

# Comparison of Different Biomass Pretreatment Techniques and Structure

Frontiers in Energy Research

2,

DOI: [10.3389/fenrg.2014.00062](https://doi.org/10.3389/fenrg.2014.00062)

Citation Report

#	ARTICLE	IF	CITATIONS
1	Seawater as Alternative to Freshwater in Pretreatment of Date Palm Residues for Bioethanol Production in Coastal and/or Arid Areas. <i>ChemSusChem</i> , 2015, 8, 3823-3831.	3.6	47
2	Development of a High Throughput Platform for Screening Glycoside Hydrolases Based on Oxime-NIMS. <i>Frontiers in Bioengineering and Biotechnology</i> , 2015, 3, 153.	2.0	14
3	Effect of Deep Drying and Torrefaction Temperature on Proximate, Ultimate Composition, and Heating Value of 2-mm Lodgepole Pine ( <i>Pinus contorta</i> ) Grind. <i>Bioengineering</i> , 2016, 3, 16.	1.6	27
4	Comparison of the Thermal Degradation Properties of Crystalline and Amorphous Cellulose, as well as Treated Lignocellulosic Biomass. <i>BioResources</i> , 2016, 11, .	0.5	23
5	Integrated two-stage chemically processing of rice straw cellulose to butyl levulinate. <i>Carbohydrate Polymers</i> , 2016, 150, 286-298.	5.1	23
6	Evaluation of agave bagasse recalcitrance using AFEX <sup>®</sup> , autohydrolysis, and ionic liquid pretreatments. <i>Bioresource Technology</i> , 2016, 211, 216-223.	4.8	74
7	Revalorization of barley straw and husk as precursors for cellulose nanocrystals extraction and their effect on PVA-CH nanocomposites. <i>Industrial Crops and Products</i> , 2016, 92, 201-217.	2.5	79
8	Multi-scale processes of beech wood disintegration and pretreatment with 1-ethyl-3-methylimidazolium acetate/water mixtures. <i>Biotechnology for Biofuels</i> , 2016, 9, 7.	6.2	42
9	Inhibition of lignin-derived phenolic compounds to cellulase. <i>Biotechnology for Biofuels</i> , 2016, 9, 70.	6.2	170
10	Weighing the factors behind enzymatic hydrolyzability of pretreated lignocellulose. <i>Green Chemistry</i> , 2016, 18, 1295-1305.	4.6	117
11	Sustainable sources need reliable standards. <i>Faraday Discussions</i> , 2017, 202, 281-301.	1.6	8
12	Mild alkaline presoaking and organosolv pretreatment of corn stover and their impacts on corn stover composition, structure, and digestibility. <i>Bioresource Technology</i> , 2017, 233, 284-290.	4.8	41
13	Highly fluorescent cotton fiber based on luminescent carbon nanoparticles via a two-step hydrothermal synthesis method. <i>Cellulose</i> , 2017, 24, 1669-1677.	2.4	15
14	Reviving Pretreatment Effectiveness of Deep Eutectic Solvents on Lignocellulosic Date Palm Residues by Prior Recalcitrance Reduction. <i>Industrial &amp; Engineering Chemistry Research</i> , 2017, 56, 3167-3174.	1.8	74
15	Application of pretreatment, fermentation and molecular techniques for enhancing bioethanol production from grass biomass – A review. <i>Renewable and Sustainable Energy Reviews</i> , 2017, 78, 1007-1032.	8.2	121
16	Lignin-enzyme interaction: Mechanism, mitigation approach, modeling, and research prospects. <i>Biotechnology Advances</i> , 2017, 35, 466-489.	6.0	198
17	Pretreatment methods of lignocellulosic biomass for anaerobic digestion. <i>AMB Express</i> , 2017, 7, 72.	1.4	314
18	Beneficial effects of <i>Trametes versicolor</i> pretreatment on saccharification and lignin enrichment of organosolv-pretreated pinewood. <i>RSC Advances</i> , 2017, 7, 45652-45661.	1.7	10

#	ARTICLE	IF	CITATIONS
19	Life-Cycle Greenhouse Gas and Water Intensity of Cellulosic Biofuel Production Using Cholinium Lysinate Ionic Liquid Pretreatment. <i>ACS Sustainable Chemistry and Engineering</i> , 2017, 5, 10176-10185.	3.2	49
20	Factors affecting seawater-based pretreatment of lignocellulosic date palm residues. <i>Bioresource Technology</i> , 2017, 245, 540-548.	4.8	7
21	<i>Caldicellulosiruptor saccharolyticus</i> transcriptomes reveal consequences of chemical pretreatment and genetic modification of lignocellulose. <i>Microbial Biotechnology</i> , 2017, 10, 1546-1557.	2.0	11
22	Impact of lignin polymer backbone esters on ionic liquid pretreatment of poplar. <i>Biotechnology for Biofuels</i> , 2017, 10, 101.	6.2	48
23	Deconstruction of corn cob by steam explosion pretreatment: Correlations between sugar conversion and recalcitrant structures. <i>Carbohydrate Polymers</i> , 2017, 156, 351-356.	5.1	48
24	<i>Rhodospiridium toruloides</i> : a new platform organism for conversion of lignocellulose into terpene biofuels and bioproducts. <i>Biotechnology for Biofuels</i> , 2017, 10, 241.	6.2	150
25	Temperature-dependent phase behaviour of tetrahydrofuran-water alters solubilization of xylan to improve co-production of furfurals from lignocellulosic biomass. <i>Green Chemistry</i> , 2018, 20, 1612-1620.	4.6	39
26	Recent advances in understanding the pseudo-lignin formation in a lignocellulosic biorefinery. <i>Green Chemistry</i> , 2018, 20, 2192-2205.	4.6	269
27	Statistical Approach for the Identification of Cellulolytic Enzyme Inhibitors Using Switchgrass Dilute Acid Prehydrolyzates as a Model System. <i>ACS Sustainable Chemistry and Engineering</i> , 2018, 6, 3443-3452.	3.2	10
28	Chemicals from lignin: an interplay of lignocellulose fractionation, depolymerisation, and upgrading. <i>Chemical Society Reviews</i> , 2018, 47, 852-908.	18.7	1,708
29	Reinforcement of the bio-gas conversion from pyrolysis of wheat straw by hot caustic pre-extraction. <i>Biotechnology for Biofuels</i> , 2018, 11, 72.	6.2	26
30	Impact of hydration and temperature history on the structure and dynamics of lignin. <i>Green Chemistry</i> , 2018, 20, 1602-1611.	4.6	30
31	Elucidating the Interactive Impacts of Substrate-Related Properties on Lignocellulosic Biomass Digestibility: A Sequential Analysis. <i>ACS Sustainable Chemistry and Engineering</i> , 2018, 6, 6783-6791.	3.2	20
32	Structural Analysis on the Effect of Base-Catalysed Delignification Process Parameters on Palm Oil Empty Fruit Bunches Fibres using Glycome Profiling. <i>IOP Conference Series: Materials Science and Engineering</i> , 2018, 458, 012070.	0.3	1
34	Isolation of lignin from Ammonia Fiber Expansion (AFEX) pretreated biorefinery waste. <i>Biomass and Bioenergy</i> , 2018, 119, 446-455.	2.9	21
35	Understanding the synergistic effect and the main factors influencing the enzymatic hydrolyzability of corn stover at low enzyme loading by hydrothermal and/or ultrafine grinding pretreatment. <i>Bioresource Technology</i> , 2018, 264, 327-334.	4.8	51
36	Nanometrology of Biomass for Bioenergy: The Role of Atomic Force Microscopy and Spectroscopy in Plant Cell Characterization. <i>Frontiers in Energy Research</i> , 2018, 6, .	1.2	13
37	Catalytic Strategies Towards Lignin-Derived Chemicals. <i>Topics in Current Chemistry</i> , 2018, 376, 36.	3.0	75

#	ARTICLE	IF	CITATIONS
38	Bioethanol from Lignocellulosic Biomass. , 2019, , 997-1022.		8
39	Effect of pretreatment with organic solvent on enzymatic digestibility of cauliflower wastes. Preparative Biochemistry and Biotechnology, 2019, 49, 935-948.	1.0	5
40	Comparison of microwave thermohydrolysis and liquid hot water pretreatment of energy crop <i>Sida hermaphrodita</i> for enhanced methane production. Biomass and Bioenergy, 2019, 128, 105324.	2.9	24
41	A review on commercial-scale high-value products that can be produced alongside cellulosic ethanol. Biotechnology for Biofuels, 2019, 12, 240.	6.2	343
42	Ether-functionalized ionic liquids as solvent for <i>Gigantochloa scortechini</i> dissolution. AIP Conference Proceedings, 2019, , .	0.3	5
43	Performance of three delignifying pretreatments on hardwoods: hydrolysis yields, comprehensive mass balances, and lignin properties. Biotechnology for Biofuels, 2019, 12, 213.	6.2	27
44	Comparison and intrinsic correlation analysis based on composition, microstructure and enzymatic hydrolysis of corn stover after different types of pretreatments. Bioresource Technology, 2019, 293, 122016.	4.8	29
45	Application of microscopy techniques for a better understanding of biomass pretreatment. Industrial Crops and Products, 2019, 138, 111466.	2.5	8
46	Factors Affecting Seawater-Based Pretreatment of Lignocellulosic Date Palm Residues. , 2019, , 695-713.		2
47	Towards sustainable thermoplastic woody materials prepared from continuous steam explosion followed by oxidation-reduction. Carbohydrate Polymers, 2019, 216, 322-330.	5.1	6
48	Furfural production from microwave catalytic torrefaction of Douglas fir sawdust. Journal of Analytical and Applied Pyrolysis, 2019, 138, 188-195.	2.6	21
49	Transformation of Ammonia Fiber Expansion (AFEX) corn stover lignin into microbial lipids by <i>Rhodococcus opacus</i> . Fuel, 2019, 240, 119-125.	3.4	38
50	Improving enzymatic saccharification of <i>Eucalyptus grandis</i> branches by ozone pretreatment. Wood Science and Technology, 2019, 53, 49-69.	1.4	21
51	Real Time and Quantitative Imaging of Lignocellulosic Films Hydrolysis by Atomic Force Microscopy Reveals Lignin Recalcitrance at Nanoscale. Biomacromolecules, 2019, 20, 515-527.	2.6	11
52	Methane Production from Hydrogen Peroxide Assisted Hydrothermal Pretreatment of Solid Fraction Sugarcane Bagasse. Waste and Biomass Valorization, 2020, 11, 31-50.	1.8	20
53	Highly efficient cellulose dissolution by alkaline ionic liquids. Carbohydrate Polymers, 2020, 229, 115594.	5.1	44
54	<i>Terminalia arjuna</i> gum/alginate in situ gel system with prolonged retention time for ophthalmic drug delivery. International Journal of Biological Macromolecules, 2020, 152, 1056-1067.	3.6	31
55	Biomass Fractionation and Lignin Fractionation towards Lignin Valorization. ChemSusChem, 2020, 13, 4284-4295.	3.6	188

#	ARTICLE	IF	CITATIONS
56	Microwave-assisted acid pretreatment for enhancing enzymatic saccharification of sugarcane trash. <i>Biomass Conversion and Biorefinery</i> , 2022, 12, 3037-3054.	2.9	22
57	Operational Classification of Torrefied Biomass in a Gasifier as an Alternative Source of Electricity for EV Charging Station. , 2020, , .		0
58	Effect of hydrothermal pretreated bamboo lignin on cellulose saccharification for bioethanol production. <i>Industrial Crops and Products</i> , 2020, 156, 112865.	2.5	32
59	Potential for combined production of food and biofuel: Cultivation of <i>Pleurotus pulmonarius</i> on soft- and hardwood sawdusts. <i>Journal of Cleaner Production</i> , 2020, 266, 122011.	4.6	29
60	Proteomics of Lignocellulosic Substrates Bioconversion in Anaerobic Digesters to Increase Carbon Recovery as Methane. <i>Applied Environmental Science and Engineering for A Sustainable Future</i> , 2020, , 81-110.	0.2	2
61	Economic optimization of acid pretreatment: Structural changes and impact on enzymatic hydrolysis. <i>Industrial Crops and Products</i> , 2020, 147, 112236.	2.5	8
62	Effects of the advanced organosolv pretreatment strategies on structural properties of woody biomass. <i>Industrial Crops and Products</i> , 2020, 146, 112144.	2.5	103
63	Oxygen radical based on non-thermal atmospheric pressure plasma alleviates lignin-derived phenolic toxicity in yeast. <i>Biotechnology for Biofuels</i> , 2020, 13, 18.	6.2	11
64	Lignin bioconversion into valuable products: fractionation, depolymerization, aromatic compound conversion, and bioproduct formation. <i>Systems Microbiology and Biomanufacturing</i> , 2021, 1, 166-185.	1.5	10
65	One-step lignocellulose depolymerization and saccharification to high sugar yield and less condensed isolated lignin. <i>Green Chemistry</i> , 2021, 23, 1200-1211.	4.6	28
66	Novel and Efficient Lignin Fractionation Processes for Tailing Lignin-Based Materials. , 2021, , 363-387.		0
67	Comparison of Deep Eutectic Solvents and Ionic Liquids. <i>SpringerBriefs in Applied Sciences and Technology</i> , 2021, , 81-87.	0.2	1
68	Conversion of rice straw into 5-hydroxymethylfurfural: review and comparative process evaluation. <i>Biomass Conversion and Biorefinery</i> , 2022, 12, 1013-1047.	2.9	14
69	Opportunities and barriers for biofuel and bioenergy production from poplar. <i>GCB Bioenergy</i> , 2021, 13, 905-913.	2.5	10
70	Melatonin alleviates imidacloprid phytotoxicity to cucumber ( <i>Cucumis sativus</i> L.) through modulating redox homeostasis in plants and promoting its metabolism by enhancing glutathione dependent detoxification. <i>Ecotoxicology and Environmental Safety</i> , 2021, 217, 112248.	2.9	37
72	A review on cellulose nanocrystals production and characterization methods from <i>Elaeis guineensis</i> empty fruit bunches. <i>Arabian Journal of Chemistry</i> , 2021, 14, 103339.	2.3	34
73	Structural features of protic ionic liquids and their impact on pretreatment performance for 2G ethanol production. <i>Energy</i> , 2021, 235, 121279.	4.5	7
74	Advanced Bioethanol Production: From Novel Raw Materials to Integrated Biorefineries. <i>Processes</i> , 2021, 9, 206.	1.3	83

#	ARTICLE	IF	CITATIONS
75	Bioethanol from Lignocellulosic Biomass. , 2017, , 1-27.		7
76	Impact of hydrothermal pretreatment on anaerobic digestion efficiency for lignocellulosic biomass: Influence of pretreatment temperature on the formation of biomass-degrading byproducts. Chemosphere, 2020, 256, 127116.	4.2	51
77	Alkali-Based Pretreatment-Facilitated Lignin Valorization: A Review. Industrial & Engineering Chemistry Research, 2020, 59, 16923-16938.	1.8	70
79	Chemometric modeling of thermogravimetric data for the compositional analysis of forest biomass. PLoS ONE, 2017, 12, e0172999.	1.1	25
80	An alkaline deep eutectic solvent based on potassium carbonate and glycerol as pretreatment for the isolation of cellulose nanocrystals from empty fruit bunch. BioResources, 2020, 15, 1154-1170.	0.5	29
81	Chemical Kinetics of Alkaline Pretreatment of Napier Grass (Pennisetum purpureum) Prior Enzymatic Hydrolysis. Open Chemical Engineering Journal, 2018, 12, 36-56.	0.4	1
82	Two-stage alkaline and acid pretreatment applied to sugarcane bagasse to enrich the cellulosic fraction and improve enzymatic digestibility. Detritus, 2020, , 106-113.	0.4	1
83	Synergistic Treatment of Alkali Lignin via Fungal Coculture for Biofuel Production: Comparison of Physicochemical Properties and Adsorption of Enzymes Used As Catalysts. Frontiers in Energy Research, 2020, 8, .	1.2	11
84	Biological Characterization and Instrumental Analytical Comparison of Two Biorefining Pretreatments for Water Hyacinth (Eichhornia crassipes) Biomass Hydrolysis. Sustainability, 2021, 13, 245.	1.6	15
85	Multi-Scale Structural Studies of Sequential Ionic Liquids and Alkali Pretreated Corn Stover and Sugarcane Bagasse. Green and Sustainable Chemistry, 2018, 08, 92-114.	0.8	5
86	Recent advances in understanding the effects of lignin structural characteristics on enzymatic hydrolysis. Biotechnology for Biofuels, 2021, 14, 205.	6.2	94
87	Investigation on Chemical Isolation and Characterization of Cellulose from Delonix regia Fruit Fibers. Lecture Notes in Mechanical Engineering, 2021, , 303-314.	0.3	0
88	Conversion of Cellulose into Value-Added Products. , 0, , .		1
89	Current understanding and optimization strategies for efficient lignin-enzyme interaction: A review. International Journal of Biological Macromolecules, 2022, 195, 274-286.	3.6	20
90	Prospects of utilizing seawater as a reaction medium for pretreatment and saccharification of rice straw. Chemosphere, 2022, 293, 133528.	4.2	9
91	Ionic liquids for bioenergy production. , 2022, , 235-256.		3
92	Thermochemical and Enzymatic Saccharification of Water Hyacinth Biomass into Fermentable Sugars. Processes, 2022, 10, 210.	1.3	6
93	Effects of Microwave-Assisted Liquid Hot Water Pretreatment on Chemical Composition and Structure of Moso Bamboo. Frontiers in Bioengineering and Biotechnology, 2021, 9, 821982.	2.0	7

#	ARTICLE	IF	CITATIONS
94	Thermophilic Fungal Lignocellulolytic Enzymes in Biorefineries. , 2021, , 15-43.		1
95	Valorization of Brassica carinata biomass through conversion to hydrolysate and hydrochar. Biomass Conversion and Biorefinery, 0, , 1.	2.9	1
96	Conversion of rice husk into reducing sugars: influence of pretreatment with water and [C16MIM][Br <sup>-</sup> ] ionic liquid. Clean Technologies and Environmental Policy, 2022, 24, 2117-2128.	2.1	2
98	Fluorescent Imaging of Extracellular Fungal Enzymes Bound onto Plant Cell Walls. International Journal of Molecular Sciences, 2022, 23, 5216.	1.8	0
99	Amine-based pretreatments for lignocellulose fractionation and lignin valorization: a review. Green Chemistry, 2022, 24, 5460-5478.	4.6	19
100	Effects of Temperature and pH on Salt-Stressed Yeast Cultures in Non-Detoxified Coconut Hydrolysate. Industrial Biotechnology, 2022, 18, 205-213.	0.5	2
101	Deep eutectic solvents in the transformation of biomass into biofuels and fine chemicals: a review. Environmental Chemistry Letters, 2023, 21, 183-230.	8.3	29
102	Isolation of Lignin from Anaerobically Digested Unhydrolyzed Solids Produced in a Biorefinery. Agriculture (Switzerland), 2022, 12, 1621.	1.4	0
103	The Effect of Lactic Acid Fermentation on Extraction of Phenolics and Flavonoids from Sage Leaves. Applied Sciences (Switzerland), 2022, 12, 9959.	1.3	3
104	Controllable recovery and recycling of carboxylic acid-polyalcohol deep eutectic solvent for biomass pretreatment with electronically-controlled chemical methodology. Bioresource Technology, 2022, 365, 128175.	4.8	4
105	Pretreatment of Lignocellulosic Biomass and 2G Ethanol. Advances in Environmental Engineering and Green Technologies Book Series, 2022, , 322-339.	0.3	0
106	Production of glucose by carbon dioxide-assisted hydrothermal pretreatment of oil palm frond. AIP Conference Proceedings, 2022, , .	0.3	0
107	Enhanced enzymatic saccharification and ethanol production of corn stover via pretreatment with urea and steam explosion. Bioresource Technology, 2023, 376, 128856.	4.8	9
108	High-Yield Alpha-Cellulose from Oil Palm Empty Fruit Bunches by Optimizing Thermochemical Delignification Processes for Use as Microcrystalline Cellulose. International Journal of Biomaterials, 2023, 2023, 1-15.	1.1	3
109	Immobilized biocatalysts for hydrolysis of polysaccharides. , 2023, , 385-407.		0
110	A comparative assessment of biomass pretreatment methods for the sustainable industrial upscaling of rice straw into cellulose. Cellulose, 2023, 30, 4247-4261.	2.4	8
117	Alkaline Pretreatment Toward Sustainable Biorefinery. , 2024, , 1-27.		0
118	A novel approach to explore new means of depletion of potable water crisis by phytoremediation of Abandoned Coalmine Pitlake and generate alternate livelihood: A case study of Raniganj Coalfield, West Bengal, India. , 0, , .		0