Patrick Giavalisco

List of Publications by Year
in descending order

117 papers	9,816 citations	31976 53 h-index	39675 94 g-index
124 all docs	124 docs citations	124 times ranked	12677 citing authors

#	Article	IF	Citations
1	Intra- and Interspecific Variation in Primate Gene Expression Patterns. Science, 2002, 296, 340-343.	12.6	813
2	Mass spectrometry-based metabolomics: a guide for annotation, quantification and best reporting practices. Nature Methods, 2021, 18, 747-756.	19.0	403
3	The sucroseâ€“trehalose 6-phosphate (Tre6P) nexus: specificity and mechanisms of sucrose signalling by Tre6P. Journal of Experimental Botany, 2014, 65, 1051-1068.	4.8	326
4	Elemental formula annotation of polar and lipophilic metabolites using ¹³C, ¹⁵N and ³⁴S isotope labelling, in combination with highâ€resolution mass spectrometry. Plant Journal, 2011, 68, 364-376.	5.7	319
5	Comprehensive Dissection of Spatiotemporal Metabolic Shifts in Primary, Secondary, and Lipid Metabolism during Developmental Senescence in Arabidopsis Â. Plant Physiology, 2013, 162, 1290-1310.	4.8	278
6	Towards the proteome ofBrassica napus phloem sap. Proteomics, 2006, 6, 896-909.	2.2	237
7	SlCCD7 controls strigolactone biosynthesis, shoot branching and mycorrhiza-induced apocarotenoid formation in tomato. Plant Journal, 2010, 61, 300-311.	5.7	227
8	RNA Interference of LIN5 in Tomato Confirms Its Role in Controlling Brix Content, Uncovers the Influence of Sugars on the Levels of Fruit Hormones, and Demonstrates the Importance of Sucrose Cleavage for Normal Fruit Development and Fertility Â Â. Plant Physiology, 2009, 150, 1204-1218.	4.8	226
9	Proteaceae from severely phosphorusâ€impoverished soils extensively replace phospholipids with galactolipids and sulfolipids during leaf development to achieve a high photosynthetic phosphorusâ€useâ€efficiency. New Phytologist, 2012, 196, 1098-1108.	7.3	225
10	Proteomics of curcurbit phloem exudate reveals a network of defence proteins. Phytochemistry, 2004, 65, 1795-1804.	2.9	210
11	Systemic analysis of inducible target of rapamycin mutants reveal a general metabolic switch controlling growth in <scp>A</scp>rabidopsis thaliana. Plant Journal, 2013, 73, 897-909.	5.7	205
12	Identification and Mode of Inheritance of Quantitative Trait Loci for Secondary Metabolite Abundance in Tomato. Plant Cell, 2015, 27, 485-512.	6.6	188
13	¹³C Isotope-Labeled Metabolomes Allowing for Improved Compound Annotation and Relative Quantification in Liquid Chromatography-Mass Spectrometry-based Metabolomic Research. Analytical Chemistry, 2009, 81, 6546-6551.	6.5	175
14	SARS-CoV-2-mediated dysregulation of metabolism and autophagy uncovers host-targeting antivirals. Nature Communications, 2021, 12, 3818.	12.8	172
15	Differential remodeling of the lipidome during cold acclimation in natural accessions of Arabidopsis thaliana. Plant Journal, 2012, 72, 972-982.	5.7	171
16	Ultra Performance Liquid Chromatography and High Resolution Mass Spectrometry for the Analysis of Plant Lipids. Frontiers in Plant Science, 2011, 2, 54.	3.6	168
17	Global Analysis of the Role of Autophagy in Cellular Metabolism and Energy Homeostasis in Arabidopsis Seedlings under Carbon Starvation. Plant Cell, 2015, 27, 306-322.	6.6	166
18	FAX1, a Novel Membrane Protein Mediating Plastid Fatty Acid Export. PLoS Biology, 2015, 13, e1002053.	5.6	162

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19	Local Fatty Acid Channeling into Phospholipid Synthesis Drives Phagophore Expansion during Autophagy. Cell, 2020, 180, 135-149.e14.	28.9	160
20	Highâ€resolution plant metabolomics: from mass spectral features to metabolites and from wholeâ€cell analysis to subcellular metabolite distributions. Plant Journal, 2012, 70, 39-50.	5.7	151
21	Protocol: a fast, comprehensive and reproducible one-step extraction method for the rapid preparation of polar and semi-polar metabolites, lipids, proteins, starch and cell wall polymers from a single sample. Plant Methods, 2016, 12, 45.	4.3	150
22	Organization and Evolution of Brain Lipidome Revealed by Large-Scale Analysis of Human, Chimpanzee, Macaque, and Mouse Tissues. Neuron, 2015, 85, 695-702.	8.1	123
23	Low levels of ribosomal <scp>RNA</scp> partly account for the very high photosynthetic phosphorusâ€use efficiency of <scp>P</scp>roteaceae species. Plant, Cell and Environment, 2014, 37, 1276-1298.	5.7	121
24	High-Resolution Direct Infusion-Based Mass Spectrometry in Combination with Whole ¹³C Metabolome Isotope Labeling Allows Unambiguous Assignment of Chemical Sum Formulas. Analytical Chemistry, 2008, 80, 9417-9425.	6.5	115
25	Small-molecule inhibitors of human mitochondrial DNA transcription. Nature, 2020, 588, 712-716.	27.8	115
26	High heterogeneity within the ribosomal proteins of the Arabidopsis thaliana 80S ribosome. Plant Molecular Biology, 2005, 57, 577-591.	3.9	114
27	Metabolomics Unravel Contrasting Effects of Biodiversity on the Performance of Individual Plant Species. PLoS ONE, 2010, 5, e12569.	2.5	114
28	Analysis of shortâ€term changes in the Arabidopsis thaliana glycerolipidome in response to temperature and light. Plant Journal, 2011, 66, 656-668.	5.7	113
29	Intersection of the tocopherol and plastoquinol metabolic pathways at the plastoglobule. Biochemical Journal, 2010, 425, 389-399.	3.7	110
30	Gibberellin biosynthesis and signalling during development of the strawberry receptacle. New Phytologist, 2011, 191, 376-390.	7.3	110
31	Analysis of xylem sap proteins from Brassica napus. BMC Plant Biology, 2005, 5, 11.	3.6	107
32	Systems-Wide Analysis of Acclimation Responses to Long-Term Heat Stress and Recovery in the Photosynthetic Model OrganismChlamydomonas reinhardtiiÂ Â. Plant Cell, 2014, 26, 4270-4297.	6.6	107
33	Discrimination of Wine Attributes by Metabolome Analysis. Analytical Chemistry, 2010, 82, 3573-3580.	6.5	103
34	Proteome analysis ofArabidopsis thaliana by two-dimensional gel electrophoresis and matrix-assisted laser desorption/ionisation-time of flight mass spectrometry. Proteomics, 2005, 5, 1902-1913.	2.2	102
35	A Topological Map of the Compartmentalized Arabidopsis thaliana Leaf Metabolome. PLoS ONE, 2011, 6, e17806.	2.5	101
36	Large-scale plant proteomics. Plant Molecular Biology, 2002, 48, 133-141.	3.9	92

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37	Extraction of proteins from plant tissues for two-dimensional electrophoresis analysis. Electrophoresis, 2003, 24, 207-216.	2.4	92
38	Toward the Storage Metabolome: Profiling the Barley Vacuole Â Â. Plant Physiology, 2011, 157, 1469-1482.	4.8	92
39	Molecular signatures associated with increased freezing tolerance due to low temperature memory in Arabidopsis. Plant, Cell and Environment, 2019, 42, 854-873.	5.7	89
40	Large-gel two-dimensional electrophoresis-matrix assisted laser desorption/ionization-time of flight-mass spectrometry: An analytical challenge for studying complex protein mixtures. Electrophoresis, 2001, 22, 2844-2855.	2.4	82
41	Rapid metabolic evolution in human prefrontal cortex. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 6181-6186.	7.1	82
42	Evaluation of two-dimensional electrophoresis and liquid chromatography - tandem mass spectrometry for tissue-specific protein profiling of laser-microdissected plant samples. Electrophoresis, 2005, 26, 2729-2738.	2.4	81
43	Exceptional Evolutionary Divergence of Human Muscle and Brain Metabolomes Parallels Human Cognitive and Physical Uniqueness. PLoS Biology, 2014, 12, e1001871.	5.6	80
44	Integration of transcriptomics and metabolomics data specifies the metabolic response of Chlamydomonas to rapamycin treatment. Plant Journal, 2015, 81, 822-835.	5.7	80
45	Mitochondria-Endoplasmic Reticulum Contacts in Reactive Astrocytes Promote Vascular Remodeling. Cell Metabolism, 2020, 31, 791-808.e8.	16.2	79
46	Corn hybrids display lower metabolite variability and complex metabolite inheritance patterns. Plant Journal, 2011, 68, 326-336.	5.7	75
47	Regulatoryâ€associated protein of <scp>TOR</scp> (<scp>RAPTOR</scp>) alters the hormonal and metabolic composition of Arabidopsis seeds, controlling seed morphology, viability and germination potential. Plant Journal, 2017, 92, 525-545.	5.7	71
48	Neanderthal ancestry drives evolution of lipid catabolism in contemporary Europeans. Nature Communications, 2014, 5, 3584.	12.8	70
49	RAPTOR Controls Developmental Growth Transitions by Altering the Hormonal and Metabolic Balance. Plant Physiology, 2018, 177, 565-593.	4.8	66
50	Lipidome alterations in human prefrontal cortex during development, aging, and cognitive disorders. Molecular Psychiatry, 2020, 25, 2952-2969.	7.9	66
51	Cellular pyrimidine imbalance triggers mitochondrial DNAâ€“dependent innate immunity. Nature Metabolism, 2021, 3, 636-650.	11.9	64
52	Central role of Fa<scp>GAMYB</scp> in the transition of the strawberry receptacle from development to ripening. New Phytologist, 2015, 208, 482-496.	7.3	62
53	Lipidome determinants of maximal lifespan in mammals. Scientific Reports, 2017, 7, 5.	3.3	60
54	Glutamine Metabolism Controls Stem Cell Fate Reversibility and Long-Term Maintenance in the Hair Follicle. Cell Metabolism, 2020, 32, 629-642.e8.	16.2	60

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55	A Transcriptional and Metabolic Framework for Secondary Wall Formation in Arabidopsis. Plant Physiology, 2016, 172, pp.01100.2016.	4.8	57
56	Exploiting Natural Variation in Tomato to Define Pathway Structure and Metabolic Regulation of Fruit Polyphenolics in the Lycopersicum Complex. Molecular Plant, 2020, 13, 1027-1046.	8.3	56
57	Demethylation of oligogalacturonides by FaPE1 in the fruits of the wild strawberry Fragaria vesca triggers metabolic and transcriptional changes associated with defence and development of the fruit. Journal of Experimental Botany, 2011, 62, 2855-2873.	4.8	55
58	An improved extraction method enables the comprehensive analysis of lipids, proteins, metabolites and phytohormones from a single sample of leaf tissue under waterâ€deficit stress. Plant Journal, 2020, 103, 1614-1632.	5.7	55
59	Liquid chromatography highâ€resolution mass spectrometry for fatty acid profiling. Plant Journal, 2015, 81, 529-536.	5.7	54
60	The target of rapamycin kinase affects biomass accumulation and cell cycle progression by altering carbon/nitrogen balance in synchronized Chlamydomonas reinhardtii cells. Plant Journal, 2018, 93, 355-376.	5.7	54
61	Protein Identification by MALDI-TOF-MS Peptide Mapping:â€‰ A New Strategy. Analytical Chemistry, 2002, 74, 1760-1771.	6.5	53
62	Analysis of the compartmentalized metabolome â€“ a validation of the non-aqueous fractionation technique. Frontiers in Plant Science, 2011, 2, 55.	3.6	49
63	Neuronal metabolic rewiring promotes resilience to neurodegeneration caused by mitochondrial dysfunction. Science Advances, 2020, 6, eaba8271.	10.3	47
64	MALDI imaging mass spectrometry: Discrimination of pathophysiological regions in traumatized skeletal muscle by characteristic peptide signatures. Proteomics, 2014, 14, 2249-2260.	2.2	46
65	Uric Acid Accumulation in an Arabidopsis Urate Oxidase Mutant Impairs Seedling Establishment by Blocking Peroxisome Maintenance. Plant Cell, 2014, 26, 3090-3100.	6.6	46
66	Target of Rapamycin Inhibition in Chlamydomonas reinhardtii Triggers de Novo Amino Acid Synthesis by Enhancing Nitrogen Assimilation. Plant Cell, 2018, 30, 2240.1-2254.	6.6	44
67	Alzheimer's brains show inter-related changes in RNA and lipid metabolism. Neurobiology of Disease, 2017, 106, 1-13.	4.4	43
68	Metabolome signature of autism in the human prefrontal cortex. Communications Biology, 2019, 2, 234.	4.4	42
69	Rapid Affinity Purification of Tagged Plant Mitochondria (Mito-AP) for Metabolome and Proteome Analyses. Plant Physiology, 2020, 182, 1194-1210.	4.8	42
70	A Simple Fractionated Extraction Method for the Comprehensive Analysis of Metabolites, Lipids, and Proteins from a Single Sample. Journal of Visualized Experiments, 2017, , .	0.3	40
71	Novel allelic variants in ACD6 cause hybrid necrosis in local collection of Arabidopsis thaliana. New Phytologist, 2017, 213, 900-915.	7.3	40
72	Chloroplast competition is controlled by lipid biosynthesis in evening primroses. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 5665-5674.	7.1	39

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73	Lipid Biosynthesis and Protein Concentration Respond Uniquely to Phosphate Supply during Leaf Development in Highly Phosphorus-Efficient Hakea prostrata. Plant Physiology, 2014, 166, 1891-1911.	4.8	38
74	Dynamics of lipids and metabolites during the cell cycle of Chlamydomonas reinhardtii. Plant Journal, 2017, 92, 331-343.	5.7	38
75	Chromatin remodeling due to degradation of citrate carrier impairs osteogenesis of aged mesenchymal stem cells. Nature Aging, 2021, 1, 810-825.	11.6	37
76	Arabidopsis poly(A) polymerase <scp>PAPS</scp>1 limits founderâ€cell recruitment to organ primordia and suppresses the salicylic acidâ€independent immune response downstream of <scp>EDS</scp>1/<scp>PAD</scp>4. Plant Journal, 2014, 77, 688-699.	5.7	36
77	Diacylglycerol Activates the Light-Dependent Channel TRP in the Photosensitive Microvilli ofDrosophila melanogasterPhotoreceptors. Journal of Neuroscience, 2014, 34, 6679-6686.	3.6	36
78	Pseudomonas syringae Type III Effector AvrPtoB Is Phosphorylated in Plant Cells on Serine 258, Promoting Its Virulence Activity. Journal of Biological Chemistry, 2007, 282, 30737-30744.	3.4	35
79	Functional analysis of Brassica napus phloem protein and ribonucleoprotein complexes. New Phytologist, 2017, 214, 1188-1197.	7.3	35
80	Sample amount alternatives for data adjustment in comparative cyanobacterial metabolomics. Analytical and Bioanalytical Chemistry, 2011, 399, 3503-3517.	3.7	32
81	High MS-compatibility of silver nitrate-stained protein spots from 2-DE gels using ZipPlates and AnchorChips for successful protein identification. Electrophoresis, 2007, 28, 1607-1614.	2.4	28
82	Analysis of Subcellular Metabolite Distributions Within Arabidopsis thaliana Leaf Tissue: A Primer for Subcellular Metabolomics. Methods in Molecular Biology, 2014, 1062, 575-596.	0.9	28
83	Changes in Lipidome Composition during Brain Development in Humans, Chimpanzees, and Macaque Monkeys. Molecular Biology and Evolution, 2017, 34, 1155-1166.	8.9	28
84	Inhibition of TOR Represses Nutrient Consumption, Which Improves Greening after Extended Periods of Etiolation. Plant Physiology, 2018, 178, 101-117.	4.8	27
85	Comparative Metabolomics Approach Detects Stress-Specific Responses during Coral Bleaching in Soft Corals. Journal of Proteome Research, 2018, 17, 2060-2071.	3.7	25
86	Metabolic control of adult neural stem cell self-renewal by the mitochondrial protease YME1L. Cell Reports, 2022, 38, 110370.	6.4	24
87	Limited nitrogen availability has cultivar-dependent effects on potato tuber yield and tuber quality traits. Food Chemistry, 2019, 288, 170-177.	8.2	22
88	Lipidome Evolution in Mammalian Tissues. Molecular Biology and Evolution, 2018, 35, 1947-1957.	8.9	21
89	The phosphorylated pathway of serine biosynthesis links plant growth with nitrogen metabolism. Plant Physiology, 2021, 186, 1487-1506.	4.8	20
90	Comprehensive Metabolomics Studies of Plant Developmental Senescence. Methods in Molecular Biology, 2018, 1744, 339-358.	0.9	19

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91	The integration of MS-based metabolomics and multivariate data analysis allows for improved quality assessment of Zingiber officinale Roscoe. Phytochemistry, 2021, 190, 112843.	2.9	18
92	Transformation and other factors of the peptide mass spectrometry pairwise peak-list comparison process. BMC Bioinformatics, 2005, 6, 285.	2.6	17
93	Long-Distance Signaling in bypass1 Mutants: Bioassay Development Reveals the bps Signal to Be a Metabolite. Molecular Plant, 2013, 6, 164-173.	8.3	17
94	Consequences of induced brassinosteroid deficiency in Arabidopsis leaves. BMC Plant Biology, 2014, 14, 309.	3.6	17
95	Analysis of the Interface between Primary and Secondary Metabolism in Catharanthus roseus Cell Cultures Using 13C-Stable Isotope Feeding and Coupled Mass Spectrometry. Molecular Plant, 2013, 6, 581-584.	8.3	16
96	Stromal NADH supplied by PHOSPHOGLYCERATE DEHYDROGENASE3 is crucial for photosynthetic performance. Plant Physiology, 2021, 186, 142-167.	4.8	16
97	Metabolic resistance to the inhibition of mitochondrial transcription revealed by CRISPRâ€Cas9 screen. EMBO Reports, 2022, 23, e53054.	4.5	16
98	Bioinformatic and expression analysis of the Brassica napus L. cyclophilins. Scientific Reports, 2017, 7, 1514.	3.3	15
99	Differential Regulation of Carbon Partitioning by the Central Growth Regulator Target of Rapamycin (TOR). Molecular Plant, 2013, 6, 1731-1733.	8.3	13
100	Implication of folate deficiency in CYP2U1 loss of function. Journal of Experimental Medicine, 2021, 218, .	8.5	13
101	UPLC-MS analysis of Chlamydomonas reinhardtii and Scenedesmus obliquus lipid extracts and their possible metabolic roles. Journal of Applied Phycology, 2015, 27, 1149-1159.	2.8	12
102	Doseâ€dependent interactions between two loci trigger altered shoot growth in BGâ€5ÂÃ—ÂKrotzenburgâ€0 (Kroâ€0) hybrids of Arabidopsis thaliana. New Phytologist, 2018, 217, 392-406.	7.3	12
103	Reduced purine biosynthesis in humans after their divergence from Neandertals. ELife, 2021, 10, .	6.0	12
104	The AtMYB60 transcription factor regulates stomatal opening by modulating oxylipin synthesis in guard cells. Scientific Reports, 2022, 12, 533.	3.3	12
105	Imaging Mass Spectrometry for Characterization of Atrial Fibrillation Subtypes. Proteomics - Clinical Applications, 2018, 12, e1700155.	1.6	11
106	PROTEOMER: A workflowâ€optimized laboratory information management system for 2âĐ electrophoresisâ€centered proteomics. Proteomics, 2009, 9, 1795-1808.	2.2	9
107	Sulphate fertilization ameliorates long-term aluminum toxicity symptoms in perennial ryegrass (Lolium perenne). Plant Physiology and Biochemistry, 2014, 83, 88-99.	5.8	8
108	Mediobasal hypothalamic FKBP51 acts as a molecular switch linking autophagy to whole-body metabolism. Science Advances, 2022, 8, eabi4797.	10.3	8

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109	Two Pdk1 phosphorylation sites on the plant cell death suppressor Adi3 contribute to substrate phosphorylation. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2013, 1834, 1099-1106.	2.3	7
110	Semi-targeted Lipidomics of Plant Acyl Lipids Using UPLC-HR-MS in Combination with a Data-Independent Acquisition Mode. Methods in Molecular Biology, 2018, 1778, 137-155.	0.9	7
111	CLUH controls astrin-1 expression to couple mitochondrial metabolism to cell cycle progression. ELife, 2022, 11, .	6.0	7
112	Dnmt3a2/Dnmt3L Overexpression in the Dopaminergic System of Mice Increases Exercise Behavior through Signaling Changes in the Hypothalamus. International Journal of Molecular Sciences, 2020, 21, 6297.	4.1	6
113	Mutation in the Arabidopsis regulatory-associated protein TOR 1B (RAPTOR1B) leads to decreased jasmonates levels in leaf tissue. Plant Signaling and Behavior, 2019, 14, e1649567.	2.4	5
114	TOR inhibition interrupts the metabolic homeostasis by shifting the carbonâ€“nitrogen balance in Chlamydomonas reinhardtii. Plant Signaling and Behavior, 2019, 14, 1670595.	2.4	5
115	A Multi-Omics Extraction Method for the In-Depth Analysis of Synchronized Cultures of the Green Alga Chlamydomonas reinhardtii. Journal of Visualized Experiments, 2019, , .	0.3	4
116	Regulatory-Associated Protein of TOR 1B (RAPTOR1B) regulates hormonal switches during seed germination in Arabidopsis thaliana. Plant Signaling and Behavior, 2019, 14, 1613130.	2.4	4
117	Differences in lipidome and metabolome organization of prefrontal cortex among human populations. Scientific Reports, 2019, 9, 18348.	3.3	2