Nicholas Smirnoff

List of Publications by Year
in descending order

73 papers	15,240 citations	57631 44 h-index	79541 73 g-index
80 all docs	80 docs citations	80 times ranked	13773 citing authors

#	Article	IF	Citations
1	Hydroxyl radical scavenging activity of compatible solutes. Phytochemistry, 1989, 28, 1057-1060.	1.4	1,732
2	The role of active oxygen in the response of plants to water deficit and desiccation. New Phytologist, 1993, 125, 27-58.	3.5	1,715
3	PlantL-ascorbic acid: chemistry, function, metabolism, bioavailability and effects of processing. Journal of the Science of Food and Agriculture, 2000, 80, 825-860.	1.7	1,076
4	The biosynthetic pathway of vitamin C in higher plants. Nature, 1998, 393, 365-369.	13.7	1,001
5	BOTANICAL BRIEFING: The Function and Metabolism of Ascorbic Acid in Plants. Annals of Botany, 1996, 78, 661-669.	1.4	620
6	Hydrogen peroxide metabolism and functions in plants. New Phytologist, 2019, 221, 1197-1214.	3.5	582
7	Ascorbic acid: metabolism and functions of a multi-facetted molecule. Current Opinion in Plant Biology, 2000, 3, 229-235.	3.5	582
8	Ascorbic Acid in Plants: Biosynthesis and Function. Critical Reviews in Biochemistry and Molecular Biology, 2000, 35, 291-314.	2.3	475
9	Plant resistance to environmental stress. Current Opinion in Biotechnology, 1998, 9, 214-219.	3.3	461
10	Ascorbic acid metabolism and functions: A comparison of plants and mammals. Free Radical Biology and Medicine, 2018, 122, 116-129.	1.3	390
11	Two genes in <i>Arabidopsis thaliana</i> encoding GDPâ€‹<scp>l</scp>â€galactose phosphorylase are required for ascorbate biosynthesis and seedling viability. Plant Journal, 2007, 52, 673-689.	2.8	371
12	BIOSYNTHESIS OFASCORBICACID INPLANTS: A Renaissance. Annual Review of Plant Biology, 2001, 52, 437-467.	14.2	370
13	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
14	Generation of reactive oxygen species by fungal NADPH oxidases is required for rice blast disease. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 11772-11777.	3.3	367
15	Photosynthesis-dependent H2O2 transfer from chloroplasts to nuclei provides a high-light signalling mechanism. Nature Communications, 2017, 8, 49.	5.8	284
16	Ascorbate biosynthesis and function in photoprotection. Philosophical Transactions of the Royal Society B: Biological Sciences, 2000, 355, 1455-1464.	1.8	280
17	The High Light Response in<i>Arabidopsis</i>Involves ABA Signaling between Vascular and Bundle Sheath Cells. Plant Cell, 2009, 21, 2143-2162.	3.1	240
18	Antisense suppression of l-galactose dehydrogenase in Arabidopsis thaliana provides evidence for its role in ascorbate synthesis and reveals light modulated l-galactose synthesis. Plant Journal, 2002, 30, 541-553.	2.8	231

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19	Chloroplasts play a central role in plant defence and are targeted by pathogen effectors. Nature Plants, 2015, 1, 15074.	4.7	226
20	L-Ascorbic Acid Metabolism in the Ascorbate-Deficient Arabidopsis Mutant vtc1. Plant Physiology, 1997, 115, 1277-1285.	2.3	205
21	Progress in manipulating ascorbic acid biosynthesis and accumulation in plants. Physiologia Plantarum, 2006, 126, 343-355.	2.6	199
22	Ascorbic acid: metabolism and functions of a multi-facetted molecule. Current Opinion in Plant Biology, 2000, 3, 229-35.	3.5	191
23	Drought Influences the Activity of Enzymes of the Chloroplast Hydrogen Peroxide Scavenging System. Journal of Experimental Botany, 1988, 39, 1097-1108.	2.4	182
24	Ascorbate metabolism in relation to oxidative stress. Biochemical Society Transactions, 1996, 24, 472-478.	1.6	182
25	The influence of ascorbate on anthocyanin accumulation during high light acclimation in <i>Arabidopsis thaliana</i>: further evidence for redox control of anthocyanin synthesis. Plant, Cell and Environment, 2012, 35, 388-404.	2.8	182
26	Arabidopsis thaliana VTC4 Encodes L-Galactose-1-P Phosphatase, a Plant Ascorbic Acid Biosynthetic Enzyme. Journal of Biological Chemistry, 2006, 281, 15662-15670.	1.6	154
27	Maternal temperature history activates Flowering Locus T in fruits to control progeny dormancy according to time of year. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 18787-18792.	3.3	148
28	Transcriptional Dynamics Driving MAMP-Triggered Immunity and Pathogen Effector-Mediated Immunosuppression in Arabidopsis Leaves Following Infection with <i>Pseudomonas syringae</i> pv tomato DC3000. Plant Cell, 2015, 27, 3038-3064.	3.1	148
29	Evolution of alternative biosynthetic pathways for vitamin C following plastid acquisition in photosynthetic eukaryotes. ELife, 2015, 4, .	2.8	140
30	Adaptation of phytoplankton to a decade of experimental warming linked to increased photosynthesis. Nature Ecology and Evolution, 2017, 1, 94.	3.4	128
31	Reactive Oxygen Species and Nitric Oxide Mediate Actin Reorganization and Programmed Cell Death in the Self-Incompatibility Response of <i>Papaver</i> Â Â Â. Plant Physiology, 2011, 156, 404-416.	2.3	127
32	ROS-dependent signalling pathways in plants and algae exposed to high light: Comparisons with other eukaryotes. Free Radical Biology and Medicine, 2018, 122, 52-64.	1.3	118
33	The control of ascorbic acid synthesis and turnover in pea seedlings. Journal of Experimental Botany, 2000, 51, 669-674.	2.4	117
34	l-Ascorbic acid biosynthesis. Vitamins and Hormones, 2001, 61, 241-266.	0.7	111
35	Environmental fluctuations accelerate molecular evolution of thermal tolerance in a marine diatom. Nature Communications, 2018, 9, 1719.	5.8	98
36	Seed production temperature regulation of primary dormancy occurs through control of seed coat phenylpropanoid metabolism. New Phytologist, 2015, 205, 642-652.	3.5	97

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37	Time-Series Transcriptomics Reveals That <i>AGAMOUS-LIKE22</i> Affects Primary Metabolism and Developmental Processes in Drought-Stressed Arabidopsis. Plant Cell, 2016, 28, 345-366.	3.1	92
38	Evolutionary temperature compensation of carbon fixation in marine phytoplankton. Ecology Letters, 2020, 23, 722-733.	3.0	86
39	Chloroplast immunity illuminated. New Phytologist, 2021, 229, 3088-3107.	3.5	77
40	Antioxidant status, peroxidase activity, and PR protein transcript levels in ascorbate-deficient Arabidopsis thaliana vtc mutants. Journal of Experimental Botany, 2008, 59, 3857-3868.	2.4	73
41	Ascorbic Acid Metabolism in Pea Seedlings. A Comparison ofd-Glucosone, l-Sorbosone, andl-Galactono-1,4-Lactone as Ascorbate Precursors1. Plant Physiology, 1999, 120, 453-462.	2.3	70
42	The effect of acute high light and low temperature stresses on the ascorbateâ€"glutathione cycle and superoxide dismutase activity in two <i>Dunaliella salina </i>strains. Physiologia Plantarum, 2009, 135, 272-280.	2.6	60
43	The biosynthesis of erythroascorbate in Saccharomyces cerevisiae and its role as an antioxidant. Free Radical Biology and Medicine, 2000, 28, 183-192.	1.3	55
44	Spatial chloroplast-to-nucleus signalling involving plastidâ€"nuclear complexes and stromules. Philosophical Transactions of the Royal Society B: Biological Sciences, 2020, 375, 20190405.	1.8	52
45	Synthetic metabolons for metabolic engineering. Journal of Experimental Botany, 2014, 65, 1947-1954.	2.4	41
46	Expression Analysis of the<i>VTC2</i>and<i>VTC5</i>Genes Encoding GDP-<scp>L</scp>-Galactose Phosphorylase, an Enzyme Involved in Ascorbate Biosynthesis, in<i>Arabidopsis thaliana</i>. Bioscience, Biotechnology and Biochemistry, 2011, 75, 1783-1788.	0.6	40
47	Ascorbate-Deficient vtc2 Mutants in Arabidopsis Do Not Exhibit Decreased Growth. Frontiers in Plant Science, 2016, 7, 1025.	1.7	40
48	The role of GDP-<scp>l</scp>-galactose phosphorylase in the control of ascorbate biosynthesis. Plant Physiology, 2021, 185, 1574-1594.	2.3	39
49	Ecophysiology of photosynthesis in bryophytes: major roles for oxygen photoreduction and nonâ€photochemical quenching?. Physiologia Plantarum, 2011, 141, 130-140.	2.6	36
50	Photosynthesis-independent production of reactive oxygen species in the rice bundle sheath during high light is mediated by NADPH oxidase. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	32
51	DREB takes the stress out of growing up. Nature Biotechnology, 1999, 17, 229-230.	9.4	31
52	Quantitative proteomics of a B₁₂â€dependent alga grown in coculture with bacteria reveals metabolic tradeoffs required for mutualism. New Phytologist, 2018, 217, 599-612.	3.5	29
53	Expression of aspartyl protease and C3HC4-type RING zinc finger genes are responsive to ascorbic acid in Arabidopsis thaliana. Journal of Experimental Botany, 2011, 62, 3647-3657.	2.4	27
54	Seasonal accumulation pattern of pinitol and other carbohydrates in Limonium gmelini subsp. hungarica. Journal of Plant Physiology, 2002, 159, 485-490.	1.6	26

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55	Ascorbate deficiency influences the leaf cell wall glycoproteome in <scp><i>A</i></scp><i>rabidopsis thaliana</i>. Plant, Cell and Environment, 2015, 38, 375-384.	2.8	26
56	The control of ascorbic acid synthesis and turnover in pea seedlings. Journal of Experimental Botany, 2000, 51, 669-74.	2.4	26
57	Characterisation and biosynthesis of d-erythroascorbic acid in Phycomyces blakesleeanus. Fungal Genetics and Biology, 2005, 42, 390-402.	0.9	23
58	Spatiotemporal patterns of intracellular Ca²⁺ signalling govern hypoâ€osmotic stress resilience in marine diatoms. New Phytologist, 2021, 230, 155-170.	3.5	23
59	The Use of HyPer to Examine Spatial and Temporal Changes in H2O2 in High Light-Exposed Plants. Methods in Enzymology, 2013, 527, 185-201.	0.4	21
60	Engineering of Metabolic Pathways Using Synthetic Enzyme Complexes. Plant Physiology, 2019, 179, 918-928.	2.3	19
61	Biosynthesis and Regulation of Ascorbic Acid in Plants. , 2018, , 163-179.		18
62	Deficiency of GDP-l-galactose phosphorylase, an enzyme required for ascorbic acid synthesis, reduces tomato fruit yield. Planta, 2020, 251, 54.	1.6	17
63	The induction of menadione stress tolerance in the marine microalga, Dunaliella viridis , through cold pretreatment and modulation of the ascorbate and glutathione pools. Plant Physiology and Biochemistry, 2014, 84, 96-104.	2.8	16
64	Vitamin C booster. Nature Biotechnology, 2003, 21, 134-136.	9.4	15
65	Tocochromanols: Rancid lipids, seed longevity, and beyond. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 17857-17858.	3.3	15
66	Jasmonates induce Arabidopsis bioactivities selectively inhibiting the growth of breast cancer cells through CDC6 and mTOR. New Phytologist, 2021, 229, 2120-2134.	3.5	14
67	Ash leaf metabolomes reveal differences between trees tolerant and susceptible to ash dieback disease. Scientific Data, 2017, 4, 170190.	2.4	13
68	Self-Incompatibility Triggers Irreversible Oxidative Modification of Proteins in Incompatible Pollen. Plant Physiology, 2020, 183, 1391-1404.	2.3	13
69	A role for 3â€²-O-Î²-D-ribofuranosyladenosine in altering plant immunity. Phytochemistry, 2019, 157, 128-134.	1.4	11
70	Responses of a Newly Evolved Auxotroph of Chlamydomonas to B₁₂ Deprivation. Plant Physiology, 2020, 183, 167-178.	2.3	11
71	OsVTC1-1 RNAi Mutant with Reduction of Ascorbic Acid Synthesis Alters Cell Wall Sugar Composition and Cell Wall-Associated Proteins. Agronomy, 2022, 12, 1272.	1.3	7
72	Plant redox biologyâ€"on the move. Plant Physiology, 2021, 186, 1-3.	2.3	3

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73	Journal of Experimental Botany 70th anniversary: plant metabolism in a changing world. Journal of Experimental Botany, 2021, 72, 5939-5941.	2.4	0