

# David C Dayton

## List of Publications by Citations

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65  
papers

3,201  
citations

31  
h-index

56  
g-index

69  
ext. papers

3,534  
ext. citations

5.2  
avg. IF

4.9  
L-index

| #  | Paper   | IF   | Citations |
|----|---|------|-----------|
| 65 | The behavior of inorganic material in biomass-fired power boilers: field and laboratory experiences. <i>Fuel Processing Technology</i> , <b>1998</b> , 54, 47-78  | 7.2  | 491       |
| 64 | Bamboo: an overlooked biomass resource?. <i>Biomass and Bioenergy</i> , <b>2000</b> , 19, 229-244   | 5.3  | 488       |
| 63 | Release of Inorganic Constituents from Leached Biomass during Thermal Conversion. <i>Energy &amp; Fuels</i> , <b>1999</b> , 13, 860-870   | 4.1  | 203       |
| 62 | Direct Observation of Alkali Vapor Release during Biomass Combustion and Gasification. 1. Application of Molecular Beam/Mass Spectrometry to Switchgrass Combustion. <i>Energy &amp; Fuels</i> , <b>1995</b> , 9, 855-865             | 4.1  | 174       |
| 61 | Direct detection of products from the pyrolysis of 2-phenethyl phenyl ether. <i>Journal of Physical Chemistry A</i> , <b>2011</b> , 115, 428-38   | 2.8  | 131       |
| 60 | Effect of Alkali and Alkaline Earth Metals on in-Situ Catalytic Fast Pyrolysis of Lignocellulosic Biomass: A Microreactor Study. <i>Energy &amp; Fuels</i> , <b>2016</b> , 30, 3045-3056  | 4.1  | 112       |
| 59 | The infrared spectrum of the matrix-isolated phenyl radical. <i>Journal of the American Chemical Society</i> , <b>2001</b> , 123, 1977-88   | 16.4 | 90        |
| 58 | Effect of Coal Minerals on Chlorine and Alkali Metals Released during Biomass/Coal Cofiring. <i>Energy &amp; Fuels</i> , <b>1999</b> , 13, 1203-1211  | 4.1  | 88        |
| 57 | Evaluation of Catalyst Deactivation during Catalytic Steam Reforming of Biomass-Derived Syngas. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2005</b> , 44, 7945-7956  | 3.9  | 87        |
| 56 | The pyrolysis of anisole (C <sub>6</sub> H <sub>5</sub> OCH <sub>3</sub> ) using a hyperthermal nozzle. <i>Fuel</i> , <b>2001</b> , 80, 1747-1755   | 7.1  | 77        |
| 55 | Techno-economic analysis of production of Fischer-Tropsch liquids via biomass gasification: The effects of Fischer-Tropsch catalysts and natural gas co-feeding. <i>Energy Conversion and Management</i> , <b>2017</b> , 133, 153-166 | 10.6 | 72        |
| 54 | Intense, hyperthermal source of organic radicals for matrix-isolation spectroscopy. <i>Review of Scientific Instruments</i> , <b>2003</b> , 74, 3077-3086   | 1.7  | 72        |
| 53 | Fluidizable reforming catalyst development for conditioning biomass-derived syngas. <i>Applied Catalysis A: General</i> , <b>2007</b> , 318, 199-206  | 5.1  | 71        |
| 52 | Reactive catalytic fast pyrolysis of biomass to produce high-quality bio-crude. <i>Green Chemistry</i> , <b>2017</b> , 19, 3243-3251  | 10   | 68        |
| 51 | Design and operation of a pilot-scale catalytic biomass pyrolysis unit. <i>Green Chemistry</i> , <b>2015</b> , 17, 4680-4689  |      | 54        |
| 50 | Biomass Hydrolysis in a Pressurized Fluidized Bed Reactor. <i>Energy &amp; Fuels</i> , <b>2013</b> , 27, 3778-3785  | 4.1  | 53        |
| 49 | Design and Characterization of an Entrained Flow Reactor for the Study of Biomass Pyrolysis Chemistry at High Heating Rates. <i>Energy &amp; Fuels</i> , <b>2001</b> , 15, 1276-1285  | 4.1  | 53        |

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|----|---|-----|----|
| 48 | Anisole and Guaiacol Hydrodeoxygenation Reaction Pathways over Selected Catalysts. <i>Energy &amp; Fuels</i> , <b>2015</b> , 29, 909-916  | 4.1 | 52 |
| 47 | A Study of Cellulose Pyrolysis Chemistry and Global Kinetics at High Heating Rates. <i>Energy &amp; Fuels</i> , <b>2001</b> , 15, 1286-1294   | 4.1 | 49 |
| 46 | Effect of torrefaction temperature on lignin macromolecule and product distribution from HZSM-5 catalytic pyrolysis. <i>Journal of Analytical and Applied Pyrolysis</i> , <b>2016</b> , 122, 95-105               | 6   | 48 |
| 45 | Mode-dependent vibrational predissociation in the HCN-HF binary complex. <i>Chemical Physics Letters</i> , <b>1988</b> , 143, 181-185   | 2.5 | 48 |
| 44 | Polarized Infrared Absorption Spectra of Matrix-Isolated Allyl Radicals. <i>Journal of Physical Chemistry A</i> , <b>2001</b> , 105, 7514-7524  | 2.8 | 44 |
| 43 | Polarized Infrared Absorption Spectrum of Matrix-Isolated Methylperoxyl Radicals, CH <sub>3</sub> OO X 2A <sup>∞</sup> . <i>Journal of Physical Chemistry A</i> , <b>2002</b> , 106, 7547-7556                    | 2.8 | 42 |
| 42 | Biomass Hydrolysis in a Fluidized Bed Reactor. <i>Energy &amp; Fuels</i> , <b>2016</b> , 30, 4879-4887  | 4.1 | 41 |
| 41 | Detailed structure study of a low pressure, stoichiometric H <sub>2</sub> /N <sub>2</sub> O/Ar flame. <i>Combustion and Flame</i> , <b>1993</b> , 94, 407-425   | 5.3 | 39 |
| 40 | Aqueous Stream Characterization from Biomass Fast Pyrolysis and Catalytic Fast Pyrolysis. <i>ACS Sustainable Chemistry and Engineering</i> , <b>2016</b> , 4, 6815-6827   | 8.3 | 39 |
| 39 | Integration of catalytic fast pyrolysis and hydroprocessing: a pathway to refinery intermediates and drop-in fuels from biomass. <i>Green Chemistry</i> , <b>2016</b> , 18, 6123-6135                             | 10  | 37 |
| 38 | Pilot-scale catalytic fast pyrolysis of loblolly pine over Al <sub>2</sub> O <sub>3</sub> catalyst. <i>Fuel</i> , <b>2018</b> , 214, 569-579  | 7.1 | 37 |
| 37 | Characterization of biomass pyrolysis vapors with molecular beam, single photon ionization time-of-flight mass spectrometry. <i>Chemosphere</i> , <b>2001</b> , 42, 663-9   | 8.4 | 36 |
| 36 | Direct Observation of Alkali Vapor Release during Biomass Combustion and Gasification. 2. Black Liquor Combustion at 1100 °C. <i>Energy &amp; Fuels</i> , <b>1996</b> , 10, 284-292                               | 4.1 | 34 |
| 35 | Infrared spectroscopy of the bent isomer of N <sub>2</sub> O-HF. <i>Chemical Physics Letters</i> , <b>1988</b> , 143, 580-583   | 2.5 | 34 |
| 34 | Equilibrium Chemistry of Biomass Combustion: A Round-Robin Set of Calculations Using Available Computer Programs and Databases. <i>Energy &amp; Fuels</i> , <b>2001</b> , 15, 344-349                             | 4.1 | 19 |
| 33 | Graphite encapsulated molybdenum carbide core/shell nanocomposite for highly selective conversion of guaiacol to phenolic compounds in methanol. <i>Applied Catalysis A: General</i> , <b>2016</b> , 528, 123-130 | 5.1 | 17 |
| 32 | A selective extraction method for recovery of monofunctional methoxyphenols from biomass pyrolysis liquids. <i>Green Chemistry</i> , <b>2019</b> , 21, 2257-2265  | 10  | 15 |
| 31 | Influence of the Feedstock on Catalytic Fast Pyrolysis with a Solid Acid Catalyst. <i>Energy Technology</i> , <b>2017</b> , 5, 183-188  | 3.5 | 15 |

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|----|---|-----|----|
| 30 | Production and distillative recovery of valuable lignin-derived products from biocrude. <i>RSC Advances</i> , <b>2016</b> , 6, 94247-94255  | 3.7 | 15 |
| 29 | The Biorefinery7-37   |     | 13 |
| 28 | Nanostructured molybdenum carbide on biochar for CO <sub>2</sub> reforming of CH <sub>4</sub> . <i>Fuel</i> , <b>2018</b> , 225, 403-410  | 7.1 | 12 |
| 27 | Chemical Analysis of Solids and Pyrolytic Vapors from Wildland Trees. <i>Energy &amp; Fuels</i> , <b>2003</b> , 17, 1022-1027   | 4.1 | 12 |
| 26 | The lowest-frequency bending mode ( $\bar{\nu}_1$ ) of HCN-HF from near-infrared laser spectroscopy. <i>Chemical Physics Letters</i> , <b>1988</b> , 150, 217-221   | 2.5 | 12 |
| 25 | Laboratory Measurements of Alkali Metal Containing Vapors Released during Biomass Combustion <b>1996</b> , 161-185  |     | 11 |
| 24 | Biomass Conversion <b>2007</b> , 1449-1548  |     | 10 |
| 23 | Infrared spectroscopy of the HCN-(HF) <sub>2</sub> ternary complex. <i>Chemical Physics Letters</i> , <b>1989</b> , 156, 578-584  | 2.5 | 10 |
| 22 | Flame structure study of a lean H <sub>2</sub> /N <sub>2</sub> O/Ar Flame employing molecular beam mass spectrometry and modeling. <i>Combustion and Flame</i> , <b>1994</b> , 99, 323-330  | 5.3 | 9  |
| 21 | Reactive Catalytic Fast Pyrolysis of Biomass Over Molybdenum Oxide Catalysts: A Parametric Study. <i>Energy &amp; Fuels</i> , <b>2020</b> , 34, 4678-4684   | 4.1 | 8  |
| 20 | Syngas Cleanup, Conditioning, and Utilization <b>2019</b> , 125-174   |     | 6  |
| 19 | Detailed chemical composition of an oak biocrude and its hydrotreated product determined by positive atmospheric pressure photoionization Fourier transform ion cyclotron resonance mass spectrometry. <i>Sustainable Energy and Fuels</i> , <b>2020</b> , 4, 2404-2410 | 5.8 | 6  |
| 18 | Complementary Analysis of the Water-Soluble and Water-Insoluble Fraction of Catalytic Fast Pyrolysis Biocrudes by Two-Dimensional Gas Chromatography. <i>Energy &amp; Fuels</i> , <b>2018</b> , 32, 5960-5968   | 4.1 | 6  |
| 17 | Syngas Cleanup, Conditioning, and Utilization <b>2011</b> , 78-123  |     | 6  |
| 16 | Symposium on Biomass Fuels: An Introduction. <i>Energy &amp; Fuels</i> , <b>1996</b> , 10, 267-268  | 4.1 | 5  |
| 15 | Isolation and Purification of Monofunctional Methoxyphenols from Loblolly Pine Biocrude. <i>ACS Sustainable Chemistry and Engineering</i> , <b>2019</b> , 7, 2262-2269  | 8.3 | 5  |
| 14 | Tracking Elemental Composition through Hydrotreatment of an Upgraded Pyrolysis Oil Blended with a Light Gas Oil. <i>Energy &amp; Fuels</i> , <b>2020</b> , 34, 16181-16186  | 4.1 | 4  |
| 13 | Biomass Conversion <b>2017</b> , 285-419  |     | 4  |

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|----|---|-----|---|
| 12 | Gas-phase infrared spectroscopy of cyclopropane-HF and cyclopropane-HCN. <i>Chemical Physics Letters</i> , <b>1988</b> , 153, 285-290   | 2.5 | 3 |
| 11 | Biomass Conversion <b>2012</b> , 1249-1322  |     | 3 |
| 10 | CHAPTER 5:Catalytic Biomass Pyrolysis with Reactive Gases. <i>RSC Green Chemistry</i> , <b>2017</b> , 78-95   | 0.9 | 2 |
| 9  | Improved understanding of technical lignin functionalization through comprehensive structural characterization of fractionated pine kraft lignins modified by the Mannich reaction. <i>Green Chemistry</i> , <b>2021</b> , 23, 7122-7136    | 10  | 2 |
| 8  | Effect of Temperature on the Pilot-Scale Catalytic Pyrolysis of Loblolly Pine. <i>Energy &amp; Fuels</i> , <b>2021</b> , 35, 13181-13190  | 4.1 | 2 |
| 7  | Experimental investigation of naphthenic biofuel surrogate combustion in a compression ignition engine. <i>Fuel</i> , <b>2022</b> , 312, 122868   | 7.1 | 1 |
| 6  | Analytical Methods in Thermochemical Conversion <b>2020</b> , 75-88   |     | 1 |
| 5  | Nontarget Analysis of Oxygenates in Catalytic Fast Pyrolysis Biocrudes by Supercritical Fluid Chromatography High-Resolution Mass Spectrometry. <i>Energy &amp; Fuels</i> , <b>2019</b> , 33, 296-306                                       | 4.1 | 1 |
| 4  | Phosphorus speciation analysis of fatty-acid-based feedstocks and fast pyrolysis biocrudes gel permeation chromatography inductively coupled plasma high-resolution mass spectrometry.. <i>RSC Advances</i> , <b>2021</b> , 11, 26732-26738 | 3.7 | 1 |
| 3  | Pilot-scale hydrotreating of catalytic fast pyrolysis biocrudes: process performance and product analysis. <i>Sustainable Energy and Fuels</i> , <b>2021</b> , 5, 4668-4679   | 5.8 | 1 |
| 2  | Bench-Scale Biomass/Coal Cofiring Studies <b>2002</b> , 569-579   |     |   |
| 1  | The Fate of Alkali Metal during Biomass Thermochemical Conversion <b>1997</b> , 1263-1277   |     |   |