Nathan Mosier

List of Publications by Year
in descending order

72 papers	11,031 citations	38 h-index	69 g-index
75 all docs	75 docs citations	75 times ranked	9707 citing authors

87723

91712

#	Article	IF	Citations
1	Structureâ€"propertyâ€"degradability relationships of varisized lignocellulosic biomass induced by ball milling on enzymatic hydrolysis and alcoholysis. , 2022, 15, 36.		7
2	Influences of hydrothermal and pressure treatments on compositional and hydration properties of wheat bran and dough mixing properties of whole wheat meal. Cereal Chemistry, 2021, 98, 673-682.	1.1	5
3	Hormesis-Inducing Essential Oil Nanodelivery System Protects Plants against Broad Host-Range Necrotrophs. ACS Nano, 2021, 15, 8338-8349.	7.3	10
4	Nanovaccine for Plants from Organic Waste: <scp>d</scp>-Limonene-Loaded Chitosan Nanocarriers Protect Plants against <i>Botrytis cinerea</i>. ACS Sustainable Chemistry and Engineering, 2021, 9, 9903-9914.	3.2	11
5	Rheology of enzyme liquefied corn stover slurries: The effect of solids concentration on yielding and flow behavior. Biotechnology Progress, 2021, 37, e3216.	1.3	8
6	New strategy for liquefying corn stover pellets. Bioresource Technology, 2021, 341, 125773.	4.8	11
7	Lattice: A Vision for Machine Learning, Data Engineering, and Policy Considerations for Digital Agriculture at Scale. IEEE Open Journal of the Computer Society, 2021, 2, 227-240.	5.2	12
8	Conversion of glucose to 5-hydroxymethyl furfural in water-acetonitrile-dimethyl sulfoxide solvent with aluminum on activated carbon and maleic acid. Industrial Crops and Products, 2021, 174, 114220.	2.5	7
9	Single-Vessel Synthesis of 5-Hydroxymethylfurfural (HMF) from Milled Corn. ACS Sustainable Chemistry and Engineering, 2020, 8, 18-21.	3.2	20
10	Nanoscale Drug Delivery Systems: From Medicine to Agriculture. Frontiers in Bioengineering and Biotechnology, 2020, 8, 79.	2.0	164
11	Overcoming cellulose recalcitrance in woody biomass for the lignin-first biorefinery. Biotechnology for Biofuels, 2019, 12, 171.	6.2	37
12	Molecular Dynamics Simulations and Experimental Verification to Determine Mechanism of Cosolvents on Increased 5-Hydroxymethylfurfural Yield from Glucose. ACS Sustainable Chemistry and Engineering, 2019, 7, 12997-13003.	3.2	15
13	Hydrolysis of untreated lignocellulosic feedstock is independent of S-lignin composition in newly classified anaerobic fungal isolate, Piromyces sp. UH3-1. Biotechnology for Biofuels, 2018, 11, 293.	6.2	14
14	Enzymatic Epoxidation of High Oleic Soybean Oil. ACS Sustainable Chemistry and Engineering, 2018, 6, 8578-8583.	3.2	18
15	Cellulose modification by recyclable swelling solvents. Biotechnology for Biofuels, 2018, 11, 191.	6.2	44
16	Production of cellulose nanofibers using phenolic enhanced surface oxidation. Carbohydrate Polymers, 2017, 174, 120-127.	5.1	26
17	Atomic-Level Structure Characterization of Biomass Pre- and Post-Lignin Treatment by Dynamic Nuclear Polarization-Enhanced Solid-State NMR. Journal of Physical Chemistry A, 2017, 121, 623-630.	1.1	57
18	Concentrated HCl Catalyzed 5-(Chloromethyl)furfural Production from Corn Stover of Varying Particle Sizes. Bioenergy Research, 2017, 10, 1018-1024.	2.2	8

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19	Enhanced rates of enzymatic saccharification and catalytic synthesis of biofuel substrates in gelatinized cellulose generated by trifluoroacetic acid. Biotechnology for Biofuels, 2017, 10, 310.	6.2	23
20	Enhanced Acid-Catalyzed Biomass Conversion to Hydroxymethylfurfural Following Cellulose Solvent- and Organic Solvent-Based Lignocellulosic Fractionation Pretreatment. Energy & Fuels, 2016, 30, 9975-9977.	2.5	22
21	Maleic acid and aluminum chloride catalyzed conversion of glucose to 5-(hydroxymethyl) furfural and levulinic acid in aqueous media. Green Chemistry, 2016, 18, 5219-5229.	4.6	110
22	In situ micro-spectroscopic investigation of lignin in poplar cell walls pretreated by maleic acid. Biotechnology for Biofuels, 2015, 8, 126.	6.2	40
23	Direct emission of methane and nitrous oxide from switchgrass and corn stover: implications for largeâ€scale biomass storage. GCB Bioenergy, 2015, 7, 865-876.	2.5	14
24	Reduction of volatile fatty acids and odor offensiveness by anaerobic digestion and solid separation of dairy manure during manure storage. Journal of Environmental Management, 2015, 152, 91-98.	3.8	18
25	Tandem mass spectrometric characterization of the conversion of xylose to furfural. Biomass and Bioenergy, 2015, 74, 1-5.	2.9	10
26	Impact of Temperature, Moisture, and Storage Duration on the Chemical Composition of Switchgrass, Corn Stover, and Sweet Sorghum Bagasse. Bioenergy Research, 2015, 8, 843-856.	2.2	14
27	Kinetics of Maleic Acid and Aluminum Chloride Catalyzed Dehydration and Degradation of Glucose. Energy & Fuels, 2015, 29, 2387-2393.	2.5	74
28	Speciation and kinetic study of iron promoted sugar conversion to 5-hydroxymethylfurfural (HMF) and levulinic acid (LA). Organic Chemistry Frontiers, 2015, 2, 1388-1396.	2.3	46
29	A synergistic biorefinery based on catalytic conversion of lignin prior to cellulose starting from lignocellulosic biomass. Green Chemistry, 2015, 17, 1492-1499.	4.6	370
30	Tailoring Biomass for Biochemical, Chemical or Thermochemical Catalytic Conversion. FASEB Journal, 2015, 29, 485.3.	0.2	0
31	Catalytic Dehydration of Lignocellulosic Derived Xylose to Furfural. , 2014, , 267-276.		2
32	Genetic Determinants for Enzymatic Digestion of Lignocellulosic Biomass Are Independent of Those for Lignin Abundance in a Maize Recombinant Inbred Population. Plant Physiology, 2014, 165, 1475-1487.	2.3	51
33	Severity factor coefficients for subcritical liquid hot water pretreatment of hardwood chips. Biotechnology and Bioengineering, 2014, 111, 254-263.	1.7	99
34	Validation of PyMBMS as a High-throughput Screen for Lignin Abundance in Lignocellulosic Biomass of Grasses. Bioenergy Research, 2014, 7, 899-908.	2.2	19
35	Engineering plant cell walls: tuning lignin monomer composition for deconstructable biofuel feedstocks or resilient biomaterials. Green Chemistry, 2014, 16, 2627.	4.6	60
36	Modeling Water Quality Impacts of Cellulosic Biofuel Production from Corn Silage. Bioenergy Research, 2014, 7, 636-653.	2.2	3

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37	Effect of salts on the Co-fermentation of glucose and xylose by a genetically engineered strain of Saccharomyces cerevisiae. Biotechnology for Biofuels, 2013, 6, 83.	6.2	64
38	Selective Conversion of Biomass Hemicellulose to Furfural Using Maleic Acid with Microwave Heating. Energy & Fuels, 2012, 26, 1298-1304.	2.5	121
39	Envisioning the transition to a nextâ€generation biofuels industry in the US Midwest. Biofuels, Bioproducts and Biorefining, 2012, 6, 376-386.	1.9	26
40	The impact of dry matter loss during herbaceous biomass storage on net greenhouse gas emissions from biofuels production. Biomass and Bioenergy, 2012, 39, 237-246.	2.9	49
41	Tissueâ€specific biomass recalcitrance in corn stover pretreated with liquid hotâ€water: SEM imaging (part 2). Biotechnology and Bioengineering, 2012, 109, 398-404.	1.7	40
42	Tissueâ€specific biomass recalcitrance in corn stover pretreated with liquid hotâ€water: Enzymatic hydrolysis (part 1). Biotechnology and Bioengineering, 2012, 109, 390-397.	1.7	69
43	Cassava Starch Pearls as a Desiccant for Drying Ethanol. Industrial & Engineering Chemistry Research, 2011, 50, 8678-8685.	1.8	25
44	Surface and ultrastructural characterization of raw and pretreated switchgrass. Bioresource Technology, 2011, 102, 11097-11104.	4.8	62
45	Comparative material balances around pretreatment technologies for the conversion of switchgrass to soluble sugars. Bioresource Technology, 2011, 102, 11063-11071.	4.8	117
46	Comparative study on enzymatic digestibility of switchgrass varieties and harvests processed by leading pretreatment technologies. Bioresource Technology, 2011, 102, 11089-11096.	4.8	93
47	Soluble inhibitors/deactivators of cellulase enzymes from lignocellulosic biomass. Enzyme and Microbial Technology, 2011, 48, 408-415.	1.6	398
48	Deactivation of cellulases by phenols. Enzyme and Microbial Technology, 2011, 48, 54-60.	1.6	436
49	Inhibition of cellulases by phenols. Enzyme and Microbial Technology, 2010, 46, 170-176.	1.6	403
50	Effect of acetic acid and pH on the cofermentation of glucose and xylose to ethanol by a genetically engineered strain of Saccharomyces cerevisiae. FEMS Yeast Research, 2010, 10, 385-393.	1.1	173
51	Enzymatic digestion of liquid hot water pretreated hybrid poplar. Biotechnology Progress, 2009, 25, 340-348.	1.3	142
52	Comparison of glucose/xylose cofermentation of poplar hydrolysates processed by different pretreatment technologies. Biotechnology Progress, 2009, 25, 349-356.	1.3	51
53	Differential effects of mineral and organic acids on the kinetics of arabinose degradation under lignocellulose pretreatment conditions. Biochemical Engineering Journal, 2009, 43, 92-97.	1.8	97
54	Kinetic modeling analysis of maleic acidâ€catalyzed hemicellulose hydrolysis in corn stover. Biotechnology and Bioengineering, 2008, 101, 1170-1181.	1.7	104

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55	Enzyme hydrolysis and ethanol fermentation of liquid hot water and AFEX pretreated distillersâ€™ grains at high-solids loadings. Bioresource Technology, 2008, 99, 5206-5215.	4.8	131
56	Simultaneous Quantification of Metabolites Involved in Central Carbon and Energy Metabolism Using Reversed-Phase Liquid Chromatographyâ˜'Mass Spectrometry and in Vitro ¹³C Labeling. Analytical Chemistry, 2008, 80, 9508-9516.	3.2	70
57	Current Technologies for Fuel Ethanol Production from Lignocellulosic Plant Biomass. , 2008, , 161-182.		10
58	Molecular Breeding to Enhance Ethanol Production from Corn and Sorghum Stover. Crop Science, 2007, 47, S-142.	0.8	154
59	Microscopic examination of changes of plant cell structure in corn stover due to hot water pretreatment and enzymatic hydrolysis. Biotechnology and Bioengineering, 2007, 97, 265-278.	1.7	210
60	Biomimetic Catalysis for Hemicellulose Hydrolysis in Corn Stover. Biotechnology Progress, 2007, 23, 116-123.	1.3	110
61	Surface-Directed Boundary Flow in Microfluidic Channels. Langmuir, 2006, 22, 6429-6437.	1.6	12
62	Features of promising technologies for pretreatment of lignocellulosic biomass. Bioresource Technology, 2005, 96, 673-686.	4.8	5,057
63	Optimization of pH controlled liquid hot water pretreatment of corn stover. Bioresource Technology, 2005, 96, 1986-1993.	4.8	462
64	Industrial Scale-Up of pH-Controlled Liquid Hot Water Pretreatment of Corn Fiber for Fuel Ethanol Production. Applied Biochemistry and Biotechnology, 2005, 125, 077-098.	1.4	158
65	Microfiber-Directed Boundary Flow in Press-Fit Microdevices Fabricated from Self-Adhesive Hydrophobic Surfaces. Analytical Chemistry, 2005, 77, 3671-3675.	3.2	12
66	Plug-Flow Reactor for Continuous Hydrolysis of Glucans and Xylans from Pretreated Corn Fiber. Energy & Fuels, 2005, 19, 2189-2200.	2.5	58
67	Rapid chromatography for evaluating adsorption characteristics of cellulase binding domain mimetics. Biotechnology and Bioengineering, 2004, 86, 756-764.	1.7	13
68	Removal of Fermentation Inhibitors Formed during Pretreatment of Biomass by Polymeric Adsorbents. Industrial & Engineering Chemistry Research, 2002, 41, 6132-6138.	1.8	181
69	Characterization of acid catalytic domains for cellulose hydrolysis and glucose degradation. Biotechnology and Bioengineering, 2002, 79, 610-618.	1.7	221
70	Optimal Packing Characteristics of Rolled, Continuous Stationary-Phase Columns. Biotechnology Progress, 2002, 18, 309-316.	1.3	22
71	Characterization of Dicarboxylic Acids for Cellulose Hydrolysis. Biotechnology Progress, 2001, 17, 474-480.	1.3	128
72	Reaction Kinetics, Molecular Action, and Mechanisms of Cellulolytic Proteins. Advances in Biochemical Engineering/Biotechnology, 1999, 65, 23-40.	0.6	46