Thomas J Elder

List of Publications by Year
in descending order

78 papers	3,228 citations	201674 27 h-index	155660 55 g-index
79 all docs	79 docs citations	79 times ranked	4302 citing authors

#	Article	IF	Citations
1	Investigation into the Pyrolysis Bond Dissociation Enthalpies (BDEs) of a Model Lignin Oligomer Using Density Functional Theory (DFT). Energy & Fuels, 2022, 36, 1565-1573.	5.1	4
2	Density functional theory study on the coupling and reactions of diferuloylputrescine as a lignin monomer. Phytochemistry, 2022, 197, 113122.	2.9	0
3	Ionic-liquid-Assisted Fabrication of Lignocellulosic Thin Films with Tunable Hydrophobicity. ACS Sustainable Chemistry and Engineering, 2022, 10, 8835-8845.	6.7	3
4	Isolating key reaction energetics and thermodynamic properties during hardwood model lignin pyrolysis. Physical Chemistry Chemical Physics, 2021, 23, 20919-20935.	2.8	6
5	Coupling of Flavonoid Initiation Sites with Monolignols Studied by Density Functional Theory. ACS Sustainable Chemistry and Engineering, 2021, 9, 1518-1528.	6.7	6
6	Radical Coupling Reactions of Hydroxystilbene Glucosides and Coniferyl Alcohol: A Density Functional Theory Study. Frontiers in Plant Science, 2021, 12, 642848.	3.6	8
7	A review of lignin hydrogen peroxide oxidation chemistry with emphasis on aromatic aldehydes and acids. Holzforschung, 2021, 75, 806-823.	1.9	24
8	Production and Characterization of High Value Prebiotics From Biorefinery-Relevant Feedstocks. Frontiers in Microbiology, 2021, 12, 675314.	3.5	13
9	Towards a new understanding of the retro-aldol reaction for oxidative conversion of lignin to aromatic aldehydes and acids. International Journal of Biological Macromolecules, 2021, 183, 1505-1513.	7.5	14
10	Synthesis of Biobased Novolac Phenolâ€"Formaldehyde Wood Adhesives from Biorefinery-Derived Lignocellulosic Biomass. ACS Sustainable Chemistry and Engineering, 2021, 9, 10990-11002.	6.7	15
11	Incorporation of catechyl monomers into lignins: lignification from the non-phenolic end<i>via</i>Dielsâ€"Alder cycloaddition?. Green Chemistry, 2021, 23, 8995-9013.	9.0	6
12	Infrared and Raman spectra of lignin substructures: Dibenzodioxocin. Journal of Raman Spectroscopy, 2020, 51, 422-431.	2.5	34
13	Deactivation of Co-Schiff base catalysts in the oxidation of <i>para</i>-substituted lignin models for the production of benzoquinones. Catalysis Science and Technology, 2020, 10, 403-413.	4.1	7
14	Understanding the<i>in situ</i>state of lignocellulosic biomass during ionic liquids-based engineering of renewable materials and chemicals. Green Chemistry, 2020, 22, 6748-6766.	9.0	18
15	The effect of residual lignin on the rheological properties of cellulose nanofibril suspensions. Journal of Wood Chemistry and Technology, 2020, 40, 370-381.	1.7	34
16	Coupling and Reactions of Lignols and New Lignin Monomers: A Density Functional Theory Study. ACS Sustainable Chemistry and Engineering, 2020, 8, 11033-11045.	6.7	12
17	Model Lignin Oligomer Pyrolysis: Coupled Conformational and Thermodynamic Analysis of Î²-O-4â€² Bond Cleavage. Energy & Fuels, 2020, 34, 9709-9724.	5.1	16
18	Lignin Monomers from beyond the Canonical Monolignol Biosynthetic Pathway: Another Brick in the Wall. ACS Sustainable Chemistry and Engineering, 2020, 8, 4997-5012.	6.7	184

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19	Co(salen)-Catalyzed Oxidation of Lignin Models to Form Benzoquinones and Benzaldehydes: A Computational and Experimental Study. ACS Sustainable Chemistry and Engineering, 2020, 8, 7225-7234.	6.7	18
20	Steric effects of bulky tethered arylpiperazines on the reactivity of Co-Schiff base oxidation catalystsâ€”a synthetic and computational study. Tetrahedron, 2019, 75, 3118-3127.	1.9	3
21	Radical coupling reactions of piceatannol and monolignols: A density functional theory study. Phytochemistry, 2019, 164, 12-23.	2.9	17
22	Chromophores in cellulosics, XVIII. Degradation of the cellulosic key chromophore 5,8-dihydroxy-[1,4]-naphthoquinone under conditions of chlorine dioxide pulp bleaching: a combined experimental and theoretical study. Cellulose, 2018, 25, 4941-4954.	4.9	5
23	Degradation of the cellulosic key chromophores 2,5- and 2,6-dihydroxyacetophenone by hydrogen peroxide under alkaline conditions. Chromophores in cellulosics, XVII. Cellulose, 2018, 25, 3815-3826.	4.9	1
24	Insights into degradation pathways of oxidized anhydroglucose units in cellulose by Î²-alkoxy-elimination: a combined theoretical and experimental approach. Cellulose, 2018, 25, 3797-3814.	4.9	48
25	2,4,5-Trihydroxy-3-methylacetophenone: A Cellulosic Chromophore as a Case Study of Aromaticity. ACS Omega, 2017, 2, 7929-7935.	3.5	0
26	Density Functional Theory Study of Spirodienone Stereoisomers in Lignin. ACS Sustainable Chemistry and Engineering, 2017, 5, 7188-7194.	6.7	16
27	Effect of Steam During Fischerâ€“Tropsch Synthesis Using Biomass-Derived Syngas. Catalysis Letters, 2017, 147, 62-70.	2.6	14
28	Alginate-based polysaccharide beads for cationic contaminant sorption from water. Polymer Bulletin, 2017, 74, 1267-1281.	3.3	19
29	Radical Nature of C-Lignin. ACS Sustainable Chemistry and Engineering, 2016, 4, 5327-5335.	6.7	52
30	Highly thermal-stable and functional cellulose nanocrystals and nanofibrils produced using fully recyclable organic acids. Green Chemistry, 2016, 18, 3835-3843.	9.0	415
31	Iron piano-stool complexes containing NHC ligands outfitted with pendent arms: synthesis, characterization, and screening for catalytic transfer hydrogenation. RSC Advances, 2016, 6, 88050-88056.	3.6	12
32	Enantioselective Syntheses of Lignin Models: An Efficient Synthesis of Î²â€Oâ€4 Dimers and Trimers by Using the Evans Chiral Auxiliary. Chemistry - A European Journal, 2016, 22, 12506-12517.	3.3	9
33	Coupling and Reactions of 5-Hydroxyconiferyl Alcohol in Lignin Formation. Journal of Agricultural and Food Chemistry, 2016, 64, 4742-4750.	5.2	15
34	Substituent Effect of Phenolic Aldehyde Inhibition on Alcoholic Fermentation by <i>Saccharomyces cerevisiae</i>. Energy & Fuels, 2016, 30, 3078-3084.	5.1	18
35	Fe-based Fischer Tropsch synthesis of biomass-derived syngas: Effect of synthesis method. Catalysis Communications, 2015, 65, 76-80.	3.3	28
36	PIT MEMBRANES OF EPHEDRA RESEMBLE GYMNOSPERMS MORE THAN ANGIOSPERMS. IAWA Journal, 2014, 35, 217-235.	2.7	2

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37	Carboxymethylated-, hydroxypropylsulfonated- and quaternized xylan derivative films. Carbohydrate Polymers, 2014, 110, 464-471.	10.2	27
38	Ice templated and cross-linked xylan/nanocrystalline cellulose hydrogels. Carbohydrate Polymers, 2014, 100, 24-30.	10.2	69
39	Effect of Structural Promoters on Fe-Based Fischerâ€“Tropsch Synthesis of Biomass Derived Syngas. Topics in Catalysis, 2014, 57, 526-537.	2.8	19
40	Integrating Separation and Conversionâ€"Conversion of Biorefinery Process Streams to Biobased Chemicals and Fuels. Bioenergy Research, 2014, 7, 856-866.	3.9	27
41	Impact of Steam Explosion on the Wheat Straw Lignin Structure Studied by Solution-State Nuclear Magnetic Resonance and Density Functional Methods. Journal of Agricultural and Food Chemistry, 2014, 62, 10437-10444.	5.2	56
42	Nanocomposite film prepared by depositing xylan on cellulose nanowhiskers matrix. Green Chemistry, 2014, 16, 3458.	9.0	17
43	Density Functional Theory Study of the Concerted Pyrolysis Mechanism for Lignin Models. Energy & Fuels, 2014, 28, 5229-5235.	5.1	80
44	Bond Dissociation Enthalpies of a Pinoresinol Lignin Model Compound. Energy & Fuels, 2014, 28, 1175-1182.	5.1	60
45	Steric effects in the design of Co-Schiff base complexes for the catalytic oxidation of lignin models to para-benzoquinones. Green Chemistry, 2014, 16, 3635-3642.	9.0	41
46	The effect of axial ligand on the oxidation of syringyl alcohol by Co(salen) adducts. Physical Chemistry Chemical Physics, 2013, 15, 7328.	2.8	17
47	Bond Dissociation Enthalpies of a Dibenzodioxocin Lignin Model Compound. Energy & Fuels, 2013, 27, 4785-4790.	5.1	52
48	Time-domain NMR study of the drying of hemicellulose extracted aspen (<i>Populus tremuloides</i>) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	1.9	17
49	Biopolymer Nanocomposite Films Reinforced with Nanocellulose Whiskers. Journal of Nanoscience and Nanotechnology, 2012, 12, 218-226.	0.9	8
50	Grafting of model primary amine compounds to cellulose nanowhiskers through periodate oxidation. Cellulose, 2012, 19, 2069-2079.	4.9	61
51	Nanoreinforced xylanâ€“cellulose composite foams by freeze-casting. Green Chemistry, 2012, 14, 1864.	9.0	66
52	A fundamental investigation of the microarchitecture and mechanical properties of tempo-oxidized nanofibrillated cellulose (NFC)-based aerogels. Cellulose, 2012, 19, 1945-1956.	4.9	67
53	Regioselective Synthesis of Cellulose Ester Homopolymers. Biomacromolecules, 2012, 13, 2195-2201.	5.4	20
54	Study on the modification of bleached eucalyptus kraft pulp using birch xylan. Carbohydrate Polymers, 2012, 88, 719-725.	10.2	27

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55	Multi-scale visualization and characterization of lignocellulosic plant cell wall deconstruction during thermochemical pretreatment. Energy and Environmental Science, 2011, 4, 973.	30.8	437
56	Moisture barrier properties of xylan composite films. Carbohydrate Polymers, 2011, 84, 1371-1377.	10.2	84
57	Pilot-scale gasification of woody biomass. Biomass and Bioenergy, 2011, 35, 3522-3528.	5.7	18
58	Thermogravimetric analysis of forest understory grasses. Thermochimica Acta, 2011, 512, 170-177.	2.7	8
59	Atomic force Microscopy of torus-bearing pit membranes. IAWA Journal, 2011, 32, 415-430.	2.7	6
60	Reactivity of Lignin-Correlation with Molecular Orbital Calculations. , 2010, , 321-347.		6
61	A computational study of pyrolysis reactions of lignin model compounds. Holzforschung, 2010, 64, .	1.9	46
62	High Oxygen Nanocomposite Barrier Films Based on Xylan and Nanocrystalline Cellulose. Nano-Micro Letters, 2010, 2, 235-241.	27.0	55
63	Oxidation and sulfonation of cellulosics. Cellulose, 2008, 15, 489-496.	4.9	80
64	Celluloseâ€“water interactions during enzymatic hydrolysis as studied by time domain NMR. Cellulose, 2008, 15, 703-710.	4.9	110
65	Analysis of Ethanolâ€Soluble Extractives in Southern Pine Wood by Lowâ€Field Proton NMR. Journal of Wood Chemistry and Technology, 2007, 27, 35-47.	1.7	5
66	Quantum Chemical Determination of Young's Modulus of Lignin. Calculations on a Î²â^'O-4â€˜ Model Compound. Biomacromolecules, 2007, 8, 3619-3627.	5.4	25
67	Facile synthesis of spherical cellulose nanoparticles. Carbohydrate Polymers, 2007, 69, 607-611.	10.2	208
68	Chemical Structure of Wood Charcoal by Infrared Spectroscopy and Multivariate Analysis. Journal of Agricultural and Food Chemistry, 2006, 54, 3492-3497.	5.2	71
69	Influence of Kraft Pulping on Carboxylate Content of Softwood Kraft Pulps. Industrial & Engineering Chemistry Research, 2006, 45, 4509-4516.	3.7	17
70	Surface modification of lignocellulosic fibers using high-frequency ultrasound. Cellulose, 2006, 13, 9-22.	4.9	28
71	Analysis of the topochemical effects of dielectric-barrier discharge on cellulosic fibers. Cellulose, 2005, 12, 185-196.	4.9	27
72	N-Hydroxy mediated laccase biocatalysis: Recent progress on its mechanism and future prospect of its application. Progress in Biotechnology, 2002, 21, 89-104.	0.2	9

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73	Synthesis and Oxidation Behavior of 2,4,5,7,8-Pentamethyl-4H-1,3-benzodioxin-6-ol, a Multifunctional Oxatocopherol-Type Antioxidant. Journal of Organic Chemistry, 2002, 67, 3607-3614.	3.2	22
74	Internal Reorganization Energies for Copper Redox Couples:â€‰ The Slow Electron-Transfer Reactions of the [CuII/I(bib)2]2+/+ Couple. Inorganic Chemistry, 1999, 38, 12-19.	4.0	62
75	Microscopic characteristics of filled and extended phenol-formaldehyde resin-adhesive bonds. Journal of Adhesion Science and Technology, 1992, 6, 1147-1156.	2.6	0
76	The Application of Molecular Orbital Calculations to Wood Chemistry. VI. The Reactions of Anthraquinone Under Pulping Conditions. Journal of Wood Chemistry and Technology, 1989, 9, 277-292.	1.7	2
77	Spectroscopic Analysis of Southern Pine Treated with Chromated Copper Arsenate. II. Diffuse Reflectance Fourier Transform Infrared Spectroscopy (DRIFT). Journal of Wood Chemistry and Technology, 1989, 9, 105-122.	1.7	40
78	Spectroscopic Analysis of Southern Pine Treated with Chromater Copper Arsenate. I. X-Ray Photoelectron Spectroscopy (XPS)-17. Journal of Wood Chemistry and Technology, 1988, 8, 413-439.	1.7	35