Laurence B Davin

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/3950962/publications.pdf

Version: 2024-02-01

115 papers	7,601 citations	44042 48 h-index	56687 83 g-index
117 all docs	117 docs citations	117 times ranked	5878 citing authors

#	Article	IF	Citations
1	RNAiModulation of Chlorogenic Acid and Lignin Deposition inNicotiana tabacumand Insufficient Compensatory Metabolic Cross-Talk. Journal of Natural Products, 2021, 84, 694-706.	1.5	6
2	NASA GeneLab RNA-seq consensus pipeline: Standardized processing of short-read RNA-seq data. IScience, 2021, 24, 102361.	1.9	20
3	New Insights Into Lignification via Network and Multi-Omics Analyses of Arogenate Dehydratase Knock-Out Mutants in Arabidopsis thaliana. Frontiers in Plant Science, 2021, 12, 664250.	1.7	1
4	De novosequencing and native mass spectrometry revealed hetero-association of dirigent protein homologs and potential interacting proteins inForsythiaÃ—intermedia. Analyst, The, 2021, 146, 7670-7681.	1.7	0
5	Pterocarpan synthase (PTS) structures suggest a common quinone methideâ€“stabilizing function in dirigent proteins and proteins with dirigent-like domains. Journal of Biological Chemistry, 2020, 295, 11584-11601.	1.6	16
6	Pinoresinolâ€lariciresinol reductase: Substrate versatility, enantiospecificity, and kinetic properties. Chirality, 2020, 32, 770-789.	1.3	5
7	Editorial: Lignans: Insights Into Their Biosynthesis, Metabolic Engineering, Analytical Methods and Health Benefits. Frontiers in Plant Science, 2020, 11, 630327.	1.7	16
8	Linum Lignan and Associated Biochemical Pathways in Human Health and Plant Defense. Plant Genetics and Genomics: Crops and Models, 2019, , 167-193.	0.3	1
9	A genome-wide analysis of the flax (Linum usitatissimum L.) dirigent protein family: from gene identification and evolution to differential regulation. Plant Molecular Biology, 2018, 97, 73-101.	2.0	66
10	Reduced Arogenate Dehydratase Expression: Ramifications for Photosynthesis and Metabolism. Plant Physiology, 2018, 177, 115-131.	2.3	18
11	Eugenol specialty chemical production in transgenic poplar (Populus tremulaÂÃ—ÂP. alba) field trials. Plant Biotechnology Journal, 2017, 15, 970-981.	4.1	17
12	Draft Genome Sequence of a Gordonia sp. Isolated from the Soil of a Red Alder Plant. Genome Announcements, 2017, 5, .	0.8	0
13	Trimeric Structure of (+)-Pinoresinol-forming Dirigent Protein at 1.95 Ã… Resolution with Three Isolated Active Sites. Journal of Biological Chemistry, 2015, 290, 1308-1318.	1.6	56
14	Dirigent Protein-Mediated Lignan and Cyanogenic Glucoside Formation in Flax Seed: Integrated Omics and MALDI Mass Spectrometry Imaging. Journal of Natural Products, 2015, 78, 1231-1242.	1.5	110
15	Non-host disease resistance response in pea (Pisum sativum) pods: Biochemical function of DRR206 and phytoalexin pathway localization. Phytochemistry, 2015, 113, 140-148.	1.4	58
16	Active site cleft mutants of Os9BGlu31 transglucosidase modify acceptor substrate specificity and allow production of multiple kaempferol glycosides. Biochimica Et Biophysica Acta - General Subjects, 2015, 1850, 1405-1414.	1.1	11
17	Allyl/propenyl phenol synthases from the creosote bush and engineering production of specialty/commodity chemicals, eugenol/isoeugenol, in Escherichia coli. Archives of Biochemistry and Biophysics, 2014, 541, 37-46.	1.4	21
18	A multi-omics strategy resolves the elusive nature of alkaloids in Podophyllum species. Molecular BioSystems, 2014, 10, 2838-2849.	2.9	43

#	Article	IF	Citations
19	Accurate massâ€“time tag library for LC/MS-based metabolite profiling of medicinal plants. Phytochemistry, 2013, 91, 187-197.	1.4	43
20	Assessment of a putative proton relay in Arabidopsis cinnamyl alcohol dehydrogenase catalysis. Organic and Biomolecular Chemistry, 2013, 11, 1127.	1.5	10
21	Next Generation Sequencing in Predicting Gene Function in Podophyllotoxin Biosynthesis. Journal of Biological Chemistry, 2013, 288, 466-479.	1.6	102
22	Transgenic Hybrid Poplar for Sustainable and Scalable Production of the Commodity/Specialty Chemical, 2-Phenylethanol. PLoS ONE, 2013, 8, e83169.	1.1	25
23	Arogenate Dehydratase Isoenzymes Profoundly and Differentially Modulate Carbon Flux into Lignins. Journal of Biological Chemistry, 2012, 287, 11446-11459.	1.6	51
24	Opposite Stereoselectivities of Dirigent Proteins in Arabidopsis and Schizandra Species. Journal of Biological Chemistry, 2012, 287, 33957-33972.	1.6	82
25	The arogenate dehydratase gene family: Towards understanding differential regulation of carbon flux through phenylalanine into primary versus secondary metabolic pathways. Phytochemistry, 2012, 82, 22-37.	1.4	21
26	Laser Microdissection and Genetic Manipulation Technologies to Probe Lignin Heterogeneity and Configuration in Plant Cell Walls. , 2012, 908, 229-250.		1
27	The laccase multigene family in Arabidopsis thaliana: towards addressing the mystery of their gene function(s). Planta, 2011, 233, 439-470.	1.6	162
28	Antisense Down-Regulation of 4CL Expression Alters Lignification, Tree Growth, and Saccharification Potential of Field-Grown Poplar Â Â. Plant Physiology, 2010, 154, 874-886.	2.3	195
29	Vascular Plant Lignification: Biochemical/Structural Biology Considerations of Upstream Aromatic Amino Acid and Monolignol Pathways. , 2010, , 541-604.		2
30	Insights into lignin primary structure and deconstruction from Arabidopsis thaliana COMT (caffeic) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	1.5	45
31	Trees: A Remarkable Biochemical Bounty. , 2010, , 1173-1296.		16
32	Probing native lignin macromolecular configuration in Arabidopsis thaliana in specific cell wall types: Further insights into limited substrate degeneracy and assembly of the lignins of ref8, fah 1â€“2 and C4H::F5H lines. Molecular BioSystems, 2010, 6, 499-515.	2.9	24
33	Lignans (Neolignans) and Allyl/Propenyl Phenols: Biogenesis, Structural Biology, and Biological/Human Health Considerations. , 2010, , 815-928.		21
34	Relationship of dirigent protein and 18s RNA transcript localization to heartwood formation in western red cedar. Phytochemistry, 2008, 69, 3032-3037.	1.4	12
35	Metabolic Engineering of Plant Allyl/Propenyl Phenol and Lignin Pathways: Future Potential for Biofuels/Bioenergy, Polymer Intermediates, and Specialty Chemicals?. Advances in Plant Biochemistry and Molecular Biology, 2008, , 385-428.	0.5	11
36	Dissection of lignin macromolecular configuration and assembly: Comparison to related biochemical processes in allyl/propenyl phenol and lignan biosynthesis. Natural Product Reports, 2008, 25, 1015.	5.2	171

#	Article	IF	Citations
37	Phenylalanine Biosynthesis in Arabidopsis thaliana. Journal of Biological Chemistry, 2007, 282, 30827-30835.	1.6	110
38	Reaction tissue formation and stem tensile modulus properties in wildâ€type and pâ€coumarateâ€3â€hydroxylase downregulated lines of alfalfa, Medicago sativa (Fabaceae). American Journal of Botany, 2007, 94, 912-925.	0.8	34
39	A pinoresinolâ€“lariciresinol reductase homologue from the creosote bush (Larrea tridentata) catalyzes the efficient in vitro conversion of p-coumaryl/coniferyl alcohol esters into the allylphenols chavicol/eugenol, but not the propenylphenols p-anol/isoeugenol. Archives of Biochemistry and Biophysics, 2007, 465, 209-218.	1.4	36
40	Plant cell walls are enfeebled when attempting to preserve native lignin configuration with poly-p-hydroxycinnamaldehydes: Evolutionary implications. Phytochemistry, 2007, 68, 1932-1956.	1.4	45
41	Expression of cinnamyl alcohol dehydrogenases and their putative homologues during Arabidopsis thaliana growth and development: Lessons for database annotations?. Phytochemistry, 2007, 68, 1957-1974.	1.4	81
42	Secoisolariciresinol dehydrogenase: mode of catalysis and stereospecificity of hydride transfer in Podophyllum peltatum. Organic and Biomolecular Chemistry, 2006, 4, 808.	1.5	32
43	Crystal structures and catalytic mechanism of the Arabidopsis cinnamyl alcohol dehydrogenases AtCAD5 and AtCAD4. Organic and Biomolecular Chemistry, 2006, 4, 1687.	1.5	97
44	Chavicol formation in sweet basil (Ocimum basilicum): cleavage of an esterified C9 hydroxyl group with NAD(P)H-dependent reduction. Organic and Biomolecular Chemistry, 2006, 4, 2733-2744.	1.5	70
45	Î²-Glucuronidase as Reporter Gene: Advantages and Limitations. , 2006, 323, 263-274.		28
46	The Arabidopsis cinnamoyl CoA reductaseirx4mutant has a delayed but coherent (normal) program of lignification. Plant Journal, 2006, 48, 674-686.	2.8	44
47	Pinus taeda phenylpropenal double-bond reductase: Purification, cDNA cloning, heterologous expression in Escherichia coli, and subcellular localization in P. taeda. Phytochemistry, 2006, 67, 1765-1780.	1.4	47
48	Mechanistic and Structural Studies of Apoform, Binary, and Ternary Complexes of the Arabidopsis Alkenal Double Bond Reductase At5g16970. Journal of Biological Chemistry, 2006, 281, 40076-40088.	1.6	60
49	Reassessment of effects on lignification and vascular development in the irx4 Arabidopsis mutant. Phytochemistry, 2005, 66, 2092-2107.	1.4	56
50	Characterization in vitro and in vivo of the putative multigene 4-coumarate:CoA ligase network in Arabidopsis: syringyl lignin and sinapate/sinapyl alcohol derivative formation. Phytochemistry, 2005, 66, 2072-2091.	1.4	127
51	Dirigent phenoxy radical coupling: advances and challenges. Current Opinion in Biotechnology, 2005, 16, 398-406.	3.3	108
52	Lignin primary structures and dirigent sites. Current Opinion in Biotechnology, 2005, 16, 407-415.	3.3	230
53	Crystal Structures of Apo-form and Binary/Ternary Complexes of Podophyllum Secoisolariciresinol Dehydrogenase, an Enzyme Involved in Formation of Health-protecting and Plant Defense Lignans. Journal of Biological Chemistry, 2005, 280, 12917-12926.	1.6	51
54	Functional reclassification of the putative cinnamyl alcohol dehydrogenase multigene family in Arabidopsis. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 1455-1460.	3.3	210

#	Article	IF	Citations
55	The Arabidopsis phenylalanine ammonia lyase gene family: kinetic characterization of the four PAL isoforms. Phytochemistry, 2004, 65, 1557-1564.	1.4	246
56	Kinetic Study of Coniferyl Alcohol Radical Binding to the (+)-Pinoresinol Forming Dirigent Proteinâ€. Biochemistry, 2004, 43, 2587-2595.	1.2	75
57	An historical perspective on lignan biosynthesis: Monolignol, allylphenol and hydroxycinnamic acid coupling and downstream metabolism. Phytochemistry Reviews, 2003, 2, 257-288.	3.1	144
58	[13C]-Specific labeling of 8â€“2â€² linked (â˜)-cis-blechnic, (â˜)-trans-blechnic and (â˜)-brainic acids in the fern Blechnum spicant. Phytochemistry, 2003, 62, 501-511.	1.4	12
59	Composition and antimicrobial activity of the essential oils from invasive species of the Azores, Hedychium gardnerianum and Pittosporum undulatum. Phytochemistry, 2003, 64, 561-565.	1.4	60
60	An in silico assessment of gene function and organization of the phenylpropanoid pathway metabolic networks in Arabidopsis thaliana and limitations thereof. Phytochemistry, 2003, 64, 1097-1112.	1.4	128
61	Synthesis and chiral HPLC analysis of the dibenzyltetrahydrofuran lignans, larreatricins, 8â€²-epi-larreatricins, 3,3â€²-didemethoxyverrucosins and meso-3,3â€²-didemethoxynectandrin B in the creosote bush (Larrea tridentata): evidence for regiospecific control of coupling. Organic and Biomolecular Chemistry, 2003, 1, 2307-2313.	1.5	39
62	Composition of the Bioactive Essential Oils from the Leaves ofEugenia stipitataMcVaugh ssp.sororiafrom the Azores. Journal of Essential Oil Research, 2003, 15, 293-295.	1.3	15
63	Crystal Structures of Pinoresinol-Lariciresinol and Phenylcoumaran Benzylic Ether Reductases and Their Relationship to Isoflavone Reductases. Journal of Biological Chemistry, 2003, 278, 50714-50723.	1.6	85
64	(+)-Larreatricin hydroxylase, an enantio-specific polyphenol oxidase from the creosote bush (Larrea) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5 100, 10641-10646.	3.3	80
65	Delineating the Metabolic Pathway(s) to Secoisolariciresinol Diglucoside Hydroxymethyl Glutarate Oligomers in Flaxseed (Linum usitatissimum). , 2003, , .		0
66	Transcriptional Control of Monolignol Biosynthesis in Pinus taeda. Journal of Biological Chemistry, 2002, 277, 18272-18280.	1.6	125
67	Specimen block counter-staining for localization of GUS expression in transgenic arabidopsis and tobacco. Plant Cell Reports, 2002, 21, 35-39.	2.8	18
68	Monolignol radicalâ€“radical coupling networks in western red cedar and Arabidopsis and their evolutionary implications. Phytochemistry, 2002, 61, 311-322.	1.4	40
69	The western red cedar (Thuja plicata) 8-8' DIRIGENT family displays diverse expression patterns and conserved monolignol coupling specificity. Plant Molecular Biology, 2002, 49, 199-214.	2.0	71
70	Biosynthetic Pathway to the Cancer Chemopreventive Secoisolariciresinol Diglucosideâ˜Hydroxymethyl Glutaryl Ester-Linked Lignan Oligomers in Flax (Linumusitatissimum)Seedâ€. Journal of Natural Products, 2001, 64, 1388-1397.	1.5	147
71	Stereoselective phenolic coupling in Blechnum spicant: formation of 8â€“2â€² linked (â˜)-cis-blechnic, (â˜)-trans-blechnic and (â˜)-brainic acids. Chemical Communications, 2001, , 113-114.	2.2	13
72	In situ hybridization and immunolocalization of lignan reductases in woody tissues: implications for heartwood formation and other forms of vascular tissue preservation. Phytochemistry, 2001, 57, 899-914.	1.4	53

#	Article	IF	Citations
73	Dirigent proteins and dirigent sites in lignifying tissues. Phytochemistry, 2001, 57, 883-897.	1.4	164
74	Induced compression wood formation in Douglas fir (Pseudotsuga menziesii) in microgravity. Phytochemistry, 2001, 57, 847-857.	1.4	41
75	Cell-wall architecture and lignin composition of wheat developed in a microgravity environment. Phytochemistry, 2001, 57, 835-846.	1.4	56
76	Phenylcoumaran benzylic ether and isoflavonoid reductases are a new class of cross-reactive allergens in birch pollen, fruits and vegetables. FEBS Journal, 2001, 268, 5310-5320.	0.2	101
77	Secoisolariciresinol Dehydrogenase Purification, Cloning, and Functional Expression. Journal of Biological Chemistry, 2001, 276, 12614-12623.	1.6	127
78	Stereoselective Synthesis of 8,9-Licarinediols. Tetrahedron, 2000, 56, 9181-9193.	1.0	41
79	Dirigent-mediated podophyllotoxin biosynthesis in Linum flavum and Podophyllum peltatum. Phytochemistry, 2000, 55, 537-549.	1.4	88
80	Dirigent Proteins and Dirigent Sites Explain the Mystery of Specificity of Radical Precursor Coupling in Lignan and Lignin Biosynthesis. Plant Physiology, 2000, 123, 453-462.	2.3	263
81	Monolignol Compositional Determinants in Loblolly Pine: Aromatic Amino Acid Metabolism and Associated Rate-Limiting Steps. ACS Symposium Series, 1999, , 118-144.	0.5	5
82	Recombinant Pinoresinol-Lariciresinol Reductases from Western Red Cedar (Thuja plicata) Catalyze Opposite Enantiospecific Conversions. Journal of Biological Chemistry, 1999, 274, 618-627.	1.6	83
83	Evolution of Plant Defense Mechanisms. Journal of Biological Chemistry, 1999, 274, 7516-7527.	1.6	173
84	Regiochemical control of monolignol radical coupling: A new paradigm for lignin and lignan biosynthesis. Chemistry and Biology, 1999, 6, 143-151.	6.2	175
85	The Nature and Function of Lignins. , 1999, , 617-745.		72
86	Lignans: Biosynthesis and Function. , 1999, , 639-712.		76
87	Multi-Site Modulation of Flux during Monolignol Formation in Loblolly Pine (Pinus taeda). Biochemical and Biophysical Research Communications, 1999, 261, 652-657.	1.0	47
88	Localization of Dirigent Protein Involved in Lignan Biosynthesis: Implications for Lignification at the Tissue and Subcellular Level. , 1999, , 393-411.		5
89	Plant Lignans and Health: Cancer Chemoprevention and Biotechnological Opportunities. , 1999, 66, 675-694.		14
90	Toward Engineering the Metabolic Pathways of Cancer-Preventing Lignans in Cereal Grains and Other Crops. , 1999, , 67-87.		13

#	Article	IF	Citations
91	Biosynthesis of antioxidant lignans in Sesamum indicum seeds. Phytochemistry, 1998, 47, 583-591.	1.4	92
92	Furanofuran lignan metabolism as a function of seed maturation in sesamum indicum: methylenedioxy bridge formation. Phytochemistry, 1998, 49, 387-394.	1.4	43
93	The 'Abnormal Lignins': Mapping Heartwood Formation Through the Lignan Biosynthetic Pathway. ACS Symposium Series, 1998, , 389-421.	0.5	23
94	Lignin and Lignan Biosynthesis: Distinctions and Reconciliations. ACS Symposium Series, 1998, , 1-27.	0.5	38
95	The Biochemical Control of Monolignol Coupling and Structure During Lignan and Lignin Biosynthesis. ACS Symposium Series, 1998, , 334-361.	0.5	22
96	Phylogenetic Links in Plant Defense Systems: Lignans, Isoflavonoids, and Their Reductases. ACS Symposium Series, 1997, , 58-89.	0.5	17
97	Stereoselective Bimolecular Phenoxy Radical Coupling by an Auxiliary (Dirigent) Protein Without an Active Center. Science, 1997, 275, 362-367.	6.0	650
98	(+)-Pinoresinol/(+)-Lariciresinol Reductase from Forsythia intermedia. Journal of Biological Chemistry, 1996, 271, 29473-29482.	1.6	176
99	Lignans: Diversity, Biosynthesis, and Function. ACS Symposium Series, 1995, , 135-167.	0.5	11
100	Evolution of Lignan and Neolignan Biochemical Pathways. ACS Symposium Series, 1994, , 202-246.	0.5	28
101	(+)-Pinoresinol synthase: A stereoselective oxidase catalysing 8,8â€²-lignan formation in Forsythia intermedia. Tetrahedron Letters, 1994, 35, 4731-4734.	0.7	46
102	Phenylbutanoid and taxane-like metabolites from needles of Taxus brevifolia. Phytochemistry, 1994, 36, 975-985.	1.4	34
103	Intramolecular acyl migrations in taxanes from Taxus brevifolia. Phytochemistry, 1993, 34, 473-476.	1.4	28
104	Novel benzylic ether reductions in lignan biogenesis in Forsythia intermedia. Phytochemistry, 1993, 33, 581-591.	1.4	73
105	Formation of (â^')-arctigenin in Forsythia intermedia. Phytochemistry, 1993, 32, 643-652.	1.4	43
106	Phenylpropanoid Metabolism: Biosynthesis of Monolignols, Lignans and Neolignans, Lignins and Suberins. , 1992, , 325-375.		60
107	On the stereoselective synthesis of (+)-pinoresinol in Forsythia suspensa from its achiral precursor, coniferyl alcohol. Phytochemistry, 1992, 31, 3869-3874.	1.4	132
108	An extraordinary accumulation of (â^')-pinoresinol in cell-free extracts of Forsythia intermedia: evidence for enantiospecific reduction of (+)-pinoresinol. Phytochemistry, 1992, 31, 3875-3881.	1.4	79

#	Article	IF	Citations
109	Mixed acetoxy-benzoxy taxane esters from Taxus brevifolia. Phytochemistry, 1992, 31, 4249-4252.	1.4	23
110	Stereo Selectivity in Polyphenol Biosynthesis. , 1992, , 73-95.		3
111	Enantioselective Separations in Phytochemistry. , 1991, , 75-112.		0
112	Formation of cis-Coniferin in Cell-Free Extracts of Fagus grandifolia Ehrh Bark. Plant Physiology, 1990, 94, 209-213.	2.3	25
113	Lignan biosynthesis in forsythia species. Journal of the Chemical Society Chemical Communications, 1990, , 1405.	2.0	50
114	Formation of the lignan, (â˜) secoisolariciresinol, by cell free extracts of Forsythia intermedia. Biochemical and Biophysical Research Communications, 1990, 171, 1008-1014.	1.0	68
115	Lignins: A Twenty-First Century Challenge. , 0, , 213-305.		17