David K Johnson

List of Publications by Year
in descending order

52 papers	10,066 citations	117625 34 h-index	182427 51 g-index
53 all docs	53 docs citations	53 times ranked	11603 citing authors

#	Article	IF	Citations
1	Biomass Recalcitrance: Engineering Plants and Enzymes for Biofuels Production. Science, 2007, 315, 804-807.	12.6	3,749
2	Cellulose crystallinity index: measurement techniques and their impact on interpreting cellulase performance. Biotechnology for Biofuels, 2010, 3, 10.	6.2	2,335
3	Cellulase digestibility of pretreated biomass is limited by cellulose accessibility. Biotechnology and Bioengineering, 2007, 98, 112-122.	3.3	457
4	Mechanisms of Glycerol Dehydration. Journal of Physical Chemistry A, 2006, 110, 6145-6156.	2.5	239
5	Effects of alkaline or liquid-ammonia treatment on crystalline cellulose: changes in crystalline structure and effects on enzymatic digestibility. Biotechnology for Biofuels, 2011, 4, 41.	6.2	229
6	Stability of wood fast pyrolysis oil. Biomass and Bioenergy, 1994, 7, 187-192.	5.7	212
7	Measuring the crystallinity index of cellulose by solid state 13C nuclear magnetic resonance. Cellulose, 2009, 16, 641-647.	4.9	207
8	Base-Catalyzed Depolymerization of Biorefinery Lignins. ACS Sustainable Chemistry and Engineering, 2016, 4, 1474-1486.	6.7	172
9	Ab initio molecular dynamics simulations of Î²-d-glucose and Î²-d-xylose degradation mechanisms in acidic aqueous solution. Carbohydrate Research, 2005, 340, 2319-2327.	2.3	142
10	Energetics of Xylose Decomposition as Determined Using Quantum Mechanics Modeling. Journal of Physical Chemistry A, 2006, 110, 11824-11838.	2.5	140
11	Production of Furfural from Process-Relevant Biomass-Derived Pentoses in a Biphasic Reaction System. ACS Sustainable Chemistry and Engineering, 2017, 5, 5694-5701.	6.7	133
12	Organosolv pretreatment for enzymic hydrolysis of poplars. 2. Catalyst effects and the combined severity parameter. Industrial & Engineering Chemistry Research, 1990, 29, 156-162.	3.7	132
13	The impacts of deacetylation prior to dilute acid pretreatment on the bioethanol process. Biotechnology for Biofuels, 2012, 5, 8.	6.2	131
14	Can delignification decrease cellulose digestibility in acid pretreated corn stover?. Cellulose, 2009, 16, 677-686.	4.9	129
15	Porosity and Its Effect on the Digestibility of Dilute Sulfuric Acid Pretreated Corn Stover. Journal of Agricultural and Food Chemistry, 2007, 55, 2575-2581.	5.2	126
16	In Situ and ex Situ Catalytic Pyrolysis of Pine in a Bench-Scale Fluidized Bed Reactor System. Energy & Fuels, 2016, 30, 2144-2157.	5.1	100
17	Compositional analysis of biomass feedstocks by near infrared reflectance spectroscopy. Biomass and Bioenergy, 1996, 11, 365-370.	5.7	99
18	Glucose Reversion Reaction Kinetics. Journal of Agricultural and Food Chemistry, 2010, 58, 6131-6140.	5.2	84

#	Article	IF	Citations
19	A highly efficient dilute alkali deacetylation and mechanical (disc) refining process for the conversion of renewable biomass to lower cost sugars. Biotechnology for Biofuels, 2014, 7, 98.	6.2	78
20	Cellulose polymorphism study with sum-frequency-generation (SFG) vibration spectroscopy: identification of exocyclic CH2OH conformation and chain orientation. Cellulose, 2013, 20, 991-1000.	4.9	76
21	Atomic and Electronic Structures of Molecular Crystalline Cellulose Iβ:â€‰ A First-Principles Investigation. Macromolecules, 2005, 38, 10580-10589.	4.8	69
22	Baseâ€Catalyzed Depolymerization of Lignin: Separation of Monomers. Canadian Journal of Chemical Engineering, 2007, 85, 906-916.	1.7	69
23	Direct Conversion of Biomass Carbohydrates to Platform Chemicals: 5-Hydroxymethylfurfural (HMF) and Furfural. Energy & Fuels, 2020, 34, 3284-3293.	5.1	62
24	Effect of mechanical disruption on the effectiveness of three reactors used for dilute acid pretreatment of corn stover Part 2: morphological and structural substrate analysis. Biotechnology for Biofuels, 2014, 7, 47.	6.2	61
25	Acidic Sugar Degradation Pathways: An Ab Initio Molecular Dynamics Study. Applied Biochemistry and Biotechnology, 2005, 124, 0989-0998.	2.9	54
26	Redistribution of xylan in maize cell walls during dilute acid pretreatment. Biotechnology and Bioengineering, 2009, 102, 1537-1543.	3.3	53
27	Evaluation of Clean Fractionation Pretreatment for the Production of Renewable Fuels and Chemicals from Corn Stover. ACS Sustainable Chemistry and Engineering, 2014, 2, 1364-1376.	6.7	52
28	A thermodynamic investigation of the cellulose allomorphs: Cellulose(am), cellulose Iβ(cr), cellulose II(cr), and cellulose III(cr). Journal of Chemical Thermodynamics, 2015, 81, 184-226.	2.0	50
29	Elucidating the role of ferrous ion cocatalyst in enhancing dilute acid pretreatment of lignocellulosic biomass. Biotechnology for Biofuels, 2011, 4, 48.	6.2	47
30	The Effects of Water on β-d-Xylose Condensation Reactions. Journal of Physical Chemistry A, 2009, 113, 8577-8585.	2.5	46
31	Free Energy Landscape for Glucose Condensation Reactions. Journal of Physical Chemistry A, 2010, 114, 12936-12944.	2.5	46
32	Improved ethanol yield and reduced minimum ethanol selling price (MESP) by modifying low severity Biotechnology for Biofuels, 2012, 5, 69.	6.2	42
33	Prediction of Hydroxymethylfurfural Yield in Glucose Conversion through Investigation of Lewis Acid and Organic Solvent Effects. ACS Catalysis, 2020, 10, 14707-14721.	11.2	41
34	Effect of mechanical disruption on the effectiveness of three reactors used for dilute acid pretreatment of corn stover Part 1: chemical and physical substrate analysis. Biotechnology for Biofuels, 2014, 7, 57.	6.2	39
35	Dilute sulfuric acid pretreatment of corn stover at high solids concentrations. Applied Biochemistry and Biotechnology, 1992, 34-35, 659-665.	2.9	36
36	Connecting lignin-degradation pathway with pre-treatment inhibitor sensitivity of Cupriavidus necator. Frontiers in Microbiology, 2014, 5, 247.	3.5	33

#	Article	IF	Citations
37	Effects of Delignification on Crystalline Cellulose in Lignocellulose Biomass Characterized by Vibrational Sum Frequency Generation Spectroscopy and X-ray Diffraction. Bioenergy Research, 2015, 8, 1750-1758.	3.9	33
38	The role of hydrogen-bonding interactions in acidic sugar reaction pathways. Carbohydrate Research, 2010, 345, 1945-1951.	2.3	32
39	Heterologous Expression of Xylanase Enzymes in Lipogenic Yeast Yarrowia lipolytica. PLoS ONE, 2014, 9, e111443.	2.5	32
40	An investigation of the changes in poly(methyl methacrylate) specimens after exposure to ultra-violet light, heat, and humidity. Solar Energy Materials and Solar Cells, 2013, 111, 165-180.	6.2	28
41	Correlations of Apparent Cellulose Crystallinity Determined by XRD, NMR, IR, Raman, and SFG Methods. Advances in Polymer Science, 2015, , 115-131.	0.8	27
42	Hydration and saccharification of cellulose Iβ, II and IIII at increasing dry solids loadings. Biotechnology Letters, 2013, 35, 1599-1607.	2.2	21
43	Investigation of the role of lignin in biphasic xylan hydrolysis during dilute acid and organosolv pretreatment of corn stover. Green Chemistry, 2015, 17, 1546-1558.	9.0	20
44	Simultaneous upgrading of biomass-derived sugars to HMF/furfural via enzymatically isomerized ketose intermediates. Biotechnology for Biofuels, 2019, 12, 253.	6.2	19
45	Direct Production of Propene from the Thermolysis of Poly(β-hydroxybutyrate) (PHB). An Experimental and DFT Investigation. Journal of Physical Chemistry A, 2016, 120, 332-345.	2.5	15
46	Pretreatments for Enhanced Digestibility of Feedstocks. , 0, , 436-453.		14
47	Parameter determination and validation for a mechanistic model of the enzymatic saccharification of cellulose-I_β. Biotechnology Progress, 2015, 31, 1237-1248.	2.6	12
48	Downregulation of p-Coumaroyl Quinate/Shikimate 3â€²-Hydroxylase (C3â€²H) or Cinnamate-4-hydrolylase (C4H) in Eucalyptus urophyllaâ€‰Ã—â€‰Eucalyptus grandis Leads to Increased Extractability. Bioenergy Research, 2016, 9, 691-699.	3.9	12
49	An end of service life assessment of PMMA lenses from veteran concentrator photovoltaic systems. Solar Energy Materials and Solar Cells, 2017, 167, 7-21.	6.2	12
50	Chemical and Structural Effects on the Rate of Xylan Hydrolysis during Dilute Acid Pretreatment of Poplar Wood. ACS Sustainable Chemistry and Engineering, 2019, 7, 4842-4850.	6.7	10
51	Investigation of Xylose Reversion Reactions That Can Occur during Dilute Acid Pretreatment. Energy & Fuels, 2013, 27, 7389-7397.	5.1	5
52	Challenges for Assessing the Performance of Biomass Degrading Biocatalysts. Methods in Molecular Biology, 2012, 908, 1-8.	0.9	2