

Charles E Wyman

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/6216710/publications.pdf>

Version: 2024-02-01

113
papers

26,864
citations

14614

66
h-index

22102

113
g-index

140
all docs

140
docs citations

140
times ranked

16975
citing authors

#	ARTICLE	IF	CITATIONS
1	Cosolvent enhanced lignocellulosic fractionation tailoring lignin chemistry and enhancing lignin bioconversion. <i>Bioresource Technology</i> , 2022, 347, 126367.	4.8	14
2	Toward low-cost biological and hybrid biological/catalytic conversion of cellulosic biomass to fuels. <i>Energy and Environmental Science</i> , 2022, 15, 938-990.	15.6	93
3	Relationship between ZSM-5 pore modifications and gallium proximity and liquid hydrocarbon number distribution from ethanol oligomerization. <i>Catalysis Science and Technology</i> , 2022, 12, 4903-4916.	2.1	5
4	THF co-solvent pretreatment prevents lignin redeposition from interfering with enzymes yielding prolonged cellulase activity. <i>Biotechnology for Biofuels</i> , 2021, 14, 63.	6.2	21
5	Polyurethanes Based on Unmodified and Refined Technical Lignins: Correlation between Molecular Structure and Material Properties. <i>Biomacromolecules</i> , 2021, 22, 2129-2136.	2.6	11
6	Elucidation of native California <i>Agave americana</i> and <i>Agave deserti</i> biofuel potential: Compositional analysis. <i>PLoS ONE</i> , 2021, 16, e0252201.	1.1	3
7	The effect of switchgrass plant cell wall properties on its deconstruction by thermochemical pretreatments coupled with fungal enzymatic hydrolysis or <i>Clostridium thermocellum</i> consolidated bioprocessing. <i>Green Chemistry</i> , 2020, 22, 7924-7945.	4.6	25
8	A Multifunctional Cosolvent Pair Reveals Molecular Principles of Biomass Deconstruction. <i>Journal of the American Chemical Society</i> , 2019, 141, 12545-12557.	6.6	73
9	CELf significantly reduces milling requirements and improves soaking effectiveness for maximum sugar recovery of Alamo switchgrass over dilute sulfuric acid pretreatment. <i>Biotechnology for Biofuels</i> , 2019, 12, 177.	6.2	10
10	Performance of three delignifying pretreatments on hardwoods: hydrolysis yields, comprehensive mass balances, and lignin properties. <i>Biotechnology for Biofuels</i> , 2019, 12, 213.	6.2	27
11	Single-step catalytic conversion of furfural to 2-pentanol over bimetallic Co-Cu catalysts. <i>Reaction Chemistry and Engineering</i> , 2019, 4, 261-267.	1.9	17
12	Multiple levers for overcoming the recalcitrance of lignocellulosic biomass. <i>Biotechnology for Biofuels</i> , 2019, 12, 15.	6.2	47
13	Impacts of cellulase deactivation at the moving air-liquid interface on cellulose conversions at low enzyme loadings. <i>Biotechnology for Biofuels</i> , 2019, 12, 96.	6.2	28
14	Cellulose hydrolysis by <i>Clostridium thermocellum</i> is agnostic to substrate structural properties in contrast to fungal cellulases. <i>Green Chemistry</i> , 2019, 21, 2810-2822.	4.6	10
15	Characterization of fractional cuts of co-solvent enhanced lignocellulosic fractionation lignin isolated by sequential precipitation. <i>Bioresource Technology</i> , 2019, 272, 202-208.	4.8	80
16	Sugar yield and composition of tubers from Jerusalem Artichoke (<i>Helianthus tuberosus</i>) irrigated with saline waters. <i>Biotechnology and Bioengineering</i> , 2018, 115, 1475-1484.	1.7	18
17	Cellulose-hemicellulose interactions at elevated temperatures increase cellulose recalcitrance to biological conversion. <i>Green Chemistry</i> , 2018, 20, 921-934.	4.6	49
18	Deactivation of Cellulase at the Air-Liquid Interface Is the Main Cause of Incomplete Cellulose Conversion at Low Enzyme Loadings. <i>Scientific Reports</i> , 2018, 8, 1350.	1.6	67

#	ARTICLE	IF	CITATIONS
19	Fast Fractionation of Technical Lignins by Organic Cosolvents. ACS Sustainable Chemistry and Engineering, 2018, 6, 6064-6072.	3.2	84
20	Strengths, challenges, and opportunities for hydrothermal pretreatment in lignocellulosic biorefineries. Biofuels, Bioproducts and Biorefining, 2018, 12, 125-138.	1.9	111
21	Topochemical Understanding of Lignin Distribution During Hydrothermal Flowthrough Pretreatment. ChemistrySelect, 2018, 3, 9348-9352.	0.7	16
22	Chemical Transformations of Poplar Lignin during Cosolvent Enhanced Lignocellulosic Fractionation Process. ACS Sustainable Chemistry and Engineering, 2018, 6, 8711-8718.	3.2	99
23	Unifying Mechanistic Analysis of Factors Controlling Selectivity in Fructose Dehydration to 5-Hydroxymethylfurfural by Homogeneous Acid Catalysts in Aprotic Solvents. ACS Catalysis, 2018, 8, 5591-5600.	5.5	73
24	Biomass augmentation through thermochemical pretreatments greatly enhances digestion of switchgrass by Clostridium thermocellum. Biotechnology for Biofuels, 2018, 11, 219.	6.2	40
25	Lignocellulose fermentation and residual solids characterization for senescent switchgrass fermentation by Clostridium thermocellum in the presence and absence of continuous ball-milling. Energy and Environmental Science, 2017, 10, 1252-1261.	15.6	65
26	Support Induced Control of Surface Composition in Cu-Ni/TiO ₂ Catalysts Enables High Yield Co-Conversion of HMF and Furfural to Methylated Furans. ACS Catalysis, 2017, 7, 4070-4082.	5.5	152
27	Effects of dilute acid and flowthrough pretreatments and BSA supplementation on enzymatic deconstruction of poplar by cellulase and xylanase. Carbohydrate Polymers, 2017, 157, 1940-1948.	5.1	36
28	Understanding Multiscale Structural Changes During Dilute Acid Pretreatment of Switchgrass and Poplar. ACS Sustainable Chemistry and Engineering, 2017, 5, 426-435.	3.2	29
29	Cellulosic ethanol: status and innovation. Current Opinion in Biotechnology, 2017, 45, 202-211.	3.3	316
30	Overcoming factors limiting high-solids fermentation of lignocellulosic biomass to ethanol. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 11673-11678.	3.3	134
31	Comparative evaluation of Populus variants total sugar release and structural features following pretreatment and digestion by two distinct biological systems. Biotechnology for Biofuels, 2017, 10, 292.	6.2	19
32	Adding tetrahydrofuran to dilute acid pretreatment provides new insights into substrate changes that greatly enhance biomass deconstruction by Clostridium thermocellum and fungal enzymes. Biotechnology for Biofuels, 2017, 10, 252.	6.2	43
33	Undefined cellulase formulations hinder scientific reproducibility. Biotechnology for Biofuels, 2017, 10, 283.	6.2	7
34	Flowthrough pretreatment with very dilute acid provides insights into high lignin contribution to biomass recalcitrance. Biotechnology for Biofuels, 2016, 9, 245.	6.2	52
35	Robustness of two-step acid hydrolysis procedure for composition analysis of poplar. Bioresource Technology, 2016, 216, 1077-1082.	4.8	34
36	Local Phase Separation of Co-solvents Enhances Pretreatment of Biomass for Bioenergy Applications. Journal of the American Chemical Society, 2016, 138, 10869-10878.	6.6	89

#	ARTICLE	IF	CITATIONS
37	Natural genetic variability reduces recalcitrance in poplar. <i>Biotechnology for Biofuels</i> , 2016, 9, 106.	6.2	29
38	Biological lignocellulose solubilization: comparative evaluation of biocatalysts and enhancement via cotreatment. <i>Biotechnology for Biofuels</i> , 2016, 9, 8.	6.2	78
39	Next-generation ammonia pretreatment enhances cellulosic biofuel production. <i>Energy and Environmental Science</i> , 2016, 9, 1215-1223.	15.6	169
40	Cosolvent pretreatment in cellulosic biofuel production: effect of tetrahydrofuran-water on lignin structure and dynamics. <i>Green Chemistry</i> , 2016, 18, 1268-1277.	4.6	122
41	Loss of function of folypolyglutamate synthetase 1 reduces lignin content and improves cell wall digestibility in <i>Arabidopsis</i> . <i>Biotechnology for Biofuels</i> , 2015, 8, 224.	6.2	27
42	Recalcitrance and structural analysis by water-only flowthrough pretreatment of ¹³ C enriched corn stover stem. <i>Bioresource Technology</i> , 2015, 197, 128-136.	4.8	6
43	How chip size impacts steam pretreatment effectiveness for biological conversion of poplar wood into fermentable sugars. <i>Biotechnology for Biofuels</i> , 2015, 8, 209.	6.2	23
44	Co-solvent Pretreatment Reduces Costly Enzyme Requirements for High Sugar and Ethanol Yields from Lignocellulosic Biomass. <i>ChemSusChem</i> , 2015, 8, 1716-1725.	3.6	159
45	Xylose yields and relationship to combined severity for dilute acid post-hydrolysis of xylooligomers from hydrothermal pretreatment of corn stover. <i>Green Chemistry</i> , 2015, 17, 394-403.	4.6	41
46	Xylan hydrolysis in <i>Populus trichocarpa</i> — <i>P. deltoides</i> and model substrates during hydrothermal pretreatment. <i>Bioresource Technology</i> , 2015, 179, 202-210.	4.8	16
47	Effect of lignin content on changes occurring in poplar cellulose ultrastructure during dilute acid pretreatment. <i>Biotechnology for Biofuels</i> , 2014, 7, 150.	6.2	113
48	Integrated furfural production as a renewable fuel and chemical platform from lignocellulosic biomass. <i>Journal of Chemical Technology and Biotechnology</i> , 2014, 89, 2-10.	1.6	389
49	Investigation of lignin deposition on cellulose during hydrothermal pretreatment, its effect on cellulose hydrolysis, and underlying mechanisms. <i>Biotechnology and Bioengineering</i> , 2014, 111, 485-492.	1.7	214
50	Lignin Valorization: Improving Lignin Processing in the Biorefinery. <i>Science</i> , 2014, 344, 1246843.	6.0	2,994
51	Strong cellulase inhibition by Mannan polysaccharides in cellulose conversion to sugars. <i>Biotechnology and Bioengineering</i> , 2014, 111, 1341-1353.	1.7	74
52	Production of renewable jet fuel range alkanes and commodity chemicals from integrated catalytic processing of biomass. <i>Energy and Environmental Science</i> , 2014, 7, 1500-1523.	15.6	342
53	Coupling metal halides with a co-solvent to produce furfural and 5-HMF at high yields directly from lignocellulosic biomass as an integrated biofuels strategy. <i>Green Chemistry</i> , 2014, 16, 3819-3829.	4.6	164
54	Application of a slurry feeder to 1 and 3 stage continuous simultaneous saccharification and fermentation of dilute acid pretreated corn stover. <i>Bioresource Technology</i> , 2014, 170, 470-476.	4.8	6

#	ARTICLE	IF	CITATIONS
55	Agave proves to be a low recalcitrant lignocellulosic feedstock for biofuels production on semi-arid lands. <i>Biotechnology for Biofuels</i> , 2014, 7, 50.	6.2	42
56	Comparison of enzymatic reactivity of corn stover solids prepared by dilute acid, AFEX [®] , and ionic liquid pretreatments. <i>Biotechnology for Biofuels</i> , 2014, 7, 71.	6.2	81
57	A comparative study of ethanol production using dilute acid, ionic liquid and AFEX [®] pretreated corn stover. <i>Biotechnology for Biofuels</i> , 2014, 7, 72.	6.2	199
58	Comparison of changes in cellulose ultrastructure during different pretreatments of poplar. <i>Cellulose</i> , 2014, 21, 2419-2431.	2.4	47
59	THF co-solvent enhances hydrocarbon fuel precursor yields from lignocellulosic biomass. <i>Green Chemistry</i> , 2013, 15, 3140.	4.6	228
60	The fate of lignin during hydrothermal pretreatment. <i>Biotechnology for Biofuels</i> , 2013, 6, 110.	6.2	191
61	Investigating plant cell wall components that affect biomass recalcitrance in poplar and switchgrass. <i>Energy and Environmental Science</i> , 2013, 6, 898.	15.6	220
62	Carbohydrate derived pseudo-lignin can retard cellulose biological conversion. <i>Biotechnology and Bioengineering</i> , 2013, 110, 737-753.	1.7	174
63	Enhanced yields of furfural and other products by simultaneous solvent extraction during thermochemical treatment of cellulosic biomass. <i>RSC Advances</i> , 2013, 3, 9809.	1.7	53
64	Comparison of laboratory delignification methods, their selectivity, and impacts on physiochemical characteristics of cellulosic biomass. <i>Bioresource Technology</i> , 2013, 130, 372-381.	4.8	177
65	4-O-methylation of glucuronic acid in <i>Arabidopsis</i> glucuronoxylan is catalyzed by a domain of unknown function family 579 protein. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 14253-14258.	3.3	164
66	Chemical transformations of <i>Populus trichocarpa</i> during dilute acid pretreatment. <i>RSC Advances</i> , 2012, 2, 10925.	1.7	138
67	Chemical composition and characterization of cellulose for Agave as a fast-growing, drought-tolerant biofuels feedstock. <i>RSC Advances</i> , 2012, 2, 4951.	1.7	56
68	Hydrochloric acid-catalyzed levulinic acid formation from cellulose: data and kinetic model to maximize yields. <i>AIChE Journal</i> , 2012, 58, 236-246.	1.8	142
69	Enzymatic hydrolysis of cellulosic biomass. <i>Biofuels</i> , 2011, 2, 421-449.	1.4	450
70	Application of monoclonal antibodies to investigate plant cell wall deconstruction for biofuels production. <i>Energy and Environmental Science</i> , 2011, 4, 4332.	15.6	107
71	Renewable gasoline from aqueous phase hydrodeoxygenation of aqueous sugar solutions prepared by hydrolysis of maple wood. <i>Green Chemistry</i> , 2011, 13, 91-101.	4.6	113
72	Investigation of enzyme formulation on pretreated switchgrass. <i>Bioresource Technology</i> , 2011, 102, 11072-11079.	4.8	21

#	ARTICLE	IF	CITATIONS
73	Comparative study on enzymatic digestibility of switchgrass varieties and harvests processed by leading pretreatment technologies. <i>Bioresource Technology</i> , 2011, 102, 11089-11096.	4.8	93
74	Comparative data on effects of leading pretreatments and enzyme loadings and formulations on sugar yields from different switchgrass sources. <i>Bioresource Technology</i> , 2011, 102, 11052-11062.	4.8	121
75	Sugar yields from dilute sulfuric acid and sulfur dioxide pretreatments and subsequent enzymatic hydrolysis of switchgrass. <i>Bioresource Technology</i> , 2011, 102, 8930-8938.	4.8	65
76	Supplementation with xylanase and β -xylosidase to reduce xylo-oligomer and xylan inhibition of enzymatic hydrolysis of cellulose and pretreated corn stover. <i>Biotechnology for Biofuels</i> , 2011, 4, 18.	6.2	192
77	Co-hydrolysis of hydrothermal and dilute acid pretreated populus slurries to support development of a high-throughput pretreatment system. <i>Biotechnology for Biofuels</i> , 2011, 4, 19.	6.2	20
78	The effect of bovine serum albumin on batch and continuous enzymatic cellulose hydrolysis mixed by stirring or shaking. <i>Bioresource Technology</i> , 2011, 102, 6295-6298.	4.8	56
79	Lignin content in natural <i>Populus</i> variants affects sugar release. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 6300-6305.	3.3	515
80	Xylooligomers are strong inhibitors of cellulose hydrolysis by enzymes. <i>Bioresource Technology</i> , 2010, 101, 9624-9630.	4.8	459
81	Depolymerization of lignocellulosic biomass to fuel precursors: maximizing carbon efficiency by combining hydrolysis with pyrolysis. <i>Energy and Environmental Science</i> , 2010, 3, 358.	15.6	157
82	Cellulase adsorption and relationship to features of corn stover solids produced by leading pretreatments. <i>Biotechnology and Bioengineering</i> , 2009, 103, 252-267.	1.7	196
83	What could be possible with mature biofuels technologies?. <i>Biofuels, Bioproducts and Biorefining</i> , 2009, 3, 105-107.	1.9	6
84	Effects of cellulase and xylanase enzymes on the deconstruction of solids from pretreatment of poplar by leading technologies. <i>Biotechnology Progress</i> , 2009, 25, 302-314.	1.3	253
85	Comparative sugar recovery and fermentation data following pretreatment of poplar wood by leading technologies. <i>Biotechnology Progress</i> , 2009, 25, 333-339.	1.3	269
86	Access of cellulase to cellulose and lignin for poplar solids produced by leading pretreatment technologies. <i>Biotechnology Progress</i> , 2009, 25, 807-819.	1.3	175
87	Summary of findings from the Biomass Refining Consortium for Applied Fundamentals and Innovation (CAFI): corn stover pretreatment. <i>Cellulose</i> , 2009, 16, 649-659.	2.4	98
88	Physical and chemical characterizations of corn stover and poplar solids resulting from leading pretreatment technologies. <i>Bioresource Technology</i> , 2009, 100, 3948-3962.	4.8	749
89	Effect of xylanase supplementation of cellulase on digestion of corn stover solids prepared by leading pretreatment technologies. <i>Bioresource Technology</i> , 2009, 100, 4203-4213.	4.8	250
90	Pretreatment: the key to unlocking low-cost cellulosic ethanol. <i>Biofuels, Bioproducts and Biorefining</i> , 2008, 2, 26-40.	1.9	1,247

#	ARTICLE	IF	CITATIONS
91	An improved method to directly estimate cellulase adsorption on biomass solids. <i>Enzyme and Microbial Technology</i> , 2008, 42, 426-433.	1.6	98
92	How biotech can transform biofuels. <i>Nature Biotechnology</i> , 2008, 26, 169-172.	9.4	984
93	Solubilities of Oligomer Mixtures Produced by the Hydrolysis of Xylans and Corn Stover in Water at 180 Å°C. <i>Industrial & Engineering Chemistry Research</i> , 2007, 46, 2383-2391.	1.8	30
94	What is (and is not) vital to advancing cellulosic ethanol. <i>Trends in Biotechnology</i> , 2007, 25, 153-157.	4.9	540
95	BSA treatment to enhance enzymatic hydrolysis of cellulose in lignin containing substrates. <i>Biotechnology and Bioengineering</i> , 2006, 94, 611-617.	1.7	438
96	Features of promising technologies for pretreatment of lignocellulosic biomass. <i>Bioresource Technology</i> , 2005, 96, 673-686.	4.8	5,057
97	Coordinated development of leading biomass pretreatment technologies. <i>Bioresource Technology</i> , 2005, 96, 1959-1966.	4.8	1,199
98	Combined sugar yields for dilute sulfuric acid pretreatment of corn stover followed by enzymatic hydrolysis of the remaining solids. <i>Bioresource Technology</i> , 2005, 96, 1967-1977.	4.8	655
99	Comparative sugar recovery data from laboratory scale application of leading pretreatment technologies to corn stover. <i>Bioresource Technology</i> , 2005, 96, 2026-2032.	4.8	470
100	The Effect of Flow Rate of Very Dilute Sulfuric Acid on Xylan, Lignin, and Total Mass Removal from Corn Stover. <i>Industrial & Engineering Chemistry Research</i> , 2004, 43, 2781-2788.	1.8	74
101	Novel in Situ Device for Measuring Solubilities. <i>Industrial & Engineering Chemistry Research</i> , 2004, 43, 6587-6591.	1.8	0
102	Unconventional Relationships for Hemicellulose Hydrolysis and Subsequent Cellulose Digestion. <i>ACS Symposium Series</i> , 2004, , 100-125.	0.5	27
103	Potential Synergies and Challenges in Refining Cellulosic Biomass to Fuels, Chemicals, and Power. <i>Biotechnology Progress</i> , 2003, 19, 254-262.	1.3	190
104	The Effect of Flow Rate of Compressed Hot Water on Xylan, Lignin, and Total Mass Removal from Corn Stover. <i>Industrial & Engineering Chemistry Research</i> , 2003, 42, 5409-5416.	1.8	257
105	Research and Development Needs for a Fully Sustainable Biocommodity Industry. <i>ACS Symposium Series</i> , 2002, , 31-46.	0.5	2
106	Xylose Monomer and Oligomer Yields for Uncatalyzed Hydrolysis of Sugarcane Bagasse Hemicellulose at Varying Solids Concentration. <i>Industrial & Engineering Chemistry Research</i> , 2002, 41, 1454-1461.	1.8	159
107	Heat Transfer Considerations in Design of a Batch Tube Reactor for Biomass Hydrolysis. <i>Applied Biochemistry and Biotechnology</i> , 2001, 91-93, 377-386.	1.4	15
108	Twenty Years of Trials, Tribulations, and Research Progress in Bioethanol Technology: Selected Key Events Along the Way. <i>Applied Biochemistry and Biotechnology</i> , 2001, 91-93, 5-22.	1.4	73

#	ARTICLE	IF	CITATIONS
109	Cellulose and Hemicellulose Hydrolysis Models for Application to Current and Novel Pretreatment Processes. <i>Applied Biochemistry and Biotechnology</i> , 2000, 84-86, 81-96.	1.4	205
110	Biocommodity Engineering. <i>Biotechnology Progress</i> , 1999, 15, 777-793.	1.3	636
111	BIOMASSETHANOL: Technical Progress, Opportunities, and Commercial Challenges. <i>Annual Review of Environment and Resources</i> , 1999, 24, 189-226.	1.2	487
112	Ethanol from lignocellulosic biomass: Technology, economics, and opportunities. <i>Bioresource Technology</i> , 1994, 50, 3-15.	4.8	422
113	Biofuels from cellulosic biomass via aqueous processing. , 0, , 336-348.		2