Guillaume Tcherkez

List of Publications by Year
in descending order

94 papers	4,452 citations	126907 33 h-index	114465 63 g-index
96 all docs	96 docs citations	96 times ranked	3908 citing authors

#	Article	IF	Citations
1	Post-photosynthetic fractionation of stable carbon isotopes between plant organsâ€”a widespread phenomenon. Rapid Communications in Mass Spectrometry, 2005, 19, 1381-1391.	1.5	390
2	Why are non-photosynthetic tissues generally 13C enriched compared with leaves in C3 plants? Review and synthesis of current hypotheses. Functional Plant Biology, 2009, 36, 199.	2.1	348
3	Metabolic Origin of Carbon Isotope Composition of Leaf Dark-Respired CO2 in French Bean. Plant Physiology, 2003, 131, 237-244.	4.8	248
4	In Vivo Respiratory Metabolism of Illuminated Leaves. Plant Physiology, 2005, 138, 1596-1606.	4.8	218
5	In Folio Respiratory Fluxomics Revealed by 13C Isotopic Labeling and H/D Isotope Effects Highlight the Noncyclic Nature of the Tricarboxylic Acid â€œCycleâ€in Illuminated Leaves Â. Plant Physiology, 2009, 151, 620-630.	4.8	186
6	Respiratory metabolism of illuminated leaves depends on CO ₂ and O ₂ conditions. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 797-802.	7.1	178
7	Respiratory carbon fluxes in leaves. Current Opinion in Plant Biology, 2012, 15, 308-314.	7.1	163
8	Leaf day respiration: low <scp>CO</scp>₂ flux but high significance for metabolism and carbon balance. New Phytologist, 2017, 216, 986-1001.	7.3	159
9	A new measurement technique reveals rapid post-illumination changes in the carbon isotope composition of leaf-respired CO2. Plant, Cell and Environment, 2007, 30, 469-482.	5.7	148
10	Experimental evidence for diel variations of the carbon isotope composition in leaf, stem and phloem sap organic matter in <i>Ricinus communis</i>. Plant, Cell and Environment, 2008, 31, 941-953.	5.7	130
11	On the metabolic origin of the carbon isotope composition of CO₂ evolved from darkened lightâ€acclimated leaves in <i>Ricinus communis</i>. New Phytologist, 2009, 181, 374-386.	7.3	125
12	Rubisco is not really so bad. Plant, Cell and Environment, 2018, 41, 705-716.	5.7	83
13	Natural 15N/14N isotope composition in C3 leaves: are enzymatic isotope effects informative for predicting the 15N-abundance in key metabolites?. Functional Plant Biology, 2011, 38, 1.	2.1	79
14	Viewpoint: Carbon isotope effect predictions for enzymes involved in the primary carbon metabolism of plant leaves. Functional Plant Biology, 2005, 32, 277.	2.1	76
15	How stable isotopes may help to elucidate primary nitrogen metabolism and its interaction with (photo)respiration in C3 leaves. Journal of Experimental Botany, 2008, 59, 1685-1693.	4.8	76
16	Metabolic origin of the Î´¹³C of respired CO₂ in roots of <i>Phaseolus vulgaris</i>. New Phytologist, 2009, 181, 387-399.	7.3	64
17	Modelling the reaction mechanism of ribuloseâ€1,5â€bisphosphate carboxylase/oxygenase and consequences for kinetic parameters. Plant, Cell and Environment, 2013, 36, 1586-1596.	5.7	62
18	³²S/³⁴S isotope fractionation in plant sulphur metabolism. New Phytologist, 2013, 200, 44-53.	7.3	58

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19	The mechanism of Rubiscoâ€catalysed oxygenation. Plant, Cell and Environment, 2016, 39, 983-997.	5.7	57
20	On the ¹³C/¹²C isotopic signal of day and night respiration at the mesocosm level. Plant, Cell and Environment, 2010, 33, 900-913.	5.7	56
21	Photosynthetic Control of Arabidopsis Leaf Cytoplasmic Translation Initiation by Protein Phosphorylation. PLoS ONE, 2013, 8, e70692.	2.5	55
22	Shortâ€term effects of CO₂ and O₂ on citrate metabolism in illuminated leaves. Plant, Cell and Environment, 2012, 35, 2208-2220.	5.7	53
23	Accounting for mesophyll conductance substantially improves ¹³Câ€based estimates of intrinsic waterâ€use efficiency. New Phytologist, 2021, 229, 1326-1338.	7.3	52
24	A ¹³C NMR spectrometric method for the determination of intramolecular Î´¹³C values in fructose from plant sucrose samples. New Phytologist, 2011, 191, 579-588.	7.3	51
25	What is the role of putrescine accumulated under potassium deficiency?. Plant, Cell and Environment, 2020, 43, 1331-1347.	5.7	51
26	In vivo stoichiometry of photorespiratory metabolism. Nature Plants, 2016, 2, 15220.	9.3	49
27	Lactic Acidosis Together with GM-CSF and M-CSF Induces Human Macrophages toward an Inflammatory Protumor Phenotype. Cancer Immunology Research, 2020, 8, 383-395.	3.4	48
28	Plant sulphur metabolism is stimulated by photorespiration. Communications Biology, 2019, 2, 379.	4.4	47
29	Photosynthetic activity influences cellulose biosynthesis and phosphorylation of proteins involved therein in Arabidopsis leaves. Journal of Experimental Botany, 2014, 65, 4997-5010.	4.8	41
30	Direct assessment of the metabolic origin of carbon atoms in glutamate from illuminated leaves using ¹³Câ€<scp>NMR</scp>. New Phytologist, 2017, 216, 1079-1089.	7.3	41
31	Metabolic responses to potassium availability and waterlogging reshape respiration and carbon use efficiency in oil palm. New Phytologist, 2019, 223, 310-322.	7.3	41
32	Viewpoint: Isotopic fractionation by plant nitrate reductase, twenty years later. Functional Plant Biology, 2006, 33, 531.	2.1	40
33	Tracking the origins of the Kok effect, 70 years after its discovery. New Phytologist, 2017, 214, 506-510.	7.3	40
34	Potassium dependency of enzymes in plant primary metabolism. Plant Physiology and Biochemistry, 2021, 166, 522-530.	5.8	40
35	Metabolic origin of <i>Î´</i>¹⁵N values in nitrogenous compounds from <i>Brassica napus</i> L. leaves. Plant, Cell and Environment, 2013, 36, 128-137.	5.7	39
36	Net photosynthetic <scp>CO</scp>₂ assimilation: more than just <scp>CO</scp>₂ and O₂ reduction cycles. New Phytologist, 2019, 223, 520-529.	7.3	35

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37	<i>In vivo</i> phospho<i>enol</i>pyruvate carboxylase activity is controlled by <scp>CO</scp>₂ and O₂ mole fractions and represents a major flux at high photorespiration rates. New Phytologist, 2019, 221, 1843-1852.	7.3	35
38	Seed quality and carbon primary metabolism. Plant, Cell and Environment, 2019, 42, 2776-2788.	5.7	32
39	Responses to K deficiency and waterlogging interact via respiratory and nitrogen metabolism. Plant, Cell and Environment, 2019, 42, 647-658.	5.7	32
40	Metabolic Responses to Waterlogging Differ between Roots and Shoots and Reflect Phloem Transport Alteration in Medicago truncatula. Plants, 2020, 9, 1373.	3.5	31
41	Carbon allocation to major metabolites in illuminated leaves is not just proportional to photosynthesis when gaseous conditions (CO₂ and O₂) vary. New Phytologist, 2018, 218, 94-106.	7.3	30
42	The ¹³C/¹²C isotopic signal of dayâ€respired CO₂ in variegated leaves of <i>Pelargonium</i>â€ƒÃ—â€ƒ<i>hortorum</i>. Plant, Cell and Environment, 2011, 34, 270-283.	5.7	29
43	Differential <scp><scp>CO₂</scp></scp> effect on primary carbon metabolism of flag leaves in durum wheat (<scp><i>T</i></scp><i>riticum durum</i> Desf.). Plant, Cell and Environment, 2015, 38, 2780-2794.	5.7	29
44	Metabolic Effects of Elevated CO₂ on Wheat Grain Development and Composition. Journal of Agricultural and Food Chemistry, 2019, 67, 8441-8451.	5.2	29
45	Elevated CO2 has concurrent effects on leaf and grain metabolism but minimal effects on yield in wheat. Journal of Experimental Botany, 2020, 71, 5990-6003.	4.8	27
46	Determination of leaf respiration in the light: comparison between an isotopic disequilibrium method and the Laisk method. New Phytologist, 2018, 218, 1371-1382.	7.3	26
47	Ribulose 1,5-bisphosphate carboxylase/oxygenase activates O ₂ by electron transfer. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 24234-24242.	7.1	26
48	Atmospheric CO₂ mole fraction affects standâ€scale carbon use efficiency of sunflower by stimulating respiration in light. Plant, Cell and Environment, 2017, 40, 401-412.	5.7	23
49	PhenoMeter: A Metabolome Database Search Tool Using Statistical Similarity Matching of Metabolic Phenotypes for High-Confidence Detection of Functional Links. Frontiers in Bioengineering and Biotechnology, 2015, 3, 106.	4.1	22
50	13C and 15N natural isotope abundance reflects breast cancer cell metabolism. Scientific Reports, 2016, 6, 34251.	3.3	22
51	Î´ 15 N values in plants are determined by both nitrate assimilation and circulation. New Phytologist, 2020, 226, 1696-1707.	7.3	21
52	Metabolomics analysis of postphotosynthetic effects of gaseous O2 on primary metabolism in illuminated leaves. Functional Plant Biology, 2017, 44, 929.	2.1	20
53	Concerted changes in phosphoproteome and metabolome under different CO₂/O₂gaseous conditions in<i>Arabidopsis</i>rosettes. Plant and Cell Physiology, 2016, 57, pcw086.	3.1	19
54	Effects of DDT and permethrin on rat hepatocytes cultivated in microfluidic biochips: Metabolomics and gene expression study. Environmental Toxicology and Pharmacology, 2018, 59, 1-12.	4.0	19

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55	On the resilience of nitrogen assimilation by intact roots under starvation, as revealed by isotopic and metabolomic techniques. Rapid Communications in Mass Spectrometry, 2009, 23, 2847-2856.	1.5	18
56	Is the recovery of (photo) respiratory <scp>CO</scp>₂ and intermediates minimal?. New Phytologist, 2013, 198, 334-338.	7.3	18
57	Natural ¹³C distribution in oil palm (<i>Elaeis guineensis</i> Jacq.) and consequences for allocation pattern. Plant, Cell and Environment, 2016, 39, 199-212.	5.7	18
58	Is the Kok effect a respiratory phenomenon? Metabolic insight using ¹³C labeling in <i>Helianthus annuus</i> leaves. New Phytologist, 2020, 228, 1243-1255.	7.3	18
59	Unravelling mechanisms and impacts of day respiration in plant leaves: an introduction to a Virtual Issue. New Phytologist, 2021, 230, 5-10.	7.3	17
60	Overestimated gains in waterâ€use efficiency by global forests. Global Change Biology, 2022, 28, 4923-4934.	9.5	17
61	Obesity-induced metabolic disturbance drives oxidative stress and complement activation in the retinal environment. Molecular Vision, 2018, 24, 201-217.	1.1	16
62	Retinal metabolic events in preconditioning light stress as revealed by wide-spectrum targeted metabolomics. Metabolomics, 2017, 13, 22.	3.0	14
63	Potassium deficiency reconfigures sugar export and induces catecholamine accumulation in oil palm leaves. Plant Science, 2020, 300, 110628.	3.6	13
64	Stable Isotope Abundance and Fractionation in Human Diseases. Metabolites, 2021, 11, 370.	2.9	13
65	Metabolic leaf responses to potassium availability in oil palm (Elaeis guineensis Jacq.) trees grown in the field. Environmental and Experimental Botany, 2020, 175, 104062.	4.2	12
66	Nonâ€targeted 13 C metabolite analysis demonstrates broad reâ€orchestration of leaf metabolism when gas exchange conditions vary. Plant, Cell and Environment, 2021, 44, 445-457.	5.7	12
67	The crucial roles of mitochondria in supporting C₄ photosynthesis. New Phytologist, 2022, 233, 1083-1096.	7.3	11
68	Species variation in the hydrogen isotope composition of leaf cellulose is mostly driven by isotopic variation in leaf sucrose. Plant, Cell and Environment, 2022, 45, 2636-2651.	5.7	11
69	Respiratory Effects on the Carbon Isotope Discrimination Near the Compensation Point. Advances in Photosynthesis and Respiration, 2017, , 143-160.	1.0	10
70	Protein synthesis increases with photosynthesis via the stimulation of translation initiation. Plant Science, 2020, 291, 110352.	3.6	10
71	13C Isotope Labelling to Follow the Flux of Photorespiratory Intermediates. Plants, 2021, 10, 427.	3.5	10
72	Natural Isotope Abundance in Metabolites: Techniques and Kinetic Isotope Effect Measurement in Plant, Animal, and Human Tissues. Methods in Enzymology, 2017, 596, 113-147.	1.0	9

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73	Seed Germination in Oil Palm (Elaeis guineensis Jacq.): A Review of Metabolic Pathways and Control Mechanisms. International Journal of Molecular Sciences, 2020, 21, 4227.	4.1	9
74	Rubisco catalytic adaptation is mostly driven by photosynthetic conditions â€“ Not by phylogenetic constraints. Journal of Plant Physiology, 2021, 267, 153554.	3.5	9
75	Pyridine nucleotides induce changes in cytosolic pools of calcium in Arabidopsis. Plant Signaling and Behavior, 2016, 11, e1249082.	2.4	8
76	Effects of Potassium Fertilization on Oil Palm Fruit Metabolism and Mesocarp Lipid Accumulation. Journal of Agricultural and Food Chemistry, 2019, 67, 9432-9440.	5.2	8
77	Mitochondrial complex I dysfunction increases CO₂ efflux and reconfigures metabolic fluxes of day respiration in tobacco leaves. New Phytologist, 2019, 221, 750-763.	7.3	8
78	Interactions Between Day Respiration, Photorespiration, and N and S Assimilation in Leaves. Advances in Photosynthesis and Respiration, 2017, , 1-18.	1.0	7
79	The Metabolomic Signature of Opa1 Deficiency in Rat Primary Cortical Neurons Shows Aspartate/Glutamate Depletion and Phospholipids Remodeling. Scientific Reports, 2019, 9, 6107.	3.3	7
80	Foraminiferal Distribution in Two Estuarine Intertidal Mudflats of the French Atlantic Coast: Testing the Marine Influence Index. Water (Switzerland), 2022, 14, 645.	2.7	7
81	Tracking the Orchestration of the Tricarboxylic Acid Pathway in Plants, 80 Years After the Discovery of the Krebs Cycle. Advances in Photosynthesis and Respiration, 2017, , 285-298.	1.0	6
82	Grain carbon isotope composition is a marker for allocation and harvest index in wheat. Plant, Cell and Environment, 2022, 45, 2145-2157.	5.7	6
83	Plant lowâ€K responses are partly due to Ca prevalence and the lowâ€K biomarker putrescine does not protect from Ca side effects but acts as a metabolic regulator. Plant, Cell and Environment, 2021, 44, 1565-1579.	5.7	5
84	Isotopic evidence for nitrogen exchange between autotrophic and heterotrophic tissues in variegated leaves. Functional Plant Biology, 2016, 43, 298.	2.1	4
85	Kinetic commitment in the catalysis of glutamine synthesis by GS1 from Arabidopsis using 14 N/ 15 N and solvent isotope effects. Plant Physiology and Biochemistry, 2016, 108, 203-211.	5.8	4
86	Evaluation and application of a targeted SPE-LC-MS method for quantifying plant hormones and phenolics in Arabidopsis. Functional Plant Biology, 2017, 44, 624.	2.1	4
87	Involvement of salicylic acid in the response to potassium deficiency revealed by metabolomics. Plant Physiology and Biochemistry, 2021, 163, 201-204.	5.8	3
88	<i>Arabidopsis thaliana</i> 2,3â€bisphosphoglycerateâ€independent phosphoglycerate mutase 2 activity requires serine 82 phosphorylation. Plant Journal, 2021, 107, 1478-1489.	5.7	3
89	Why is phloem sap nitrate kept low?. Plant, Cell and Environment, 2021, 44, 2838-2843.	5.7	2
90	Compound-Specific 14N/15N Analysis of Amino Acid Trimethylsilylated Derivatives from Plant Seed Proteins. International Journal of Molecular Sciences, 2022, 23, 4893.	4.1	2

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91	Potassium nutrition in oil palm: The potential of metabolomics as a tool for precision agriculture. Plants People Planet, 2021, 3, 350-354.	3.3	1
92	How atmospheric oxygen is captured by RuBisCo. Nature Reviews Molecular Cell Biology, 2021, 22, 304-304.	37.0	1
93	Origin and Evolution of Photosystems: Lessons from Green Sulfur Bacteria. ChemPhotoChem, 2021, 5, 418-420.	3.0	1
94	Experimental evidence for extra proton exchange in ribulose 1,5-bisphosphate carboxylase/oxygenase catalysis. Communicative and Integrative Biology, 2022, 15, 68-74.	1.4	0