3â€methylimidazoluim chloride cellulose solutions. Journal of Applied Polymer Science, 2013, 128, 951-957.	1.3	8
21	Structure and thermomechanical properties of stretched cellulose films. Journal of Applied Polymer Science, 2013, 128, 181-187.	1.3	10
22	Effect of chain structure on the miscibility of cellulose acetate blends: a small-angle neutron scattering study. Soft Matter, 2013, 9, 3402.	1.2	8
23	Recent advances in lowâ€cost carbon fiber manufacture from lignin. Journal of Applied Polymer Science, 2013, 130, 713-728.	1.3	542
24	Effect of pH on surface characteristics of switchgrass-derived biochars produced by fast pyrolysis. Chemosphere, 2013, 90, 2623-2630.	4.2	39
25	Evidence for Complex Molecular Architectures for Solvent-Extracted Lignins. ACS Macro Letters, 2012, 1, 568-573.	2.3	33
26	Effects of hemicellulose extraction on properties of wood flour and woodâ€“plastic composites. Composites Part A: Applied Science and Manufacturing, 2012, 43, 686-694.	3.8	166
27	Surface Functionality and Carbon Structures in Lignocellulosic-Derived Biochars Produced by Fast Pyrolysis. Energy & Fuels, 2011, 25, 4693-4703.	2.5	220
28	Effects of decreasing carbohydrate content on properties of wood strands. Cellulose, 2011, 18, 841-850.	2.4	56
29	Effect of Hemicellulose Extraction on Physical and Mechanical Properties and Mold Susceptibility of Flakeboard. Forest Products Journal, 2011, 61, 31-37.	0.2	21
30	Fabrication optimization of polypropylene composites reinforced with steam-exploded wood flour by wet process. European Journal of Wood and Wood Products, 2009, 67, 449.	1.3	5
31	Poly(vinyl alcohol) nanocomposites reinforced with cellulose fibrils isolated by high intensity ultrasonication. Composites Part A: Applied Science and Manufacturing, 2009, 40, 218-224.	3.8	201
32	FTIR imaging coupled with multivariate analysis for study of initial diffusion of different solvents in cellulose acetate butyrate films. Cellulose, 2008, 15, 23-33.	2.4	11
33	Statics and kinetics of water vapor sorption of small loblolly pine samples. Wood Science and Technology, 2008, 42, 493-506.	1.4	23
34	Compatibilization of Natural Fibers with Synthetic Polymers Using Triblock Copolymers as Coupling Agents. Macromolecular Chemistry and Physics, 2008, 209, 832-845.	1.1	1
35	Effects of Hot Water Extraction on Physical and Chemical Characteristics of Oriented Strand Board (OSB) Wood Flakes. Clean - Soil, Air, Water, 2008, 36, 674-681.	0.7	30
36	Rheology of 1â€butylâ€3â€methylimidazolium chloride cellulose solutions. I. Shear rheology. Journal of Applied Polymer Science, 2008, 110, 1175-1181.	1.3	92

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37	Rheology of 1â€butylâ€3â€methylimidazolium chloride cellulose solutions. III. Elongational rheology. Journal of Applied Polymer Science, 2008, 110, 3203-3208.	1.3	15
38	Extraction of information from laser-induced breakdown spectroscopy spectral data by multivariate analysis. Applied Optics, 2008, 47, G158.	2.1	53
39	Two-dimensional homo- and hetero-correlation technique applied to NIR and py-MBMS spectra of wood. Holzforschung, 2008, 62, 176-182.	0.9	6
40	Adhesive penetration of wood cell walls investigated by scanning thermal microscopy (SThM). Holzforschung, 2008, 62, 91-98.	0.9	92
41	Correlation of Near-Infrared Spectroscopy Measurements with the Properties of Treated Wood. Journal of Materials in Civil Engineering, 2007, 19, 279-285.	1.3	13
42	Nanoindentation of wood cell walls: Continuous stiffness and hardness measurements. Composites Part A: Applied Science and Manufacturing, 2007, 38, 945-953.	3.8	128
43	Nanoindentation of biodegradable cellulose diacetate-graft-poly(L-lactide) copolymers: Effect of molecular composition and thermal aging on mechanical properties. Journal of Polymer Science, Part B: Polymer Physics, 2007, 45, 1114-1121.	2.4	11
44	Physical and mechanical properties of polyvinyl alcohol and polypropylene composite materials reinforced with fibril aggregates isolated from regenerated cellulose fibers. Cellulose, 2007, 14, 593-602.	2.4	183
45	Chemical Structure of Wood Charcoal by Infrared Spectroscopy and Multivariate Analysis. Journal of Agricultural and Food Chemistry, 2006, 54, 3492-3497.	2.4	71
46	On-Line Monitoring of the Buffer Capacity of Particleboard Furnish by Near-Infrared Spectroscopy. Applied Spectroscopy, 2006, 60, 1204-1209.	1.2	11
47	Time domain-nuclear magnetic resonance study of chars from southern hardwoodsâ˜†. Biomass and Bioenergy, 2006, 30, 855-862.	2.9	21
48	Assessment of wood load condition by Near Infrared (NIR) spectroscopy. Journal of Materials Science, 2006, 41, 1879-1886.	1.7	16
49	FT-IR imaging and pyrolysis-molecular beam mass spectrometry: new tools to investigate wood tissues. Wood Science and Technology, 2005, 39, 61-76.	1.4	143
50	Analysis of preservative-treated wood by multivariate analysis of laser-induced breakdown spectroscopy spectra. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2005, 60, 1179-1185.	1.5	139
51	Atomic Force Microscopy of the Intervessel Pit Membrane in the Stem of Sapium Sebiferum (Euphorbiaceae). IAWA Journal, 2005, 26, 397-426.	2.7	42
52	Evaluation of the cure kinetics of the wood/pMDI bondline. International Journal of Adhesion and Adhesives, 2001, 21, 137-144.	1.4	31
53	Interfacial contributions in lignocellulosic fiber-reinforced polyurethane composites. Journal of Applied Polymer Science, 2001, 80, 546-555.	1.3	52
54	Using dynamic mechanical spectroscopy to monitor the crystallization of PP/MAPP blends in the presence of wood. Composite Interfaces, 2000, 7, 3-12.	1.3	11

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55	Investigating interphase development in woodpolymer composites by inverse gas chromatography. Composite Interfaces, 2000, 7, 81-92.	1.3	6
56	Relationship of Wood Surface Energy to Surface Composition. Langmuir, 1998, 14, 536-541.	1.6	82
57	The reaction of boric acid with wood in a polystyrene matrix. Journal of Applied Polymer Science, 1996, 62, 501-508.	1.3	11
58	Preparation and characterization of cellulose acetate organic/inorganic hybrid films. Journal of Applied Polymer Science, 1995, 58, 1263-1274.	1.3	23
59	Characterization of the interface between cellulosic fibers and a thermoplastic matrix. Composite Interfaces, 1994, 2, 419-432.	1.3	78
60	Multiphase materials with lignin: 5. Effect of lignin structure on hydroxypropyl cellulose blend morphology. Polymer, 1990, 31, 1333-1338.	1.8	24
61	Multiphase materials with lignin. IV. Blends of hydroxypropyl cellulose with lignin. Journal of Applied Polymer Science, 1989, 37, 2399-2415.	1.3	42
62	Engineering plastics from lignin. XVII. Effect of molecular weight on polyurethane film properties. Journal of Applied Polymer Science, 1989, 37, 2961-2971.	1.3	31
63	Thermal and dynamic mechanical properties of hydroxypropyl cellulose films. Journal of Applied Polymer Science, 1988, 36, 749-758.	1.3	70
64	Engineering plastics from lignin II. Characterization of hydroxyalkyl lignin derivatives. Journal of Applied Polymer Science, 1984, 29, 1815-1830.	1.3	103
65	Engineering Plastics from Lignin. X. Enthalpy Relaxation of Prepolymers. Journal of Wood Chemistry and Technology, 1984, 4, 331-345.	0.9	27
66	FTIR Imaging of Wood and Wood Composites. , 0, , 110-122.		1
67	Effects of Refiner Pressure On the Properties of Individual Wood Fibers. , 0, , 227-240.		4