

Richard J Debus

List of Publications by Year in descending order

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#	ARTICLE	IF	CITATIONS
1	Structure of a monomeric photosystem II core complex from a cyanobacterium acclimated to far-red light reveals the functions of chlorophylls d and f. <i>Journal of Biological Chemistry</i> , 2022, 298, 101424.	1.6	32
2	High-resolution cryo-electron microscopy structure of photosystem II from the mesophilic cyanobacterium, <i>Synechocystis</i> sp. PCC 6803. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, .	3.3	58
3	The exchange of the fast substrate water in the S ₂ state of photosystem II is limited by diffusion of bulk water through channels – implications for the water oxidation mechanism. <i>Chemical Science</i> , 2021, 12, 12763-12775.	3.7	18
4	Alteration of the O ₂ -Producing Mn ₄ Ca Cluster in Photosystem II by the Mutation of a Metal Ligand. <i>Biochemistry</i> , 2021, 60, 3841-3855.	1.2	8
5	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. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2020, 1862, 183422.	1.4	2
6	D1-S169A substitution of photosystem II reveals a novel S ₂ -state structure. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2020, 1861, 148301.	0.5	4
7	Cryo-EM Structure of Monomeric Photosystem II from <i>Synechocystis</i> sp. PCC 6803 Lacking the Water-Oxidation Complex. <i>Joule</i> , 2020, 4, 2131-2148.	11.7	36
8	Roles of D1-Glu189 and D1-Glu329 in O ₂ Formation by the Water-Splitting Mn ₄ Ca Cluster in Photosystem II. <i>Biochemistry</i> , 2020, 59, 3902-3917.	1.2	6
9	Pulse EPR Spectroscopic Characterization of the S ₃ State of the Oxygen-Evolving Complex of Photosystem II Isolated from <i>Synechocystis</i> . <i>Biochemistry</i> , 2020, 59, 4864-4872.	1.2	23
10	One of the Substrate Waters for O ₂ Formation in Photosystem II Is Provided by the Water-Splitting Mn ₄ CaO ₅ Cluster's Ca ²⁺ Ion. <i>Biochemistry</i> , 2019, 58, 3185-3192.	1.2	32
11	Insights into Proton-Transfer Pathways during Water Oxidation in Photosystem II. <i>Journal of Physical Chemistry B</i> , 2019, 123, 8195-8202.	1.2	26
12	D1-S169A Substitution of Photosystem II Perturbs Water Oxidation. <i>Biochemistry</i> , 2019, 58, 1379-1387.	1.2	18
13	Bicarbonate rescues damaged proton-transfer pathway in photosystem II. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2019, 1860, 611-617.	0.5	5
14	Substitution of the D1-Asn87 site in photosystem II of cyanobacteria mimics the chloride-binding characteristics of spinach photosystem II. <i>Journal of Biological Chemistry</i> , 2018, 293, 2487-2497.	1.6	23
15	Structural Effects of Ammonia Binding to the Mn ₄ CaO ₅ Cluster of Photosystem II. <i>Journal of Physical Chemistry B</i> , 2018, 122, 1588-1599.	1.2	26
16	Impact of D1-V185 on the Water Molecules That Facilitate O ₂ Formation by the Catalytic Mn ₄ CaO ₅ Cluster in Photosystem II. <i>Biochemistry</i> , 2018, 57, 4299-4311.	1.2	19
17	Evidence from FTIR Difference Spectroscopy That a Substrate H ₂ O Molecule for O ₂ Formation in Photosystem II Is Provided by the Ca Ion of the Catalytic Mn ₄ CaO ₅ Cluster. <i>Biochemistry</i> , 2017, 56, 2558-2570.	1.2	52
18	Ammonia Binding in the Second Coordination Sphere of the Oxygen-Evolving Complex of Photosystem II. <i>Biochemistry</i> , 2016, 55, 4432-4436.	1.2	14

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19	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
20	Probing the Effect of Mutations of Asparagine 181 in the D1 Subunit of Photosystem II. Biochemistry, 2015, 54, 1663-1672.	1.2	28
21	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
22	FTIR studies of metal ligands, networks of hydrogen bonds, and water molecules near the active site Mn ₄ CaO ₅ cluster in Photosystem II. Biochimica Et Biophysica Acta - Bioenergetics, 2015, 1847, 19-34.	0.5	100
23	Warwick Hillier: a tribute. Photosynthesis Research, 2014, 122, 1-11.	1.6	3
24	Evidence from FTIR Difference Spectroscopy That D1-Asp61 Influences the Water Reactions of the Oxygen-Evolving Mn ₄ CaO ₅ Cluster of Photosystem II. Biochemistry, 2014, 53, 2941-2955.	1.2	109
25	Network of Hydrogen Bonds near the Oxygen-Evolving Mn ₄ CaO ₅ Cluster of Photosystem II Probed with FTIR Difference Spectroscopy. Biochemistry, 2014, 53, 1001-1017.	1.2	56
26	Participation of Glutamate-333 of the D1 Polypeptide in the Ligation of the Mn ₄ CaO ₅ Cluster in Photosystem II. Biochemistry, 2013, 52, 8452-8464.	1.2	23
27	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
28	Ligation of D1-His332 and D1-Asp170 to the Manganese Cluster of Photosystem II from <i>Synechocystis</i> Assessed by Multifrequency Pulse EPR Spectroscopy. Biochemistry, 2011, 50, 7390-7404.	1.2	63
29	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
30	Altered Structure of the Mn ₄ Ca 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
31	Evidence from FTIR Difference Spectroscopy of an Extensive Network of Hydrogen Bonds near the Oxygen-Evolving Mn ₄ Ca Cluster of Photosystem II Involving D1-Glu65, D2-Glu312, and D1-Glu329. Biochemistry, 2010, 49, 6655-6669.	1.2	100
32	¹³ C 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
33	Protein ligation of the photosynthetic oxygen-evolving center. Coordination Chemistry Reviews, 2008, 252, 244-258.	9.5	149
34	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
35	Glutamate-354 of the CP43 polypeptide interacts with the oxygen-evolving Mn ₄ Ca 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
36	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

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37	Photoassembly of the Manganese Cluster in Mutants Perturbed in the High Affinity Mn-Binding Site of the H ₂ O-Oxidation Complex of Photosystem II. <i>Biochemistry</i> , 2007, 46, 13648-13657.	1.2	22
38	Mutation of Arginine 357 of the CP43 Protein of Photosystem II Severely Impairs the Catalytic S-State Cycle of the H ₂ O Oxidation Complex. <i>Biochemistry</i> , 2007, 46, 11987-11997.	1.2	59
39	No Evidence from FTIR Difference Spectroscopy That Aspartate-342 of the D1 Polypeptide Ligates a Mn Ion That Undergoes Oxidation during the S ₀ to S ₁ , S ₁ to S ₂ , or S ₂ to S ₃ Transitions in Photosystem II. <i>Biochemistry</i> , 2007, 46, 3151-3160.	1.2	70
40	No Evidence from FTIR Difference Spectroscopy That Glutamate-189 of the D1 Polypeptide Ligates a Mn Ion That Undergoes Oxidation during the S ₀ to S ₁ , S ₁ to S ₂ , or S ₂ to S ₃ Transitions in Photosystem II. <i>Biochemistry</i> , 2006, 45, 8801-8811.	1.2	59
41	Evidence from Biosynthetically Incorporated Strontium and FTIR Difference Spectroscopy that the C-Terminus of the D1 Polypeptide of Photosystem II Does Not Ligate Calcium. <i>Biochemistry</i> , 2005, 44, 8571-8577.	1.2	106
42	No Evidence from FTIR Difference Spectroscopy That Aspartate-170 of the D1 Polypeptide Ligates a Manganese Ion That Undergoes Oxidation during the S ₀ to S ₁ , S ₁ to S ₂ , or S ₂ to S ₃ Transitions in Photosystem II. <i>Biochemistry</i> , 2005, 44, 1367-1374.	1.2	123
43	The Catalytic Manganese Cluster: Protein Ligation. , 2005, , 261-284.		15
44	Evidence that the C-Terminus of the D1 Polypeptide of Photosystem II is Ligated to the Manganese Ion that Undergoes Oxidation During the S ₁ to S ₂ Transition: An Isotope-Edited FTIR Study. <i>Biochemistry</i> , 2004, 43, 3152-3166.	1.2	156
45	Time-resolved oxygen production by PSII: chasing chemical intermediates. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2004, 1655, 184-194.	0.5	67
46	Does Aspartate 170 of the D1 Polypeptide Ligates the Manganese Cluster in Photosystem II? An EPR and ESEEM Study. <i>Biochemistry</i> , 2003, 42, 10600-10608.	1.2	41
47	Amino acid residues that modulate the properties of tyrosine YZ and the manganese cluster in the water oxidizing complex of photosystem II. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2001, 1503, 164-186.	0.5	171
48	Photosynthetic water oxidation in <i>Synechocystis</i> sp. PCC6803: mutations D1-E189K, R and Q are without influence on electron transfer at the donor side of photosystem II. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2001, 1506, 224-235.	0.5	32
49	Does Histidine 332 of the D1 Polypeptide Ligates the Manganese Cluster in Photosystem II? An Electron Spin Echo Envelope Modulation Study. <i>Biochemistry</i> , 2001, 40, 3690-3699.	1.2	90
50	D1-Asp170 Is Structurally Coupled to the Oxygen Evolving Complex in Photosystem II As Revealed by Light-Induced Fourier Transform Infrared Difference Spectroscopy. <i>Biochemistry</i> , 2001, 40, 2312-2316.	1.2	75
51	Degradation of the Photosystem II D1 and D2 proteins in different strains of the cyanobacterium <i>Synechocystis</i> PCC 6803 varying with respect to the type and level of psbA transcript. <i>Plant Molecular Biology</i> , 2000, 42, 635-645.	2.0	48
52	Glutamate 189 of the D1 Polypeptide Modulates the Magnetic and Redox Properties of the Manganese Cluster and Tyrosine YZ in Photosystem II. <i>Biochemistry</i> , 2000, 39, 6275-6287.	1.2	51
53	Histidine 332 of the D1 Polypeptide Modulates the Magnetic and Redox Properties of the Manganese Cluster and Tyrosine YZ in Photosystem II. <i>Biochemistry</i> , 2000, 39, 470-478.	1.2	47
54	Impact of Mutations within the Putative Ca ²⁺ -Binding Luminal Interhelical a ¹ b Loop of the Photosystem II D1 Protein on the Kinetics of Photoactivation and H ₂ O-Oxidation in <i>Synechocystis</i> sp. PCC6803. <i>Biochemistry</i> , 1999, 38, 6070-6081.	1.2	45

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55	Role of D1-His190 in Proton-Coupled Electron Transfer Reactions in Photosystem II: A Chemical Complementation Study. <i>Biochemistry</i> , 1998, 37, 11352-11365.	1.2	197
56	Oxygenic Photosystem II: The Mutation D1 ^H D61N in <i>Synechocystis</i> sp. PCC 6803 Retards S-State Transitions without Affecting Electron Transfer from YZ to P680. <i>Biochemistry</i> , 1998, 37, 14450-14456.	1.2	78
57	The 23 and 17 kDa Extrinsic Proteins of Photosystem II Modulate the Magnetic Properties of the S1-State Manganese Cluster. <i>Biochemistry</i> , 1998, 37, 5039-5045.	1.2	88
58	Parallel Polarization EPR Detection of an S1-State "Multiline" EPR Signal in Photosystem II Particles from <i>Synechocystis</i> sp. PCC 6803. <i>Journal of the American Chemical Society</i> , 1998, 120, 447-448.	6.6	100
59	Progress in Characterization of the Photosystem II Oxygen Evolving Complex Using Advanced EPR Methods. <i>ACS Symposium Series</i> , 1998, , 272-285.	0.5	5
60	Amino Acid Residues That Influence the Binding of Manganese or Calcium to Photosystem II. 2. The Carboxy-Terminal Domain of the D1 Polypeptide. <i>Biochemistry</i> , 1995, 34, 5859-5882.	1.2	132
61	Amino Acid Residues That Influence the Binding of Manganese or Calcium to Photosystem II. 1. The Luminal Interhelical Domains of the D1 Polypeptide. <i>Biochemistry</i> , 1995, 34, 5839-5858.	1.2	212
62	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. <i>Biochemistry</i> , 1994, 33, 6150-6157.	1.2	55
63	Site-Directed Photosystem II Mutants with Perturbed Oxygen-Evolving Properties. 1. Instability or Inefficient Assembly of the Manganese Cluster In vivo. <i>Biochemistry</i> , 1994, 33, 6137-6149.	1.2	149
64	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. <i>Biochemistry</i> , 1992, 31, 6660-6672.	1.2	123
65	The manganese and calcium ions of photosynthetic oxygen evolution. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 1992, 1102, 269-352.	0.5	1,080
66	Identification of Ligands to Manganese and Calcium in Photosystem II by Site-Directed Mutagenesis. , 1990, , 829-832.		20