Richard J Debus

List of Publications by Year
in descending order

66 papers	4,897 citations	101496 36 h-index	110317 64 g-index
66 all docs	66 docs citations	66 times ranked	1489 citing authors

#	Article	IF	Citations
1	The manganese and calcium ions of photosynthetic oxygen evolution. Biochimica Et Biophysica Acta - Bioenergetics, 1992, 1102, 269-352.	0.5	1,080
2	Amino Acid Residues That Influence the Binding of Manganese or Calcium to Photosystem II. 1. The Lumenal Interhelical Domains of the D1 Polypeptide. Biochemistry, 1995, 34, 5839-5858.	1.2	212
3	Role of D1-His190 in Proton-Coupled Electron Transfer Reactions in Photosystem II:Â A Chemical Complementation Studyâ€. Biochemistry, 1998, 37, 11352-11365.	1.2	197
4	Amino acid residues that modulate the properties of tyrosine YZ and the manganese cluster in the water oxidizing complex of photosystem II. Biochimica Et Biophysica Acta - Bioenergetics, 2001, 1503, 164-186.	0.5	171
5	Evidence that the C-Terminus of the D1 Polypeptide of Photosystem II is Ligated to the Manganese Ion that Undergoes Oxidation During the S1to S2Transition:Â An Isotope-Edited FTIR Studyâ€. Biochemistry, 2004, 43, 3152-3166.	1.2	156
6	Site-Directed Photosystem II Mutants with Perturbed Oxygen-Evolving Properties. 1. Instability or Inefficient Assembly of the Manganese Cluster In vivo. Biochemistry, 1994, 33, 6137-6149.	1.2	149
7	Protein ligation of the photosynthetic oxygen-evolving center. Coordination Chemistry Reviews, 2008, 252, 244-258.	9.5	149
8	Amino Acid Residues That Influence the Binding of Manganese or Calcium to Photosystem II. 2. The Carboxy-Terminal Domain of the D1 Polypeptide. Biochemistry, 1995, 34, 5859-5882.	1.2	132
9	Evidence from directed mutagenesis that aspartate 170 of the D1 polypeptide influences the assembly and/or stability of the manganese cluster in the photosynthetic water-splitting complex. Biochemistry, 1992, 31, 6660-6672.	1.2	123
10	No Evidence from FTIR Difference Spectroscopy That Aspartate-170 of the D1 Polypeptide Ligates a Manganese Ion That Undergoes Oxidation during the S0 to S1, S1 to S2, or S2 to S3 Transitions in Photosystem II. Biochemistry, 2005, 44, 1367-1374.	1.2	123
11	Evidence from FTIR Difference Spectroscopy That D1-Asp61 Influences the Water Reactions of the Oxygen-Evolving Mn₄CaO₅ Cluster of Photosystem II. Biochemistry, 2014, 53, 2941-2955.	1.2	109
12	Evidence from Biosynthetically Incorporated Strontium and FTIR Difference Spectroscopy that the C-Terminus of the D1 Polypeptide of Photosystem II Does Not Ligate Calciumâ€. Biochemistry, 2005, 44, 8571-8577.	1.2	106
13	Parallel Polarization EPR Detection of an S1-State â€œMultilineâ€•EPR Signal in Photosystem II Particles fromSynechocystissp. PCC 6803. Journal of the American Chemical Society, 1998, 120, 447-448.	6.6	100
14	Evidence from FTIR Difference Spectroscopy of an Extensive Network of Hydrogen Bonds near the Oxygen-Evolving Mn₄Ca Cluster of Photosystem II Involving D1-Glu65, D2-Glu312, and D1-Glu329. Biochemistry, 2010, 49, 6655-6669.	1.2	100
15	FTIR studies of metal ligands, networks of hydrogen bonds, and water molecules near the active site Mn4CaO5 cluster in Photosystem II. Biochimica Et Biophysica Acta - Bioenergetics, 2015, 1847, 19-34.	0.5	100
16	Mutation of Lysine 317 in the D2 Subunit of Photosystem II Alters Chloride Binding and Proton Transport. Biochemistry, 2013, 52, 4758-4773.	1.2	91
17	Does Histidine 332 of the D1 Polypeptide Ligate the Manganese Cluster in Photosystem II? An Electron Spin Echo Envelope Modulation Studyâ€. Biochemistry, 2001, 40, 3690-3699.	1.2	90
18	The 23 and 17 kDa Extrinsic Proteins of Photosystem II Modulate the Magnetic Properties of the S1-State Manganese Clusterâ€. Biochemistry, 1998, 37, 5039-5045.	1.2	88

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19	Oxygenic Photosystem II:Â The Mutation D1â^'D61N inSynechocystissp. PCC 6803 Retards S-State Transitions without Affecting Electron Transfer from YZto P680+Ââ€. Biochemistry, 1998, 37, 14450-14456.	1.2	78
20	D1-Asp170 Is Structurally Coupled to the Oxygen Evolving Complex in Photosystem II As Revealed by Light-Induced Fourier Transform Infrared Difference Spectroscopy. Biochemistry, 2001, 40, 2312-2316.	1.2	75
21	No Evidence from FTIR Difference Spectroscopy That Aspartate-342 of the D1 Polypeptide Ligates a Mn Ion That Undergoes Oxidation during the S0to S1, S1to S2, or S2to S3Transitions in Photosystem IIâ€. Biochemistry, 2007, 46, 3151-3160.	1.2	70
22	Ammonia Binds to the Dangler Manganese of the Photosystem II Oxygen-Evolving Complex. Journal of the American Chemical Society, 2015, 137, 8829-8837.	6.6	70
23	Time-resolved oxygen production by PSII: chasing chemical intermediates. Biochimica Et Biophysica Acta - Bioenergetics, 2004, 1655, 184-194.	0.5	67
24	Ligation of D1-His332 and D1-Asp170 to the Manganese Cluster of Photosystem II from Synechocystis Assessed by Multifrequency Pulse EPR Spectroscopy. Biochemistry, 2011, 50, 7390-7404.	1.2	63
25	No Evidence from FTIR Difference Spectroscopy That Glutamate-189 of the D1 Polypeptide Ligates a Mn Ion That Undergoes Oxidation during the S0 to S1, S1 to S2, or S2 to S3 Transitions in Photosystem II. Biochemistry, 2006, 45, 8801-8811.	1.2	59
26	Mutation of Arginine 357 of the CP43 Protein of Photosystem II Severely Impairs the Catalytic S-State Cycle of the H₂O Oxidation Complex. Biochemistry, 2007, 46, 11987-11997.	1.2	59
27	Participation of Glutamate-354 of the CP43 Polypeptide in the Ligation of Manganese and the Binding of Substrate Water in Photosystem II. Biochemistry, 2011, 50, 63-81.	1.2	58
28	High-resolution cryo-electron microscopy structure of photosystem II from the mesophilic cyanobacterium, Synechocystis sp. PCC 6803. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	58
29	Network of Hydrogen Bonds near the Oxygen-Evolving Mn₄CaO₅ Cluster of Photosystem II Probed with FTIR Difference Spectroscopy. Biochemistry, 2014, 53, 1001-1017.	1.2	56
30	Site-Directed Photosystem II Mutants with Perturbed Oxygen-Evolving Properties. 2. Increased Binding or Photooxidation of Manganese in the Absence of the Extrinsic 33-kDa Polypeptide In vivo. Biochemistry, 1994, 33, 6150-6157.	1.2	55
31	Evidence from FTIR Difference Spectroscopy That a Substrate H2O Molecule for O2 Formation in Photosystem II Is Provided by the Ca Ion of the Catalytic Mn4CaO5 Cluster. Biochemistry, 2017, 56, 2558-2570.	1.2	52
32	Glutamate 189 of the D1 Polypeptide Modulates the Magnetic and Redox Properties of the Manganese Cluster and Tyrosine YZin Photosystem IIâ€. Biochemistry, 2000, 39, 6275-6287.	1.2	51
33	Degradation of the Photosystem II D1 and D2 proteins in different strains of the cyanobacterium Synechocytis PCC 6803 varying with respect to the type and level of psbA transcript. Plant Molecular Biology, 2000, 42, 635-645.	2.0	48
34	Histidine 332 of the D1 Polypeptide Modulates the Magnetic and Redox Properties of the Manganese Cluster and Tyrosine YZ in Photosystem II. Biochemistry, 2000, 39, 470-478.	1.2	47
35	Impact of Mutations within the Putative Ca2+-Binding Lumenal Interhelical aâ^'b Loop of the Photosystem II D1 Protein on the Kinetics of Photoactivation and H2O-Oxidation inSynechocystissp. PCC6803â€. Biochemistry, 1999, 38, 6070-6081.	1.2	45
36	Does Aspartate 170 of the D1 Polypeptide Ligate the Manganese Cluster in Photosystem II? An EPR and ESEEM Studyâ€. Biochemistry, 2003, 42, 10600-10608.	1.2	41

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37	Cryo-EM Structure of Monomeric Photosystem II from Synechocystis sp. PCC 6803 Lacking the Water-Oxidation Complex. Joule, 2020, 4, 2131-2148.	11.7	36
38	Photosynthetic water oxidation in Synechocystis sp. PCC6803: mutations D1-E189K, R and Q are without influence on electron transfer at the donor side of photosystem II. Biochimica Et Biophysica Acta - Bioenergetics, 2001, 1506, 224-235.	0.5	32
39	One of the Substrate Waters for O₂ Formation in Photosystem II Is Provided by the Water-Splitting Mn₄CaO₅ Clusterâ€™s Ca²⁺ Ion. Biochemistry, 2019, 58, 3185-3192.	1.2	32
40	Structure of a monomeric photosystem II core complex from a cyanobacterium acclimated to far-red light reveals the functions of chlorophylls d and f. Journal of Biological Chemistry, 2022, 298, 101424.	1.6	32
41	Investigation of substrate water interactions at the high-affinity Mn site in the photosystem II oxygen-evolving complex. Philosophical Transactions of the Royal Society B: Biological Sciences, 2008, 363, 1229-1235.	1.8	31
42	¹³C ENDOR Reveals That the D1 Polypeptide C-Terminus Is Directly Bound to Mn in the Photosystem II Oxygen Evolving Complex. Journal of the American Chemical Society, 2010, 132, 446-447.	6.6	31
43	Probing the Effect of Mutations of Asparagine 181 in the D1 Subunit of Photosystem II. Biochemistry, 2015, 54, 1663-1672.	1.2	28
44	Structural Effects of Ammonia Binding to the Mn₄CaO₅ Cluster of Photosystem II. Journal of Physical Chemistry B, 2018, 122, 1588-1599.	1.2	26
45	Insights into Proton-Transfer Pathways during Water Oxidation in Photosystem II. Journal of Physical Chemistry B, 2019, 123, 8195-8202.	1.2	26
46	Multifrequency electron spin-echo envelope modulation studies of nitrogen ligation to the manganese cluster of photosystem II. Philosophical Transactions of the Royal Society B: Biological Sciences, 2008, 363, 1157-1166.	1.8	24
47	Glutamate-354 of the CP43 polypeptide interacts with the oxygen-evolving Mn₄Ca cluster of photosystem II: a preliminary characterization of the Glu354Gln mutant. Philosophical Transactions of the Royal Society B: Biological Sciences, 2008, 363, 1179-1188.	1.8	23
48	Participation of Glutamate-333 of the D1 Polypeptide in the Ligation of the Mn4CaO5 Cluster in Photosystem II. Biochemistry, 2013, 52, 8452-8464.	1.2	23
49	Substitution of the D1-Asn87 site in photosystem II of cyanobacteria mimics the chloride-binding characteristics of spinach photosystem II. Journal of Biological Chemistry, 2018, 293, 2487-2497.	1.6	23
50	Pulse EPR Spectroscopic Characterization of the S3 State of the Oxygen-Evolving Complex of Photosystem II Isolated from Synechocystis. Biochemistry, 2020, 59, 4864-4872.	1.2	23
51	Photoassembly of the Manganese Cluster in Mutants Perturbed in the High Affinity Mn-Binding Site of the H₂O-Oxidation Complex of Photosystem II. Biochemistry, 2007, 46, 13648-13657.	1.2	22
52	Identification of Ligands to Manganese and Calcium in Photosystem II by Site-Directed Mutagenesis. , 1990, , 829-832.		20
53	Impact of D1-V185 on the Water Molecules That Facilitate O₂ Formation by the Catalytic Mn₄CaO₅ Cluster in Photosystem II. Biochemistry, 2018, 57, 4299-4311.	1.2	19
54	D1-S169A Substitution of Photosystem II Perturbs Water Oxidation. Biochemistry, 2019, 58, 1379-1387.	1.2	18

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55	The exchange of the fast substrate water in the S₂ state of photosystem II is limited by diffusion of bulk water through channels â€“ implications for the water oxidation mechanism. Chemical Science, 2021, 12, 12763-12775.	3.7	18
56	The Catalytic Manganese Cluster: Protein Ligation. , 2005, , 261-284.		15
57	Altered Structure of the Mn4Ca Cluster in the Oxygen-evolving Complex of Photosystem II by a Histidine Ligand Mutation. Journal of Biological Chemistry, 2011, 286, 9257-9267.	1.6	14
58	Ammonia Binding in the Second Coordination Sphere of the Oxygen-Evolving Complex of Photosystem II. Biochemistry, 2016, 55, 4432-4436.	1.2	14
59	Alteration of the O₂-Producing Mn₄Ca Cluster in Photosystem II by the Mutation of a Metal Ligand. Biochemistry, 2021, 60, 3841-3855.	1.2	8
60	Identifying carboxylate ligand vibrational modes in photosystem II with QM/MM methods. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 12613-12615.	3.3	6
61	Roles of D1-Glu189 and D1-Glu329 in O₂ Formation by the Water-Splitting Mn₄Ca Cluster in Photosystem II. Biochemistry, 2020, 59, 3902-3917.	1.2	6
62	Progress in Characterization of the Photosystem II Oxygen Evolving Complex Using Advanced EPR Methods. ACS Symposium Series, 1998, , 272-285.	0.5	5
63	Bicarbonate rescues damaged proton-transfer pathway in photosystem II. Biochimica Et Biophysica Acta - Bioenergetics, 2019, 1860, 611-617.	0.5	5
64	D1-S169A substitution of photosystem II reveals a novel S2-state structure. Biochimica Et Biophysica Acta - Bioenergetics, 2020, 1861, 148301.	0.5	4
65	Warwick Hillier: a tribute. Photosynthesis Research, 2014, 122, 1-11.	1.6	3
66	Determining the Electronic Structure of Paramagnetic Intermediates in membrane proteins: A high-resolution 2D 1H hyperfine sublevel correlation study of the redox-active tyrosines of photosystem II. Biochimica Et Biophysica Acta - Biomembranes, 2020, 1862, 183422.	1.4	2