Chikahiro Miyake

List of Publications by Year
in descending order

91 papers	4,733 citations	134610 34 h-index	116156 66 g-index
93 all docs	93 docs citations	93 times ranked	3844 citing authors

#	Article	IF	Citations
1	Suppression of chloroplast triose phosphate isomerase evokes inorganic phosphate-limited photosynthesis in rice. Plant Physiology, 2022, 188, 1550-1562.	2.3	13
2	The difficulty of estimating the electron transport rate at photosystem I. Journal of Plant Research, 2022, 135, 565-577.	1.2	11
3	NADPH production in dark stages is critical for cyanobacterial photocurrent generation: a study using mutants deficient in oxidative pentose phosphate pathway. Photosynthesis Research, 2022, 153, 113-120.	1.6	9
4	Effects of suppression of chloroplast phosphoglycerate kinase on photosynthesis in rice. Photosynthesis Research, 2022, 153, 83-91.	1.6	4
5	Identification of Twelve Different Mineral Deficiencies in Hydroponically Grown Sunflower Plants on the Basis of Short Measurements of the Fluorescence and P700 Oxidation/Reduction Kinetics. Frontiers in Plant Science, 2022, 13, .	1.7	3
6	Order-of-magnitude enhancement in photocurrent generation of Synechocystis sp. PCC 6803 by outer membrane deprivation. Nature Communications, 2022, 13, .	5.8	17
7	Dissection of respiratory and cyclic electron transport in Synechocystis sp. PCC 6803. Journal of Plant Research, 2022, 135, 555-564.	1.2	4
8	The ability of P700 oxidation in photosystem I reflects chilling stress tolerance in cucumber. Journal of Plant Research, 2022, 135, 681-692.	1.2	6
9	Evolutive differentiation between alga- and plant-type plastid terminal oxidase: Study of plastid terminal oxidase PTOX isoforms in Marchantia polymorpha. Biochimica Et Biophysica Acta - Bioenergetics, 2021, 1862, 148309.	0.5	6
10	Overproduction of Chloroplast Glyceraldehyde-3-Phosphate Dehydrogenase Improves Photosynthesis Slightly under Elevated [CO2] Conditions in Rice. Plant and Cell Physiology, 2021, 62, 156-165.	1.5	21
11	Photochemistry of Photosystems II and I in Rice Plants Grown under Different N Levels at Normal and High Temperature. Plant and Cell Physiology, 2021, 62, 1121-1130.	1.5	13
12	Effects of co-overproduction of Rubisco and chloroplast glyceraldehyde-3-phosphate dehydrogenase on photosynthesis in rice. Soil Science and Plant Nutrition, 2021, 67, 283-287.	0.8	8
13	Quantification of NAD(P)H in cyanobacterial cells by a phenol extraction method. Photosynthesis Research, 2021, 148, 57-66.	1.6	15
14	Photosynthetic Linear Electron Flow Drives CO2 Assimilation in Maize Leaves. International Journal of Molecular Sciences, 2021, 22, 4894.	1.8	7
15	Photosynthetic Parameters Show Specific Responses to Essential Mineral Deficiencies. Antioxidants, 2021, 10, 996.	2.2	20
16	Physiological Roles of Flavodiiron Proteins and Photorespiration in the Liverwort Marchantia polymorpha. Frontiers in Plant Science, 2021, 12, 668805.	1.7	4
17	Characterization of Light-Enhanced Respiration in Cyanobacteria. International Journal of Molecular Sciences, 2021, 22, 342.	1.8	13
18	Identification of a Novel Mutation Exacerbated the PSI Photoinhibition in pgr5/pgrl1 Mutants; Caution for Overestimation of the Phenotypes in Arabidopsis pgr5-1 Mutant. Cells, 2021, 10, 2884.	1.8	16

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19	Oxidation of the reaction center chlorophyll of photosystem I is induced via close cooperation of photosystems II and I with progress of drought stress in soybean seedlings. Soil Science and Plant Nutrition, 2021, 67, 662-669.	0.8	8
20	Photorespiration Coupled With CO_2 Assimilation Protects Photosystem I From Photoinhibition Under Moderate Poly(Ethylene Glycol)-Induced Osmotic Stress in Rice. Frontiers in Plant Science, 2020, 11, 1121.	1.7	19
21	Intrinsic Fluctuations in Transpiration Induce Photorespiration to Oxidize P700 in Photosystem I. Plants, 2020, 9, 1761.	1.6	15
22	P700 oxidation suppresses the production of reactive oxygen species in photosystem I. Advances in Botanical Research, 2020, 96, 151-176.	0.5	15
23	Photoprotection mechanisms under different CO_2 regimes during photosynthesis in a green alga Chlorella variabilis. Photosynthesis Research, 2020, 144, 397-407.	1.6	7
24	Photorespiration Enhances Acidification of the Thylakoid Lumen, Reduces the Plastoquinone Pool, and Contributes to the Oxidation of P700 at a Lower Partial Pressure of CO_2 in Wheat Leaves. Plants, 2020, 9, 319.	1.6	19
25	Molecular Mechanism of Oxidation of P700 and Suppression of ROS Production in Photosystem I in Response to Electron-Sink Limitations in C3 Plants. Antioxidants, 2020, 9, 230.	2.2	57
26	Identification of the electron donor to flavodiiron proteins in Synechocystis sp. PCC 6803 by in vivo spectroscopy. Biochimica Et Biophysica Acta - Bioenergetics, 2020, 1861, 148256.	0.5	38
27	Antimycin A inhibits cytochrome b559-mediated cyclic electron flow within photosystem II. Photosynthesis Research, 2019, 139, 487-498.	1.6	16
28	Comparative analysis of strategies to prepare electron sinks in aquatic photoautotrophs. Photosynthesis Research, 2019, 139, 401-411.	1.6	26
29	What Quantity of Photosystem I Is Optimum for Safe Photosynthesis?. Plant Physiology, 2019, 179, 1479-1485.	2.3	45
30	Growth Light Environment Changes the Sensitivity of Photosystem I Photoinhibition Depending on Common Wheat Cultivars. Frontiers in Plant Science, 2019, 10, 686.	1.7	25
31	Oxidation of P700 Induces Alternative Electron Flow in Photosystem I in Wheat Leaves. Plants, 2019, 8, 152.	1.6	29
32	Responses of the Photosynthetic Electron Transport Reactions Stimulate the Oxidation of the Reaction Center Chlorophyll of Photosystem I, P700, under Drought and High Temperatures in Rice. International Journal of Molecular Sciences, 2019, 20, 2068.	1.8	63
33	PROTON GRADIENT REGULATION 5 supports linear electron flow to oxidize photosystem I. Physiologia Plantarum, 2018, 164, 337-348.	2.6	33
34	Mediumâ€chain dehydrogenase/reductase and aldoâ€keto reductase scavenge reactive carbonyls in <i>Synechocystis</i> sp. PCC 6803. FEBS Letters, 2018, 592, 1010-1019.	1.3	3
35	Light-Harvesting Strategy during CO₂-Dependent Photosynthesis in the Green Alga <i>Chlamydomonas reinhardtii</i>. Journal of Physical Chemistry Letters, 2018, 9, 1028-1033.	2.1	22
36	Respiratory terminal oxidases alleviate photo-oxidative damage in photosystem I during repetitive short-pulse illumination in Synechocystis sp. PCC 6803. Photosynthesis Research, 2018, 137, 241-250.	1.6	10

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37	Oxidation of P700 Ensures Robust Photosynthesis. Frontiers in Plant Science, 2018, 9, 1617.	1.7	87
38	P700 Oxidation Systemâ€"The Universal Defense Mechanisms for Avoiding Oxidative Stress in Photosynthetic Organisms: Photosynthetic Organisms Created Defense Systems Through a Struggle Against O₂. Kagaku To Seibutsu, 2018, 56, 82-94.	0.0	0
39	Effects of genetic manipulation of the activity of photorespiration on the redox state of photosystem I and its robustness against excess light stress under CO2-limited conditions in rice. Photosynthesis Research, 2018, 137, 431-441.	1.6	23
40	Changing frequency of fluctuating light reveals the molecular mechanism for P700 oxidation in plant leaves. Plant Direct, 2018, 2, e00073.	0.8	29
41	Reduction-Induced Suppression of Electron Flow (RISE) Is Relieved by Non-ATP-Consuming Electron Flow in Synechococcus elongatus PCC 7942. Frontiers in Microbiology, 2018, 9, 886.	1.5	29
42	Responses of the chloroplast glyoxalase system to high CO2 concentrations. Bioscience, Biotechnology and Biochemistry, 2018, 82, 2072-2083.	0.6	6
43	The Liverwort, <i>Marchantia</i>, Drives Alternative Electron Flow Using a Flavodiiron Protein to Protect PSI. Plant Physiology, 2017, 173, 1636-1647.	2.3	91
44	Chloroplastic <scp>ATP</scp> synthase builds up a proton motive force preventing production of reactive oxygen species in photosystem I. Plant Journal, 2017, 91, 306-324.	2.8	96
45	Land plants drive photorespiration as higher electronâ€sink: comparative study of postâ€illumination transient <scp>O₂</scp>â€uptake rates from liverworts to angiosperms through ferns and gymnosperms. Physiologia Plantarum, 2017, 161, 138-149.	2.6	45
46	Diversity of strategies for escaping reactive oxygen species production within photosystem I among land plants: <scp>P700</scp> oxidation system is prerequisite for alleviating photoinhibition in photosystem I. Physiologia Plantarum, 2017, 161, 56-74.	2.6	73
47	A Carbon Dioxide Limitation-Inducible Protein, ColA, Supports the Growth of Synechococcus sp. PCC 7002. Marine Drugs, 2017, 15, 390.	2.2	4
48	Diverse strategies of O2 usage for preventing photo-oxidative damage under CO2 limitation during algal photosynthesis. Scientific Reports, 2017, 7, 41022.	1.6	36
49	Reduction-Induced Suppression of Electron Flow (RISE) in the Photosynthetic Electron Transport System of<i>Synechococcus elongatus</i>PCC 7942. Plant and Cell Physiology, 2016, 57, pcv198.	1.5	48
50	How do photosynthetic organisms manage light stress? A tribute to the late Professor Kozi Asada. Plant and Cell Physiology, 2016, 57, 1351-1353.	1.5	8
51	Postâ€illumination transient <scp>O₂</scp>â€uptake is driven by photorespiration in tobacco leaves. Physiologia Plantarum, 2016, 156, 227-238.	2.6	30
52	Suppression of Chloroplastic Alkenal/One Oxidoreductase Represses the Carbon Catabolic Pathway in Arabidopsis Leaves during Night. Plant Physiology, 2016, 170, 2024-2039.	2.3	17
53	Diversity in photosynthetic electron transport under [CO2]-limitation: the cyanobacterium Synechococcus sp. PCC 7002 and green alga Chlamydomonas reinhardtii drive an O2-dependent alternative electron flow and non-photochemical quenching of chlorophyll fluorescence during CO2-limited photosynthesis. Photosynthesis Research, 2016, 130, 293-305.	1.6	21
54	Photorespiration provides the chance of cyclic electron flow to operate for the redox-regulation of P700 in photosynthetic electron transport system of sunflower leaves. Photosynthesis Research, 2016, 129, 279-290.	1.6	35

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55	Oxidation of P700 in Photosystem I Is Essential for the Growth of Cyanobacteria. Plant Physiology, 2016, 172, 1443-1450.	2.3	56
56	Superoxide and Singlet Oxygen Produced within the Thylakoid Membranes Both Cause Photosystem I Photoinhibition. Plant Physiology, 2016, 171, 1626-1634.	2.3	211
57	FLAVODIIRON2 and FLAVODIIRON4 Proteins Mediate an Oxygen-Dependent Alternative Electron Flow in <i>Synechocystis</i> sp. PCC 6803 under CO2-Limited Conditions Â. Plant Physiology, 2015, 167, 472-480.	2.3	77
58	Altered levels of primary metabolites in response to exogenous indole-3-acetic acid in wild type and auxin signaling mutants of <i>Arabidopsis thaliana</i>: A capillary electrophoresis-mass spectrometry analysis. Plant Biotechnology, 2015, 32, 65-79.	0.5	12
59	Overexpression of flv3 improves photosynthesis in the cyanobacterium Synechocystis sp. PCC6803 by enhancement of alternative electron flow. Biotechnology for Biofuels, 2014, 7, 493.	6.2	49
60	Respiration accumulates Calvin cycle intermediates for the rapid start of photosynthesis in <i>Synechocystis</i> sp. PCC 6803. Bioscience, Biotechnology and Biochemistry, 2014, 78, 1997-2007.	0.6	32
61	The Calvin Cycle Inevitably Produces Sugar-Derived Reactive Carbonyl Methylglyoxal During Photosynthesis: A Potential Cause of Plant Diabetes. Plant and Cell Physiology, 2014, 55, 333-340.	1.5	61
62	O2-dependent large electron flow functioned as an electron sink, replacing the steady-state electron flux in photosynthesis in the cyanobacterium <i>Synechocystis</i> sp. PCC 6803, but not in the cyanobacterium <i>Synechococcus</i> sp. PCC 7942. Bioscience, Biotechnology and Biochemistry, 2014, 78, 384-393.	0.6	35
63	Repetitive Short-Pulse Light Mainly Inactivates Photosystem I in Sunflower Leaves. Plant and Cell Physiology, 2014, 55, 1184-1193.	1.5	148
64	Why don't plants have diabetes? Systems for scavenging reactive carbonyls in photosynthetic organisms. Biochemical Society Transactions, 2014, 42, 543-547.	1.6	28
65	Functional Analysis of the AKR4C Subfamily of<i>Arabidopsis thaliana</i>: Model Structures, Substrate Specificity, Acrolein Toxicity, and Responses to Light and [CO₂]. Bioscience, Biotechnology and Biochemistry, 2013, 77, 2038-2045.	0.6	35
66	Scavenging Systems for Reactive Carbonyls in the CyanobacteriumSynechocystissp. PCC 6803. Bioscience, Biotechnology and Biochemistry, 2013, 77, 2441-2448.	0.6	18
67	Acrolein, an Î±,Î²-Unsaturated Carbonyl, Inhibits Both Growth and PSII Activity in the Cyanobacterium<i>Synechocystis</i>sp. PCC 6803. Bioscience, Biotechnology and Biochemistry, 2013, 77, 1655-1660.	0.6	20
68	O2-enhanced induction of photosynthesis in rice leaves: the Mehler-ascorbate peroxidase (MAP) pathway drives cyclic electron flow within PSII and cyclic electron flow around PSI. Soil Science and Plant Nutrition, 2012, 58, 718-727.	0.8	8
69	O2supports 3-phosphoglycerate-dependent O2evolution in chloroplasts from spinach leaves. Soil Science and Plant Nutrition, 2012, 58, 462-468.	0.8	5
70	Cyclic electron flow around PSI functions in the photoinhibited rice leaves. Soil Science and Plant Nutrition, 2011, 57, 105-113.	0.8	4
71	Methylglyoxal functions as Hill oxidant and stimulates the photoreduction of O₂ at photosystem I: a symptom of plant diabetes. Plant, Cell and Environment, 2011, 34, 1454-1464.	2.8	78
72	Alternative Electron Flows (Waterâ€"Water Cycle and Cyclic Electron Flow Around PSI) in Photosynthesis: Molecular Mechanisms and Physiological Functions. Plant and Cell Physiology, 2010, 51, 1951-1963.	1.5	263

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73	Metabolic Engineering by Plastid Transformation as a Strategy to Modulate Isoprenoid Yield in Plants. Methods in Molecular Biology, 2010, 643, 213-227.	0.4	2
74	Metabolic pathway engineering by plastid transformation is a powerful tool for production of compounds in higher plants. Plant Biotechnology, 2009, 26, 39-46.	0.5	8
75	Acclimation of Tobacco Leaves to High Light Intensity Drives the Plastoquinone Oxidation Systemâ€"Relationship Among the Fraction of Open PSII Centers, Non-Photochemical Quenching of Chl Fluorescence and the Maximum Quantum Yield of PSII in the Dark. Plant and Cell Physiology, 2009, 50, 730-743.	1.5	64
76	4-Ketoantheraxanthin, a novel carotenoid produced by the combination of the bacterial enzyme Î²-carotene ketolase CrtW and endogenous carotenoid biosynthetic enzymes in higher plants. Tetrahedron Letters, 2008, 49, 3294-3296.	0.7	16
77	Biosynthesis of astaxanthin in tobacco leaves by transplastomic engineering. Plant Journal, 2008, 55, 857-868.	2.8	155
78	Photoinactivation of Ascorbate Peroxidase in Isolated Tobacco Chloroplasts: Galdieria partita APX Maintains the Electron Flux through the Waterâ€"Water Cycle in Transplastomic Tobacco Plants. Plant and Cell Physiology, 2006, 47, 200-210.	1.5	58
79	Ferredoxin Limits Cyclic Electron Flow around PSI (CEF-PSI) in Higher Plantsâ€"Stimulation of CEF-PSI enhances Non-Photochemical Quenching of Chl Fluorescence in Transplastomic Tobacco. Plant and Cell Physiology, 2006, 47, 1355-1371.	1.5	67
80	Effects of Light Intensity on Cyclic Electron Flow Around PSI and its Relationship to Non-photochemical Quenching of Chl Fluorescence in Tobacco Leaves. Plant and Cell Physiology, 2005, 46, 1819-1830.	1.5	117
81	CO2 Response of Cyclic Electron Flow around PSI (CEF-PSI) in Tobacco Leavesâ€"Relative Electron fluxes through PSI and PSII Determine the Magnitude of Non-photochemical Quenching (NPQ) of Chl Fluorescence. Plant and Cell Physiology, 2005, 46, 629-637.	1.5	163
82	Enhancement of Cyclic Electron Flow Around PSI at High Light and its Contribution to the Induction of Non-Photochemical Quenching of Chl Fluorescence in Intact Leaves of Tobacco Plants. Plant and Cell Physiology, 2004, 45, 1426-1433.	1.5	89
83	Cyclic electron flow around photosystem I is essential for photosynthesis. Nature, 2004, 429, 579-582.	13.7	793
84	The Water-Water Cycle in Algae. Advances in Photosynthesis and Respiration, 2003, , 183-204.	1.0	18
85	Cyclic Electron Flow within PSII Protects PSII from its Photoinhibition in Thylakoid Membranes from Spinach Chloroplasts. Plant and Cell Physiology, 2003, 44, 457-462.	1.5	49
86	Purification and Characterization of Class-I and Class-II Fructose-1,6-bisphosphate Aldolases from the Cyanobacterium Synechocystis sp. PCC 6803. Plant and Cell Physiology, 2003, 44, 326-333.	1.5	79
87	Physiological Functions of the Waterâ€"Water Cycle (Mehler Reaction) and the Cyclic Electron Flow around PSI in Rice Leaves. Plant and Cell Physiology, 2002, 43, 1017-1026.	1.5	176
88	Cyclic Electron Flow within PSII Functions in Intact Chloroplasts from Spinach Leaves. Plant and Cell Physiology, 2002, 43, 951-957.	1.5	33
89	Cyclic Flow of Electrons within PSII in Thylakoid Membranes. Plant and Cell Physiology, 2001, 42, 508-515.	1.5	55
90	Determination of the Rate of Photoreduction of O2 in the Water-Water Cycle in Watermelon Leaves and Enhancement of the Rate by Limitation of Photosynthesis. Plant and Cell Physiology, 2000, 41, 335-343.	1.5	150

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91	Ferredoxin-Dependent Photoreduction of the Monodehydroascorbate Radical in Spinach Thylakoids. Plant and Cell Physiology, 1994, 35, 539-549.	1.5	182