David C Dayton

List of Publications by Year
in descending order

62 papers	3,862 citations	147566 31 h-index	155451 55 g-index
69 all docs	69 docs citations	69 times ranked	3914 citing authors

#	Article	IF	Citations
1	Bamboo: an overlooked biomass resource?. Biomass and Bioenergy, 2000, 19, 229-244.	2.9	608
2	The behavior of inorganic material in biomass-fired power boilers: field and laboratory experiences. Fuel Processing Technology, 1998, 54, 47-78.	3.7	557
3	Release of Inorganic Constituents from Leached Biomass during Thermal Conversion. Energy & Fuels, 1999, 13, 860-870.	2.5	228
4	Direct Observation of Alkali Vapor Release during Biomass Combustion and Gasification. 1. Application of Molecular Beam/Mass Spectrometry to Switchgrass Combustion. Energy & Fuels, 1995, 9, 855-865.	2.5	196
5	Direct Detection of Products from the Pyrolysis of 2-Phenethyl Phenyl Ether. Journal of Physical Chemistry A, 2011, 115, 428-438.	1.1	160
6	Effect of Alkali and Alkaline Earth Metals on in-Situ Catalytic Fast Pyrolysis of Lignocellulosic Biomass: A Microreactor Study. Energy & Fuels, 2016, 30, 3045-3056.	2.5	154
7	Techno-economic analysis of production of Fischer-Tropsch liquids via biomass gasification: The effects of Fischer-Tropsch catalysts and natural gas co-feeding. Energy Conversion and Management, 2017, 133, 153-166.	4.4	104
8	The Infrared Spectrum of the Matrix-Isolated Phenyl Radical. Journal of the American Chemical Society, 2001, 123, 1977-1988.	6.6	103
9	Effect of Coal Minerals on Chlorine and Alkali Metals Released during Biomass/Coal Cofiring. Energy & Fuels, 1999, 13, 1203-1211.	2.5	98
10	Evaluation of Catalyst Deactivation during Catalytic Steam Reforming of Biomass-Derived Syngas. Industrial & Engineering Chemistry Research, 2005, 44, 7945-7956.	1.8	91
11	Reactive catalytic fast pyrolysis of biomass to produce high-quality bio-crude. Green Chemistry, 2017, 19, 3243-3251.	4.6	85
12	The pyrolysis of anisole (C6H5OCH3) using a hyperthermal nozzle. Fuel, 2001, 80, 1747-1755.	3.4	84
13	Intense, hyperthermal source of organic radicals for matrix-isolation spectroscopy. Review of Scientific Instruments, 2003, 74, 3077-3086.	0.6	83
14	Fluidizable reforming catalyst development for conditioning biomass-derived syngas. Applied Catalysis A: General, 2007, 318, 199-206.	2.2	79
15	Anisole and Guaiacol Hydrodeoxygenation Reaction Pathways over Selected Catalysts. Energy & Fuels, 2015, 29, 909-916.	2.5	64
16	Design and Characterization of an Entrained Flow Reactor for the Study of Biomass Pyrolysis Chemistry at High Heating Rates. Energy & Fuels, 2001, 15, 1276-1285.	2.5	61
17	Design and operation of a pilot-scale catalytic biomass pyrolysis unit. Green Chemistry, 2015, 17, 4680-4689.	4.6	61
18	Biomass Hydropyrolysis in a Pressurized Fluidized Bed Reactor. Energy & Fuels, 2013, 27, 3778-3785.	2.5	60

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19	Effect of torrefaction temperature on lignin macromolecule and product distribution from HZSM-5 catalytic pyrolysis. Journal of Analytical and Applied Pyrolysis, 2016, 122, 95-105.	2.6	57
20	A Study of Cellulose Pyrolysis Chemistry and Global Kinetics at High Heating Rates. Energy & Fuels, 2001, 15, 1286-1294.	2.5	54
21	Aqueous Stream Characterization from Biomass Fast Pyrolysis and Catalytic Fast Pyrolysis. ACS Sustainable Chemistry and Engineering, 2016, 4, 6815-6827.	3.2	54
22	Pilot-scale catalytic fast pyrolysis of loblolly pine over Î³-Al2O3 catalyst. Fuel, 2018, 214, 569-579.	3.4	53
23	Mode-dependent vibrational predissociation in the HCN-HF binary complex. Chemical Physics Letters, 1988, 143, 181-185.	1.2	52
24	Integration of catalytic fast pyrolysis and hydroprocessing: a pathway to refinery intermediates and â€œdrop-inâ€•fuels from biomass. Green Chemistry, 2016, 18, 6123-6135.	4.6	49
25	Biomass Hydropyrolysis in a Fluidized Bed Reactor. Energy & Fuels, 2016, 30, 4879-4887.	2.5	47
26	Polarized Infrared Absorption Spectra of Matrix-Isolated Allyl Radicals. Journal of Physical Chemistry A, 2001, 105, 7514-7524.	1.1	45
27	Detailed structure study of a low pressure, stoichiometric H2/N2O/Ar flame. Combustion and Flame, 1993, 94, 407-425.	2.8	44
28	Direct Observation of Alkali Vapor Release during Biomass Combustion and Gasification. 2. Black Liquor Combustion at 1100 Â°C. Energy & Fuels, 1996, 10, 284-292.	2.5	44
29	Polarized Infrared Absorption Spectrum of Matrix-Isolated Methylperoxyl Radicals, CH3OO XÌƒ 2Aâ€˜â€‰â€˜. Journal of Physical Chemistry A, 2002, 106, 7547-7556.	1.1	44
30	Characterization of biomass pyrolysis vapors with molecular beam, single photon ionization time-of-flight mass spectrometry. Chemosphere, 2001, 42, 663-669.	4.2	42
31	Infrared spectroscopy of the bent isomer of N2O-HF. Chemical Physics Letters, 1988, 143, 580-583.	1.2	38
32	A selective extraction method for recovery of monofunctional methoxyphenols from biomass pyrolysis liquids. Green Chemistry, 2019, 21, 2257-2265.	4.6	25
33	Graphite encapsulated molybdenum carbide core/shell nanocomposite for highly selective conversion of guaiacol to phenolic compounds in methanol. Applied Catalysis A: General, 2016, 528, 123-130.	2.2	24
34	Nanostructured molybdenum carbide on biochar for CO2 reforming of CH4. Fuel, 2018, 225, 403-410.	3.4	21
35	Equilibrium Chemistry of Biomass Combustion:â€‰ A Round-Robin Set of Calculations Using Available Computer Programs and Databases. Energy & Fuels, 2001, 15, 344-349.	2.5	20
36	Reactive Catalytic Fast Pyrolysis of Biomass Over Molybdenum Oxide Catalysts: A Parametric Study. Energy & Fuels, 2020, 34, 4678-4684.	2.5	19

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37	Influence of the Feedstock on Catalytic Fast Pyrolysis with a Solid Acid Catalyst. Energy Technology, 2017, 5, 183-188.	1.8	18
38	Improved understanding of technical lignin functionalization through comprehensive structural characterization of fractionated pine kraft lignins modified by the Mannich reaction. Green Chemistry, 2021, 23, 7122-7136.	4.6	18
39	Production and distillative recovery of valuable lignin-derived products from biocrude. RSC Advances, 2016, 6, 94247-94255.	1.7	17
40	Laboratory Measurements of Alkali Metal Containing Vapors Released during Biomass Combustion. , 1996, , 161-185.		15
41	Chemical Analysis of Solids and Pyrolytic Vapors from Wildland Trees. Energy & Fuels, 2003, 17, 1022-1027.	2.5	14
42	The Biorefinery. , 0, , 7-37.		14
43	The lowest-frequency bending mode (Î½71) of HCN-HF from near-infrared laser spectroscopy. Chemical Physics Letters, 1988, 150, 217-221.	1.2	13
44	Infrared spectroscopy of the HCN-(HF)2 ternary complex. Chemical Physics Letters, 1989, 156, 578-584.	1.2	12
45	Effect of Temperature on the Pilot-Scale Catalytic Pyrolysis of Loblolly Pine. Energy & Fuels, 2021, 35, 13181-13190.	2.5	12
46	Tracking Elemental Composition through Hydrotreatment of an Upgraded Pyrolysis Oil Blended with a Light Gas Oil. Energy & Fuels, 2020, 34, 16181-16186.	2.5	11
47	Biomass Conversion. , 2007, , 1449-1548.		10
48	Detailed chemical composition of an oak biocrude and its hydrotreated product determined by positive atmospheric pressure photoionization Fourier transform ion cyclotron resonance mass spectrometry. Sustainable Energy and Fuels, 2020, 4, 2404-2410.	2.5	10
49	Flame structure study of a lean H2/N2O/Ar Flame employing molecular beam mass spectrometry and modeling. Combustion and Flame, 1994, 99, 323-330.	2.8	9
50	Pilot-scale hydrotreating of catalytic fast pyrolysis biocrudes: process performance and product analysis. Sustainable Energy and Fuels, 2021, 5, 4668-4679.	2.5	8
51	Biomass Conversion. , 2017, , 285-419.		7
52	Complementary Analysis of the Water-Soluble and Water-Insoluble Fraction of Catalytic Fast Pyrolysis Biocrudes by Two-Dimensional Gas Chromatography. Energy & Fuels, 2018, 32, 5960-5968.	2.5	7
53	Symposium on Biomass Fuels:Â An Introduction. Energy & Fuels, 1996, 10, 267-268.	2.5	6
54	Isolation and Purification of Monofunctional Methoxyphenols from Loblolly Pine Biocrude. ACS Sustainable Chemistry and Engineering, 2019, 7, 2262-2269.	3.2	6

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55	Gas-phase infrared spectroscopy of cyclopropane-HF and cyclopropane-HCN. Chemical Physics Letters, 1988, 153, 285-290.	1.2	5
56	Nontarget Analysis of Oxygenates in Catalytic Fast Pyrolysis Biocrudes by Supercritical Fluid Chromatography High-Resolution Mass Spectrometry. Energy & Fuels, 2019, 33, 296-306.	2.5	5
57	Phosphorus speciation analysis of fatty-acid-based feedstocks and fast pyrolysis biocrudes via gel permeation chromatography inductively coupled plasma high-resolution mass spectrometry. RSC Advances, 2021, 11, 26732-26738.	1.7	5
58	Experimental investigation of naphthenic biofuel surrogate combustion in a compression ignition engine. Fuel, 2022, 312, 122868.	3.4	4
59	Biomass Conversion. , 2012, , 1249-1322.		3
60	CHAPTER 5. Catalytic Biomass Pyrolysis with Reactive Gases. RSC Green Chemistry, 2017, , 78-95.	0.0	3
61	Analytical Methods in Thermochemical Conversion. , 2020, , 75-88.		1
62	Bench-Scale Biomass/Coal Cofiring Studies. , 2002, , 569-579.		0