Jeremy S. Luterbacher

List of Publications by Year
in descending order

97 papers	8,062 citations	70961 41 h-index	48187 88 g-index
107 all docs	107 docs citations	107 times ranked	7542 citing authors

#	Article	IF	Citations
1	Restructuring Ni/Al2O3 by addition of Ga to shift product selectivity in CO2 hydrogenation: The role of hydroxyl groups. Journal of CO2 Utilization, 2022, 57, 101881.	3.3	6
2	Controlling lignin solubility and hydrogenolysis selectivity by acetal-mediated functionalization. Green Chemistry, 2022, 24, 1285-1293.	4.6	16
3	Atom-by-Atom Synthesis of Multiatom-Supported Catalytic Clusters by Liquid-Phase Atomic Layer Deposition. ACS Sustainable Chemistry and Engineering, 2022, 10, 3455-3465.	3.2	3
4	An efficient nickel hydrogen oxidation catalyst for hydroxide exchange membrane fuel cells. Nature Materials, 2022, 21, 804-810.	13.3	97
5	Extraction and Surfactant Properties of Glyoxylic Acidâ€Functionalized Lignin. ChemSusChem, 2022, 15, .	3.6	11
6	Sustainable polyesters via direct functionalization of lignocellulosic sugars. Nature Chemistry, 2022, 14, 976-984.	6.6	32
7	Cover Feature: Extraction and Surfactant Properties of Glyoxylic Acidâ€Functionalized Lignin (ChemSusChem 15/2022). ChemSusChem, 2022, 15, .	3.6	0
8	Guidelines for performing lignin-first biorefining. Energy and Environmental Science, 2021, 14, 262-292.	15.6	416
9	Techno-economic analysis and life cycle assessment of a biorefinery utilizing reductive catalytic fractionation. Energy and Environmental Science, 2021, 14, 4147-4168.	15.6	106
10	Continuous hydrogenolysis of acetal-stabilized lignin in flow. Green Chemistry, 2021, 23, 320-327.	4.6	15
11	Simultaneous extraction and controlled chemical functionalization of hardwood lignin for improved phenolation. Green Chemistry, 2021, 23, 3459-3467.	4.6	27
12	Investigating the effects of substrate morphology and experimental conditions on the enzymatic hydrolysis of lignocellulosic biomass through modeling. Biotechnology for Biofuels, 2021, 14, 103.	6.2	10
13	Dual Valorization of Lignin as a Versatile and Renewable Matrix for Enzyme Immobilization and (Flow) Bioprocess Engineering. ChemSusChem, 2021, 14, 3198-3207.	3.6	18
14	⁵⁷Fe-Enrichment effect on the composition and performance of Fe-based O₂-reduction electrocatalysts. Physical Chemistry Chemical Physics, 2021, 23, 9147-9157.	1.3	10
15	Increasing the activity of the Cu/CuAl₂O₄/Al₂O₃ catalyst for the RWGS through preserving the Cu²⁺ ions. Chemical Communications, 2021, 57, 1153-1156.	2.2	17
16	Diformylxylose as a new polar aprotic solvent produced from renewable biomass. Green Chemistry, 2021, 23, 4790-4799.	4.6	16
17	Ternary Alloys Enable Efficient Production of Methoxylated Chemicals via Selective Electrocatalytic Hydrogenation of Lignin Monomers. Journal of the American Chemical Society, 2021, 143, 17226-17235.	6.6	43
18	Efficient reductive amination of HMF with well dispersed Pd nanoparticles immobilized in a porous MOF/polymer composite. Green Chemistry, 2020, 22, 368-378.	4.6	58

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19	Engineering of ecological niches to create stable artificial consortia for complex biotransformations. Current Opinion in Biotechnology, 2020, 62, 129-136.	3.3	27
20	Steam Explosion Pretreatment of Beechwood. Part 1: Comparison of the Enzymatic Hydrolysis of Washed Solids and Whole Pretreatment Slurry at Different Solid Loadings. Energies, 2020, 13, 3653.	1.6	17
21	Steam Explosion Pretreatment of Beechwood. Part 2: Quantification of Cellulase Inhibitors and Their Effect on Avicel Hydrolysis. Energies, 2020, 13, 3638.	1.6	13
22	Aldehyde-Assisted Lignocellulose Fractionation Provides Unique Lignin Oligomers for the Design of Tunable Polyurethane Bioresins. Biomacromolecules, 2020, 21, 4135-4148.	2.6	35
23	A heterogeneous microbial consortium producing short-chain fatty acids from lignocellulose. Science, 2020, 369, .	6.0	120
24	Engineering the ZrO₂â€"Pd Interface for Selective CO₂Hydrogenation by Overcoating an Atomically Dispersed Pd Precatalyst. ACS Catalysis, 2020, 10, 12058-12070.	5.5	24
25	Mechanistic Study of Diaryl Ether Bond Cleavage during Palladiumâ€Catalyzed Lignin Hydrogenolysis. ChemSusChem, 2020, 13, 4487-4494.	3.6	36
26	Essential role of oxygen vacancies of Cu-Al and Co-Al spinel oxides in their catalytic activity for the reverse water gas shift reaction. Applied Catalysis B: Environmental, 2020, 266, 118669.	10.8	56
27	Catalyst Evolution Enhances Production of Xylitol from Acetal-Stabilized Xylose. ACS Sustainable Chemistry and Engineering, 2020, 8, 1709-1714.	3.2	10
28	Impacts of biofilms on the conversion of cellulose. Applied Microbiology and Biotechnology, 2020, 104, 5201-5212.	1.7	44
29	Lignin Functionalization for the Production of Novel Materials. Trends in Chemistry, 2020, 2, 440-453.	4.4	163
30	Aldehyde-Assisted Fractionation Enhances Lignin Valorization in Endocarp Waste Biomass. ACS Sustainable Chemistry and Engineering, 2020, 8, 16737-16745.	3.2	20
31	Stabilization strategies in biomass depolymerization using chemical functionalization. Nature Reviews Chemistry, 2020, 4, 311-330.	13.8	214
32	Establishing lignin structure-upgradeability relationships using quantitative ¹Hâ€"¹³C heteronuclear single quantum coherence nuclear magnetic resonance (HSQC-NMR) spectroscopy. Chemical Science, 2019, 10, 8135-8142.	3.7	50
33	Atomic Layer Deposition on Dispersed Materials in Liquid Phase by Stoichiometrically Limited Injections. Advanced Materials, 2019, 31, e1904276.	11.1	16
34	Preventing Lignin Condensation to Facilitate Aromatic Monomer Production. Chimia, 2019, 73, 591.	0.3	48
35	A Road to Profitability from Lignin via the Production of Bioactive Molecules. ACS Central Science, 2019, 5, 1642-1644.	5.3	23
36	Catalyst Support and Solvent Effects during Lignin Depolymerization and Hydrodeoxygenation. ACS Sustainable Chemistry and Engineering, 2019, 7, 16952-16958.	3.2	37

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37	Prominent role of mesopore surface area and external acid sites for the synthesis of polyoxymethylene dimethyl ethers (OME) on a hierarchical H-ZSM-5 zeolite. Catalysis Science and Technology, 2019, 9, 366-376.	2.1	28
38	Optimization of Lignin Extraction from Pine Wood for Fast Pyrolysis by Using a Î³-Valerolactone-Based Binary Solvent System. ACS Sustainable Chemistry and Engineering, 2019, 7, 4058-4068.	3.2	21
39	Cuâ€“Al Spinel as a Highly Active and Stable Catalyst for the Reverse Water Gas Shift Reaction. ACS Catalysis, 2019, 9, 6243-6251.	5.5	76
40	Insights into the Nature of the Active Sites of Tinâ€Montmorillonite for the Synthesis of Polyoxymethylene Dimethyl Ethers (OME). ChemCatChem, 2019, 11, 3010-3021.	1.8	9
41	Catalytic valorization of the acetate fraction of biomass to aromatics and its integration into the carboxylate platform. Green Chemistry, 2019, 21, 2801-2809.	4.6	12
42	Post-synthesis deposition of mesoporous niobic acid with improved thermal stability by kinetically controlled solâ€“gel overcoating. Journal of Materials Chemistry A, 2019, 7, 23803-23811.	5.2	3
43	Fractionation of lignocellulosic biomass to produce uncondensed aldehyde-stabilized lignin. Nature Protocols, 2019, 14, 921-954.	5.5	91
44	Atomic Layer Deposition: Atomic Layer Deposition on Dispersed Materials in Liquid Phase by Stoichiometrically Limited Injections (Adv. Mater. 52/2019). Advanced Materials, 2019, 31, 1970373.	11.1	2
45	Topology of Pretreated Wood Fibers Using Dynamic Nuclear Polarization. Journal of Physical Chemistry C, 2019, 123, 30407-30415.	1.5	22
46	Highly Selective Oxidation and Depolymerization of Î±,Î³â€Diolâ€Protected Lignin. Angewandte Chemie - International Edition, 2019, 58, 2649-2654.	7.2	84
47	Highly Selective Oxidation and Depolymerization of Î±,Î³â€Diolâ€Protected Lignin. Angewandte Chemie, 2019, 131, 2675-2680.	1.6	21
48	Designing Heterogeneous Catalysts for Renewable Catalysis Applications Using Metal Oxide Deposition. Chimia, 2019, 73, 698.	0.3	3
49	Simulation of Gas- and Liquid-Phase Layer-By-Layer Deposition of Metal Oxides by Coarse-Grained Modeling. Journal of Physical Chemistry C, 2018, 122, 6713-6720.	1.5	6
50	Consolidated bioprocessing of lignocellulosic biomass to lactic acid by a synthetic fungalâ€bacterial consortium. Biotechnology and Bioengineering, 2018, 115, 1207-1215.	1.7	92
51	Protection Group Effects During Î±,Î³â€Diol Lignin Stabilization Promote Highâ€Selectivity Monomer Production. Angewandte Chemie, 2018, 130, 1370-1374.	1.6	49
52	Densely Packed, Ultra Small SnO Nanoparticles for Enhanced Activity and Selectivity in Electrochemical CO₂ Reduction. Angewandte Chemie, 2018, 130, 2993-2997.	1.6	55
53	Densely Packed, Ultra Small SnO Nanoparticles for Enhanced Activity and Selectivity in Electrochemical CO₂ Reduction. Angewandte Chemie - International Edition, 2018, 57, 2943-2947.	7.2	209
54	Controlled deposition of titanium oxide overcoats by non-hydrolytic sol gel for improved catalyst selectivity and stability. Journal of Catalysis, 2018, 358, 50-61.	3.1	25

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55	RÃ¼cktitelbild: Protection Group Effects During Î±,Î³â€Diol Lignin Stabilization Promote Highâ€Selectivity Monomer Production (Angew. Chem. 5/2018). Angewandte Chemie, 2018, 130, 1434-1434.	1.6	0
56	Protection Group Effects During Î±,Î³â€Diol Lignin Stabilization Promote Highâ€Selectivity Monomer Production. Angewandte Chemie - International Edition, 2018, 57, 1356-1360.	7.2	174
57	An â€œideal ligninâ€• facilitates full biomass utilization. Science Advances, 2018, 4, eaau2968.	4.7	184
58	Selectivity Control during the Single-Step Conversion of Aliphatic Carboxylic Acids to Linear Olefins. ACS Catalysis, 2018, 8, 10769-10773.	5.5	6
59	Carbohydrate stabilization extends the kinetic limits of chemical polysaccharide depolymerization. Nature Chemistry, 2018, 10, 1222-1228.	6.6	66
60	Slowing the Kinetics of Alumina Solâ€"Gel Chemistry for Controlled Catalyst Overcoating and Improved Catalyst Stability and Selectivity. Small, 2018, 14, e1801733.	5.2	14
61	Selective synthesis of dimethyl ether on eco-friendly K10 montmorillonite clay. Applied Catalysis A: General, 2018, 560, 165-170.	2.2	14
62	Promotion Effect of Alkali Metal Hydroxides on Polymer-Stabilized Pd Nanoparticles for Selective Hydrogenation of Câ€"C Triple Bonds in Alkynols. Industrial & Engineering Chemistry Research, 2017, 56, 13219-13227.	1.8	16
63	Application potential of a carbocation scavenger in autohydrolysis and dilute acid pretreatment to overcome high softwood recalcitrance. Biomass and Bioenergy, 2017, 105, 164-173.	2.9	22
64	Catalyst stabilization by stoichiometrically limited layer-by-layer overcoating in liquid media. Applied Catalysis B: Environmental, 2017, 218, 643-649.	10.8	15
65	Solar conversion of CO2 to CO using Earth-abundant electrocatalysts prepared by atomic layer modification of CuO. Nature Energy, 2017, 2, .	19.8	436
66	Pilot-scale steam explosion pretreatment with 2-naphthol to overcome high softwood recalcitrance. Biotechnology for Biofuels, 2017, 10, 130.	6.2	16
67	A Multispecies Fungal Biofilm Approach to Enhance the Celluloytic Efficiency of Membrane Reactors for Consolidated Bioprocessing of Plant Biomass. Frontiers in Microbiology, 2017, 8, 1930.	1.5	15
68	Organic Solvent Effects in Biomass Conversion Reactions. ChemSusChem, 2016, 9, 133-155.	3.6	320
69	The influence of interunit carbonâ€"carbon linkages during lignin upgrading. Current Opinion in Green and Sustainable Chemistry, 2016, 2, 59-63.	3.2	58
70	Steam explosion pretreatment of softwood: the effect of the explosive decompression on enzymatic digestibility. Biotechnology for Biofuels, 2016, 9, 152.	6.2	183
71	Formaldehyde stabilization facilitates lignin monomer production during biomass depolymerization. Science, 2016, 354, 329-333.	6.0	944
72	Hydrothermally-treated Na-X as efficient adsorbents for butadiene removal. Chemical Engineering Journal, 2016, 288, 19-27.	6.6	6

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73	A mild biomass pretreatment using Î³-valerolactone for concentrated sugar production. Green Chemistry, 2016, 18, 937-943.	4.6	184
74	Solventâ€Enabled Nonenyzmatic Sugar Production from Biomass for Chemical and Biological Upgrading. ChemSusChem, 2015, 8, 1317-1322.	3.6	30
75	A lignocellulosic ethanol strategy via nonenzymatic sugar production: Process synthesis and analysis. Bioresource Technology, 2015, 182, 258-266.	4.8	91
76	Lignin monomer production integrated into the Î³-valerolactone sugar platform. Energy and Environmental Science, 2015, 8, 2657-2663.	15.6	212
77	Process systems engineering studies for the synthesis of catalytic biomass-to-fuels strategies. Computers and Chemical Engineering, 2015, 81, 57-69.	2.0	45
78	Lignin repolymerisation in spruce autohydrolysis pretreatment increases cellulase deactivation. Green Chemistry, 2015, 17, 3521-3532.	4.6	139
79	Improving Heterogeneous Catalyst Stability for Liquid-phase Biomass Conversion and Reforming. Chimia, 2015, 69, 582.	0.3	38
80	Modeling enzymatic hydrolysis of lignocellulosic substrates using confocal fluorescence microscopy I: Filter paper cellulose. Biotechnology and Bioengineering, 2015, 112, 21-31.	1.7	24
81	Modeling enzymatic hydrolysis of lignocellulosic substrates using fluorescent confocal microscopy II: Pretreated biomass. Biotechnology and Bioengineering, 2015, 112, 32-42.	1.7	32
82	Synthesis of catalytic biomass-to-fuels strategies. Computer Aided Chemical Engineering, 2014, 34, 615-620.	0.3	1
83	Nonenzymatic Sugar Production from Biomass Using Biomass-Derived Î³-Valerolactone. Science, 2014, 343, 277-280.	6.0	607
84	Solvent Effects in Acidâ€Catalyzed Biomass Conversion Reactions. Angewandte Chemie - International Edition, 2014, 53, 11872-11875.	7.2	371
85	Targeted chemical upgrading of lignocellulosic biomass to platform molecules. Green Chemistry, 2014, 16, 4816-4838.	4.6	399
86	Effects of Î³-valerolactone in hydrolysis of lignocellulosic biomass to monosaccharides. Green Chemistry, 2014, 16, 4659-4662.	4.6	149
87	Selective Conversion of Cellulose to Hydroxymethylfurfural in Polar Aprotic Solvents. ChemCatChem, 2014, 6, 2229-2234.	1.8	110
88	Observing and modeling BMCC degradation by commercial cellulase cocktails with fluorescently labeled <i>Trichoderma reseii</i> Cel7A through confocal microscopy. Biotechnology and Bioengineering, 2013, 110, 108-117.	1.7	40
89	A poreâ€hindered diffusion and reaction model can help explain the importance of pore size distribution in enzymatic hydrolysis of biomass. Biotechnology and Bioengineering, 2013, 110, 127-136.	1.7	57
90	Producing concentrated solutions of monosaccharides using biphasic CO2â€“H2O mixtures. Energy and Environmental Science, 2012, 5, 6990.	15.6	30

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91	Twoâ€temperature stage biphasic CO₂â€“H₂O pretreatment of lignocellulosic biomass at high solid loadings. Biotechnology and Bioengineering, 2012, 109, 1499-1507.	1.7	38
92	Observing Thermobifida fusca cellulase binding to pretreated wood particles using time-lapse confocal laser scanning microscopy. Cellulose, 2011, 18, 749-758.	2.4	20
93	Co-hydrolysis of hydrothermal and dilute acid pretreated populus slurries to support development of a high-throughput pretreatment system. Biotechnology for Biofuels, 2011, 4, 19.	6.2	20
94	Engineering of a highâ€throughput screening system to identify cellulosic biomass, pretreatments, and enzyme formulations that enhance sugar release. Biotechnology and Bioengineering, 2010, 105, 231-238.	1.7	84
95	Highâ€solids biphasic CO₂â€“H₂O pretreatment of lignocellulosic biomass. Biotechnology and Bioengineering, 2010, 107, 451-460.	1.7	75
96	Hydrothermal Gasification of Waste Biomass: Process Design and Life Cycle Asessment. Environmental Science & Technology, 2009, 43, 1578-1583.	4.6	73
97	Break it Down! How Scientists are Making Fuel Out of Plants. Frontiers for Young Minds, 0, 3, .	0.8	3