Thomas J Elder

List of Publications by Year
in descending order

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Version: 2024-02-01

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	Multi-scale visualization and characterization of lignocellulosic plant cell wall deconstruction during thermochemical pretreatment. Energy and Environmental Science, 2011, 4, 973.	30.8	437
2	Highly thermal-stable and functional cellulose nanocrystals and nanofibrils produced using fully recyclable organic acids. Green Chemistry, 2016, 18, 3835-3843.	9.0	415
3	Facile synthesis of spherical cellulose nanoparticles. Carbohydrate Polymers, 2007, 69, 607-611.	10.2	208
4	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
5	Celluloseâ€“water interactions during enzymatic hydrolysis as studied by time domain NMR. Cellulose, 2008, 15, 703-710.	4.9	110
6	Moisture barrier properties of xylan composite films. Carbohydrate Polymers, 2011, 84, 1371-1377.	10.2	84
7	Oxidation and sulfonation of cellulosics. Cellulose, 2008, 15, 489-496.	4.9	80
8	Density Functional Theory Study of the Concerted Pyrolysis Mechanism for Lignin Models. Energy & Fuels, 2014, 28, 5229-5235.	5.1	80
9	Chemical Structure of Wood Charcoal by Infrared Spectroscopy and Multivariate Analysis. Journal of Agricultural and Food Chemistry, 2006, 54, 3492-3497.	5.2	71
10	Ice templated and cross-linked xylan/nanocrystalline cellulose hydrogels. Carbohydrate Polymers, 2014, 100, 24-30.	10.2	69
11	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
12	Nanoreinforced xylanâ€“cellulose composite foams by freeze-casting. Green Chemistry, 2012, 14, 1864.	9.0	66
13	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
14	Grafting of model primary amine compounds to cellulose nanowhiskers through periodate oxidation. Cellulose, 2012, 19, 2069-2079.	4.9	61
15	Bond Dissociation Enthalpies of a Pinoresinol Lignin Model Compound. Energy & Fuels, 2014, 28, 1175-1182.	5.1	60
16	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
17	High Oxygen Nanocomposite Barrier Films Based on Xylan and Nanocrystalline Cellulose. Nano-Micro Letters, 2010, 2, 235-241.	27.0	55
18	Bond Dissociation Enthalpies of a Dibenzodioxocin Lignin Model Compound. Energy & Fuels, 2013, 27, 4785-4790.	5.1	52

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19	Radical Nature of C-Lignin. ACS Sustainable Chemistry and Engineering, 2016, 4, 5327-5335.	6.7	52
20	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
21	A computational study of pyrolysis reactions of lignin model compounds. Holzforschung, 2010, 64, .	1.9	46
22	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
23	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
24	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
25	Infrared and Raman spectra of lignin substructures: Dibenzodioxocin. Journal of Raman Spectroscopy, 2020, 51, 422-431.	2.5	34
26	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
27	Surface modification of lignocellulosic fibers using high-frequency ultrasound. Cellulose, 2006, 13, 9-22.	4.9	28
28	Fe-based Fischer Tropsch synthesis of biomass-derived syngas: Effect of synthesis method. Catalysis Communications, 2015, 65, 76-80.	3.3	28
29	Analysis of the topochemical effects of dielectric-barrier discharge on cellulosic fibers. Cellulose, 2005, 12, 185-196.	4.9	27
30	Study on the modification of bleached eucalyptus kraft pulp using birch xylan. Carbohydrate Polymers, 2012, 88, 719-725.	10.2	27
31	Carboxymethylated-, hydroxypropylsulfonated- and quaternized xylan derivative films. Carbohydrate Polymers, 2014, 110, 464-471.	10.2	27
32	Integrating Separation and Conversionâ€"Conversion of Biorefinery Process Streams to Biobased Chemicals and Fuels. Bioenergy Research, 2014, 7, 856-866.	3.9	27
33	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
34	A review of lignin hydrogen peroxide oxidation chemistry with emphasis on aromatic aldehydes and acids. Holzforschung, 2021, 75, 806-823.	1.9	24
35	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
36	Regioselective Synthesis of Cellulose Ester Homopolymers. Biomacromolecules, 2012, 13, 2195-2201.	5.4	20

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37	Effect of Structural Promoters on Fe-Based Fischerâ€“Tropsch Synthesis of Biomass Derived Syngas. Topics in Catalysis, 2014, 57, 526-537.	2.8	19
38	Alginate-based polysaccharide beads for cationic contaminant sorption from water. Polymer Bulletin, 2017, 74, 1267-1281.	3.3	19
39	Pilot-scale gasification of woody biomass. Biomass and Bioenergy, 2011, 35, 3522-3528.	5.7	18
40	Substituent Effect of Phenolic Aldehyde Inhibition on Alcoholic Fermentation by <i>Saccharomyces cerevisiae</i>. Energy & Fuels, 2016, 30, 3078-3084.	5.1	18
41	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
42	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
43	Influence of Kraft Pulping on Carboxylate Content of Softwood Kraft Pulps. Industrial & Engineering Chemistry Research, 2006, 45, 4509-4516.	3.7	17
44	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
45	Time-domain NMR study of the drying of hemicellulose extracted aspen (<i>Populus tremuloides</i>) Tj ETQq1 1 0.784314 rgBT /Overlo	1.9	17
46	Nanocomposite film prepared by depositing xylan on cellulose nanowhiskers matrix. Green Chemistry, 2014, 16, 3458.	9.0	17
47	Radical coupling reactions of piceatannol and monolignols: A density functional theory study. Phytochemistry, 2019, 164, 12-23.	2.9	17
48	Density Functional Theory Study of Spirodienone Stereoisomers in Lignin. ACS Sustainable Chemistry and Engineering, 2017, 5, 7188-7194.	6.7	16
49	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
50	Coupling and Reactions of 5-Hydroxyconiferyl Alcohol in Lignin Formation. Journal of Agricultural and Food Chemistry, 2016, 64, 4742-4750.	5.2	15
51	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
52	Effect of Steam During Fischerâ€“Tropsch Synthesis Using Biomass-Derived Syngas. Catalysis Letters, 2017, 147, 62-70.	2.6	14
53	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
54	Production and Characterization of High Value Prebiotics From Biorefinery-Relevant Feedstocks. Frontiers in Microbiology, 2021, 12, 675314.	3.5	13

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55	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
56	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
57	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
58	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
59	Thermogravimetric analysis of forest understory grasses. Thermochimica Acta, 2011, 512, 170-177.	2.7	8
60	Biopolymer Nanocomposite Films Reinforced with Nanocellulose Whiskers. Journal of Nanoscience and Nanotechnology, 2012, 12, 218-226.	0.9	8
61	Radical Coupling Reactions of Hydroxystilbene Glucosides and Coniferyl Alcohol: A Density Functional Theory Study. Frontiers in Plant Science, 2021, 12, 642848.	3.6	8
62	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
63	Reactivity of Lignin-Correlation with Molecular Orbital Calculations. , 2010, , 321-347.		6
64	Atomic force Microscopy of torus-bearing pit membranes. IAWA Journal, 2011, 32, 415-430.	2.7	6
65	Isolating key reaction energetics and thermodynamic properties during hardwood model lignin pyrolysis. Physical Chemistry Chemical Physics, 2021, 23, 20919-20935.	2.8	6
66	Coupling of Flavonoid Initiation Sites with Monolignols Studied by Density Functional Theory. ACS Sustainable Chemistry and Engineering, 2021, 9, 1518-1528.	6.7	6
67	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
68	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
69	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
70	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
71	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
72	Ionic-liquid-Assisted Fabrication of Lignocellulosic Thin Films with Tunable Hydrophobicity. ACS Sustainable Chemistry and Engineering, 2022, 10, 8835-8845.	6.7	3

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73	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
74	PIT MEMBRANES OF EPHEDRA RESEMBLE GYMNOSPERMS MORE THAN ANGIOSPERMS. IAWA Journal, 2014, 35, 217-235.	2.7	2
75	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
76	Microscopic characteristics of filled and extended phenol-formaldehyde resin-adhesive bonds. Journal of Adhesion Science and Technology, 1992, 6, 1147-1156.	2.6	0
77	2,4,5-Trihydroxy-3-methylacetophenone: A Cellulosic Chromophore as a Case Study of Aromaticity. ACS Omega, 2017, 2, 7929-7935.	3.5	0
78	Density functional theory study on the coupling and reactions of diferuloylputrescine as a lignin monomer. Phytochemistry, 2022, 197, 113122.	2.9	0