Pavel PospÃ-Å¡il

List of Publications by Year
in descending order

84 papers	3,803 citations	109137 35 h-index	143772 57 g-index
90 all docs	90 docs citations	90 times ranked	3743 citing authors

#	Article	IF	Citations
1	Production of Reactive Oxygen Species by Photosystem II as a Response to Light and Temperature Stress. Frontiers in Plant Science, 2016, 7, 1950.	1.7	322
2	Production of reactive oxygen species by photosystem II. Biochimica Et Biophysica Acta - Bioenergetics, 2009, 1787, 1151-1160.	0.5	288
3	Molecular mechanisms of production and scavenging of reactive oxygen species by photosystem II. Biochimica Et Biophysica Acta - Bioenergetics, 2012, 1817, 218-231.	0.5	246
4	Ultra-weak photon emission from biological samples: Definition, mechanisms, properties, detection and applications. Journal of Photochemistry and Photobiology B: Biology, 2014, 139, 2-10.	1.7	163
5	Role of reactive oxygen species in ultra-weak photon emission in biological systems. Journal of Photochemistry and Photobiology B: Biology, 2014, 139, 11-23.	1.7	120
6	Hydroxyl Radical Generation by Photosystem IIâ€. Biochemistry, 2004, 43, 6783-6792.	1.2	117
7	Amino acid oxidation of the D1 and D2 proteins by oxygen radicals during photoinhibition of Photosystem II. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 2988-2993.	3.3	109
8	Chlorophyll fluorescence transients of Photosystem II membrane particles as a tool for studying photosynthetic oxygen evolution. , 2000, 65, 41-52.		92
9	Quality Control of Photosystem II. Journal of Biological Chemistry, 2008, 283, 28380-28391.	1.6	90
10	Quality Control of Photosystem II. Journal of Biological Chemistry, 2009, 284, 25343-25352.	1.6	79
11	Molecular mechanism of high-temperature-induced inhibition of acceptor side of Photosystem II. Photosynthesis Research, 1999, 62, 55-66.	1.6	74
12	Singlet oxygen imaging using fluorescent probe Singlet Oxygen Sensor Green in photosynthetic organisms. Scientific Reports, 2018, 8, 13685.	1.6	70
13	Mechanism of the Formation of Electronically Excited Species by Oxidative Metabolic Processes: Role of Reactive Oxygen Species. Biomolecules, 2019, 9, 258.	1.8	69
14	Low and high temperature dependence of minimum F0 and maximum FM chlorophyll fluorescence in vivo. Biochimica Et Biophysica Acta - Bioenergetics, 1998, 1363, 95-99.	0.5	63
15	Formation of singlet oxygen and protection against its oxidative damage in Photosystem II under abiotic stress. Journal of Photochemistry and Photobiology B: Biology, 2014, 137, 39-48.	1.7	61
16	Valinomycin sensitivity proves that light-induced thylakoid voltages result in millisecond phase of chlorophyll fluorescence transients. Biochimica Et Biophysica Acta - Bioenergetics, 2002, 1554, 94-100.	0.5	59
17	Stepwise Transition of the Tetra-Manganese Complex of Photosystem II to a Binuclear Mn2(Î¼-O)2 Complex in Response to a Temperature Jump: A Time-Resolved Structural Investigation Employing X-Ray Absorption Spectroscopy. Biophysical Journal, 2003, 84, 1370-1386.	0.2	56
18	Damage to photosystem II by lipid peroxidation products. Biochimica Et Biophysica Acta - General Subjects, 2017, 1861, 457-466.	1.1	55

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19	Linoleic Acid-Induced Ultra-Weak Photon Emission from Chlamydomonas reinhardtii as a Tool for Monitoring of Lipid Peroxidation in the Cell Membranes. PLoS ONE, 2011, 6, e22345.	1.1	55
20	Evidence that cytochrome b559 is involved in superoxide production in photosystem II: effect of synthetic short-chain plastoquinones in a cytochrome b559 tobacco mutant. Biochemical Journal, 2006, 397, 321-327.	1.7	54
21	Singlet oxygen scavenging activity of tocopherol and plastochromanol in <i><scp>A</scp>rabidopsis thaliana</i>: relevance to photooxidative stress. Plant, Cell and Environment, 2014, 37, 392-401.	2.8	54
22	Spontaneous ultraweak photon emission imaging of oxidative metabolic processes in human skin: effect of molecular oxygen and antioxidant defense system. Journal of Biomedical Optics, 2011, 16, 096005.	1.4	53
23	Enzymatic function of cytochrome b559 in photosystem II. Journal of Photochemistry and Photobiology B: Biology, 2011, 104, 341-347.	1.7	52
24	Lipoxygenase in singlet oxygen generation as a response to wounding: in vivo imaging in Arabidopsis thaliana. Scientific Reports, 2017, 7, 9831.	1.6	49
25	Towards the two-dimensional imaging of spontaneous ultra-weak photon emission from microbial, plant and animal cells. Scientific Reports, 2013, 3, 1211.	1.6	47
26	Small CABâ€like proteins prevent formation of singlet oxygen in the damaged photosystem II complex of the cyanobacterium <i>Synechocystis sp.</i> PCC 6803. Plant, Cell and Environment, 2012, 35, 806-818.	2.8	45
27	Does the Structure of the Water-Oxidizing Photosystem IIâˆ'Manganese Complex at Room Temperature Differ from Its Low-Temperature Structure? A Comparative X-ray Absorption Studyâ€. Biochemistry, 2000, 39, 7033-7040.	1.2	43
28	Dark production of reactive oxygen species in photosystem II membrane particles at elevated temperature: EPR spin-trapping study. Biochimica Et Biophysica Acta - Bioenergetics, 2007, 1767, 854-859.	0.5	42
29	Microâ€"mesoporous iron oxides with record efficiency for the decomposition of hydrogen peroxide: morphology driven catalysis for the degradation of organic contaminants. Journal of Materials Chemistry A, 2016, 4, 596-604.	5.2	42
30	Quality Control of Photosystem II: Lipid Peroxidation Accelerates Photoinhibition under Excessive Illumination. PLoS ONE, 2012, 7, e52100.	1.1	41
31	Singlet oxygen production in Chlamydomonas reinhardtii under heat stress. Scientific Reports, 2016, 6, 20094.	1.6	41
32	Twoâ€dimensional imaging of spontaneous ultraâ€weak photon emission from the human skin: role of reactive oxygen species. Journal of Biophotonics, 2011, 4, 840-849.	1.1	39
33	Decrease of Fluorescence Intensity After the K Step in Chlorophyll a Fluorescence Induction is Suppressed by Electron Acceptors and Donors to Photosystem 2. Photosynthetica, 1999, 37, 255-265.	0.9	38
34	The Role of Metals in Production and Scavenging of Reactive Oxygen Species in Photosystem II. Plant and Cell Physiology, 2014, 55, 1224-1232.	1.5	38
35	Singlet oxygen scavenging activity of plastoquinol in photosystem II of higher plants: Electron paramagnetic resonance spin-trapping study. Biochimica Et Biophysica Acta - Bioenergetics, 2010, 1797, 1807-1811.	0.5	37
36	Effect of exogenous hydrogen peroxide on biophoton emission from radish root cells. Plant Physiology and Biochemistry, 2010, 48, 117-123.	2.8	37

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37	Superoxide oxidase and reductase activity of cytochrome b559 in photosystem II. Biochimica Et Biophysica Acta - Bioenergetics, 2009, 1787, 985-994.	0.5	35
38	Ultraweak photon emission induced by visible light and ultraviolet A radiation via photoactivated skin chromophores: <italic>in vivo</italic> charge coupled device imaging. Journal of Biomedical Optics, 2012, 17, 085004.	1.4	35
39	Evidence on the Formation of Singlet Oxygen in the Donor Side Photoinhibition of Photosystem II: EPR Spin-Trapping Study. PLoS ONE, 2012, 7, e45883.	1.1	33
40	Mechanisms of non-photochemical chlorophyll fluorescence quenching in higher plants. Photosynthetica, 1997, 34, 343-355.	0.9	32
41	Reactive Oxygen Species as a Response to Wounding: In Vivo Imaging in Arabidopsis thaliana. Frontiers in Plant Science, 2019, 10, 1660.	1.7	32
42	New perspective in cell communication: Potential role of ultra-weak photon emission. Journal of Photochemistry and Photobiology B: Biology, 2014, 139, 47-53.	1.7	30
43	The plastoquinone pool outside the thylakoid membrane serves in plant photoprotection as a reservoir of singlet oxygen scavengers. Plant, Cell and Environment, 2018, 41, 2277-2287.	2.8	30
44	Production of hydrogen peroxide and hydroxyl radical in potato tuber during the necrotrophic phase of hemibiotrophic pathogen Phytophthora infestans infection. Journal of Photochemistry and Photobiology B: Biology, 2012, 117, 202-206.	1.7	29
45	Detection of hydrogen peroxide in Photosystem II (PSII) using catalytic amperometric biosensor. Frontiers in Plant Science, 2015, 6, 862.	1.7	29
46	Plant-Derived Antioxidants in Disease Prevention. Oxidative Medicine and Cellular Longevity, 2016, 2016, 1-2.	1.9	28
47	Ultra-weak photon emission as a non-invasive tool for monitoring of oxidative processes in the epidermal cells of human skin: comparative study on the dorsal and the palm side of the hand. Skin Research and Technology, 2010, 16, 365-70.	0.8	26
48	Tocopherol controls D1 amino acid oxidation by oxygen radicals in Photosystem II. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	26
49	Evidence for the Involvement of Loosely Bound Plastosemiquinones in Superoxide Anion Radical Production in Photosystem II. PLoS ONE, 2014, 9, e115466.	1.1	25
50	Oxidative Damage of U937 Human Leukemic Cells Caused by Hydroxyl Radical Results in Singlet Oxygen Formation. PLoS ONE, 2015, 10, e0116958.	1.1	24
51	The interplay between cytokinins and light during senescence in detached <i>Arabidopsis</i> leaves. Plant, Cell and Environment, 2018, 41, 1870-1885.	2.8	23
52	Reactive Oxygen Species Imaging in U937 Cells. Frontiers in Physiology, 2020, 11, 552569.	1.3	23
53	Chemical quenching of singlet oxygen by plastoquinols and their oxidation products in Arabidopsis. Plant Journal, 2018, 95, 848-861.	2.8	22
54	The formation of electronically excited species in the human multiple myeloma cell suspension. Scientific Reports, 2015, 5, 8882.	1.6	20

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55	Plant-Derived Antioxidants in Disease Prevention 2018. Oxidative Medicine and Cellular Longevity, 2018, 2018, 1-2.	1.9	20
56	Triplet Excited Carbonyls and Singlet Oxygen Formation During Oxidative Radical Reaction in Skin. Frontiers in Physiology, 2018, 9, 1109.	1.3	20
57	Exogenous application of cytokinin during dark senescence eliminates the acceleration of photosystem II impairment caused by chlorophyll b deficiency in barley. Plant Physiology and Biochemistry, 2019, 136, 43-51.	2.8	20
58	Role of chloride ion in hydroxyl radical production in photosystem II under heat stress: Electron paramagnetic resonance spin-trapping study. Journal of Bioenergetics and Biomembranes, 2012, 44, 365-372.	1.0	19
59	Interplay between antioxidants in response to photooxidative stress in Arabidopsis. Free Radical Biology and Medicine, 2020, 160, 894-907.	1.3	19
60	Reaction pathways involved in the production of hydroxyl radicals in thylakoid membrane: EPR spin-trapping study. Photochemical and Photobiological Sciences, 2006, 5, 472-476.	1.6	18
61	Ultra-weak photon emission as a non-invasive tool for the measurement of oxidative stress induced by UVA radiation in Arabidopsis thaliana. Journal of Photochemistry and Photobiology B: Biology, 2013, 123, 59-64.	1.7	17
62	Formation of singlet oxygen by decomposition of protein hydroperoxide in photosystem II. PLoS ONE, 2017, 12, e0181732.	1.1	16
63	Data on detection of singlet oxygen, hydroxyl radical and organic radical in Arabidopsis thaliana. Data in Brief, 2018, 21, 2246-2252.	0.5	14
64	Editorial: Reactive Oxygen Species (ROS) Detection Methods in Biological System. Frontiers in Physiology, 2019, 10, 1316.	1.3	14
65	Organic radical imaging in plants: Focus on protein radicals. Free Radical Biology and Medicine, 2019, 130, 568-575.	1.3	13
66	The effect of metal chelators on the production of hydroxyl radicals in thylakoids. Photosynthesis Research, 2006, 88, 323-329.	1.6	12
67	Spectral Distribution of Ultra-Weak Photon Emission as a Response to Wounding in Plants: An In Vivo Study. Biology, 2020, 9, 139.	1.3	12
68	Theoretical Simulation of Temperature Induced Increase of Quantum Yield of Minimum Chlorophyll Fluorescence Î¦F(0). Journal of Theoretical Biology, 1998, 193, 125-130.	0.8	11
69	Bcl-2â–³21 and Ac-DEVD-CHO Inhibit Death of Wheat Microspores. Frontiers in Plant Science, 2016, 7, 1931.	1.7	11
70	Formation of Î±-tocopherol hydroperoxide and Î±-tocopheroxyl radical: relevance for photooxidative stress in Arabidopsis. Scientific Reports, 2020, 10, 19646.	1.6	11
71	Differential mechanism of light-induced and oxygen-dependent restoration of the high-potential form of cytochrome b559 in Tris-treated Photosystem II membranes. Biochimica Et Biophysica Acta - Bioenergetics, 2010, 1797, 451-456.	0.5	10
72	Formation of superoxide anion and carbon-centered radicals by photosystem II under high light and heat stressâ€"EPR spin-trapping study. Journal of Bioenergetics and Biomembranes, 2013, 45, 551-559.	1.0	10

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73	Real-time imaging of photosynthetic oxygen evolution from spinach using LSI-based biosensor. Scientific Reports, 2019, 9, 12234.	1.6	10
74	Towards spruce-type photosystem II: consequences of the loss of light-harvesting proteins LHCB3 and LHCB6 in Arabidopsis. Plant Physiology, 2021, 187, 2691-2715.	2.3	10
75	Water-splitting manganese complex controls light-induced redox changes of cytochrome b 559 in Photosystem II. Journal of Bioenergetics and Biomembranes, 2010, 42, 337-344.	1.0	9
76	The Anti-Senescence Activity of Cytokinin Arabinosides in Wheat and Arabidopsis Is Negatively Correlated with Ethylene Production. International Journal of Molecular Sciences, 2020, 21, 8109.	1.8	9
77	Free Radical-Mediated Protein Radical Formation in Differentiating Monocytes. International Journal of Molecular Sciences, 2021, 22, 9963.	1.8	9
78	First steps towards time-resolved BioXAS atÂroom temperature: state transitions of theÂmanganese complex of oxygenic photosynthesis. Journal of Synchrotron Radiation, 2002, 9, 304-308.	1.0	8
79	Real-time monitoring of superoxide anion radical generation in response to wounding: electrochemical study. PeerJ, 2017, 5, e3050.	0.9	8
80	Ultra-weak photon emission from living systems â€" from mechanism to application. Journal of Photochemistry and Photobiology B: Biology, 2014, 139, 1.	1.7	7
81	Characterization of Protein Radicals in Arabidopsis. Frontiers in Physiology, 2019, 10, 958.	1.3	7
82	High temperature chlorophyll fluorescence rise within 61â€"67 Â°C. Spectroscopic study with intermittent light grown barley leaves. Journal of Photochemistry and Photobiology B: Biology, 1997, 39, 243-248.	1.7	6
83	Reactive oxygen species in photosystem II: relevance for oxidative signaling. Photosynthesis Research, 2022, 152, 245-260.	1.6	4
84	Bioactive Compounds and Their Impact on Protein Modification in Human Cells. International Journal of Molecular Sciences, 2022, 23, 7424.	1.8	3