Paul D Fraser

List of Publications by Year
in descending order

111 papers	10,324 citations	57758 44 h-index	33894 99 g-index
115 all docs	115 docs citations	115 times ranked	8861 citing authors

#	Article	IF	Citations
1	The biosynthesis and nutritional uses of carotenoids. Progress in Lipid Research, 2004, 43, 228-265.	11.6	1,147
2	Chemical derivatization and mass spectral libraries in metabolic profiling by GC/MS and LC/MS/MS. Journal of Experimental Botany, 2005, 56, 219-243.	4.8	562
3	Fruit-specific RNAi-mediated suppression of DET1 enhances carotenoid and flavonoid content in tomatoes. Nature Biotechnology, 2005, 23, 890-895.	17.5	450
4	Evaluation of transgenic tomato plants expressing an additional phytoene synthase in a fruit-specific manner. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 1092-1097.	7.1	434
5	Mass spectrometry-based metabolomics: a guide for annotation, quantification and best reporting practices. Nature Methods, 2021, 18, 747-756.	19.0	403
6	Elevation of the provitamin A content of transgenic tomato plants. Nature Biotechnology, 2000, 18, 666-669.	17.5	384
7	Application of high-performance liquid chromatography with photodiode array detection to the metabolic profiling of plant isoprenoids. Plant Journal, 2000, 24, 551-558.	5.7	356
8	Manipulation of the Blue Light Photoreceptor Cryptochrome 2 in Tomato Affects Vegetative Development, Flowering Time, and Fruit Antioxidant Content. Plant Physiology, 2005, 137, 199-208.	4.8	352
9	Constitutive expression of a fruit phytoene synthase gene in transgenic tomatoes causes dwarfism by redirecting metabolites from the gibberellin pathway. Plant Journal, 1995, 8, 693-701.	5.7	341
10	Recommendations for Reporting Metabolite Data. Plant Cell, 2011, 23, 2477-2482.	6.6	326
11	Transcriptome and Metabolite Profiling Show That APETALA2a Is a Major Regulator of Tomato Fruit Ripening Â. Plant Cell, 2011, 23, 923-941.	6.6	324
12	Metabolic engineering of the mevalonate and non-mevalonate isopentenyl diphosphate-forming pathways for the production of health-promoting isoprenoids in tomato. Plant Biotechnology Journal, 2004, 3, 17-27.	8.3	306
13	Manipulation of Phytoene Levels in Tomato Fruit: Effects on Isoprenoids, Plastids, and Intermediary Metabolism. Plant Cell, 2007, 19, 3194-3211.	6.6	276
14	Genetic improvement of tomato by targeted control of fruit softening. Nature Biotechnology, 2016, 34, 950-952.	17.5	251
15	Identification and quantification of carotenoids, tocopherols and chlorophylls in commonly consumed fruits and vegetables. Phytochemistry, 2003, 62, 939-947.	2.9	182
16	Understanding carotenoid metabolism as a necessity for genetic engineering of crop plants. Metabolic Engineering, 2006, 8, 291-302.	7.0	171
17	Production of the Carotenoids Lycopene, Î²-Carotene, and Astaxanthin in the Food Yeast <i>Candida utilis</i>. Applied and Environmental Microbiology, 1998, 64, 1226-1229.	3.1	165
18	Increased Carotenoid Production by the Food Yeast <i>Candida utilis</i> through Metabolic Engineering of the Isoprenoid Pathway. Applied and Environmental Microbiology, 1998, 64, 2676-2680.	3.1	162

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19	In Vitro Characterization of Astaxanthin Biosynthetic Enzymes. Journal of Biological Chemistry, 1997, 272, 6128-6135.	3.4	161
20	Differences in the Carotenoid Content of Ordinary Citrus and Lycopene-Accumulating Mutants. Journal of Agricultural and Food Chemistry, 2006, 54, 5474-5481.	5.2	161
21	Integrative Transcript and Metabolite Analysis of Nutritionally Enhanced <i>DE-ETIOLATED1</i> Downregulated Tomato Fruit. Plant Cell, 2010, 22, 1190-1215.	6.6	160
22	Phytoene synthase-2 enzyme activity in tomato does not contribute to carotenoid synthesis in ripening fruit. Plant Molecular Biology, 1999, 40, 687-698.	3.9	159
23	Metabolic engineering of ketocarotenoid formation in higher plants. Plant Journal, 2004, 39, 477-486.	5.7	157
24	Fibrillin influence on plastid ultrastructure and pigment content in tomato fruit. Phytochemistry, 2007, 68, 1545-1556.	2.9	154
25	Genetic engineering of carotenoid formation in tomato fruit and the potential application of systems and synthetic biology approaches. Archives of Biochemistry and Biophysics, 2009, 483, 196-204.	3.0	129
26	Phytoene synthase from tomato (Lycopersicon esculentum) chloroplasts - partial purification and biochemical properties. Planta, 2000, 211, 361-369.	3.2	115
27	Subchromoplast Sequestration of Carotenoids Affects Regulatory Mechanisms in Tomato Lines Expressing Different Carotenoid Gene Combinations. Plant Cell, 2013, 25, 4560-4579.	6.6	112
28	Engineering ketocarotenoid biosynthesis in potato tubers. Metabolic Engineering, 2006, 8, 253-263.	7.0	104
29	Natural Variation in CCD4 Promoter Underpins Species-Specific Evolution of Red Coloration in Citrus Peel. Molecular Plant, 2019, 12, 1294-1307.	8.3	102
30	Recent advances in carotenoid biosynthesis, regulation and manipulation. Planta, 2005, 221, 305-308.	3.2	99
31	Metabolite profiling of carotenoid and phenolic pathways in mutant and transgenic lines of tomato: Identification of a high antioxidant fruit line. Phytochemistry, 2006, 67, 1750-1757.	2.9	95
32	Characterisation of CRISPR mutants targeting genes modulating pectin degradation in ripening tomato. Plant Physiology, 2019, 179, pp.01187.2018.	4.8	92
33	The regulation of carotenoid formation in tomato fruit. Plant Journal, 2017, 89, 774-788.	5.7	86
34	Enzymic confirmation of reactions involved in routes to astaxanthin formation, elucidated using a direct substrate in vitro assay. FEBS Journal, 1998, 252, 229-236.	0.2	84
35	Carotenoid biosynthesis and sequestration in red chilli pepper fruit and its impact on colour intensity traits. Journal of Experimental Botany, 2019, 70, 2637-2650.	4.8	83
36	Carotenoids and tocopherols in yellow and red raspberries. Food Chemistry, 2013, 139, 744-752.	8.2	66

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37	Combined transcript, proteome, and metabolite analysis of transgenic maize seeds engineered for enhanced carotenoid synthesis reveals pleotropic effects in core metabolism. Journal of Experimental Botany, 2015, 66, 3141-3150.	4.8	65
38	Rapid identification of causal mutations in tomato EMS populations via mapping-by-sequencing. Nature Protocols, 2016, 11, 2401-2418.	12.0	62
39	Carotenoids present in halotolerantBacillusspore formers. FEMS Microbiology Letters, 2006, 255, 215-224.	1.8	61
40	A genome-wide metabolomic resource for tomato fruit from Solanum pennellii. Scientific Reports, 2014, 4, 3859.	3.3	60
41	Metabolomics: a second-generation platform for crop and food analysis. Bioanalysis, 2011, 3, 1143-1159.	1.5	53
42	Identification and the developmental formation of carotenoid pigments in the yellow/orange Bacillus spore-formers. Biochimica Et Biophysica Acta - Molecular and Cell Biology of Lipids, 2011, 1811, 177-185.	2.4	53
43	Methyl Glucosyl-3,4-dehydro-apo-8â€²-lycopenoate, a Novel Antioxidative Glyco-C30-carotenoic Acid Produced by a Marine Bacterium Planococcus maritimus. Journal of Antibiotics, 2008, 61, 729-735.	2.0	48
44	Metabolite profiling of Dioscorea (yam) species reveals underutilised biodiversity and renewable sources for high-value compounds. Scientific Reports, 2016, 6, 29136.	3.3	46
45	Construction of a fusion enzyme for astaxanthin formation and its characterisation in microbial and plant hosts: A new tool for engineering ketocarotenoids. Metabolic Engineering, 2019, 52, 243-252.	7.0	46
46	Metabolic engineering of astaxanthin biosynthesis in maize endosperm and characterization of a prototype high oil hybrid. Transgenic Research, 2016, 25, 477-489.	2.4	44
47	Engineering of tomato for the sustainable production of ketocarotenoids and its evaluation in aquaculture feed. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 10876-10881.	7.1	42
48	A transcriptomic, metabolomic and cellular approach to the physiological adaptation of tomato fruit to high temperature. Plant, Cell and Environment, 2021, 44, 2211-2229.	5.7	38
49	Metabolic diversity in sweet potato (Ipomoea batatas, Lam.) leaves and storage roots. Horticulture Research, 2019, 6, 2.	6.3	37
50	Metabolite database for root, tuber, and banana crops to facilitate modern breeding in understudied crops. Plant Journal, 2020, 101, 1258-1268.	5.7	35
51	Engineering Metabolism in Nicotiana Species: A Promising Future. Trends in Biotechnology, 2021, 39, 901-913.	9.3	35
52	Creating plant molecular factories for industrial and nutritional isoprenoid production. Current Opinion in Biotechnology, 2018, 49, 80-87.	6.6	34
53	Optimising ketocarotenoid production in potato tubers: Effect of genetic background, transgene combinations and environment. Plant Science, 2015, 234, 27-37.	3.6	33
54	Annotation and functional assignment of the genes for the C30 carotenoid pathways from the genomes of two bacteria: Bacillus indicus and Bacillus firmus. Microbiology (United Kingdom), 2015, 161, 194-202.	1.8	33

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55	The Formation and Sequestration of Nonendogenous Ketocarotenoids in Transgenic <i>Nicotiana glauca</i>. Plant Physiology, 2017, 173, 1617-1635.	4.8	32
56	Development and optimisation of a label-free quantitative proteomic procedure and its application in the assessment of genetically modified tomato fruit. Proteomics, 2013, 13, 2016-2030.	2.2	30
57	Metabolite profiling of yam (Dioscorea spp.) accessions for use in crop improvement programmes. Metabolomics, 2017, 13, 144.	3.0	30
58	Metabolomics should be deployed in the identification and characterization of geneâ€edited crops. Plant Journal, 2020, 102, 897-902.	5.7	30
59	Capturing Biochemical Diversity in Cassava (<i>Manihot esculenta</i> Crantz) through the Application of Metabolite Profiling. Journal of Agricultural and Food Chemistry, 2019, 67, 986-993.	5.2	29
60	The road to astaxanthin production in tomato fruit reveals plastid and metabolic adaptation resulting in an unintended high lycopene genotype with delayed overâ€ripening properties. Plant Biotechnology Journal, 2019, 17, 1501-1513.	8.3	27
61	Carotenoid profiling of yams: Clarity, comparisons and diversity. Food Chemistry, 2018, 259, 130-138.	8.2	26
62	A metabolomics characterisation of natural variation in the resistance of cassava to whitefly. BMC Plant Biology, 2019, 19, 518.	3.6	26
63	Application of highâ€performance liquid chromatography with photodiode array detection to the metabolic profiling of plant isoprenoids. Plant Journal, 2000, 24, 551-558.	5.7	24
64	Product stability and sequestration mechanisms in <i>Solanum tuberosum</i> engineered to biosynthesize high value ketocarotenoids. Plant Biotechnology Journal, 2016, 14, 140-152.	8.3	24
65	Towards the development of a sustainable soya beanâ€based feedstock for aquaculture. Plant Biotechnology Journal, 2017, 15, 227-236.	8.3	24
66	Determination of carotenoids in sweet potato (Ipomoea batatas L., Lam) tubers: Implications for accurate provitamin A determination in staple sturdy tuber crops. Phytochemistry, 2019, 167, 112102.	2.9	23
67	Isoprenoid, Lipid, and Protein Contents in Intact Plastids Isolated from Mesocarp Cells of Traditional and High-Pigment Tomato Cultivars at Different Ripening Stages. Journal of Agricultural and Food Chemistry, 2012, 60, 1764-1775.	5.2	22
68	The sub-cellular localisation of the potato (Solanum tuberosum L.) carotenoid biosynthetic enzymes, CrtRb2 and PSY2. Protoplasma, 2013, 250, 1381-1392.	2.1	22
69	Differential Inhibition of Phytoene Desaturases from Diverse Origins and Analysis of Resistant Cyanobacterial Mutants. Zeitschrift Fur Naturforschung - Section C Journal of Biosciences, 1993, 48, 307-311.	1.4	19
70	Genetic modification of tomato with the tobacco lycopene Î²-cyclase gene produces high Î²-carotene and lycopene fruit. Zeitschrift Fur Naturforschung - Section C Journal of Biosciences, 2016, 71, 295-301.	1.4	19
71	New plant breeding techniques and their regulatory implications: An opportunity to advance metabolomics approaches. Journal of Plant Physiology, 2021, 258-259, 153378.	3.5	19
72	Phycomyces blakesleeanus car B mutants: Their use in assays of phytoene desaturase. Phytochemistry, 1991, 30, 3971-3976.	2.9	18

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73	Cassava Metabolomics and Starch Quality. Current Protocols in Plant Biology, 2019, 4, e20102.	2.8	16
74	Genetic engineering of carotenoid formation in tomato. Phytochemistry Reviews, 2006, 5, 59-65.	6.5	14
75	The optimisation and application of a metabolite profiling procedure for the metabolic phenotyping of Bacillus species. Metabolomics, 2014, 10, 77-90.	3.0	14
76	The subcellular localization of two isopentenyl diphosphate isomerases in rice suggests a role for the endoplasmic reticulum in isoprenoid biosynthesis. Plant Cell Reports, 2020, 39, 119-133.	5.6	14
77	The identification and rapid extraction of hydrocarbons from Nicotiana glauca: A potential advanced renewable biofuel source. Phytochemistry Letters, 2012, 5, 455-458.	1.2	13
78	Antioxidant compounds and their bioaccessibility in tomato fruit and puree obtained from a DETIOLATED -1 (DET -1) down-regulated genetically modified genotype. Food Chemistry, 2016, 213, 735-741.	8.2	13
79	Metabolite profiling characterises chemotypes of Musa diploids and triploids at juvenile and pre-flowering growth stages. Scientific Reports, 2019, 9, 4657.	3.3	13
80	Exploring the chemotypes underlying important agronomic and consumer traits in cassava (Manihot) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	3.5	13
81	The metabotyping of an East African cassava diversity panel: A core collection for developing biotic stress tolerance in cassava. PLoS ONE, 2020, 15, e0242245.	2.5	13
82	Proteome changes in tomato lines transformed with phytoene synthase-1 in the sense and antisense orientations. Journal of Experimental Botany, 2012, 63, 6035-6043.	4.8	12
83	Metabolite profiling in LCâ€“DAD using multivariate curve resolution: the alsace package for R. Metabolomics, 2015, 11, 143-154.	3.0	12
84	Assessment of metabolic variability and diversity present in leaf, peel and pulp tissue of diploid and triploid Musa spp.. Phytochemistry, 2020, 176, 112388.	2.9	12
85	The application of metabolite profiling to Mycobacterium spp.: Determination of metabolite changes associated with growth. Journal of Microbiological Methods, 2014, 106, 23-32.	1.6	10
86	Extending our tools and resources in the non-conventional industrial yeast Xanthophyllomyces dendrorhous through the application of metabolite profiling methodologies. Metabolomics, 2018, 14, 30.	3.0	10
87	Metabolic effects of agro-infiltration on N. benthamiana accessions. Transgenic Research, 2021, 30, 303-315.	2.4	10
88	Metabolic changes in leaves of N. tabacum and N. benthamiana during plant development. Journal of Plant Physiology, 2021, 265, 153486.	3.5	10
89	Carotenoids moderate the effectiveness of a Bt gene against the European corn borer, Ostrinia nubilalis. PLoS ONE, 2018, 13, e0199317.	2.5	9
90	The chemotype core collection of genus <i>Nicotiana</i>. Plant Journal, 2022, 110, 1516-1528.	5.7	9

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91	The biosynthetic pathway to a novel derivative of 4,4â€²-diapolycopene-4,4â€²-oate in a red strain of Sporosarcina aquimarina. Archives of Microbiology, 2012, 194, 779-784.	2.2	8
92	Effect of diflufenican on total carotenoid and phytoene production in carrot suspension-cultured cells. Planta, 2019, 249, 113-122.	3.2	8
93	Cooking dependent loss of metabolites in potato breeding lines and their wild and landrace relatives. Journal of Food Composition and Analysis, 2020, 88, 103432.	3.9	8
94	The esterification of xanthophylls in Solanum lycopersicum (tomato) chromoplasts; the role of a non-specific acyltransferase. Phytochemistry, 2021, 191, 112912.	2.9	8
95	Metabolite analysis of Mycobacterium species under aerobic and hypoxic conditions reveals common metabolic traits. Microbiology (United Kingdom), 2016, 162, 1456-1467.	1.8	8
96	Metabolite Profiling: A Tool for the Biochemical Characterisation of Mycobacterium sp.. Microorganisms, 2019, 7, 148.	3.6	7
97	The effect of Î²-cyclocitral treatment on the carotenoid content of transgenic Marsh grapefruit (Citrus paradisi Macf.) suspension-cultured cells. Phytochemistry, 2020, 180, 112509.	2.9	7
98	Detection and Enhancement of Ketocarotenoid Accumulation in the Newly Isolated Sarcinoid Green Microalga Chlorosarcinopsis PY02. Biology, 2018, 7, 17.	2.8	5
99	Characterisation of Thai strawberry (Fragaria Ã— ananassa Duch.) cultivars with RAPD markers and metabolite profiling techniques. Phytochemistry, 2020, 180, 112522.	2.9	5
100	Understanding colour retention in red chilli pepper fruit using a metabolite profiling approach. Food Chemistry Molecular Sciences, 2021, 2, 100013.	2.1	5
101	Multilevel interactions between native and ectopic isoprenoid pathways affect global metabolism in rice. Transgenic Research, 2022, 31, 249-268.	2.4	4
102	Analysis of Diapocarotenoids Found in Pigmented Bacillus Species. Methods in Molecular Biology, 2012, 892, 335-345.	0.9	3
103	Transcript and Metabolite Profiling for the Evaluation of Tobacco Tree and Poplar as Feedstock for the Bio-based Industry. Journal of Visualized Experiments, 2014, , .	0.3	3
104	The Coordinated Upregulated Expression of Genes Involved in MEP, Chlorophyll, Carotenoid and Tocopherol Pathways, Mirrored the Corresponding Metabolite Contents in Rice Leaves during De-Etiolation. Plants, 2021, 10, 1456.	3.5	3
105	Subchromoplast Fractionation Protocol for Different Solanaceae Fruit Species. Bio-protocol, 2016, 6, .	0.4	3
106	Genetic Manipulation of Carotenoid Content and Composition in Crop Plants. , 2009, , 99-114.		2
107	The assessment of changes to the nontuberculous mycobacterial metabolome in response to anti-TB drugs. FEMS Microbiology Letters, 2018, 365, .	1.8	2
108	Metabolomic approaches for the characterization of carotenoid metabolic engineering in planta. Methods in Enzymology, 2022, , 155-178.	1.0	2

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109	Nitrogen inputs influence vegetative metabolism in maize engineered with a seed-specific carotenoid pathway. Plant Cell Reports, 2021, 40, 899-911.	5.6	1
110	Datasets from harmonised metabolic phenotyping of root, tuber and banana crop. Data in Brief, 2022, 42, 108041.	1.0	1
111	Isolation and characterization of sub-plastidial fractions from carotenoid rich fruits. Methods in Enzymology, 2022, , 285-300.	1.0	0