Nigel S Scrutton

List of Publications by Year
in descending order

403 papers	16,349 citations	17440 63 h-index	33894 99 g-index
425 all docs	425 docs citations	425 times ranked	12882 citing authors

#	Article	IF	Citations
1	Redesign of the coenzyme specificity of a dehydrogenase by protein engineering. Nature, 1990, 343, 38-43.	27.8	764
2	Light-induced structural changes in a full-length cyanobacterial phytochrome probed by time-resolved X-ray scattering. Communications Biology, 2019, 2, 1.	4.4	611
3	Conversion of alcohols to enantiopure amines through dual-enzyme hydrogen-borrowing cascades. Science, 2015, 349, 1525-1529.	12.6	339
4	Atomic Description of an Enzyme Reaction Dominated by Proton Tunneling. Science, 2006, 312, 237-241.	12.6	304
5	Good vibrations in enzyme-catalysed reactions. Nature Chemistry, 2012, 4, 161-168.	13.6	246
6	Enzymatic H-Transfer Requires Vibration-Driven Extreme Tunneling. Biochemistry, 1999, 38, 3218-3222.	2.5	245
7	Cation-Ï€ bonding and amino-aromatic interactions in the biomolecular recognition of substituted ammonium ligands. Biochemical Journal, 1996, 319, 1-8.	3.7	231
8	New cofactor supports Î±,Î²-unsaturated acid decarboxylation via 1,3-dipolar cycloaddition. Nature, 2015, 522, 497-501.	27.8	197
9	Discovery, Characterization, Engineering, and Applications of Ene-Reductases for Industrial Biocatalysis. ACS Catalysis, 2018, 8, 3532-3549.	11.2	195
10	Covalent attachment of flavin adenine dinucleotide (FAD) and flavin mononucleotide (FMN) to enzymes: The current state of affairs. Protein Science, 1998, 7, 7-20.	7.6	183
11	Biotransformation of Explosives by the Old Yellow Enzyme Family of Flavoproteins. Applied and Environmental Microbiology, 2004, 70, 3566-3574.	3.1	172
12	UbiX is a flavin prenyltransferase required for bacterial ubiquinone biosynthesis. Nature, 2015, 522, 502-506.	27.8	168
13	Building a global alliance of biofoundries. Nature Communications, 2019, 10, 2040.	12.8	167
14	Better than Nature: Nicotinamide Biomimetics That Outperform Natural Coenzymes. Journal of the American Chemical Society, 2016, 138, 1033-1039.	13.7	164
15	An automated Design-Build-Test-Learn pipeline for enhanced microbial production of fine chemicals. Communications Biology, 2018, 1, 66.	4.4	159
16	Whatâ€™s in a covalent bond?. FEBS Journal, 2009, 276, 3405-3427.	4.7	151
17	A new conceptual framework for enzyme catalysis. FEBS Journal, 2002, 269, 3096-3102.	0.2	132
18	Structural basis of kynurenine 3-monooxygenase inhibition. Nature, 2013, 496, 382-385.	27.8	124

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19	New developments in â€˜eneâ€™-reductase catalysed biological hydrogenations. Current Opinion in Chemical Biology, 2014, 19, 107-115.	6.1	123
20	Structures of carboxylic acid reductase reveal domain dynamics underlying catalysis. Nature Chemical Biology, 2017, 13, 975-981.	8.0	118
21	Extensive conformational sampling in a ternary electron transfer complex. Nature Structural and Molecular Biology, 2003, 10, 219-225.	8.2	112
22	Biocatalysis with Thermostable Enzymes: Structure and Properties of a Thermophilic â€˜eneâ€™â€Reductase related to Old Yellow Enzyme. ChemBioChem, 2010, 11, 197-207.	2.6	110
23	Biodiversity of cytochrome P450 redox systems. Biochemical Society Transactions, 2005, 33, 796-801.	3.4	107
24	The dimeric form of flavocytochrome P450 BM3 is catalytically functional as a fatty acid hydroxylase. FEBS Letters, 2005, 579, 5582-5588.	2.8	107
25	Dynamics driving functionâ€ƒâˆ’â€ƒnew insights from electron transferring flavoproteins and partner complexes. FEBS Journal, 2007, 274, 5481-5504.	4.7	105
26	Kinetic Studies of the Mechanism of Carbonâˆ’Hydrogen Bond Breakage by the Heterotetrameric Sarcosine Oxidase ofArthrobactersp. 1-INâ€. Biochemistry, 2000, 39, 1189-1198.	2.5	98
27	Crystal structure of pentaerythritol tetranitrate reductase: â€œflippedâ€•binding geometries for steroid substrates in different redox states of the enzyme. Journal of Molecular Biology, 2001, 310, 433-447.	4.2	98
28	Importance of Barrier Shape in Enzyme-catalyzed Reactions. Journal of Biological Chemistry, 2001, 276, 6234-6242.	3.4	98
29	H-tunneling in the Multiple H-transfers of the Catalytic Cycle of Morphinone Reductase and in the Reductive Half-reaction of the Homologous Pentaerythritol Tetranitrate Reductase. Journal of Biological Chemistry, 2003, 278, 43973-43982.	3.4	98
30	Promoting motions in enzyme catalysis probed by pressure studies of kinetic isotope effects. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 507-512.	7.1	98
31	The photochemical mechanism of a B12-dependent photoreceptor protein. Nature Communications, 2015, 6, 7907.	12.8	92
32	Flavocytochrome P450 BM3: an update on structure and mechanism of a biotechnologically important enzyme. Biochemical Society Transactions, 2005, 33, 747-753.	3.4	91
33	Towards synthesis of monoterpenes and derivatives using synthetic biology. Current Opinion in Chemical Biology, 2016, 34, 37-43.	6.1	89
34	Structural basis for enzymatic photocatalysis in chlorophyll biosynthesis. Nature, 2019, 574, 722-725.	27.8	88
35	Machine Learning of Designed Translational Control Allows Predictive Pathway Optimization in <i>Escherichia coli</i>. ACS Synthetic Biology, 2019, 8, 127-136.	3.8	88
36	Production of Propane and Other Shortâ€Chain Alkanes by Structureâ€Based Engineering of Ligand Specificity in Aldehydeâ€Deformylating Oxygenase. ChemBioChem, 2013, 14, 1204-1208.	2.6	85

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37	Structureâ€Based Insight into the Asymmetric Bioreduction of the Cï£¾C Double Bond of Î±,Î²â€Unsaturated Nitroalkenes by Pentaerythritol Tetranitrate Reductase. Advanced Synthesis and Catalysis, 2008, 350, 2789-2803.	4.3	84
38	Fast Protein Motions Are Coupled to Enzyme H-Transfer Reactions. Journal of the American Chemical Society, 2013, 135, 2512-2517.	13.7	83
39	Updated structure of Drosophila cryptochrome. Nature, 2013, 495, E3-E4.	27.8	83
40	Extensive Domain Motion and Electron Transfer in the Human Electron Transferring FlavoproteinÂ·Medium Chain Acyl-CoA Dehydrogenase Complex. Journal of Biological Chemistry, 2004, 279, 32904-32912.	3.4	82
41	The Human Apoptosis-inducing Protein AMID Is an Oxidoreductase with a Modified Flavin Cofactor and DNA Binding Activity. Journal of Biological Chemistry, 2005, 280, 30735-30740.	3.4	82
42	Chemical aspects of amine oxidation by flavoprotein enzymes. Natural Product Reports, 2004, 21, 722.	10.3	81
43	Relaxation Kinetics of Cytochrome P450 Reductase:â€‰ Internal Electron Transfer Is Limited by Conformational Change and Regulated by Coenzyme Binding. Biochemistry, 2002, 41, 4626-4637.	2.5	80
44	Nuclear Quantum Tunneling in the Light-activated Enzyme Protochlorophyllide Oxidoreductase. Journal of Biological Chemistry, 2009, 284, 3762-3767.	3.4	80
45	Kinetic and Structural Basis of Reactivity of Pentaerythritol Tetranitrate Reductase with NADPH, 2-Cyclohexenone, Nitroesters, and Nitroaromatic Explosives. Journal of Biological Chemistry, 2002, 277, 21906-21912.	3.4	79
46	Evidence To Support the Hypothesis That Promoting Vibrations Enhance the Rate of an Enzyme Catalyzed H-Tunneling Reaction. Journal of the American Chemical Society, 2009, 131, 17072-17073.	13.7	79
47	New insights into enzyme catalysis. Ground state tunnelling driven by protein dynamics. FEBS Journal, 1999, 264, 666-671.	0.2	78
48	Vertebrate Cryptochromes are Vestigial Flavoproteins. Scientific Reports, 2017, 7, 44906.	3.3	78
49	Low carbon strategies for sustainable bio-alkane gas production and renewable energy. Energy and Environmental Science, 2020, 13, 1818-1831.	30.8	77
50	Reductive and Oxidative Half-Reactions of Glutathione Reductase from Escherichia coli. Biochemistry, 1994, 33, 13888-13895.	2.5	76
51	Stopped-Flow Kinetic Studies of Flavin Reduction in Human Cytochrome P450 Reductase and Its Component Domains. Biochemistry, 2001, 40, 1964-1975.	2.5	76
52	Deep Tunneling Dominates the Biologically Important Hydride Transfer Reaction from NADH to FMN in Morphinone Reductase. Journal of the American Chemical Society, 2008, 130, 7092-7097.	13.7	75
53	Selenzyme: enzyme selection tool for pathway design. Bioinformatics, 2018, 34, 2153-2154.	4.1	75
54	Direct Analysis of Donorâ˜'Acceptor Distance and Relationship to Isotope Effects and the Force Constant for Barrier Compression in Enzymatic H-Tunneling Reactions. Journal of the American Chemical Society, 2010, 132, 11329-11335.	13.7	74

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55	Quantum Biology: An Update and Perspective. Quantum Reports, 2021, 3, 80-126.	1.3	74
56	Channelling and formation of 'active' formaldehyde in dimethylglycine oxidase. EMBO Journal, 2003, 22, 4038-4048.	7.8	73
57	Photochemical Mechanism of Light-Driven Fatty Acid Photodecarboxylase. ACS Catalysis, 2020, 10, 6691-6696.	11.2	72
58	Deuterium Isotope Effects during Carbonâ€“Hydrogen Bond Cleavage by Trimethylamine Dehydrogenase. Journal of Biological Chemistry, 2001, 276, 24581-24587.	3.4	70
59	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.	13.7	70
60	Crystal Structure of a Soluble Form of Human CD73 with Ectoâ€5â€²â€Nucleotidase Activity. ChemBioChem, 2012, 13, 2384-2391.	2.6	68
61	Crystal Structure of Bacterial Morphinone Reductase and Properties of the C191A Mutant Enzyme. Journal of Biological Chemistry, 2002, 277, 30976-30983.	3.4	67
62	Î±-Secondary Isotope Effects as Probes of â€œTunneling-Readyâ€• Configurations in Enzymatic H-Tunneling:Â Insight from Environmentally Coupled Tunneling Models. Journal of the American Chemical Society, 2006, 128, 14053-14058.	13.7	66
63	Stopped-flow kinetic studies of electron transfer in the reductase domain of neuronal nitric oxide synthase: re-evaluation of the kinetic mechanism reveals new enzyme intermediates and variation with cytochrome P450 reductase. Biochemical Journal, 2002, 367, 19-30.	3.7	65
64	Electron transfer in human cytochrome P450 reductase. Biochemical Society Transactions, 2003, 31, 497-501.	3.4	65
65	A Siteâ€Saturated Mutagenesis Study of Pentaerythritol Tetranitrate Reductase Reveals that Residues 181 and 184 Influence Ligand Binding, Stereochemistry and Reactivity. ChemBioChem, 2011, 12, 738-749.	2.6	65
66	Proton-Coupled Electron Transfer and Adduct Configuration Are Important for C4a-Hydroperoxyflavin Formation and Stabilization in a Flavoenzyme. Journal of the American Chemical Society, 2014, 136, 241-253.	13.7	65
67	Proton-Coupled Electron Transfer in the Catalytic Cycle of <i>Alcaligenes xylosoxidans</i> Copper-Dependent Nitrite Reductase. Biochemistry, 2011, 50, 4121-4131.	2.5	64
68	Nature of the Energy Landscape for Gated Electron Transfer in a Dynamic Redox Protein. Journal of the American Chemical Society, 2010, 132, 9738-9745.	13.7	63
69	QM/MM Studies Show Substantial Tunneling for the Hydrogen-Transfer Reaction in Methylamine Dehydrogenase. Journal of the American Chemical Society, 2001, 123, 8604-8605.	13.7	62
70	Proton Tunneling in Aromatic Amine Dehydrogenase is Driven by a Short-Range Sub-Picosecond Promoting Vibration:Â Consistency of Simulation and Theory with Experiment. Journal of Physical Chemistry B, 2007, 111, 2631-2638.	2.6	62
71	Enzymatic Menthol Production: One-Pot Approach Using Engineered <i>Escherichia coli</i>. ACS Synthetic Biology, 2015, 4, 1112-1123.	3.8	61
72	Electrical circuitry in biology: emerging principles from protein structure. Current Opinion in Structural Biology, 2004, 14, 642-647.	5.7	59

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73	Hydrogen tunneling in quinoproteins. Archives of Biochemistry and Biophysics, 2004, 428, 41-51.	3.0	59
74	Hydrogen tunnelling in enzyme-catalysed H-transfer reactions: flavoprotein and quinoprotein systems. Philosophical Transactions of the Royal Society B: Biological Sciences, 2006, 361, 1375-1386.	4.0	59
75	Biocatalytic Asymmetric Alkene Reduction: Crystal Structure and Characterization of a Double Bond Reductase from <i>Nicotiana tabacum</i>. ACS Catalysis, 2013, 3, 370-379.	11.2	59
76	Activated Î±,Î²â€Unsaturated Aldehydes as Substrate of Dihydroxyacetone Phosphate (DHAP)â€Dependent Aldolases in the Context of a Multienzyme System. Advanced Synthesis and Catalysis, 2009, 351, 2967-2975.	4.3	58
77	Sweating the assets of flavin cofactors: new insight of chemical versatility from knowledge of structure and mechanism. Current Opinion in Structural Biology, 2016, 41, 19-26.	5.7	58
78	The pH dependence of kinetic isotope effects in monoamine oxidase A indicates stabilization of the neutral amine in the enzymeâ€“substrate complex. FEBS Journal, 2008, 275, 3850-3858.	4.7	57
79	Purification and characterization of glutathione reductase encoded by a cloned and over-expressed gene in Escherichia coli. Biochemical Journal, 1987, 245, 875-880.	3.7	56
80	Organization of the genes involved in dimethylglycine and sarcosine degradation inArthrobacterspp.. FEBS Journal, 2001, 268, 3390-3398.	0.2	56
81	Mutagenesis of Morphinone Reductase Induces Multiple Reactive Configurations and Identifies Potential Ambiguity in Kinetic Analysis of Enzyme Tunneling Mechanisms. Journal of the American Chemical Society, 2007, 129, 13949-13956.	13.7	55
82	A living foundry for Synthetic Biological Materials: A synthetic biology roadmap to new advanced materials. Synthetic and Systems Biotechnology, 2018, 3, 105-112.	3.7	55
83	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.	13.7	55
84	Enzyme catalysis: over-the-barrier or through-the-barrier?. Trends in Biochemical Sciences, 2000, 25, 405-408.	7.5	54
85	Molecular Dissection of Human Methionine Synthase Reductase:â€‰ Determination of the Flavin Redox Potentials in Full-Length Enzyme and Isolated Flavin-Binding Domains. Biochemistry, 2003, 42, 3911-3920.	2.5	54
86	Cryptochrome-dependent magnetic field effect on seizure response in Drosophila larvae. Scientific Reports, 2014, 4, 5799.	3.3	54
87	Engineering the substrate specificity of glutathione reductase toward that of trypanothione reduction.. Proceedings of the National Academy of Sciences of the United States of America, 1991, 88, 8769-8773.	7.1	53
88	Tunneling and Classical Paths for Proton Transfer in an Enzyme Reaction Dominated by Tunneling:Â Oxidation of Tryptamine by Aromatic Amine Dehydrogenase. Journal of Physical Chemistry B, 2007, 111, 3032-3047.	2.6	53
89	Conformational and Thermodynamic Control of Electron Transfer in Neuronal Nitric Oxide Synthase. Biochemistry, 2007, 46, 5018-5029.	2.5	53
90	A microbial platform for renewable propane synthesis based on a fermentative butanol pathway. Biotechnology for Biofuels, 2015, 8, 61.	6.2	53

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91	Mass spectrometry locates local and allosteric conformational changes that occur on cofactor binding. Nature Communications, 2016, 7, 12163.	12.8	53
92	Barrier Compression Enhances an Enzymatic Hydrogenâ€Transfer Reaction. Angewandte Chemie - International Edition, 2009, 48, 1452-1454.	13.8	52
93	Interflavin electron transfer in human cytochrome P450 reductase is enhanced by coenzyme binding. Relaxation kinetic studies with coenzyme analogues. FEBS Journal, 2003, 270, 2612-2621.	0.2	51
94	Switching Pyridine Nucleotide Specificity in P450 BM3. Journal of Biological Chemistry, 2005, 280, 17634-17644.	3.4	51
95	Magnetic Field Effect Studies Indicate Reduced Geminate Recombination of the Radical Pair in Substrate-Bound Adenosylcobalamin-Dependent Ethanolamine Ammonia Lyase. Journal of the American Chemical Society, 2007, 129, 15718-15727.	13.7	51
96	Systematic methodology for the development of biocatalytic hydrogen-borrowing cascades: application to the synthesis of chiral Î±-substituted carboxylic acids from Î±-substituted Î±,Î²-unsaturated aldehydes. Organic and Biomolecular Chemistry, 2015, 13, 223-233.	2.8	51
97	Anatomy of an engineered NADâ€binding site. Protein Science, 1994, 3, 1504-1514.	7.6	50
98	Rapid P450 Heme Iron Reduction by Laser Photoexcitation of Mycobacterium tuberculosis CYP121 and CYP51B1. Journal of Biological Chemistry, 2007, 282, 24816-24824.	3.4	50
99	Demonstration of Proton-coupled Electron Transfer in the Copper-containing Nitrite Reductases. Journal of Biological Chemistry, 2009, 284, 25973-25983.	3.4	50
100	Cooperativity induced by a single mutation at the subunit interface of a dimeric enzyme: glutathione reductase. Science, 1992, 258, 1140-1143.	12.6	48
101	Are the Catalytic Properties of Enzymes from Piezophilic Organisms Pressure Adapted?. ChemBioChem, 2009, 10, 2348-2353.	2.6	48
102	Large-scale Domain Dynamics and Adenosylcobalamin Reorientation Orchestrate Radical Catalysis in Ornithine 4,5-Aminomutase. Journal of Biological Chemistry, 2010, 285, 13942-13950.	3.4	48
103	Coupled Motions Direct Electrons along Human Microsomal P450 Chains. PLoS Biology, 2011, 9, e1001222.	5.6	48
104	Magnetic Fields Modulate Blue-Light-Dependent Regulation of Neuronal Firing by Cryptochrome. Journal of Neuroscience, 2016, 36, 10742-10749.	3.6	48
105	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.	4.1	48
106	Radical-based photoinactivation of fatty acid photodecarboxylases. Analytical Biochemistry, 2020, 600, 113749.	2.4	48
107	Rapid prototyping of microbial production strains for the biomanufacture of potential materials monomers. Metabolic Engineering, 2020, 60, 168-182.	7.0	48
108	Trimethylamine dehydrogenase of bacterium W3A1Molecular cloning, sequence determination and over-expression of the gene. FEBS Letters, 1992, 308, 271-276.	2.8	47

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109	Focused Directed Evolution of Pentaerythritol Tetranitrate Reductase by Using Automated Anaerobic Kinetic Screening of Siteâ€Saturated Libraries. ChemBioChem, 2010, 11, 2433-2447.	2.6	47
110	Structural Basis of Catalysis in the Bacterial Monoterpene Synthases Linalool Synthase and 1,8-Cineole Synthase. ACS Catalysis, 2017, 7, 6268-6282.	11.2	47
111	Insights into the H₂O₂â€driven catalytic mechanism of fungal lytic polysaccharide monooxygenases. FEBS Journal, 2021, 288, 4115-4128.	4.7	47
112	Reductive and Oxidative Half-Reactions of Morphinone Reductase fromPseudomonasputidaM10:Â A Kinetic and Thermodynamic Analysisâ€. Biochemistry, 1998, 37, 7598-7607.	2.5	46
113	Continuous Wave Photolysis Magnetic Field Effect Investigations with Free and Protein-Bound Alkylcobalamins. Journal of the American Chemical Society, 2009, 131, 17246-17253.	13.7	46
114	A Stable Tyrosyl Radical in Monoamine Oxidase A. Journal of Biological Chemistry, 2005, 280, 4627-4631.	3.4	45
115	Excited state dynamics and catalytic mechanism of the light-driven enzyme protochlorophyllide oxidoreductase. Physical Chemistry Chemical Physics, 2012, 14, 8818.	2.8	45
116	Engineering Escherichia coli towards de novo production of gatekeeper (2S)-flavanones: naringenin, pinocembrin, eriodictyol and homoeriodictyol. Synthetic Biology, 2020, 5, ysaa012.	2.2	45
117	?/? Barrel evolution and the modular assembly of enzymes: Emerging trends in the flavin oxidase/dehydrogenase family. BioEssays, 1994, 16, 115-122.	2.5	44
118	Barrier Compression and Its Contribution to Both Classical and Quantum Mechanical Aspects of Enzyme Catalysis. Biophysical Journal, 2010, 98, 121-128.	0.5	43
119	Techno-economic assessment of microbial limonene production. Bioresource Technology, 2020, 300, 122666.	9.6	43
120	The causative role and therapeutic potential of the kynurenine pathway in neurodegenerative disease. Journal of Molecular Medicine, 2013, 91, 705-713.	3.9	42
121	A â€˜Plug and Playâ€™ Platform for the Production of Diverse Monoterpene Hydrocarbon Scaffolds in <i>Escherichia coli</i>.. ChemistrySelect, 2016, 1, 1893-1896.	1.5	42
122	Atomic Resolution Structures and Solution Behavior of Enzyme-Substrate Complexes of Enterobacter cloacae PB2 Pentaerythritol Tetranitrate Reductase. Journal of Biological Chemistry, 2004, 279, 30563-30572.	3.4	41
123	Catalytic mechanism of hydride transfer between NADP+/H and ferredoxin-NADP+ reductase from Anabaena PCC 7119. Archives of Biochemistry and Biophysics, 2007, 459, 79-90.	3.0	41
124	Protein Interactions in the Human Methionine Synthaseâˆ’Methionine Synthase Reductase Complex and Implications for the Mechanism of Enzyme Reactivationâ€. Biochemistry, 2007, 46, 6696-6709.	2.5	41
125	Analysis of Classical and Quantum Paths for Deprotonation of Methylamine by Methylamine Dehydrogenase. ChemPhysChem, 2007, 8, 1816-1835.	2.1	41
126	Large-Scale Domain Conformational Change Is Coupled to the Activation of the Coâ€“C Bond in the B₁₂-Dependent Enzyme Ornithine 4,5-Aminomutase: A Computational Study. Journal of the American Chemical Society, 2012, 134, 2367-2377.	13.7	41

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127	Determination of the redox potentials and electron transfer properties of the FAD- and FMN-binding domains of the human oxidoreductase NR1. FEBS Journal, 2003, 270, 1164-1175.	0.2	39
128	Mechanism of Coenzyme Binding to Human Methionine Synthase Reductase Revealed through the Crystal Structure of the FNR-like Module and Isothermal Titration Calorimetry,. Biochemistry, 2007, 46, 11833-11844.	2.5	39
129	Interâ€flavin electron transfer in cytochrome P450 reductase â€“ effects of solvent and pH identify hidden complexity in mechanism. FEBS Journal, 2008, 275, 4540-4557.	4.7	39
130	Ultrafast Infrared Spectral Fingerprints of Vitamin B₁₂ and Related Cobalamins. Journal of Physical Chemistry A, 2012, 116, 5586-5594.	2.5	38
131	Alternative Hydride Sources for Eneâ€Reductases: Current Trends. ChemCatChem, 2014, 6, 951-954.	3.7	38
132	Excitedâ€State Charge Separation in the Photochemical Mechanism of the Lightâ€Driven Enzyme Protochlorophyllide Oxidoreductase. Angewandte Chemie - International Edition, 2015, 54, 1512-1515.	13.8	38
133	Donorâ€“Acceptor Distance Sampling Enhances the Performance of â€œBetter than Natureâ€•Nicotinamide Coenzyme Biomimetics. Journal of the American Chemical Society, 2016, 138, 11089-11092.	13.7	38
134	Alternative metabolic pathways and strategies to high-titre terpenoid production in<i>Escherichia coli</i>. Natural Product Reports, 2022, 39, 90-118.	10.3	38
135	Flavocytochrome P450 BM3 and the origin of CYP102 fusion species. Biochemical Society Transactions, 2006, 34, 1173-1177.	3.4	37
136	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.	13.8	37
137	SelProm: A Queryable and Predictive Expression Vector Selection Tool for <i>Escherichia coli</i>. ACS Synthetic Biology, 2019, 8, 1478-1483.	3.8	37
138	DNA Binding Suppresses Human AIF-M2 Activity and Provides a Connection between Redox Chemistry, Reactive Oxygen Species, and Apoptosis. Journal of Biological Chemistry, 2007, 282, 30331-30340.	3.4	36
139	Incorporation of Hydrostatic Pressure into Models of Hydrogen Tunneling Highlights a Role for Pressure-Modulated Promoting Vibrations. Biochemistry, 2008, 47, 9880-9887.	2.5	36
140	Impact of residues remote from the catalytic centre on enzyme catalysis of copper nitrite reductase. Nature Communications, 2014, 5, 4395.	12.8	36
141	A biocatalytic method for the chemoselective aerobic oxidation of aldehydes to carboxylic acids. Green Chemistry, 2018, 20, 3931-3943.	9.0	36
142	A brain-permeable inhibitor of the neurodegenerative disease target kynurenine 3-monooxygenase prevents accumulation of neurotoxic metabolites. Communications Biology, 2019, 2, 271.	4.4	36
143	The Primary Structure of Hyphomicrobium X Dimethylamine Dehydrogenase. Relationship to Trimethylamine Dehydrogenase and Implications for Substrate Recognition. FEBS Journal, 1995, 232, 264-271.	0.2	35
144	Involvement of a Flavin Iminoquinone Methide in the Formation of 6-Hydroxyflavin Mononucleotide in Trimethylamine Dehydrogenase:Â A Rationale for the Existence of 8Î±-Methyl and C6-Linked Covalent Flavoproteinsâ€. Biochemistry, 1997, 36, 7162-7168.	2.5	35

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145	Electron Transfer from Flavin to Iron in the Pseudomonas oleovorans Rubredoxin Reductaseâ^'Rubredoxin Electron Transfer Complex. Biochemistry, 1998, 37, 15513-15522.	2.5	35
146	Highly multiplexed, fast and accurate nanopore sequencing for verification of synthetic DNA constructs and sequence libraries. Synthetic Biology, 2019, 4, ysz025.	2.2	35
147	New enzymes for old: Redesigning the coenzyme and substrate specificities of glutathione reductase. BioEssays, 1991, 13, 515-525.	2.5	34
148	Are Environmentally Coupled Enzymatic Hydrogen Tunneling Reactions Influenced by Changes in Solution Viscosity?. Angewandte Chemie - International Edition, 2008, 47, 537-540.	13.8	34
149	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.	3.4	34
150	Cobalamin uptake and reactivation occurs through specific protein interactions in the methionine synthaseâ€"methionine synthase reductase complex. FEBS Journal, 2009, 276, 1942-1951.	4.7	34
151	Carbon monoxide poisoning is prevented by the energy costs of conformational changes in gas-binding haemproteins. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 15780-15785.	7.1	34
152	Mechanism of Radical-based Catalysis in the Reaction Catalyzed by Adenosylcobalamin-dependent Ornithine 4,5-Aminomutase. Journal of Biological Chemistry, 2008, 283, 34615-34625.	3.4	33
153	Bio-derived production of cinnamyl alcohol <i>via</i> a three step biocatalytic cascade and metabolic engineering. Green Chemistry, 2018, 20, 658-663.	9.0	33
154	Biocatalytic Routes to Lactone Monomers for Polymer Production. Biochemistry, 2018, 57, 1997-2008.	2.5	33
155	Structural Differences between Wild-type NADP-dependent Glutathione Reductase from Escherichia coli and a Redesigned NAD-dependent Mutant. Journal of Molecular Biology, 1993, 231, 191-195.	4.2	32
156	Protein Dynamics Enhance Electronic Coupling in Electron Transfer Complexes. Journal of Biological Chemistry, 2001, 276, 34142-34147.	3.4	32
157	Cytochromes P450: novel drug targets in the war against multidrug-resistant Mycobacterium tuberculosis. Biochemical Society Transactions, 2003, 31, 625-630.	3.4	32
158	Stabilization of Non-productive Conformations Underpins Rapid Electron Transfer to Electron-transferring Flavoprotein. Journal of Biological Chemistry, 2005, 280, 30361-30366.	3.4	32
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