Derren J Heyes

List of Publications by Year
in descending order

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75 papers	3,073 citations	212478 28 h-index	214428 50 g-index
80 all docs	80 docs citations	80 times ranked	4329 citing authors

#	Article	IF	Citations
1	A guide to timeâ€resolved structural analysis of lightâ€activated proteins. FEBS Journal, 2022, 289, 576-595.	2.2	25
2	Making molecules with photodecarboxylases: A great start or a false dawn?. Current Research in Chemical Biology, 2022, 2, 100017.	1.4	17
3	An unusual light-sensing function for coenzyme B12 in bacterial transcription regulator CarH. Methods in Enzymology, 2022, 668, 349-372.	0.4	1
4	How Photoactivation Triggers Protochlorophyllide Reduction: Computational Evidence of a Stepwise Hydride Transfer during Chlorophyll Biosynthesis. ACS Catalysis, 2022, 12, 4141-4148.	5.5	8
5	Advantages of brain penetrating inhibitors of kynurenine-3-monooxygenase for treatment of neurodegenerative diseases. Archives of Biochemistry and Biophysics, 2021, 697, 108702.	1.4	12
6	Dual role of the active site â€˜lidâ€™ regions of protochlorophyllide oxidoreductase in photocatalysis and plant development. FEBS Journal, 2021, 288, 175-189.	2.2	15
7	Interplay between chromophore binding and domain assembly by the B₁₂-dependent photoreceptor protein, CarH. Chemical Science, 2021, 12, 8333-8341.	3.7	10
8	Photocatalysis as the â€˜master switchâ€™ of photomorphogenesis in early plant development. Nature Plants, 2021, 7, 268-276.	4.7	22
9	A Noncanonical Tryptophan Analogue Reveals an Active Site Hydrogen Bond Controlling Ferryl Reactivity in a Heme Peroxidase. Jacs Au, 2021, 1, 913-918.	3.6	8
10	Design and fabrication of recombinant reflectin-based multilayer reflectors: bio-design engineering and photoisomerism induced wavelength modulation. Scientific Reports, 2021, 11, 14580.	1.6	7
11	Quantum Biology: An Update and Perspective. Quantum Reports, 2021, 3, 80-126.	0.6	74
12	Insights into the H₂O₂â€driven catalytic mechanism of fungal lytic polysaccharide monooxygenases. FEBS Journal, 2021, 288, 4115-4128.	2.2	47
13	Kinetic characterisation of Erv1, a key component for protein import and folding in yeast mitochondria. FEBS Journal, 2020, 287, 1220-1231.	2.2	10
14	Pressure and Temperature Effects on the Formation of Aminoacrylate Intermediates of Tyrosine Phenol-lyase Demonstrate Reaction Dynamics. ACS Catalysis, 2020, 10, 1692-1703.	5.5	6
15	Redox characterisation of Erv1, a key component for protein import and folding in yeast mitochondria. FEBS Journal, 2020, 287, 2281-2291.	2.2	4
16	Photocycle of Cyanobacteriochrome TePixJ. Biochemistry, 2020, 59, 2909-2915.	1.2	7
17	Ferulic Acid Decarboxylase Controls Oxidative Maturation of the Prenylated Flavin Mononucleotide Cofactor. ACS Chemical Biology, 2020, 15, 2466-2475.	1.6	13
18	Catalytic Mechanism of Aromatic Nitration by Cytochrome P450 TxtE: Involvement of a Ferric-Peroxynitrite Intermediate. Journal of the American Chemical Society, 2020, 142, 15764-15779.	6.6	55

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19	Photochemical Mechanism of Light-Driven Fatty Acid Photodecarboxylase. ACS Catalysis, 2020, 10, 6691-6696.	5.5	72
20	Low carbon strategies for sustainable bio-alkane gas production and renewable energy. Energy and Environmental Science, 2020, 13, 1818-1831.	15.6	77
21	Active Intermediates in Copper Nitrite Reductase Reactions Probed by a Cryotrappingâ€Electron Paramagnetic Resonance Approach. Angewandte Chemie, 2020, 132, 14040-14044.	1.6	4
22	Radical-based photoinactivation of fatty acid photodecarboxylases. Analytical Biochemistry, 2020, 600, 113749.	1.1	48
23	Ultrafast Vibrational Energy Transfer between Protein and Cofactor in a Flavoenzyme. Journal of Physical Chemistry B, 2020, 124, 5163-5168.	1.2	8
24	Rewiring the â€œPush-Pullâ€•Catalytic Machinery of a Heme Enzyme Using an Expanded Genetic Code. ACS Catalysis, 2020, 10, 2735-2746.	5.5	25
25	Active Intermediates in Copper Nitrite Reductase Reactions Probed by a Cryotrappingâ€Electron Paramagnetic Resonance Approach. Angewandte Chemie - International Edition, 2020, 59, 13936-13940.	7.2	8
26	Protein Conformational Change Is Essential for Reductive Activation of Lytic Polysaccharide Monooxygenase by Cellobiose Dehydrogenase. ACS Catalysis, 2020, 10, 4842-4853.	5.5	18
27	A brain-permeable inhibitor of the neurodegenerative disease target kynurenine 3-monooxygenase prevents accumulation of neurotoxic metabolites. Communications Biology, 2019, 2, 271.	2.0	36
28	Unexpected Roles of a Tether Harboring a Tyrosine Gatekeeper Residue in Modular Nitrite Reductase Catalysis. ACS Catalysis, 2019, 9, 6087-6099.	5.5	17
29	Photochemical Spin Dynamics of the Vitamin B₁₂ Derivative, Methylcobalamin. Journal of Physical Chemistry B, 2019, 123, 4663-4672.	1.2	9
30	Solvent-slaved protein motions accompany proton coupled electron transfer reactions catalysed by copper nitrite reductase. Chemical Communications, 2019, 55, 5863-5866.	2.2	13
31	Enzymatic Carboxylation of 2-Furoic Acid Yields 2,5-Furandicarboxylic Acid (FDCA). ACS Catalysis, 2019, 9, 2854-2865.	5.5	74
32	Structural basis for enzymatic photocatalysis in chlorophyll biosynthesis. Nature, 2019, 574, 722-725.	13.7	88
33	Light-induced structural changes in a full-length cyanobacterial phytochrome probed by time-resolved X-ray scattering. Communications Biology, 2019, 2, 1.	2.0	611
34	Pressurized CO₂ as a carboxylating agent for the biocatalytic ortho-carboxylation of resorcinol. Green Chemistry, 2018, 20, 1754-1759.	4.6	23
35	Stepwise Hydride Transfer in a Biological System: Insights into the Reaction Mechanism of the Lightâ€Dependent Protochlorophyllide Oxidoreductase. Angewandte Chemie, 2018, 130, 2712-2716.	1.6	9
36	Stepwise Hydride Transfer in a Biological System: Insights into the Reaction Mechanism of the Lightâ€Dependent Protochlorophyllide Oxidoreductase. Angewandte Chemie - International Edition, 2018, 57, 2682-2686.	7.2	37

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37	Photochemical Mechanism of an Atypical Algal Phytochrome. ChemBioChem, 2018, 19, 1036-1043.	1.3	11
38	Direct Evidence of an Excited-State Triplet Species upon Photoactivation of the Chlorophyll Precursor Protochlorophyllide. Journal of Physical Chemistry Letters, 2017, 8, 1219-1223.	2.1	7
39	Excited-State Properties of Protochlorophyllide Analogues and Implications for Light-Driven Synthesis of Chlorophyll. Journal of Physical Chemistry B, 2017, 121, 1312-1320.	1.2	6
40	Engineering proximal vs. distal hemeâ€“NO coordination via dinitrosyl dynamics: implications for NO sensor design. Chemical Science, 2017, 8, 1986-1994.	3.7	13
41	Cross-Species Analysis of Protein Dynamics Associated with Hydride and Proton Transfer in the Catalytic Cycle of the Light-Driven Enzyme Protochlorophyllide Oxidoreductase. Biochemistry, 2016, 55, 903-913.	1.2	14
42	Isolation and characterisation of 13 pterosins and pterosides from bracken (Pteridium aquilinum (L.)) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	1.4	24
43	Multiple active site residues are important for photochemical efficiency in the light-activated enzyme protochlorophyllide oxidoreductase (POR). Journal of Photochemistry and Photobiology B: Biology, 2016, 161, 236-243.	1.7	23
44	Light-driven biocatalytic reduction of Î±,Î²-unsaturated compounds by ene reductases employing transition metal complexes as photosensitizers. Catalysis Science and Technology, 2016, 6, 169-177.	2.1	48
45	Catalytic Mechanism of Cofactor-Free Dioxygenases and How They Circumvent Spin-Forbidden Oxygenation of Their Substrates. Journal of the American Chemical Society, 2015, 137, 7474-7487.	6.6	70
46	Does the pressure dependence of kinetic isotope effects report usefully on dynamics in enzyme Hâ€transfer reactions?. FEBS Journal, 2015, 282, 3243-3255.	2.2	8
47	Excitedâ€State Charge Separation in the Photochemical Mechanism of the Lightâ€Driven Enzyme Protochlorophyllide Oxidoreductase. Angewandte Chemie - International Edition, 2015, 54, 1512-1515.	7.2	38
48	Energy Landscapes and Catalysis in Nitric-oxide Synthase. Journal of Biological Chemistry, 2014, 289, 11725-11738.	1.6	25
49	The Photoinitiated Reaction Pathway of Full-length Cyanobacteriochrome Tlr0924 Monitored Over 12 Orders of Magnitude. Journal of Biological Chemistry, 2014, 289, 17747-17757.	1.6	18
50	Comprehensive Analysis of the Green-to-Blue Photoconversion of Full-Length Cyanobacteriochrome Tlr0924. Biophysical Journal, 2014, 107, 2195-2203.	0.2	15
51	Structural basis of kynurenine 3-monooxygenase inhibition. Nature, 2013, 496, 382-385.	13.7	124
52	Excited state dynamics and catalytic mechanism of the light-driven enzyme protochlorophyllide oxidoreductase. Physical Chemistry Chemical Physics, 2012, 14, 8818.	1.3	45
53	Mechanistic Reappraisal of Early Stage Photochemistry in the Light-Driven Enzyme Protochlorophyllide Oxidoreductase. PLoS ONE, 2012, 7, e45642.	1.1	14
54	Ultrafast Red Light Activation of Synechocystis Phytochrome Cph1 Triggers Major Structural Change to Form the Pfr Signalling-Competent State. PLoS ONE, 2012, 7, e52418.	1.1	22

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55	A Twin-track Approach Has Optimized Proton and Hydride Transfer by Dynamically Coupled Tunneling during the Evolution of Protochlorophyllide Oxidoreductase. Journal of Biological Chemistry, 2011, 286, 11849-11854.	1.6	25
56	Mutagenesis Alters the Catalytic Mechanism of the Light-driven Enzyme Protochlorophyllide Oxidoreductase. Journal of Biological Chemistry, 2010, 285, 2113-2119.	1.6	28
57	Protochlorophyllide Excited-State Dynamics in Organic Solvents Studied by Time-Resolved Visible and Mid-Infrared Spectroscopy. Journal of Physical Chemistry B, 2010, 114, 4335-4344.	1.2	40
58	Structure-based Mechanism of CMP-2-keto-3-deoxymanno-octulonic Acid Synthetase. Journal of Biological Chemistry, 2009, 284, 35514-35523.	1.6	29
59	Cryogenic and Laser Photoexcitation Studies Identify Multiple Roles for Active Site Residues in the Light-driven Enzyme Protochlorophyllide Oxidoreductase. Journal of Biological Chemistry, 2009, 284, 18160-18166.	1.6	34
60	Nuclear Quantum Tunneling in the Light-activated Enzyme Protochlorophyllide Oxidoreductase. Journal of Biological Chemistry, 2009, 284, 3762-3767.	1.6	80
61	Solventâ€Slaved Protein Motions Accompany Proton but Not Hydride Tunneling in Lightâ€Activated Protochlorophyllide Oxidoreductase. Angewandte Chemie - International Edition, 2009, 48, 3850-3853.	7.2	25
62	Internal electron transfer in multi-site redox enzymes is accessed by laser excitation of thiouredopyrene-3,6,8-trisulfonate (TUPS). Chemical Communications, 2009, , 1124.	2.2	11
63	Simultaneous Measurements of Solvent Dynamics and Functional Kinetics in a Light-Activated Enzyme. Biophysical Journal, 2009, 96, 1902-1910.	0.2	23
64	Conformational changes in the catalytic cycle of protochlorophyllide oxidoreductase: what lessons can be learnt from dihydrofolate reductase?. Biochemical Society Transactions, 2009, 37, 354-357.	1.6	8
65	Conformational changes in an ultrafast light-driven enzyme determine catalytic activity. Nature, 2008, 456, 1001-1004.	13.7	133
66	Conformational Events during Ternary Enzymeâ˜Substrate Complex Formation Are Rate Limiting in the Catalytic Cycle of the Light-Driven Enzyme Protochlorophyllide Oxidoreductase. Biochemistry, 2008, 47, 10991-10998.	1.2	32
67	Laser Excitation Studies of the Product Release Steps in the Catalytic Cycle of the Light-driven Enzyme, Protochlorophyllide Oxidoreductase. Journal of Biological Chemistry, 2007, 282, 32015-32020.	1.6	25
68	Spectroscopic and kinetic characterization of the light-dependent enzyme protochlorophyllide oxidoreductase (POR) using monovinyl and divinyl substrates. Biochemical Journal, 2006, 394, 243-248.	1.7	21
69	The First Catalytic Step of the Light-driven Enzyme Protochlorophyllide Oxidoreductase Proceeds via a Charge Transfer Complex. Journal of Biological Chemistry, 2006, 281, 26847-26853.	1.6	57
70	Making light work of enzyme catalysis: protochlorophyllide oxidoreductase. Trends in Biochemical Sciences, 2005, 30, 642-649.	3.7	166
71	Identification and Characterization of the Product Release Steps within the Catalytic Cycle of Protochlorophyllide Oxidoreductase. Biochemistry, 2004, 43, 8265-8271.	1.2	49
72	Ultrafast enzymatic reaction dynamics in protochlorophyllide oxidoreductase. Nature Structural and Molecular Biology, 2003, 10, 491-492.	3.6	76

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73	Protochlorophyllide Oxidoreductase:Â â€œDarkâ€•Reactions of a Light-Driven Enzymeâ€. Biochemistry, 2003, 42, 523-528.	1.2	64
74	Enzymology below 200 K: The kinetics and thermodynamics of the photochemistry catalyzed by protochlorophyllide oxidoreductase. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 11145-11150.	3.3	93
75	Spectroscopic characterisation of the substrate binding properties of NADPH:protochlorophyllide oxidoreductase (POR). Biochemical Society Transactions, 2002, 30, A74-A74.	1.6	0