Robert L Last

List of Publications by Year
in descending order

114	10,420	31902	34900
papers	citations	53 h-index	98 g-index

131	131	131	10269
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Arabidopsis Map-Based Cloning in the Post-Genome Era. Plant Physiology, 2002, 129, 440-450.	2.3	603
2	Superoxide Dismutase in Arabidopsis: An Eclectic Enzyme Family with Disparate Regulation and Protein Localization. Plant Physiology, 1998, 118, 637-650.	2.3	558
3	Environmental stress sensitivity of an ascorbic acid-deficient Arabidopsis mutant.. Proceedings of the National Academy of Sciences of the United States of America, 1996, 93, 9970-9974.	3.3	478
4	Genetic evidence for the role of GDP-mannose in plant ascorbic acid (vitamin C) biosynthesis. Proceedings of the National Academy of Sciences of the United States of America, 1999, 96, 4198-4203.	3.3	367
5	Monoterpenes in the glandular trichomes of tomato are synthesized from a neryl diphosphate precursor rather than geranyl diphosphate. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 10865-10870.	3.3	331
6	Arabidopsis UVR8 Regulates Ultraviolet-B Signal Transduction and Tolerance and Contains Sequence Similarity to Human Regulator of Chromatin Condensation 1. Plant Physiology, 2002, 130, 234-243.	2.3	328
7	Harnessing plant trichome biochemistry for the production of useful compounds. Plant Journal, 2008, 54, 702-711.	2.8	320
8	Arabidopsis Flavonoid Mutants Are Hypersensitive to UV-B Irradiation. Plant Cell, 1993, 5, 171.	3.1	300
9	The Tomato Terpene Synthase Gene Family Â Â. Plant Physiology, 2011, 157, 770-789.	2.3	282
10	Identification of Ascorbic Acid-Deficient Arabidopsis thaliana Mutants. Genetics, 2000, 154, 847-856.	1.2	273
11	Arabidopsis cyt1 mutants are deficient in a mannose-1-phosphate guanylyltransferase and point to a requirement of N-linked glycosylation for cellulose biosynthesis. Proceedings of the National Academy of Sciences of the United States of America, 2001, 98, 2262-2267.	3.3	262
12	Engineering Vitamin E Content: From Arabidopsis Mutant to Soy Oil. Plant Cell, 2003, 15, 3007-3019.	3.1	231
13	Tryptophan-Requiring Mutants of the Plant Arabidopsis thaliana. Science, 1988, 240, 305-310.	6.0	190
14	The Arabidopsis vitamin E pathway gene5-1 Mutant Reveals a Critical Role for Phytol Kinase in Seed Tocopherol Biosynthesis. Plant Cell, 2005, 18, 212-224.	3.1	179
15	An Arabidopsis photolyase mutant is hypersensitive to ultraviolet-B radiation. Proceedings of the National Academy of Sciences of the United States of America, 1997, 94, 328-332.	3.3	178
16	Mass spectrometry screening reveals widespread diversity in trichome specialized metabolites of tomato chromosomal substitution lines. Plant Journal, 2010, 62, 391-403.	2.8	178
17	Induction of Arabidopsis Tryptophan Pathway Enzymes and Camalexin by Amino Acid Starvation, Oxidative Stress, and an Abiotic Elicitor. Plant Cell, 1998, 10, 359-370.	3.1	175
18	LSD1 Regulates Salicylic Acid Induction of Copper Zinc Superoxide Dismutase in Arabidopsis thaliana. Molecular Plant-Microbe Interactions, 1999, 12, 1022-1026.	1.4	163

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19	Identification of a BAHD acetyltransferase that produces protective acyl sugars in tomato trichomes. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 16377-16382.	3.3	149
20	Ethylmethanesulfonate Saturation Mutagenesis in Arabidopsis to Determine Frequency of Herbicide Resistance. Plant Physiology, 2003, 131, 139-146.	2.3	145
21	A Small Zinc Finger Thylakoid Protein Plays a Role in Maintenance of Photosystem II in Arabidopsis thaliana Â Â. Plant Cell, 2011, 23, 1861-1875.	3.1	143
22	Something old, something new: Conserved enzymes and the evolution of novelty in plant specialized metabolism. Plant Physiology, 2015, 169, pp.00994.2015.	2.3	143
23	Arabidopsis ESK1 encodes a novel regulator of freezing tolerance. Plant Journal, 2007, 49, 786-799.	2.8	142
24	Predictive Metabolic Engineering: A Goal for Systems Biology. Plant Physiology, 2003, 132, 420-425.	2.3	141
25	UV-B-induced photomorphogenesis inArabidopsis thaliana. Plant Journal, 1998, 15, 667-674.	2.8	134
26	Introns act post-transcriptionally to increase expression of the Arabidopsis thaliana tryptophan pathway gene PAT1. Plant Journal, 1997, 11, 455-464.	2.8	128
27	Application of a high-throughput HPLC-MS/MS assay toArabidopsismutant screening; evidence that threonine aldolase plays a role in seed nutritional quality. Plant Journal, 2004, 39, 465-475.	2.8	118
28	Studies of a Biochemical Factory: Tomato Trichome Deep Expressed Sequence Tag Sequencing and Proteomics Â Â. Plant Physiology, 2010, 153, 1212-1223.	2.3	117
29	Minimum reporting standards for plant biology context information in metabolomic studies. Metabolomics, 2007, 3, 195-201.	1.4	116
30	Towards the plant metabolome and beyond. Nature Reviews Molecular Cell Biology, 2007, 8, 167-174.	16.1	110
31	Functionally Divergent Alleles and Duplicated Loci Encoding an Acyltransferase Contribute to Acylsugar Metabolite Diversity in Solanum Trichomes. Plant Cell, 2015, 27, 1002-1017.	3.1	106
32	In vitro reconstruction and analysis of evolutionary variation of the tomato acylsucrose metabolic network. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E239-48.	3.3	106
33	Characterization of seedâ€specific benzoyloxyglucosinolate mutations in Arabidopsis thaliana. Plant Journal, 2007, 51, 1062-1076.	2.8	90
34	Large-Scale Reverse Genetics in Arabidopsis: Case Studies from the Chloroplast 2010 Project Â Â Â. Plant Physiology, 2010, 152, 529-540.	2.3	90
35	LCâ^'MS/MS Assay for Protein Amino Acids and Metabolically Related Compounds for Large-Scale Screening of Metabolic Phenotypes. Analytical Chemistry, 2007, 79, 8067-8075.	3.2	86
36	A Phosphoribosylanthranilate Transferase Gene Is Defective in Blue Fluorescent Arabidopsis thaliana Tryptophan Mutants. Plant Physiology, 1992, 100, 582-592.	2.3	84

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37	FATTY ACID DESATURASE4 of Arabidopsis encodes a protein distinct from characterized fatty acid desaturases. Plant Journal, 2009, 60, 832-839.	2.8	84
38	Evolutionary routes to biochemical innovation revealed by integrative analysis of a plant-defense related specialized metabolic pathway. ELife, 2017, 6, .	2.8	84
39	Striking Natural Diversity in Glandular Trichome Acylsugar Composition Is Shaped by Variation at the Acyltransferase2 Locus in the Wild Tomato Solanum habrochaites Â Â Â. Plant Physiology, 2012, 160, 1854-1870.	2.3	83
40	New Connections across Pathways and Cellular Processes: Industrialized Mutant Screening Reveals Novel Associations between Diverse Phenotypes in Arabidopsis Â Â. Plant Physiology, 2008, 146, 1482-1500.	2.3	79
41	Robust predictions of specialized metabolism genes through machine learning. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 2344-2353.	3.3	79
42	Broad connections in the Arabidopsis seed metabolic network revealed by metabolite profiling of an amino acid catabolism mutant. Plant Journal, 2010, 61, 579-590.	2.8	76
43	Evolution of TPS20â€related terpene synthases influences chemical diversity in the glandular trichomes of the wild tomato relative Solanum habrochaites. Plant Journal, 2012, 71, 921-935.	2.8	74
44	The Impact of the Branched-Chain Ketoacid Dehydrogenase Complex on Amino Acid Homeostasis in Arabidopsis. Plant Physiology, 2015, 169, pp.00461.2015.	2.3	74
45	Homeostasis of branched-chain amino acids is critical for the activity of TOR signaling in Arabidopsis. ELife, 2019, 8, .	2.8	74
46	A feedback insensitive isopropylmalate synthase affects acylsugar composition in cultivated and wild tomato. Plant Physiology, 2015, 169, pp.00474.2015.	2.3	73
47	A New Light on Photosystem II Maintenance in Oxygenic Photosynthesis. Frontiers in Plant Science, 2019, 10, 975.	1.7	72
48	Tip of the trichome: evolution of acylsugar metabolic diversity in Solanaceae. Current Opinion in Plant Biology, 2019, 49, 8-16.	3.5	72
49	Tryptophan Mutants in Arabidopsis: The Consequences of Duplicated Tryptophan Synthase b Genes. Plant Cell, 1991, 3, 345.	3.1	67
50	Immunological Characterization and Chloroplast Localization of the Tryptophan Biosynthetic Enzymes of the Flowering Plant Arabidopsis thaliana. Journal of Biological Chemistry, 1995, 270, 6081-6087.	1.6	64
51	Utility and Limitations of Using Gene Expression Data to Identify Functional Associations. PLoS Computational Biology, 2016, 12, e1005244.	1.5	63
52	Chloroplast 2010: A Database for Large-Scale Phenotypic Screening of Arabidopsis Mutants Â Â. Plant Physiology, 2011, 155, 1589-1600.	2.3	62
53	Achieving Diversity in the Face of Constraints: Lessons from Metabolism. Science, 2012, 336, 1663-1667.	6.0	61
54	Evidence for Related Functions of the RNA Genes of Saccharomyces cerevisiae. Genetics, 1987, 117, 619-631.	1.2	59

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55	Evidence that tryptophan is not a direct biosynthetic intermediate of camalexin in Arabidopsis thaliana. Physiological and Molecular Plant Pathology, 1993, 43, 221-229.	1.3	56
56	Taming the hydra of specialized metabolism: how systems biology and comparative approaches are revolutionizing plant biochemistry. Current Opinion in Plant Biology, 2012, 15, 338-344.	3.5	55
57	Evolution of metabolic novelty: A trichome-expressed invertase creates specialized metabolic diversity in wild tomato. Science Advances, 2019, 5, eaaw3754.	4.7	54
58	Reduced activity of Arabidopsis thaliana HMT2, a methionine biosynthetic enzyme, increases seed methionine content. Plant Journal, 2008, 54, 310-320.	2.8	53
59	A chloroplast thylakoid lumen protein is required for proper photosynthetic acclimation of plants under fluctuating light environments. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E8110-E8117.	3.3	52
60	Characterization of the Arabidopsis TU8 Glucosinolate Mutation,an Allele of TERMINAL FLOWER2. Plant Molecular Biology, 2004, 54, 671-682.	2.0	51
61	Progress in the dissection and manipulation of plant vitamin E biosynthesis. Physiologia Plantarum, 2006, 126, 356-368.	2.6	51
62	Acylsugar Acylhydrolases: Carboxylesterase-Catalyzed Hydrolysis of Acylsugars in Tomato Trichomes. Plant Physiology, 2016, 170, 1331-1344.	2.3	51
63	Suppressors of trp1 Fluorescence Identify a New Arabidopsis Gene, TRP4, Encoding the Anthranilate Synthase b Subunit. Plant Cell, 1993, 5, 1011.	3.1	49
64	Analysis of Natural and Induced Variation in Tomato Glandular Trichome Flavonoids Identifies a Gene Not Present in the Reference Genome. Plant Cell, 2014, 26, 3272-3285.	3.1	49
65	A Regulatory Hierarchy of the Arabidopsis Branched-Chain Amino Acid Metabolic Network. Plant Cell, 2017, 29, 1480-1499.	3.1	49
66	Arabidopsis thaliana tryptophan synthase alpha: Gene cloning, expression, and subunit interaction. Molecular Genetics and Genomics, 1995, 248, 657-667.	2.4	48
67	Promiscuity, impersonation and accommodation: evolution of plant specialized metabolism. Current Opinion in Structural Biology, 2017, 47, 105-112.	2.6	47
68	Evolution of a plant gene cluster in Solanaceae and emergence of metabolic diversity. ELife, 2020, 9, .	2.8	47
69	PHOTOSYSTEM II PROTEIN33, a Protein Conserved in the Plastid Lineage, Is Associated with the Chloroplast Thylakoid Membrane and Provides Stability to Photosystem II Supercomplexes in Arabidopsis. Plant Physiology, 2015, 167, 481-492.	2.3	46
70	Evolution of a flipped pathway creates metabolic innovation in tomato trichomes through BAHD enzyme promiscuity. Nature Communications, 2017, 8, 2080.	5.8	46
71	Coexpression Analysis Identifies Two Oxidoreductases Involved in the Biosynthesis of the Monoterpene Acid Moiety of Natural Pyrethrin Insecticides in Tanacetum cinerariifolium. Plant Physiology, 2018, 176, 524-537.	2.3	45
72	How Plants Synthesize Pyrethrins: Safe and Biodegradable Insecticides. Trends in Plant Science, 2020, 25, 1240-1251.	4.3	44

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73	Analysis of Essential Arabidopsis Nuclear Genes Encoding Plastid-Targeted Proteins. PLoS ONE, 2013, 8, e73291.	1.1	43
74	Shotguns and SNPs: how fast and cheap sequencing is revolutionizing plant biology. Plant Journal, 2010, 61, 922-927.	2.8	42
75	ups1, an Arabidopsis thaliana camalexin accumulation mutant defective in multiple defence signalling pathways. Plant Journal, 2005, 41, 673-684.	2.8	34
76	A land plantâ€specific thylakoid membrane protein contributes to photosystemÂ<scp>II</scp> maintenance in <scp>A</scp>rabidopsis thaliana. Plant Journal, 2015, 82, 731-743.	2.8	34
77	Quantitative trait loci analysis of seedâ€specialized metabolites reveals seedâ€specific flavonols and differential regulation of glycoalkaloid content in tomato. Plant Journal, 2020, 103, 2007-2024.	2.8	32
78	MIPHENO: data normalization for high throughput metabolite analysis. BMC Bioinformatics, 2012, 13, 10.	1.2	27
79	Introgression of acylsugar chemistry QTL modifies the composition and structure of acylsugars produced by high-accumulating tomato lines. Molecular Breeding, 2016, 36, 1.	1.0	26
80	Production of trans-chrysanthemic acid, the monoterpene acid moiety of natural pyrethrin insecticides, in tomato fruit. Metabolic Engineering, 2018, 47, 271-278.	3.6	26
81	Genome-Enabled Approaches Shed New Light on Plant Metabolism. Science, 2008, 320, 479-481.	6.0	25
82	Location, location! cellular relocalization primes specialized metabolic diversification. FEBS Journal, 2020, 287, 1359-1368.	2.2	25
83	A J-Like Protein Influences Fatty Acid Composition of Chloroplast Lipids in Arabidopsis. PLoS ONE, 2011, 6, e25368.	1.1	24
84	Induction of Arabidopsis Tryptophan Pathway Enzymes and Camalexin by Amino Acid Starvation, Oxidative Stress, and an Abiotic Elicitor. Plant Cell, 1998, 10, 359.	3.1	21
85	An Allelic Series of Blue Fluorescent trp1 Mutants of Arabidopsis thaliana. Genetics, 1997, 145, 197-205.	1.2	21
86	An Enzyme Similar to Animal Type II Photolyases Mediates Photoreactivation in Arabidopsis. Plant Cell, 1997, 9, 199.	3.1	20
87	Twenty-First Century Plant Biology: Impacts of the Arabidopsis Genome on Plant Biology and Agriculture. Plant Physiology, 2010, 154, 497-500.	2.3	20
88	Pyrethrin Biosynthesis: The Cytochrome P450 Oxidoreductase CYP82Q3 Converts Jasmolone To Pyrethrolone. Plant Physiology, 2019, 181, 934-944.	2.3	20
89	Specialized Metabolism in a Nonmodel Nightshade: Trichome Acylinositol Biosynthesis. Plant Physiology, 2020, 183, 915-924.	2.3	20
90	It happened again: Convergent evolution of acylglucose specialized metabolism in black nightshade and wild tomato. Science Advances, 2021, 7, eabj8726.	4.7	20

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91	A Trichome-Specific, Plastid-Localized Tanacetum cinerariifolium Nudix Protein Hydrolyzes the Natural Pyrethrin Pesticide Biosynthetic Intermediate trans-Chrysanthemyl Diphosphate. Frontiers in Plant Science, 2020, 11, 482.	1.7	18
92	MPH1 is a thylakoid membrane protein involved in protecting photosystem II from photodamage in land plants. Plant Signaling and Behavior, 2015, 10, e1076602.	1.2	14
93	Migration through a Major Andean Ecogeographic Disruption as a Driver of Genetic and Phenotypic Diversity in a Wild Tomato Species. Molecular Biology and Evolution, 2021, 38, 3202-3219.	3.5	14
94	The Genetics of Nitrogen Assimilation and Amino Acid Biosynthesis in Flowering Plants: Progress and Prospects. International Review of Cytology, 1993, 143, 297-330.	6.2	13
95	Arabidopsis Phosphoribosylanthranilate Isomerase: Molecular Genetic Analysis of Triplicate Tryptophan Pathway Genes. Plant Cell, 1995, 7, 447.	3.1	13
96	Rapid LCâ€“MS/MS Profiling of Protein Amino Acids and Metabolically Related Compounds for Large-Scale Assessment of Metabolic Phenotypes. Methods in Molecular Biology, 2012, 828, 1-11.	0.4	12
97	An Integrated Analytical Approach Reveals Trichome Acylsugar Metabolite Diversity in the Wild Tomato Solanum pennellii. Metabolites, 2020, 10, 401.	1.3	12
98	Fruity, sticky, stinky, spicy, bitter, addictive, and deadly: evolutionary signatures of metabolic complexity in the Solanaceae. Natural Product Reports, 2022, 39, 1438-1464.	5.2	12
99	Web-Based Arabidopsis Functional and Structural Genomics Resources. The Arabidopsis Book, 2008, 6, e0118.	0.5	11
100	Diverse Regulatory Mechanisms of Amino acid Biosynthesis in Plants. , 1999, 21, 173-189.		11
101	Within- and cross-species predictions of plant specialized metabolism genes using transfer learning. In Silico Plants, 2020, 2, diaa005.	0.8	10
102	Chloroplast Phenomics: Systematic Phenotypic Screening of Chloroplast Protein Mutants in Arabidopsis. Methods in Molecular Biology, 2011, 775, 161-185.	0.4	10
103	Degradation of salicylic acid to catechol in Solanaceae by SA 1-hydroxylase. Plant Physiology, 2021, 185, 876-891.	2.3	9
104	Switchgrass Metabolomics Reveals Striking Genotypic and Developmental Differences in Specialized Metabolic Phenotypes. Journal of Agricultural and Food Chemistry, 2022, 70, 8010-8023.	2.4	9
105	Deep roots and many branches: Origins of plant-specialized metabolic enzymes in general metabolism. Current Opinion in Plant Biology, 2022, 66, 102192.	3.5	8
106	Characterization of tryptophan synthase alpha subunit mutants of. Molecular Genetics and Genomics, 1996, 253, 353.	2.4	3
107	Natural variation meets synthetic biology: Promiscuous trichome-expressed acyltransferases from Nicotiana. Plant Physiology, 2022, 190, 146-164.	2.3	3
108	Sandbox Ethics in Science: Sharing of Data and Materials in Plant Biology. Plant Physiology, 2003, 132, 17-18.	2.3	1

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109	Put on Your Sunscreen: The Birth of Arabidopsis Abiotic Stress Genetics. Plant Cell, 2019, 31, 1406-1407.	3.1	1
110	Identification of BAHD acyltransferases associated with acylinositol biosynthesis in <scp>Solanum quitoense</scp> (naranjilla). Plant Direct, 2022, 6, .	0.8	1
111	Weed Power, Translating Arabidopsis. Plant Physiology, 2004, 135, 601-601.	2.3	0
112	Genetic Approaches to Understanding the Regulation of Tryptophan Biosynthesis. , 1998, , 159-170.		0
113	The Rising of Acylsugar Diversity: Metabolic Innovation in Tomato Trichomes through BAHD Enzyme Promiscuity and Pathway Evolution. FASEB Journal, 2018, 32, 537.2.	0.2	0
114	Evolution and the single cell: Metabolic diversity in tomato. FASEB Journal, 2019, 33, 343.3.	0.2	0