Nathan Mosier

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/7304371/publications.pdf

Version: 2024-02-01

72 papers	11,031 citations	87723 38 h-index	91712 69 g-index
75 all docs	75 docs citations	75 times ranked	9707 citing authors

#	Article	IF	Citations
1	Features of promising technologies for pretreatment of lignocellulosic biomass. Bioresource Technology, 2005, 96, 673-686.	4.8	5,057
2	Optimization of pH controlled liquid hot water pretreatment of corn stover. Bioresource Technology, 2005, 96, 1986-1993.	4.8	462
3	Deactivation of cellulases by phenols. Enzyme and Microbial Technology, 2011, 48, 54-60.	1.6	436
4	Inhibition of cellulases by phenols. Enzyme and Microbial Technology, 2010, 46, 170-176.	1.6	403
5	Soluble inhibitors/deactivators of cellulase enzymes from lignocellulosic biomass. Enzyme and Microbial Technology, 2011, 48, 408-415.	1.6	398
6	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
7	Characterization of acid catalytic domains for cellulose hydrolysis and glucose degradation. Biotechnology and Bioengineering, 2002, 79, 610-618.	1.7	221
8	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
9	Removal of Fermentation Inhibitors Formed during Pretreatment of Biomass by Polymeric Adsorbents. Industrial & Engineering Chemistry Research, 2002, 41, 6132-6138.	1.8	181
10	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
11	Nanoscale Drug Delivery Systems: From Medicine to Agriculture. Frontiers in Bioengineering and Biotechnology, 2020, 8, 79.	2.0	164
12	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
13	Molecular Breeding to Enhance Ethanol Production from Corn and Sorghum Stover. Crop Science, 2007, 47, S-142.	0.8	154
14	Enzymatic digestion of liquid hot water pretreated hybrid poplar. Biotechnology Progress, 2009, 25, 340-348.	1.3	142
15	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
16	Characterization of Dicarboxylic Acids for Cellulose Hydrolysis. Biotechnology Progress, 2001, 17, 474-480.	1.3	128
17	Selective Conversion of Biomass Hemicellulose to Furfural Using Maleic Acid with Microwave Heating. Energy & Fuels, 2012, 26, 1298-1304.	2.5	121
18	Comparative material balances around pretreatment technologies for the conversion of switchgrass to soluble sugars. Bioresource Technology, 2011, 102, 11063-11071.	4.8	117

#	Article	IF	Citations
19	Biomimetic Catalysis for Hemicellulose Hydrolysis in Corn Stover. Biotechnology Progress, 2007, 23, 116-123.	1.3	110
20	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
21	Kinetic modeling analysis of maleic acidâ€catalyzed hemicellulose hydrolysis in corn stover. Biotechnology and Bioengineering, 2008, 101, 1170-1181.	1.7	104
22	Severity factor coefficients for subcritical liquid hot water pretreatment of hardwood chips. Biotechnology and Bioengineering, 2014, 111, 254-263.	1.7	99
23	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
24	Comparative study on enzymatic digestibility of switchgrass varieties and harvests processed by leading pretreatment technologies. Bioresource Technology, 2011, 102, 11089-11096.	4.8	93
25	Kinetics of Maleic Acid and Aluminum Chloride Catalyzed Dehydration and Degradation of Glucose. Energy & Fuels, 2015, 29, 2387-2393.	2.5	74
26	Simultaneous Quantification of Metabolites Involved in Central Carbon and Energy Metabolism Using Reversed-Phase Liquid Chromatographyâˆ’Mass Spectrometry and in Vitro ¹³C Labeling. Analytical Chemistry, 2008, 80, 9508-9516.	3.2	70
27	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
28	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
29	Surface and ultrastructural characterization of raw and pretreated switchgrass. Bioresource Technology, 2011, 102, 11097-11104.	4.8	62
30	Engineering plant cell walls: tuning lignin monomer composition for deconstructable biofuel feedstocks or resilient biomaterials. Green Chemistry, 2014, 16, 2627.	4.6	60
31	Plug-Flow Reactor for Continuous Hydrolysis of Glucans and Xylans from Pretreated Corn Fiber. Energy & Fuels, 2005, 19, 2189-2200.	2.5	58
32	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
33	Comparison of glucose/xylose cofermentation of poplar hydrolysates processed by different pretreatment technologies. Biotechnology Progress, 2009, 25, 349-356.	1.3	51
34	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
35	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
36	Reaction Kinetics, Molecular Action, and Mechanisms of Cellulolytic Proteins. Advances in Biochemical Engineering/Biotechnology, 1999, 65, 23-40.	0.6	46

#	Article	IF	Citations
37	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
38	Cellulose modification by recyclable swelling solvents. Biotechnology for Biofuels, 2018, 11, 191.	6.2	44
39	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
40	In situ micro-spectroscopic investigation of lignin in poplar cell walls pretreated by maleic acid. Biotechnology for Biofuels, 2015, 8, 126.	6.2	40
41	Overcoming cellulose recalcitrance in woody biomass for the lignin-first biorefinery. Biotechnology for Biofuels, 2019, 12, 171.	6.2	37
42	Envisioning the transition to a nextâ€generation biofuels industry in the US Midwest. Biofuels, Bioproducts and Biorefining, 2012, 6, 376-386.	1.9	26
43	Production of cellulose nanofibers using phenolic enhanced surface oxidation. Carbohydrate Polymers, 2017, 174, 120-127.	5.1	26
44	Cassava Starch Pearls as a Desiccant for Drying Ethanol. Industrial & Engineering Chemistry Research, 2011, 50, 8678-8685.	1.8	25
45	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
46	Optimal Packing Characteristics of Rolled, Continuous Stationary-Phase Columns. Biotechnology Progress, 2002, 18, 309-316.	1.3	22
47	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
48	Single-Vessel Synthesis of 5-Hydroxymethylfurfural (HMF) from Milled Corn. ACS Sustainable Chemistry and Engineering, 2020, 8, 18-21.	3.2	20
49	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
50	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
51	Enzymatic Epoxidation of High Oleic Soybean Oil. ACS Sustainable Chemistry and Engineering, 2018, 6, 8578-8583.	3.2	18
52	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
53	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
54	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

#	Article	IF	Citations
55	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
56	Rapid chromatography for evaluating adsorption characteristics of cellulase binding domain mimetics. Biotechnology and Bioengineering, 2004, 86, 756-764.	1.7	13
57	Microfiber-Directed Boundary Flow in Press-Fit Microdevices Fabricated from Self-Adhesive Hydrophobic Surfaces. Analytical Chemistry, 2005, 77, 3671-3675.	3.2	12
58	Surface-Directed Boundary Flow in Microfluidic Channels. Langmuir, 2006, 22, 6429-6437.	1.6	12
59	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
60	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
61	New strategy for liquefying corn stover pellets. Bioresource Technology, 2021, 341, 125773.	4.8	11
62	Current Technologies for Fuel Ethanol Production from Lignocellulosic Plant Biomass. , 2008, , 161-182.		10
63	Tandem mass spectrometric characterization of the conversion of xylose to furfural. Biomass and Bioenergy, 2015, 74, 1-5.	2.9	10
64	Hormesis-Inducing Essential Oil Nanodelivery System Protects Plants against Broad Host-Range Necrotrophs. ACS Nano, 2021, 15, 8338-8349.	7.3	10
65	Concentrated HCl Catalyzed 5-(Chloromethyl)furfural Production from Corn Stover of Varying Particle Sizes. Bioenergy Research, 2017, 10, 1018-1024.	2.2	8
66	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
67	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
68	Structureâ€"propertyâ€"degradability relationships of varisized lignocellulosic biomass induced by ball milling on enzymatic hydrolysis and alcoholysis. , 2022, 15, 36.		7
69	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
70	Modeling Water Quality Impacts of Cellulosic Biofuel Production from Corn Silage. Bioenergy Research, 2014, 7, 636-653.	2.2	3
71	Catalytic Dehydration of Lignocellulosic Derived Xylose to Furfural. , 2014, , 267-276.		2
72	Tailoring Biomass for Biochemical, Chemical or Thermochemical Catalytic Conversion. FASEB Journal, 2015, 29, 485.3.	0.2	0