James A Dumesic

List of Publications by Year
in descending order

249 papers	39,664 citations	2795 94 h-index	2558 195 g-index
266 all docs	266 docs citations	266 times ranked	21383 citing authors

#	ARTICLE	IF	CITATIONS
1	Liquidâ€Phase Catalytic Processing of Biomassâ€Derived Oxygenated Hydrocarbons to Fuels and Chemicals. Angewandte Chemie - International Edition, 2007, 46, 7164-7183.	7.2	2,148
2	Catalytic conversion of biomass to biofuels. Green Chemistry, 2010, 12, 1493.	4.6	2,017
3	Production of dimethylfuran for liquid fuels from biomass-derived carbohydrates. Nature, 2007, 447, 982-985.	13.7	2,011
4	Production of Liquid Alkanes by Aqueous-Phase Processing of Biomass-Derived Carbohydrates. Science, 2005, 308, 1446-1450.	6.0	1,502
5	Phase Modifiers Promote Efficient Production of Hydroxymethylfurfural from Fructose. Science, 2006, 312, 1933-1937.	6.0	1,466
6	Bimetallic catalysts for upgrading of biomass to fuels and chemicals. Chemical Society Reviews, 2012, 41, 8075.	18.7	1,167
7	Production of 5-hydroxymethylfurfural and furfural by dehydration of biomass-derived mono- and poly-saccharides. Green Chemistry, 2007, 9, 342-350.	4.6	1,060
8	Integrated Catalytic Conversion of Î³-Valerolactone to Liquid Alkenes for Transportation Fuels. Science, 2010, 327, 1110-1114.	6.0	988
9	Gamma-valerolactone, a sustainable platform molecule derived from lignocellulosic biomass. Green Chemistry, 2013, 15, 584.	4.6	868
10	Catalytic Conversion of Biomass to Monofunctional Hydrocarbons and Targeted Liquid-Fuel Classes. Science, 2008, 322, 417-421.	6.0	840
11	On the Mechanism of Low-Temperature Water Gas Shift Reaction on Copper. Journal of the American Chemical Society, 2008, 130, 1402-1414.	6.6	839
12	Catalytic routes for the conversion of biomass into liquid hydrocarbon transportation fuels. Energy and Environmental Science, 2011, 4, 83-99.	15.6	747
13	An overview of aqueous-phase catalytic processes for production of hydrogen and alkanes in a biorefinery. Catalysis Today, 2006, 111, 119-132.	2.2	612
14	Catalyst Design with Atomic Layer Deposition. ACS Catalysis, 2015, 5, 1804-1825.	5.5	608
15	Nonenzymatic Sugar Production from Biomass Using Biomass-Derived Î³-Valerolactone. Science, 2014, 343, 277-280.	6.0	607
16	Renewable Alkanes by Aqueous-Phase Reforming of Biomass-Derived Oxygenates. Angewandte Chemie - International Edition, 2004, 43, 1549-1551.	7.2	520
17	Self-assembly of noble metal monolayers on transition metal carbide nanoparticle catalysts. Science, 2016, 352, 974-978.	6.0	495
18	An overview of dehydration, aldol-condensation and hydrogenation processes for production of liquid alkanes from biomass-derived carbohydrates. Catalysis Today, 2007, 123, 59-70.	2.2	464

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19	Production of 5-Hydroxymethylfurfural from Glucose Using a Combination of Lewis and BrÃ¸nsted Acid Catalysts in Water in a Biphasic Reactor with an Alkylphenol Solvent. ACS Catalysis, 2012, 2, 930-934.	5.5	455
20	Mechanism of the Water Gas Shift Reaction on Pt:â€‰ First Principles, Experiments, and Microkinetic Modeling. Journal of Physical Chemistry C, 2008, 112, 4608-4617.	1.5	452
21	Selective Hydrogenolysis of Polyols and Cyclic Ethers over Bifunctional Surface Sites on Rhodiumâ€“Rhenium Catalysts. Journal of the American Chemical Society, 2011, 133, 12675-12689.	6.6	439
22	Solvent Effects on Fructose Dehydration to 5-Hydroxymethylfurfural in Biphasic Systems Saturated with Inorganic Salts. Topics in Catalysis, 2009, 52, 297-303.	1.3	407
23	Targeted chemical upgrading of lignocellulosic biomass to platform molecules. Green Chemistry, 2014, 16, 4816-4838.	4.6	399
24	Conversion of Hemicellulose into Furfural Using Solid Acid Catalysts in Î³â€Valerolactone. Angewandte Chemie - International Edition, 2013, 52, 1270-1274.	7.2	397
25	Solvent Effects in Acidâ€Catalyzed Biomass Conversion Reactions. Angewandte Chemie - International Edition, 2014, 53, 11872-11875.	7.2	371
26	Increasing the revenue from lignocellulosic biomass: Maximizing feedstock utilization. Science Advances, 2017, 3, e1603301.	4.7	352
27	Production of renewable jet fuel range alkanes and commodity chemicals from integrated catalytic processing of biomass. Energy and Environmental Science, 2014, 7, 1500-1523.	15.6	342
28	Integrated conversion of hemicellulose and cellulose from lignocellulosic biomass. Energy and Environmental Science, 2013, 6, 76-80.	15.6	332
29	Catalytic upgrading of levulinic acid to 5-nonanone. Green Chemistry, 2010, 12, 574.	4.6	330
30	Catalytic Conversion of Renewable Biomass Resources to Fuels and Chemicals. Annual Review of Chemical and Biomolecular Engineering, 2010, 1, 79-100.	3.3	318
31	Production of levulinic acid and gamma-valerolactone (GVL) from cellulose using GVL as a solvent in biphasic systems. Energy and Environmental Science, 2012, 5, 8199.	15.6	316
32	Production and upgrading of 5-hydroxymethylfurfural using heterogeneous catalysts and biomass-derived solvents. Green Chemistry, 2013, 15, 85-90.	4.6	310
33	Production of liquid hydrocarbon fuels by catalytic conversion of biomass-derived levulinic acid. Green Chemistry, 2011, 13, 1755.	4.6	289
34	The selective hydrogenation of biomass-derived 5-hydroxymethylfurfural using heterogeneous catalysts. Green Chemistry, 2012, 14, 1413.	4.6	284
35	Toward biomass-derived renewable plastics: Production of 2,5-furandicarboxylic acid from fructose. Science Advances, 2018, 4, eaap9722.	4.7	276
36	Modeling Ethanol Decomposition on Transition Metals: A Combined Application of Scaling and BrÃ¸nstedâ^'Evansâ^'Polanyi Relations. Journal of the American Chemical Society, 2009, 131, 5809-5815.	6.6	275

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37	A roadmap for conversion of lignocellulosic biomass to chemicals and fuels. Current Opinion in Chemical Engineering, 2012, 1, 218-224.	3.8	273
38	Conversion of cellulose to hydrocarbon fuels by progressive removal of oxygen. Applied Catalysis B: Environmental, 2010, 100, 184-189.	10.8	254
39	Liquid Alkanes with Targeted Molecular Weights from Biomassâ€Đerived Carbohydrates. ChemSusChem, 2008, 1, 417-424.	3.6	228
40	Conversion of Hemicellulose to Furfural and Levulinic Acid using Biphasic Reactors with Alkylphenol Solvents. ChemSusChem, 2012, 5, 383-387.	3.6	228
41	Molecular-level descriptions of surface chemistry in kinetic models using density functional theory. Chemical Engineering Science, 2004, 59, 4679-4691.	1.9	227
42	Techno-economic analysis of dimethylfuran (DMF) and hydroxymethylfurfural (HMF) production from pure fructose in catalytic processes. Chemical Engineering Journal, 2011, 169, 329-338.	6.6	219
43	Sn-Beta catalysed conversion of hemicellulosic sugars. Green Chemistry, 2012, 14, 702.	4.6	216
44	Direct conversion of cellulose to levulinic acid and gamma-valerolactone using solid acid catalysts. Catalysis Science and Technology, 2013, 3, 927-931.	2.1	213
45	Lignin monomer production integrated into the Î3-valerolactone sugar platform. Energy and Environmental Science, 2015, 8, 2657-2663.	15.6	212
46	Solvent-enabled control of reactivity for liquid-phase reactions of biomass-derived compounds. Nature Catalysis, 2018, 1, 199-207.	16.1	211
47	RuSn bimetallic catalysts for selective hydrogenation of levulinic acid to Î3-valerolactone. Applied Catalysis B: Environmental, 2012, 117-118, 321-329.	10.8	196
48	Carbonâ€“carbon bond formation for biomass-derived furfurals and ketones by aldol condensation in a biphasic system. Journal of Molecular Catalysis A, 2008, 296, 18-27.	4.8	194
49	Microkinetic Modeling: A Tool for Rational Catalyst Design. Chemical Reviews, 2021, 121, 1049-1076.	23.0	191
50	Production of renewable petroleum refinery diesel and jet fuel feedstocks from hemicellulose sugar streams. Energy and Environmental Science, 2013, 6, 205-216.	15.6	184
51	An â€œideal ligninâ€•facilitates full biomass utilization. Science Advances, 2018, 4, eaau2968.	4.7	184
52	Active sites and mechanisms for H ₂ O ₂ decomposition over Pd catalysts. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E1973-82.	3.3	171
53	Recycling of multilayer plastic packaging materials by solvent-targeted recovery and precipitation. Science Advances, 2020, 6, .	4.7	170
54	Dehydration of cellulose to levoglucosenone using polar aprotic solvents. Energy and Environmental Science, 2015, 8, 1808-1815.	15.6	167

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55	Stabilization of Copper Catalysts for Liquidâ€Phase Reactions by Atomic Layer Deposition. Angewandte Chemie - International Edition, 2013, 52, 13808-13812.	7.2	162
56	Bridging the Chemical and Biological Catalysis Gap: Challenges and Outlooks for Producing Sustainable Chemicals. ACS Catalysis, 2014, 4, 2060-2069.	5.5	160
57	Production of liquid hydrocarbon transportation fuels by oligomerization of biomass-derived C9 alkenes. Green Chemistry, 2010, 12, 992.	4.6	150
58	Effects of Î³-valerolactone in hydrolysis of lignocellulosic biomass to monosaccharides. Green Chemistry, 2014, 16, 4659-4662.	4.6	149
59	Acid-catalyzed conversion of furfuryl alcohol to ethyl levulinate in liquid ethanol. Energy and Environmental Science, 2012, 5, 8990.	15.6	146
60	Prediction of Experimental Methanol Decomposition Rates on Platinum from First Principles. Topics in Catalysis, 2006, 37, 17-28.	1.3	140
61	Experimental and theoretical studies of the acid-catalyzed conversion of furfuryl alcohol to levulinic acid in aqueous solution. Energy and Environmental Science, 2012, 5, 6981.	15.6	136
62	Role of the Cu-ZrO₂ Interfacial Sites for Conversion of Ethanol to Ethyl Acetate and Synthesis of Methanol from CO₂ and H₂. ACS Catalysis, 2016, 6, 7040-7050.	5.5	136
63	Solvent system for effective near-term production of hydroxymethylfurfural (HMF) with potential for long-term process improvement. Energy and Environmental Science, 2019, 12, 2212-2222.	15.6	135
64	Xâ€ray Absorption Spectroscopy of Bimetallic Ptâ€“Re Catalysts for Hydrogenolysis of Glycerol to Propanediols. ChemCatChem, 2010, 2, 1107-1114.	1.8	134
65	Selective dehydrogenation of isobutane over supported Pt/Sn catalysts. Catalysis Today, 2000, 55, 213-223.	2.2	132
66	Synthesis of Highly Ordered Hydrothermally Stable Mesoporous Niobia Catalysts by Atomic Layer Deposition. ACS Catalysis, 2011, 1, 1234-1245.	5.5	132
67	Chemistries and processes for the conversion of ethanol into middle-distillate fuels. Nature Reviews Chemistry, 2019, 3, 223-249.	13.8	132
68	Catalytic conversion of biomass-derived carbohydrates to fuels and chemicals by formation and upgrading of mono-functional hydrocarbon intermediates. Catalysis Today, 2009, 147, 115-125.	2.2	127
69	Mechanocatalytic Depolymerization of Dry (Ligno)cellulose As an Entry Process for High-Yield Production of Furfurals. ACS Catalysis, 2013, 3, 993-997.	5.5	126
70	A strategy for the simultaneous catalytic conversion of hemicellulose and cellulose from lignocellulosic biomass to liquid transportation fuels. Green Chemistry, 2014, 16, 653-661.	4.6	124
71	Universal kinetic solvent effects in acid-catalyzed reactions of biomass-derived oxygenates. Energy and Environmental Science, 2018, 11, 617-628.	15.6	122
72	Theoretical Studies of Stability and Reactivity of C2Hydrocarbon Species on Pt Clusters, Pt(111), and Pt(211). Journal of Physical Chemistry B, 2000, 104, 2299-2310.	1.2	121

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73	Aqueous-phase hydrodeoxygenation of sorbitol: A comparative study of Pt/Zr phosphate and PtReOx/C. Journal of Catalysis, 2013, 304, 72-85.	3.1	121
74	Production of levoglucosenone and 5-hydroxymethylfurfural from cellulose in polar aprotic solventâ€“water mixtures. Green Chemistry, 2017, 19, 3642-3653.	4.6	121
75	Catalytic conversion of biomass using solvents derived from lignin. Green Chemistry, 2012, 14, 1573.	4.6	119
76	Lignin Conversion to Low-Molecular-Weight Aromatics via an Aerobic Oxidation-Hydrolysis Sequence: Comparison of Different Lignin Sources. ACS Sustainable Chemistry and Engineering, 2018, 6, 3367-3374.	3.2	118
77	Triacetic acid lactone as a potential biorenewable platform chemical. Green Chemistry, 2012, 14, 1850.	4.6	117
78	Effects of chloride ions in acid-catalyzed biomass dehydration reactions in polar aprotic solvents. Nature Communications, 2019, 10, 1132.	5.8	117
79	Selective Production of Levulinic Acid from Furfuryl Alcohol in THF Solvent Systems over H-ZSM-5. ACS Catalysis, 2015, 5, 3354-3359.	5.5	116
80	Acid-Functionalized SBA-15-Type Periodic Mesoporous Organosilicas and Their Use in the Continuous Production of 5-Hydroxymethylfurfural. ACS Catalysis, 2012, 2, 1865-1876.	5.5	115
81	Catalytic conversion of lignocellulosic biomass to fuels: Process development and technoeconomic evaluation. Chemical Engineering Science, 2012, 67, 57-67.	1.9	113
82	Microcalorimetric, Infrared Spectroscopic, and DFT Studies of Ethylene Adsorption on Pt/SiO2 and Ptâˆ'Sn/SiO2 Catalysts. Journal of Physical Chemistry B, 1999, 103, 3923-3934.	1.2	112
83	Production of Furfural from Lignocellulosic Biomass Using Beta Zeolite and Biomass-Derived Solvent. Topics in Catalysis, 2013, 56, 1775-1781.	1.3	111
84	Stabilizing cobalt catalysts for aqueous-phase reactions by strong metal-support interaction. Journal of Catalysis, 2015, 330, 19-27.	3.1	111
85	Synthesis of 1,6-Hexanediol from Cellulose Derived Tetrahydrofuran-Dimethanol with Pt-WO_{<i>x</i>}/TiO₂ Catalysts. ACS Catalysis, 2018, 8, 1427-1439.	5.5	111
86	Catalytic Production of Liquid Fuels from Biomassâ€Ðerived Oxygenated Hydrocarbons: Catalytic Coupling at Multiple Length Scales. Catalysis Reviews - Science and Engineering, 2009, 51, 441-484.	5.7	110
87	Selective Conversion of Cellulose to Hydroxymethylfurfural in Polar Aprotic Solvents. ChemCatChem, 2014, 6, 2229-2234.	1.8	110
88	Enhanced stability of cobalt catalysts by atomic layer deposition for aqueous-phase reactions. Energy and Environmental Science, 2014, 7, 1657.	15.6	109
89	Plasmon-enhanced reverse water gas shift reaction over oxide supported Au catalysts. Catalysis Science and Technology, 2015, 5, 2590-2601.	2.1	104
90	Conversion of Furfural to 1,5-Pentanediol: Process Synthesis and Analysis. ACS Sustainable Chemistry and Engineering, 2017, 5, 4699-4706.	3.2	104

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91	Coupling of glycerol processing with Fischerâ€"Tropsch synthesis for production of liquid fuels. Green Chemistry, 2007, 9, 1073.	4.6	103
92	Tandem Catalytic Conversion of Glucose to 5-Hydroxymethylfurfural with an Immobilized Enzyme and a Solid Acid. ACS Catalysis, 2014, 4, 2165-2168.	5.5	102
93	Microkinetic analysis and mechanism of the water gas shift reaction over copper catalysts. Journal of Catalysis, 2011, 281, 1-11.	3.1	100
94	Chemicals from Biomass: Combining Ringâ€Opening Tautomerization and Hydrogenation Reactions to Produce 1,5â€Pentanediol from Furfural. ChemSusChem, 2017, 10, 1351-1355.	3.6	100
95	AgPd and CuPd Catalysts for Selective Hydrogenation of Acetylene. ACS Catalysis, 2020, 10, 8567-8581.	5.5	96
96	Dehydration of butanol to butene over solid acid catalysts in high water environments. Journal of Catalysis, 2009, 262, 134-143.	3.1	93
97	Density Functional Theory Calculations and Analysis of Reaction Pathways for Reduction of Nitric Oxide by Hydrogen on Pt(111). ACS Catalysis, 2014, 4, 3307-3319.	5.5	93
98	Methane Conversion to Ethylene and Aromatics on PtSn Catalysts. ACS Catalysis, 2017, 7, 2088-2100.	5.5	93
99	Exploring Meerweinâ€"Ponndorfâ€"Verley Reduction Chemistry for Biomass Catalysis Using a First-Principles Approach. ACS Catalysis, 2013, 3, 2694-2704.	5.5	92
100	A lignocellulosic ethanol strategy via nonenzymatic sugar production: Process synthesis and analysis. Bioresource Technology, 2015, 182, 258-266.	4.8	91
101	Carbon Overcoating of Supported Metal Catalysts for Improved Hydrothermal Stability. ACS Catalysis, 2015, 5, 4546-4555.	5.5	88
102	Transitionâ€Metal Nitride Core@Nobleâ€Metal Shell Nanoparticles as Highly CO Tolerant Catalysts. Angewandte Chemie - International Edition, 2017, 56, 8828-8833.	7.2	88
103	Catalytic upgrading of lactic acid to fuels and chemicals by dehydration/hydrogenation and Câ€"C coupling reactions. Green Chemistry, 2009, 11, 1101.	4.6	87
104	Formic acid decomposition on Au catalysts: DFT, microkinetic modeling, and reaction kinetics experiments. AIChE Journal, 2014, 60, 1303-1319.	1.8	87
105	Reverse Waterâ€"Gas Shift on Interfacial Sites Formed by Deposition of Oxidized Molybdenum Moieties onto Gold Nanoparticles. Journal of the American Chemical Society, 2015, 137, 10317-10325.	6.6	87
106	A General Framework for the Evaluation of Direct Nonoxidative Methane Conversion Strategies. Joule, 2018, 2, 349-365.	11.7	86
107	Density functional theory studies of the adsorption of ethylene and oxygen on Pt(111) and Pt[sub 3]Sn(111). Journal of Chemical Physics, 2001, 114, 4663.	1.2	80
108	Functionality and molecular weight distribution of red oak lignin before and after pyrolysis and hydrogenation. Green Chemistry, 2017, 19, 1378-1389.	4.6	80

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109	Microcalorimetric studies of zeolite acidity. Catalysis Letters, 1992, 12, 201-211.	1.4	79
110	Ketonization Reactions of Carboxylic Acids and Esters over Ceriaâ˜'Zirconia as Biomass-Upgrading Processes. Industrial & Engineering Chemistry Research, 2010, 49, 6027-6033.	1.8	79
111	A machine learning framework for the analysis and prediction of catalytic activity from experimental data. Applied Catalysis B: Environmental, 2020, 263, 118257.	10.8	76
112	Coupling chemical and biological catalysis: a flexible paradigm for producing biobased chemicals. Current Opinion in Biotechnology, 2016, 38, 54-62.	3.3	74
113	Microkinetic Analysis and Scaling Relations for Catalyst Design. Annual Review of Chemical and Biomolecular Engineering, 2018, 9, 413-450.	3.3	73
114	Oxygenated commodity chemicals from chemoâ€catalytic conversion of biomass derived heterocycles. AIChE Journal, 2018, 64, 1910-1922.	1.8	73
115	A sulfuric acid management strategy for the production of liquid hydrocarbon fuels via catalytic conversion of biomass-derived levulinic acid. Energy and Environmental Science, 2012, 5, 9690.	15.6	72
116	Operando Solid-State NMR Observation of Solvent-Mediated Adsorption-Reaction of Carbohydrates in Zeolites. ACS Catalysis, 2017, 7, 3489-3500.	5.5	70
117	Hydrogenation of levoglucosenone to renewable chemicals. Green Chemistry, 2017, 19, 1278-1285.	4.6	70
118	Bimetallic RhRe/C catalysts for the production of biomass-derived chemicals. Journal of Catalysis, 2013, 308, 226-236.	3.1	69
119	Enhanced Furfural Yields from Xylose Dehydration in the Î³â€Valerolactone/Water Solvent System at Elevated Temperatures. ChemSusChem, 2018, 11, 2321-2331.	3.6	69
120	Reaction Kinetics of Ethylene Glycol Reforming over Platinum in the Vapor versus Aqueous Phases. Journal of Physical Chemistry C, 2011, 115, 961-971.	1.5	68
121	Water-Compatible Lewis Acid-Catalyzed Conversion of Carbohydrates to 5-Hydroxymethylfurfural in a Biphasic Solvent System. Topics in Catalysis, 2012, 55, 657-662.	1.3	66
122	Dual-bed catalyst system for Câ€"C coupling of biomass-derived oxygenated hydrocarbons to fuel-grade compounds. Green Chemistry, 2010, 12, 223.	4.6	65
123	Engineering Catalyst Microenvironments for Metalâ€Catalyzed Hydrogenation of Biologically Derived Platform Chemicals. Angewandte Chemie - International Edition, 2014, 53, 12718-12722.	7.2	64
124	Fundamental catalytic challenges to design improved biomass conversion technologies. Journal of Catalysis, 2019, 369, 518-525.	3.1	64
125	Graphiticâ€Carbon Layers on Oxides: Toward Stable Heterogeneous Catalysts for Biomass Conversion Reactions. Angewandte Chemie - International Edition, 2015, 54, 7939-7943.	7.2	63
126	Supercritical methanol depolymerization and hydrodeoxygenation of lignin and biomass over reduced copper porous metal oxides. Green Chemistry, 2019, 21, 2988-3005.	4.6	63

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127	Aqueous Phase Glycerol Reforming by PtMo Bimetallic Nano-Particle Catalyst: Product Selectivity and Structural Characterization. Topics in Catalysis, 2012, 55, 53-69.	1.3	62
128	Ammonia synthesis kinetics: Surface chemistry, rate expressions, and kinetic analysis. Topics in Catalysis, 1994, 1, 233-252.	1.3	61
129	New catalytic strategies for Î±,Ï‰-diols production from lignocellulosic biomass. Faraday Discussions, 2017, 202, 247-267.	1.6	61
130	Gold-catalyzed conversion of lignin to low molecular weight aromatics. Chemical Science, 2018, 9, 8127-8133.	3.7	61
131	Improving economics of lignocellulosic biofuels: An integrated strategy for coproducing 1,5-pentanediol and ethanol. Applied Energy, 2018, 213, 585-594.	5.1	60
132	Production of butene oligomers as transportation fuels using butene for esterification of levulinic acid from lignocellulosic biomass: process synthesis and technoeconomic evaluation. Green Chemistry, 2012, 14, 3289.	4.6	59
133	Characterizing Substrateâ€“Surface Interactions on Alumina-Supported Metal Catalysts by Dynamic Nuclear Polarization-Enhanced Double-Resonance NMR Spectroscopy. Journal of the American Chemical Society, 2017, 139, 2702-2709.	6.6	59
134	Improving the production of maleic acid from biomass: TS-1 catalysed aqueous phase oxidation of furfural in the presence of Î³-valerolactone. Green Chemistry, 2018, 20, 2845-2856.	4.6	58
135	Synthesis of supported bimetallic nanoparticles with controlled size and composition distributions for active site elucidation. Journal of Catalysis, 2015, 328, 75-90.	3.1	57
136	Synthesis of biomass-derived feedstocks for the polymers and fuels industries from 5-(hydroxymethyl)furfural (HMF) and acetone. Green Chemistry, 2019, 21, 5532-5540.	4.6	57
137	Mechanistic Insights into Ring-Opening and Decarboxylation of 2-Pyrones in Liquid Water and Tetrahydrofuran. Journal of the American Chemical Society, 2013, 135, 5699-5708.	6.6	56
138	Kinetic and mechanistic insights into hydrogenolysis of lignin to monomers in a continuous flow reactor. Green Chemistry, 2019, 21, 3561-3572.	4.6	56
139	An engineered solvent system for sugar production from lignocellulosic biomass using biomass derived Î³-valerolactone. Green Chemistry, 2016, 18, 5756-5763.	4.6	55
140	Density-functional theory studies of acetone and propanal hydrogenation on Pt(111). Journal of Chemical Physics, 2002, 116, 8973-8980.	1.2	54
141	Microcalorimetric, Infrared Spectroscopic, and DFT Studies of Ethylene Adsorption on Pd and Pd/Sn Catalysts. Langmuir, 2000, 16, 2213-2219.	1.6	52
142	Hydrogenation of Î³-Butyrolactone to 1,4-Butanediol over CuCo/TiO₂ Bimetallic Catalysts. ACS Catalysis, 2017, 7, 8429-8440.	5.5	52
143	Synthesis Gas Conversion over Rh-Based Catalysts Promoted by Fe and Mn. ACS Catalysis, 2017, 7, 4550-4563.	5.5	51
144	Reaction Mechanism of Vapor-Phase Formic Acid Decomposition over Platinum Catalysts: DFT, Reaction Kinetics Experiments, and Microkinetic Modeling. ACS Catalysis, 2020, 10, 4112-4126.	5.5	51

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145	Effects of Water on the Copperâ€Catalyzed Conversion of Hydroxymethylfurfural in Tetrahydrofuran. ChemSusChem, 2015, 8, 3983-3986.	3.6	47
146	The role of Pt-FexOy interfacial sites for CO oxidation. Journal of Catalysis, 2018, 358, 19-26.	3.1	46
147	Measurement of intrinsic catalytic activity of Pt monometallic and Pt-MoOx interfacial sites over visible light enhanced PtMoOx/SiO2 catalyst in reverse water gas shift reaction. Journal of Catalysis, 2016, 344, 784-794.	3.1	45
148	Effect of Mixed-Solvent Environments on the Selectivity of Acid-Catalyzed Dehydration Reactions. ACS Catalysis, 2020, 10, 1679-1691.	5.5	45
149	Microkinetic analysis of methane dimerization reaction. Industrial & Engineering Chemistry Research, 1991, 30, 2114-2123.	1.8	44
150	Intrinsic activity of interfacial sites for Pt-Fe and Pt-Mo catalysts in the hydrogenation of carbonyl groups. Applied Catalysis B: Environmental, 2018, 231, 182-190.	10.8	41
151	Production of Alcohols from Cellulose by Supercritical Methanol Depolymerization and Hydrodeoxygenation. ACS Sustainable Chemistry and Engineering, 2018, 6, 4330-4344.	3.2	41
152	Production of <i>p</i>-Coumaric Acid from Corn GVL-Lignin. ACS Sustainable Chemistry and Engineering, 2020, 8, 17427-17438.	3.2	41
153	Production of monosaccharides and whey protein from acid whey waste streams in the dairy industry. Green Chemistry, 2018, 20, 1824-1834.	4.6	40
154	Ce promoted Pdâ€“Nb catalysts for Î³-valerolactone ring-opening and hydrogenation. Green Chemistry, 2012, 14, 3318.	4.6	39
155	A co-solvent hydrolysis strategy for the production of biofuels: process synthesis and technoeconomic analysis. Reaction Chemistry and Engineering, 2017, 2, 397-405.	1.9	38
156	A comparative study of secondary depolymerization methods on oxidized lignins. Green Chemistry, 2019, 21, 3940-3947.	4.6	38
157	PtMo Bimetallic Catalysts Synthesized by Controlled Surface Reactions for Water Gas Shift. ACS Catalysis, 2016, 6, 1334-1344.	5.5	37
158	Kinetics of Levoglucosenone Isomerization. ChemSusChem, 2017, 10, 129-138.	3.6	37
159	Identifying low-coverage surface species on supported noble metal nanoparticle catalysts by DNP-NMR. Chemical Communications, 2016, 52, 1859-1862.	2.2	36
160	Ring Opening of Biomass-Derived Cyclic Ethers to Dienes over Silica/Alumina. ACS Catalysis, 2017, 7, 5248-5256.	5.5	36
161	Mechanistic Study of Diaryl Ether Bond Cleavage during Palladiumâ€Catalyzed Lignin Hydrogenolysis. ChemSusChem, 2020, 13, 4487-4494.	3.6	36
162	Analysis of reaction schemes using maximum rates of constituent steps. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E2879-88.	3.3	35

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163	Atomic layer deposition of titanium phosphate on silica nanoparticles. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2012, 30, .	0.9	34
164	Catalysts synthesized by selective deposition of Fe onto Pt for the water-gas shift reaction. Applied Catalysis B: Environmental, 2018, 222, 182-190.	10.8	34
165	Catalytic dehydration of levoglucosan to levoglucosenone using BrÃ¸nsted solid acid catalysts in tetrahydrofuran. Green Chemistry, 2019, 21, 4988-4999.	4.6	33
166	Synthesis Gas Conversion over Rh/Mo Catalysts Prepared by Atomic Layer Deposition. ACS Catalysis, 2019, 9, 1810-1819.	5.5	33
167	Aqueous Phase Glycerol Reforming with Pt and PtMo Bimetallic Nanoparticle Catalysts: The Role of the Mo Promoter. Topics in Catalysis, 2013, 56, 1814-1828.	1.3	32
168	Catalytic C-O bond hydrogenolysis of tetrahydrofuran-dimethanol over metal supported WOx/TiO2 catalysts. Applied Catalysis B: Environmental, 2019, 258, 117945.	10.8	32
169	Solventâ€Enabled Nonenyzmatic Sugar Production from Biomass for Chemical and Biological Upgrading. ChemSusChem, 2015, 8, 1317-1322.	3.6	30
170	Sustainable production of 5-hydroxymethyl furfural from glucose for process integration with high fructose corn syrup infrastructure. Green Chemistry, 2021, 23, 3277-3288.	4.6	30
171	Density Functional Theory and Reaction Kinetics Studies of the Waterâ€"Gas Shift Reaction on Ptâ€"Re Catalysts. ChemCatChem, 2013, 5, 3690-3699.	1.8	28
172	Inhibition of Metal Hydrogenation Catalysts by Biogenic Impurities. Catalysis Letters, 2015, 145, 15-22.	1.4	27
173	Hydrodechlorination of 1,2-dichloroethane on supported AgPd catalysts. Journal of Catalysis, 2019, 370, 241-250.	3.1	27
174	Synthesis of Supported RhMo and PtMo Bimetallic Catalysts by Controlled Surface Reactions. ChemCatChem, 2015, 7, 3881-3886.	1.8	26
175	Visualizing plant cell wall changes proves the superiority of hydrochloric acid over sulfuric acid catalyzed Î³-valerolactone pretreatment. Chemical Engineering Journal, 2021, 412, 128660.	6.6	26
176	Effect of carbon supports on RhRe bifunctional catalysts for selective hydrogenolysis of tetrahydropyran-2-methanol. Catalysis Science and Technology, 2016, 6, 7841-7851.	2.1	25
177	Ethanol condensation at elevated pressure over copper on AlMgO and AlCaO porous mixed-oxide supports. Catalysis Science and Technology, 2019, 9, 2032-2042.	2.1	25
178	Enhanced Acid-Catalyzed Lignin Depolymerization in a Continuous Reactor with Stable Activity. ACS Sustainable Chemistry and Engineering, 2020, 8, 4096-4106.	3.2	25
179	Synthesis of performance-advantaged polyurethanes and polyesters from biomass-derived monomers by aldol-condensation of 5-hydroxymethyl furfural and hydrogenation. Green Chemistry, 2021, 23, 4355-4364.	4.6	25
180	A Tailored Microenvironment for Catalytic Biomass Conversion in Inorganicâ€"Organic Nanoreactors. Angewandte Chemie, 2013, 125, 10539-10541.	1.6	24

#	Article	IF	Citations
181	Operando Xâ€ray Absorption Spectroscopy Studies of Sintering for Supported Copper Catalysts during Liquidâ€phase Reaction. ChemCatChem, 2014, 6, 2493-2496.	1.8	24
182	Production of 1,6-hexanediol from tetrahydropyran-2-methanol by dehydrationâ€“hydration and hydrogenation. Green Chemistry, 2017, 19, 1390-1398.	4.6	24
183	On the nature of active sites for formic acid decomposition on gold catalysts. Catalysis Science and Technology, 2019, 9, 2836-2848.	2.1	24
184	Selective Hydrogenation of Unsaturated Carbonâ€“Carbon Bonds in Aromatic-Containing Platform Molecules. ACS Catalysis, 2016, 6, 2047-2054.	5.5	23
185	Amination of 1-hexanol on bimetallic AuPd/TiO₂catalysts. Green Chemistry, 2018, 20, 4695-4709.	4.6	22
186	Title is missing!. Catalysis Letters, 2000, 68, 129-138.	1.4	21
187	Catalytic production of hexane-1,2,5,6-tetrol from bio-renewable levoglucosanol in water: effect of metal and acid sites on (stereo)-selectivity. Green Chemistry, 2018, 20, 4557-4565.	4.6	21
188	Synthesis Gas Conversion Over Molybdenum-Based Catalysts Promoted by Transition Metals. ACS Catalysis, 2020, 10, 365-374.	5.5	21
189	Catalytic strategy for conversion of fructose to organic dyes, polymers, and liquid fuels. Green Chemistry, 2020, 22, 5285-5295.	4.6	21
190	Tuning Acidâ€“Base Properties Using Mgâ€“Al Oxide Atomic Layer Deposition. ACS Applied Materials & Interfaces, 2015, 7, 16573-16580.	4.0	20
191	Computational Framework for the Identification of Bioprivileged Molecules. ACS Sustainable Chemistry and Engineering, 2019, 7, 2414-2428.	3.2	20
192	Chemicalâ€Switching Strategy for Synthesis and Controlled Release of Norcantharimides from a Biomassâ€Derived Chemical. ChemSusChem, 2020, 13, 5213-5219.	3.6	20
193	Condensed Phase Deactivation of Solid BrÃ¸nsted Acids in the Dehydration of Fructose to Hydroxymethylfurfural. ACS Catalysis, 2019, 9, 11568-11578.	5.5	19
194	Ethane dehydrogenation on pristine and AlO_x decorated Pt stepped surfaces. Catalysis Science and Technology, 2018, 8, 2159-2174.	2.1	18
195	Catalytic hydrogenation of dihydrolevoglucosenone to levoglucosanol with a hydrotalcite/mixed oxide copper catalyst. Green Chemistry, 2019, 21, 5000-5007.	4.6	18
196	Synthesis Gas Conversion over Rh-Mn-W_{<i>x</i>}C/SiO₂ Catalysts Prepared by Atomic Layer Deposition. ACS Catalysis, 2018, 8, 10707-10720.	5.5	17
197	A self-adjusting platinum surface for acetone hydrogenation. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 3446-3450.	3.3	17
198	Growth-coupled bioconversion of levulinic acid to butanone. Metabolic Engineering, 2019, 55, 92-101.	3.6	16

#	Article	IF	Citations
199	Ethanol to distillate-range molecules using Cu/MgxAlOy catalysts with low Cu loadings. Applied Catalysis B: Environmental, 2022, 304, 120984.	10.8	16
200	Microcalorimetric and Reaction Kinetic Studies of Alkali Metals on Pt Powder and Pt/SiO2and Pt/Sn/SiO2Catalysts. The Journal of Physical Chemistry, 1996, 100, 17260-17265.	2.9	15
201	On the Mechanism of the NO Reduction by Propylene Over Supported Pt Catalysts. Catalysis Letters, 2002, 83, 109-114.	1.4	15
202	Activation of Amberlyst-70 for Alkene Oligomerization in Hydrophobic Media. Topics in Catalysis, 2011, 54, 447-457.	1.3	15
203	Mechanistic Insights into the Hydrogenolysis of Levoglucosanol over Bifunctional Platinum Silicaâ€"Alumina Catalysts. ACS Catalysis, 2018, 8, 3743-3753.	5.5	15
204	Design of closed-loop recycling production of a Dielsâ€"Alder polymer from a biomass-derived difuran as a functional additive for polyurethanes. Green Chemistry, 2021, 23, 9479-9488.	4.6	14
205	Controlled hydrogenation of a biomass-derived platform chemical formed by aldol-condensation of 5-hydroxymethyl furfural (HMF) and acetone over Ru, Pd, and Cu catalysts. Green Chemistry, 2022, 24, 2146-2159.	4.6	14
206	Comparison of Fast Pyrolysis Behavior of Cornstover Lignins Isolated by Different Methods. ACS Sustainable Chemistry and Engineering, 2017, 5, 5657-5661.	3.2	13
207	Synthesis of Hexane-Tetrols and -Triols with Fixed Hydroxyl Group Positions and Stereochemistry from Methyl Glycosides over Supported Metal Catalysts. ACS Sustainable Chemistry and Engineering, 2020, 8, 800-805.	3.2	13
208	Hydrodechlorination of 1,2-Dichloroethane on Platinum Catalysts: Insights from Reaction Kinetics Experiments, Density Functional Theory, and Microkinetic Modeling. ACS Catalysis, 2021, 11, 7890-7905.	5.5	12
209	Engineering Catalyst Microenvironments for Metalâ€Catalyzed Hydrogenation of Biologically Derived Platform Chemicals. Angewandte Chemie, 2014, 126, 12932-12936.	1.6	11
210	Graphiticâ€Carbon Layers on Oxides: Toward Stable Heterogeneous Catalysts for Biomass Conversion Reactions. Angewandte Chemie, 2015, 127, 8050-8054.	1.6	11
211	Direct Synthesis of Hydrogen Peroxide Over Auâ€"Pd Catalysts Prepared by Electroless Deposition. Catalysis Letters, 2015, 145, 2057-2065.	1.4	11
212	Transitionâ€Metal Nitride Core@Nobleâ€Metal Shell Nanoparticles as Highly CO Tolerant Catalysts. Angewandte Chemie, 2017, 129, 8954-8959.	1.6	11
213	Solventâ€"Solid Interface of Acid Catalysts Studied by High Resolution MAS NMR. Journal of Physical Chemistry C, 2017, 121, 17226-17234.	1.5	11
214	Effect of Particle Size upon Pt/SiO₂ Catalytic Cracking of <i>n</i>â€Dodecane under Supercritical Conditions: Inâ€…situ SAXS and XANES Studies. ChemCatChem, 2017, 9, 99-102.	1.8	11
215	Rational Design of Mixed Solvent Systems for Acid-Catalyzed Biomass Conversion Processes Using a Combined Experimental, Molecular Dynamics and Machine Learning Approach. Topics in Catalysis, 2020, 63, 649-663.	1.3	11
216	Solid-State NMR Studies of Solvent-Mediated, Acid-Catalyzed Woody Biomass Pretreatment for Enzymatic Conversion of Residual Cellulose. ACS Sustainable Chemistry and Engineering, 2020, 8, 6551-6563.	3.2	10

#	Article	IF	Citations
217	Effects of water on the kinetics of acetone hydrogenation over Pt and Ru catalysts. Journal of Catalysis, 2021, 403, 215-227.	3.1	10
218	Ethylene oligomerization into linear olefins over cobalt oxide on carbon catalyst. Catalysis Science and Technology, 2021, 11, 3599-3608.	2.1	10
219	Production of renewable alcohols from maple wood using supercritical methanol hydrodeoxygenation in a semi-continuous flowthrough reactor. Green Chemistry, 2020, 22, 8462-8477.	4.6	9
220	Renewable linear alpha-olefins by base-catalyzed dehydration of biologically-derived fatty alcohols. Green Chemistry, 2021, 23, 4338-4354.	4.6	9
221	Modifying the Surface Properties of Heterogeneous Catalysts Using Polymer-Derived Microenvironments. Topics in Catalysis, 2016, 59, 19-28.	1.3	8
222	Rates of levoglucosanol hydrogenolysis over BrÃ¸nsted and Lewis acid sites on platinum silica-alumina catalysts synthesized by atomic layer deposition. Journal of Catalysis, 2020, 389, 111-120.	3.1	8
223	Solvent and Chloride Ion Effects on the Acid-Catalyzed Conversion of Glucose to 5-Hydroxymethylfurfural. ACS Sustainable Chemistry and Engineering, 2022, 10, 8275-8288.	3.2	8
224	Methionine bound to Pd/Î³-Al2O3 catalysts studied by solid-state 13C NMR. Solid State Nuclear Magnetic Resonance, 2015, 72, 64-72.	1.5	7
225	Supported two- and three-dimensional vanadium oxide species on the surface of Î²-SiC. Catalysis Science and Technology, 2017, 7, 3707-3714.	2.1	7
226	Hexane-1,2,5,6-tetrol as a Versatile and Biobased Building Block for the Synthesis of Sustainable (Chiral) Crystalline Mesoporous Polyboronates. ACS Sustainable Chemistry and Engineering, 2019, 7, 13430-13436.	3.2	7
227	<i>In situ</i>, <i>operando</i> studies on the size and structure of supported Pt catalysts under supercritical conditions by simultaneous synchrotron-based X-ray techniques. Physical Chemistry Chemical Physics, 2019, 21, 11740-11747.	1.3	7
228	Identifying hydroxylated copper dimers in SSZ-13 <i>via</i> UV-vis-NIR spectroscopy. Catalysis Science and Technology, 2022, 12, 2744-2748.	2.1	7
229	Selective Production of Terminally Unsaturated Methyl Esters from Lactones Over Metal Oxide Catalysts. Catalysis Letters, 2018, 148, 3072-3081.	1.4	6
230	Catalytic Production of Glucoseâ€"Galactose Syrup from Greek Yogurt Acid Whey in a Continuousâ€Flow Reactor. ChemSusChem, 2020, 13, 791-802.	3.6	6
231	Thermal Decomposition of Iron Pentacarbonyl on Titania. ACS Symposium Series, 1984, , 3-19.	0.5	5
232	The relevance of Lewis acid sites on the gas phase reaction of levulinic acid into ethyl valerate using CoSBA-xAl bifunctional catalysts. Catalysis Science and Technology, 2021, 11, 4280-4293.	2.1	5
233	Effect of catalyst support on cobalt catalysts for ethylene oligomerization into linear olefins. Catalysis Science and Technology, 2022, 12, 3639-3649.	2.1	5
234	Enhanced Furfural Yields from Xylose Dehydration in the Î³-Valerolactone/Water Solvent System at Elevated Temperatures. ChemSusChem, 2018, 11, 2266-2266.	3.6	4

#	Article	IF	Citations
235	Mechanistic Insights into the Conversion of Biorenewable Levoglucosanol to Dideoxysugars. ACS Sustainable Chemistry and Engineering, 2020, 8, 16339-16349.	3.2	4
236	Reaction kinetics study of ethylene oligomerization into linear olefins over carbon-supported cobalt catalysts. Journal of Catalysis, 2021, 404, 954-963.	3.1	4
237	Catalytic conversion of cellulose to levoglucosenone using propylsulfonic acid functionalized SBA-15 and H2SO4 in tetrahydrofuran. Biomass and Bioenergy, 2022, 156, 106315.	2.9	4
238	Mechanistic Study of 1,2-Dichloroethane Hydrodechlorination on Cu-Rich Ptâ€"Cu Alloys: Combining Reaction Kinetics Experiments with DFT Calculations and Microkinetic Modeling. ACS Sustainable Chemistry and Engineering, 2022, 10, 1509-1523.	3.2	4
239	Production of Hexane-1,2,5,6-tetrol from Biorenewable Levoglucosanol over Pt-WO_{<i>x</i>}/TiO₂. ACS Sustainable Chemistry and Engineering, 2021, 9, 16123-16132.	3.2	3
240	The Chemistry of GaN Growth. Materials Research Society Symposia Proceedings, 2000, 639, 111.	0.1	2
241	Atomic Layer Deposition for Improved Stability of Catalysts for the Conversion of Biomass to Chemicals and Fuels. Materials Research Society Symposia Proceedings, 2011, 1366, 1.	0.1	1
242	RÃ¼cktitelbild: Stabilization of Copper Catalysts for Liquid-Phase Reactions by Atomic Layer Deposition (Angew. Chem. 51/2013). Angewandte Chemie, 2013, 125, 14068-14068.	1.6	1
243	Chemical kinetics for generalized two-step reaction schemes. Journal of Catalysis, 2021, , .	3.1	1
244	Innentitelbild: A Tailored Microenvironment for Catalytic Biomass Conversion in Inorganicâ€"Organic Nanoreactors (Angew. Chem. 39/2013). Angewandte Chemie, 2013, 125, 10314-10314.	1.6	0
245	Operando X-ray Absorption Spectroscopy Studies of Sintering for Supported Copper Catalysts during Liquid-phase Reaction. ChemCatChem, 2014, 6, 2437-2437.	1.8	0
246	Frontispiece: Engineering Catalyst Microenvironments for Metal-Catalyzed Hydrogenation of Biologically Derived Platform Chemicals. Angewandte Chemie - International Edition, 2014, 53, .	7.2	0
247	Frontispiz: Engineering Catalyst Microenvironments for Metal-Catalyzed Hydrogenation of Biologically Derived Platform Chemicals. Angewandte Chemie, 2014, 126, n/a-n/a.	1.6	0
248	Correction to â€œSelective Hydrogenation of Unsaturated Carbonâ€"Carbon Bonds in Aromatic-Containing Platform Moleculesâ€. ACS Catalysis, 2016, 6, 3127-3127.	5.5	0
249	Catalytic Conversion of Cellulose to Levoglucosenone Using Propylsulfonic Acid Functionalized Sba-15 and H2so4Âln Tetrahydrofuran. SSRN Electronic Journal, 0, , .	0.4	0