

# Richard J Debus

## List of Publications by Citations

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66

papers

4,316

citations

35

h-index

65

g-index

66

ext. papers

4,609

ext. citations

5.1

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5.89

L-index

#	Paper	IF	Citations
66	The manganese and calcium ions of photosynthetic oxygen evolution. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , <b>1992</b> , 1102, 269-352	4.6	979
65	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> , <b>1995</b> , 34, 5839-58	3.2	200
64	Role of D1-His190 in proton-coupled electron transfer reactions in photosystem II: a chemical complementation study. <i>Biochemistry</i> , <b>1998</b> , 37, 11352-65	3.2	192
63	Amino acid residues that modulate the properties of tyrosine Y(Z) and the manganese cluster in the water oxidizing complex of photosystem II. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , <b>2001</b> , 1503, 164-86	4.6	154
62	Evidence that the C-terminus of the D1 polypeptide of photosystem II is ligated to the manganese ion that undergoes oxidation during the S1 to S2 transition: an isotope-edited FTIR study. <i>Biochemistry</i> , <b>2004</b> , 43, 3152-66	3.2	148
61	Protein Ligation of the Photosynthetic Oxygen-Evolving Center. <i>Coordination Chemistry Reviews</i> , <b>2008</b> , 252, 244-258	23.2	140
60	Site-directed photosystem II mutants with perturbed oxygen-evolving properties. 1. Instability or inefficient assembly of the manganese cluster in vivo. <i>Biochemistry</i> , <b>1994</b> , 33, 6137-49	3.2	134
59	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> , <b>1995</b> , 34, 5859-82	3.2	124
58	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. <i>Biochemistry</i> , <b>2005</b> , 44, 1367-74	3.2	118
57	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> , <b>1992</b> , 31, 6660-72	3.2	114
56	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> , <b>2005</b> , 44, 8571-7	3.2	98
55	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> , <b>1998</b> , 120, 447-448	16.4	92
54	Evidence from FTIR difference spectroscopy that D1-Asp61 influences the water reactions of the oxygen-evolving Mn4CaO5 cluster of photosystem II. <i>Biochemistry</i> , <b>2014</b> , 53, 2941-55	3.2	89
53	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. <i>Biochemistry</i> , <b>2010</b> , 49, 6655-69	3.2	89
52	FTIR studies of metal ligands, networks of hydrogen bonds, and water molecules near the active site Mn4CaO5 cluster in Photosystem II. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , <b>2015</b> , 1847, 19-34	4.6	86
51	The 23 and 17 kDa extrinsic proteins of photosystem II modulate the magnetic properties of the S1-state manganese cluster. <i>Biochemistry</i> , <b>1998</b> , 37, 5039-45	3.2	85
50	Does histidine 332 of the D1 polypeptide ligate the manganese cluster in photosystem II? An electron spin echo envelope modulation study. <i>Biochemistry</i> , <b>2001</b> , 40, 3690-9	3.2	81

49	Mutation of lysine 317 in the D2 subunit of photosystem II alters chloride binding and proton transport. <i>Biochemistry</i> , <b>2013</b> , 52, 4758-73	3.2	76
48	Oxygenic photosystem II: the mutation D1-D61N in <i>Synechocystis</i> sp. PCC 6803 retards S-state transitions without affecting electron transfer from YZ to P680+. <i>Biochemistry</i> , <b>1998</b> , 37, 14450-6	3.2	76
47	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> , <b>2001</b> , 40, 2312-6	3.2	72
46	Time-resolved oxygen production by PSII: chasing chemical intermediates. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , <b>2004</b> , 1655, 184-94	4.6	64
45	Ammonia Binds to the Dangler Manganese of the Photosystem II Oxygen-Evolving Complex. <i>Journal of the American Chemical Society</i> , <b>2015</b> , 137, 8829-37	16.4	62
44	Mutation of arginine 357 of the CP43 protein of photosystem II severely impairs the catalytic S-state cycle of the H <sub>2</sub> O oxidation complex. <i>Biochemistry</i> , <b>2007</b> , 46, 11987-97	3.2	56
43	No evidence from FTIR difference spectroscopy that glutamate-189 of the D1 polypeptide ligates a Mn ion that undergoes oxidation during the S <sub>0</sub> to S <sub>1</sub> , S <sub>1</sub> to S <sub>2</sub> , or S <sub>2</sub> to S <sub>3</sub> transitions in photosystem II. <i>Biochemistry</i> , <b>2006</b> , 45, 8801-11	3.2	56
42	Ligation of D1-His332 and D1-Asp170 to the manganese cluster of photosystem II from <i>Synechocystis</i> assessed by multifrequency pulse EPR spectroscopy. <i>Biochemistry</i> , <b>2011</b> , 50, 7390-404	3.2	54
41	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> , <b>1994</b> , 33, 6150-7	3.2	51
40	Participation of glutamate-354 of the CP43 polypeptide in the ligation of manganese and the binding of substrate water in photosystem II. <i>Biochemistry</i> , <b>2011</b> , 50, 63-81	3.2	49
39	Network of hydrogen bonds near the oxygen-evolving Mn(4)CaO(5) cluster of photosystem II probed with FTIR difference spectroscopy. <i>Biochemistry</i> , <b>2014</b> , 53, 1001-17	3.2	47
38	No evidence from FTIR difference spectroscopy that aspartate-342 of the D1 polypeptide ligates a Mn ion that undergoes oxidation during the S <sub>0</sub> to S <sub>1</sub> , S <sub>1</sub> to S <sub>2</sub> , or S <sub>2</sub> to S <sub>3</sub> transitions in photosystem II. <i>Biochemistry</i> , <b>2007</b> , 46, 3151-60	3.2	46
37	Histidine 332 of the D1 polypeptide modulates the magnetic and redox properties of the manganese cluster and tyrosine Y(Z) in photosystem II. <i>Biochemistry</i> , <b>2000</b> , 39, 470-8	3.2	44
36	Impact of mutations within the putative Ca <sup>2+</sup> -binding luminal interhelical a-b loop of the photosystem II D1 protein on the kinetics of photoactivation and H <sub>2</sub> O-oxidation in <i>Synechocystis</i> sp. PCC6803. <i>Biochemistry</i> , <b>1999</b> , 38, 6070-81	3.2	44
35	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> , <b>2000</b> , 42, 635-45	4.6	43
34	Evidence from FTIR Difference Spectroscopy That a Substrate HO Molecule for O Formation in Photosystem II Is Provided by the Ca Ion of the Catalytic MnCaO Cluster. <i>Biochemistry</i> , <b>2017</b> , 56, 2558-2570	3.2	41
33	Does aspartate 170 of the D1 polypeptide ligate the manganese cluster in photosystem II? An EPR and ESEEM Study. <i>Biochemistry</i> , <b>2003</b> , 42, 10600-8	3.2	41
32	Glutamate 189 of the D1 polypeptide modulates the magnetic and redox properties of the manganese cluster and tyrosine Y(Z) in photosystem II. <i>Biochemistry</i> , <b>2000</b> , 39, 6275-87	3.2	40

31	Investigation of substrate water interactions at the high-affinity Mn site in the photosystem II oxygen-evolving complex. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , <b>2008</b> , 363, 1229-34; discussion 1234-5	5.8	30
30	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> , <b>2001</b> , 1506, 224-35	4.6	30
29	<sup>13</sup> C ENDOR reveals that the D1 polypeptide C-terminus is directly bound to Mn in the photosystem II oxygen evolving complex. <i>Journal of the American Chemical Society</i> , <b>2010</b> , 132, 446-7	16.4	28
28	Probing the effect of mutations of asparagine 181 in the D1 subunit of photosystem II. <i>Biochemistry</i> , <b>2015</b> , 54, 1663-72	3.2	23
27	One of the Substrate Waters for O <sub>2</sub> Formation in Photosystem II Is Provided by the Water-Splitting MnCaO Cluster's Ca Ion. <i>Biochemistry</i> , <b>2019</b> , 58, 3185-3192	3.2	22
26	Multifrequency electron spin-echo envelope modulation studies of nitrogen ligation to the manganese cluster of photosystem II. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , <b>2008</b> , 363, 1157-66; discussion 1166	5.8	22
25	Cryo-EM Structure of Monomeric Photosystem II from <i>Synechocystis</i> sp. PCC 6803 Lacking the Water-Oxidation Complex. <i>Joule</i> , <b>2020</b> , 4, 2131-2148	27.8	22
24	Glutamate-354 of the CP43 polypeptide interacts with the oxygen-evolving Mn <sub>4</sub> Ca cluster of photosystem II: a preliminary characterization of the Glu354Gln mutant. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , <b>2008</b> , 363, 1179-87; discussion 1187-8	5.8	21
23	Substitution of the D1-Asn site in photosystem II of cyanobacteria mimics the chloride-binding characteristics of spinach photosystem II. <i>Journal of Biological Chemistry</i> , <b>2018</b> , 293, 2487-2497	5.4	20
22	Structural Effects of Ammonia Binding to the MnCaO Cluster of Photosystem II. <i>Journal of Physical Chemistry B</i> , <b>2018</b> , 122, 1588-1599	3.4	20
21	Participation of glutamate-333 of the D1 polypeptide in the ligation of the Mn <sub>4</sub> CaO <sub>4</sub> cluster in photosystem II. <i>Biochemistry</i> , <b>2013</b> , 52, 8452-64	3.2	20
20	Photoassembly of the manganese cluster in mutants perturbed in the high affinity Mn-binding site of the H <sub>2</sub> O-oxidation complex of photosystem II. <i>Biochemistry</i> , <b>2007</b> , 46, 13648-57	3.2	19
19	Identification of Ligands to Manganese and Calcium in Photosystem II by Site-Directed Mutagenesis <b>1990</b> , 829-832		19
18	Impact of D1-V185 on the Water Molecules That Facilitate O <sub>2</sub> Formation by the Catalytic MnCaO Cluster in Photosystem II. <i>Biochemistry</i> , <b>2018</b> , 57, 4299-4311	3.2	18
17	D1-S169A Substitution of Photosystem II Perturbs Water Oxidation. <i>Biochemistry</i> , <b>2019</b> , 58, 1379-1387	3.2	15
16	Altered structure of the Mn <sub>4</sub> Ca cluster in the oxygen-evolving complex of photosystem II by a histidine ligand mutation. <i>Journal of Biological Chemistry</i> , <b>2011</b> , 286, 9257-67	5.4	13
15	Ammonia Binding in the Second Coordination Sphere of the Oxygen-Evolving Complex of Photosystem II. <i>Biochemistry</i> , <b>2016</b> , 55, 4432-6	3.2	12
14	Pulse EPR Spectroscopic Characterization of the S State of the Oxygen-Evolving Complex of Photosystem II Isolated From. <i>Biochemistry</i> , <b>2020</b> , 59, 4864-4872	3.2	12

13	Insights into Proton-Transfer Pathways during Water Oxidation in Photosystem II. <i>Journal of Physical Chemistry B</i> , <b>2019</b> , 123, 8195-8202	3.4	11
12	The Catalytic Manganese Cluster: Protein Ligation <b>2005</b> , 261-284		9
11	High-resolution cryo-electron microscopy structure of photosystem II from the mesophilic cyanobacterium, sp. PCC 6803.. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2022</b> , 119,	11.5	7
10	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> , <b>2021</b> , 101424	5.4	6
9	Identifying carboxylate ligand vibrational modes in photosystem II with QM/MM methods. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2016</b> , 113, 12613-12615	11.5	5
8	Roles of D1-Glu189 and D1-Glu329 in O Formation by the Water-Splitting MnCa Cluster in Photosystem II. <i>Biochemistry</i> , <b>2020</b> , 59, 3902-3917	3.2	5
7	Bicarbonate rescues damaged proton-transfer pathway in photosystem II. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , <b>2019</b> , 1860, 611-617	4.6	4
6	Progress in Characterization of the Photosystem II Oxygen Evolving Complex Using Advanced EPR Methods. <i>ACS Symposium Series</i> , <b>1998</b> , 272-285	0.4	4
5	Warwick Hillier: a tribute. <i>Photosynthesis Research</i> , <b>2014</b> , 122, 1-11	3.7	3
4	Alteration of the O-Producing MnCa Cluster in Photosystem II by the Mutation of a Metal Ligand.. <i>Biochemistry</i> , <b>2021</b> , 60, 3841-3855	3.2	3
3	D1-S169A substitution of photosystem II reveals a novel S-state structure. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , <b>2020</b> , 1861, 148301	4.6	3
2	The exchange of the fast substrate water in the S state of photosystem II is limited by diffusion of bulk water through channels - implications for the water oxidation mechanism. <i>Chemical Science</i> , <b>2021</b> , 12, 12763-12775	9.4	3
1	Determining the Electronic Structure of Paramagnetic Intermediates in membrane proteins: A high-resolution 2D H hyperfine sublevel correlation study of the redox-active tyrosines of photosystem II. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , <b>2020</b> , 1862, 183422	3.8	2